

**Planning & Economic
Development**

Saco City Hall
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City Planner**

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TO: Planning Board
CC: Jeff Amos, Terradyn Consultants, Applicant's agent
FROM: Jason Garnham, City Planner
DATE: June 6, 2022
RE: Clover Leaf Development, 986-989 Portland Rd (Map 63 Lot 3-1): Site Plan, Conditional Use, & Final Subdivision Review

Overview: Applicant Clover Leaf Development, LLC is requesting final subdivision, site plan, conditional use, and SLoDA review for a proposed 120-unit apartment complex on property located at 989 Portland Road, Map 63 Lot 3-1, and within the Portland Road (PR) District. The property abuts a cemetery and Aquaboggan Water Park. The subject parcel has an overall area of 65.84 acres and is currently developed with two single family residences and appurtenant improvements, which will be demolished. Wetlands are present on the site, of which 18,966 square feet will be filled. The applicant has obtained the required permits from the Maine Department of Environmental Protection and Army Corps of Engineers for this work. and has confirmed that the development is not proposed to disturb any critical areas or high value wildlife areas.

The proposed apartment complex is comprised of ten (10) 12-unit apartment buildings, each three (3) stories tall. Of the 120 units, 108 are proposed to be studio or one-bedroom apartments. The 18 remaining units are proposed to be two-bedroom. Ground-floor apartments are proposed to have outdoor patios while second and third floor units are proposed to have balconies. Additional built components/amenities include a multi-purpose building, storage building, hard-scaped courtyards, landscaped areas, and a dog park. The proposed is intended to be constructed in two phases. The first phase is proposed to include buildings 1 through 5 (60 units), the club house, parking areas, and stormwater facilities. The second phase would include the remaining 60 units as well as the dog park.

The Planning Board approved the Preliminary Subdivision Application for this project on December 7, 2021.

Application Completeness: As evidenced by the plans and application materials that were provided by the applicant, staff find all three of these applications to be complete. No waivers from submission requirements were requested by the applicant. A hydrogeologic study was not requested because no critical aquifer areas are known to be present that would be impacted by this project.

If the board agrees, then a suggested motion is: ***"I move to find the Final Subdivision, Site Plan Review, and Conditional Use Applications to be complete."***

Public Hearing: The Board is required to hold a public hearing on this application. This public hearing was noticed in the *Portland Press Herald* and abutter notices were mailed to owners of property located within 200 feet of the subject property on May 25, 2022, in accordance with ordinance requirements. Saco's Site Plan Review Ordinance also requires a sign advertising the hearing to be posted at the project site at least 7 days before the hearing. Staff sent an email to the applicant on May 24, 2022 requesting verification that the sign was installed but did not receive a response.

A suggested motion is: ***"I move to open the public hearing."*** After comment is received, a motion is: ***"I move to close the public hearing."***

Discussion:

Per Section 703, Subdivision Standards, (page 13), Subdivisions of 20 or more dwelling units shall pay an open space impact fee or dedicate at least 50 percent of the required open space as usable open space for active recreation. The proposed open space is comprised primarily of undeveloped natural areas, common lawn areas, and a dog park. Active recreation facilities such as play equipment or sport courts are not shown on plans. The Planning Board may wish to discuss open space and recreation facilities during the meeting since “active recreation” often means programmed facilities rather than undeveloped natural areas.

Departmental Reviews: City staff from the departments listed below were notified of this application and had the following comments:

- Code Enforcement Department: No comments were received from Code Enforcement staff.
- Police Department: Deputy Chief Corey Huntress inquired about providing a pull-out area within the Portland Road frontage for buses to pull out of the travel lane when serving this property.
- Parks & Recreation Department: Parks & Recreation Director Ryan Sommer reviewed the Landscape Plans and stated that the proposed plantings will sufficiently screen and buffer the proposed development.
- Fire Department: Deputy Fire Chief David Pendleton reviewed the proposed site plan and verified that emergency vehicles can adequately access the development in accordance with applicable standards.
- Water Resource Recovery: Emily Cole-Prescott verified that sewer facilities have capacity to serve this development. However, additional details are needed for review of wastewater facilities provided for the proposed multi-purpose building. Condition 12 requires the applicant to provide and receive WRRD approval of this information prior to scheduling a pre-construction meeting for this project.
- Assessing: Kate Kern stated that the subject parcel is in the Tree Growth Land Use Program. The proposed change of use will trigger payment of a financial penalty accordingly.
- Public Works: City Engineer Joe Laverriere recommends approval of this project per his email response dated May 31, 2022. A memo dated 4-28-22 includes recommended conditions of approval which are included in this report.

Conclusion: As detailed in the findings accompanying this memo, staff recommend XXX. If the Board agrees, then a suggested motion is: ***“I move to approve the Final Subdivision, Conditional Use, and Site Plan Review Applications for the Clover Leaf Development proposal to construct a 120-unit apartment project at the property identified as Tax Map 63 Lot 3-1, per the findings of fact and conditions of approval dated June 7, 2022.”***

Saco Planning Board
DRAFT Findings of Fact
Clover Leaf Development, 986-989 Portland Rd (Map 63 Lot 3-1)
Site Plan Review
June 7, 2022

1. Applicant: Clover Leaf Development, LLC; PO Box 6799, Scarborough, Maine 04070
2. Agent: Terradyn Consultants, LLC; 41 Campus Drive, Suite 101, New Gloucester, ME 04260
3. Property Owner: Pamela Consiglio and Sherry Mitchell; 115 US Rt 2 S, Alburgh, VT 05440
4. Development Proposed: to construct ten (10) 12-unit apartment buildings totaling 120-units with associated drive, parking, and communal amenities on a 65.84 acre parcel with a built footprint of approximately 10 acres
5. City review is based on plans prepared by Terradyn Consultants, LLC and submitted to the Planning Department on April 14, 2022.
6. Property is identified as Map 63, Lot 3-1, and is referenced in the York County Registry of Deeds as Book 17077, Page 853 and Book 18450, Page 73
7. The subject property is approximately 65.8 acres in area and is currently developed with two single family residences, which will be demolished as part of this project.
8. City Permits Required: The project is subject to Site Plan Review and Subdivision Review per Article III of the City's Site Plan Review ordinance and will be subject to building permits issued through the Code Enforcement Department. Conditional Use approval is also required per Table 3-3 of Saco's Zoning Ordinance.
9. The Planning Board approved a Preliminary Subdivision Application for the proposed project on December 7, 2021.
10. The Planning Board held a site walk at the subject property on January 13, 2022. Abutters were invited to attend.
11. A neighborhood meeting is typically required to be held by the applicant prior to submitting a site plan review application for a multi-unit residential project in a mixed-use zoning district per Section 3.01 of Saco's Site Plan Review Ordinance. However, the Planning Board advised the applicant during review of a Sketch Plan Application for this development that a neighborhood meeting isn't necessary due to the mix of uses near the subject site.
12. Site Location of Development Review is also required. City staff notified the Maine Department of Environmental Protection (DEP) of this Site Plan Review Application on May 17, 2022. DEP staff did not respond to the City's submission of materials for this project. The City of Saco reviewed this project for compliance with applicable regulations via its delegated review authority.
13. The subject property is in a PR – Portland Road zoning district.
14. The proposed project will directly impact approximately 18,966 square feet of wetlands. The applicant is required to obtain a Natural Resources Protection Act Permit (NRPA) from the Maine Department of Environmental Protection (DEP). The applicant obtained a NRPA permit from DEP for this project on February 18, 2022.
15. A Maine General Permit from the Army Corps of Engineers (ACE) is also required for this project due to the proposal to fill wetlands. An authorization letter from the ACE was obtained by the applicant on January 24, 2022.
16. The applicant notified the Maine Department of Inland Fisheries and Wildlife, the Maine Natural Areas Program, and the Maine Historic Preservation Commission of this project. MNAP staff recommend surveying of the subject property for Joe-pye Weed, a species of special concern in Maine. No other essential habitats, protected species, or historic resources were identified on the property.

17. The preliminary subdivision and conditional use applications were first received the Planning Department on October 5, 2021. The Final Subdivision and Site Plan Applications were received by the Planning Department on April 14, 2022. In addition to review by staff in the Planning Department, these applications were reviewed by staff in Saco's Code Enforcement, Public Works, Parks & Recreation, Assessing, Police, WRRD (Sewer), and Fire Departments.
18. City staff makes the following **findings**, per Article VI of the Site Plan Review ordinance, Article VI of the Subdivision Ordinance, and Article XIV of Saco's Zoning Ordinance:

Section 6.01 Criteria for Site Plan Approval

To be approved, the applicant shall demonstrate the following requirements and criteria for site plan approval are met:

- a. *Compliance with all Applicable Standards. The proposed development shall comply with all Good Neighbor standards, Performance standards, the Zoning Ordinance and, if applicable, standards of the natural resource districts.*

Zoning Uses: Table 3-3 of Saco's Zoning Ordinance establishes "Multifamily Dwellings" as a Conditional Use in PR- Portland Road zoning districts. (see pages XXX below)

Article IV Dimensional Standards

Standard	Dimension	Complies?
Minimum street frontage	50 feet	Yes: 326 feet of frontage
Minimum building setback - front	25 feet	Yes: > 250 feet
Minimum building setback – side and rear	20 feet	Yes: > 50 feet
Maximum site coverage (by buildings)	60 percent	Yes: approx. 2% gross acreage coverage
Maximum building height	60 feet	Yes: 42.5-foot proposed height

IV.2.C: Net residential acreage: The site is approximately 2,868,010 square feet in area, of which 906,616 square feet of wetlands and 8,766 square feet of sloped areas are unbuildable. Net residential area is therefore 1,962,628 square feet. One residential unit per 500 square feet of net developable area is allowed, for a maximum of 260 units.

Article IV: Good Neighbor Performance Standards

Standard	Impact/ Standard	Comment
VI2	Dust, Fumes, Vapors, and Gasses	Generally complies/ no significant impacts anticipated
VI3	Explosive Materials	Generally complies/ no explosive materials anticipated
VI4	Exterior Lighting	The applicant submitted a lighting plan (Sheet P-1.0 dated 6/25/21) that demonstrates compliance with Saco's standards for height of exterior lighting fixtures and resulting illumination of the site EXCEPT that lighting levels near the driveway entrance exceed the 0.1 foot candle limit at the property line and the temperatures (degrees kelvin) of the proposed lighting fixtures was not provided with the lighting plans. The City Engineer stated that increased lighting levels at driveway intersections are desirable for traffic safety so the type and location of lighting fixtures near the street is satisfactory. Condition XX requires the applicant to demonstrate compliance with Saco's standards for lighting temperature prior to construction.

VI5	Noise	No significant noise impacts anticipated. Construction will take place during City construction hours. Following construction, noise will be typical of residential uses.
VI6	Odors	No significant odors anticipated
VI7	Screening	See Section 5.03, Design Guidelines
VI8	Sanitary Waste Disposal	<p>Solid waste generated by residents is proposed to be collected at 3 separate receptacle facilities located throughout the site. Trash facilities will be enclosed in buildings which are designed to match the aesthetics of the residential buildings of this development. (See Elevation sheet labeled “Disposal Buildings”)</p> <p>Wastewater service is available and will be provided by Saco WRRD. Impact fees will be paid by the applicant to mitigate for impacts to the public wastewater system. Additional details for grease handling in the wastewater disposal system for the multi-purpose building remain to be provided by the applicant and reviewed by staff. Conditions of approval are proposed to ensure compliance with City standards for design and construction of associated facilities by the applicant.</p>
VI9	Storage and Handling of Chemicals, etc	Explosive or hazardous chemicals not anticipated. State & federal laws apply.
VI10	Water Quality	No discharges to ground or surface water anticipated except via approved stormwater systems.

Article VII: Performance Standards

VII16. Outdoor Storage:

Outdoor storage is prohibited within 100 feet of public areas. No outdoor storage is proposed.

VII20. Suitability of Soils for Development:

Soils on the site are comprised primarily of well-drained to moderately well-drained sandy soils that are suitable for development. Compacted imported fills occupy a portion of the center of the property. Foundation drainage is required and will be reviewed by Saco’s Code Enforcement Office as part of the building permit process for this project.

VII23. Traffic and Street access.

- A. Curb cuts: developments on arterial streets are limited to one curb cut. Only one curb cut to Route 1 is proposed.
- B. Sight distance: the applicant states that sight distance from the proposed driveway is 900 feet. This exceeds the recommended minimum sight distance in this location of 445 feet.
- C. Public Works review: this application and associated plans were reviewed by the Public Works department as required. They were also reviewed on the City’s behalf by Traffic Engineering consultant Diane Morabito of Sewal Engineering Inc. Ms. Morabito’s findings are included in the packet for review by the board.
- D. Corner Clearance: no issues were raised by public works staff or peer consultants regarding driveway corner clearances for this project.
- E. Off-site traffic improvements: In a December 15, 2021 memo, Traffic peer review consultant Diane Morabito stated that this project will generate a limited number of off-site trips at nearby intersections where traffic signal improvements are planned (intersections of Route 1 with Flag Pond Rd and Waterfall Drive) and should therefore NOT contribute to those projects. However, an existing center left-turn lane in Route 1 is anticipated to be extended northward along the project frontage in the future. Ms. Morabito indicates that traffic volumes anticipated from this development warrant construction of a center left-turn lane along the project frontage. Condition 6

requires construction of a center left-turn lane along the project frontage prior to Certificates of Occupancy for the proposed buildings.

VIII: Shoreland Zoning Overlay Districts: N/A

IX: Signs

Signage for the proposed development will be reviewed separately via submittal of a sign permit application to the Saco Code Enforcement Office.

X: Parking

Zoning	Standard	Complies?	Source
Table 10-1	1.5 spaces per 1-bedroom unit 2 spaces per 2-bedroom unit 2.5 spaces per 3+ bedroom unit	Yes: 209 spaces required; 211 spaces provided (see #14 Parking Calculation, Sheet C-1.0)	C-1.0
X2.A	9 X 18 stall sizes & 24-foot drive aisle width	Complies	C-1.1, C-1.2
X2.C	Visual obstructions and walkways	No visual obstructions proposed near driveway entrance. Paved sidewalks shown to connect all buildings and provide access to existing sidewalks along Route 1. Crosswalks shown throughout side where walkways cross driveway areas.	C-1.1, C-1.2
X2.D	Avoid light spillage on neighboring areas	Yes; photometric and plans indicate limited light spillage on neighboring properties.	Lighting
X2.E	Buffers: parking areas and driveways at least 5 feet from property lines	Yes; all parking and driving areas are more than 5 feet from side and rear property lines	C-1.1, C-1.2
X2.F	Landscaping	Yes: landscaping plans indicate trees of varying species will be planted in perimeter and planter areas sufficient to buffer the proposed development from nearby areas.	L-1.0; L-2.0

XI: Private Road Standards

A private driveway is proposed to provide access to this development. Addressing and naming of this driveway will occur as part of the building permit process as administered by Saco's Addressing Officer (Deputy Police Chief).

XII: Stormwater and Erosion Control Standards

The proposed project will create approximately 3.5 acres of impervious surfaces. Stormwater runoff from this development is proposed to be collected and conveyed to a stormwater pond constructed on-site. Stormwater calculations, facilities design, and supporting data were reviewed for compliance with Maine Site Location of Development Act requirements by the City Engineer. Condition 9 ensures that impacts to water quality and nearby properties from stormwater runoff and soil erosion will be minimized in accordance with state and local regulations.

XIII6: Traffic Mitigation and Bicycle & Pedestrian Infrastructure Fee

Saco's Zoning Ordinance authorizes the Planning Board to determine fees for mitigating traffic congestion and for projects that enhance the safety of motorists, bicyclists, and pedestrians in the City's public ways. The applicant proposes to improve existing sidewalk conditions along the property frontage with Route 1. No additional traffic mitigation or bicycle and pedestrian infrastructure fees are proposed by staff for this project.

Site Plan Review Ordinance Section 5.03 Design Guidelines

b	Landscaping/ buffering	Landscape plans indicate that a variety of trees and shrubs will be planted in perimeter and planter areas throughout the site. The proposed development is also setback from the street and will be	L-1.0, L-2.0
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		screened from view from public areas by existing vegetation. Staff find that the landscaping as proposed will adequately buffer the project from neighboring areas.	
c	Building materials & glare	Highly reflective materials are limited to windows and doors, which are sized and located in building facades in a manner that is typical of regional residential buildings. Excessive glare or heat from proposed fenestration is not anticipated.	Building Plans/ Elevations
d.i	Continuity, Connectivity, Compatibility	Buildings are three stories tall with gabled roofs, which is consistent with regional residential architecture. Perceived building massing is diminished via patterned fenestration, entry canopy and trim, provision of balconies and roofline trim, and variation in siding colors. Landscaping and distance from neighboring uses will preserve privacy, and provide light and air between buildings.	Building Plans/ Elevations; L-1.0, L-2.0
d.ii	Building height	The largest buildings are proposed to be three stories and approximately 42.5 feet tall at the peak of the roof. This complies with the 60 foot maximum building height in PR zoning districts of Saco's Zoning Ordinance.	Building Plans/ Elevations
d.iii	Length of walls	No ground floor walls extend more than 15 feet without fenestration or architectural features.	Building Plans/ Elevations
d.iv	Exterior Materials	Exterior materials are: asphalt roof shingles, PVC trim, vinyl clapboard siding, vinyl and glass windows, metal and glass doors. These materials are typical of regional residential buildings and are easily maintained.	Building Plans/ Elevations
d.v	Roof	Gabled roofs are proposed. Roof trim, overhanging eaves, and corresponding building trim, louvers, and siding variation lends a proportional and characteristic appearance to the roofs.	Building Plans/ Elevations
d.vi	Fenestration	Windows and doors are shown to contain divided panes (via applied muntins). Windows comprise a substantial portion of the building facades, providing "eyes on the street" and lending human scale to the buildings.	Building Plans/ Elevations
d.vii	Circulation	Pedestrian walkways connect all buildings, parking areas, and on-site open spaces with sidewalks along Portland Rd.	C-1.1, C-1.2
d.viii	Parking	Parking stalls and drive aisles are designed in accordance with City standards. Fire Department staff verified that driveways provide adequate access throughout the site for emergency vehicles.	C-1.1, C-1.2
d.ix	Private-Public Realm Interface	Architectural and site elements should establish a human-scale, enhance pedestrian experience, and encourage activity. Covered entries and balconies encourage activity outside of buildings. Communal open spaces, walkways, and a multi-purpose building containing a lounge, meeting space, fitness area, and post office encourage human activity and interaction. Architectural elements such as windows, trim, and siding variation diminish the perceived bulk of buildings and contribute to human scale.	Building Plans/ Elevations; L-1.0, L-2.0
d.x	Pedestrian Access	Existing sidewalks along the project's frontage of Portland Road will be repaired and completed to City standards with closure of existing driveways.	C-1.1, C-1.2
d.xi	Street Trees	Landscaping plans indicate a variety of trees to be planted in perimeter and planting areas throughout this project. However, the proposed development will be set back from Portland Road to provide space for	L-1.0, L-2.0

		future commercial development at the street edge. Street trees are not proposed to be planted along Portland Rd at this time but a row of buffer plantings is proposed along the project edge, set back from the street. Street trees should be planted along Portland Rd when the street-edge portion of the property is developed in the future. Future development will require review by the Planning Board via a Site Plan Review Application.	
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- b. *Other Laws.* The proposed development satisfies the requirements set forth in this chapter, other local ordinances, and applicable state and federal laws. The proposed use meets the specific requirements set forth in this chapter and in Saco's Zoning Ordinance as described. The applicant is responsible for obtaining and approvals or permits that are required from state, federal, or other regional jurisdictions.
- c. *Compatibility with Neighboring Buildings.* The bulk, location, and height of proposed structures are compatible with neighboring properties. The proposed building design complies with the dimensional standards of PR Zoning districts.
- d. *Natural Features.* The structures and other improvements are harmonious with the site's natural features, preserve the natural landscape, and minimize grade changes. Wetlands and associated buffer areas are present on the site. The proposed project would directly impact approximately 18,966 square feet of wetlands. The applicant obtained a Natural Resources Protection Act Permit (NRPA) from the Maine Department of Environmental Protection as required to perform this work.
- e. *Public Safety.* Access to the site and structures is adequate for emergency responders and will not create fire hazards or other safety hazards. The assigned street number shall be prominently displayed on the front of the building or on a sign post. Access to the site is not anticipated to create fire safety hazards. Building and site signage will adequately display the property address. Emergency vehicles can safely access all portions of the property.
- f. *Lighting.* The proposed exterior lighting does not create glare or hazards to motorists, is adequate for safety, and does not damage the value or diminish the usability of adjacent properties. Per a photometric plan submitted by the applicant, proposed exterior lighting and buffer areas will not create glare or hazards to motorists or diminish the value or utility of adjacent properties.
- g. *Landscaping.* Buffers, screens, and on-site landscaping is provided to minimize the impact of parking areas and other features on neighboring property. Landscape plans indicate that a variety of trees and shrubs will be planted in perimeter and planter areas throughout the site. The proposed development is also setback from the street and will be screened from view from public areas by existing vegetation. Staff find that the landscaping as proposed will adequately buffer the project from neighboring areas.
- h. *Off-site Impacts.* The proposed development does not have a significant detrimental effect on the use and peaceful enjoyment of abutting property as a result of noise, vibrations, fumes, odors, dust, or other cause. The proposed development is not anticipated to have significant impacts on neighboring properties due to noise, odors or fumes, dust, or other causes.
- i. *Vehicle Circulation and Pedestrian Access.* The provisions for vehicular loading, unloading, parking, and vehicular and pedestrian circulation on the site and onto adjacent public streets do not create hazardous and unsafe conditions. Proposed driveway, parking, and walkway areas shall allow for safe pedestrian and vehicular movement on site. Walkways are provided throughout the development and connect to sidewalks along Portland Rd.
- j. *Flood Hazards.* The design conforms with flood hazard protection requirements. The site is not within a flood hazard zone.
- k. *Wastewater.* Adequate provisions are made for disposal of wastewater. WRRD states that existing facilities provide capacity to serve the proposed development. Impact fees will be paid by the applicant to mitigate for impacts to

the public wastewater system. Additional details for grease handling in the wastewater disposal system for the multi-purpose building remain to be provided by the applicant and reviewed by staff. Conditions of approval are proposed to ensure compliance with City standards for design and construction of associated facilities by the applicant.

- l. Solid Waste. Adequate provisions are made for disposal of solid waste, including provisions for recycling. Proposed dumpsters on site shall provide adequate capacity for new solid waste generation associated with the site plan amendment.*
- m. Stormwater and Erosion Controls. Adequate provisions are made to control erosion, sedimentation, and stormwater runoff and shall comply with stormwater and erosion control requirements of the City of Saco Zoning Ordinance. The applicant proposed to collect and convey stormwater runoff from the proposed development to on-site drainage facilities for detention and water quality treatment. These facilities must be designed and constructed in accordance with City standards. Plans for these facilities were reviewed by the City Engineer, who provided recommendations and proposed conditions of approval to ensure impacts from stormwater runoff and erosion are minimized in accordance with City and state requirements.*
- n. Water Supply. The proposed water supply is sufficient for the proposed use, and for fire protection purposes. No degradation of service in the area shall occur as a result of the proposed development. The regular maintenance of private fire hydrants shall be documented. The applicant is responsible for obtaining any permits or approvals from the water utility provider for this project. Maine Water provided a letter indicating that water capacity is adequate to serve this project.*
- o. Hazardous Materials. Adequate provisions are made for the transportation, storage and disposal of hazardous substances and materials. No hazardous materials are associated with this application.*
- p. Wildlife, Scenery, and Unique & Critical Areas. The proposed development will not have an adverse impact on significant scenic vistas, significant wildlife habitats, or unique natural areas that could be avoided by reasonable modification of the plan. The proposal is not anticipated to have adverse affects on significant visas, wildlife habitats, or unique natural areas based on application materials submitted. A NRPA permit from Maine DEP was obtained by the applicant for proposed wetland impacts.*
- q. Traffic. The proposed development will not cause safety hazards and will be consistent with generally accepted complete street standards. In a December 15, 2021 memo, Traffic peer review consultant Diane Morabito stated that this project will generate a limited number of off-site trips at nearby intersections where traffic signal improvements are planned (intersections of Route 1 with Flag Pond Rd and Waterfall Drive) and should therefore NOT contribute to those projects. However, an existing center left-turn lane in Route 1 is anticipated to be extended northward along the project frontage in the future. Ms. Morabito indicates that traffic volumes anticipated from this development warrant construction of a center left-turn lane along the project frontage. Condition 6 requires construction of a center left-turn lane along the project frontage prior to Certificates of Occupancy for the proposed buildings.*
- r. Water Quality. Surface water impacts of the proposed development shall be no greater than allowed and permitted under State Law. Surface water runoff from the proposed improvements will be collected and conveyed to an on-site stormwater system for detention and water quality treatment. Plans for these facilities were reviewed by the City Engineer, who provided recommendations and conditions of approval intended to mitigate potential water quality impacts.*
- s. Utilities. The proposed development does not impose an unreasonable burden on sewers, storm drains, water lines, or other public utilities. The plans for this project were reviewed by the City Engineer and WRRD staff, who provided recommendations and conditions for minimizing burdens on public infrastructure resulting from the proposed development.*
- t. Audio-Visual Buffer. Setbacks and screening provide a robust audio/visual buffer so as to minimize adverse impacts on nearby properties. The proposed application shall meet all setback as required by the PR Zone. Site plans include landscaping that will provide adequate screening of the proposed development.*

Saco Planning Board
DRAFT Findings of Fact
Clover Leaf Development, 986-989 Portland Rd (Map 63 Lot 3-1)
Conditional Use Review
June 7, 2022

1. Conditional Uses (Article XIV, Zoning): Standards for a CUP

As noted above, Multi-family dwellings are Conditional Uses in PR zoning districts per Table 3-3 of Saco's zoning ordinance. As evidenced by the information provided by the applicant, Saco Planning staff present the following findings related to the Standards for a CUP of Section XIV6.A of Saco's Zoning Ordinance, which state that it is the applicant's burden to establish that the proposed use:

1. Meets the definition and specific requirements of this chapter	This proposal complies with the zoning standards as described above
2. Will not impede vehicular and pedestrian circulation, or access for emergency responders, nor create hazards onsite or on adjacent streets. Lighting will not create hazards to motorists and is adequate for site safety.	This application was reviewed by staff from Saco's Fire, Police, and Public Works departments. The proposed street access and internal driveway configuration conforms with City standards and minimizes potential traffic impacts on neighboring streets. Lighting plans demonstrate that impacts to neighboring properties and public areas will be minimal.
3. Will provide adequate buffers and landscaping	Setbacks between public areas and the proposed buildings and parking facilities and landscaping including a mix of trees, shrubs, and groundcovers will adequately buffer the proposed development from nearby properties and public areas.
4. Will not have a significant detrimental effect on abutting properties	The proposed residential development is not anticipated to significantly impact neighboring properties.
5. Will not have a significant detrimental effect on value of adjacent properties	The proposed development is not anticipated to have a significant detrimental effect on the value of adjacent properties.
6. Will not result in significant flood hazards	The site is not in a Flood hazard area.
7. Made adequate provisions for disposal of wastewater, groundwater, surface water, and solid waste	The plans for this project were reviewed by the City Engineer and WRRD staff, who provided recommendations and conditions for minimizing burdens on public infrastructure resulting from the proposed development. Surface water runoff from the proposed improvements will be collected and conveyed to an on-site stormwater system for detention and water quality treatment. Sewer capacity for this development was verified by WRRD staff.
8. Will not have an adverse impact on significant scenic vistas or wildlife habitat	No significant scenic vistas will be impacted by the proposed development. Proposed wetland fills are authorized by Maine DEP and the Army Corps of Engineers.
9. Will not cause safety hazards for pedestrians, cyclists, and operators of motor vehicles	No safety hazards for pedestrians, cyclists, or motorists are anticipated from this project. Completion of a center turn lane in Portland Road is required prior to building occupancy. Sidewalks will be provided throughout the site and along the Portland Rd project frontage.

Saco Planning Board
DRAFT Findings of Fact
Clover Leaf Development, 986-989 Portland Rd (Map 63 Lot 3-1)
Final Subdivision Review
June 7, 2022

Article II Section 204 states that multi-family residential projects consisting of fifteen or more dwelling units shall be subject to both Site Plan Review and Subdivision Review. The purpose of these regulations shall be to assure the comfort, convenience, safety, health and welfare of the people, to protect the environment and to promote the development of an economically sound and stable community. Per Article VI of Saco's Subdivision Ordinance, the Planning Board shall consider the following criteria and before granting approval:

Section 603 Approval Criteria:

- a. *Pollution. The proposed subdivision will not result in undue water or air pollution. In making this determination, the Planning Board shall consider:*
 1. *The elevation of the land above sea level and its relation to the floodplain;* The land is elevated high above sea level and is not within the floodplain.
 2. *The nature of soils and subsoils and their ability to adequately support waste disposal;* Soils on the site are comprised primarily of well-drained to moderately well-drained sandy soils that are suitable for development. Compacted imported fills occupy a portion of the center of the property. Foundation drainage is required and will be reviewed by Saco's Code Enforcement Office as part of the building permit process for this project.
 3. *The slope of the land and its effect on effluents;* Concerns have not been raised in relation to the slope of land and its effect on effluents.
 4. *The availability of streams for disposal of effluents;* Concerns have not been raised in relation to the draining of effluents into streams.
 5. *The applicable state and local health and water resource rules and regulations.* Concerns have not been raised about this application in relation to its meeting the applicable state and local health and water resource regulations.
- b. *Sufficient water. The proposed subdivision has sufficient water available for the reasonably foreseeable needs of the subdivision.* The applicant is responsible for obtaining any permits or approvals from the water utility provider for this project. Maine Water provided a letter indicating that water capacity is adequate to serve this project.
- c. *Public water supply. The proposed subdivision will not cause an unreasonable burden on an existing water supply.* Water for the subject site is provided by the Maine Water Company. The applicant is responsible for designing and constructing water facilities to meet fire suppression and water service needs for this project.
- d. *Erosion. The proposed subdivision will not cause unreasonable soil erosion or a reduction in the land's capacity to hold water so that a dangerous or unhealthy condition results.* On-site soils are deemed suitable for development, slopes are minimal, and development will comply with the setbacks and construction standards applicable for PR zoning districts. Unreasonable erosion or stormwater impacts are not anticipated to result from this project.
- e. *Traffic. The proposed subdivision will not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads existing or proposed.* In a December 15, 2021 memo, Traffic peer review consultant Diane Morabito stated that this project will generate a limited number of off-site trips at nearby intersections where traffic signal improvements are planned (intersections of Route 1 with Flag Pond Rd and Waterfall Drive) and should therefore NOT contribute to those projects. However, an existing center left-turn lane in Route 1 is anticipated to be extended northward along the project frontage in the future. Ms. Morabito

indicates that traffic volumes anticipated from this development warrant construction of a center left-turn lane along the project frontage. Condition 6 requires construction of a center left-turn lane along the project frontage prior to Certificates of Occupancy for the proposed buildings.

- f. *Sewage disposal. The proposed subdivision will provide for adequate sewage waste disposal and will not cause an unreasonable burden on the municipality.* WRRD states that existing facilities provide capacity to serve the proposed development. Impact fees will be paid by the applicant to mitigate for impacts to the public wastewater system. Additional details for grease handling in the wastewater disposal system for the multi-purpose building remain to be provided by the applicant and reviewed by staff. Conditions of approval are proposed to ensure compliance with City standards for design and construction of associated facilities by the applicant.
- g. *Municipal solid waste disposal. The proposed subdivision will not cause an unreasonable burden on the municipality's ability to dispose of solid waste.* This proposal is not anticipated to cause an unreasonable burden on solid waste disposal systems. Solid waste generated by residents is proposed to be collected at 3 separate receptacle facilities located throughout the site. Trash facilities will be enclosed in buildings which are designed to match the aesthetics of the residential buildings of this development. (See Elevation sheet labeled "Disposal Buildings")
- h. *Aesthetic, cultural and natural values. The proposed subdivision will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, significant wildlife habitat, or rare and irreplaceable natural areas or any public rights for physical or visual access to the shoreline.* The proposed project will result in an apartment development constructed in a mixed-use area. Vegetative buffers will minimize impacts on neighboring properties and streets. The applicant obtained Maine DEP approval for proposed wetland impacts. No historic sites or significant wildlife habitat areas are known to be present on the subject property. This project is not located near a shoreline, and thus will not impede physical or visual access to the ocean.
- i. *Conformity with local ordinances and plans. The proposed subdivision conforms with the subdivision ordinance, zoning ordinance and the Comprehensive Plan.* The proposed lots conform with the dimensional requirements of the PR- Portland Road zoning district as outlined in the Zoning Ordinance and in discussion of Section VII of Saco's Subdivision Ordinance, on page 4, above.
- j. *Financial and technical capacity. The subdivider has adequate financial and technical capacity to meet the standards of this Chapter.* The subdivider and their consultant provided evidence demonstrating technical and financial capacity to design and construct the proposed project in accordance with City standards.
- k. *Surface waters. Whenever situated entirely or partially within the watershed of any pond or lake or within two hundred fifty (250) feet of any wetland, great pond or river as defined in Title 38 M.R.S., Chapter 3, Subchapter I, Article 2-B, the proposed subdivision will not adversely affect water quality or unreasonably affect the shoreline of that body of water.* The proposed development is not situated within the watershed of any pond or lake. Impacts to on-site wetlands are proposed. A Natural Resource Protection Act (NRPA) permit from Maine DEP was issued for this project.
- l. *Groundwater. The proposed subdivision will not adversely affect the quality or quantity of groundwater.* No concerns have been raised regarding this subdivision impact on the quality or quantity of groundwater.
- m. *Flood areas. The proposed subdivision plan must include a condition of plan approval requiring that principal structures in the subdivision will be constructed with their lowest floor, including the basement, in compliance with Chapter 106 of the City's ordinances.* This application is not within a flood hazard area as identified by Chapter 106 of the City's ordinances.
- n. *Freshwater wetlands. All freshwater wetlands within the proposed subdivision have been identified on maps submitted as part of the application, regardless of the size of these wetlands.* Wetlands and associated buffer areas are present on the site. The proposed project would directly impact approximately 18,966 square feet of wetlands. The applicant obtained a Natural Resources Protection Act Permit (NRPA) from the Maine Department of Environmental Protection as required to perform this work.
- o. *River, stream or brook. Any river, stream or brook within or abutting the proposed subdivision has been identified on maps submitted as part of the application. For purposes of this section, "river, stream or brook" has the same meaning as in Title 38 M.R.S., section 480-B, subsection 9.* No streams, brooks, or stream buffer areas are present on the subject site.

- p. Stormwater. The proposed subdivision will provide for adequate stormwater management. Grading and drainage plans for this development were reviewed by the City Engineer and revised in response to their comments. Stormwater runoff from proposed streets, buildings, and disturbed areas will be collected and conveyed to on-site drainage facilities designed and constructed in accordance with City and state standards.*
- q. Spaghetti Lots prohibited. If any lots in the proposed subdivision have shore frontage on a river, stream, brook, great pond or coastal wetland as these features are defined in Title 38 M.R.S., section 480-B, none of the lots created within the subdivision shall have a lot depth to shore frontage ratio greater than five-to-one (5:1). Spaghetti lots are not proposed with this application.*
- r. Phosphorus concentration. The long-term cumulative effects of the proposed subdivision will not unreasonably increase a great pond's phosphorus concentration. This project is not located within the watershed of a great pond and thus is not anticipated to have any long-term cumulative effects on a great pond's phosphorus concentration.*
- s. Impact on adjoining municipality. The proposed subdivision will not cause unreasonable traffic congestion or unsafe conditions. The proposed subdivision is not anticipated to cause any unreasonable traffic congestion or unsafe conditions, either within the City of Saco or in any neighboring municipalities.*
- t. Roads. All roads shall be designed in accordance with specifications contained in this Chapter and all local ordinances. The proposed driveway was reviewed by the City Engineer. Saco's Addressing Officer advised the applicant that the driveway should be named as a private street to facilitate addressing of future development on that portion of the parcel nearest to Portland Road.*

Article VII Design Standards

701 Consistency with Plans, Ordinances, and Statutes

- a) Comprehensive Plan: Most of the goals and policies in Saco's 2018 Comprehensive Plan encourage development in targeted growth areas that are served by utilities. The Plan also includes policies (4a.1) which encourage construction of housing of varying types in varying locations. The applicant proposes to construct 120 residential apartment units in 10 separate buildings in an area that is served by existing utilities while mitigating for potential impacts on traffic and wetlands. This project is generally supported by Saco's Comprehensive Plan accordingly.
- b) Zoning Ordinance: Multi-family dwellings are Conditional Uses in PR zoning districts per Table 3-3 of Saco's Zoning Ordinance. As described on pages 4-6 above, this project complies with the applicable dimensional standards.

702 Required Improvements

Survey monuments, streets, street signs, streetlights, water and wastewater facilities, and stormwater facilities must be installed or constructed in accordance with approved plans and as required.

703 Open Space

Section 703 of Saco's Subdivision Ordinance requires 2.5 percent of the subject property to be reserved as open space. As evidenced on the Site Plans provided with this application, the applicant proposes to leave most of the property undeveloped as open space.

Subdivisions of 20 or more dwelling units shall pay an open space impact fee or dedicate at least 50 percent of the required open space as usable open space for active recreation. The proposed open space is comprised primarily of undeveloped natural areas, common lawn areas, and a dog park. Active recreation facilities such as play equipment or sport courts are not shown on plans. The Planning Board may wish to discuss recreation and open space facilities during the meeting since "active recreation" often means programmed facilities rather than undeveloped natural areas.

704 Natural Resources

Wetlands and associated buffer areas are present on the site. The proposed project would directly impact approximately 18,966 square feet of wetlands. The applicant obtained a Natural Resources Protection Act Permit (NRPA) from the Maine Department of Environmental Protection as required to perform this work.

705 Cultural and Historic Resources

No cultural or historic resources are anticipated to be impacted by this project.

706 Groundwater

Soils on the site are deemed suitable for development with proper foundation design. Drainage facilities designed and constructed in accordance with applicable standards will minimize potential impacts to groundwater resources.

707 Land Not Suitable for Development

Steep slopes and additional wetland areas are not proposed to be developed and were discounted from the net residential acreage for development as part of design of this project.

708 Easements

Driveways and utilities for the proposed development are private and do not necessitate easements.

709 Subdivision Name, Blocks, Lots

No new lots are proposed. Naming and addressing of this project will comply with City standards.

7010 Street Design

The proposed driveway complies with City standards for sight distance, vehicle stacking, and emergency vehicle access.

7011 Buffers

Setbacks between public areas and the proposed buildings and parking facilities and landscaping including a mix of trees, shrubs, and groundcovers will adequately buffer the proposed development from nearby properties and public areas.

7012 Centralized Mailboxes

A centralized mailbox is proposed to be installed in the communal multi-purpose building. Mail facilities must be installed in accordance with the applicable standards during construction of the project.

Article VIII Infrastructure Specifications

801 Water Supply

Water for future residences is proposed to be provided via extension of public water facilities. A letter of availability from the Maine Water Company was provided by the applicant.

802 Wastewater

WRRD states that existing facilities provide capacity to serve the proposed development. Impact fees will be paid by the applicant to mitigate for impacts to the public wastewater system. Additional details for grease handling in the wastewater disposal system for the multi-purpose building remain to be provided by the applicant and reviewed by staff. Conditions of approval are proposed to ensure compliance with City standards for design and construction of associated facilities by the applicant.

803 Stormwater and Erosion Control

Site grading, stormwater facilities, erosion control, and inspection and maintenance for this project are detailed in the plans provided by the applicant. These stormwater facilities and erosion control measures comply with City standards and will minimize potential stormwater impacts from this development.

804 Cable Utilities: Electric, Telephone, Television & Internet

Cable utilities are provided by third-party service providers. The applicant/ owner is responsible for extending utilities to future residences.

805 Street Lighting

Lighting specifications were provided with this application. New street lighting was not required by Saco Public Works. On-site lighting complies with City standards.

806 Trees

According to the applicant, no significant trees are presently on the site. An existing tree survey was not provided with this application. Trees shall be planted along all new streets at intervals of no more than 50 feet. Preliminary plans show planting of trees along the new driveway and along all development perimeter and open space areas.

807 Boundary Monuments

Boundary markers must be installed in accordance with City standards prior to project completion and as inspected by Saco City staff.

Saco Planning Board
DRAFT Conditions of Approval
Clover Leaf Development, 986-989 Portland Rd (Map 63 Lot 3-1
Site Plan, Final Subdivision & Conditional Use Review
June 7, 2022

1. All work shall be in conformance with the approved plans prepared by Terradyn Consultants and dated April 4, 2022 and as revised in response to staff comments.
2. No deviations from the approved plans are permitted without prior approval from the City Planner.
3. Prior to the start of construction, the applicant shall be required to execute Form 1 contained in Appendix D of the Stormwater O&M Manual and provide a recorded copy to the City.
4. Prior to the start of construction, the wetland buffer areas shall be marked in the field with permanent monumentation and copies of the recorded buffer deed restrictions shall be provided to the Planning Department.
5. MaineDOT is scheduled to repave Portland Road in 2023; therefore, all work within the Portland Road roadway surface (utility improvements, storm drain improvements and curb line modifications) associated with this development shall be completed before September 15, 2022.

6. A center turn lane is required to be installed/ extended in Portland Road along the frontage of this project to ensure safety for vehicles entering and exiting the site. This turn lane must be constructed/ installed prior to City issuance of a Certificate of Occupancy for any of the residential buildings proposed for this project.
7. All work within the public right-of-way shall be subject to the terms and conditions of a Street Opening Permit to be issued by DPW. The developer shall be responsible for applying and obtaining a Street Opening Permit prior to the start of any work within the public right-of-way.
8. A final set of construction drawings for each phase of the project shall be provided to the City prior to the start of construction for each phase.
9. The applicant shall be required to perform routine inspection and maintenance of the stormwater facilities as outlined in the operations and maintenance manual development specifically for the site. A copy of the annual inspection and maintenance report including inspection log(s) shall be submitted annually (by July 15th of each year) to the City Public Works Department.
10. Sewer Impact fees are calculated per Appendices A and B of the Sewer Ordinance. Impact fees are to be paid to the Code Enforcement Department upon building permit issuance.
11. All wastewater facility connections must be made in accordance with specifications of the Technical Design Construction Standards Manual (TDCSM), Chapter 176 and Chapter 186 of the City's Ordinances, and any other applicable City, state, or federal standards.
12. Grease traps are required for all food-related and eating uses. Grease handling facilities may be required for the multi-purpose building. The applicant shall provide and receive WRRD approval of additional details pertaining to multi-purpose building uses and design of wastewater facilities prior to scheduling a pre-construction meeting for this project.
13. Any installation of underground electrical services, telephone, and cable shall provide Saco's Code Enforcement Office with a complete set of "As Built" drawings showing their location, length, size, and depth.
14. All underground electrical services, telephone, and cable must be installed under the supervision of a licensed Master Electrician or Journeyman (who works for a Master Electrician). The electrician will certify that any installation was done in compliance with the National Electrical Code (NFPA 70) and Local Ordinances. The electrician is responsible for obtaining applicable permits, scheduling any and all needed inspections, and supplying Saco's Code Enforcement Office with "As Built" drawings.
15. Addressing for the new units must be approved by the City's addressing officer prior to City issuance of a Certificate of Occupancy. Contact Saco's Code Enforcement Office or Fire Department for more information during the building permit process.
16. This approval remains valid provided that substantial construction of this approved plan starts within twenty-four months. The applicant may apply for an extension, provided that the request is made before the site plan approval expires.

**Pineland**

Cumberland Hall
41 Campus Drive, Suite 101
New Gloucester, ME 04260

Portland

565 Congress Street, Suite 310
Portland, ME 04101

21-04

April 14, 2022

Jason Garnham, City Planner
Saco City Hall
300 Main Street
Saco, ME 04072

**Final Subdivision Application - Clover Leaf Development
989 Portland Road, Saco, ME**

Jason,

On behalf of Clover Leaf Development, LLC, we are please to provide additional information so that the project may be considered for final approval at the next planning board meeting. Clover Leaf Multifamily Development is a 120 unit apartment complex that will include a community center, dog park, central courtyards and nicely landscaped grounds. The development parcel is located on the western side of Portland Road (Route 1), just north of the Aquaboggin Waterpark at 989 Portland Road. The property is shown as lot 3-1 on the City of Saco Tax Map 63. The 68.3-acre property is located within the Portland Road (PR) District where multifamily development is an allowed use. We don't believe that any waivers are necessary.

Since the previous planning board meeting & site walk, very little has changed from the plans. The following is a list of all additional information and plan changes that are included within this submission:

Plan Changes:

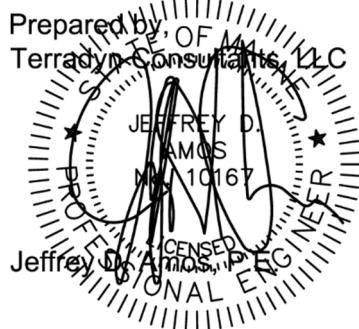
1. The water distribution layout was modified to simplify the design. The units will be served from a main located in each respective courtyard. The changes were reviewed and approved by Maine Water.
2. A topographic survey was conducted in the area that will contain the stormwater pond & level spreader. The existing contours were updated to incorporate the updates. The LIDAR contours were fairly accurate, so the change is likely unnoticeable.
3. Sheet C-1.0 Overall Site Plan was modified with the addition of
 - a. bearings and distances on all exterior lot lines as well as the limits of the open space.
 - b. Note 14 was added that outlines the sunset provisions of Section 503 of the subdivision ordinance.
 - c. The conditions of approval notes were added to the plan.
 - d. Note 7 was updated with the approved permit application numbers.

New Information (found in Attachment 1):

1. Copy of approved Maine DEP NRPA Tier 2 Wetland Alteration Permit.
2. Copy of approved Army Corp of Engineers Maine General Permit
3. Approval email by Maine Water Company

At the request of the planning department, we have compiled all previously submitted material into one finalized application package. The PDF sections are bookmarked for easy navigation. The following items area included within the document:

Attachment 1	New Information
Attachment 2	Subdivision Application & Checklist
Attachment 3	Site Plan Application & Checklist
Attachment 4	Conditional Use Application & Checklist
Attachment 5	Title, Right or Interest
Attachment 6	Abutter List
Attachment 7	Location Map – 800 Scale
Attachment 8	Financial Capacity
Attachment 9	Ability to Serve – Maine Water
Attachment 10	Traffic Study
Attachment 11	Building Plans & Elevations





STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

CLOVER LEAF DEVELOPMENT, LLC) NATURAL RESOURCES PROTECTION ACT
Saco, York County) FRESHWATER WETLAND ALTERATION
APARTMENT COMPLEX) WATER QUALITY CERTIFICATION
L-29664-TE-A-N(approval)) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S. §§ 480-A–480-JJ, Section 401 of the Clean Water Act (33 U.S.C. § 1341), and Chapters 310 and 315 of Department rules, the Department of Environmental Protection has considered the application of CLOVER LEAF DEVELOPMENT, LLC with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. Summary: The applicant is proposing to fill 18,966 square feet of forested freshwater wetlands to construct a 120-unit apartment complex with associated access drives, parking, and a stormwater management system. The project is shown on a set of plans, the first of which is entitled, “Clover Leaf Development, LLC,” prepared by Terradyn Consultants, LLC. The project site is located on Portland Road in the City of Saco.

The City of Saco has stormwater capacity pursuant to the 38 M.R.S. § 420-D 7(C) therefore, the City is reviewing the stormwater management for the proposed project.

B. Current Use of the Site: The site of the proposed project is a 68.3-acre forested parcel of land. There are no structures on the property. The parcel is identified as Lot 3-1 on Map 63 of the City of Saco’s tax maps. The parcel is further identified in the York County Registry of Deeds on Page 853 of Book 17077 and Page 73 of Book 18450.

2. EXISTING SCENIC, AESTHETIC, RECREATIONAL OR NAVIGATIONAL USES:

The Natural Resources Protection Act (NRPA), in 38 M.R.S. § 480-D(1), requires the applicant to demonstrate that the proposed project will not unreasonably interfere with existing scenic, aesthetic, recreational and navigational uses.

In accordance with Chapter 315, *Assessing and Mitigating Impacts to Scenic and Aesthetic Uses* (06-096 C.M.R. Ch. 315, effective June 29, 2003), the applicant submitted a copy of the Department's Visual Evaluation Field Survey Checklist as Appendix A to the application along with a description of the property and the proposed project. The applicant also submitted several photographs of the proposed project site and surroundings.

The proposed project is located in a forested freshwater wetland, which is not a scenic resource visited by the general public, in part, for the use, observation, enjoyment and appreciation of its natural and cultural visual qualities. The nearest scenic resources are Cascade Brook, located approximately 3,500 feet from the project site and Mill Brook, located approximately 4,850 feet from the project site, both of which are tributary streams that outlet into Jones Creek and then the Atlantic Ocean. The project will not be visible from either resource due to vegetation, structures, and topography.

The Department determined that based on the nature of the proposed project and its location, there are no existing recreational or navigational uses of the resource that would be unreasonably impacted.

The Department finds that the proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses of the freshwater wetland.

3. SOIL EROSION:

The NRPA, in 38 M.R.S. § 480-D(2), requires the applicant to demonstrate that the proposed project will not cause unreasonable erosion of soil or sediment nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

The applicant submitted a construction plan and erosion and sedimentation control notes and details for the proposed project, which can be seen on Sheet C-4.0, Sheet C-4.3, and Sheet C-4.4 on the plans referenced in Finding 1. The plan and notes are based on the Department's *Maine Erosion and Sedimentation Control Guide for Contractors*. The applicant anticipates that construction will begin in the Spring of 2022 and last through the Spring of 2023. The proposed erosion and sedimentation control measures will be installed and maintained throughout construction.

The Department finds that the activity will not cause unreasonable erosion of soil or sediment nor unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

4. HABITAT CONSIDERATIONS:

The NRPA, in 38 M.R.S. § 480-D(3), requires the applicant to demonstrate that the proposed project will not unreasonably harm significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life.

The applicant submitted a wetland report prepared by Mark Hampton Associates, Inc., and dated January 26, 2020. The report documented one freshwater wetland and no vernal pools, streams, or unusual natural areas on the project site. The wetland is shown

on a plan entitled, "Overall Plan," dated June 25, 2021, with a last revision date on any of the plans of September 15, 2021.

According to the Department's Geographic Information System (GIS) database there are no mapped Essential or Significant Wildlife Habitats located at the site.

The Department finds that the activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life.

5. WATER QUALITY CONSIDERATIONS:

As discussed in Finding 3, the applicant proposes to use erosion and sediment control during construction to minimize impacts to water quality from siltation.

The Department does not anticipate that the proposed project will violate any state water quality law, including those governing the classification of the State's waters.

6. WETLANDS AND WATERBODIES PROTECTION RULES:

The proposed project will directly alter 18,966 square feet of freshwater wetlands.

The *Wetlands and Waterbodies Protection Rules*, 06-096 C.M.R. Ch. 310 (last amended November 11, 2018), interpret and elaborate on the Natural Resources Protection Act (NRPA) criteria for obtaining a permit. The rules guide the Department in its determination of whether a project's impacts would be unreasonable. A proposed project would generally be found to be unreasonable if it would cause a loss in wetland area, functions and values and there is a practicable alternative to the project that would be less damaging to the environment. Each application for a NRPA permit that involves a freshwater wetland alteration must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist.

A. Avoidance. An applicant must submit an analysis of whether there is a practicable alternative to the project that would be less damaging to the environment and this analysis is considered by the Department in its assessment of the reasonableness of any impacts. The applicant submitted an alternatives analysis for the proposed project completed by Terradyn Consultants, LLC and dated December 16, 2021. The purpose of the project is to provide housing to meet the demands of the local community. The applicant considered alternative parcels for the proposed project that were of a similar size and location but determined that the project site chosen by the applicant had the least amount of wetlands. The applicant determined that developing an alternative parcel for the proposed development would be too cost prohibitive and would result in greater impacts to freshwater wetlands. In light of these considerations, the applicant stated that there was no other practicable alternative that would meet the applicant's needs and avoids impacts to freshwater wetlands.

B. Minimal Alteration. In support of an application and to address the analysis of the reasonableness of any impacts of a proposed project, an applicant must demonstrate that the amount of freshwater wetland to be altered will be kept to the minimum amount necessary for meeting the overall purpose of the project. The applicant considered alternative configurations for the proposed project, including expanding the development towards the back of the parcel to avoid the freshwater wetland in the middle of the site, but determined that this configuration would impact more valuable freshwater wetlands and therefore, this alternative was rejected. The applicant designed the project to maximize the use of existing available upland area. The applicant stated that the proposed project minimizes wetland impacts to the greatest extent practicable.

C. Compensation. In accordance with Chapter 310, § 5(C)(6)(a)(ii), compensation may be required to achieve the goal of no net loss of freshwater wetland functions and values when alterations in freshwater wetlands not of special significance exceed 15,000 square feet, provided that the Department determines that there will only be a minimal effect on freshwater wetland functions and values due to the activity. Additionally, in accordance with Chapter 310, § 5(C)(7), the Department may waive the requirement for compensation if it determines that the impacts to the functions and values from the proposed activity will be insignificant.

The proposed amount of freshwater wetland impact is 18,966 square feet. The applicant submitted a Functional Assessment of the on-site wetlands, prepared by Mark Hampton Associates, Inc. and dated January 26, 2020, which determined that the forested freshwater wetland to be altered had low to no principal functions or values due to the previous use as an old gravel borrow pit.

The Department took into consideration the location of the proposed impact, the amount of the proposed impact, and the previous disturbances to the wetland. The freshwater wetland is not a wetland of special significance. Further, the proposed project will not have an adverse impact on wildlife as determined by the functional assessment and review by Department staff. For these reasons, the Department determined that compensation is not required.

The Department finds that the applicant has avoided and minimized freshwater wetland impacts to the greatest extent practicable, and that the proposed project represents the least environmentally damaging alternative that meets the overall purpose of the project.

7. OTHER CONSIDERATIONS:

The Department finds, based on the design, proposed construction methods, and location, the proposed project will not inhibit the natural transfer of soil from the terrestrial to the marine environment, will not interfere with the natural flow of any surface or subsurface waters, and will not cause or increase flooding. The proposed project is not located in a coastal sand dune system, is not a crossing of an outstanding river segment, and does not involve dredge spoils disposal or the transport of dredge spoils by water.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. §§ 480-A–480-JJ and Section 401 of the Clean Water Act (33 U.S.C. § 1341):

- A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.
- B. The proposed activity will not cause unreasonable erosion of soil or sediment.
- C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.
- D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life.
- E. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.
- F. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.
- G. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.
- H. The proposed activity is not on or adjacent to a sand dune.
- I. The proposed activity is not on an outstanding river segment as noted in 38 M.R.S. § 480-P.

THEREFORE, the Department APPROVES the above noted application of CLOVER LEAF DEVELOPMENT, LLC to construct an apartment complex and associated infrastructure, as described in Finding 1, SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

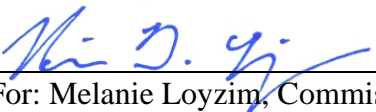
1. Standard Conditions of Approval, a copy attached.
2. The applicant shall take all necessary measures to ensure that their activities or those of their agents do not result in measurable erosion of soil on the site during the construction of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

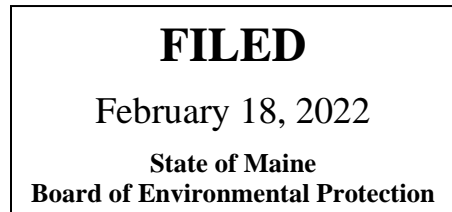
DONE AND DATED IN AUGUSTA, MAINE, THIS 12TH DAY OF FEBRUARY, 2022.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: 
For: Melanie Loyzim, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

KG/L29664AN/ATS88802





Natural Resources Protection Act (NRPA) Standard Conditions

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCES PROTECTION ACT, 38 M.R.S. §§ 480-A ET SEQ., UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

- A. Approval of Variations From Plans. The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.
- B. Compliance With All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.
- C. Erosion Control. The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.
- D. Compliance With Conditions. Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.
- E. Time frame for approvals. If construction or operation of the activity is not begun within four years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.
- F. No Construction Equipment Below High Water. No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.
- G. Permit Included In Contract Bids. A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.
- H. Permit Shown To Contractor. Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.



DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: August 2021

Contact: (207) 314-1458

SUMMARY

This document provides information regarding a person's rights and obligations in filing an administrative or judicial appeal of a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner.

Except as provided below, there are two methods available to an aggrieved person seeking to appeal a licensing decision made by the DEP Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development ([35-A M.R.S. § 3451\(4\)](#)) or a general permit for an offshore wind energy demonstration project ([38 M.R.S. § 480-HH\(1\)](#)) or a general permit for a tidal energy demonstration project ([38 M.R.S. § 636-A](#)) must be taken to the Supreme Judicial Court sitting as the Law Court.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

A person filing an appeal with the Board should review Organization and Powers, [38 M.R.S. §§ 341-D\(4\)](#) and [346](#); the Maine Administrative Procedure Act, 5 M.R.S. § [11001](#); and the DEP's [Rule Concerning the Processing of Applications and Other Administrative Matters \(Chapter 2\)](#), 06-096 C.M.R. ch. 2.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

Not more than 30 days following the filing of a license decision by the Commissioner with the Board, an aggrieved person may appeal to the Board for review of the Commissioner's decision. The filing of an appeal with the Board, in care of the Board Clerk, is complete when the Board receives the submission by the close of business on the due date (5:00 p.m. on the 30th calendar day from which the Commissioner's decision was filed with the Board, as determined by the received time stamp on the document or electronic mail). Appeals filed after 5:00 p.m. on the 30th calendar day from which the Commissioner's decision was filed with the Board will be dismissed as untimely, absent a showing of good cause.

HOW TO SUBMIT AN APPEAL TO THE BOARD

An appeal to the Board may be submitted via postal mail or electronic mail and must contain all signatures and required appeal contents. An electronic filing must contain the scanned original signature of the appellant(s). The appeal documents must be sent to the following address.

Chair, Board of Environmental Protection
c/o Board Clerk
17 State House Station
Augusta, ME 04333-0017
ruth.a.burke@maine.gov

The DEP may also request the submittal of the original signed paper appeal documents when the appeal is filed electronically. The risk of material not being received in a timely manner is on the sender, regardless of the method used.

At the time an appeal is filed with the Board, the appellant must send a copy of the appeal to: (1) the Commissioner of the DEP (Maine Department of Environmental Protection, 17 State House Station, Augusta, Maine 04333-0017); (2) the licensee; and if a hearing was held on the application, (3) any intervenors in that hearing proceeding. **Please contact the DEP at 207-287-7688 with questions or for contact information regarding a specific licensing decision.**

REQUIRED APPEAL CONTENTS

A complete appeal must contain the following information at the time the appeal is submitted.

1. *Aggrieved status.* The appeal must explain how the appellant has standing to bring the appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error.* The appeal must identify the specific findings of fact, conclusions of law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing criteria that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license to changes in specific license conditions.
5. *All the matters to be contested.* The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for hearing must be filed as part of the notice of appeal, and it must include an offer of proof regarding the testimony and other evidence that would be presented at the hearing. The offer of proof must consist of a statement of the substance of the evidence, its relevance to the issues on appeal, and whether any witnesses would testify. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed supplemental evidence must be submitted with the appeal. The Board may allow new or additional evidence to be considered in an appeal only under limited circumstances. The proposed supplemental evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; or (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Requirements for supplemental evidence are set forth in [Chapter 2 § 24](#).

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made accessible by the DEP. Upon request, the DEP will make application materials available to review and photocopy during normal working hours. There may be a charge for copies or copying services.

2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing the appeal.* DEP staff will provide this information upon request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a licensee may proceed with a project pending the outcome of an appeal, but the licensee runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will acknowledge receipt of an appeal, and it will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials admitted by the Board as supplementary evidence, any materials admitted in response to the appeal, relevant excerpts from the DEP's administrative record for the application, and the DEP staff's recommendation, in the form of a proposed Board Order, will be provided to Board members. The appellant, the licensee, and parties of record are notified in advance of the date set for the Board's consideration of an appeal or request for a hearing. The appellant and the licensee will have an opportunity to address the Board at the Board meeting. The Board will decide whether to hold a hearing on appeal when one is requested before deciding the merits of the appeal. The Board's decision on appeal may be to affirm all or part, affirm with conditions, order a hearing to be held as expeditiously as possible, reverse all or part of the decision of the Commissioner, or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the licensee, and parties of record of its decision on appeal.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see [38 M.R.S. § 346\(1\)](#); 06-096 C.M.R. ch. 2; [5 M.R.S. § 11001](#); and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board Clerk at 207-287-2811 or the Board Executive Analyst at 207-314-1458 bill.hinkel@maine.gov, or for judicial appeals contact the court clerk's office in which the appeal will be filed.

Note: This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, is provided to help a person to understand their rights and obligations in filing an administrative or judicial appeal. The DEP provides this information sheet for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

**MAINE GENERAL PERMITS (GPs)
AUTHORIZATION LETTER AND SCREENING SUMMARY**

RHONDA ANDERSON
CLOVER LEAF DEVELOPMENT, LLC
PO BOX 6799
SCARBOROUGH, MAINE 04070

CORPS PERMIT # NAE-2021-03258
CORPS GP# 8
STATE ID# L-29664-TE-A-N

DESCRIPTION OF WORK:

Place permanent fill in approximately 18,966 SF of freshwater wetland off 986 Portland Road at Saco, Maine in order to construct associated infrastructure for a 120-unit apartment complex. This work is shown on the attached plans entitled "U.S.G.S. QUADRANGLE MAP" in one sheet dated "2/9/2021" and "CLOVER LEAF DEVELOPMENT" in four sheets dated "9/15/2021".

See GENERAL CONDITIONS attached.

LAT/LONG COORDINATES: 43.553440° N -70.408522° W **USGS QUAD:** OLD ORCHARD BEACH

I. CORPS DETERMINATION:

Based on our review of the information you provided, we have determined that your project will have only minimal individual and cumulative impacts on waters and wetlands of the United States. Your work is therefore authorized by the U.S. Army Corps of Engineers under the Federal Permit, the Maine General Permits (GPs) which can be found at: <https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/> Accordingly, we do not plan to take any further action on this project.

You must perform the activity authorized herein in compliance with all the terms and conditions of the GP [including any attached Special Conditions and any conditions placed on the State 401 Water Quality Certification including any required mitigation]. Please review the GPs, including the GPs conditions beginning on page 5, to familiarize yourself with its contents. You are responsible for complying with all of the GPs requirements; therefore you should be certain that whoever does the work fully understands all of the conditions. You may wish to discuss the conditions of this authorization with your contractor to ensure the contractor can accomplish the work in a manner that conforms to all requirements.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

Condition 45 of the GPs (page 19) provides one year for completion of work that has commenced or is under contract to commence prior to the expiration of the GPs on October 14, 2025. You will need to apply for reauthorization for any work within Corps jurisdiction that is not completed by October 14, 2026.

This authorization presumes the work shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to the undersigned.

No work may be started unless and until all other required local, State and Federal licenses and permits have been obtained. This includes but is not limited to a Flood Hazard Development Permit issued by the town if necessary.

II. STATE ACTIONS: PENDING [X], ISSUED [], DENIED [] DATE _____

APPLICATION TYPE: PBR: , TIER 1: , TIER 2: , TIER 3: X , LURC: DMR LEASE: NA:

III. FEDERAL ACTIONS:


JOINT PROCESSING MEETING: 6JAN2022 LEVEL OF REVIEW: SELF-VERIFICATION: PRE-CONSTRUCTION NOTIFICATION: X

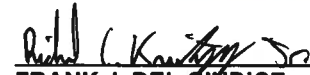
AUTHORITY (Based on a review of plans and/or State/Federal applications): SEC 10 , 404 X 10/404 , 103

EXCLUSIONS: The exclusionary criteria identified in the general permit do not apply to this project.

FEDERAL RESOURCE AGENCY OBJECTIONS: EPA NO , USF&WS NO , NMFS NO

If you have any questions on this matter, please contact my staff at 978-318-8676 at our Augusta, Maine Project Office. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at: http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0


COLIN M. GREENAN
PROJECT MANAGER
MAINE PROJECT OFFICE

for  1/24/2022
FRANK J. DEL GIUDICE
CHIEF, PERMITS & ENFORCEMENT BRANCH
REGULATORY DIVISION



**US Army Corps
of Engineers** ^R
New England District

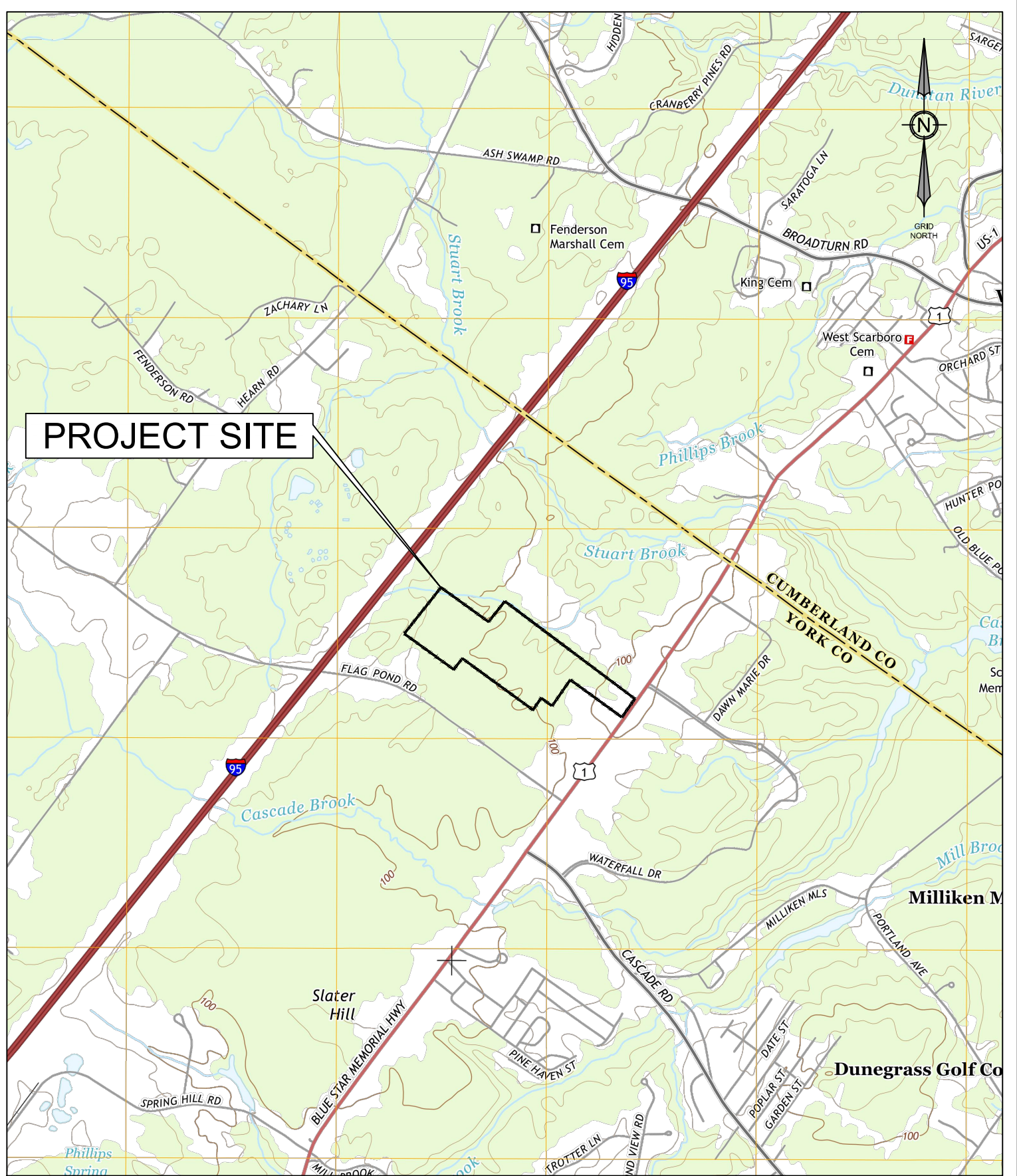
**PLEASE NOTE THE FOLLOWING GENERAL CONDITIONS FOR
DEPARTMENT OF THE ARMY
MAINE GENERAL PERMIT 8
PERMIT NO. NAE-2021-03258**

GENERAL CONDITIONS

23. Soil Erosion, Sediment, and Turbidity Controls: a. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, installation of sediment control barriers (i.e. silt fence, vegetated filter strips, geotextile silt fences, erosion control mixes, hay bales or other devices) downhill of all exposed areas, retention of existing vegetated buffers, application of temporary mulching during construction, and permanent seeding and stabilization shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. They shall be capable of preventing erosion; of collecting sediment, suspended and floating materials; and of filtering fine sediment. b. Temporary sediment control barriers shall be removed upon completion of work, but not until all disturbed areas are permanently stabilized. The sediment collected by these sediment barriers shall be removed and placed at an upland location and stabilized to prevent its later erosion into a waterway or wetland. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date.

33. Permit(s)/Authorization Letter On-Site. The permittee shall ensure that a copy of the terms and conditions of these GPs and any accompanying authorization letter with attached plans are at the site of the work authorized by these GPs whenever work is being performed and that all construction personnel performing work which may affect waters of the U.S. are fully aware of the accompanying terms and conditions. The entire permit authorization shall be made a part of any and all contracts and subcontracts for work that affects areas of Corps jurisdiction at the site of the work authorized by these GPs. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means all terms and conditions of the GPs, the GPs, and the authorization letter (including its drawings, plans, appendices and other attachments) and subsequent permit modifications as applicable. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or subcontract. Although the permittee may assign various aspects of the work to different contractors or subcontractors, all contractors and subcontractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization,

34. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is eligible for authorization under these GPs, is being, or has been performed in accordance with the terms and conditions of these GPs.



<p>U.S.G.S. QUADRANGLE MAP</p> <p>PROJECT: CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO ME</p> <p>PREPARED FOR: CLOVER LEAF DEVELOPMENT, LLC</p>	<div data-bbox="600 1848 812 1995"> </div> <div data-bbox="868 1848 1128 1995"> <p>PINELAND 41 CAMPUS DRIVE, SUITE 101 NEW GLOUCESTER, ME 04260</p> <p>PORTLAND 565 CONGRESS STREET, SUITE 201 PORTLAND, ME 04101</p> </div>	<p>PROJECT NO. 21-04</p> <p>DATE 2/9/2021</p> <p>SCALE 1"=2,000'</p>	<p>SHEET 1 OF 1</p>
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Jeff Amos

From: Marcus Knipp <Marcus.Knipp@MaineWater.com>
Sent: Tuesday, March 22, 2022 1:57 PM
To: Jeff Amos
Subject: RE: Clover Leaf

Hi Jeff,

Everything looks pretty good. All of the services to the buildings will need their own valves, specifically the 2 and 6-inch services from the 8-inch feed. It'll probably be best if those are shown on the plans. We like to see tees for all the 8x6 connections with a 6-inch valve, but the 2-inch connections will just be corporation taps with 2-inch gate valve. Let this email stand as preliminary approval of the waterline, with some possible minor changes during construction.

The front parcel restaurant depends on the ownership of the parcel. If this is a large apartment complex where the front parcel will still be owned by the same entity on the same unique parcel as a larger 'complex' development – then we may not need a separate connection from the main. But in the case where that front parcel may be separately sold to a different owner, and on a completely separate parcel than the rest of the residential buildings, then yes, we will require a separate connection from the main. Depending on if they would need a sprinkler system for the proposed restaurant, the size of their service could possibly be much smaller (2-inch) water line crossing the road for domestic usage. Lastly, if this will be sold off and separately owned, we may require a separate fire and domestic service be brought across Route 1, so it might be a 2-inch for domestic and a 4 or 6-inch for fire in addition to the 8-inch that will serve the complex. We'll have to evaluate that more to make better recommendations.

Did you get confirmation from Kerry about the one 8-inch service as quoted? I'll need a business name and mailing address to get that contract over to you soon to incorporate into our plans.

Thanks,
Marcus

Marcus Knipp, E.I.T.
Engineer



93 Industrial Park Road
Saco, ME 04072
Office: 207-294-6943
Cell: 207-468-2089

From: Jeff Amos <jeff@terradyconsultants.com>
Sent: Tuesday, March 22, 2022 1:05 PM
To: Marcus Knipp <Marcus.Knipp@MaineWater.com>
Subject: RE: Clover Leaf

CAUTION: This email originated outside the SJWG organization.

Hi Marcus,



Subdivision Review Application
Planning & Development Department
Planning Board

Application # _____

Street Address of Proposed Project: 986 Portland Road Tax Map & Lot: 63/3-1

York County Registry of Deeds Book & Page Number: 17077/853 & 18450/73 Zoning District: PR

Applicant: Clover Leaf Development, LLC

Applicant's Address: P.O. Box 6799, Scarborough, ME 04070

Applicant's Email & Phone #: RhondaAnderson245@gmail.com (207) 252-0245

Architect/Engineer's Name: Terradyn Consultants, LLC - Jeff Amos, P.E.

Architect/Engineer's Email & Phone #: jeff@terradyconsultants.com 207-926-5111

Architect/Engineer's Address: 41 Campus Dr. Ste 101, New Gloucester, ME 04260

Property Owner: Pamela Consiglio & Sherry Mitchell

Property Owner's Email & Phone #: RhondaAnderson245@gmail.com 207-252-0245

Property Owner's Address: 115 US Rt 2 South, Alburgh, VT 05440

Area of Parcel: 65.84 Ac Proposed Developed Area: 10 Ac Proposed Height: 42.5'

Description of Proposal: 120 unit apartment complex with multi-purpose building along

with associated parking areas, landscaping, utilities & stormwater features

Signature & Application Requirements: Applications are due at least three weeks in advance of Planning Board meetings, but the Department encourages applicants to plan for five weeks before a Planning Board meeting. Staff will schedule your application for a Planning Board meeting once all reviews are complete and comments have been sufficiently addressed.


Signature of Owner/Applicant

9-22-2021
Date

Subdivision Review Checklist

Article 5: Submission Requirements

Applicant	City staff	Submission Requirement
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The Department requires three hard copies and one electronic copy (PDF) of the following list of items sent to: Planning@sacomaine.org .
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Two location plans of the subdivision and neighboring areas within at least a 2000 foot radius at scales of 800 feet to the inch and 200 feet to the inch, showing right of way lines of all proposed streets in the subdivision and their location in relation to existing streets and readily identifiable as to locus on the Zoning Map of Saco, Maine, as most recently amended.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The preliminary plan must be a contact print of an original drawing in permanent black ink on mylar, or other reproducible, stable based transparent originals. It must be clearly designated as "preliminary plan," drawn at the scale not less than one inch equals 100 feet. Sheets shall be 24" by 36" and plans shall be prepared by an engineer, architect, landscape architect, or land surveyor registered in Maine. Surveyed plans shall be stamped and signed. If multiple sheets are used, they must be accompanied by an index sheet as a cover showing the entire subdivision.</p> <p>The preliminary plan shall be prepared using the following standards:</p> <ul style="list-style-type: none"> a. Projection shall be Maine State Plane West. b. Vertical Datum shall be NAD 83. c. Units shall be measured in feet. d. Coordinates shall be shown on at least four corners of the site plan. Coordinates shall be referenced to the Maine State Coordinate System.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The preliminary plan shall contain the following information: Subdivision name, boundaries, acreage, tax map and lot numbers, date and graphic scale, and a magnetic and true north arrow.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Name and address of record owner, subdivider, and engineer, surveyor, firm, and/or individual who prepared the plan.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	An actual field survey of the boundary lines of the tract, giving complete descriptive data by bearings and distances, made and certified by a registered land surveyor.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Boundary lines of adjacent land and names of owners as determined from most recent tax list.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location, name, and present width of each street and public or private way bounding, approaching or within 500 feet of the subdivision, and any easements within or adjacent to the subdivision.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Locations and outlines of all existing buildings and significant site features such as stone walls, fences, large trees (24 inch diameter breast height) or wooded areas, rock ridges and outcroppings, cemeteries, water courses, wetlands and water bodies on the site. Wooded areas, watercourses, wetlands

		and water bodies within 200 feet of the site shall also be identified, when possible.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Topography with two-foot contours of existing and proposed grades to include the demarcation of wetlands, 100-year flood elevations, and flood hazard areas.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The location, direction, and length of every proposed street line, lot line and boundary line established on the ground, the location of temporary markers adequate to enable the Board to locate the layout in the field, and the names of proposed streets.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Lot lines with dimensions, zoning setback lines, and the area of each lot in square feet and acres, and lot numbers.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Locations of existing and proposed monuments, hydrants and the location and size of public utility facilities, sewers, culverts, drains, and water pipes.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Park, open, recreation, or common areas within a subdivision and a plan of any formal recreation area.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A plan for the management of surface drainage waters, including existing waterways and the proposed disposition of water from proposed subdivision to new or existing subsurface drainage systems with sufficient capacity to dispose of the storm flows.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Locations and species of proposed street trees and/or wooded areas to be retained within the sidelines of each street, and other no-cut areas.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Street plans and profiles showing the percent slope of each grade, and the radius, length, point of curvature and point of tangency of each curve.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Street plans and profiles showing proposed centerline grades and existing ground grades at fifty (50) foot stations. All existing and proposed elevations shall be based on the U.S.C. & G.S. Datum.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Location of all of the following proposed improvements unless specifically waived in writing by the Board: proposed monuments, parking areas, street lights, sidewalks, street signs, all utilities above and below ground, curbs, gutters, street trees, storm drainage, and all easements, service buildings and structures, and dumpsters.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Erosion control plan showing the placement of all berms, silt fences, hay bales, sedimentation ponds and other erosion control devices, detention ponds, to the standards of the "Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices," by the Cumberland County Soil and Water Conservation District and the Maine Department of Environmental Protection, latest revision.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Areas within or adjacent to the proposed subdivision which have been identified as high or moderate value wildlife habitat by the Maine Department of Inland Fisheries and Wildlife or within the Comprehensive Plan. If any portion of the subdivision is located within an area designated as a critical natural area by the Comprehensive Plan or the Maine Natural Areas Program, the plan shall indicate appropriate measures for the preservation of the values which qualify the site for such designation.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The location of any identified historic and/or archaeological resources together with a description of such features.

<input checked="" type="checkbox"/>	<input type="checkbox"/>	Verification of subdivider's legal right, title, or interest in the property (deed or purchase and sale agreement)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A copy of the deed upon which the survey was based. A copy of all easements, covenants, and restrictions applying to the area proposed to be subdivided.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Proposed arrangements for water supply as required by the Maine Water Company, and a letter from the water company stating that the water supply is adequate to serve the subdivision.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Proposed arrangements for storm drainage, with supporting data and design analysis, including plans and profiles showing location and size of drain lines and culverts, catch basins and manholes, and such other information as may be required to define the drainage provisions, stamped by an engineer registered in Maine, and an operating and maintenance plan for any detention basins.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A copy of that portion of the county Soil Survey covering the subdivision superimposed on a copy of the plan. When the medium intensity soil survey shows soils which are questionable for the uses proposed, the Planning Board may require the submittal of a high intensity soil survey.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>An estimate of the amount and type of traffic to be generated daily and at peak hours. For developments involving 40 or more parking spaces or projected to generate more than 200 vehicle trips per day, a traffic impact analysis, prepared by a traffic engineer, shall be submitted.</p> <p>The analysis shall show, at a minimum, the expected average number of vehicle trips per day, peak-hour volumes, access conditions at the site, distribution of traffic, types of vehicles expected, effect upon the level of service of the street giving access to the site, neighboring streets which may be affected, the intersection(s) nearest to the site and other intersections which may be affected, and recommended improvement to maintain the level of service on the road.</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The names, addresses and tax map and lot numbers of owners of record of adjacent property, including any property directly across an existing street from the subdivision, and (B) the names, addresses and tax map and lot numbers of owners of record of all property within 600 feet of the subdivision.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Description of how proposed open space will be owned and managed.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	When sewage disposal is to be accomplished by subsurface disposal systems, test pit analyses prepared by a Licensed Site Evaluator shall be provided. A map showing the location of all test pits dug on the site shall be submitted. (The plumbing inspector must be notified before test pits are dug.)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Proof of financial and technical capacity as described in Article 8.7 and 8.8.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A letter from Maine Water stating that it can serve the proposed development
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The anticipated amount of land to be covered by buildings and structures expressed in square feet and as a percentage of the site and lots.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The anticipated amount of land to be covered by buildings, pavement, and other impervious coverage expressed in square feet, percentage of site, and percentage of lot.

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>If the project is subject to the stormwater quality standards of section 10.12.4, a stormwater quality management plan that includes the following:</p> <ol style="list-style-type: none"> A narrative describing how the site is oriented within the watershed, identifying downstream waterbodies including wetlands, and addressing the potential effects of site runoff. The narrative shall identify and discuss the stormwater treatment methods proposed to be used on the site. A plan showing relevant existing contours, proposed contours, existing and proposed subwatersheds, proposed topographic features, and existing and proposed site features including buildings and other facilities, natural and manmade drainageways, streams, channels, culverts, catch basins, and stormwater treatment facilities. The plan shall include detail drawings of the stormwater Best Management Practices proposed to be used and the location of both structural and non-structural BMP's. Calculations demonstrating that the proposed stormwater treatment facilities will meet the standards of Section 10.12.4. <p>A stormwater facilities management plan which sets forth the types and frequencies of proposed maintenance activities needed to maintain the efficiency of the stormwater treatment facilities and which identifies the party that will be responsible for carrying out each maintenance activity and for submitting the Annual Maintenance Report and the proposed institutional arrangements that will assure that all maintenance occurs as proposed.</p>
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Waiver Requests

If you are asking for a waiver, please indicate the type of waiver and the reason for the waiver request. Waiver requests are reviewed uniquely to each project, so the request should clearly demonstrate the unique aspect of the project.

Waiver Request #1: Section-_____: _____

Waiver Request #2: Section-_____: _____

Waiver Request #3: Section-_____: _____

Waiver Request #4: Section-_____: _____

Waiver Request #5: Section-_____: _____



Site Plan Review Application
Saco Planning Board Review

Application # _____

Street Address of Proposed Project: 986 Portland Road Tax Map & Lot: 63/3-1

Registry of Deeds Book & Page Number: 17077/853 & 18450/73 Zoning District: PR

Applicant: Clover Leaf Development, LLC

Applicant's Address: P.O. Box 6799, Scarborough, Maine 04070

Applicant's Email & Phone #: RhondaAnderson245@gmail.com (207) 252-0245

Architect/Engineer's Name: Terradyn Consultants, LLC - Jeff Amos, P.E.

Architect/Engineer's Email & Phone #: jeff@terradyconsultants.com

Architect/Engineer's Address: 41 Campus Drive, Suite 101, New Gloucester, ME 04260

Property Owner: Pamela Consiglio & Sherry Mitchell

Property Owner's Email & Phone #: RhondaAnderson245@gmail.com (207) 252-0245

Property Owner's Address: 115 US Rt 2 south, Alburgh, VT 05440

Area of Parcel: 65.84 Ac Proposed Developed Area: 10 Ac Proposed Height: 42'5"

Sq. Ft. of Each Proposed Structure: 2,880 SF (+/-) Proposed # of Parking Spaces: 180
(varies)

Amendment to Previously Approved Plan: ☐ Yes ☒ No

Description of Proposal: 120 Unit apartment complex with muliti-purpose building along
with associated parking areas, landscaping, utilities & stormwater features.

Signature & Application Requirements: Applications are due at least three weeks in advance of Planning Board meetings, but the Department encourages applicants to plan for five weeks before a Planning Board meeting. Staff will schedule your application for a Planning Board meeting once all reviews are complete and comments have been sufficiently addressed.


Signature of Owner/Applicant

7/29/2021
Date

Site Plan Review Checklist

Section 230-1104: Submission Requirements

Applicant	City staff	Submission Requirement
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A fully executed and signed copy of the application for site plan review
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>Three copies of a site plan on paper not larger than 24 by 36 inches nor smaller than 11 by 17 inches, drawn at a scale sufficient to allow review of the items listed under the approval criteria herein, but at not more than 50 feet to the inch for that portion of the total tract of land being proposed for development.</p> <p>One electronic PDF copy of all applications materials shall be submitted via email: Planning@sacomaine.org.</p> <p>The site plan shall show the following:</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	owner's and applicant's name and address, names and addresses of consultants who aided in preparing the plan, if any, and the name and address of the person or company leasing the property, if applicable, and, in order to establish right, title and interest, a deed, an executed lease, option, or purchase and sale agreement;
<input checked="" type="checkbox"/>	<input type="checkbox"/>	names and addresses of all abutting property owners;
<input checked="" type="checkbox"/>	<input type="checkbox"/>	sketch map showing general location of the site within the city and north arrow;
<input checked="" type="checkbox"/>	<input type="checkbox"/>	boundaries of the property and of all contiguous property under the control of the owner or applicant regardless of whether all or part is being developed at this time;
<input checked="" type="checkbox"/>	<input type="checkbox"/>	zoning classification(s) of the property and the location of zoning district boundaries if the property is located in two or more zoning districts or abuts a different zone
<input checked="" type="checkbox"/>	<input type="checkbox"/>	the location and width of all building setbacks required by the Zoning Ordinance;
<input checked="" type="checkbox"/>	<input type="checkbox"/>	the location and delineation of site elements, including: all existing and proposed buildings (including dimensions where appropriate), driveways, sidewalks, parking spaces, loading areas, open spaces, large trees, wetlands preservation measures and protection measures, stormwater control facilities, dumpsters and recycling facilities, etc.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	the location and widths of nearby streets.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The location and delineation of natural resource areas, historic features and archaeological features of the site including, but not limited to floodplains, wetlands, open drainage courses, sand and gravel aquifers, scenic areas, significant wildlife habitats, habitat areas for rare and endangered plants and animals, deer wintering areas, stands of trees, stone walls, graveyards, fences, unique natural areas, historically

		significant structures or features, archaeologically significant features, or other important Unusual Natural Areas and site features
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Copies of existing and proposed easements, covenants, or deed restrictions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Copies of applicable local and state approvals and permits, provided however, that the Planning Board or in the case of minor site plans the City Planner, may approve site plans subject to the issuance of specified state licenses and permits in cases where it determines that it is not feasible for the applicant to obtain them at the time of site plan review
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Names and addresses and tax map and lot numbers of all property owners within six hundred (600) feet of the applicant's property if it is located in the Conservation District, any industrial district, the Resource Protection District or the R-1, R-2, and R-4 districts, or within two hundred (200) feet when the applicant's property is located in the R-3 District or any business district
<input checked="" type="checkbox"/>	<input type="checkbox"/>	For site plans in which ten thousand (10,000) square feet of impervious surface will be created, a storm water drainage plan, prepared by a registered Maine Professional Engineer, showing:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	the existing and proposed method of handling storm water run-off;
<input checked="" type="checkbox"/>	<input type="checkbox"/>	the direction of flow of the run-off through the use of arrows;
<input checked="" type="checkbox"/>	<input type="checkbox"/>	the location, elevation, and size of all catch basins, dry wells, drainage ditches, swales, retention basins, and storm sewer engineering calculations used to determine drainage requirements based upon the 2, 10, 25 and 50 year 24 hour storm event that show the predevelopment and post-development runoff rates. If the post-development runoff rate exceeds the predevelopment runoff rate on-site mitigation measures, such as detention basins or flow restrictors, shall be required unless a drainage plan prepared by a Maine registered engineer demonstrated that the increase has no adverse impact to the downstream conditions
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Existing and proposed topography of the site at two (2) foot contour intervals, or such other interval as the Board may determine
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A utility plan showing provisions for water supply and wastewater disposal including the size and location of all piping, holding tanks, leach fields, and showing the location and nature of all electrical, telephone and any other utility services to be installed on the site
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A landscape plan, with a planting schedule keyed to the site plan and indicating the varieties and sizes of trees, shrubs and other plants to be planted on the site
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A standard boundary survey by a registered land surveyor showing the location of all property lines. The Board may waive the requirement of a boundary survey when sufficient information is available to establish, on the ground, all property boundaries

<input checked="" type="checkbox"/>	<input type="checkbox"/>	The location, size and character of all signs
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A waste disposal plan describing how all solid waste will be handled on site, how it will be removed from the site, the disposal facilities to which it will be transported, and, if the waste is of an unusual nature, information indicating that a suitable disposal facility will accept the waste. For businesses which use industrial chemicals and produce hazardous waste, the name, amount, and nature of all chemicals used, and the manner of disposal of all chemical, hazardous and industrial wastes
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A medium intensity soils map of the site. The Board may require a high intensity soils map if issues of water quality, wetlands, or other natural constraints are noted
<input checked="" type="checkbox"/>	<input type="checkbox"/>	For projects which will create over ten thousand (10,000) square feet of impervious surface, a plan showing the methods of controlling erosion and sedimentation both during and after construction, including a written description of these methods and a schedule for implementing them in accordance with the requirements of the York County Soil and Water Conservation District
<input checked="" type="checkbox"/>	<input type="checkbox"/>	An estimate of the amount and type of traffic generated daily and at peak hours. For sites that generate more than four hundred (400) vehicle trips per day, a traffic impact analysis, prepared by a registered professional engineer with experience in traffic engineering and transportation, shall be submitted. The analysis shall show, at a minimum, existing traffic volumes, proposed traffic generation, proposed access, types of vehicles expected, effect on level of service within the study area, sight lines, and accident history in the study area. The report will recommend improvements both on site and off site to meet the requirements of this ordinance.
<input type="checkbox"/>	<input checked="" type="checkbox"/>	A hydrogeologic assessment may be required by the Board for projects in which groundwater quality is a concern. Such instances include, but are not limited to, sites: <ul style="list-style-type: none"> A. Over a sand and gravel aquifer; B. Not served by public water or sewer; C. Where the depth to groundwater is less than 48 inches; D. In soils rated by the SCS Soil Survey as poor or very poor for subsurface septic systems; E. In coarse soils categorized as having “severe” limitations for septic systems; F. Where a septic system of over 2000 gallons per day is proposed
<input type="checkbox"/>	<input checked="" type="checkbox"/>	When a hydrogeologic assessment is submitted, the assessment shall contain at least the following information: <ul style="list-style-type: none"> A. A map showing the basic soil types; B. The depth to the water table at representative points throughout the lot; C. Drainage conditions throughout the project;

		<p>D. Data on the existing ground water quality, from test wells in the project or from existing wells on neighboring properties;</p> <p>E. A map showing the location of any subsurface wastewater disposal systems and drinking water wells within the project and within 200 feet of the project boundaries;</p> <p>F. An analysis and evaluation of the effect of the project on ground water resources. In the case of residential developments, the evaluation shall, at a minimum, include a projection of post development nitrate – nitrogen concentrations at any wells within the project, at the project boundaries, and at a distance of one thousand (1,000) feet from potential contamination sources, whichever is a shorter distance. Projections of ground water quality shall be based on the assumption of drought conditions (assuming 60% of annual average precipitation).</p>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>If the project is subject to the stormwater quality standards of Section 805-2, a stormwater quality management plan that includes the following:</p> <p>A narrative describing how the site is oriented within the watershed, identifying downstream waterbodies including wetlands, and addressing the potential effects of site runoff. The narrative shall identify and discuss the stormwater treatment methods proposed to be used on the site.</p> <p>A plan showing relevant existing contours, proposed contours, existing and proposed sub-watersheds, proposed topographic features, and existing and proposed site features including buildings and other facilities, natural and manmade drainageways, streams, channels, culverts, catch basins, and stormwater treatment facilities. The plan shall include detail drawings of the stormwater Best Management Practices proposed to be used and the location of both structural and non-structural BMPs.</p> <p>Calculations demonstrating that the proposed stormwater treatment facilities will meet the standards of Section 805-2.</p> <p>A stormwater facilities management plan which sets forth the types and frequencies of proposed maintenance activities needed to maintain the efficiency of the stormwater treatment facilities and which identifies the party that will be responsible for carrying out each maintenance activity and for submitting the Annual Maintenance Report and the proposed institutional arrangements that will assure that all maintenance occurs as proposed.</p>

<input checked="" type="checkbox"/>	<input type="checkbox"/>	A lighting plan, prepared by a qualified lighting professional, showing at least the following at the same scale as the Site Plan:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<p>The location of all buildings, landscaping, parking areas, and proposed exterior lighting fixtures;</p> <p>Specifications for all proposed lighting fixtures including photometric data, designation as “cut-off” fixtures, Color Rendering Index (CRI) of all lamps (bulbs), and other descriptive information on the fixtures;</p> <p>The proposed mounting height of all exterior lighting fixtures;</p> <p>Analyses and illuminance level diagrams or photometric point by point diagrams on a twenty foot grid showing that the proposed installation conforms to the lighting level standards of this ordinance together with statistical summaries documenting the average illuminance, maximum illuminance, minimum illuminance, average to minimum uniformity ratio, and maximum to minimum uniformity ratio for each parking area, drive, canopy, and vehicle sales or storage area; and</p> <p>Drawings of all relevant building elevations showing the fixtures, the portions of the walls to be illuminated, the illuminance levels of the walls, and the aiming points for any remote light fixtures.</p>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Any proposed land use activity involving structural development or soil disturbance on or adjacent to sites listed on, or known by the City to be eligible to be listed on the National Register of Historic Places shall be submitted by the applicant to the Maine Historic Preservation Commission and the Saco Historical Preservation Commission (as appropriate) for review and comment prior to action being taken by the permitting authority. The permitting authority shall consider comments received from the Commissions prior to rendering a decision on the application
<input checked="" type="checkbox"/>	<input type="checkbox"/>	A design analysis demonstrating how the project conforms to the design standards of §230-729, including any district-specific additional requirements. This analysis must address each of the applicable design standards and allow the Planning Board to determine if each standard has been met. The analysis must provide information about the proposed development and the characteristics of neighboring properties and the adjacent neighborhood and an analysis demonstrating how the proposed development meets the standards. This analysis should include plans, building elevations, visual simulations, and a narrative as appropriate to document conformance with the standards.

Design Review Submission Requirements
Section 230-729

Applicant	City staff	Submission Requirement
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The plans shall include line drawings of all sides of the building or buildings

<input checked="" type="checkbox"/>	<input type="checkbox"/>	The proposed exterior construction materials shall be indicated, including but not limited to siding materials and roofing materials
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Line drawings that demonstrate the style and design of windows and doors proposed for the building or buildings shall be submitted
<input checked="" type="checkbox"/>	<input type="checkbox"/>	The plans shall include line drawings of all proposed accessory structures, including but not limited to canopies, storage buildings, fenced enclosures, and maintenance buildings
<input type="checkbox"/>	<input checked="" type="checkbox"/>	If the applicant is or represents a corporate entity that operates businesses of a similar nature in locations beyond Saco, representative color photographs of existing structures identical or similar to that proposed in Saco shall be submitted

If property is located on sewer, please complete the IWS Form.

Waiver Requests

If you are asking for a waiver, please indicate the type of waiver and the reason for the waiver request. The Board reviews the application and waiver requests uniquely to each project, so the request should clearly demonstrate the unique aspect of the project.

Waiver Request #1: Section 230-_____: _____

Waiver Request #2: Section 230-_____: _____

Waiver Request #3: Section 230-_____: _____

Waiver Request #4: Section 230-_____: _____

Waiver Request #5: Section 230-_____: _____



Conditional Use Application

Application # _____

Street Address of Proposed Project: _____ Tax Map & Lot: _____

York County Registry of Deeds Book & Page Number: ^{17077/853}
^{18450/73} _____ Zoning District: _____

Applicant: _____

Applicant's Address: _____

Applicant's Email & Phone #: _____

Architect/Engineer's Name: _____

Architect/Engineer's Email & Phone #: _____

Architect/Engineer's Address: _____

Property Owner: _____

Property Owner's Email & Phone #: _____

Property Owner's Address: _____

Area of Parcel: _____ Proposed Developed Area: _____ Proposed Height: _____

Description of Proposal: _____

Signature & Application Requirements: Applications are due at least three weeks in advance of Planning Board meetings, but the Department encourages applicants to plan for five weeks before a Planning Board meeting. Staff will schedule your application for a Planning Board meeting once all reviews are complete and comments have been sufficiently addressed.



Signature of Owner/Applicant

Date

Conditional Use Checklist

Section 230-901(B): Submission Requirements

Applicant	City staff	Submission Requirement
<input type="checkbox"/>	<input type="checkbox"/>	Site plans in 3 copies and 1 electronic, emailed, PDF copy, drawn to scale of not less than one inch equals 20 feet. The building plans shall show, at minimum, the first-floor plan and all elevations, with indication of the proposed construction material. The site plan shall include the following information:
<input type="checkbox"/>	<input type="checkbox"/>	A map of the site with reference to surrounding areas and existing street locations.
<input type="checkbox"/>	<input type="checkbox"/>	The name and address of the owner and conditional use permit applicant, together with the evidence of sufficient right, title or interest in the premises to permit the applicant to undertake the use for which conditional use permit approval has been requested.
<input type="checkbox"/>	<input type="checkbox"/>	The names and addresses of the owners of all properties within 200 feet of the property in question when the property is located in the R-3, Business (B) or MU Zones and within 600 feet when the property in question is located in the Conservation Zone, any industrial district or the R-1, R-2 and R-4 Districts, as shown by the most recent tax records of all municipalities in which such properties lie.
<input type="checkbox"/>	<input type="checkbox"/>	A plan of the area showing lot line dimensions, applicable zone or zones, and the normal high-water mark, if applicable.
<input type="checkbox"/>	<input type="checkbox"/>	The location of all existing and proposed buildings and structures, streets, easements, driveways, entrances and exits on site and within 100 feet thereof
<input type="checkbox"/>	<input type="checkbox"/>	All setbacks from bodies of water and lot lines
<input type="checkbox"/>	<input type="checkbox"/>	All Existing physical features on the site and within 200 feet of the site, including streams, watercourses and existing woodlands. Soil conditions as reflected by a medium-intensity survey (such as wetlands, rock ledge, and areas of high water table) shall be shown, and the Planning & Development Department or Planning Board may require a high-intensity soils survey where necessary. The applicant shall provide, as part of the application, a narrative and sketch sufficient to describe trees and other vegetation located on the site. The Planning & Development Department or Planning Board may require mapping of trees proposed to be preserved as part of the site and landscaping plans presented for approval.
<input type="checkbox"/>	<input type="checkbox"/>	Topography showing existing and proposed contours at five-foot intervals for slopes averaging 5% or greater and at two-foot intervals for land of lesser slope. A reference benchmark shall be clearly designated. Where variations in the topography may affect the layout of buildings and roads, the Planning & Development Department or Planning Board may require that the topographic maps be based on an on-site survey.
<input type="checkbox"/>	<input type="checkbox"/>	Parking, loading and unloading areas shall be indicated with dimensions, traffic patterns, access aisles and curb radii.

<input type="checkbox"/>	<input type="checkbox"/>	Improvements such as roads, curbs, bumpers and sidewalks shall be indicated with cross sections, design details and dimensions.
<input type="checkbox"/>	<input type="checkbox"/>	The location and design of existing and proposed stormwater systems, sanitary waste disposal systems and potable water supply, and methods of solid waste storage and disposal.
<input type="checkbox"/>	<input type="checkbox"/>	A landscaping and buffering plan showing what will remain and what will be planted, indicating botanical and common names of plants and trees, dimensions, approximate time of planting and maintenance plans.
<input type="checkbox"/>	<input type="checkbox"/>	Lighting details indicating types of fixtures, location, radius and intensity of light.
<input type="checkbox"/>	<input type="checkbox"/>	The location, dimensions and details of signs.
<input type="checkbox"/>	<input type="checkbox"/>	The proposed use of all floor area.
<input type="checkbox"/>	<input type="checkbox"/>	A written description of the proposed operations in sufficient detail to indicate the degree to which the operation will create traffic congestion, noise, toxic or noxious matter, vibration, odor, heat, glare air pollution, waste and other objectionable effects, along with engineering and architectural plans for mitigating such effects.
<input type="checkbox"/> N/A	<input type="checkbox"/>	The proposed number of shifts to be worked and the maximum number of employees of each shift.
<input type="checkbox"/> N/A	<input type="checkbox"/>	A list of all hazardous material to be hauled, stored, used, generated or disposed of on the site, and any pertinent state or federal permits required.

For projects on the city's sewer, applicants are also required to complete the IWS form.

Waiver Requests

If you are asking for a waiver, please indicate the type of waiver and the reason for the waiver request. The Board reviews the application and waiver requests uniquely to each project, so the request should clearly demonstrate the unique aspect of the project.

Waiver Request #1: Section-_____: _____

Waiver Request #2: Section-_____: _____

Waiver Request #3: Section-_____: _____

Waiver Request #4: Section-_____: _____

Waiver Request #5: Section-_____: _____



BK 17077 PGS 835 - 836
INSTR # 2015034006
RECEIVED YORK SS

08/14/2015 12:54:47 PM
DEBRA ANDERSON
REGISTER OF DEEDS

**DEED OF DISTRIBUTION
BY PERSONAL REPRESENTATIVE (TESTATE)**

I, HAROLD MITCHELL, now of 115 US Route 2 South, Alburgh, Vermont 05440, duly appointed and acting personal representative of the Estate of DONALD M. WITHAM, whose will was duly admitted to probate in the Probate Court for York County, Maine, Docket No. 2014-0981, by the power conferred by law, and every other power, in distribution of the estate grant to SHERRY W. MITCHELL, now of 115 US Route 2 South, Alburgh, Vermont 05440, and PAMELA CONSIGLIO, now of 1316 Debra Drive, Lady Lake, Florida 32159, being the persons entitled to distribution, as Tenants in Common, the real property in Saco, York County, Maine, described as follows:

A certain lot or parcel of land, with the buildings thereon, situated and located on the Northwesterly side of the Portland Road, in Saco, Maine, and being the Mills Homestead, so-called, and containing ninety (90) acres, more or less, and being the same premises devised to Edgar E. Mills by his father, Eugene Mills, late of Saco, Maine, and the same premises devised to this Grantor by his late father, Edgar E. Mills, the Wills of the said Eugene Mills and Edgar E. Mills having been duly proved and allowed by the Probate Court for the County of York.

Also, the same premises conveyed to Lawrence B. Mills, a/k/a Laurence B. Mills, and Bernice G. Mills by deed of Mary a. Bradbury dated June 22, 1953 and recorded in the York County Registry of Deeds in Book 1230, Page 471.

This conveyance is subject to "Notice of Layout and Taking" dated July 14, 1999 and recorded in the York County Registry of Deeds in Book 9267, Page 3, by which the Maine Department of Transportation widened U. S. Route One;

Also subject to Federal Aid Project No. STP-66125 (00)X Plans dated January, 1999, and

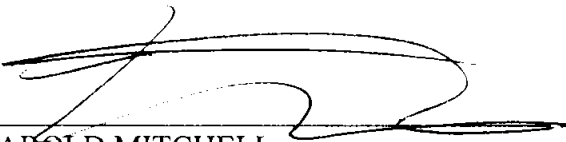
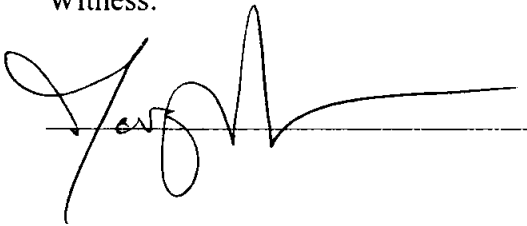
No R.E. Transfer Tax Paid

recorded in the York Country Registry of Deeds in Book 323, Pages 46 and 47 on September 26, 2007.

Being a portion of the same premises conveyed to JEAN M. WITHAM and DONALD M. WITHAM by deed of LAWRENCE B. MILLS , a/k/a Laurence B. Mills, dated January 26, 1979 and recorded in the York County Registry of Deeds in Book 2468, Page 331. Jean M. Witham died on January 14, 2011. Donald M. Witham was the surviving joint tenant.

Witness my hand and seal on August 3, 2015.

Witness:


HAROLD MITCHELL
Personal Representative of the
Estate of Donald M. Witham

Maine
STATE OF ~~VERMONT~~
Cumberland ss.

August 3rd, 2015

Then personally appeared the above named HAROLD MITCHELL and acknowledged the foregoing instrument to be his free act and deed in his said capacity.

Before me,


Notary Public

Please type or print name of Notary:

Holly Gordon

HOLLY BARRETT NASH GORDON
Notary Public State of Maine
My Commission Expires **June 19 2021**

Seal

Joyce Leary Clarke, Esq.
Prescott Jamieson Murphy
PO Box 1190
Saco, ME 04072
→
2pgs

WARRANTY DEED
Maine Statutory Short Form

KNOW ALL MEN BY THESE PRESENTS,

THAT **AQUA MANAGEMENT LLC**, a Maine Limited Liability Company with a principal address of 980 Portland Road, U.S.Route 1, of Saco, County of York, State of Maine,

for consideration paid,

grant to **PAMELA CONSIGLIO**, of Lady Lake, County of Lake, State of Florida, whose mailing address is 1316 Debra Drive, Lady Lake, FL 32158 and **SHERRY MITCHELL**, of Alburgh, County of Grand Isle, State of Vermont, whose mailing address is 1099 US Route 2 S, Alburgh, VT 05440, with **warranty covenants, as tenants in common**, the land in Saco, County of York, State of Maine, described as follows:

A certain lot or parcel of land together with any improvements thereon situated northeasterly of the Flag Pond Road but not adjacent thereto, and at the end of Apple Tree Lane as the same is shown on plan recorded in the York County Registry of Deeds in Plan Book 381, Page 44 in Saco, York County, Maine and being more particularly bounded and described as follows:

Beginning at the granite monument which marks the end of Apple Tree Lane, a corner of Lot No. 4 as shown on said plan where it abuts and land labled on said plan N/F Michael S. Kimball and Peter J. Kimball in Book 13763, Page 88;

Thence N 35° 29' 35" W along said Lot No. 4 and land now or formerly of Witham a distance of 392.99 feet to an iron rod and other land of Witham;

Thence S 37° 23' 58" E along said Witham land a distance of 150 feet to a point;

Thence S 35° 29' 35" W through remaining land of Aqua Management LLC a distance of 393 feet, more or less, to a point on the northerly sideline of Lot No. 3 as shown on sid plan;

Thence N 52° 59' 44" W along Lot No. 3 and Apple Tree Lane a distance of 150 feet to the monument which marks the point and place of beginning.

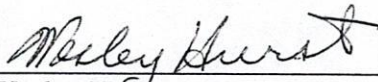
Being a portion of the premises conveyed to Aqua Management LLC by virtue of a deed from Aquaventures, LLC dated November 14, 2017 and recorded in the York County Registry of Deeds in Book 17607, Page 402.

Reserving to the Grantor, its successors and assigns a 50 foot wide right of way and utility easement to access Apple Tree Lane, said right of way is to be constructed and used in any manner that is consistent with the extension and expansion of Apple Tree Lane.

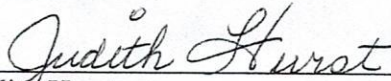
IN WITNESS WHEREOF, We, the said Wesley Hurst and Judith Hurst, Members of **AQUA MANAGEMENT LLC**, have hereunto set my hand and seal, this 12th day of November, 2020.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF

AQUA MANAGEMENT LLC



Wesley Hurst
Its Member



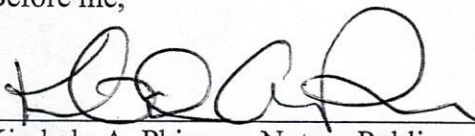
Judith Hurst
Its Member

STATE OF MAINE
YORK, ss.

November 12, 2020

Then personally appeared the above named Wesley Hurst and Judith Hurst, Managers of **AQUA MANAGEMENT LLC**, and acknowledged the foregoing instrument to be their free act and deed and the free act and deed of said LLC.

Before me,



Kimbaly A. Phinney, Notary Public
Commission Expires: 11/09/22

WARRANTY DEED
Maine Statutory Short Form

KNOW ALL MEN BY THESE PRESENTS,

THAT We, **PAMELA CONSIGLIO**, of Lady Lake, County of Lake, State of Florida and **SHERRY MITCHELL**, of Alburgh, County of Grand Isle, State of Vermont,

for consideration paid,

grant to **AQUA MANAGEMENT LLC**, a Maine Limited Liability Company with a principal address of 980 Portland Road, U.S. Route 1, of Saco, County of York, State of Maine, with **warranty covenants**, the land in Saco, County of York, State of Maine, described as follows:

A certain lot or parcel of land located westerly of but not adjacent to US Route 1 in Saco, York County, Maine and being more particularly bounded and described as follows:

Beginning at an iron rod which marks the most northerly corner of, (Aquaboggan,) land of Aqua Management LLC and is located a distance of 998 feet as measured along the common boundary of land now or formerly of Witham and Aqua Management LLC on a course of N 36° 48' 03" W from and iron rod set in the westerly sideline of US Route 1;

Thence S 52° 07' 21" W along the common boundary of Aqua Management LLC and land now or formerly of Witham a distance of 475.87 feet to an iron rod;

Thence N 36° 03' 47" W along said boundary a distance of 214.74 feet to an iron rod;

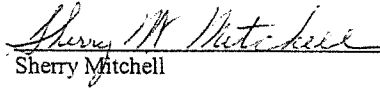
Thence N 52° 07' 33" E parallel with the first course a distance of 475.87 feet, more or less, to a point;

Thence S 36° 48' 03" E a distance of 214 feet, more or less, to the iron rod which marks the point of beginning;

IN WITNESS WHEREOF, We, the said **PAMELA CONSIGLIO and SHERRY MITCHELL**, have hereunto set our hands and seals, this 25 day of September, 2020.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF


Pamela Consiglio



Sherry Mitchell

STATE OF MAINE
YORK, ss.

Sept 25, 2020

Then personally appeared the above named **PAMELA CONSIGLIO** and **SHERRY MITCHELL** and acknowledged the foregoing instrument to be their free act and deed.

Before me,


Notary Public: Kimberly A. Phinney
Commission Expires: 11-09-22



Individual Member
Individual Membership



One Canal Plaza, Portland, ME 04101 • 207.772.1333

CONTRACT FOR THE SALE OF REAL ESTATE

Date: Monday, December 14, 2020

RECEIVED OF: Clover Leaf Development LLC whose mailing address is PO Box 6799, Scarborough Maine 04070 hereinafter called the Purchaser(s), the sum of _____ Dollars (\$ _____) as earnest money deposit and in part payment of the purchase price of the following described real estate, situated in the municipality of Saco, County of York, State of Maine and located at 986 Portland Road being the property owned by the Seller(s) at the above address, and described at said County's Registry of Deeds Book (per Exhibit A), Page (per Exhibit A) and further described as: approximately 67 acres to be more thoroughly depicted in the attached Exhibit A upon the terms and conditions indicated below:

1. PERSONAL PROPERTY: The following items of personal property are included in this sale (if applicable): n/a.
2. PURCHASE PRICE: The TOTAL purchase price being _____ Dollars (\$) to be paid as follows: earnest money deposit included herein, any additional deposits which may be made during the permitting and approval period and the balance to be paid at Closing by certified funds.
3. EARNEST MONEY/ACCEPTANCE: The Boulos Company shall hold said earnest money in a non-interest bearing account and act as Escrow Agent until closing; this offer shall be valid until 12/17/2020 at 5:00PM; and, in the event of the Seller's non-acceptance, this earnest money shall be returned promptly to the Purchaser(s).
4. TITLE: That a deed, conveying good and merchantable title in accordance with standards adopted by the Maine Bar Association shall be delivered to the Purchaser(s) and this transaction shall be closed and the Purchaser(s) shall pay the balance due and execute all necessary papers on or before within 30 days of receipt of the unappealable approvals for the Proposed Development (anticipated to be approximately 12 months from the effective date). If Seller(s) is unable to convey in accordance with the provisions of this paragraph, then the Seller(s) shall have a reasonable time period, not to exceed thirty (30) days, from the time the Seller(s) receives written notice of the defect, unless otherwise agreed to by both parties, to remedy the title, after which time, if such defect is not corrected so that there is merchantable title, the Purchaser(s) may, within fifteen (15) days thereafter, at Purchaser's option, declare the contract null and void and any earnest money shall be returned to the Purchaser(s) and neither party shall have any further obligation hereunder. If the Purchaser(s) does not declare the contract void within the period set forth above, the Purchaser(s) shall have waived the right to object to title. The Seller(s) hereby agrees to make a good-faith effort to cure any title defect during such period.
5. DEED: That the property shall be conveyed by a quitclaim with covenant deed, and shall be free and clear of all encumbrances except building and zoning restrictions of record, restrictive covenants and conditions of record and usual public utilities servicing the property and shall be subject to applicable land use and building laws and regulations.
6. POSSESSION /OCCUPANCY: Possession/occupancy of premises shall be given to Purchaser(s) immediately at closing, free of any leases, tenancies, or occupancies.
7. LEASES/TENANT SECURITY DEPOSITS: Intentionally deleted.
8. RISK OF LOSS: Until the transfer of title, the risk of loss or damage to said premises by fire or otherwise, is assumed by the Seller(s) unless otherwise agreed in writing. Said premises shall then be in substantially the same condition as at present, excepting reasonable use and wear.
9. PRORATIONS: The following items shall be prorated as of the date of closing:
 - a. Real Estate Taxes based on the municipality's tax year. Seller is responsible for any unpaid taxes for prior years. Purchaser shall receive at closing a credit equal to the Tree Growth termination penalty that will due to the City of Saco.
 - b. Fuel
 - c. n/a
 - d. Rents
 - e. Metered utilities, such as water and sewer, shall be paid by Seller(s) through the date of closing.
 - f. Purchaser(s) and Seller(s) shall each pay its transfer tax as required by the State of Maine.

Seller [Signature] Purchaser [Signature] DS

10. **INSPECTIONS:** The Purchaser(s) is encouraged to seek information from professionals regarding any specific issue of concern. Purchaser(s) acknowledges receipt of disclosure form attached hereto. The Agent makes no warranties regarding the condition, permitted use or value of the Seller's real or personal property. This Contract is subject to the following inspections, with the results being satisfactory to the Purchaser(s):

TYPE OF INSPECTION	YES	NO	RESULTS REPORTED	TYPE OF INSPECTION	YES	NO	RESULTS REPORTED
a. General Building	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days	g. Lead Paint	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days
b. Sewage Disposal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Within <u>60</u> days	h. Pests	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days
c. Water Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Within <u>60</u> days	i. ADA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days
d. Radon Air Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days	j. Wetlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Within <u>60</u> days
e. Radon Water Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days	k. Environmental Scan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Within <u>60</u> days
f. Asbestos Air Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days	l. Other: <u>survey</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Within <u>60</u> days

The use of days is intended to mean from the effective date of this Contract. All inspections will be done by inspectors chosen and paid for by the Purchaser(s). If the result of any inspection or other condition specified herein is unsatisfactory to the Purchaser(s), in Purchaser(s) sole discretion, Purchaser(s) may declare the Contract null and void by notifying Seller(s) in writing within the specified number of days, and any earnest money shall be returned to the Purchaser(s). If the Purchaser(s) does not notify the Seller(s) that an inspection is unsatisfactory within the time period set forth above, this contingency is waived by the Purchaser(s). In the absence of inspection(s) mentioned above, the Purchaser(s) is relying completely upon Purchaser's own opinion as to the condition of the property.

11. **FINANCING:** Intentionally Deleted.
12. **AGENCY DISCLOSURE:** The Purchaser(s) and Seller(s) acknowledge that they have been informed that the Selling Licensee is acting as a Purchaser's agent in this transaction and is representing the Purchaser(s) and that the Listing Licensee is acting as Seller's agent in this transaction and is representing the Seller(s).
13. **DEFAULT:** If Purchaser(s) fails to perform any of the terms of this Contract or is otherwise in default of any of its obligations, Seller shall have the option of either retaining the earnest money as full and complete liquidated damages or employing all available legal and equitable remedies. If Seller(s) fails to perform any of the terms of this Contract or is otherwise in default of any of its obligations, Seller shall have the option of all available legal and equitable remedies, including the right of specific performance. Notwithstanding any other provision of this agreement, Escrow Agent shall have the right to require written releases from both parties prior to releasing the earnest money to either party. If a dispute arises between Purchaser(s) and Seller as to the existence of a default hereunder and/or the release of the earnest money and said dispute is not resolved by the parties within (30) days, Escrow Agent may elect to file an action in interpleader and deposit the earnest money in the court to resolve said dispute, or otherwise disburse the earnest money pursuant to Maine Real Estate Commission regulations. Purchaser(s) and Seller, jointly and severally, shall indemnify Escrow Agent for all costs, losses, expenses, and damages, including reasonable attorneys' fees, incurred by Escrow Agent in connection with said action and/or in connection with any dispute relating to this Contract and/or the Deposit.
14. **MEDIATION:** Any dispute or claim arising out of or relating to this Contract or the premises addressed in this Contract shall be submitted to mediation in accordance with the Maine Residential Real Estate Mediation Rules of the American Arbitration Association. This clause shall survive the closing of this transaction.
15. **PRIOR STATEMENTS:** Any verbal representations, statements and agreements are not valid unless contained herein. This Contract completely expresses the obligations of the parties. This is a Maine contract and shall be construed according to the laws of Maine.
16. **HEIRS/ASSIGNS:** This Contract is assignable by Purchaser YES ☒ NO ☐. This Contract shall extend to and be obligatory upon heirs, personal representatives, successors, and assigns (if assignment is allowed by the terms of this Contract), of the respective parties.
17. **COUNTERPARTS:** This Contract may be signed on any number of identical counterparts, including telefacsimile copies, with the same binding effect as if the signatures were on one instrument. Original or telefacsimiled signatures are binding.
18. **BINDING CONTRACT:** This Contract is a binding contract when signed by both Seller(s) and Purchaser(s) and when that fact has been communicated to all parties or to their agents. The Effective Date of the Contract is noted below. Time is of the essence of this Contract.
19. **REVIEW OF LEASES AND INCOME AND EXPENSE INFORMATION:** Intentionally deleted
20. Seller(s) and Purchaser(s) acknowledge receipt of the Maine Real Estate Commission Disclosure of Agency Relationship Form (Form #2), if the property is, or has a component of, one to four residential dwelling units.

DS DS DS
 Seller [Signature] Purchaser [Signature] [Signature]

21. CONDITION TO CLOSE:

Intentionally Omitted

22. Due Diligence Reports: In the event Purchaser terminates this contract, all surveys, reports, studies, and other items related to the inspections and the permitting and approval process for the property, that are completed by the Purchaser prior to such termination date shall be provided to the Seller at no cost to the Seller.

23. ADDENDA: This Contract has addenda containing additional terms and conditions YES ☐ NO ☒

A COPY OF THIS CONTRACT IS TO BE RECEIVED BY ALL PARTIES AND, BY SIGNATURE, RECEIPT OF A COPY IS HEREBY ACKNOWLEDGED. IF NOT FULLY UNDERSTOOD CONSULT AN ATTORNEY.

Seller(s) acknowledges that the laws of the State of Maine provide that every buyer of real property located in Maine must withhold a withholding tax equal to 2 1/2% of the consideration unless the Seller(s) furnishes to the Buyer(s) a certificate by the Seller(s) stating, under penalty of perjury, that Seller(s) is/are a resident of Maine or the transfer is otherwise exempt from withholding.

withholding tax paid by:

[Signature]
 Purchaser *as Agent*
Clover Leaf Development LLC
 Name/Title

12/17/2020

Date

Soc. Sec # or Tax I.D.

Purchaser

Date

Name/Title

Soc. Sec # or Tax I.D.

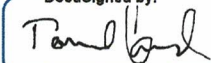
The Seller(s) accepts the offer and agrees to deliver the above-mentioned property at the price and upon the terms and conditions set forth above and agrees to pay the Broker the commission for services herein according to the Listing Agreement or if there is no Listing Agreement in the sum of: Enter sum here. The obligation to pay said commission or sum shall survive the closing of this transaction. Seller agrees that Broker may apply any deposit(s) received in connection with the sale of the Property toward commissions due and payable under this Agreement. If the earnest money is forfeited by Purchaser(s), it shall be evenly distributed between the Broker and Seller(s), provided, however, that Broker's portion shall not exceed the full amount of the commission specified. In the event the Seller(s) defaults on its obligations hereunder, The Boulos Company shall be entitled to costs of collection, including reasonable attorneys' fees.

Signed this: _____ day of _____, _____. Effective date of Contract: _____, day of _____, _____.

The Listing Licensee is Brice O'Connor of The Boulos Co (Company).

The Selling Licensee is Drew Sigfridson, SIOR of The Boulos Co (Company).

DS DS DS
 Seller *[Signature]* Purchaser *[Signature]*

DocuSigned by:


12/17/2020

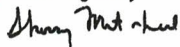
Seller
Paul Consiglio

Date

Name/Title

Soc. Sec # or Tax I.D.

DocuSigned by:



12/17/2020

Seller
Sherry Mitchell

Date

Name/Title

Soc. Sec # or Tax I.D.

Offer reviewed and refused on _____, _____, Seller

DS DS DS
Seller  Purchaser  

WARRANTY DEED
Maine Statutory Short Form

KNOW ALL MEN BY THESE PRESENTS,

THAT We, **PAMELA CONSIGLIO**, of Lady Lake, County of Lake, State of Florida and
SHERRY MITCHELL, of Alburgh, County of Grand Isle, State of Vermont,

for consideration paid,

grant to **AQUA MANAGEMENT LLC**, a Maine Limited Liability Company with a principal address of 980 Portland Road, U.S. Route 1, of Saco, County of York, State of Maine, with warranty covenants, the land in Saco, County of York, State of Maine, described as follows:

A certain lot or parcel of land located westerly of but not adjacent to US Route 1 in Saco, York County, Maine and being more particularly bounded and described as follows:

Beginning at an iron rod which marks the most northerly corner of, (Aquaboggan,) land of Aqua Management LLC and is located a distance of 998 feet as measured along the common boundary of land now or formerly of Witham and Aqua Management LLC on a course of N 36° 48' 03" W from and iron rod set in the westerly sideline of US Route 1;

Thence S 52° 07' 21" W along the common boundary of Aqua Management LLC and land now or formerly of Witham a distance of 475.87 feet to an iron rod;


Thence N 36° 03' 47" W along said boundary a distance of 214.74 feet to an iron rod;

Thence N 52° 07' 33" E parallel with the first course a distance of 475.87 feet, more or less, to a point;

Thence S 36° 48' 03" E a distance of 214 feet, more or less, to the iron rod which marks the point of beginning;

IN WITNESS WHEREOF, We, the said **PAMELA CONSIGLIO** and **SHERRY MITCHELL**, have hereunto set our hands and seals, this 25 day of September, 2020.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF


Pamela Consiglio


Sherry Mitchell

STATE OF MAINE
YORK, ss.

Sept 25, 2020

Then personally appeared the above named **PAMELA CONSIGLIO** and **SHERRY MITCHELL** and acknowledged the foregoing instrument to be their free act and deed.

Before me,



Notary Public: Kimbrey A. Hinney
Commission Expires: 11-09-22

WARRANTY DEED
Maine Statutory Short Form

KNOW ALL MEN BY THESE PRESENTS,

THAT **AQUA MANAGEMENT LLC**, a Maine Limited Liability Company with a principal address of 980 Portland Road, U.S.Route 1, of Saco, County of York, State of Maine,

for consideration paid,

grant to **PAMELA CONSIGLIO**, of Lady Lake, County of Lake, State of Florida, whose mailing address is 1316 Debra Drive, Lady Lake, FL 32158 and **SHERRY MITCHELL**, of Alburgh, County of Grand Isle, State of Vermont, whose mailing address is 1099 US Route 2 S, Alburgh, VT 05440, with **warranty covenants, as tenants in common**, the land in Saco, County of York, State of Maine, described as follows:

A certain lot or parcel of land together with any improvements thereon situated northeasterly of the Flag Pond Road but not adjacent thereto, and at the end of Apple Tree Lane as the same is shown on plan recorded in the York County Registry of Deeds in Plan Book 381, Page 44 in Saco, York County, Maine and being more particularly bounded and described as follows:

Beginning at the granite monument which marks the end of Apple Tree Lane, a corner of Lot No. 4 as shown on said plan where it abuts and land labled on said plan N/F Michael S. Kimball and Peter J. Kimball in Book 13763, Page 88;

Thence N 35° 29' 35" W along said Lot No. 4 and land now or formerly of Witham a distance of 392.99 feet to an iron rod and other land of Witham;

Thence S 37° 23' 58" E along said Witham land a distance of 150 feet to a point;

Thence S 35° 29' 35" W through remaining land of Aqua Management LLC a distance of 393 feet, more or less, to a point on the northerly sideline of Lot No. 3 as shown on sid plan;

Thence N 52° 59' 44" W along Lot No. 3 and Apple Tree Lane a distance of 150 feet to the monument which marks the point and place of beginning.

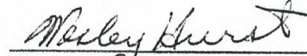
Being a portion of the premises conveyed to Aqua Management LLC by virtue of a deed from Aquaventures. LLC dated November 14, 2017 and recorded in the York County Registry of Deeds in Book 17607, Page 402.,

Reserving to the Grantor, its successors and assigns a 50 foot wide right of way and utility easement to access Apple Tree Lane, said right of way is to be constructed and used in any manner that is consistent with the extension and expansion of Apple Tree Lane.

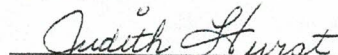
IN WITNESS WHEREOF, We, the said Wesley Hurst and Judith Hurst, Members of **AQUA MANAGEMENT LLC**, have hereunto set my hand and seal, this 12th day of November, 2020.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF

AQUA MANAGEMENT LLC



Wesley Hurst
Its Member



Judith Hurst
Its Member

STATE OF MAINE
YORK, ss.

November 12, 2020

Then personally appeared the above named Wesley Hurst and Judith Hurst, Managers of **AQUA MANAGEMENT LLC**, and acknowledged the foregoing instrument to be their free act and deed and the free act and deed of said LLC.

Before me,



Kimbaly A. Phinney, Notary Public
Commission Expires: 11/09/22



BK 17077 PGS 835 - 836 08/14/2015 12:54:47 PM
INSTR # 2015034006 DEBRA ANDERSON
RECEIVED YORK SS REGISTER OF DEEDS

**DEED OF DISTRIBUTION
BY PERSONAL REPRESENTATIVE (TESTATE)**

I, HAROLD MITCHELL, now of 115 US Route 2 South, Alburgh, Vermont 05440, duly appointed and acting personal representative of the Estate of DONALD M. WITHAM, whose will was duly admitted to probate in the Probate Court for York County, Maine, Docket No. 2014-0981, by the power conferred by law, and every other power, in distribution of the estate grant to SHERRY W. MITCHELL, now of 115 US Route 2 South, Alburgh, Vermont 05440, and PAMELA CONSIGLIO, now of 1316 Debra Drive, Lady Lake, Florida 32159, being the persons entitled to distribution, as Tenants in Common, the real property in Saco, York County, Maine, described as follows:

A certain lot or parcel of land, with the buildings thereon, situated and located on the Northwesterly side of the Portland Road, in Saco, Maine, and being the Mills Homestead, so-called, and containing ninety (90) acres, more or less, and being the same premises devised to Edgar E. Mills by his father, Eugene Mills, late of Saco, Maine, and the same premises devised to this Grantor by his late father, Edgar E. Mills, the Wills of the said Eugene Mills and Edgar E. Mills having been duly proved and allowed by the Probate Court for the County of York.

Also, the same premises conveyed to Lawrence B. Mills, a/k/a Laurence B. Mills, and Bernice G. Mills by deed of Mary a. Bradbury dated June 22, 1953 and recorded in the York County Registry of Deeds in Book 1230, Page 471.

This conveyance is subject to "Notice of Layout and Taking" dated July 14, 1999 and recorded in the York County Registry of Deeds in Book 9267, Page 3, by which the Maine Department of Transportation widened U. S. Route One;

Also subject to Federal Aid Project No. STP-66125 (00)X Plans dated January, 1999, and

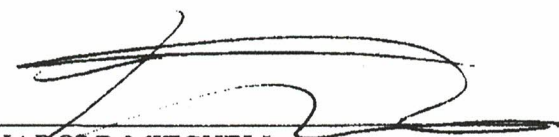
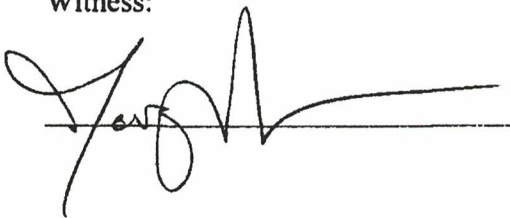
No R.E. Transfer Tax Paid

recorded in the York Country Registry of Deeds in Book 323, Pages 46 and 47 on September 26, 2007.

Being a portion of the same premises conveyed to JEAN M. WITHAM and DONALD M. WITHAM by deed of LAWRENCE B. MILLS , a/k/a Laurence B. Mills, dated January 26, 1979 and recorded in the York County Registry of Deeds in Book 2468, Page 331. Jean M. Witham died on January 14, 2011. Donald M. Witham was the surviving joint tenant.

Witness my hand and seal on August 3, 2015.

Witness:



HAROLD MITCHELL
Personal Representative of the
Estate of Donald M. Witham

Maine
STATE OF ~~VERMONT~~
Cumberland ss.

August 3rd, 2015

Then personally appeared the above named HAROLD MITCHELL and acknowledged the foregoing instrument to be his free act and deed in his said capacity.

Before me,



Notary Public

Please type or print name of Notary:

Holly Gordon

HOLLY BARRETT NASH GORDON
Notary Public State of Maine
My Commission Expires June 19 2021

Seal

Joyce Leary Clark, Esq.
Prescott Jamieson Murphy
PO Box 1190
Saco, ME 04072
2995

Map-Lot	Grantee	Co-Grantee	Mailing	City	State	Zip
64014000000	LEARY JAMES H	LEARY EDNA M	269 FLAGPOND RD	SACO	ME	04072-9674
77002000000	LEARY JAMES H	LEARY EDNA M	269 FLAGPOND RD	SACO	ME	4072
76005003000	SEAMANS CARY		2 FIERO DRIVE	OLD ORCHARD BEACH	ME	4072
76004002000	IVES MARILYN		133 FLAG POND RD	SACO	ME	4072
76005005000	MAHONEY LUCAS T	MAHONEY JENNIFER T	3 APPLE TREE LN	SACO	ME	4072
76005002000	SEAMANS CARY		2 FIERO DRIVE	OLD ORCHARD BEACH	ME	4072
76005004000	SEAMANS CARY		2 FIERO DRIVE	OLD ORCHARD BEACH	ME	4072
63003001000	MITCHELL SHERRY	CONSIGLIO PAMELA	115 US RT 2 SOUTH	ALBURGH	VT	5440
63003000000	AQUA MANAGEMENT LLC		980 PORTLAND RD	SACO	ME	4072
76003000000	IVES MARILYN		133 FLAG POND RD	SACO	ME	4072
76005000000	STARK NICHOLAS S	STARK ERICA J	107 FLAG POND RD	SACO	ME	4072
76004000000	COLLIN CASSANDRA D	LARIVIERE ERICKA L	121 FLAG POND RD	SACO	ME	4072
76005001000	UNDERWOOD LYNN		93 FLAG POND RD	SACO	ME	04072-9629
76004001000	PICARD DANIELLE F		117 FLAG POND RD	SACO	ME	4072
76001000000	LEARY JAMES H	LEARY EDNA M	269 FLAG POND RD	SACO	ME	4072
76005000000	STARK NICHOLAS S	STARK ERICA J	107 FLAG POND RD	SACO	ME	4072
62018004000	MACKENZIE WILLIAM PARKER III	MACKENZIE JANICE R	P O BOX 74	BAR MILLS	ME	4004
63006000000	PARK NORTH DEVELOPMENT LLC		1022 PORTLAND RD	SACO	ME	4072
63009000000	ROBERGE CONSTRUCTION INC		PO BOX 18	BIDDEFORD	ME	04005-0018
63006000000	PARK NORTH DEVELOPMENT LLC		1022 PORTLAND RD	SACO	ME	4072
63008001000	MKM REALTY TRUST LIMITED	LIABILITY CO	198 SACO AVE	OLD ORCHARD BEACH	ME	4064
63007000000	MKM REALTY TRUST LIMITED	LIABILITY CO	198 SACO AVE	OLD ORCHARD BEACH	ME	4064
63000000000						
63007001000	TK ENTERPRISES LLC		636 ROUTE 1	SCARBOROUGH	ME	4074
63006001000	NORTHEAST CREDIT UNION		P.O. BOX 1240	PORTSMOUTH	NH	3802
63005000000	CONDO MAIN			SACO	ME	4072
63004000000	BARBERA MICHAEL A	BARBERA VERONICA H	992 PORTLAND RD	SACO	ME	4072
63006007000	PARK NORTH DEVELOPMENT LLC		1022 PORTLAND RD	SACO	ME	4072
63008000000	ROBINSON CALVIN C III	ROBINSON AMY	5 PAQUATANEE PL	BIDDEFORD	ME	4005



LOCATION MAP (800 SCALE)

PROJECT:
CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME
PREPARED FOR:
CLOVER LEAF DEVELOPMENT, LLC



207.926.5111 • info@terradyconsultants.com • www.terradyconsultants.com

PINELAND
41 CAMPUS DRIVE, SUITE 101
NEW GLOUCESTER, ME 04260

PORTLAND
565 CONGRESS STREET, SUITE 201
PORTLAND, ME 04101

PROJECT NO.

2104

DATE

2/9/2021

SCALE

1"=800'

SHEET

1

OF

1



July 27, 2021

Town of Saco
Planning Division
300 Main Street
Saco, ME 04072

RE: Cloverleaf Development LLC | Proposed Apartment Project - 986 Portland Road

I am pleased to provide this financial capacity letter in support of Cloverleaf Development LLC, developer of the above referenced 120 unit apartment project. Upon initial review, it is anticipated that development costs will total approximately \$15 million. Based on my experience with the principal owner as it relates to projects of similar size and scope, I believe that Cloverleaf Development, LLC has the financial capacity and technical expertise to successfully complete this project.

I have known and worked with the principal of Cloverleaf for more than 10 years have been involved with the financing of numerous projects. Bar Harbor Bank & Trust is currently providing financing for several projects owned by the principal of Cloverleaf and is looking forward to entertaining financing for the subject project when the applicant is prepared to proceed with construction.

Sincerely,

A handwritten signature in blue ink, appearing to read "Joe Delano", with a long horizontal flourish extending to the right.

Joe Delano
Senior Vice President



August 2nd, 2021

Terradyn Consultants, LLC
ATTN: Jeff Amos, P.E.
Cumberland Hall, Suite 101
New Gloucester, ME 04260

Re: Ability to Serve Determination – 986 Portland Road – Saco – Clover Leaf Development

Dear Mr. Amos,

The Maine Water Company (MWC) has received your request for an Ability to Serve Determination on behalf of your client, Clover Leaf Development LLC, for the above referenced project. The request indicates the proposed development will consist of several new multi-unit residential buildings consisting of 18 studio, 84 one bedroom and 18 two bedroom style units. The anticipated daily domestic demand is presented as 21,600 gallons per day (GPD). The anticipated fire demand is not yet known. Domestic water is available to your project. MWC does have sufficient capacity in the area from the existing 8-inch cast iron main located on Portland Road. The existing main on Portland road in front of this property is expected to be replaced with new 16-inch ductile iron water main during the 2022 construction season. The static pressure in the area is approximately **40-45 psi**. Additional infrastructure improvements may be required at the expense of the developer to meet the overall needs of this project.

Conditions of Service

- Fire and domestic services must each be individually tapped from the service main that will feed this development. Consider the 8-inch main into the property the 'service main'. Domestic services should be designed to be served from an active part of the main where water is in motion and not from a long fire service where the water does not have adequate turn over as to avoid water quality issues. This may require additional loops created between the 8-inch waterlines to avoid as many long dead ends.
- MWC will require confirmation on the specific sprinkler design before final approval.
- The location and placement of the private hydrants on site need to be verified and accepted by the local fire authority.
- Additional plan approval, paperwork and fees associated with service for this project will require further coordination with MWC.
- A hydrant flow test at the nearest hydrant is required to be evaluated to ensure that adequate flows can be met during a peak fire demand event.

Should a Customer Agreement for service not be executed within one year of the date of this letter, MWC reserves the right to reevaluate its ability to serve this project.

All work must be completed in accordance with Maine Water Company material and installation specifications. All appropriate paperwork must be completed and the deposit paid prior to the start of construction. Please forward all design plan revisions as the project develops to prevent construction delays. Water service will be provided in accordance with our standard terms and conditions as well as Maine Public Utilities Commission rules. If you have any additional questions, please do not hesitate to contact our office at 1-800-287-1643 or by email at Marcus.Knipp@mainewater.com. We look forward to working with you throughout design and construction.

Sincerely,
The Maine Water Company

A handwritten signature in black ink, appearing to read "M. Knipp".

Marcus Knipp, E.I.T.
Engineer

TRAFFIC IMPACT STUDY

FOR

PROPOSED

Clover Leaf Development

Prepared For: Clover Leaf Development, LLC
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April 2021

INTRODUCTION

Clover Leaf Development, LLC is proposing to construct 120 residential apartment units on a parcel of property located 986 Portland Road (a.k.a. U.S. Route 1) in the City of Saco. The proposed site is located on the west side of Portland Road just north of the Aquaboggan Water Park. The proposed residential apartment development will include a total of ten (10) three-story buildings with six apartment units per building.

Access to the site is proposed with construction of a full-service entrance that connects directly with Portland Road. A single 12-foot-wide entry lane and separate left and right exit lanes, 12-feet in width are proposed.

This traffic impact study is prepared consistent with the processes and procedures applied in the conduct of the traffic impact study prepared by DSI, Inc. for the proposed Cumberland Farms, Inc. development located at the nearby intersection of Portland Road and Cascade Road. That document states:

“To estimate the impact of site-generated traffic within the study area, existing traffic volumes were projected to the year 2024. The proposed development is expected to be completed and fully operational in the year 2022, however, due to the construction and occupancy schedule of the nearby Park North Development project, the future year of 2024 allows for a more inclusive analysis. This analysis year was agreed to by the MaineDOT and the City of Saco.”

Following the direction of both Agencies; this traffic impact study is prepared based upon a future design year of 2024. A study area encompassing the existing Waterfall Drive and Flag Pond Road intersections is established for evaluating the projected traffic impacts of the proposed residential apartment project.

ROADWAY SAFETY CONDITIONS

The Maine Department of Transportation’s (MaineDOT) Accident Records Section provided the latest three-year (2017 through 2019) crash data for the section of the Portland Road between Cascade Road and the Scarborough Town Line, a distance of approximately 1.16 miles. Their report is presented as follows:

2017 -2019 Traffic Accident Summary

<u>Location</u>	<u>Total Crashes</u>	<u>Critical Rate Factor</u>
1. Portland Road @ Cascade Road	15	0.59
2. Portland Road @ Flag Pond Road	5	0.69
3. Portland Road btw. Cascade Road and end of Traffic Island	1	0.17
4. Portland Road btw. Flag Pond Road and 900-feet south of Scarborough Town Line	10	0.25
5. Portland Road btw. Scarborough Town Line and a point 900-feet south	4	0.18

The MaineDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents***
- ***A Critical Rate Factor greater than 1.00***

As the data presented in the chart shows, there are no high crash locations within the defined study area.

ESTIMATED 2024 DESIGN HOUR TRAFFIC

2024 Build Traffic forecasts prepared by Sebago Technics, Inc. in October, 2019 for the Park North Development included background traffic growth, other development traffic (relevant at that time) and projected site trip forecasts for the Park North Development. Their study corridor included the section of Portland Road from the Spring Hill Road/Mill Brook Road intersection to the Scarborough Town Line. Combined, these traffic projections are considered representative of future 2024 design hour traffic conditions on Portland Road adjacent to the proposed Clover Leaf project site.

The traffic forecasts for both the AM and PM peak hour time periods from the earlier Park North study are presented on the attached Figures 15 and 16 from that earlier 2019 traffic study prepared by Sebago Technics, Inc.

Figure 1, from the Clover Leaf traffic report, presents the estimated 2024 design hour traffic volumes for the defined study intersections, respectively, for the AM and PM peak hours.

SITE TRAFFIC

Site trip estimates: Daily and peak hour trip generation was determined for the proposed project based upon trip tables presented in the tenth edition of the Institute of Transportation Engineers (ITE) “**TRIP GENERATION**” handbook. The ITE publication provides numerous land use categories and the average volume of trips generated by each category. Land Use #221 - Multifamily Housing (Mid-Rise), with the following written description, appropriately describes the proposed Clover Leaf Apartment Project: “*Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with a least three other dwelling units and that have between three and 10 levels (floors)*”.

The following trip rates were used to calculate trip generation for the proposed project:

Land Use #221 – Multifamily Housing (Mid-Rise)

Weekday	= 5.44 trips per dwelling unit
AM Peak Hour (Street)	= 0.36 trips per dwelling unit
PM Peak Hour (Street)	= 0.44 trips per dwelling unit
AM Peak Hour (Generator)	= 0.32 trips per dwelling unit
PM Peak Hour (Generator)	= 0.41 trips per dwelling unit
Saturday Peak Hour	= 0.44 trips per dwelling unit
Sunday Peak Hour	= 0.39 trips per dwelling unit

Accordingly, the proposed 120 residential apartment unit project can be expected to generate a total of **653** trips during a typical weekday: **43** trips in the weekday morning peak hour of the street, **53** trips in the evening peak hour of the street, **38** and **49** trips, respectively, for the weekday morning and evening peak hours of the generator (site), **53** trips in the Saturday peak hour and **47** trips on Sunday.

Site Trip Distribution: The Institute of Transportation Engineers handbook also provides the following directional distribution rates for multifamily housing (mid-rise):

AM Peak Hour (Street)	= 26% enter site and 74% exit site
PM Peak Hour (Street)	= 61% enter site and 39% exit site
AM Peak Hour (Generator)	= 27% enter site and 73% exit site
PM Peak Hour (Generator)	= 60% enter site and 40% exit site

Saturday Peak Hour = 49% enter site and 51% exit site
 Sunday Peak Hour = 62% enter site and 38% exit site

Table 1, below, provides a summary of the site trip volumes projected to enter and exit the proposed project site during each noted peak hour time period:

Table 1
Peak Hour Trip Directional Distribution
Summary

<u>Peak Hour Time Period</u>	<u>Total Trips</u>	
	<u>Enter</u>	<u>Exit</u>
AM Peak Hour (Street)	11	32
PM Peak Hour (Street)	32	21
AM Peak Hour (Generator)	10	28
PM Peak Hour (Generator)	29	20
Saturday Peak Hour	26	27
Sunday Peak Hour	29	18

Vehicle Trip Composition: This report assumes all vehicle trips generated by the proposed project are “*primary*” or “*new*” vehicle trips to the area street network.

Vehicle Trip Assignment: Separate vehicle site trip assignments were prepared for both the weekday AM and PM (Street) peak hour travel conditions. The directional assignment model for the morning and evening peak hour time periods generally applies directional travel patterns presented on Figures 15 and 16 from that earlier 2019 traffic study prepared by Sebago Technics, Inc.

The following directional trip patterns were applied:

<u>AM Peak Hour</u>		<u>PM Peak Hour</u>	
<u>Trip Assignment</u>		<u>Trip Assignment</u>	
U.S. Route 1 SB	= 40%	U.S. Route 1 SB	= 55%
U.S. Route 1 NB	= 60%	U.S. Route 1 NB	= 45%

Figure 2 is a “*stick*” diagram that presents the assignment of the site trips to the study corridor.

FUTURE TRAFFIC

Other Development Traffic: Traffic Solutions assumes “*new*” site trips generated by the proposed Cumberland Farms mixed-use development during both weekday peak hour time periods, are other development trips potentially impacting the defined study area of the Clover Leaf traffic study. The DSI, Inc. traffic report estimates the proposed Cumberland Farms mixed-use site will generate a total of 123 “*new*” vehicle trips (67 entering and 56 exiting) in the weekday AM peak hour and 116 “*new*” vehicle trips (60 entering and 56 exiting) in the evening peak hour. Their travel assignment models assume a total of 55 new vehicle trips will be added to the Clover Leaf traffic study area in the morning peak hour and a similar volume of 52 trips in the evening peak hour. Directionally, 25 trips in both peak hours are expected to travel north on Portland Road and the remaining 30 AM trips and 27 PM trips will travel southerly.

Figure 3 presents the morning and evening peak hour trip assignments of the Cumberland Farms site traffic (i.e., Other Development Trips) through the study corridor.

2024 Pre-Development Traffic: 2024 Pre-Development traffic forecasts were prepared for the study intersections by combining the estimated 2024 design hour traffic volumes highlighted on Figure 1 and the Other Development traffic values displayed on Figure 3. Figure 4 presents the 2024 pre-development traffic forecasts for the study intersections.

2024 Post-Development Traffic: 2024 Post-Development traffic forecasts were prepared for the study intersections by combining the 2024 Pre-Development travel forecasts illustrated on Figure 4 with the estimated site generated trips highlighted on Figure 2. Figure 5 presents the estimated 2024 post-development traffic forecasts for the study intersections.

MOBILITY ANALYSIS

Capacity analyses of both 2024 Pre- and Post-Development traffic conditions were performed for the study intersections at Flag Pond Road and Waterfall Drive with Portland Road and the proposed site driveway intersection at Portland Road, utilizing the Synchro and SimTraffic computer models. Level of Service rankings are similar to the academic grading system, where an “A” is very good with little delay and “F” represents very poor conditions. The following table summarizes the relationship between delay and Level of Service for an unsignalized intersection:

Level of Service Criteria for Unsignalized Intersections

<u>Level of Service</u>	<u>Total Control Delay (sec/veh)</u>
A	Up to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

The results of the capacity analyses are presented in the following table:

Level of Service Summary
2024 Pre- and Post-Development Conditions

	2024 Pre-Development				2024 Post-Development			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
<u>Intersection/Approach</u>	<u>Delay</u> <u>(sec.)</u>	<u>LOS</u>	<u>Delay</u> <u>(sec.)</u>	<u>LOS</u>	<u>Delay</u> <u>(sec.)</u>	<u>LOS</u>	<u>Delay</u> <u>(sec.)</u>	<u>LOS</u>
Portland Road @ Flag Pond Road								
- Portland Road EB	2 secs.	A	3 secs.	A	2 secs.	A	4 secs.	A
- Portland Road WB	1 sec.	A	3 secs.	A	1 sec.	A	3 secs.	A
- Flag Pond Road SB	90 secs.	F	200+ secs.	F	100+ secs.	F	200+ secs.	F
- Private Drive NB	22 secs.	C	95 secs.	F	16 secs.	C	95 secs.	F
- Overall Intersection	14 secs.	B	16 secs.	C	17 secs.	C	17 secs.	C
Portland Road @ Waterfall Drive								
- Portland Road EB	1 sec.	A	2 secs.	A	1 sec.	A	2 secs.	A
- Portland Road WB	2 secs.	A	3 secs.	A	2 secs.	A	3 secs.	A
- Waterfall Drive NB	200+ secs.	F	500+ secs.	F	200+ sec.	F	500+ secs.	F
- Overall Intersection	24 secs.	C	22 secs.	C	24 secs.	C	22 secs.	C
Portland Road @ Site Driveway								
- Portland Road EB	n/a		n/a		1 sec.	A	1 sec.	A
- Portland Road WB	n/a		n/a		1 sec.	A	1 sec.	A
- Site Driveway SB	n/a		n/a		17 secs.	C	22 secs.	C
- Overall Intersection	n/a		n/a		1 sec.	A	1 sec.	A

The operational analysis conducted for the Portland Road/Flag Pond Road and Portland Road/Waterfall Drive intersections under 2024 Pre- and Post-development travel conditions shows that traffic turning onto Portland Road from either side street approach experience long delays in completing their desired turning movement. The results of the analysis, in the opinion of Traffic Solutions, overstates the actual level of delay experienced. Motorists along heavily traveled multi-lane highways; especially highways with center two-way left-turn lanes (CTWLTL), often use the center turn lane in completing the left-turn movement in two separate stages. This driving maneuver reduces the wait time for an acceptable vehicle gap in both directions of travel along the busy arterial highway.

Site traffic entering U.S. Route 1 from the proposed Clover Leaf site can be expected to experience vehicle delays of roughly 20 seconds (i.e., Level of Service C Conditions) during both peak hour time periods.

VEHICLE SIGHT DISTANCE

Article 7 - Standards of Performance in the City of Saco's Zoning Ordinance establishes the following vehicle sightline standards:

Vehicle Sight Distance Standards

Allowable Speed (MPH)	Recommended Distance (Feet)	Minimum Required Distance (Feet)
20 mph	225 feet	200 feet
25	280	250
30	335	300
35	390	350
40	445	400
45	500	450
50	555	500
55	610	550

Vehicle sightlines were field checked at the proposed site entrance at Portland Road directionally based upon standard sightline measurement guidelines. Unobstructed lines-of-sight exceed 900-feet “looking” in either direction (north or south) onto Portland Road from the proposed site driveway approach. Portland Road is posted at 45mph in the vicinity of the proposed residential subdivision requiring an unobstructed sightline of 445-feet.

CONCLUSIONS/RECOMMENDATIONS

- The proposed 120 residential apartment units can be expected to generate **653** daily trips; forty-three (**43**) trips in the morning peak hour of the street, **53** trips during the afternoon weekday peak commuter hour and a similar volume of **53** trips during a typical Saturday peak hour.
- The Maine Department of Transportation’s most recent three-year (2017 to 2019) accident safety audit shows the vehicle crash history on the section of Portland Road between the Cascade Road/Portland Road intersection and the Scarborough town line does not meet MaineDOT’s criterion for identification of a high crash location.
- The mobility analysis conducted for the Portland Road/Flag Pond Road and Portland Road/Waterfall Drive intersections under 2024 Pre- and Post-development travel conditions shows that traffic turning onto Portland Road from either side street approach experience long delays in completing their desired turning movement. The level of traffic delay found at both intersections is consistent with traffic delays experienced along any busy travel corridor during peak travel times. Traffic entering the major street during peak travel times are often delayed in excess of four to five minutes or more; waiting for an acceptable vehicle gap or other break in the through vehicle queues to complete their desired turn. Both intersections are scheduled to be signalized in the very near future, which, will provide a controlled break in the through traffic along Portland Road allowing side street traffic to safely turn onto busy Portland Road.
- The traffic operational analysis shows vehicles leaving the proposed Clover Leaf site during peak travel periods will experience levels of vehicle delay representative of Level of Service C conditions; generally regarded as acceptable levels of vehicle delay. The proposed site design provides separate left and right-turn lanes for egressing traffic to minimize the level of vehicle delay.
- Sightline measurements recorded directionally from the centerline of the proposed Clover Leaf site entrance intersection with Portland Road meets and exceeds the City of Saco’s sight distance standard for a posted speed limit of 45mph, the current speed limit on U.S. Route 1.



Crash Summary Report

Report Selections and Input Parameters

REPORT SELECTIONS

☒ Crash Summary I ☐ Section Detail ☒ Crash Summary II ☐ 1320 Public ☐ 1320 Private ☐ 1320 Summary

REPORT DESCRIPTION

Saco
Rte. 1/Portland Rd. from Rte. 98/Cascade Rd. to Scarborough TL

REPORT PARAMETERS

Year 2017, Start Month 1 through Year 2019 End Month: 12

Route: 0001X	Start Node: 56671	Start Offset: 0	<input type="checkbox"/> Exclude First Node
	End Node: 56673	End Offset: 0	<input type="checkbox"/> Exclude Last Node

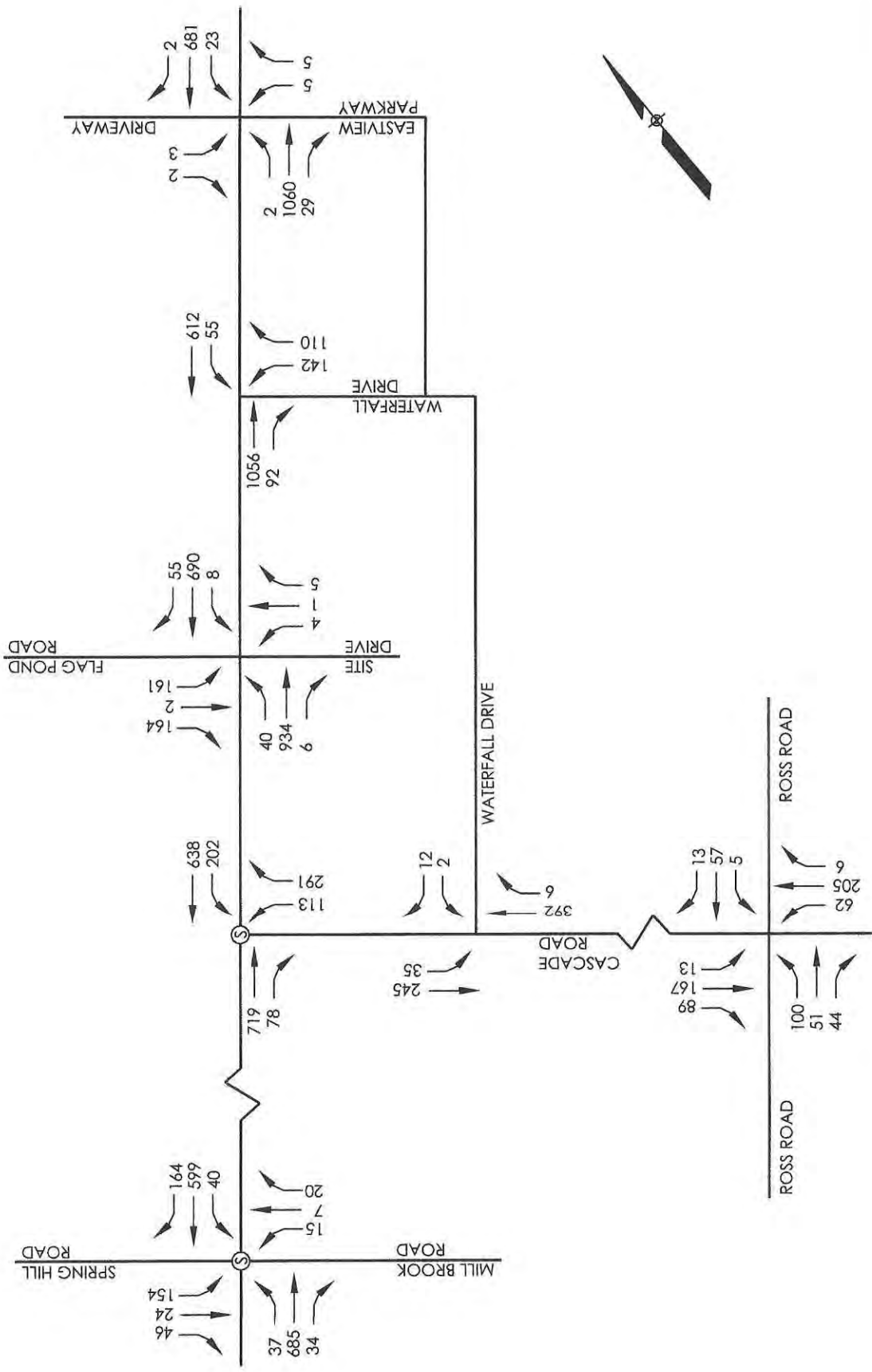
Route: 0001S	Start Node: 64960	Start Offset: 0	<input checked="" type="checkbox"/> Exclude First Node
	End Node: 56671	End Offset: 0	<input checked="" type="checkbox"/> Exclude Last Node

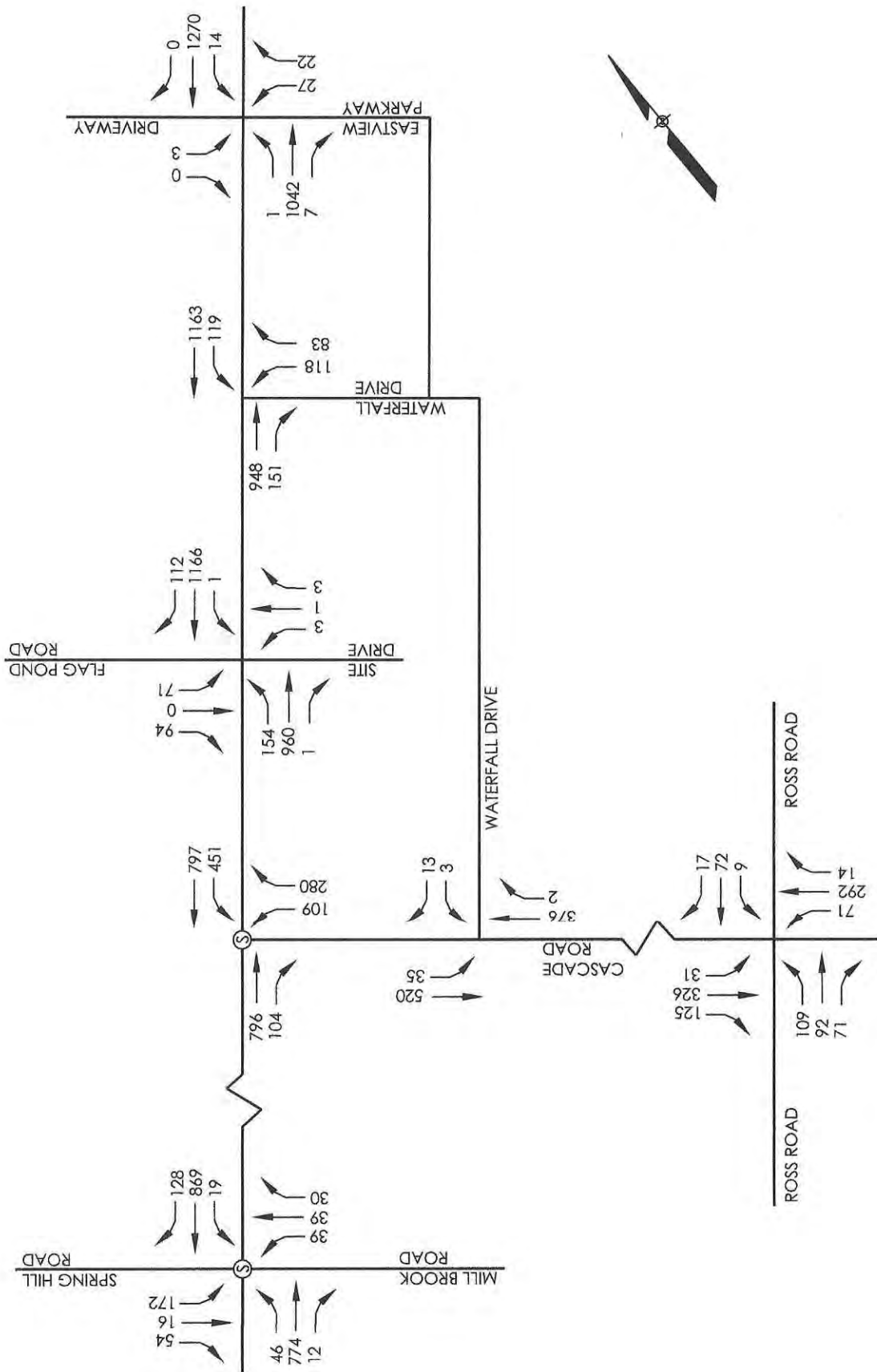
Crash Summary I


Nodes															
Node	Route - MP	Node Description	U/R	Total Crashes	K	A	B	C	PD	Injury	Percent Annual M Ent-Veh	Crash Rate	Critical Rate	CRF	
56672	0001X - 38.73	Int of FLAG POND RD PORTLAND RD	2	5	0	0	1	2	2	60.0	6.768	0.25	0.36	0.00	
											Statewide Crash Rate: 0.16				
56671	0001X - 38.54	Int of CASCADE RD PORTLAND RD	9	15	0	0	0	5	10	33.3	7.018	0.71	1.21	0.59	
											Statewide Crash Rate: 0.75				
56673	0001X - 39.59	TL Saco Scarborough	2	0	0	0	0	0	0	0.0	6.062	0.00	0.37	0.00	
											Statewide Crash Rate: 0.16				
58278	0001X - 39.43	Non Int PORTLAND RD	2	0	0	0	0	0	0	0.0	5.930	0.00	0.38	0.00	
											Statewide Crash Rate: 0.16				
64960	0001X - 38.65	Non Int PORTLAND RD	2	0	0	0	0	0	0	0.0	6.393	0.00	0.37	0.00	
											Statewide Crash Rate: 0.16				
Study Years: 3.00			NODE TOTALS:												
			20	0	0	1	7	12	40.0	32.171	32.171	0.21	0.42	0.49	

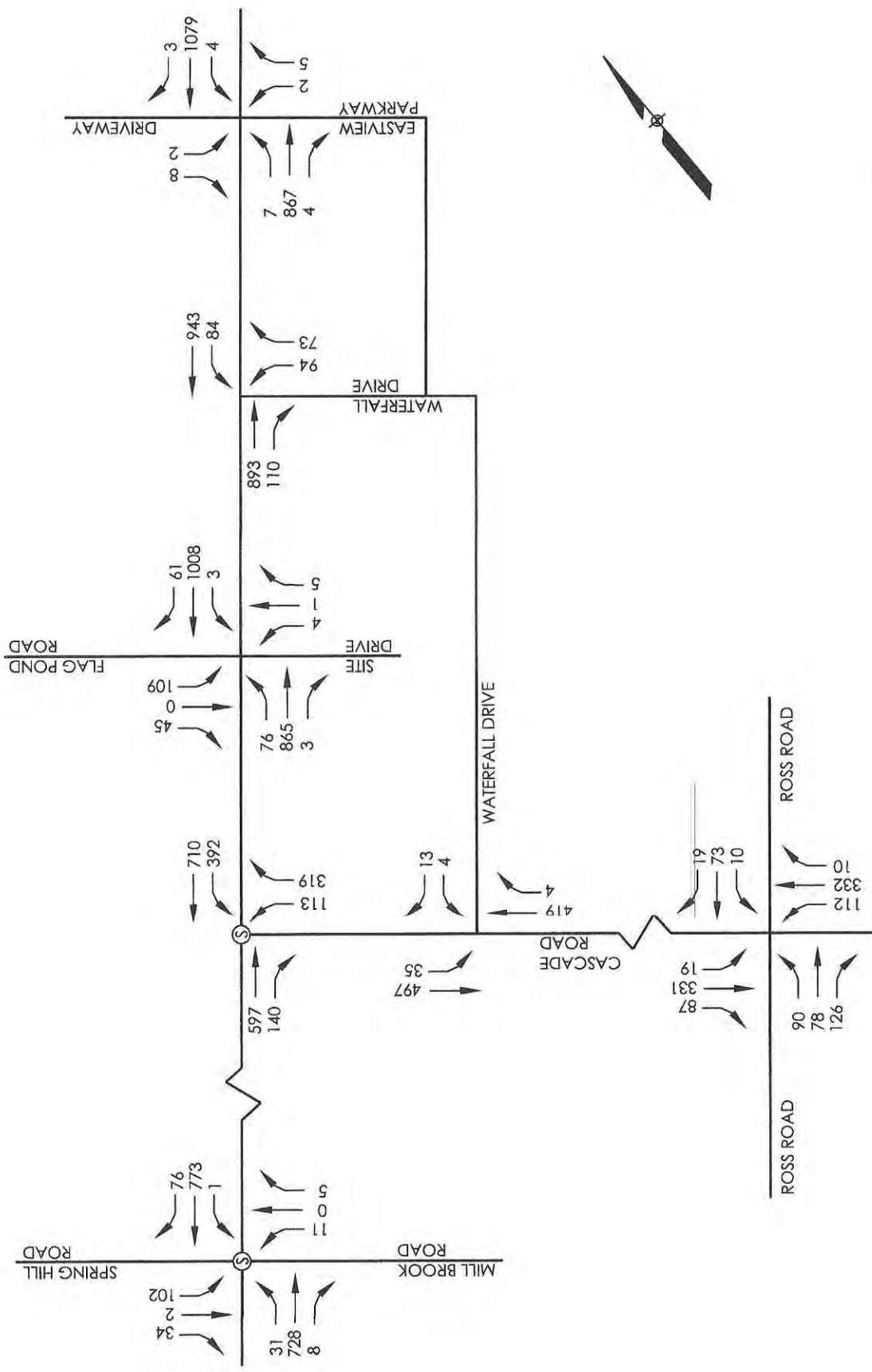
Crash Summary I

Sections																	
Start Node	End Node	Element	Offset Begin - End	Route - MP	Section U/R Length	Total Crashes	K	A	B	C	PD	Percent Injury	Annual HMVM	Crash Rate	Critical Rate	CRF	
56671	64960	3116381	0 - 0.11	0001X - 38.54 US 1	0.11	2	1	0	0	1	0	100.0	0.00350	95.21	546.54	0.00	
Int of CASCADE RD PORTLAND RD														Statewide Crash Rate: 220.72			
64960	56672	3116382	0 - 0.08	0001X - 38.65 US 1	0.08	2	0	0	0	0	0	0.0	0.00514	0.00	496.58	0.00	
Non Int PORTLAND RD														Statewide Crash Rate: 220.72			
56672	58278	3114296	0 - 0.70	0001X - 38.73 US 1	0.70	2	10	0	1	0	2	30.0	0.04171	79.92	324.91	0.25	
Int of FLAG POND RD PORTLAND RD														Statewide Crash Rate: 220.72			
56673	58278	3130767	0 - 0.16	0001X - 39.43 US 1	0.16	2	4	0	0	0	1	25.0	0.00944	141.19	430.45	0.00	
TL Saco Scarborough														Statewide Crash Rate: 220.72			
56671	64960	3139704	0 - 0.11	0001S - 23.27 US 1 SB	0.11	2	0	0	0	0	0	0.0	0.00356	0.00	544.18	0.00	
Int of CASCADE RD PORTLAND RD														Statewide Crash Rate: 220.72			
Study Years:		3.00		Section Totals:		1.16	15	0	1	1	3	10	33.3	0.06335	78.92	305.88	0.26
Grand Totals:						1.16	35	0	1	2	10	22	37.1	0.06335	184.16	433.66	0.42





 <p> WWW.SEBAGOTECHNICALS.COM 75 John Roberts Rd. Suite 4A South Portland, ME 04106 Tel. 207-200-2100 </p>	2024 BUILD PM PEAK HOUR VOLUMES OF: PARK NORTH DEVELOPMENT	SCALE: N.T.S.
	LOCATION: ROUTE 1 SACO, ME	DATE: 10/25/19
	FOR: PARK NORTH DEVELOPMENT, LLC. 1022 PORTLAND ROAD SACO, MAINE 04072	SHEET: 16 OF 20




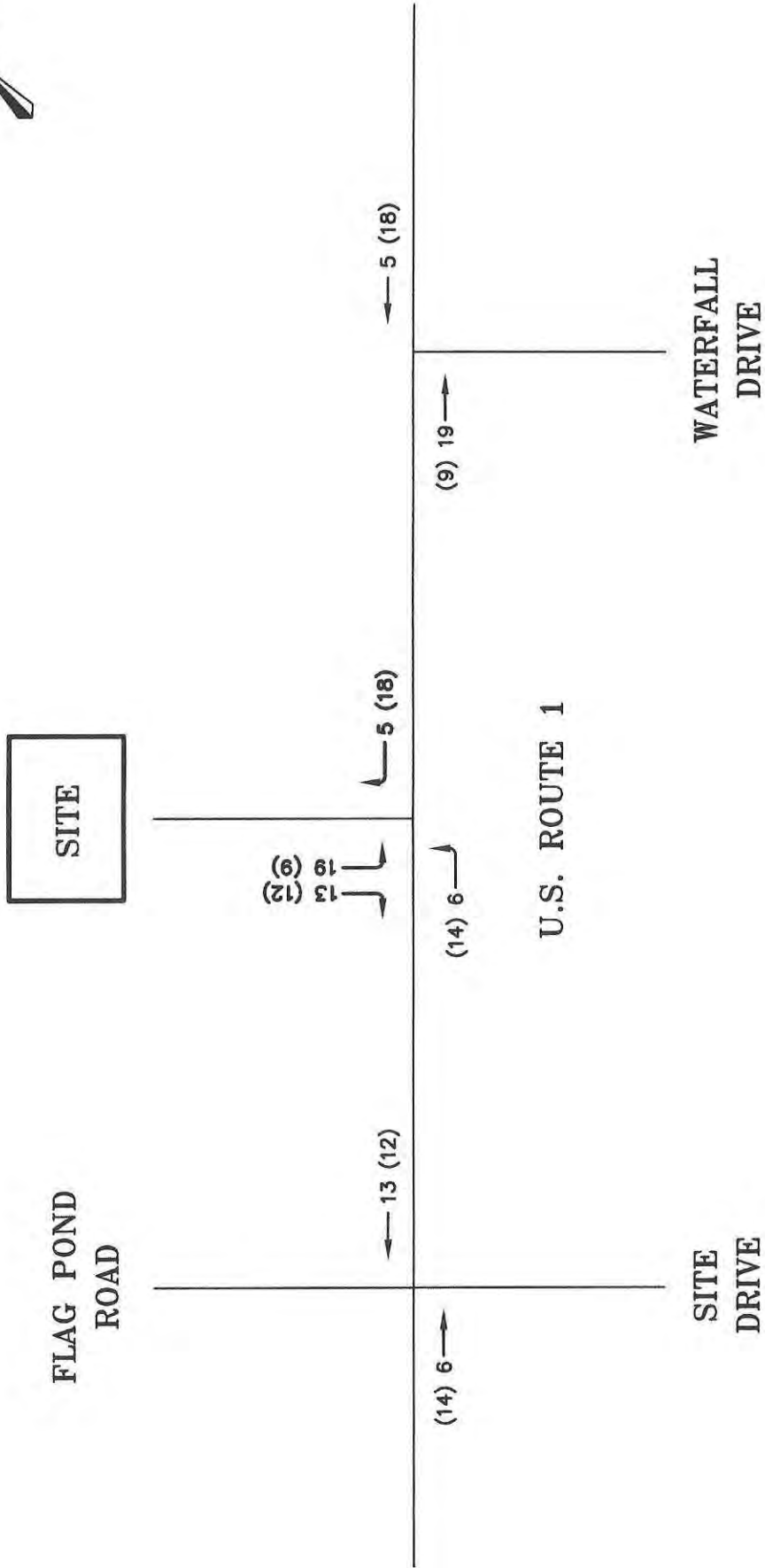
 <p> WWW.SEBAGOTECHNICALS.COM 75 John Roberts Rd. Suite 4A South Portland, ME 04106 Tel. 207-200-2100 </p>	2024 BUILD PM PEAK HOUR VOLUMES		SCALE: N.T.S.
	OF: PARK NORTH DEVELOPMENT		DATE: 10/25/19
	LOCATION: ROUTE 1 SACO, ME	FOR: PARK NORTH DEVELOPMENT, LLC. 1022 PORTLAND ROAD SACO, MAINE 04072	SHEET: 17 OF 20



FIGURE 1



LEGEND
 XX = AM PEAK HOUR
 (XX) = PM PEAK HOUR

SITE TRIP ASSIGNMENT

FIGURE 2



SITE

FLAG POND
ROAD

← 30 (27)

← 30 (27)

← 30 (27)

(25) 25 →

(25) 25 →

(25) 25 →

U.S. ROUTE 1

SITE
DRIVE

WATERFALL
DRIVE

LEGEND

XX = AM PEAK HOUR

(XX) = PM PEAK HOUR

OTHER DEVELOPMENT TRAFFIC

FIGURE 3



SITE

FLAG POND ROAD

164 (94)
2 (0)
161 (71)

55 (112)
721 (1195)
8 (1)

784 (1308)

642 (1190)
55 (119)

(154) 40
(1050) 1007
(1) 6

(1124) 1173

(973) 1081
(151) 92

(118) 142
(83) 110

U.S. ROUTE 1

SITE DRIVE

WATERFALL DRIVE

LEGEND

XX = AM PEAK HOUR
(XX) = PM PEAK HOUR

2024 PRE-DEVELOPMENT TRAFFIC

FIGURE 4

STANDARD PROJECT'S 2000-2009 TRAFFIC SOLUTIONS CLOVER LEAF PLANSET CLOVER LEAF DEVELOPING

CLOVER LEAF DEVELOPMENT
800 PINELAND ROAD, SUITE 300, MAINE
DATE: APRIL, 2021

TRAFFIC SOLUTIONS
17 MOUNTAIN DRIVE, CORNELL, MAINE 04038



SITE

FLAG POND ROAD

164 (94)
2 (0)
161 (71)

55 (112)
734 (1207)
8 (1)

(12)
19
(6)

5 (18)
784 (1308)

647 (1208)
55 (119)

(154) 40
(1064) 1013
(1) 6

(14) 6
(1127) 1173

(982) 1100
(151) 92

(118) 142
(83) 110

U.S. ROUTE 1

SITE DRIVE

WATERFALL DRIVE

LEGEND

XX = AM PEAK HOUR
(XX) = PM PEAK HOUR

2024 POST-DEVELOPMENT TRAFFIC

ES&UD PROJECTS 34000-34009 TRAFFIC SOLUTIONS CLOVER LEAF PLANSET CLOVER LEAF DEVELOPMENT

CLOVER LEAF DEVELOPMENT
200 PORTLAND ROAD, SALEM, MAINE
DATE: APRIL, 2021

TRAFFIC SOLUTIONS
17 MOUNTVIEW DRIVE, CORSUM, MAINE 04035

FIGURE 5

FIGURE 5

Summary of All Intervals

Run Number	2	3	4	5	7	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2317	2276	2192	2249	2262	2259
Vehs Exited	2291	2252	2170	2232	2238	2237
Starting Vehs	54	54	49	69	59	57
Ending Vehs	80	78	71	86	83	80
Travel Distance (mi)	2085	2089	1960	2052	2054	2048
Travel Time (hr)	123.4	112.1	92.3	109.2	106.0	108.6
Total Delay (hr)	74.8	63.7	46.4	61.3	58.1	60.8
Total Stops	492	419	521	467	490	478
Fuel Used (gal)	76.8	74.0	67.0	72.6	71.8	72.4

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	2	3	4	5	7	Avg
Vehs Entered	2317	2276	2192	2249	2262	2259
Vehs Exited	2291	2252	2170	2232	2238	2237
Starting Vehs	54	54	49	69	59	57
Ending Vehs	80	78	71	86	83	80
Travel Distance (mi)	2085	2089	1960	2052	2054	2048
Travel Time (hr)	123.4	112.1	92.3	109.2	106.0	108.6
Total Delay (hr)	74.8	63.7	46.4	61.3	58.1	60.8
Total Stops	492	419	521	467	490	478
Fuel Used (gal)	76.8	74.0	67.0	72.6	71.8	72.4

3: Flag Pond Road & US Rte 1 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.3	0.0	0.1	41.3	6.1
Total Del/Veh (s)	1.6	1.3	21.5	90.0	14.4

7: Waterfall Drive & US Rte 1 Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.3	473.9	57.6
Total Del/Veh (s)	1.2	1.7	251.9	24.3

10: US Rte 1 & Development Driveway Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	1.4	0.4	1.0

Total Network Performance

Denied Del/Veh (s)	57.4
Total Del/Veh (s)	36.7

Intersection: 3: Flag Pond Road & US Rte 1

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	LT	R
Maximum Queue (ft)	34	29	4	44	277	244
Average Queue (ft)	10	4	0	9	196	126
95th Queue (ft)	30	19	3	33	348	318
Link Distance (ft)			1620	269	276	276
Upstream Blk Time (%)					31	20
Queuing Penalty (veh)					0	0
Storage Bay Dist (ft)	100	100				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 7: Waterfall Drive & US Rte 1

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	18	59	298	296
Average Queue (ft)	1	26	275	242
95th Queue (ft)	7	55	347	398
Link Distance (ft)	516		274	274
Upstream Blk Time (%)			83	64
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)		100		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 10: US Rte 1 & Development Driveway

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	3	4	5	6	7	Avg
Start Time	4:57	4:57	4:57	4:57	4:57	4:57
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2688	2816	2712	2824	2787	2766
Vehs Exited	2669	2793	2693	2820	2781	2752
Starting Vehs	65	73	67	85	76	72
Ending Vehs	84	96	86	89	82	89
Travel Distance (mi)	2508	2606	2530	2616	2611	2574
Travel Time (hr)	160.4	141.9	146.3	129.9	167.2	149.1
Total Delay (hr)	102.6	81.6	87.5	69.0	106.8	89.5
Total Stops	384	449	425	478	408	428
Fuel Used (gal)	93.5	92.4	91.4	89.5	98.5	93.1

Interval #0 Information Seeding

Start Time	4:57
End Time	5:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	3	4	5	6	7	Avg
Vehs Entered	2688	2816	2712	2824	2787	2766
Vehs Exited	2669	2793	2693	2820	2781	2752
Starting Vehs	65	73	67	85	76	72
Ending Vehs	84	96	86	89	82	89
Travel Distance (mi)	2508	2606	2530	2616	2611	2574
Travel Time (hr)	160.4	141.9	146.3	129.9	167.2	149.1
Total Delay (hr)	102.6	81.6	87.5	69.0	106.8	89.5
Total Stops	384	449	425	478	408	428
Fuel Used (gal)	93.5	92.4	91.4	89.5	98.5	93.1

3: Flag Pond Road & US Rte 1 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.4	0.0	0.1	272.2	17.1
Total Del/Veh (s)	3.4	2.6	95.4	239.0	15.5

7: Waterfall Drive & US Rte 1 Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.4	847.1	66.6
Total Del/Veh (s)	1.5	2.9	526.3	21.6

10: US Rte 1 & Development Driveway Performance by approach

Approach	EB	WB	All
Denied Del/Veh (s)	0.0	0.0	0.0
Total Del/Veh (s)	1.3	0.5	0.9

Total Network Performance

Denied Del/Veh (s)	75.8
Total Del/Veh (s)	35.7

Intersection: 3: Flag Pond Road & US Rte 1

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	L	TR	LTR	LT	R
Maximum Queue (ft)	105	36	11	28	52	294	264
Average Queue (ft)	48	1	1	4	11	193	136
95th Queue (ft)	86	25	7	19	42	355	339
Link Distance (ft)		1700		1620	269	276	276
Upstream Blk Time (%)						43	35
Queuing Penalty (veh)						0	0
Storage Bay Dist (ft)	100		100				
Storage Blk Time (%)	1						
Queuing Penalty (veh)	4						

Intersection: 7: Waterfall Drive & US Rte 1

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	22	103	30	289	289
Average Queue (ft)	2	47	1	276	251
95th Queue (ft)	13	85	21	324	385
Link Distance (ft)	516		1594	274	274
Upstream Blk Time (%)				90	80
Queuing Penalty (veh)				0	0
Storage Bay Dist (ft)		100			
Storage Blk Time (%)		1			
Queuing Penalty (veh)		6			

Intersection: 10: US Rte 1 & Development Driveway

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 9

Summary of All Intervals

Run Number	1	4	5	6	7	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2293	2260	2275	2318	2290	2288
Vehs Exited	2295	2237	2273	2306	2275	2277
Starting Vehs	57	61	63	57	59	58
Ending Vehs	55	84	65	69	74	69
Travel Distance (mi)	2084	2017	2057	2089	2051	2060
Travel Time (hr)	111.6	102.9	122.1	93.8	118.0	109.6
Total Delay (hr)	63.0	55.5	73.8	44.9	70.0	61.4
Total Stops	547	510	447	501	552	513
Fuel Used (gal)	73.7	70.4	75.6	69.5	74.7	72.8

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	8:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	4	5	6	7	Avg
Vehs Entered	2293	2260	2275	2318	2290	2288
Vehs Exited	2295	2237	2273	2306	2275	2277
Starting Vehs	57	61	63	57	59	58
Ending Vehs	55	84	65	69	74	69
Travel Distance (mi)	2084	2017	2057	2089	2051	2060
Travel Time (hr)	111.6	102.9	122.1	93.8	118.0	109.6
Total Delay (hr)	63.0	55.5	73.8	44.9	70.0	61.4
Total Stops	547	510	447	501	552	513
Fuel Used (gal)	73.7	70.4	75.6	69.5	74.7	72.8

3: Flag Pond Road & US Rte 1 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.2	0.0	0.1	53.9	8.4
Total Del/Veh (s)	1.6	1.3	15.8	103.0	16.5

7: Waterfall Drive & US Rte 1 Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.3	447.5	54.0
Total Del/Veh (s)	1.3	1.8	243.1	23.4

10: US Rte 1 & Development Driveway Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.4	0.4	16.6	1.3

Total Network Performance

Denied Del/Veh (s)	55.8
Total Del/Veh (s)	37.8

Queuing and Blocking Report
PostDev AM

04/02/2021

Intersection: 3: Flag Pond Road & US Rte 1

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	LT	R
Maximum Queue (ft)	37	33	9	44	278	248
Average Queue (ft)	11	4	0	8	217	138
95th Queue (ft)	31	21	7	31	344	334
Link Distance (ft)			1620	269	276	276
Upstream Blk Time (%)					36	28
Queuing Penalty (veh)					0	0
Storage Bay Dist (ft)	100	100				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 7: Waterfall Drive & US Rte 1

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	22	66	298	297
Average Queue (ft)	1	25	269	232
95th Queue (ft)	9	53	351	401
Link Distance (ft)	516		274	274
Upstream Blk Time (%)			80	62
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 10: US Rte 1 & Development Driveway

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	28	52	36
Average Queue (ft)	2	16	10
95th Queue (ft)	14	44	34
Link Distance (ft)		263	263
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

SimTraffic Simulation Summary
PostDev PM

04/02/2021

Summary of All Intervals

Run Number	11	12	13	8	9	Avg
Start Time	4:57	4:57	4:57	4:57	4:57	4:57
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	63	63	63	63	63	63
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	2	2	2	2	2	2
# of Recorded Intervals	1	1	1	1	1	1
Vehs Entered	2843	2839	2782	2780	2777	2804
Vehs Exited	2828	2825	2754	2757	2743	2780
Starting Vehs	63	81	70	70	61	69
Ending Vehs	78	95	98	93	95	92
Travel Distance (mi)	2609	2616	2557	2548	2558	2578
Travel Time (hr)	183.0	142.4	141.4	146.2	152.0	153.0
Total Delay (hr)	122.3	81.7	82.0	87.0	92.7	93.1
Total Stops	481	464	457	469	435	461
Fuel Used (gal)	103.1	93.4	91.6	92.5	93.6	94.8

Interval #0 Information Seeding

Start Time	4:57
End Time	5:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	5:00
End Time	6:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	11	12	13	8	9	Avg
Vehs Entered	2843	2839	2782	2780	2777	2804
Vehs Exited	2828	2825	2754	2757	2743	2780
Starting Vehs	63	81	70	70	61	69
Ending Vehs	78	95	98	93	95	92
Travel Distance (mi)	2609	2616	2557	2548	2558	2578
Travel Time (hr)	183.0	142.4	141.4	146.2	152.0	153.0
Total Delay (hr)	122.3	81.7	82.0	87.0	92.7	93.1
Total Stops	481	464	457	469	435	461
Fuel Used (gal)	103.1	93.4	91.6	92.5	93.6	94.8

3: Flag Pond Road & US Rte 1 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.5	0.0	0.1	235.5	15.1
Total Del/Veh (s)	3.6	2.7	40.2	281.5	17.2

7: Waterfall Drive & US Rte 1 Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.4	908.7	71.2
Total Del/Veh (s)	1.6	3.0	513.7	21.9

10: US Rte 1 & Development Driveway Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	1.4	0.7	22.2	1.2

Total Network Performance

Denied Del/Veh (s)	77.1
Total Del/Veh (s)	37.5

Intersection: 3: Flag Pond Road & US Rte 1

Movement	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	L	T	TR	LTR	LT	R
Maximum Queue (ft)	95	31	11	6	50	39	295	300
Average Queue (ft)	47	2	1	0	5	8	233	107
95th Queue (ft)	86	30	7	4	24	30	362	298
Link Distance (ft)		1700		1620	1620	269	276	276
Upstream Blk Time (%)							51	23
Queuing Penalty (veh)							0	0
Storage Bay Dist (ft)	100		100					
Storage Blk Time (%)	1							
Queuing Penalty (veh)	6							

Intersection: 7: Waterfall Drive & US Rte 1

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	32	102	59	289	289
Average Queue (ft)	4	46	2	276	240
95th Queue (ft)	20	87	30	319	397
Link Distance (ft)	516		1594	274	274
Upstream Blk Time (%)				91	71
Queuing Penalty (veh)				0	0
Storage Bay Dist (ft)		100			
Storage Blk Time (%)		1			
Queuing Penalty (veh)		8			

Intersection: 10: US Rte 1 & Development Driveway

Movement	EB	WB	SB	SB
Directions Served	L	TR	L	R
Maximum Queue (ft)	38	4	39	40
Average Queue (ft)	9	0	10	11
95th Queue (ft)	31	3	34	35
Link Distance (ft)		516	263	263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 14

COMPONENT	MATERIAL	FINISH
ROOFING:	ARCH. ASPHALT SHINGLES	CHARCOAL
TRIM:	PVC (SMOOTH)	WHITE
SIDING:	VINYL CLAPBOARD	GREY
WINDOWS:	5" EXPOSURE	WHITE
DOORS:	VINYL	PTD WHITE
LOUVERS:	METAL	PTD WHITE
	ALUMINUM	PTD WHITE



PARKING SIDE



DRIVE / OPEN SPACE SIDE



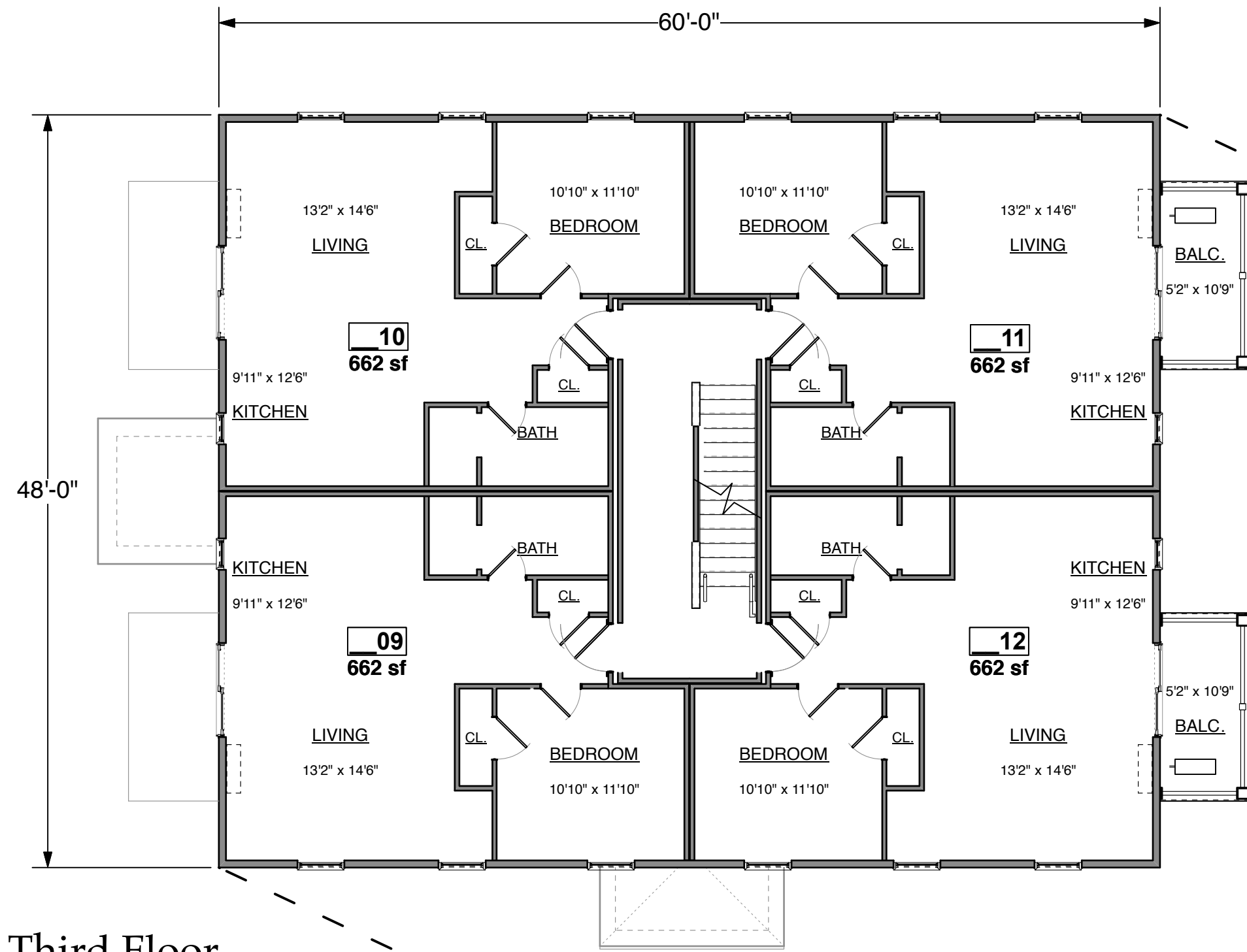
WALKING PATH SIDE



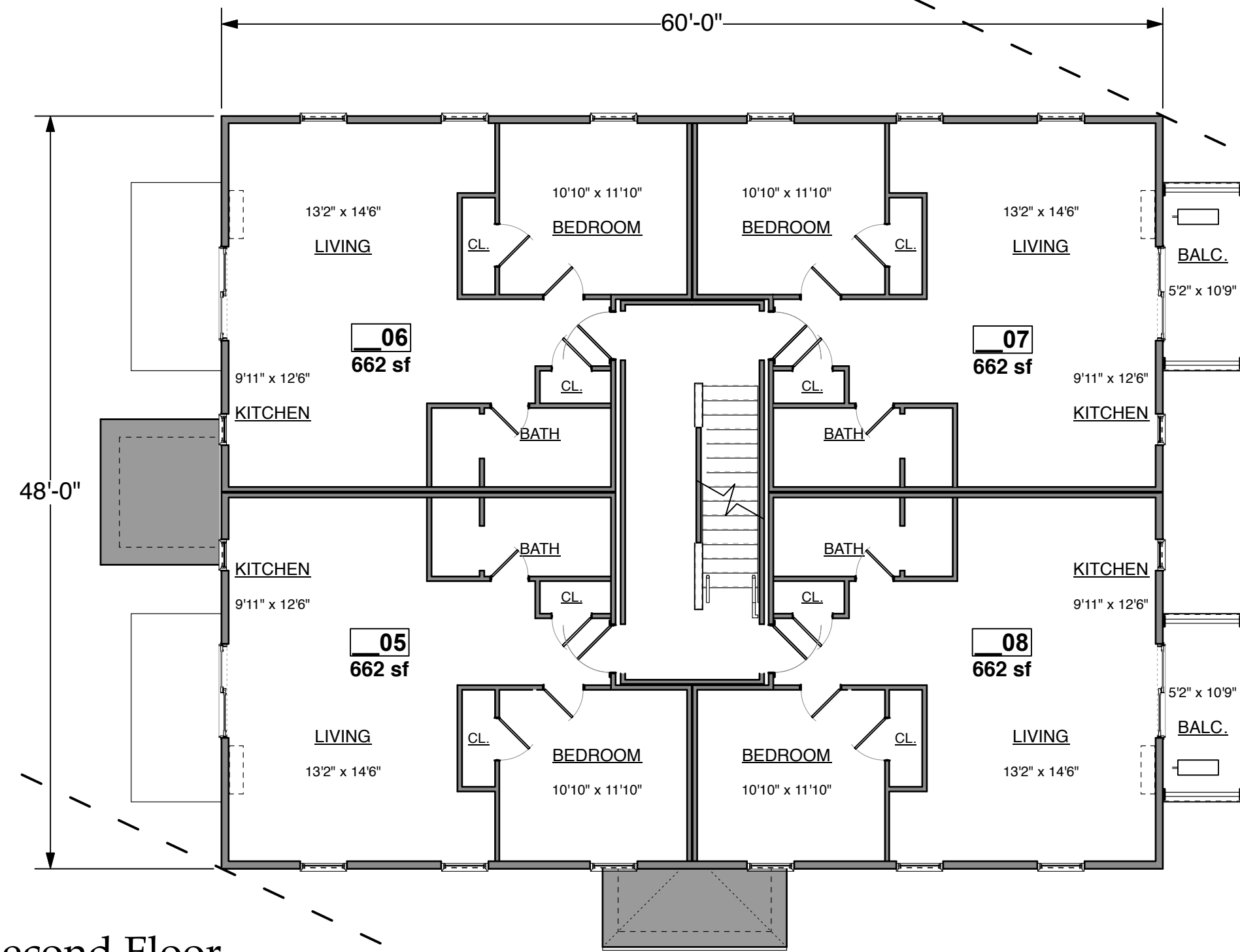
GREEN SPACE SIDE

TYPE 'A'
(12-ONE BED UNITS)

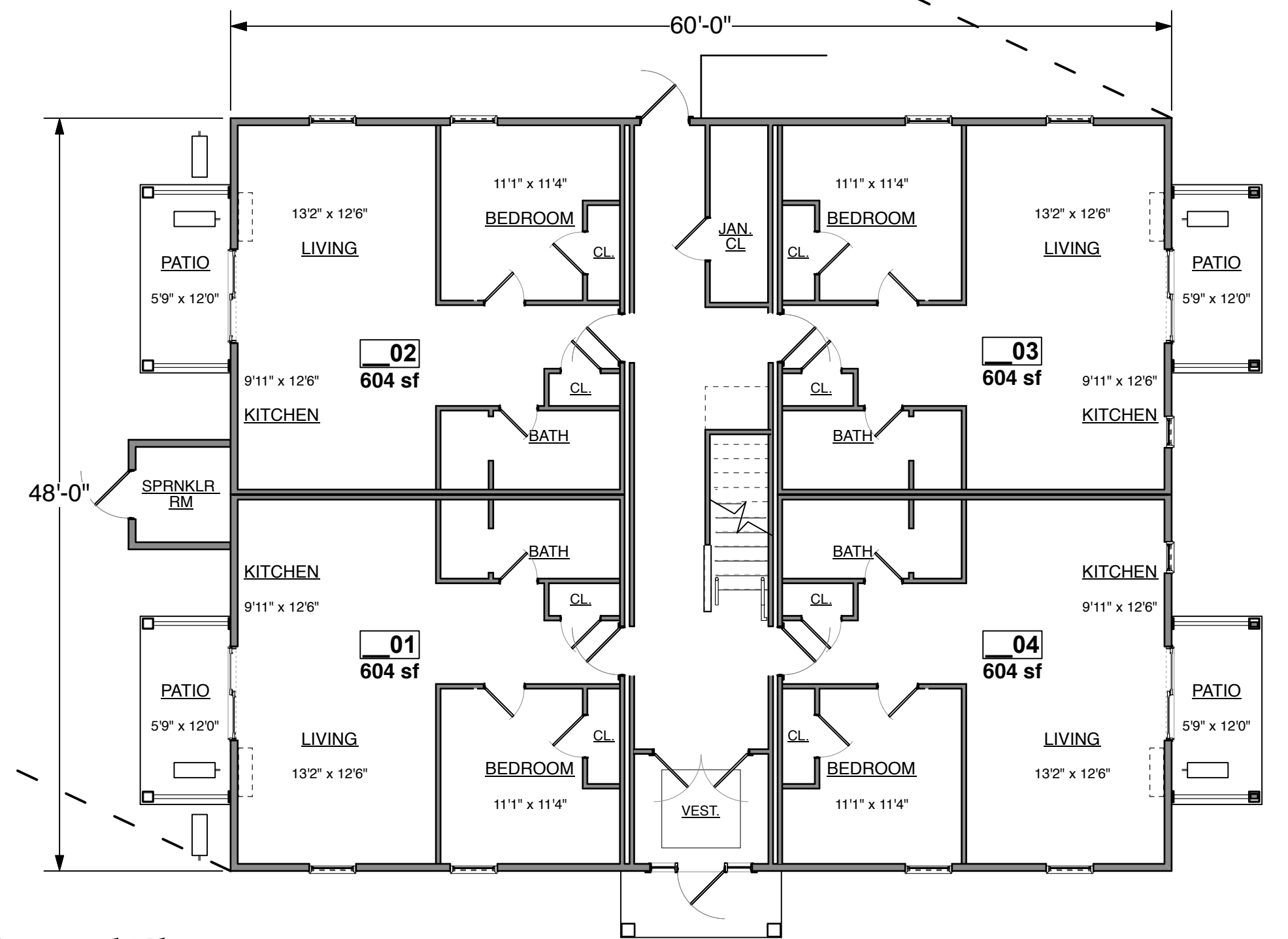




Third Floor



Second Floor



Ground Floor

TYPE 'A'

(12-ONE BED UNITS)

BUILDING FOOTPRINT AREA	2926 sf
GROSS BUILDING AREA	8686 sf
GROSS LEASABLE AREA (88.8%)	7712 sf



COMPONENT	MATERIAL	FINISH
ROOFING:	ARCH. ASPHALT SHINGLES	CHARCOAL
TRIM:	PVC (SMOOTH)	WHITE
SIDING:	VINYL CLAPBOARD	GREY
WINDOWS:	5" EXPOSURE	WHITE
DOORS:	VINYL	PTD WHITE
LOUVERS:	METAL	PTD WHITE
	ALUMINUM	PTD WHITE



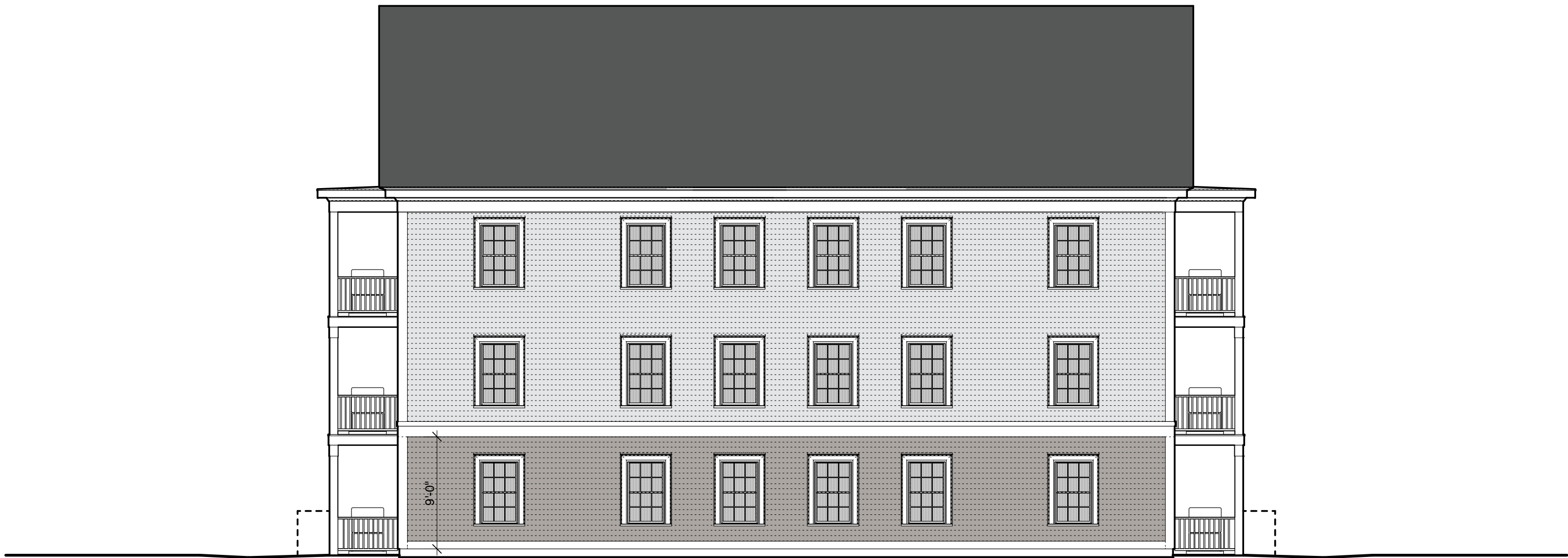
GREEN SPACE SIDE



OPEN SPACE SIDE



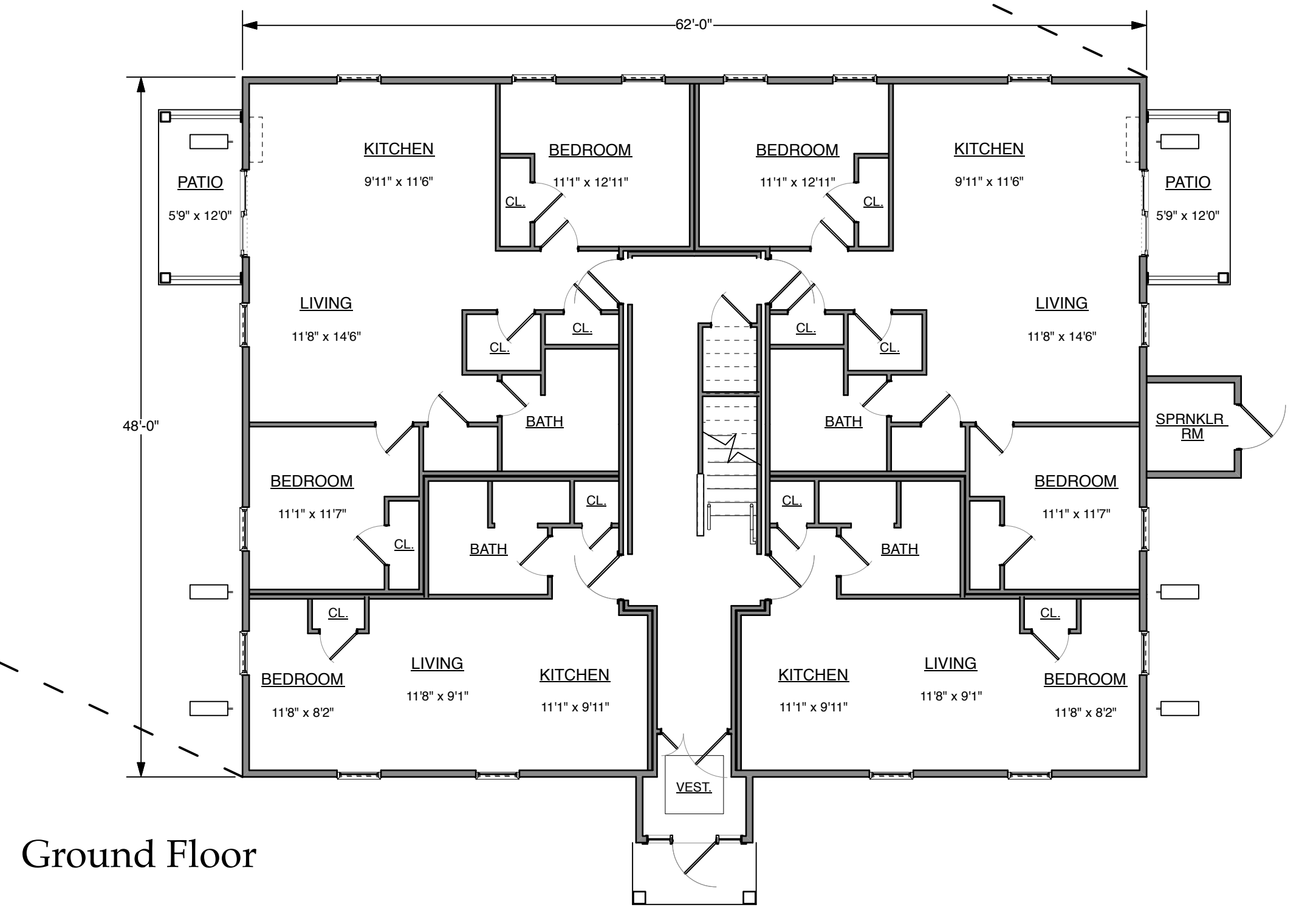
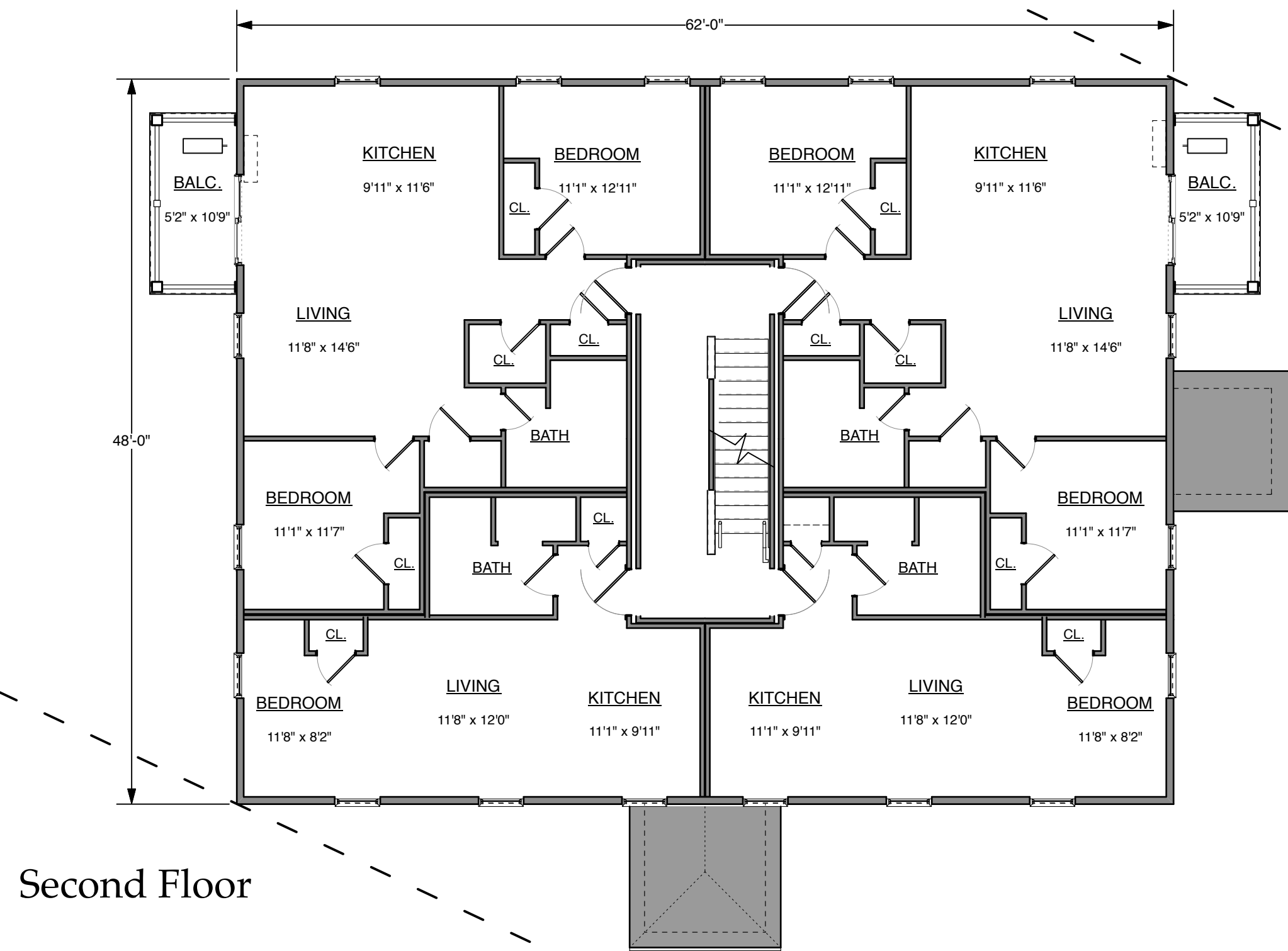
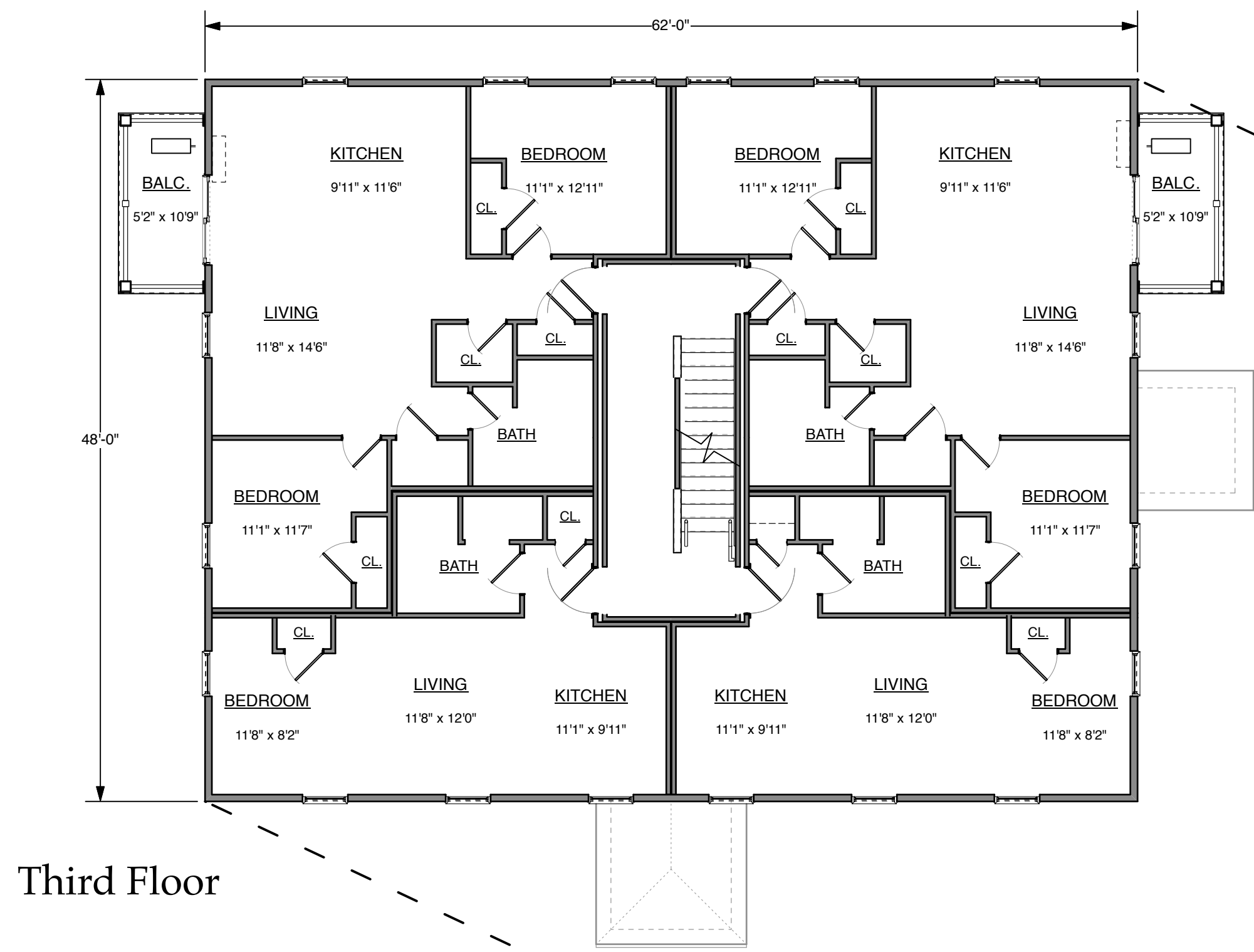
OPEN SPACE SIDE



OPEN SPACE SIDE

TYPE 'B'
(6-TWO BED & 6-STUDIO UNITS)





TYPE 'B'

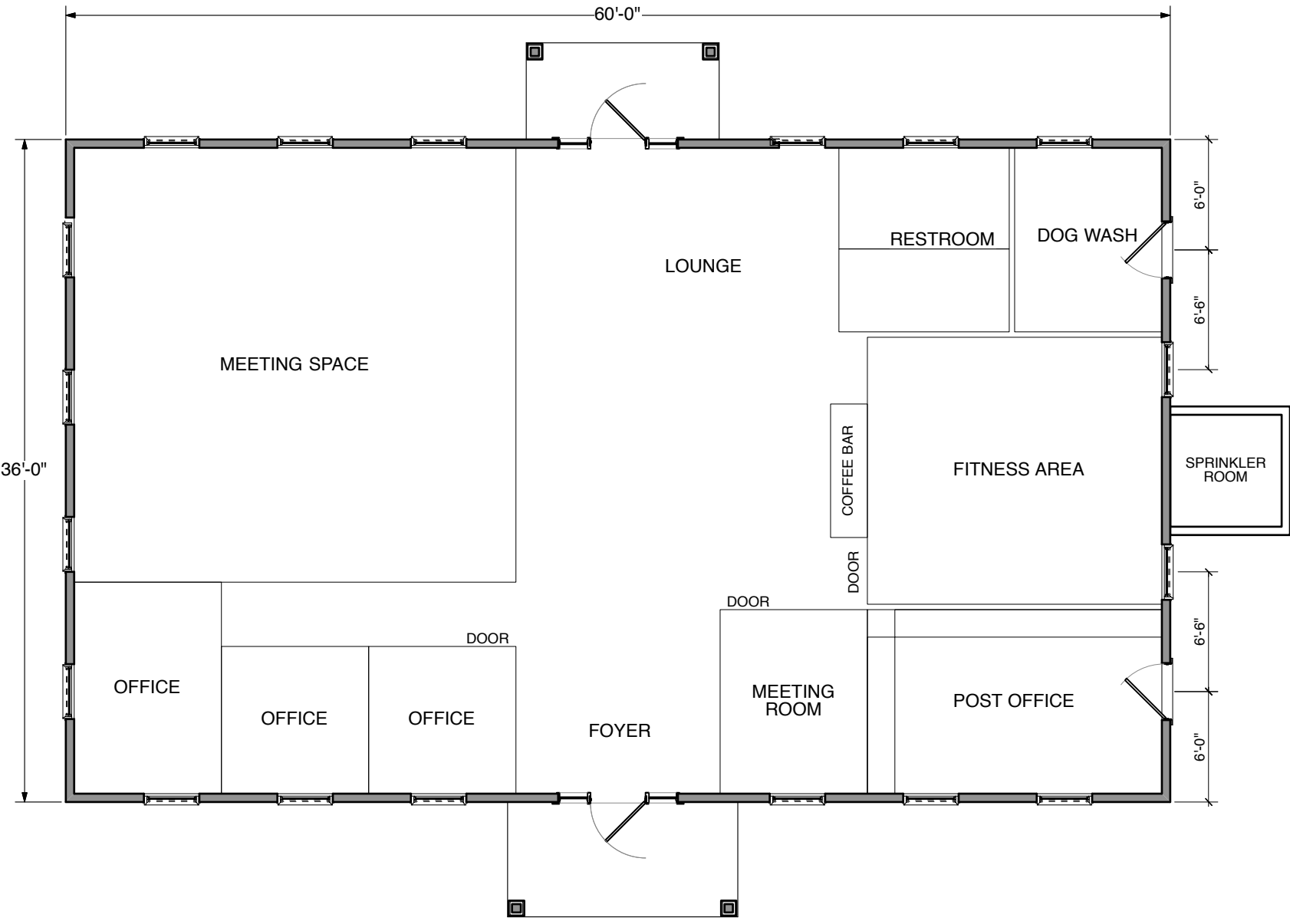
(6 - TWO BED & 6 - STUDIO UNITS)

BUILDING FOOTPRINT AREA	2926 sf
GROSS BUILDING AREA	8686 sf
GROSS LEASABLE AREA (88.8%)	7712 sf

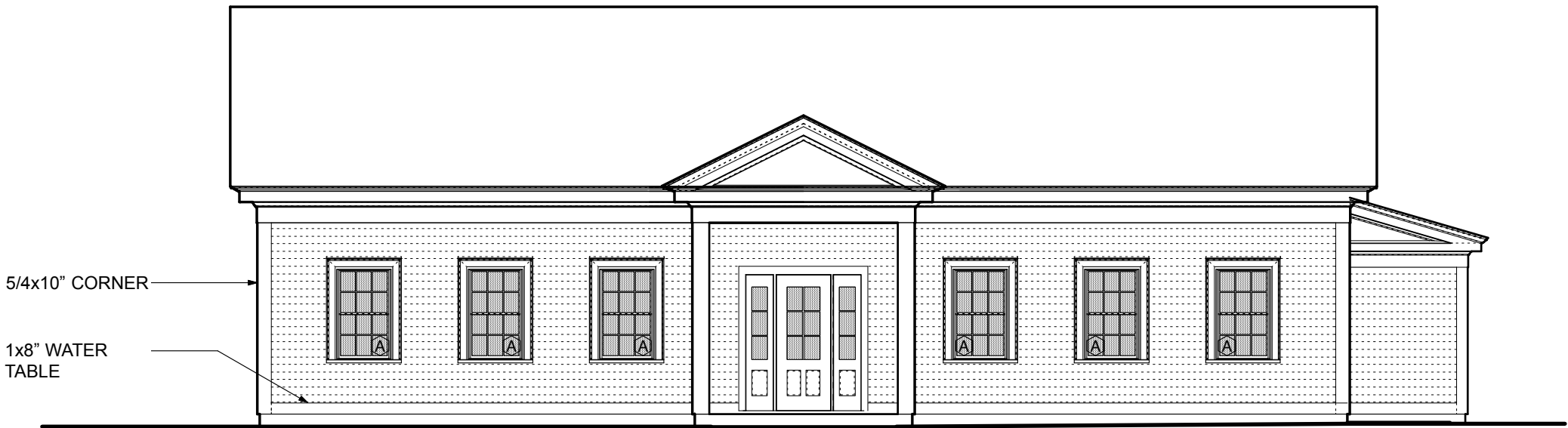


MULTI-PURPOSE BUILDING

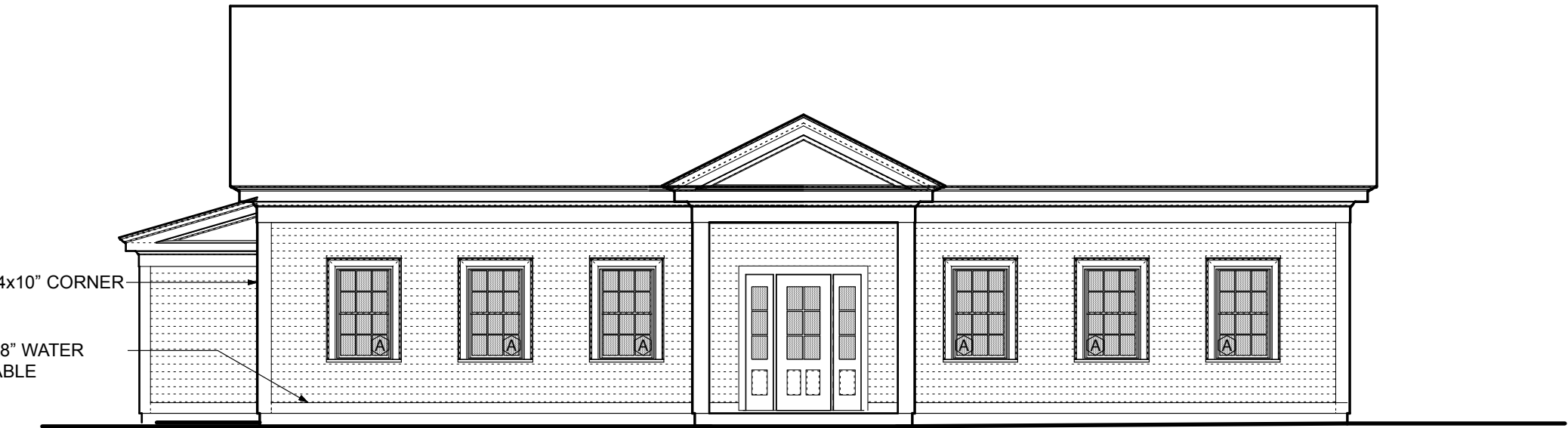
COMPONENT	MATERIAL	FINISH
ROOFING:	ARCH. ASPHALT SHINGLES	CHARCOAL
TRIM:	PVC (SMOOTH)	WHITE
SIDING:	VINYL CLAPBOARD	WHITE
	5" EXPOSURE	
WINDOWS:	VINYL	WHITE
DOORS:	METAL	PTD WHITE
LOUVERS:	ALUMINUM	PTD WHITE



PLAN



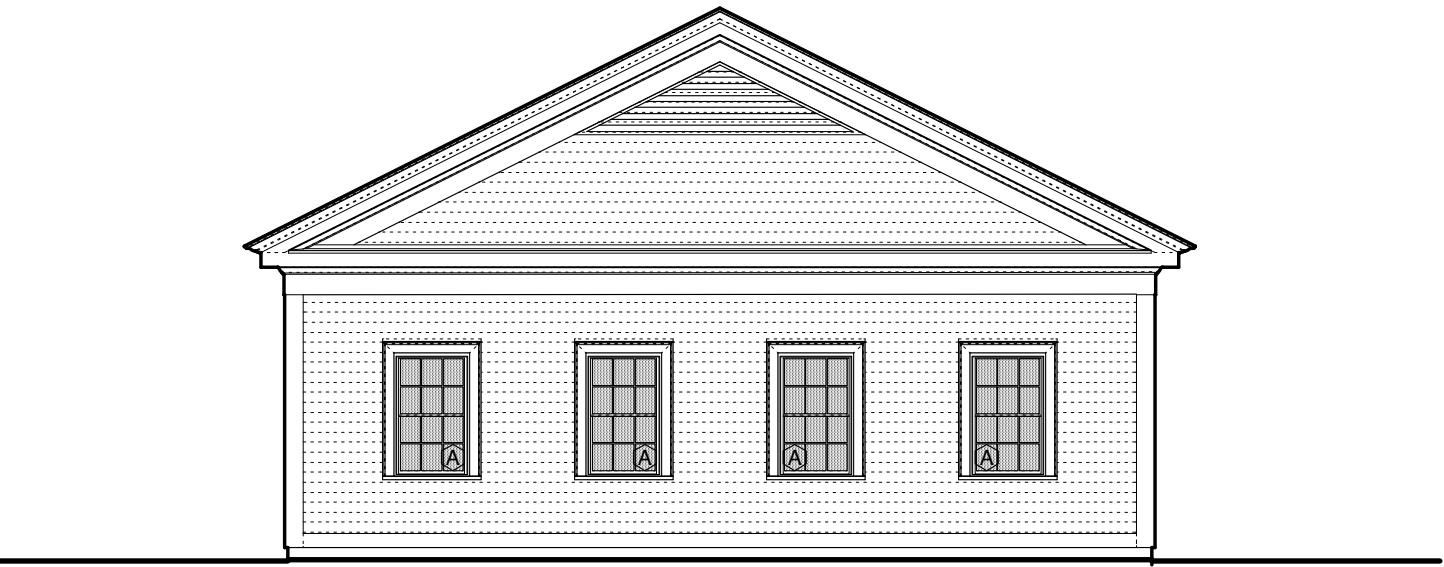
SOUTH



NORTH



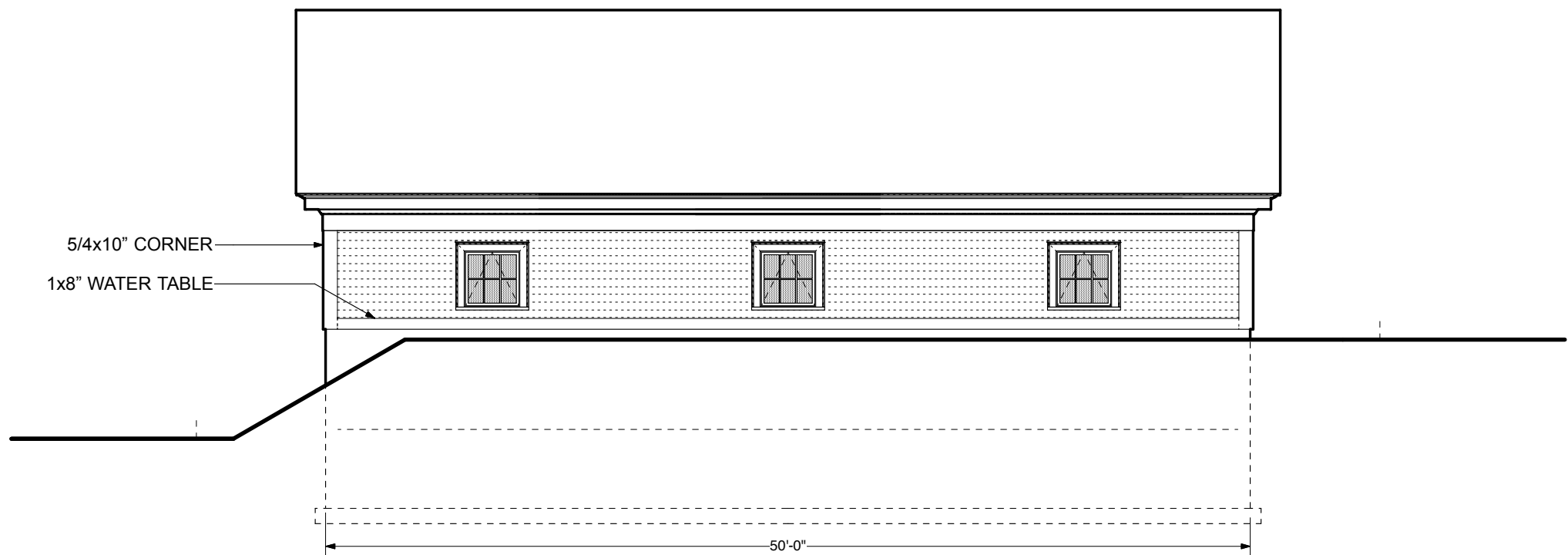
EAST



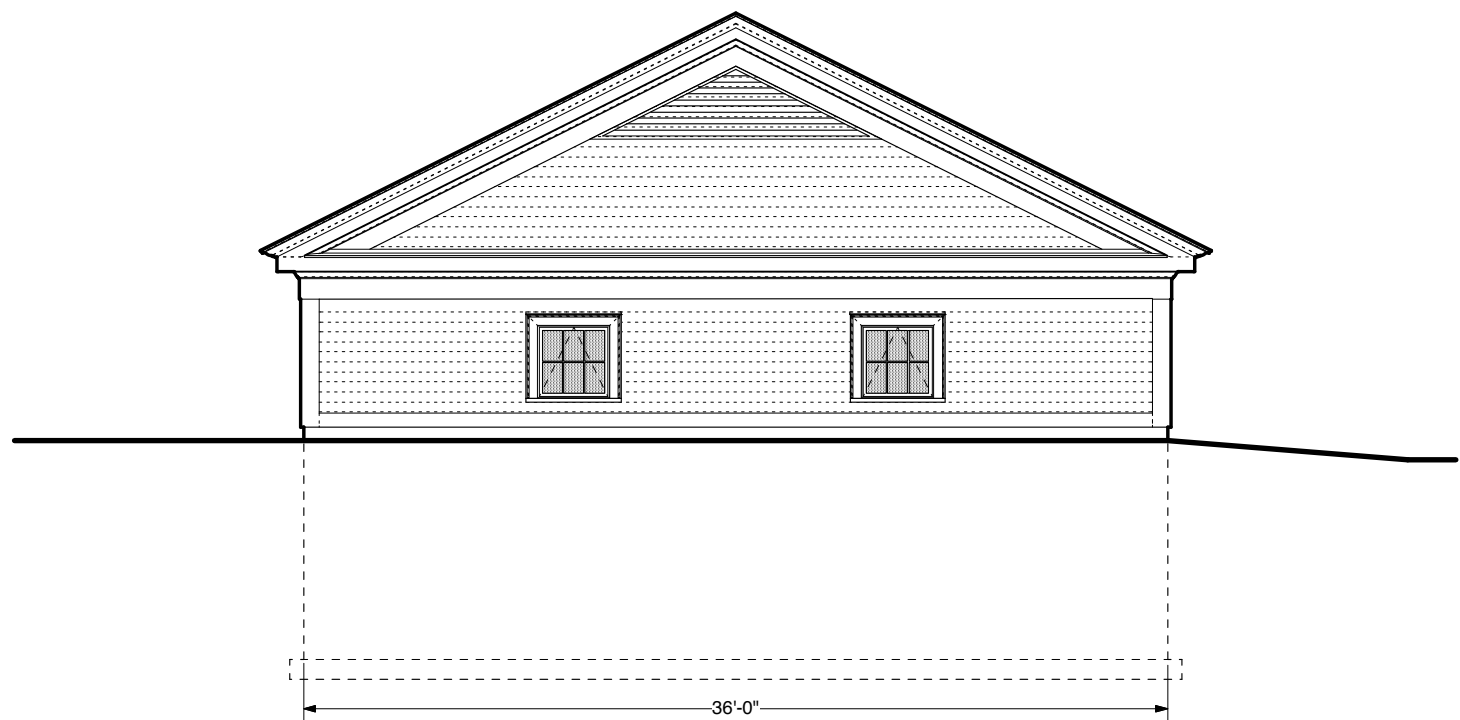
WEST

STORAGE BUILDING

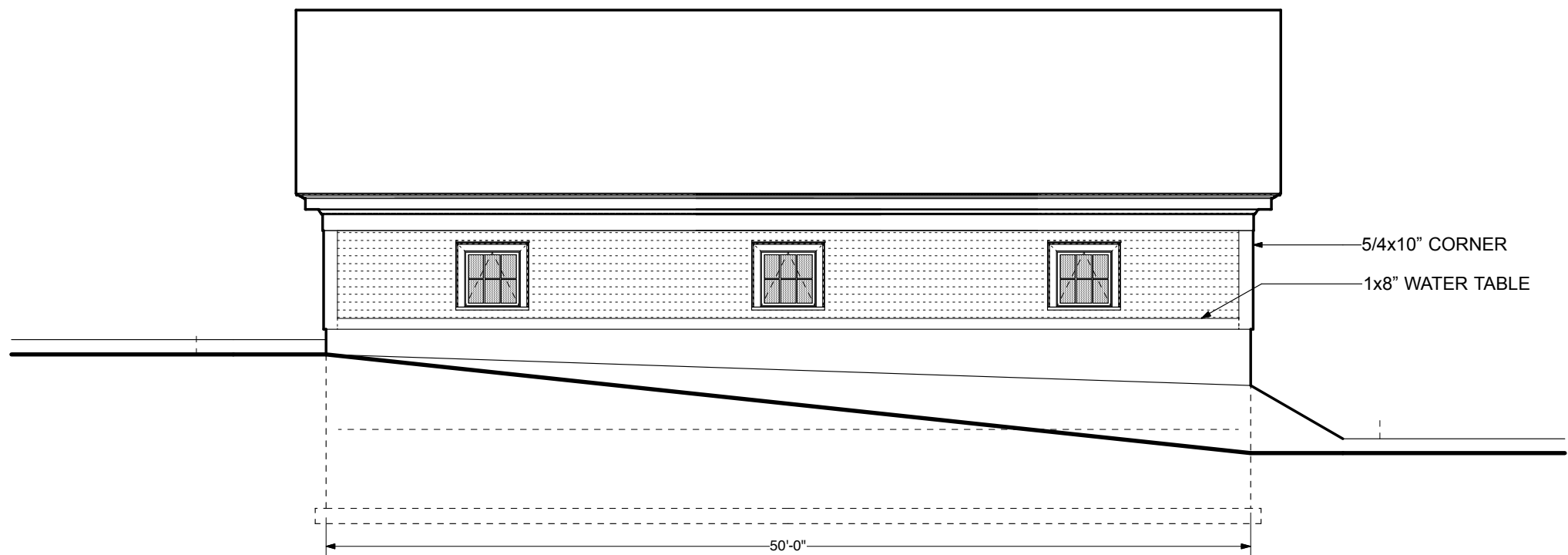
COMPONENT	MATERIAL	FINISH
ROOFING:	ARCH. ASPHALT SHINGLES	CHARCOAL
TRIM:	PVC (SMOOTH)	WHITE
SIDING:	VINYL CLAPBOARD	WHITE
	5" EXPOSURE	
WINDOWS:	VINYL	WHITE
DOORS:	METAL	PTD WHITE
LOUVERS:	ALUMINUM	PTD WHITE



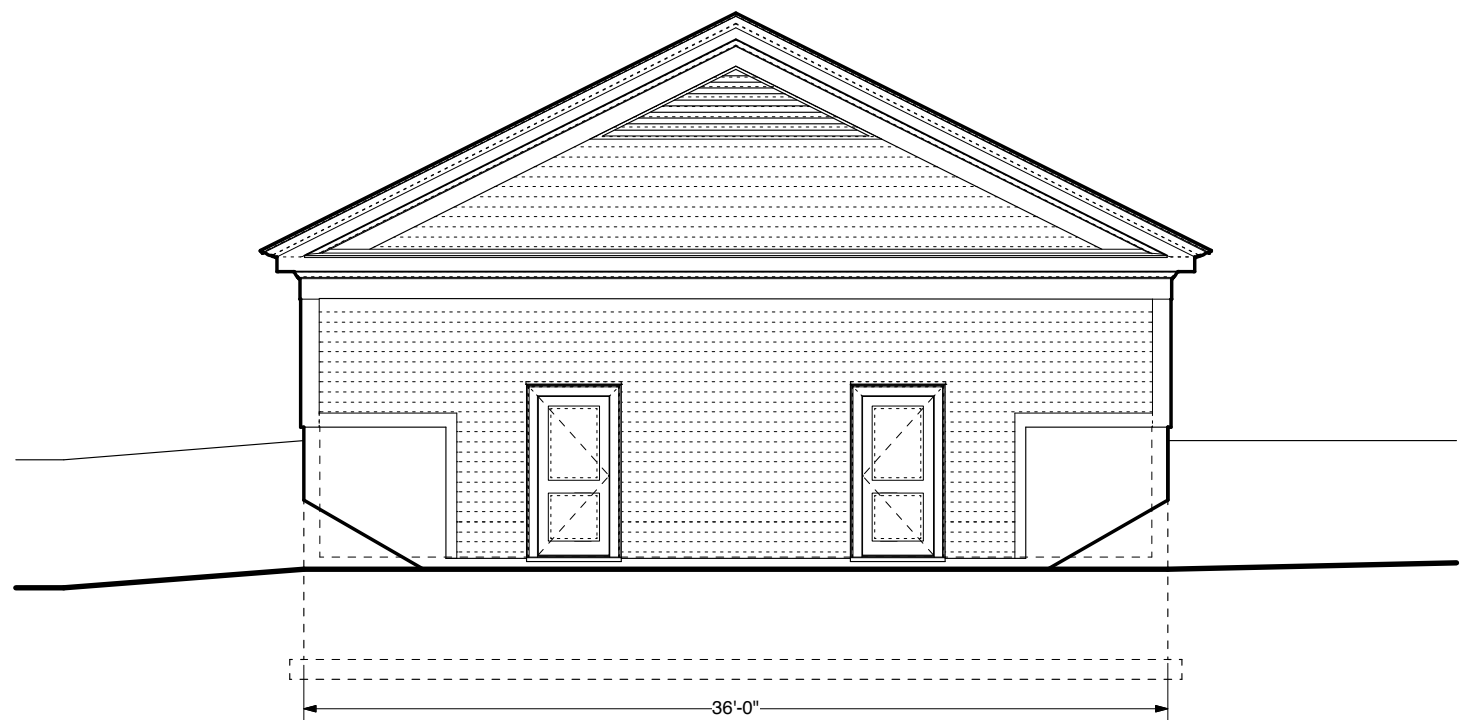
SOUTH



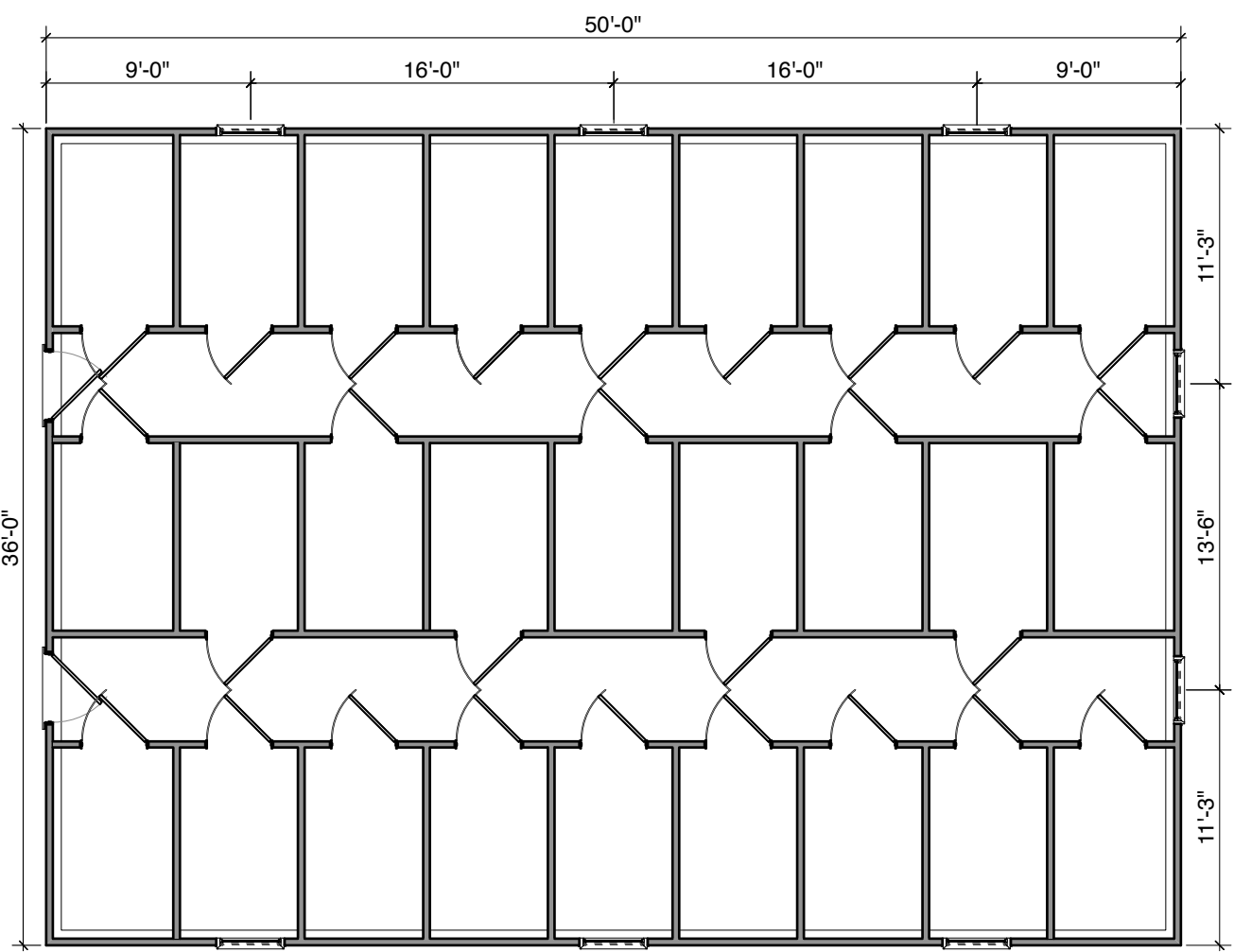
EAST



NORTH



WEST

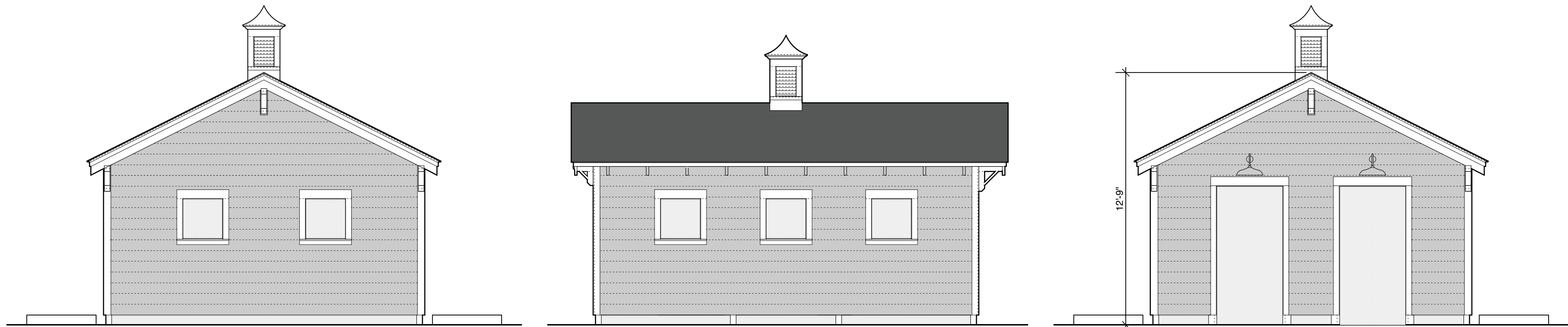


PLAN

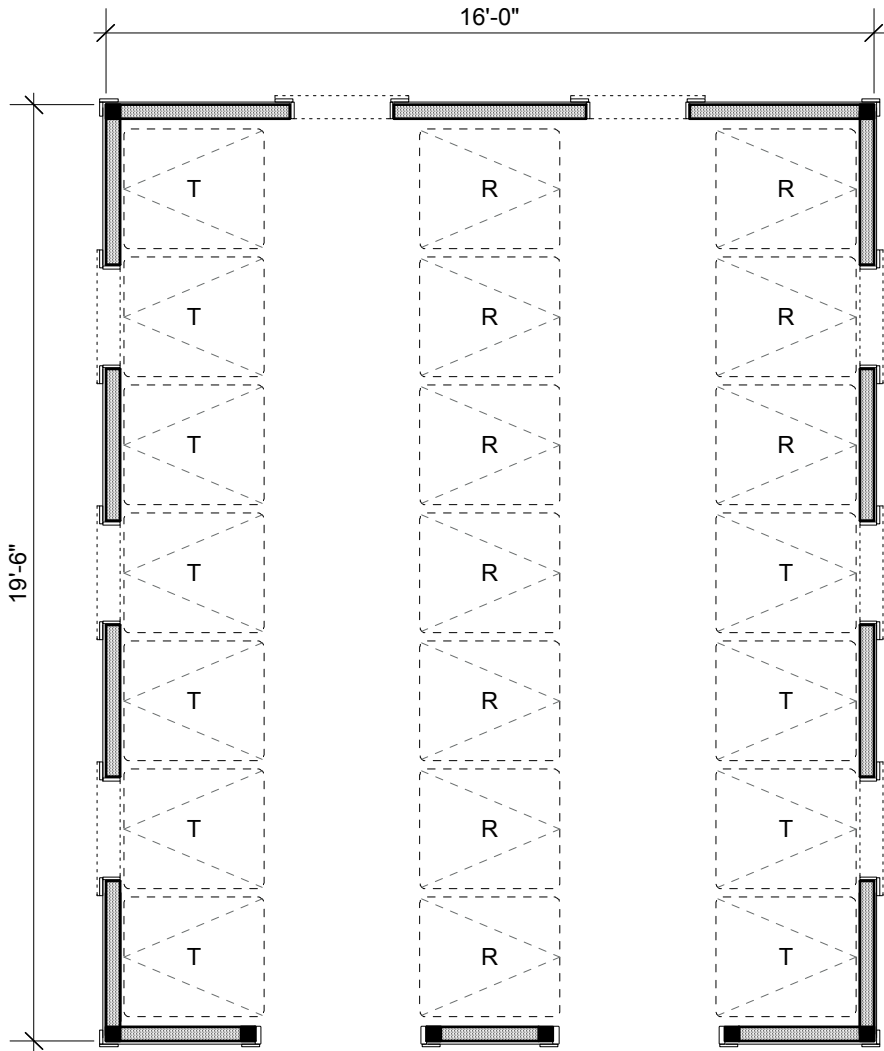
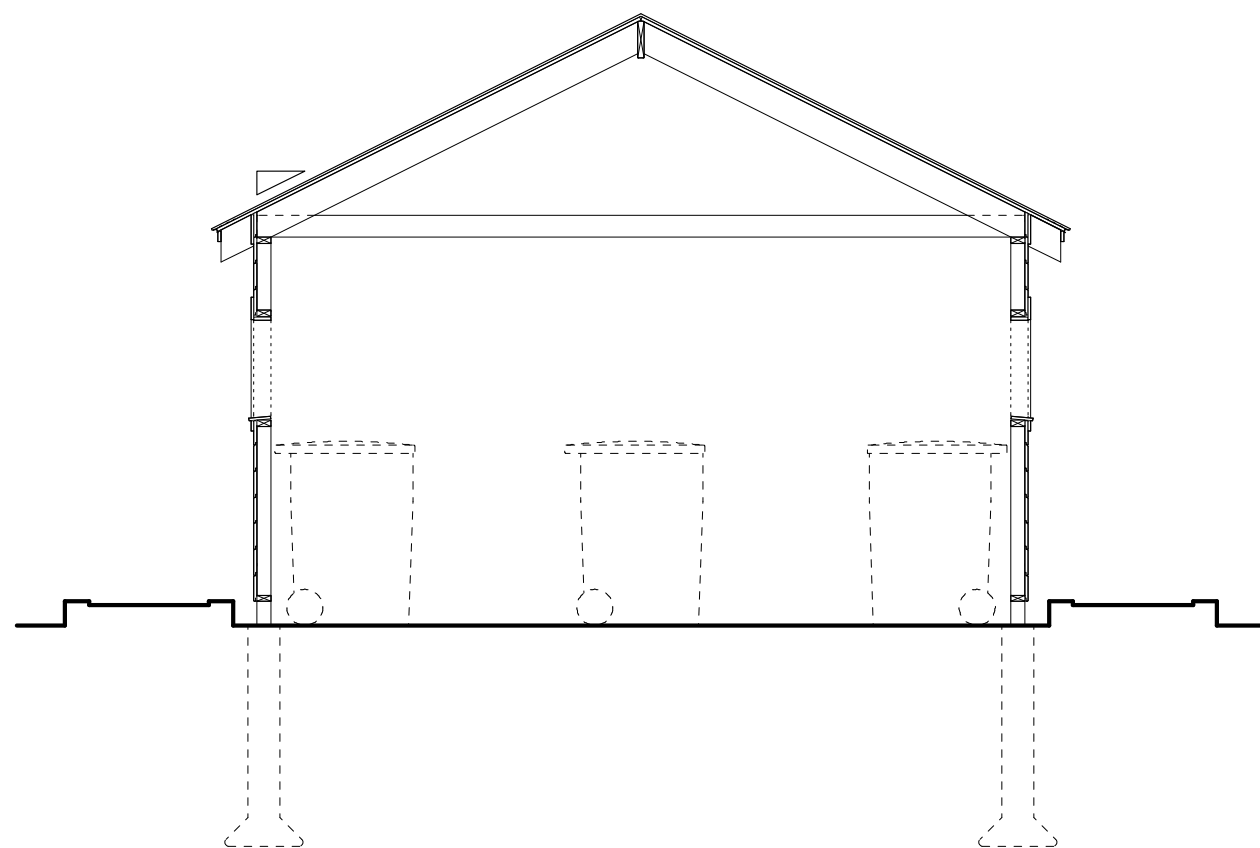
COMPONENT	MATERIAL	FINISH
ROOFING:	ARCH. ASPHALT SHINGLES	CHARCOAL
TRIM:	PVC (SMOOTH)	WHITE
SIDING:	VINYL CLAPBOARD	GREY
	5" EXPOSURE	
WINDOWS:	VINYL	WHITE
DOORS:	METAL	PTD WHITE
LOUVERS:	ALUMINUM	PTD WHITE

DISPOSAL BUILDING

TRASH/ RECYCLING			
BLDG	STUDIO	1-BED	2-BED
1	6	12	6
2		12	
3			
4		12	
5		12	
6		12	
7		12	
8	6		6
9	6		6
10		12	
Total	18	84	18
Multiplier	x.33	x.33	x.50
	6	28	9
Min. 96 gal tote Spaces Provided			
		43	of each T/R
		43	of each T/R

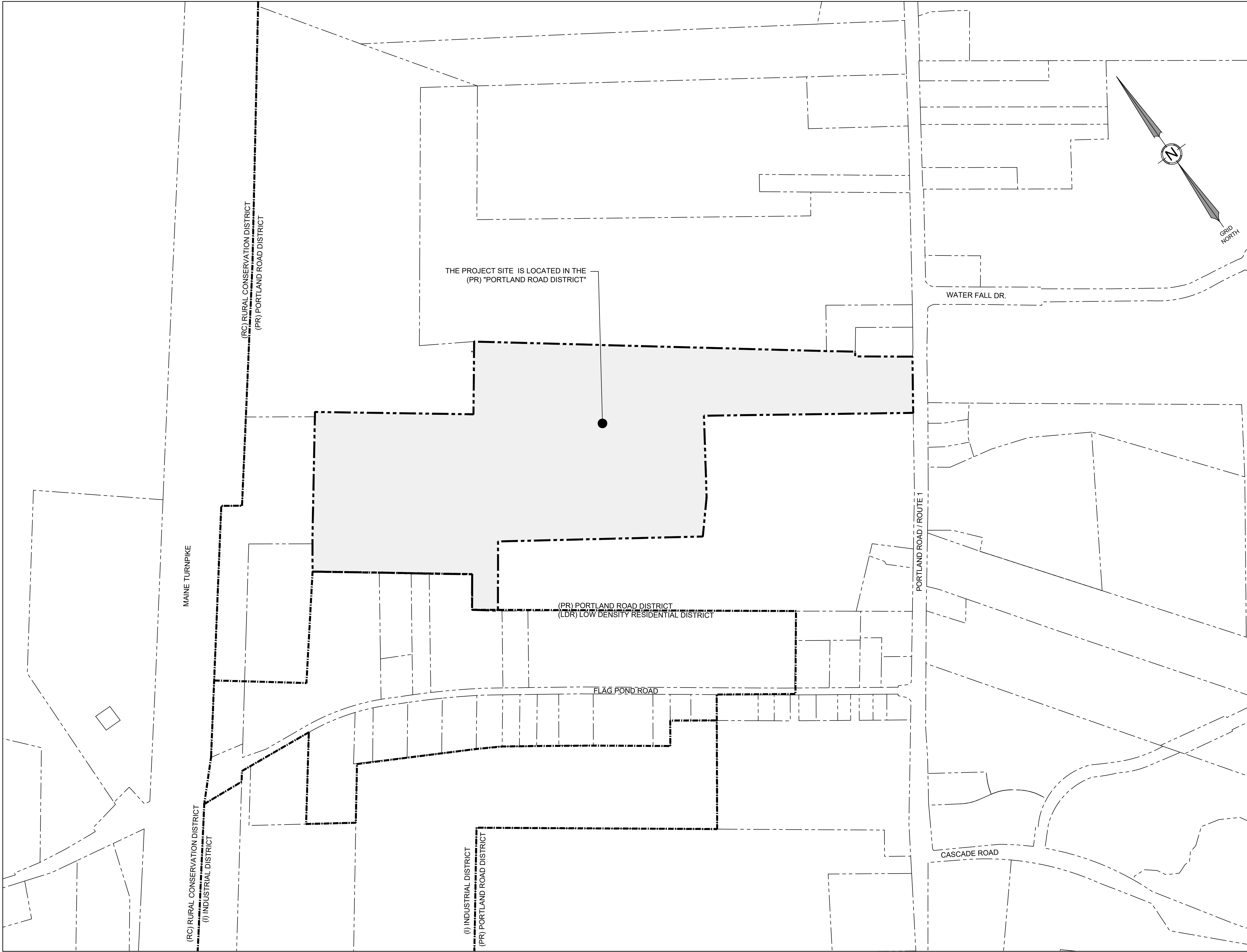


21 TOTE TRASH & RECYCLING SHED



CLOVER LEAF DEVELOPMENT

986 PORTLAND ROAD, SACO, MAINE



LOCATION MAP
1" = 300'

SHEET INDEX

C-0.0	COVER SHEET & LOCATION MAP
S-1.0	BOUNDARY SURVEY
C-1.0	OVERALL SITE PLAN
C-1.1	SITE LAYOUT PLAN
C-1.2	SITE LAYOUT PLAN
C-2.0	GRADING & EROSION CONTROL PLAN
C-2.1	GRADING & EROSION CONTROL PLAN
C-3.0	UTILITY PLAN
C-3.1	UTILITY PLAN
C-4.0	EROSION CONTROL NOTES & DETAILS
C-4.1	SITE DETAILS
C-4.2	SITE DETAILS
C-4.3	STORMWATER DETAILS & NOTES
C-4.4	GRAVEL WETLAND DETAILS
C-5.0	ROADWAY PROFILE
C-6.0	DEMOLITION PLAN
P-1.0	PHOTOMETRIC PLAN
L-1.0	LANDSCAPING PLAN
L-1.1	LANDSCAPING PLAN

APPLICANT:

CLOVER LEAF DEVELOPMENT, LLC.
P.O. BOX 6700
SCARBOROUGH, MAINE 04070

OWNERS:

MITCHELL SHERRY
CONSIGLIO PAMELA
115 U.S. RT 2 SOUTH
ALBURGH, VT, 05440

PROJECT PARCEL SITE

CITY OF SACO TAX ASSESSOR'S MAP & LOT NUMBERS
MAP 63 LOT 3-1

LEGEND

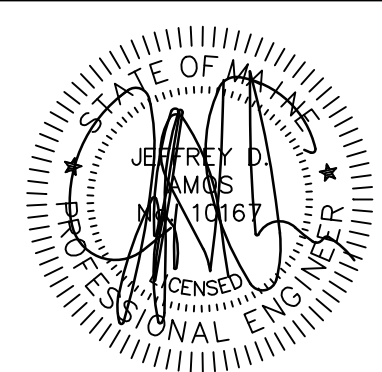
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---	PROPOSED PROPERTY LINE
---	PROPOSED SETBACK LINE
---	EXISTING SETBACK LINE
---	EXISTING EASEMENT
---	PROPOSED EASEMENT
---	ROAD CENTERLINE
---	EXISTING MINOR CONTOUR
---	EXISTING MAJOR CONTOUR
---	PROPOSED CONTOUR
---	EXISTING STORMDRAIN
---	PROPOSED STORMDRAIN
---	EXISTING OVERHEAD ELECTRIC & TELEPHONE
---	PROPOSED OVERHEAD ELECTRIC & TELEPHONE
---	EXISTING UNDERGROUND ELECTRIC & TELEPHONE
---	PROPOSED UNDERGROUND ELECTRIC & TELEPHONE
---	EXISTING EDGE OF PAVEMENT
---	PROPOSED EDGE OF PAVEMENT
---	EXISTING EDGE OF GRAVEL
---	PROPOSED EDGE OF GRAVEL
---	EXISTING TREE LINE
---	PROPOSED TREE LINE
---	SILT FENCE
---	PROPOSED TRANSFORMER
---	PROPOSED LIGHT POLE
---	EXISTING UTILITY POLE
---	PROPOSED CATCH BASIN
---	PROPOSED SPOT GRADE
---	EXISTING SIGN
---	PROPOSED SIGN
---	EXISTING BUILDING
---	PROPOSED BUILDING
---	WETLAND AREA
---	WETLAND ALTERATION AREA
---	PROPOSED PAVEMENT
---	RIPRAP

PREPARED BY:

CIVIL ENGINEER:
TERRADYN CONSULTANTS, LLC
41 CAMPUS DR. SUITE 101
NEW GLOUCESTER, MAINE 04260
(207)926-5111

SURVEYOR:
OWEN HASKELL INC.
390 US ROUTE 1, UNIT 10
FALMOUTH, MAINE 04105
774-0424

WETLANDS SURVEY:
MARK HAMPTON ASSOCIATES
PO BOX 1931
PORTLAND, MAINE 04104
(207) 757-2900



DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS	BY
2	4/4/2022	FINAL SUBDIVISION SUBMISSION	APPD
1	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	BY

585 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

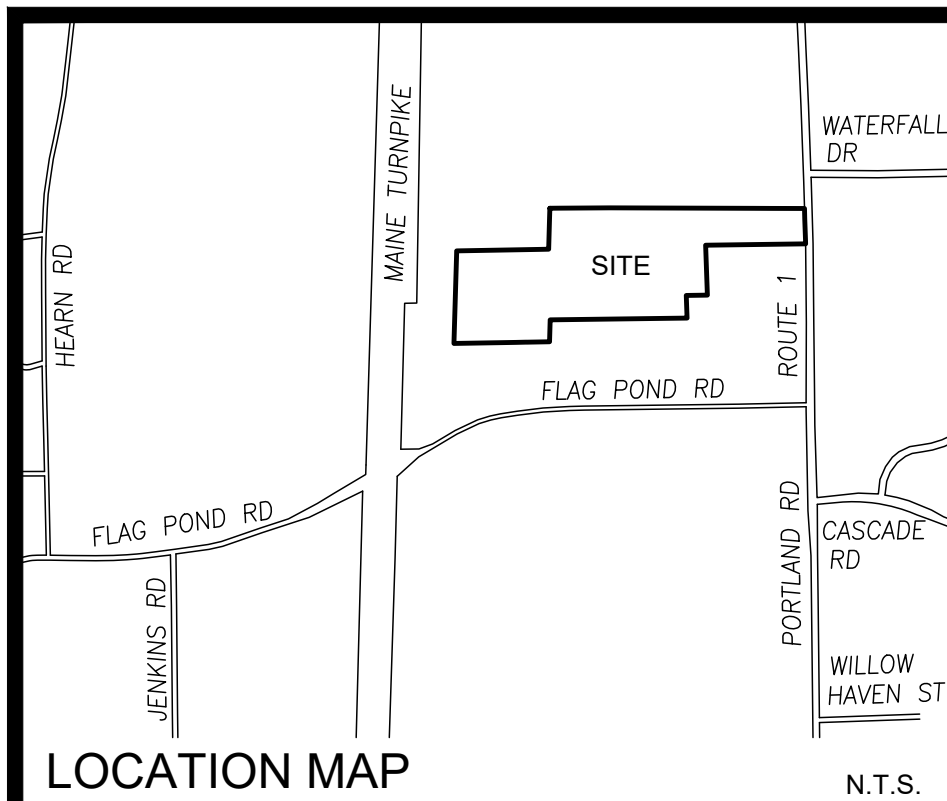
OFFICE: (207) 926-5111
www.terradync consultants.com

CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME	SHEET TITLE: COVER/LOCATION MAP	CLIENT: CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
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DATE:	4/4/2022
SCALE:	
DESIGNED:	JDA
JOB NO:	2104
FILE:	2104 C.DWG
SHEET	C-0.0

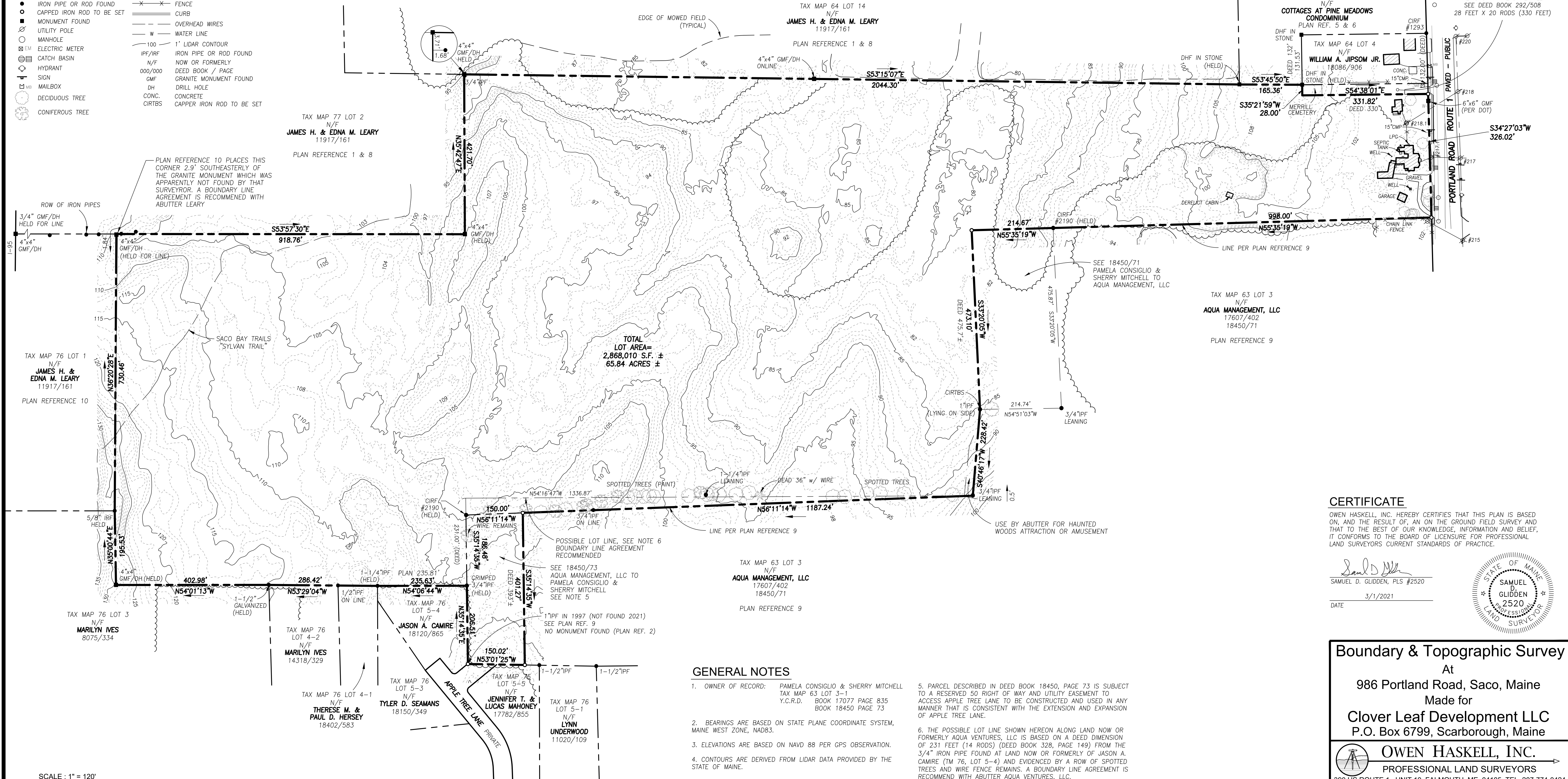
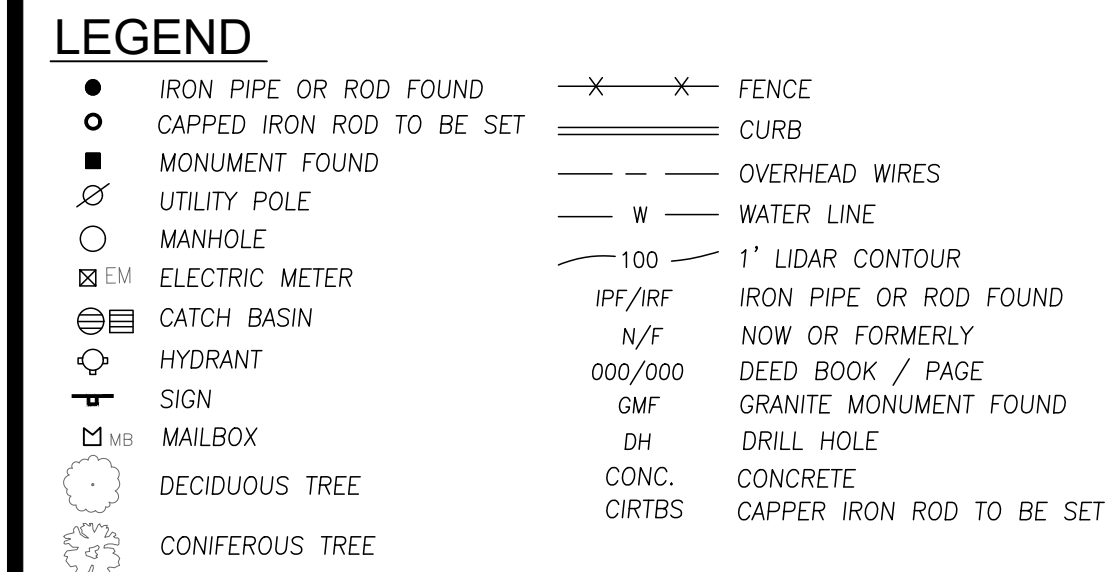


PLAN REFERENCES

1. PLAN OF MERRILL J. GAY PROPERTY, SACO, MAINE APR. 4, 1979 BY WILLIAM STANTON ASSOC. RECORDED IN PLAN BOOK 97, PAGE 35.
2. FINAL PLAN, APPLE TREE LANE SUBDIVISION, 107 FLAG POND ROAD, SACO, MAINE MADE FOR BILL KOCH MARCH 2, 2016 BY CULLENBERG LAND SURVEYING RECORDED IN PLAN BOOK 381, PAGE 44.
3. MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP, STATE HIGHWAY 'A', FEDERAL PROJECT NO. 118-A(4) RTE. 1, SACO, YORK COUNTY APRIL 1940 S.H.C. FILE NO. 16-56.
4. U.S. ROUTE ONE SEWER EXTENSION, CASCADE ROAD TO WEST SCARBOROUGH TOWN LINE, SEWER EXTENSION PLAN & PROFILE, CITY OF SACO, MAINE JANUARY 15, 2019, REV. 1 1/31/2020, BY ATLANTIC RESOURCE CONSULTANTS.
5. COTTAGES AT PINE MEADOWS, OVERALL SITE LAYOUT & MATERIALS PLAN, BILL KOCH & SANDRA MURRAY APRIL 9, 2018, REV. 4 2/2/20 BY ATLANTIC RESOURCE CONSULTANTS RECORDED IN PLAN BOOK 960, PAGE 1.
6. PLAN SHOWING A BOUNDARY SURVEY MADE FOR BILL KOCH AND SANDRA MURRAY, PARCEL LOCATED AT 994 PORTLAND ROAD (U.S. ROUTE #1), BY DOW & COULOMBE, INC., DATED SEPTEMBER 11, 2014 AND REVISED THROUGH 20-20-2015.
7. HIGHWAY '1' SACO, YORK COUNTY, FEDERAL AID PROJECT NO. STP-6615(00)X JANUARY 1999 D.O.T. FILE NO. 16-375.
8. MERRILL GAY SURVEY (COPY OF PLAN MADE IN 1888), SACO, MAINE 12/9/77 BY WILLIAM STANTON ASSOCIATES RECORDED IN PLAN BOOK 90, PAGE 80.
9. STANDARD BOUNDARY SURVEY, AQUABOGGIN, U.S. ROUTE ONE, SACO, MAINE 04072 FOR WESLEY HURST, JR. & WAYNE HURST NOV. 1977, REV. 2 02-02-98 BY BH2M.
10. STANDARD BOUNDARY SURVEY, PROPERTY OF JAMES H. AND EDNA M. LEARY ON FLAG POND ROAD, SACO, MAINE FOR JAMES H. LEARY FEBRUARY 1997 BY ROSS BOUNDARY SURVEYS.

UTILITY NOTE

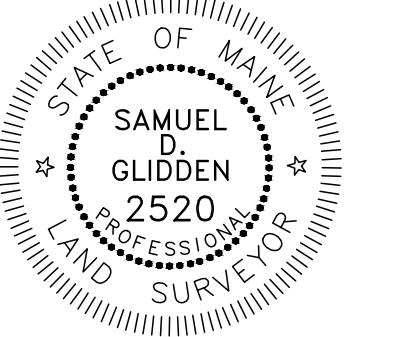
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION OR DEPTH AS INDICATED. THE SURVEYOR CERTIFIES THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE. THE SURVEY WAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.



CERTIFICATE


OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

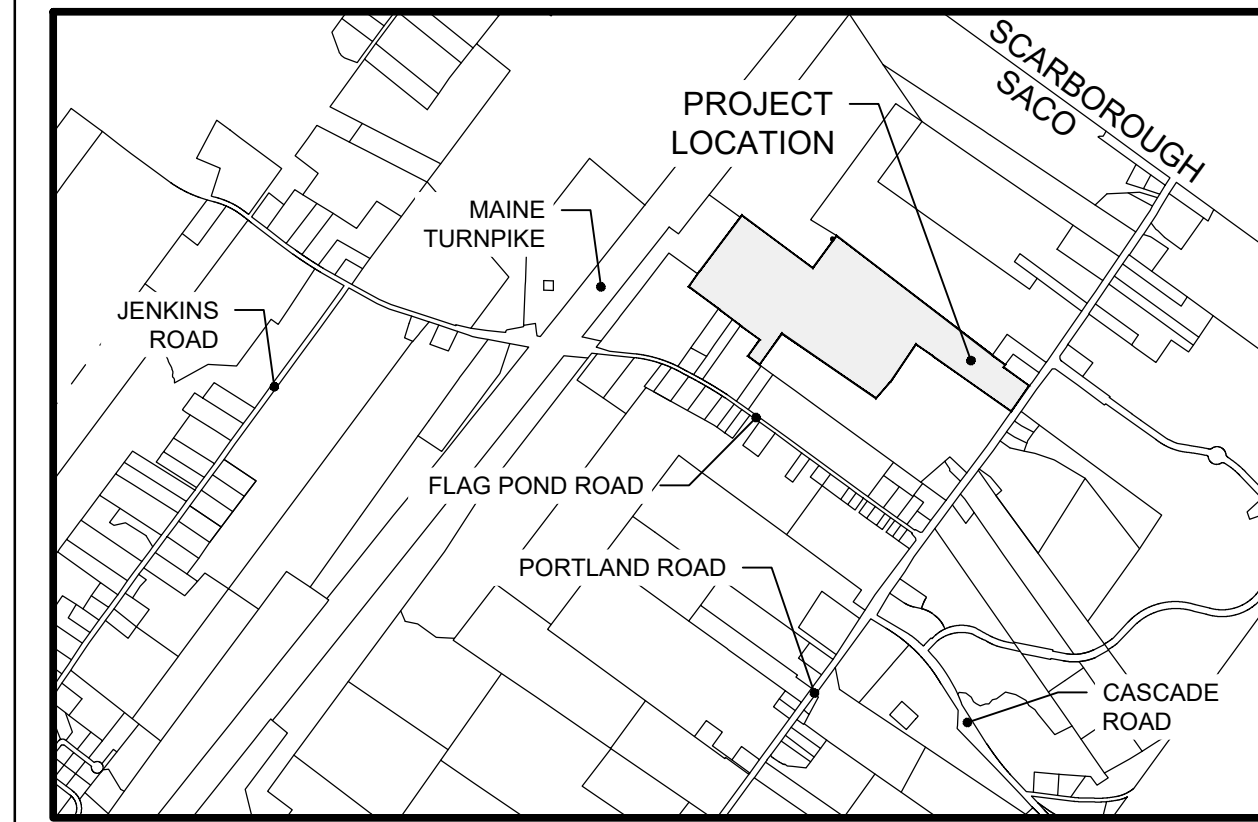
Samuel D. Glidden
SAMUEL D. GLIDDEN, PLS #2520
3/1/2021
DATE



Boundary & Topographic Survey
 At

986 Portland Road, Saco, Maine
Made for
Clover Leaf Development LLC
P.O. Box 6799, Scarborough, Maine

	<h1 style="margin: 0;">OWEN HASKELL, INC.</h1> <p style="margin: 0;">PROFESSIONAL LAND SURVEYORS</p> <p style="margin: 0;">390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424</p>
DRAWN BY: SDG /JLW CHECKED BY: SDG	DATE: FEB. 23, 2021 SCALE: 1" = 120' JOB NO. 2020-392 S-Y



LOCATION MAP
SCALE: 1"=2,000 FT

TAX MAP 77
LOT 2
N/F
JAMES H. &
EDNA M. LEARY
11917/161

TAX MAP 77
LOT 2
N/F
JAMES H. &
EDNA M. LEARY
11917/161

TAX MAP 76
LOT 3
N/F
MARILYN IVES
8075/334

TAX MAP 76
LOT 4-2
N/F
MARILYN IVES
14318/329

TAX MAP 76
LOT 4-1
N/F
THERESE M. &
PAUL D.
HERSEY
18402/583

TAX MAP 76
LOT 5-4
N/F
JASON A. CAMIRE
18120/865

TAX MAP 76
LOT 5-3
N/F
TYLER D. SEAMANS
418150/349

TAX MAP 76
LOT 5-35
N/F
JENNIFER T. & LUCAS MAHONEY
17782/855

TAX MAP 63
LOT 3
N/F
AQUA MANAGEMENT,
LLC
17607/402
18450/71

TAX MAP 76
LOT 5-1
N/F
LYNN UNDERWOOD
111020/109

APPROVED: CITY OF SACO
PLANNING BOARD

DATE

GRAPHIC SCALE



(IN FEET)
1 inch = 120 ft.

GENERAL NOTES

1. THE RECORD OWNER OF THE PARCEL IS SHERRY MITCHELL & PAMELA CONSIGLIO AND RECORDED IN THE YORK COUNTY OF DEEDS IN BOOK 17077 PAGE 835 & BOOK 18450 PAGE 73.
2. THE PROPERTY IS SHOWN AS LOT 3-1 ON THE CITY OF SACO TAX MAP 63 AND IS LOCATED PORTLAND ROAD DISTRICT (PR).
3. BOUNDARY & TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON A BOUNDARY SURVEY BY OWEN HASKELL, INC., FALMOUTH MAINE, PLAN TITLED "BOUNDARY AND TOPOGRAPHIC SURVEY AT 986 PORTLAND ROAD SACO, MAINE MADE FOR CLOVER LEAF DEVELOPMENT LLC, P.O. BOX 6799 SCARBOROUGH, MAINE" DATED FEBRUARY 23, 2021.
4. THE TOTAL AREA OF THIS PROPERTY IS 65.84 AC.
5. SPACE AND BULK CRITERIA (PR):
MIN. LOT SIZE : 20,000 SF (SEWERED AND UNSEWERED)
MIN. LOT AREA PER DWELLING UNIT : 7,500 SF (SEWERED)
30,000 SF (UNSEWERED)
PROPOSED DENSITY: 65.84 AC/120 UNITS= 1 UNIT/23,900 SF
MIN. STREET FRONTAGE: 200' FOR ROUTE 1, 50' ALL OTHER ROADS
MIN. FRONT SETBACK: 40' FOR ROUTE 1, CASCADE & FLAG POND ROADS
25' ALL OTHER ROADS
MIN. SIDE SETBACK: 20'
MIN. REAR SETBACK: 20'
MAX. LOT COVERAGE: 60%
MAX. HEIGHT: 60'
6. THE WETLANDS ON THIS PLAN WERE DELINEATED BY MARK HAMPTON ASSOCIATES, INC., PORTLAND, MAINE.

7. TOTAL PROJECT WETLAND ALTERATION IS 18,966 SF. NO ADDITIONAL WETLAND ALTERATION AREA IS PERMISSIBLE WITHOUT FURTHER WETLAND PERMITTING. THE PROJECT RECEIVED THE FOLLOWING PERMITS: NRPA PERMIT #L-29664-TC-A-N & A.C.O.E. PERMIT # NAE-2021-03258.
8. THIS PROJECT REQUIRES A SITE LOCATION OF DEVELOPMENT ACT PERMIT AND NATURAL RESOURCE PROTECTION ACT PERMIT (# L-29664-TC-A-N) FROM THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
9. PROJECT STORMWATER DESIGN FEATURES THE FOLLOWING:
 - TOTAL IMPERVIOUS AREA: 173,523 SF (3.98 ACRES)
 - TOTAL DEVELOPED AREA: 307,870 SF (7.07 ACRES)
10. THE STORMWATER POND WAS DESIGNED TO HANDLE AN ADDITIONAL 34,380 SF OF IMPERVIOUS AREA AND 14,173 SF OF LANDSCAPED AREA TO ACCOMMODATE POTENTIAL FUTURE DEVELOPMENT.
11. THE OWNER SHALL BE REQUIRED TO INSPECT THE STORMWATER MANAGEMENT SYSTEM ON AN ANNUAL BASIS, PERFORM REQUIRED ANNUAL MAINTENANCE, AND SUBMIT AN ANNUAL REPORT TO DPW BY JULY 15TH OF EACH CALENDAR YEAR. IN ADDITION, THE APPLICANT IS REQUIRED TO EXECUTE FORM 1 WITHIN \$XII OF THE ZONING ORDINANCE PRIOR TO THE START OF CONSTRUCTION AND FORM 2 AS PART OF THE FUTURE ANNUAL REPORTING EFFORT.
12. THE FUTURE OUTPARCEL ADJACENT TO PORTLAND ROAD SHOULD BE ACCESSED FROM THE NEW ACCESS DRIVE INTO THE SITE. ANY ADDITIONAL ACCESS FROM PORTLAND ROAD WILL BE DISCOURAGED IN THE FUTURE AND IF ALLOWED, WILL BE RESTRICTED TO RIGHT-IN AND RIGHT-OUT.
13. TOTAL PROJECT OPEN SPACE IS APPROXIMATELY 253,649 SF (5.82 AC). THIS INCLUDES ALL AREAS WITHIN THE PROJECT BOUNDARY, NOT INCLUDING ROADWAYS, PARKING AREAS, BUILDINGS & THE STORMWATER POND AREA. TABLE 7.1 OF THE SUBDIVISION ORDINANCE REQUIRES 7.5% OF THE LOT SET ASIDE AS OPEN SPACE FOR PROJECT WITH AN AVERAGE LOT SIZE (DENSITY) OF 1 UNIT PER 20,000-39,999 SF. 5.82 AC/65.84 AC X 100%=8.8%.
14. FAILURE TO COMMENCE SUBSTANTIAL CONSTRUCTION OF THE SUBDIVISION WITHIN TWO YEARS OF THE DATE OF APPROVAL AND SIGNING OF THE PLAN SHALL RENDER THE PLAN NULL AND VOID. BEFORE THE TWO YEARS EXPIRES, AND OWNER OF A SUBDIVISION MAY APPLY TO THE PLANNING BOARD FOR A ONE YEAR EXTENSION OF THE APPROVAL OF A SUBDIVISION IF THE SUBDIVIDER HAS NOT MET THE CONDITIONS OF THIS PARAGRAPH. THE PLANNING BOARD MAY REQUIRE THAT THE SUBDIVISION MEET ANY NEW REGULATIONS OR ORDINANCES.

LIMIT OF OPEN SPACE
NOTE: OPEN SPACE SHALL NOT BE USED
FOR FUTURE BUILDING LOTS AND SHALL
NOT BE FURTHER SUBDIVIDED.

NET RESIDENTIAL ACREAGE CALCULATION:

TOTAL PARCEL AREA	=	2,868,010 SF
INACCESSIBLE AREAS	=	0 SF
FLOODWAYS OR FLOOD ZONES	=	0 SF
WETLANDS	=	906,616 SF
STREAMS	=	0 SF
STEEP SLOPES (>20%)	=	8,766 SF
NET RESIDENTIAL ACREAGE	=	1,952,628 SF
ALLOWABLE DENSITY (PR)	=	1 UNIT/7,500 SF
ALLOWABLE NUMBER OF UNITS	=	260.35

GENERAL NOTES (CONTINUED)

14. PARKING CALCULATION (TOTAL PROJECT)

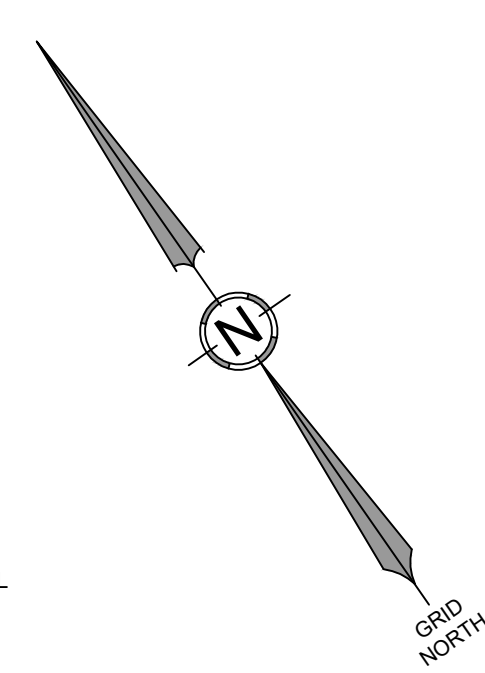
USE	DENSITY	UNITS	REQUIRED SPACES
RESIDENTIAL MULTIFAMILY	1.5 PER ONE BEDROOM	102	153
	2 PER TWO BEDROOM	18	36
VISITORS	1 PER EVERY 6 UNITS	120	20
		TOTAL PROPOSED SPACES:	211

PARKING CALCULATION (FIRST PHASE)

USE	DENSITY	UNITS	REQUIRED SPACES
RESIDENTIAL MULTIFAMILY	1.5 PER ONE BEDROOM	54	84
	2 PER TWO BEDROOM	6	12
VISITORS	1 PER EVERY 6 UNITS	60	10
		TOTAL PROPOSED SPACES:	106

CONDITIONS OF APPROVAL

1. MAINEDOT IS SCHEDULED TO RE-PAVES PORTLAND ROAD IN 2023; THEREFORE, ALL WORK WITHIN THE PORTLAND ROAD ROADWAY SURFACE (UTILITY IMPROVEMENTS, STORM DRAIN IMPROVEMENTS AND CURB LINE MODIFICATIONS) ASSOCIATED WITH THIS DEVELOPMENT SHALL BE COMPLETED BEFORE SEPTEMBER 15, 2022.
2. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF A STREET OPENING PERMIT TO BE ISSUED BY DPW. THE DEVELOPER SHALL BE RESPONSIBLE FOR APPLYING AND OBTAINING A STREET OPENING PERMIT PRIOR TO THE START OF ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
3. A FINAL SET OF CONSTRUCTION DRAWINGS FOR EACH PHASE OF THE PROJECT SHALL BE PROVIDED TO THE CITY PRIOR TO THE START OF CONSTRUCTION FOR EACH PHASE.
4. THE APPLICANT SHALL BE REQUIRED TO PERFORM ROUTINE INSPECTION AND MAINTENANCE OF THE STORMWATER FACILITIES AS OUTLINED IN THE OPERATIONS AND MAINTENANCE MANUAL DEVELOPMENT SPECIFICALLY FOR THE SITE. A COPY OF THE ANNUAL INSPECTION AND MAINTENANCE REPORT INCLUDING INSPECTION LOG(S) SHALL BE SUBMITTED ANNUALLY (BY JULY 15TH OF EACH YEAR) TO THE CITY PUBLIC WORKS DEPARTMENT.
5. PRIOR TO THE START OF CONSTRUCTION, THE APPLICANT SHALL BE REQUIRED TO EXECUTE FORM 1 CONTAINED IN ARTICLE XII OF THE ZONING ORDINANCE AND PROVIDE A RECORDED COPY TO THE PLANNING DEPARTMENT.
6. PRIOR TO THE START OF CONSTRUCTION, THE BUFFER AREAS SHOULD BE MARKED IN THE FIELD AND COPIES OF THE RECORDED BUFFER DEED RESTRICTIONS SHALL BE PROVIDED TO THE PLANNING DEPARTMENT.
7. THE DESIGN ENGINEER SHALL BE REQUIRED TO INSPECT THE CONSTRUCTION AND STABILIZATION OF THE GRAVEL WETLAND BASIN TO BE CONSTRUCTED ON THE SITE IN ACCORDANCE WITH THE REQUIREMENTS CONTAINED IN CHAPTER 7 OF THE MDEPS VOLUME III STORMWATER BMP TECHNICAL DESIGN MANUAL. INSPECTIONS SHALL BE PERFORMED AS DETAILED IN THE CONSTRUCTION OVERSIGHT REQUIREMENTS CONTAINED IN SECTION 7.4.
8. AS PART OF THE PROJECT'S AS-BUILT CERTIFICATION FOR ROADWAY AND UTILITY INFRASTRUCTURE, THE APPLICANT SHALL PROVIDE A STORMWATER BASIN AS-BUILT CERTIFICATION. PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ANY UNIT, THE APPLICANT SHALL SUBMIT EVIDENCE IN THE FORM OF A LETTER WITH AS-BUILT SURVEY PLAN PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER WHO EITHER PREPARED THE POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN AND ITS ASSOCIATED FACILITIES OR SUPERVISED THE PLAN AND FACILITIES CONSTRUCTION AND IMPLEMENTATION. THE LETTER OR PLAN SHALL CERTIFY THAT THE STORMWATER MANAGEMENT FACILITIES HAVE BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN AND THAT THEY WILL FUNCTION AS INTENDED ON SAID PLAN. THE AS-BUILT SURVEY PLAN SHALL BE PERFORMED FOR ALL POST-CONSTRUCTION STORMWATER FACILITIES TO DOCUMENT GENERAL CONFORMANCE WITH THE APPROVED PLAN.



TAX MAP 77
LOT 2
N/F
JAMES H. &
EDNA M. LEARY
11917/161

TAX MAP 64
LOT 5
N/F
COTTAGES AT PINE MEADOWS
CONDOMINIUM

CEMETERY
HEIRS OF
PHINEAS
MERRILL
292/508

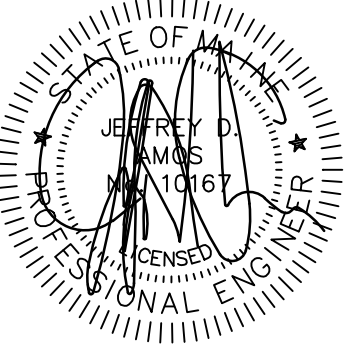
TAX MAP 64
LOT 4
N/F
WILLIAM A.
JIPSON JR.
18086/906

TAX MAP 63
LOT 3
N/F
AQUA MANAGEMENT,
LLC
17607/402
18450/71

PROPOSED
DEVELOPMENT
AREA

APPROXIMATE
PHASE LINE

HAMMERHEAD TO BE
CONSTRUCTED
DURING PHASE 1



DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS	BY
2	4/4/2022	FINAL SUBDIVISION SUBMISSION	
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565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260



PERMIT DRAWING
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PROJECT:
CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME

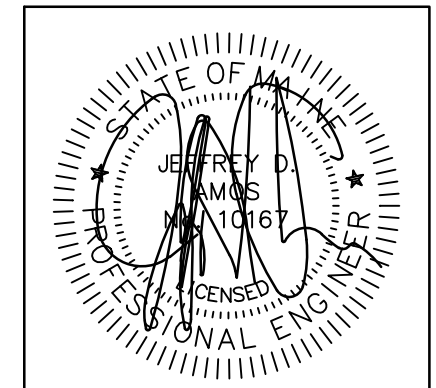
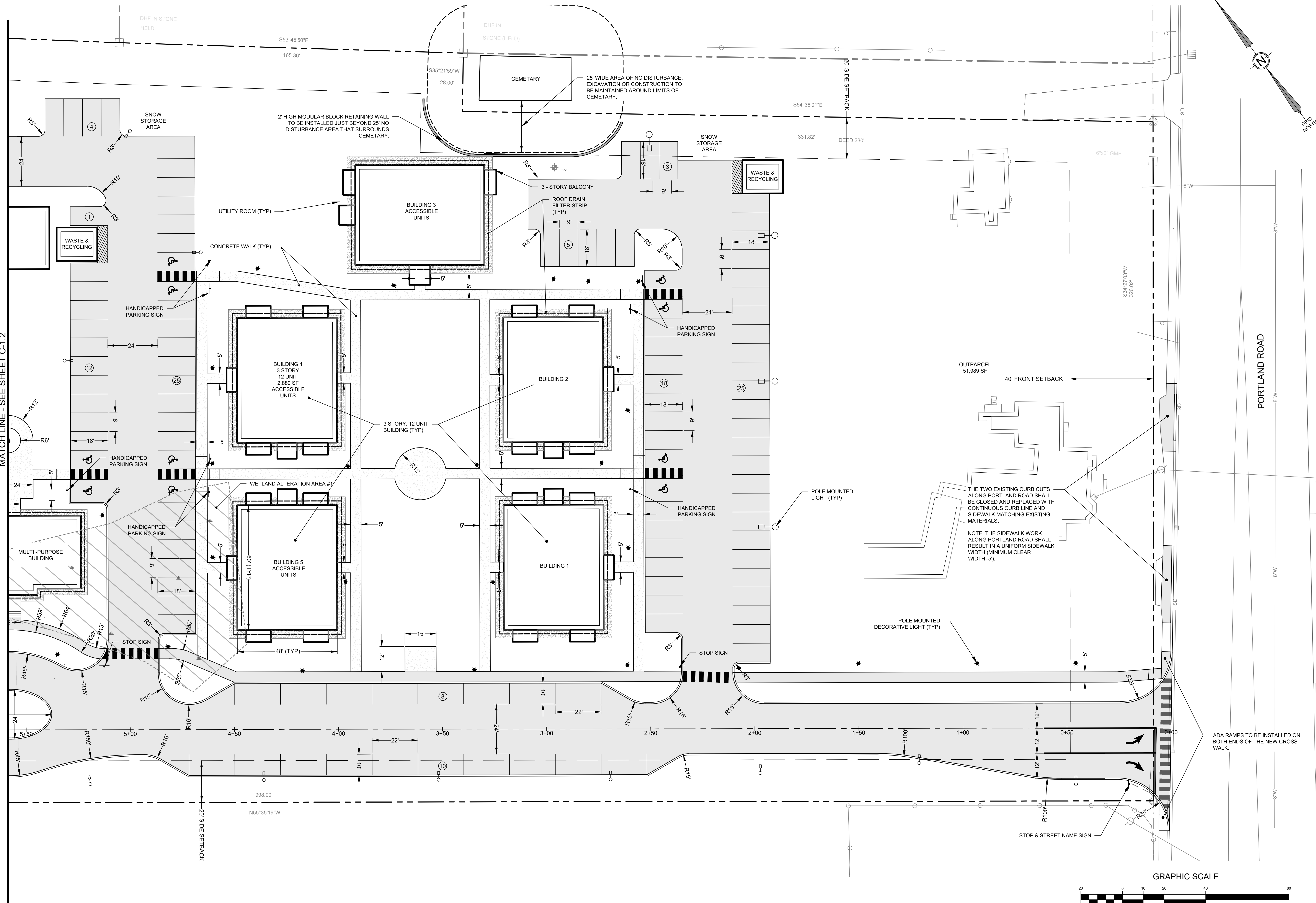
SHEET TITLE:
OVERALL PLAN

CLIENT:
CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6799
SCARBOROUGH, MAINE 04070

DATE: 4/4/2022
SCALE: 1"=120'
DESIGNED: JDA
JOB NO: 2104
FILE: 2104 B
SHEET

C-1.0

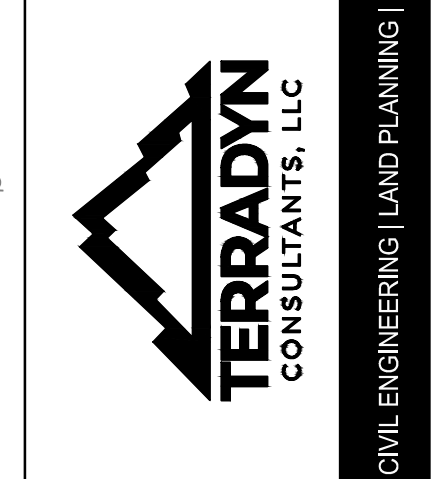
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DATE: 4/4/2022
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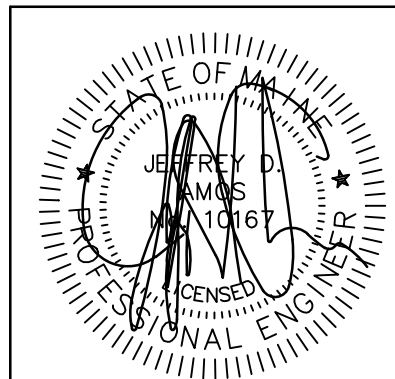
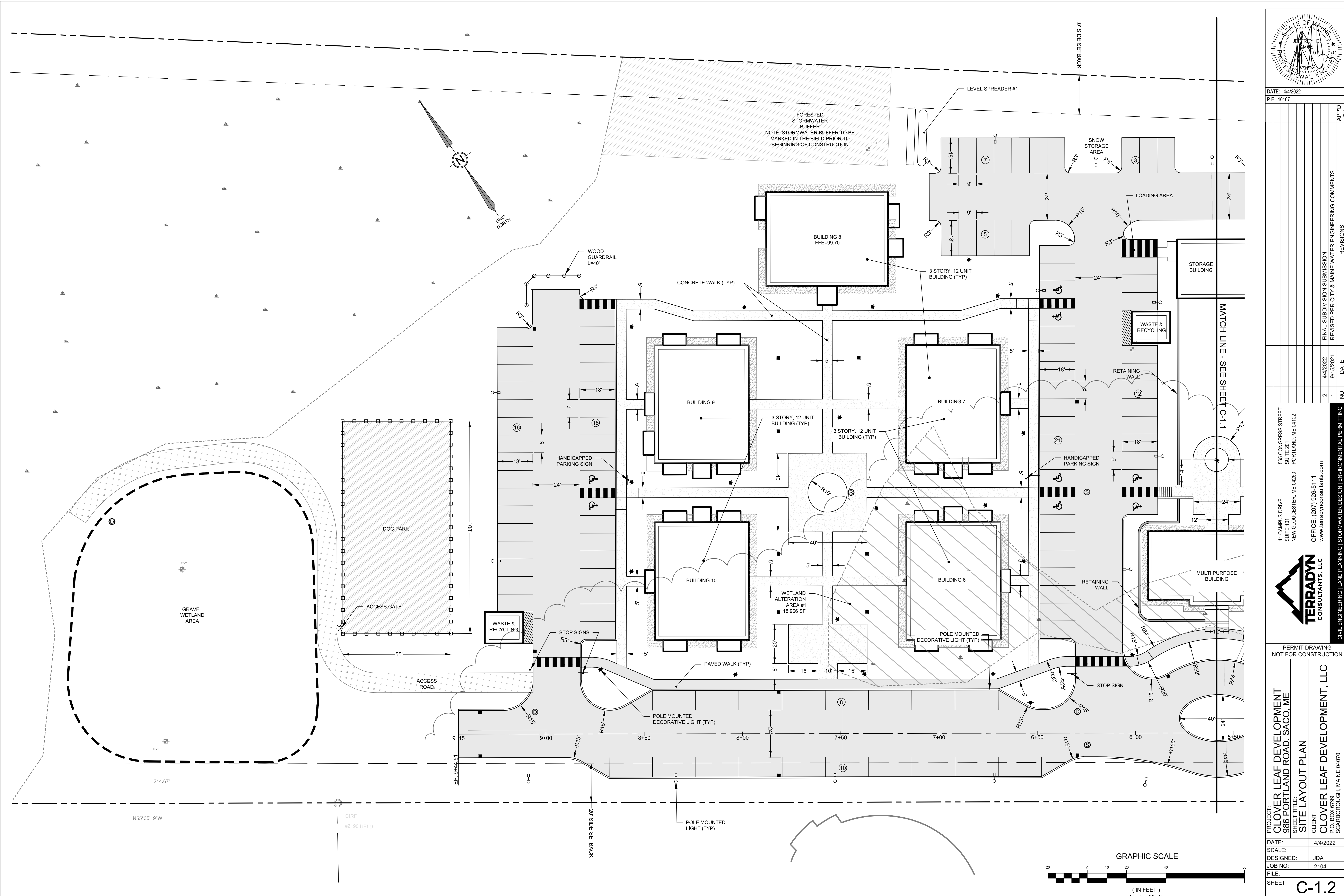
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OFFICE: (207) 926-5111
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PROJECT: CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME
SHEET TITLE: SITE LAYOUT PLAN
CLIENT: CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6799
SCARBOROUGH, MAINE 04070
DATE: 4/4/2022
SCALE:
DESIGNED: JDA
JOB NO: 2104
FILE:
SHEET C-1.1



DATE: 4/4/2022
P.E.: 10167

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2	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	

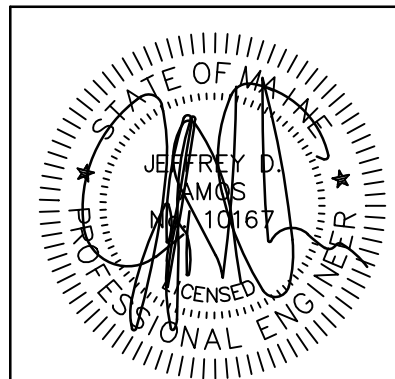
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CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

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PROJECT: CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME
SHEET TITLE: SITE LAYOUT PLAN
CLIENT: CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6799
SCARBOROUGH, MAINE 04070
DATE: 4/4/2022
SCALE: JDA
JOB NO: 2104
FILE:
SHEET C-1.2



4/4/2022	FINAL SUBDIVISION SUBMISSION		
9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS		
	REVISIONS		APP'D

 **TERRADYN**
CONSULTANTS, LLC

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

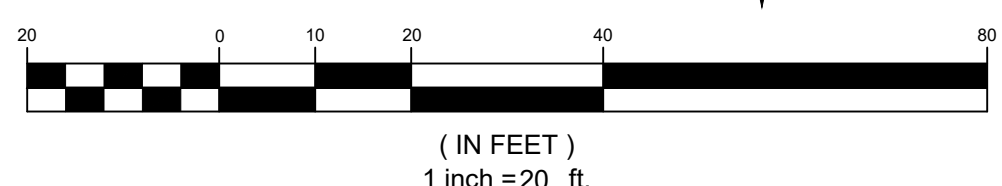
666 CONGRESS STREET
SUITE 200
PORTLAND, ME 04102

OFFICE: (207) 926-5111
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CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

PROJECT:	CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME
SHEET TITLE:	GRADING & EROSION CONTROL PLAN
DATE:	4/4/2022
SCALE:	1"=20'
DESIGNED:	JDA
JOB NO:	2104
FILE:	2104 G
SHEET	C-2.0
CLIENT:	CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 67899 SCARBOROUGH, MAINE 04070

PIPE TABLE			
PIPE NAME	SIZE (IN)	LENGTH (FT)	SLOPE (%)
SD-1	24	90	1.1
SD-2	18	18	1.1
SD-3	24	34	0.6
SD-4	15	26	0.8
SD-5	15	194	0.5
SD-6	18	158	0.5
SD-7	15	28	1.8
SD-8	12	40	0.7
SD-9	12	28	1
SD-10	12	62	0.5
SD-11	12	36	0.6
SD-12	12	40	0.7
SD-13	12	48	0.5
SD-14	12	44	0.7
SD-15	12	44	0.6
SD-16	18	148	0.5
SD-17	18	18	1.1
SD-18	15	150	0.5
SD-19	18	46	0.5
SD-20	18	66	0.5
SD-21	15	16	1.3
SD-22	15	214	0.5
SD-23	18	150	1
SD-24	15	36	0.6
SD-25	15	110	0.5
SD-26	15	108	0.5
SD-27	15	18	1.1
SD-28	15	50	0.5
SD-29	15	214	0.5
SD-30	15	150	0.5
SD-31	15	26	0.8



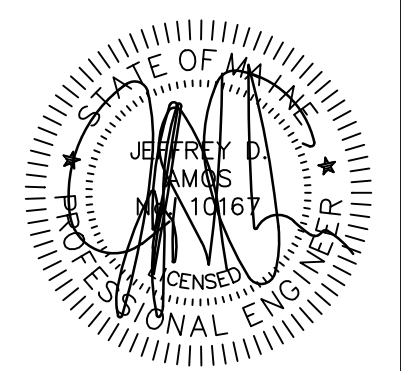
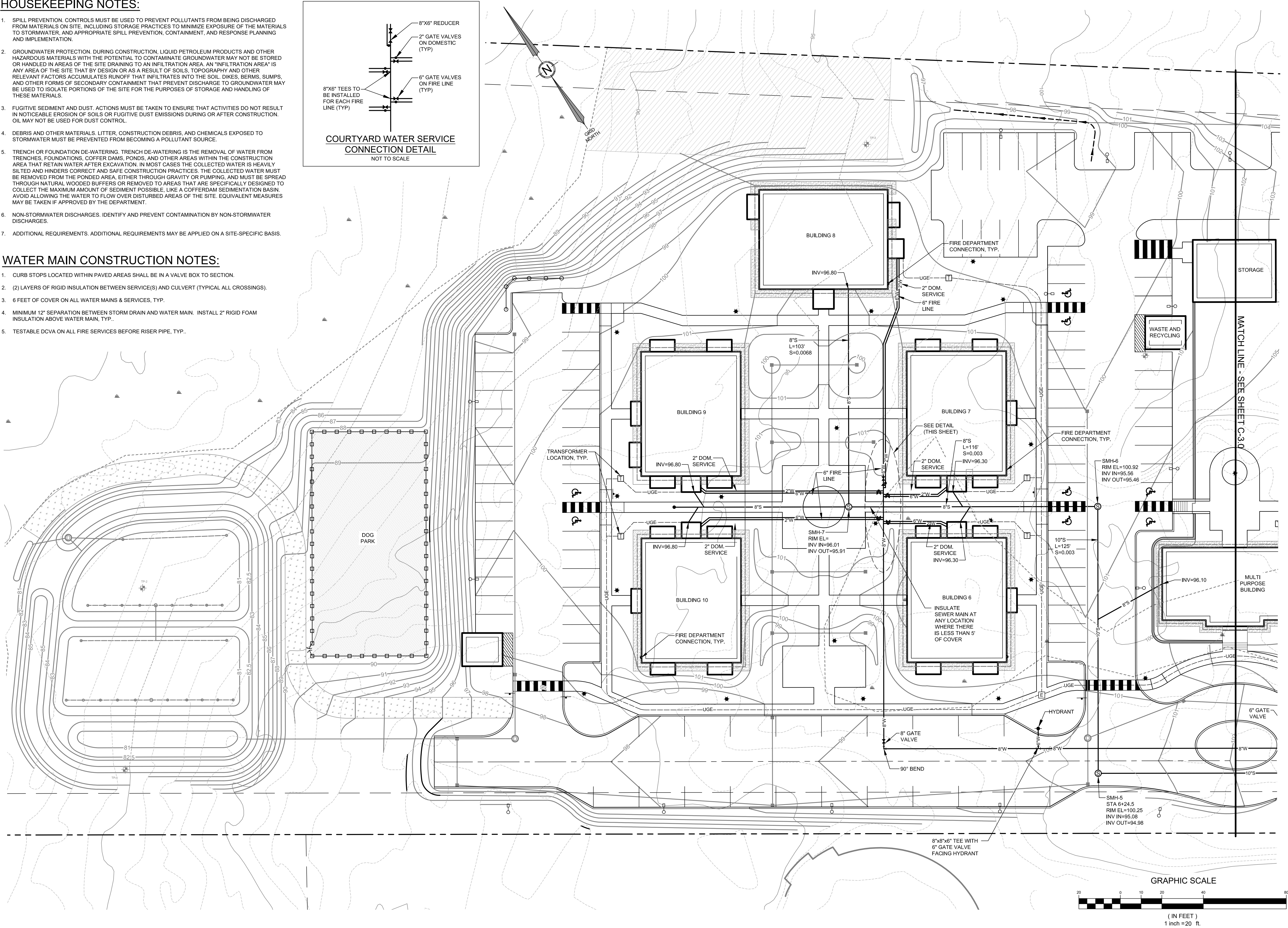
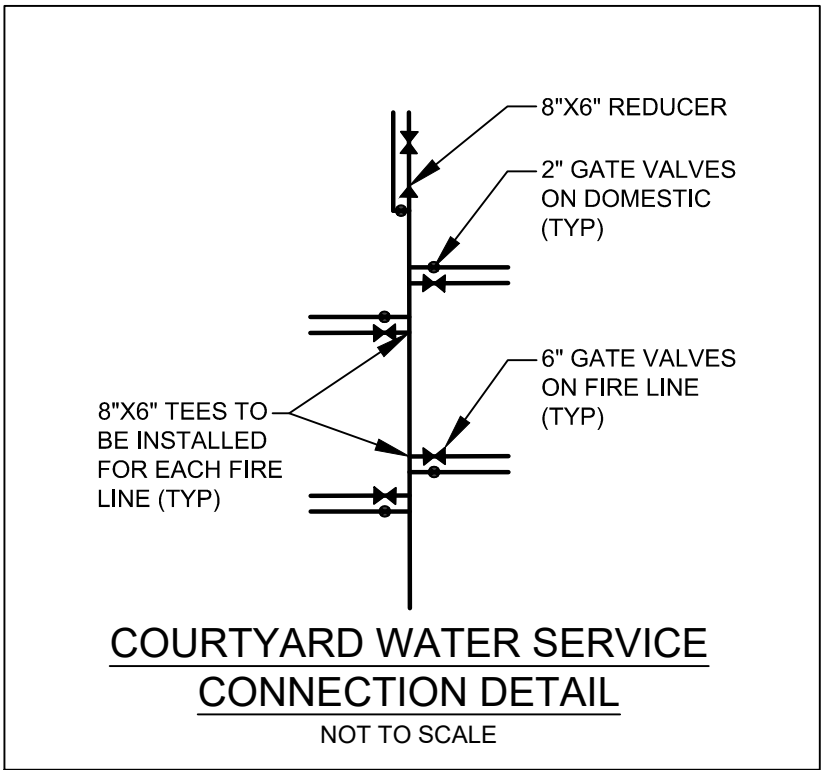
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SHEET TITLE:	GRADING & EROSION CONTROL PLAN
CLIENT:	CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6789 SCARBOROUGH, MAINE 04070
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FILE:	2104 G
SHEET	C-2.1

HOUSEKEEPING NOTES:

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.
2. GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
3. FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL.
4. DEBRIS AND OTHER MATERIALS. LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
5. TRENCH OR FOUNDATION DE-WATERING. TRENCH DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER MUST BE REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, AND MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.
6. NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES.
7. ADDITIONAL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

WATER MAIN CONSTRUCTION NOTES:

1. CURB STOPS LOCATED WITHIN PAVED AREAS SHALL BE IN A VALVE BOX TO SECTION.
2. (2) LAYERS OF RIGID INSULATION BETWEEN SERVICE(S) AND CULVERT (TYPICAL ALL CROSSINGS).
3. 6 FEET OF COVER ON ALL WATER MAINS & SERVICES, TYP.
4. MINIMUM 12" SEPARATION BETWEEN STORM DRAIN AND WATER MAIN. INSTALL 2" RIGID FOAM INSULATION ABOVE WATER MAIN, TYP..
5. TESTABLE DCVA ON ALL FIRE SERVICES BEFORE RISER PIPE, TYP..



DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS	BY
2	4/4/2022	FINAL SUBDIVISION SUBMISSION	
1	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

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CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME	SHEET TITLE: UTILITY PLAN	CLIENT: CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
DATE: 4/4/2022	SCALE: 1"=20'	DESIGNED: JDA
JOB NO: 2104	FILE: 2104 U	SHEET C-3.1

EROSION AND SEDIMENT CONTROL PLAN

PRE-CONSTRUCTION PHASE
A PERSON WHO CONDUCTS, OR CAUSES TO BE CONDUCTED, AN ACTIVITY THAT INVOLVES FILLING, DISPLACING OR EXPOSING SOIL OR OTHER EARTHEN MATERIALS SHALL TAKE MEASURES TO PREVENT UNREASONABLE EROSION OF SOIL OR SEDIMENT BEFORE THE PROJECT SITE OR INTO A PROTECTED NATURAL RESOURCE AS DEFINED IN 38 MRSA § 480-B. EROSION CONTROL MEASURES MUST BE IN PLACE BEFORE THE ACTIVITY BEGINS. MEASURES MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL THE SITE IS PERMANENTLY STABILIZED. ADEQUATE AND TIMELY TEMPORARY AND PERMANENT STABILIZATION MEASURES MUST BE TAKEN. THE SITE MUST BE MAINTAINED TO PREVENT UNREASONABLE EROSION AND SEDIMENTATION. MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRAIENT BUFFER AREAS TO THE EXTENT PRACTICABLE.

BMP CONSTRUCTION PHASE
A. SEDIMENT BARRIERS. PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE EDGE OF ANY DOWNGRAIENT DISTURBED AREA AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED DISTURBED AREA. MAINTAIN THE SEDIMENT BARRIERS UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.

B. CONSTRUCTION ENTRANCE. PRIOR TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT THE INTERSECTION WITH THE PROPOSED ACCESS DRIVE AND THE EXISTING ROADWAY TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE.

C. RIPRAP. SINCE RIPRAP IS USED WHERE EROSION POTENTIAL IS HIGH, CONSTRUCTION MUST BE SEQUENCED SO THAT THE RIPRAP IS PUT IN PLACE WITH THE MINIMUM DELAY. DISTURBANCE OF AREAS WHERE RIPRAP IS TO BE PLACED SHOULD BE UNDERTAKEN ONLY WHEN FINAL PREPARATION AND PLACEMENT OF THE RIPRAP CAN FOLLOW IMMEDIATELY BEHIND THE INITIAL DISTURBANCE. WHERE RIPRAP IS USED FOR OUTLET PROTECTION, THE RIPRAP SHOULD BE PLACED BEFORE OR IN CONJUNCTION WITH THE CONSTRUCTION OF THE PIPE OR CHANNEL SO THAT IT IS IN PLACE WHEN THE PIPE OR CHANNEL BEGINS TO OPERATE. MAINTAIN TEMPORARY RIPRAP, SUCH AS TEMPORARY CHECK DAMS UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.

D. TEMPORARY STABILIZATION. STABILIZE WITH TEMPORARY SEEDING, MULCH, OR OTHER NON-ERODABLE COVER ANY EXPOSED SOILS THAT WILL REMAIN UNWORKED FOR MORE THAN 14 DAYS EXCEPT, STABILIZE AREAS WITHIN 100 FEET OF A WETLAND OR WATERBODY WITHIN 7 DAYS OR PRIOR TO A PREDICTED STORM EVENT, WHICHEVER COMES FIRST. IF HAY OR STRAW MULCH IS USED, THE APPLICATION RATE MUST BE 2 BALES (70-90 POUNDS) PER 1000 SF OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE. HAY MULCH MUST BE KEPT MOIST OR ANCHORED TO PREVENT WIND BLOWING. AN EROSION CONTROL BLANKET OR MAT SHALL BE USED AT THE BASE OF GRASSED WATERWAYS, STEEP SLOPES (15% OR GREATER) AND ON ANY DISTURBED SOIL WITHIN 100 FEET OF LAKES, STREAMS AND WETLANDS. GRADING SHALL BE PLANNED SO AS TO MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING. ON LARGE PROJECTS THIS SHOULD BE ACCOMPLISHED BY PHASING THE OPERATION AND COMPLETING THE FIRST PHASE UP TO FINAL GRADING AND SEEDING BEFORE STARTING THE SECOND PHASE, AND SO ON.

E. VEGETATED WATERWAY. UPON FINAL GRADING, THE DISTURBED AREAS SHALL BE IMMEDIATELY SEEDED TO PERMANENT VEGETATION AND MULCHED AND WILL NOT BE USED AS OUTLETS UNTIL A DENSE, VIGOROUS VEGETATIVE COVER HAS BEEN OBTAINED. ONCE SOIL IS EXPOSED FOR WATERWAY CONSTRUCTION, IT SHOULD BE IMMEDIATELY SHAPED, GRADED AND STABILIZED. VEGETATED WATERWAYS NEED TO BE STABILIZED EARLY DURING THE GROWING SEASON (PRIOR TO SEPTEMBER 15); IF FINAL SEEDING OF WATERWAYS IS DELAYED PAST SEPTEMBER 15, EMERGENCY PROVISIONS SUCH AS SOD OR RIPRAP MAY BE REQUIRED TO STABILIZE THE CHANNEL. WATERWAYS SHOULD BE FULLY STABILIZED PRIOR TO DIRECTING RUNOFF TO THEM.

PERMANENT STABILIZATION DESIGN
A. SEEDED AREAS. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS AN 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

B. SODDED AREAS. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

C. PERMANENT MULCH. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MEASURES MUST BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.

D. RIPRAP. FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.

E. AGRICULTURAL USE. FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES (E.G., PIPELINES ACROSS CROP LAND), PERMANENT STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO AGRICULTURAL USE.

F. PAVED AREAS. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.

G. DITCHES, CHANNELS, AND SWALES. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIPRAP, OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE LINING, UNDERCUTTING OF THE BANKS, OR DOWN-CUTTING OF THE CHANNEL.

GENERAL CONSTRUCTION PHASE
THE FOLLOWING EROSION CONTROL MEASURES SHALL BE FOLLOWED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION OF THIS PROJECT:

A. ALL TOPSOIL SHALL BE COLLECTED, STOCKPILED, SEEDED WITH RYE AT 3 POUNDS/1,000 SF AND MULCHED, AND REUSED AS REQUIRED. SILT FENCING SHALL BE PLACED DOWN GRADIENT FROM THE STOCKPILED LOAM. STOCKPILE TO BE LOCATED BY DESIGNATION OF THE OWNER AND INSPECTING ENGINEER.

B. THE INSPECTING ENGINEER AT HIS/HER DISCRETION, MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AND/OR SUPPLEMENTAL VEGETATIVE PROVISIONS TO MAINTAIN STABILITY OF EARTHWORKS AND FINISH GRADED AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY SUPPLEMENTAL MEASURES AS DIRECTED BY THE INSPECTING ENGINEER. FAILURE TO COMPLY WITH THE ENGINEER'S DIRECTIONS WILL RESULT IN DISCONTINUATION OF CONSTRUCTION ACTIVITIES.

C. EROSION CONTROL MESH SHALL BE APPLIED IN ACCORDANCE WITH THE PLANS OVER ALL FINISH SEEDED AREAS AS SPECIFIED ON THE DESIGN PLANS.

D. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN UNTIL THEY ARE ADEQUATELY STABILIZED.

E. ALL EROSION, AND SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

F. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS.

G. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL.

H. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC., SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

I. ALL FILLS SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS.

J. EXCEPT FOR APPROVED LANDFILLS OR NON-STRUCTURAL FILLS, FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS.

K. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL SLOPES OR STRUCTURAL FILLS.

L. FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION.

M. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED APPROPRIATELY.

N. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

O. REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

PERMANENT VEGETATION
PERMANENT VEGETATIVE COVER SHOULD BE ESTABLISHED ON DISTURBED AREAS WHERE PERMANENT, LONG LIVED VEGETATIVE COVER IS NEEDED TO STABILIZE THE SOIL, TO REDUCE DAMAGES FROM SEDIMENT AND RUNOFF, AND TO ENHANCE THE ENVIRONMENT.

SEEDBED PREPARATION
A. GRADE AS FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.

B. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS SUCH AS THOSE OFFERED BY THE UNIVERSITY OF MAINE SOIL TESTING LABORATORY. SOIL SAMPLES SHOULD BE OBTAINED FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 POUNDS PER ACRE OR 18.4 POUNDS PER 1,000 SQUARE FEET USING 10-20-20 (N-P205-K20) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQ. FT.).

C. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE SHOULD BE CONSULTED FOR RECOMMENDATIONS. UNTIL A REASONABLY UNIFORM FINE SEEDBED IS PREPARED, ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE LOOSED TO FIRM THE SEEDBED WHEREVER FEASIBLE. D. REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.

E. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE TILLED AND FIRMED AS ABOVE.

F. PERMANENT SEEDING SHOULD BE MADE 45 DAYS PRIOR TO THE FIRST KILLING FROST OR AS A DORMANT SEEDING WITH MULCH AFTER THE FIRST KILLING FROST AND BEFORE SNOWFALL. WHEN CROWN VETCH IS SEEDED IN LATER SUMMER, AT LEAST 35% OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SEEDING DATES, MULCH ACCORDING TO THE TEMPORARY MULCHING BMP AND OVERWINTER STABILIZATION AND CONSTRUCTION TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

G. FOLLOWING SEED BED PREPARATION, SWALE AREAS, FILL AREAS AND BACK SLOPES SHALL BE SEEDED AT A RATE OF 3 LBS./1,000 S.F. WITH A MIXTURE OF 35% CREEPING RED FESCUE, 6% RED TOP, 24% KENTUCKY BLUEGRASS, 10% PERENNIAL RYEGRASS, 20% ANNUAL RYEGRASS AND 5% WHITE DUTCH CLOVER.

I. AREAS WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING.

J. AREAS WHICH CANNOT BE SEEDED WITHIN THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION AND THE AREA SHOULD BE SEEDED AT THE BEGINNING OF THE GROWING SEASON.

WINTER CONSTRUCTION PHASE
IF AN AREA IS NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES BY NOVEMBER 15, THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES.

A. PERMANENT STABILIZATION CONSISTS OF AT LEAST 90% VEGETATION, PAVEMENT/GRAVEL BASE OR RIPRAP.

B. DO NOT EXPOSE SLOPES OR LEAVE SLOPES EXPOSED OVER THE WINTER OR FOR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY PROTECTED WITH MULCH.

C. APPLY HAY MULCH AT TWICE THE STANDARD RATE (150 LBS. PER 1,000 SF), THE MULCH MUST BE THICK ENOUGH SUCH THAT THE GROUND SURFACE WILL NOT BE VISIBLE AND MUST BE ANCHORED.

D. USE MULCH AND MULCH NETTING OR AN EROSION CONTROL MULCH BLANKET OR ALL SLOPES GREATER THAN 8 % OR OTHER AREAS EXPOSED TO DIRECT WIND.

E. INSTALL AN EROSION CONTROL BLANKET IN ALL DRAINAGEWAYS (BOTTOM AND SIDES) WITH A SLOPE GREATER THAN 3 %.

F. SEE THE VEGETATION MEASURES FOR MORE INFORMATION ON SEEDING DATES AND TYPES.

G. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SO THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.

H. AN AREA WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIER.

I. TEMPORARY MULCH MUST BE APPLIED WITHIN 7 DAYS OF SOIL EXPOSURE OR PRIOR TO ANY STORM EVENT, BUT AFTER EVERY WORKDAY IN AREAS WITHIN 100 FEET FROM A PROTECTED NATURAL RESOURCE.

J. AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE PERMANENTLY MULCHED THAT SAME DAY.

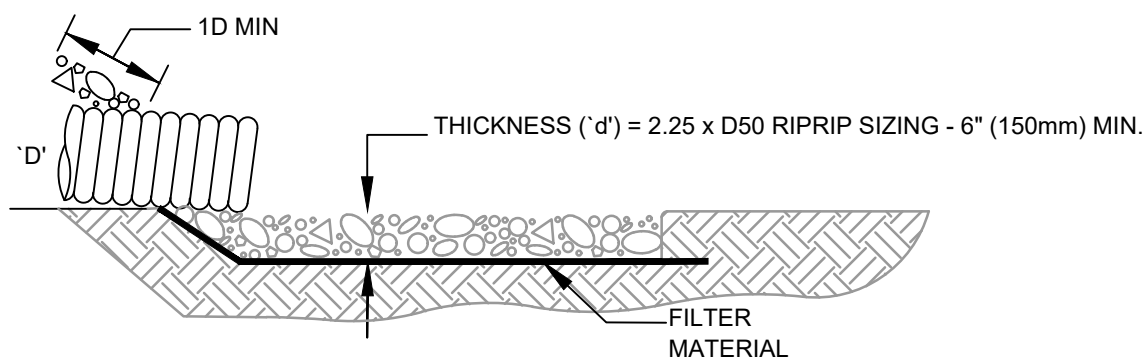
K. IF SNOWFALL IS GREATER THAN 1 INCH (FRESH OR CUMULATIVE), THE SNOW SHALL BE REMOVED FROM THE AREAS DUE TO BE SEEDED AND MULCHED.

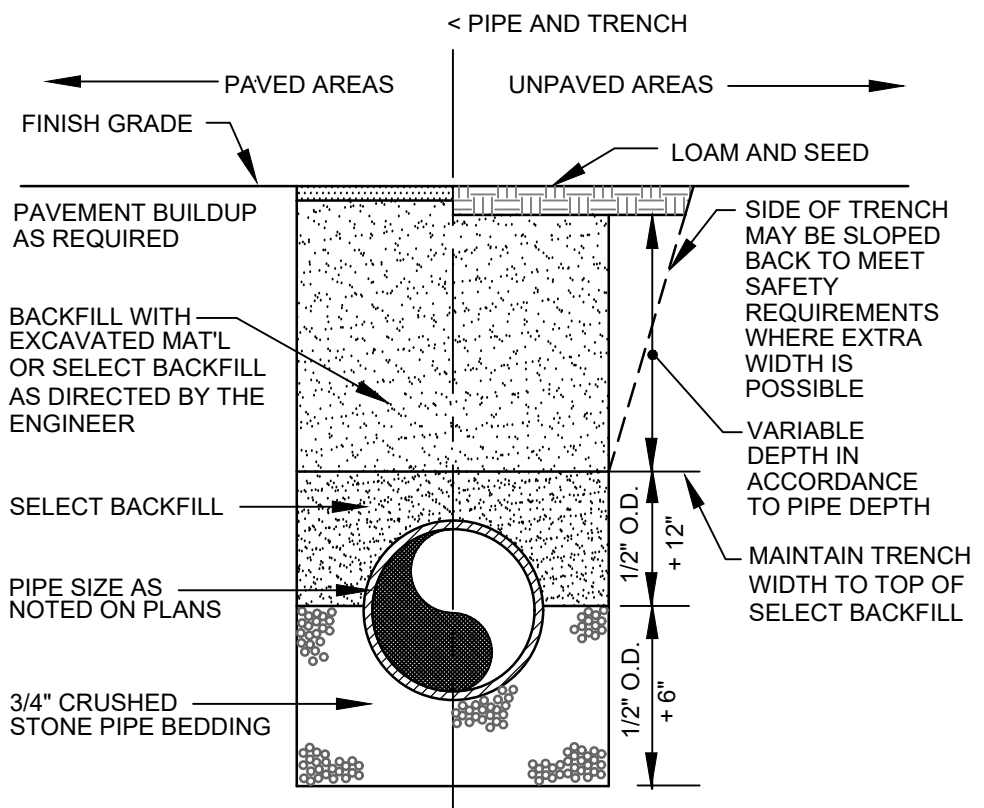
L. LOAM SHALL BE FREE OF FROZEN CLUMPS BEFORE IT IS APPLIED.

MAINTENANCE AND INSPECTION PHASE
A. MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE APPLICANT WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE.

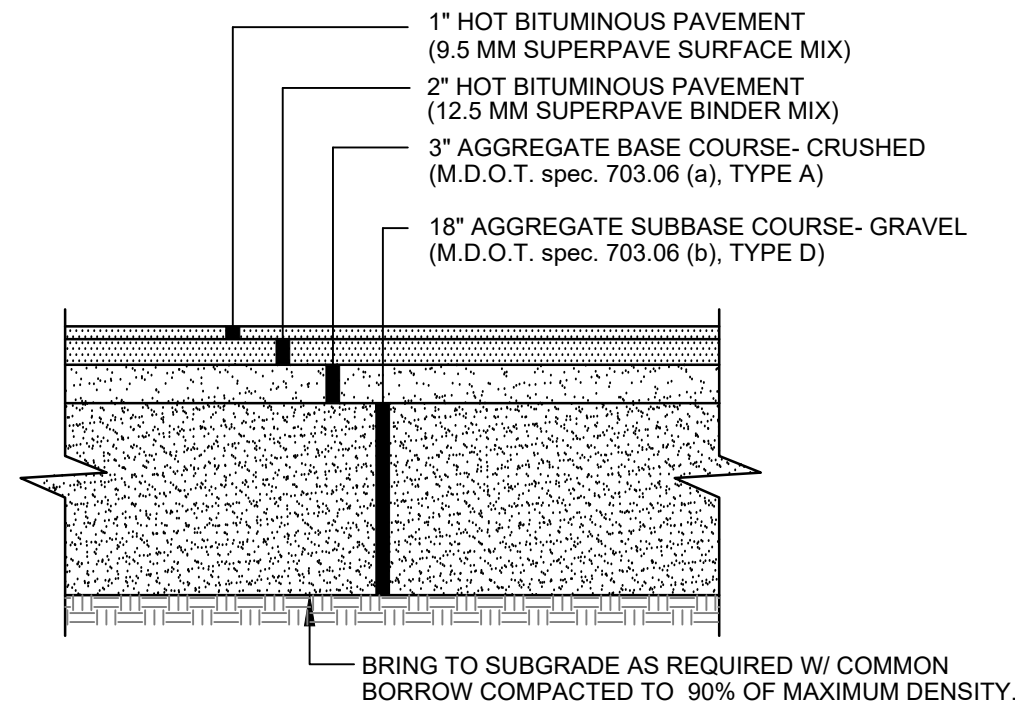
B. A LOG (REPORT) MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE: BMPs THAT NEED TO BE MAINTAINED; LOCATION(S) OF BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION; AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION. FOLLOW-UP TO CORRECT DEFICIENCIES OR ENHANCE CONTROLS MUST ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.

DEWATERING
A DEWATERING PLAN IS NEEDED TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRAIENT EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE.



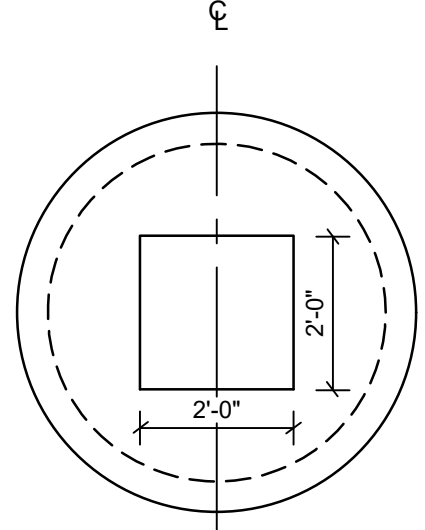


TYPICAL TRENCH SECTION
NOT TO SCALE



- NOTES:
1. COMPACT GRAVEL SUBBASE COURSE TO 92% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
 2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

PARKING AREA PAVEMENT SECTION
NOT TO SCALE



PLAN VIEW

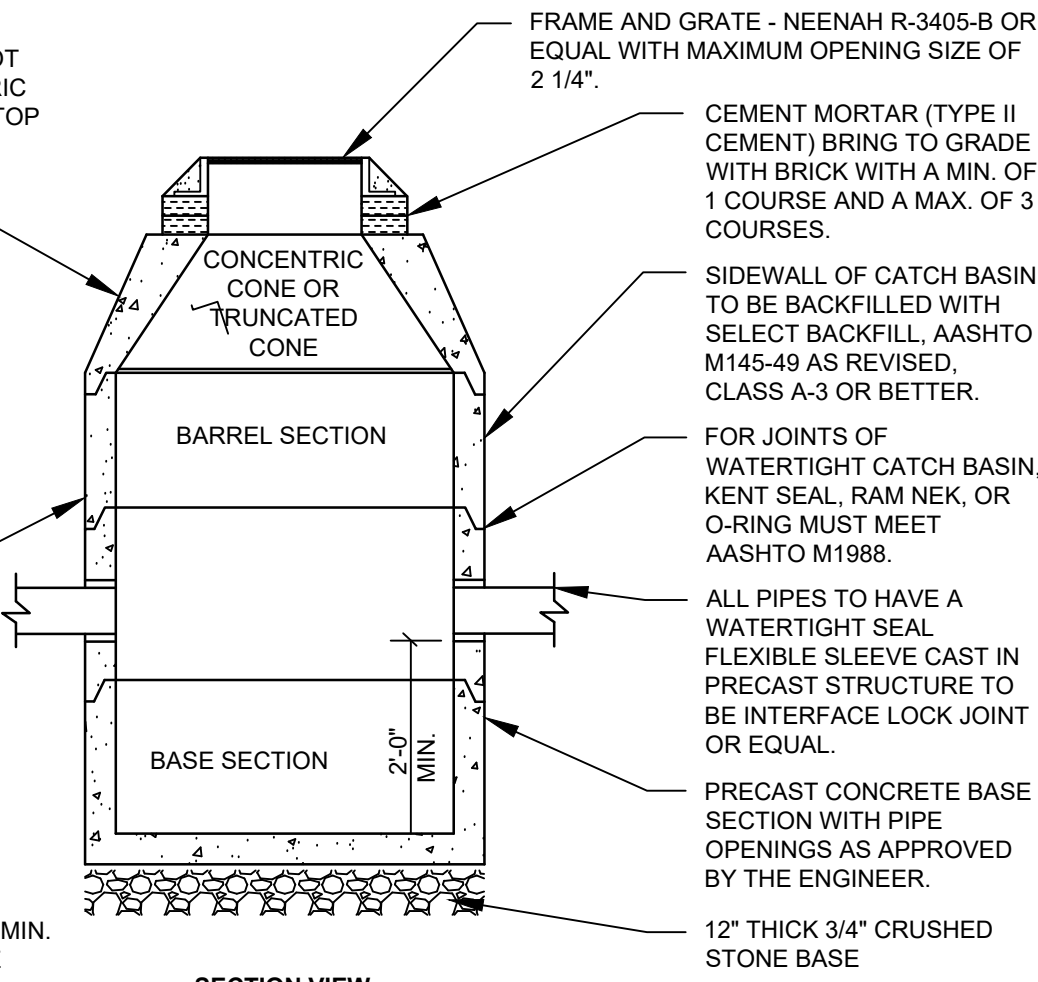
WHERE DEPTH OF COVER IS NOT SUFFICIENT TO USE CONCENTRIC OR TRUNCATED CONE, A FLAT TOP MAY BE USED.

NOTE: WHERE THE CATCH BASIN IS INSTALLED ADJACENT TO BITUMINOUS CONCRETE OF TYPE V SLOPED CURB, SET CENTERLINE OF CATCH BASIN FRAME 1'-6\"/>

EXTERIOR OF STRUCTURE SHALL BE TREATED WITH 2 COATS OF APPROVED DAMP PROOF MATERIAL.

DESIGN NOTES:

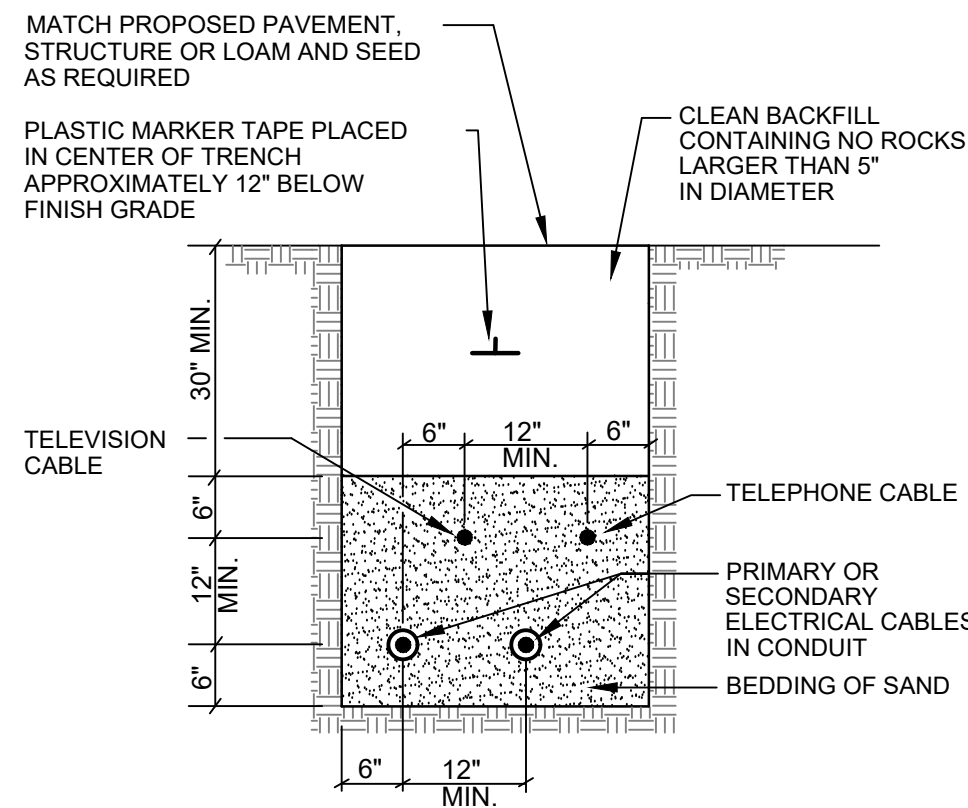
1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
4. REINFORCE TO 0.12 IN SQ./LF..



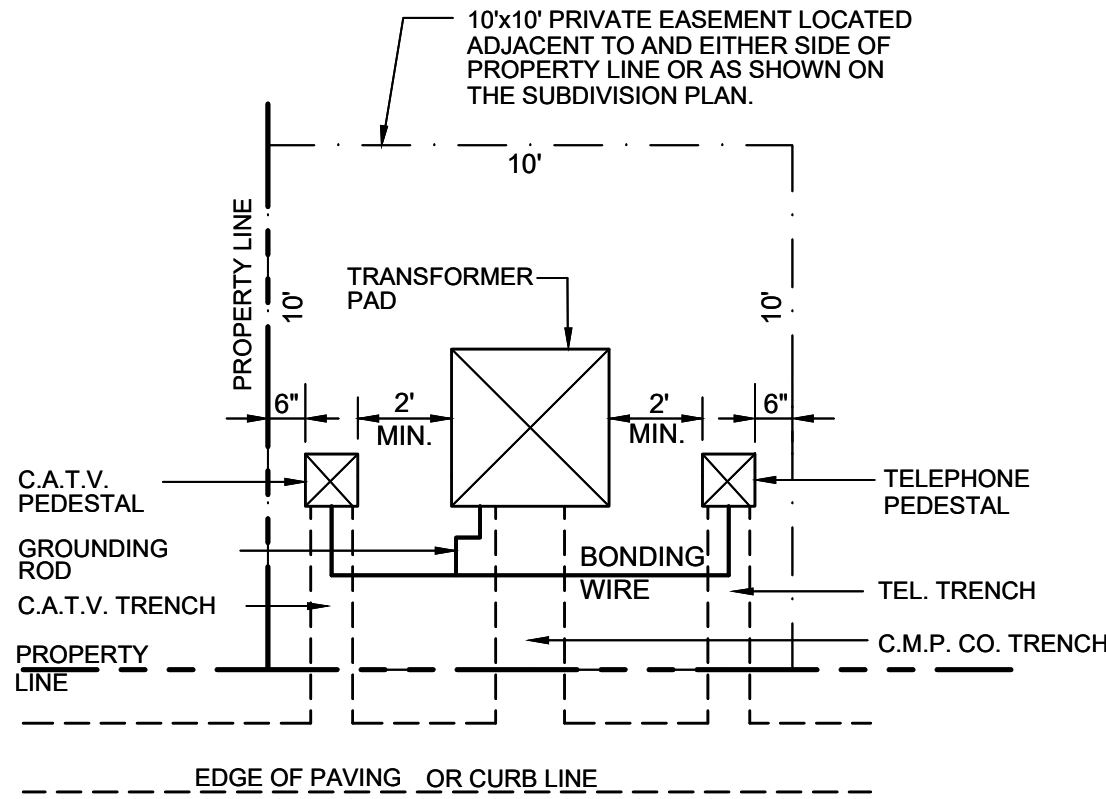
SECTION VIEW

NOTE: CASCADE GRATES SHALL BE INSTALLED ON GRADIENT OF GUTTER IF PROFILE GRADE EXCEEDS 5% GRATES SHALL BE DEPRESSIONED 2\"/>

TYPICAL CATCH BASIN
NOT TO SCALE

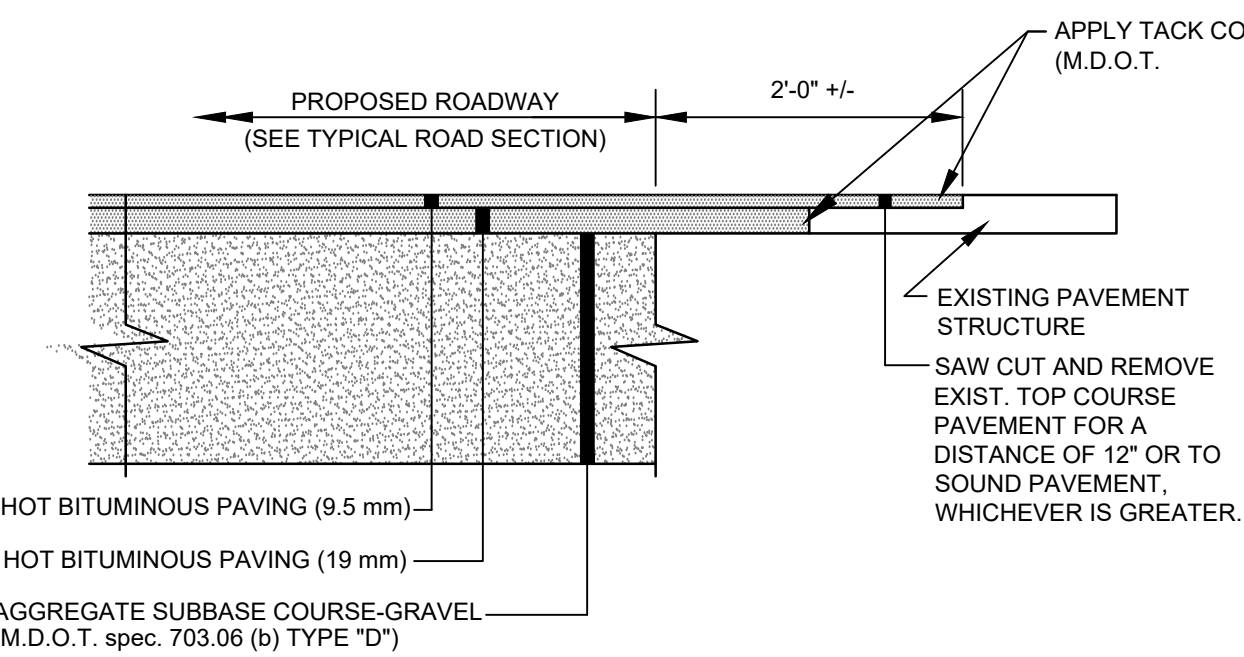


TYPICAL UNDERGROUND CABLE INSTALLATION
NOT TO SCALE

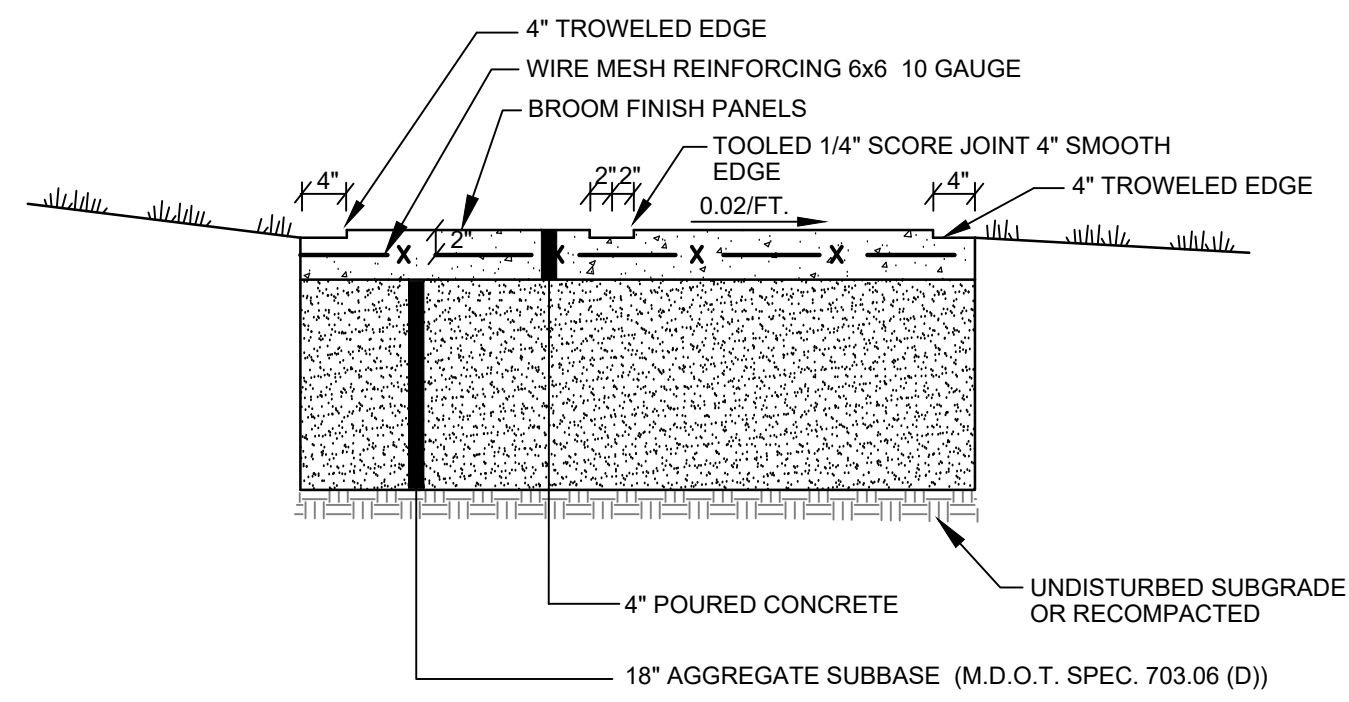


NOTE: TRANSFORMER PAD AND COVER TO BE FIBERGLASS MEETING CENTRAL MAINE POWER SPECIFICATIONS.

TRANSFORMER DETAIL
NOT TO SCALE

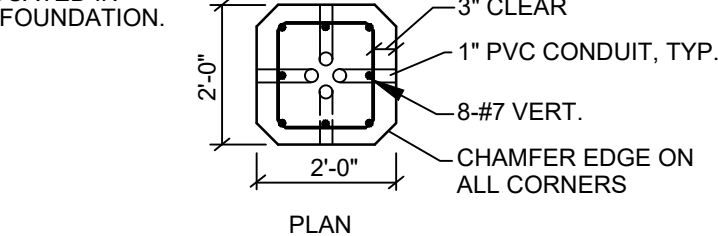
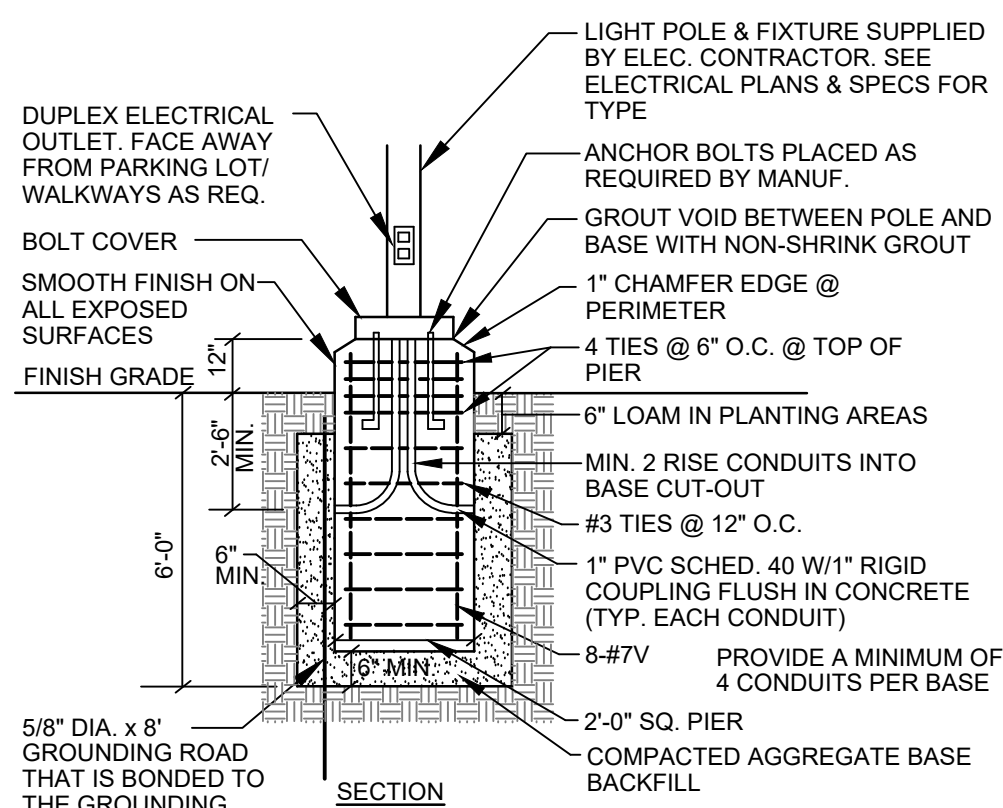


TYPICAL PAVEMENT JOINT
NOT TO SCALE



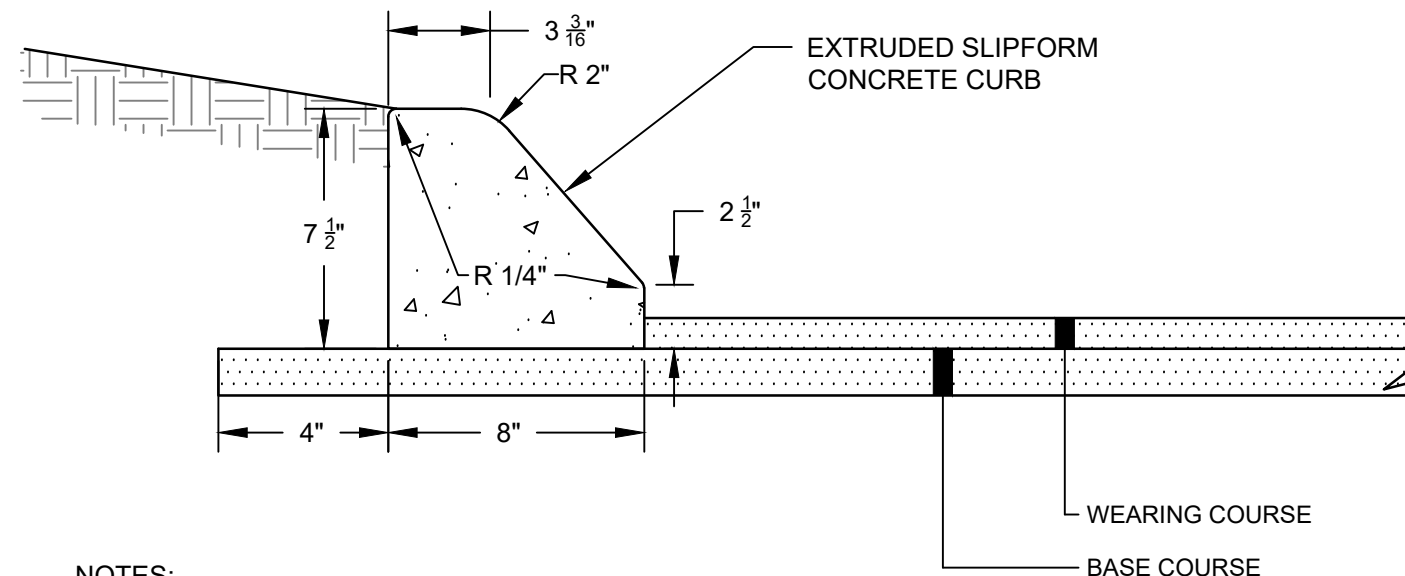
- NOTE:
1. INSTALL 5'-0\"/>
 2. PROVIDE CONTRACTION CONTROL JOINTS EVERY 6' OR AS DIRECTED BY ENGINEER

CONCRETE SIDEWALK
NOT TO SCALE



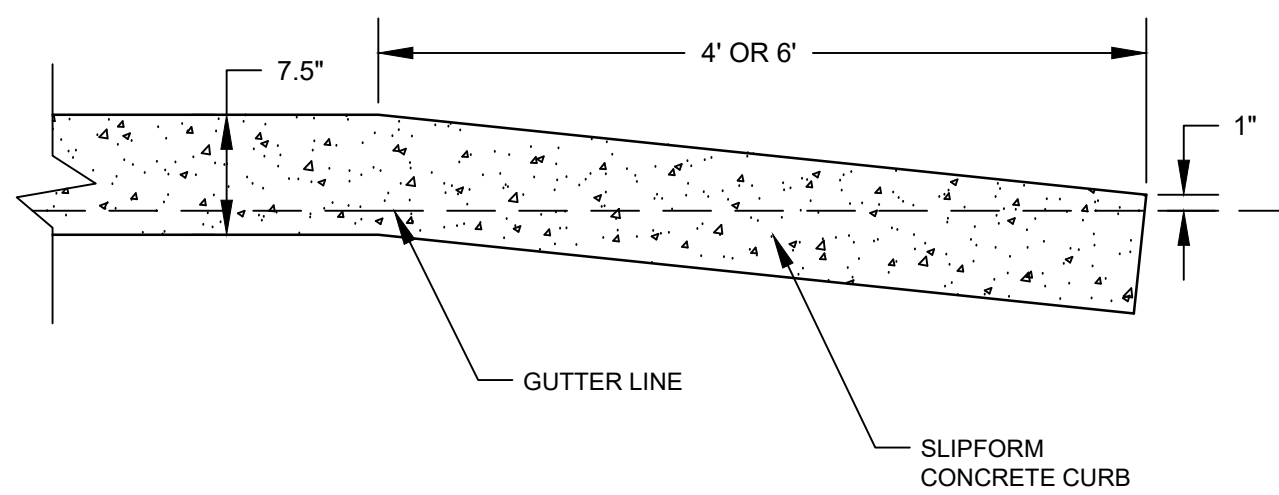
- NOTES:
1. CONCRETE f'c=4000 psi.
 2. REINF. STEEL GRADE 60 NEW BARS.
 3. CONCRETE 3/4\"/>
 4. PROVIDE 2 COATS BITUMINOUS DAMPROOFING FOR ALL CONCRETE BELOW GRADE.
 5. INSTALL BASE 3'-0\"/>
 6. BID ALT. - CONTRACTOR MAY SUBSTITUTE PRECAST CONCRETE LIGHT POLE BASE EQUAL TO ABOVE SPEC.

LIGHT POLE BASE
NOT TO SCALE

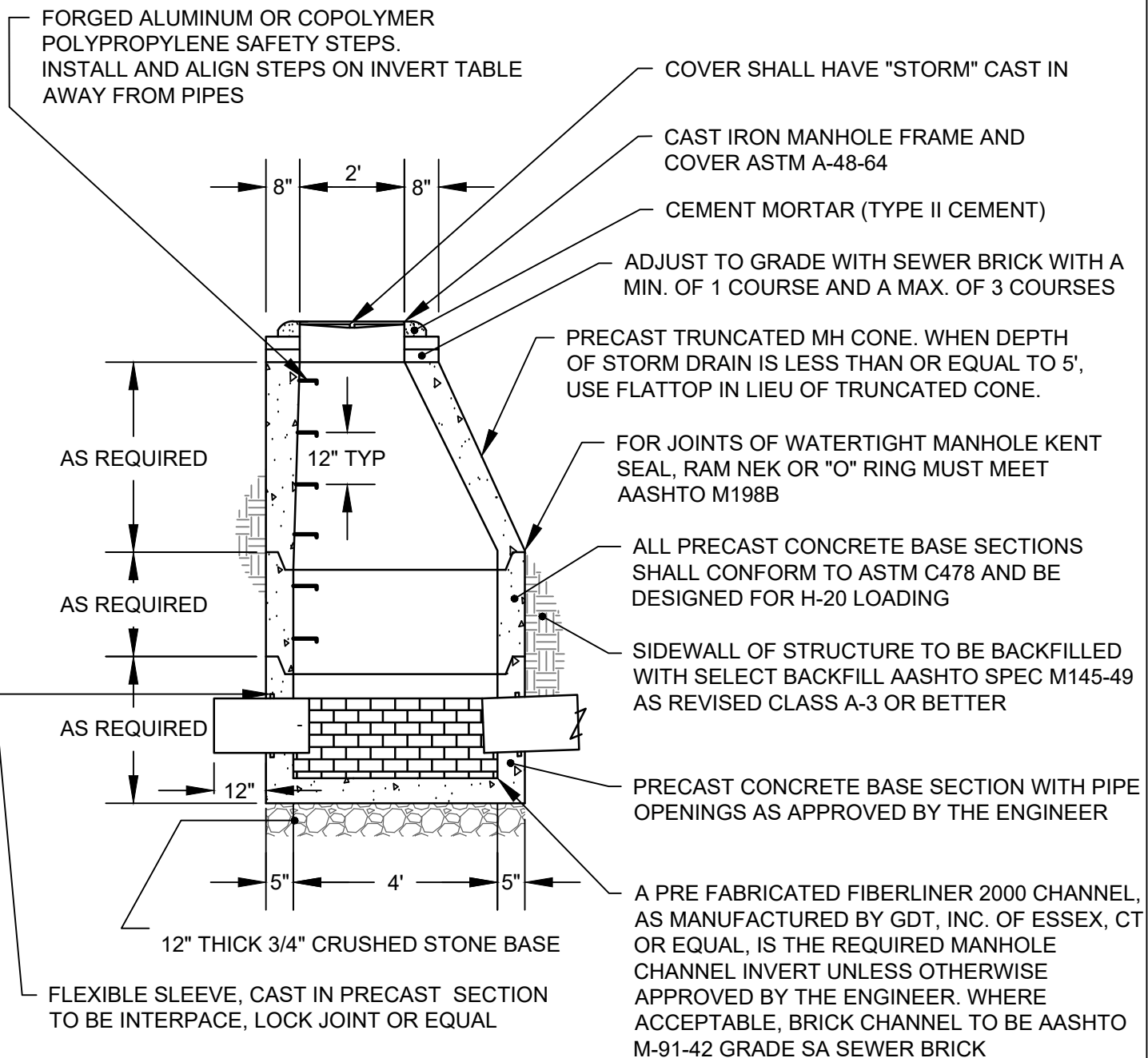


- NOTES:
1. APPLY EPOXY BETWEEN BINDER PAVEMENT AND CURB
 2. 1\"/>
 3. 5% TO 7% AIR ENTRAINMENT
 4. 4,000 PSI CONCRETE WITH FIBER REINFORCEMENT

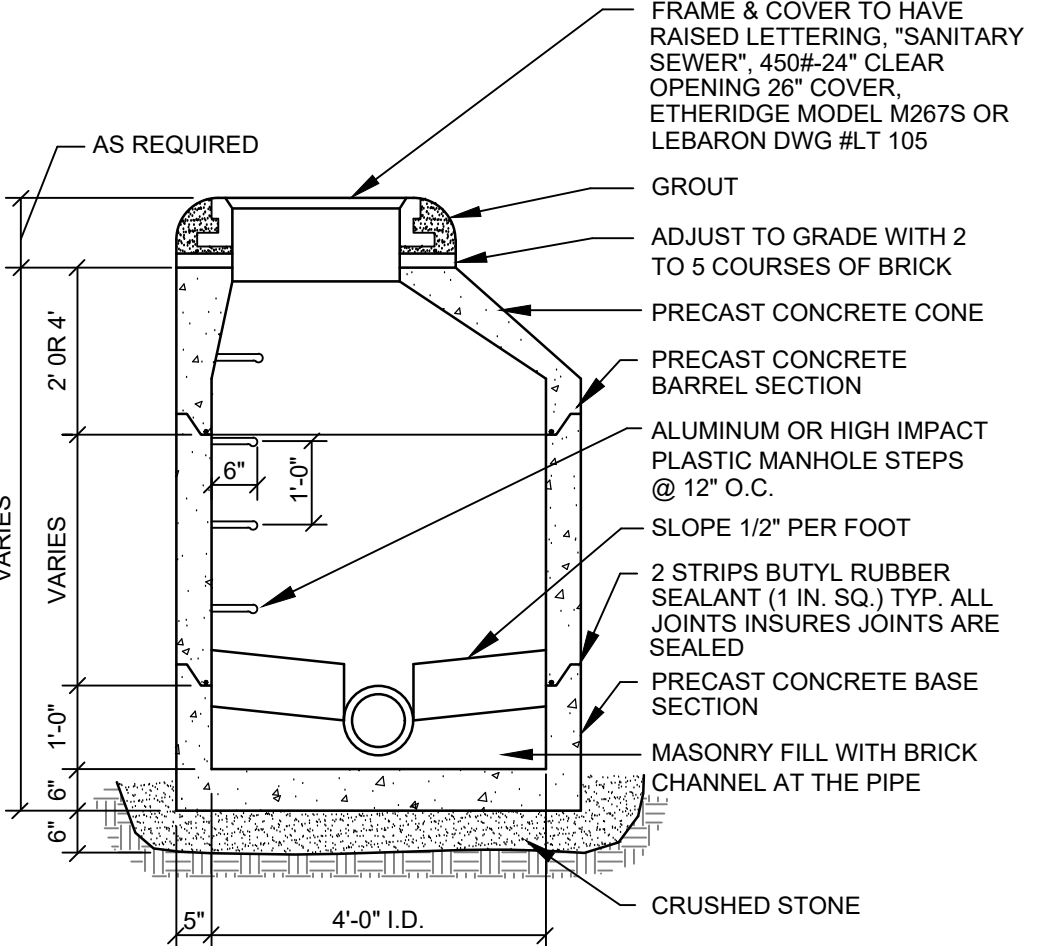
SLOPED SLIPFORM CONCRETE CURB DETAIL
NOT TO SCALE



SLIPFORM CURB TIPDOWN DETAIL
NOT TO SCALE

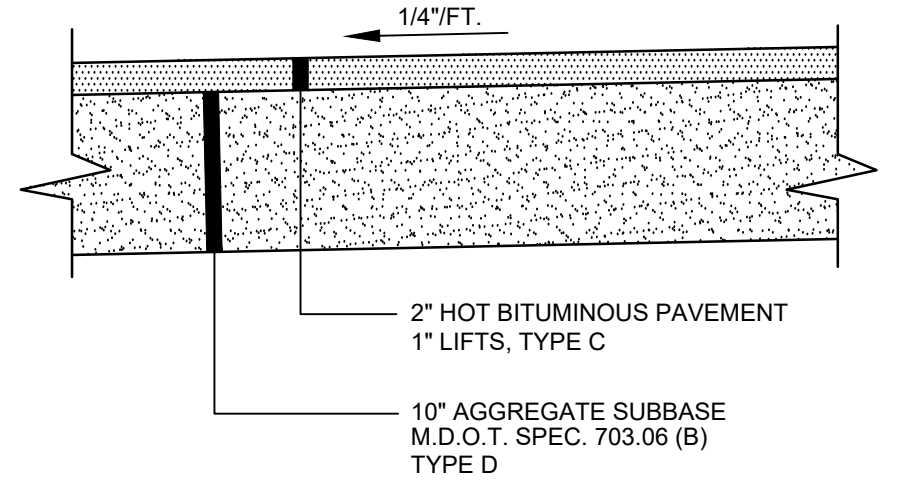


4' DIAMETER PRECAST STORM DRAIN MANHOLE
NOT TO SCALE

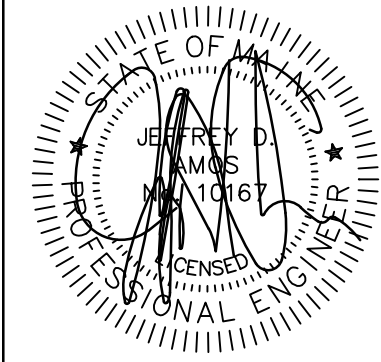


NOTE: PIPE CONNECTIONS SHALL BE WATERTIGHT FLEXIBLE BOOT CONNECTORS PROVIDES LEAKPROOF CONNECTION

PRECAST SEWER MANHOLE
NOT TO SCALE



BITUMINOUS SIDEWALK
NOT TO SCALE



DATE: 4/4/2022
P.E.: 10167

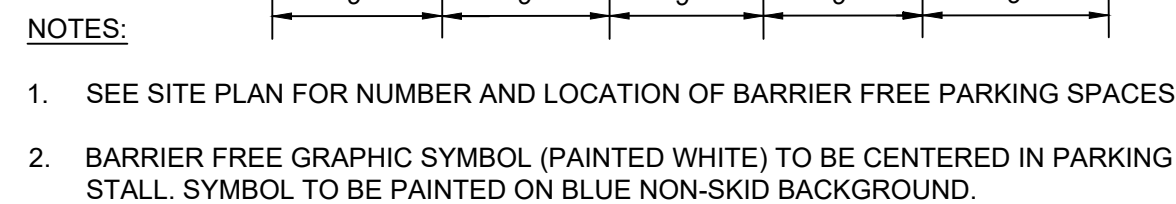
REVISIONS	BY	DATE	COMMENTS
1	NO	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS
2		4/4/2022	FINAL SUBDIVISION SUBMISSION

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102
41 CAMPUS DRIVE
SUITE 101
NEW GLoucester ME 04260

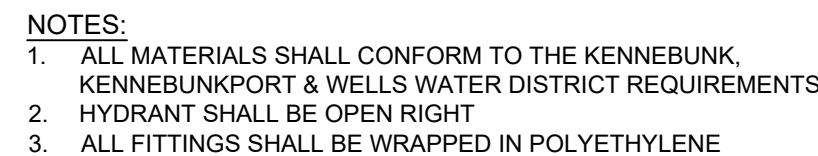


CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

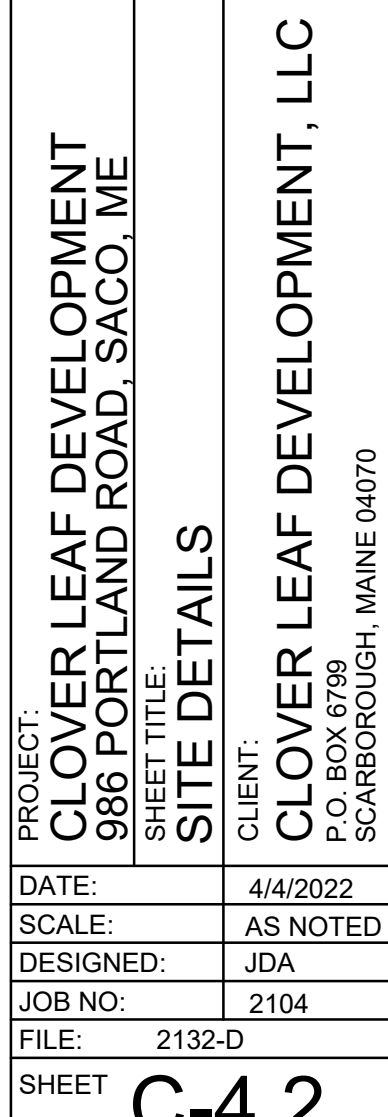
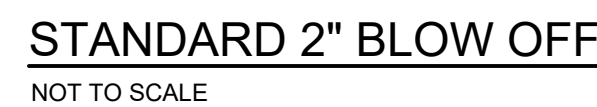
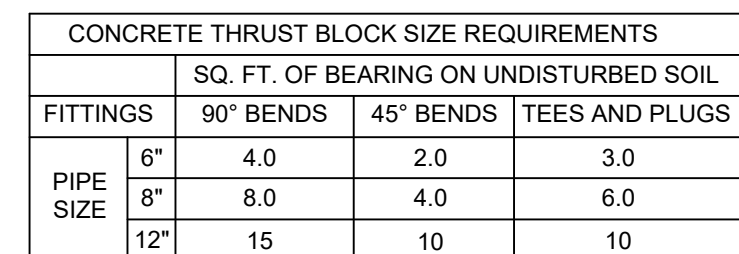
PROJECT:	CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME
SHEET TITLE:	SITE DETAILS
CLIENT:	CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
DATE:	4/4/2022
SCALE:	AS NOTED
DESIGNED:	JDA
JOB NO.:	2104
FILE:	2132-D
SHEET	C-4.1

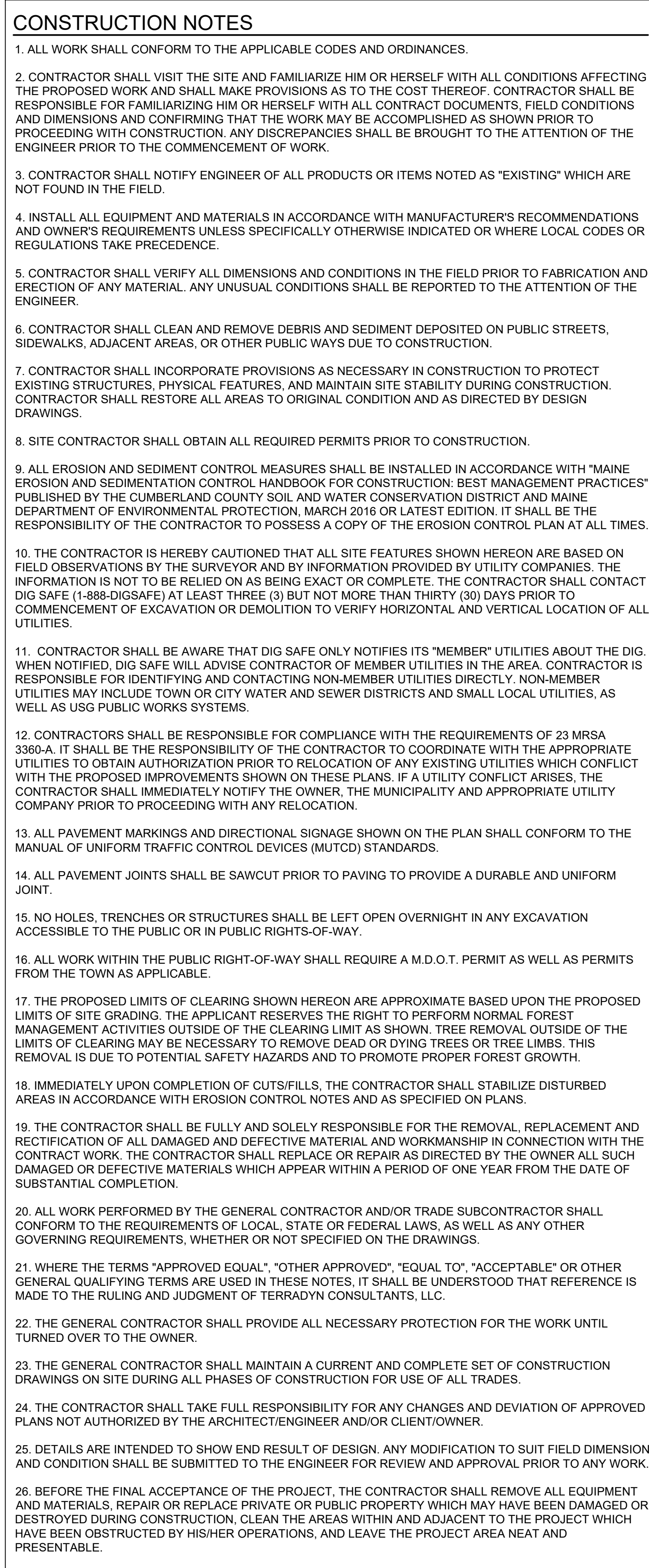
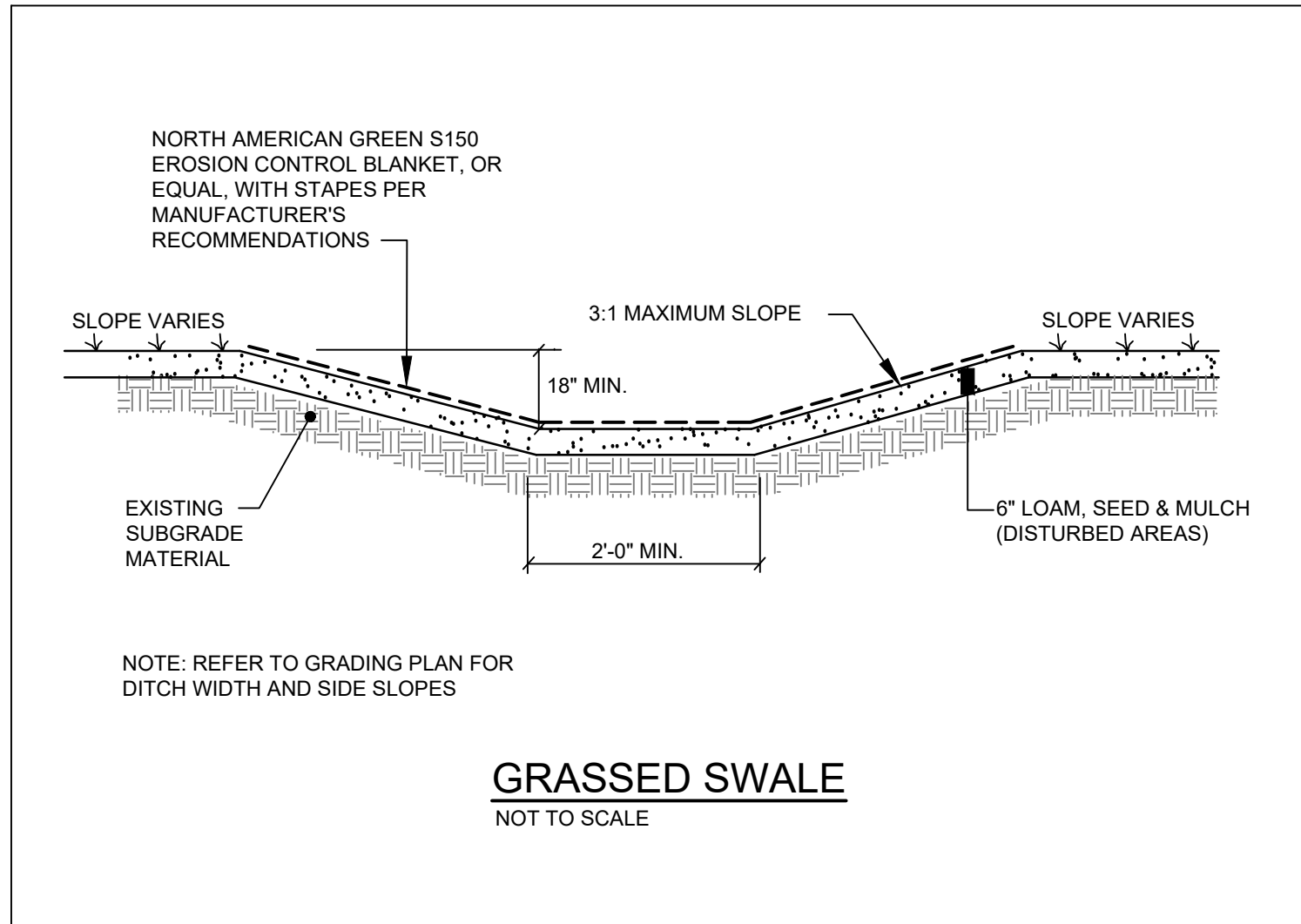
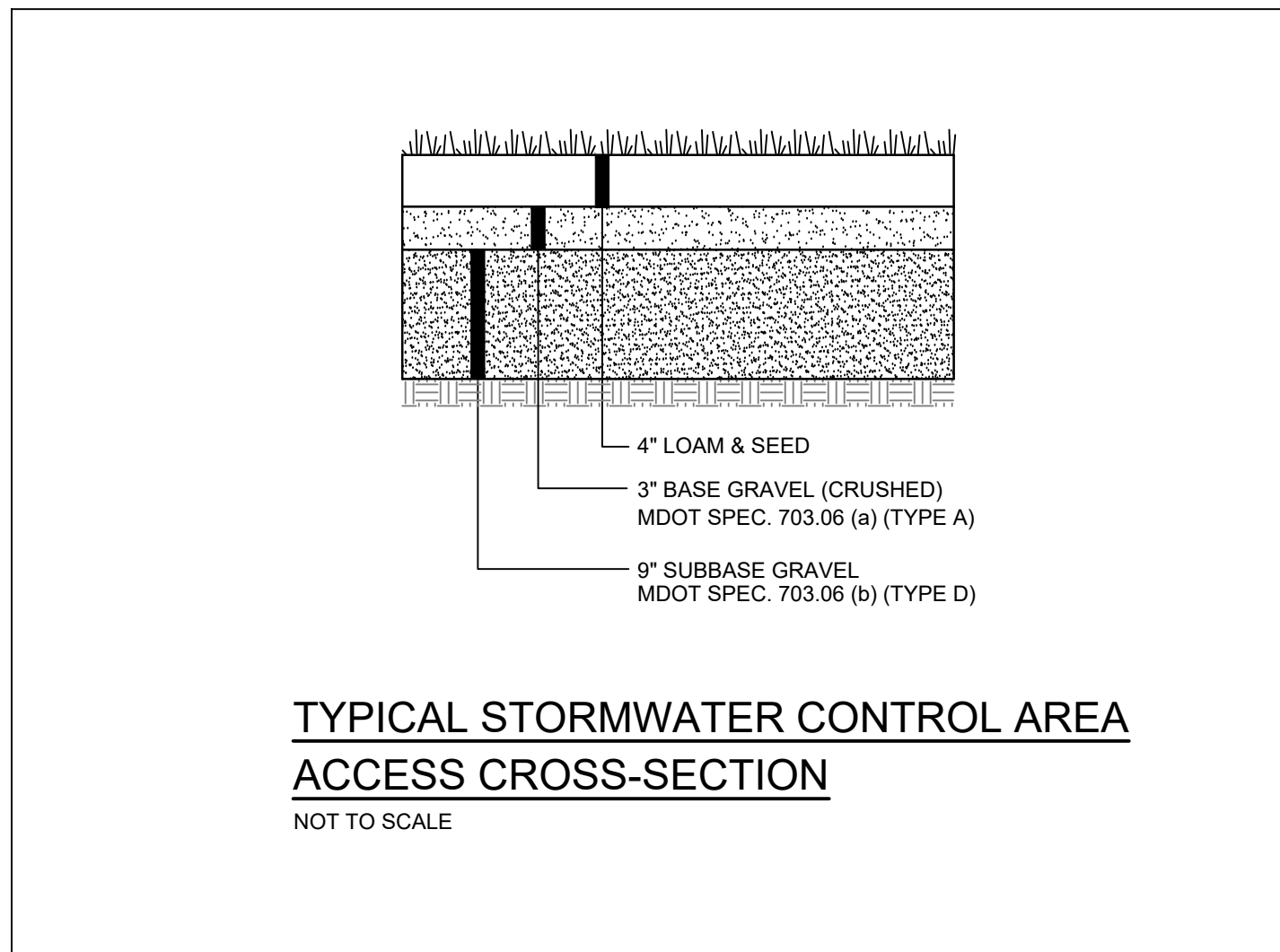



TYPICAL PARKING STALL DIMENSIONS

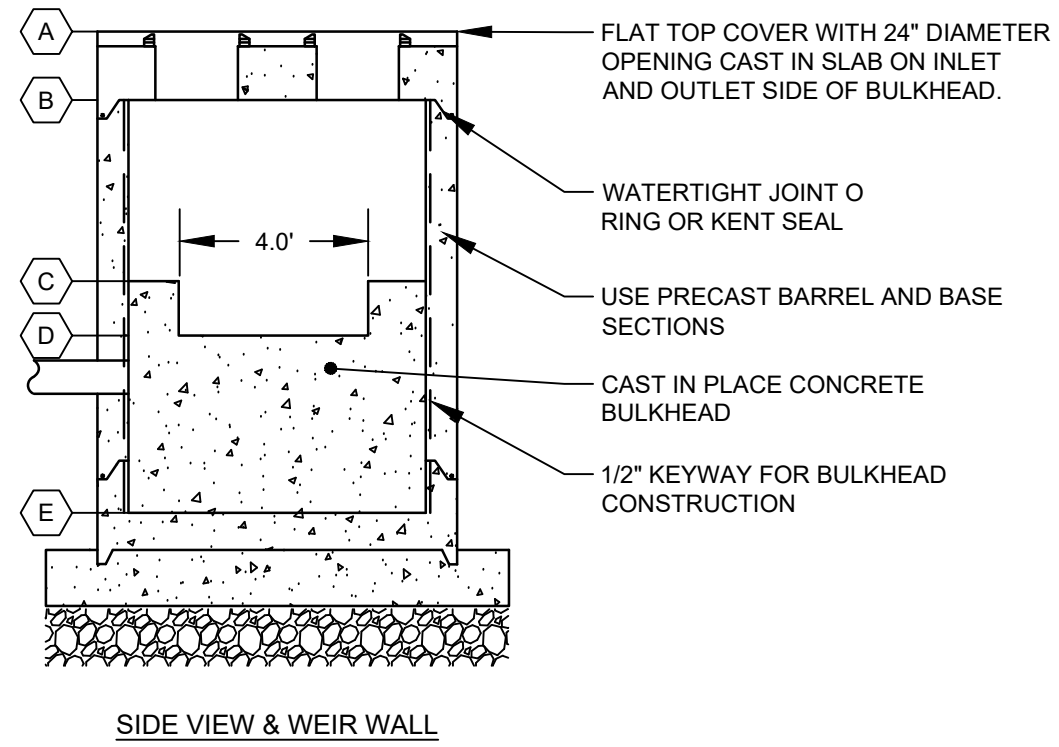
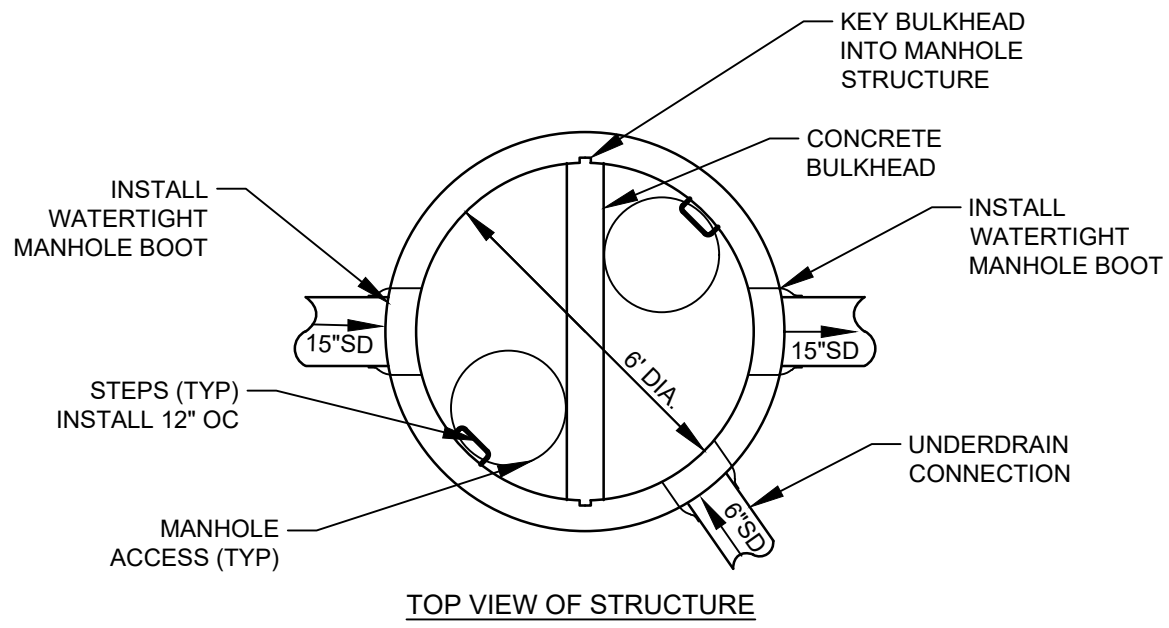
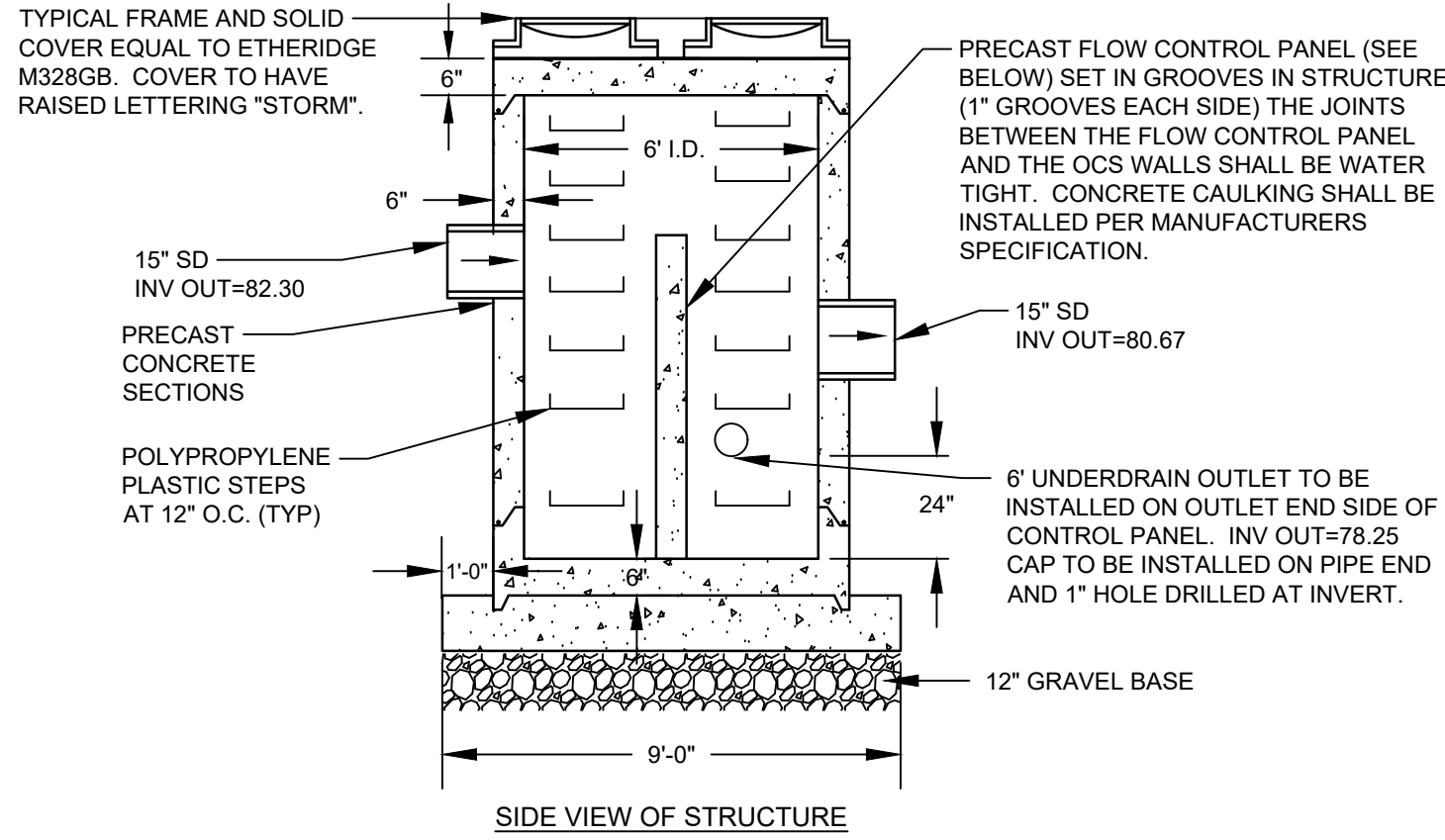


TYP. HYDRANT INSTALLATION





		DATE: 4/4/2022 P.E.: 10167	
PROJECT: CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME		565 CONGRESS STREET SUITE 201 PORTLAND, ME 04102	
SHEET TITLE: STORMWATER DETAILS & NOTES		41 CAMPUS DRIVE SUITE 101 NEW GLOUCESTER, ME 04260	
CLIENT: CLOVER LEAF DEVELOPMENT, LLC		OFFICE: (207) 926-5111 www.terraodynconsultants.com	
DATE: 4/4/2022		2 4/4/2022 FINAL SUBDIVISION SUBMISSION	
SCALE: AS NOTED		1 9/15/2021 REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	
DESIGNED: JDA		NO. DATE REVISIONS	
JOB NO: 2104		APPD BY	
FILE: 2132-D		CIVIL ENGINEERING LAND PLANNING (STORMWATER DESIGN) ENVIRONMENTAL PERMITTING	
SHEET		C-4.3	

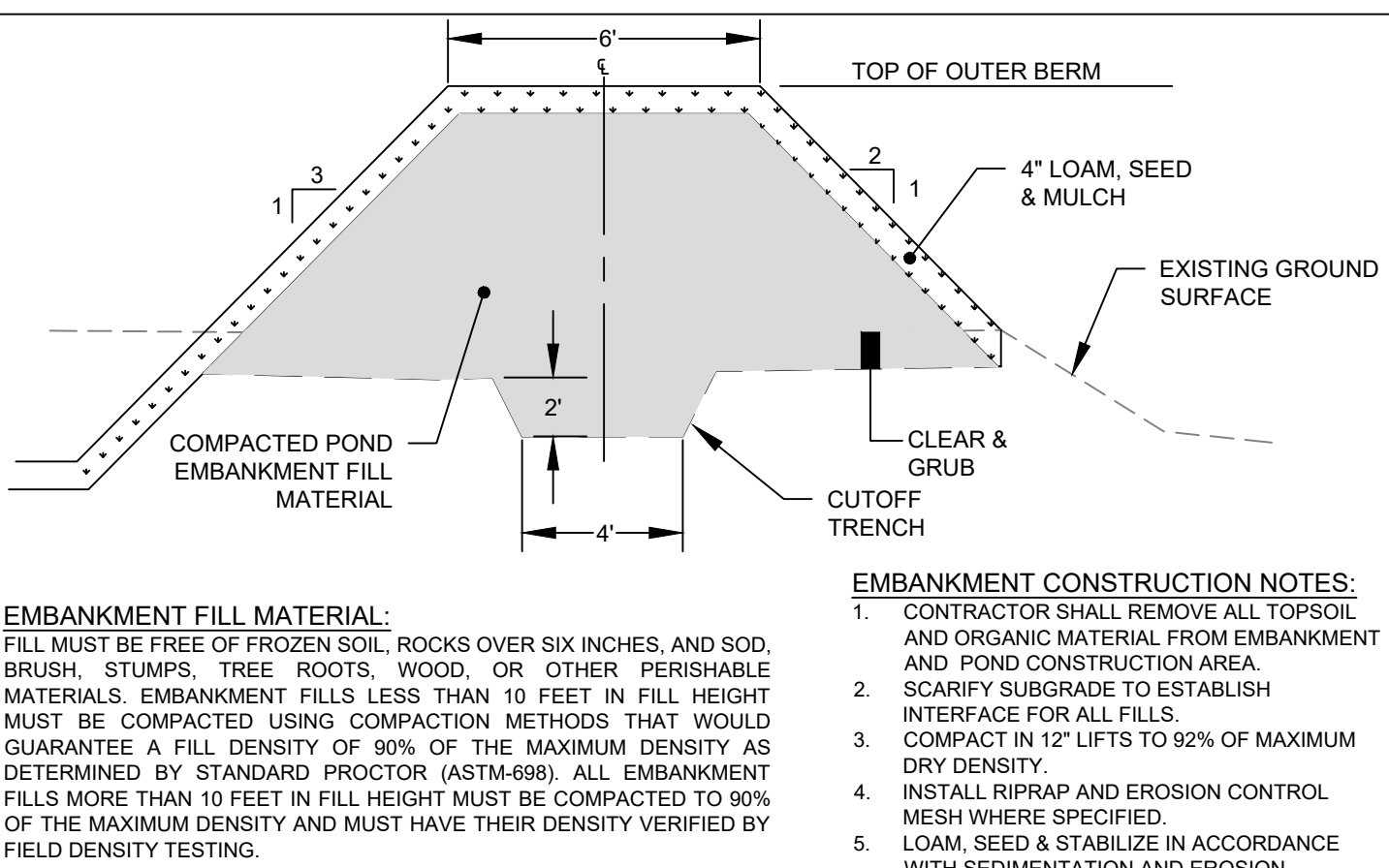


- NOTES:
- SUBMIT SHOP DRAWINGS FOR OWNER/ENGINEER APPROVAL.
 - STRUCTURE SHALL BE DESIGNED FOR H-20 LOADING.
 - CASTINGS SHALL PROVIDE FOR A 24\"/>

SCHEDULE A OUTLET CONTROL STRUCTURE		
ITEM DESCRIPTION	DIMENSION	ELEVATION
A. TOP OF STRUCTURE	85.50	
B. UNDERSIDE OF SLAB	85.00	
C. TOP OF CONCRETE BULKHEAD	83.65	
D. BOTTOM OF WEIR SLOT	82.50	
E. BOTTOM OF STRUCTURE	76.25	

OUTLET CONTROL STRUCTURE (OCS)

NOT TO SCALE



POND EMBANKMENT DETAIL

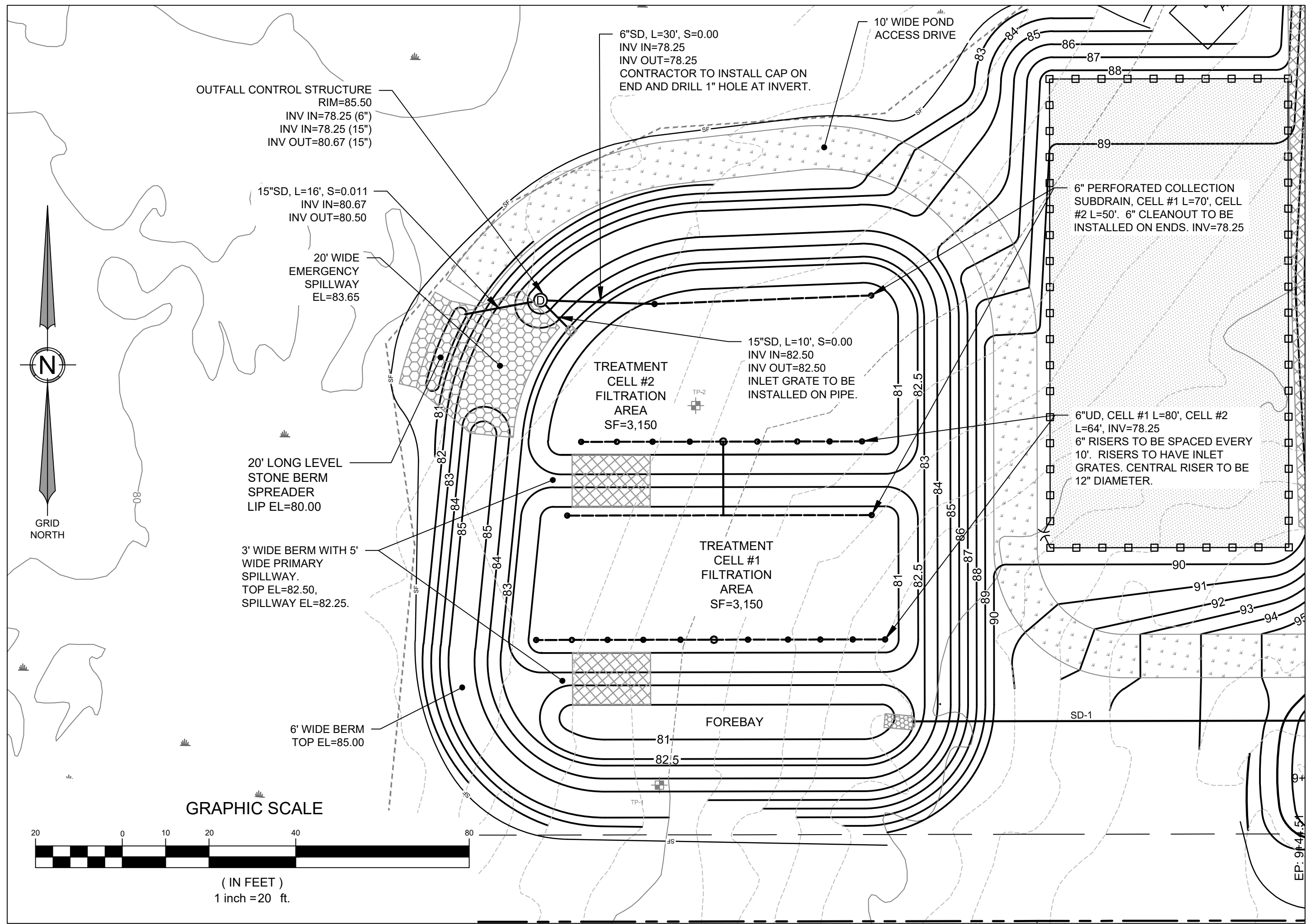
NOT TO SCALE

CONSTRUCTION INSPECTION NOTES:

- THE DESIGN ENGINEER SHALL INSPECT THE CONSTRUCTION AND STABILIZATION OF THE GRAVEL WETLAND. INSPECTIONS SHALL CONSIST OF WEEKLY VISITS TO THE SITE TO INSPECT THE CONSTRUCTION (FROM INITIAL GROUND DISTURBANCE TO FINAL STABILIZATION OF THE POND) OF THE POND'S EMBANKMENT, STORMWATER INLET, GRAVEL AND FILTER MATERIAL MAKEUP AND PLACEMENT, OUTLET CONTROL STRUCTURE, LINER INSTALLATION, AND EMERGENCY SPILLWAY. IF NECESSARY, THE INSPECTING ENGINEER SHALL INTERPRET THE POND'S CONSTRUCTION PLAN FOR THE CONTRACTOR. ONCE THE POND IS CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY THE CITY WITHIN 14 DAYS TO STATE THE POND HAS BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION SHALL BE A LOG OF THE ENGINEER'S INSPECTIONS, GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF THE MATERIALS USED. AN INSPECTION OF THE UNDERDRAINED GRAVEL OUTLET SHALL ALSO BE PERFORMED BY A PROFESSIONAL ENGINEER ONE YEAR AFTER THE FINAL STABILIZATION OF THE POND. THE ENGINEER SHALL NOTIFY THE CITY AS TO THE OUTLET'S EFFECTIVENESS AND DETERMINE ANY MAINTENANCE ITEMS THAT ARE NEEDED.
- UNTIL SUCH TIME THAT THE STORMWATER FACILITIES ARE OFFERED AND ACCEPTED BY THE CITY, THE APPLICANT SHALL BE REQUIRED TO PERFORM ROUTINE INSPECTION AND MAINTENANCE OF THE STORMWATER FACILITIES AS OUTLINED IN THE OPERATIONS AND MAINTENANCE MANUAL. DEVELOPMENT SPECIFICALLY FOR THE SITE. A COPY OF THE ANNUAL INSPECTION AND MAINTENANCE REPORT INCLUDING INSPECTION LOG(S) SHALL BE SUBMITTED ANNUALLY (BY JULY 15TH OF EACH YEAR) TO THE CITY PUBLIC WORKS DEPARTMENT.

GRAVEL WETLAND INSTALLATION NOTES:

- THE MINIMUM SPACING BETWEEN THE SUBSURFACE PERFORATED DISTRIBUTION LINE AND THE SUBSURFACE PERFORATED COLLECTION DRAIN AT EITHER END OF THE GRAVEL IN EACH TREATMENT CELL IS 15 FT.
- THERE SHOULD BE A MINIMUM HORIZONTAL TRAVEL DISTANCE OF 15 FT WITHIN THE GRAVEL LAYER IN EACH CELL.
- VERTICAL PERFORATED OR SLOTTED RISER PIPES DELIVER WATER FROM THE SURFACE DOWN TO THE SUBSURFACE, PERFORATED OR SLOTTED DISTRIBUTION LINES. THESE RISERS SHALL HAVE A MAXIMUM SPACING OF 10 FEET.
- SLOTTED VERTICAL RISERS SHALL HAVE A MINIMUM DIAMETER OF 12\"/>
- VERTICAL CLEANOUTS CONNECTED TO THE DISTRIBUTION AND COLLECTION SUBDRAINS, AT EACH END, SHALL BE PERFORATED OR SLOTTED ONLY WITHIN THE GRAVEL LAYER, AND SOLID WITHIN THE WETLAND SOIL AND STORAGE AREA ABOVE.
- TREATMENT CELL FLOOR TO BE GRADED FLAT.
- BERMS AND WEIRS SEPARATING THE FOREBAY AND TREATMENT CELLS SHOULD BE CONSTRUCTED WITH CLAY, OR NON-CONDUCTIVE SOILS, AND/OR A FINE GEOTEXTILE, OR SOME COMBINATION THEREOF, TO AVOID WATER SEEPAGE AND SOIL PIPING THROUGH THESE EARTHEN DIVIDERS.
- THE SYSTEM SHOULD BE PLANTED TO ACHIEVE A RIGOROUS ROOT MAT WITH GRASSES, FORBS, AND SHRUBS WITH OBLIGATE AND FACULTATIVE WETLAND SPECIES.
- THE SUBAREA DRAINING TO A CREATED WETLAND MUST BE COMPLETELY STABLE BEFORE RUNOFF IS DIRECTED TO THE BASIN TO PREVENT SEDIMENTATION OF THE DRAINAGE LAYER, OR ALL RUNOFF SHOULD BE RE-DIRECTED UNTIL CONSTRUCTION IS FINALIZED. THE VEGETATION WITHIN THE STRUCTURE IS EQUALLY IMPORTANT AND MUST BE WELL ESTABLISHED BEFORE IT CAN ACCEPT ANY RUNOFF.
- GRAVEL WETLAND STORMWATER AREA TO BE SEEDED WITH "NEW ENGLAND WETMIX" AS DISTRIBUTED BY NEW ENGLAND WETLAND PLANTS, INC., 820 WEST STREET, AMHERST, MA 01002, PHONE 413-548-8000, EMAIL INFO@NEWP.COM, OR APPROVED EQUIVALENT. APPLY AT A RATE OF 1 LB/2,500 SF.
- THE SEEDS WILL NOT GERMINATE UNDER INUNDATED CONDITIONS. IF PLANTED DURING THE FALL MONTHS THE SEED MIX WILL GERMINATE THE FOLLOWING SPRING. DURING THE FIRST SEASON OF GROWTH SEVERAL SPECIES WILL PRODUCE SEEDS WHILE OTHER SPECIES WILL PRODUCE SEEDS AFTER THE SECOND GROWING SEASON. NOT ALL SPECIES WILL GROW IN ALL WETLAND SITUATIONS. THIS MIX IS COMPRISED OF THE WETLAND SPECIES MOST LIKELY TO GROW IN CREATED/RESTORED WETLANDS AND SHOULD PRODUCE MORE THAN 75% GROUND COVER IN TWO FULL GROWING SEASONS.
- THE WETLAND SEEDS IN THIS MIX CAN BE SOWN BY HAND, WITH A HAND-HELD SPREADER, OR HYDRO-SEEDED ON LARGE OR HARD TO REACH SITES. LIGHTLY RAKE TO ENSURE GOOD SEED-TO-SOIL CONTACT. SEEDING CAN TAKE PLACE ON FROZEN SOIL, AS THE FREEZING AND THAWING WEATHER OF LATE FALL AND LATE WINTER WILL WORK THE SEED INTO THE SOIL. IF SPRING CONDITIONS ARE DRIER THAN USUAL, WATERING MAY BE REQUIRED. IF SOWING DURING THE SUMMER MONTHS, SUPPLEMENTAL WATERING WILL LIKELY BE REQUIRED UNTIL GERMINATION. A LIGHT MULCH OF CLEAN, WEED FREE STRAW IS RECOMMENDED.
- THE POND CONSTRUCTION SHOULD BE ONLY CONSTRUCTED UNDER THE SUPERVISION OF THE DESIGN ENGINEER.



GRAVEL WETLAND #1 PLAN VIEW

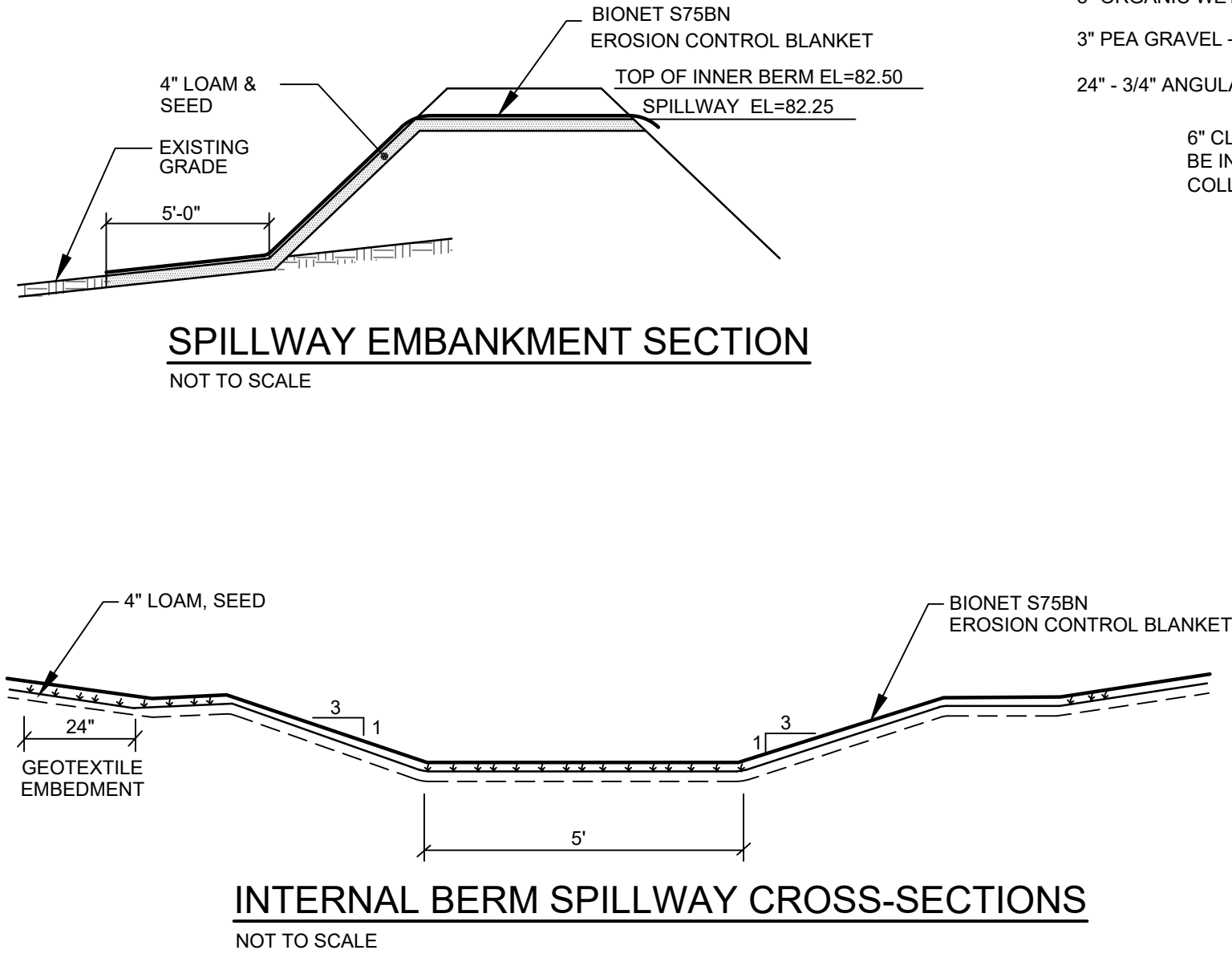
SCALE: 1\"/>

ORGANIC WETLAND SOIL MIXTURE:

- THE WETLAND SOIL SHOULD HAVE A LOW HYDRAULIC CONDUCTIVITY (0.1-0.01 FT/DAY). THIS SOIL CAN BE MANUFACTURED USING COMPOST, SAND AND FINE SOILS, INTO A BLEND WITH MORE THAN 15% ORGANIC MATTER. IT SHOULD CONTAIN MORE THAN 15% SILT (PASSING THE #200 SIEVE), BUT WITH A CLAY SIZE PORTION THAT IS LESS THAN 2%. DO NOT USE GEOTEXTILES BETWEEN THE HORIZONTAL LAYERS OF THIS SYSTEM AS THEY WILL CLOG DUE TO FINES AND MAY RESTRICT ROOT GROWTH.

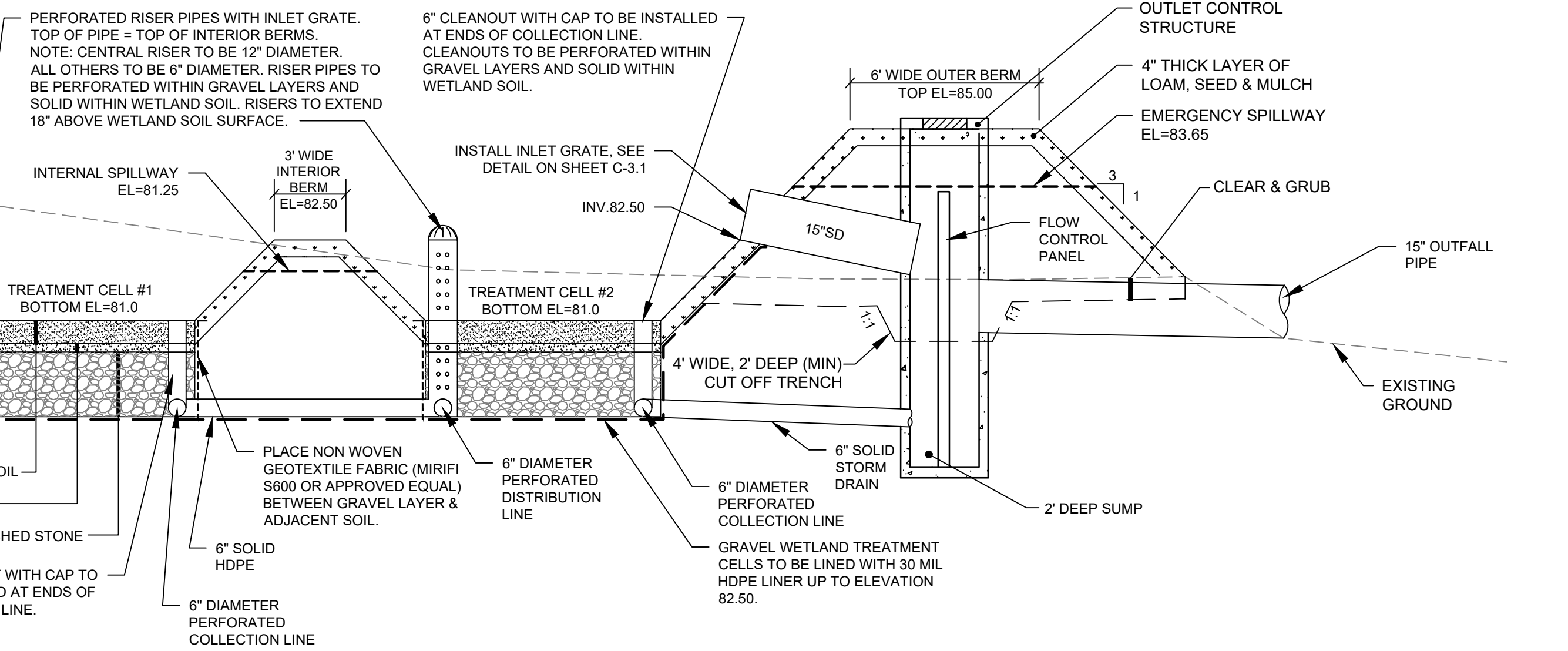
POND DEWATERING NOTES:

- DEWATERING OF THE FOREBAY AND TREATMENT CELLS OF THE POND SHALL BE CONDUCTED SUCH THAT THE POND WILL NOT FILL WITH WATER UNTIL THE FOREBAY & TREATMENT CELL FLOORS ARE COMPLETED.
- DEWATERING PROCEDURES SHALL BE CONDUCTED USING MDEP APPROVED TECHNIQUES AND SHALL INCLUDE THE USE OF A DIRT BAG SYSTEM. THE DIRT BAG SHALL BE USED ACCORDING TO MANUFACTURER INSTRUCTIONS.



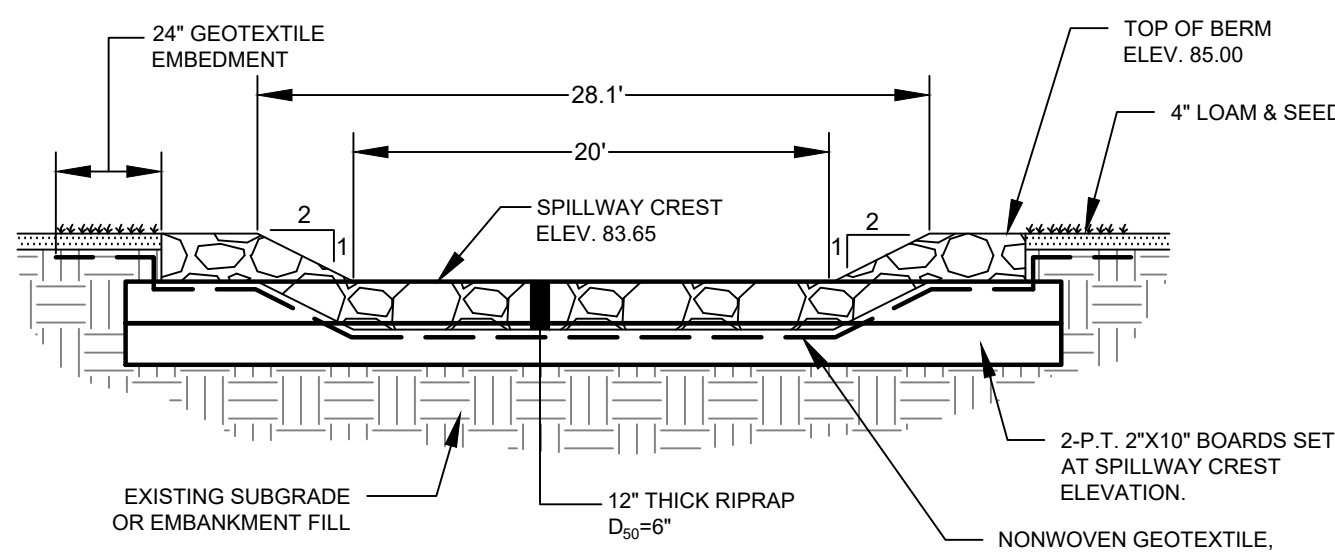
INTERNAL BERM SPILLWAY CROSS-SECTIONS

NOT TO SCALE



CROSS SECTION VIEW - GRAVEL WETLAND

NOT TO SCALE



SPILLWAY CROSS SECTION

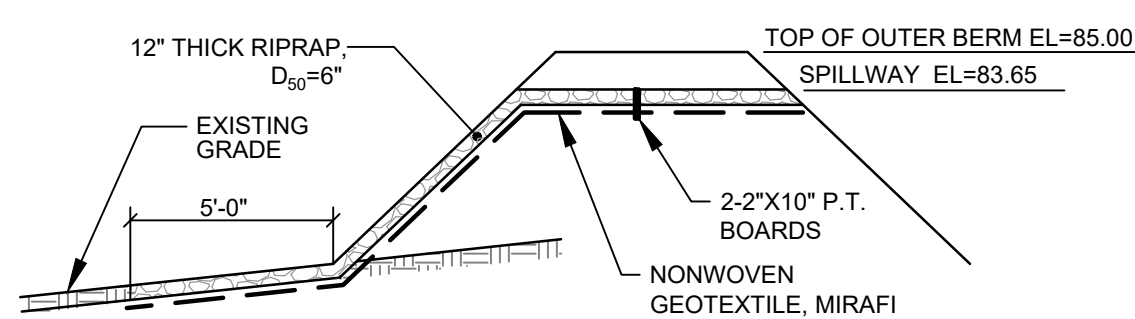
NOT TO SCALE

GRAVEL WETLAND DETAILS

NOT TO SCALE

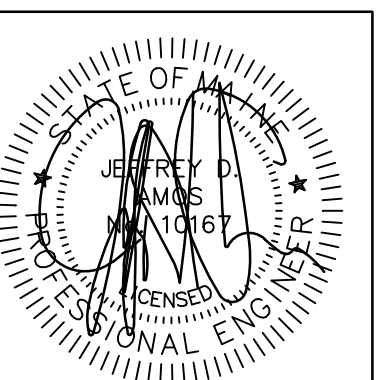
CONSTRUCTION SEQUENCE:

- THE GRAVEL WETLAND SHALL BE EXCAVATED TO FINISHED GRADE ELEVATIONS AND USED AS A TEMPORARY SEDIMENT SUMP DURING CONSTRUCTION OF THE ROAD.
- THE RIPRAP SWALE, RIPRAP FOREBAY, INTERNAL BERM AND SPILLWAY, AND OUTER BERM AND EMERGENCY SPILLWAY SHALL BE CONSTRUCTED PRIOR TO GRUBBING FOR ROAD CONSTRUCTION.
- RUNOFF FROM DISTURBED AREAS SHALL BE DIRECTED TO THE SEDIMENT BASIN DURING ROAD CONSTRUCTION.
- THE CRUSHED STONE, PEA GRAVEL, WETLAND SOIL, AND PIPES SHALL NOT BE INSTALLED UNTIL THE ROAD IS STABILIZED AND SWALES ARE VEGETATED WITH GRASS (AT LEAST 90% CATCH).



SPILLWAY EMBANKMENT SECTION

NOT TO SCALE



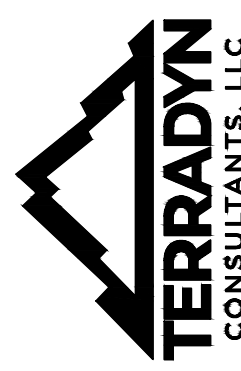
DATE: 4/4/2022

P.E.: 10167

NO.	DATE	REVISIONS	APPROVED BY
2	4/4/2022	FINAL SUBDIVISION SUBMISSION	
1	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	

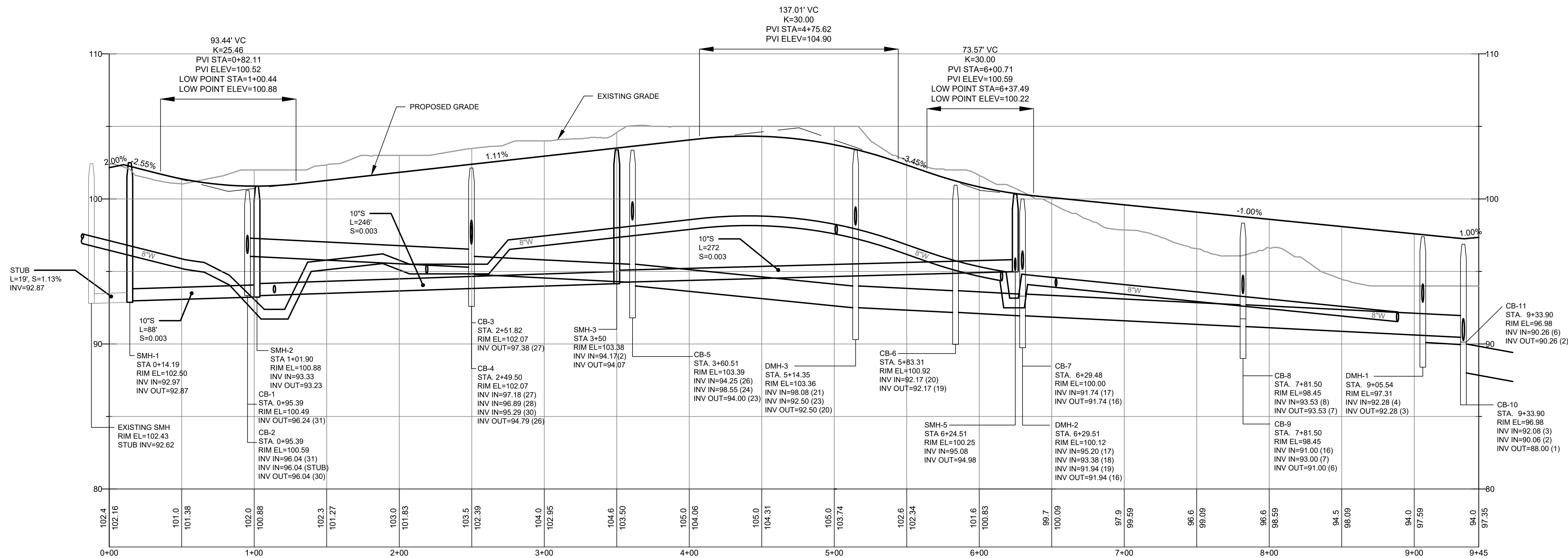
565 CONGRESS STREET
SUITE 101
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

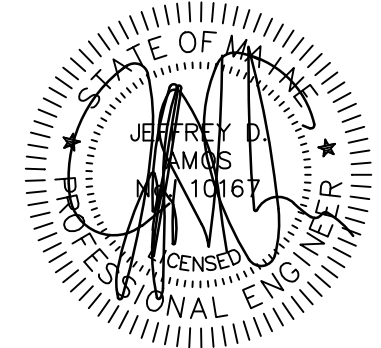


PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME	CLIENT: CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
SHEET TITLE: GRAVEL WETLAND DETAILS	
DATE: 4/4/2022	SCALE: 1\"/>
DESIGNED: JDA	JOB NO: 2104
FILE: 2104 G	
SHEET	C-4.4



PROFILE OF CLOVERLEAF DRIVE



DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS	APPD BY
2	4/4/2022	FINAL SUBDIVISION SUBMISSION	
1	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

TERRADYN
CONSULTANTS, LLC

CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

OFFICE: (207) 926-5111
www.terradynconsultants.com

PROJECT:
CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME

SHEET TITLE:
ROADWAY PROFILE

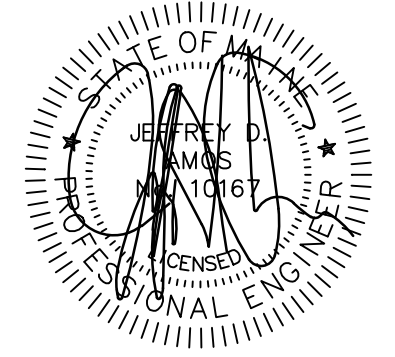
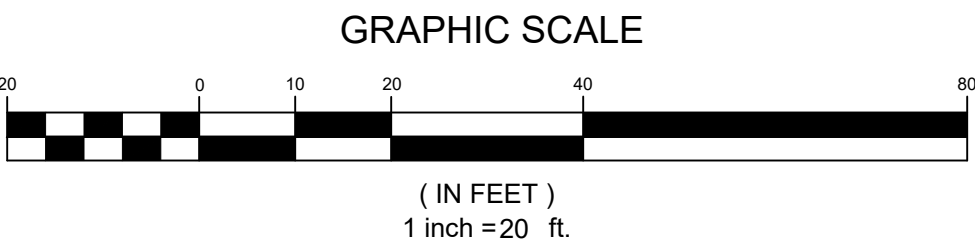
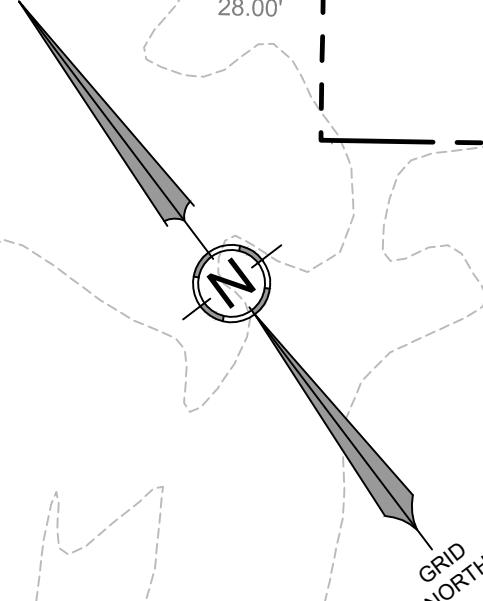
CLIENT:
CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6799
SCARBOROUGH, MAINE 04070

PERMIT DRAWING
NOT FOR CONSTRUCTION

DATE:	4/4/2022
SCALE:	
DESIGNED:	JDA
JOB NO:	2104
FILE:	
SHEET	C-5.0

DEMOLITION NOTES

1. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
2. ALL EXISTING PAVEMENT, UTILITIES AND BUILDINGS TO BE DEMOLISHED AS DELINEATED AND REMOVED FROM SITE IN ACCORDANCE WITH ALL APPLICABLE TOWN OF WINDHAM AND STATE OF MAINE REGULATIONS.
3. ALL DEMOLITION AND WRECKAGE FROM PROJECT SITE TO BE DISPOSED OF AT AN APPROPRIATE LICENSED DISPOSAL SITE.
4. THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY UTILITY COMPANIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
5. CONTRACTOR SHALL BE AWARE THAT DIG SAFE ONLY NOTIFIES ITS "MEMBER" UTILITIES ABOUT THE DIG. WHEN NOTIFIED, DIG SAFE WILL ADVISE CONTRACTOR OF MEMBER UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND CONTACTING NON-MEMBER UTILITIES DIRECTLY. NON-MEMBER UTILITIES MAY INCLUDE TOWN OR CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USG PUBLIC WORKS SYSTEMS.
6. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND IN THE FIELD.
7. CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY DURING DEMOLITION PHASE TO PROTECT EXISTING STRUCTURES, PHYSICAL FEATURES, AND MAINTAIN SITE STABILITY.
8. REQUIRED EROSION CONTROL MEASURES MUST REMAIN INTACT THROUGHOUT DEMOLITION AND CONSTRUCTION. FAILURE TO INSTALL OR PROPERLY MAINTAIN THESE BARRICADES WILL RESULT IN ENFORCEMENT ACTION. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH "MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES" PUBLISHED BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 2004 OR LATEST EDITION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POSSESS A COPY OF THE EROSION CONTROL PLAN AT ALL TIMES.
9. NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
10. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL REQUIRE A M.D.O.T. PERMIT AS WELL AS PERMITS FROM THE TOWN AS APPLICABLE.
11. THE UNDERGROUND UTILITIES DEPICTED HEREON SHOULD BE ASSUMED TO BE APPROXIMATE ONLY. EXISTING CONDITIONS SURVEY WAS PERFORMED BY OWEN HASKELL INC. 390 US ROUTE 1, FALMOUTH, MAINE 04105.
12. IT IS NOT KNOWN IF ANY OF THE REMAINING STRUCTURES INCLUDE LEAD PAINT, ASBESTOS-CONTAINING WASTE, OR OTHER MATERIALS THAT COULD POSE A RISK TO HUMAN HEALTH OR THE ENVIRONMENT IF HANDLED OR DISPOSED OF IMPROPERLY. THE APPLICANT MUST IDENTIFY ANY SUCH MATERIALS ON THE SITE AND PROVIDE THE DEPARTMENT SITE LOCATION PROJECT MANAGER WITH AN INVENTORY OF THESE MATERIALS AND EVIDENCE OF THEIR PROPER DISPOSAL.
13. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL IDENTIFY ANY EXISTING WASTEWATER DISPOSAL SYSTEMS ON THE SITE AND DESCRIBE PROCEDURES FOR REMOVAL AND DISPOSAL OF ANY COMPONENTS OF THESE SYSTEMS IN AREAS THAT WILL BE DISTURBED BY CONSTRUCTION. IN AREAS WHERE COMPONENTS OF THESE SYSTEMS WILL NOT BE DISTURBED BY THE PROPOSED CONSTRUCTION, THEY MAY REMAIN IN PLACE IF THEY DO NOT POSE HAZARDS TO HUMAN HEALTH OR THE ENVIRONMENT, BUT THE LOCATIONS OF THESE SYSTEMS MUST BE RECORDED ON COPIES OF THE SITE PLAN TO BE RETAINED ON SITE AND FILED WITH THE DEPARTMENT.



DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS	APP'D BY
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PROJECT: 565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

OFFICE: (207) 926-5111
www.terradynconsultants.com

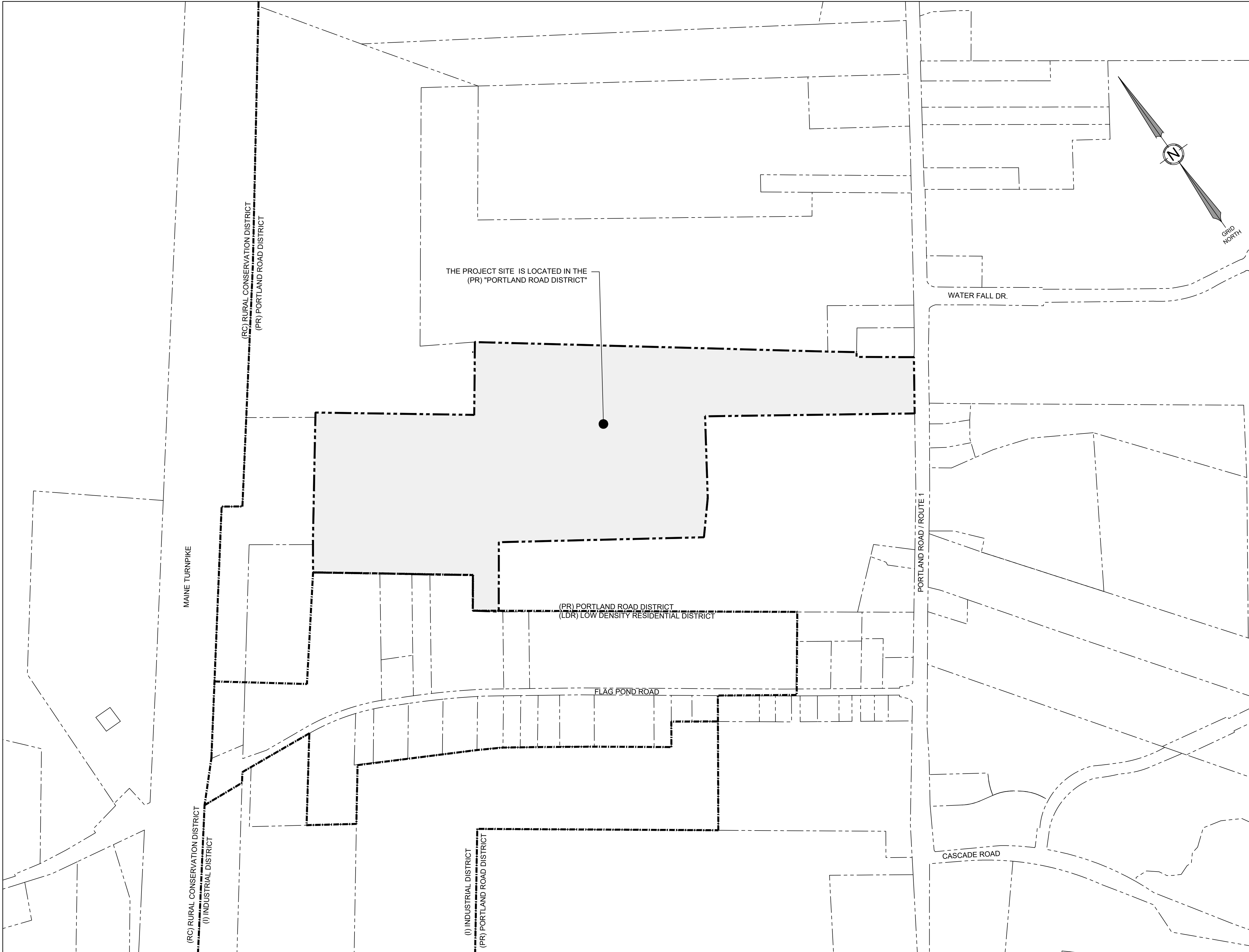


PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:	CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME
SHEET TITLE:	DEMOLITION PLAN
CLIENT:	CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
DATE:	4/4/2022
SCALE:	
DESIGNED:	JDA
JOB NO:	2104
FILE:	
SHEET	C-6.0

CLOVER LEAF DEVELOPMENT

986 PORTLAND ROAD, SACO, MAINE



LOCATION MAP

 $1'' = 300'$

SHEET INDEX

- C-0.0 COVER SHEET & LOCATION MAP
- S-1.0 BOUNDARY SURVEY
- C-1.0 OVERALL SITE PLAN
- C-1.1 SITE LAYOUT PLAN
- C-1.2 SITE LAYOUT PLAN
- C-2.0 GRADING & EROSION CONTROL PLAN
- C-2.1 GRADING & EROSION CONTROL PLAN
- C-3.0 UTILITY PLAN
- C-3.1 UTILITY PLAN
- C-4.0 EROSION CONTROL NOTES & DETAILS
- C-4.1 SITE DETAILS
- C-4.2 SITE DETAILS
- C-4.3 STORMWATER DETAILS & NOTES
- C-4.4 GRAVEL WETLAND DETAILS
- C-5.0 ROADWAY PROFILE
- C-6.0 DEMOLITION PLAN
- P-1.0 PHOTOMETRIC PLAN
- L-1.0 LANDSCAPING PLAN
- L-1.1 LANDSCAPING PLAN

APPLICANT

CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6700
SCARBOROUGH, MAINE 04070

OWNERS

MITCHELL SHERR
CONSIGLIO PAMEL
115 U.S. RT 2 SOUTH
ALBURGH, VT, 05440

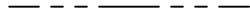





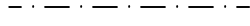



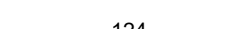
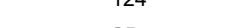










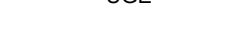


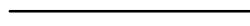













PROJECT PARCEL SITE

CITY OF SACO TAX ASSESSOR'S MAP & LOT NUMBERS

63

LOT
3-1

LEGEND

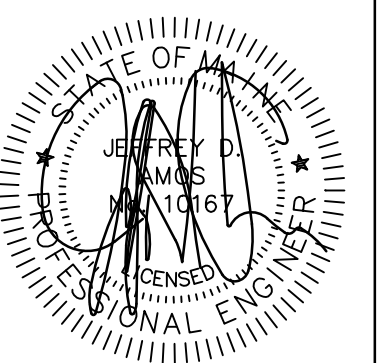
	EXISTING PROPERTY LINE
	PROPOSED PROPERTY LINE
	PROPOSED SETBACK LINE
	EXISTING SETBACK LINE
	EXISTING EASEMENT
	PROPOSED EASEMENT
	ROAD CENTERLINE
	EXISTING MINOR CONTOUR
	EXISTING MAJOR CONTOUR
	PROPOSED CONTOUR
	EXISTING STORMDRAIN
	PROPOSED STORMDRAIN
	EXISTING OVERHEAD ELECTRIC & TELEPHONE
	PROPOSED OVERHEAD ELECTRIC & TELEPHONE
	EXISTING UNDERGROUND ELECTRIC & TELEPHONE
	PROPOSED UNDERGROUND ELECTRIC & TELEPHONE
	EXISTING EDGE OF PAVEMENT
	PROPOSED EDGE OF PAVEMENT
	EXISTING EDGE OF GRAVEL
	PROPOSED EDGE OF GRAVEL
	EXISTING TREE LINE
	PROPOSED TREE LINE
	SILT FENCE
	PROPOSED TRANSFORMER
	PROPOSED LIGHT POLE
	EXISTING UTILITY POLE
	PROPOSED CATCH BASIN
	PROPOSED SPOT GRADE
	EXISTING SIGN
	PROPOSED SIGN
	EXISTING BUILDING
	PROPOSED BUILDING
	WETLAND AREA
	
	WETLAND ALTERATION AREA
	
	PROPOSED PAVEMENT
	
	RIPRAP

PREPARED BY:

CIVIL ENGINEER:
TERRADYN CONSULTANTS, LLC
41 CAMPUS DR. SUITE 101
NEW GLOUCESTER, MAINE 04260
(207)926-5111

SURVEYOR:
OWEN HASKELL INC.
390 US ROUTE 1, UNIT 10
FALMOUTH, MAINE 04105
774-0424

WETLANDS SURVEY:
MARK HAMPTON ASSOCIATES
PO BOX 1931
PORTLAND, MAINE 04104
(207) 757-2900



DATE: 4/4/2022

P.E.: 1016.

[illegible]

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLoucester ME 04260

OFFICE: (207) 926-5111
www.terradyconsultants.

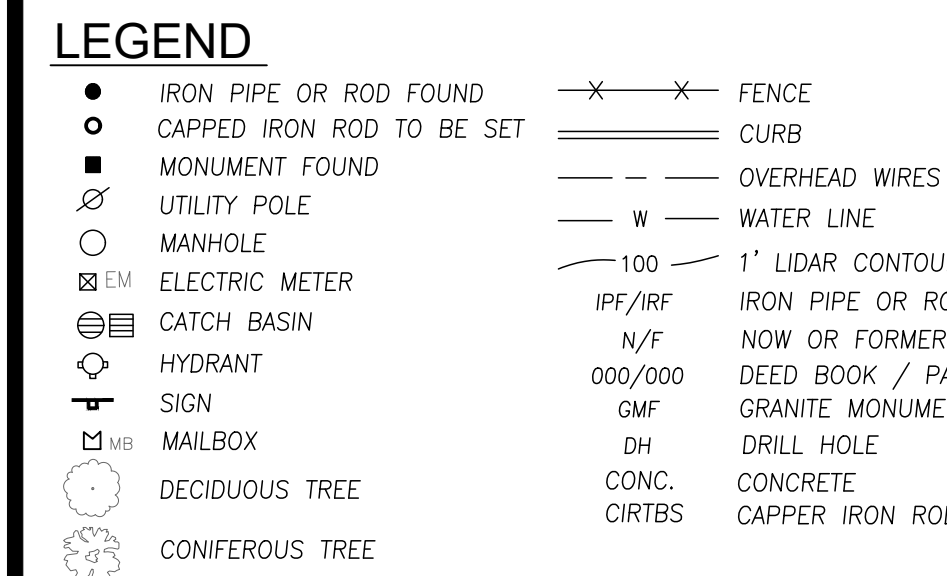


CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME	CLIENT: CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
SHEET TITLE: COVER/LOCATION MAP	

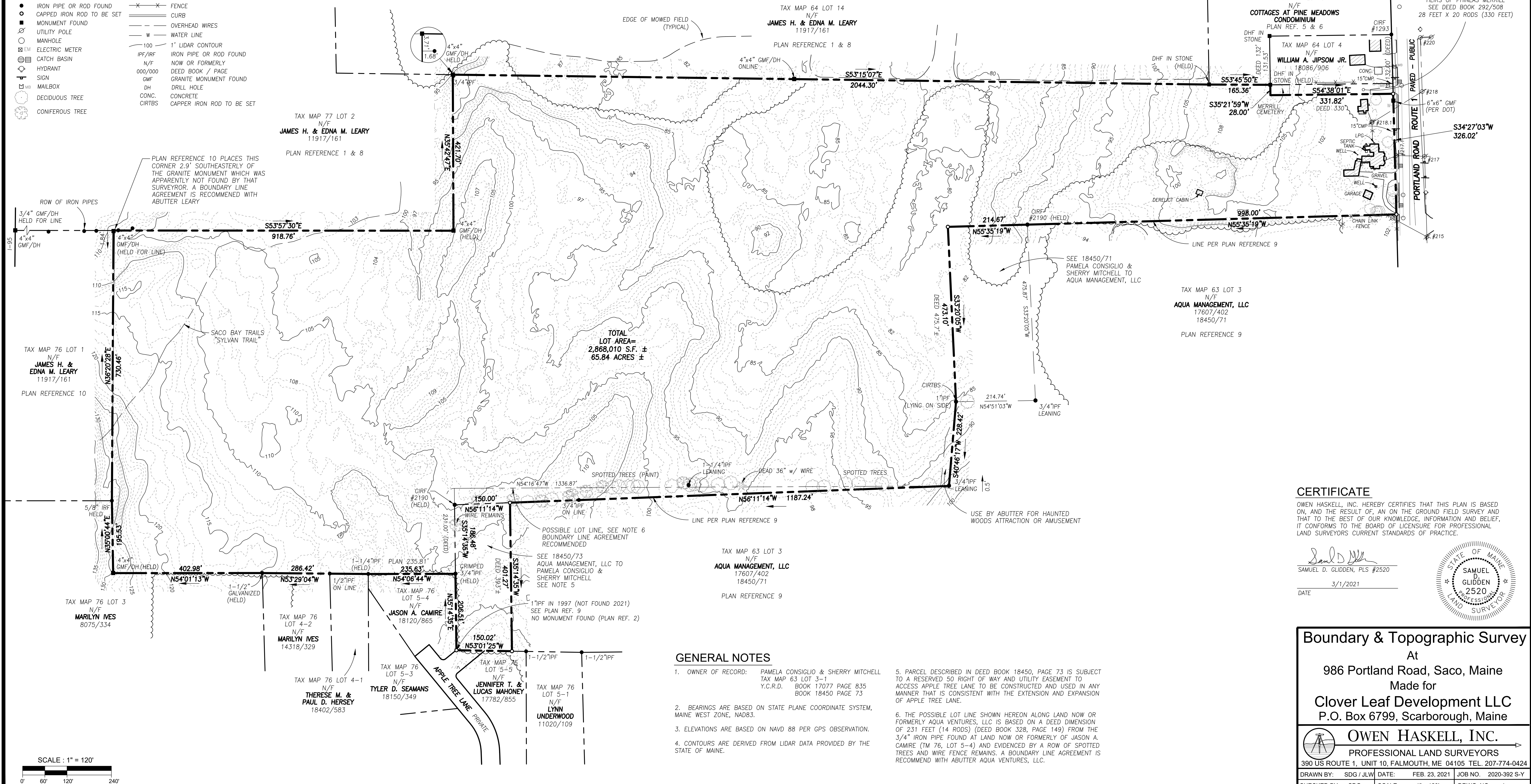
DATE:	4/4/2022
SCALE:	
DESIGNED:	JDA
JOB NO:	2104
FILE:	2104 C.DWG
SHEET	C-0.0



1. PLAN OF MERRILL J. GAY PROPERTY, SACO, MAINE APR. 4, 1979 BY WILLIAM STANTON ASSOC. RECORDED IN PLAN BOOK 97, PAGE 35.
2. FINAL PLAN, APPLE TREE LANE SUBDIVISION, 107 FLAG POND ROAD, SACO, MAINE MADE FOR BILL KOCH MARCH 2, 2016 BY CULLENBERG LAND SURVEYING RECORDED IN PLAN BOOK 381, PAGE 44.
3. MAINE STATE HIGHWAY COMMISSION RIGHT OF WAY MAP, STATE HIGHWAY 'A', FEDERAL PROJECT NO. 118-A(4) RTE. 1, SACO, YORK COUNTY APRIL 1940 S.H.C. FILE NO. 16-56.
4. U.S. ROUTE ONE SEWER EXTENSION, CASCADE ROAD TO WEST SCARBOROUGH TOWN LINE, SEWER EXTENSION PLAN & PROFILE, CITY OF SACO, MAINE JANUARY 15, 2019, REV. 1 1/31/2020, BY ATLANTIC RESOURCE CONSULTANTS.
5. COTTAGES AT PINE MEADOWS, OVERALL SITE LAYOUT & MATERIALS PLAN, BILL KOCH & SANDRA MURRAY APRIL 9, 2018, REV. 4 2/2/20 BY ATLANTIC RESOURCE CONSULTANTS RECORDED IN PLAN BOOK 960, PAGE 1.
6. PLAN SHOWING A BOUNDARY SURVEY MADE FOR BILL KOCH AND SANDRA MURRAY, PARCEL LOCATED AT 994 PORTLAND ROAD (U.S. ROUTE #1), BY DOW & COULOMBE, INC., DATED SEPTEMBER 11, 2014 AND REVISED THROUGH 20-2015.

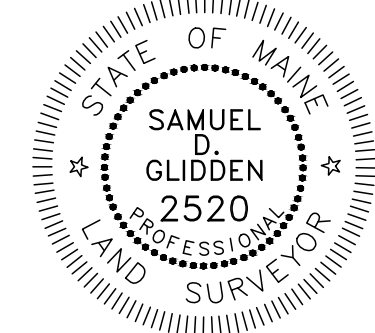
7. STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, STATE HIGHWAY '1' SACO, YORK COUNTY, FEDERAL AID PROJECT NO. STP-6615(00)X JANUARY 1999 D.O.T. FILE NO. 16-375.
8. MERRILL GAY SURVEY (COPY OF PLAN MADE IN 1888), SACO, MAINE 12/9/77 BY WILLIAM STANTON ASSOCIATES RECORDED IN PLAN BOOK 90, PAGE 80.
9. STANDARD BOUNDARY SURVEY, AQUABOGGIN, U.S. ROUTE ONE, SACO, MAINE 04072 FOR WESLEY HURST, JR. & WAYNE HURST NOV. 1977, REV. 2 02-02-98 BY BHZM.
10. STANDARD BOUNDARY SURVEY, PROPERTY OF JAMES H. AND EDNA M. LEARY ON FLAG POND ROAD, SACO, MAINE FOR JAMES H. LEARY FEBRUARY 1997 BY ROSS BOUNDARY SURVEYS.

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE CERTIFIES THAT THEY ARE LOCATED AS ACCURATELY AS CAN BE DETERMINED FROM AVAILABLE DATA. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CALL 1-888-DIGSAFE AT LEAST THREE BUSINESS DAYS BEFORE PERFORMING ANY CONSTRUCTION. DUE TO OSHA CONFINED SPACE REQUIREMENTS, ALL INVERTS AND PIPE SIZES MUST BE VERIFIED PRIOR TO ANY CONSTRUCTION.




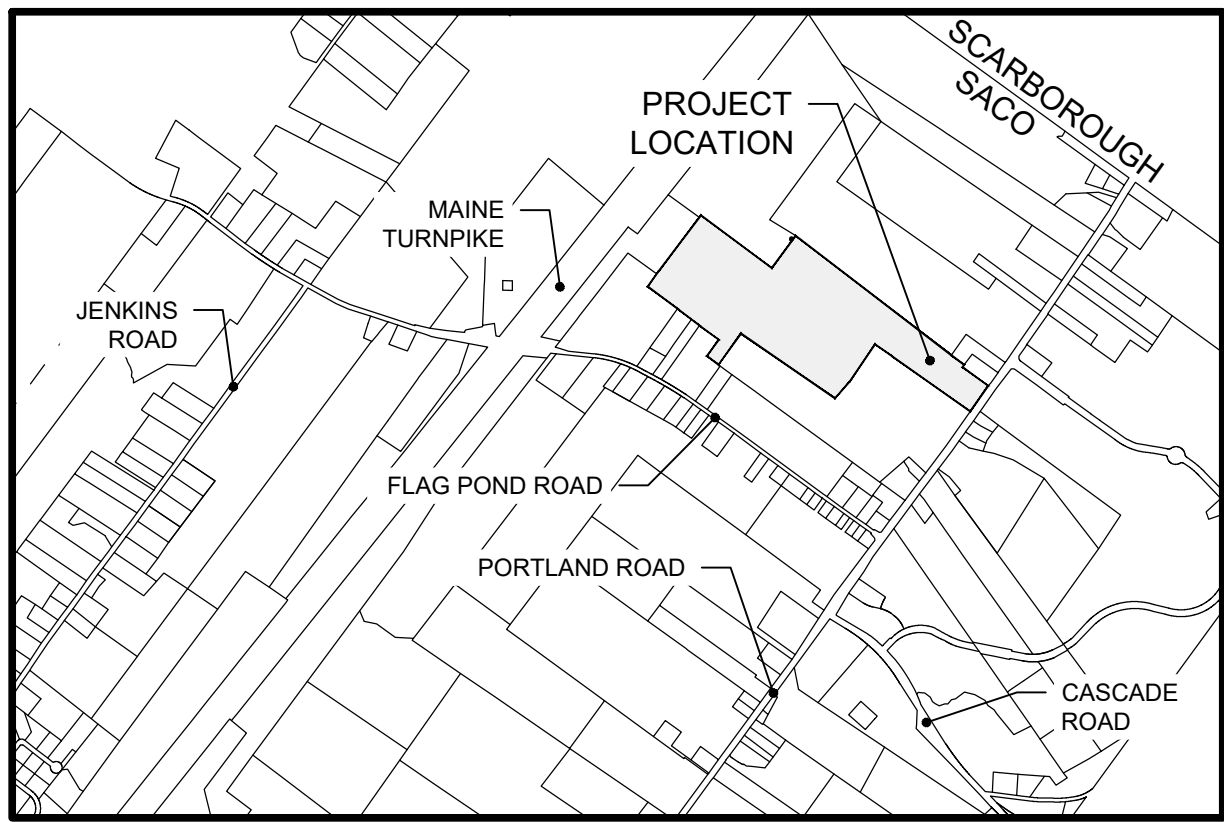
OWEN HASKELL, INC. HEREBY CERTIFIES THAT THIS PLAN IS BASED ON, AND THE RESULT OF, AN ON THE GROUND FIELD SURVEY AND THAT TO THE BEST OF OUR KNOWLEDGE, INFORMATION AND BELIEF, IT CONFORMS TO THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS CURRENT STANDARDS OF PRACTICE.

Samuel D. Glidden
SAMUEL D. GLIDDEN, PLS #2520
3/1/2021
DATE



Boundary & Topographic Survey
At
986 Portland Road, Saco, Maine
Made for
Clover Leaf Development LLC
P.O. Box 6799, Scarborough, Maine

	<h2 style="margin: 0;">OWEN HASKELL, INC.</h2> <p style="margin: 0;">PROFESSIONAL LAND SURVEYORS</p>
<p style="margin: 0;">390 US ROUTE 1, UNIT 10, FALMOUTH, ME 04105 TEL. 207-774-0424</p>	
DRAWN BY: SDG / JLW	DATE: FEB. 23, 2021
CHECKED BY: SDG	SCALE: 1" = 120'
JOB NO. 2020-392 S-Y	
DRWG. NO. 1	

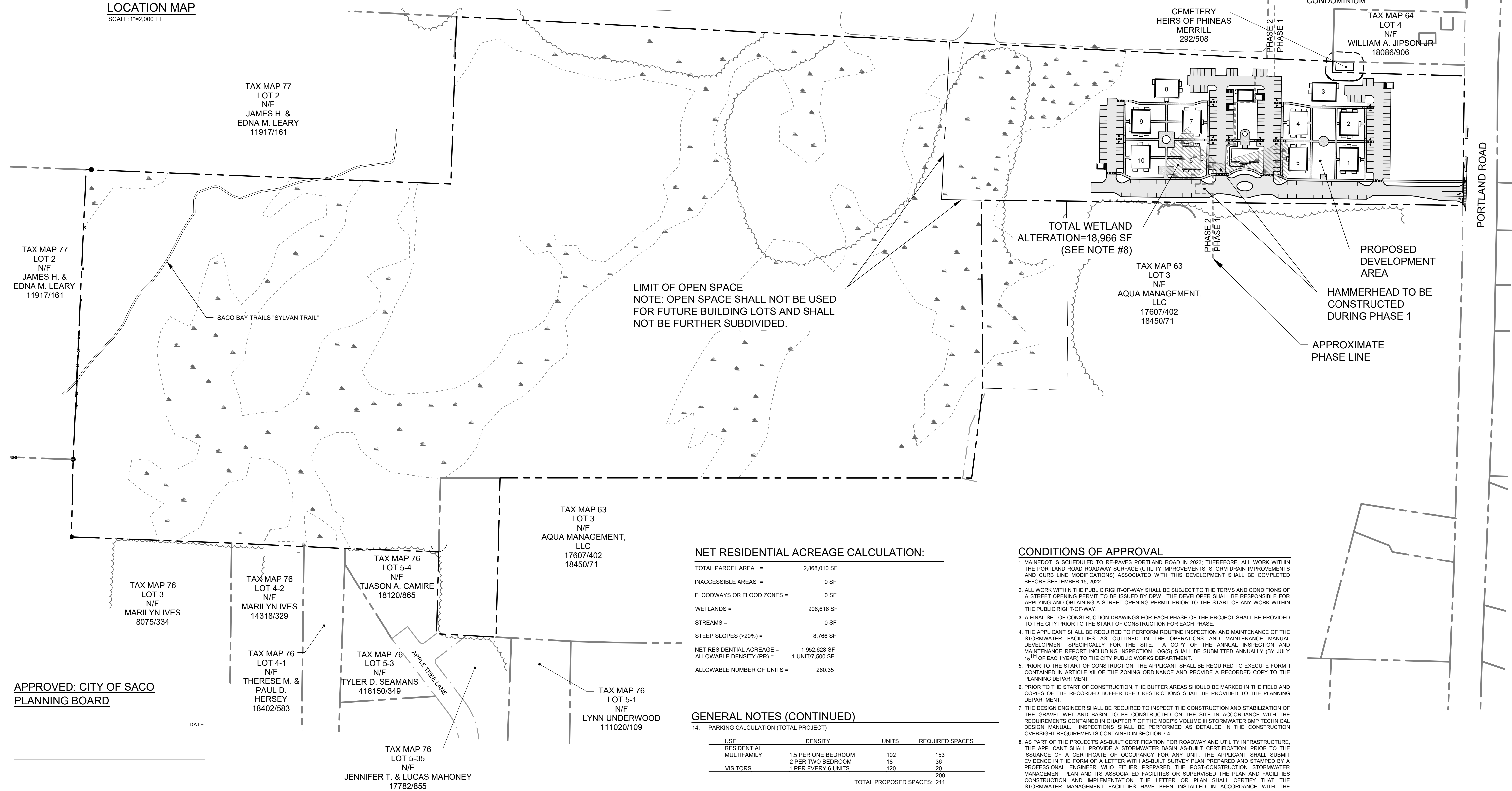


LOCATION MAP
SCALE: 1"=2,000 FT

GENERAL NOTES

1. THE RECORD OWNER OF THE PARCEL IS SHERRY MITCHELL & PAMELA CONSIGLIO AND RECORDED IN THE YORK COUNTY OF DEEDS IN BOOK 17077 PAGE 835 & BOOK 18450 PAGE 73.
2. THE PROPERTY IS SHOWN AS LOT 3-1 ON THE CITY OF SACO TAX MAP 63 AND IS LOCATED PORTLAND ROAD DISTRICT (PR).
3. BOUNDARY & TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON A BOUNDARY SURVEY BY OWEN HASKELL, INC., FALMOUTH MAINE, PLAN TITLED "BOUNDARY AND TOPOGRAPHIC SURVEY AT 986 PORTLAND ROAD SACO, MAINE MADE FOR CLOVER LEAF DEVELOPMENT LLC, P.O. BOX 6799 SCARBOROUGH, MAINE" DATED FEBRUARY 23, 2021.
4. THE TOTAL AREA OF THIS PROPERTY IS 65.84 AC.
5. SPACE AND BULK CRITERIA (PR):
MIN. LOT SIZE : 20,000 SF (SEWERED AND UNSEWERED)
MIN. LOT AREA PER DWELLING UNIT : 7,500 SF (SEWERED)
30,000 SF (UNSEWERED)
PROPOSED DENSITY: 65.84 AC/120 UNITS= 1 UNIT/23,900 SF
MIN. STREET FRONTAGE: 200' FOR ROUTE 1, 50' ALL OTHER ROADS
MIN. FRONT SETBACK: 40' FOR ROUTE 1, CASCADE & FLAG POND ROADS
25' ALL OTHER ROADS
MIN. SIDE SETBACK: 20'
MIN. REAR SETBACK: 20'
MAX. LOT COVERAGE: 60%
MAX. HEIGHT: 60'
6. THE WETLANDS ON THIS PLAN WERE DELINEATED BY MARK HAMPTON ASSOCIATES, INC., PORTLAND, MAINE.

7. TOTAL PROJECT WETLAND ALTERATION IS 18,966 SF. NO ADDITIONAL WETLAND ALTERATION AREA IS PERMISSIBLE WITHOUT FURTHER WETLAND PERMITTING. THE PROJECT RECEIVED THE FOLLOWING PERMITS: NRPA PERMIT #L-#####-TC-A-N & A.C.O.E. PERMIT # NAE-2021-#####.
8. THIS PROJECT REQUIRES A SITE LOCATION OF DEVELOPMENT ACT PERMIT AND NATURAL RESOURCE PROTECTION ACT PERMIT (# L-#####-TC-A-N) FROM THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
9. PROJECT STORMWATER DESIGN FEATURES THE FOLLOWING:
 - TOTAL IMPERVIOUS AREA: 173,523 SF (3.98 ACRES)
 - TOTAL DEVELOPED AREA: 307,870 SF (7.07 ACRES)
10. THE STORMWATER POND WAS DESIGNED TO HANDLE AN ADDITIONAL 34,380 SF OF IMPERVIOUS AREA AND 14,173 SF OF LANDSCAPED AREA TO ACCOMMODATE POTENTIAL FUTURE DEVELOPMENT.
11. THE OWNER SHALL BE REQUIRED TO INSPECT THE STORMWATER MANAGEMENT SYSTEM ON AN ANNUAL BASIS, PERFORM REQUIRED ANNUAL MAINTENANCE, AND SUBMIT AN ANNUAL REPORT TO DPW BY JULY 15TH OF EACH CALENDAR YEAR. IN ADDITION, THE APPLICANT IS REQUIRED TO EXECUTE FORM 1 WITHIN 3XII OF THE ZONING ORDINANCE PRIOR TO THE START OF CONSTRUCTION AND FORM 2 AS PART OF THE FUTURE ANNUAL REPORTING EFFORT.
12. THE FUTURE OUTPARCEL ADJACENT TO PORTLAND ROAD SHOULD BE ACCESSED FROM THE NEW ACCESS DRIVE INTO THE SITE. ANY ADDITIONAL ACCESS FROM PORTLAND ROAD WILL BE DISCOURAGED IN THE FUTURE AND IF ALLOWED, WILL BE RESTRICTED TO RIGHT-IN AND RIGHT-OUT.
13. TOTAL PROJECT OPEN SPACE IS APPROXIMATELY 253,649 SF (5.82 AC). THIS INCLUDES ALL AREAS WITHIN THE PROJECT BOUNDARY, NOT INCLUDING ROADWAYS, PARKING AREAS, BUILDINGS & THE STORMWATER POND AREA. TABLE 7.1 OF THE SUBDIVISION ORDINANCE REQUIRES 7.5% OF THE LOT SET ASIDE AS OPEN SPACE FOR PROJECT WITH AN AVERAGE LOT SIZE (DENSITY) OF 1 UNIT PER 20,000-39,999 SF. 5.82 AC/65.84 AC X 100%=8.8%.



LIMIT OF OPEN SPACE
NOTE: OPEN SPACE SHALL NOT BE USED
FOR FUTURE BUILDING LOTS AND SHALL
NOT BE FURTHER SUBDIVIDED.

NET RESIDENTIAL ACREAGE CALCULATION:

TOTAL PARCEL AREA	=	2,868,010 SF
INACCESSIBLE AREAS	=	0 SF
FLOODWAYS OR FLOOD ZONES	=	0 SF
WETLANDS	=	906,616 SF
STREAMS	=	0 SF
STEEP SLOPES (>20%)	=	8,766 SF
NET RESIDENTIAL ACREAGE	=	1,952,628 SF
ALLOWABLE DENSITY (PR)	=	1 UNIT/7,500 SF
ALLOWABLE NUMBER OF UNITS	=	260.35

GENERAL NOTES (CONTINUED)

14. PARKING CALCULATION (TOTAL PROJECT)

USE	DENSITY	UNITS	REQUIRED SPACES
RESIDENTIAL MULTIFAMILY	1.5 PER ONE BEDROOM	102	153
	2 PER TWO BEDROOM	18	36
VISITORS	1 PER EVERY 6 UNITS	120	20
		TOTAL PROPOSED SPACES:	211

PARKING CALCULATION (FIRST PHASE)

USE	DENSITY	UNITS	REQUIRED SPACES
RESIDENTIAL MULTIFAMILY	1.5 PER ONE BEDROOM	54	84
	2 PER TWO BEDROOM	6	12
VISITORS	1 PER EVERY 6 UNITS	60	10
		TOTAL PROPOSED SPACES:	106

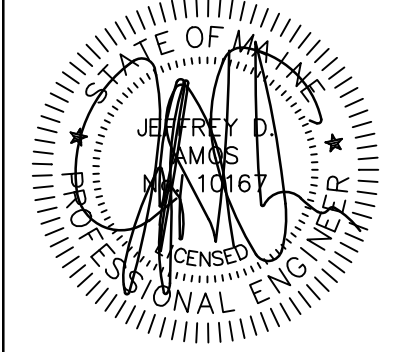
CONDITIONS OF APPROVAL

1. MAINEDOT IS SCHEDULED TO RE-PAVES PORTLAND ROAD IN 2023; THEREFORE, ALL WORK WITHIN THE PORTLAND ROAD ROADWAY SURFACE (UTILITY IMPROVEMENTS, STORM DRAIN IMPROVEMENTS AND CURB LINE MODIFICATIONS) ASSOCIATED WITH THIS DEVELOPMENT SHALL BE COMPLETED BEFORE SEPTEMBER 15, 2022.
2. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE SUBJECT TO THE TERMS AND CONDITIONS OF A STREET OPENING PERMIT TO BE ISSUED BY DPW. THE DEVELOPER SHALL BE RESPONSIBLE FOR APPLYING AND OBTAINING A STREET OPENING PERMIT PRIOR TO THE START OF ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
3. A FINAL SET OF CONSTRUCTION DRAWINGS FOR EACH PHASE OF THE PROJECT SHALL BE PROVIDED TO THE CITY PRIOR TO THE START OF CONSTRUCTION FOR EACH PHASE.
4. THE APPLICANT SHALL BE REQUIRED TO PERFORM ROUTINE INSPECTION AND MAINTENANCE OF THE STORMWATER FACILITIES AS OUTLINED IN THE OPERATIONS AND MAINTENANCE MANUAL DEVELOPMENT SPECIFICALLY FOR THE SITE. A COPY OF THE ANNUAL INSPECTION AND MAINTENANCE REPORT INCLUDING INSPECTION LOG(S) SHALL BE SUBMITTED ANNUALLY (BY JULY 15TH OF EACH YEAR) TO THE CITY PUBLIC WORKS DEPARTMENT.
5. PRIOR TO THE START OF CONSTRUCTION, THE APPLICANT SHALL BE REQUIRED TO EXECUTE FORM 1 CONTAINED IN ARTICLE XII OF THE ZONING ORDINANCE AND PROVIDE A RECORDED COPY TO THE PLANNING DEPARTMENT.
6. PRIOR TO THE START OF CONSTRUCTION, THE BUFFER AREAS SHOULD BE MARKED IN THE FIELD AND COPIES OF THE RECORDED BUFFER DEED RESTRICTIONS SHALL BE PROVIDED TO THE PLANNING DEPARTMENT.
7. THE DESIGN ENGINEER SHALL BE REQUIRED TO INSPECT THE CONSTRUCTION AND STABILIZATION OF THE GRAVEL WETLAND BASIN TO BE CONSTRUCTED ON THE SITE IN ACCORDANCE WITH THE REQUIREMENTS CONTAINED IN CHAPTER 7 OF THE MDEPS VOLUME III STORMWATER BMP TECHNICAL DESIGN MANUAL. INSPECTIONS SHALL BE PERFORMED AS DETAILED IN THE CONSTRUCTION OVERSIGHT REQUIREMENTS CONTAINED IN SECTION 7.4.
8. AS PART OF THE PROJECT'S AS-BUILT CERTIFICATION FOR ROADWAY AND UTILITY INFRASTRUCTURE, THE APPLICANT SHALL PROVIDE A STORMWATER BASIN AS-BUILT CERTIFICATION. PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ANY UNIT, THE APPLICANT SHALL SUBMIT EVIDENCE IN THE FORM OF A LETTER WITH AS-BUILT SURVEY PLAN PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER WHO EITHER PREPARED THE POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN AND ITS ASSOCIATED FACILITIES OR SUPERVISED THE PLAN AND FACILITIES CONSTRUCTION AND IMPLEMENTATION. THE LETTER OR PLAN SHALL CERTIFY THAT THE STORMWATER MANAGEMENT FACILITIES HAVE BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED POST-CONSTRUCTION STORMWATER MANAGEMENT PLAN AND THAT THEY WILL FUNCTION AS INTENDED ON SAID PLAN. THE AS-BUILT SURVEY PLAN SHALL BE PERFORMED FOR ALL POST-CONSTRUCTION STORMWATER FACILITIES TO DOCUMENT GENERAL CONFORMANCE WITH THE APPROVED PLAN.
9. FAILURE TO COMMENCE SUBSTANTIAL CONSTRUCTION OF THE SUBDIVISION WITHIN TWO YEARS OF THE DATE OF APPROVAL AND SIGNING OF THE PLAN SHALL RENDER THE PLAN NULL AND VOID. BEFORE THE TWO YEARS EXPIRES, AND OWNER OF A SUBDIVISION MAY APPLY TO THE PLANNING BOARD FOR A ONE (1) YEAR EXTENSION OF THE APPROVAL OF A SUBDIVISION IF THE SUBDIVIDER HAS NOT MET THE CONDITIONS OF THIS PARAGRAPH. THE PLANNING BOARD MAY REQUIRE THAT THE SUBDIVISION MEET ANY NEW REGULATIONS OR ORDINANCES.

APPROVED: CITY OF SACO
PLANNING BOARD

DATE

GRAPHIC SCALE

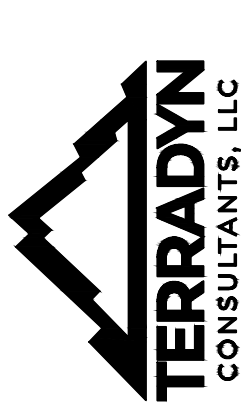


DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS
2	4/4/2022	FINAL SUBDIVISION SUBMISSION
1	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260



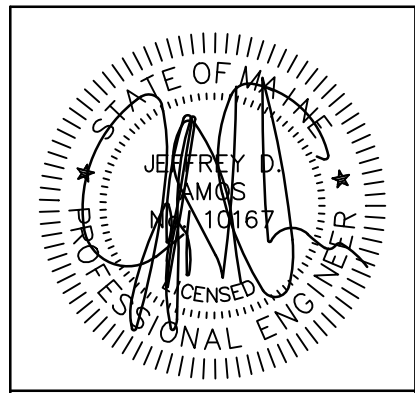
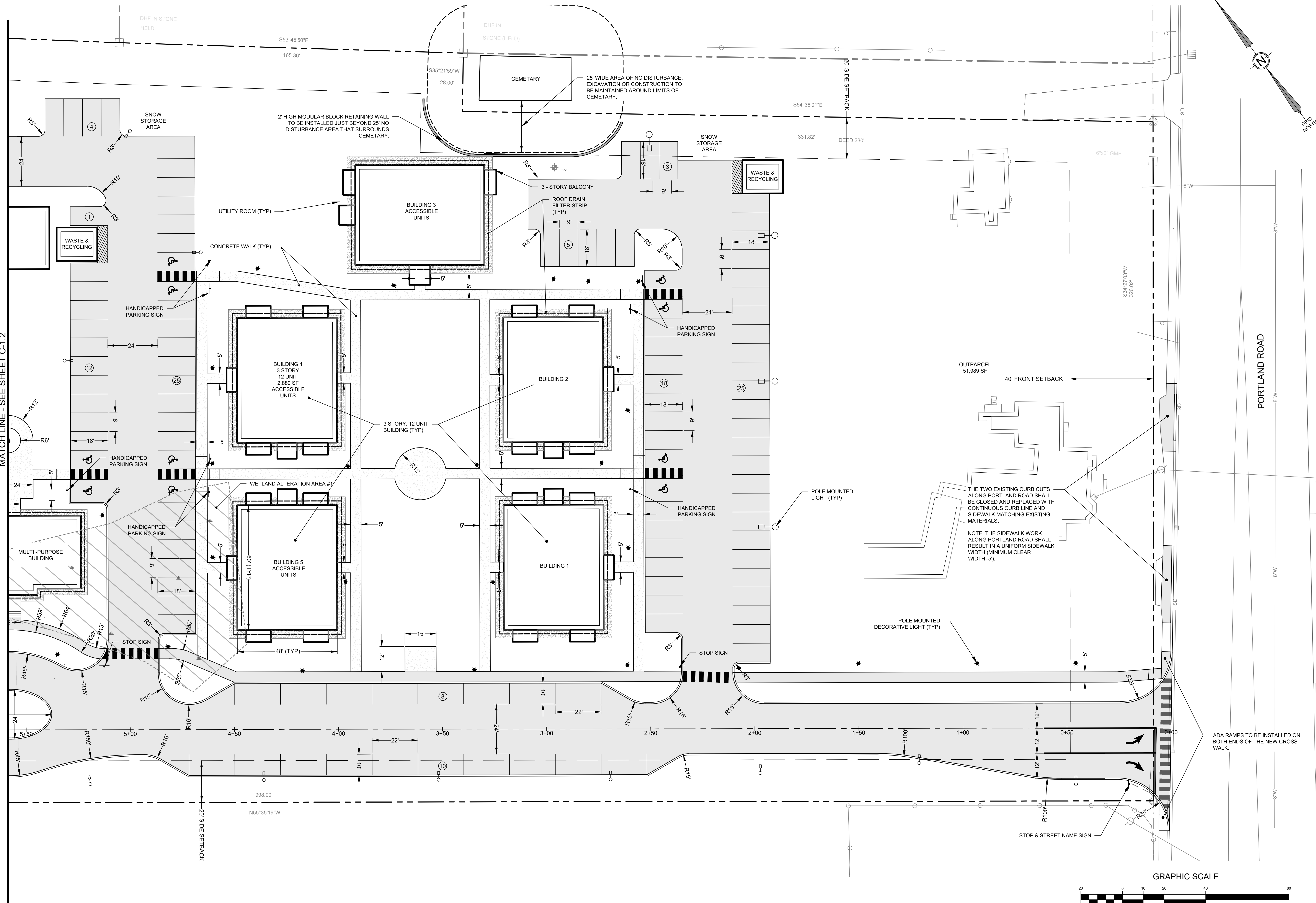
OFFICE: (207) 926-5111
www.terradync consultants.com

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME	SHEET TITLE: OVERALL PLAN	CLIENT: CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
--	------------------------------	--

DATE: 4/4/2022
SCALE: 1"=120'
DESIGNED: JDA
JOB NO: 2104
FILE: 2104 B
SHEET C-1.0

MATCH LINE - SEE SHEET C-1.2



DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS	APPD BY
1	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	
2	4/4/2022	FINAL SUBDIVISION SUBMISSION	

565 CONGRESS STREET
SUITE 101
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

OFFICE: (207) 926-5111
www.terradynconsultants.com

TERRADYN
CONSULTANTS, LLC

CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

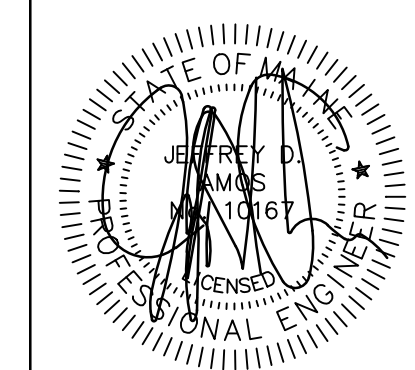
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NOT FOR CONSTRUCTION

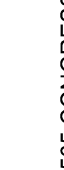
PROJECT: CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME

SHEET TITLE: SITE LAYOUT PLAN

CLIENT: CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6799
SCARBOROUGH, MAINE 04070

DATE: 4/4/2022
SCALE:
DESIGNED: JDA
JOB NO: 2104
FILE:
SHEET C-1.1

[illegible]

**TERRADYN**
CONSULTANTS, LLC

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

656 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

OFFICE: (207) 926-5111
www.terradync consultants.com

CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

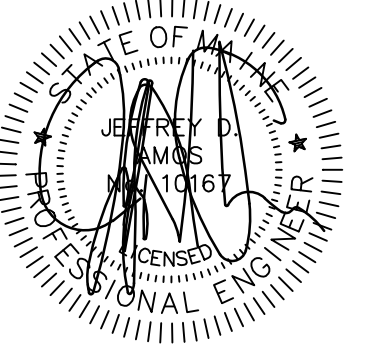
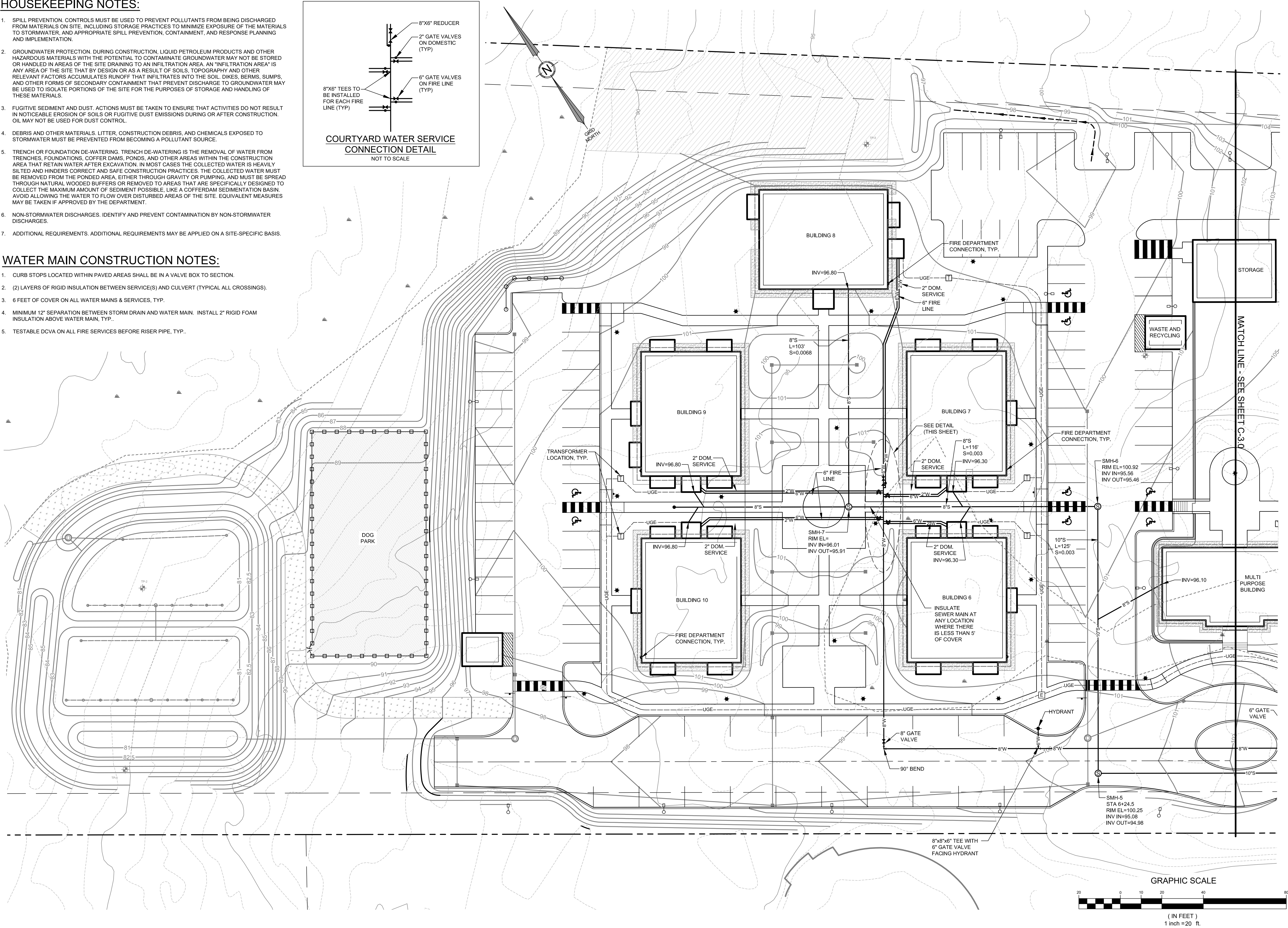
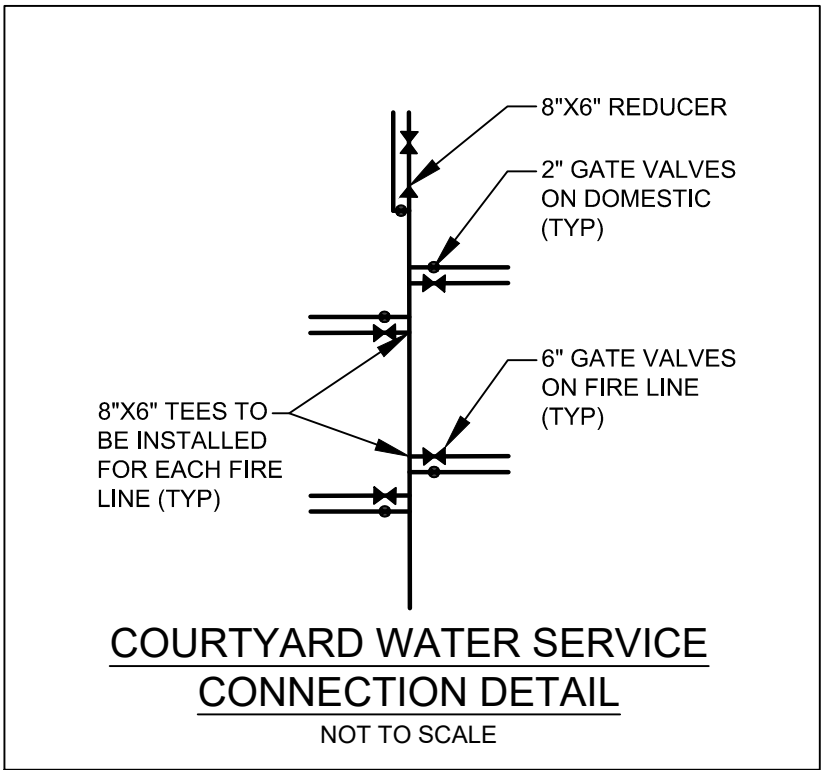
PERMIT DRAWING NOT FOR CONSTRUCTION	
PROJECT: CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME	CLIENT: CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
SHEET TITLE: GRADING & EROSION CONTROL PLAN	
DATE: 4/4/2022 SCALE: 1"=20' DESIGNED: JDA JOB NO: 2104	FILE: 2104 G
SHEET	C-2.0

HOUSEKEEPING NOTES:

1. SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM BEING DISCHARGED FROM MATERIALS ON SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.
2. GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
3. FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED FOR DUST CONTROL.
4. DEBRIS AND OTHER MATERIALS. LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
5. TRENCH OR FOUNDATION DE-WATERING. TRENCH DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER MUST BE REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, AND MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.
6. NON-STORMWATER DISCHARGES. IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES.
7. ADDITIONAL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.

WATER MAIN CONSTRUCTION NOTES:

1. CURB STOPS LOCATED WITHIN PAVED AREAS SHALL BE IN A VALVE BOX TO SECTION.
2. (2) LAYERS OF RIGID INSULATION BETWEEN SERVICE(S) AND CULVERT (TYPICAL ALL CROSSINGS).
3. 6 FEET OF COVER ON ALL WATER MAINS & SERVICES, TYP.
4. MINIMUM 12" SEPARATION BETWEEN STORM DRAIN AND WATER MAIN. INSTALL 2" RIGID FOAM INSULATION ABOVE WATER MAIN, TYP..
5. TESTABLE DCVA ON ALL FIRE SERVICES BEFORE RISER PIPE, TYP..



DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS	BY
2	4/4/2022	FINAL SUBDIVISION SUBMISSION	
1	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260



CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME
SHEET TITLE: UTILITY PLAN

CLIENT: CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6799
SCARBOROUGH, MAINE 04070

DATE: 4/4/2022
SCALE: 1"=20'
DESIGNED: JDA
JOB NO: 2104
FILE: 2104 U
SHEET C-3.1

EROSION AND SEDIMENT CONTROL PLAN

PRE-CONSTRUCTION PHASE
A PERSON WHO CONDUCTS, OR CAUSES TO BE CONDUCTED, AN ACTIVITY THAT INVOLVES FILLING, DISPLACING OR EXPOSING SOIL OR OTHER EARTHEN MATERIALS SHALL TAKE MEASURES TO PREVENT UNREASONABLE EROSION OF SOIL OR SEDIMENT BEFORE THE PROJECT SITE OR INTO A PROTECTED NATURAL RESOURCE AS DEFINED IN 38 MRSA § 480-B. EROSION CONTROL MEASURES MUST BE IN PLACE BEFORE THE ACTIVITY BEGINS. MEASURES MUST REMAIN IN PLACE AND FUNCTIONAL UNTIL THE SITE IS PERMANENTLY STABILIZED. ADEQUATE AND TIMELY TEMPORARY AND PERMANENT STABILIZATION MEASURES MUST BE TAKEN. THE SITE MUST BE MAINTAINED TO PREVENT UNREASONABLE EROSION AND SEDIMENTATION. MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRAIENT BUFFER AREAS TO THE EXTENT PRACTICABLE.

BMP CONSTRUCTION PHASE
A. SEDIMENT BARRIERS. PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE EDGE OF ANY DOWNGRAIENT DISTURBED AREA AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED DISTURBED AREA. MAINTAIN THE SEDIMENT BARRIERS UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.

B. CONSTRUCTION ENTRANCE. PRIOR TO ANY CLEARING OR GRUBBING, A CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT THE INTERSECTION WITH THE PROPOSED ACCESS DRIVE AND THE EXISTING ROADWAY TO AVOID TRACKING OF MUD, DUST AND DEBRIS FROM THE SITE.

C. RIPRAP. SINCE RIPRAP IS USED WHERE EROSION POTENTIAL IS HIGH, CONSTRUCTION MUST BE SEQUENCED SO THAT THE RIPRAP IS PUT IN PLACE WITH THE MINIMUM DELAY. DISTURBANCE OF AREAS WHERE RIPRAP IS TO BE PLACED SHOULD BE UNDERTAKEN ONLY WHEN FINAL PREPARATION AND PLACEMENT OF THE RIPRAP CAN FOLLOW IMMEDIATELY BEHIND THE INITIAL DISTURBANCE. WHERE RIPRAP IS USED FOR OUTLET PROTECTION, THE RIPRAP SHOULD BE PLACED BEFORE OR IN CONJUNCTION WITH THE CONSTRUCTION OF THE PIPE OR CHANNEL SO THAT IT IS IN PLACE WHEN THE PIPE OR CHANNEL BEGINS TO OPERATE. MAINTAIN TEMPORARY RIPRAP, SUCH AS TEMPORARY CHECK DAMS UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED.

D. TEMPORARY STABILIZATION. STABILIZE WITH TEMPORARY SEEDING, MULCH, OR OTHER NON-ERODABLE COVER ANY EXPOSED SOILS THAT WILL REMAIN UNWORKED FOR MORE THAN 14 DAYS EXCEPT, STABILIZE AREAS WITHIN 100 FEET OF A WETLAND OR WATERBODY WITHIN 7 DAYS OR PRIOR TO A PREDICTED STORM EVENT, WHICHEVER COMES FIRST. IF HAY OR STRAW MULCH IS USED, THE APPLICATION RATE MUST BE 2 BALES (70-90 POUNDS) PER 1000 SF OR 1.5 TO 2 TONS (90-100 BALES) PER ACRE TO COVER 75 TO 90% OF THE GROUND SURFACE. HAY MULCH MUST BE KEPT MOIST OR ANCHORED TO PREVENT WIND BLOWING. AN EROSION CONTROL BLANKET OR MAT SHALL BE USED AT THE BASE OF GRASSED WATERWAYS, STEEP SLOPES (15% OR GREATER) AND ON ANY DISTURBED SOIL WITHIN 100 FEET OF LAKES, STREAMS AND WETLANDS. GRADING SHALL BE PLANNED SO AS TO MINIMIZE THE LENGTH OF TIME BETWEEN INITIAL SOIL EXPOSURE AND FINAL GRADING. ON LARGE PROJECTS THIS SHOULD BE ACCOMPLISHED BY PHASING THE OPERATION AND COMPLETING THE FIRST PHASE UP TO FINAL GRADING AND SEEDING BEFORE STARTING THE SECOND PHASE, AND SO ON.

E. VEGETATED WATERWAY. UPON FINAL GRADING, THE DISTURBED AREAS SHALL BE IMMEDIATELY SEEDED TO PERMANENT VEGETATION AND MULCHED AND WILL NOT BE USED AS OUTLETS UNTIL A DENSE, VIGOROUS VEGETATIVE COVER HAS BEEN OBTAINED. ONCE SOIL IS EXPOSED FOR WATERWAY CONSTRUCTION, IT SHOULD BE IMMEDIATELY SHAPED, GRADED AND STABILIZED. VEGETATED WATERWAYS NEED TO BE STABILIZED EARLY DURING THE GROWING SEASON (PRIOR TO SEPTEMBER 15); IF FINAL SEEDING OF WATERWAYS IS DELAYED PAST SEPTEMBER 15, EMERGENCY PROVISIONS SUCH AS SOD OR RIPRAP MAY BE REQUIRED TO STABILIZE THE CHANNEL. WATERWAYS SHOULD BE FULLY STABILIZED PRIOR TO DIRECT RUNOFF TO THEM.

PERMANENT STABILIZATION DESIGN
A. SEEDED AREAS. FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS AN 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.

B. SODDED AREAS. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.

C. PERMANENT MULCH. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MEASURES MUST BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.

D. RIPRAP. FOR AREAS STABILIZED WITH RIPRAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIPRAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIPRAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.

E. AGRICULTURAL USE. FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES (E.G., PIPELINES ACROSS CROP LAND), PERMANENT STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO AGRICULTURAL USE.

F. PAVED AREAS. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.

G. DITCHES, CHANNELS, AND SWALES. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIPRAP, OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE LINING, UNDERCUTTING OF THE BANKS, OR DOWN-CUTTING OF THE CHANNEL.

GENERAL CONSTRUCTION PHASE
THE FOLLOWING EROSION CONTROL MEASURES SHALL BE FOLLOWED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION OF THIS PROJECT:

A. ALL TOPSOIL SHALL BE COLLECTED, STOCKPILED, SEEDED WITH RYE AT 3 POUNDS/1,000 SF AND MULCHED, AND REUSED AS REQUIRED. SILT FENCING SHALL BE PLACED DOWN GRADIENT FROM THE STOCKPILED LOAM. STOCKPILE TO BE LOCATED BY DESIGNATION OF THE OWNER AND INSPECTING ENGINEER.

B. THE INSPECTING ENGINEER AT HIS/HER DISCRETION, MAY REQUIRE ADDITIONAL EROSION CONTROL MEASURES AND/OR SUPPLEMENTAL VEGETATIVE PROVISIONS TO MAINTAIN STABILITY OF EARTHWORKS AND FINISH GRADED AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY SUPPLEMENTAL MEASURES AS DIRECTED BY THE INSPECTING ENGINEER. FAILURE TO COMPLY WITH THE ENGINEER'S DIRECTIONS WILL RESULT IN DISCONTINUATION OF CONSTRUCTION ACTIVITIES.

C. EROSION CONTROL MESH SHALL BE APPLIED IN ACCORDANCE WITH THE PLANS OVER ALL FINISH SEEDED AREAS AS SPECIFIED ON THE DESIGN PLANS.

D. ALL GRADED OR DISTURBED AREAS INCLUDING SLOPES SHALL BE PROTECTED DURING CLEARING AND CONSTRUCTION IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN UNTIL THEY ARE ADEQUATELY STABILIZED.

E. ALL EROSION, AND SEDIMENT CONTROL PRACTICES AND MEASURES SHALL BE CONSTRUCTED, APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

F. AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIALS.

G. AREAS SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 INCHES PRIOR TO PLACEMENT OF TOPSOIL.

H. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC., SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

I. ALL FILLS SHALL BE PLACED AND COMPACTED IN LAYERS NOT TO EXCEED 8 INCHES IN THICKNESS.

J. EXCEPT FOR APPROVED LANDFILLS OR NON-STRUCTURAL FILLS, FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS AND OTHER OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY LIFTS.

K. FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILL SLOPES OR STRUCTURAL FILLS.

L. FILL SHALL NOT BE PLACED ON A FROZEN FOUNDATION.

M. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED APPROPRIATELY.

N. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY FOLLOWING FINISHED GRADING.

O. REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

PERMANENT VEGETATION
PERMANENT VEGETATIVE COVER SHOULD BE ESTABLISHED ON DISTURBED AREAS WHERE PERMANENT, LONG LIVED VEGETATIVE COVER IS NEEDED TO STABILIZE THE SOIL, TO REDUCE DAMAGES FROM SEDIMENT AND RUNOFF, AND TO ENHANCE THE ENVIRONMENT.

SEEDBED PREPARATION
A. GRADE AS FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.

B. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS SUCH AS THOSE OFFERED BY THE UNIVERSITY OF MAINE SOIL TESTING LABORATORY. SOIL SAMPLES SHOULD BE OBTAINED FROM THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 800 POUNDS PER ACRE OR 18.4 POUNDS PER 1,000 SQUARE FEET USING 10-20-20 (N-P205-K20) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQ. FT.).

C. WORK LIME AND FERTILIZER INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE LOCAL COOPERATIVE EXTENSION SERVICE OFFICE SHOULD BE CONSULTED FOR RECOMMENDATIONS. UNTIL A REASONABLY UNIFORM FINE SEEDBED IS PREPARED, ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE LOOSED TO FIRM THE SEEDBED WHEREVER FEASIBLE. D. REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION. REMOVE ALL OTHER DEBRIS, SUCH AS WIRE, CABLE, TREE ROOTS, CONCRETE, CLODS, LUMPS OR OTHER UNSUITABLE MATERIAL.

E. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE TILLED AND FIRMED AS ABOVE.

F. PERMANENT SEEDING SHOULD BE MADE 45 DAYS PRIOR TO THE FIRST KILLING FROST OR AS A DORMANT SEEDING WITH MULCH AFTER THE FIRST KILLING FROST AND BEFORE SNOWFALL. WHEN CROWN VETCH IS SEEDED IN LATER SUMMER, AT LEAST 35% OF THE SEED SHOULD BE HARD SEED (UNSCARIFIED). IF SEEDING CANNOT BE DONE WITHIN THE SEEDING DATES, MULCH ACCORDING TO THE TEMPORARY MULCHING BMP AND OVERWINTER STABILIZATION AND CONSTRUCTION TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

G. FOLLOWING SEED BED PREPARATION, SWALE AREAS, FILL AREAS AND BACK SLOPES SHALL BE SEEDED AT A RATE OF 3 LBS./1,000 S.F. WITH A MIXTURE OF 35% CREEPING RED FESCUE, 6% RED TOP, 24% KENTUCKY BLUEGRASS, 10% PERENNIAL RYEGRASS, 20% ANNUAL RYEGRASS AND 5% WHITE DUTCH CLOVER.

I. AREAS WHICH HAVE BEEN TEMPORARILY OR PERMANENTLY SEEDED SHALL BE MULCHED IMMEDIATELY FOLLOWING SEEDING.

J. AREAS WHICH CANNOT BE SEEDED WITHIN THE GROWING SEASON SHALL BE MULCHED FOR OVER-WINTER PROTECTION AND THE AREA SHOULD BE SEEDED AT THE BEGINNING OF THE GROWING SEASON.

WINTER CONSTRUCTION PHASE

IF AN AREA IS NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES BY NOVEMBER 15, THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES.

A. PERMANENT STABILIZATION CONSISTS OF AT LEAST 90% VEGETATION, PAVEMENT/GRAVEL BASE OR RIPRAP.

B. DO NOT EXPOSE SLOPES OR LEAVE SLOPES EXPOSED OVER THE WINTER OR FOR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS FULLY PROTECTED WITH MULCH.

C. APPLY HAY MULCH AT TWICE THE STANDARD RATE (150 LBS. PER 1,000 SF), THE MULCH MUST BE THICK ENOUGH SUCH THAT THE GROUND SURFACE WILL NOT BE VISIBLE AND MUST BE ANCHORED.

D. USE MULCH AND MULCH NETTING OR AN EROSION CONTROL MULCH BLANKET OR ALL SLOPES GREATER THAN 8 % OR OTHER AREAS EXPOSED TO DIRECT WIND.

E. INSTALL AN EROSION CONTROL BLANKET IN ALL DRAINAGEWAYS (BOTTOM AND SIDES) WITH A SLOPE GREATER THAN 3 %.

F. SEE THE VEGETATION MEASURES FOR MORE INFORMATION ON SEEDING DATES AND TYPES.

G. WINTER EXCAVATION AND EARTHWORK SHALL BE COMPLETED SO THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.

H. AN AREA WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIER.

I. TEMPORARY MULCH MUST BE APPLIED WITHIN 7 DAYS OF SOIL EXPOSURE OR PRIOR TO ANY STORM EVENT, BUT AFTER EVERY WORKDAY IN AREAS WITHIN 100 FEET FROM A PROTECTED NATURAL RESOURCE.

J. AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE PERMANENTLY MULCHED THAT SAME DAY.

K. IF SNOWFALL IS GREATER THAN 1 INCH (FRESH OR CUMULATIVE), THE SNOW SHALL BE REMOVED FROM THE AREAS DUE TO BE SEEDED AND MULCHED.

L. LOAM SHALL BE FREE OF FROZEN CLUMPS BEFORE IT IS APPLIED.

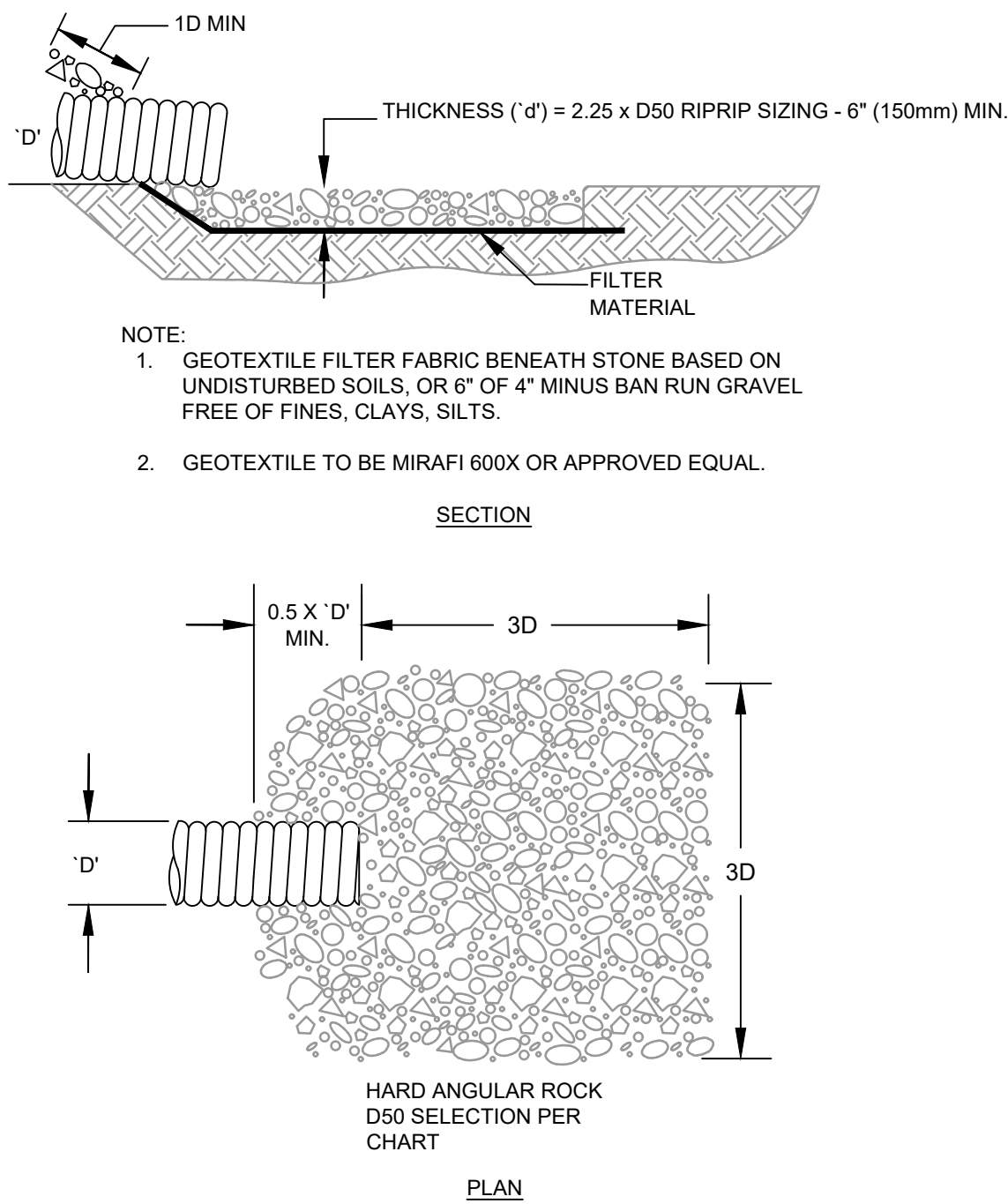
MAINTENANCE AND INSPECTION PHASE

A. MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE APPLICANT WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE.

B. A LOG (REPORT) MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME(S) AND QUALIFICATIONS OF THE PERSONNEL MAKING THE INSPECTION, THE DATE(S) OF THE INSPECTION, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES. MAJOR OBSERVATIONS MUST INCLUDE: BMPs THAT NEED TO BE MAINTAINED; LOCATION(S) OF BMPs THAT FAILED TO OPERATE AS DESIGNED OR PROVED INADEQUATE FOR A PARTICULAR LOCATION; AND LOCATION(S) WHERE ADDITIONAL BMPs ARE NEEDED THAT DID NOT EXIST AT THE TIME OF INSPECTION. FOLLOW-UP TO CORRECT DEFICIENCIES OR ENHANCE CONTROLS MUST ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.

DEWATERING

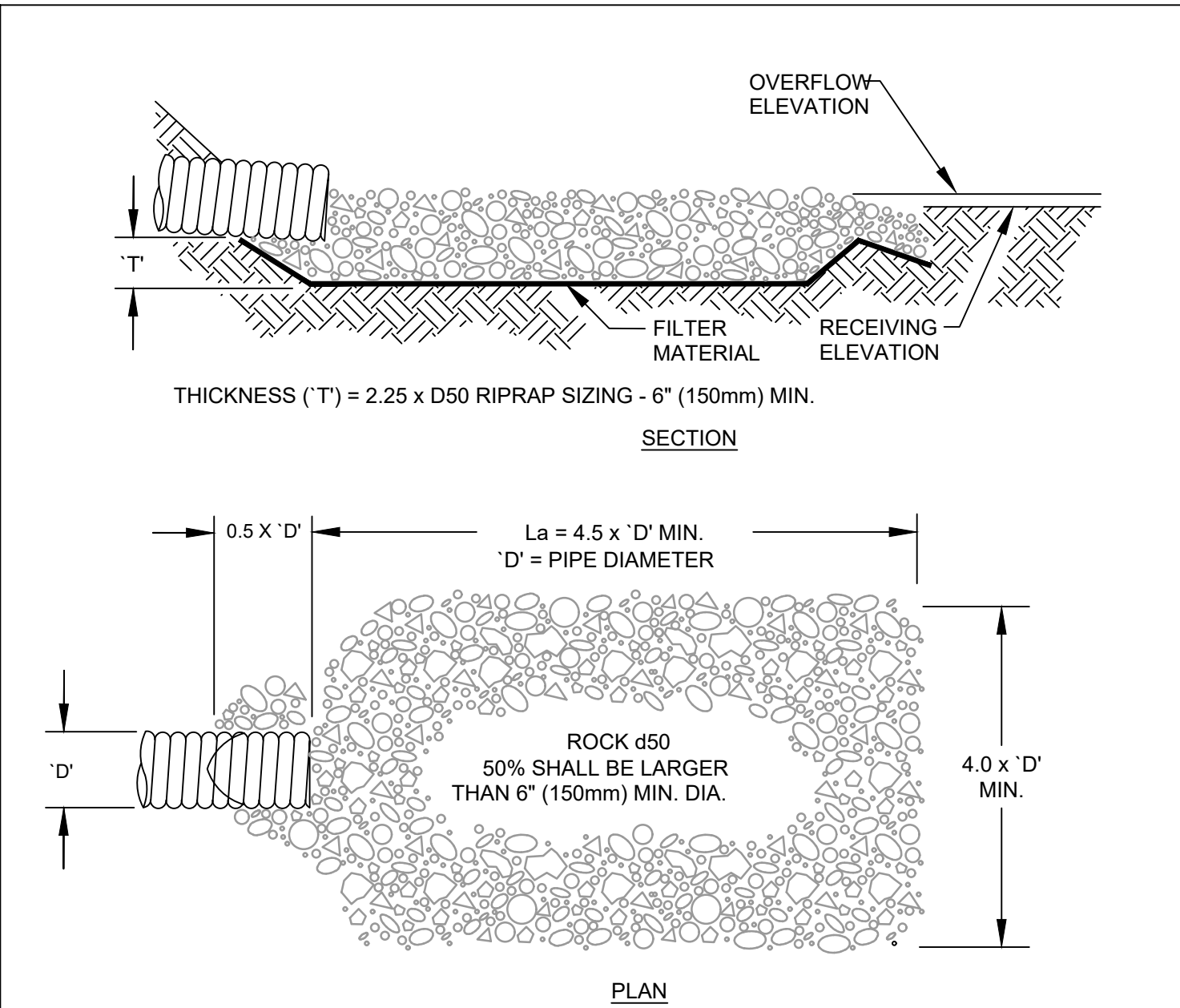
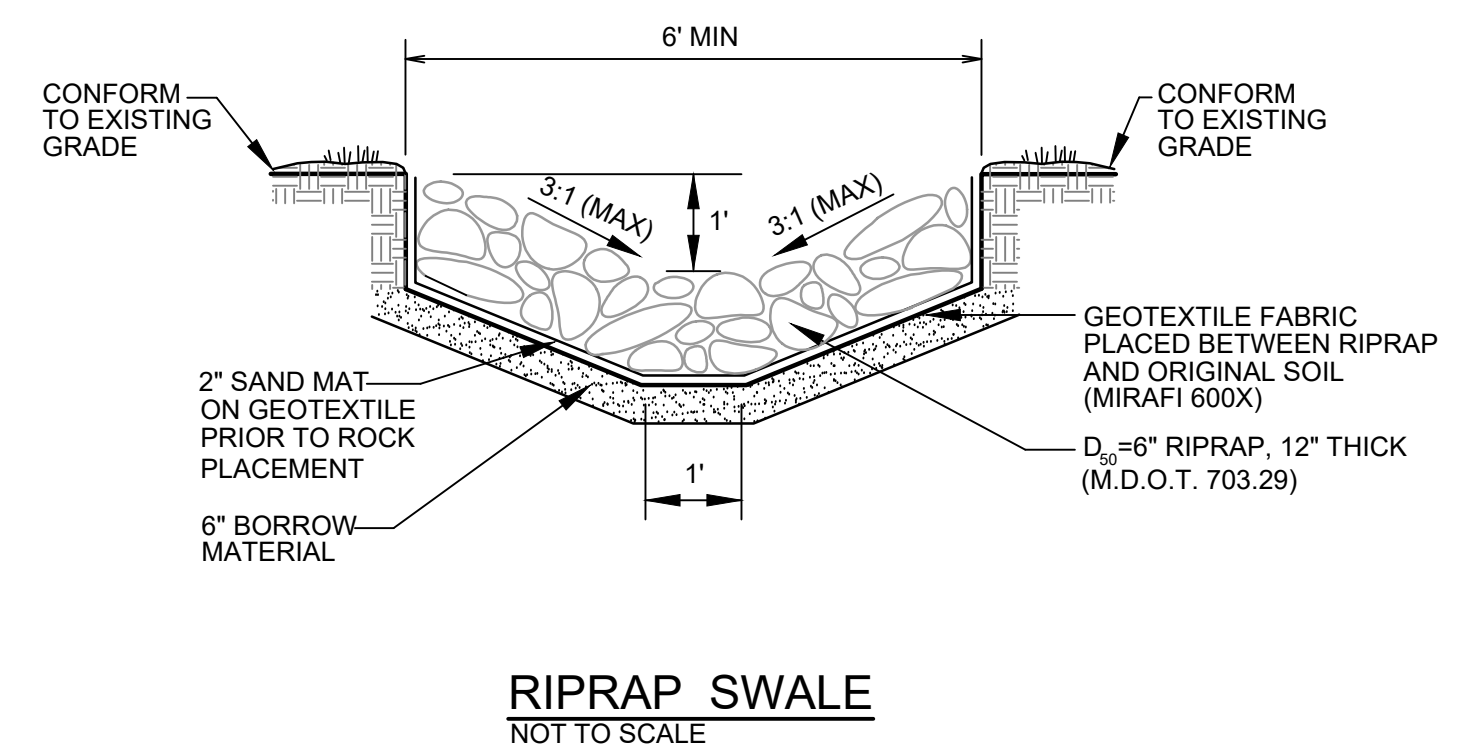
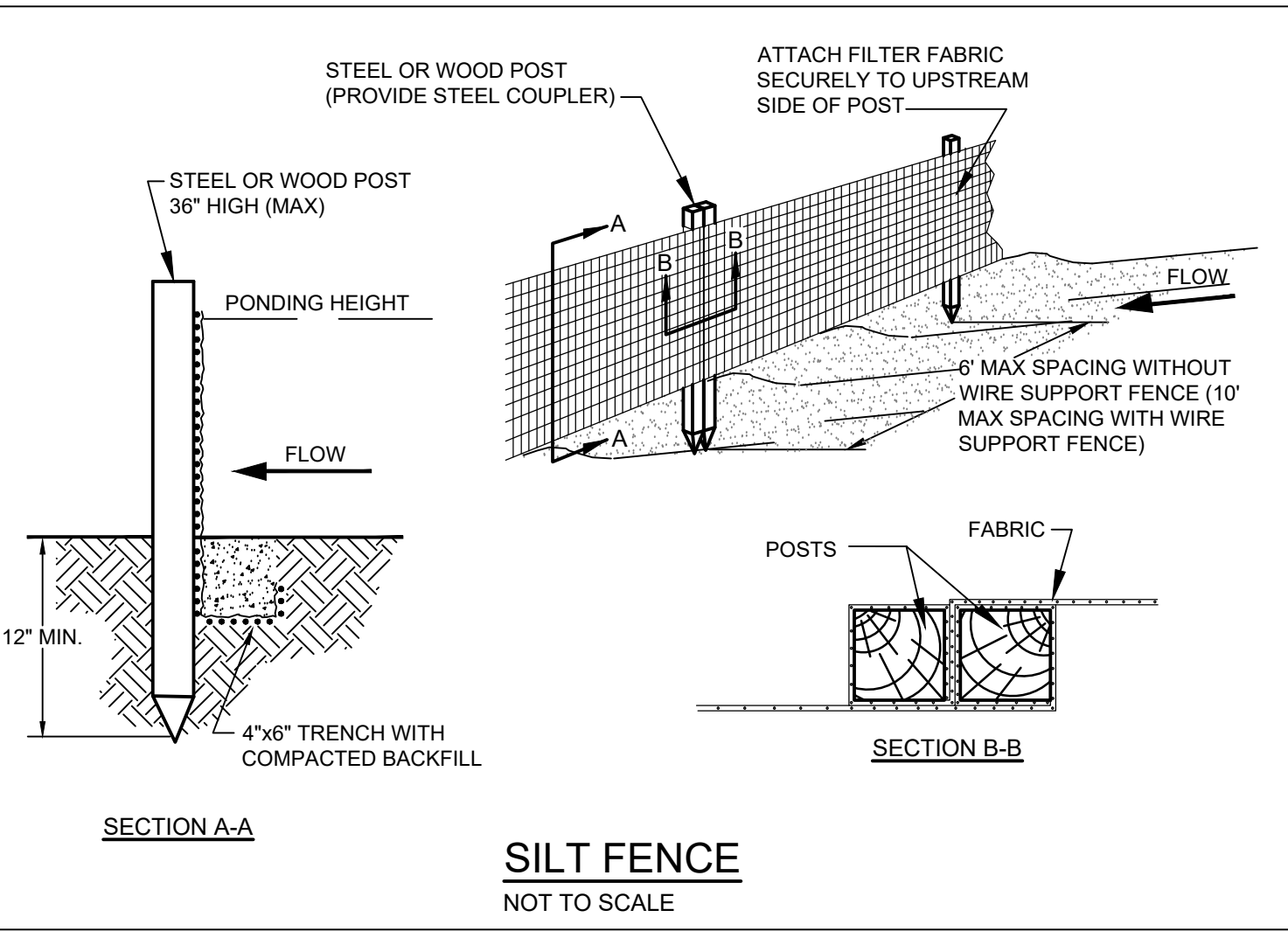
A DEWATERING PLAN IS NEEDED TO ADDRESS EXCAVATION DE-WATERING FOLLOWING HEAVY RAINFALL EVENTS OR WHERE THE EXCAVATION MAY INTERCEPT THE GROUNDWATER TABLE DURING CONSTRUCTION. THE COLLECTED WATER NEEDS TREATMENT AND A DISCHARGE POINT THAT WILL NOT CAUSE DOWNGRAIENT EROSION AND OFFSITE SEDIMENTATION OR WITHIN A RESOURCE.



PIPE SIZE (IN)	RIPRAP SIZING (D50)	LENGTH (FT)	WIDTH (FT)
6	3	2.0	1.5
12	5	3.0	3.0
15	6	4.5	3.75
18	8	5.25	4.5
24	10	7.0	6.0
30	12	8.75	7.5
36	14	10.5	9.0

NOTES:
1. IN DEFINED CHANNELS, APRON SHALL EXTEND FULL WIDTH OF BOTTOM AND ONE FOOT ABOVE MAX. HEADWATER OR UP TO BANK FULL, WHICHEVER IS LESS.

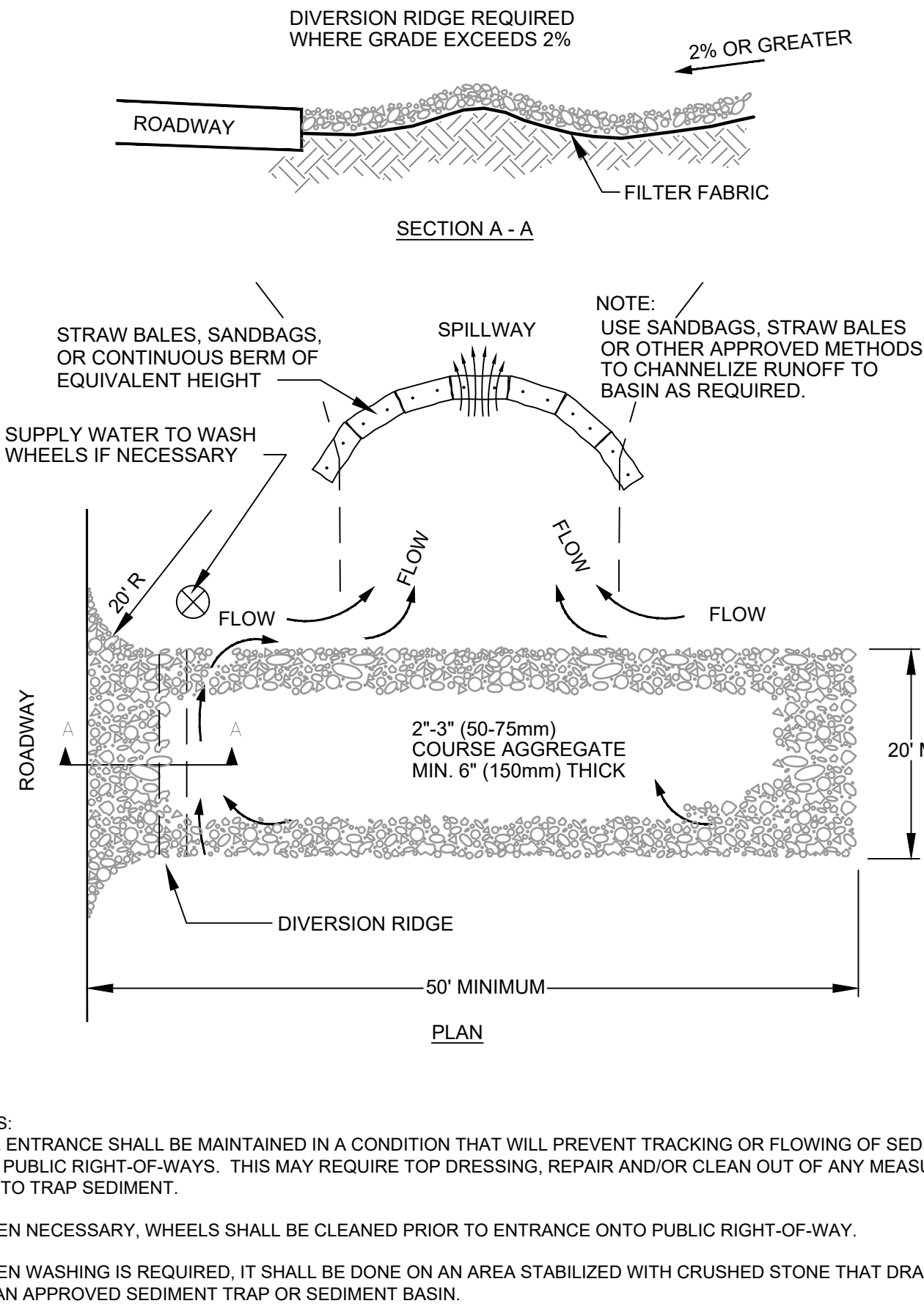
PIPE INLET PROTECTION



PIPE SIZE (IN)	RIP RAP SIZING (D50)	LENGTH (FT)	WIDTH (FT)
6	3	2.5	2.0
12	5	5.0	4.0
15	6	6.25	5.0
18	8	7.5	6.0
24	10	10.0	8.0
30	12	13.0	10.0
36	14	15.0	12.0

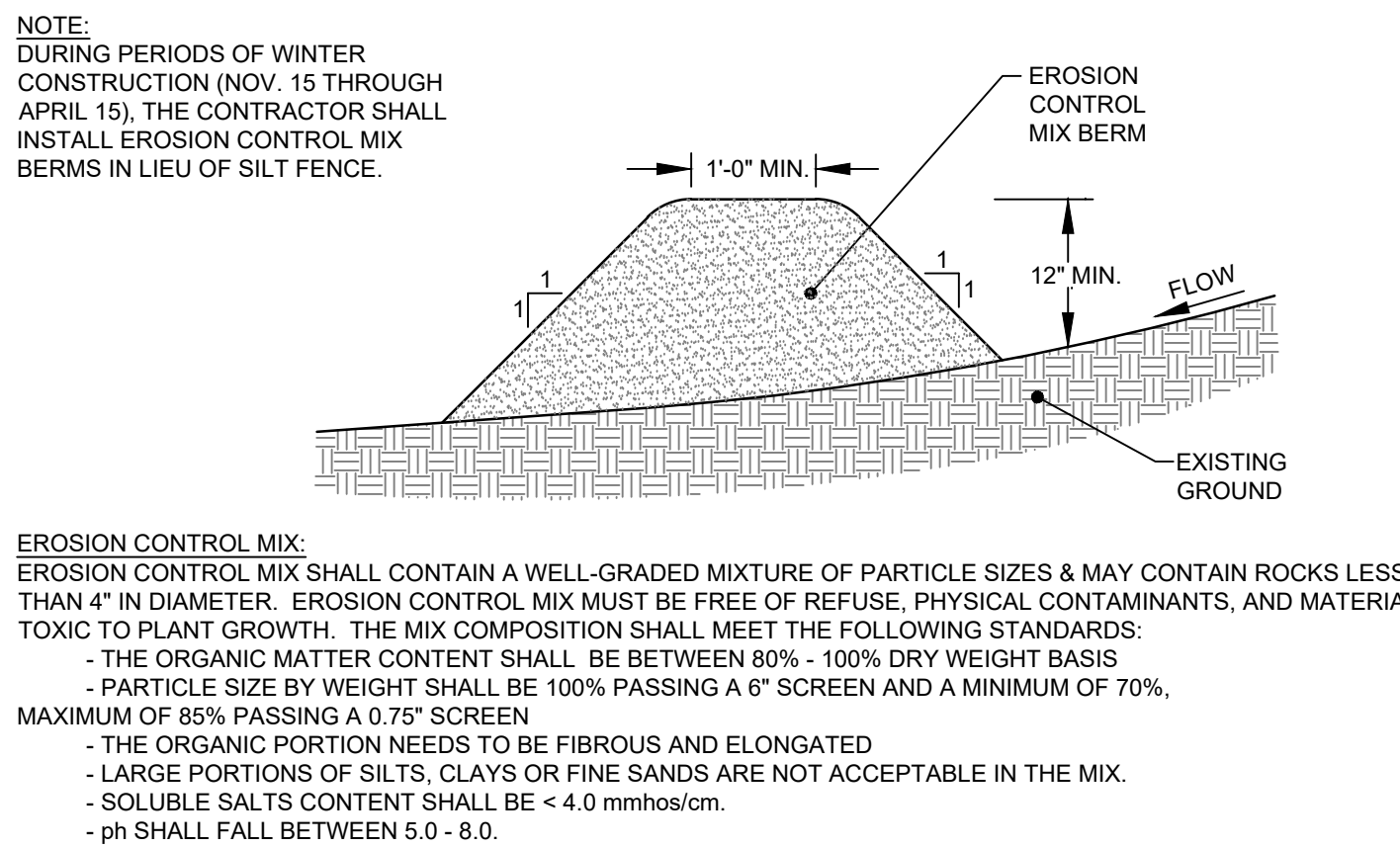
NOTES:
1. 'La' = LENGTH OF APRON. DISTANCE 'La' SHALL BE OF SUFFICIENT LENGTH TO DISSIPATE ENERGY.
2. APRON SHALL BE SET AT A ZERO GRADE AND ALIGNED STRAIGHT.
3. FILTER MATERIAL SHALL BE FILTER FABRIC (MIRAFI 600X OR APPROVED EQUAL) OR 6" (150mm) THICK MINIMUM GRADED GRAVEL LAYER.

PIPE OUTLET PROTECTION
NOT TO SCALE



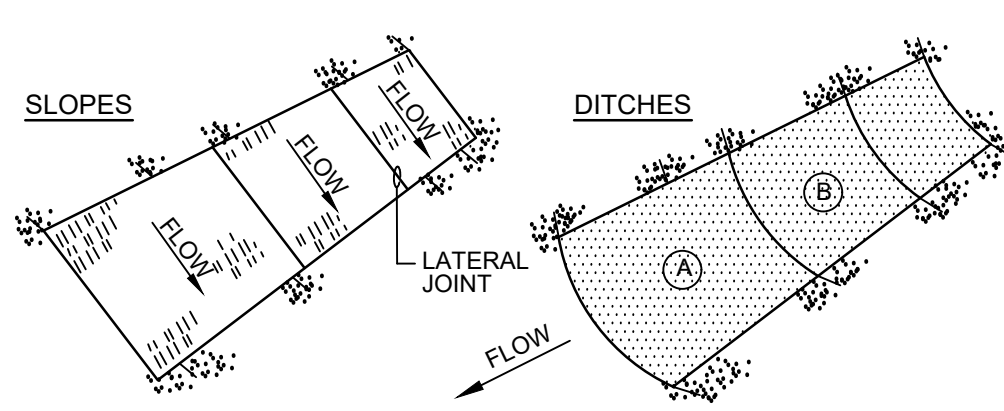
NOTES:
1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



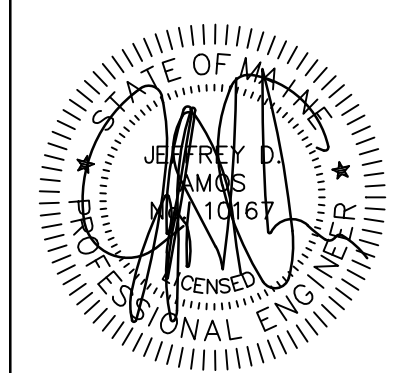
EROSION CONTROL MIX:
EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES & MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:
- THE ORGANIC MATTER CONTENT SHALL BE BETWEEN 80% - 100% DRY WEIGHT BASIS
- PARTICLE SIZE BY WEIGHT SHALL BE 100% PASSING A 6" SCREEN AND A MINIMUM OF 70%
MAXIMUM OF 85% PASSING A 0.75" SCREEN
- THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED
- LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
- SOLUBLE SALTS CONTENT SHALL BE < 4.0 mmhos/cm.
- pH SHALL FALL BETWEEN 5.0 - 8.0.

EROSION CONTROL MIX BERM
NOT TO SCALE



NOTES:
1. BURY THE TOP END OF THE MESH MATERIAL IN A 6" TRENCH AND BACKFILL AND TAMP TRENCHING SECURE END WITH STAPLES AT 6" SPACING, 4" DOWN FROM EXPOSED END.
2. FLOW DIRECTION JOINTS TO HAVE UPPER END OF LOWER STRIP BURIED WITH UPPER LAYERS OVERLAPPED 4" AND STAPLED. OVERLAP B OVER A.
3. LATERAL JOINTS TO HAVE 4" OVERLAP OF STRIPS. STAPLE 18" ON CENTER.
4. STAPLE OUTSIDE LATERAL EDGE 2' ON CENTER.
5. WIRE STAPLES TO BE MIN. OF #11 WIRE, 6" LONG & 1-1/2" WIDE.
6. USE NORTH AMERICAN GREEN DS 150 (OR APPROVED EQUAL) ON SLOPES BETWEEN 4:1-2:1. USE NORTH AMERICAN GREEN VMAX SC250 PERMANENT TURF REINFORCEMENT MAT (OR APPROVED EQUAL) ON SLOPES 2:1 AND STEEPER.

EROSION CONTROL BLANKET
NOT TO SCALE



DATE: 4/4/2022

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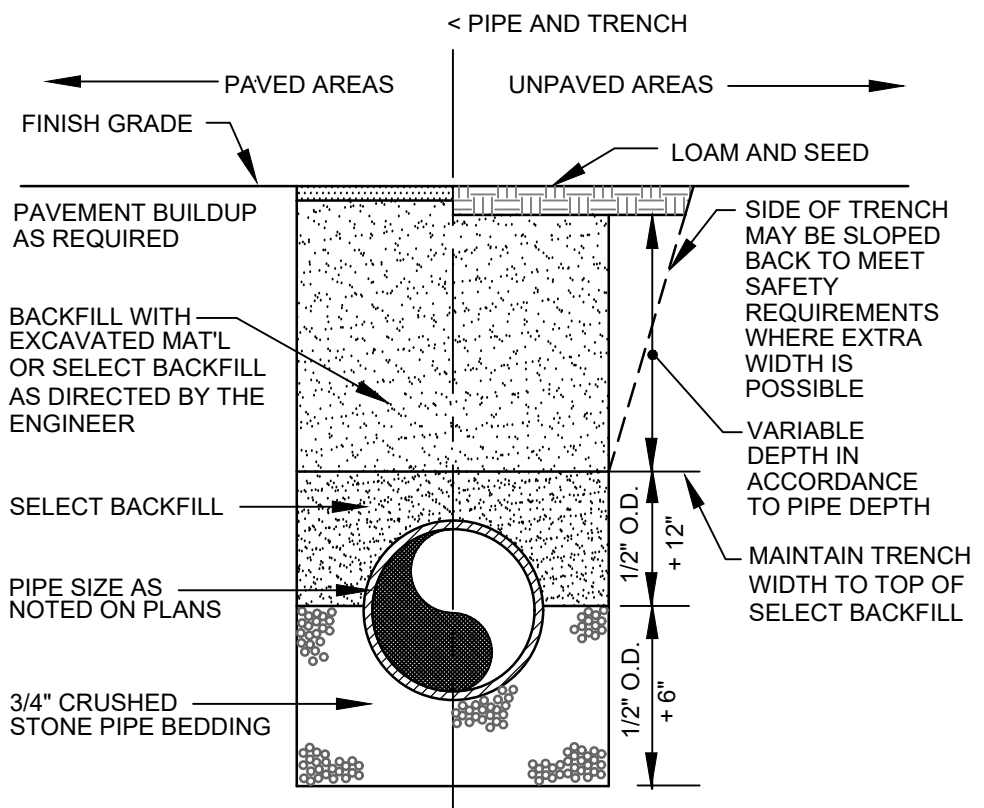
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www.terradynconsultants.com

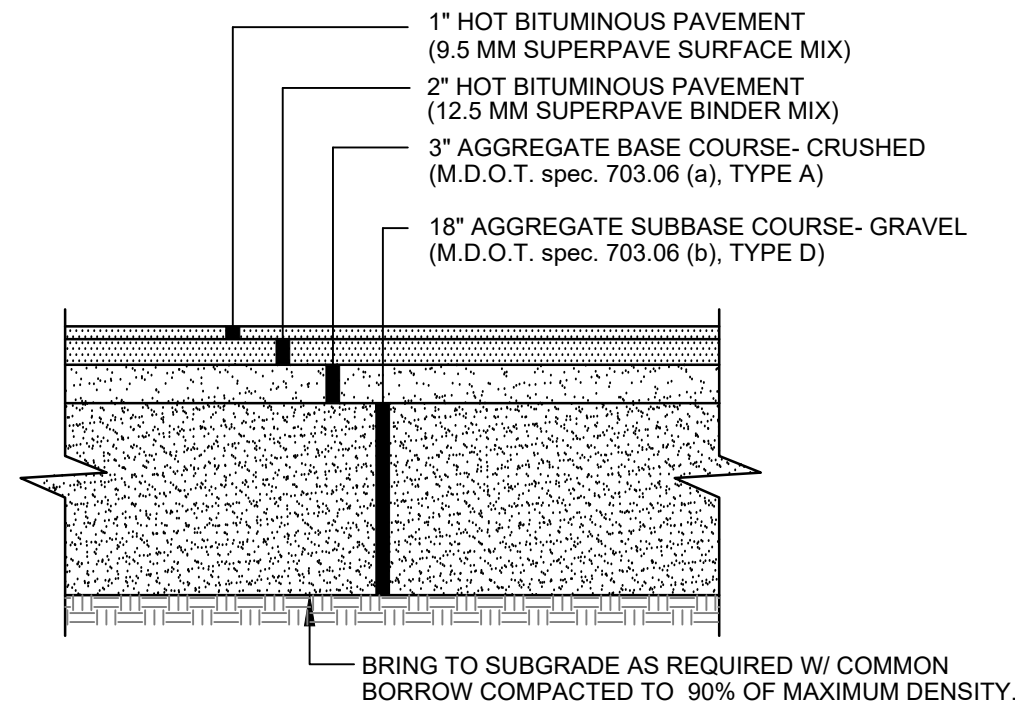


PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME
SHEET TITLE: EROSION CONTROL NOTES & DETAILS
CLIENT: CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6769
SCARBOROUGH, MAINE 04070
DATE: 4/4/2022
SCALE: AS NOTED
DESIGNED: JDA
JOB NO: 2104
FILE: 2132-D
SHEET: C-4.0

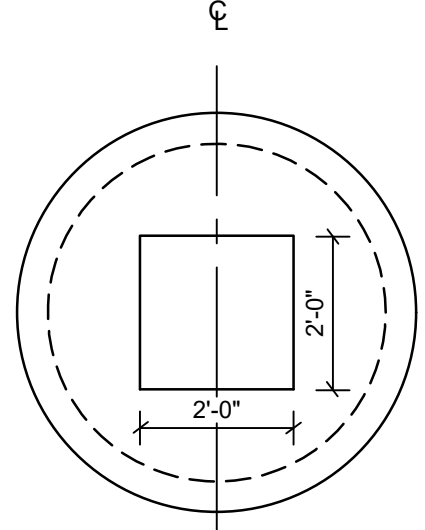


TYPICAL TRENCH SECTION
NOT TO SCALE



- NOTES:
1. COMPACT GRAVEL SUBBASE COURSE TO 92% OF MAXIMUM DENSITY USING HEAVY ROLLER COMPACTION.
 2. CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.

PARKING AREA PAVEMENT SECTION
NOT TO SCALE



PLAN VIEW

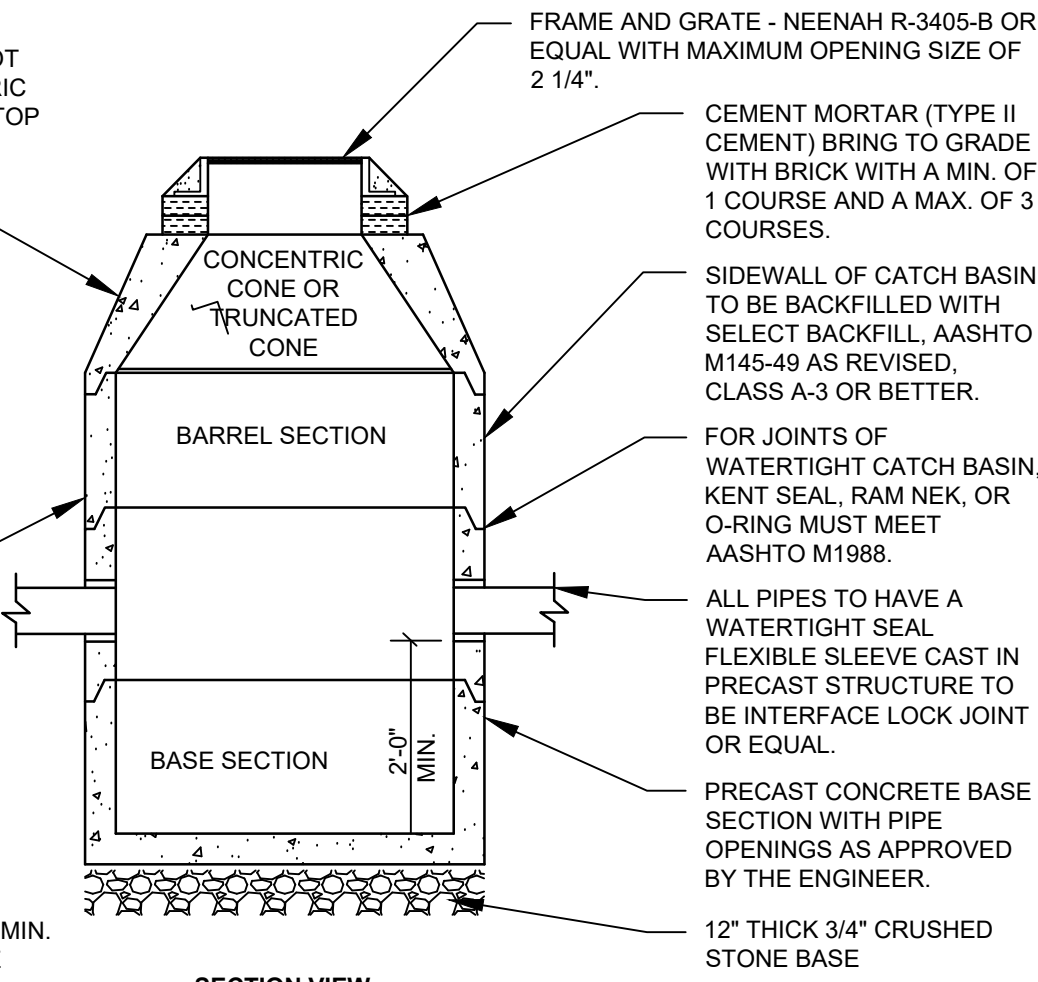
WHERE DEPTH OF COVER IS NOT SUFFICIENT TO USE CONCENTRIC OR TRUNCATED CONE, A FLAT TOP MAY BE USED.

NOTE: WHERE THE CATCH BASIN IS INSTALLED ADJACENT TO BITUMINOUS CONCRETE OF TYPE V SLOPED CURB, SET CENTERLINE OF CATCH BASIN FRAME 1'-6\"/>

EXTERIOR OF STRUCTURE SHALL BE TREATED WITH 2 COATS OF APPROVED DAMP PROOF MATERIAL.

DESIGN NOTES:

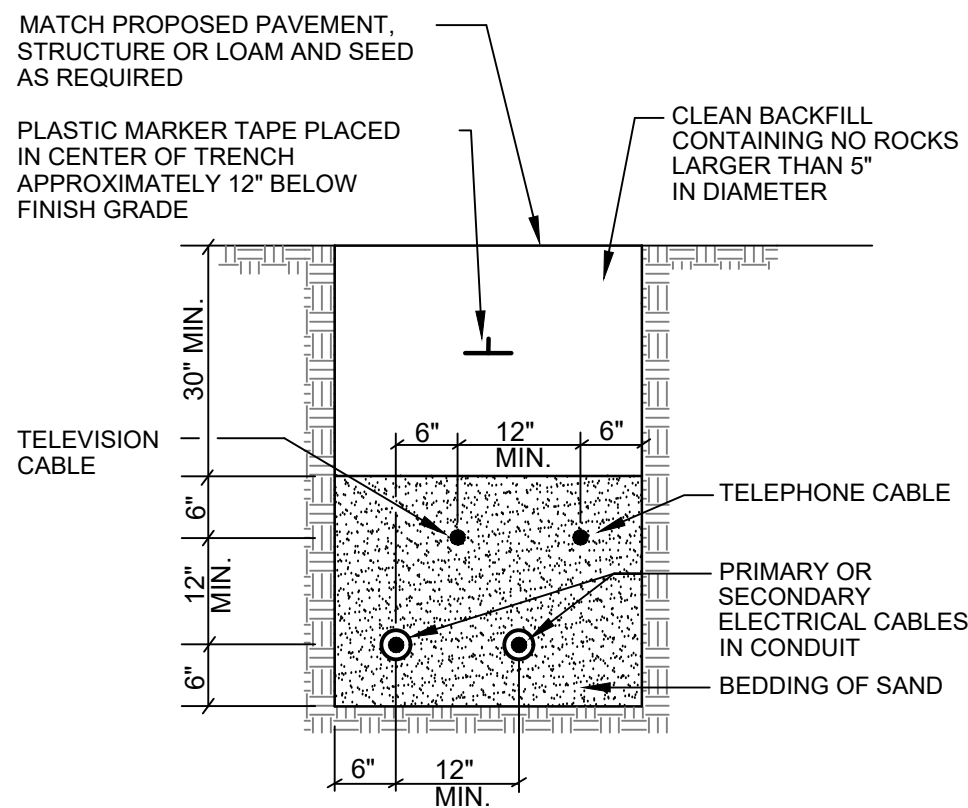
1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
4. REINFORCE TO 0.12 IN SQ./LF..



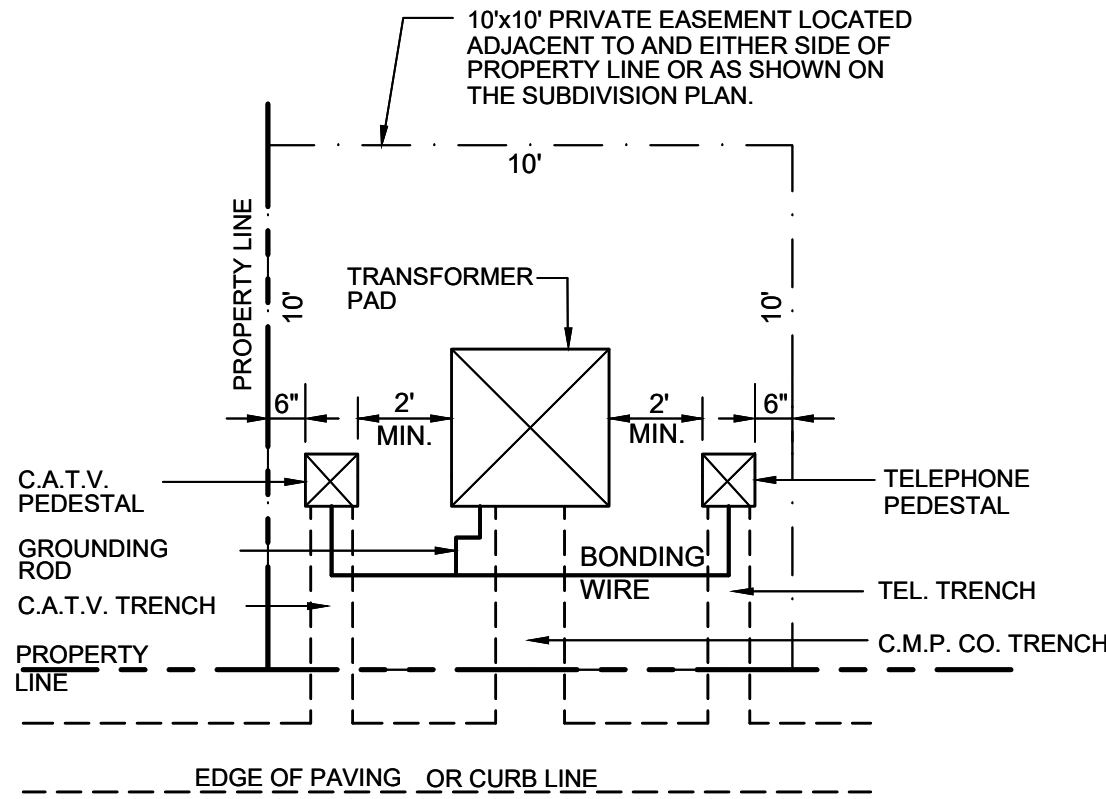
SECTION VIEW

NOTE: CASCADE GRATES SHALL BE INSTALLED ON GRADIENT OF GUTTER IF PROFILE GRADE EXCEEDS 5% GRATES SHALL BE DEPRESSIONED 2\"/>

TYPICAL CATCH BASIN
NOT TO SCALE

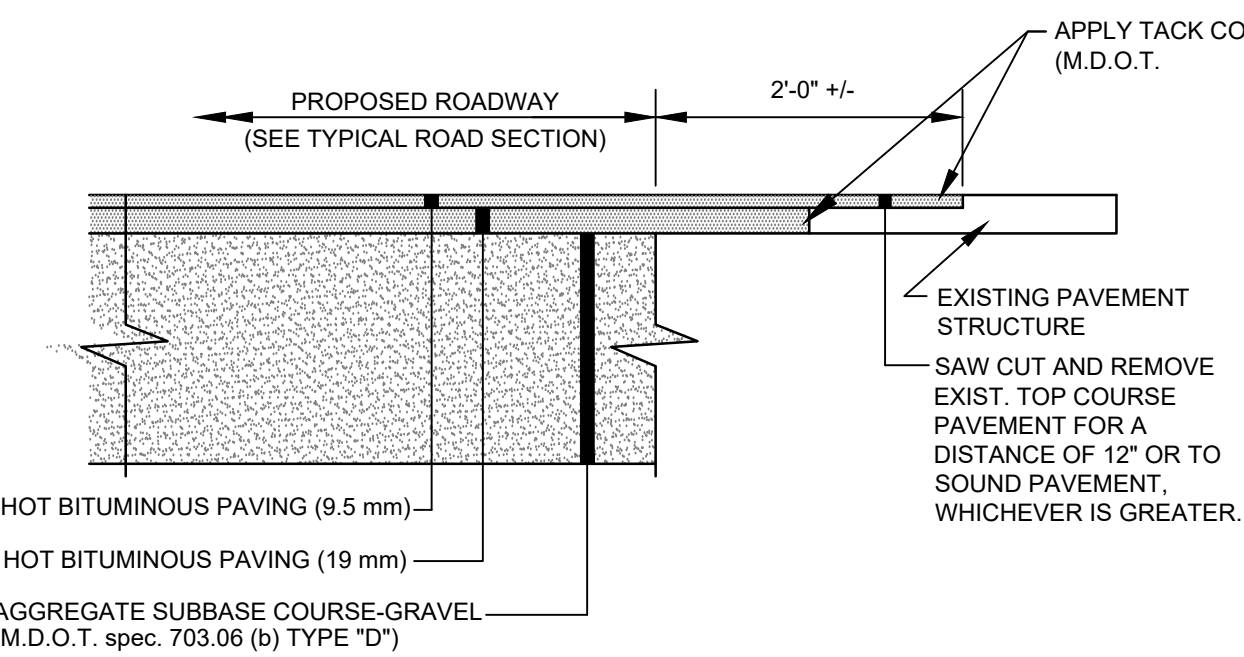


TYPICAL UNDERGROUND CABLE INSTALLATION
NOT TO SCALE

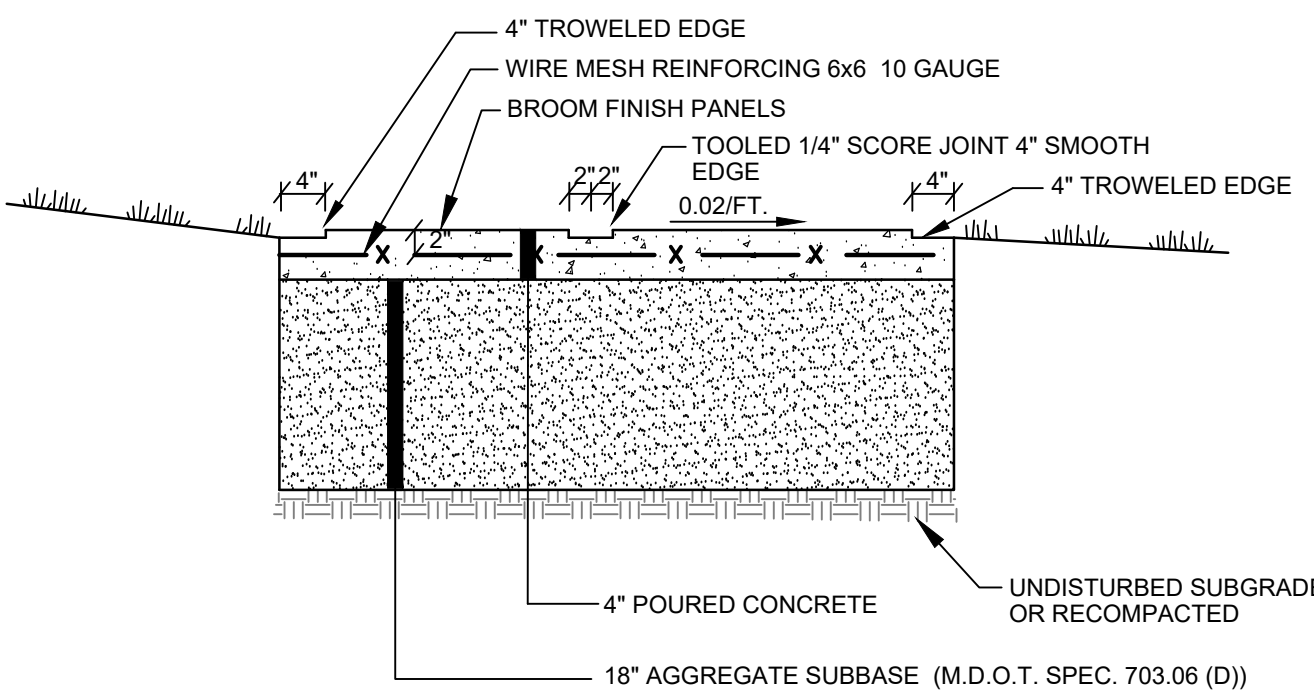


NOTE: TRANSFORMER PAD AND COVER TO BE FIBERGLASS MEETING CENTRAL MAINE POWER SPECIFICATIONS.

TRANSFORMER DETAIL
NOT TO SCALE

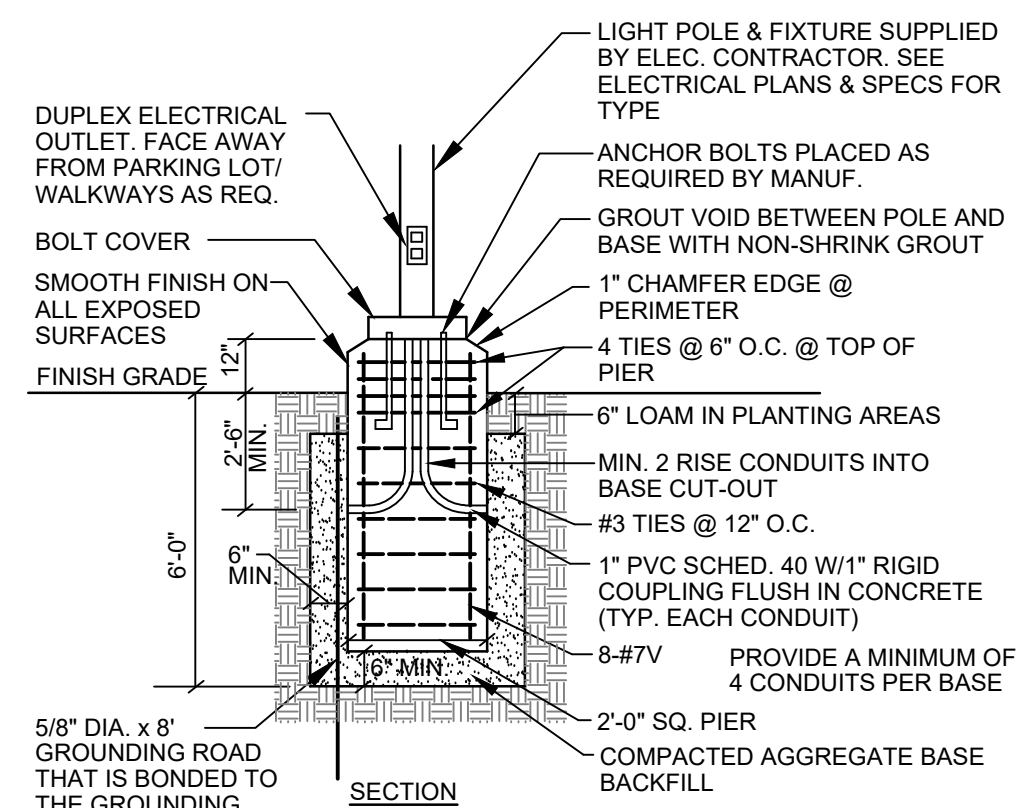


TYPICAL PAVEMENT JOINT
NOT TO SCALE



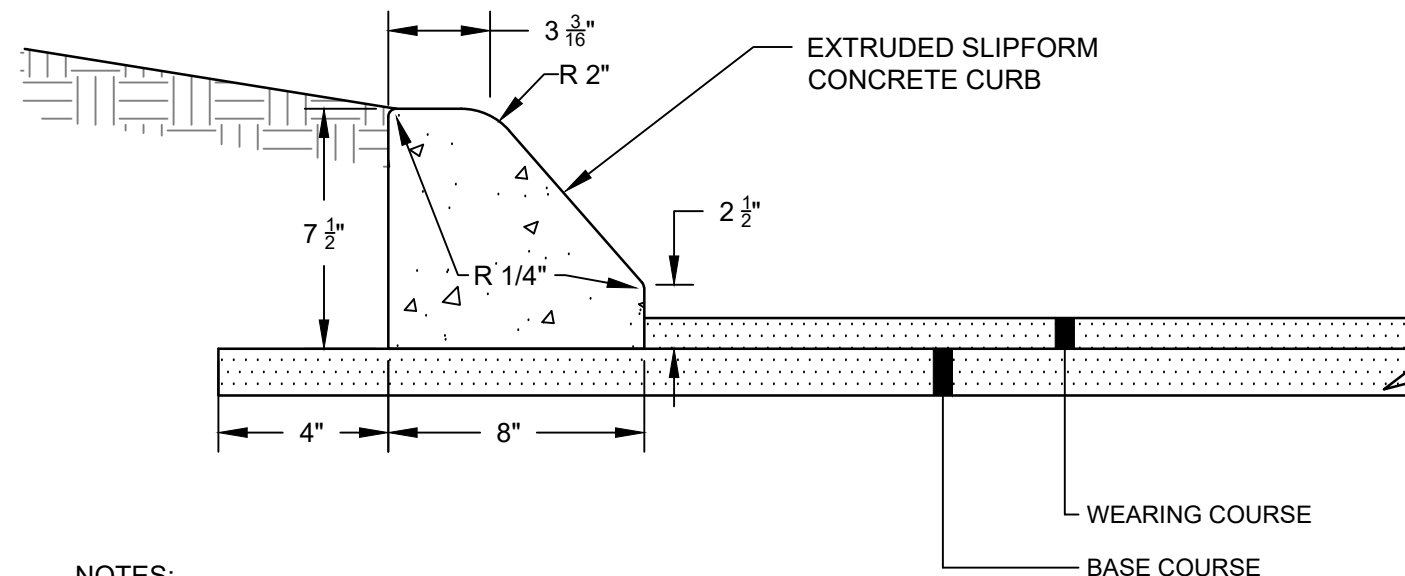
- NOTE:
1. INSTALL 5'-0\"/>
 2. PROVIDE CONTRACTION CONTROL JOINTS EVERY 6' OR AS DIRECTED BY ENGINEER

CONCRETE SIDEWALK
NOT TO SCALE



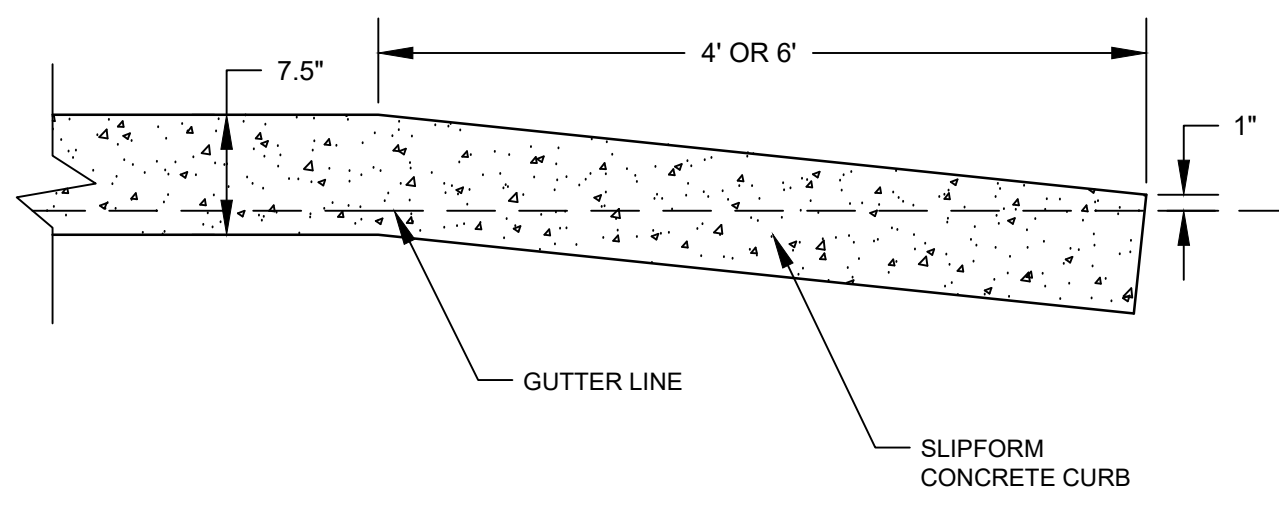
- NOTES:
1. CONCRETE f'c=4000 psi.
 2. REINF. STEEL GRADE 60 NEW BARS.
 3. CONCRETE 3/4\"/>
 4. PROVIDE 2 COATS BITUMINOUS DAMPROOFING FOR ALL CONCRETE BELOW GRADE.
 5. INSTALL BASE 3'-0\"/>
 6. BID ALT. - CONTRACTOR MAY SUBSTITUTE PRECAST CONCRETE LIGHT POLE BASE EQUAL TO ABOVE SPEC.

LIGHT POLE BASE
NOT TO SCALE

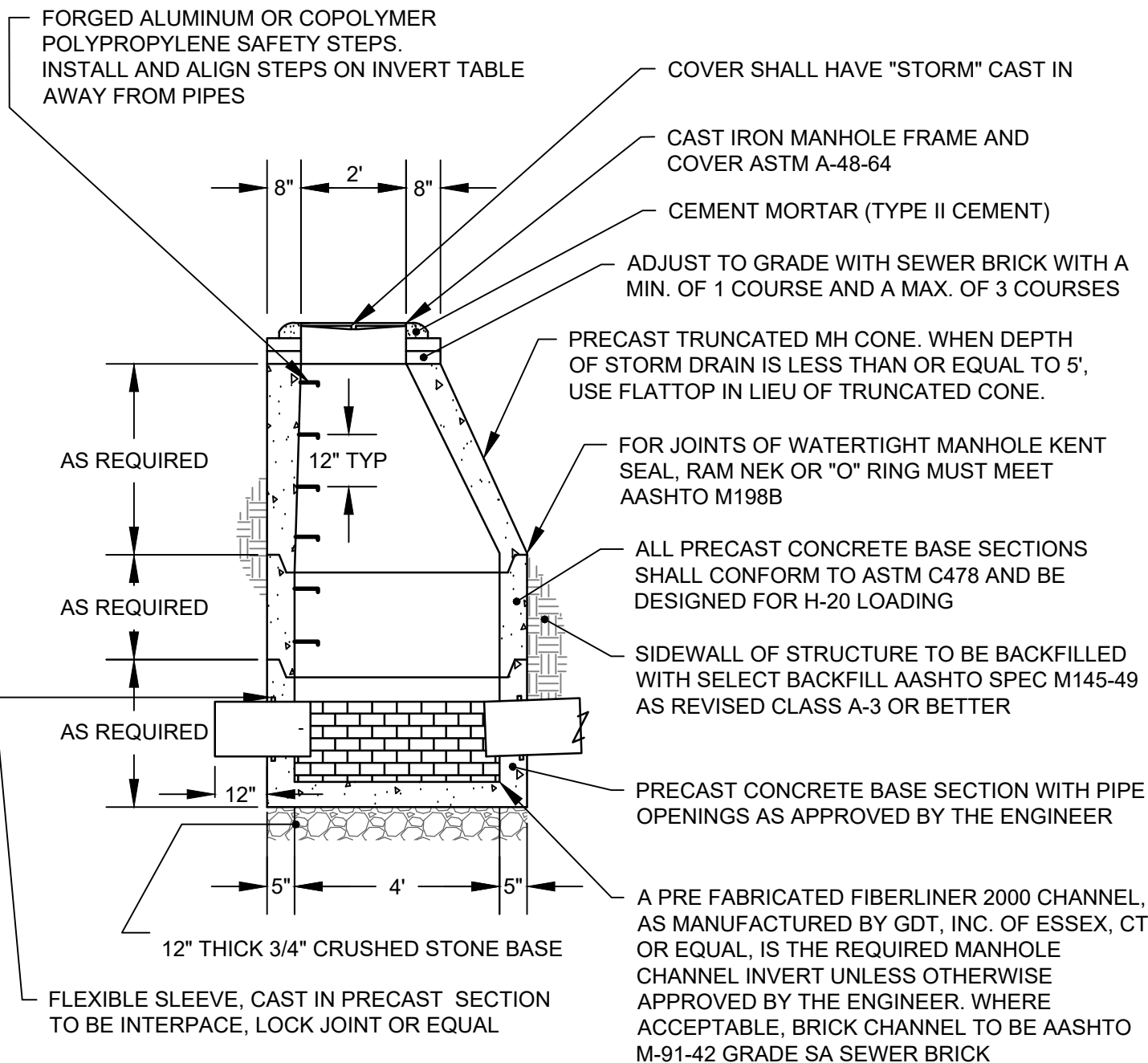


- NOTES:
1. APPLY EPOXY BETWEEN BINDER PAVEMENT AND CURB
 2. 1\"/>
 3. 5% TO 7% AIR ENTRAINMENT
 4. 4,000 PSI CONCRETE WITH FIBER REINFORCEMENT

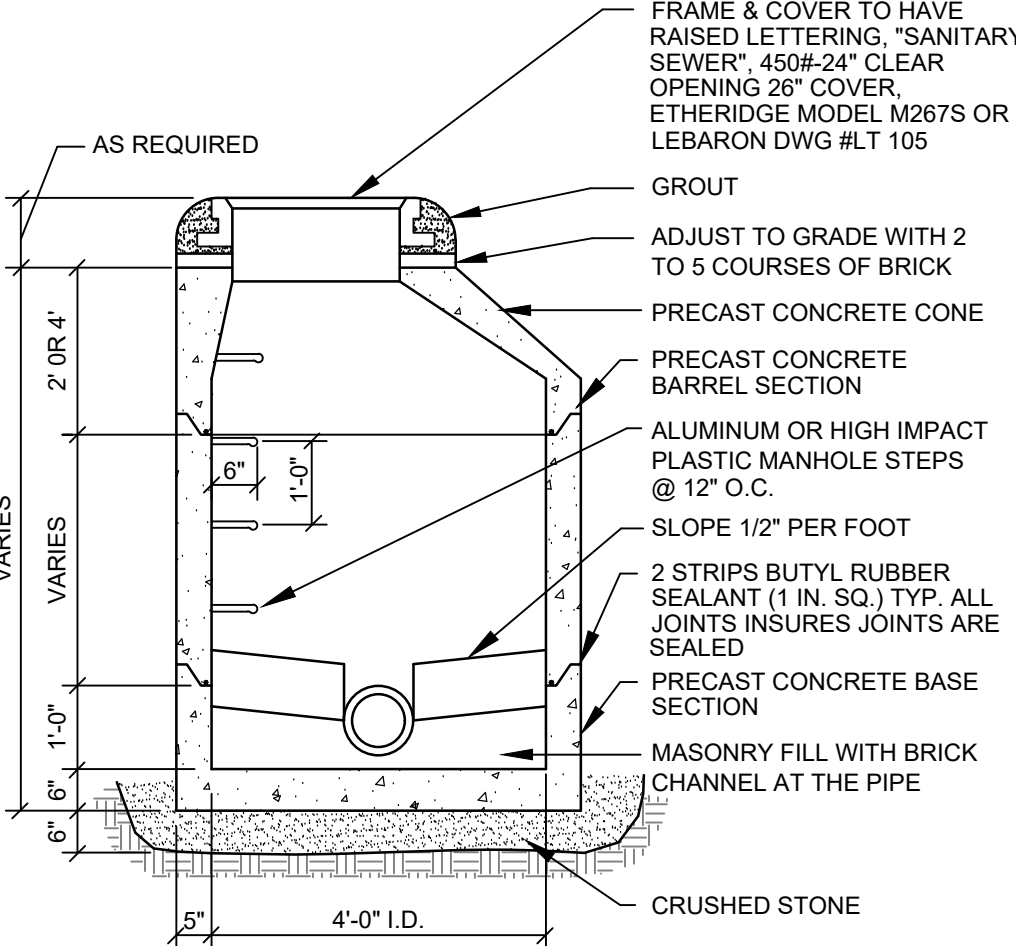
SLOPED SLIPFORM CONCRETE CURB DETAIL
NOT TO SCALE



SLIPFORM CURB TIPDOWN DETAIL
NOT TO SCALE

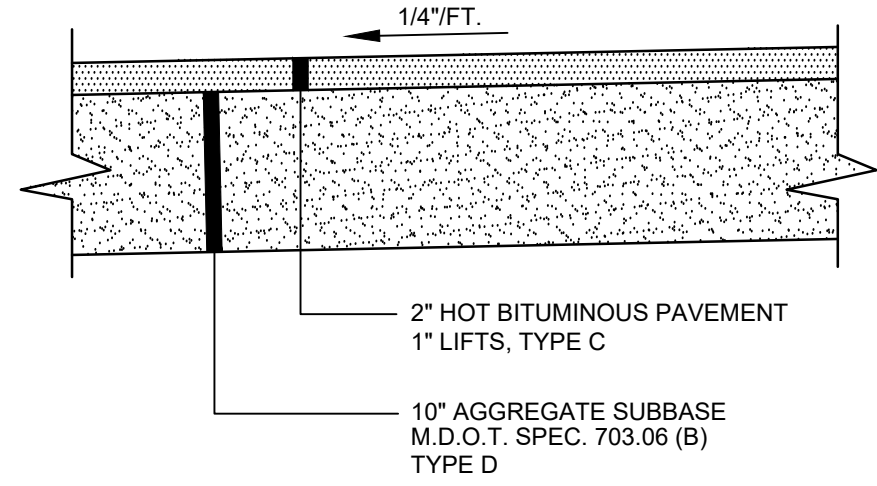


4' DIAMETER PRECAST STORM DRAIN MANHOLE
NOT TO SCALE

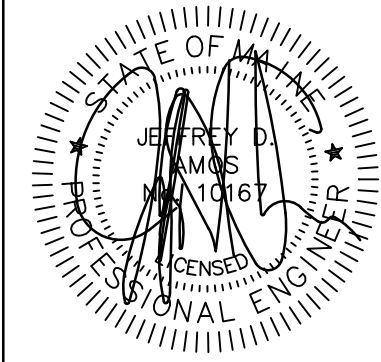


NOTE: PIPE CONNECTIONS SHALL BE WATERTIGHT FLEXIBLE BOOT CONNECTORS PROVIDES LEAKPROOF CONNECTION

PRECAST SEWER MANHOLE
NOT TO SCALE



BITUMINOUS SIDEWALK
NOT TO SCALE



DATE: 4/4/2022
P.E.: 10167

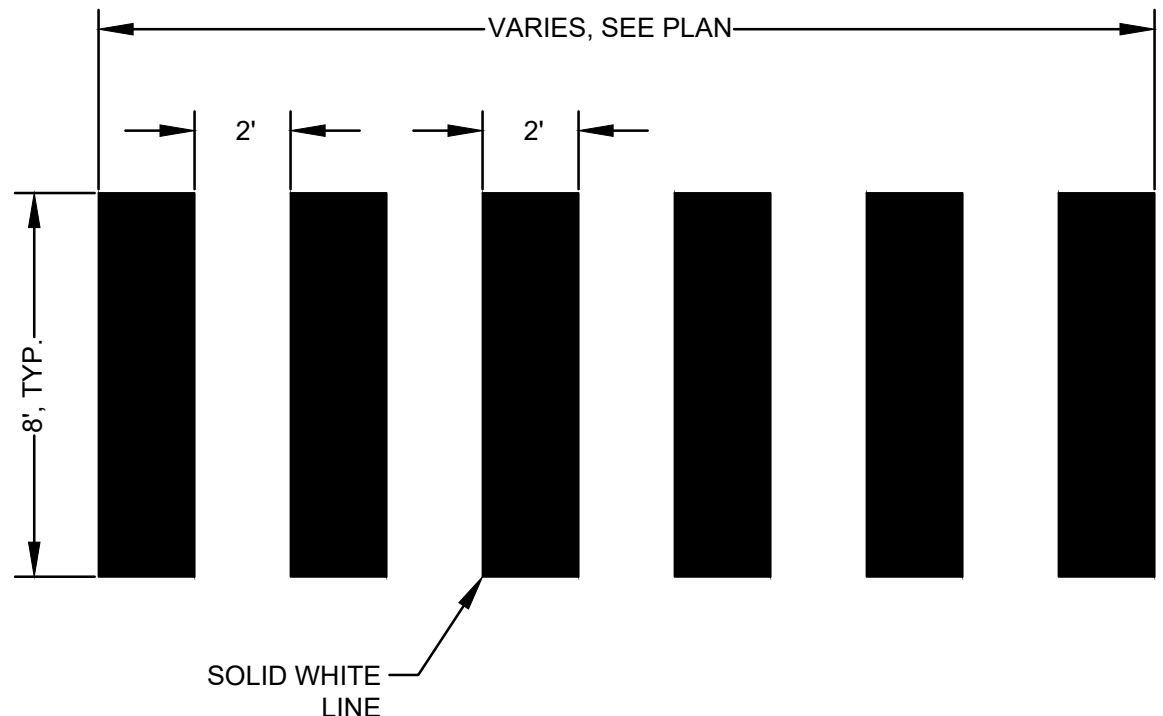
REVISIONS	BY	DATE	COMMENTS
1	NO	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS
2		4/4/2022	FINAL SUBDIVISION SUBMISSION

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102
41 CAMPUS DRIVE
SUITE 101
NEW GLoucester ME 04260

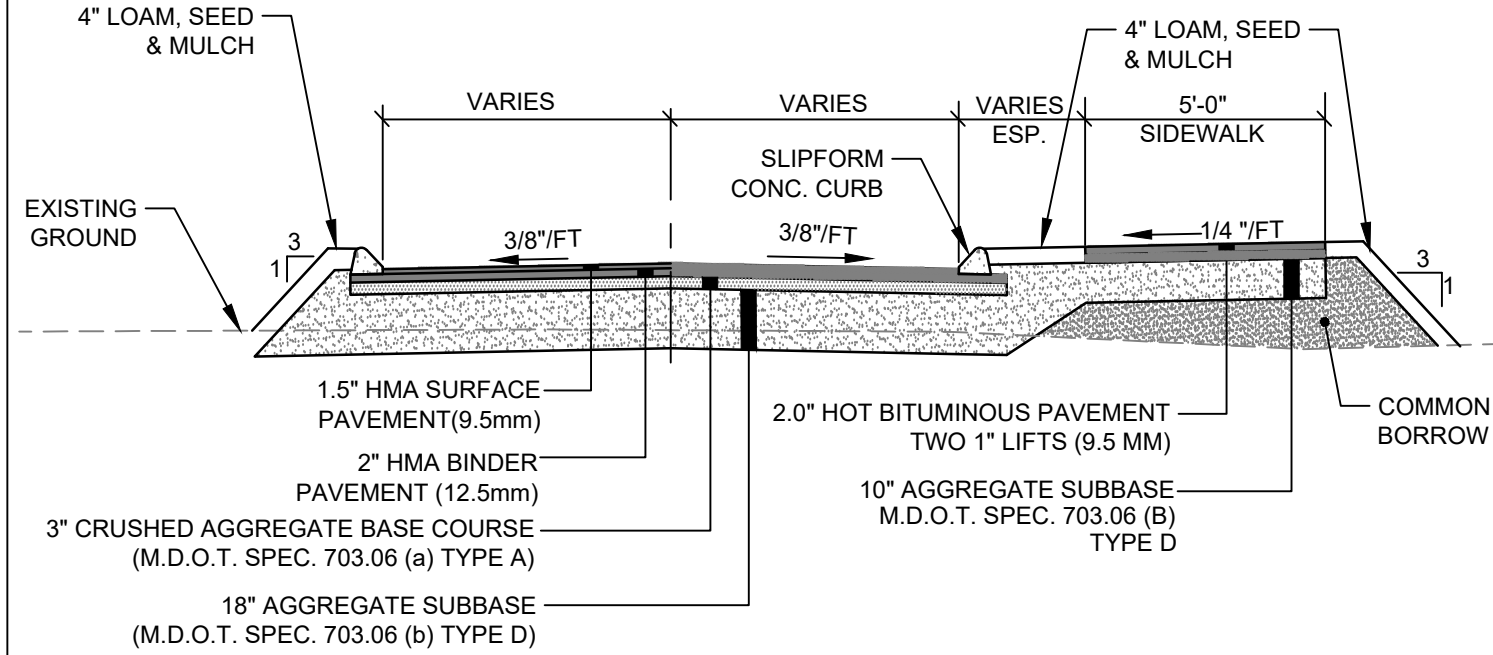


CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

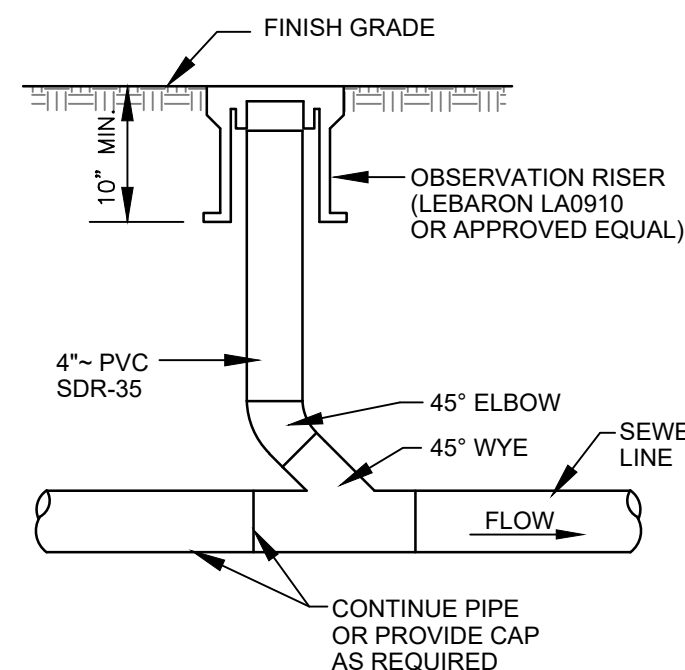
PROJECT:	CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME
SHEET TITLE:	SITE DETAILS
CLIENT:	CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
DATE:	4/4/2022
SCALE:	AS NOTED
DESIGNED:	JDA
JOB NO.:	2104
FILE:	2132-D
SHEET	C-4.1



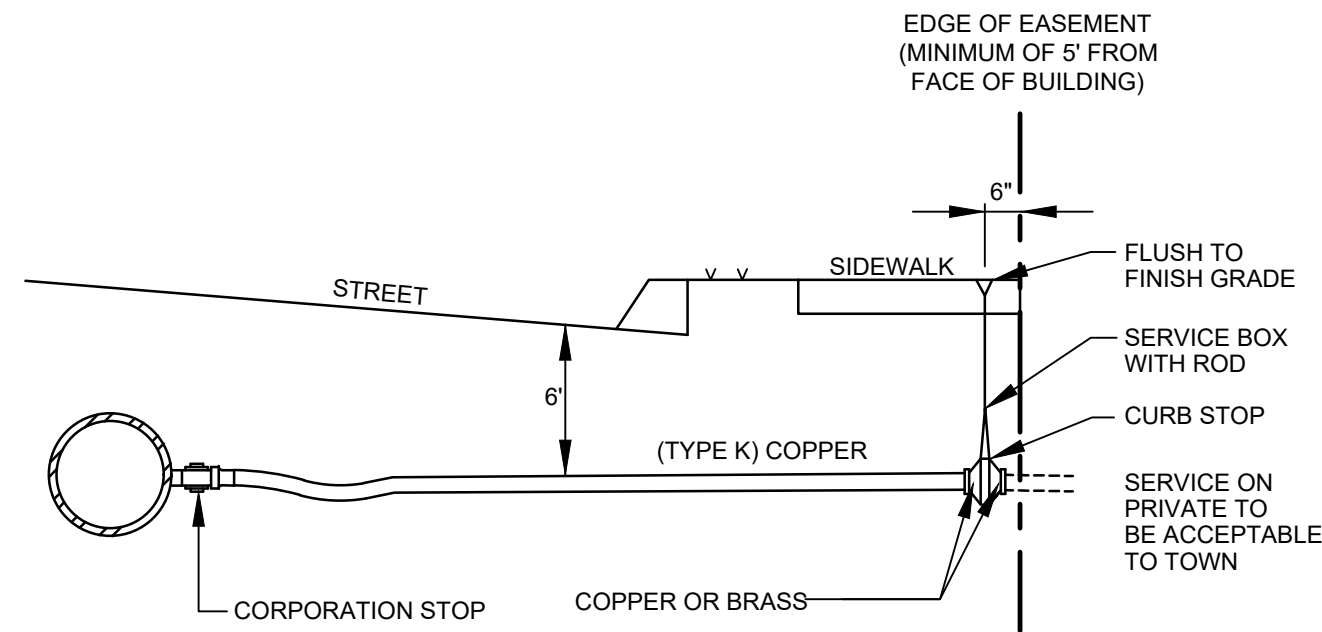
CROSSWALK STRIPING DETAIL
NOT TO SCALE



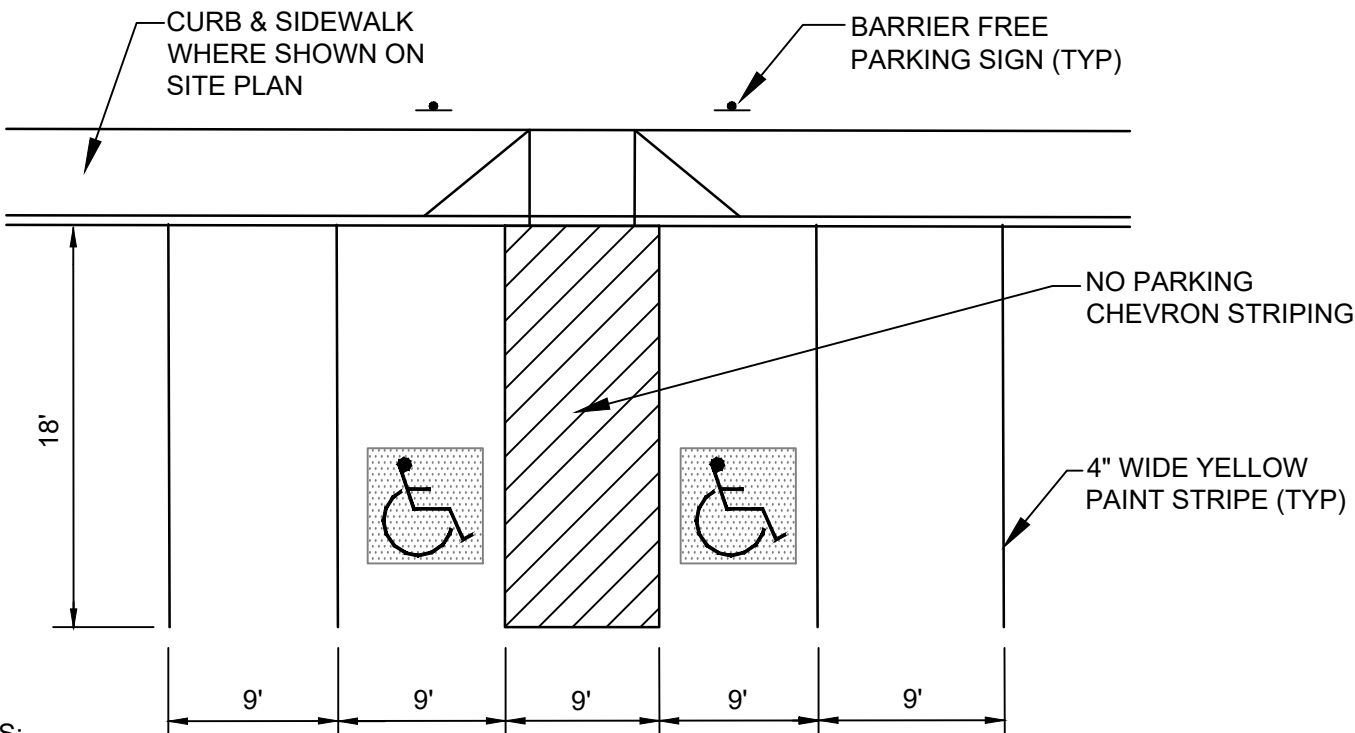
TYPICAL ROAD SECTION
NOT TO SCALE



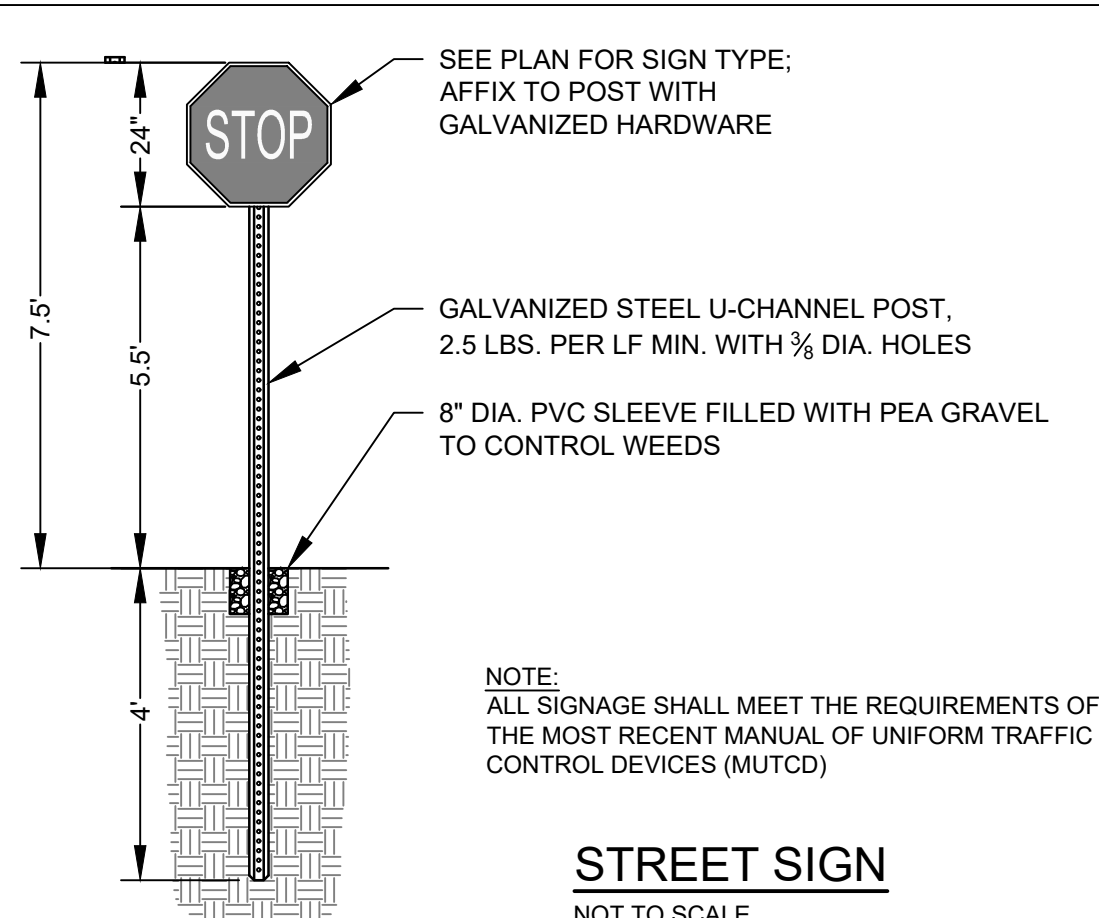
SEWER CLEANOUT
NOT TO SCALE



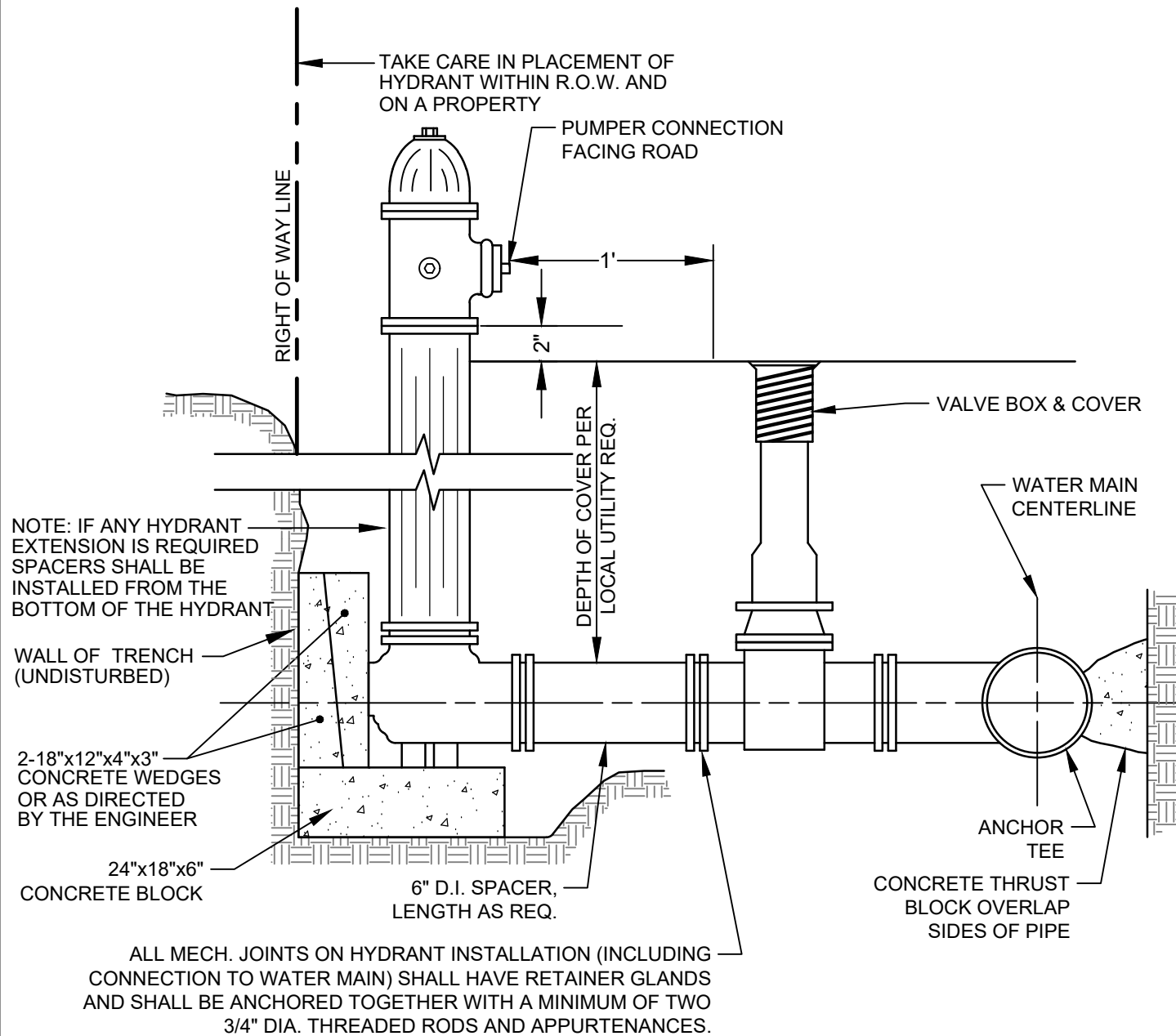
TYPICAL WATER SERVICE CONNECTION
NOT TO SCALE



TYPICAL PARKING STALL DIMENSIONS
NOT TO SCALE

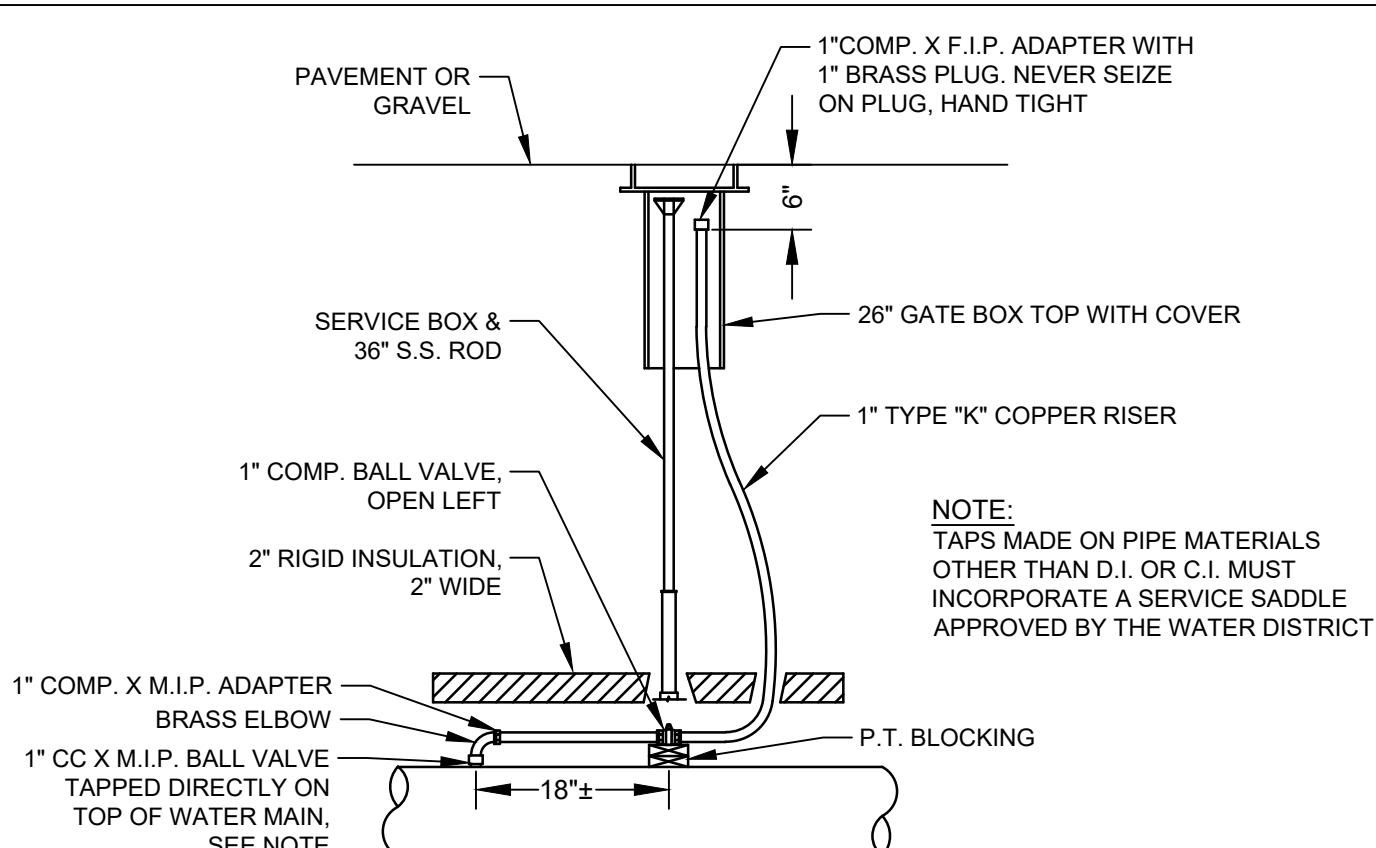


STREET SIGN
NOT TO SCALE

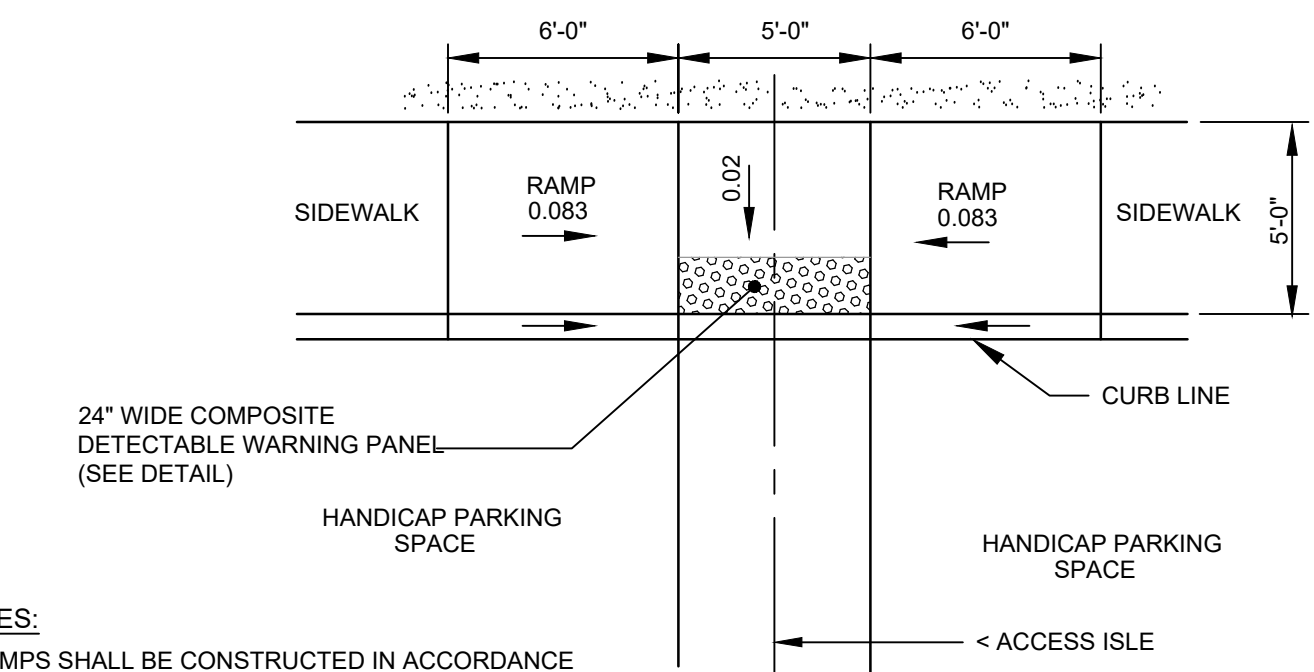


- NOTES:
1. ALL MATERIALS SHALL CONFORM TO THE KENNEBUNK, KENNEBUNKPORT & WELLS WATER DISTRICT REQUIREMENTS
 2. HYDRANT SHALL BE OPEN RIGHT
 3. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE

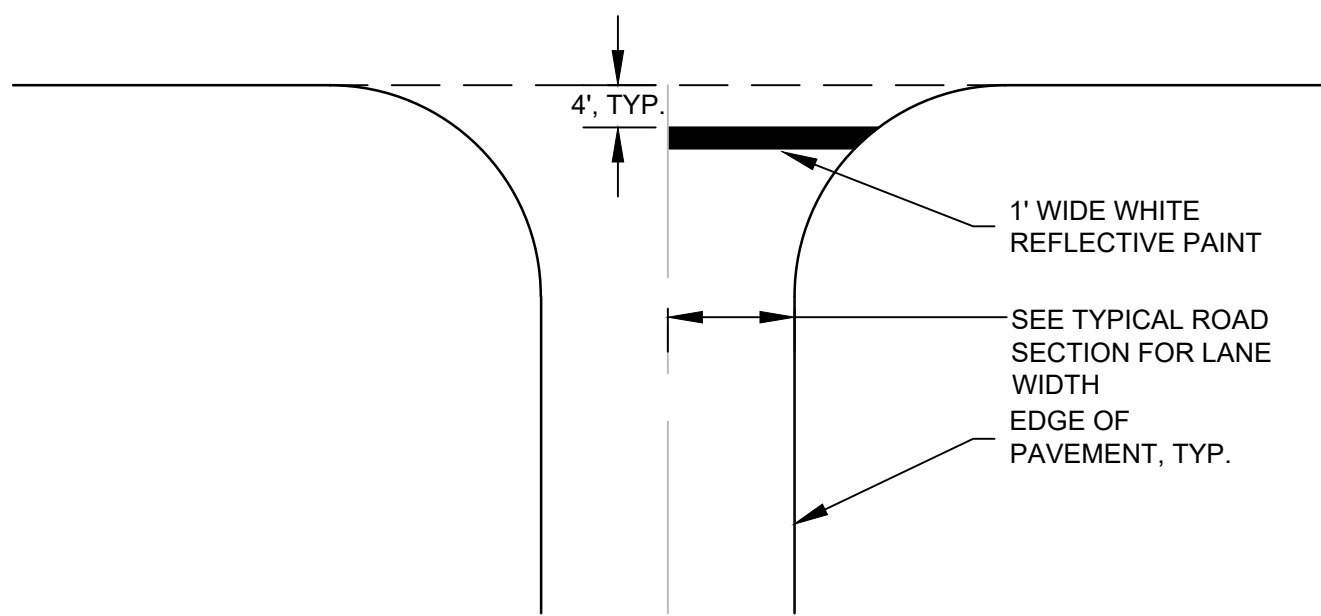
TYP. HYDRANT INSTALLATION
NOT TO SCALE



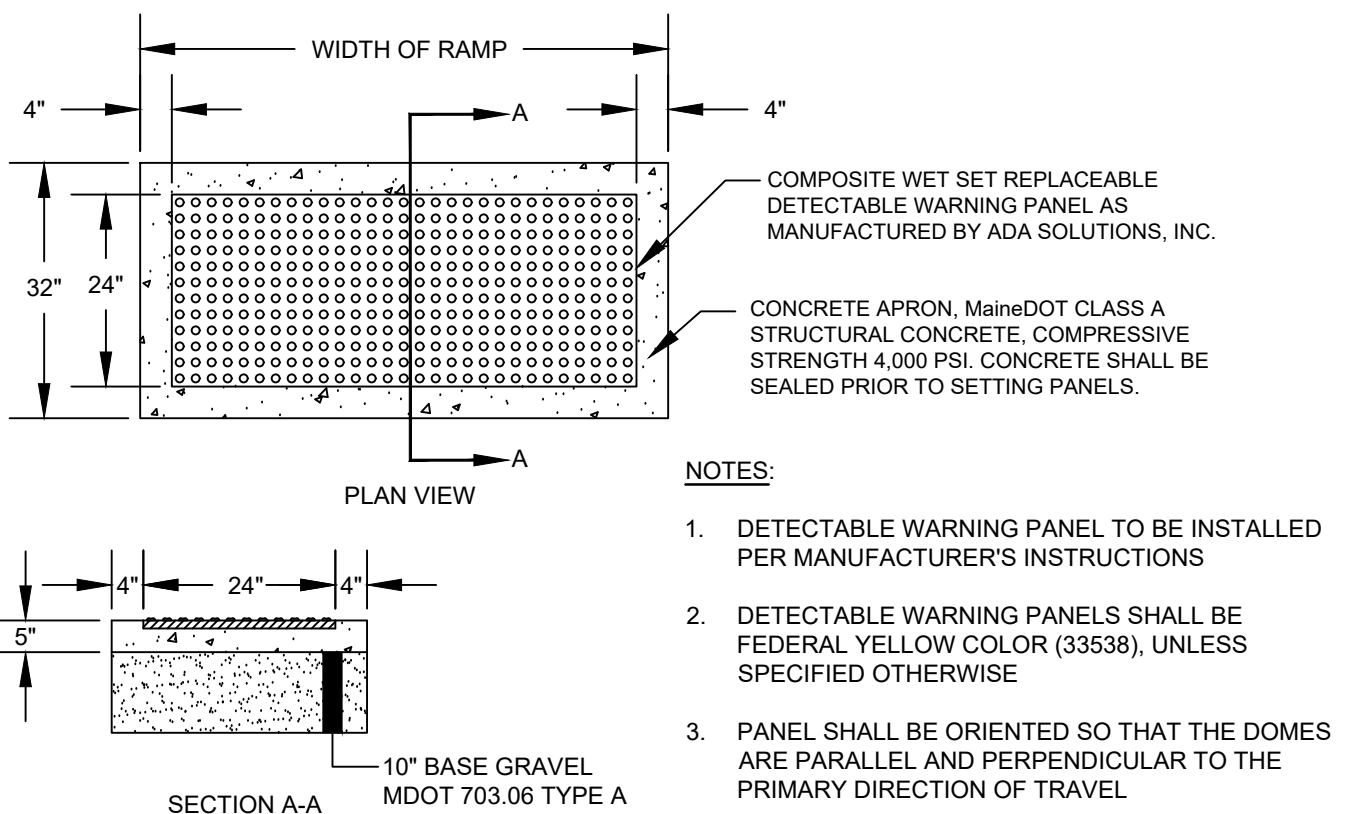
AIR RELEASE DETAIL
NOT TO SCALE



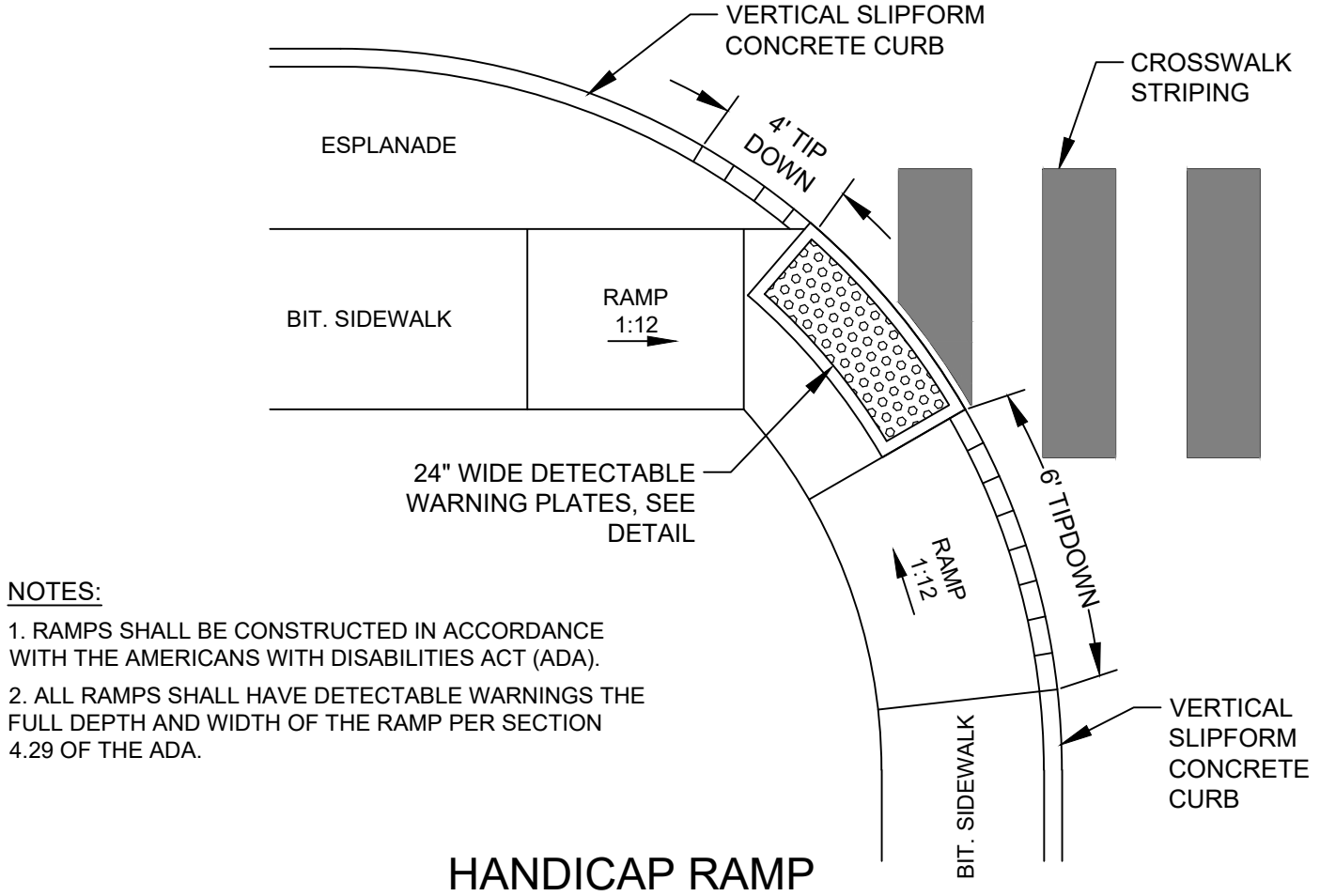
HANDICAP RAMP
NOT TO SCALE



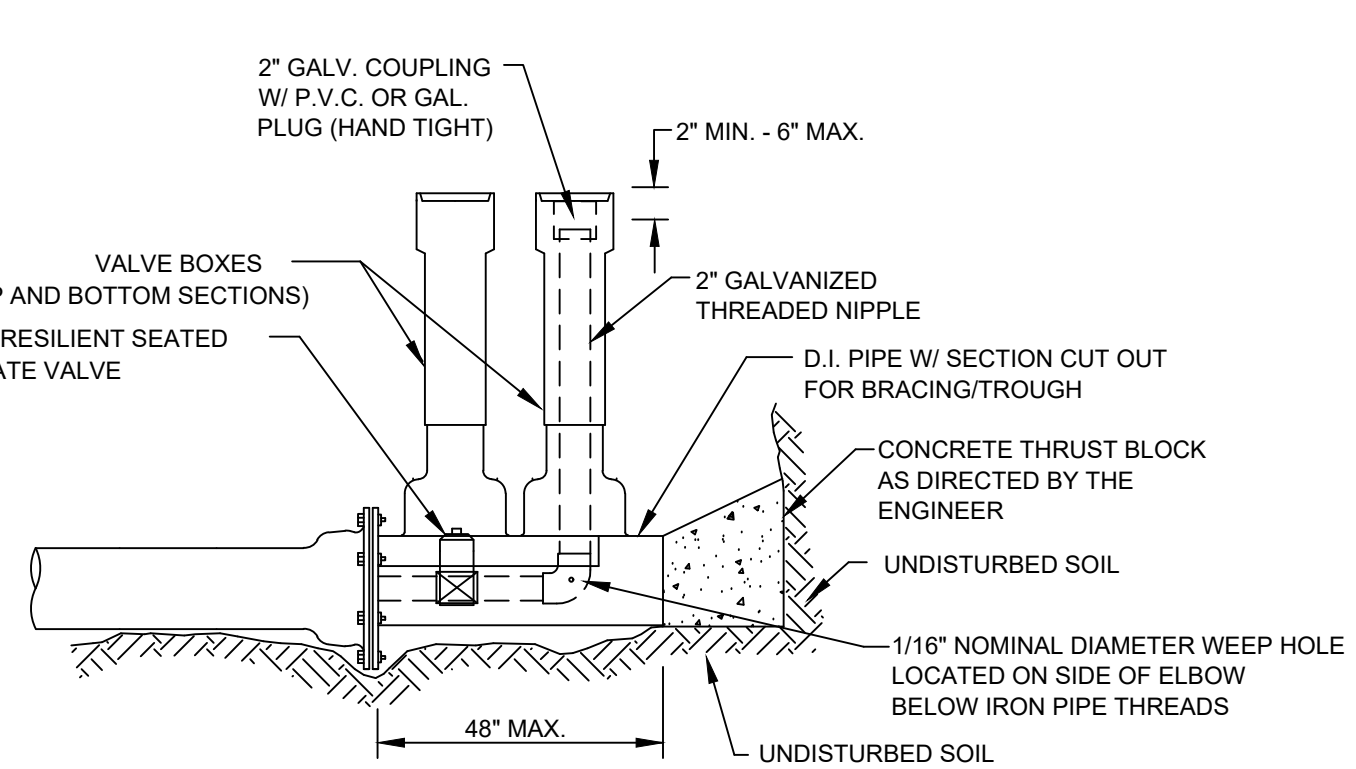
STOP BAR DETAIL
NOT TO SCALE



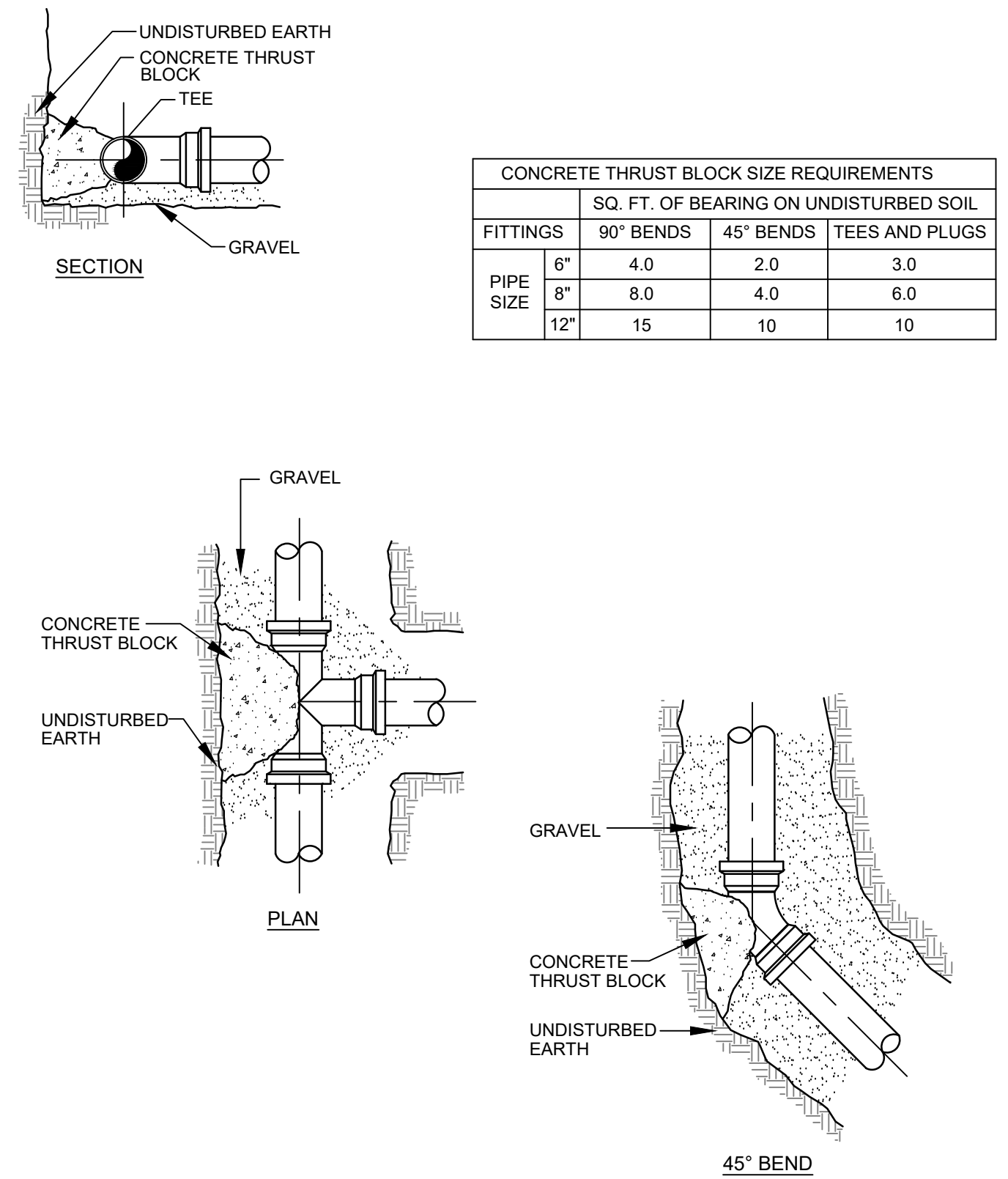
COMPOSITE DETECTABLE WARNING PANEL DETAIL
NOT TO SCALE



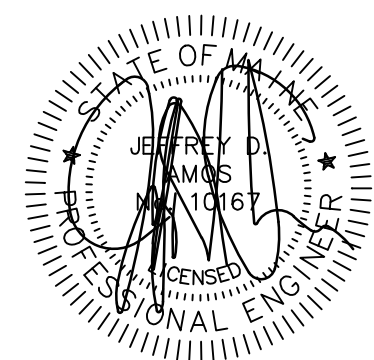
HANDICAP RAMP
NOT TO SCALE



STANDARD 2" BLOW OFF
NOT TO SCALE



TEE & BEND DETAIL
NOT TO SCALE



DATE: 4/4/2022
P.E.: 10167

REVISIONS	BY	DATE	REVISIONS
1	NO.	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS
2	NO.	4/4/2022	FINAL SUBDIVISION SUBMISSION

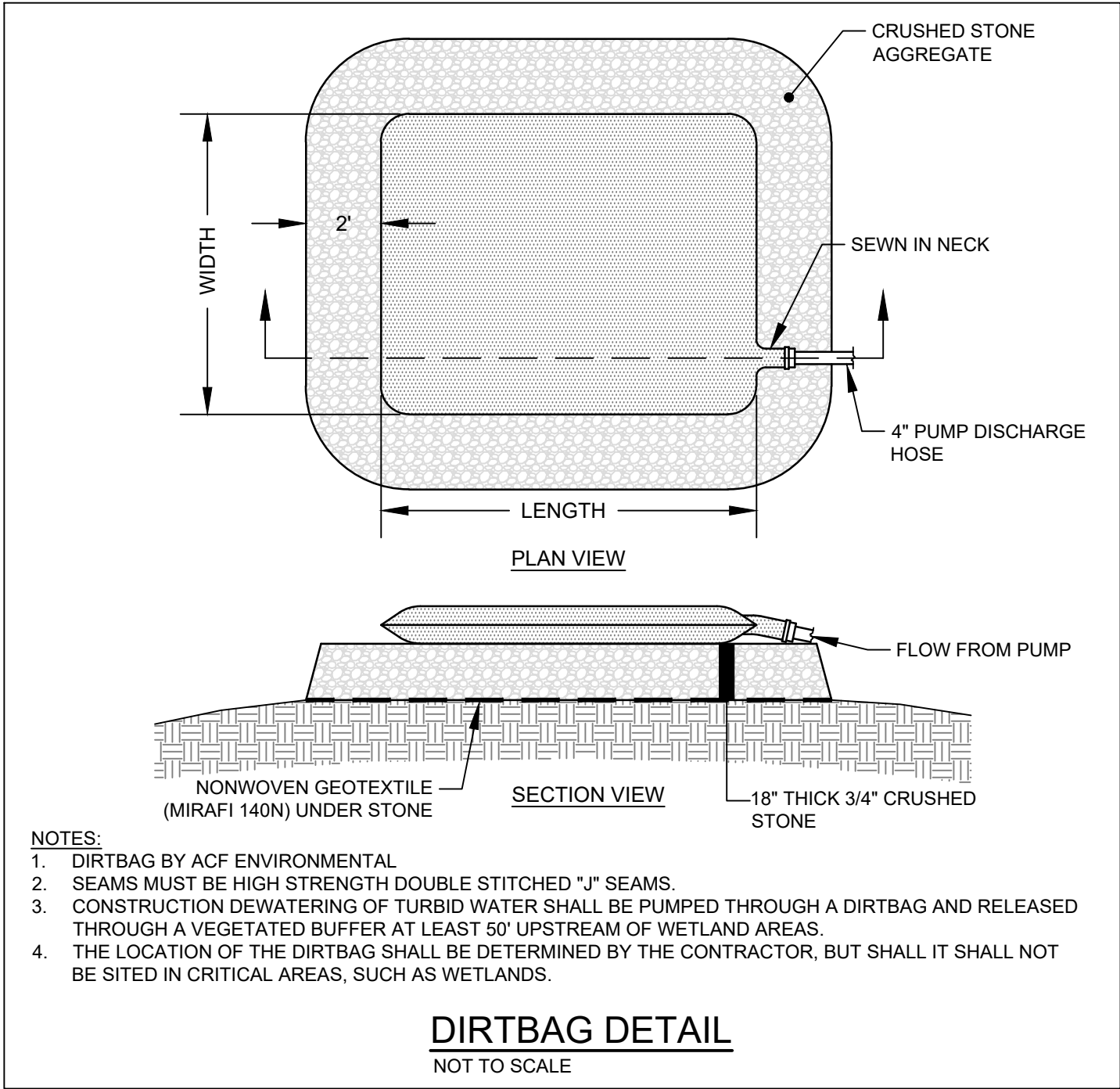
565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102
41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260
OFFICE: (207) 926-5111
www.terradynconsultants.com



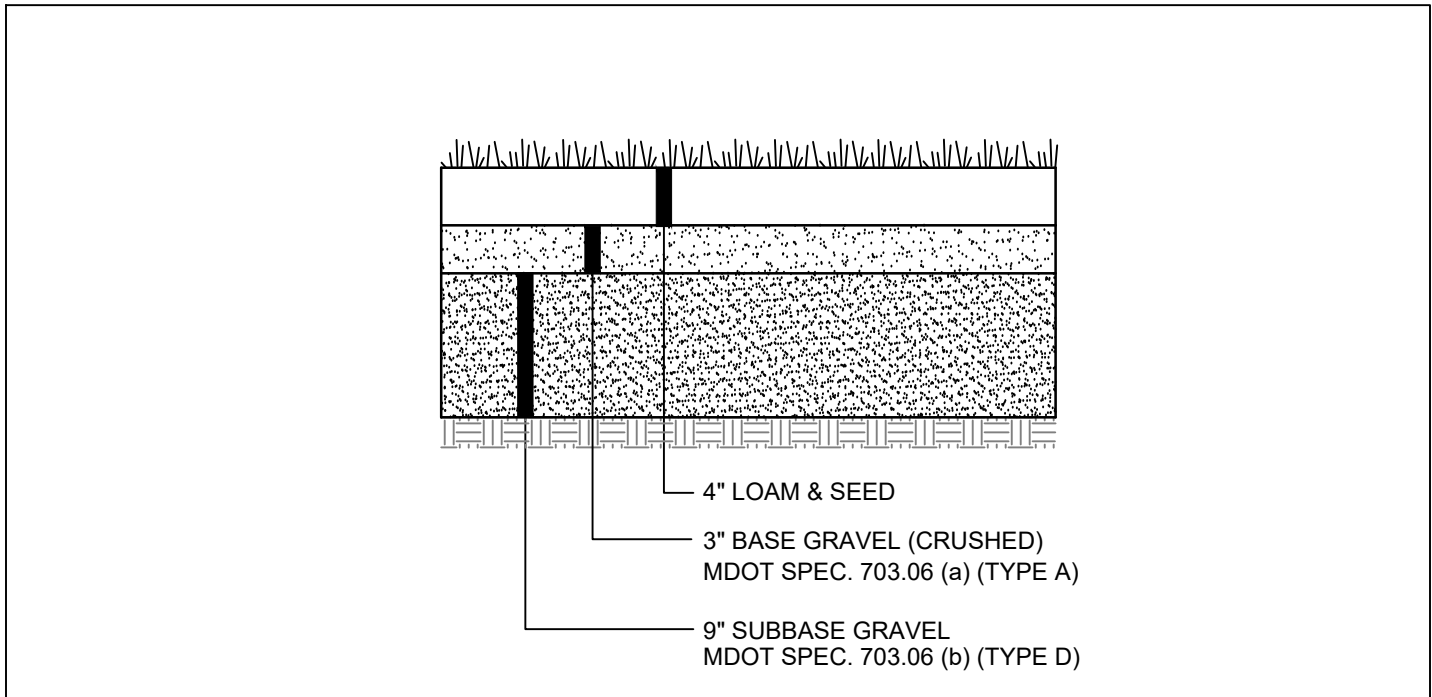
PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME	CLIENT: CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
SHEET TITLE: SITE DETAILS	
DATE: 4/4/2022	SCALE: AS NOTED
DESIGNED: JDA	JOB NO: 2104
FILE: 2132-D	SHEET

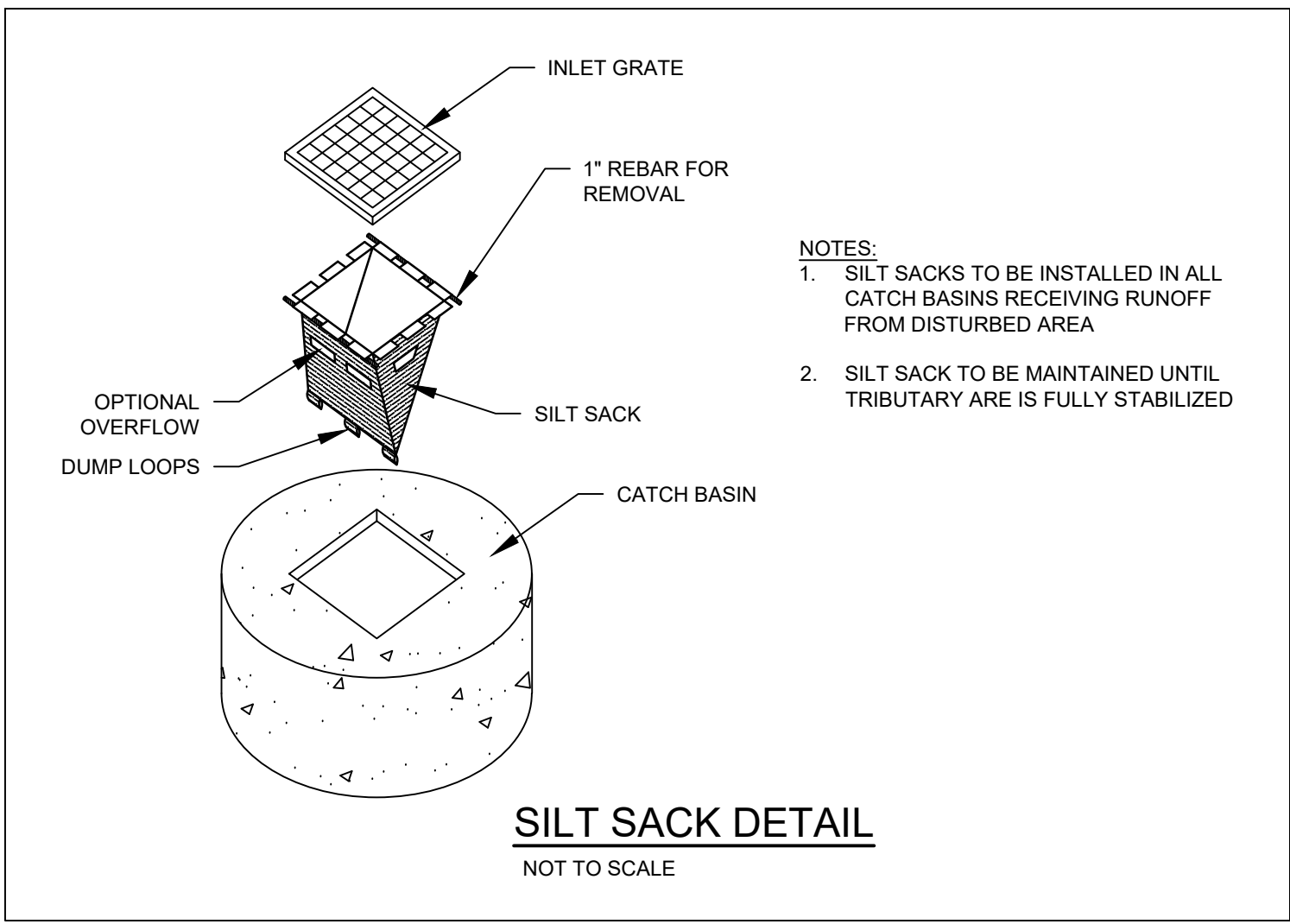
C-4.2



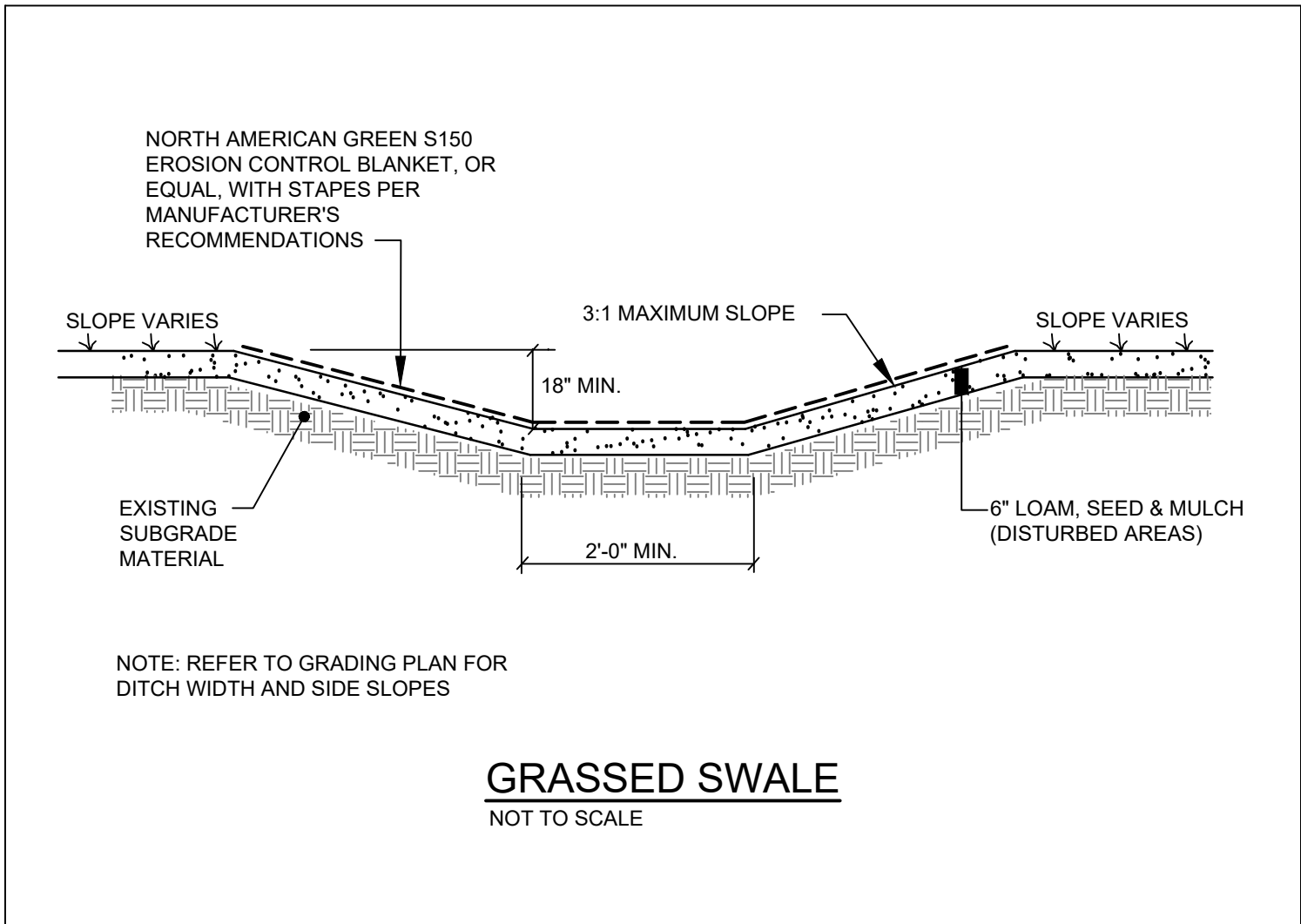
DIRTBAG DETAIL
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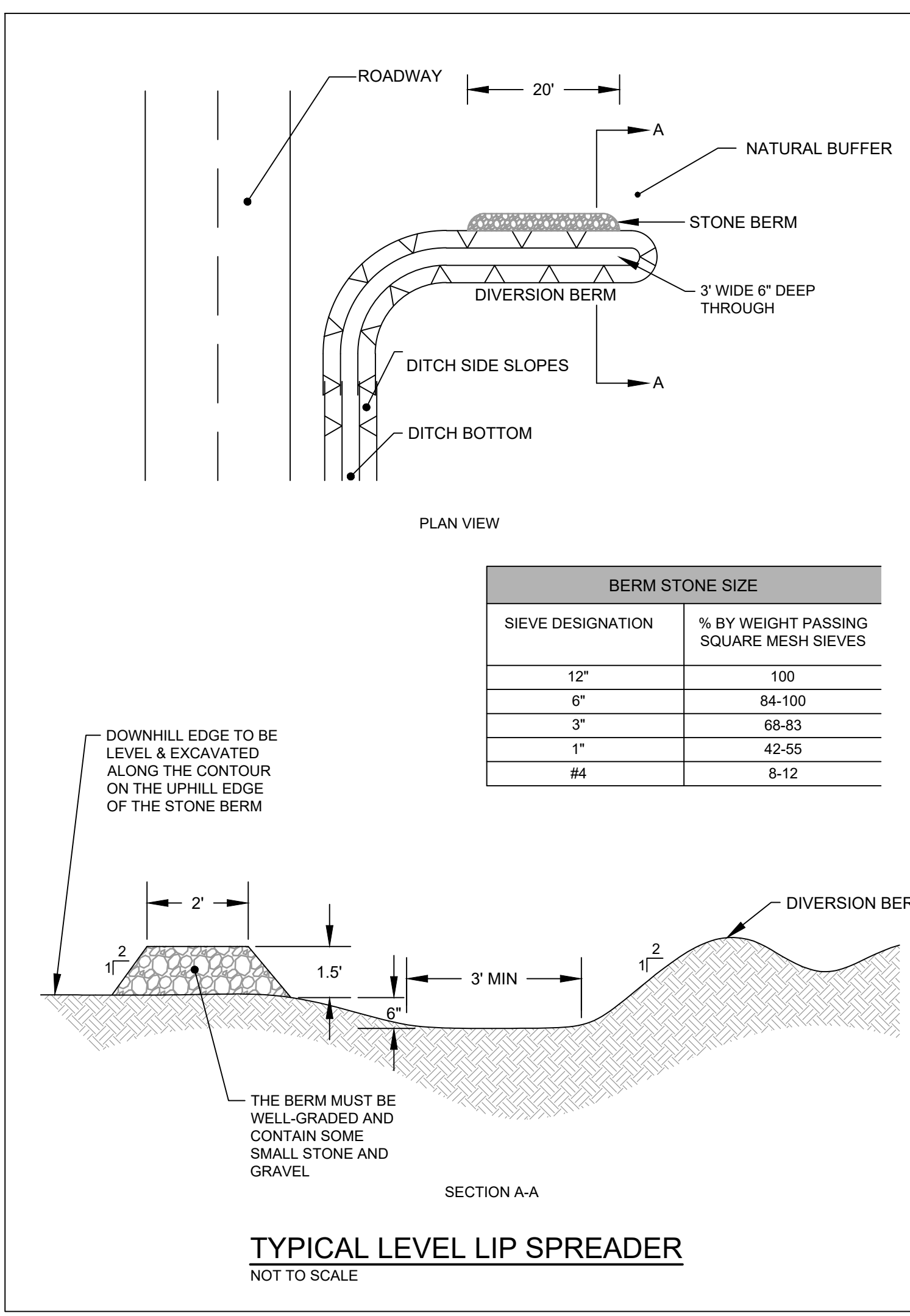
**TYPICAL STORMWATER CONTROL AREA
ACCESS CROSS-SECTION**
NOT TO SCALE



SILT SACK DETAIL
NOT TO SCALE



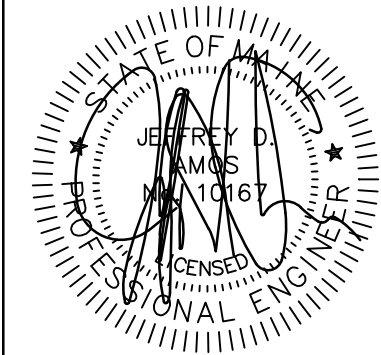
GRASSED SWALE
NOT TO SCALE



TYPICAL LEVEL LIP SPREADER
NOT TO SCALE

CONSTRUCTION NOTES

- ALL WORK SHALL CONFORM TO THE APPLICABLE CODES AND ORDINANCES.
- CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- CONTRACTOR SHALL NOTIFY ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND IN THE FIELD.
- INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND OWNER'S REQUIREMENTS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
- CONTRACTOR SHALL CLEAN AND REMOVE DEBRIS AND SEDIMENT DEPOSITED ON PUBLIC STREETS, SIDEWALKS, ADJACENT AREAS, OR OTHER PUBLIC WAYS DUE TO CONSTRUCTION.
- CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY IN CONSTRUCTION TO PROTECT EXISTING STRUCTURES, PHYSICAL FEATURES, AND MAINTAIN SITE STABILITY DURING CONSTRUCTION. CONTRACTOR SHALL RESTORE ALL AREAS TO ORIGINAL CONDITION AND AS DIRECTED BY DESIGN DRAWINGS.
- SITE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO CONSTRUCTION.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH "MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION; BEST MANAGEMENT PRACTICES" PUBLISHED BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 2016 OR LATEST EDITION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POSSESS A COPY OF THE EROSION CONTROL PLAN AT ALL TIMES.
- THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY UTILITY COMPANIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
- CONTRACTOR SHALL BE AWARE THAT DIG SAFE ONLY NOTIFIES ITS "MEMBER" UTILITIES ABOUT THE DIG. WHEN NOTIFIED, DIG SAFE WILL ADVISE CONTRACTOR OF MEMBER UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND CONTACTING NON-MEMBER UTILITIES DIRECTLY. NON-MEMBER UTILITIES MAY INCLUDE TOWN OR CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USG PUBLIC WORKS SYSTEMS.
- CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRS.A 3360-A. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITIES TO OBTAIN AUTHORIZATION PRIOR TO RELOCATION OF ANY EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS. IF A UTILITY CONFLICT ARISES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER, THE MUNICIPALITY AND APPROPRIATE UTILITY COMPANY PRIOR TO PROCEEDING WITH ANY RELOCATION.
- ALL PAVEMENT MARKINGS AND DIRECTIONAL SIGNAGE SHOWN ON THE PLAN SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS.
- ALL PAVEMENT JOINTS SHALL BE SAWCUT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
- NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
- ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL REQUIRE A M.D.O.T. PERMIT AS WELL AS PERMITS FROM THE TOWN AS APPLICABLE.
- THE PROPOSED LIMITS OF CLEARING SHOWN HEREON ARE APPROXIMATE BASED UPON THE PROPOSED LIMITS OF SITE GRADING. THE APPLICANT RESERVES THE RIGHT TO PERFORM NORMAL FOREST MANAGEMENT ACTIVITIES OUTSIDE OF THE CLEARING LIMIT AS SHOWN. TREE REMOVAL OUTSIDE OF THE LIMITS OF CLEARING MAY BE NECESSARY TO REMOVE DEAD OR DYING TREES OR TREE LIMBS. THIS REMOVAL IS DUE TO POTENTIAL SAFETY HAZARDS AND TO PROMOTE PROPER FOREST GROWTH.
- IMMEDIATELY UPON COMPLETION OF CUTS/FILLS, THE CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH EROSION CONTROL NOTES AND AS SPECIFIED ON PLANS.
- THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR THE REMOVAL, REPLACEMENT AND RECTIFICATION OF ALL DAMAGED AND DEFECTIVE MATERIAL AND WORKMANSHIP IN CONNECTION WITH THE CONTRACT WORK. THE CONTRACTOR SHALL REPLACE OR REPAIR AS DIRECTED BY THE OWNER ALL SUCH DAMAGED OR DEFECTIVE MATERIALS WHICH APPEAR WITHIN A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
- ALL WORK PERFORMED BY THE GENERAL CONTRACTOR AND/OR TRADE SUBCONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF LOCAL, STATE OR FEDERAL LAWS, AS WELL AS ANY OTHER GOVERNING REQUIREMENTS, WHETHER OR NOT SPECIFIED ON THE DRAWINGS.
- WHERE THE TERMS "APPROVED EQUAL", "OTHER APPROVED", "EQUAL TO", "ACCEPTABLE" OR OTHER GENERAL QUALIFYING TERMS ARE USED IN THESE NOTES, IT SHALL BE UNDERSTOOD THAT REFERENCE IS MADE TO THE RULING AND JUDGMENT OF TERRADYN CONSULTANTS, LLC.
- THE GENERAL CONTRACTOR SHALL PROVIDE ALL NECESSARY PROTECTION FOR THE WORK UNTIL TURNED OVER TO THE OWNER.
- THE GENERAL CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF CONSTRUCTION DRAWINGS ON SITE DURING ALL PHASES OF CONSTRUCTION FOR USE OF ALL TRADES.
- THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ARCHITECT/ENGINEER AND/OR CLIENT/OWNER.
- DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. ANY MODIFICATION TO SUIT FIELD DIMENSION AND CONDITION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK.
- BEFORE THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIALS, REPAIR OR REPLACE PRIVATE OR PUBLIC PROPERTY WHICH MAY HAVE BEEN DAMAGED OR DESTROYED DURING CONSTRUCTION, CLEAN THE AREAS WITHIN AND ADJACENT TO THE PROJECT WHICH HAVE BEEN OBSTRUCTED BY HIS/HER OPERATIONS, AND LEAVE THE PROJECT AREA NEAT AND PRESENTABLE.



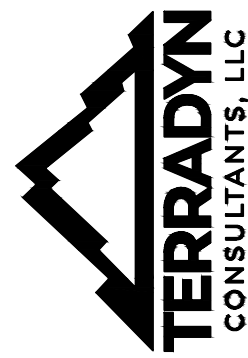
DATE: 4/4/2022
P.E.: 10167

REVISIONS	BY	DATE
1	NO.	9/15/2021
2	DATE	4/4/2022
3	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	9/15/2021
4	FINAL SUBDIVISION SUBMISSION	4/4/2022

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

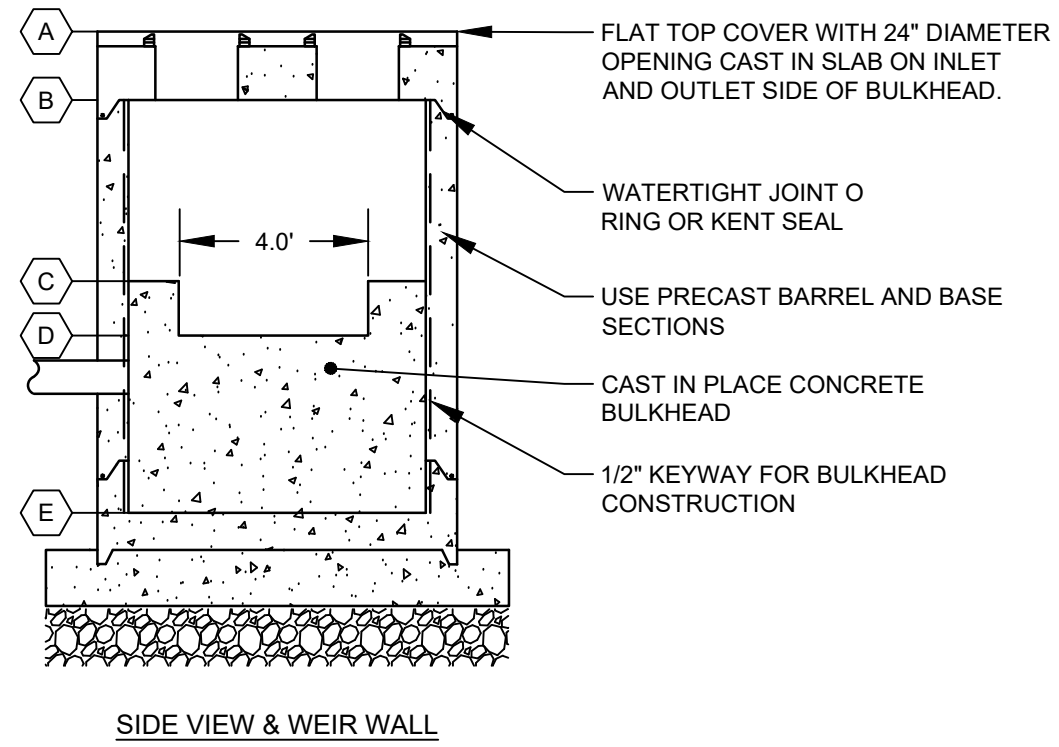
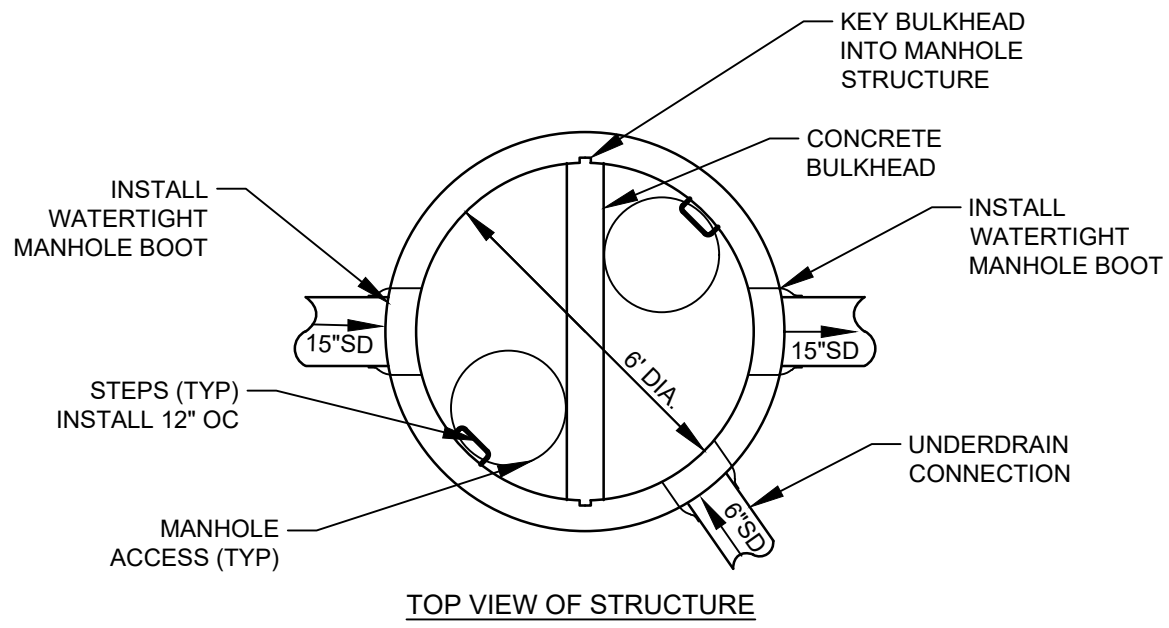
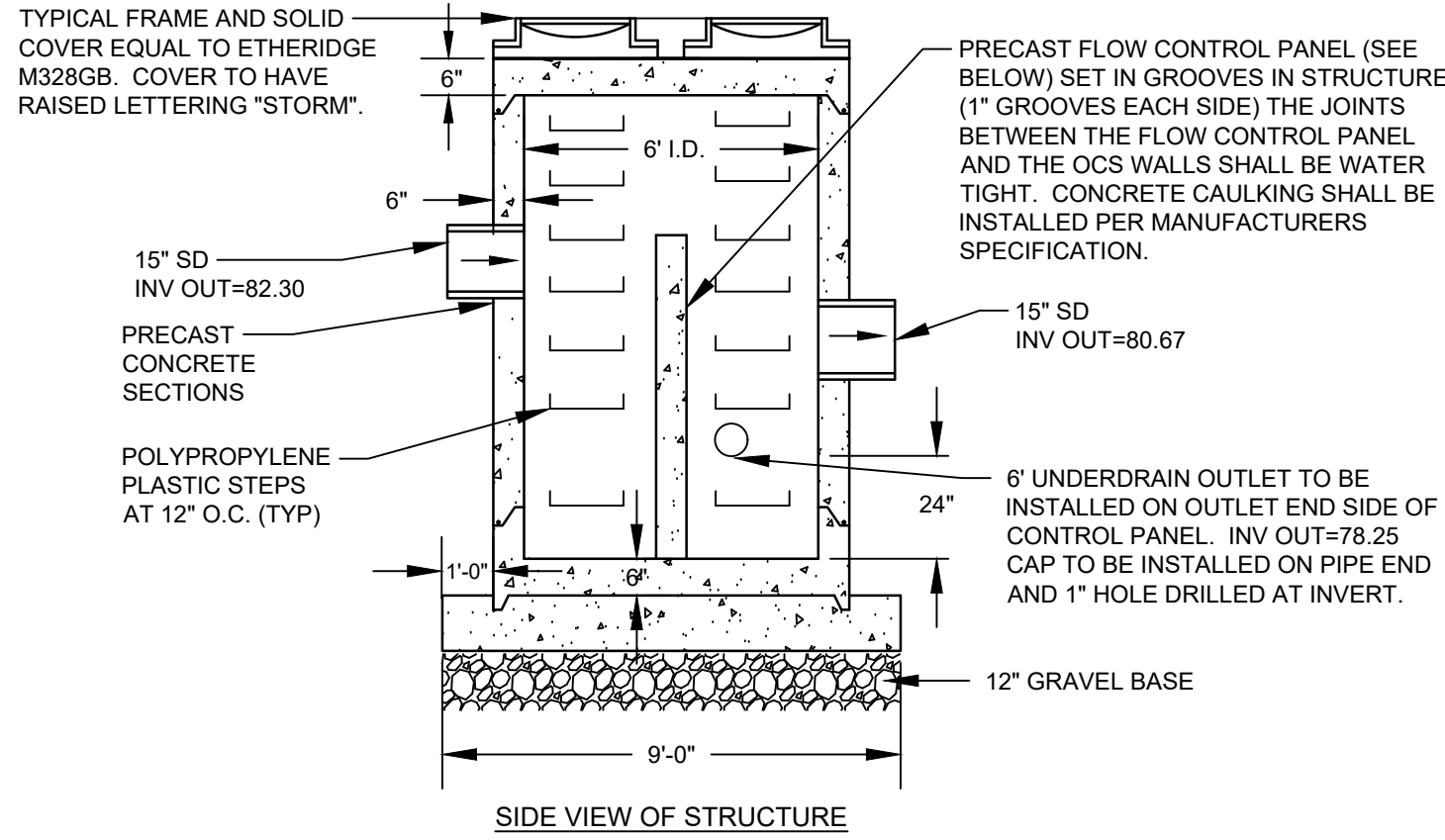
41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

OFFICE: (207) 926-5111
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PERMIT DRAWING
NOT FOR CONSTRUCTION

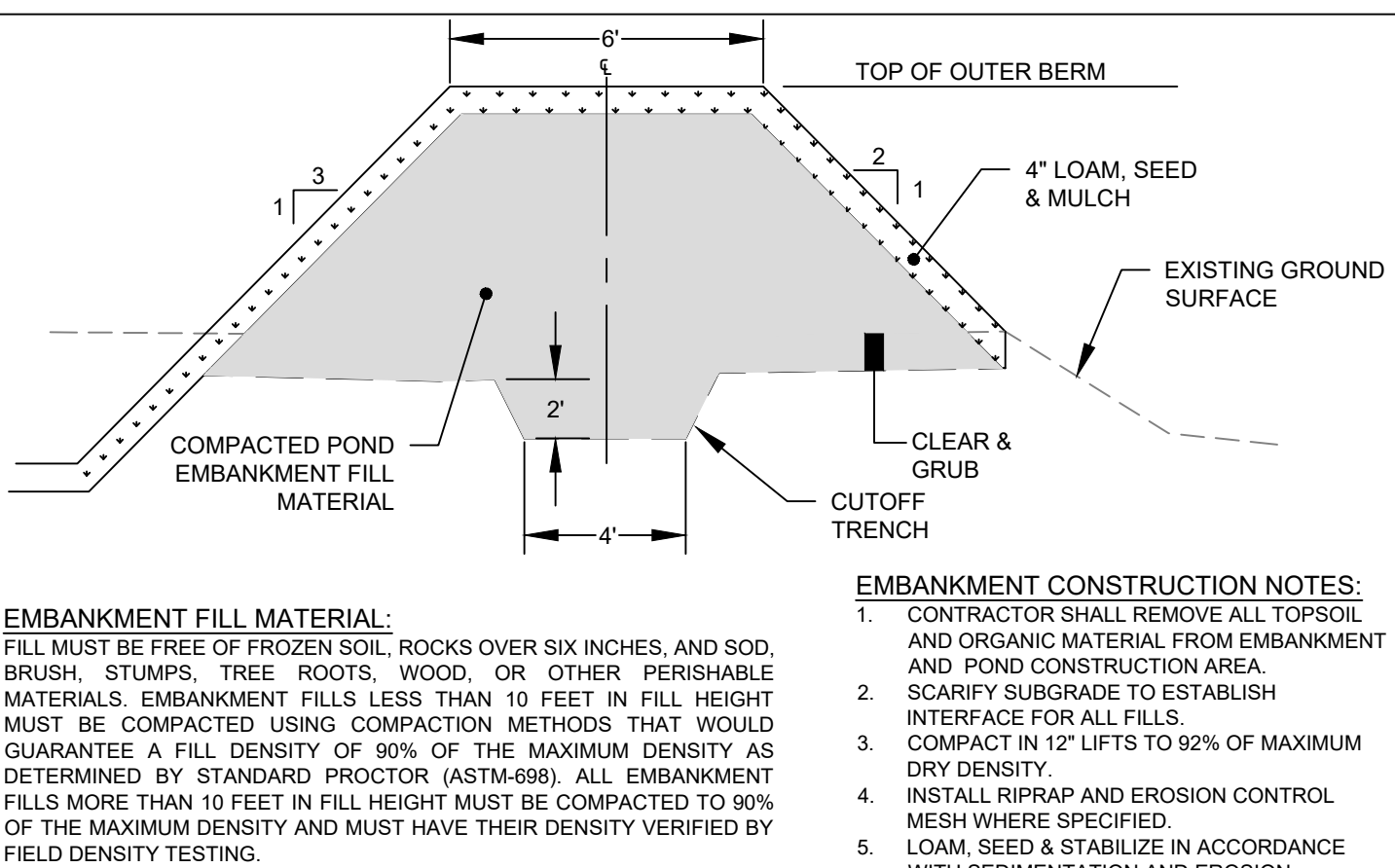
PROJECT: CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME	SHEET TITLE: STORMWATER DETAILS & NOTES	CLIENT: CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
DATE:	4/4/2022	
SCALE:	AS NOTED	
DESIGNED:	JDA	
JOB NO:	2104	
FILE:	2132-D	
SHEET	C-4.3	



- NOTES:
- SUBMIT SHOP DRAWINGS FOR OWNER/ENGINEER APPROVAL.
 - STRUCTURE SHALL BE DESIGNED FOR H-20 LOADING.
 - CASTINGS SHALL PROVIDE FOR A 24\"/>

SCHEDULE A OUTLET CONTROL STRUCTURE		
ITEM DESCRIPTION	DIMENSION	ELEVATION
A. TOP OF STRUCTURE	85.50	
B. UNDERSIDE OF SLAB	85.00	
C. TOP OF CONCRETE BULKHEAD	83.65	
D. BOTTOM OF WEIR SLOT	82.50	
E. BOTTOM OF STRUCTURE	76.25	

OUTLET CONTROL STRUCTURE (OCS) NOT TO SCALE



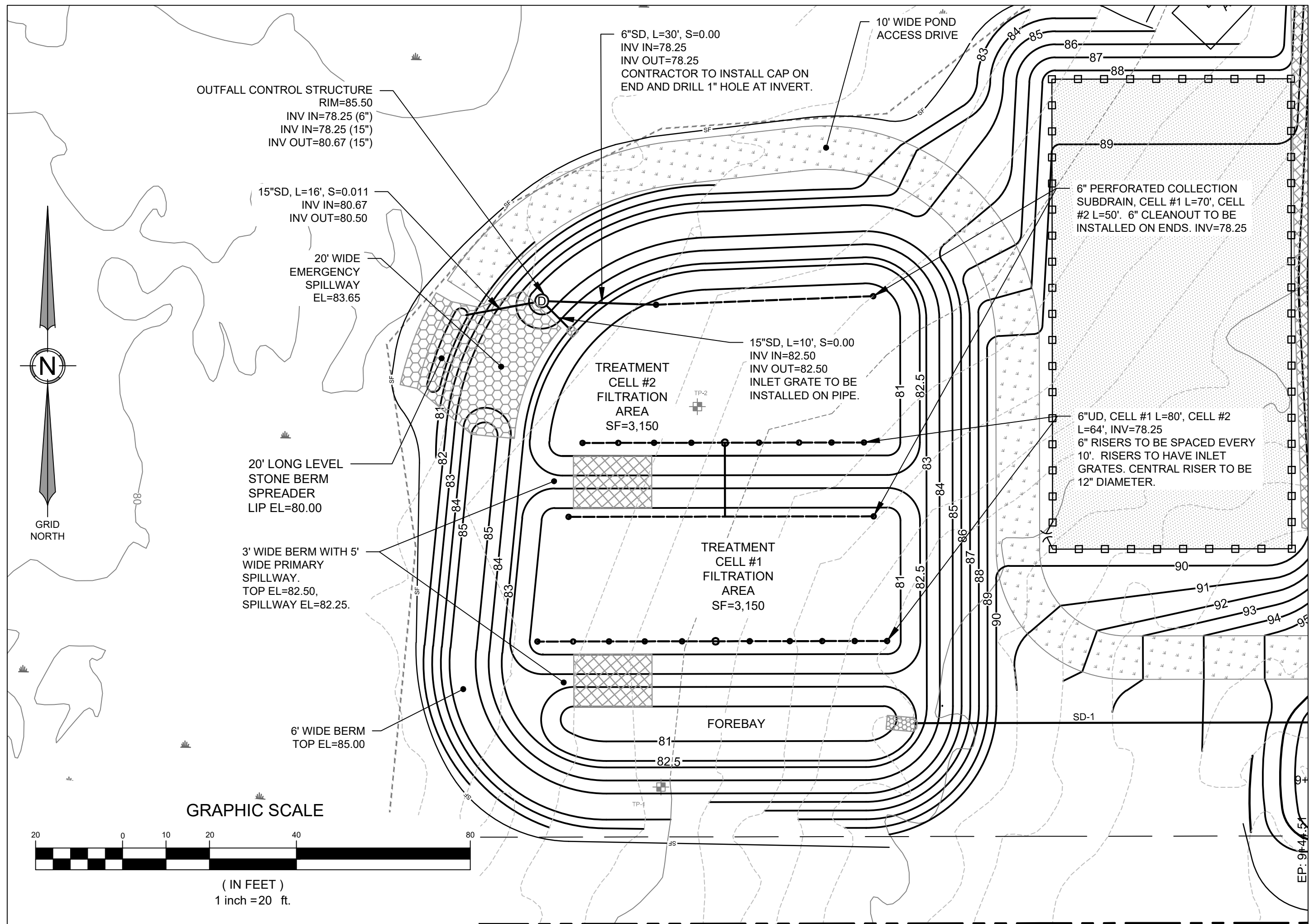
POND EMBANKMENT DETAIL NOT TO SCALE

CONSTRUCTION INSPECTION NOTES:

- THE DESIGN ENGINEER SHALL INSPECT THE CONSTRUCTION AND STABILIZATION OF THE GRAVEL WETLAND. INSPECTIONS SHALL CONSIST OF WEEKLY VISITS TO THE SITE TO INSPECT THE CONSTRUCTION (FROM INITIAL GROUND DISTURBANCE TO FINAL STABILIZATION OF THE POND) OF THE POND'S EMBANKMENT, STORMWATER INLET, GRAVEL AND FILTER MATERIAL MAKEUP AND PLACEMENT, OUTLET CONTROL STRUCTURE, LINER INSTALLATION, AND EMERGENCY SPILLWAY. IF NECESSARY, THE INSPECTING ENGINEER SHALL INTERPRET THE POND'S CONSTRUCTION PLAN FOR THE CONTRACTOR. ONCE THE POND IS CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY THE CITY WITHIN 14 DAYS TO STATE THE POND HAS BEEN COMPLETED. ACCOMPANYING THE ENGINEER'S NOTIFICATION SHALL BE A LOG OF THE ENGINEER'S INSPECTIONS, GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT, AND INCLUDE ANY TESTING DATA OR SIEVE ANALYSIS DATA OF THE MATERIALS USED. AN INSPECTION OF THE UNDERDRAINED GRAVEL OUTLET SHALL ALSO BE PERFORMED BY A PROFESSIONAL ENGINEER ONE YEAR AFTER THE FINAL STABILIZATION OF THE POND. THE ENGINEER SHALL NOTIFY THE CITY AS TO THE OUTLET'S EFFECTIVENESS AND DETERMINE ANY MAINTENANCE ITEMS THAT ARE NEEDED.
- UNTIL SUCH TIME THAT THE STORMWATER FACILITIES ARE OFFERED AND ACCEPTED BY THE CITY, THE APPLICANT SHALL BE REQUIRED TO PERFORM ROUTINE INSPECTION AND MAINTENANCE OF THE STORMWATER FACILITIES AS OUTLINED IN THE OPERATIONS AND MAINTENANCE MANUAL. DEVELOPMENT SPECIFICALLY FOR THE SITE. A COPY OF THE ANNUAL INSPECTION AND MAINTENANCE REPORT INCLUDING INSPECTION LOG(S) SHALL BE SUBMITTED ANNUALLY (BY JULY 15TH OF EACH YEAR) TO THE CITY PUBLIC WORKS DEPARTMENT.

GRAVEL WETLAND INSTALLATION NOTES:

- THE MINIMUM SPACING BETWEEN THE SUBSURFACE PERFORATED DISTRIBUTION LINE AND THE SUBSURFACE PERFORATED COLLECTION DRAIN AT EITHER END OF THE GRAVEL IN EACH TREATMENT CELL IS 15 FT.
- THERE SHOULD BE A MINIMUM HORIZONTAL TRAVEL DISTANCE OF 15 FT WITHIN THE GRAVEL LAYER IN EACH CELL.
- VERTICAL PERFORATED OR SLOTTED RISER PIPES DELIVER WATER FROM THE SURFACE DOWN TO THE SUBSURFACE, PERFORATED OR SLOTTED DISTRIBUTION LINES. THESE RISERS SHALL HAVE A MAXIMUM SPACING OF 10 FEET.
- SLOTTED VERTICAL RISERS SHALL HAVE A MINIMUM DIAMETER OF 12\"/>



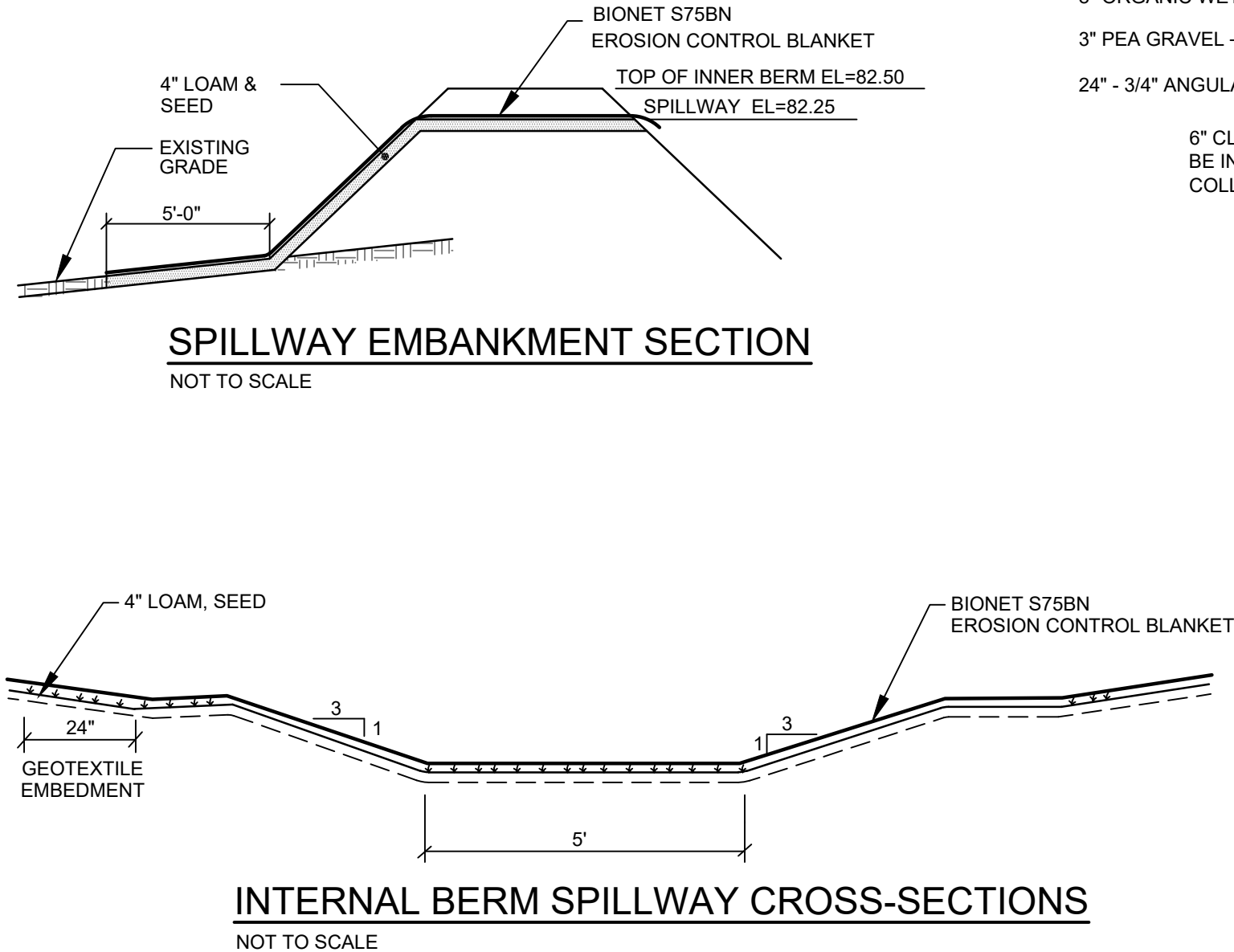
GRAVEL WETLAND #1 PLAN VIEW SCALE: 1"=20'

ORGANIC WETLAND SOIL MIXTURE:

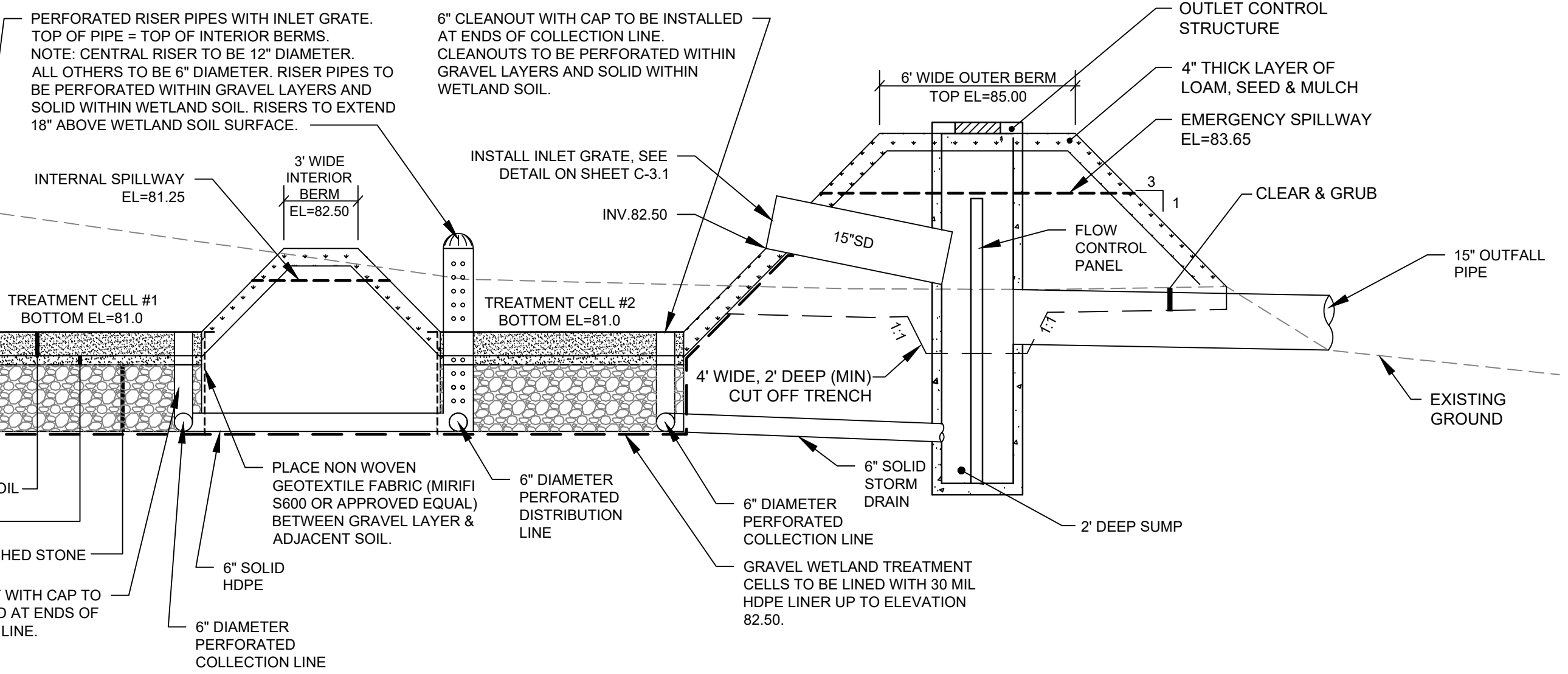
- THE WETLAND SOIL SHOULD HAVE A LOW HYDRAULIC CONDUCTIVITY (0.1-0.01 FT/DAY). THIS SOIL CAN BE MANUFACTURED USING COMPOST, SAND AND FINE SOILS, INTO A BLEND WITH MORE THAN 15% ORGANIC MATTER. IT SHOULD CONTAIN MORE THAN 15% SILT (PASSING THE #200 SIEVE), BUT WITH A CLAY SIZE PORTION THAT IS LESS THAN 2%. DO NOT USE GEOTEXTILES BETWEEN THE HORIZONTAL LAYERS OF THIS SYSTEM AS THEY WILL CLOG DUE TO FINES AND MAY RESTRICT ROOT GROWTH.

POND DEWATERING NOTES:

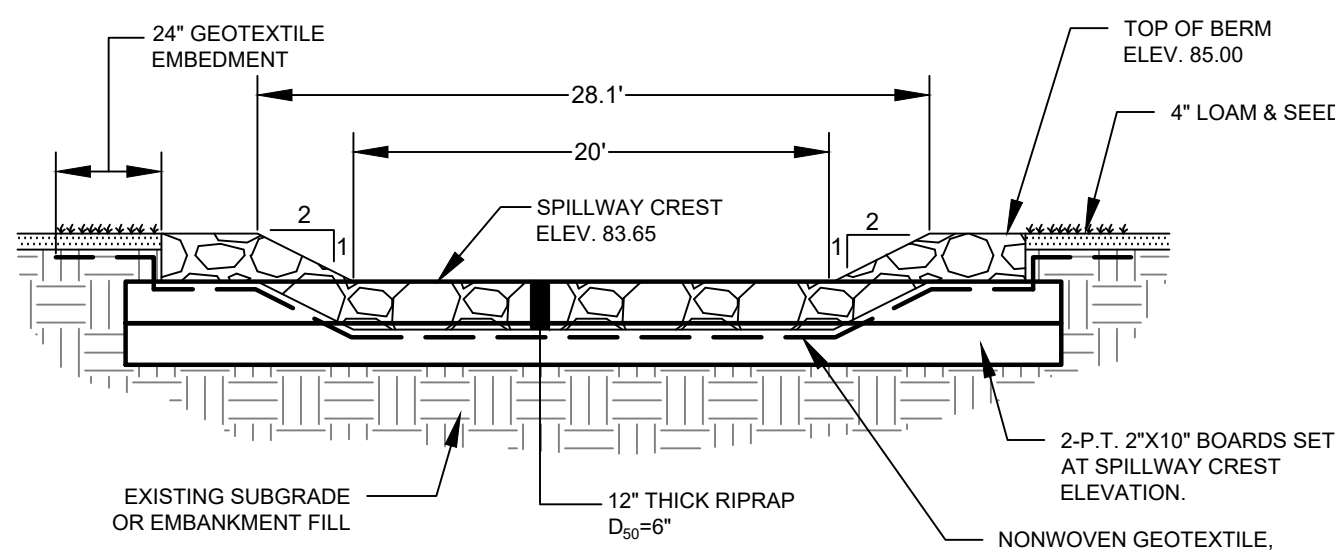
- DEWATERING OF THE FOREBAY AND TREATMENT CELLS OF THE POND SHALL BE CONDUCTED SUCH THAT THE POND WILL NOT FILL WITH WATER UNTIL THE FOREBAY & TREATMENT CELL FLOORS ARE COMPLETED.
- DEWATERING PROCEDURES SHALL BE CONDUCTED USING MDEP APPROVED TECHNIQUES AND SHALL INCLUDE THE USE OF A DIRT BAG SYSTEM. THE DIRT BAG SHALL BE USED ACCORDING TO MANUFACTURER INSTRUCTIONS.



INTERNAL BERM SPILLWAY CROSS-SECTIONS NOT TO SCALE



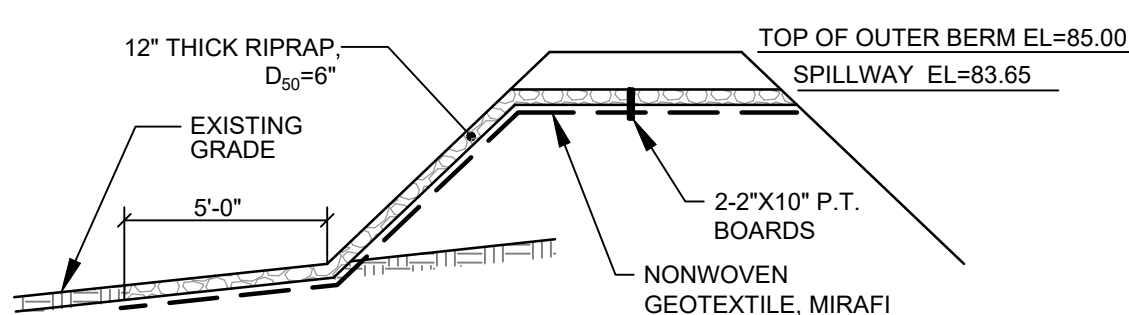
CROSS SECTION VIEW - GRAVEL WETLAND NOT TO SCALE



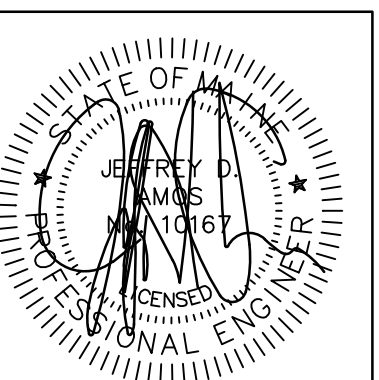
SPILLWAY CROSS SECTION NOT TO SCALE

GRAVEL WETLAND DETAILS NOT TO SCALE

- CONSTRUCTION SEQUENCE:
- THE GRAVEL WETLAND SHALL BE EXCAVATED TO FINISHED GRADE ELEVATIONS AND USED AS A TEMPORARY SEDIMENT SUMP DURING CONSTRUCTION OF THE ROAD.
 - THE RIPRAP SWALE, RIPRAP FOREBAY, INTERNAL BERM AND SPILLWAY, AND OUTER BERM AND EMERGENCY SPILLWAY SHALL BE CONSTRUCTED PRIOR TO GRUBBING FOR ROAD CONSTRUCTION.
 - RUNOFF FROM DISTURBED AREAS SHALL BE DIRECTED TO THE SEDIMENT BASIN DURING ROAD CONSTRUCTION.
 - THE CRUSHED STONE, PEA GRAVEL, WETLAND SOIL, AND PIPES SHALL NOT BE INSTALLED UNTIL THE ROAD IS STABILIZED AND SWALES ARE VEGETATED WITH GRASS (AT LEAST 90% CATCH).



SPILLWAY EMBANKMENT SECTION NOT TO SCALE



DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS	APPROVED BY
2	4/4/2022	FINAL SUBDIVISION SUBMISSION	
1	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	

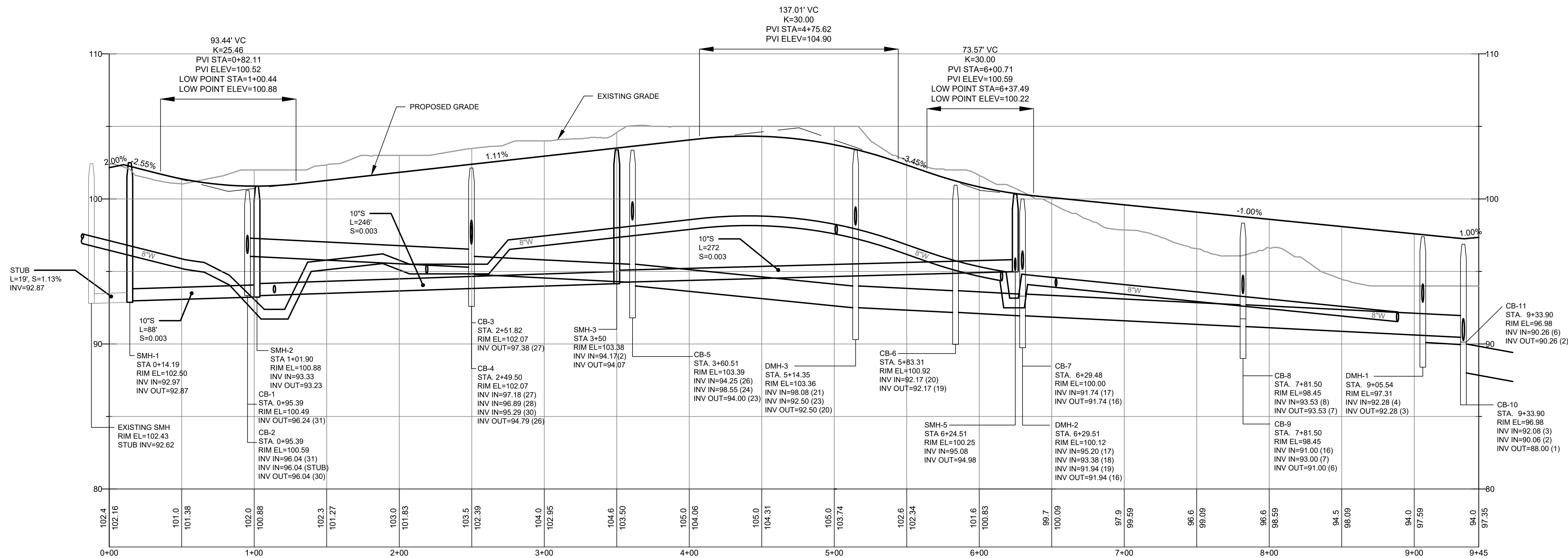
565 CONGRESS STREET
SUITE 101
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

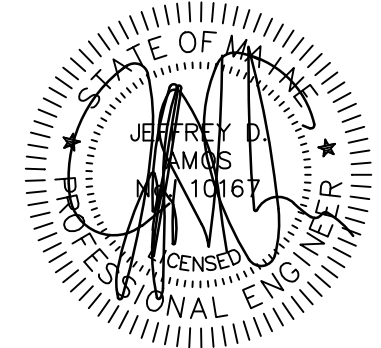


PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: CLOVER LEAF DEVELOPMENT 986 PORTLAND ROAD, SACO, ME	CLIENT: CLOVER LEAF DEVELOPMENT, LLC P.O. BOX 6799 SCARBOROUGH, MAINE 04070
SHEET TITLE: GRAVEL WETLAND DETAILS	
DATE: 4/4/2022	SCALE: 1"=20'
DESIGNED: JDA	JOB NO: 2104
FILE: 2104 G	
SHEET	C-4.4



PROFILE OF CLOVERLEAF DRIVE



DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS	APPD BY
2	4/4/2022	FINAL SUBDIVISION SUBMISSION	
1	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

TERRADYN
CONSULTANTS, LLC

CIVIL ENGINEERING | LAND PLANNING | STORMWATER DESIGN | ENVIRONMENTAL PERMITTING

OFFICE: (207) 926-5111
www.terradynconsultants.com

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME

SHEET TITLE:
ROADWAY PROFILE

CLIENT:
CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6799
SCARBOROUGH, MAINE 04070

DATE: 4/4/2022

SCALE:

DESIGNED: JDA

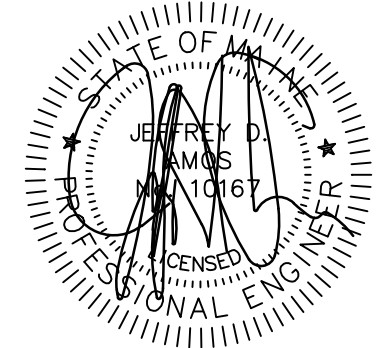
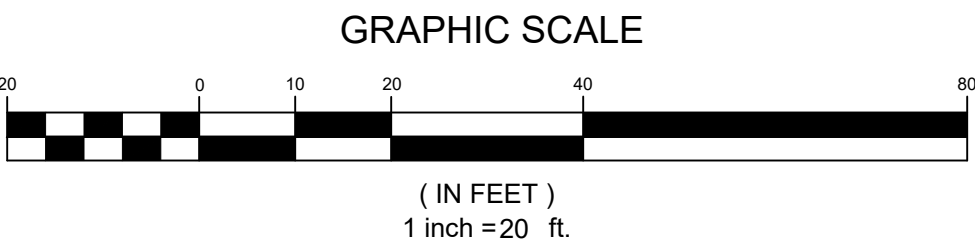
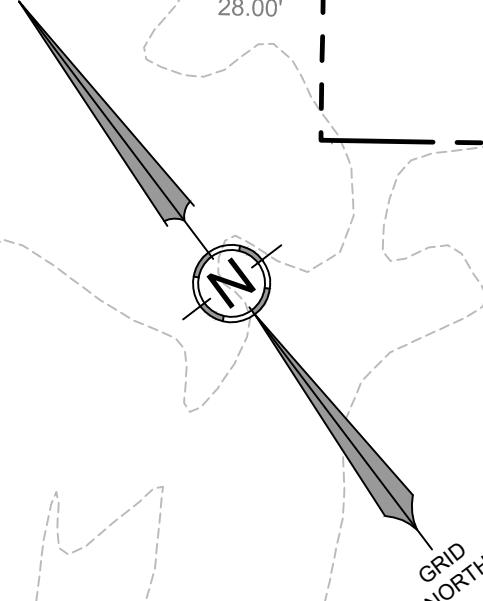
JOB NO: 2104

FILE:

SHEET C-5.0

DEMOLITION NOTES

1. CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
2. ALL EXISTING PAVEMENT, UTILITIES AND BUILDINGS TO BE DEMOLISHED AS DELINEATED AND REMOVED FROM SITE IN ACCORDANCE WITH ALL APPLICABLE TOWN OF WINDHAM AND STATE OF MAINE REGULATIONS.
3. ALL DEMOLITION AND WRECKAGE FROM PROJECT SITE TO BE DISPOSED OF AT AN APPROPRIATE LICENSED DISPOSAL SITE.
4. THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY UTILITY COMPANIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.
5. CONTRACTOR SHALL BE AWARE THAT DIG SAFE ONLY NOTIFIES ITS "MEMBER" UTILITIES ABOUT THE DIG. WHEN NOTIFIED, DIG SAFE WILL ADVISE CONTRACTOR OF MEMBER UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND CONTACTING NON-MEMBER UTILITIES DIRECTLY. NON-MEMBER UTILITIES MAY INCLUDE TOWN OR CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USG PUBLIC WORKS SYSTEMS.
6. CONTRACTOR SHALL NOTIFY ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND IN THE FIELD.
7. CONTRACTOR SHALL INCORPORATE PROVISIONS AS NECESSARY DURING DEMOLITION PHASE TO PROTECT EXISTING STRUCTURES, PHYSICAL FEATURES, AND MAINTAIN SITE STABILITY.
8. REQUIRED EROSION CONTROL MEASURES MUST REMAIN INTACT THROUGHOUT DEMOLITION AND CONSTRUCTION. FAILURE TO INSTALL OR PROPERLY MAINTAIN THESE BARRICADES WILL RESULT IN ENFORCEMENT ACTION. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH "MAINE EROSION AND SEDIMENTATION CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES" PUBLISHED BY THE CUMBERLAND COUNTY SOIL AND WATER CONSERVATION DISTRICT AND MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, MARCH 2004 OR LATEST EDITION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POSSESS A COPY OF THE EROSION CONTROL PLAN AT ALL TIMES.
9. NO HOLES, TRENCHES OR STRUCTURES SHALL BE LEFT OPEN OVERNIGHT IN ANY EXCAVATION ACCESSIBLE TO THE PUBLIC OR IN PUBLIC RIGHTS-OF-WAY.
10. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL REQUIRE A M.D.O.T. PERMIT AS WELL AS PERMITS FROM THE TOWN AS APPLICABLE.
11. THE UNDERGROUND UTILITIES DEPICTED HEREON SHOULD BE ASSUMED TO BE APPROXIMATE ONLY. EXISTING CONDITIONS SURVEY WAS PERFORMED BY OWEN HASKELL INC. 390 US ROUTE 1, FALMOUTH, MAINE 04105.
12. IT IS NOT KNOWN IF ANY OF THE REMAINING STRUCTURES INCLUDE LEAD PAINT, ASBESTOS-CONTAINING WASTE, OR OTHER MATERIALS THAT COULD POSE A RISK TO HUMAN HEALTH OR THE ENVIRONMENT IF HANDLED OR DISPOSED OF IMPROPERLY. THE APPLICANT MUST IDENTIFY ANY SUCH MATERIALS ON THE SITE AND PROVIDE THE DEPARTMENT SITE LOCATION PROJECT MANAGER WITH AN INVENTORY OF THESE MATERIALS AND EVIDENCE OF THEIR PROPER DISPOSAL.
13. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL IDENTIFY ANY EXISTING WASTEWATER DISPOSAL SYSTEMS ON THE SITE AND DESCRIBE PROCEDURES FOR REMOVAL AND DISPOSAL OF ANY COMPONENTS OF THESE SYSTEMS IN AREAS THAT WILL BE DISTURBED BY CONSTRUCTION. IN AREAS WHERE COMPONENTS OF THESE SYSTEMS WILL NOT BE DISTURBED BY THE PROPOSED CONSTRUCTION, THEY MAY REMAIN IN PLACE IF THEY DO NOT POSE HAZARDS TO HUMAN HEALTH OR THE ENVIRONMENT, BUT THE LOCATIONS OF THESE SYSTEMS MUST BE RECORDED ON COPIES OF THE SITE PLAN TO BE RETAINED ON SITE AND FILED WITH THE DEPARTMENT.

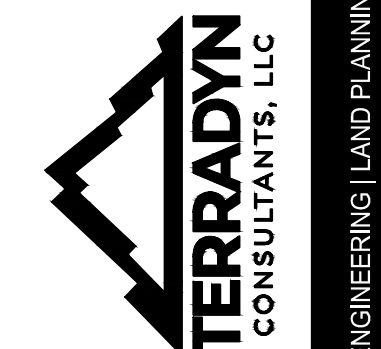


DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS	APP'D BY
1	4/4/2022	FINAL SUBDIVISION SUBMISSION	
2	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS	

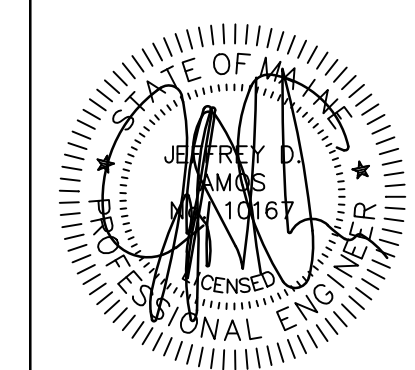
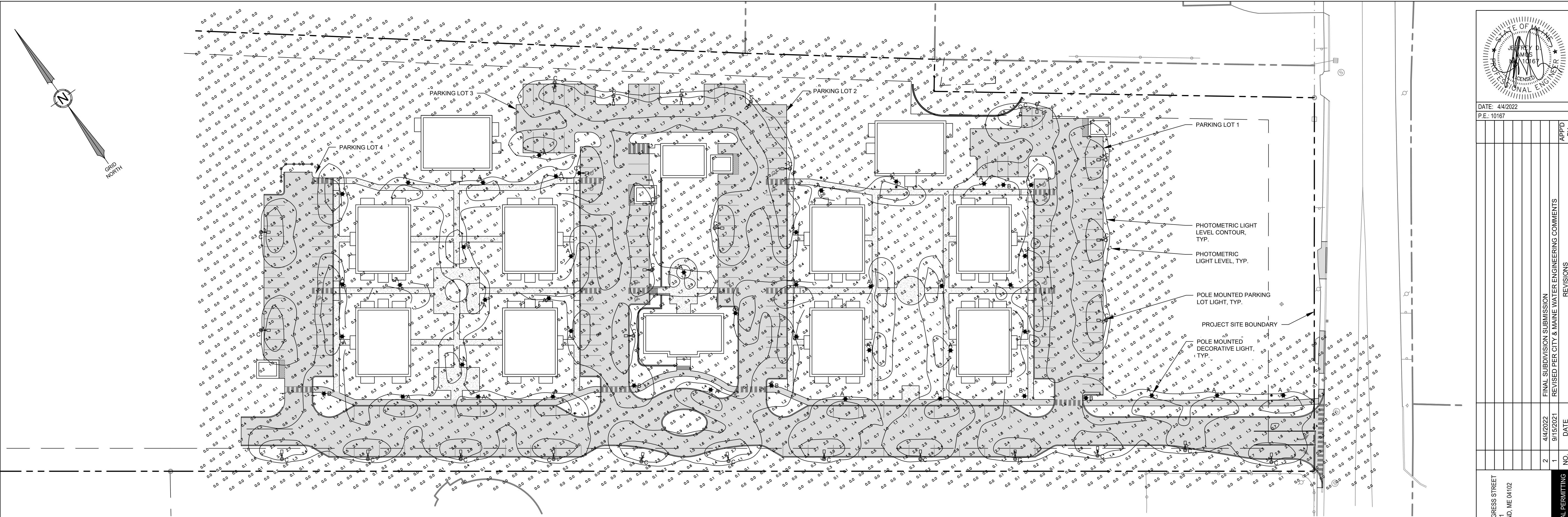
PROJECT: CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME
SHEET TITLE: DEMOLITION PLAN
CLIENT: CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6799
SCARBOROUGH, MAINE 04070

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102
41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260
OFFICE: (207) 926-5111
www.terradynconsultants.com



PERMIT DRAWING
NOT FOR CONSTRUCTION

DATE:	4/4/2022
SCALE:	
DESIGNED:	JDA
JOB NO:	2104
FILE:	
SHEET	C-6.0

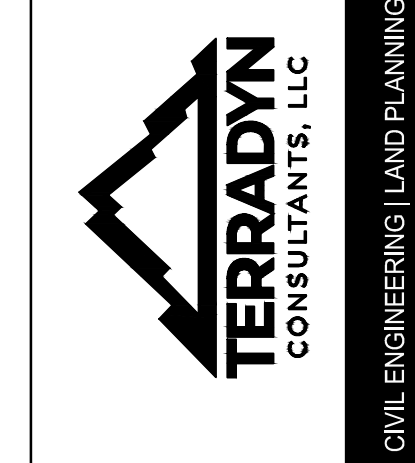


DATE: 4/4/2022
P.E.: 10167

NO.	DATE	REVISIONS
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1	9/15/2021	REVISED PER CITY & MAINE WATER ENGINEERING COMMENTS

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260



PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT: CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME
SHEET TITLE: PHOTOMETRIC LIGHTING PLAN
CLIENT: CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6799
SCARBOROUGH, MAINE 04070

DATE: 4/4/2022
SCALE: 1" = 40'
DESIGNED: JDA
JOB NO: 2104
FILE: 21-04 P.dwg
SHEET P-1.0



- FEATURES**
- Reliable, uniform, glare free illumination
 - Types 1, 2, 3, 4W, 5Q, and 5W distributions
 - Amber, 3000K, 4000K, 5000K CCT
 - 0-10V dimming ready
 - Integral Surge protection: 10k in parallel, 20k in series
 - Upgrade Kits

PROVIDENCE®



Providence Medium

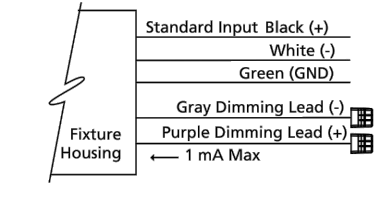
- RELATED PRODUCTS**
- #PROL2
 - #PROL2-LK
 - #PROS
 - #PROB



SPECIFICATIONS

- CONSTRUCTION**
- All housing components aluminum 360 alloy, sealed with continuous silicone rubber gaskets.
 - Standard configurations do not require a flat lens, optional lenses are tempered glass.
 - All internal and external hardware is stainless steel
 - Finish: fade and abrasion resistant, electrostatically applied, thermally cured, triglycidyl isocyanurate (TGIC) polyester powdercoat
 - Optical bezel finish to match the luminaire housing
- LED/OPTICS**
- Optical cartridge system consisting of a die cast heat sink, LED engine, TIR optics, gasket and bezel plate
 - Optics are held in place without the use of adhesives
 - Molded silicone gasket ensures a weather-proof seal around each individual LED.
 - Features individual LED optical control based on high performance TIR optical designs.
 - House Side Shield is available on Standard and Clear Lens options except any Type 5 distribution. House Side Shield is not available for any distribution using a Diffused Lens.
- INSTALLATION**
- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

- ELECTRICAL**
- Luminaires have UL recognized integral surge protection, and have a surge current rating of 10,000 Amps using the industry standard 8/20uSec wave and surge rating of 372J
 - Drivers are UL recognized with an inrush current maximum of <20.0 Amps maximum at 230VAC
 - 100%-1% dimming range. Fixture will be wired for low voltage 0-10V dimming control
- CONTROLS (CONTINUED)**
- Egress adapter will require an auxiliary 120 volt supply for operation of an integral MR16 lamp in the event of emergency. The lamp may be aimed and locked into position with an adjustment range of 15°-45°. Adapter will have a socket that accepts miniature bi-pin MR16 lamps up to 50 watts, lamp by others.
 - Protocol adapter includes a 7-pin internal twist lock receptacle. Protocol by others.
- CERTIFICATIONS**
- ETL listed under UL 1598 and CSA C22.2 No. 2500-08 for wet locations
 - This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 5/29/2020. See [Buy American Solutions](#).
- WARRANTY**
- See [Full Standard Warranty](#) for additional information



- Driver and surge suppressor are mounted to a prewired tray with quick disconnects that may be removed from the gear compartment
 - Surge protection: 10,000k in parallel, 20,000k in series
- KEY DATA**
- | | |
|--------------------------|-------------------|
| LUMEN RANGE | 1,81-9,336 |
| WATTAGE RANGE | 31.52-71.6 |
| EFFICACY RANGE (LPW) | 44.9-118.9 |
| INPUT CURRENT RANGE (mA) | 295-615 mA |
| WEIGHT | 29 lbs / 13.15 kg |
| EPA | 133 |



- FEATURES**
- Small size companion to Viper Large
 - Wide choice of different LED wattage configurations
 - Nine optical distributions
 - Designed to replace HID lighting up to 400W MH or HPS
 - Suitable for wet locations



SPECIFICATIONS

- CONSTRUCTION**
- Manufactured with die cast aluminum
 - Coated with a polyester finish that meets ASTM B117 corrosion test requirements and ASTM D522 cracking and loss of adhesion test requirements
 - FS polyester powder-coat electrostatically applied and thermocured. FS finish consists of a five stage pretreatment regimen with a polymer primer sealer and top coated with a thermoset super TGIC polyester powder coat finish
 - The finish meets the AAMA 2604 performance specification which includes passing a 3000-hour salt spray test for corrosion resistance and resists cracking or loss of adhesion per ASTM D522 and resists surface impacts of up to 160 inch-pounds
 - External hardware is corrosion resistant
- OPTICS**
- Cartridge is held together with internal brass standoffs soldered to the board so that it can be field replaced as a one-piece optical system
 - One-piece silicone gasket ensures a weatherproof seal around each individual optic
 - One-piece optical cartridge system consisting of an LED engine, optics, gasket and stainless steel bezel
- INSTALLATION**
- Mounting options for horizontal arm, vertical tenon or traditional arm mounting available. Mounting hardware included
- ELECTRICAL**
- Luminaire accepts 100V through 277V, 347V or 480V input 50 Hz to 60 Hz (UNV)
 - Ambient operating temperature -40°C to 25°C

- CONTROLS (CONTINUED)**
- In addition, Viper can be specified with SiteSync™, wireless control system for reduction in energy and maintenance costs while optimizing light quality 24/7
 - Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- CERTIFICATIONS**
- DLC® (DesignLights Consortium) Qualified. Please refer to the DLC website for specific product qualifications at [www.designlights.org](#)
 - Certified to UL 1598 and UL 8750
 - 3G rated for ANSI C136.31 high vibration applications with MAF mounting
 - IDA approved
 - This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020. See [Buy American Solutions](#).
- WARRANTY**
- 5 year warranty
 - See [HLL Commercial and Industrial Outdoor Lighting Warranty](#) for additional information

KEY DATA	
Lumen Range	4,045-16,216
Wattage Range	39-136
Efficacy Range (LPW)	100-124
Reported Life (Hours)	L70>60,000
Input Current Range (Amps)	0.1-1.1



RELATED PRODUCTS
#Viper Large

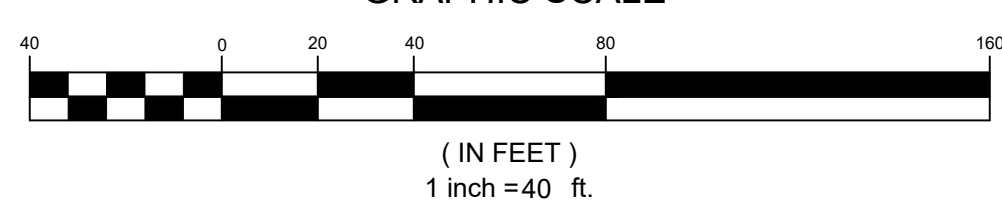
DATE: LOCATION:
TYPE: PROJECT:
CATALOG #:

LIGHT FIXTURE TABLE								
LABEL	LIGHT FIXTURE	MANUFACTURER	MANUFACTURERS ID	LUMENS	UPWARD LUMENS	NUMBER OF LIGHTS	MOUNTING HEIGHT	MOUNTING LOCATION
A	PROVIDENCE MEDIUM	ARCHITECTURAL AREA LIGHTING	PROV2-36L-295-3K7-3	2,957	0	39	12'	POLE
B	PROVIDENCE MEDIUM	ARCHITECTURAL AREA LIGHTING	PROV2-36L-295-3K7-5W	3,005	0	6	12'	POLE
C	VIPER SMALL	BEACON	VPS-36L-80-3K7-4W-BC	10,544	0	28	16'	POLE

NOTES:
1. LIGHTING PLAN PREPARED USING DESIGN MASTER PHOTOMETRICS SOFTWARE
2. ONLY PROPOSED LIGHTING FIXTURES ARE MODELED
3. DEPRECIATION FACTOR FOR LED IS 0.90

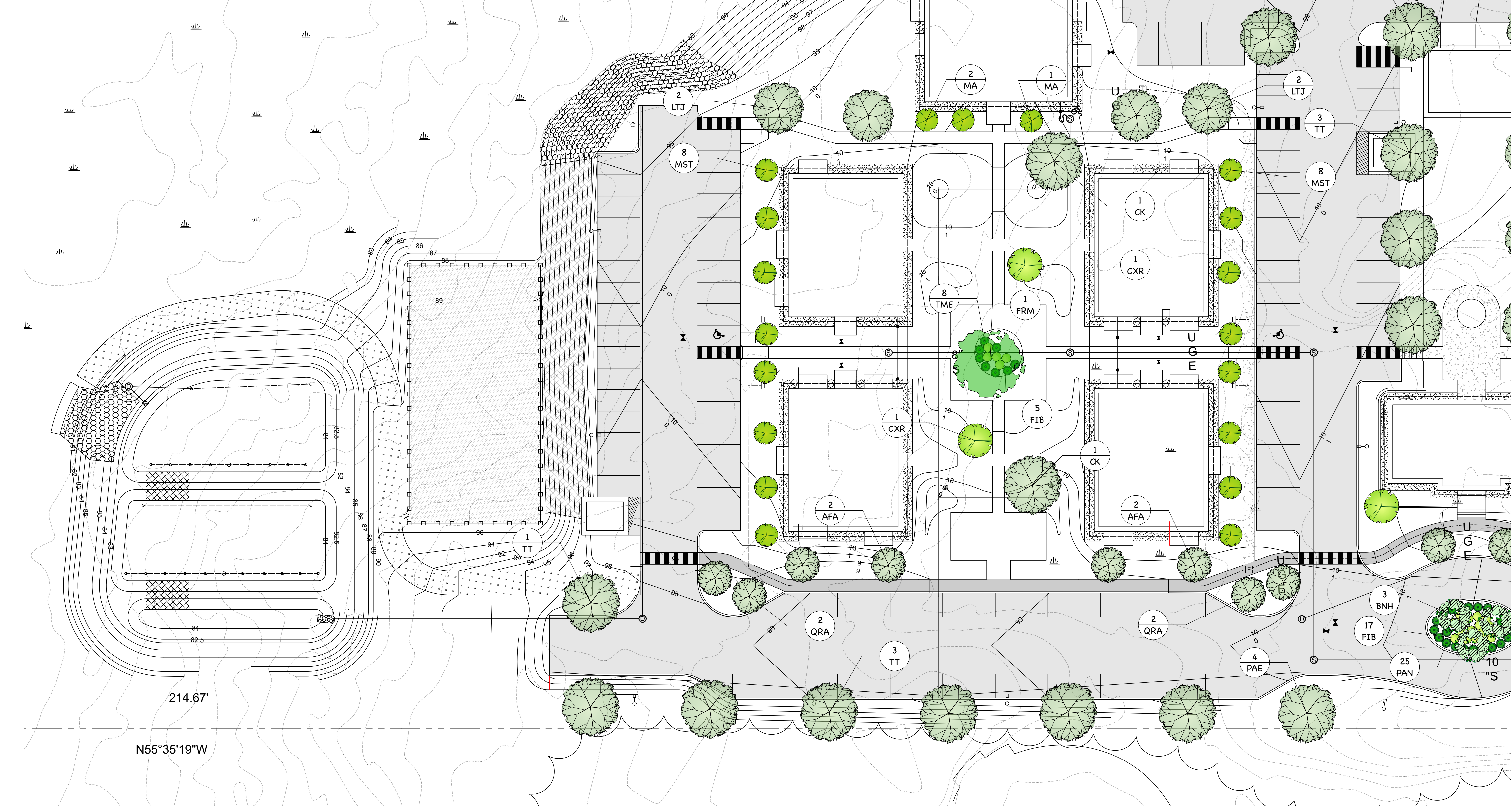
SACO LIGHTING STANDARDS		
STANDARD	REQUIRED VALUE	PROVIDED VALUE
ACCESS DRIVE UNIFORMITY RATIO (AVE TO MIN)	< 4:1	3.08
PARKING LOT UNIFORMITY RATIO (MAX TO MIN)	< 20:1	LOT 1= 9.67 LOT 2=10.94 LOT3= 10.73 LOT 4=18.00
MAX ILLUMINATION AT PROPERTY LINE FROM PROPOSED LIGHTS	0.1 FC	0.2 FC *
MAX ILLUMINATION	8.0 FC	3.80 FC
MAX POLE HEIGHT	20'	16'

* LIGHT LEVELS CROSSING OVER THE SOUTHERLY PROPERTY LINE ALONG THE ENTRANCE DRIVE ARE AS HIGH AS 0.2 FC CROSSING ONTO THE AQUABOGGAN PROPERTY, WHICH IS A COMMERCIAL USE. LIGHT LEVELS CROSSING INTO THE PORTLAND ROAD ROW AT THE ENTRANCE DRIVE ARE AS HIGH AS 0.7 FC. LIGHT LEVELS CROSSING ALL OTHER PROPERTY LINES ARE LESS THAN 0.1 FC.



Plant Species List

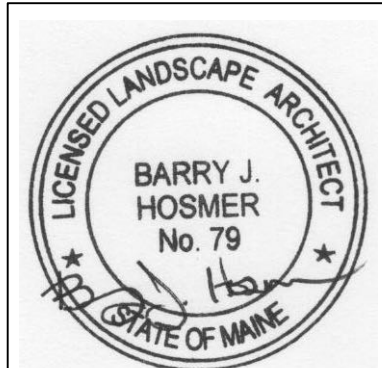
ID	Qty	Latin Name	Common Name	Scheduled Size	Remarks
AFA	8	Acer x freemanii 'Armstrong'	Armstrong Maple	1.75" - 2" cal.	B&B
AFS	10	Acer x freemanii 'Sienna Glen'	Sienna Glen Maple	1.75" - 2" cal.	B&B, 50' o.c.
AL	16	Amelanchier x laevis 'Spring Flurry'	Spring Flurry Serviceberry	5' - 6'	B&B
BNH	3	Betula nigra 'Heritage'	Heritage River Birch	8' - 10'	B&B, Clump
CK	4	Cladrasis kentukea	American Yellowwood	1.75" - 2" cal.	B&B
CS	5	Catalpa speciosa	Northern Catalpa	1.75" - 2" cal.	B&B
CXR	6	Cornus x Rutpink	Scarlet fire Dogwood	1.75" - 2" cal.	B&B
FIB	22	Fothergilla x intermedia 'Blue Shadow'	Blue Shadow Fothergilla	18" - 24"	B&B or cont. 4' o.c.
FRM	1	Fagus sylvatica 'Roseomarginata'	Rose Pink European Beech	2' - 2.5" cal.	B&B, Specimen
LTJ	2	Fagus sylvatica 'Red Obelisk'	Red Obelisk European Beech	5' - 6'	B&B, 12' o.c.
MA	8	Liriodendron tulipifera 'TFS-Oz'	Emerald City Tuliptree	1.75" - 2"	B&B
MST	16	Malus x 'Sutyazam'	Adirondack Crabapple	1.75" - 2" cal.	B&B
PAE	8	Malus x 'Sutyazam'	Sugar Tyme Crabapple	5' - 6'	B&B, 12' o.c.
PAN	25	Platanus x acerifolia 'Exclamation'	Exclamation London Plane Tree	1.75" - 2" cal.	B&B, 50' o.c.
QRA	8	Picea abies 'Nidiformis'	Bird's Nest Spruce	18" - 24"	Cont. 4' o.c.
TME	8	Quercus robur x alba 'Crimschmidt'	Crimson Spire Oak	1.75" - 2" cal.	B&B
TPG	24	Taxus x media 'Everlow'	Everlow Spreading Yew	18" - 24"	Cont. 4' o.c.
TT	17	Thuja x plicata 'Green Giant'	Green Giant Arborvitae	5' - 6'	B&B, 12' o.c.
		Tilia tomentosa 'Sterling' P.P.# 6511	Sterling Silver Linden	1.75" - 2" cal.	B&B, 50' o.c.



This plan shall not be modified without written permission from Barry J. Hosmer - Landscape Architect. Any alterations, authorized or otherwise, shall be at the user's sole risk and without liability to Barry J. Hosmer - Landscape Architect. File Name: Clover Leaf Landscape 6/15/21.vwx

Barry J. Hosmer ASLA
Landscape Architecture Land Planning
196 Whitney Avenue
Portland, Maine 04102
207-874-0248

This drawing is for Planning Board purposes only and not for construction



SIGNATURE DATE: 9/15/2021

NO.	DATE	REVISIONS PER CITY COMMENTS	APPROVED BY
1	9/15/2021		

P.O. Box 339
111 Elderberry Lane
New Gloucester, ME 04260
Office: (207) 926-5111
Fax: (207) 221-1317
www.terradynconsultants.com

TERRADYN
CONSULTANTS, LLC

Civil Engineering - Land Planning - Stormwater Design - Environmental Permitting

PROJECT	CLOVER LEAF DEVELOPMENT
SHEET TITLE	986 PORTLAND ROAD, SACO, ME
LANDSCAPE PLAN - EAST	
CLIENT	CLOVER LEAF DEVELOPMENT, LLC
	986 PORTLAND ROAD, SACO, MAINE
	WESTBROOK, MAINE 04092
DATE:	6/15/2021
SCALE:	
DESIGNED:	BJH
JOB NO:	2104
FILE:	
SHEET	L-2.0



CLOVER LEAF DEVELOPMENT

986 PORTLAND ROAD
SACO, MAINE

SITE LOCATION APPLICATION

PREPARED FOR:

CLOVER LEAF DEVELOPMENT, LLC
P.O. BOX 6799
SCARBOROUGH, ME 04070

PREPARED BY:

TERRADYN CONSULTANTS LLC
41 CAMPUS DRIVE, SUITE 101
NEW GLOUCESTER, ME 04260

JULY 2021

Section 1 – Development Description

Narrative

On behalf of Cloverleaf Development, LLC, we are pleased to submit this Site Location of Development Act Application for the Clover Leaf Development– a 120 unit apartment complex to be located at 986 Portland Road in Saco, Maine.

Existing Conditions

The development parcel is located on the westerly side of Portland Road in Saco, Maine. The property is approximately 65.8 acres. The site is bounded to the west by Portland Road (Route 1), to the south by the Aquaboggin Water Park and five single family house lots, to the north by a single-family house lot and a large tract of undeveloped land and to the east by an undeveloped parcel that is located between the applicant's property and the Maine Turnpike.

The site contains two single family homes that are located directly adjacent to Portland Road. The remainder is undeveloped.

Proposed Development

The Clover Leaf Development is a 120 unit apartment complex that is located on approximately 9 acres of the 65.8 acre parcel. The development area is located in the portion of the property that is closest to Portland Road. Net Residential Acreage Calculations for the property indicate that the property can support 260 lots / units. The property is shown as lot 3-1 on the City of Saco Tax Map 63. The parcels are located in the Portland Road (PR) zoning district with a minimum lot size requirement of 7,500 square feet.

The development features ten twelve-unit apartment buildings as well as a multi-purpose building, storage building, hard-scaped courtyards, landscaped areas and a dog park. The development features a significant amount of proposed landscaping. Architectural light fixtures will be used throughout the pedestrian areas.

The complex will be served by public water, sewer and underground power. The majority of the development will drain to a new gravel wetland that will be located off the end of the access driveway. A small portion of the parking area will flow to a level spreader/forested buffer.

Wetlands

Mark Hampton of Hampton Associates, Inc. performed the project wetland delineation. Approximately 18,966 SF of wetlands are proposed to be permanently altered. We have prepared a NRPA Tier 2 Wetland Alteration Permit along with this application. We minimized the total wetland impact by reducing the footprint of the developed area and tailoring the grading to ensure that the development did not encroach into the wetland system that is located to the west of the developed area. The wetlands that are to be altered are in the middle of the development

area and were created by the excavation of sand/gravel from the site. Sometime in the past, someone dug a hole in the middle of the site and over the years it became a wetland. The wetland delineation can be seen on the attached plans. There are no vernal pools located on the property.

High Intensity Soil Survey

Mark Hampton of Hampton Associates, Inc. completed a Class B High Intensity Soil Survey for the project area. The report can be seen in Section 11 - Soils.

Site Topography

Topography for the entire site was compiled from a variety of sources. On the ground topography of the undeveloped portion of the property was obtained from the LIDAR topography that was made available by the Maine Office of GIS. The developed area and connection to Portland Road was surveyed by Owen Haskell, Inc. The topographic information can be seen on the attached construction plans. A copy of the U.S.G.S. Quadrangle Map is attached to this section.

The project area elevation rises by approximately 5' from low at Portland Road to a high point that is located approximately 400' west. The site then drops approximately 25' to the wetland system that is located just below the proposed gravel wetland (approximately 1,150' from Portland Road). The property is located within the Scarborough River Watershed.

Construction Plan

The project will be constructed in one phase. The site work is estimated to take between 8-10 months to complete and would generally correspond to the following table:

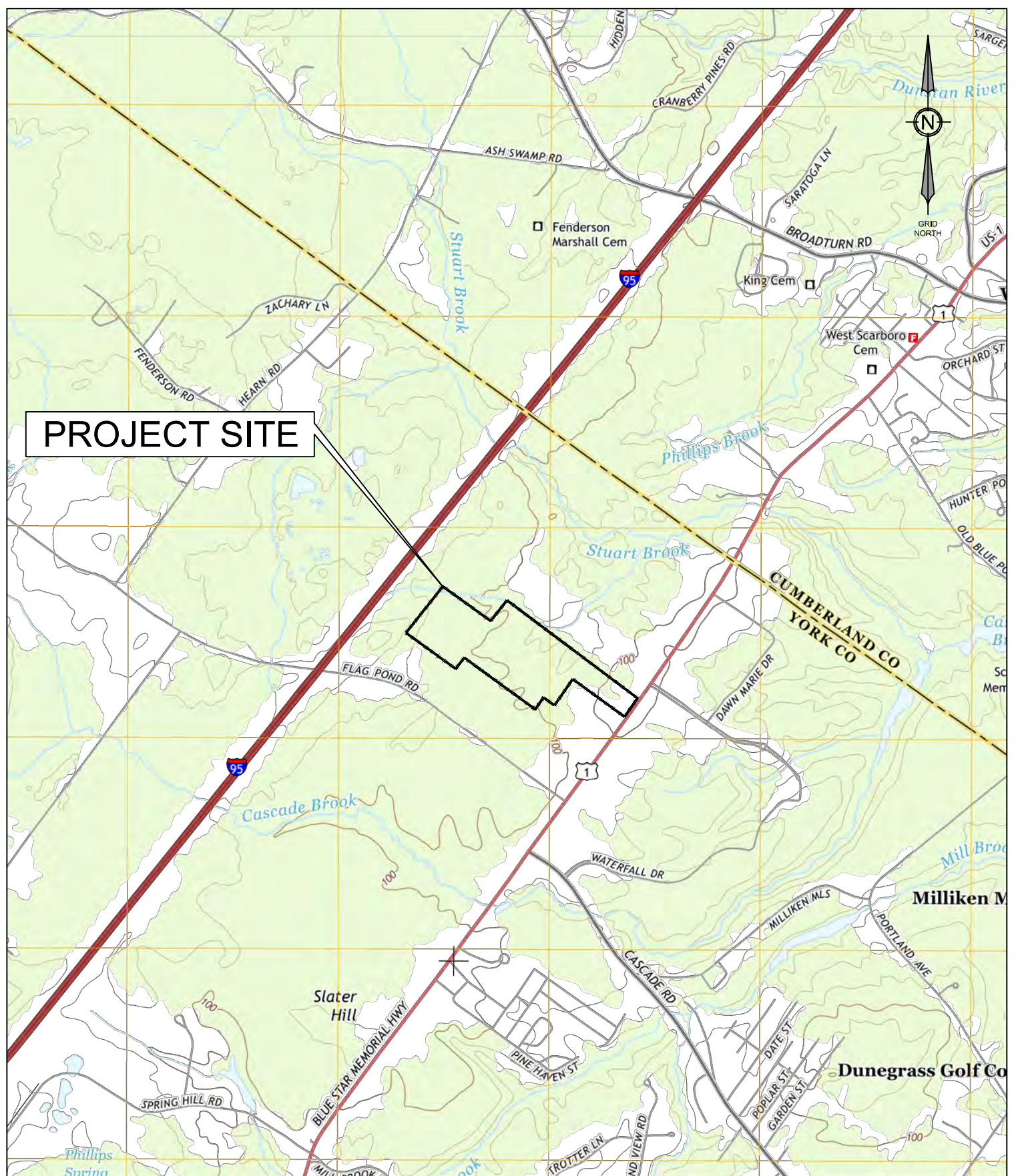
	Start	Finish
1. Estimated construction time: 12 months	November 1, 2021	November 1, 2022
2 Erosion control measures placed	November 1, 2021	October 15, 2022
3. Site clearing, grubbing, excavation, filling and construction stormwater facilities	November 1, 2021	October 15, 2022
4. Excavation & construction of roads, parking lots and underground utilities.	November 1, 2021	October 15, 2022
5. Mulch spread for winter erosion control. (if necessary)	November 15, of construction year	May 1 the next year
6. Start progressive final seeding on prepared areas.	Within 24 hours of loam placement	September 15 of construction year
7. Bi-weekly monitoring of vegetative growth.	November 15, 2021	November 1, 2022
8. Re-seed, if necessary, and continue monitoring of growth until established.	November 15, 2021	October 17, 2022
9. Progressive removal of erosion control devices, based on field inspection.	November 15, 2021	October 17, 2022

Dates are subject to change at the discretion of the engineer depending on construction progress.

Drawings

A full set of construction plans have been attached with this submittal, including:

- Site Plans
- Grading & Erosion Control Plans
- Utility Plans
- Plan & Profile Sheets
- Detail Sheets
- Existing Conditions Plans, etc.



U.S.G.S. QUADRANGLE MAP

PROJECT:
CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO ME

PREPARED FOR:
CLOVER LEAF DEVELOPMENT, LLC



207.926.5111 • info@terradyndesign.com • www.terradyndesign.com

PINELAND
41 CAMPUS DRIVE, SUITE 101
NEW GLOUCESTER, ME 04260

PORTLAND
565 CONGRESS STREET, SUITE 201
PORTLAND, ME 04101

PROJECT NO.

21-04

DATE

2/9/2021

SCALE

1"=2,000'

SHEET

1

OF

1

Section 2 – Title, right or interest

A copy of the property deed is attached as well as a copy of the purchase and sale agreement.



BK 17077 PGS 835 - 836
INSTR # 2015034006
RECEIVED YORK SS

08/14/2015 12:54:47 PM
DEBRA ANDERSON
REGISTER OF DEEDS

**DEED OF DISTRIBUTION
BY PERSONAL REPRESENTATIVE (TESTATE)**

I, HAROLD MITCHELL, now of 115 US Route 2 South, Alburgh, Vermont 05440, duly appointed and acting personal representative of the Estate of DONALD M. WITHAM, whose will was duly admitted to probate in the Probate Court for York County, Maine, Docket No. 2014-0981, by the power conferred by law, and every other power, in distribution of the estate grant to SHERRY W. MITCHELL, now of 115 US Route 2 South, Alburgh, Vermont 05440, and PAMELA CONSIGLIO, now of 1316 Debra Drive, Lady Lake, Florida 32159, being the persons entitled to distribution, as Tenants in Common, the real property in Saco, York County, Maine, described as follows:

A certain lot or parcel of land, with the buildings thereon, situated and located on the Northwesterly side of the Portland Road, in Saco, Maine, and being the Mills Homestead, so-called, and containing ninety (90) acres, more or less, and being the same premises devised to Edgar E. Mills by his father, Eugene Mills, late of Saco, Maine, and the same premises devised to this Grantor by his late father, Edgar E. Mills, the Wills of the said Eugene Mills and Edgar E. Mills having been duly proved and allowed by the Probate Court for the County of York.

Also, the same premises conveyed to Lawrence B. Mills, a/k/a Laurence B. Mills, and Bernice G. Mills by deed of Mary a. Bradbury dated June 22, 1953 and recorded in the York County Registry of Deeds in Book 1230, Page 471.

This conveyance is subject to "Notice of Layout and Taking" dated July 14, 1999 and recorded in the York County Registry of Deeds in Book 9267, Page 3, by which the Maine Department of Transportation widened U. S. Route One;

Also subject to Federal Aid Project No. STP-66125 (00)X Plans dated January, 1999, and

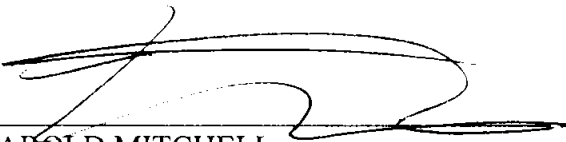
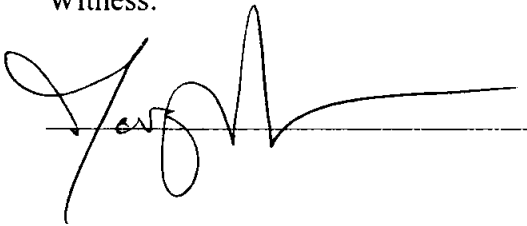
No R.E. Transfer Tax Paid

recorded in the York Country Registry of Deeds in Book 323, Pages 46 and 47 on September 26, 2007.

Being a portion of the same premises conveyed to JEAN M. WITHAM and DONALD M. WITHAM by deed of LAWRENCE B. MILLS , a/k/a Laurence B. Mills, dated January 26, 1979 and recorded in the York County Registry of Deeds in Book 2468, Page 331. Jean M. Witham died on January 14, 2011. Donald M. Witham was the surviving joint tenant.

Witness my hand and seal on August 3, 2015.

Witness:



HAROLD MITCHELL
Personal Representative of the
Estate of Donald M. Witham

Maine
STATE OF ~~VERMONT~~
Cumberland ss.

August 3rd, 2015

Then personally appeared the above named HAROLD MITCHELL and acknowledged the foregoing instrument to be his free act and deed in his said capacity.

Before me,



Notary Public

Please type or print name of Notary:

Holly Gordon

HOLLY BARRETT NASH GORDON
Notary Public State of Maine
My Commission Expires **June 19 2021**

Seal

Joyce Leary Clarke, Esq.
Prescott Jamieson Murphy
PO Box 1190
Saco, ME 04072
→
2pgs

WARRANTY DEED
Maine Statutory Short Form

KNOW ALL MEN BY THESE PRESENTS,

THAT **AQUA MANAGEMENT LLC**, a Maine Limited Liability Company with a principal address of 980 Portland Road, U.S.Route 1, of Saco, County of York, State of Maine, for consideration paid,

grant to **PAMELA CONSIGLIO**, of Lady Lake, County of Lake, State of Florida, whose mailing address is 1316 Debra Drive, Lady Lake, FL 32158 and **SHERRY MITCHELL**, of Alburgh, County of Grand Isle, State of Vermont, whose mailing address is 1099 US Route 2 S, Alburgh, VT 05440, with **warranty covenants, as tenants in common**, the land in Saco, County of York, State of Maine, described as follows:

A certain lot or parcel of land together with any improvements thereon situated northeasterly of the Flag Pond Road but not adjacent thereto, and at the end of Apple Tree Lane as the same is shown on plan recorded in the York County Registry of Deeds in Plan Book 381, Page 44 in Saco, York County, Maine and being more particularly bounded and described as follows:

Beginning at the granite monument which marks the end of Apple Tree Lane, a corner of Lot No. 4 as shown on said plan where it abuts and land labled on said plan N/F Michael S. Kimball and Peter J. Kimball in Book 13763, Page 88;

Thence N 35° 29' 35" W along said Lot No. 4 and land now or formerly of Witham a distance of 392.99 feet to an iron rod and other land of Witham;

Thence S 37° 23' 58" E along said Witham land a distance of 150 feet to a point;

Thence S 35° 29' 35" W through remaining land of Aqua Management LLC a distance of 393 feet, more or less, to a point on the northerly sideline of Lot No. 3 as shown on sid plan;

Thence N 52° 59' 44" W along Lot No. 3 and Apple Tree Lane a distance of 150 feet to the monument which marks the point and place of beginning.

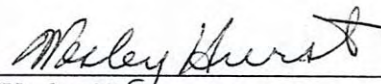
Being a portion of the premises conveyed to Aqua Management LLC by virtue of a deed from Aquaventures, LLC dated November 14, 2017 and recorded in the York County Registry of Deeds in Book 17607, Page 402.

Reserving to the Grantor, its successors and assigns a 50 foot wide right of way and utility easement to access Apple Tree Lane, said right of way is to be constructed and used in any manner that is consistent with the extension and expansion of Apple Tree Lane.

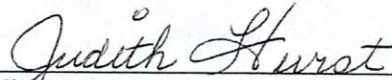
IN WITNESS WHEREOF, We, the said Wesley Hurst and Judith Hurst, Members of **AQUA MANAGEMENT LLC**, have hereunto set my hand and seal, this 12th day of November, 2020.

**SIGNED, SEALED AND DELIVERED
IN PRESENCE OF**

AQUA MANAGEMENT LLC



Wesley Hurst
Its Member



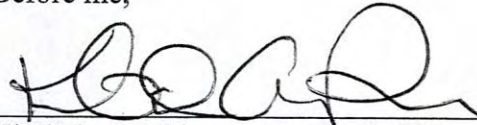
Judith Hurst
Its Member

**STATE OF MAINE
YORK, ss.**

November 12, 2020

Then personally appeared the above named Wesley Hurst and Judith Hurst, Managers of **AQUA MANAGEMENT LLC**, and acknowledged the foregoing instrument to be their free act and deed and the free act and deed of said LLC.

Before me,



Kimbaly A. Phinney, Notary Public
Commission Expires: 11/09/22

WARRANTY DEED
Maine Statutory Short Form

KNOW ALL MEN BY THESE PRESENTS,

THAT We, **PAMELA CONSIGLIO**, of Lady Lake, County of Lake, State of Florida and **SHERRY MITCHELL**, of Alburgh, County of Grand Isle, State of Vermont,

for consideration paid,

grant to **AQUA MANAGEMENT LLC**, a Maine Limited Liability Company with a principal address of 980 Portland Road, U.S. Route 1, of Saco, County of York, State of Maine, with **warranty covenants**, the land in Saco, County of York, State of Maine, described as follows:

A certain lot or parcel of land located westerly of but not adjacent to US Route 1 in Saco, York County, Maine and being more particularly bounded and described as follows:

Beginning at an iron rod which marks the most northerly corner of, (Aquaboggan,) land of Aqua Management LLC and is located a distance of 998 feet as measured along the common boundary of land now or formerly of Witham and Aqua Management LLC on a course of N 36° 48' 03" W from and iron rod set in the westerly sideline of US Route 1;

Thence S 52° 07' 21" W along the common boundary of Aqua Management LLC and land now or formerly of Witham a distance of 475.87 feet to an iron rod;

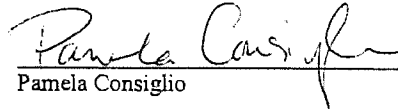
Thence N 36° 03' 47" W along said boundary a distance of 214.74 feet to an iron rod;

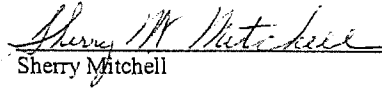
Thence N 52° 07' 33" E parallel with the first course a distance of 475.87 feet, more or less, to a point;

Thence S 36° 48' 03" E a distance of 214 feet, more or less, to the iron rod which marks the point of beginning;

IN WITNESS WHEREOF, We, the said **PAMELA CONSIGLIO and SHERRY MITCHELL**, have hereunto set our hands and seals, this 25 day of September, 2020.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF


Pamela Consiglio



Sherry Mitchell

STATE OF MAINE
YORK, ss.

Sept 25, 2020

Then personally appeared the above named **PAMELA CONSIGLIO** and **SHERRY MITCHELL** and acknowledged the foregoing instrument to be their free act and deed.

Before me,


Notary Public: Kimberly A. Phinney
Commission Expires: 11-09-22



Individual Member
Individual Membership



One Canal Plaza, Portland, ME 04101 • 207.772.1333

CONTRACT FOR THE SALE OF REAL ESTATE

Date: Monday, December 14, 2020

RECEIVED OF: Clover Leaf Development LLC whose mailing address is PO Box 6799, Scarborough Maine 04070 hereinafter called the Purchaser(s), the sum of _____ Dollars (\$ _____) as earnest money deposit and in part payment of the purchase price of the following described real estate, situated in the municipality of Saco, County of York, State of Maine and located at 986 Portland Road being the property owned by the Seller(s) at the above address, and described at said County's Registry of Deeds Book (per Exhibit A), Page (per Exhibit A) and further described as: approximately 67 acres to be more thoroughly depicted in the attached Exhibit A upon the terms and conditions indicated below:

1. PERSONAL PROPERTY: The following items of personal property are included in this sale (if applicable): n/a.
2. PURCHASE PRICE: The TOTAL purchase price being _____ Dollars (\$) to be paid as follows: earnest money deposit included herein, any additional deposits which may be made during the permitting and approval period and the balance to be paid at Closing by certified funds.
3. EARNEST MONEY/ACCEPTANCE: The Boulos Company shall hold said earnest money in a non-interest bearing account and act as Escrow Agent until closing; this offer shall be valid until 12/17/2020 at 5:00PM; and, in the event of the Seller's non-acceptance, this earnest money shall be returned promptly to the Purchaser(s).
4. TITLE: That a deed, conveying good and merchantable title in accordance with standards adopted by the Maine Bar Association shall be delivered to the Purchaser(s) and this transaction shall be closed and the Purchaser(s) shall pay the balance due and execute all necessary papers on or before within 30 days of receipt of the unappealable approvals for the Proposed Development (anticipated to be approximately 12 months from the effective date). If Seller(s) is unable to convey in accordance with the provisions of this paragraph, then the Seller(s) shall have a reasonable time period, not to exceed thirty (30) days, from the time the Seller(s) receives written notice of the defect, unless otherwise agreed to by both parties, to remedy the title, after which time, if such defect is not corrected so that there is merchantable title, the Purchaser(s) may, within fifteen (15) days thereafter, at Purchaser's option, declare the contract null and void and any earnest money shall be returned to the Purchaser(s) and neither party shall have any further obligation hereunder. If the Purchaser(s) does not declare the contract void within the period set forth above, the Purchaser(s) shall have waived the right to object to title. The Seller(s) hereby agrees to make a good-faith effort to cure any title defect during such period.
5. DEED: That the property shall be conveyed by a quitclaim with covenant deed, and shall be free and clear of all encumbrances except building and zoning restrictions of record, restrictive covenants and conditions of record and usual public utilities servicing the property and shall be subject to applicable land use and building laws and regulations.
6. POSSESSION /OCCUPANCY: Possession/occupancy of premises shall be given to Purchaser(s) immediately at closing, free of any leases, tenancies, or occupancies.
7. LEASES/TENANT SECURITY DEPOSITS: Intentionally deleted.
8. RISK OF LOSS: Until the transfer of title, the risk of loss or damage to said premises by fire or otherwise, is assumed by the Seller(s) unless otherwise agreed in writing. Said premises shall then be in substantially the same condition as at present, excepting reasonable use and wear.
9. PRORATIONS: The following items shall be prorated as of the date of closing:
 - a. Real Estate Taxes based on the municipality's tax year. Seller is responsible for any unpaid taxes for prior years. Purchaser shall receive at closing a credit equal to the Tree Growth termination penalty that will due to the City of Saco.
 - b. Fuel
 - c. n/a
 - d. Rents
 - e. Metered utilities, such as water and sewer, shall be paid by Seller(s) through the date of closing.
 - f. Purchaser(s) and Seller(s) shall each pay its transfer tax as required by the State of Maine.

Seller [Signature] Purchaser [Signature] DS

10. **INSPECTIONS:** The Purchaser(s) is encouraged to seek information from professionals regarding any specific issue of concern. Purchaser(s) acknowledges receipt of disclosure form attached hereto. The Agent makes no warranties regarding the condition, permitted use or value of the Seller's real or personal property. This Contract is subject to the following inspections, with the results being satisfactory to the Purchaser(s):

TYPE OF INSPECTION	YES	NO	RESULTS REPORTED	TYPE OF INSPECTION	YES	NO	RESULTS REPORTED
a. General Building	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days	g. Lead Paint	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days
b. Sewage Disposal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Within <u>60</u> days	h. Pests	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days
c. Water Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Within <u>60</u> days	i. ADA	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days
d. Radon Air Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days	j. Wetlands	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Within <u>60</u> days
e. Radon Water Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days	k. Environmental Scan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Within <u>60</u> days
f. Asbestos Air Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Within <u>#</u> days	l. Other: <u>survey</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Within <u>60</u> days

The use of days is intended to mean from the effective date of this Contract. All inspections will be done by inspectors chosen and paid for by the Purchaser(s). If the result of any inspection or other condition specified herein is unsatisfactory to the Purchaser(s), in Purchaser(s) sole discretion, Purchaser(s) may declare the Contract null and void by notifying Seller(s) in writing within the specified number of days, and any earnest money shall be returned to the Purchaser(s). If the Purchaser(s) does not notify the Seller(s) that an inspection is unsatisfactory within the time period set forth above, this contingency is waived by the Purchaser(s). In the absence of inspection(s) mentioned above, the Purchaser(s) is relying completely upon Purchaser's own opinion as to the condition of the property.

11. **FINANCING:** Intentionally Deleted.
12. **AGENCY DISCLOSURE:** The Purchaser(s) and Seller(s) acknowledge that they have been informed that the Selling Licensee is acting as a Purchaser's agent in this transaction and is representing the Purchaser(s) and that the Listing Licensee is acting as Seller's agent in this transaction and is representing the Seller(s).
13. **DEFAULT:** If Purchaser(s) fails to perform any of the terms of this Contract or is otherwise in default of any of its obligations, Seller shall have the option of either retaining the earnest money as full and complete liquidated damages or employing all available legal and equitable remedies. If Seller(s) fails to perform any of the terms of this Contract or is otherwise in default of any of its obligations, Seller shall have the option of all available legal and equitable remedies, including the right of specific performance. Notwithstanding any other provision of this agreement, Escrow Agent shall have the right to require written releases from both parties prior to releasing the earnest money to either party. If a dispute arises between Purchaser(s) and Seller as to the existence of a default hereunder and/or the release of the earnest money and said dispute is not resolved by the parties within (30) days, Escrow Agent may elect to file an action in interpleader and deposit the earnest money in the court to resolve said dispute, or otherwise disburse the earnest money pursuant to Maine Real Estate Commission regulations. Purchaser(s) and Seller, jointly and severally, shall indemnify Escrow Agent for all costs, losses, expenses, and damages, including reasonable attorneys' fees, incurred by Escrow Agent in connection with said action and/or in connection with any dispute relating to this Contract and/or the Deposit.
14. **MEDIATION:** Any dispute or claim arising out of or relating to this Contract or the premises addressed in this Contract shall be submitted to mediation in accordance with the Maine Residential Real Estate Mediation Rules of the American Arbitration Association. This clause shall survive the closing of this transaction.
15. **PRIOR STATEMENTS:** Any verbal representations, statements and agreements are not valid unless contained herein. This Contract completely expresses the obligations of the parties. This is a Maine contract and shall be construed according to the laws of Maine.
16. **HEIRS/ASSIGNS:** This Contract is assignable by Purchaser YES ☒ NO ☐. This Contract shall extend to and be obligatory upon heirs, personal representatives, successors, and assigns (if assignment is allowed by the terms of this Contract), of the respective parties.
17. **COUNTERPARTS:** This Contract may be signed on any number of identical counterparts, including telefacsimile copies, with the same binding effect as if the signatures were on one instrument. Original or telefacsimiled signatures are binding.
18. **BINDING CONTRACT:** This Contract is a binding contract when signed by both Seller(s) and Purchaser(s) and when that fact has been communicated to all parties or to their agents. The Effective Date of the Contract is noted below. Time is of the essence of this Contract.
19. **REVIEW OF LEASES AND INCOME AND EXPENSE INFORMATION:** Intentionally deleted
20. Seller(s) and Purchaser(s) acknowledge receipt of the Maine Real Estate Commission Disclosure of Agency Relationship Form (Form #2), if the property is, or has a component of, one to four residential dwelling units.

DS DS
 Seller [Signature] Purchaser [Signature] kl

21. CONDITION TO CLOSE:

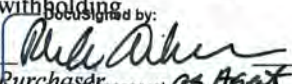
Intentionally Omitted

22. Due Diligence Reports: In the event Purchaser terminates this contract, all surveys, reports, studies, and other items related to the inspections and the permitting and approval process for the property, that are completed by the Purchaser prior to such termination date shall be provided to the Seller at no cost to the Seller.

23. ADDENDA: This Contract has addenda containing additional terms and conditions YES ☐ NO ☒

A COPY OF THIS CONTRACT IS TO BE RECEIVED BY ALL PARTIES AND, BY SIGNATURE, RECEIPT OF A COPY IS HEREBY ACKNOWLEDGED. IF NOT FULLY UNDERSTOOD CONSULT AN ATTORNEY.

Seller(s) acknowledges that the laws of the State of Maine provide that every buyer of real property located in Maine must withhold a withholding tax equal to 2 1/2% of the consideration unless the Seller(s) furnishes to the Buyer(s) a certificate by the Seller(s) stating, under penalty of perjury, that Seller(s) is/are a resident of Maine or the transfer is otherwise exempt from withholding.

Signed by:

 Purchaser *as Agent*
Clover Leaf Development LLC
 Name/Title

12/17/2020

Date

Soc. Sec # or Tax I.D.

Purchaser

Date

Name/Title




Soc. Sec # or Tax I.D.

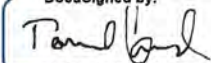
The Seller(s) accepts the offer and agrees to deliver the above-mentioned property at the price and upon the terms and conditions set forth above and agrees to pay the Broker the commission for services herein according to the Listing Agreement or if there is no Listing Agreement in the sum of: Enter sum here. The obligation to pay said commission or sum shall survive the closing of this transaction. Seller agrees that Broker may apply any deposit(s) received in connection with the sale of the Property toward commissions due and payable under this Agreement. If the earnest money is forfeited by Purchaser(s), it shall be evenly distributed between the Broker and Seller(s), provided, however, that Broker's portion shall not exceed the full amount of the commission specified. In the event the Seller(s) defaults on its obligations hereunder, The Boulos Company shall be entitled to costs of collection, including reasonable attorneys' fees.

Signed this: _____ day of _____, _____. Effective date of Contract: _____, day of _____, _____.

The Listing Licensee is Brice O'Connor of The Boulos Co (Company).

The Selling Licensee is Drew Sigfridson, SIOR of The Boulos Co (Company).

DS DS DS
 Seller  Purchaser  

DocuSigned by:


09CD08508DD04A1...
Seller
Paul Consiglio

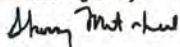
12/17/2020

Date

Name/Title

Soc. Sec # or Tax I.D.

DocuSigned by:



12/17/2020




8ED41A0ACE3A4D1...
Seller
Sherry Mitchell

Date

Name/Title

Soc. Sec # or Tax I.D.

Offer reviewed and refused on _____, _____, _____, Seller

DS
 DS
 DS

Seller Purchaser

WARRANTY DEED
Maine Statutory Short Form

KNOW ALL MEN BY THESE PRESENTS,

THAT We, **PAMELA CONSIGLIO**, of Lady Lake, County of Lake, State of Florida and **SHERRY MITCHELL**, of Alburgh, County of Grand Isle, State of Vermont,

for consideration paid,

grant to **AQUA MANAGEMENT LLC**, a Maine Limited Liability Company with a principal address of 980 Portland Road, U.S. Route 1, of Saco, County of York, State of Maine, with warranty covenants, the land in Saco, County of York, State of Maine, described as follows:

A certain lot or parcel of land located westerly of but not adjacent to US Route 1 in Saco, York County, Maine and being more particularly bounded and described as follows:

Beginning at an iron rod which marks the most northerly corner of, (Aquaboggan,) land of Aqua Management LLC and is located a distance of 998 feet as measured along the common boundary of land now or formerly of Witham and Aqua Management LLC on a course of N 36° 48' 03" W from and iron rod set in the westerly sideline of US Route 1;

Thence S 52° 07' 21" W along the common boundary of Aqua Management LLC and land now or formerly of Witham a distance of 475.87 feet to an iron rod;

Thence N 36° 03' 47" W along said boundary a distance of 214.74 feet to an iron rod;

Thence N 52° 07' 33" E parallel with the first course a distance of 475.87 feet, more or less, to a point;

Thence S 36° 48' 03" E a distance of 214 feet, more or less, to the iron rod which marks the point of beginning;

IN WITNESS WHEREOF, We, the said **PAMELA CONSIGLIO** and **SHERRY MITCHELL**, have hereunto set our hands and seals, this 25 day of September, 2020.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF

Pamela Consiglio
Pamela Consiglio

Sherry M Mitchell
Sherry Mitchell

STATE OF MAINE
YORK, ss.

Sept 25, 2020

Then personally appeared the above named **PAMELA CONSIGLIO** and **SHERRY MITCHELL** and acknowledged the foregoing instrument to be their free act and deed.

Before me,

Kimberly A. Hinney
Notary Public: Kimberly A. Hinney
Commission Expires: 11-09-22

WARRANTY DEED
Maine Statutory Short Form

KNOW ALL MEN BY THESE PRESENTS,

THAT **AQUA MANAGEMENT LLC**, a Maine Limited Liability Company with a principal address of 980 Portland Road, U.S. Route 1, of Saco, County of York, State of Maine,

for consideration paid,

grant to **PAMELA CONSIGLIO**, of Lady Lake, County of Lake, State of Florida, whose mailing address is 1316 Debra Drive, Lady Lake, FL 32158 and **SHERRY MITCHELL**, of Alburgh, County of Grand Isle, State of Vermont, whose mailing address is 1099 US Route 2 S, Alburgh, VT 05440, with **warranty covenants, as tenants in common**, the land in Saco, County of York, State of Maine, described as follows:

A certain lot or parcel of land together with any improvements thereon situated northeasterly of the Flag Pond Road but not adjacent thereto, and at the end of Apple Tree Lane as the same is shown on plan recorded in the York County Registry of Deeds in Plan Book 381, Page 44 in Saco, York County, Maine and being more particularly bounded and described as follows:

Beginning at the granite monument which marks the end of Apple Tree Lane, a corner of Lot No. 4 as shown on said plan where it abuts and land labeled on said plan N/F Michael S. Kimball and Peter J. Kimball in Book 13763, Page 88;

Thence N 35° 29' 35" W along said Lot No. 4 and land now or formerly of Witham a distance of 392.99 feet to an iron rod and other land of Witham;

Thence S 37° 23' 58" E along said Witham land a distance of 150 feet to a point;

Thence S 35° 29' 35" W through remaining land of Aqua Management LLC a distance of 393 feet, more or less, to a point on the northerly sideline of Lot No. 3 as shown on said plan;

Thence N 52° 59' 44" W along Lot No. 3 and Apple Tree Lane a distance of 150 feet to the monument which marks the point and place of beginning.

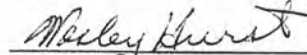
Being a portion of the premises conveyed to Aqua Management LLC by virtue of a deed from Aquaventures, LLC dated November 14, 2017 and recorded in the York County Registry of Deeds in Book 17607, Page 402,

Reserving to the Grantor, its successors and assigns a 50 foot wide right of way and utility easement to access Apple Tree Lane, said right of way is to be constructed and used in any manner that is consistent with the extension and expansion of Apple Tree Lane.

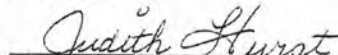
IN WITNESS WHEREOF, We, the said Wesley Hurst and Judith Hurst, Members of **AQUA MANAGEMENT LLC**, have hereunto set my hand and seal, this 12th day of November, 2020.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF

AQUA MANAGEMENT LLC



Wesley Hurst
Its Member



Judith Hurst
Its Member

STATE OF MAINE
YORK, ss.

November 12, 2020

Then personally appeared the above named Wesley Hurst and Judith Hurst, Managers of **AQUA MANAGEMENT LLC**, and acknowledged the foregoing instrument to be their free act and deed and the free act and deed of said LLC.

Before me,



Kimbaly A. Phinney, Notary Public
Commission Expires: 11/09/22



BK 17077 PGS 835 - 836 08/14/2015 12:54:47 PM
INSTR # 2015034006 DEBRA ANDERSON
RECEIVED YORK SS REGISTER OF DEEDS

**DEED OF DISTRIBUTION
BY PERSONAL REPRESENTATIVE (TESTATE)**

I, HAROLD MITCHELL, now of 115 US Route 2 South, Alburgh, Vermont 05440, duly appointed and acting personal representative of the Estate of DONALD M. WITHAM, whose will was duly admitted to probate in the Probate Court for York County, Maine, Docket No. 2014-0981, by the power conferred by law, and every other power, in distribution of the estate grant to SHERRY W. MITCHELL, now of 115 US Route 2 South, Alburgh, Vermont 05440, and PAMELA CONSIGLIO, now of 1316 Debra Drive, Lady Lake, Florida 32159, being the persons entitled to distribution, as Tenants in Common, the real property in Saco, York County, Maine, described as follows:

A certain lot or parcel of land, with the buildings thereon, situated and located on the Northwesterly side of the Portland Road, in Saco, Maine, and being the Mills Homestead, so-called, and containing ninety (90) acres, more or less, and being the same premises devised to Edgar E. Mills by his father, Eugene Mills, late of Saco, Maine, and the same premises devised to this Grantor by his late father, Edgar E. Mills, the Wills of the said Eugene Mills and Edgar E. Mills having been duly proved and allowed by the Probate Court for the County of York.

Also, the same premises conveyed to Lawrence B. Mills, a/k/a Laurence B. Mills, and Bernice G. Mills by deed of Mary a. Bradbury dated June 22, 1953 and recorded in the York County Registry of Deeds in Book 1230, Page 471.

This conveyance is subject to "Notice of Layout and Taking" dated July 14, 1999 and recorded in the York County Registry of Deeds in Book 9267, Page 3, by which the Maine Department of Transportation widened U. S. Route One;

Also subject to Federal Aid Project No. STP-66125 (00)X Plans dated January, 1999, and

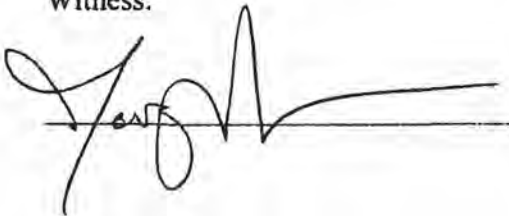
No R.E. Transfer Tax Paid

recorded in the York County Registry of Deeds in Book 323, Pages 46 and 47 on September 26, 2007.


Being a portion of the same premises conveyed to JEAN M. WITHAM and DONALD M. WITHAM by deed of LAWRENCE B. MILLS , a/k/a Laurence B. Mills, dated January 26, 1979 and recorded in the York County Registry of Deeds in Book 2468, Page 331. Jean M. Witham died on January 14, 2011. Donald M. Witham was the surviving joint tenant.

Witness my hand and seal on August 3, 2015.

Witness:



Maine
STATE OF ~~VERMONT~~
Cumberland ss.


HAROLD MITCHELL
Personal Representative of the
Estate of Donald M. Witham

August 3rd, 2015

Then personally appeared the above named HAROLD MITCHELL and acknowledged the foregoing instrument to be his free act and deed in his said capacity.

Before me,


Notary Public

Please type or print name of Notary:

Holly Gordon

HOLLY BARRETT NASH GORDON
Notary Public State of Maine
My Commission Expires June 19 2021

Seal

Joyce Leary Clark, Esq.
Prescott Jamieson Murphy
PO Box 1190
Saco, ME 04072
→
2995

Section 3 – Financial Capacity

Clover Leaf Development, LLC. is proposing to develop the Clover Leaf Development– a 120 unit apartment complex to be located at 986 Portland Road in Saco, Maine.

The applicant has a purchase & sale agreement the development parcel described as lot 3-1 on the City of Saco Tax Map #63. The project will be constructed in one phase. The applicant estimates that the total project will cost approximately 15 million dollars to build out. This figure includes building construction. We've provided a letter from Bar Harbor Bank & Trust that states that the members of Clover Leaf Development, LLC have the current financial capacity to fund the project.



July 27, 2021

Town of Saco
Planning Division
300 Main Street
Saco, ME 04072

RE: Cloverleaf Development LLC | Proposed Apartment Project - 986 Portland Road

I am pleased to provide this financial capacity letter in support of Cloverleaf Development LLC, developer of the above referenced 120 unit apartment project. Upon initial review, it is anticipated that development costs will total approximately \$15 million. Based on my experience with the principal owner as it relates to projects of similar size and scope, I believe that Cloverleaf Development, LLC has the financial capacity and technical expertise to successfully complete this project.

I have known and worked with the principal of Cloverleaf for more than 10 years have been involved with the financing of numerous projects. Bar Harbor Bank & Trust is currently providing financing for several projects owned by the principal of Cloverleaf and is looking forward to entertaining financing for the subject project when the applicant is prepared to proceed with construction.

Sincerely,

A handwritten signature in blue ink, appearing to read "Joe Delano", is written over a faint, stylized blue line that resembles a wave or a signature guide.

Joe Delano
Senior Vice President

Section 4 - Technical Ability

Terradyn Consultants, LLC has been retained to obtain the Maine Department of Environmental Protection (MDEP) Site Location of Development Act Permit on behalf of Clover Leaf Development, LLC for the Clover Leaf Development.

The technical phase of the project includes the preparation of detailed site plans, project details, site grading, stormwater management, erosion and sediment control and utility layout. The permitting phase of this project consists of the preparation of all state and local application permits required for the Town of Windham Site & Subdivision Approval, including the MDEP Site Location of Development Act Permit and a Tier 2 Wetland Alteration Permit.

Terradyn Consultants, LLC was established in 2005 and currently has six professional engineers and one unlicensed senior engineer on staff. Terradyn Consultants, LLC provides land planning, stormwater management design and environmental permitting technical assistance to developers, contractors and municipalities in the areas of commercial, residential and industrial developments. The principal owners have previously been involved in the successful design and permitting of many projects of similar size and scope.

Owen Haskell, Inc. prepared the boundary and partial topographic survey for the property. Owen Haskell provides high-quality, client-oriented since 1964. Owen Haskell, Inc. has become one of New England's largest full-service surveying companies with more than 100 years of combined experience in land and engineering surveys.

Mark Hampton Associates, Inc. prepared the Class B High Intensity Soil Survey and delineated the onsite wetlands. Mark Hampton, CSS #216, LSE #263 is a recognized expert in his field.

William Bray, P.E., of Traffic Solutions, Inc. prepared the traffic impact report. Bill is one of the most experienced traffic engineers in the country.

The landscaping plan was prepared by Barry Hosmer, ASLA. Barry has been a practicing landscape architect for several decades.

Section 5 - Noise

The anticipated noise generated by the project will be minor in nature since the project is residential. Short-term noise effects may occur during construction because of the use of normal construction equipment on the site. This noise is limited and would be expected to reduce to the minor residential levels once the construction phase is complete. Construction activities will be limited to the hours of 7 am – 7 pm or during daylight hours.

Section 6 - Visual Quality and Scenic Character

The visual quality and scenic character will be maintained/established by the installation of a significant amount of landscaping, the use of architectural light fixtures and the construction of architecturally interesting buildings.

The landscaping plan was prepared by Barry Hosmer, ASLA. The plan features approximately 190 trees and a host of bushes and flowers. During the City staff review meeting, several members positively commented on the high number of proposed trees.

Architectural light fixtures will be installed throughout the internal roadway system and pedestrian areas.

Imai Keller Moore Architects designed the buildings to be aesthetically pleasing and have made sure that the building facades are broken up with different architectural features. Only high quality building materials will be used.

The combination of the landscaping, lighting and architectural design will create a development that is visually attractive both for people passing by the property and for those living in one of the units.



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

February 25, 2021

Timothy Michaud
Terradyn Consultants
565 Congress Street, Suite 201
Portland, ME 04101

Via email: tim@terradyconsultants.com

Re: Rare and exemplary botanical features in proximity to: #21-04, Clover Leaf Apartment Complex, 989 Portland Road, Saco, Maine

Dear Mr. Michaud:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received February 10, 2021 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Saco, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. MNAP recommends that you have the site surveyed by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

In particular, MNAP recommends that you survey the project area for Hollow Joe-pye Weed (*Eutrochium fistulosum*). There is a population located within about half a mile of the site along Cascade Brook, and it appears that suitable habitat may be present at the project site. Hollow Joe-pye Weed is a species of moist areas in uplands and wetlands, and MNAP recommends survey along the tributary to Stuart Brook and low wet areas on the site. Hollow Joe-pye Weed is most easily identified mid-July through mid-September.

Feature	State Status	State Rank	Global Rank	Notes
Hollow Joe-pye Weed <i>Eutrochium fistulosum</i>	SC	S2	G5?	Cascade Brook

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

shoulder work.

Credits



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Contact

Department of Agriculture,
Conservation and Forestry
22 State House Station
18 Elkins Lane
Augusta, ME 04333
More [Locations](#)

Phone: (207) 287-3200
Fax: (207) 287-2400
TTY Users Call Maine Relay
711
DACE@Maine.gov

Rare and Exemplary Botanical Features within 4 miles of Project: #21-04, Clover Leaf Apartment Complex, 989 Portland Road, Saco, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Atlantic White Cedar						
	SC	S2	G4	2017-07-26	3	Forested wetland
Atlantic White Cedar Bog						
	<null>	S1	G3G4	2017-07-26	3	Forested wetland
Beach Plum						
	E	S1	G4	1903-07-31	17	Rocky coastal (non-forested, upland)
	E	S1	G4	1932-09	12	Rocky coastal (non-forested, upland)
	E	S1	G4	1933-06-21	9	Rocky coastal (non-forested, upland)
	E	S1	G4	1933-05-19	10	Rocky coastal (non-forested, upland)
	E	S1	G4	1999-05-25	18	Rocky coastal (non-forested, upland)
Beach wormwood						
	SC	S1S2	G5T5	2010-11-09	5	<null>
Butterfly Weed						
	PE	SX	G5	1986	1	Dry barrens (partly forested, upland)
Button Sedge						
	SC	S2	G5	2017-07-26	5	<null>
Clothed Sedge						
	E	S1	G5	2006-06-07	7	Dry barrens (partly forested, upland)
	E	S1	G5	2006-06-16	8	Dry barrens (partly forested, upland)
Creeping Spike-moss						
	E	S2	G5	1920-07-30	6	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
	E	S2	G5	1924-08-21	8	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)

Rare and Exemplary Botanical Features within 4 miles of Project: #21-04, Clover Leaf Apartment Complex, 989 Portland Road, Saco, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Dioecious Sedge	E	S2	G5	1989-08-14	2	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
Dwarf Glasswort	SC	S3	G4G5	1936-07-14	7	Non-tidal rivershore (non-forested, seasonally wet), Open wetland, not coastal nor rivershore (non-forested, wetland)
Hollow Joe-pye Weed	SC	S1	G5	1981-09-16	2	Tidal wetland (non-forested, wetland)
	SC	S1	G5	2006-06-21	4	Tidal wetland (non-forested, wetland)
Horned Pondweed	SC	S2	G5?	1989-08-14	2	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5?	2013-09-01	23	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5?	1989-08-14	4	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5?	1989-08-21	1	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5?	1989-08-22	3	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
Long's Bulrush	SC	S2	G5	1907-08-18	10	Tidal wetland (non-forested, wetland)
	SC	S2	G5	1972-06-13	3	Tidal wetland (non-forested, wetland)
Long-spined Sandbur	T	S2	G3	2017-07-26	10	Open wetland, not coastal nor rivershore (non-forested, wetland)
Parker's Pipewort	PE	SH	G5	1984	1	Rocky coastal (non-forested, upland)
	SC	S3	G3	1924-08-20	8	Tidal wetland (non-forested, wetland)

Rare and Exemplary Botanical Features within 4 miles of Project: #21-04, Clover Leaf Apartment Complex, 989 Portland Road, Saco, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Pitch Pine Bog						
	<null>	S2	G3G5	2017-07-26	4	Forested wetland,Coastal non-tidal wetland (non-forested, wetland)
	<null>	S2	G3G5	2006-06-21	3	Forested wetland,Coastal non-tidal wetland (non-forested, wetland)
Raised Level Bog Ecosystem						
	<null>	S4	GNR	2017-07-26	3	Forested wetland,Open wetland, not coastal nor rivershore (non-forested, wetland)
Salt-hay Saltmarsh						
	<null>	S3	G5	2010-07-16	14	Tidal wetland (non-forested, wetland)
	<null>	S3	G5	2010-10-14	12	Tidal wetland (non-forested, wetland)
Saltmarsh False-foxglove						
	SC	S3	G5	1982	12	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2008-07-02	1	Tidal wetland (non-forested, wetland)
Smooth Winterberry Holly						
	SC	S3	G5	1979	13	Forested wetland
	SC	S3	G5	2018-09-15	24	Forested wetland
Tidal Marsh Estuary Ecosystem						
	<null>	S3	GNR	2010-07-16	6	Tidal wetland (non-forested, wetland)
	<null>	S3	GNR	2010-10-14	4	Tidal wetland (non-forested, wetland)
Water-plantain Spearwort						
	PE	SH	G4	1862-08	3	Open water (non-forested, wetland)
Wild Ginger						
	T	S1S2	G5	1986	4	Hardwood to mixed forest (forest, upland)

STATE RARITY RANKS

- S1** Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- S2** Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3** Rare in Maine (20-100 occurrences).
- S4** Apparently secure in Maine.
- S5** Demonstrably secure in Maine.
- SU** Under consideration for assigning rarity status; more information needed on threats or distribution.
- SNR** Not yet ranked.
- SNA** Rank not applicable.
- S#?** Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

- G1** Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
- G2** Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3** Globally rare (20-100 occurrences).
- G4** Apparently secure globally.
- G5** Demonstrably secure globally.
- GNR** Not yet ranked.

Note: **Global Ranks** are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

- E** ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
- T** THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

- SC** SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
- PE** Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size**: Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition**: For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context**: Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
<http://www.maine.gov/dacf/mnap>

Section 7 - Wildlife and Fisheries

The Maine Department of Inland Fisheries and Wildlife was contacted to determine whether there were any significant wildlife/fisheries habitats associated for the proposed Clover Leaf Development Cove project.

They reviewed the project and concluded that the area is potentially home to northern long eared bats (as is the rest of the State). We propose to prohibit tree clearing from June 1 – July 31 per Army Corp of Engineers typical recommendation. There were no known fisheries resources on site. See attached correspondence.

**Pineland**

Cumberland Hall
41 Campus Drive, Suite 101
New Gloucester, ME 04260

Portland

565 Congress Street, Suite 201
Portland, ME 04101

February 8, 2021

2104

John Perry, Environmental Review Coordinator
Maine Department of Inland Fisheries & Wildlife
284 State Street, 41 State House Station
Augusta, ME 04333-0041

REQUEST FOR PROJECT REVIEW
Clover Leaf Development
989 Portland Road, Saco, ME

Dear John:

Terradyn Consultants, LLC has been retained by Clover Leaf Development, LLC, to prepare civil-site plans and permit applications for a proposed 120-unit apartment complex to be located at 989 Portland Road (Route 1) in Saco, Maine. Attached is an excerpt of the USGS topographic map for the project site.

The development will cover approximately 10 acres of the 67-acre property. The forested site is located immediately north of the Aquaboggan Waterpark. The property is shown as Lot 3-1 on the City of Saco Tax Map 63. The property is located within the MU-3 zone but will soon be reclassified to the Portland Road District.

The development will consist of the creation of ten 12-unit apartment buildings to be accessed off Route 1 by approximately 1000 feet of proposed new road. Each building will 3,500 SF (50x70') and three stories tall. The applicant also proposes to create an out-parcel along the Portland Road frontage. The out-parcel will be approximately 1.2 acres. The site is served by City water & sewer. Main lines are located within the Portland Road right of way along the site frontage. A boundary and topographic survey is being prepared by Owen Haskell, Professional Land Surveyors. Site wetlands were delineated by Mark Hampton, C.S.S. of Mark Hampton & Associates.

We anticipate that the apartment complex and outparcel will drain to the rear of the development, where a gravel wetland will be constructed. Roof drain filter strips will be installed along the edge of each building in an effort to both encourage infiltration opportunities of stormwater runoff and to reduce the size of the stormwater pond. The project will result in approximately 3.5 acres of new impervious area. This means that the project will require a Maine DEP Site Location of Development Permit. There is wetland area located near the midpoint of the development area. This wetland is proposed to be filled. This activity will require a Tier 2 wetland alteration permit.

We are requesting that the Department review available information to determine if the project will have an impact on historic structures or archaeological resources. The information will be provided to the Maine DEP as part of the Site Location of Development application process.

Please notify me if you have any questions or require additional information to complete your review.

Sincerely,

TERRADYN CONSULTANTS, LLC



Tim Michaud
Project Engineer

Enc. - USGS Topographic Map



STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041



March 1, 2021

Tim Michaud
Terradyn
565 Congress Street, Suite 201
Portland, ME 04101

RE: Information Request – Clover Leaf Development at 989 Portland Road Project, Saco

Dear Tim:

Per your request received on February 11, 2021, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *Clover Leaf Development at 989 Portland Road* project in Saco. For purposes of this review we are assuming tree clearing will be part of your project.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bat Species – Of the eight species of bats that occur in Maine, the three *Myotis* species are protected under Maine's Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S. §12801 - §12810. The three *Myotis* species include little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are listed as Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during migration and/or the breeding season. However, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Significant Wildlife Habitat

Significant Vernal Pools - At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs subject to protection under the Natural Resources Protection Act (NRPA) within the project area, which include Waterfowl and Wading Bird Habitats, Seabird Nesting Islands, Shorebird Areas, and Significant Vernal Pools. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. Therefore, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

We recommend that 100-foot undisturbed vegetated buffers be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams that support coldwater fisheries is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support conditions required by many fish species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide full fish passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis and undersized crossings may inhibit these functions. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e. natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in not only providing habitat connectivity for fish but also for other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fish and fisheries habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

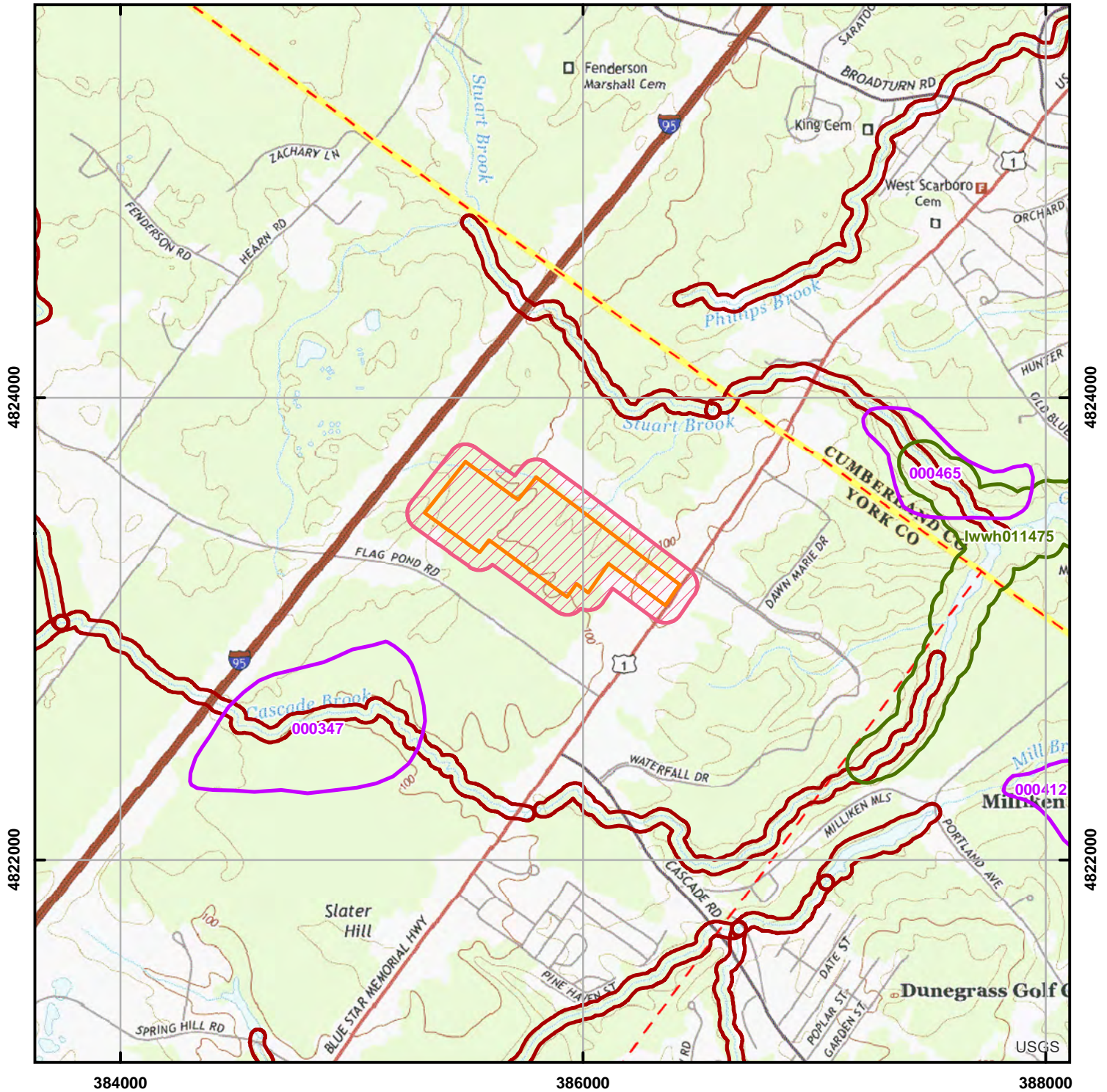
A handwritten signature in black ink, appearing to read 'Becca Settele', with a stylized, flowing script.

Becca Settele
Wildlife Biologist

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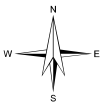
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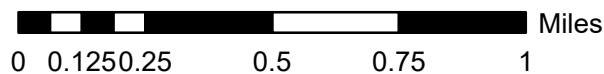


Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: Clover Leaf Development at 989 Portland Road, Saco
(Version 1)



Maine Department of
Inland Fisheries and Wildlife



Projection: UTM, NAD83, Zone 19N

Date: 2/12/2021

- | | | |
|-----------------------------|----------------------------------|---|
| ProjectPoints | Deer Winter Area | Roseate Tern |
| ProjectLines | LUPC p-fw | Piping Plover and Least Tern |
| ProjectPolys | Cooperative DWAs | Aquatic ETSc - 2.5 mi review |
| ProjectSearchAreas | Seabird Nesting Islands | Rare Mussels - 5 mi review |
| Maine Cliff and Talus Areas | Shorebird Areas | Maine Heritage Fish Waters |
| | Inland Waterfowl and Wading Bird | Arctic Charr Habitat |
| | 2008 Iwwh - Shoreland Zoning | Redfin Pickerel and Swamp Darter Habitats - buffer100ft |
| | Tidal Waterfowl and Wading Bird | Special Concern occupied habitats - 100ft buffer |
| | Significant Vernal Pools | Wild Lake Trout Habitats |
| | Environmental Review Polygons | |



IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

York County, Maine



Local office

Maine Ecological Services Field Office

☎ (207) 469-7300

📠 (207) 902-1588

MAILING ADDRESS

P. O. Box A

East Orland, ME 04431

PHYSICAL ADDRESS

306 Hatchery Road

East Orland, ME 04431

<http://www.fws.gov/mainefieldoffice/index.html>

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME

STATUS

Northern Long-eared Bat *Myotis septentrionalis***Threatened**

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9045>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

American Oystercatcher *Haematopus palliatus*

Breeds Apr 15 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8935>

Bald Eagle *Haliaeetus leucocephalus*

Breeds Oct 15 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Black-billed Cuckoo *Coccyzus erythrophthalmus*

Breeds May 15 to Oct 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9399>

Bobolink *Dolichonyx oryzivorus*

Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Buff-breasted Sandpiper *Calidris subruficollis*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9488>

Canada Warbler *Cardellina canadensis*

Breeds May 20 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Dunlin <i>Calidris alpina arctica</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Hudsonian Godwit <i>Limosa haemastica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Least Tern <i>Sterna antillarum</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 20 to Sep 10
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-eared Owl <i>asio otus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds elsewhere
Nelson's Sparrow <i>Ammodramus nelsoni</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Sep 5
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Red-throated Loon <i>Gavia stellata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Ruddy Turnstone <i>Arenaria interpres morinella</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Seaside Sparrow <i>Ammodramus maritimus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 20

Semipalmated Sandpiper *Calidris pusilla*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Short-billed Dowitcher *Limnodromus griseus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9480>

Snowy Owl *Bubo scandiacus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Whimbrel *Numenius phaeopus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9483>

Willet *Tringa semipalmata*

Breeds Apr 20 to Aug 5

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush *Hylocichla mustelina*

Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1C](#)
[PEM1Bd](#)
[PEM1Cd](#)
[PEM1Ed](#)
[PEM1Eh](#)

FRESHWATER FORESTED/SHRUB WETLAND

[PFO1/4E](#)
[PSS1Eh](#)
[PFO4/1E](#)
[PSS1E](#)
[PSS1C](#)

FRESHWATER POND

[PUBHh](#)
[PUBHx](#)

RIVERINE

[R2UBH](#)
[R4SBAx](#)
[R4SBCx](#)
[R4SBA](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

Section 8 - Historic Sites

The Maine Historic Preservation Commission (MHPC) was contacted regarding the presence of any areas of historic, architectural or archaeological significance on the property or in the immediate vicinity.

Upon review, they concluded that there will be no historic properties affected by the proposed undertaking. Copies of all correspondence are attached.

**Pineland**

Cumberland Hall
41 Campus Drive, Suite 101
New Gloucester, ME 04260

Portland

565 Congress Street, Suite 201
Portland, ME 04101

February 8, 2021

2104

Kirk F. Mohny, Director
Maine Historic Preservation Commission
55 Capitol Street, 65 State House Station
Augusta, ME 04333-0065

REQUEST FOR PROJECT REVIEW
Clover Leaf Development
989 Portland Road, Saco, ME

Dear Kirk:

Terradyn Consultants, LLC has been retained by Clover Leaf Development, LLC, to prepare civil-site plans and permit applications for a proposed 120-unit apartment complex to be located at 989 Portland Road (Route 1) in Saco, Maine. Attached is an excerpt of the USGS topographic map for the project site.

The development will cover approximately 10 acres of the 67-acre property. The forested site is located immediately north of the Aquaboggan Waterpark. The property is shown as Lot 3-1 on the City of Saco Tax Map 63. The property is located within the MU-3 zone but will soon be reclassified to the Portland Road District.

The development will consist of the creation of ten 12-unit apartment buildings to be accessed off Route 1 by approximately 1000 feet of proposed new road. Each building will 3,500 SF (50'x70') and three stories tall. The applicant also proposes to create an out-parcel along the Portland Road frontage. The out-parcel will be approximately 1.2 acres. The site is served by City water & sewer. Main lines are located within the Portland Road right of way along the site frontage. A boundary and topographic survey is being prepared by Owen Haskell, Professional Land Surveyors. Site wetlands were delineated by Mark Hampton, C.S.S. of Mark Hampton & Associates.

We anticipate that the apartment complex and outparcel will drain to the rear of the development, where a gravel wetland will be constructed. Roof drain filter strips will be installed along the edge of each building in an effort to both encourage infiltration opportunities of stormwater runoff and to reduce the size of the stormwater pond. The project will result in approximately 3.5 acres of new impervious area. This means that the project will require a Maine DEP Site Location of Development Permit. There is wetland area located near the midpoint of the development area. This wetland is proposed to be filled. This activity will require a Tier 2 wetland alteration permit.

We are requesting that the Commission review available information to determine if the project will have an impact on historic structures or archaeological resources. The information will be provided to the Maine DEP as part of the Site Location of Development application process.

Please notify me if you have any questions or require additional information to complete your review.

Sincerely,

TERRADYN CONSULTANTS, LLC



Tim Michaud
Project Engineer

Enc. - USGS Topographic Map



JANET T. MILLS
GOVERNOR

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

KIRK F. MOHNEY
DIRECTOR

February 17, 2021

Mr. Tim Michaud
Terradyn Consultants LLC
565 Congress Street
Suite 201
Portland, ME 04101

Project: MHPC #0251-21 Clover Leaf Development, LLC; 989 Portland Road
120 Unit Apartment Complex
Town: Saco, ME

Dear Mr. Michaud:

In response to your recent request, I have reviewed the information received February 10, 2021 to initiate consultation on the above referenced project in accordance with the requirements of Maine Department of Environmental Protection.

In order to continue our review, please provide a preliminary site plan and photographs of any buildings, 50 years or older, located on or adjacent to the proposed project. Please key the photographs to a location map. In addition, please confirm if any buildings located on the proposed project parcel will be demolished as part of this project.

We look forward to continuing consultation with you. If you have any questions regarding above-ground properties, please contact Megan M. Rideout of this office at megan.m.rideout@maine.gov.

Sincerely,

Kirk F. Mohney
State Historic Preservation Officer

MHPC USE ONLY

INVENTORY NO. _____

MAINE HISTORIC PRESERVATION COMMISSION **Historic Building/Structure Survey Form**

1. PROPERTY NAME (HISTORIC): _____

2. PROPERTY NAME (OTHER): _____

3. STREET ADDRESS: 133 Flag Pond Road

4. TOWN: Saco

5. COUNTY: York

6. DATE RECORDED: _____

7. SURVEYOR: _____

8. OWNER NAME: Marilyn Ives

ADDRESS: _____

9. PRIMARY USE (PRESENT):

<input checked="" type="checkbox"/> SINGLE FAMILY	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> COMMERCIAL/TRADE	<input type="checkbox"/> FUNERARY
<input type="checkbox"/> MULTI-FAMILY	<input type="checkbox"/> GOVERNMENTAL	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> HEALTH CARE
<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> RELIGIOUS	<input type="checkbox"/> HOTEL	<input type="checkbox"/> LANDSCAPE
<input type="checkbox"/> TRANSPORTATION	<input type="checkbox"/> DEFENSE	<input type="checkbox"/> SUMMER COTTAGE/CAMP	<input type="checkbox"/> SOCIAL
<input type="checkbox"/> RECREATION/CULTURE	<input type="checkbox"/> UNKNOWN		
<input type="checkbox"/> OTHER _____			

10. CONDITION: ☒ GOOD ☐ FAIR ☐ POOR ☐ DESTROYED, DATE / /

ARCHITECTURAL DATA

11. PRIMARY STYLISTIC CATEGORY:

<input type="checkbox"/> COLONIAL	<input type="checkbox"/> STICK STYLE	<input type="checkbox"/> NEO-CLASSICAL REV.	<input type="checkbox"/> FOUR SQUARE
<input type="checkbox"/> FEDERAL	<input type="checkbox"/> QUEEN ANNE	<input type="checkbox"/> RENAISSANCE REV.	<input type="checkbox"/> ART DECO
<input type="checkbox"/> GREEK REVIVAL	<input type="checkbox"/> SHINGLE STYLE	<input type="checkbox"/> 19TH/20TH C. REVIVAL	<input type="checkbox"/> INTERNATIONAL
<input type="checkbox"/> GOTHIC REVIVAL	<input type="checkbox"/> R. ROMANESQUE	<input type="checkbox"/> ARTS & CRAFTS	<input type="checkbox"/> RANCH
<input type="checkbox"/> ITALIANATE	<input type="checkbox"/> ROMANESQUE	<input type="checkbox"/> BUNGALOW	<input type="checkbox"/> VERNACULAR
<input type="checkbox"/> SECOND EMPIRE	<input type="checkbox"/> HIGH VIC. GOTHIC	OTHER <u>Cape Cod</u>	

12. OTHER STYLISTIC CATEGORY:

<input type="checkbox"/> COLONIAL	<input type="checkbox"/> STICK STYLE	<input type="checkbox"/> NEO-CLASSICAL REV.	<input type="checkbox"/> FOUR SQUARE
<input type="checkbox"/> FEDERAL	<input type="checkbox"/> QUEEN ANNE	<input type="checkbox"/> RENAISSANCE REV.	<input type="checkbox"/> ART DECO
<input type="checkbox"/> GREEK REVIVAL	<input type="checkbox"/> SHINGLE STYLE	<input type="checkbox"/> 19TH/20TH C. REVIVAL	<input type="checkbox"/> INTERNATIONAL
<input type="checkbox"/> GOTHIC REVIVAL	<input type="checkbox"/> R. ROMANESQUE	<input type="checkbox"/> ARTS & CRAFTS	<input type="checkbox"/> RANCH
<input type="checkbox"/> ITALIANATE	<input type="checkbox"/> ROMANESQUE	<input type="checkbox"/> BUNGALOW	<input type="checkbox"/> VERNACULAR
<input type="checkbox"/> SECOND EMPIRE	<input type="checkbox"/> HIGH VIC. GOTHIC	OTHER _____	

13. HEIGHT: ☐ 1 STORY ☒ 1 1/2 STORY ☐ 2 STORY ☐ 2 1/2 STORY ☐ 3 STORY ☐ 4 STORY

☐ 5 STORY ☐ OVER 5 ()

14. PRIMARY FACADE WIDTH (MAIN BLOCK; USE GROUND FLOOR): ☐ 1 BAY ☐ 2 BAY ☐ 3 BAY ☐ 4 BAY ☐ 5 BAY ☐ MORE THAN 5 ()

15. APPENDAGES: ☐ SIDE ELL ☒ REAR ELL ☐ FRONT ☐ ADDED STORIES ☐ SHED

☐ DORMERS ☐ PORCH ☐ TOWER ☐ CUPOLA ☐ BAY WINDOW

PHOTOGRAPH:



16. PORCH: ☐ ATTACHED ☐ ENGAGED ☒ ONE STORY ☐ MORE THAN ONE STORY
☐ FULL WIDTH ☐ WRAPAROUND ☐ SLEEPING PORCH ☐ SECONDARY PORCH
17. PLAN: ☐ HALL AND PARLOR ☐ 1/2 CAPE ☐ CENTRAL HALL ☐ SIDE HALL
☐ BACK HALL ☐ IRREGULAR ☐ OTHER _____
18. PRIMARY STRUCTURAL SYSTEM:
☐ TIMBER FRAME ☐ BRACED FRAME ☐ BRICK ☐ STONE ☐ BALLOON FRAME
☐ CONCRETE ☐ STEEL ☐ LOG ☐ PLANK WALL ☐ PLATFORM FRAME
☐ FRAME CONSTRUCTION - TYPE UNKNOWN ☐ OTHER _____
19. CHIMNEY PLACEMENT:
☐ INTERIOR ☐ INTERIOR FRONT/REAR ☐ CENTER ☐ INTERIOR END ☐ EXTERIOR
☐ OTHER _____
20. ROOF CONFIGURATION:
☒ GABLE SIDE ☒ GABLE FRONT ☒ HIP ☐ MANSARD ☐ FLAT
☐ GAMBREL ☐ PARAPET GABLE ☐ SHED ☐ CROSS ☐ GABLE
☐ COMPOUND ☐ OTHER _____
21. ROOF MATERIAL: WOOD ☐ METAL ☐ TILE ☐ SLATE ☐ ASPHALT ☒ ASBESTOS ☐
22. EXTERIOR WALL MATERIALS:
☐ CLAPBOARD ☐ BRICK ☐ FLUSH SHEATHING ☐ WOOD SHINGLE ☐ STONE
☐ LOG ☐ PRESSED METAL ☐ CONCRETE ☐ STUCCO ☐ ASPHALT
☐ GRANITE ☐ ASBESTOS ☐ TERRA COTTA ☐ BOARD AND BATTEN ☒ ALUMINUM/VINYL
☐ OTHER _____
23. FOUNDATION MATERIAL:
☐ FIELDSTONE ☐ BRICK ☐ WOOD ☐ CONCRETE ☐ GRANITE ☐ ORNAMENTAL CONC. BLOCK
☐ OTHER _____
24. OUTBUILDINGS/FEATURES:
☐ CARRIAGE HOUSE ☐ FENCE OR WALL ☐ CEMETERY ☐ BARN (CONNECTED)
☐ BARN (DETACHED) ☐ FORMAL GARDEN ☐ LANDSCAPE/PLANT MAT. ☐ ARCHAEOLOGICAL SITE
☐ GARAGE ☐ OTHER _____

HISTORICAL DATA

25. DOCUMENTED DATE OF CONSTRUCTION: _____ 26. ESTIMATED DATE OF CONSTRUCTION: 1865
27. DATE MAJOR ADDITIONS/ALTERATIONS: _____
28. ARCHITECT: _____ 29. CONTRACTOR: _____
30. ORIGINAL OWNER: _____
31. SUBSEQUENT SIGNIFICANT OWNER: _____ DATES: _____
32. CULTURAL/ETHNIC AFFILIATION:
☐ ENGLISH ☐ FRENCH ACADIAN ☐ NATIVE AMERICAN ☐ SCOTTISH ☐ FRENCH CANADIAN
☐ EAST EUROPEAN ☐ IRISH ☐ OTHER _____
33. HISTORIC CONTEXT(S):
☐ COMMERCE ☐ INDUSTRY ☐ TRANSPORTATION ☐ AGRICULTURE ☐ MILITARY
☐ RELIGION ☐ CIVIC AFFAIRS ☐ RECREATION ☐ HABITATION ☐ EDUCATION
☐ ART, LIT, SCIENCE ☐ SOCIAL _____
34. COMMENTS/SOURCES: _____

35. HISTORICAL DRAWINGS EXIST: ☐ YES ☐ NO LOCATION: _____

ENVIRONMENTAL DATA

36. SITE INTEGRITY: ☐ ORIGINAL ☐ MOVED DATE MOVED _____
37. SETTING: ☐ RURAL/UNDISTURBED ☐ RURAL/BUILT UP ☐ SMALL TOWN ☐ URBAN ☐ SUBURBAN
38. QUADRANGLE MAP USED: _____ QUADRANGLE #: _____
39. UTM NORTHING: _____ 40. UTM EASTING: _____
41. FACADE DIRECTION (CIRCLE ONE): ☐ N ☐ S ☐ E ☐ W ☐ NE ☐ NW ☐ SE ☐ SW

=====

MHPC USE ONLY

- DATE ENTERED IN INVENTORY: _____ PHOTO FILE #: _____
- NR STATUS: L ☐ HD ☐ E ☐ NE ☐ ND ☐ REVIEWER _____
- DATA SOURCE: ☐ HPF ☐ CLG ☐ R&C ☐ STAFF ☐ STATE SURVEY ☐ OTHER _____ LEVEL OF SURVEY: ☐ R ☐ I
- ASSOCIATED INVENTORY NUMBERS: _____

MHPC USE ONLY

INVENTORY NO.

MAINE HISTORIC PRESERVATION COMMISSION **Historic Building/Structure Survey Form**

1. PROPERTY NAME (HISTORIC): _____
2. PROPERTY NAME (OTHER): _____
3. STREET ADDRESS: 269 Flag Pond Road
4. TOWN: Saco
5. COUNTY: York
6. DATE RECORDED: _____
7. SURVEYOR: _____
8. OWNER NAME: James H. & Edna M. Leary
- ADDRESS: _____
9. PRIMARY USE (PRESENT):
- | | | | |
|---|---------------------------------------|--|--------------------------------------|
| <input type="checkbox"/> SINGLE FAMILY | <input type="checkbox"/> AGRICULTURE | <input type="checkbox"/> COMMERCIAL/TRADE | <input type="checkbox"/> FUNERARY |
| <input type="checkbox"/> MULTI-FAMILY | <input type="checkbox"/> GOVERNMENTAL | <input type="checkbox"/> EDUCATION | <input type="checkbox"/> HEALTH CARE |
| <input type="checkbox"/> INDUSTRY | <input type="checkbox"/> RELIGIOUS | <input type="checkbox"/> HOTEL | <input type="checkbox"/> LANDSCAPE |
| <input type="checkbox"/> TRANSPORTATION | <input type="checkbox"/> DEFENSE | <input type="checkbox"/> SUMMER COTTAGE/CAMP | <input type="checkbox"/> SOCIAL |
| <input type="checkbox"/> RECREATION/CULTURE | <input type="checkbox"/> UNKNOWN | | |
| <input type="checkbox"/> OTHER _____ | | | |
10. CONDITION: ☐ GOOD ☐ FAIR ☐ POOR ☐ DESTROYED, DATE / /

ARCHITECTURAL DATA

11. PRIMARY STYLISTIC CATEGORY:
- | | | | |
|--|---|---|--|
| <input checked="" type="checkbox"/> COLONIAL | <input type="checkbox"/> STICK STYLE | <input type="checkbox"/> NEO-CLASSICAL REV. | <input type="checkbox"/> FOUR SQUARE |
| <input type="checkbox"/> FEDERAL | <input type="checkbox"/> QUEEN ANNE | <input type="checkbox"/> RENAISSANCE REV. | <input type="checkbox"/> ART DECO |
| <input type="checkbox"/> GREEK REVIVAL | <input type="checkbox"/> SHINGLE STYLE | <input type="checkbox"/> 19TH/20TH C. REVIVAL | <input type="checkbox"/> INTERNATIONAL |
| <input type="checkbox"/> GOTHIC REVIVAL | <input type="checkbox"/> R. ROMANESQUE | <input type="checkbox"/> ARTS & CRAFTS | <input type="checkbox"/> RANCH |
| <input type="checkbox"/> ITALIANATE | <input type="checkbox"/> ROMANESQUE | <input type="checkbox"/> BUNGALOW | <input type="checkbox"/> VERNACULAR |
| <input type="checkbox"/> SECOND EMPIRE | <input type="checkbox"/> HIGH VIC. GOTHIC | OTHER _____ | |
12. OTHER STYLISTIC CATEGORY:
- | | | | |
|---|---|---|--|
| <input type="checkbox"/> COLONIAL | <input type="checkbox"/> STICK STYLE | <input type="checkbox"/> NEO-CLASSICAL REV. | <input type="checkbox"/> FOUR SQUARE |
| <input type="checkbox"/> FEDERAL | <input type="checkbox"/> QUEEN ANNE | <input type="checkbox"/> RENAISSANCE REV. | <input type="checkbox"/> ART DECO |
| <input type="checkbox"/> GREEK REVIVAL | <input type="checkbox"/> SHINGLE STYLE | <input type="checkbox"/> 19TH/20TH C. REVIVAL | <input type="checkbox"/> INTERNATIONAL |
| <input type="checkbox"/> GOTHIC REVIVAL | <input type="checkbox"/> R. ROMANESQUE | <input type="checkbox"/> ARTS & CRAFTS | <input type="checkbox"/> RANCH |
| <input type="checkbox"/> ITALIANATE | <input type="checkbox"/> ROMANESQUE | <input type="checkbox"/> BUNGALOW | <input type="checkbox"/> VERNACULAR |
| <input type="checkbox"/> SECOND EMPIRE | <input type="checkbox"/> HIGH VIC. GOTHIC | OTHER _____ | |
13. HEIGHT:
- ☐ 1 STORY ☐ 1 1/2 STORY ☒ 2 STORY ☐ 2 1/2 STORY ☐ 3 STORY ☐ 4 STORY
- ☐ 5 STORY ☐ OVER 5 ()
14. PRIMARY FACADE WIDTH (MAIN BLOCK; USE GROUND FLOOR):
- ☐ 1 BAY ☐ 2 BAY ☐ 3 BAY ☐ 4 BAY ☐ 5 BAY ☐ MORE THAN 5 ()
15. APPENDAGES:
- ☐ SIDE ELL ☒ REAR ELL ☐ FRONT ☐ ADDED STORIES ☐ SHED
- ☐ DORMERS ☐ PORCH ☐ TOWER ☐ CUPOLA ☐ BAY WINDOW

PHOTOGRAPH:



16. PORCH: ☒ ATTACHED ☐ ENGAGED ☐ ONE STORY ☐ MORE THAN ONE STORY
☐ FULL WIDTH ☐ WRAPAROUND ☐ SLEEPING PORCH ☐ SECONDARY PORCH
17. PLAN: ☐ HALL AND PARLOR ☐ 1/2 CAPE ☐ CENTRAL HALL ☐ SIDE HALL
☐ BACK HALL ☐ IRREGULAR ☐ OTHER _____
18. PRIMARY STRUCTURAL SYSTEM:
☐ TIMBER FRAME ☐ BRACED FRAME ☐ BRICK ☐ STONE ☐ BALLOON FRAME
☐ CONCRETE ☐ STEEL ☐ LOG ☐ PLANK WALL ☐ PLATFORM FRAME
☐ FRAME CONSTRUCTION - TYPE UNKNOWN ☐ OTHER _____
19. CHIMNEY PLACEMENT:
☒ INTERIOR ☐ INTERIOR FRONT/REAR ☐ CENTER ☐ INTERIOR END ☐ EXTERIOR
☐ OTHER _____
20. ROOF CONFIGURATION:
☒ GABLE SIDE ☐ GABLE FRONT ☒ HIP ☐ MANSARD ☐ FLAT
☐ GAMBREL ☐ PARAPET GABLE ☐ SHED ☐ CROSS ☐ GABLE
☐ COMPOUND ☐ OTHER _____
21. ROOF MATERIAL: WOOD ☐ METAL ☐ TILE ☐ SLATE ☐ ASPHALT ☐ ASBESTOS ☐
22. EXTERIOR WALL MATERIALS:
☒ CLAPBOARD ☐ BRICK ☐ FLUSH SHEATHING ☐ WOOD SHINGLE ☐ STONE
☐ LOG ☐ PRESSED METAL ☐ CONCRETE ☐ STUCCO ☐ ASPHALT
☐ GRANITE ☐ ASBESTOS ☐ TERRA COTTA ☐ BOARD AND BATTEN ☐ ALUMINUM/VINYL
☐ OTHER _____
23. FOUNDATION MATERIAL:
☐ FIELDSTONE ☒ BRICK ☐ WOOD ☐ CONCRETE ☐ GRANITE ☐ ORNAMENTAL CONC. BLOCK
☐ OTHER _____
24. OUTBUILDINGS/FEATURES:
☐ CARRIAGE HOUSE ☐ FENCE OR WALL ☐ CEMETERY ☐ BARN (CONNECTED)
☐ BARN (DETACHED) ☐ FORMAL GARDEN ☐ LANDSCAPE/PLANT MAT. ☐ ARCHAEOLOGICAL SITE
☐ GARAGE ☐ OTHER _____

HISTORICAL DATA

25. DOCUMENTED DATE OF CONSTRUCTION: _____ 26. ESTIMATED DATE OF CONSTRUCTION: 1800
27. DATE MAJOR ADDITIONS/ALTERATIONS: _____
28. ARCHITECT: _____ 29. CONTRACTOR: _____
30. ORIGINAL OWNER: _____
31. SUBSEQUENT SIGNIFICANT OWNER: _____ DATES: _____
32. CULTURAL/ETHNIC AFFILIATION:
☐ ENGLISH ☐ FRENCH ACADIAN ☐ NATIVE AMERICAN ☐ SCOTTISH ☐ FRENCH CANADIAN
☐ EAST EUROPEAN ☐ IRISH ☐ OTHER _____
33. HISTORIC CONTEXT(S):
☐ COMMERCE ☐ INDUSTRY ☐ TRANSPORTATION ☐ AGRICULTURE ☐ MILITARY
☐ RELIGION ☐ CIVIC AFFAIRS ☐ RECREATION ☐ HABITATION ☐ EDUCATION
☐ ART, LIT, SCIENCE ☐ SOCIAL _____
34. COMMENTS/SOURCES: _____

35. HISTORICAL DRAWINGS EXIST: ☐ YES ☐ NO LOCATION: _____

ENVIRONMENTAL DATA

36. SITE INTEGRITY: ☐ ORIGINAL ☐ MOVED DATE MOVED _____
37. SETTING: ☐ RURAL/UNDISTURBED ☐ RURAL/BUILT UP ☐ SMALL TOWN ☐ URBAN ☐ SUBURBAN
38. QUADRANGLE MAP USED: _____ QUADRANGLE #: _____
39. UTM NORTHING: _____ 40. UTM EASTING: _____
41. FACADE DIRECTION (CIRCLE ONE): ☐ N ☐ S ☐ E ☐ W ☐ NE ☐ NW ☐ SE ☐ SW

=====

MHPC USE ONLY

- DATE ENTERED IN INVENTORY: _____ PHOTO FILE #: _____
- NR STATUS: L ☐ HD ☐ E ☐ NE ☐ ND ☐ REVIEWER _____
- DATA SOURCE: ☐ HPF ☐ CLG ☐ R&C ☐ STAFF ☐ STATE SURVEY ☐ OTHER _____ LEVEL OF SURVEY: ☐ R ☐ I
- ASSOCIATED INVENTORY NUMBERS: _____

MHPC USE ONLY

INVENTORY NO. _____

MAINE HISTORIC PRESERVATION COMMISSION **Historic Building/Structure Survey Form**

1. PROPERTY NAME (HISTORIC): _____
2. PROPERTY NAME (OTHER): Building 1
3. STREET ADDRESS: 986 Portland Rd
4. TOWN: Saco
5. COUNTY: York
6. DATE RECORDED: _____
7. SURVEYOR: _____
8. OWNER NAME: Sherry Mitchell & Pamela Consiglio
- ADDRESS: 115 US RT 2 South, Alburgh, VT 05440
9. PRIMARY USE (PRESENT):
- | | | | |
|---|---------------------------------------|--|--------------------------------------|
| <input checked="" type="checkbox"/> SINGLE FAMILY | <input type="checkbox"/> AGRICULTURE | <input type="checkbox"/> COMMERCIAL/TRADE | <input type="checkbox"/> FUNERARY |
| <input checked="" type="checkbox"/> MULTI-FAMILY | <input type="checkbox"/> GOVERNMENTAL | <input type="checkbox"/> EDUCATION | <input type="checkbox"/> HEALTH CARE |
| <input type="checkbox"/> INDUSTRY | <input type="checkbox"/> RELIGIOUS | <input type="checkbox"/> HOTEL | <input type="checkbox"/> LANDSCAPE |
| <input type="checkbox"/> TRANSPORTATION | <input type="checkbox"/> DEFENSE | <input type="checkbox"/> SUMMER COTTAGE/CAMP | <input type="checkbox"/> SOCIAL |
| <input type="checkbox"/> RECREATION/CULTURE | <input type="checkbox"/> UNKNOWN | | |
| <input type="checkbox"/> OTHER _____ | | | |
10. CONDITION: ☐ GOOD ☐ FAIR ☒ POOR ☐ DESTROYED, DATE / /

ARCHITECTURAL DATA

11. PRIMARY STYLISTIC CATEGORY:
- | | | | |
|---|---|---|--|
| <input type="checkbox"/> COLONIAL | <input type="checkbox"/> STICK STYLE | <input type="checkbox"/> NEO-CLASSICAL REV. | <input type="checkbox"/> FOUR SQUARE |
| <input type="checkbox"/> FEDERAL | <input type="checkbox"/> QUEEN ANNE | <input type="checkbox"/> RENAISSANCE REV. | <input type="checkbox"/> ART DECO |
| <input type="checkbox"/> GREEK REVIVAL | <input type="checkbox"/> SHINGLE STYLE | <input type="checkbox"/> 19TH/20TH C. REVIVAL | <input type="checkbox"/> INTERNATIONAL |
| <input type="checkbox"/> GOTHIC REVIVAL | <input type="checkbox"/> R. ROMANESQUE | <input type="checkbox"/> ARTS & CRAFTS | <input type="checkbox"/> RANCH |
| <input type="checkbox"/> ITALIANATE | <input type="checkbox"/> ROMANESQUE | <input type="checkbox"/> BUNGALOW | <input type="checkbox"/> VERNACULAR |
| <input type="checkbox"/> SECOND EMPIRE | <input type="checkbox"/> HIGH VIC. GOTHIC | <input type="checkbox"/> OTHER _____ | |
12. OTHER STYLISTIC CATEGORY:
- | | | | |
|---|---|---|--|
| <input type="checkbox"/> COLONIAL | <input type="checkbox"/> STICK STYLE | <input type="checkbox"/> NEO-CLASSICAL REV. | <input type="checkbox"/> FOUR SQUARE |
| <input type="checkbox"/> FEDERAL | <input type="checkbox"/> QUEEN ANNE | <input type="checkbox"/> RENAISSANCE REV. | <input type="checkbox"/> ART DECO |
| <input type="checkbox"/> GREEK REVIVAL | <input type="checkbox"/> SHINGLE STYLE | <input type="checkbox"/> 19TH/20TH C. REVIVAL | <input type="checkbox"/> INTERNATIONAL |
| <input type="checkbox"/> GOTHIC REVIVAL | <input type="checkbox"/> R. ROMANESQUE | <input type="checkbox"/> ARTS & CRAFTS | <input type="checkbox"/> RANCH |
| <input type="checkbox"/> ITALIANATE | <input type="checkbox"/> ROMANESQUE | <input type="checkbox"/> BUNGALOW | <input type="checkbox"/> VERNACULAR |
| <input type="checkbox"/> SECOND EMPIRE | <input type="checkbox"/> HIGH VIC. GOTHIC | <input type="checkbox"/> OTHER _____ | |
13. HEIGHT: ☐ 1 STORY ☐ 1 1/2 STORY ☒ 2 STORY ☐ 2 1/2 STORY ☐ 3 STORY ☐ 4 STORY ☐ 5 STORY ☐ OVER 5 ()
14. PRIMARY FACADE WIDTH (MAIN BLOCK; USE GROUND FLOOR): ☐ 1 BAY ☐ 2 BAY ☐ 3 BAY ☐ 4 BAY ☐ 5 BAY ☐ MORE THAN 5 ()
15. APPENDAGES: ☐ SIDE ELL ☒ REAR ELL ☐ FRONT ☐ ADDED STORIES ☐ SHED
- ☐ DORMERS ☐ PORCH ☐ TOWER ☐ CUPOLA ☐ BAY WINDOW

PHOTOGRAPH:



16. PORCH: ☐ ATTACHED ☐ ENGAGED ☐ ONE STORY ☐ MORE THAN ONE STORY
☐ FULL WIDTH ☐ WRAPAROUND ☐ SLEEPING PORCH ☐ SECONDARY PORCH
17. PLAN: ☐ HALL AND PARLOR ☐ 1/2 CAPE ☐ CENTRAL HALL ☐ SIDE HALL
☐ BACK HALL ☐ IRREGULAR ☐ OTHER _____
18. PRIMARY STRUCTURAL SYSTEM: ☐ TIMBER FRAME ☐ BRACED FRAME ☐ BRICK ☐ STONE ☐ BALLOON FRAME
☐ CONCRETE ☐ STEEL ☐ LOG ☐ PLANK WALL ☐ PLATFORM FRAME
☐ FRAME CONSTRUCTION - TYPE UNKNOWN ☐ OTHER _____
19. CHIMNEY PLACEMENT: ☐ INTERIOR ☒ INTERIOR FRONT/REAR ☐ CENTER ☐ INTERIOR END ☒ EXTERIOR
☐ OTHER _____
20. ROOF CONFIGURATION: ☒ GABLE SIDE ☐ GABLE FRONT ☐ HIP ☐ MANSARD ☐ FLAT
☐ GAMBREL ☐ PARAPET GABLE ☐ SHED ☐ CROSS ☐ GABLE
☐ COMPOUND ☐ OTHER _____
21. ROOF MATERIAL: WOOD ☐ METAL ☐ TILE ☐ SLATE ☐ ASPHALT ☒ ASBESTOS ☐
22. EXTERIOR WALL MATERIALS: ☒ CLAPBOARD ☐ BRICK ☐ FLUSH SHEATHING ☐ WOOD SHINGLE ☐ STONE
☐ LOG ☐ PRESSED METAL ☐ CONCRETE ☐ STUCCO ☐ ASPHALT
☐ GRANITE ☐ ASBESTOS ☐ TERRA COTTA ☐ BOARD AND BATTEN ☐ ALUMINUM/VINYL
☐ OTHER _____
23. FOUNDATION MATERIAL: ☐ FIELDSTONE ☒ BRICK ☐ WOOD ☐ CONCRETE ☐ GRANITE ☐ ORNAMENTAL CONC. BLOCK
☐ OTHER _____
24. OUTBUILDINGS/FEATURES: ☐ CARRIAGE HOUSE ☐ FENCE OR WALL ☐ CEMETERY ☐ BARN (CONNECTED)
☐ BARN (DETACHED) ☐ FORMAL GARDEN ☐ LANDSCAPE/PLANT MAT. ☐ ARCHAEOLOGICAL SITE
☐ GARAGE ☐ OTHER _____

HISTORICAL DATA

25. DOCUMENTED DATE OF CONSTRUCTION: _____ 26. ESTIMATED DATE OF CONSTRUCTION: 1900
27. DATE MAJOR ADDITIONS/ALTERATIONS: _____
28. ARCHITECT: _____ 29. CONTRACTOR: _____
30. ORIGINAL OWNER: _____
31. SUBSEQUENT SIGNIFICANT OWNER: _____ DATES: _____
32. CULTURAL/ETHNIC AFFILIATION: ☐ ENGLISH ☐ FRENCH ACADIAN ☐ NATIVE AMERICAN ☐ SCOTTISH ☐ FRENCH CANADIAN
☐ EAST EUROPEAN ☐ IRISH ☐ OTHER _____
33. HISTORIC CONTEXT(S): ☐ COMMERCE ☐ INDUSTRY ☐ TRANSPORTATION ☐ AGRICULTURE ☐ MILITARY
☐ RELIGION ☐ CIVIC AFFAIRS ☐ RECREATION ☐ HABITATION ☐ EDUCATION
☐ ART, LIT, SCIENCE ☐ SOCIAL _____
34. COMMENTS/SOURCES: _____

35. HISTORICAL DRAWINGS EXIST: ☐ YES ☐ NO LOCATION: _____

ENVIRONMENTAL DATA

36. SITE INTEGRITY: ☐ ORIGINAL ☐ MOVED DATE MOVED _____
37. SETTING: ☐ RURAL/UNDISTURBED ☐ RURAL/BUILT UP ☐ SMALL TOWN ☐ URBAN ☐ SUBURBAN
38. QUADRANGLE MAP USED: _____ QUADRANGLE #: _____
39. UTM NORTHING: _____ 40. UTM EASTING: _____
41. FACADE DIRECTION (CIRCLE ONE): ☐ N ☐ S ☐ E ☐ W ☐ NE ☐ NW ☐ SE ☐ SW

=====

MHPC USE ONLY

- DATE ENTERED IN INVENTORY: _____ PHOTO FILE #: _____
- NR STATUS: L ☐ HD ☐ E ☐ NE ☐ ND ☐ REVIEWER _____
- DATA SOURCE: ☐ HPF ☐ CLG ☐ R&C ☐ STAFF ☐ STATE SURVEY ☐ OTHER _____ LEVEL OF SURVEY: ☐ R ☐ I
- ASSOCIATED INVENTORY NUMBERS: _____

MHPC USE ONLY

INVENTORY NO. _____

MAINE HISTORIC PRESERVATION COMMISSION **Historic Building/Structure Survey Form**

1. PROPERTY NAME (HISTORIC): _____
2. PROPERTY NAME (OTHER): Building 2
3. STREET ADDRESS: 986 Portland Rd
4. TOWN: Saco 5. COUNTY: York
6. DATE RECORDED: _____ 7. SURVEYOR: _____
8. OWNER NAME: Sherry Mitchell & Pamela Consiglio ADDRESS: 115 US RT 2 South, Alburgh, VT 05440
9. PRIMARY USE (PRESENT):
- | | | | |
|---|---------------------------------------|--|--------------------------------------|
| <input checked="" type="checkbox"/> SINGLE FAMILY | <input type="checkbox"/> AGRICULTURE | <input type="checkbox"/> COMMERCIAL/TRADE | <input type="checkbox"/> FUNERARY |
| <input checked="" type="checkbox"/> MULTI-FAMILY | <input type="checkbox"/> GOVERNMENTAL | <input type="checkbox"/> EDUCATION | <input type="checkbox"/> HEALTH CARE |
| <input type="checkbox"/> INDUSTRY | <input type="checkbox"/> RELIGIOUS | <input type="checkbox"/> HOTEL | <input type="checkbox"/> LANDSCAPE |
| <input type="checkbox"/> TRANSPORTATION | <input type="checkbox"/> DEFENSE | <input type="checkbox"/> SUMMER COTTAGE/CAMP | <input type="checkbox"/> SOCIAL |
| <input type="checkbox"/> RECREATION/CULTURE | <input type="checkbox"/> UNKNOWN | | |
| <input type="checkbox"/> OTHER _____ | | | |
10. CONDITION: ☐ GOOD ☐ FAIR ☒ POOR ☐ DESTROYED, DATE / /

ARCHITECTURAL DATA

11. PRIMARY STYLISTIC CATEGORY:
- | | | | |
|---|---|---|--|
| <input type="checkbox"/> COLONIAL | <input type="checkbox"/> STICK STYLE | <input type="checkbox"/> NEO-CLASSICAL REV. | <input type="checkbox"/> FOUR SQUARE |
| <input type="checkbox"/> FEDERAL | <input type="checkbox"/> QUEEN ANNE | <input type="checkbox"/> RENAISSANCE REV. | <input type="checkbox"/> ART DECO |
| <input type="checkbox"/> GREEK REVIVAL | <input type="checkbox"/> SHINGLE STYLE | <input type="checkbox"/> 19TH/20TH C. REVIVAL | <input type="checkbox"/> INTERNATIONAL |
| <input type="checkbox"/> GOTHIC REVIVAL | <input type="checkbox"/> R. ROMANESQUE | <input type="checkbox"/> ARTS & CRAFTS | <input type="checkbox"/> RANCH |
| <input type="checkbox"/> ITALIANATE | <input type="checkbox"/> ROMANESQUE | <input type="checkbox"/> BUNGALOW | <input type="checkbox"/> VERNACULAR |
| <input type="checkbox"/> SECOND EMPIRE | <input type="checkbox"/> HIGH VIC. GOTHIC | <input type="checkbox"/> OTHER _____ | |
12. OTHER STYLISTIC CATEGORY:
- | | | | |
|---|---|---|--|
| <input type="checkbox"/> COLONIAL | <input type="checkbox"/> STICK STYLE | <input type="checkbox"/> NEO-CLASSICAL REV. | <input type="checkbox"/> FOUR SQUARE |
| <input type="checkbox"/> FEDERAL | <input type="checkbox"/> QUEEN ANNE | <input type="checkbox"/> RENAISSANCE REV. | <input type="checkbox"/> ART DECO |
| <input type="checkbox"/> GREEK REVIVAL | <input type="checkbox"/> SHINGLE STYLE | <input type="checkbox"/> 19TH/20TH C. REVIVAL | <input type="checkbox"/> INTERNATIONAL |
| <input type="checkbox"/> GOTHIC REVIVAL | <input type="checkbox"/> R. ROMANESQUE | <input type="checkbox"/> ARTS & CRAFTS | <input type="checkbox"/> RANCH |
| <input type="checkbox"/> ITALIANATE | <input type="checkbox"/> ROMANESQUE | <input type="checkbox"/> BUNGALOW | <input type="checkbox"/> VERNACULAR |
| <input type="checkbox"/> SECOND EMPIRE | <input type="checkbox"/> HIGH VIC. GOTHIC | <input type="checkbox"/> OTHER _____ | |
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☐ 5 STORY ☐ OVER 5 ()
14. PRIMARY FACADE WIDTH (MAIN BLOCK; USE GROUND FLOOR):
☐ 1 BAY ☐ 2 BAY ☐ 3 BAY ☐ 4 BAY ☐ 5 BAY ☐ MORE THAN 5 ()
15. APPENDAGES: ☐ SIDE ELL ☐ REAR ELL ☐ FRONT ☐ ADDED STORIES ☐ SHED
☐ DORMERS ☐ PORCH ☐ TOWER ☐ CUPOLA ☐ BAY WINDOW

PHOTOGRAPH:



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☐ FULL WIDTH ☐ WRAPAROUND ☐ SLEEPING PORCH ☐ SECONDARY PORCH
17. PLAN: ☐ HALL AND PARLOR ☐ 1/2 CAPE ☐ CENTRAL HALL ☐ SIDE HALL
☐ BACK HALL ☐ IRREGULAR ☐ OTHER _____
18. PRIMARY STRUCTURAL SYSTEM: ☐ TIMBER FRAME ☐ BRACED FRAME ☐ BRICK ☐ STONE ☐ BALLOON FRAME
☐ CONCRETE ☐ STEEL ☐ LOG ☐ PLANK WALL ☐ PLATFORM FRAME
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22. EXTERIOR WALL MATERIALS: ☒ CLAPBOARD ☐ BRICK ☐ FLUSH SHEATHING ☐ WOOD SHINGLE ☐ STONE
☐ LOG ☐ PRESSED METAL ☐ CONCRETE ☐ STUCCO ☐ ASPHALT
☐ GRANITE ☐ ASBESTOS ☐ TERRA COTTA ☐ BOARD AND BATTEN ☐ ALUMINUM/VINYL
☐ OTHER _____
23. FOUNDATION MATERIAL: ☐ FIELDSTONE ☐ BRICK ☐ WOOD ☐ CONCRETE ☐ GRANITE ☐ ORNAMENTAL CONC. BLOCK
☐ OTHER _____
24. OUTBUILDINGS/FEATURES: ☐ CARRIAGE HOUSE ☐ FENCE OR WALL ☐ CEMETERY ☐ BARN (CONNECTED)
☐ BARN (DETACHED) ☐ FORMAL GARDEN ☐ LANDSCAPE/PLANT MAT. ☐ ARCHAEOLOGICAL SITE
☐ GARAGE ☐ OTHER _____

HISTORICAL DATA

25. DOCUMENTED DATE OF CONSTRUCTION: _____ 26. ESTIMATED DATE OF CONSTRUCTION: 1971
27. DATE MAJOR ADDITIONS/ALTERATIONS: _____
28. ARCHITECT: _____ 29. CONTRACTOR: _____
30. ORIGINAL OWNER: _____
31. SUBSEQUENT SIGNIFICANT OWNER: _____ DATES: _____
32. CULTURAL/ETHNIC AFFILIATION: ☐ ENGLISH ☐ FRENCH ACADIAN ☐ NATIVE AMERICAN ☐ SCOTTISH ☐ FRENCH CANADIAN
☐ EAST EUROPEAN ☐ IRISH ☐ OTHER _____
33. HISTORIC CONTEXT(S): ☐ COMMERCE ☐ INDUSTRY ☐ TRANSPORTATION ☐ AGRICULTURE ☐ MILITARY
☐ RELIGION ☐ CIVIC AFFAIRS ☐ RECREATION ☐ HABITATION ☐ EDUCATION
☐ ART, LIT, SCIENCE ☐ SOCIAL _____
34. COMMENTS/SOURCES: _____

35. HISTORICAL DRAWINGS EXIST: ☐ YES ☐ NO LOCATION: _____

ENVIRONMENTAL DATA

36. SITE INTEGRITY: ☐ ORIGINAL ☐ MOVED DATE MOVED _____
37. SETTING: ☐ RURAL/UNDISTURBED ☐ RURAL/BUILT UP ☐ SMALL TOWN ☐ URBAN ☐ SUBURBAN
38. QUADRANGLE MAP USED: _____ QUADRANGLE #: _____
39. UTM NORTHING: _____ 40. UTM EASTING: _____
41. FACADE DIRECTION (CIRCLE ONE): ☐ N ☐ S ☐ E ☐ W ☐ NE ☐ NW ☐ SE ☐ SW

=====

MHPC USE ONLY

- DATE ENTERED IN INVENTORY: _____ PHOTO FILE #: _____
- NR STATUS: L ☐ HD ☐ E ☐ NE ☐ ND ☐ REVIEWER _____
- DATA SOURCE: ☐ HPF ☐ CLG ☐ R&C ☐ STAFF ☐ STATE SURVEY ☐ OTHER _____ LEVEL OF SURVEY: ☐ R ☐ I
- ASSOCIATED INVENTORY NUMBERS: _____



JANET T. MILLS
GOVERNOR

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

KIRK F. MOHNEY
DIRECTOR

June 10, 2021

Mr. Tim Michaud
Terradyn Consultants LLC
565 Congress Street
Suite 201
Portland, ME 04101

Project: MHPC #0251-21 Clover Leaf Development, LLC; 989 Portland Road
120 Unit Apartment Complex
Town: Saco, ME

Dear Mr. Michaud:

In response to your recent request, I have reviewed the information received May 24, 2021 to continue consultation on the above referenced project in accordance with the requirements of the Maine Department of Environmental Protection.

Based on the information submitted, I have concluded that there will be no historic properties (archaeological or architectural) affected by the proposed undertaking, as defined by Section 106 of the National Historic Preservation Act.

Please contact Megan Rideout at (207) 287-2992 or megan.m.rideout@maine.gov if we can be of further assistance in this matter.

Sincerely,

Kirk F. Mohney
State Historic Preservation Officer

Section 9 - Unusual Natural Areas

The Department of Agriculture, Conservation & Forestry was contacted regarding the presence of rare vascular plants, natural communities, registered critical areas, or other natural features of special concern on the property or in the immediate vicinity. We have attached the February 25, 2021 letter and supporting documents from the Department that states that there are no known rare botanical features documented specifically within the project area.

**Pineland**

Cumberland Hall
41 Campus Drive, Suite 101
New Gloucester, ME 04260

Portland

565 Congress Street, Suite 201
Portland, ME 04101

February 8, 2021

2104

Lisa St. Hilaire, Information Manager
Maine Natural Areas Program
Department of Agriculture, Conservation and Forestry
93 State House Station
Augusta, ME 04333

REQUEST FOR PROJECT REVIEW
Clover Leaf Development
989 Portland Road, Saco, ME

Dear Lisa:

Terradyn Consultants, LLC has been retained by Clover Leaf Development, LLC, to prepare civil-site plans and permit applications for a proposed 120-unit apartment complex to be located at 989 Portland Road (Route 1) in Saco, Maine. Attached is an excerpt of the USGS topographic map for the project site.

The development will cover approximately 10 acres of the 67-acre property. The forested site is located immediately north of the Aquaboggan Waterpark. The property is shown as Lot 3-1 on the City of Saco Tax Map 63. The property is located within the MU-3 zone but will soon be reclassified to the Portland Road District.

The development will consist of the creation of ten 12-unit apartment buildings to be accessed off Route 1 by approximately 1000 feet of proposed new road. Each building will 3,500 SF (50'x70') and three stories tall. The applicant also proposes to create an out-parcel along the Portland Road frontage. The out-parcel will be approximately 1.2 acres. The site is served by City water & sewer. Main lines are located within the Portland Road right of way along the site frontage. A boundary and topographic survey is being prepared by Owen Haskell, Professional Land Surveyors. Site wetlands were delineated by Mark Hampton, C.S.S. of Mark Hampton & Associates.

We anticipate that the apartment complex and outparcel will drain to the rear of the development, where a gravel wetland will be constructed. Roof drain filter strips will be installed along the edge of each building in an effort to both encourage infiltration opportunities of stormwater runoff and to reduce the size of the stormwater pond. The project will result in approximately 3.5 acres of new impervious area. This means that the project will require a Maine DEP Site Location of Development Permit. There is wetland area located near the midpoint of the development area. This wetland is proposed to be filled. This activity will require a Tier 2 wetland alteration permit.

We are requesting that the Program review available information to determine if the project will have an impact on historic structures or archaeological resources. The information will be provided to the Maine DEP as part of the Site Location of Development application process.

Please notify me if you have any questions or require additional information to complete your review.

Sincerely,

TERRADYN CONSULTANTS, LLC



Tim Michaud
Project Engineer

Enc. - USGS Topographic Map



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

February 25, 2021

Timothy Michaud
Terradyn Consultants
565 Congress Street, Suite 201
Portland, ME 04101

Via email: tim@terradyconsultants.com

Re: Rare and exemplary botanical features in proximity to: #21-04, Clover Leaf Apartment Complex, 989 Portland Road, Saco, Maine

Dear Mr. Michaud:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received February 10, 2021 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Saco, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. MNAP recommends that you have the site surveyed by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

In particular, MNAP recommends that you survey the project area for Hollow Joe-pye Weed (*Eutrochium fistulosum*). There is a population located within about half a mile of the site along Cascade Brook, and it appears that suitable habitat may be present at the project site. Hollow Joe-pye Weed is a species of moist areas in uplands and wetlands, and MNAP recommends survey along the tributary to Stuart Brook and low wet areas on the site. Hollow Joe-pye Weed is most easily identified mid-July through mid-September.

Feature	State Status	State Rank	Global Rank	Notes
Hollow Joe-pye Weed <i>Eutrochium fistulosum</i>	SC	S2	G5?	Cascade Brook

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Lisa St. Hilaire

Lisa St. Hilaire | Information Manager | Maine Natural Areas Program
207-287-8044 | lisa.st.hilaire@maine.gov

shoulder work.

Credits



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Information

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- [Site Policies](#)
- [Accessibility](#)
- [Comments/Questions](#)
- [Jobs @ DACE](#)
- [Grants & Loans](#)
- [Educational Resources](#)

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- [Volunteer](#)
- [Specialty License Plates](#)
- [Outdoor Heritage Fund
Lottery Ticket](#)
- [Donations & More](#)

Contact

Department of Agriculture,
Conservation and Forestry
22 State House Station
18 Elkins Lane
Augusta, ME 04333
More [Locations](#)

Phone: (207) 287-3200
Fax: (207) 287-2400
TTY Users Call Maine Relay
711
DACE@Maine.gov

Rare and Exemplary Botanical Features within 4 miles of Project: #21-04, Clover Leaf Apartment Complex, 989 Portland Road, Saco, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Atlantic White Cedar						
	SC	S2	G4	2017-07-26	3	Forested wetland
Atlantic White Cedar Bog						
	<null>	S1	G3G4	2017-07-26	3	Forested wetland
Beach Plum						
	E	S1	G4	1903-07-31	17	Rocky coastal (non-forested, upland)
	E	S1	G4	1932-09	12	Rocky coastal (non-forested, upland)
	E	S1	G4	1933-06-21	9	Rocky coastal (non-forested, upland)
	E	S1	G4	1933-05-19	10	Rocky coastal (non-forested, upland)
	E	S1	G4	1999-05-25	18	Rocky coastal (non-forested, upland)
Beach wormwood						
	SC	S1S2	G5T5	2010-11-09	5	<null>
Butterfly Weed						
	PE	SX	G5	1986	1	Dry barrens (partly forested, upland)
Button Sedge						
	SC	S2	G5	2017-07-26	5	<null>
Clothed Sedge						
	E	S1	G5	2006-06-07	7	Dry barrens (partly forested, upland)
	E	S1	G5	2006-06-16	8	Dry barrens (partly forested, upland)
Creeping Spike-moss						
	E	S2	G5	1920-07-30	6	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
	E	S2	G5	1924-08-21	8	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)

Rare and Exemplary Botanical Features within 4 miles of Project: #21-04, Clover Leaf Apartment Complex, 989 Portland Road, Saco, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Dioecious Sedge	E	S2	G5	1989-08-14	2	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
Dwarf Glasswort	SC	S3	G4G5	1936-07-14	7	Non-tidal rivershore (non-forested, seasonally wet), Open wetland, not coastal nor rivershore (non-forested, wetland)
Hollow Joe-pye Weed	SC	S1	G5	1981-09-16	2	Tidal wetland (non-forested, wetland)
	SC	S1	G5	2006-06-21	4	Tidal wetland (non-forested, wetland)
Horned Pondweed	SC	S2	G5?	1989-08-14	2	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5?	2013-09-01	23	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5?	1989-08-14	4	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5?	1989-08-21	1	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
	SC	S2	G5?	1989-08-22	3	Open wetland, not coastal nor rivershore (non-forested, wetland), Old field/roadside (non-forested, wetland or upland)
Long's Bulrush	SC	S2	G5	1907-08-18	10	Tidal wetland (non-forested, wetland)
	SC	S2	G5	1972-06-13	3	Tidal wetland (non-forested, wetland)
Long-spined Sandbur	T	S2	G3	2017-07-26	10	Open wetland, not coastal nor rivershore (non-forested, wetland)
Parker's Pipewort	PE	SH	G5	1984	1	Rocky coastal (non-forested, upland)
	SC	S3	G3	1924-08-20	8	Tidal wetland (non-forested, wetland)

Rare and Exemplary Botanical Features within 4 miles of Project: #21-04, Clover Leaf Apartment Complex, 989 Portland Road, Saco, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Pitch Pine Bog						
	<null>	S2	G3G5	2017-07-26	4	Forested wetland, Coastal non-tidal wetland (non-forested, wetland)
	<null>	S2	G3G5	2006-06-21	3	Forested wetland, Coastal non-tidal wetland (non-forested, wetland)
Raised Level Bog Ecosystem						
	<null>	S4	GNR	2017-07-26	3	Forested wetland, Open wetland, not coastal nor rivershore (non-forested, wetland)
Salt-hay Saltmarsh						
	<null>	S3	G5	2010-07-16	14	Tidal wetland (non-forested, wetland)
	<null>	S3	G5	2010-10-14	12	Tidal wetland (non-forested, wetland)
Saltmarsh False-foxglove						
	SC	S3	G5	1982	12	Tidal wetland (non-forested, wetland)
	SC	S3	G5	2008-07-02	1	Tidal wetland (non-forested, wetland)
Smooth Winterberry Holly						
	SC	S3	G5	1979	13	Forested wetland
	SC	S3	G5	2018-09-15	24	Forested wetland
Tidal Marsh Estuary Ecosystem						
	<null>	S3	GNR	2010-07-16	6	Tidal wetland (non-forested, wetland)
	<null>	S3	GNR	2010-10-14	4	Tidal wetland (non-forested, wetland)
Water-plantain Spearwort						
	PE	SH	G4	1862-08	3	Open water (non-forested, wetland)
Wild Ginger						
	T	S1S2	G5	1986	4	Hardwood to mixed forest (forest, upland)

STATE RARITY RANKS

- S1** Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.
- S2** Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- S3** Rare in Maine (20-100 occurrences).
- S4** Apparently secure in Maine.
- S5** Demonstrably secure in Maine.
- SU** Under consideration for assigning rarity status; more information needed on threats or distribution.
- SNR** Not yet ranked.
- SNA** Rank not applicable.
- S#?** Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

- G1** Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.
- G2** Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.
- G3** Globally rare (20-100 occurrences).
- G4** Apparently secure globally.
- G5** Demonstrably secure globally.
- GNR** Not yet ranked.

Note: **Global Ranks** are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

- E** ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.
- T** THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

- SC** SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.
- PE** Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size**: Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition**: For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context**: Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
<http://www.maine.gov/dacf/mnap>

Section 10 - Buffers

The development is confined to approximately 10 acres of a 65.8 acre parcel. The apartment complex will be located in the area that is closest to Portland Road.

The development plan features a significant amount of landscaping. Our entrance driveway is adjacent to the Aquaboggin Water Park on the southern edge of the property. That driveway will be lined with street trees on both sides. The street trees will provide a new visual screen between the Aquaboggin site and the apartments.

A 25'-50' buffer of existing landscaping will be preserved on the north side of the development area. There is a house located very close to the front setback of Portland Road. Other than that, the rest of the northern edge of the property adjacent to the development is forest.

The remaining 55 acres of the property will remain undeveloped.

See the plans for buffer and limits of proposed disturbance.

Section 11 - Soils

Mark Hampton, CSS of Mark Hampton Associates, Inc completed a Class "B" High Intensity Soils Survey for the project area. A copy of the report and related soil map has been included with this submission. Mark also performed the wetland delineation for this property.



MARK HAMPTON ASSOCIATES, INC.

SOIL EVALUATION • WETLAND DELINEATIONS • SOIL SURVEYS • WETLAND PERMITTING

6434

Cloverleaf Development
Route 1
Saco, ME
Cloverleaf Development, LLC

Soil Narrative Report

DATE: Soil Profiles observed on May 17, 2021

BASE MAP: Base plan provided by Terradyn Consultants LLC scale 1 inch equals 40 feet and one foot contours.

GROUND CONTROL: Soil survey boundaries located by Mark Hampton Associates, Inc. for Class B Soil Survey

Class B-High Intensity Soil Survey (Minimum Standards)

Mapping units of 1 acre or less.
Scale of 1"= 200 feet or larger.
Up to 25% inclusions in mapping units of which no more than 15% may be dissimilar soils.
Ground Control – test pits located by means of compass by chaining, pacing or taping from known control points
Base Map –2 foot contour intervals

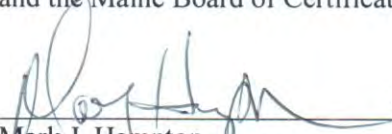
Provided:

Mapping units of 1 acre or less
Base map scale of 1"= 40 feet.
Up to 25 percent inclusions in mapping units of which no more than 15 percent is dissimilar soils.
Baseline information and test pits located by gps equipment with accuracy to less than 3 feet.
Ground topographic survey with one foot contours and ground control provided.

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The accompanying soil profile descriptions, soil map, and this soil narrative report were done in accordance with the standards adopted by the Maine Association of Professional Soil Scientists and the Maine Board of Certification of Geologists and Soil Scientists.


Mark J. Hampton

C.S.S. #216, L.S.E. #263

5/17/14

Date





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6434

Cloverleaf Development
Route 1
Saco, ME
Cloverleaf Development, LLC

Adams
(Typic Haplorthods)

SETTING

PARENT MATERIAL:	Derived from glacial-fluvial, glacio-lacustrine sand.
LANDFORM:	Outwash plains, deltas, and terraces
POSITION IN LANDSCAPE:	Sidehill, shoulders and plains
SLOPE GRADIENT RANGES:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS:	Well drained. Depth to seasonal high watertable greater than 4 feet throughout the year.
-----------------	--

TYPICAL PROFILE:	<u>Surface Layer:</u> Dark Brown loamy sand, 0-8"
	<u>Subsurface Layer:</u> Red Brown loamy sand, 8-20"
	<u>Subsoil Layer:</u> Yellow-brown loamy sand, 20-30"
	<u>Substratum:</u> Gray-brown sand, 30-72"

HYDROLOGIC GROUP:	Group A
SURFACE RUNOFF:	Very slow to medium
PERMEABILITY:	Rapid or very rapid
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

INCLUSIONS

(Within Mapping Unit)

CONTRASTING:	Croghan, Made Land, Elmwood
--------------	-----------------------------

USE AND MANAGEMENT

DEVELOPEMENT:	There are no limiting factors for building site development.
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6434

Cloverleaf Development
Route 1
Saco, Me
Cloverleaf Development, LLC

Elmwood
(Dystic Eutrochrepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(A) 0-3%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS:	Moderately well drained with a perched watertable from 1.5 to 3.0 feet below the surface at some time from November to May or during periods of heavy precipitation.	
TYPICAL PROFILE:	<u>Surface Layer:</u>	Dark Brown, fine loamy sand 0-9"
	<u>Subsurface Layer:</u>	Olive brown loamy sand, 8-22"
	<u>Subsoil Layer:</u>	Olive silty clay loam, 22-65"
HYDROLOGIC GROUP:	Group C	
SURFACE RUNOFF:	Moderate to moderately slow	
PERMEABILITY:	Slow to very slow	
DEPTH TO BEDROCK:	Greater than 65 inches	
HAZARD TO FLOODING:	None	



INCLUSIONS

(Within Mapping Unit)

CONTRASTING:	Scantic, Made-Land, Adams
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USE AND MANAGEMENT

DEVELOPMENT: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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Cloverleaf Development
Route 1
Saco, ME
Cloverleaf Development, LLC

Man Made Land

SETTING

PARENT MATERIAL:	Derived from various materials found onsite and offsite.
LANDFORM:	N/A
POSITION IN LANDSCAPE:	N/A
SLOPE GRADIENT RANGES:	(A) 0-3%, (B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS:	Generally moderately well to somewhat poorly drained but varies.
TYPICAL PROFILE:	Varies in profile and onsite from sand to silty loam
HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Usually very slow due to compaction
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 65 inches
HAZARD TO FLOODING:	None

INCLUSIONS

(Within Mapping Unit)

CONTRASTING:	Adams, Elmwood
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USE AND MANAGEMENT

Development:	There may be limiting factors for building site development.
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6434

Cloverleaf Development
Route 1
Saco, ME
Cloverleaf Development, LLC

Buxton
(Aquic Dystric Eutrochrepts)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Intermediate positions on landform
SLOPE GRADIENT RANGES:	(B) 3-8 %

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS:	Moderately well drained with a perched watertable from 1.5 to 3.0 feet below the surface at some time from November to May or during periods of heavy precipitation.
-----------------	--

TYPICAL PROFILE:	<u>Surface Layer:</u>	Dark Brown, fine sandy loam 0-7"
	<u>Subsurface Layer:</u>	Olive brown, silt loam, 8-15"
	<u>Subsoil Layer:</u>	Olive gray silty clay loam, 15-32"
	<u>Substratum:</u>	Gray silty clay loam +32"

HYDROLOGIC GROUP:	Group C
SURFACE RUNOFF:	Moderate to moderately slow
PERMEABILITY:	Slow to very slow
DEPTH TO BEDROCK:	Greater than 60 inches
HAZARD TO FLOODING:	None

INCLUSIONS (Within Mapping Unit)

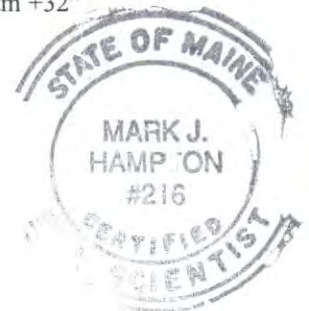
CONTRASTING:	Scantic, Elmwood, Made-Land
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USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.

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6434

Cloverleaf Development
Route 1
Saco, ME
Cloverleaf Development, LLC

Scantic
(Aquic Haplorthod)

SETTING

PARENT MATERIAL:	Derived from glaciomarine or glaciolaucustrine sediments
LANDFORM:	Coastal lowlands and river valleys
POSITION IN LANDSCAPE:	Lower positions on landform
SLOPE GRADIENT RANGES:	(B) 3-8%

COMPOSITION AND SOIL CHARACTERISTICS

DRAINAGE CLASS:	Poorly drained with a perched watertable from 0.0 to 1.0 feet below the surface at some time from October to May or during periods of heavy precipitation.	
TYPICAL PROFILE:	<u>Surface Layer:</u>	Dark grayish brown, silt loam 0-9"
	<u>Subsurface Layer:</u>	Olive gray silt loam, 9-16"
	<u>Substratum:</u>	Gray silty clay loam, 16"+
HYDROLOGIC GROUP:	Group D	
SURFACE RUNOFF:	Moderate to moderately slow	
PERMEABILITY:	Slow to very slow	
DEPTH TO BEDROCK:	Greater than 65 inches	
HAZARD TO FLOODING:	None	

INCLUSIONS
(Within Mapping Unit)

CONTRASTING: Buxton, Elmwood

USE AND MANAGEMENT

Development: The limiting factor for building site development is wetness due to the presence of a high watertable for a portion of the year. Proper foundation drainage or site modification is recommended.



SOIL PROFILE / CLASSIFICATION INFORMATION**DETAILED DESCRIPTION OF
SUBSURFACE CONDITIONS AT PROJECT SITES**Project Name:
Cloverleaf DevelopmentApplicant Name:
Cloverleaf Development LLCProject Location (municipality):
SacoExploration Symbol # SS-1 ☒ Test Pit ☐ Boring ☐ Probe
____ " Organic horizon thickness Ground surface elev. ____
____ " Depth of exploration or to refusal

Texture	Consistency	Color	Redox Features
Loamy Sand	Friable	Dark Brown	
Sand	Friable	Red Brown	
			None Noted
Sand	Friable	Tan	

Soil Classification: 5 B Slope: 2 Limiting Factor: ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock
 Profile Condition Percent Depth >48 " ☐ Hydric ☒ Non-hydric Hydrologic
 Soil Series/Phase Name: Adams WD Soil Group

Exploration Symbol # SS-2 ☒ Test Pit ☐ Boring ☐ Probe
____ " Organic horizon thickness Ground surface elev. ____
____ " Depth of exploration or to refusal

Texture	Consistency	Color	Redox Features
Loamy Sand	Friable	Dark Brown	
Sand	Friable	Red Brown	
			None Noted
Sand	Friable	Tan	

Soil Classification: 5 B Slope: 2 Limiting Factor: ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock
 Profile Condition Percent Depth >48 " ☐ Hydric ☒ Non-hydric Hydrologic
 Soil Series/Phase Name: Adams WD Soil Group

Exploration Symbol # SS-3 ☒ Test Pit ☐ Boring ☐ Probe
____ " Organic horizon thickness Ground surface elev. ____
____ " Depth of exploration or to refusal

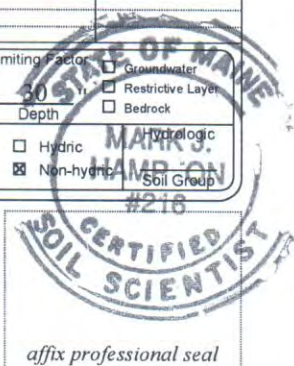
Texture	Consistency	Color	Redox Features
Loamy Sand	Friable	Dark Brown	
Varies	Friable	Red Brown	
			None Noted
Varies	Varies	Tan	

Soil Classification: 5 B Slope: 2 Limiting Factor: ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock
 Profile Condition Percent Depth >48 " ☐ Hydric ☒ Non-hydric Hydrologic
 Soil Series/Phase Name: Made Land Soil Group

Exploration Symbol # SS-4 ☒ Test Pit ☐ Boring ☐ Probe
____ " Organic horizon thickness Ground surface elev. ____
____ " Depth of exploration or to refusal

Texture	Consistency	Color	Redox Features
Loamy Sand	Friable	Dark Brown	
Sand	Friable	Red Brown	
Silty Clay Loam	Firm	Gray	
			Common and Distinct

Soil Classification: 7 C Slope: 2 Limiting Factor: ☐ Groundwater ☐ Restrictive Layer ☐ Bedrock
 Profile Condition Percent Depth >48 " ☐ Hydric ☒ Non-hydric Hydrologic
 Soil Series/Phase Name: Elmwood MWD Soil Group

INVESTIGATOR INFORMATION AND SIGNATURESignature: Mark J. Hampton
Name Printed: Mark J. HamptonDate: 5/17/2021
Cert/Lic/Reg. #: 263/216Title: ☒ Licensed Site Evaluator ☒ Certified Soil Scientist ☐ Certified Geologist ☐ Professional Engineer

affix professional seal

STORMWATER MANAGEMENT PLAN

Clover Leaf Development Saco, Maine

The following Stormwater Management Plan has been prepared for the Clover Leaf Multifamily Development to evaluate stormwater runoff and erosion control for the proposed 120 unit apartment complex to be located at 986 Portland Road in Saco, Maine.

Site Calculations

Total Property Area	65.8 Ac (+/-)
Total Project Impervious Area	3.90 Ac
Total Developed Area	6.98 Ac

Existing Conditions

The development parcel is located on the west side of Route 1 at 986 Portland Road, just north of the Aquaboggin Water Park. The property contains two single family homes that are located adjacent to Portland Road. The remainder of the property is undeveloped.

Approximately 4 acres of the 65.8 acre property drain into the Route 1 drainage system. The remainder of the site drains to a central forested wetland system which flows north to Stuart Brook. Stuart Brook ultimately runs to the Scarborough River via Cascade Brook. Copies of the U.S.G.S. Quadrangle Map and an Aerial Map are attached to this submittal. The proposed development area is limited to approximately 10 acres that are located between Portland Road and the eastern edge of the onsite wetland system. The wetland area drains to the northern property line. This location is modeled as Study Point #1 in this report. Study Point #2 represents the Portland Road drainage system.

Flooding

The development area is not located within an area of flood hazard according to the Federal Insurance Rate Map 230155 0045 D. See attached map.

Modeling Assumptions

The onsite stormwater facilities were sized utilizing the USDA Soil Conservation Service (SCS) TR-20 Runoff Simulation Model, as contained in the HydroCAD computer software program (Version 9.0). Runoff curve numbers were determined for each direct watershed by measuring the area of each hydrologic soil group within each type of land cover. Weighted curve numbers were then calculated using curve numbers for various cover types and hydrologic soil groups, assuming

“good” conditions as defined in U.S Soil Conservation Service (SCS) publications. Times of concentration and travel times were determined from site topographic maps in accordance with SCS procedures. A maximum length of 150 feet was used for sheet flow.

All of the watersheds’ peak runoff rates were analyzed for the 2, 10, and 25-year frequency, 24-hour duration storm events. A Type III rainfall distribution was applied to these storms. The rainfall amounts for York County are as follows:

Storm Frequency Precipitation (in./24 hr)	
2-year	3.3
10-year	4.9
25-year	6.2

Onsite Soils

The soils were delineated by Mark Hampton of Mark Hampton Associates. His Class B High Intensity Soil Survey is attached to this submission. Offsite soils were determined from the NRCS Web Soil Mapper. See attached NRCS Soils Map.

Water Quantity (Flooding Standard)

The following table summarizes the results of stormwater calculations for the design storm events for the project areas. Calculations and computer modeling sheets are provided with this report.

Table 1 - Stormwater Runoff Summary Table Pre-Development vs. Post-Development						
Study Point #	2Yr/24Hr (cfs)		10Yr/24Hr (cfs)		25Yr/24Hr (cfs)	
	Pre	Post	Pre	Post	Pre	Post
1	23.1	22.6	50.1	49.2	74.2	72.7
2	0.0	0.0	0.2	0.1	1.1	0.4

As the above result table shows, the post-development flow rates for the 2, 10, and 25-year/24 hour design storm events do not exceed the pre-development conditions.

Basic Standards

A site-specific Erosion & Sedimentation Control Plan has been developed for the project. Means and methods to control erosion and sedimentation during and after construction are detailed in the erosion control plan narrative and construction details, which are included directly on the project drawings for ease of reference during construction.

Requirements for inspection and maintenance of the stormwater management system are provided in the stormwater management system inspection and maintenance plan located in Attachment 6.

Housekeeping requirements are included in the Erosion & Sediment Control Narrative located on the project drawings as well as in Attachment 6. Draft buffer deed restrictions are provided in Appendix C and D.

General Standards

The General Standard requires that a project's stormwater management system includes measures that will provide pollutant removal from runoff and mitigate for the increased frequency of channels erosive flows due to runoff from smaller storms and potential temperature impacts.

Best Management Practices (BMPs) will be implemented to reduce the impacts of site development on downstream water quality. The property is located in the Scarborough River Watershed via Stuart Brook and Cascade Brook. BMP sizing calculations are shown below. t B.

Water Quality (BMP Standard)

The water quality requirements will be primarily met with the construction of a gravel wetland. A level spreader/forested buffer will treat the remainder of the development. a series of forested and meadow buffers & the construction of level lip spreaders.

New Impervious Area: The project will result in the creation of approximately 169,797 SF of impervious area. It is important to note that 34,380 SF of this figure is from the assumed future development located along Portland Road. The proposed BMPs will result in the treatment of all of the new impervious area resulting in a treatment percentage of 100%.

Percentage of Treatment of the Impervious Area =100% (95% req'd)

Project Developed Area: The project will result in the creation of approximately 304,144 SF of developed area. This figure includes 34,380 SF of impervious area and 11,460 SF of lawn area from the assumed future development to be located along Portland Road. The proposed BMPs will result in the treatment of approximately 272,876 SF of the developed area resulting in a treatment percentage of $(272,876/304,144) \times 100\% = 89.7\%$.

Percentage of Treatment of the Developed Area = 89.7% (80% required)

Housekeeping and Maintenance & Inspection guidelines are attached to this report.

BMP Sizing

Roof Dripline Filter Bed

We propose to provide treatment for the roof runoff for each of the proposed apartment buildings. The bed is required to provide volume for 1" of runoff from the contributing area and store it within a reservoir bed. The bed sizing is as follows:

Area of Watershed: = 3,300 SF

Treatment Volume Required: Area x runoff depth: 3,300 SF x 1/12 FT = 275 CF

Bed Sizing:

Porosity = 40%

Bed Length = 190'

Bed Width = 3'

Bed Depth = 1.5

Available Volume= 190' x 3' x 1.5' x 0.40 = 342 CF.

The design is adequate since the available volume exceeds the required volume. The filter strips meet the standard sizing criteria and will have a corresponding treatment factor of 0.4.

Gravel Wetland

Forebay

STAGE (FT)	AREA (SF)	STORAGE (CF)
81	680	0
82	1260	970
82.5	1550	1673

Cell #1

STAGE (FT)	AREA (SF)	STORAGE (CF)
81	3150	0
82	3983	3567
82.5	4400	5663

Cell #2

STAGE (FT)	AREA (SF)	STORAGE (CF)
81	3150	0
82	3983	3567
82.5	4400	5663

Total Pond

STAGE (FT)	AREA (SF)	STORAGE (CF)
81	6980	0
82	9227	8103
82.5	10350	12998
82.51	11000	12298
84	12900	30803
85	14100	43093

WATERSHED IMPERVIOUS AREA=	119898	SF
WATERSHED LANDSCAPED AREA=	84252	SF
REQUIRED WATER QUALITY VOLUME=	12800	CF
PROVIDED WATER QUALITY VOLUME=	12998	CF

The required water quality volume was calculated by multiplying the impervious area by 1.0" and the landscaped area by 0.4".

Level Spreader #1

The buffer contains soils that are consistent with Soil Group C. *Table 5.5 – Berm and Flow Path Length per Acre of Impervious Area* of the BMP manual shows that standard sizing for a 150' flow path at 8% max slope requires that the berm length for a forested buffer must be 75' per acre of impervious area and 25' per acre of lawn. Evaluation of the watershed shows that it contains the following:

Impervious area = 0.33 Ac (14,173 SF)

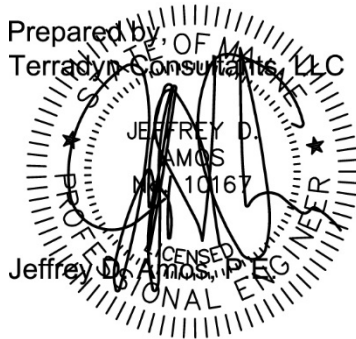
Lawn area = 0.43 Ac (18,827 SF)

Standard sizing: $75(0.33) + 25(0.43) = 24.8' + 10.8' = 35.6'$

Proposed Length: 40'

Summary

Based on the results of this evaluation, the proposed stormwater design is not expected to cause flooding, erosion or other significant adverse effects downstream of the site.



Attached:

Site Figures:

USGS Quadrangle Map

Aerial Photo

Medium Intensity Soil Map

FEMA Floodmap

Pre Development Hydrocad Calculations

Post Development Hydrocad Calculations

Pond Spillway Check – 25 Year

Pond Spillway Check – 100 Year

Pipe Sizing Calculations

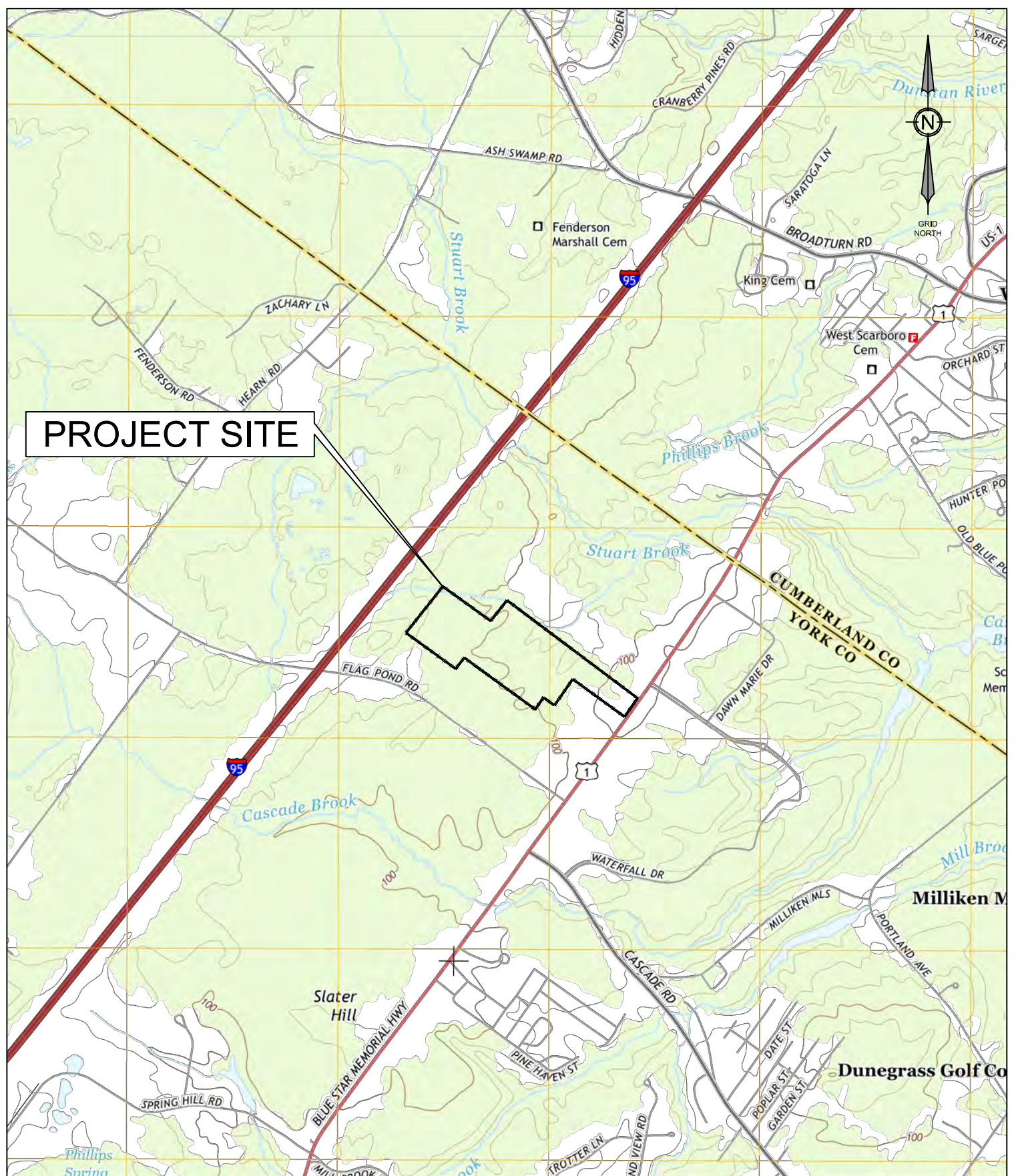
Maintenance & Inspection of Stormwater Facilities

Housekeeping Plan

Pre Development Watershed Maps

Post Development Watershed Maps

Stormwater Treatment Map



U.S.G.S. QUADRANGLE MAP

PROJECT:
CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO ME

PREPARED FOR:
CLOVER LEAF DEVELOPMENT, LLC



207.926.5111 • info@terradyndesign.com • www.terradyndesign.com

PINELAND
41 CAMPUS DRIVE, SUITE 101
NEW GLOUCESTER, ME 04260

PORTLAND
565 CONGRESS STREET, SUITE 201
PORTLAND, ME 04101

PROJECT NO.

21-04

DATE

2/9/2021

SCALE

1"=2,000'

SHEET

1

OF

1



SITE LOCATION

AERIAL MAP

PROJECT:
CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME
PREPARED FOR:
CLOVER LEAF DEVELOPMENT, LLC



207.926.5111 • info@terradyconsultants.com • www.terradyconsultants.com

PINELAND
41 CAMPUS DRIVE, SUITE 101
NEW GLOUCESTER, ME 04260

PORTLAND
565 CONGRESS STREET, SUITE 201
PORTLAND, ME 04101

PROJECT NO.

2104

DATE

2/9/2021

SCALE

1"=500'

SHEET

2


OF

4



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points




 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


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 1:20,000.

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: York County, Maine
 Survey Area Data: Version 19, May 29, 2020

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AdB	Adams loamy sand, 0 to 8 percent slopes	A	18.7	8.7%
AdC	Adams loamy sand, 8 to 15 percent slopes	A	0.8	0.4%
BuB	Buxton silt loam, 3 to 8 percent slopes	D	16.7	7.8%
CrB	Croghan loamy fine sand, 0 to 8 percent slopes, wooded	A	14.1	6.5%
EmB	Elmwood fine sandy loam, 0 to 8 percent slopes	B	2.2	1.0%
LnB	Lyman loam, 3 to 8 percent slopes, rocky	D	40.6	18.8%
LyC	Lyman-Rock outcrop complex, 8 to 15 percent slopes	D	0.2	0.1%
MaB	Madawaska fine sandy loam, 0 to 8 percent slopes	B	16.3	7.6%
Na	Naumburg sand	A/D	39.6	18.4%
Sa	Saco mucky silt loam	B/D	6.2	2.9%
Sc	Scantic silt loam, 0 to 3 percent slopes	D	58.6	27.2%
Ur	Urban land		1.4	0.6%
Totals for Area of Interest			215.4	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

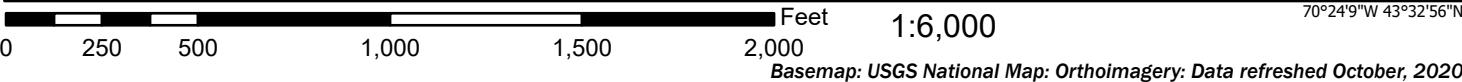
Component Percent Cutoff: None Specified

Tie-break Rule: Higher

National Flood Hazard Layer FIRMMette



70°24'46"W 43°33'22"N



Legend

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

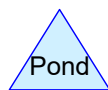
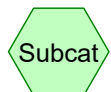
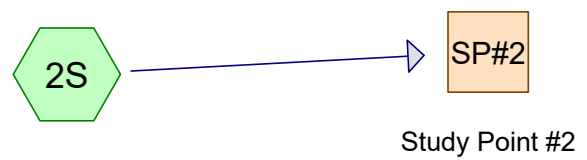
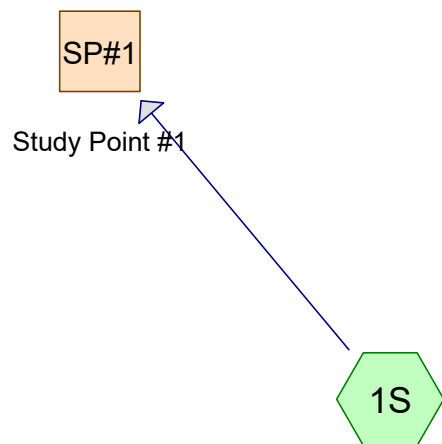
SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of 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 Cross Sections with 1% Annual Chance Water Surface Elevation
		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
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

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 6/15/2021 at 7:13 PM 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.



Routing Diagram for PRE

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PRE

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Clover Leaf - Pre Development
Type II 24-hr 2-YEAR Rainfall=3.30"

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Page 2

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S:

Runoff Area=70.140 ac 1.33% Impervious Runoff Depth>0.99"
Flow Length=2,230' Tc=124.9 min CN=75 Runoff=23.14 cfs 5.775 af

Subcatchment 2S:

Runoff Area=4.650 ac 8.60% Impervious Runoff Depth>0.00"
Flow Length=150' Slope=0.0100 '/' Tc=25.6 min CN=40 Runoff=0.00 cfs 0.000 af

Reach SP#1: Study Point #1

Inflow=23.14 cfs 5.775 af
Outflow=23.14 cfs 5.775 af

Reach SP#2: Study Point #2

Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 74.790 ac Runoff Volume = 5.775 af Average Runoff Depth = 0.93"
98.22% Pervious = 73.460 ac 1.78% Impervious = 1.330 ac

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Type II 24-hr 2-YEAR Rainfall=3.30"

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Page 3

Summary for Subcatchment 1S:

Runoff = 23.14 cfs @ 13.51 hrs, Volume= 5.775 af, Depth> 0.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.30"

Area (ac)	CN	Description
0.860	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.500	98	Impervious Area
1.000	80	>75% Grass cover, Good, HSG D
12.740	70	Woods, Good, HSG C
49.750	77	Woods, Good, HSG D
1.250	39	Pasture/grassland/range, Good, HSG A
4.040	74	Pasture/grassland/range, Good, HSG C
70.140	75	Weighted Average
69.210		98.67% Pervious Area
0.930		1.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
67.2	150	0.0100	0.04		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.30"
7.9	410	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.8	970	0.0370	0.96		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
33.0	700	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
124.9	2,230	Total			

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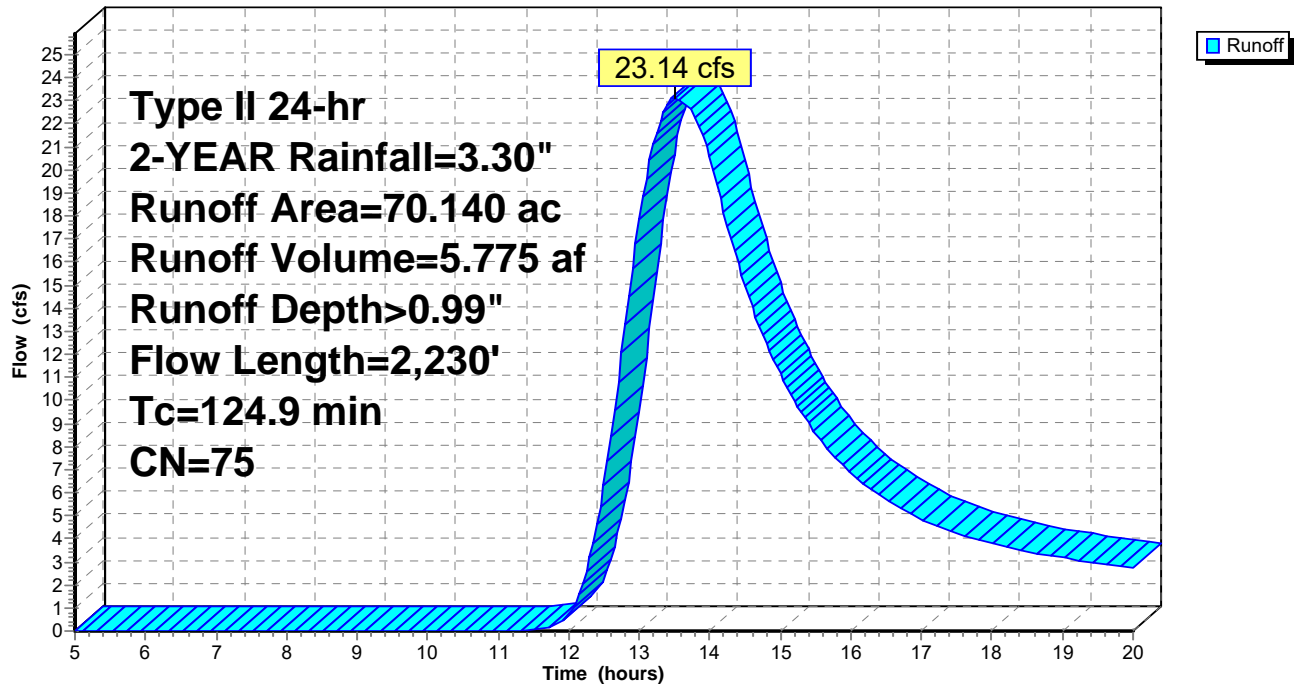
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Type II 24-hr 2-YEAR Rainfall=3.30"

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Subcatchment 1S:

Hydrograph



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Type II 24-hr 2-YEAR Rainfall=3.30"

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Summary for Subcatchment 2S:

[73] Warning: Peak may fall outside time span

Runoff = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Depth> 0.00"

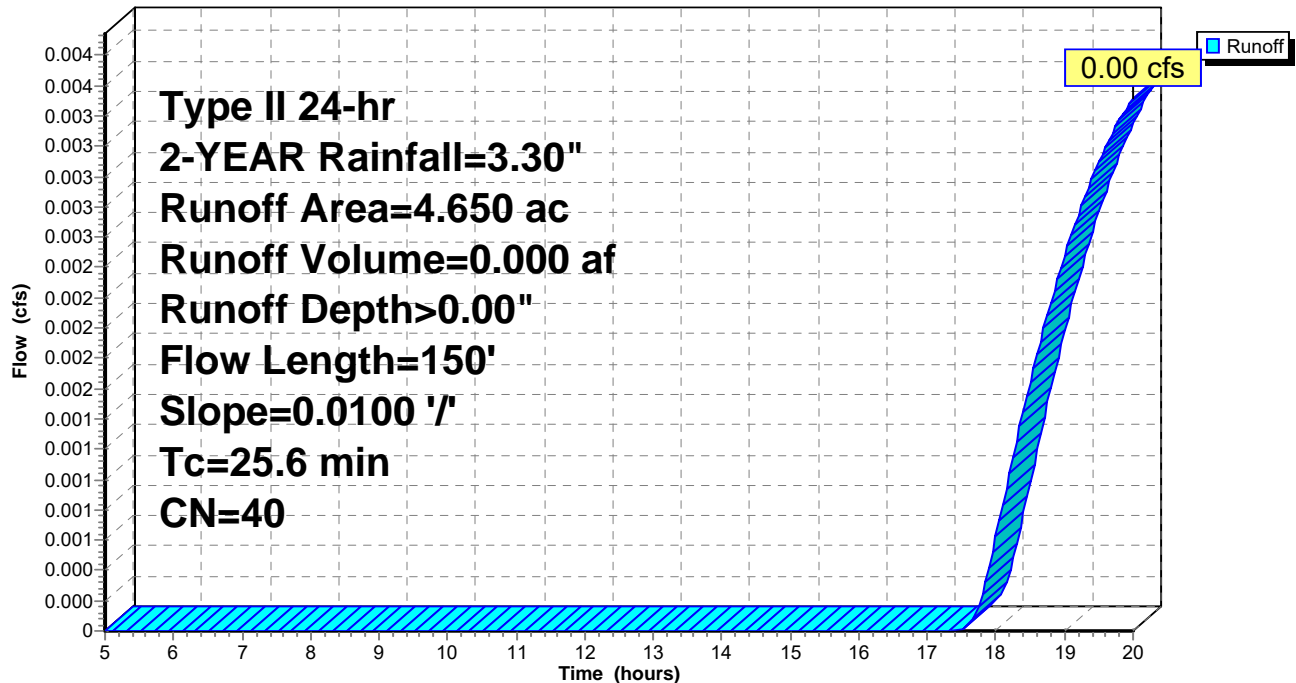
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.30"

Area (ac)	CN	Description
0.300	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.250	98	Impervious Area
0.500	39	>75% Grass cover, Good, HSG A
0.500	39	Pasture/grassland/range, Good, HSG A
3.100	30	Woods, Good, HSG A
4.650	40	Weighted Average
4.250		91.40% Pervious Area
0.400		8.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.6	150	0.0100	0.10		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"

Subcatchment 2S:

Hydrograph



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Type II 24-hr 2-YEAR Rainfall=3.30"

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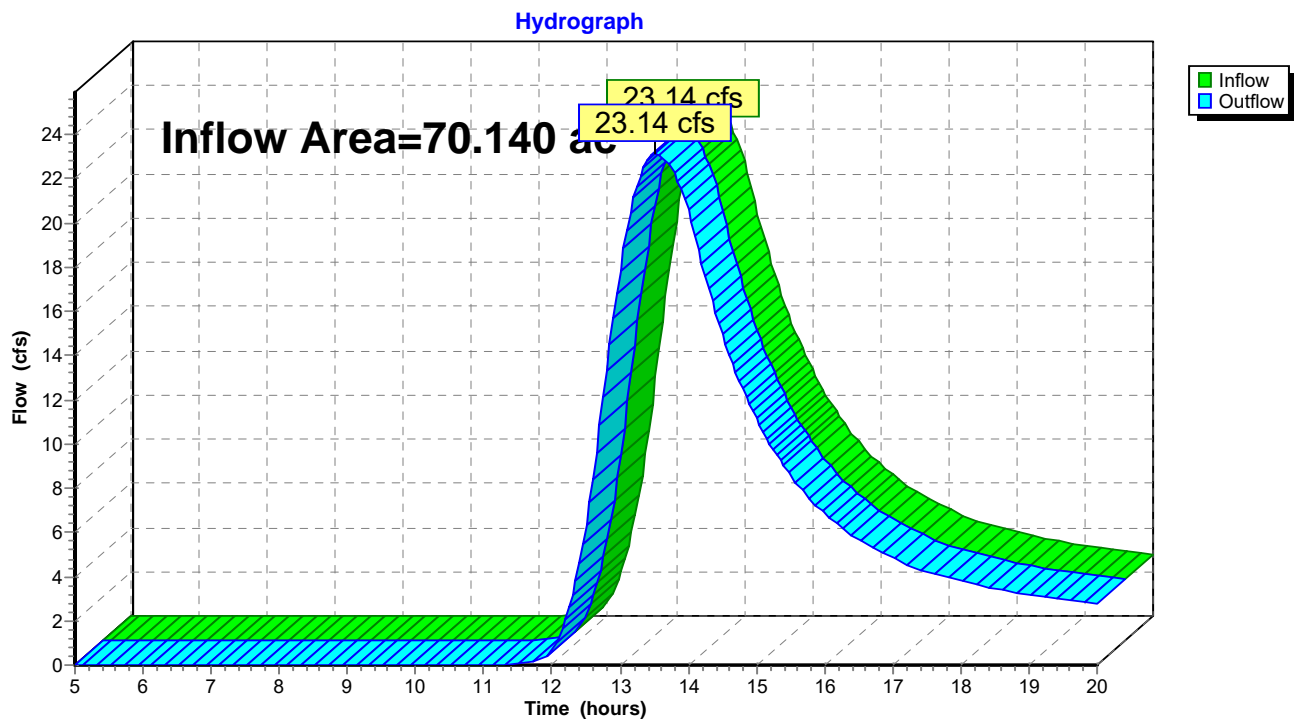
Summary for Reach SP#1: Study Point #1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 70.140 ac, 1.33% Impervious, Inflow Depth > 0.99" for 2-YEAR event
Inflow = 23.14 cfs @ 13.51 hrs, Volume= 5.775 af
Outflow = 23.14 cfs @ 13.51 hrs, Volume= 5.775 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#1: Study Point #1



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Type II 24-hr 2-YEAR Rainfall=3.30"

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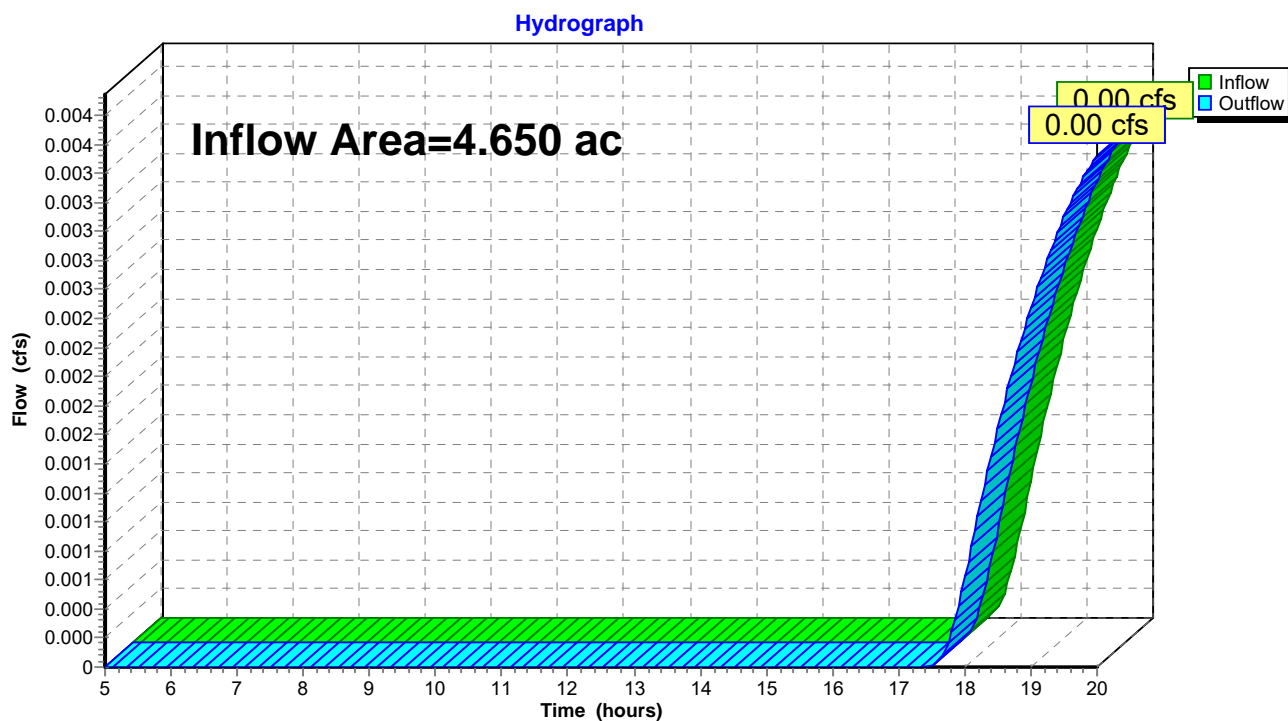
Summary for Reach SP#2: Study Point #2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.650 ac, 8.60% Impervious, Inflow Depth > 0.00" for 2-YEAR event
Inflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#2: Study Point #2



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Type II 24-hr 10-YEAR Rainfall=4.90"

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Page 8

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S:

Runoff Area=70.140 ac 1.33% Impervious Runoff Depth>2.06"
Flow Length=2,230' Tc=124.9 min CN=75 Runoff=50.08 cfs 12.057 af

Subcatchment 2S:

Runoff Area=4.650 ac 8.60% Impervious Runoff Depth>0.16"
Flow Length=150' Slope=0.0100 '/' Tc=25.6 min CN=40 Runoff=0.17 cfs 0.063 af

Reach SP#1: Study Point #1

Inflow=50.08 cfs 12.057 af
Outflow=50.08 cfs 12.057 af

Reach SP#2: Study Point #2

Inflow=0.17 cfs 0.063 af
Outflow=0.17 cfs 0.063 af

Total Runoff Area = 74.790 ac Runoff Volume = 12.120 af Average Runoff Depth = 1.94"
98.22% Pervious = 73.460 ac 1.78% Impervious = 1.330 ac

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Type II 24-hr 10-YEAR Rainfall=4.90"

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Page 9

Summary for Subcatchment 1S:

Runoff = 50.08 cfs @ 13.47 hrs, Volume= 12.057 af, Depth> 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=4.90"

Area (ac)	CN	Description
0.860	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.500	98	Impervious Area
1.000	80	>75% Grass cover, Good, HSG D
12.740	70	Woods, Good, HSG C
49.750	77	Woods, Good, HSG D
1.250	39	Pasture/grassland/range, Good, HSG A
4.040	74	Pasture/grassland/range, Good, HSG C
70.140	75	Weighted Average
69.210		98.67% Pervious Area
0.930		1.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
67.2	150	0.0100	0.04		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.30"
7.9	410	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.8	970	0.0370	0.96		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
33.0	700	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
124.9	2,230	Total			

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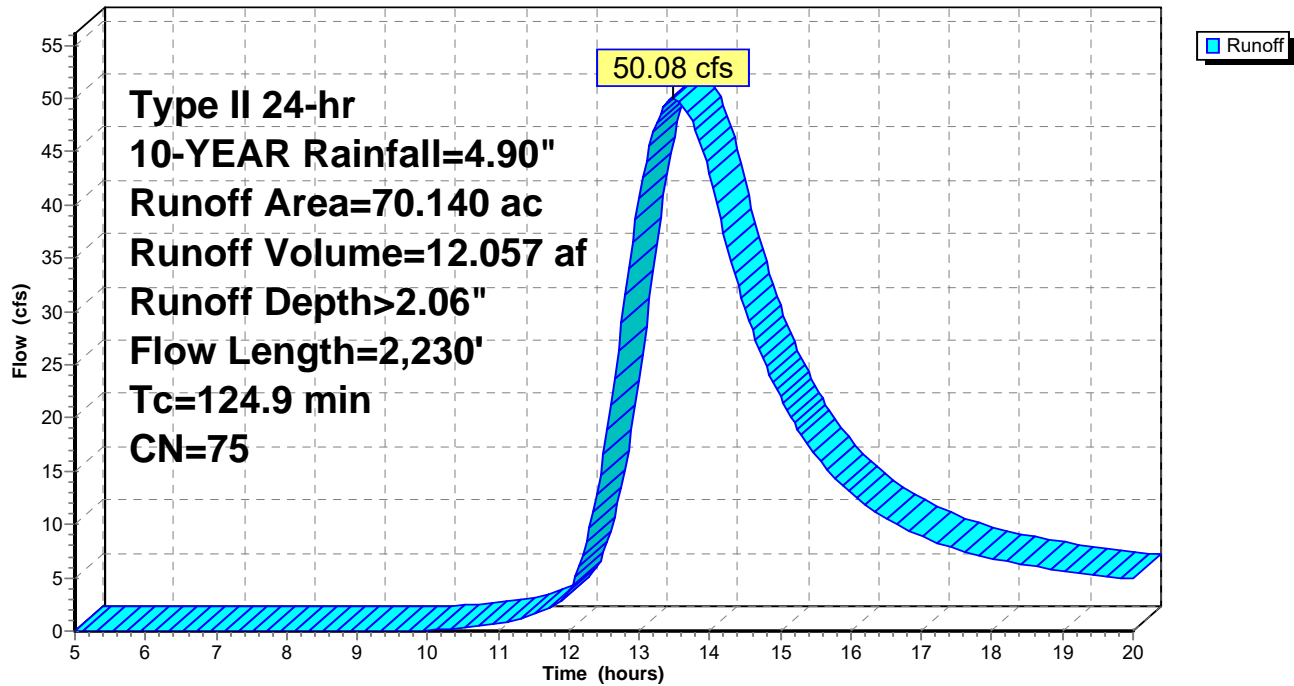
Clover Leaf - Pre Development
Type II 24-hr 10-YEAR Rainfall=4.90"

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Subcatchment 1S:

Hydrograph



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Type II 24-hr 10-YEAR Rainfall=4.90"

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Summary for Subcatchment 2S:

Runoff = 0.17 cfs @ 12.64 hrs, Volume= 0.063 af, Depth> 0.16"

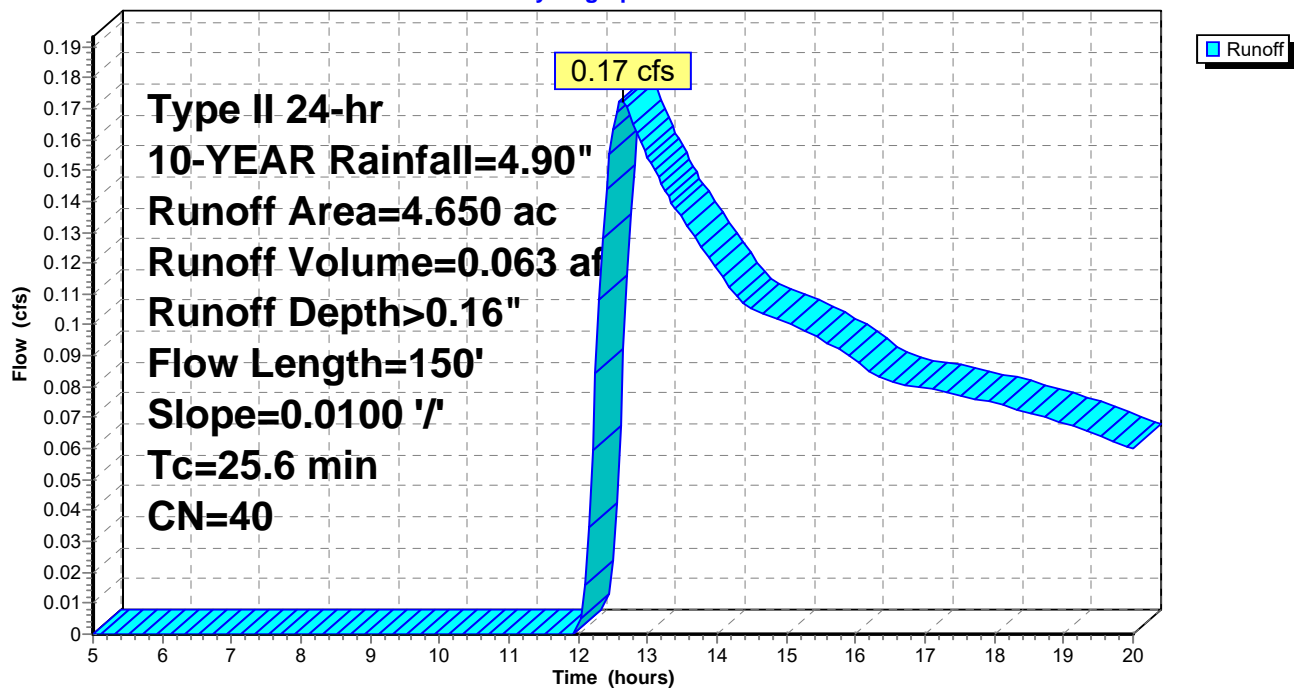
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=4.90"

Area (ac)	CN	Description
0.300	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.250	98	Impervious Area
0.500	39	>75% Grass cover, Good, HSG A
0.500	39	Pasture/grassland/range, Good, HSG A
3.100	30	Woods, Good, HSG A
4.650	40	Weighted Average
4.250		91.40% Pervious Area
0.400		8.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.6	150	0.0100	0.10		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"

Subcatchment 2S:

Hydrograph



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Type II 24-hr 10-YEAR Rainfall=4.90"

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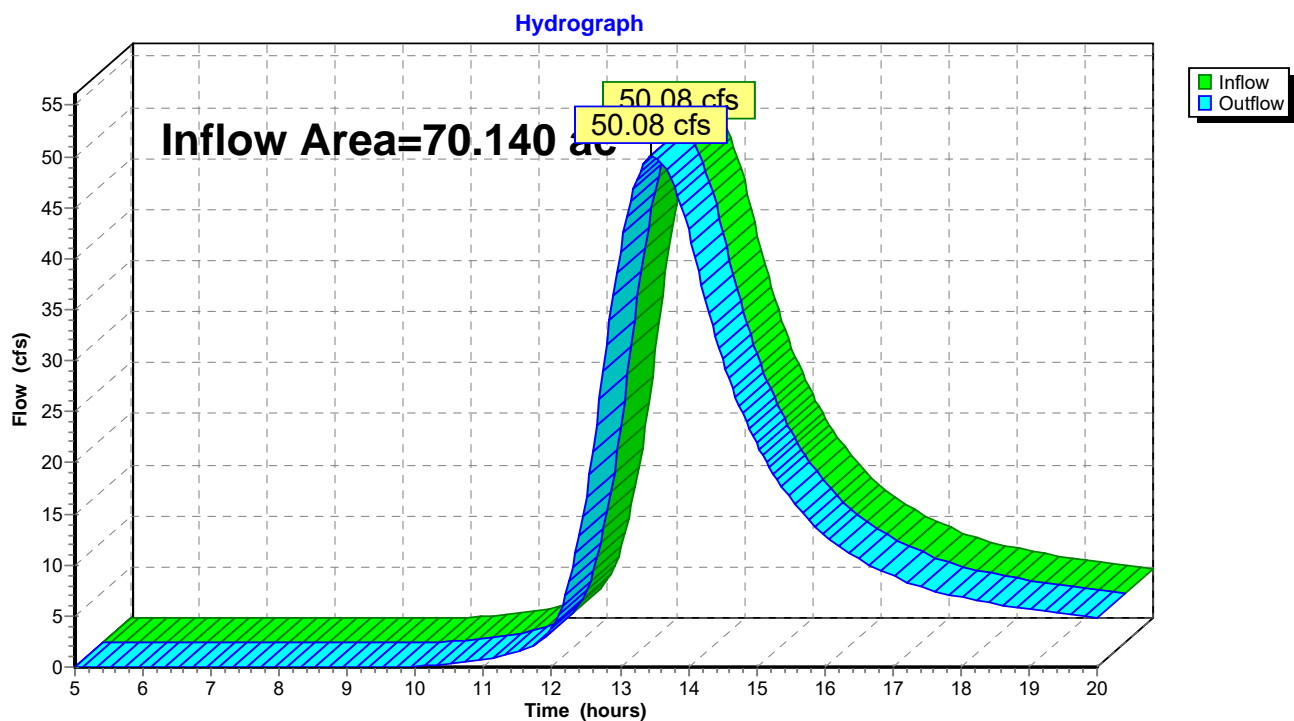
Summary for Reach SP#1: Study Point #1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 70.140 ac, 1.33% Impervious, Inflow Depth > 2.06" for 10-YEAR event
Inflow = 50.08 cfs @ 13.47 hrs, Volume= 12.057 af
Outflow = 50.08 cfs @ 13.47 hrs, Volume= 12.057 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#1: Study Point #1



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Type II 24-hr 10-YEAR Rainfall=4.90"

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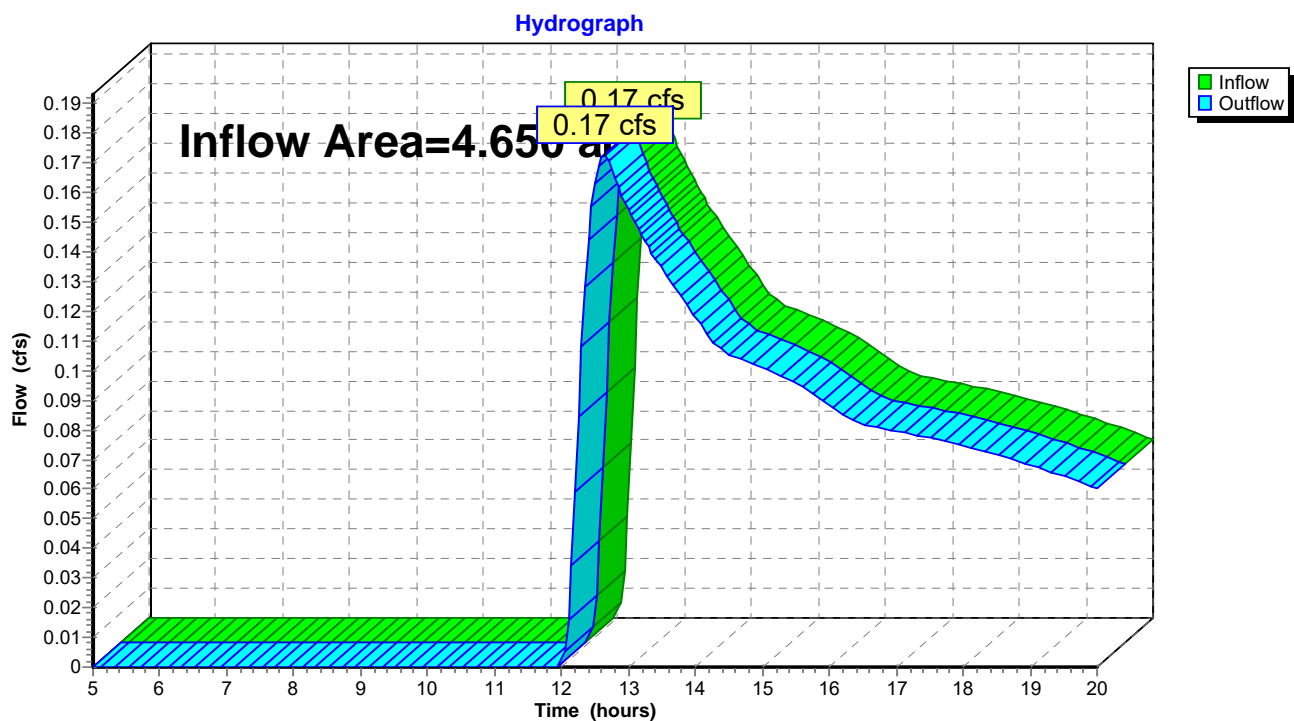
Summary for Reach SP#2: Study Point #2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 4.650 ac, 8.60% Impervious, Inflow Depth > 0.16" for 10-YEAR event
Inflow = 0.17 cfs @ 12.64 hrs, Volume= 0.063 af
Outflow = 0.17 cfs @ 12.64 hrs, Volume= 0.063 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#2: Study Point #2



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Type II 24-hr 25-YEAR Rainfall=6.20"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S:

Runoff Area=70.140 ac 1.33% Impervious Runoff Depth>3.04"
Flow Length=2,230' Tc=124.9 min CN=75 Runoff=74.15 cfs 17.767 af

Subcatchment 2S:

Runoff Area=4.650 ac 8.60% Impervious Runoff Depth>0.46"
Flow Length=150' Slope=0.0100 '/' Tc=25.6 min CN=40 Runoff=1.11 cfs 0.179 af

Reach SP#1: Study Point #1

Inflow=74.15 cfs 17.767 af
Outflow=74.15 cfs 17.767 af

Reach SP#2: Study Point #2

Inflow=1.11 cfs 0.179 af
Outflow=1.11 cfs 0.179 af

Total Runoff Area = 74.790 ac Runoff Volume = 17.946 af Average Runoff Depth = 2.88"
98.22% Pervious = 73.460 ac 1.78% Impervious = 1.330 ac

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Type II 24-hr 25-YEAR Rainfall=6.20"

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Page 15

Summary for Subcatchment 1S:

Runoff = 74.15 cfs @ 13.46 hrs, Volume= 17.767 af, Depth> 3.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.20"

Area (ac)	CN	Description
0.860	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.500	98	Impervious Area
1.000	80	>75% Grass cover, Good, HSG D
12.740	70	Woods, Good, HSG C
49.750	77	Woods, Good, HSG D
1.250	39	Pasture/grassland/range, Good, HSG A
4.040	74	Pasture/grassland/range, Good, HSG C
70.140	75	Weighted Average
69.210		98.67% Pervious Area
0.930		1.33% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
67.2	150	0.0100	0.04		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.30"
7.9	410	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.8	970	0.0370	0.96		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
33.0	700	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
124.9	2,230	Total			

PRE

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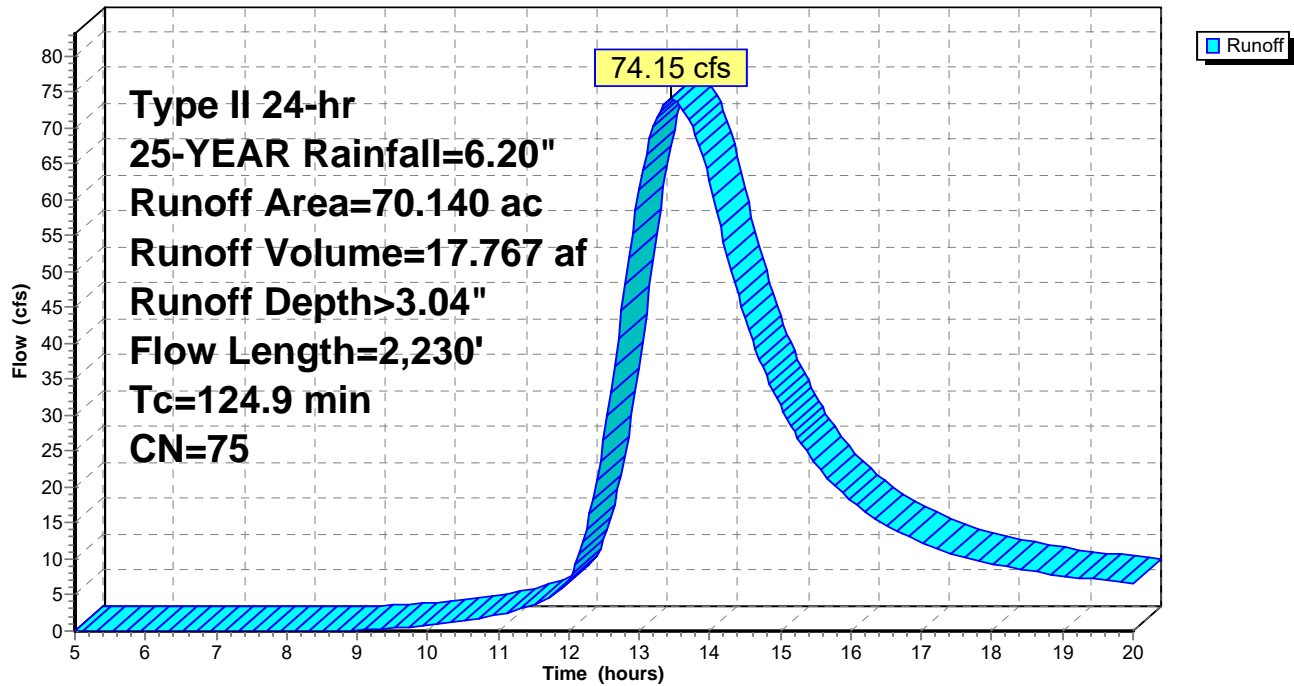
Type II 24-hr 25-YEAR Rainfall=6.20"

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Subcatchment 1S:

Hydrograph



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Type II 24-hr 25-YEAR Rainfall=6.20"

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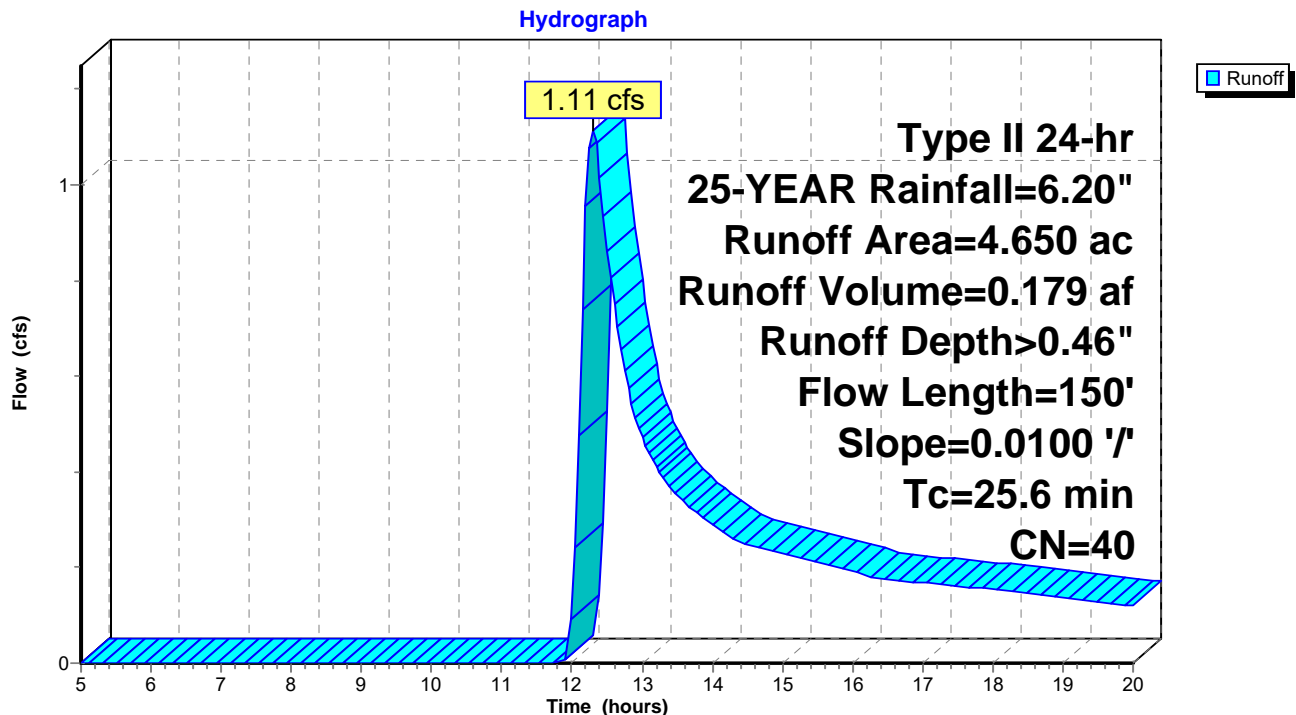
Summary for Subcatchment 2S:

Runoff = 1.11 cfs @ 12.30 hrs, Volume= 0.179 af, Depth> 0.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.20"

Area (ac)	CN	Description
0.300	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.250	98	Impervious Area
0.500	39	>75% Grass cover, Good, HSG A
0.500	39	Pasture/grassland/range, Good, HSG A
3.100	30	Woods, Good, HSG A
4.650	40	Weighted Average
4.250		91.40% Pervious Area
0.400		8.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.6	150	0.0100	0.10		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"

Subcatchment 2S:

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Type II 24-hr 25-YEAR Rainfall=6.20"

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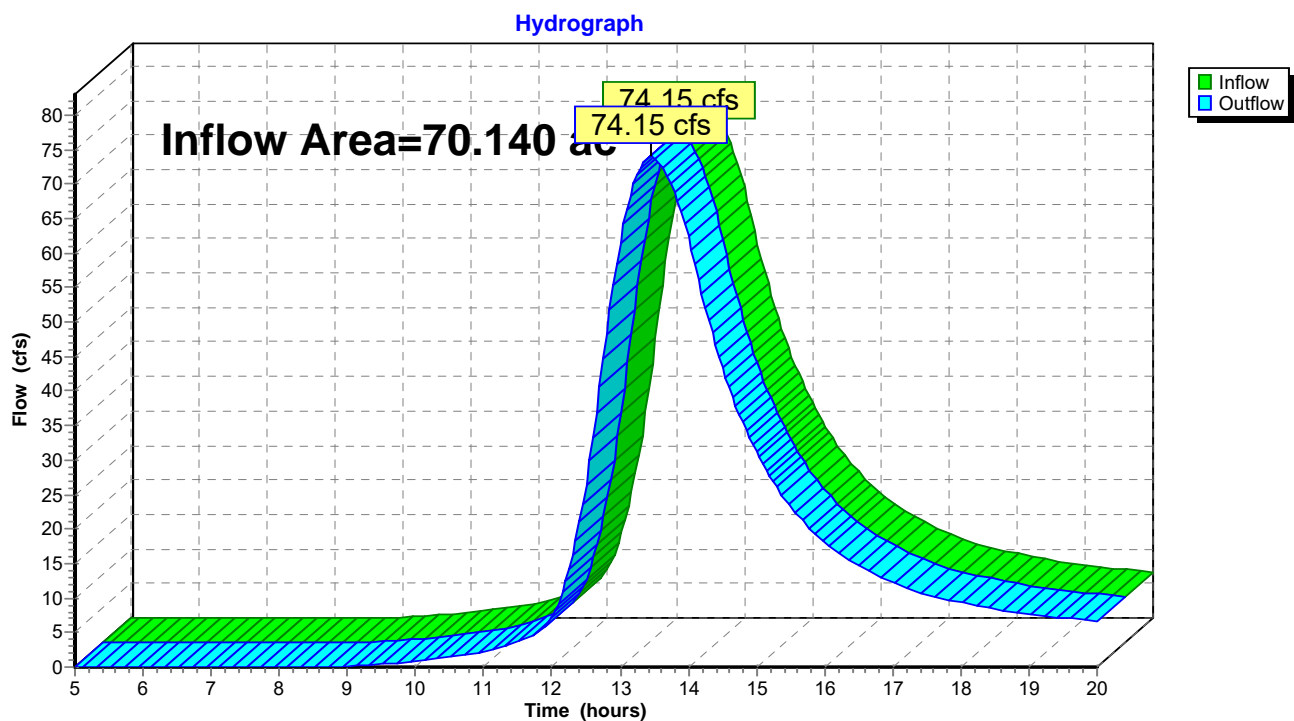
Summary for Reach SP#1: Study Point #1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 70.140 ac, 1.33% Impervious, Inflow Depth > 3.04" for 25-YEAR event
Inflow = 74.15 cfs @ 13.46 hrs, Volume= 17.767 af
Outflow = 74.15 cfs @ 13.46 hrs, Volume= 17.767 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#1: Study Point #1



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Type II 24-hr 25-YEAR Rainfall=6.20"

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Summary for Reach SP#2: Study Point #2

[40] Hint: Not Described (Outflow=Inflow)

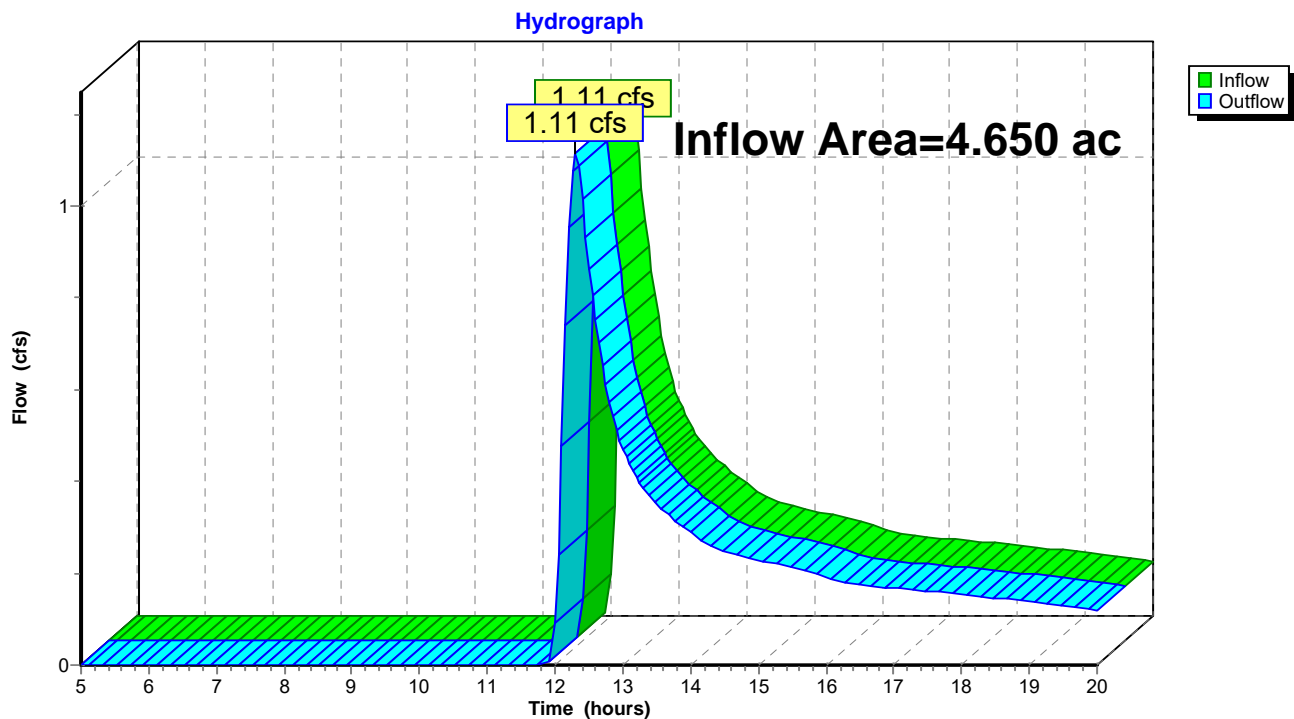
Inflow Area = 4.650 ac, 8.60% Impervious, Inflow Depth > 0.46" for 25-YEAR event

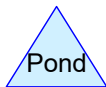
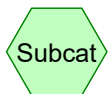
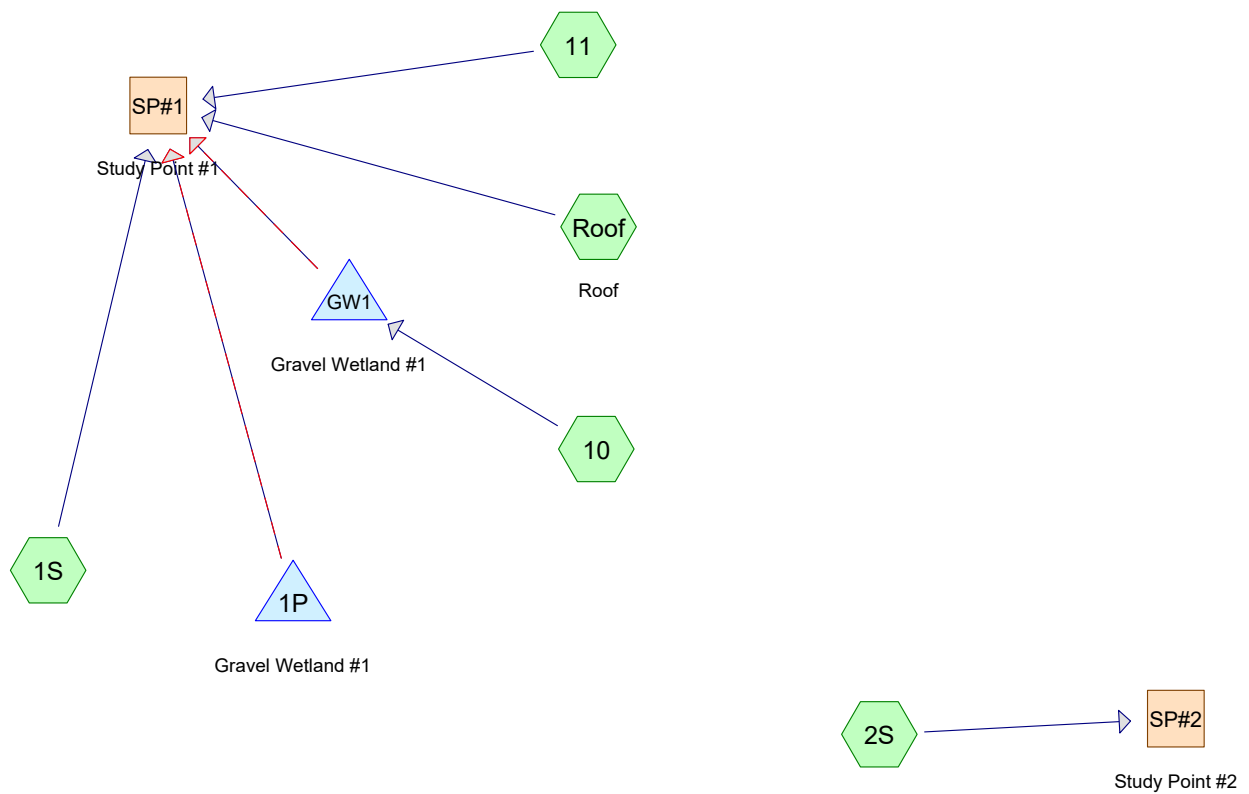
Inflow = 1.11 cfs @ 12.30 hrs, Volume= 0.179 af

Outflow = 1.11 cfs @ 12.30 hrs, Volume= 0.179 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#2: Study Point #2





Routing Diagram for POST

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Type II 24-hr 2-YEAR Rainfall=3.30"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=66.120 ac 1.41% Impervious Runoff Depth>0.99"
Flow Length=2,230' Tc=124.9 min CN=75 Runoff=21.81 cfs 5.444 af

Subcatchment 2S: Runoff Area=1.767 ac 8.60% Impervious Runoff Depth>0.00"
Flow Length=150' Slope=0.0100 '/' Tc=25.6 min CN=40 Runoff=0.00 cfs 0.000 af

Subcatchment 10: Runoff Area=224,150 sf 53.49% Impervious Runoff Depth>1.16"
Flow Length=920' Tc=14.4 min CN=77 Runoff=8.52 cfs 0.499 af

Subcatchment 11: Runoff Area=39,446 sf 35.93% Impervious Runoff Depth>1.46"
Flow Length=480' Tc=50.9 min CN=82 Runoff=0.87 cfs 0.110 af

Subcatchment Roof: Roof Runoff Area=35,726 sf 100.00% Impervious Runoff Depth>2.84"
Tc=5.0 min CN=98 Runoff=3.87 cfs 0.194 af

Reach SP#1: Study Point #1 Inflow=22.61 cfs 5.933 af
Outflow=22.61 cfs 5.933 af

Reach SP#2: Study Point #2 Inflow=0.00 cfs 0.000 af
Outflow=0.00 cfs 0.000 af

Pond 1P: Gravel Wetland #1 Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af

Pond GW1: Gravel Wetland #1 Peak Elev=82.61' Storage=14,315 cf Inflow=8.52 cfs 0.499 af
Primary=0.49 cfs 0.185 af Secondary=0.00 cfs 0.000 af Outflow=0.49 cfs 0.185 af

Total Runoff Area = 74.758 ac Runoff Volume = 6.247 af Average Runoff Depth = 1.00"
93.34% Pervious = 69.778 ac 6.66% Impervious = 4.980 ac

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Summary for Subcatchment 1S:

Runoff = 21.81 cfs @ 13.51 hrs, Volume= 5.444 af, Depth> 0.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.30"

Area (ac)	CN	Description
0.860	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.500	98	Impervious Area
1.000	80	>75% Grass cover, Good, HSG D
12.020	70	Woods, Good, HSG C
49.250	77	Woods, Good, HSG D
1.000	39	Pasture/grassland/range, Good, HSG A
0.770	74	Pasture/grassland/range, Good, HSG C
* 0.720	74	Untreated Grass from Development
66.120	75	Weighted Average
65.190		98.59% Pervious Area
0.930		1.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
67.2	150	0.0100	0.04		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.30"
7.9	410	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.8	970	0.0370	0.96		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
33.0	700	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
124.9	2,230	Total			

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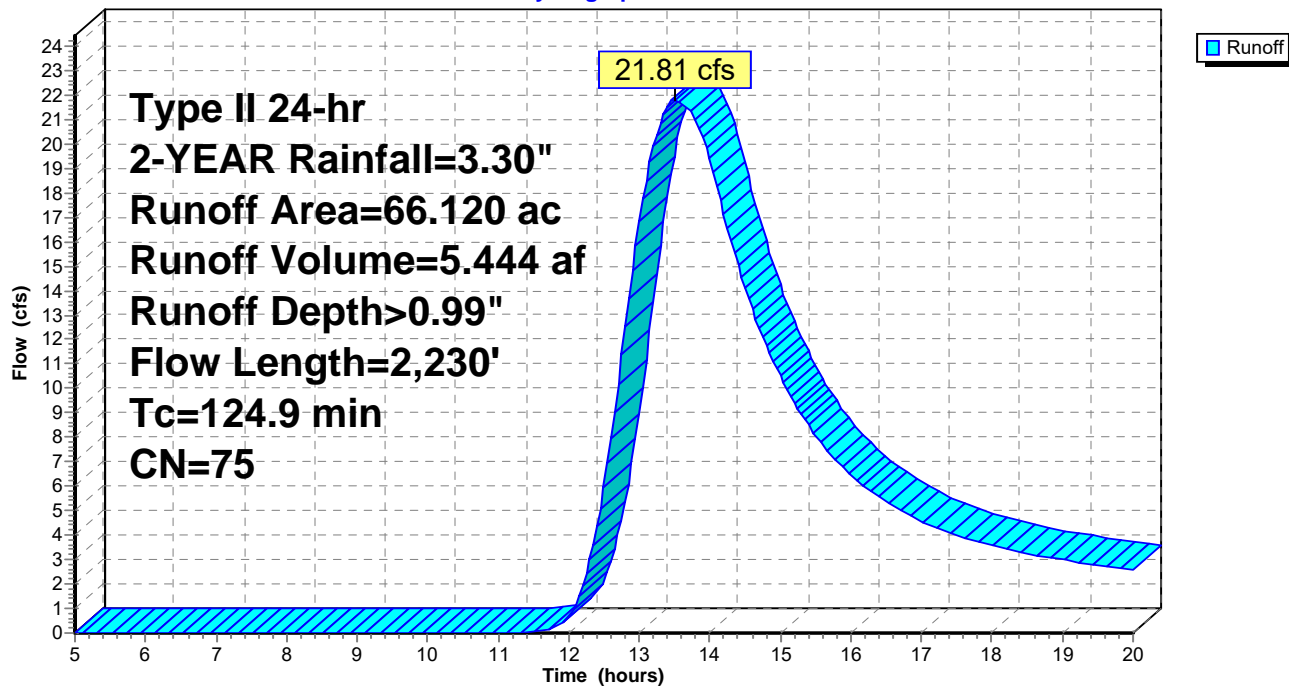
Clover Leaf - Post Development
Type II 24-hr 2-YEAR Rainfall=3.30"

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Subcatchment 1S:

Hydrograph



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Summary for Subcatchment 2S:

[73] Warning: Peak may fall outside time span

Runoff = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Depth> 0.00"

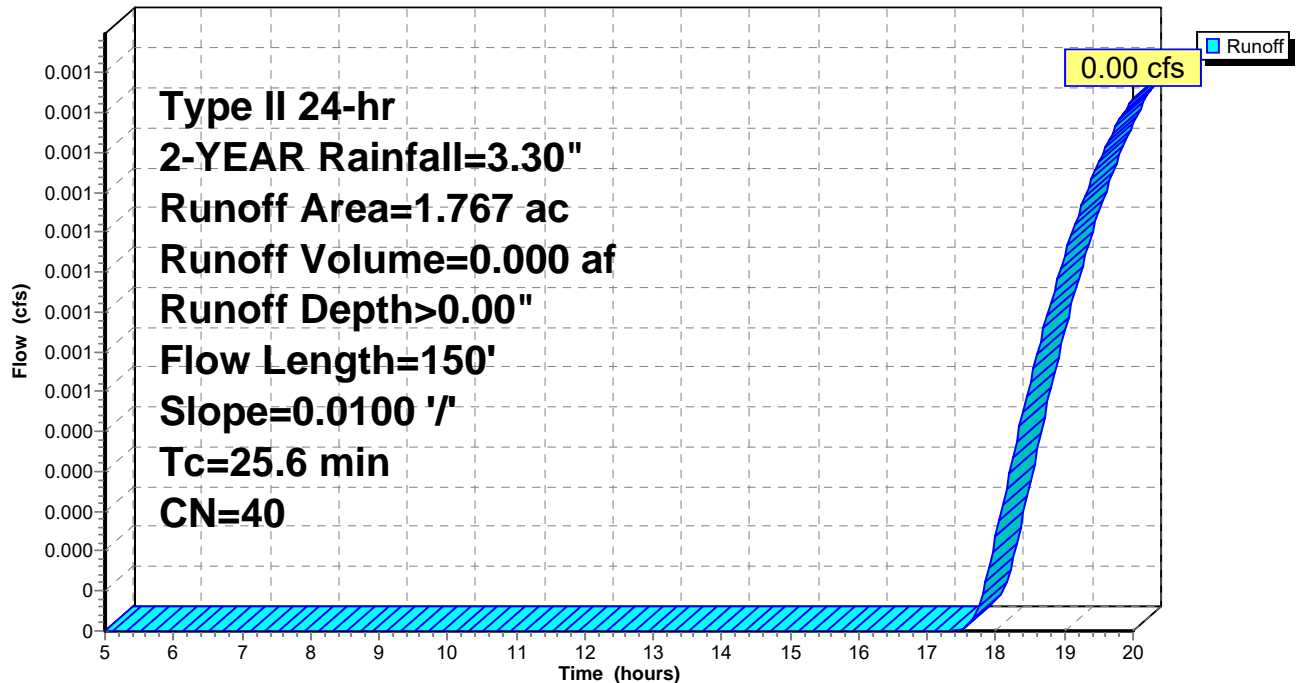
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.30"

Area (ac)	CN	Description
0.114	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.095	98	Impervious Area
0.190	39	>75% Grass cover, Good, HSG A
0.190	39	Pasture/grassland/range, Good, HSG A
1.178	30	Woods, Good, HSG A
1.767	40	Weighted Average
1.615		91.40% Pervious Area
0.152		8.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.6	150	0.0100	0.10		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"

Subcatchment 2S:

Hydrograph



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Summary for Subcatchment 10:

Runoff = 8.52 cfs @ 12.07 hrs, Volume= 0.499 af, Depth> 1.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.30"

	Area (sf)	CN	Description
*	85,518	98	Impervious
*	34,380	98	Potential Outparcel Impervious
	50,000	39	>75% Grass cover, Good, HSG A
	22,792	74	>75% Grass cover, Good, HSG C
	11,460	39	>75% Grass cover, Good, HSG A
*	15,000	74	Stormwater Pond
	5,000	70	Woods, Good, HSG C
	224,150	77	Weighted Average
	104,252		46.51% Pervious Area
	119,898		53.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	70	0.0140	0.10		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.7	50	0.0200	1.22		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
1.5	800	0.0200	9.11	16.09	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
14.4	920	Total			

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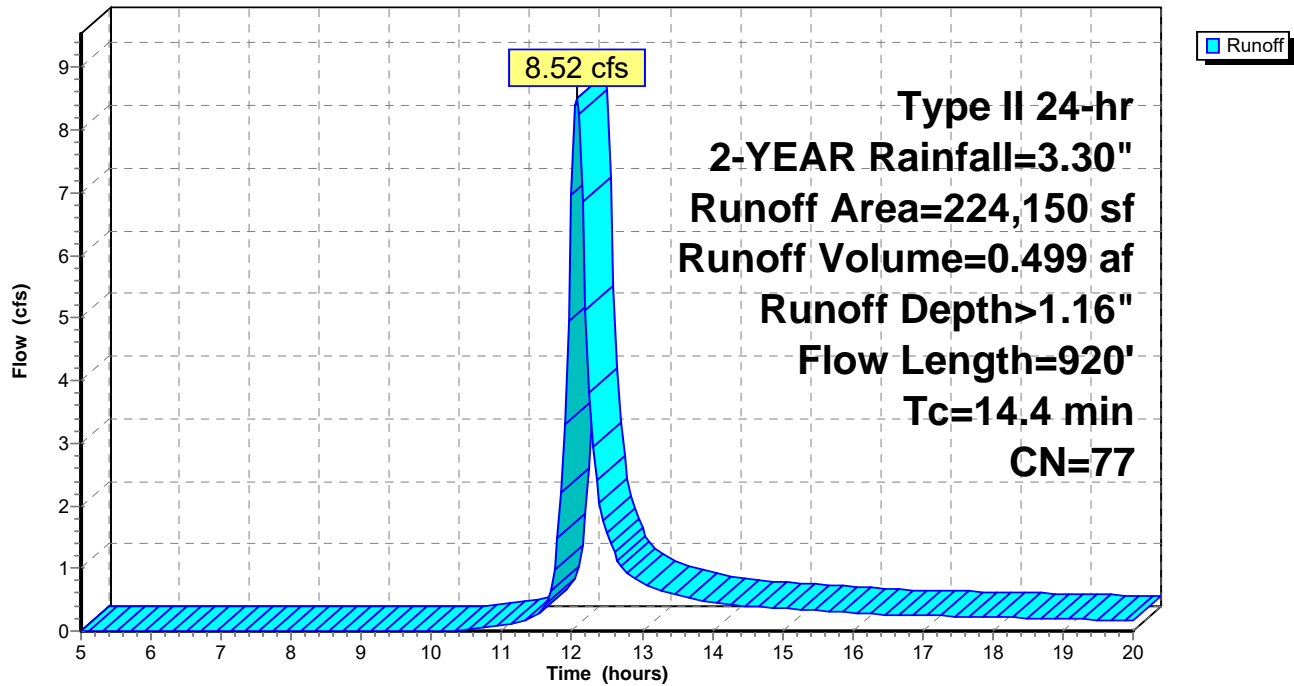
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Type II 24-hr 2-YEAR Rainfall=3.30"

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Subcatchment 10:

Hydrograph



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Summary for Subcatchment 11:

Runoff = 0.87 cfs @ 12.51 hrs, Volume= 0.110 af, Depth> 1.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-YEAR Rainfall=3.30"

	Area (sf)	CN	Description
*	14,173	98	Impervious
	18,827	74	>75% Grass cover, Good, HSG C
	6,446	70	Woods, Good, HSG C
	39,446	82	Weighted Average
	25,273		64.07% Pervious Area
	14,173		35.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	105	0.0200	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.6	45	0.0200	1.19		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
0.4	110	0.0600	4.97		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.8	70	0.0100	1.50		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
34.5	150	0.0530	0.07		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.30"
50.9	480	Total			

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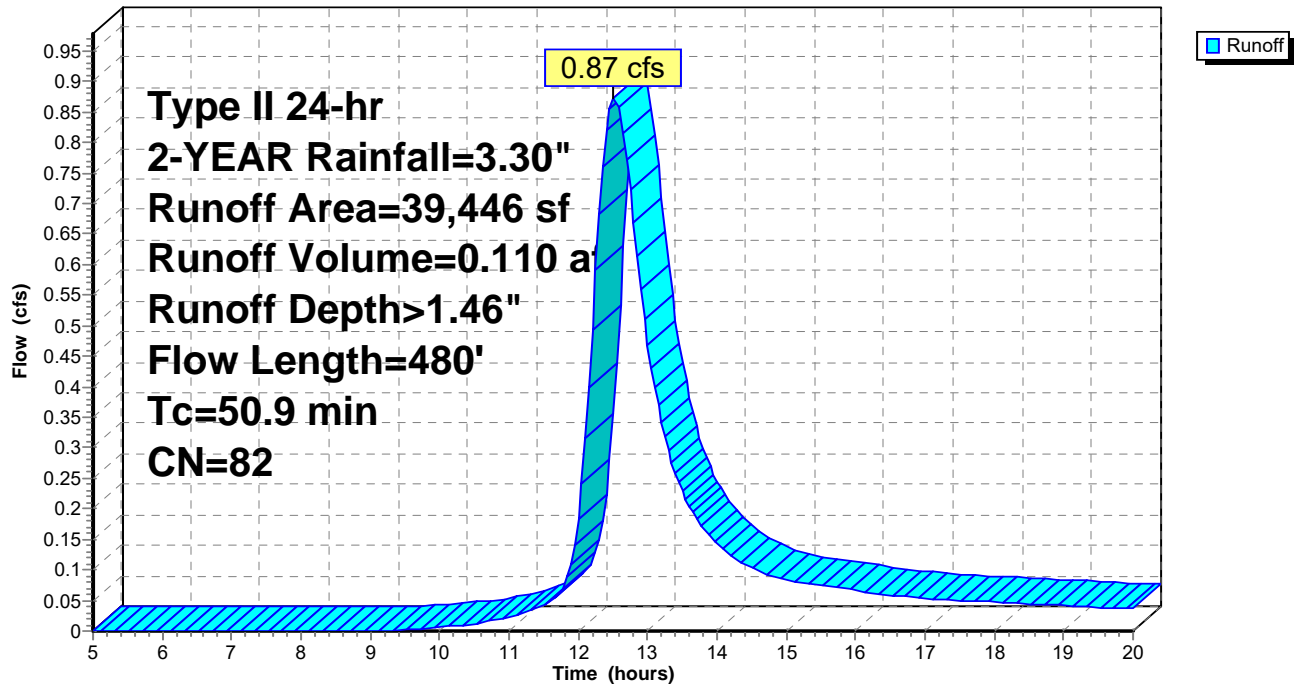
Type II 24-hr 2-YEAR Rainfall=3.30"

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Subcatchment 11:

Hydrograph



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Summary for Subcatchment Roof: Roof

[49] Hint: $T_c < 2dt$ may require smaller dt

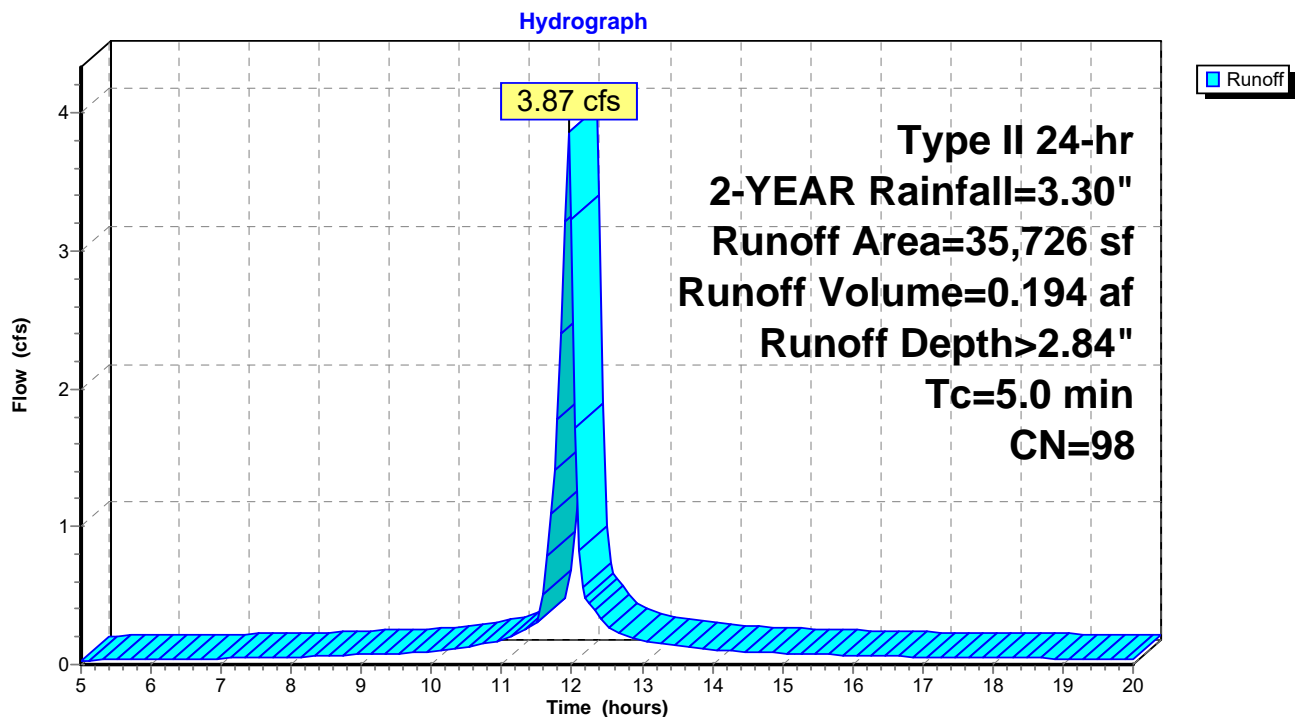
Runoff = 3.87 cfs @ 11.95 hrs, Volume= 0.194 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type II 24-hr 2-YEAR Rainfall=3.30"

	Area (sf)	CN	Description
*	35,726	98	Impervious
	35,726		100.00% Impervious Area

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

Subcatchment Roof: Roof



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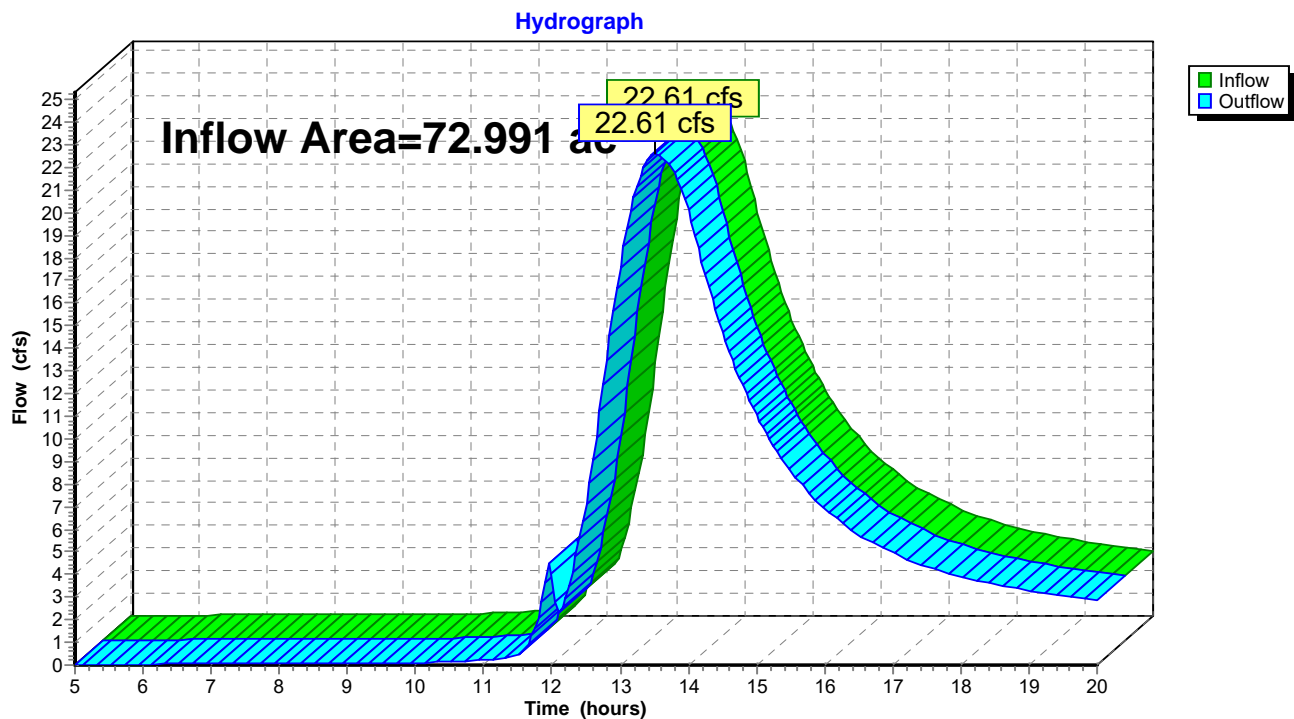
Summary for Reach SP#1: Study Point #1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 72.991 ac, 6.61% Impervious, Inflow Depth > 0.98" for 2-YEAR event
Inflow = 22.61 cfs @ 13.50 hrs, Volume= 5.933 af
Outflow = 22.61 cfs @ 13.50 hrs, Volume= 5.933 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#1: Study Point #1



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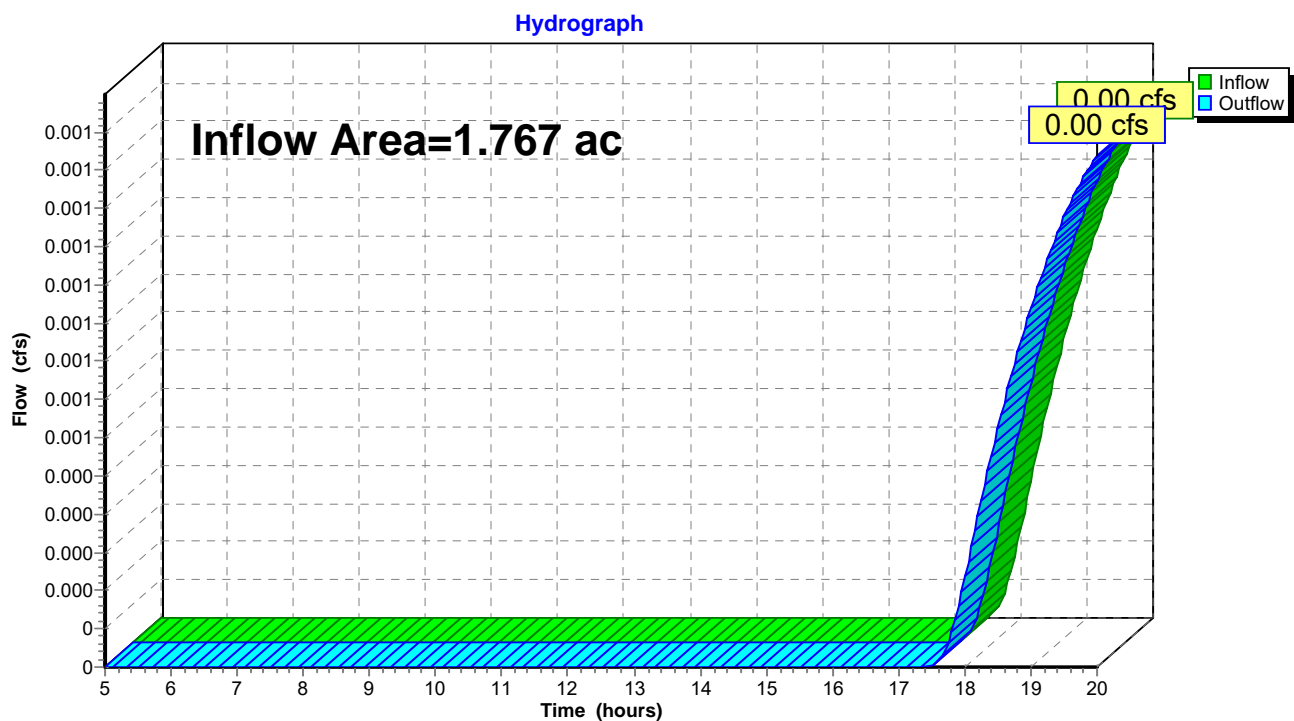
Summary for Reach SP#2: Study Point #2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.767 ac, 8.60% Impervious, Inflow Depth > 0.00" for 2-YEAR event
Inflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 20.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#2: Study Point #2



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Summary for Pond 1P: Gravel Wetland #1

[43] Hint: Has no inflow (Outflow=Zero)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	44,567 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.00	6,980	0	0
82.00	9,227	8,104	8,104
82.51	11,000	5,158	13,261
84.00	12,900	17,805	31,067
85.00	14,100	13,500	44,567

Device	Routing	Invert	Outlet Devices
#1	Primary	80.67'	15.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 80.67' / 80.50' S= 0.0068 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	82.50'	0.7' long Sharp-Crested Vee/Trap Weir Cv= 2.62 (C= 3.28)
#3	Device 2	82.50'	15.0" Round Culvert L= 12.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.50' / 82.30' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#4	Device 1	78.25'	1.0" Vert. Orifice/Grate C= 0.600
#5	Device 4	78.25'	6.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.25' / 78.25' S= 0.0000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#6	Device 5	81.00'	2.400 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.67'
#7	Secondary	84.00'	20.0' long x 13.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)

1=Culvert (Controls 0.00 cfs)
 2=Sharp-Crested Vee/Trap Weir (Controls 0.00 cfs)
 3=Culvert (Controls 0.00 cfs)
 4=Orifice/Grate (Controls 0.00 cfs)
 5=Culvert (Controls 0.00 cfs)
 6=Exfiltration (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)

7=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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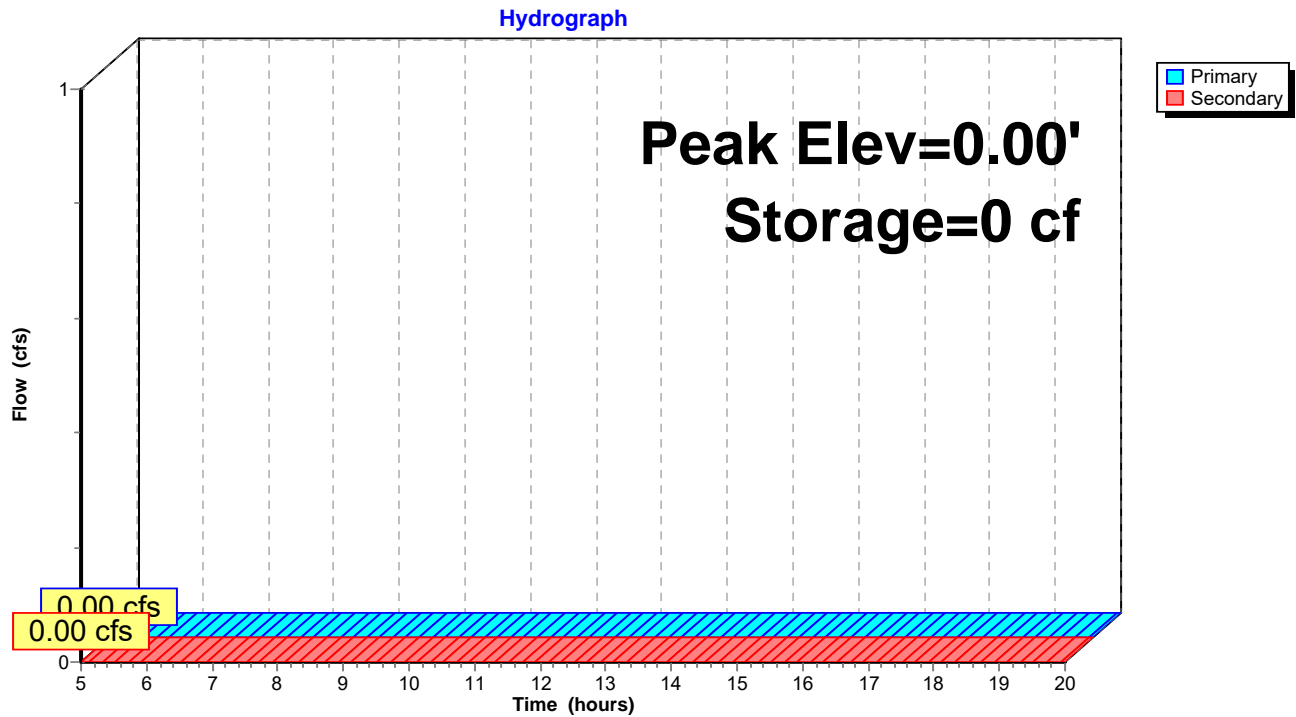
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Pond 1P: Gravel Wetland #1



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Summary for Pond GW1: Gravel Wetland #1

Inflow Area = 5.146 ac, 53.49% Impervious, Inflow Depth > 1.16" for 2-YEAR event
 Inflow = 8.52 cfs @ 12.07 hrs, Volume= 0.499 af
 Outflow = 0.49 cfs @ 13.89 hrs, Volume= 0.185 af, Atten= 94%, Lag= 109.2 min
 Primary = 0.49 cfs @ 13.89 hrs, Volume= 0.185 af
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 82.61' @ 13.89 hrs Surf.Area= 11,121 sf Storage= 14,315 cf

Plug-Flow detention time= 236.3 min calculated for 0.185 af (37% of inflow)
 Center-of-Mass det. time= 146.7 min (953.5 - 806.9)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	44,567 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.00	6,980	0	0
82.00	9,227	8,104	8,104
82.51	11,000	5,158	13,261
84.00	12,900	17,805	31,067
85.00	14,100	13,500	44,567

Device	Routing	Invert	Outlet Devices
#1	Primary	80.67'	15.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 80.67' / 80.50' S= 0.0068 ' S Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	82.50'	4.0' long Sharp-Crested Vee/Trap Weir Cv= 2.62 (C= 3.28)
#3	Device 1	78.25'	1.0" Vert. Orifice/Grate C= 0.600
#4	Device 3	78.25'	6.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.25' / 78.25' S= 0.0000 ' S Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#5	Device 4	81.00'	2.400 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.67'
#6	Secondary	83.65'	20.0' long x 13.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63

Primary OutFlow Max=0.48 cfs @ 13.89 hrs HW=82.61' (Free Discharge)

- 1=Culvert (Passes 0.48 cfs of 6.45 cfs potential flow)
- 2=Sharp-Crested Vee/Trap Weir (Weir Controls 0.45 cfs @ 1.06 fps)
- 3=Orifice/Grate (Orifice Controls 0.04 cfs @ 6.70 fps)
- 4=Culvert (Passes 0.04 cfs of 0.75 cfs potential flow)
- 5=Exfiltration (Passes 0.04 cfs of 2.73 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=81.00' (Free Discharge)

- 6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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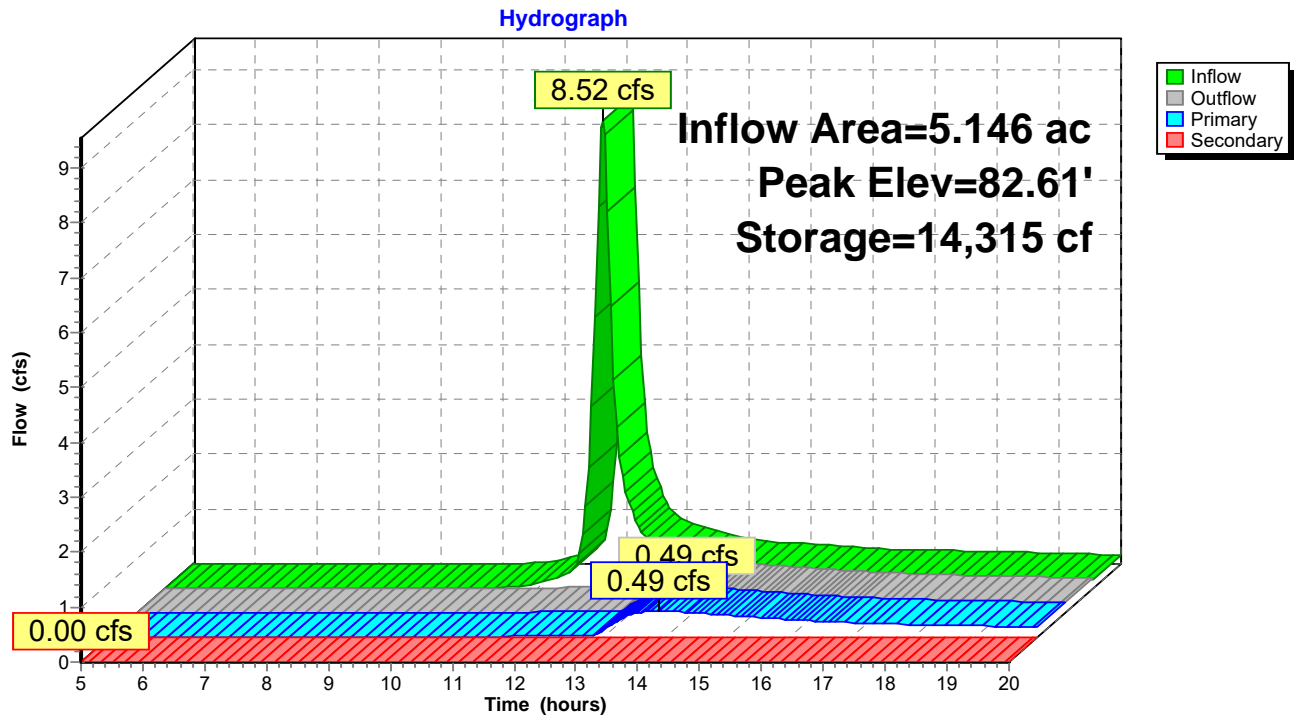
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Type II 24-hr 2-YEAR Rainfall=3.30"

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Pond GW1: Gravel Wetland #1



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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=66.120 ac 1.41% Impervious Runoff Depth>2.06"
Flow Length=2,230' Tc=124.9 min CN=75 Runoff=47.21 cfs 11.366 af

Subcatchment 2S: Runoff Area=1.767 ac 8.60% Impervious Runoff Depth>0.16"
Flow Length=150' Slope=0.0100 '/' Tc=25.6 min CN=40 Runoff=0.07 cfs 0.024 af

Subcatchment 10: Runoff Area=224,150 sf 53.49% Impervious Runoff Depth>2.33"
Flow Length=920' Tc=14.4 min CN=77 Runoff=17.12 cfs 1.001 af

Subcatchment 11: Runoff Area=39,446 sf 35.93% Impervious Runoff Depth>2.73"
Flow Length=480' Tc=50.9 min CN=82 Runoff=1.63 cfs 0.206 af

Subcatchment Roof: Roof Runoff Area=35,726 sf 100.00% Impervious Runoff Depth>4.28"
Tc=5.0 min CN=98 Runoff=5.78 cfs 0.292 af

Reach SP#1: Study Point #1 Inflow=49.24 cfs 12.545 af
Outflow=49.24 cfs 12.545 af

Reach SP#2: Study Point #2 Inflow=0.07 cfs 0.024 af
Outflow=0.07 cfs 0.024 af

Pond 1P: Gravel Wetland #1 Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af

Pond GW1: Gravel Wetland #1 Peak Elev=83.09' Storage=19,828 cf Inflow=17.12 cfs 1.001 af
Primary=5.94 cfs 0.680 af Secondary=0.00 cfs 0.000 af Outflow=5.94 cfs 0.680 af

Total Runoff Area = 74.758 ac Runoff Volume = 12.890 af Average Runoff Depth = 2.07"
93.34% Pervious = 69.778 ac 6.66% Impervious = 4.980 ac

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Type II 24-hr 10-YEAR Rainfall=4.90"

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Summary for Subcatchment 1S:

Runoff = 47.21 cfs @ 13.47 hrs, Volume= 11.366 af, Depth> 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=4.90"

Area (ac)	CN	Description
0.860	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.500	98	Impervious Area
1.000	80	>75% Grass cover, Good, HSG D
12.020	70	Woods, Good, HSG C
49.250	77	Woods, Good, HSG D
1.000	39	Pasture/grassland/range, Good, HSG A
0.770	74	Pasture/grassland/range, Good, HSG C
* 0.720	74	Untreated Grass from Development
66.120	75	Weighted Average
65.190		98.59% Pervious Area
0.930		1.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
67.2	150	0.0100	0.04		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.30"
7.9	410	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.8	970	0.0370	0.96		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
33.0	700	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
124.9	2,230	Total			

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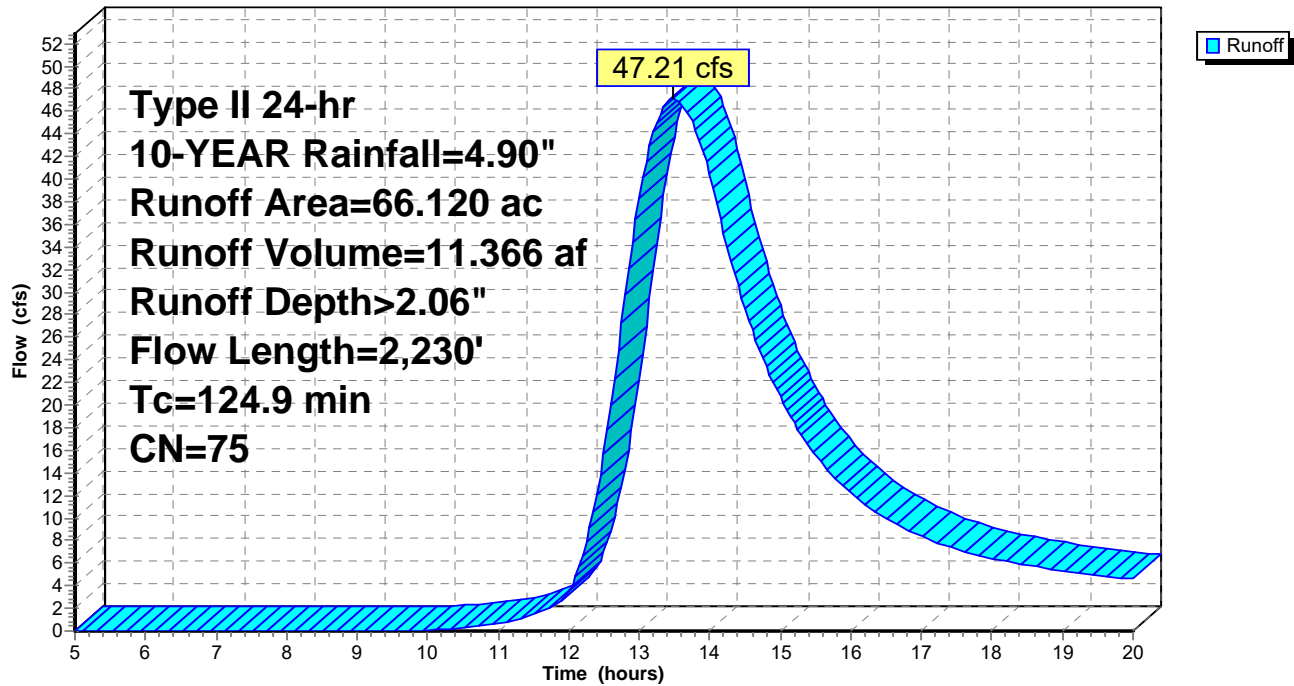
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Type II 24-hr 10-YEAR Rainfall=4.90"

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Subcatchment 1S:

Hydrograph



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Summary for Subcatchment 2S:

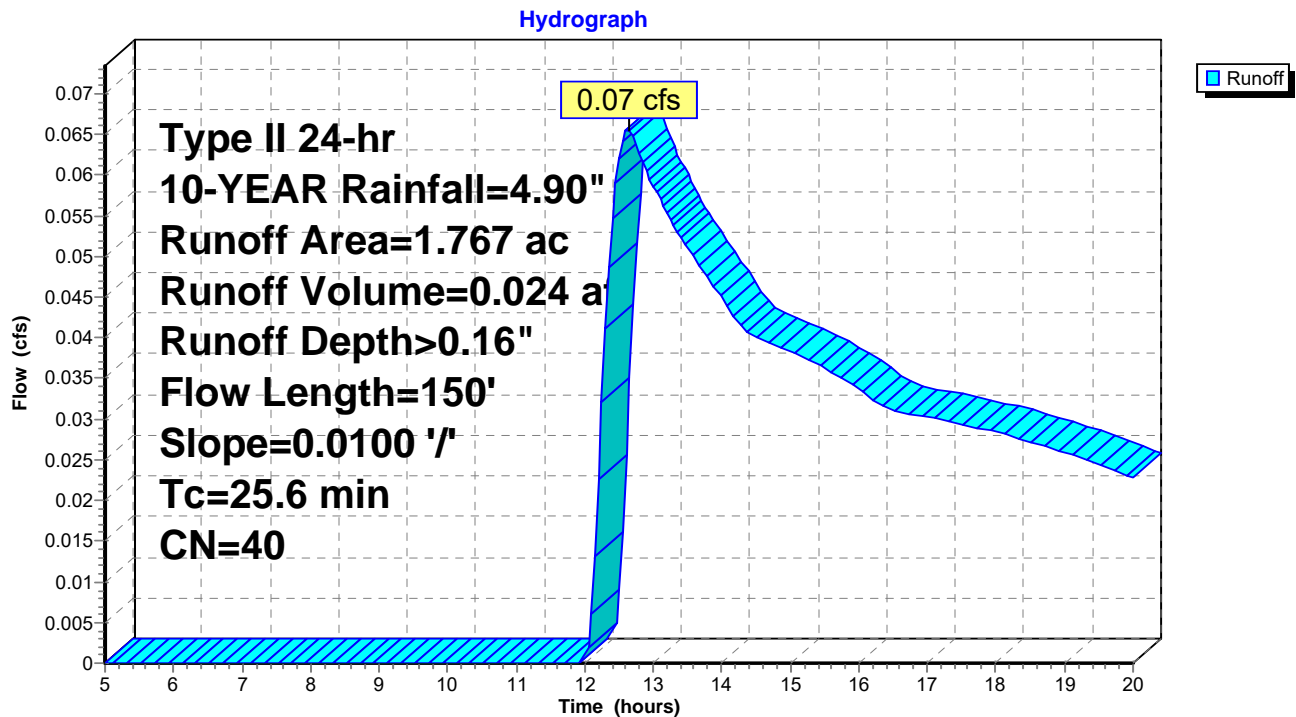
Runoff = 0.07 cfs @ 12.64 hrs, Volume= 0.024 af, Depth> 0.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=4.90"

Area (ac)	CN	Description
0.114	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.095	98	Impervious Area
0.190	39	>75% Grass cover, Good, HSG A
0.190	39	Pasture/grassland/range, Good, HSG A
1.178	30	Woods, Good, HSG A
1.767	40	Weighted Average
1.615		91.40% Pervious Area
0.152		8.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.6	150	0.0100	0.10		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"

Subcatchment 2S:



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Summary for Subcatchment 10:

Runoff = 17.12 cfs @ 12.07 hrs, Volume= 1.001 af, Depth> 2.33"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=4.90"

	Area (sf)	CN	Description
*	85,518	98	Impervious
*	34,380	98	Potential Outparcel Impervious
	50,000	39	>75% Grass cover, Good, HSG A
	22,792	74	>75% Grass cover, Good, HSG C
	11,460	39	>75% Grass cover, Good, HSG A
*	15,000	74	Stormwater Pond
	5,000	70	Woods, Good, HSG C
	224,150	77	Weighted Average
	104,252		46.51% Pervious Area
	119,898		53.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	70	0.0140	0.10		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.7	50	0.0200	1.22		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
1.5	800	0.0200	9.11	16.09	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
14.4	920	Total			

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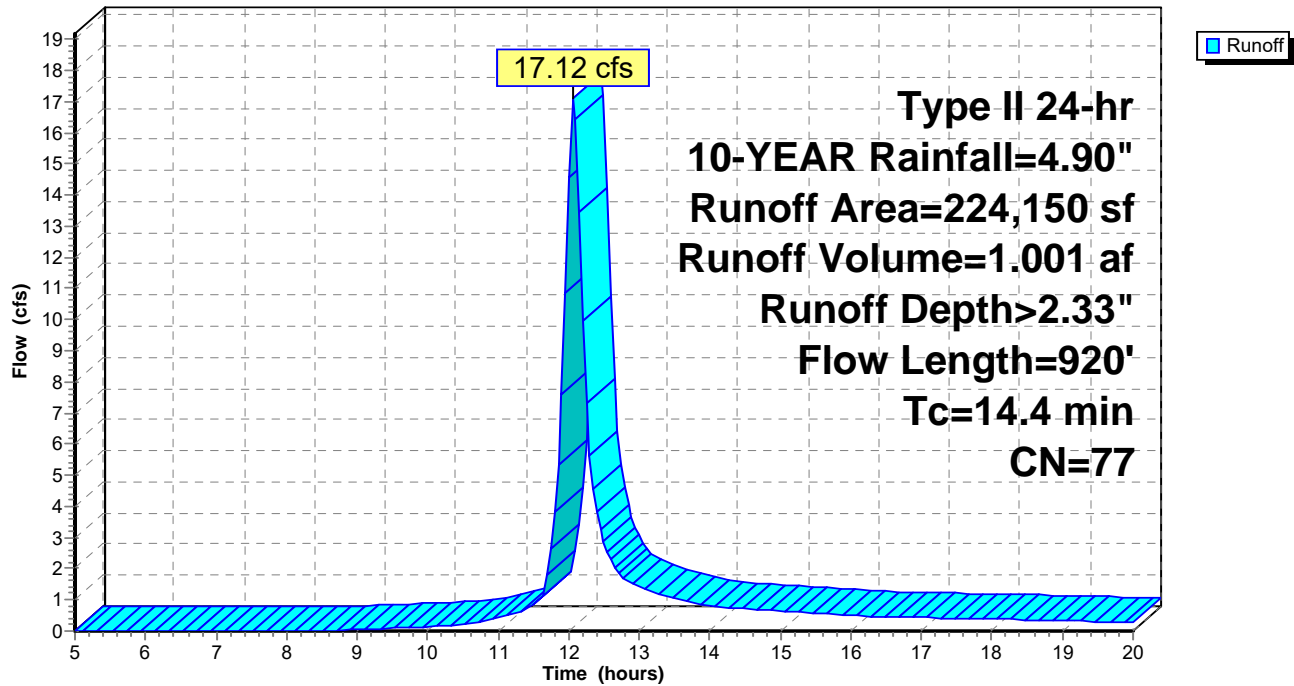
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Subcatchment 10:

Hydrograph



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Summary for Subcatchment 11:

Runoff = 1.63 cfs @ 12.50 hrs, Volume= 0.206 af, Depth> 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-YEAR Rainfall=4.90"

	Area (sf)	CN	Description
*	14,173	98	Impervious
	18,827	74	>75% Grass cover, Good, HSG C
	6,446	70	Woods, Good, HSG C
	39,446	82	Weighted Average
	25,273		64.07% Pervious Area
	14,173		35.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	105	0.0200	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.6	45	0.0200	1.19		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
0.4	110	0.0600	4.97		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.8	70	0.0100	1.50		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
34.5	150	0.0530	0.07		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.30"
50.9	480	Total			

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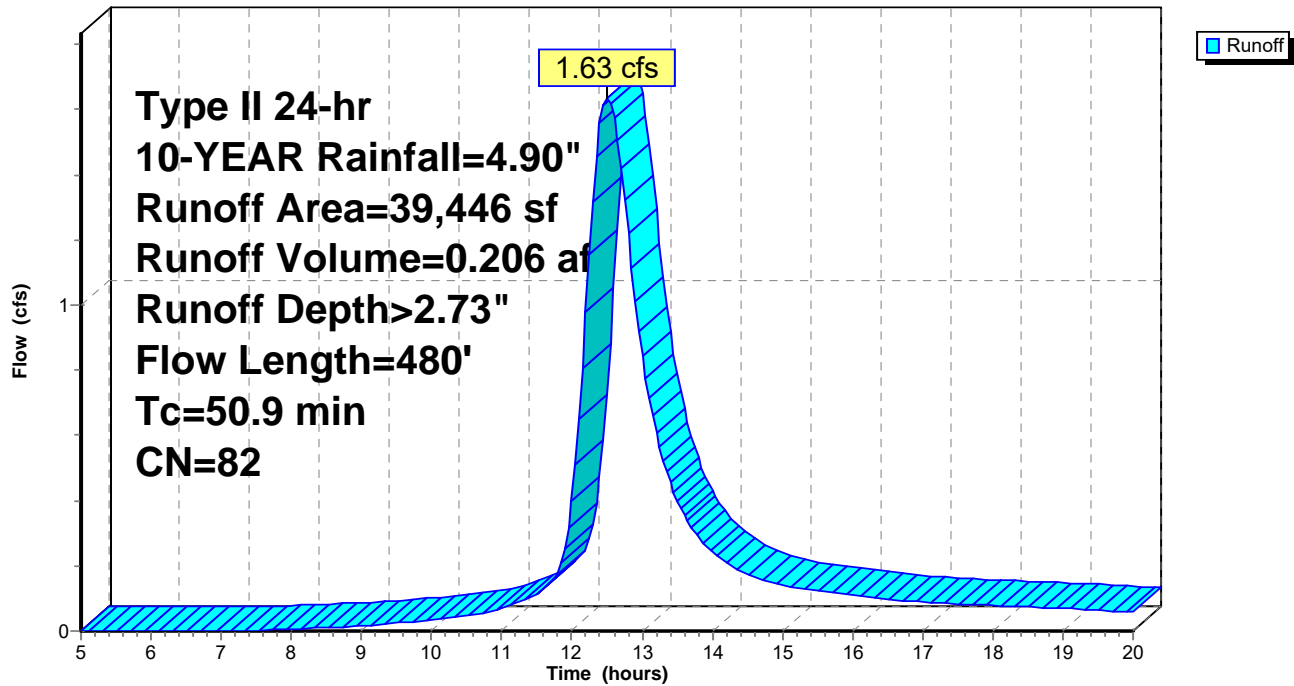
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Subcatchment 11:

Hydrograph



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Summary for Subcatchment Roof: Roof

[49] Hint: $T_c < 2dt$ may require smaller dt

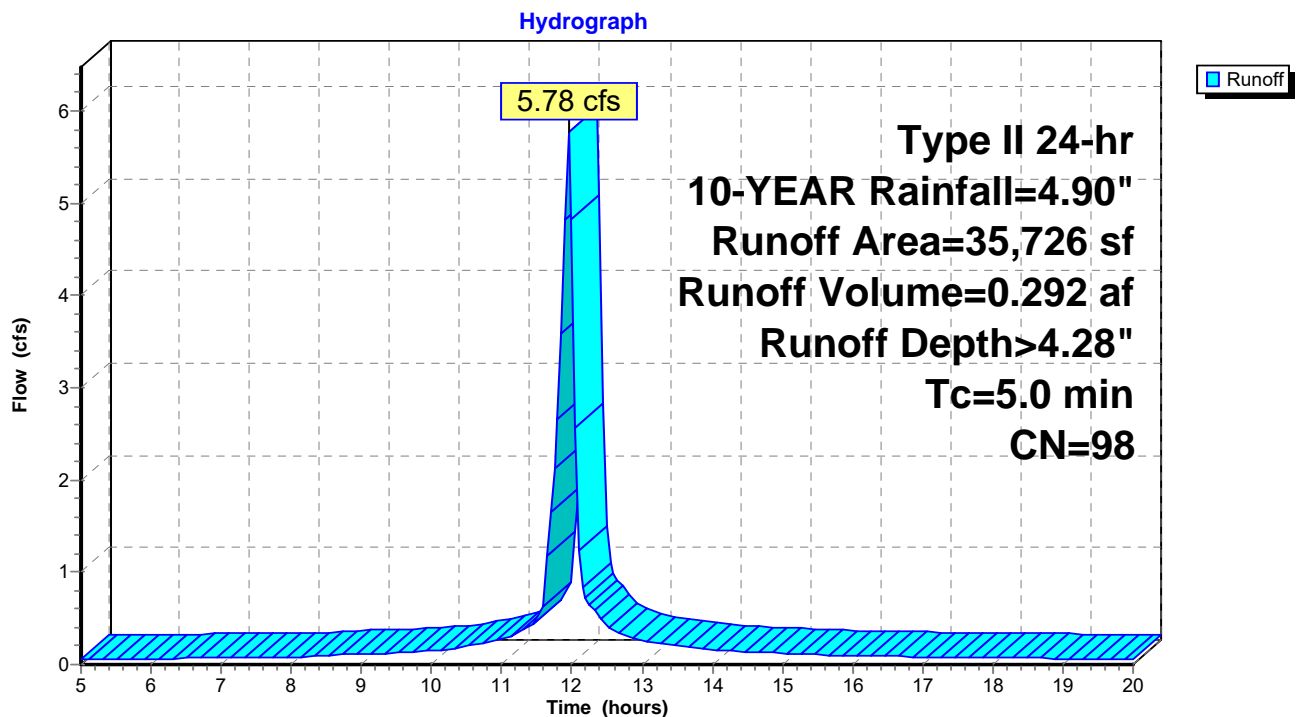
Runoff = 5.78 cfs @ 11.95 hrs, Volume= 0.292 af, Depth> 4.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type II 24-hr 10-YEAR Rainfall=4.90"

	Area (sf)	CN	Description
*	35,726	98	Impervious
	35,726		100.00% Impervious Area

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

Subcatchment Roof: Roof



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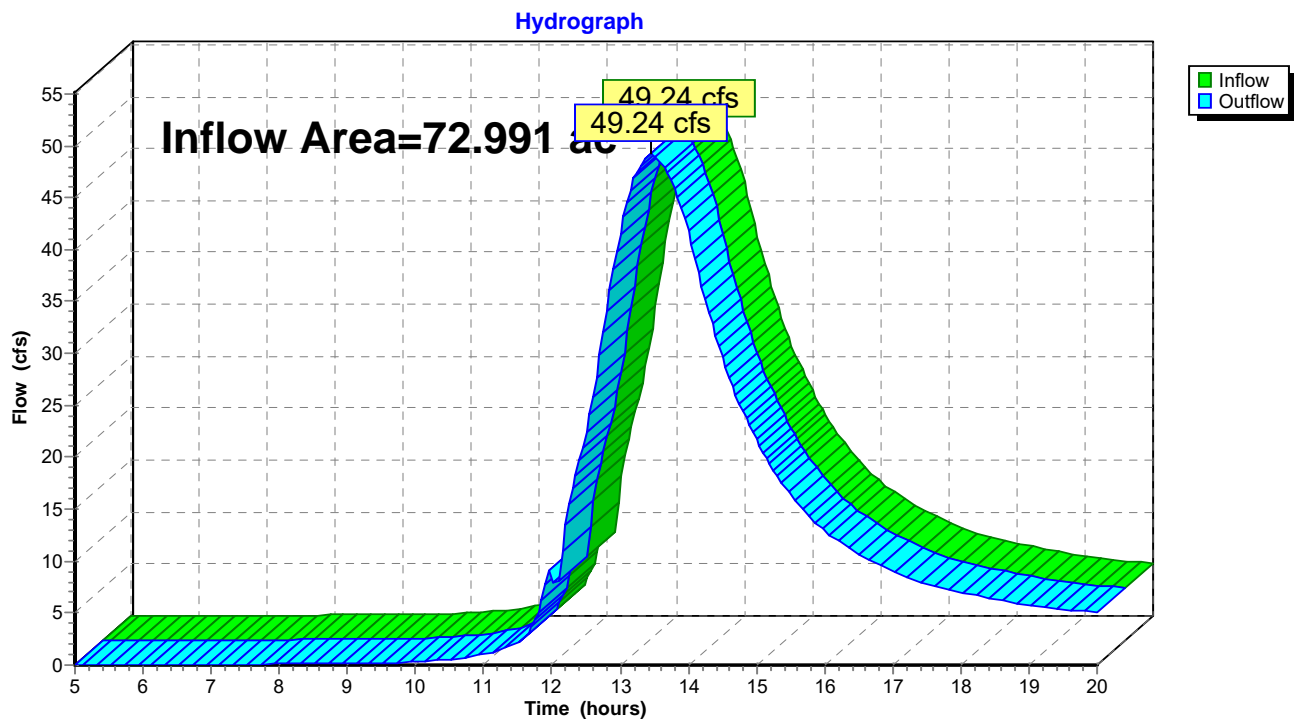
Summary for Reach SP#1: Study Point #1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 72.991 ac, 6.61% Impervious, Inflow Depth > 2.06" for 10-YEAR event
Inflow = 49.24 cfs @ 13.46 hrs, Volume= 12.545 af
Outflow = 49.24 cfs @ 13.46 hrs, Volume= 12.545 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#1: Study Point #1



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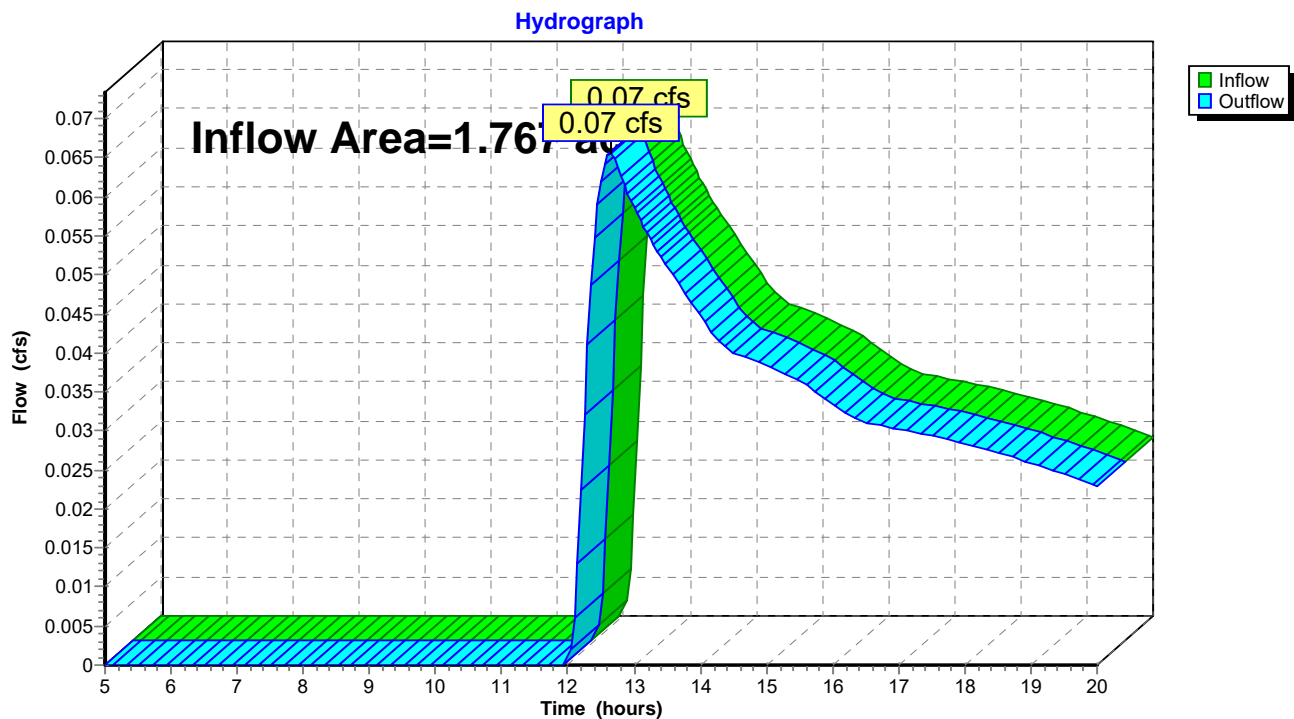
Summary for Reach SP#2: Study Point #2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.767 ac, 8.60% Impervious, Inflow Depth > 0.16" for 10-YEAR event
Inflow = 0.07 cfs @ 12.64 hrs, Volume= 0.024 af
Outflow = 0.07 cfs @ 12.64 hrs, Volume= 0.024 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#2: Study Point #2



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Summary for Pond 1P: Gravel Wetland #1

[43] Hint: Has no inflow (Outflow=Zero)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	44,567 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.00	6,980	0	0
82.00	9,227	8,104	8,104
82.51	11,000	5,158	13,261
84.00	12,900	17,805	31,067
85.00	14,100	13,500	44,567

Device	Routing	Invert	Outlet Devices
#1	Primary	80.67'	15.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 80.67' / 80.50' S= 0.0068 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	82.50'	0.7' long Sharp-Crested Vee/Trap Weir Cv= 2.62 (C= 3.28)
#3	Device 2	82.50'	15.0" Round Culvert L= 12.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.50' / 82.30' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#4	Device 1	78.25'	1.0" Vert. Orifice/Grate C= 0.600
#5	Device 4	78.25'	6.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.25' / 78.25' S= 0.0000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#6	Device 5	81.00'	2.400 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.67'
#7	Secondary	84.00'	20.0' long x 13.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)

1=Culvert (Controls 0.00 cfs)
 2=Sharp-Crested Vee/Trap Weir (Controls 0.00 cfs)
 3=Culvert (Controls 0.00 cfs)
 4=Orifice/Grate (Controls 0.00 cfs)
 5=Culvert (Controls 0.00 cfs)
 6=Exfiltration (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)

7=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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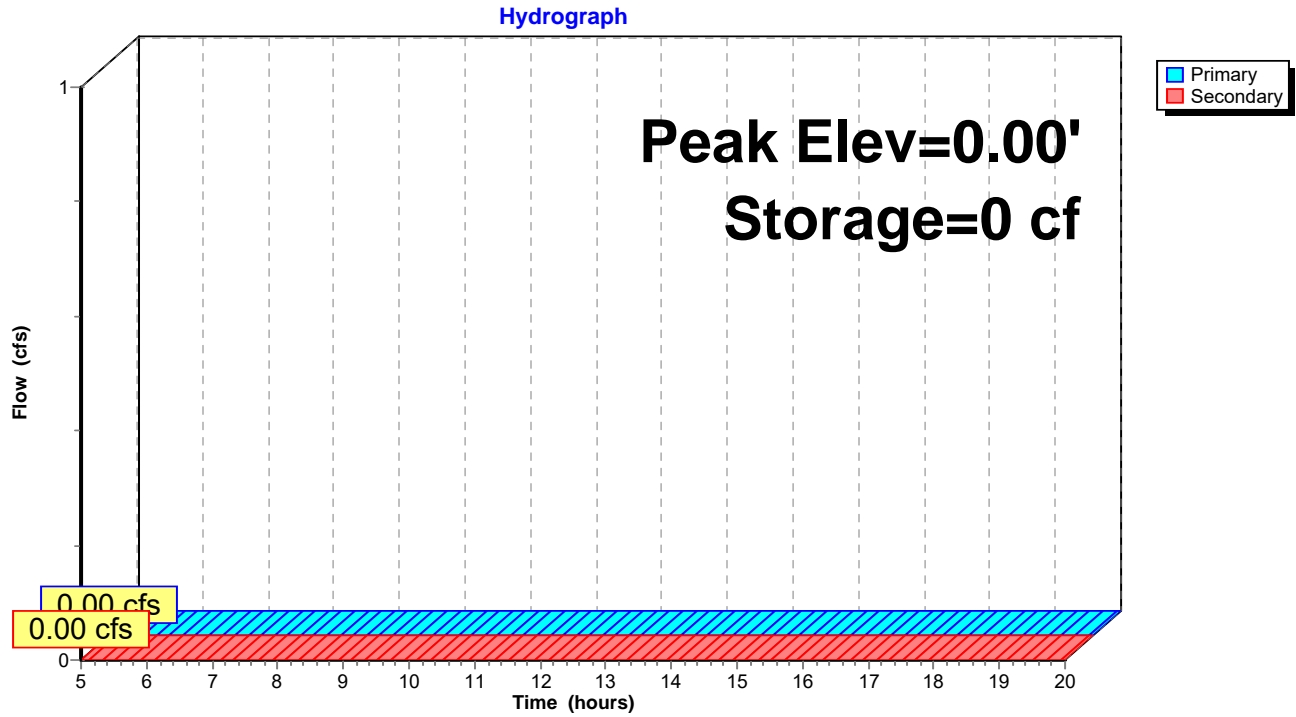
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Pond 1P: Gravel Wetland #1



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Summary for Pond GW1: Gravel Wetland #1

Inflow Area = 5.146 ac, 53.49% Impervious, Inflow Depth > 2.33" for 10-YEAR event
 Inflow = 17.12 cfs @ 12.07 hrs, Volume= 1.001 af
 Outflow = 5.94 cfs @ 12.30 hrs, Volume= 0.680 af, Atten= 65%, Lag= 13.9 min
 Primary = 5.94 cfs @ 12.30 hrs, Volume= 0.680 af
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 83.09' @ 12.30 hrs Surf.Area= 11,737 sf Storage= 19,828 cf

Plug-Flow detention time= 125.9 min calculated for 0.678 af (68% of inflow)
 Center-of-Mass det. time= 57.1 min (849.4 - 792.4)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	44,567 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.00	6,980	0	0
82.00	9,227	8,104	8,104
82.51	11,000	5,158	13,261
84.00	12,900	17,805	31,067
85.00	14,100	13,500	44,567

Device	Routing	Invert	Outlet Devices
#1	Primary	80.67'	15.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 80.67' / 80.50' S= 0.0068 ' S= 0.0068 ' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	82.50'	4.0' long Sharp-Crested Vee/Trap Weir Cv= 2.62 (C= 3.28)
#3	Device 1	78.25'	1.0" Vert. Orifice/Grate C= 0.600
#4	Device 3	78.25'	6.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.25' / 78.25' S= 0.0000 ' S= 0.0000 ' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#5	Device 4	81.00'	2.400 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.67'
#6	Secondary	83.65'	20.0' long x 13.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63

Primary OutFlow Max=5.93 cfs @ 12.30 hrs HW=83.09' (Free Discharge)

1=Culvert (Passes 5.93 cfs of 7.91 cfs potential flow)
 2=Sharp-Crested Vee/Trap Weir (Weir Controls 5.89 cfs @ 2.51 fps)
 3=Orifice/Grate (Orifice Controls 0.04 cfs @ 7.49 fps)
 4=Culvert (Passes 0.04 cfs of 0.83 cfs potential flow)
 5=Exfiltration (Passes 0.04 cfs of 3.44 cfs potential flow)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=81.00' (Free Discharge)

6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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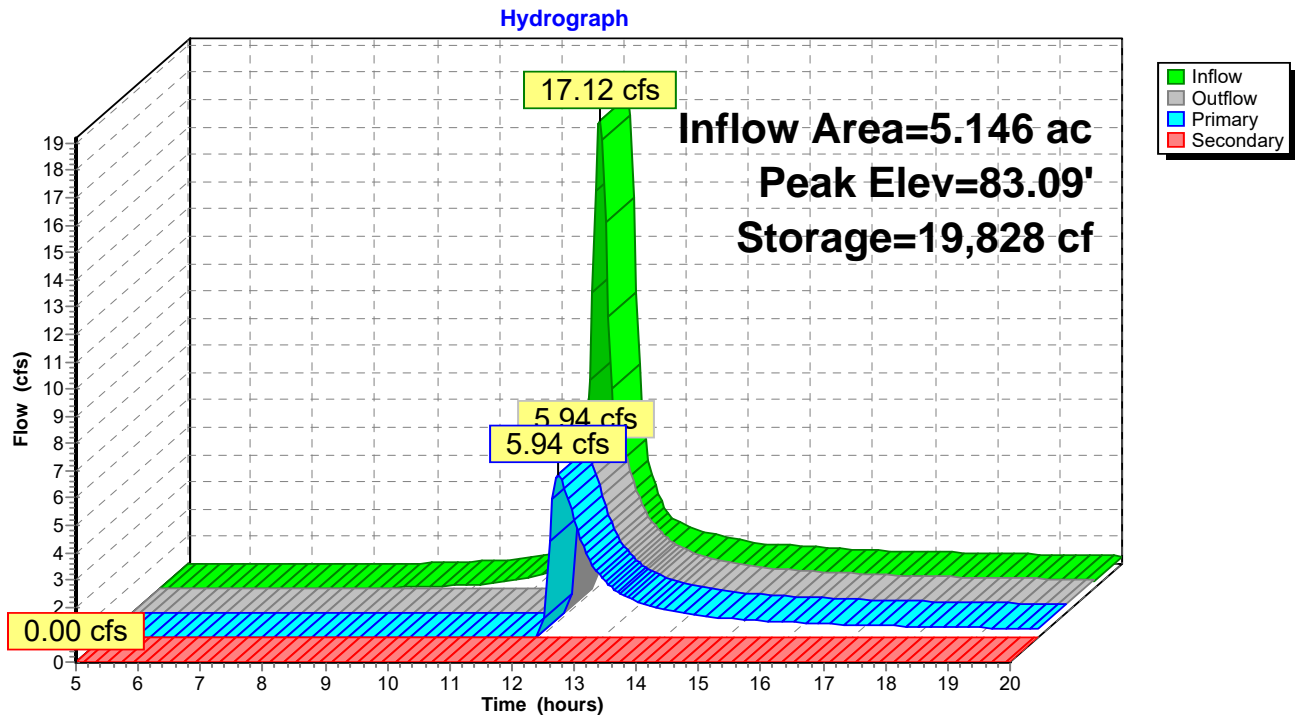
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Pond GW1: Gravel Wetland #1



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Type II 24-hr 25-YEAR Rainfall=6.20"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area=66.120 ac 1.41% Impervious Runoff Depth>3.04"
Flow Length=2,230' Tc=124.9 min CN=75 Runoff=69.90 cfs 16.749 af

Subcatchment 2S: Runoff Area=1.767 ac 8.60% Impervious Runoff Depth>0.46"
Flow Length=150' Slope=0.0100 '/' Tc=25.6 min CN=40 Runoff=0.42 cfs 0.068 af

Subcatchment 10: Runoff Area=224,150 sf 53.49% Impervious Runoff Depth>3.38"
Flow Length=920' Tc=14.4 min CN=77 Runoff=24.57 cfs 1.449 af

Subcatchment 11: Runoff Area=39,446 sf 35.93% Impervious Runoff Depth>3.84"
Flow Length=480' Tc=50.9 min CN=82 Runoff=2.28 cfs 0.289 af

Subcatchment Roof: Roof Runoff Area=35,726 sf 100.00% Impervious Runoff Depth>5.45"
Tc=5.0 min CN=98 Runoff=7.33 cfs 0.372 af

Reach SP#1: Study Point #1 Inflow=72.71 cfs 18.534 af
Outflow=72.71 cfs 18.534 af

Reach SP#2: Study Point #2 Inflow=0.42 cfs 0.068 af
Outflow=0.42 cfs 0.068 af

Pond 1P: Gravel Wetland #1 Peak Elev=0.00' Storage=0 cf
Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af

Pond GW1: Gravel Wetland #1 Peak Elev=83.67' Storage=26,857 cf Inflow=24.57 cfs 1.449 af
Primary=9.10 cfs 1.123 af Secondary=0.13 cfs 0.001 af Outflow=9.23 cfs 1.124 af

Total Runoff Area = 74.758 ac Runoff Volume = 18.928 af Average Runoff Depth = 3.04"
93.34% Pervious = 69.778 ac 6.66% Impervious = 4.980 ac

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Type II 24-hr 25-YEAR Rainfall=6.20"

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Summary for Subcatchment 1S:

Runoff = 69.90 cfs @ 13.46 hrs, Volume= 16.749 af, Depth> 3.04"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.20"

Area (ac)	CN	Description
0.860	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.500	98	Impervious Area
1.000	80	>75% Grass cover, Good, HSG D
12.020	70	Woods, Good, HSG C
49.250	77	Woods, Good, HSG D
1.000	39	Pasture/grassland/range, Good, HSG A
0.770	74	Pasture/grassland/range, Good, HSG C
* 0.720	74	Untreated Grass from Development
66.120	75	Weighted Average
65.190		98.59% Pervious Area
0.930		1.41% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
67.2	150	0.0100	0.04		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.30"
7.9	410	0.0300	0.87		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
16.8	970	0.0370	0.96		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
33.0	700	0.0050	0.35		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
124.9	2,230	Total			

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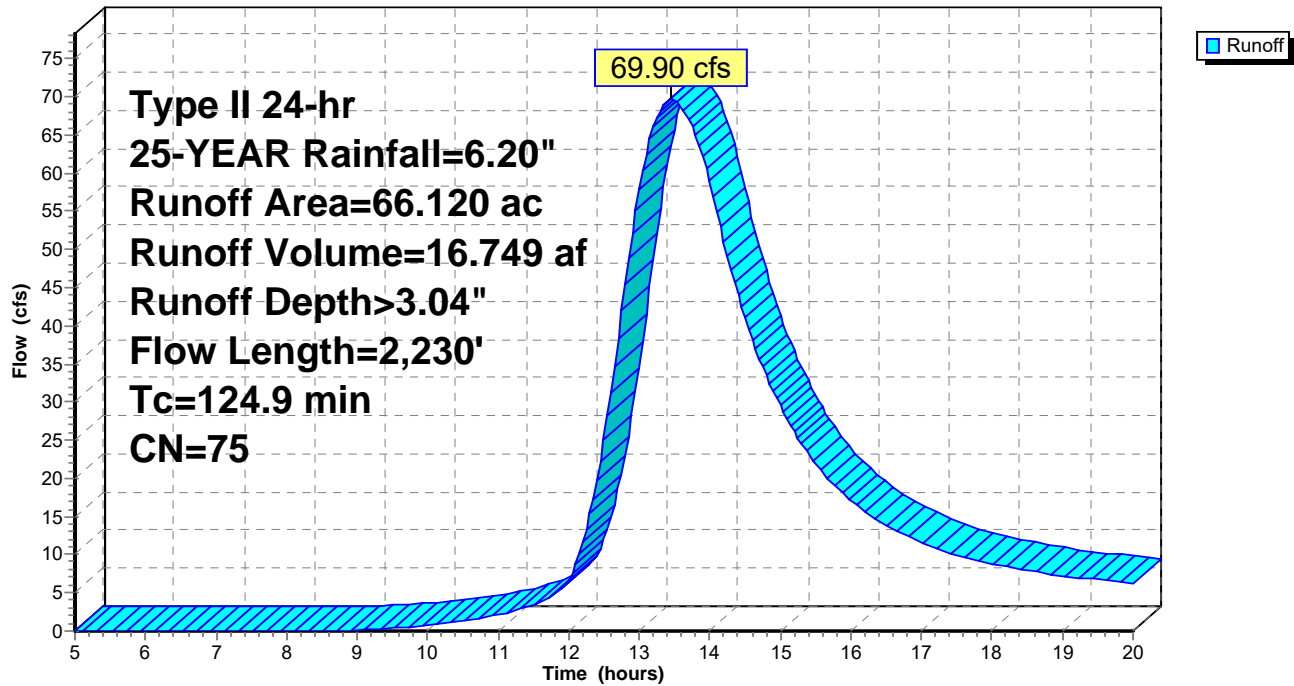
Clover Leaf - Post Development
Type II 24-hr 25-YEAR Rainfall=6.20"

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Subcatchment 1S:

Hydrograph



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Summary for Subcatchment 2S:

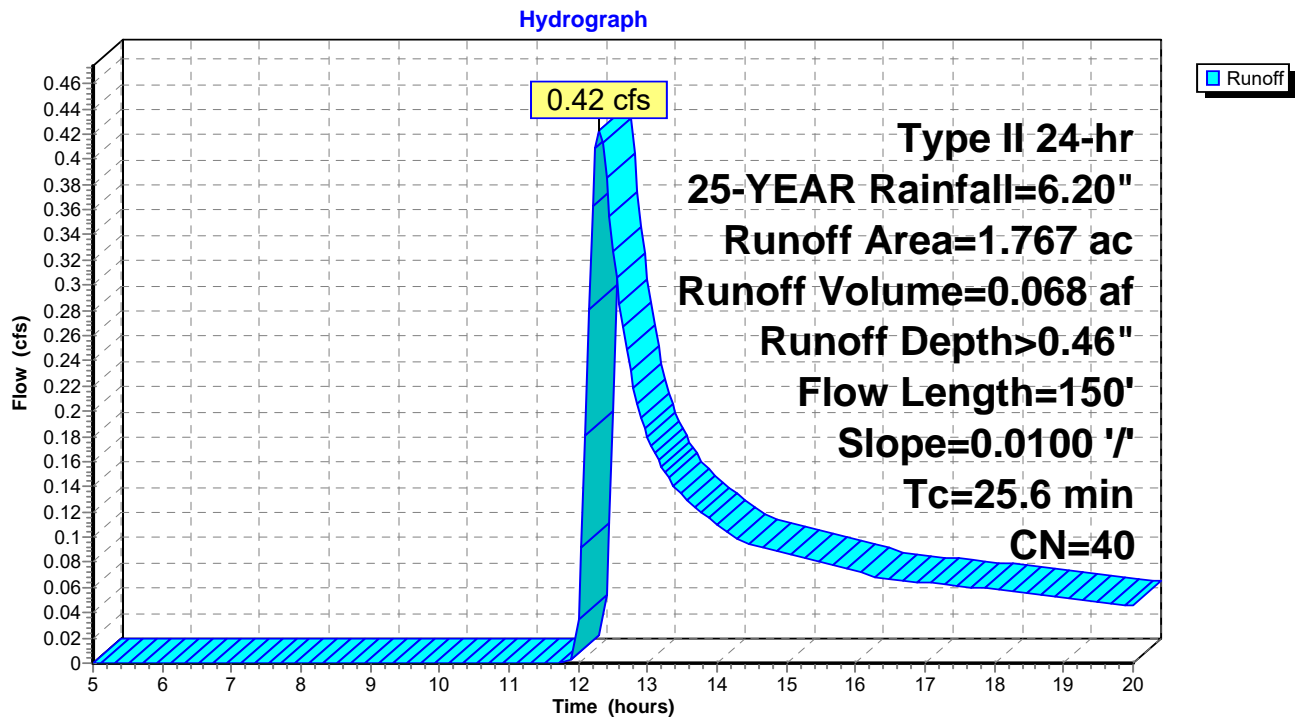
Runoff = 0.42 cfs @ 12.30 hrs, Volume= 0.068 af, Depth> 0.46"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.20"

Area (ac)	CN	Description
0.114	92	Paved roads w/open ditches, 50% imp, HSG C
* 0.095	98	Impervious Area
0.190	39	>75% Grass cover, Good, HSG A
0.190	39	Pasture/grassland/range, Good, HSG A
1.178	30	Woods, Good, HSG A
1.767	40	Weighted Average
1.615		91.40% Pervious Area
0.152		8.60% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
25.6	150	0.0100	0.10		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"

Subcatchment 2S:



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Summary for Subcatchment 10:

Runoff = 24.57 cfs @ 12.06 hrs, Volume= 1.449 af, Depth> 3.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.20"

	Area (sf)	CN	Description
*	85,518	98	Impervious
*	34,380	98	Potential Outparcel Impervious
	50,000	39	>75% Grass cover, Good, HSG A
	22,792	74	>75% Grass cover, Good, HSG C
	11,460	39	>75% Grass cover, Good, HSG A
*	15,000	74	Stormwater Pond
	5,000	70	Woods, Good, HSG C
	224,150	77	Weighted Average
	104,252		46.51% Pervious Area
	119,898		53.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.2	70	0.0140	0.10		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.7	50	0.0200	1.22		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
1.5	800	0.0200	9.11	16.09	Pipe Channel, 18.0" Round Area= 1.8 sf Perim= 4.7' r= 0.38' n= 0.012
14.4	920	Total			

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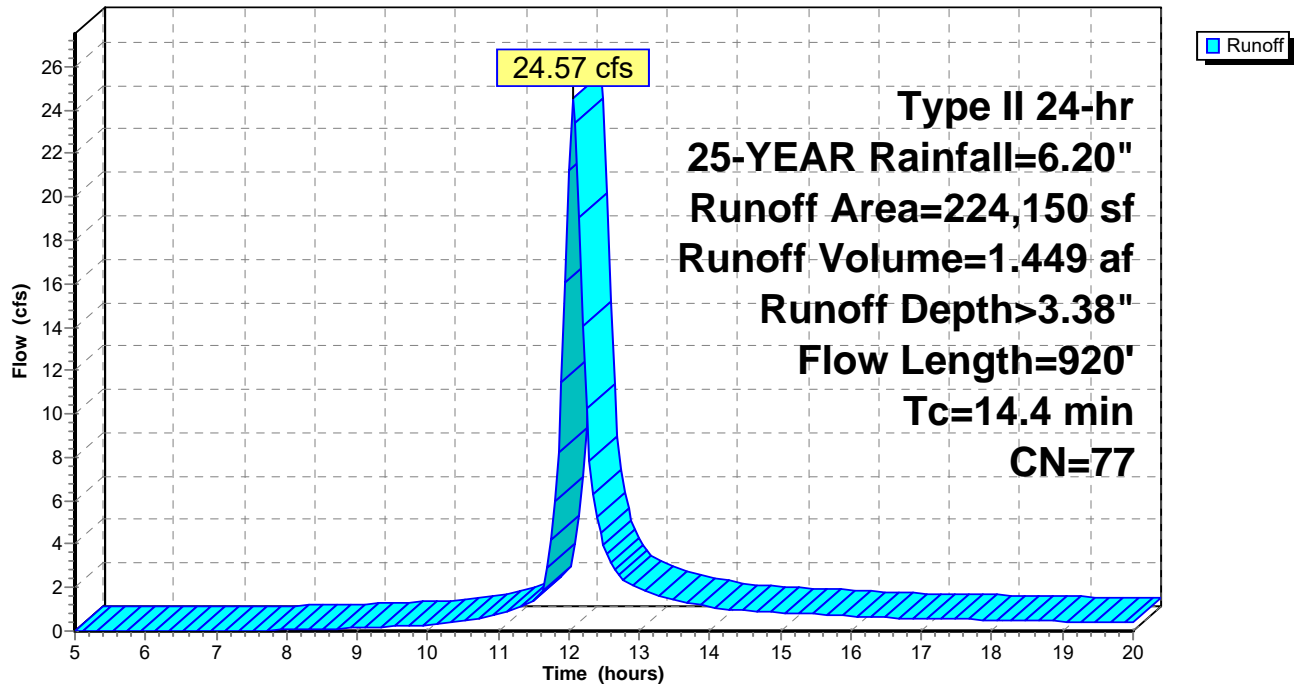
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Type II 24-hr 25-YEAR Rainfall=6.20"

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Subcatchment 10:

Hydrograph



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Type II 24-hr 25-YEAR Rainfall=6.20"

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Summary for Subcatchment 11:

Runoff = 2.28 cfs @ 12.50 hrs, Volume= 0.289 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-YEAR Rainfall=6.20"

	Area (sf)	CN	Description
*	14,173	98	Impervious
	18,827	74	>75% Grass cover, Good, HSG C
	6,446	70	Woods, Good, HSG C
	39,446	82	Weighted Average
	25,273		64.07% Pervious Area
	14,173		35.93% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.6	105	0.0200	0.12		Sheet Flow, Grass: Dense n= 0.240 P2= 3.30"
0.6	45	0.0200	1.19		Sheet Flow, Smooth surfaces n= 0.011 P2= 3.30"
0.4	110	0.0600	4.97		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.8	70	0.0100	1.50		Shallow Concentrated Flow, Grassed Waterway Kv= 15.0 fps
34.5	150	0.0530	0.07		Sheet Flow, Woods: Dense underbrush n= 0.800 P2= 3.30"
50.9	480	Total			

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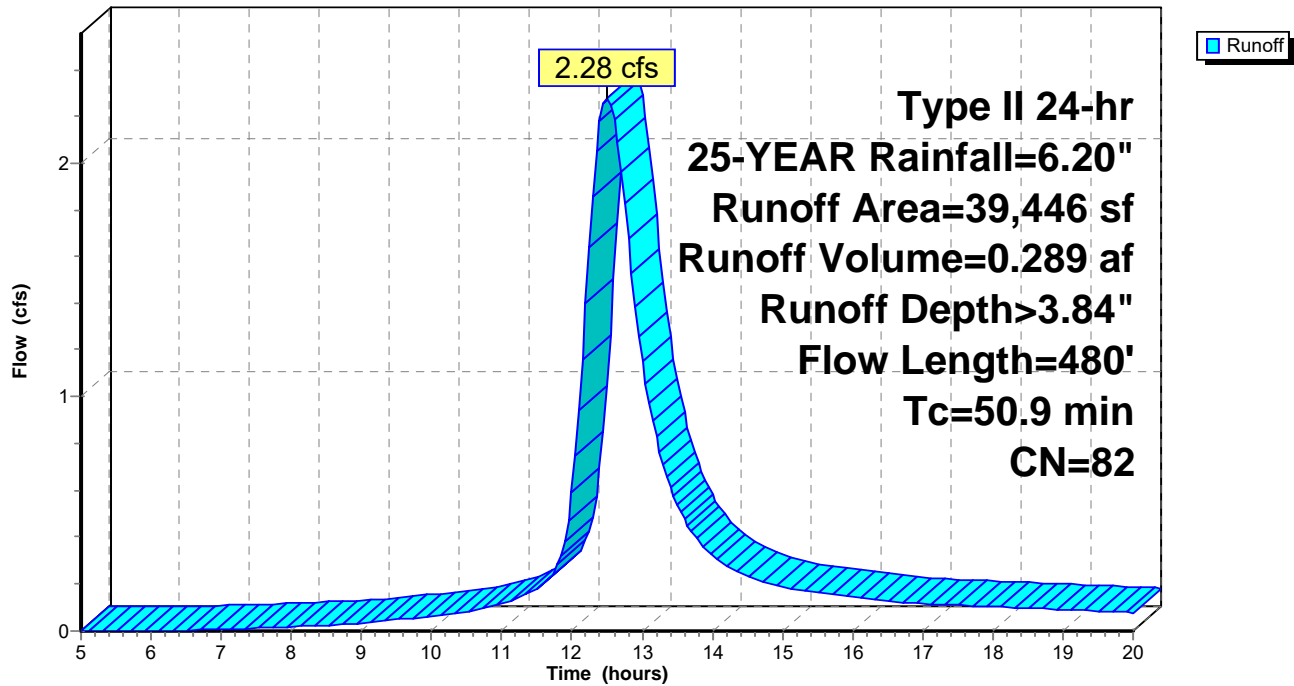
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Subcatchment 11:

Hydrograph



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Type II 24-hr 25-YEAR Rainfall=6.20"

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Summary for Subcatchment Roof: Roof

[49] Hint: $T_c < 2dt$ may require smaller dt

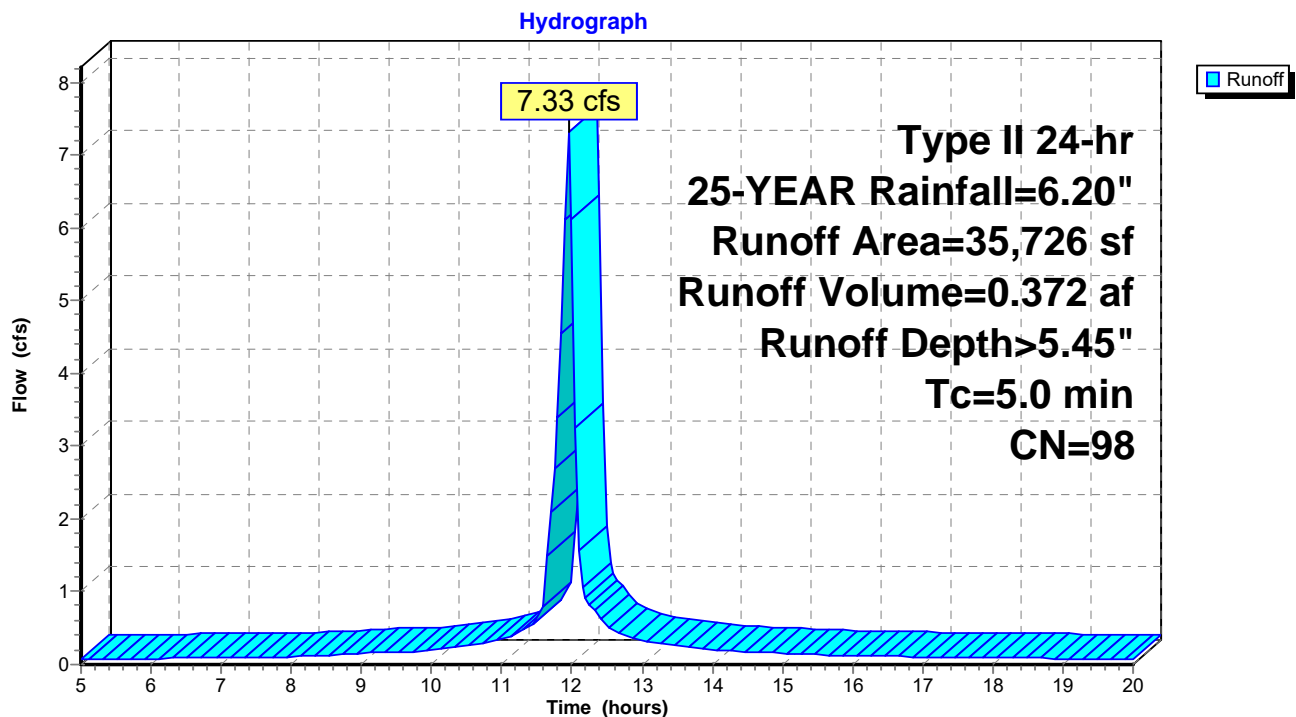
Runoff = 7.33 cfs @ 11.95 hrs, Volume= 0.372 af, Depth> 5.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, $dt=0.05$ hrs
Type II 24-hr 25-YEAR Rainfall=6.20"

	Area (sf)	CN	Description
*	35,726	98	Impervious
	35,726		100.00% Impervious Area

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

Subcatchment Roof: Roof



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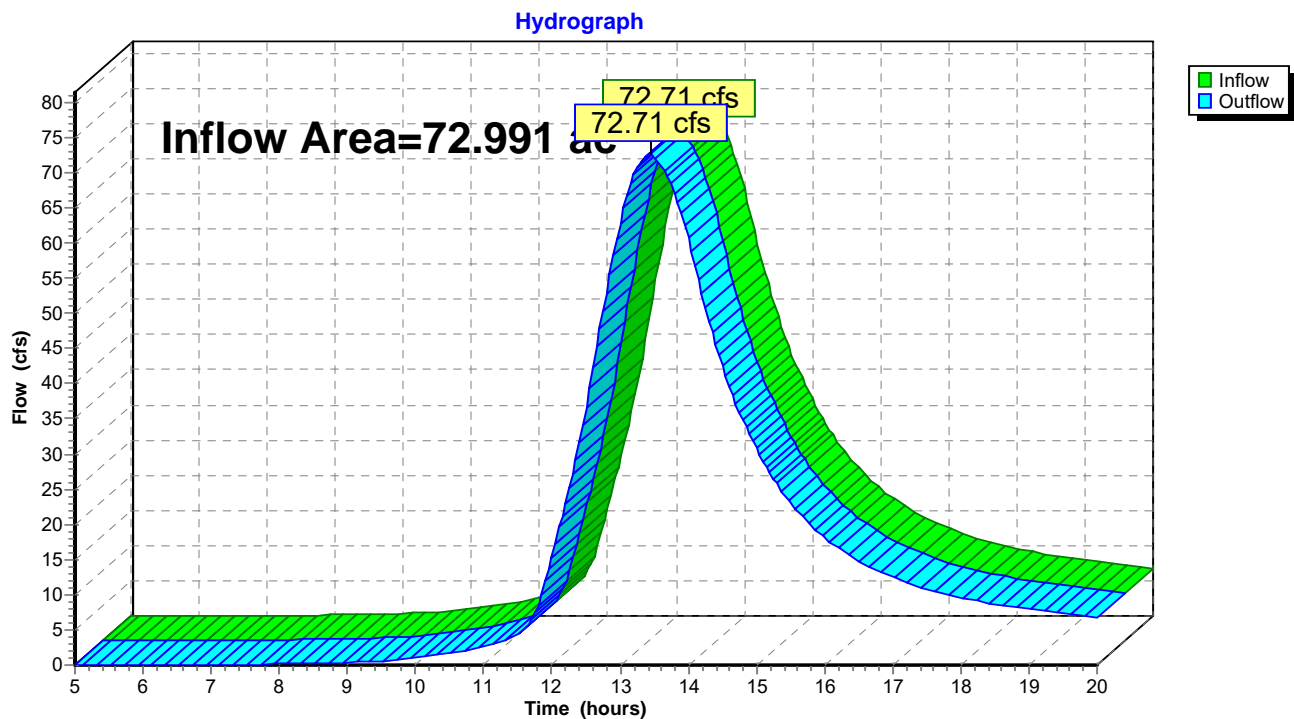
Summary for Reach SP#1: Study Point #1

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 72.991 ac, 6.61% Impervious, Inflow Depth > 3.05" for 25-YEAR event
Inflow = 72.71 cfs @ 13.45 hrs, Volume= 18.534 af
Outflow = 72.71 cfs @ 13.45 hrs, Volume= 18.534 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#1: Study Point #1



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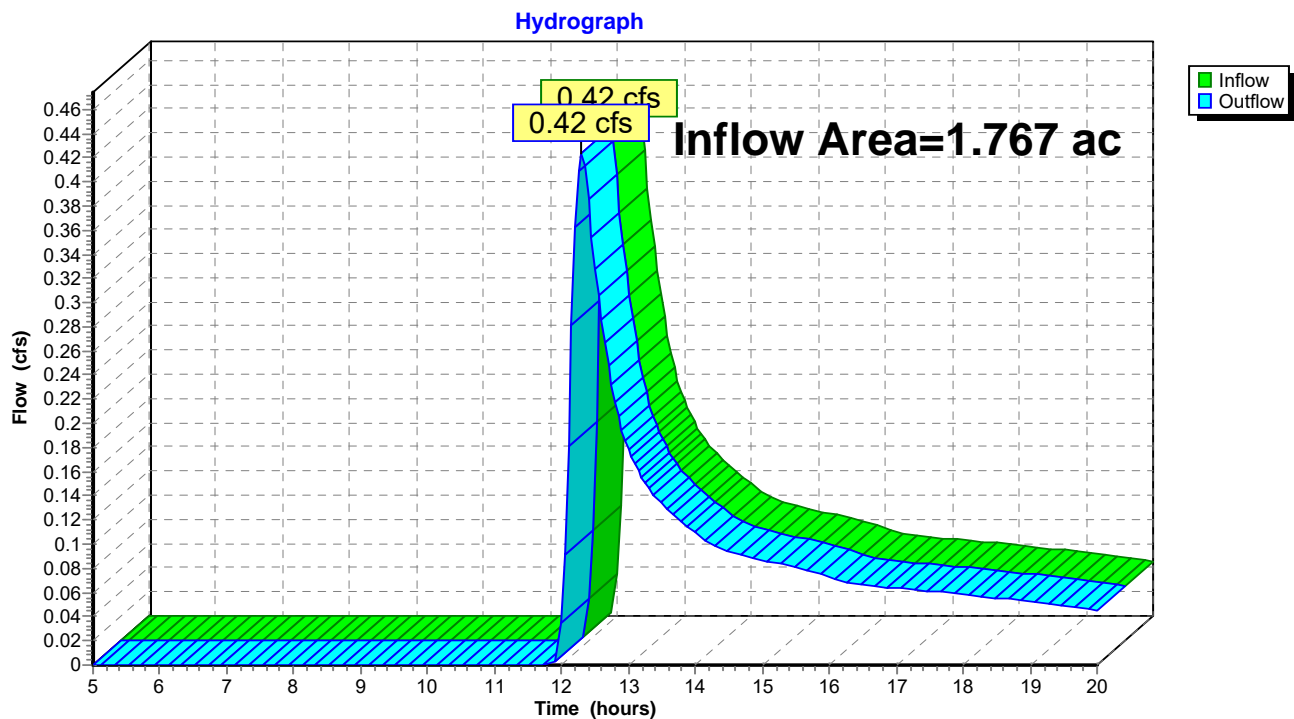
Summary for Reach SP#2: Study Point #2

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 1.767 ac, 8.60% Impervious, Inflow Depth > 0.46" for 25-YEAR event
Inflow = 0.42 cfs @ 12.30 hrs, Volume= 0.068 af
Outflow = 0.42 cfs @ 12.30 hrs, Volume= 0.068 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP#2: Study Point #2



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Summary for Pond 1P: Gravel Wetland #1

[43] Hint: Has no inflow (Outflow=Zero)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	44,567 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.00	6,980	0	0
82.00	9,227	8,104	8,104
82.51	11,000	5,158	13,261
84.00	12,900	17,805	31,067
85.00	14,100	13,500	44,567

Device	Routing	Invert	Outlet Devices
#1	Primary	80.67'	15.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 80.67' / 80.50' S= 0.0068 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	82.50'	0.7' long Sharp-Crested Vee/Trap Weir Cv= 2.62 (C= 3.28)
#3	Device 2	82.50'	15.0" Round Culvert L= 12.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 82.50' / 82.30' S= 0.0167 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#4	Device 1	78.25'	1.0" Vert. Orifice/Grate C= 0.600
#5	Device 4	78.25'	6.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.25' / 78.25' S= 0.0000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#6	Device 5	81.00'	2.400 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.67'
#7	Secondary	84.00'	20.0' long x 13.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)

1=Culvert (Controls 0.00 cfs)
 2=Sharp-Crested Vee/Trap Weir (Controls 0.00 cfs)
 3=Culvert (Controls 0.00 cfs)
 4=Orifice/Grate (Controls 0.00 cfs)
 5=Culvert (Controls 0.00 cfs)
 6=Exfiltration (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=0.00' (Free Discharge)

7=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

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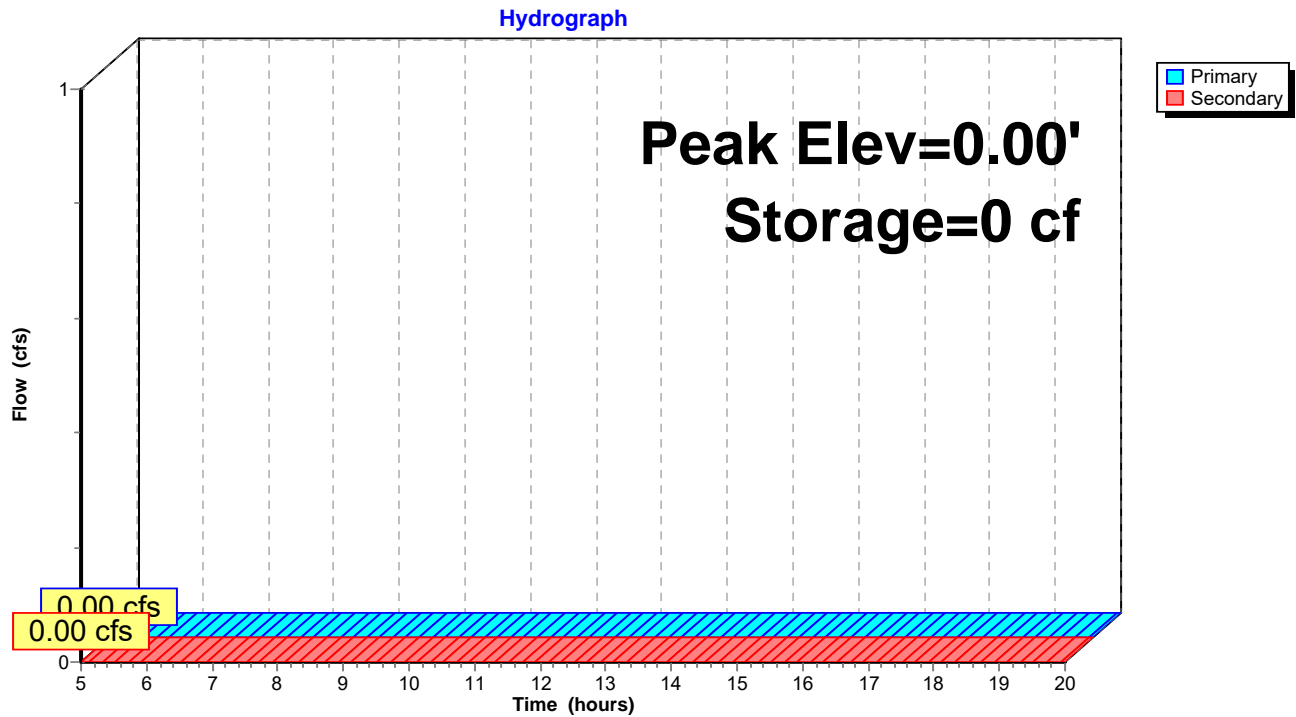
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Type II 24-hr 25-YEAR Rainfall=6.20"

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Pond 1P: Gravel Wetland #1



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Summary for Pond GW1: Gravel Wetland #1

Inflow Area = 5.146 ac, 53.49% Impervious, Inflow Depth > 3.38" for 25-YEAR event
Inflow = 24.57 cfs @ 12.06 hrs, Volume= 1.449 af
Outflow = 9.23 cfs @ 12.27 hrs, Volume= 1.124 af, Atten= 62%, Lag= 12.4 min
Primary = 9.10 cfs @ 12.27 hrs, Volume= 1.123 af
Secondary = 0.13 cfs @ 12.27 hrs, Volume= 0.001 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 83.67' @ 12.27 hrs Surf.Area= 12,477 sf Storage= 26,857 cf

Plug-Flow detention time= 103.1 min calculated for 1.124 af (78% of inflow)
Center-of-Mass det. time= 45.0 min (829.4 - 784.4)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	44,567 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.00	6,980	0	0
82.00	9,227	8,104	8,104
82.51	11,000	5,158	13,261
84.00	12,900	17,805	31,067
85.00	14,100	13,500	44,567

Device	Routing	Invert	Outlet Devices
#1	Primary	80.67'	15.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 80.67' / 80.50' S= 0.0068 ' / Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	82.50'	4.0' long Sharp-Crested Vee/Trap Weir Cv= 2.62 (C= 3.28)
#3	Device 1	78.25'	1.0" Vert. Orifice/Grate C= 0.600
#4	Device 3	78.25'	6.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.25' / 78.25' S= 0.0000 ' / Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#5	Device 4	81.00'	2.400 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.67'
#6	Secondary	83.65'	20.0' long x 13.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63

Primary OutFlow Max=9.09 cfs @ 12.27 hrs HW=83.66' (Free Discharge)

- 1=Culvert (Inlet Controls 9.09 cfs @ 7.41 fps)
- 2=Sharp-Crested Vee/Trap Weir (Passes < 16.42 cfs potential flow)
- 3=Orifice/Grate (Passes < 0.05 cfs potential flow)
- 4=Culvert (Passes < 0.93 cfs potential flow)
- 5=Exfiltration (Passes < 4.31 cfs potential flow)

Secondary OutFlow Max=0.07 cfs @ 12.27 hrs HW=83.66' (Free Discharge)

- 6=Broad-Crested Rectangular Weir (Weir Controls 0.07 cfs @ 0.29 fps)

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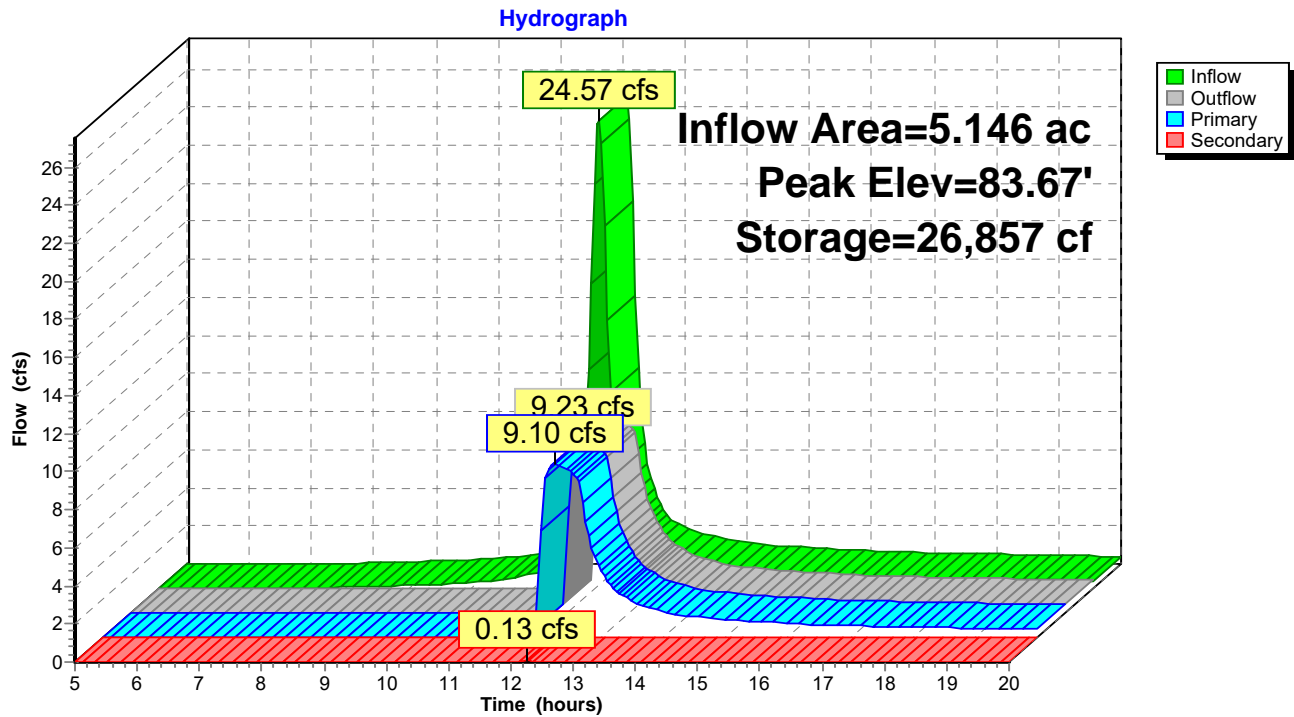
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Type II 24-hr 25-YEAR Rainfall=6.20"

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Pond GW1: Gravel Wetland #1



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25 Year Spillway Check
Type II 24-hr 25-YEAR Rainfall=6.20"

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Summary for Pond GW1: Gravel Wetland #1

Inflow Area = 5.146 ac, 53.49% Impervious, Inflow Depth > 3.38" for 25-YEAR event
 Inflow = 24.57 cfs @ 12.06 hrs, Volume= 1.449 af
 Outflow = 10.41 cfs @ 12.26 hrs, Volume= 0.827 af, Atten= 58%, Lag= 11.9 min
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af
 Secondary = 10.41 cfs @ 12.26 hrs, Volume= 0.827 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 83.99' @ 12.26 hrs Surf.Area= 12,887 sf Storage= 30,932 cf

Plug-Flow detention time= 141.6 min calculated for 0.825 af (57% of inflow)
 Center-of-Mass det. time= 68.2 min (852.6 - 784.4)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	44,567 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.00	6,980	0	0
82.00	9,227	8,104	8,104
82.51	11,000	5,158	13,261
84.00	12,900	17,805	31,067
85.00	14,100	13,500	44,567

Device	Routing	Invert	Outlet Devices
#1	Primary	80.67'	15.0" Round Culvert X 0.00 L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 80.67' / 80.50' S= 0.0068 ' S= 0.0068 ' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	82.50'	4.0' long Sharp-Crested Vee/Trap Weir Cv= 2.62 (C= 3.28)
#3	Device 1	78.25'	1.0" Vert. Orifice/Grate C= 0.600
#4	Device 3	78.25'	6.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.25' / 78.25' S= 0.0000 ' S= 0.0000 ' Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#5	Device 4	81.00'	2.400 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.67'
#6	Secondary	83.65'	20.0' long x 13.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=81.00' (Free Discharge)

- 1=Culvert (Controls 0.00 cfs)
- 2=Sharp-Crested Vee/Trap Weir (Controls 0.00 cfs)
- 3=Orifice/Grate (Passes 0.00 cfs of 0.02 cfs potential flow)
- 4=Culvert (Passes 0.00 cfs of 0.31 cfs potential flow)
- 5=Exfiltration (Passes 0.00 cfs of 0.39 cfs potential flow)

Secondary OutFlow Max=10.19 cfs @ 12.26 hrs HW=83.99' (Free Discharge)

- 6=Broad-Crested Rectangular Weir (Weir Controls 10.19 cfs @ 1.52 fps)

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100 Year Spillway Check
Type II 24-hr 100-YEAR Rainfall=8.70"

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Summary for Pond GW1: Gravel Wetland #1

Inflow Area = 5.146 ac, 53.49% Impervious, Inflow Depth > 5.51" for 100-YEAR event
 Inflow = 39.29 cfs @ 12.06 hrs, Volume= 2.364 af
 Outflow = 31.91 cfs @ 12.15 hrs, Volume= 2.031 af, Atten= 19%, Lag= 5.2 min
 Primary = 10.07 cfs @ 12.15 hrs, Volume= 1.610 af
 Secondary = 21.84 cfs @ 12.15 hrs, Volume= 0.421 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Peak Elev= 84.20' @ 12.15 hrs Surf.Area= 13,139 sf Storage= 33,658 cf

Plug-Flow detention time= 79.8 min calculated for 2.031 af (86% of inflow)
 Center-of-Mass det. time= 36.5 min (809.8 - 773.3)

Volume	Invert	Avail.Storage	Storage Description
#1	81.00'	44,567 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
81.00	6,980	0	0
82.00	9,227	8,104	8,104
82.51	11,000	5,158	13,261
84.00	12,900	17,805	31,067
85.00	14,100	13,500	44,567

Device	Routing	Invert	Outlet Devices
#1	Primary	80.67'	15.0" Round Culvert L= 25.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 80.67' / 80.50' S= 0.0068 ' / Cc= 0.900 n= 0.012, Flow Area= 1.23 sf
#2	Device 1	82.50'	4.0' long Sharp-Crested Vee/Trap Weir Cv= 2.62 (C= 3.28)
#3	Device 1	78.25'	1.0" Vert. Orifice/Grate C= 0.600
#4	Device 3	78.25'	6.0" Round Culvert L= 100.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 78.25' / 78.25' S= 0.0000 ' / Cc= 0.900 n= 0.012, Flow Area= 0.20 sf
#5	Device 4	81.00'	2.400 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 80.67'
#6	Secondary	83.65'	20.0' long x 13.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.60 2.64 2.70 2.66 2.65 2.66 2.65 2.63

Primary OutFlow Max=10.06 cfs @ 12.15 hrs HW=84.20' (Free Discharge)

1=Culvert (Inlet Controls 10.06 cfs @ 8.20 fps)
 2=Sharp-Crested Vee/Trap Weir (Passes < 28.92 cfs potential flow)
 3=Orifice/Grate (Passes < 0.05 cfs potential flow)
 4=Culvert (Passes < 1.01 cfs potential flow)
 5=Exfiltration (Passes < 5.11 cfs potential flow)

Secondary OutFlow Max=21.63 cfs @ 12.15 hrs HW=84.20' (Free Discharge)

6=Broad-Crested Rectangular Weir (Weir Controls 21.63 cfs @ 1.98 fps)

POST

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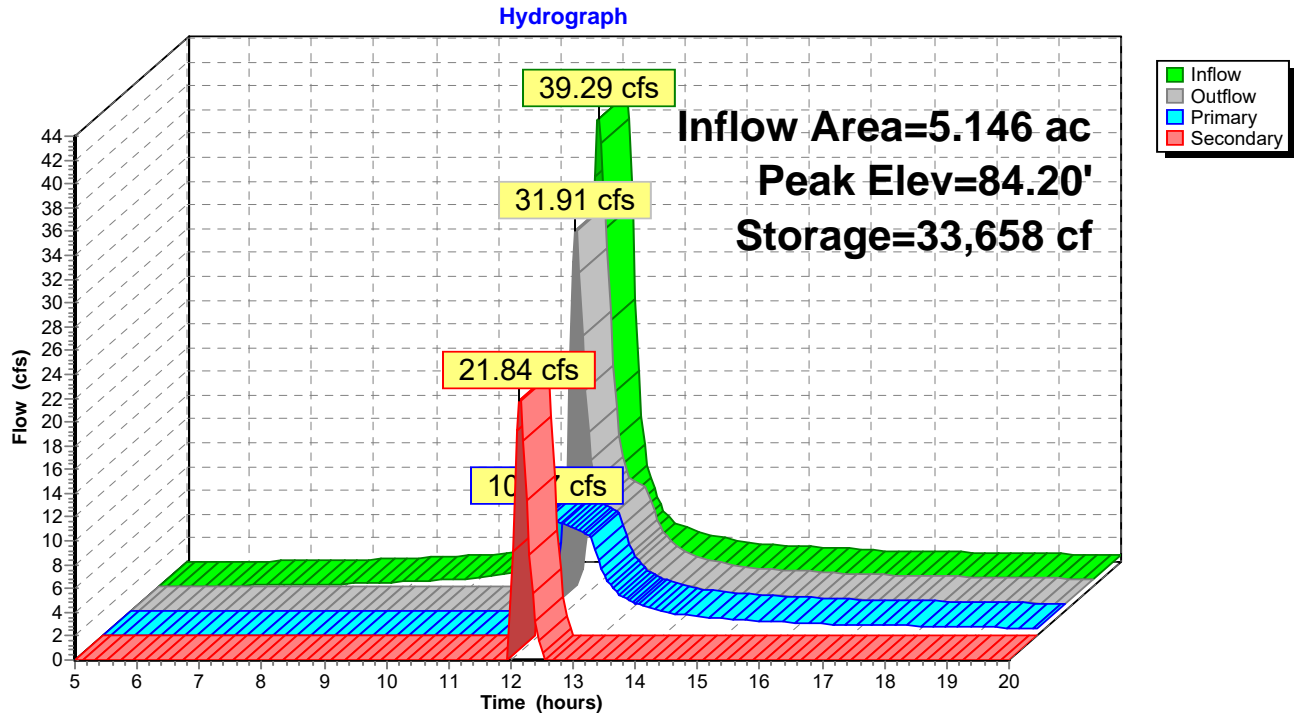
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100 Year Spillway Check
Type II 24-hr 100-YEAR Rainfall=8.70"

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Page 3

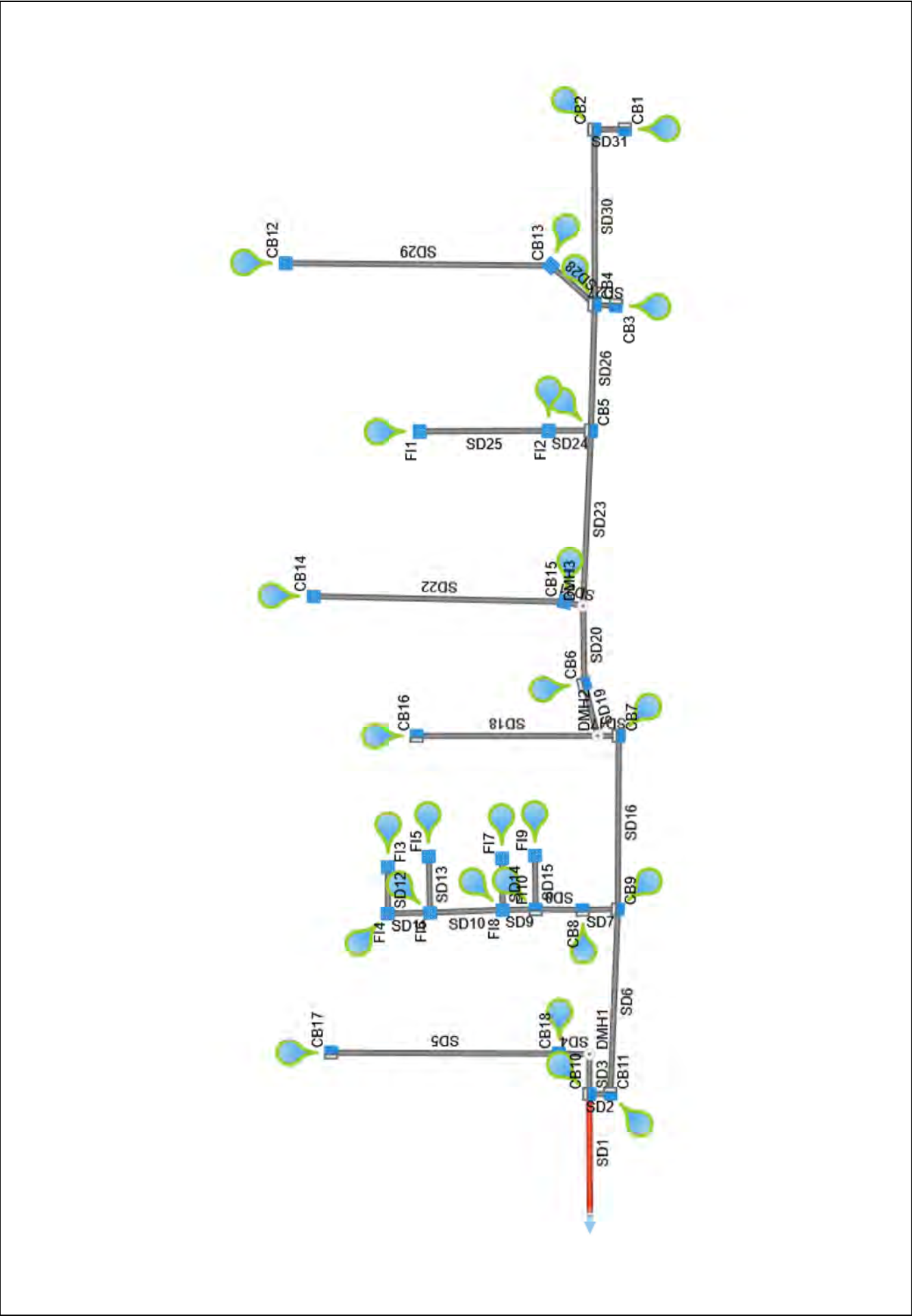
Pond GW1: Gravel Wetland #1



Plan View

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf
06-22-2021



Storm Sewer Tabulation

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

Line ID	Length (ft)	Drng Area		Rational (C)	C x A		Tc		Intensity (in/hr)	Total Q (cfs)	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
SD1	100.00	0.211	3.441	0.70	0.15	2.21	5.0	11.40	4.48	9.92	15.99	3.37	24	0.50	83.50	83.00	85.15	85.00	96.88	85.00	1
SD2	18.00	0.050	2.897	0.95	0.05	1.82	5.0	11.36	4.49	8.19	11.07	6.07	18	1.11	90.21	90.01	91.30	91.06	96.88	96.88	2
SD3	34.00	0.000	0.333	0.00	0.00	0.24	0.0	8.71	5.18	1.25	8.05	3.11	18	0.59	92.28	92.08	92.71	92.49	97.39	96.88	3
SD4	26.00	0.085	0.333	0.80	0.07	0.24	5.0	8.59	5.22	1.26	5.66	3.32	15	0.77	92.48	92.28	92.93	92.70	98.81	97.39	4
SD5	194.00	0.248	0.248	0.70	0.17	0.17	7.5	7.50	5.59	0.97	4.57	2.93	15	0.50	93.45	92.48	93.84	92.87	98.20	98.81	5
SD6	158.00	0.047	2.847	0.70	0.03	1.78	5.0	10.80	4.61	8.20	7.43	4.64	18	0.50	91.00	90.21	92.67	91.71	98.51	96.88	6
SD16	148.00	0.073	2.373	0.95	0.07	1.58	5.0	10.29	4.74	7.51	7.43	4.25	18	0.50	91.74	91.00	93.67	92.91	99.12	98.51	7
SD17	18.00	0.000	2.300	0.00	0.00	1.51	0.0	10.24	4.75	7.20	11.07	4.07	18	1.11	91.94	91.74	93.95	93.86	99.73	99.12	8
SD19	46.00	0.170	2.044	0.80	0.14	1.34	5.0	10.08	4.79	6.40	7.43	3.62	18	0.50	92.17	91.94	94.44	94.27	100.95	99.73	9
SD18	154.00	0.256	0.256	0.70	0.18	0.18	5.0	5.00	6.72	1.20	5.36	2.13	15	0.49	94.14	93.38	94.58	94.38	0.00	99.73	10
SD20	66.00	0.000	1.874	0.00	0.00	1.20	0.0	9.84	4.86	5.82	7.43	3.30	18	0.50	92.50	92.17	94.81	94.60	103.36	100.95	11
SD21	16.00	0.209	0.372	0.70	0.15	0.28	5.0	6.25	6.09	1.69	7.22	3.78	15	1.25	98.28	98.08	98.80	98.54	103.73	103.36	12
SD23	150.00	0.068	1.502	0.60	0.04	0.92	5.0	9.40	4.98	4.59	10.50	2.78	18	1.00	94.00	92.50	95.23	94.97	103.36	103.36	13
SD22	214.00	0.163	0.163	0.80	0.13	0.13	5.0	5.00	6.72	0.88	4.52	2.84	15	0.49	99.33	98.28	99.70	98.65	104.08	103.73	14
SD24	36.00	0.170	0.373	0.30	0.05	0.11	5.0	5.75	6.33	0.71	2.65	2.83	12	0.56	98.75	98.55	99.11	98.90	103.50	103.36	15
SD26	108.00	0.112	1.061	0.70	0.08	0.77	5.0	8.97	5.10	3.93	4.57	4.00	15	0.50	94.79	94.25	95.67	95.24	102.13	103.36	16
SD25	110.00	0.203	0.203	0.30	0.06	0.06	5.0	5.00	6.72	0.41	2.63	1.66	12	0.55	99.35	98.75	99.62	99.29	104.50	103.50	17
SD27	18.00	0.067	0.067	0.95	0.06	0.06	5.0	5.00	6.72	0.43	6.81	2.53	15	1.11	97.38	97.18	97.64	97.41	102.13	102.13	18
SD28	50.00	0.184	0.509	0.80	0.15	0.34	5.0	8.73	5.17	1.77	4.57	3.53	15	0.50	97.14	96.89	97.68	97.42	102.58	102.13	19
SD30	150.00	0.251	0.373	0.70	0.18	0.29	5.0	5.14	6.64	1.90	4.57	2.07	15	0.50	95.54	94.79	96.26	96.10	100.59	102.13	20
SD29	226.00	0.325	0.325	0.60	0.20	0.20	7.5	7.50	5.59	1.09	4.57	3.04	15	0.50	98.27	97.14	98.69	97.56	103.02	102.58	21
SD31	26.00	0.122	0.122	0.90	0.11	0.11	5.0	5.00	6.72	0.74	5.66	0.94	15	0.77	95.74	95.54	96.42	96.42	100.49	100.59	22

Notes: IDF File = PortlandME.idf, Return Period = 10-yrs.

Project File: 2104 Pipe Sizing updated2.sws

Storm Sewer Tabulation

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

Line ID	Length (ft)	Drng Area		Rational (C)	C x A		Tc		Intensity (in/hr)	Total Q (cfs)	Capacity (cfs)	Velocity (ft/s)	Line		Invert Elev		HGL Elev		Surface Elev		Line No
		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	
SD7	30.00	0.050	0.427	0.95	0.05	0.16	5.0	8.30	5.31	0.85	8.58	3.36	15	1.77	93.53	93.00	93.90	93.29	98.51	98.51	23
SD8	40.00	0.035	0.377	0.30	0.01	0.11	5.0	8.08	5.38	0.61	2.87	2.21	12	0.65	93.79	93.53	94.12	93.99	98.80	98.51	24
SD9	28.00	0.050	0.310	0.30	0.02	0.09	5.0	7.94	5.43	0.51	3.56	2.77	12	1.00	94.28	94.00	94.58	94.27	100.40	98.80	25
SD15	45.74	0.032	0.032	0.30	0.01	0.01	5.0	5.00	6.72	0.06	3.26	1.55	12	0.84	95.77	95.39	95.88	95.49	98.80	98.80	26
SD10	62.00	0.049	0.210	0.30	0.01	0.06	5.0	7.50	5.59	0.35	2.52	2.30	12	0.50	94.59	94.28	94.84	94.53	100.80	100.40	27
SD14	44.00	0.050	0.050	0.30	0.02	0.02	5.0	5.00	6.72	0.10	2.94	1.68	12	0.68	95.65	95.35	95.78	95.48	100.40	100.40	28
SD11	36.00	0.056	0.112	0.30	0.02	0.03	5.0	5.38	6.52	0.22	n/a	0.28	12	-0.56	94.59	94.79	95.79	95.79	99.80	100.80	29
SD13	48.00	0.049	0.049	0.30	0.01	0.01	5.0	5.00	6.72	0.10	2.62	1.61	12	0.54	96.05	95.79	96.19	95.92	100.80	100.80	30
SD12	40.00	0.056	0.056	0.30	0.02	0.02	5.0	5.00	6.72	0.11	2.87	0.16	12	0.65	95.05	94.79	95.79	95.79	98.80	99.80	31

Notes: IDF File = PortlandME.idf, Return Period = 10-yrs.

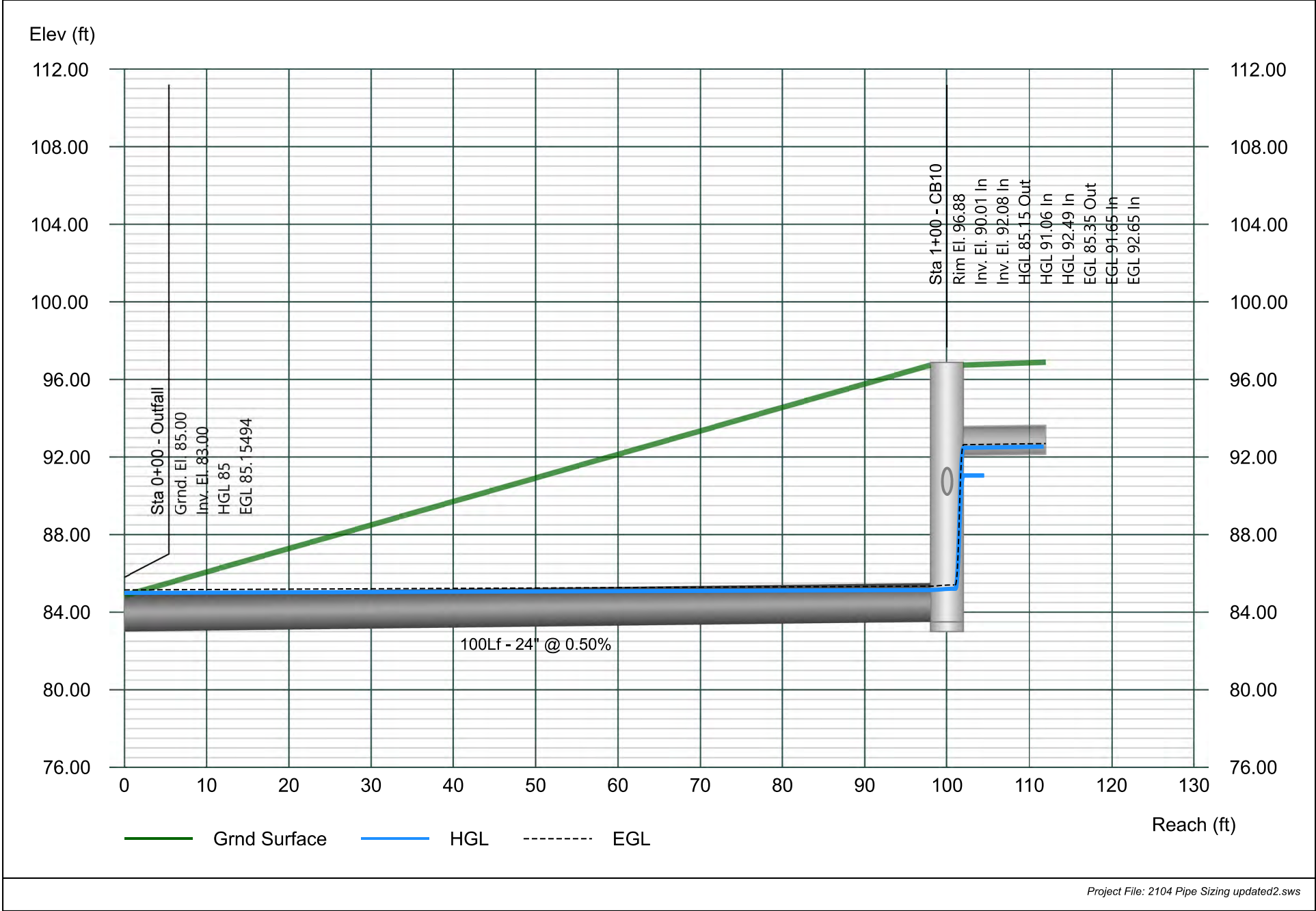
Project File: 2104 Pipe Sizing updated2.sws

Line 1 - SD1

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

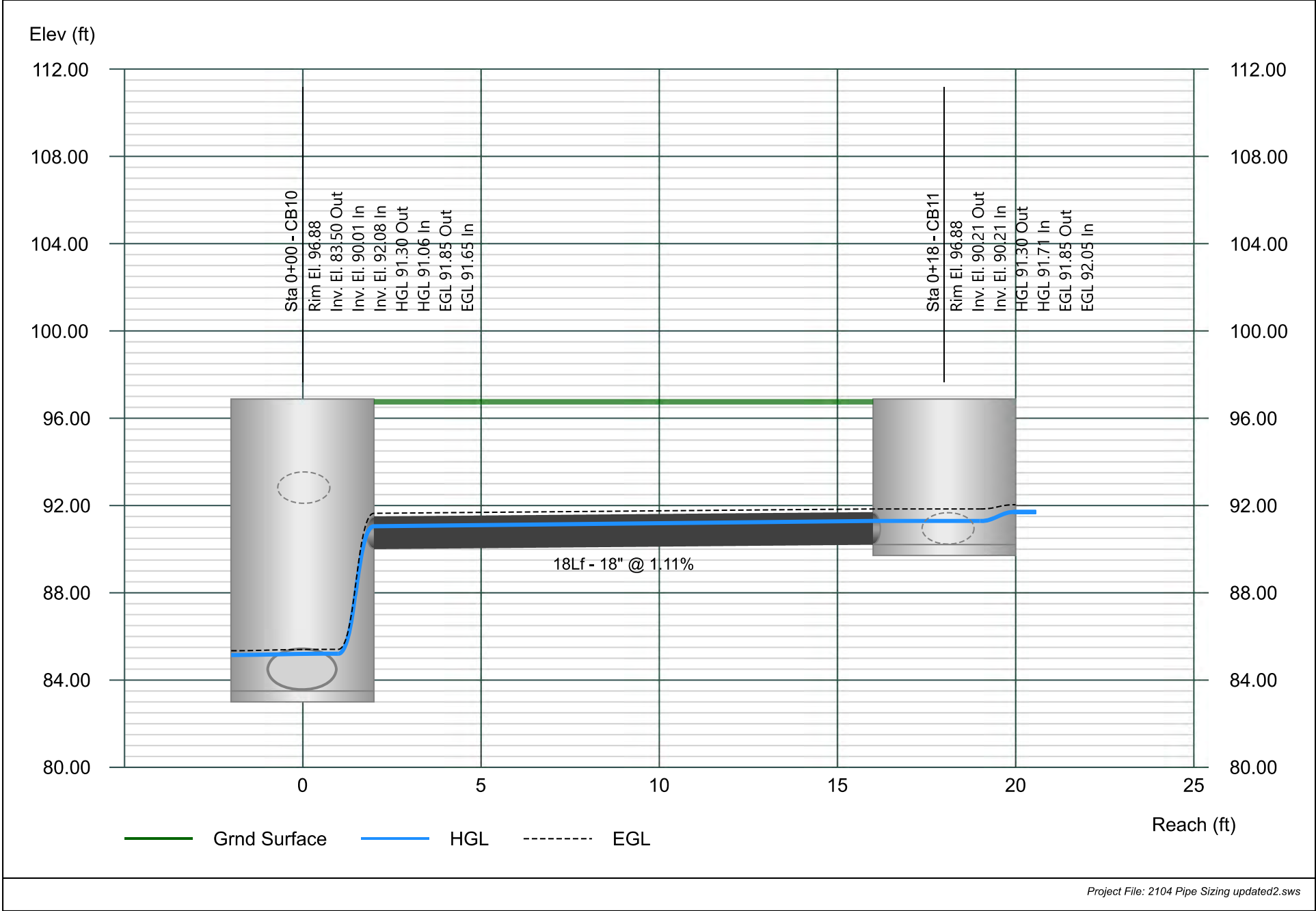


Line 2 - SD2

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

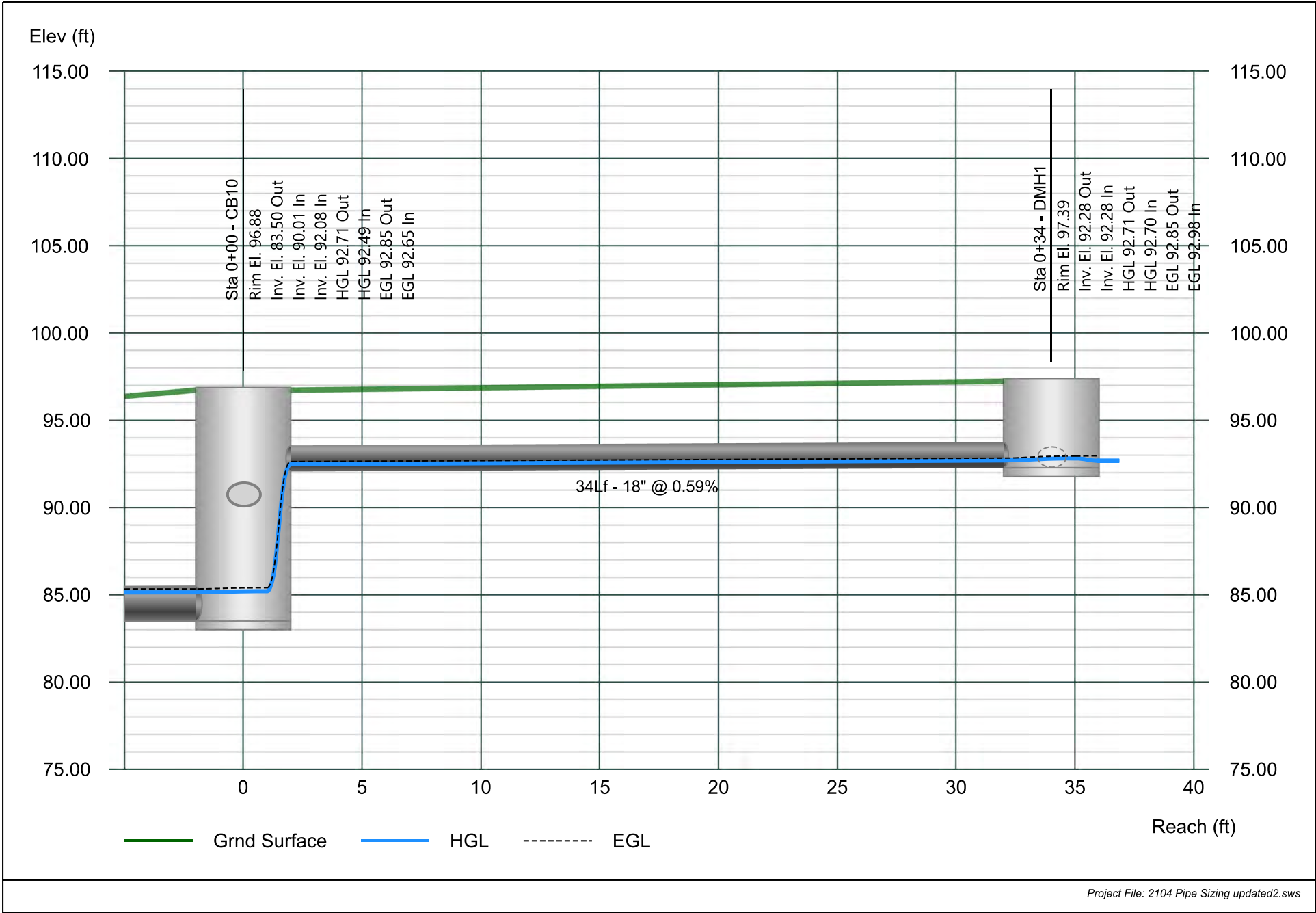


Line 3 - SD3

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

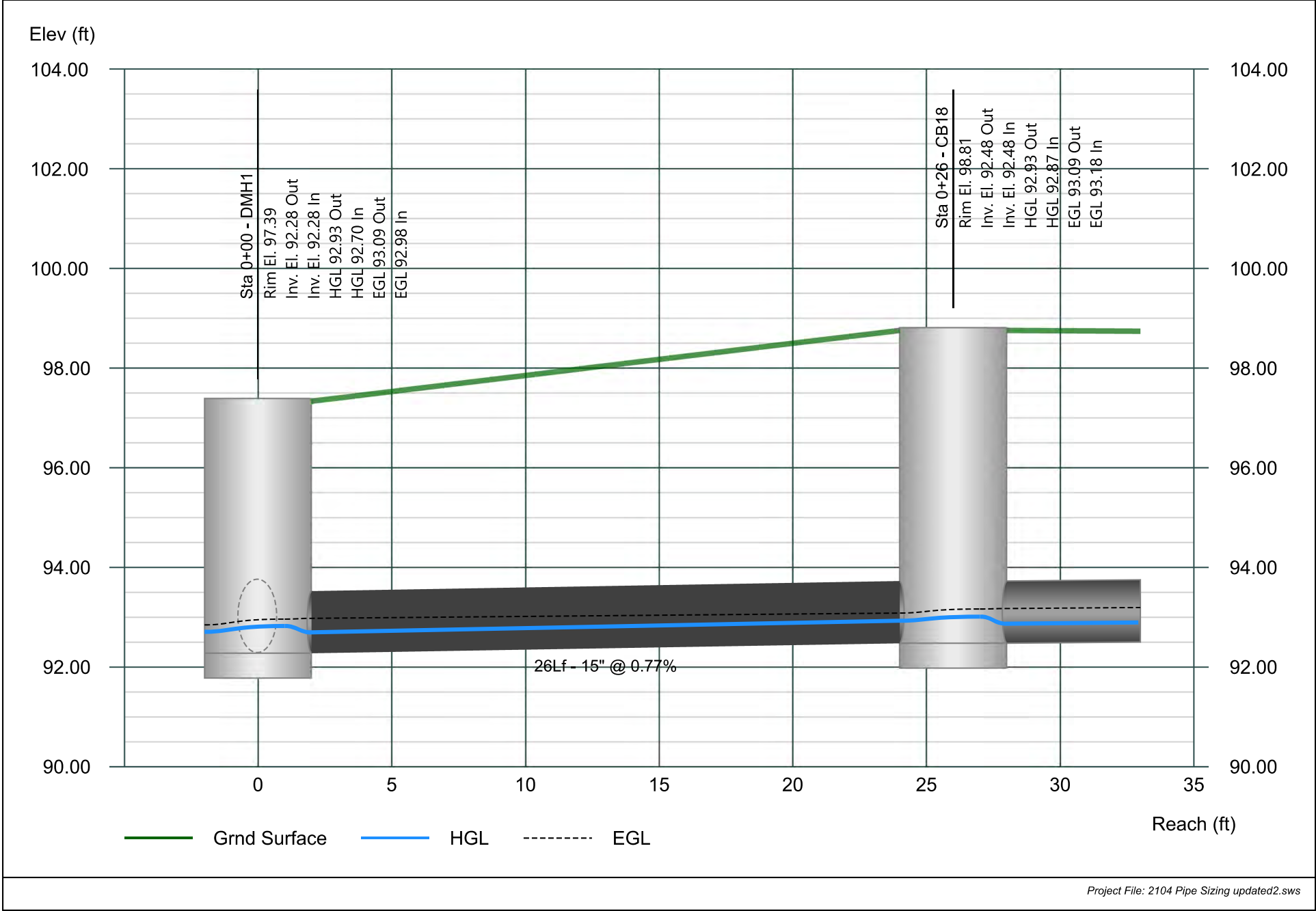


Line 4 - SD4

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

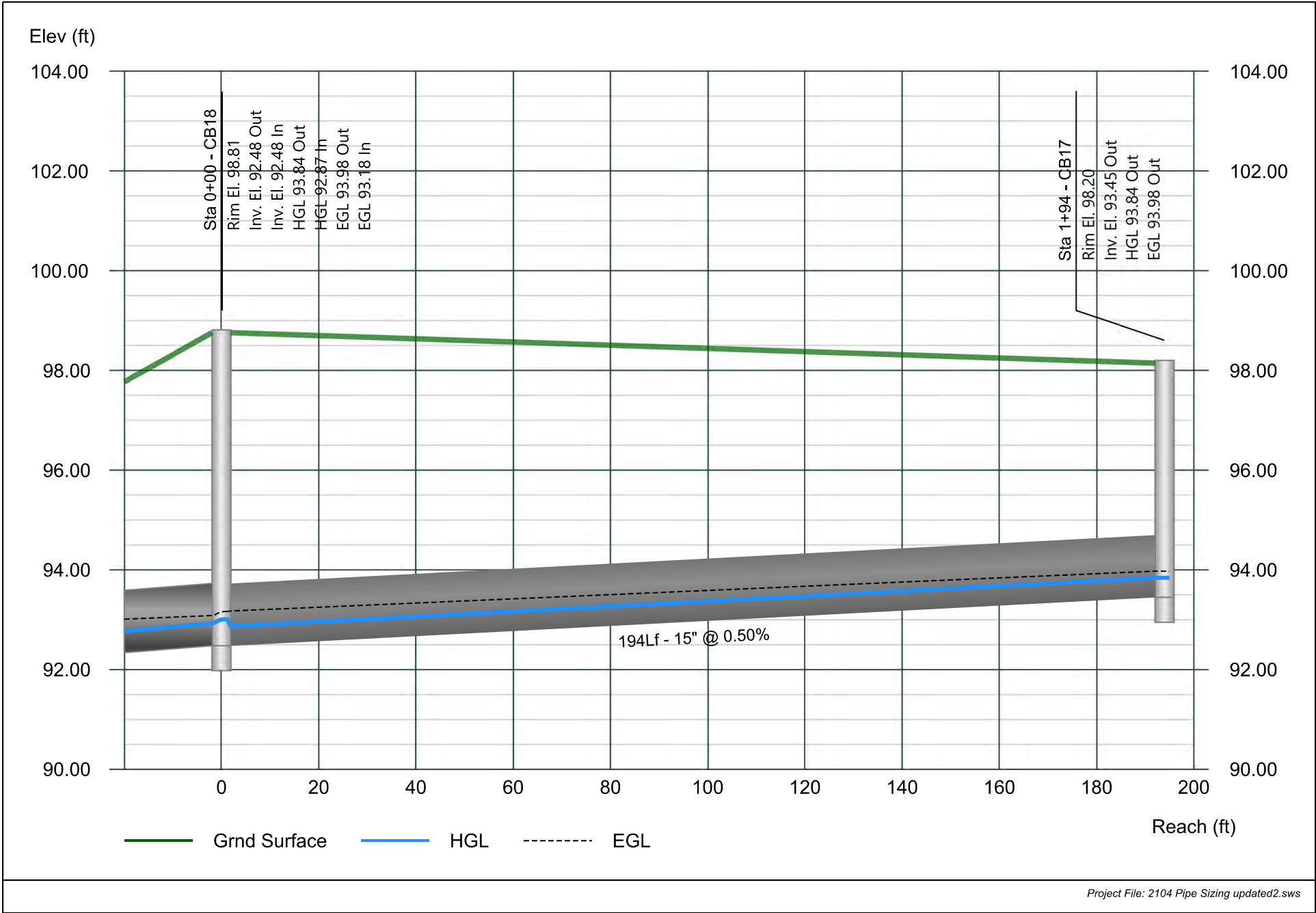


Line 5 - SD5

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

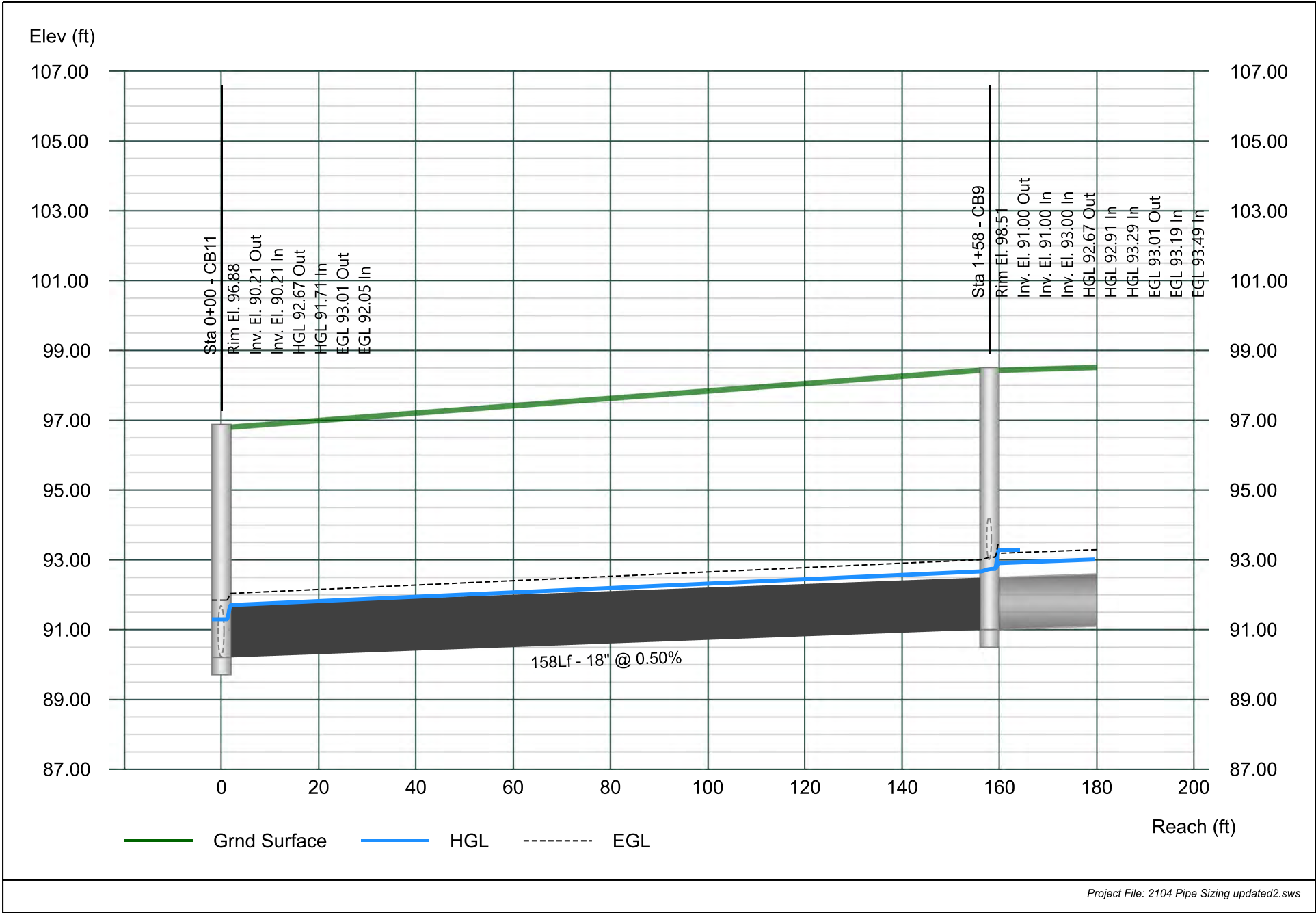


Line 6 - SD6

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

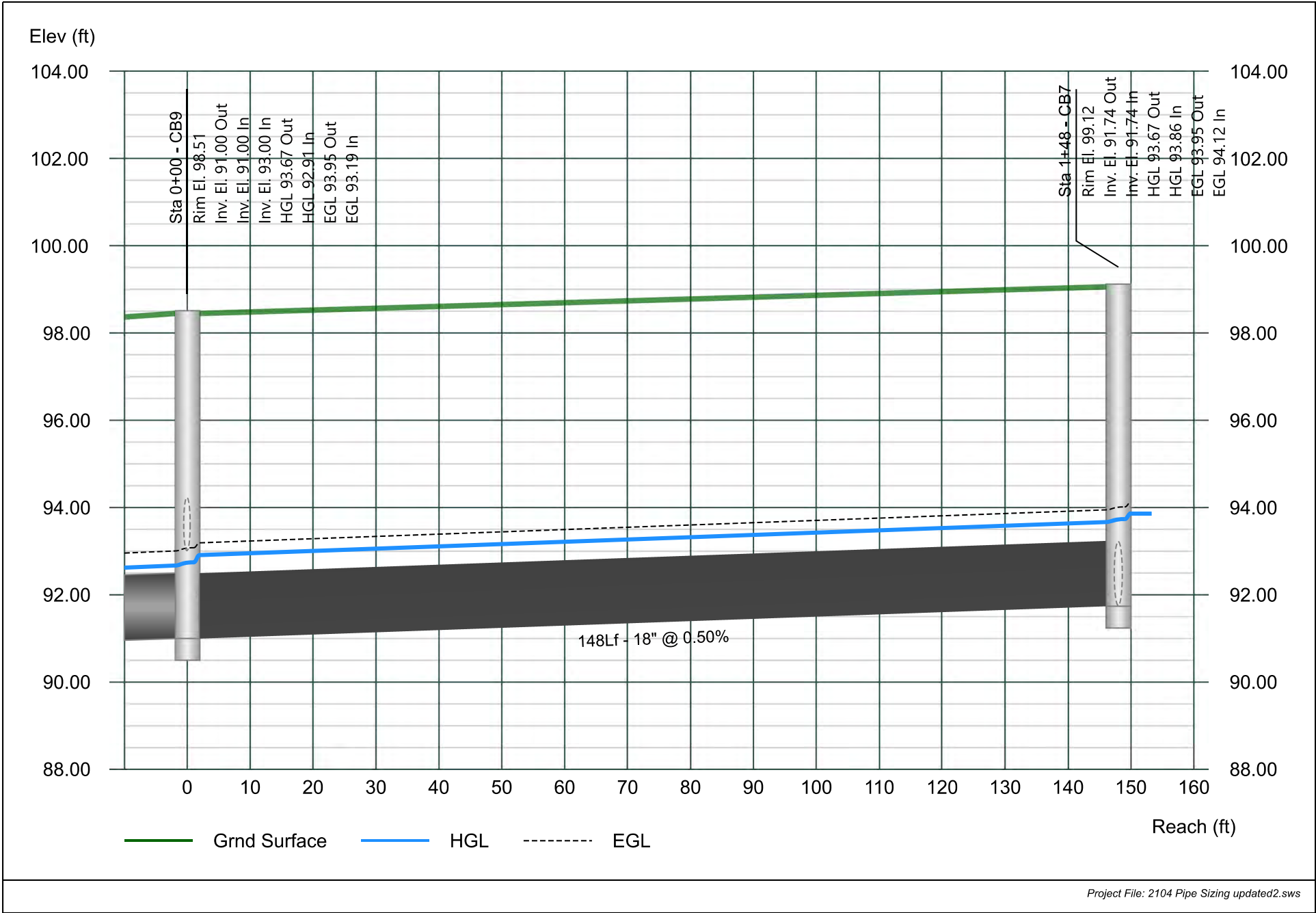


Line 7 - SD16

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

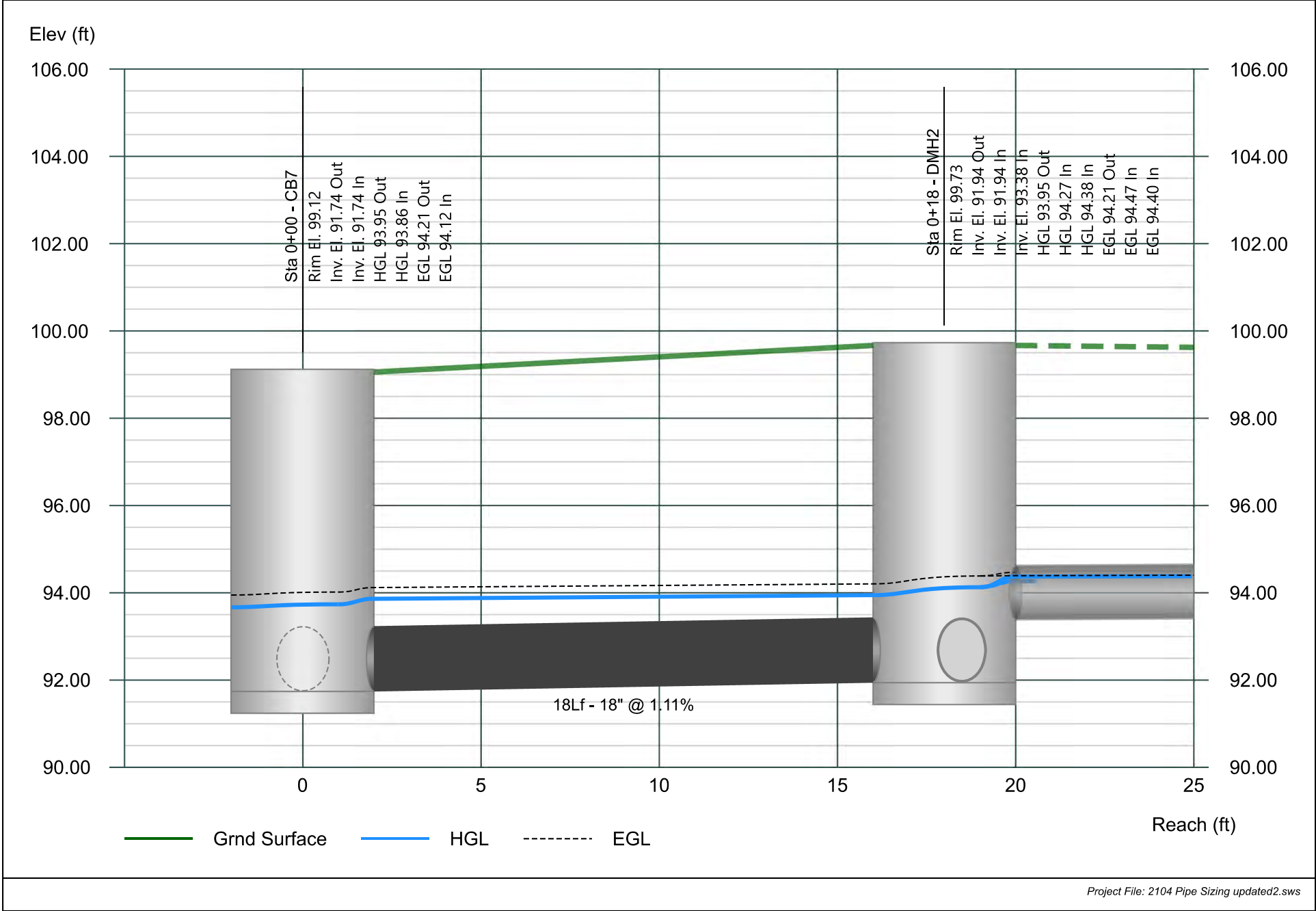


Line 8 - SD17

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

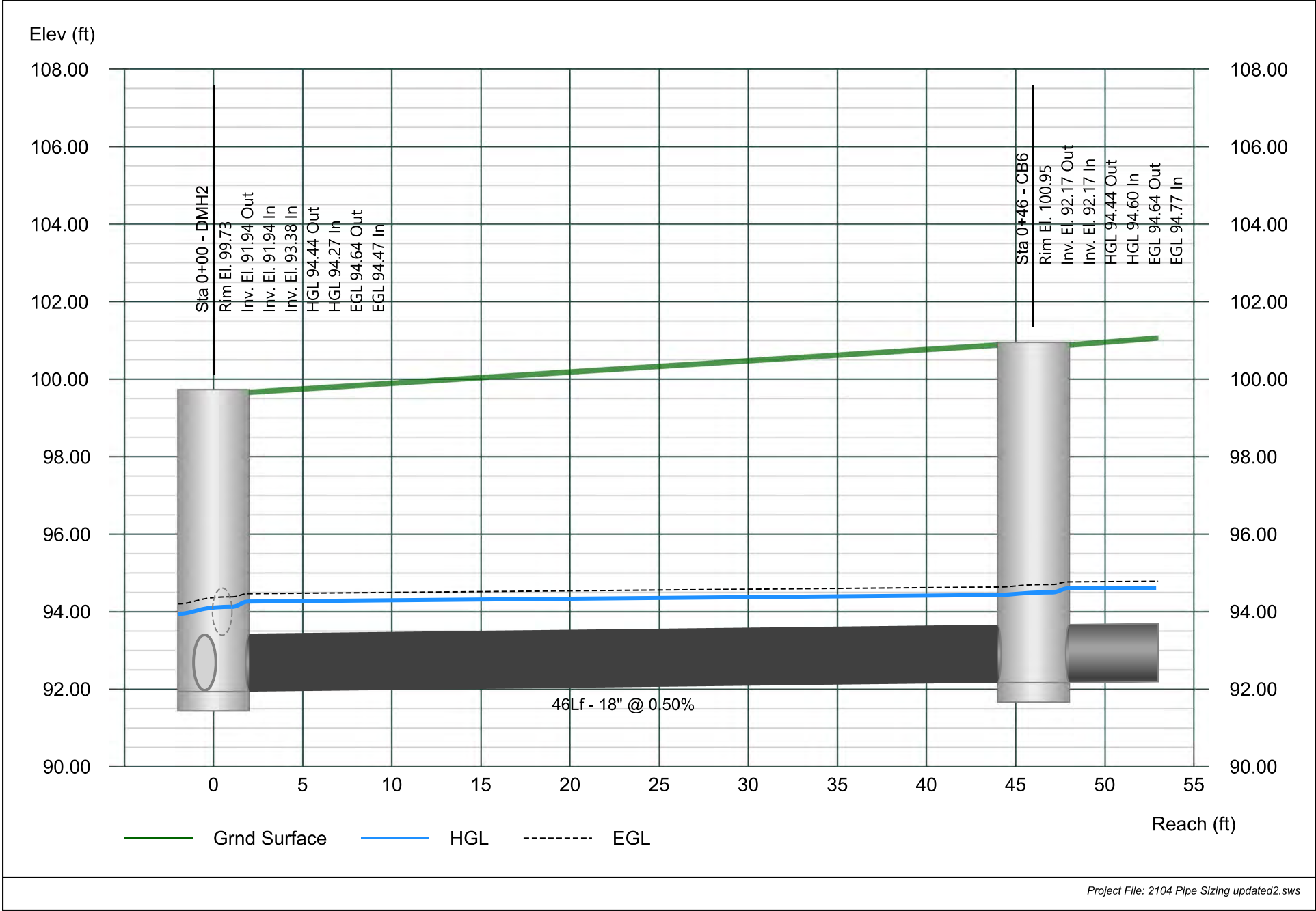


Line 9 - SD19

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

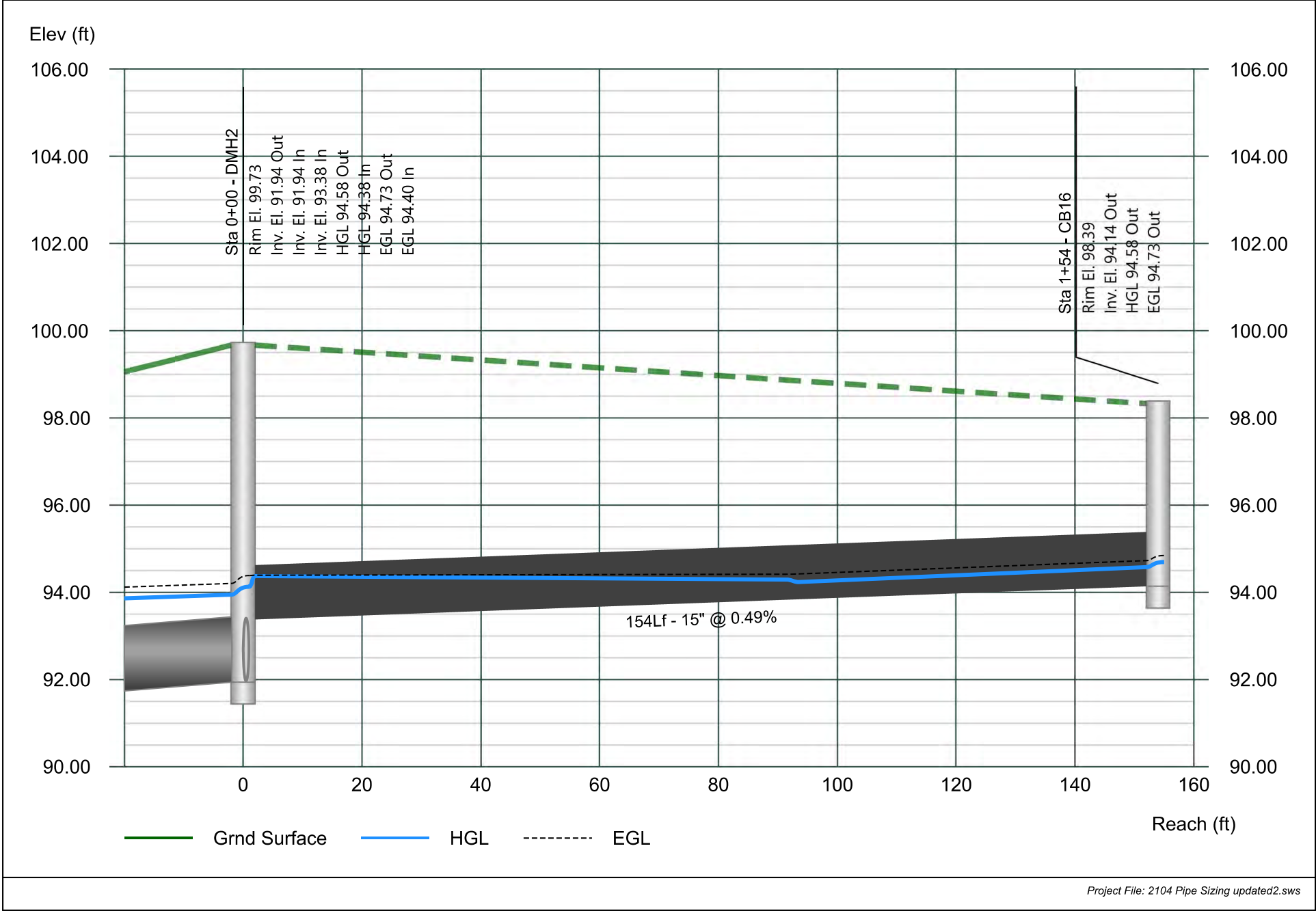


Line 10 - SD18

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

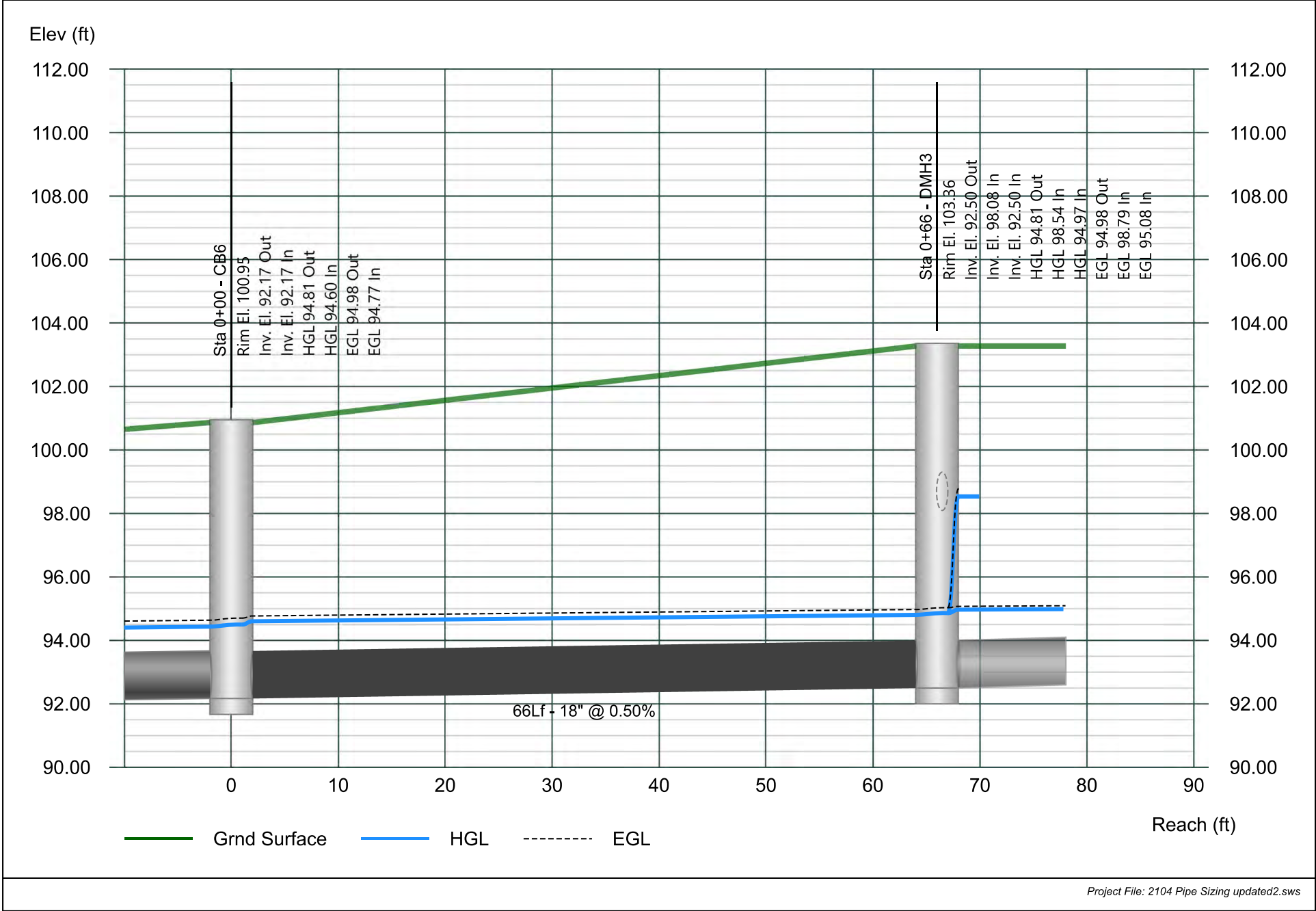


Line 11 - SD20

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

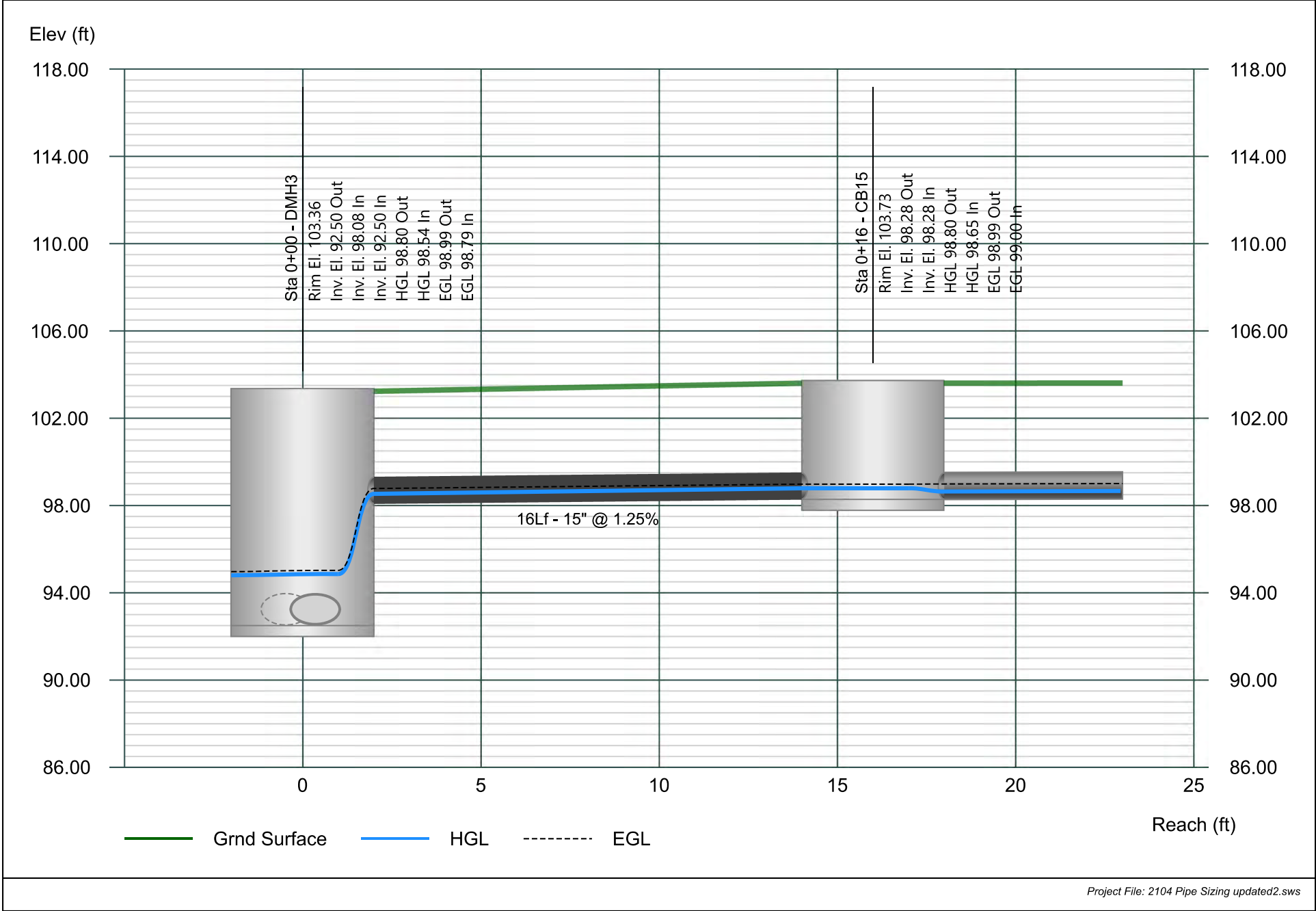


Line 12 - SD21

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

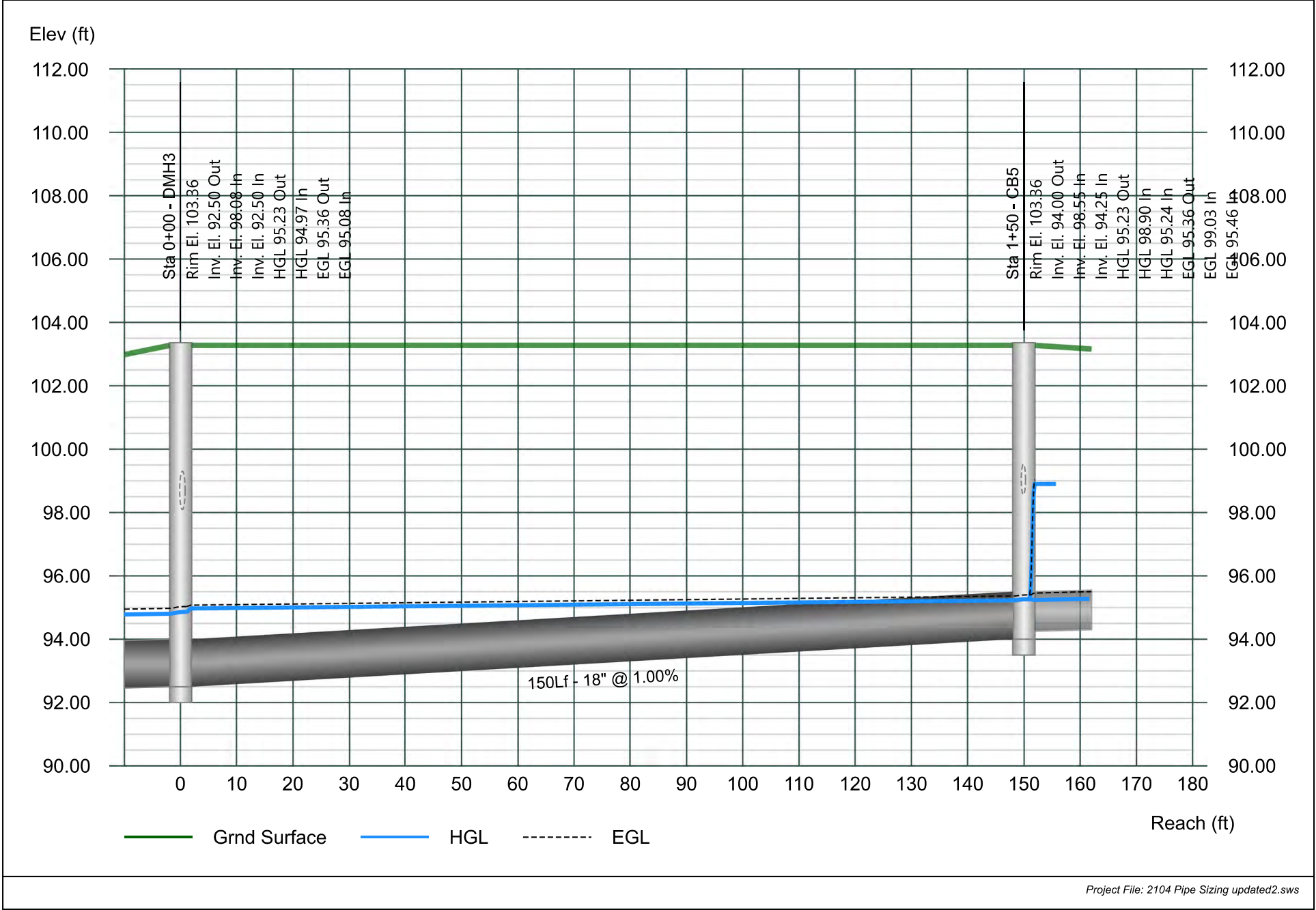


Line 13 - SD23

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

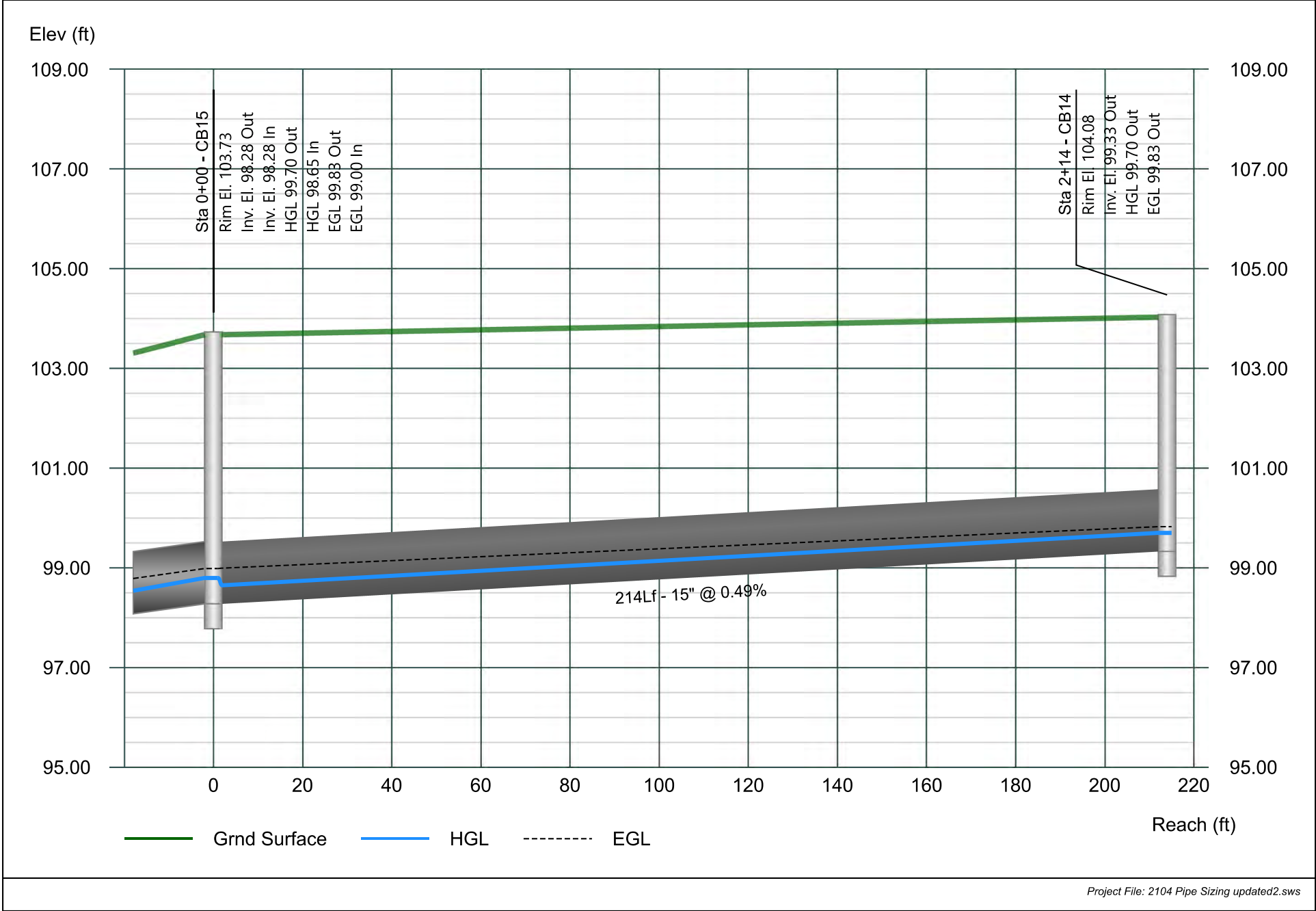


Line 14 - SD22

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

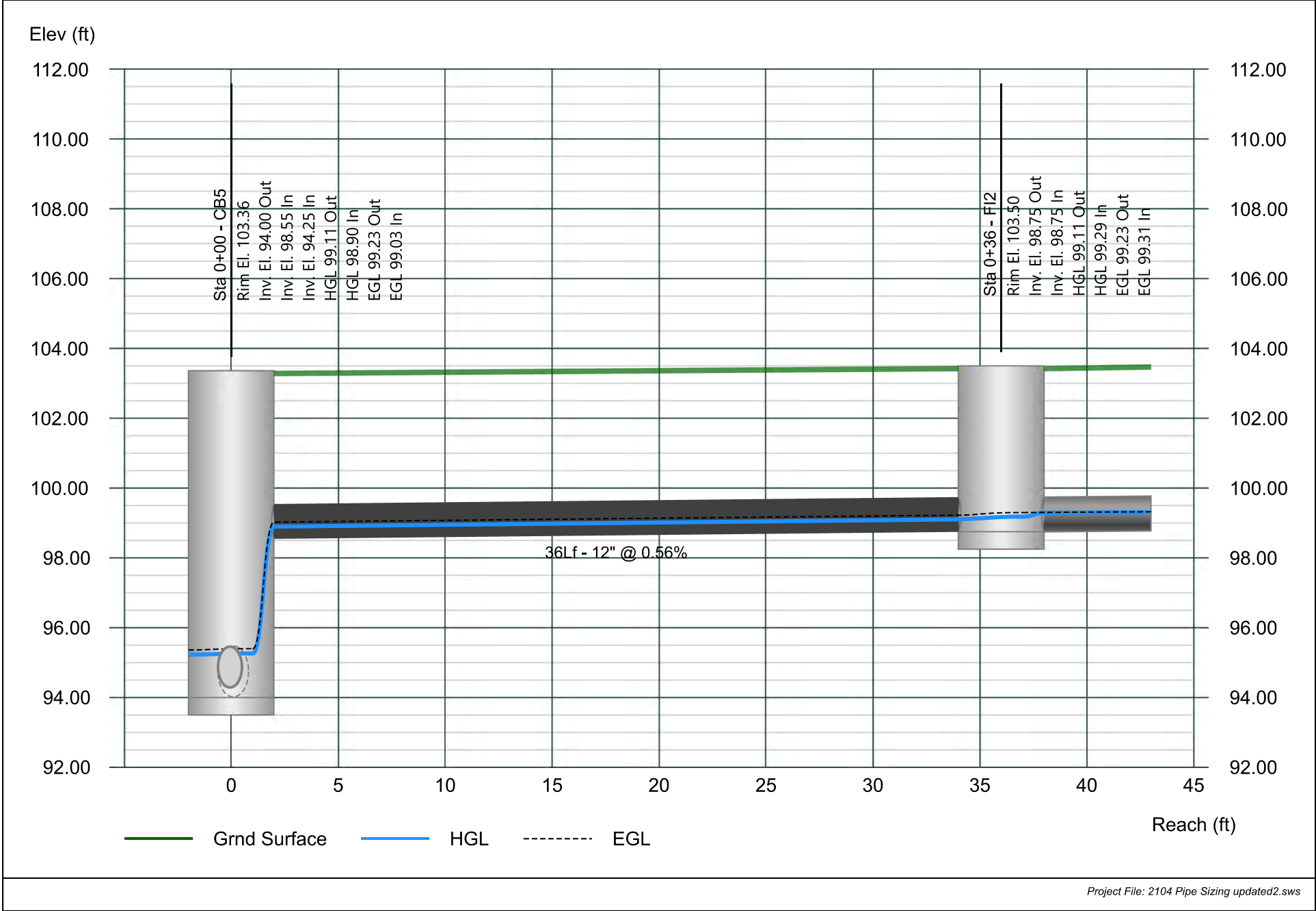


Line 15 - SD24

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

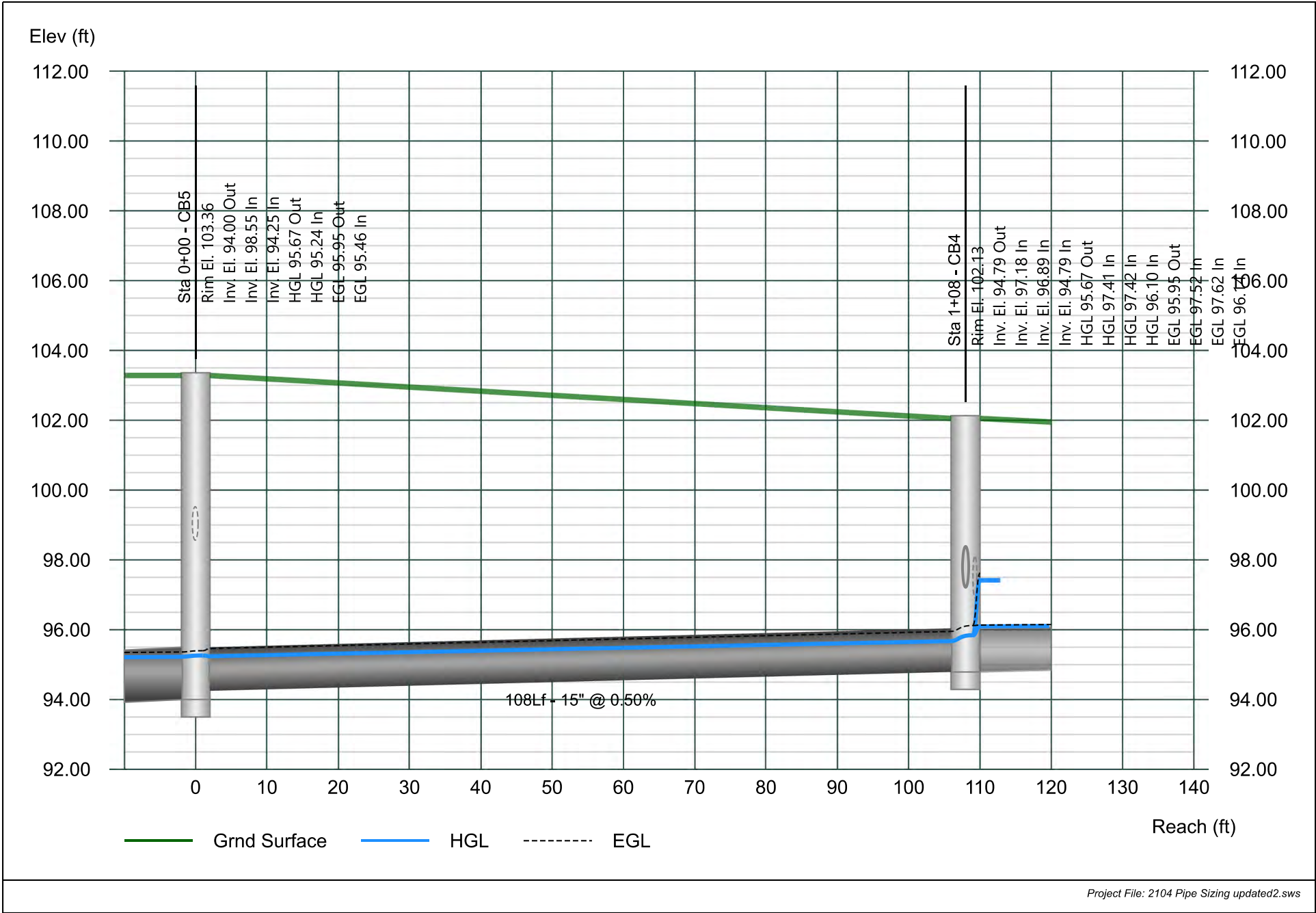


Line 16 - SD26

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

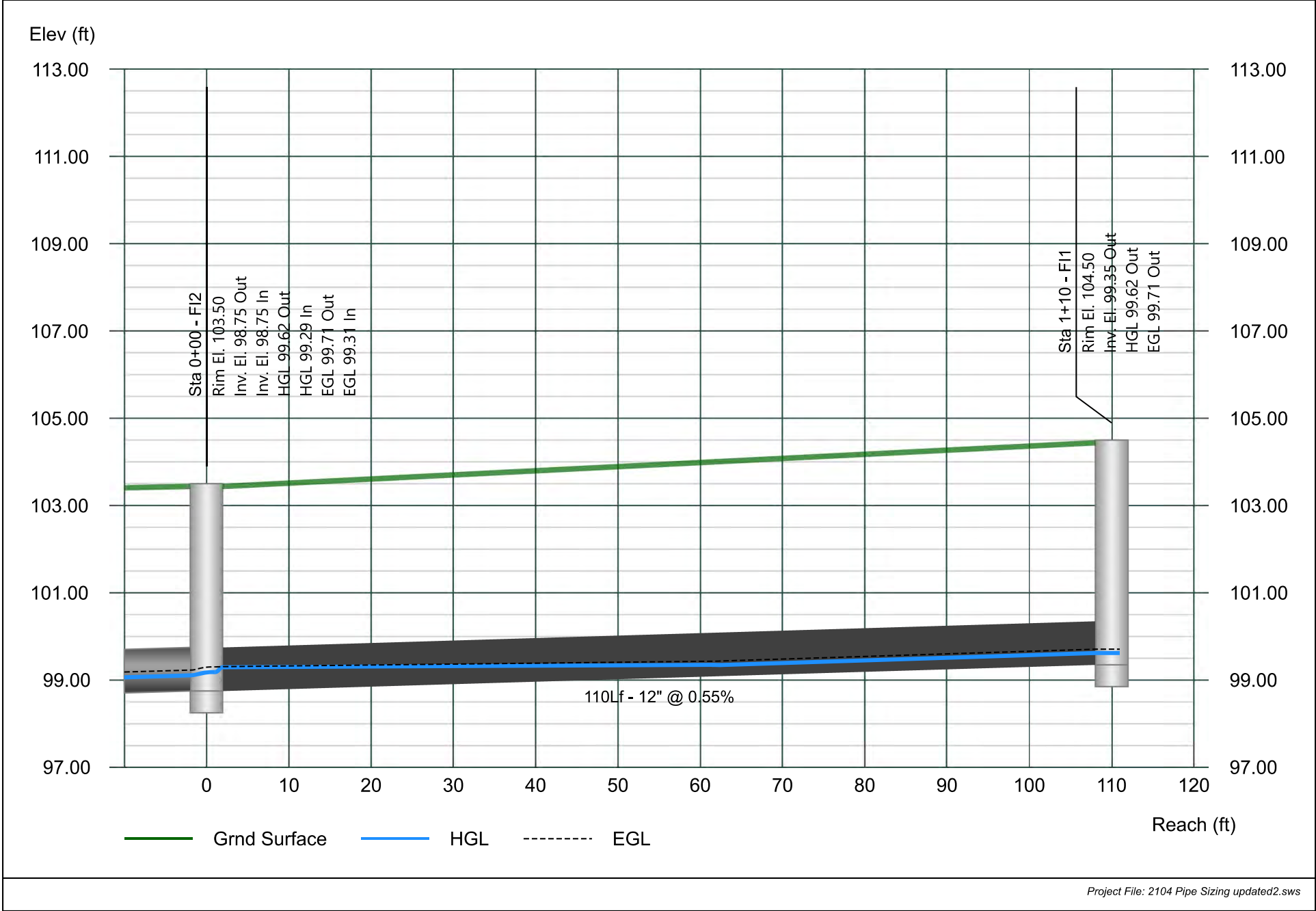


Line 17 - SD25

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

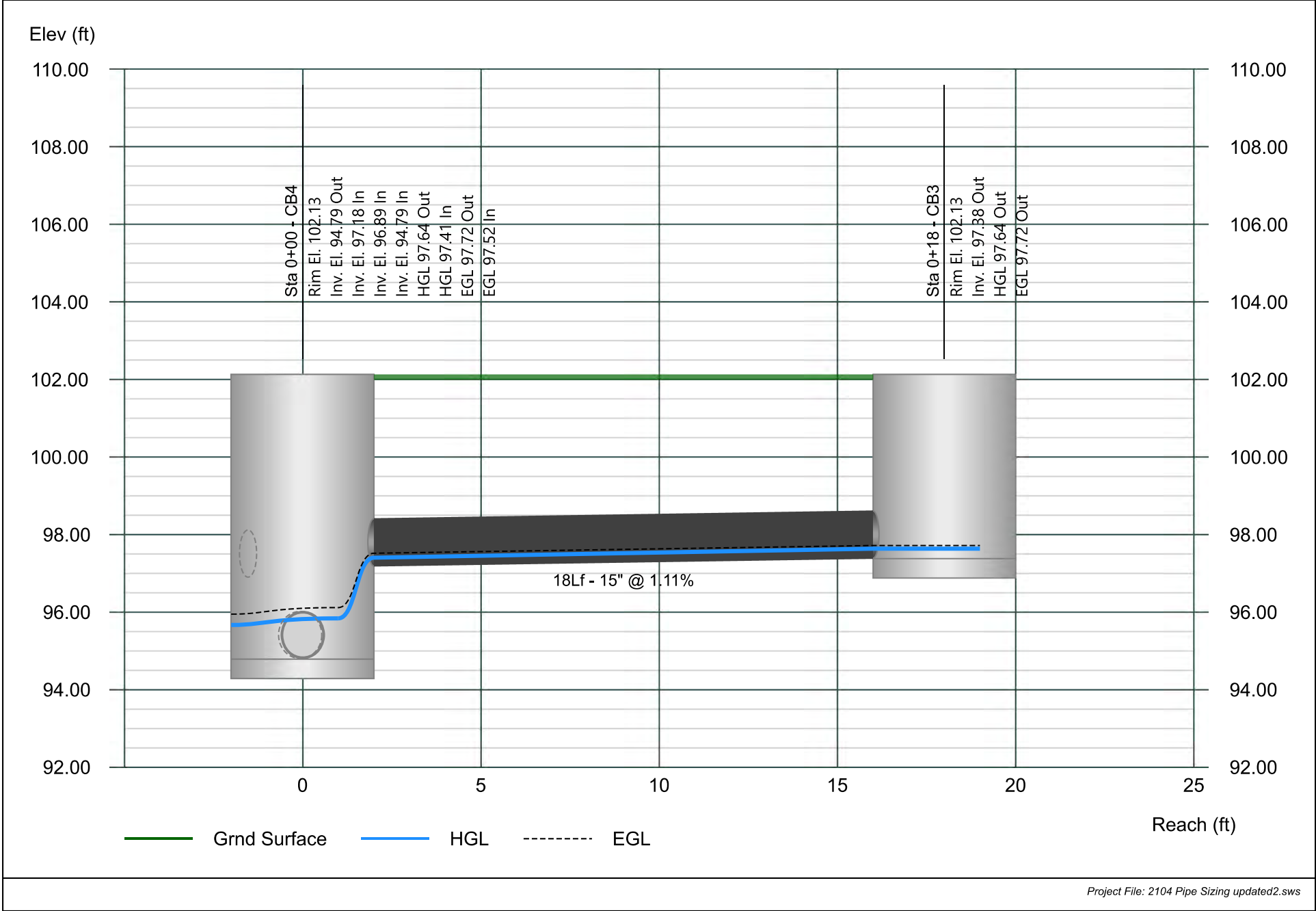


Line 18 - SD27

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

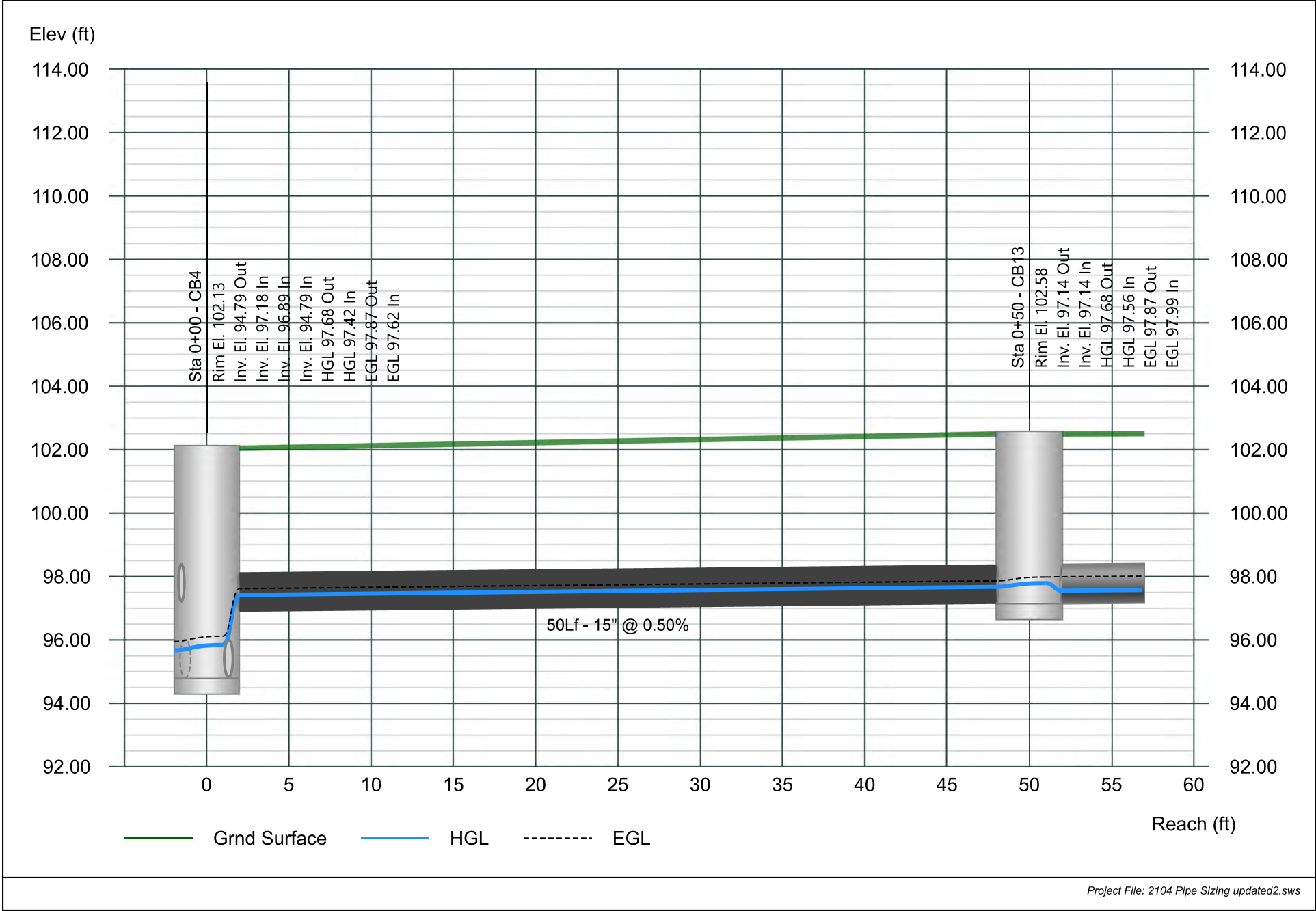


Line 19 - SD28

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

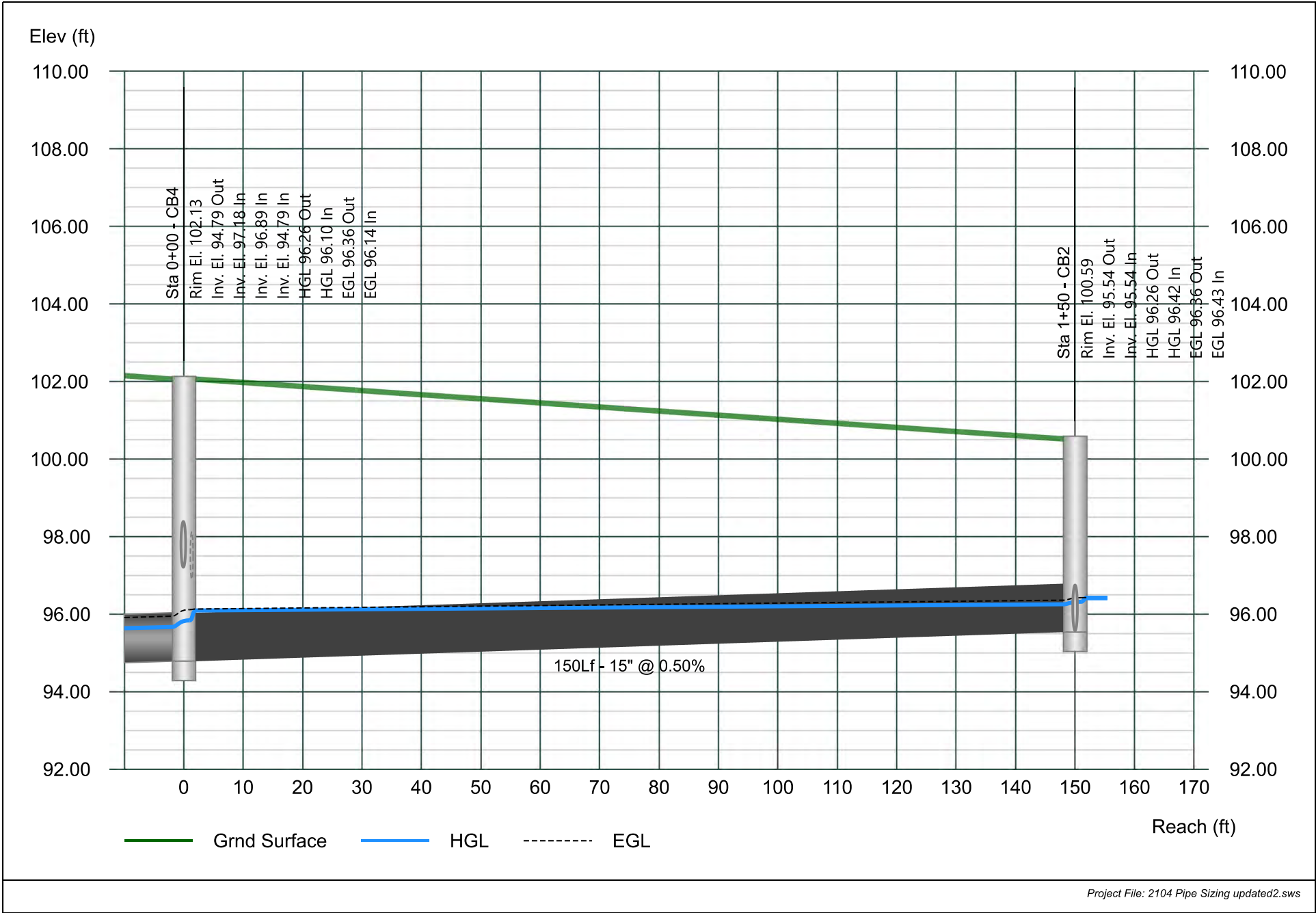


Line 20 - SD30

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

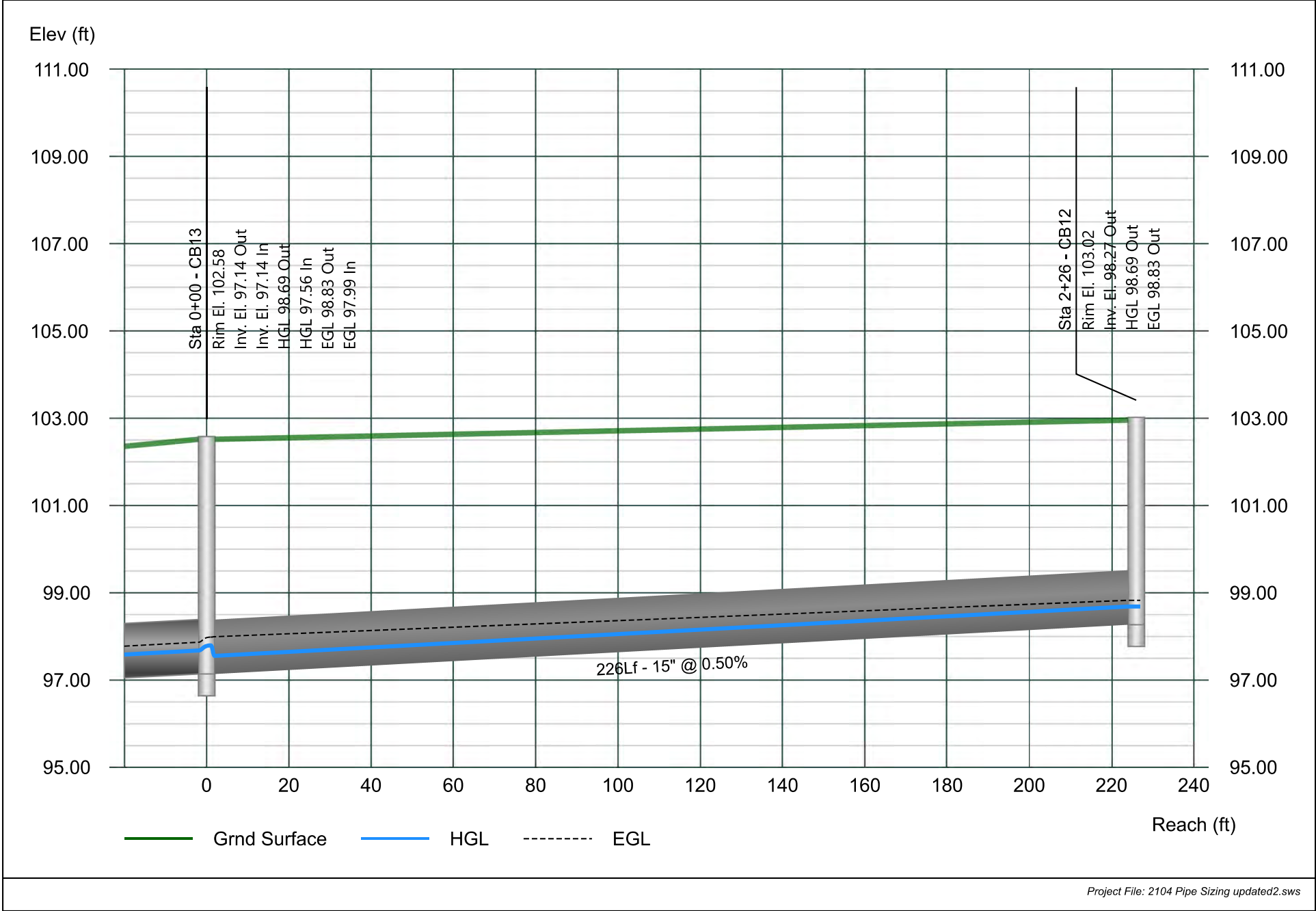


Line 21 - SD29

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

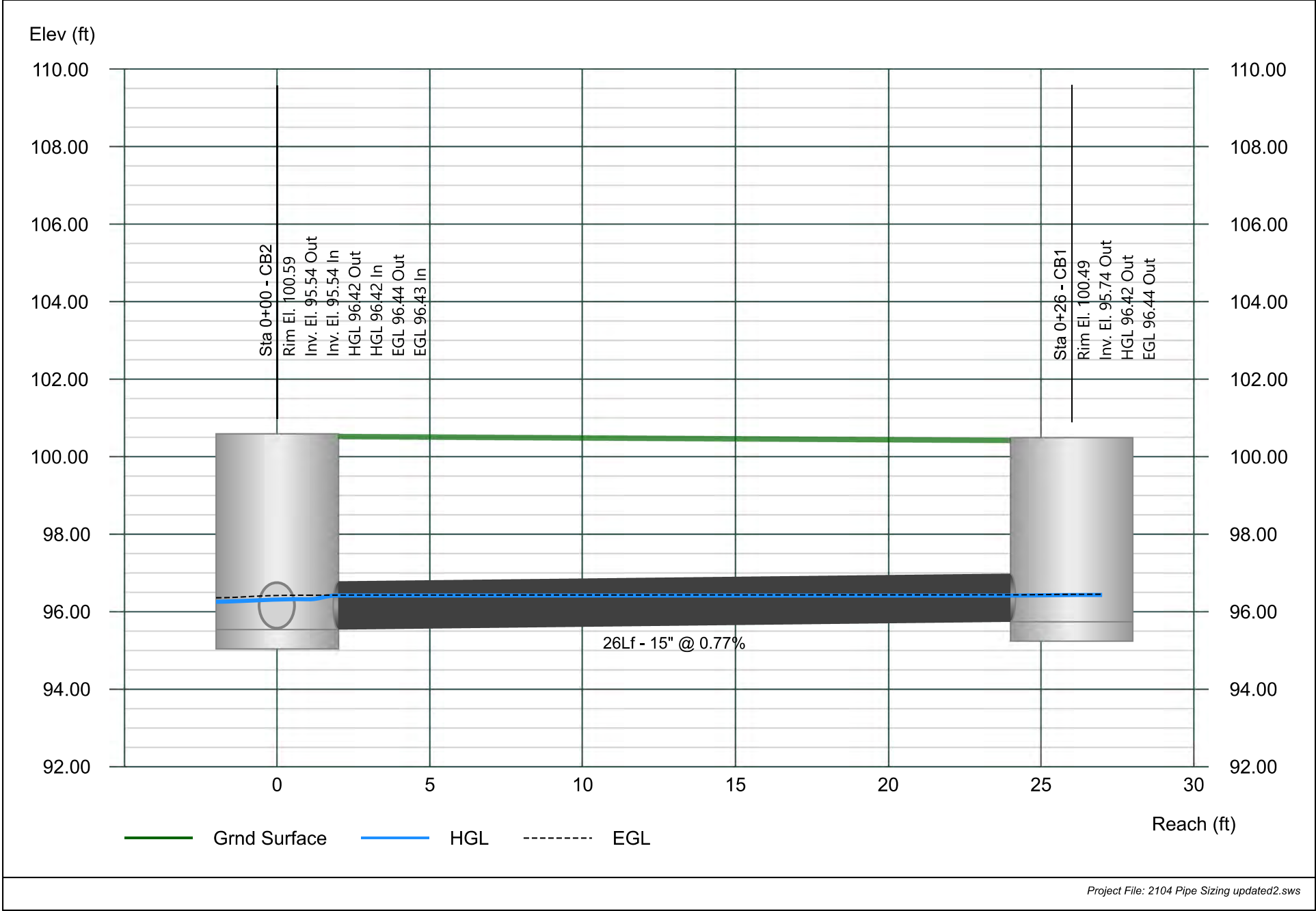


Line 22 - SD31

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

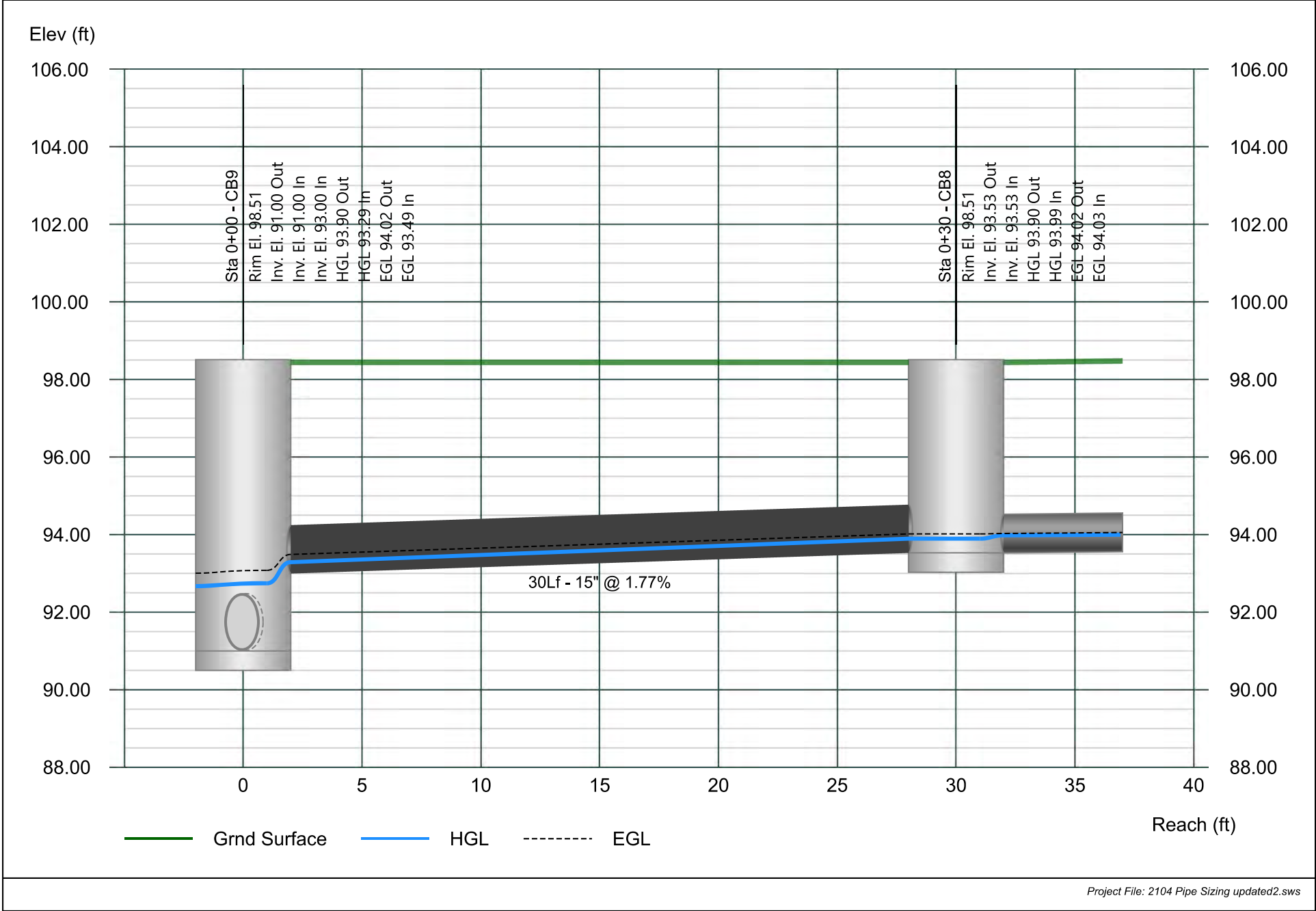


Line 23 - SD7

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

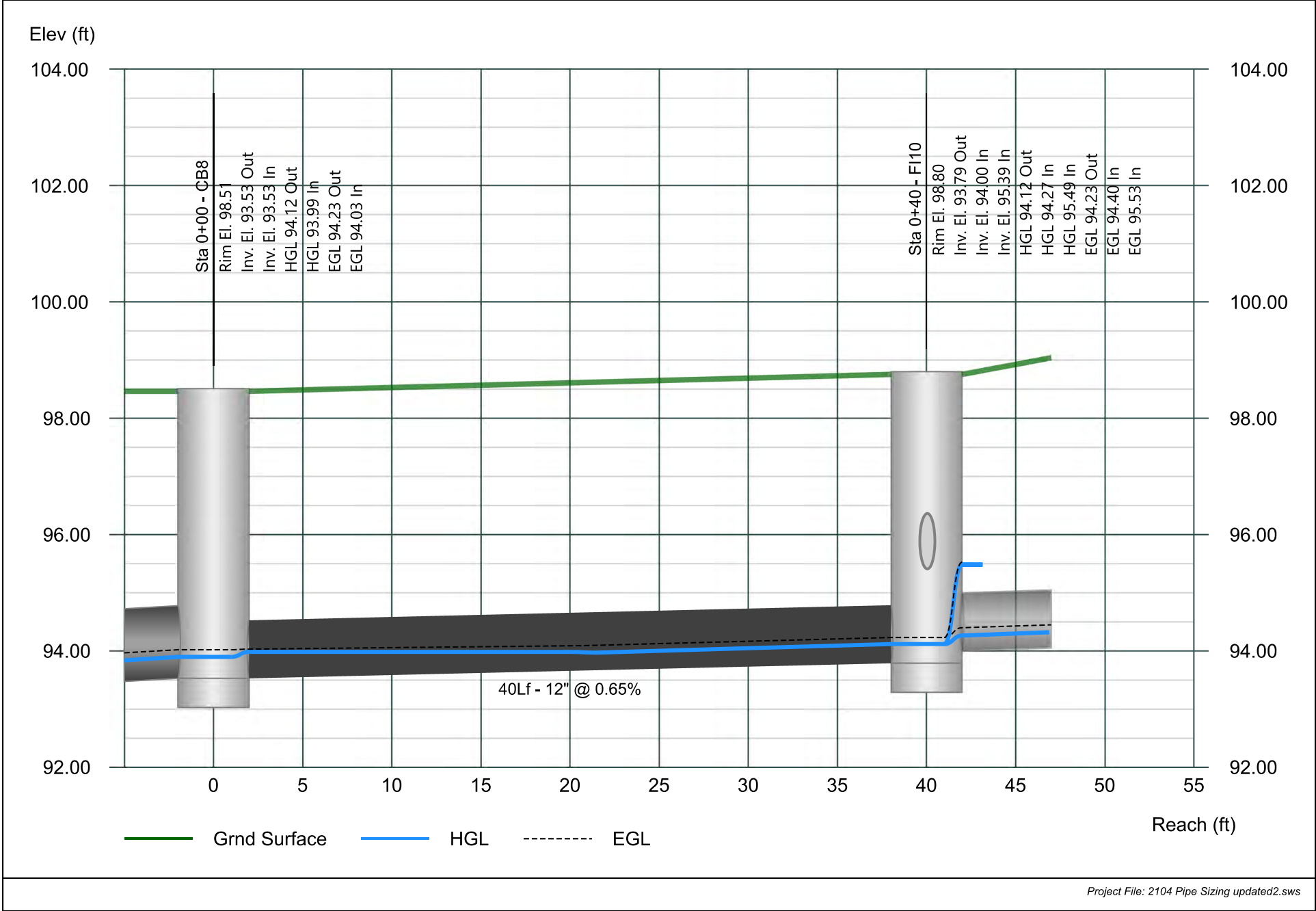


Line 24 - SD8

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

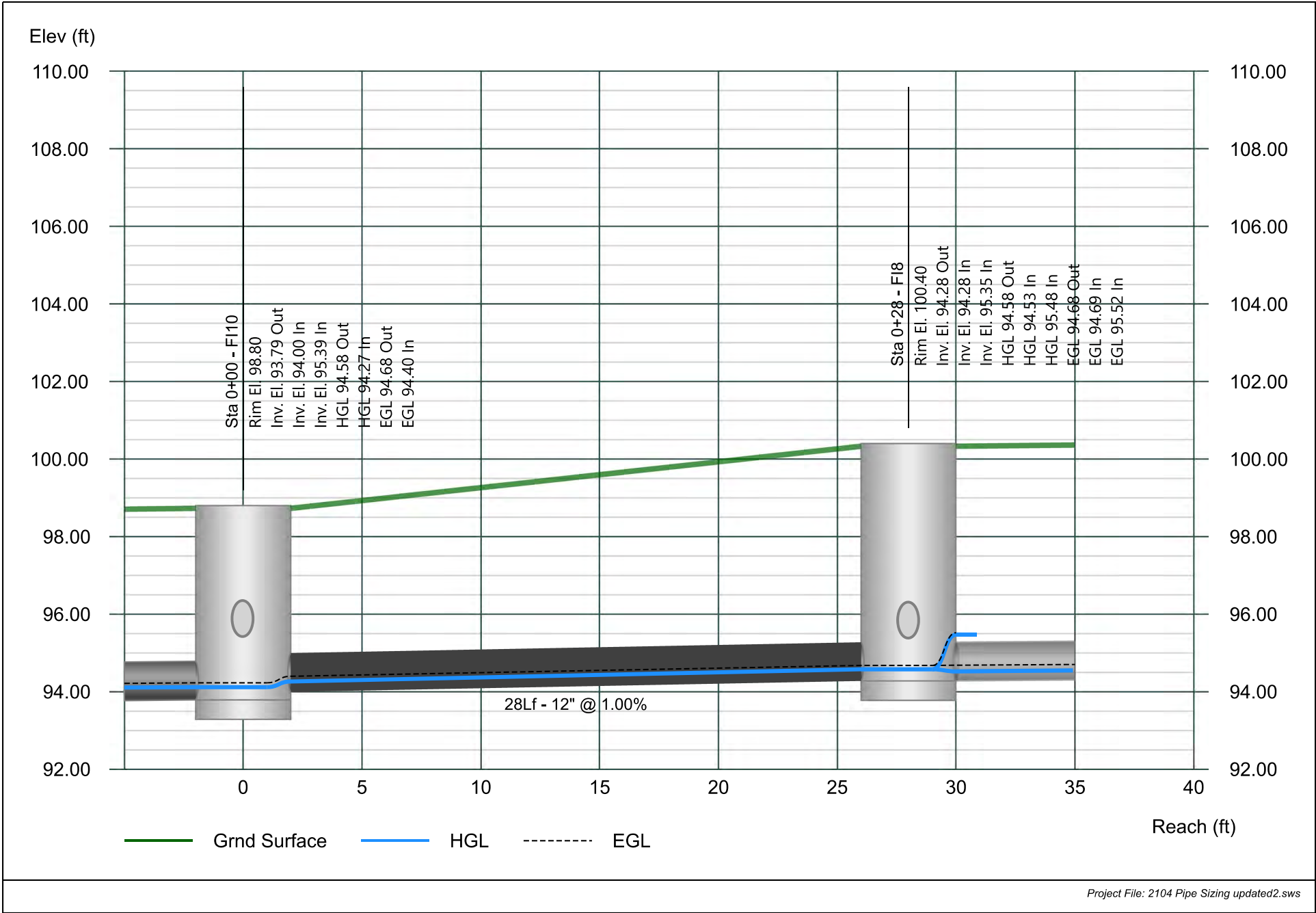


Line 25 - SD9

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

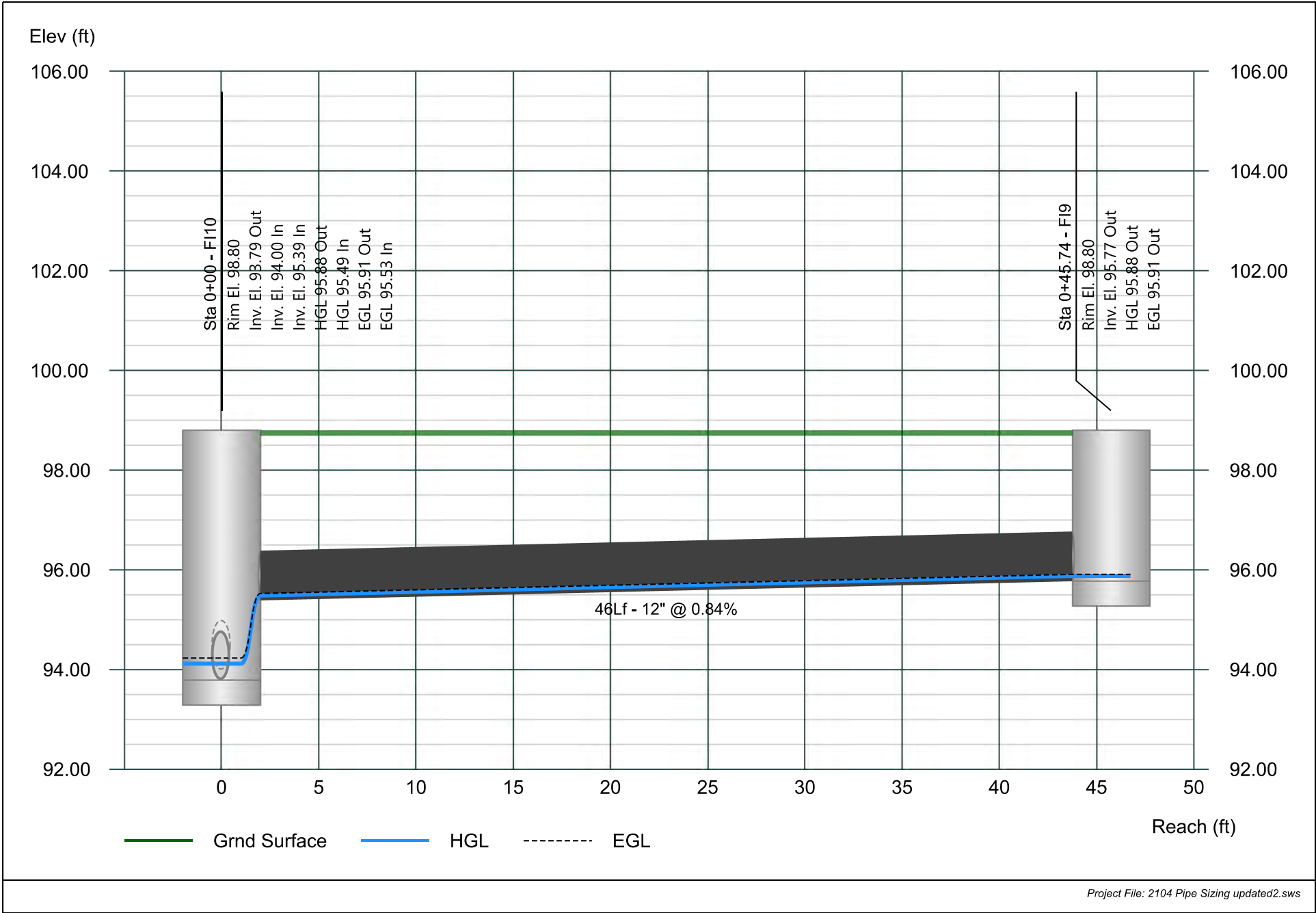


Line 26 - SD15

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

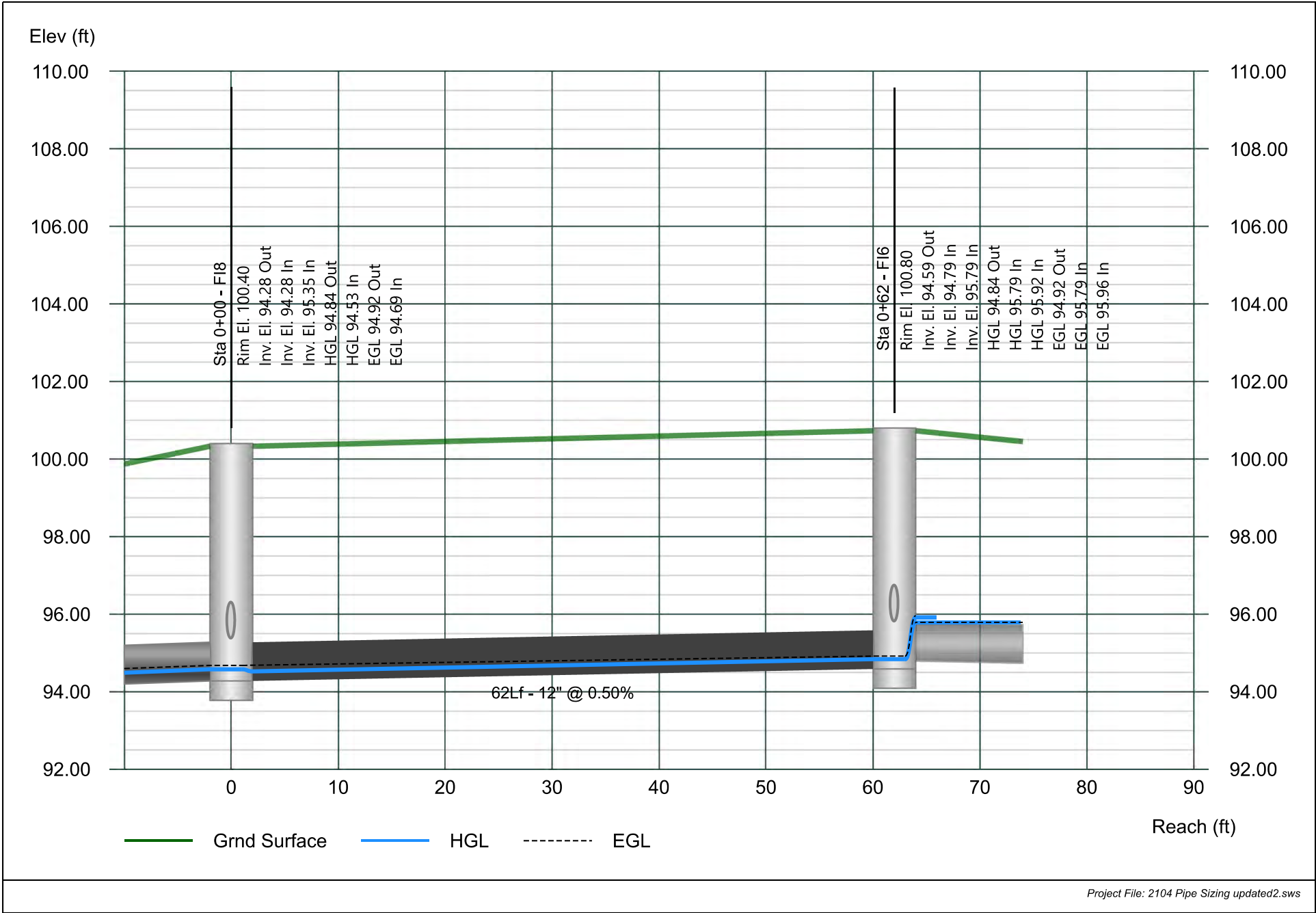


Line 27 - SD10

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

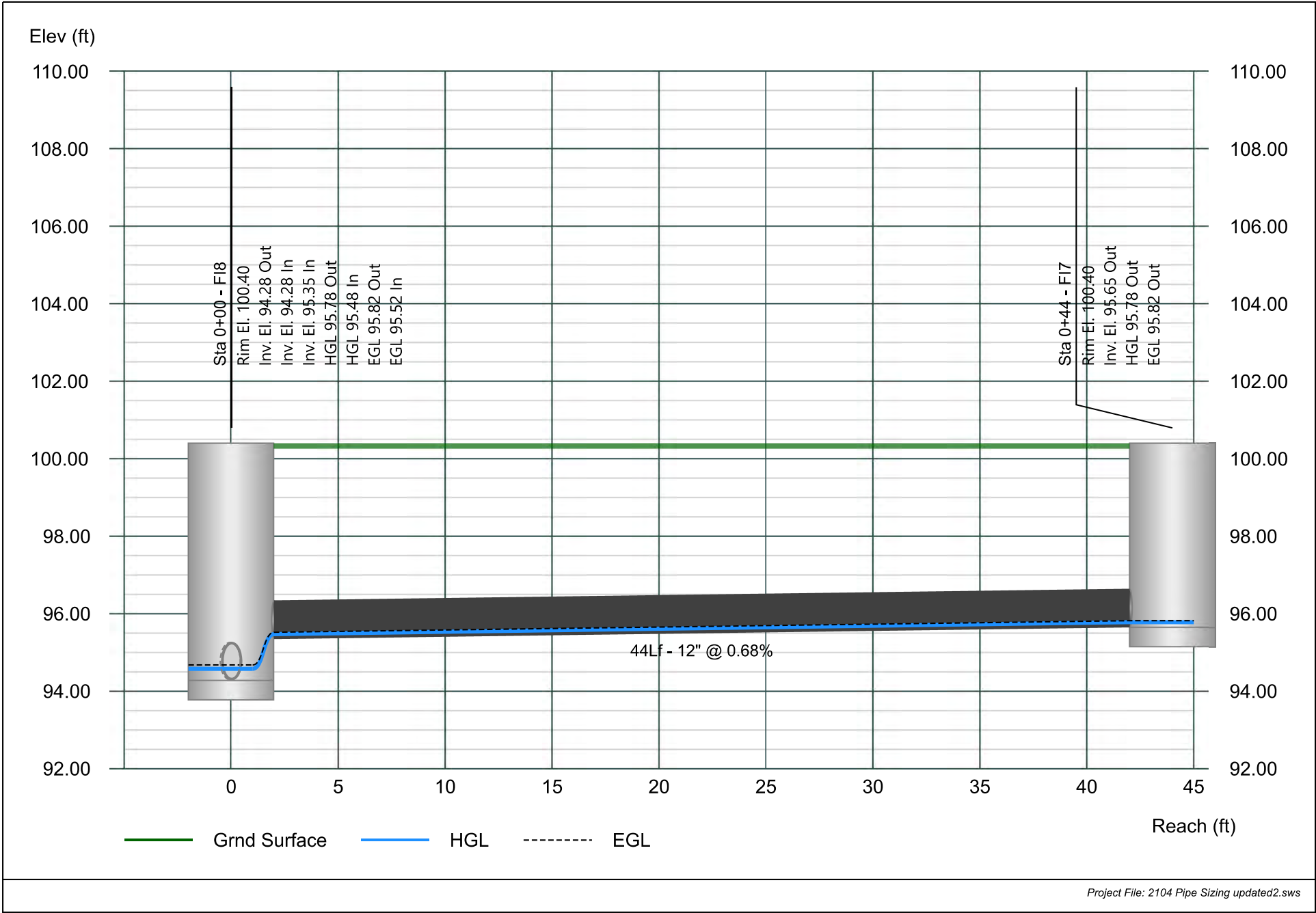


Line 28 - SD14

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

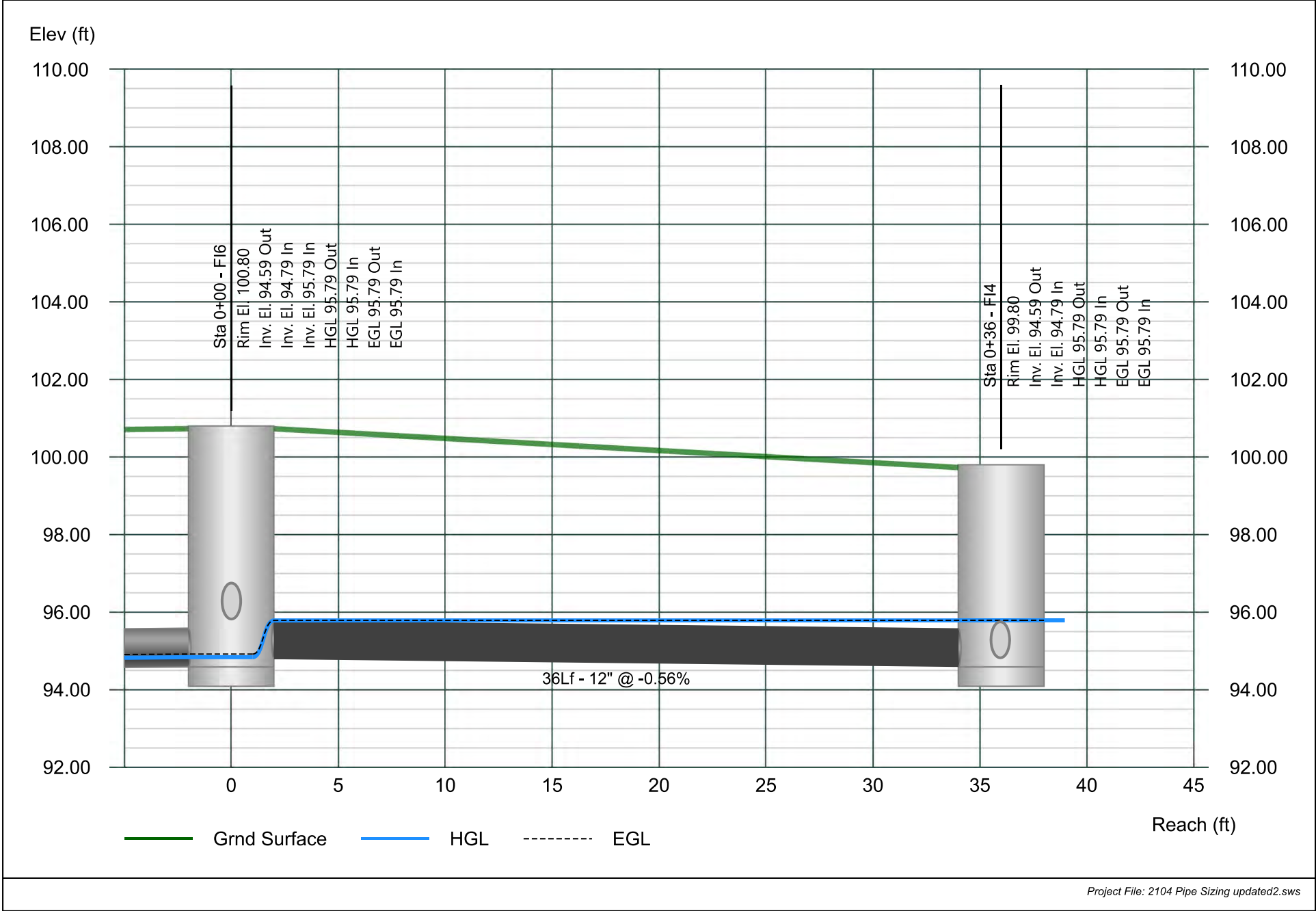


Line 29 - SD11

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

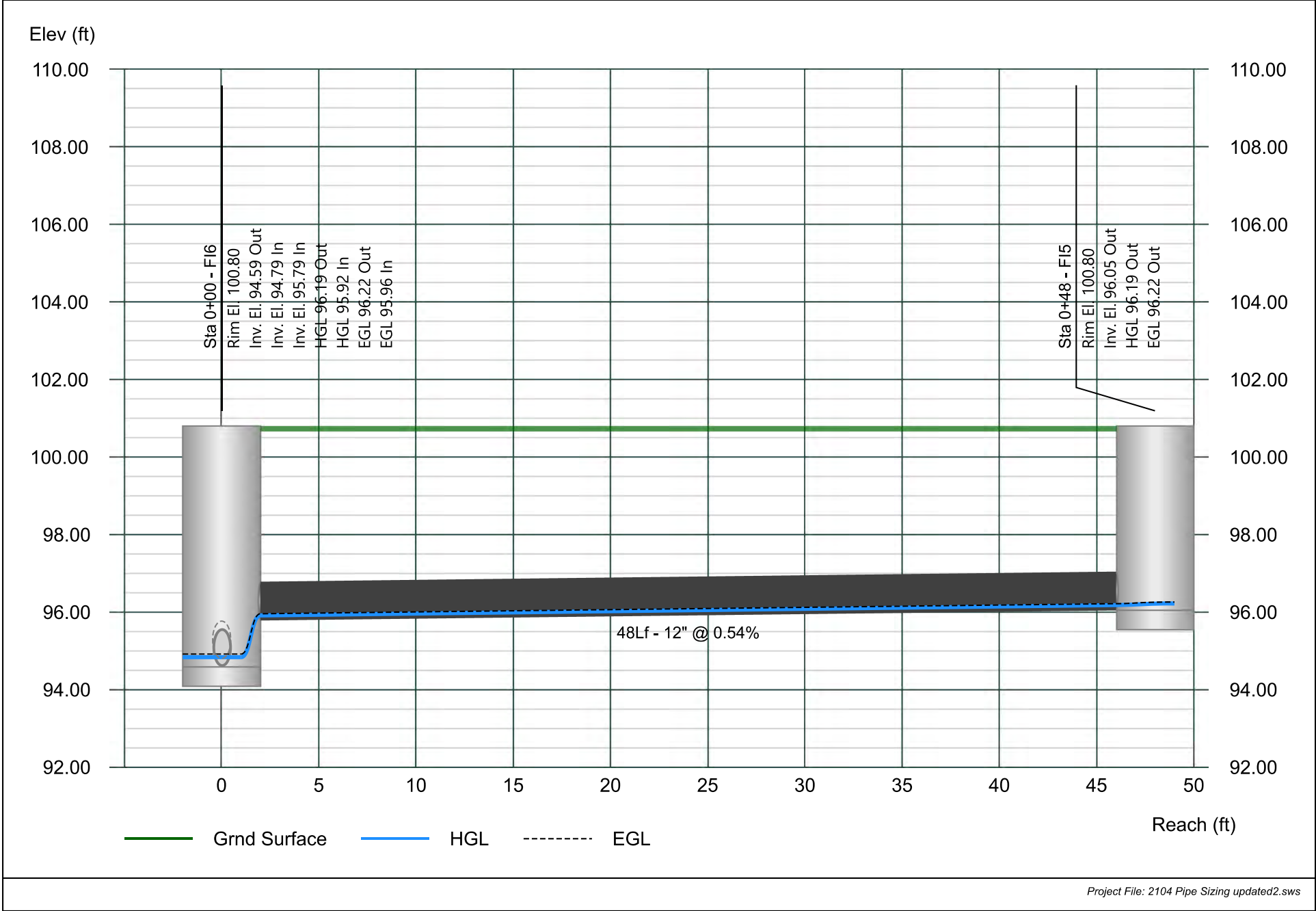


Line 30 - SD13

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021

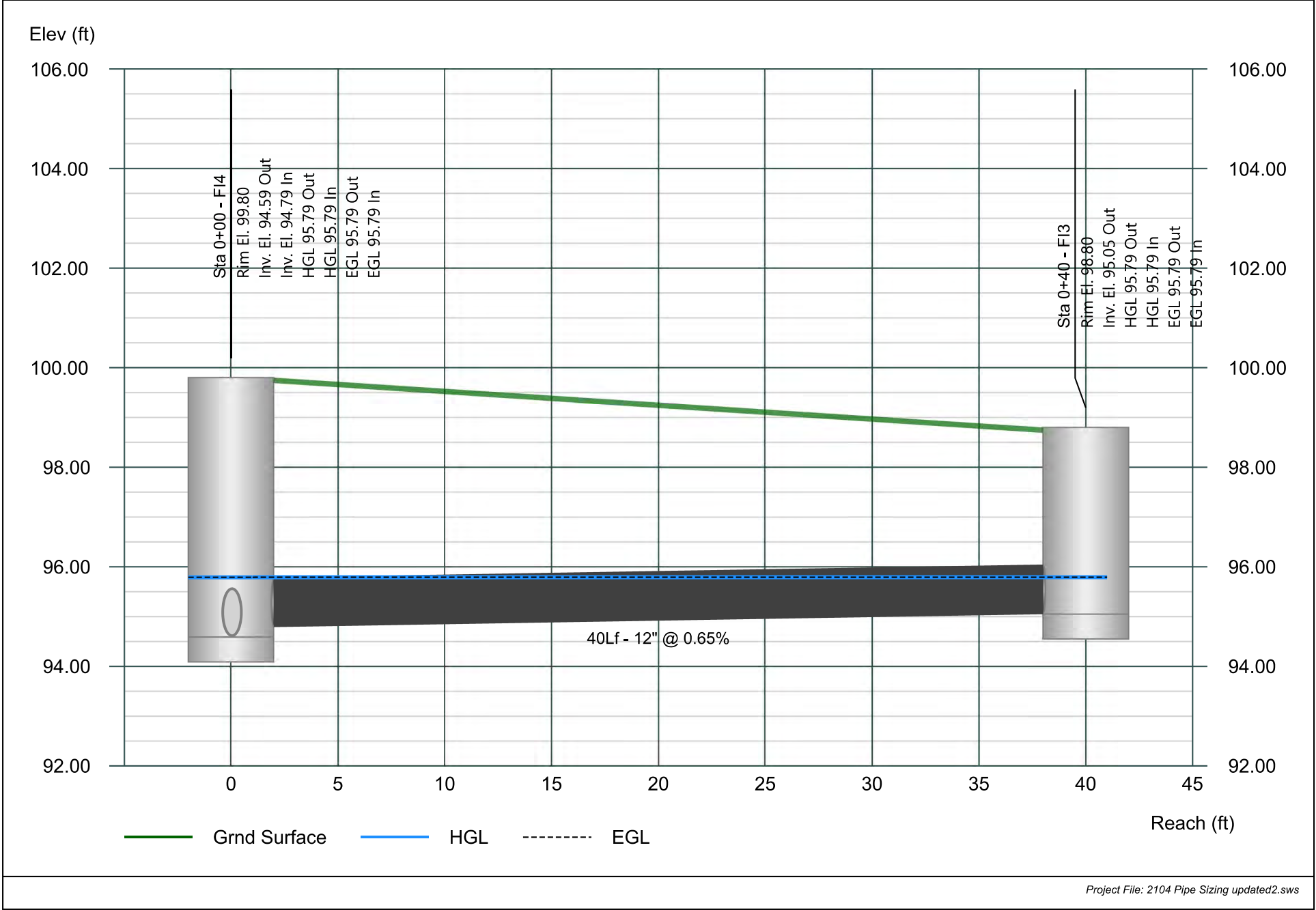


Line 31 - SD12

Stormwater Studio 2021 v 3.0.0.25

Project Name: Clover Leaf

06-22-2021



**Pineland**

Cumberland Hall
41 Campus Drive, Suite 101
New Gloucester, ME 04260

Portland

565 Congress Street, Suite 201
Portland, ME 04101

MAINTENANCE PLAN OF STORMWATER MANAGEMENT FACILITIES

CLOVER LEAF DEVELOPMENT SACO, MAINE

Prepared by:
Jeffrey D. Amos, P.E. 10167

Project Developer: Clover Leaf Development, LLC
986 Portland Road
Saco, Me 04072

Responsible Party: Clover Leaf Development, LLC
986 Portland Road
Saco, Me 04072

List of Stormwater Measures:

Conveyance & Distribution System (Stormwater Channels & Culverts)
Roadways & Parking Surfaces
Level Lip Spreader
Vegetated Buffer

Introduction:

Regular inspection and maintenance of the entire stormwater management system is crucial to the long-term effectiveness of the system. The responsible party must provide regular inspection and maintenance of all permanent erosion control measures and stormwater management structures, establish any contract services required to implement the program, and keep records and a maintenance log book of inspection and maintenance activities. At a minimum, the inspection and maintenance activities outlined herein should be performed at the recommended intervals. All inspection and maintenance documentation shall be maintained for at least 5 years. This project is subject to the Maine Department of Environmental Protection's 5-year Recertification Process.

All measures must be maintained in effective operating condition. A person with knowledge of erosion and sedimentation practices, stormwater management, and the standards and conditions of all local, state and federal permits for the project shall conduct the inspections. The following areas, facilities, and measures must be inspected and identified deficiencies must be corrected.

Inspection & Maintenance Tasks:

Inspections should be performed by a qualified erosion control professional. NOTE: The following instruction are excerpts from the Maine Department of Environmental Protection's *Stormwater Management for Maine, Volume III BMPs Technical Design Manual*, dated January 2006.

1. Inspect **vegetated areas**, particularly slopes and embankments, early in the growing season or after storm events resulting in one inch of rain in 24 hours to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.
2. Inspect **ditches, swales and other open stormwater channels** in the spring, in late fall, and after storm events resulting in one inch of rain in 24 hours to remove any obstructions to flow, remove accumulated sediments and debris, to control vegetated growth that could obstruct flow, and to repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or sideslopes.
3. Inspect **resource and treatment buffers** once a year for evidence of erosion, concentrating flow, and encroachment by development. If flows are concentrating within a buffer, site grading, level spreaders, or ditch turn-outs must be used to ensure a more even distribution of flow into a buffer. Check down slope of all spreaders and turn-outs for erosion. If erosion is present, adjust or modify the spreader's or turnout's lip to ensure a better distribution of flow into a buffer. Clean-out any accumulation of sediment within the spreader bays or turn-out pools.

Recertification requirement:

Within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the Department.

- (a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.
- (b) All aspects of the stormwater control system are operating as approved, have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system, as necessary.
- (c) The stormwater maintenance plan for the site is being implemented as approved by the Department, and the maintenance log is being maintained.
- (d) All proprietary systems have been maintained according to the manufacturer's recommendations. Where required by the Department, the permittee shall execute a 5-year

maintenance contract with a qualified professional for the coming 5-year interval. The maintenance contract must include provisions for routine inspections, cleaning and general maintenance.

- (e) The Department may waive some or all of these recertification requirements on a case-by-case basis for permittees subject to the Department's Multi-Sector General Permit ("MSGP") and/or Maine Pollutant Discharge Elimination System ("MEPDES") programs where it is demonstrated that these programs are providing stormwater control that is at least as effective as required pursuant to this Chapter.

Conveyance & Distribution Systems: (Stormwater Channels & Culverts, etc.)

1. Inspection schedule:

- a. Inspect ditches, swales and other open stormwater channels in the spring, in late fall, and after heavy rains (one inch of rain in 24 hours) to remove any obstructions to flow, remove accumulated sediments and debris, to control vegetated growth that could obstruct flow, and to repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side-slopes.
- b. Inspect culverts in the spring, in late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet.
- c. Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

2. Mowing: Grass should not be trimmed extremely short, as this will reduce the filtering effect of the swale (MPCA, 1989). The cut vegetation should be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale. The mowed height of the grass should be 2-4 inches taller than the maximum flow depth of the design water quality storm. A minimum mow height of 6 inches is generally recommended (Galli, 1993).

3. Erosion: It is important to install erosion and sediment control measures to stabilize this area as soon as possible and to retain any organic matter in the bottom of the trench.

4. Fertilization: Routine fertilization and/or use of pesticides is strongly discouraged. If complete re-seeding is necessary, half the original recommended rate of fertilizer should be applied with a full rate of seed.

5. Sediment Removal: The level of sediment deposition in the channel should be monitored regularly, and removed from grassed channels before permanent damage is done to the grassed vegetation, or if infiltration times are longer than 12 hours. Sediment should be removed from riprap channels when it reduces the capacity of the channel.

Roadways & Parking Surfaces:

Paved surfaces shall be swept or vacuumed at least once annually in the Spring to remove all Winter sand, and periodically during the year on an as-needed basis to minimize transportation of sediment during rainfall events.

Vegetated Swales:

Mowing: Grass should not be trimmed extremely short, as this will reduce the filtering effect of the swale (MPCA, 1989). The cut vegetation should be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale. The mowed height of the grass should be 2-4 inches taller than the maximum flow depth of the design water quality storm. A minimum mow height of 6 inches is generally recommended (Galli, 1993).

Routine Maintenance and Inspection: The area should be inspected for failures following heavy rainfall (one inch of rain in 24 hours) and repaired as necessary for newly formed channels or gullies, reseeding/sodding of bare spots, removal of trash, leaves and/or accumulated sediments, the control of woody or other undesirable vegetation and to check the condition and integrity of the check dams.

Aeration: The buffer strip may require periodic mechanical aeration to restore infiltration capacity. This aeration must be done during a time when the area can be reseeded and mulched prior to any significant rainfall.

Erosion: It is important to install erosion and sediment control measures to stabilize this area as soon as possible and to retain any organic matter in the bottom of the trench.

Fertilization: Routine fertilization and/or use of pesticides is strongly discouraged. If complete re-seeding is necessary, half the original recommended rate of fertilizer should be applied with a full rate of seed.

Sediment Removal: The level of sediment deposition in the channel should be monitored regularly, and removed from grassed channels before permanent damage is done to the grassed vegetation, or if infiltration times are longer than 12 hours. Sediment should be removed from riprap channels when it reduces the capacity of the channel.

Level Lip Spreader:

Long term maintenance of the level spreader is essential to ensure its effectiveness. Spreaders constructed of wood, asphalt, stone or concrete curbing also require inspection and maintenance.

1. **Inspections:** At least once a year and following major storms (one inch of rain in 24 hours), the level spreader pool should be inspected for sand accumulation and debris that may reduce its capacity.
2. **Sediment Removal:** Sediment build-up within the swale should be removed when it has accumulated to approximately 25% of design volume or channel capacity. Dispose of the sediments appropriately.
3. **Debris:** Remove debris such as leaf litter, branches and tree growth from the spreader.
4. **Mowing:** Vegetated spreaders may require mowing.
5. **Snow Storage:** Do not store snow within the area of the level spreader.
6. **Level Spreader Replacement:** The reconstruction of the level spreader may be necessary when sheet flow from the spreader channelize into the buffer.

Vegetated Buffers:

1. **Mowing:** Meadow buffers may be mown no more than twice per year. They may not be maintained as a lawn.
2. **Inspection Frequency:** Buffers should be inspected annually for evidence of erosion or concentrated flows through or around the buffer. All eroded areas should be repaired, seeded and mulched. A shallow stone trench should be installed and maintained as a level spreader to distribute flows evenly in any area showing concentrated flows.
3. **Access and Use:** Buffers should not be traversed by all-terrain vehicles or other vehicles. Activities within buffers should be conducted so as not to damage vegetation, disturb any organic duff layer, and expose soil.
4. **Snow Storage:** Do not store snow within the buffer area.
5. **Model Maintenance Plan:** The following techniques should be followed to maintain the integrity of buffers from initial planning through post-construction (Schueler, 1994):
 - a. Planning Stage
 - i. Require buffer limits to be present on all clearing/grading and erosion control plans
 - ii. Record all buffer boundaries on official maps and site plans.
 - iii. Clearly establish acceptable and unacceptable uses for the buffer, and include in deed restrictions and conservation easements.
 - iv. Establish clear vegetation targets and management rules for the buffer.
 - v. Provide incentives for owners protect buffers through perpetual conservation easements rather than deed restrictions.
 - b. Construction Stage
 - i. Pre-construction stakeout of buffers to define the Limit of Disturbance (LOD). ii. Set LOD based on drip-line of the forested buffer.
 - iii. Conduct pre-construction meeting to familiarize contractors and foremen with LOD and buffer limit.

iv. Mark the LOD with silt fence barrier, signs or other methods to exclude construction equipment.

c. Post-Development Stage

- i. Mark buffer boundaries with permanent signs (or fences) describing allowable uses.
- ii. Educate property owners/homeowner associations on the purpose, limits and allowable uses of the buffer.
- iii. Conduct periodic "buffer walks" to inspect the condition of the buffer network (using volunteers, where possible).
- iv. Replant unused meadow buffers with trees and shrubs, if possible.

6. **Tree Removal:** Any removal of trees or other vegetation within the Restricted Buffer Area must be limited to the following:

(i) No purposefully cleared openings may be created and an evenly distributed stand of trees and other vegetation must be maintained. An "evenly distributed stand of trees" is defined as maintaining a minimum rating score of 24 points in any 25 foot by 50 foot rectangle (1,250 square feet) area, as determined by the rating scheme in Table 11:

Table 11.
Point System for Determining an Evenly
Distributed Stand of Trees

Diameter of tree at 4½ feet above ground level	Points
2 - 4 inches	1
4 - 8 inches	2
8 - 12 inches	4
>12 inches	8

Where existing trees and other vegetation result in a rating score less than 24 points, no trees may be cut or sprayed with biocides except for the normal maintenance of dead, windblown or damaged trees and for pruning of tree branches below a height of 12 feet provided two thirds of the tree's canopy is maintained;

(ii) No undergrowth, ground cover vegetation, leaf litter, organic duff layer or mineral soil may be disturbed except that one winding path, that is no wider than six feet and that does not provide a downhill channel for runoff, is allowed through the area;

GRAVEL WETLANDS:

1ST YEAR POST-CONSTRUCTION: Inspection frequency should be after every major storm in the first year following construction.

- 1. Inspect to be certain system drains within 24-48 hours.
- 2. Watering plants as necessary during the first growing season
- 3. Re-vegetating poorly established areas as necessary
- 4. Quarterly inspection of soil and repairing eroded areas, especially on slopes & make timely repairs.

5. Checking inlets, outlets, and overflow spillway for blockage, structural integrity, and evidence of erosion. Risers may need to be cleaned.

POST-CONSTRUCTION: Inspection frequency should be at least every 6 months and after every major storm. Activities are expected to include:

1. Check the basin for a dense root mat establishment of wetland vegetation.
2. Check and clean the risers if there is evidence of standing water, discolored water or accumulated sediments in the cells.
3. Check and clean the forebay for sediments, trash and debris. When sediments have accumulated to a depth of 12 inches, standing water is persistent or wetland vegetation become established, the forebay will need to be excavated and reformed.
4. Verify that the cells drain within 24-48 hours. Sediment will need to be removed when an accumulation of 4 inches is evident over the wetland surface.
5. Check and clean all outlets and overflow spillway if blocked or there is evidence of structural damage or erosion.
6. Remove decaying vegetation, litter and debris.
7. Check for foreign species. Particular care must be used to avoid the unintended introduction of invasive species such as purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*). It is recommended that a qualified wetland biologist be consulted when these are found in the area of the gravel wetland.

CLEANING CRITERIA FOR SEDIMENTATION FOREBAY: Sediment should be removed from the sedimentation chamber (forebay) when it accumulates to a depth of more than 12 inches (30 cm) or 10 percent of the pretreatment volume. The sedimentation forebay should be cleaned of vegetation if persistent standing water and wetland vegetation becomes dominant. The cleaning interval is approximately every 4 years. A dry sedimentation forebay is the optimal condition while in practice this condition is rarely achieved. The sedimentation chamber, forebay, and treatment cell outlet devices should be cleaned when drawdown times exceed 60 to 72 hours. Materials can be removed with heavy construction equipment; however, this equipment should not track on the wetland surface. Revegetation of disturbed areas as necessary. Removed sediments should be dewatered (if necessary) and disposed of in an acceptable manner.

CLEANING CRITERIA FOR GRAVEL WETLAND TREATMENT CELLS: Sediment should be removed from the gravel wetland surface when it accumulates to a depth of several inches (>10 cm) across the wetland surface. Materials should be removed with rakes rather than heavy construction equipment to avoid compaction of the gravel wetland surface. Heavy equipment could be used if the system is designed with dimensions that allow equipment to be located outside the gravel wetland, while a backhoe shovel reaches inside the gravel wetland to remove sediment. Removed sediments should be dewatered (if necessary) and disposed of in an acceptable manner.

Enc.

Sample Maintenance Log Sheet

Sample Maintenance Log Sheet:

Stormwater Management Facilities Inspection & Maintenance Log Clover Leaf Development		
General Information:		
Inspected by:	Date:	Weather:
Reason for Inspection: (Regular Inspection) (Major Rain Event)		
BMP	Conditions Observed	Repairs Needed ?
1. Vegetated Areas		
2. Ditches, Swales, Open Channels		
3. Roadway & Parking Surfaces		
4. Level Lip Spreader		
5. Vegetated Buffers		
6. Gravel Wetland		
Detailed Repair Notes:		
BMP Type	Date	Description of Repairs & Sediment Disposal

Inspection & Maintenance Log

Gravel Wetland

Inspection Frequency Key: A=annually; B=biannually; S=after major storms (>1")

Inspection/Maintenance Task	Inspection Frequency	Date Inspected	Maintenance Needed?	Date Repaired	Date Inspected	Maintenance Needed?	Date Repaired
First Year Post Construction Phase							
Inspect that the system drains within 24-48 hours.	S						
Water plants, if necessary. Revegetate as necessary	S						
Identify areas of erosion & repair as necessary	S						
Check all inlets, outlets and subdrains for proper function. Clean risers as needed	S						
Post Construction Phase							
Check basin for dense root mat of wetland vegetation.	B/S						
Check and clean risers if there is evidence of standing or discolored water, or accumulated sediment	B/S						
Check & clean forebay for sediment, trash & debris. Excavate & reform forebay when sediment is >12", persistent standing water or wetland vegetation becomes established	B/S						
Verify that cells drain within 24-48 hours. Sediment to be removed when >4"	B/S						
Check and clean all outlets and overflow spillway if blocked or there are signs of damage or erosion	B/S						
Remove decaying vegetation, litter & debris	B/S						
Check for foreign species & remove consult wetland biologist when invasive species are found	B/S						
Date	Description of Repair/Comments						

HOUSEKEEPING PERFORMANCE STANDARDS
FOR:
CLOVER LEAF DEVELOPMENT
SACO, MAINE

Project Developer: Clover Leaf Development, LLC
986 Portland Road
Saco, Me 04072

Responsible Party: Clover Leaf Development, LLC
986 Portland Road
Saco, Me 04072

Introduction:

The contractor shall be responsible for maintaining proper housekeeping standards throughout the construction phase of the project. After the construction phase has been completed, the owner or operator of the project will be responsible.

Standards:

In accordance with the housekeeping performance standards required by MDEP chapter 500 stormwater regulations, the following standards shall be met:

- 1. Spill prevention.** Controls must be used to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.
- 2. Groundwater protection.** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.
- 3. Fugitive sediment and dust.** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.

Operations during wet months that experience tracking of mud off the site onto public roads should provide for sweeping of road areas at least once a week and prior to significant storm events. Where chronic mud tracking occurs, a stabilized construction entrance should be provided. Operations during dry months, that experience fugitive dust problems, should wet down the access roads once a week or more frequently as needed.

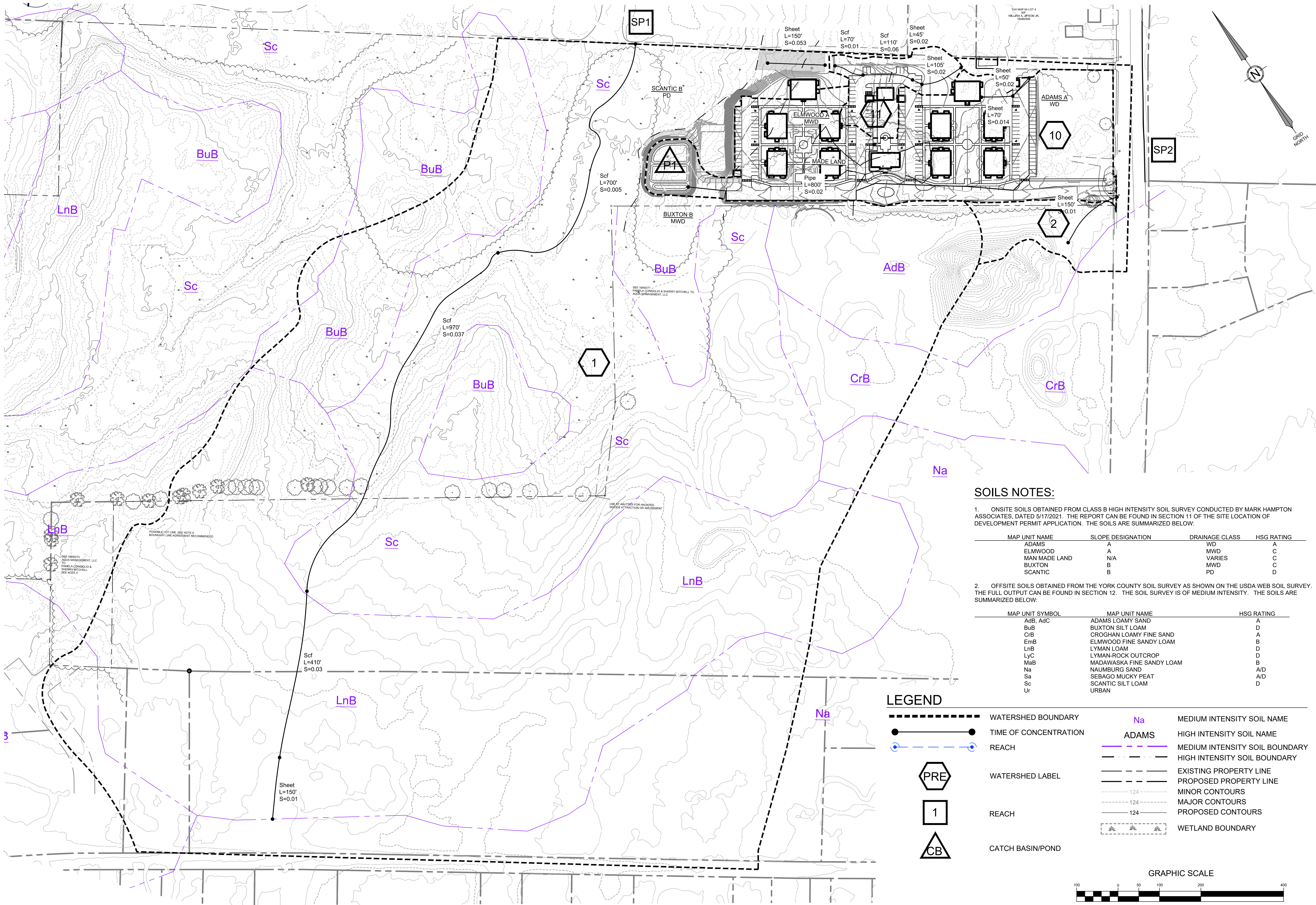
- 4. Debris and other materials.** Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

To prevent these materials from becoming a source of pollutants, construction and post-construction activities related to a project may be required to comply with applicable

provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

- 5. Trench or foundation de-watering.** Trench de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the department.
- 6. Authorized Non-stormwater discharges.** Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:
 - (a) Discharges from firefighting activity;
 - (b) Fire hydrant flushings;
 - (c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
 - (d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);
 - (e) Routine external building washdown, not including surface paint removal, that does not involve detergents;
 - (f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
 - (g) Uncontaminated air conditioning or compressor condensate;
 - (h) Uncontaminated groundwater or spring water;
 - (i) Foundation or footer drain-water where flows are not contaminated;
 - (j) Uncontaminated excavation dewatering (see requirements in Appendix C(5));
 - (k) Potable water sources including waterline flushings; and
 - (l) Landscape irrigation.

7. **Unauthorized non-stormwater discharges** . The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Appendix C (6). Specifically, the Department's approval does not authorize discharges of the following:
- (a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
 - (b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
 - (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and
 - (d) Toxic or hazardous substances from a spill or other release.



SOILS NOTES:

1. ONSITE SOILS OBTAINED FROM CLASS B HIGH INTENSITY SOIL SURVEY CONDUCTED BY MARK HAMPTON ASSOCIATES, DATED 5/17/2021. THE REPORT CAN BE FOUND IN SECTION 11 OF THE SITE LOCATION OF DEVELOPMENT PERMIT APPLICATION. THE SOILS ARE SUMMARIZED BELOW:
- | MAP UNIT NAME | SLOPE DESIGNATION | DRAINAGE CLASS | HSG RATING |
|---------------|-------------------|----------------|------------|
| ADAMS | A | WD | A |
| ELMWOOD | A | MWD | C |
| MAN MADE LAND | N/A | VARIES | C |
| BUXTON | B | MWD | C |
| SCANTIC | B | PD | D |
2. OFFSITE SOILS OBTAINED FROM THE YORK COUNTY SOIL SURVEY AS SHOWN ON THE USDA WEB SOIL SURVEY. THE FULL OUTPUT CAN BE FOUND IN SECTION 12. THE SOIL SURVEY IS OF MEDIUM INTENSITY. THE SOILS ARE SUMMARIZED BELOW:

MAP UNIT SYMBOL	MAP UNIT NAME	HSG RATING
AdB, AdC	ADAMS LOAMY SAND	A
BuB	BUXTON SILT LOAM	D
CrB	CROGHAN LOAMY FINE SAND	A
EmB	ELMWOOD FINE SANDY LOAM	B
LnB	LYMAN LOAM	D
LyC	LYMAN-ROCK OUTCROP	D
MaB	MADAWASKA FINE SANDY LOAM	B
Na	NAUMBURG SAND	A/D
Sa	SEBAGO MUCKY PEAT	A/D
Sc	SCANTIC SILT LOAM	D
Ur	URBAN	

LEGEND

- WATERSHED BOUNDARY

TIME OF CONCENTRATION

REACH

WATERSHED LABEL

REACH

CATCH BASIN/POND
- Na

ADAMS
- MEDIUM INTENSITY SOIL NAME

HIGH INTENSITY SOIL NAME

MEDIUM INTENSITY SOIL BOUNDARY

HIGH INTENSITY SOIL BOUNDARY

EXISTING PROPERTY LINE

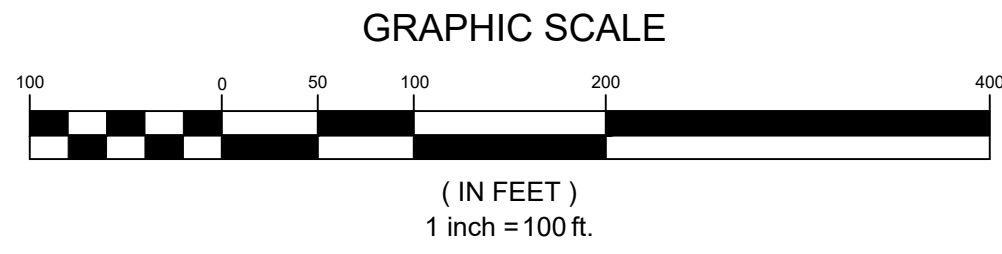
PROPOSED PROPERTY LINE

MINOR CONTOURS

MAJOR CONTOURS

PROPOSED CONTOURS

WETLAND BOUNDARY



DATE: 6/25/2021
P.E.: 10167

REVISIONS

DATE

NO.

565 CONGRESS STREET
SUITE 201
PORTLAND, ME 04102

41 CAMPUS DRIVE
SUITE 101
NEW GLOUCESTER, ME 04260

OFFICE: (207) 926-5111
www.terradynconsultants.com

PERMIT DRAWING
NOT FOR CONSTRUCTION

PROJECT:
CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME

SHEET TITLE:
POST DEVELOPMENT WATERSHED MAP

CLIENT:
CLOVER LEAF DEVELOPMENT, LLC
986 PORTLAND ROAD, SACO, MAINE

DATE: 6/25/2021
SCALE: 1"=100'
DESIGNED: JDA
JOB NO: 2104
FILE:

SHEET
SW-1.1

Section 13 - Urban Impaired Stream Submissions

The property is located within the Scarborough (Dunstan) River Watershed. This section is not applicable.

Section 14 - Basic Standards

Temporary and Permanent Erosion and Sedimentation Control

Introduction

This Erosion and Sediment Control Plan has been prepared to provide guidelines for soil erosion and sedimentation control during the construction of the Sunrise Cove Retirement Community for CCHF, Inc. This plan has been developed using the Maine Department of Environmental Protection's Best Management Practices and the standards.

Pre-Construction Phase

A person who conducts, or causes to be conducted, an activity that involves filling, displacing or exposing soil or other earthen materials shall take measures to prevent unreasonable erosion of soil or sediment beyond the project site or into a protected natural resource as defined in 38 MRSA § 480-B. Erosion control measures must be in place before the activity begins. Measures must remain in place and functional until the site is permanently stabilized. Adequate and timely temporary and permanent stabilization measures must be taken. The site must be maintained to prevent unreasonable erosion and sedimentation. Minimize disturbed areas and protect natural downgradient buffer areas to the extent practicable.

BMP Construction Phase

A. Sediment Barriers. Prior to the beginning of any construction, properly install sediment barriers at the edge of any downgradient disturbed area and adjacent to any drainage channels within the proposed disturbed area. Maintain the sediment barriers until the disturbed area is permanently stabilized. At a minimum, silt fences shall be inspected and repaired once a week or immediately following any significant rainfall or snow melt. Sediment trapped behind these barriers shall be excavated and re-graded onto the site when it reaches a depth of 6 inches. All silt fences shall be installed where shown on the plans and according to the engineer's specifications.

B. Construction Entrance: Prior to any clearing or grubbing, a construction entrance shall be constructed at the intersection with the proposed access drive and the existing roadway to avoid tracking of mud, dust and debris from the site.

C. Riprap: Since riprap is used where erosion potential is high, construction must be sequenced so that the riprap is put in place with the minimum delay. Disturbance of areas where riprap is to be placed should be undertaken only when final preparation and placement of the riprap can follow immediately behind the initial disturbance. Where riprap is used for outlet protection, the riprap should be placed before or in conjunction with the construction of the pipe or channel so that it is in place when the pipe or channel begins to operate. Maintain temporary riprap, such as temporary check dams until the disturbed area is permanently stabilized.

D. Temporary Stabilization. Stabilize with temporary seeding, mulch, or other non-erodible cover any exposed soils that will remain unworked for more than 14 days except, stabilize areas within

100 feet of a wetland or waterbody within 7 days or prior to a predicted storm event, whichever comes first. If hay or straw mulch is used, the application rate must be 2 bales (70-90 pounds) per 1000 SF or 1.5 to 2 tons (90-100 bales) per acre to cover 75 to 90% of the ground surface. Hay mulch must be kept moist or anchored to prevent wind blowing. An erosion control blanket or mat shall be used at the base of grassed waterways, steep slopes (15% or greater) and on any disturbed soil within 100 feet of lakes, streams and wetlands. Grading shall be planned so as to minimize the length of time between initial soil exposure and final grading. On large projects this should be accomplished by phasing the operation and completing the first phase up to final grading and seeding before starting the second phase, and so on.

E. Vegetated Waterway. Upon final grading, the disturbed areas shall be immediately seeded to permanent vegetation and mulched and will not be used as outlets until a dense, vigorous vegetative cover has been obtained. Once soil is exposed for waterway construction, it should be immediately shaped, graded and stabilized. Vegetated waterways need to be stabilized early during the growing season (prior to September 15). If final seeding of waterways is delayed past September 15, emergency provisions such as sod or riprap may be required to stabilize the channel. Waterways should be fully stabilized prior to directing runoff to them.

Permanent Stabilization Defined

Permanent stabilization for the following list of BMPs is defined as:

A. Seeded Areas. For seeded areas, permanent stabilization means a 90% cover of the disturbed area with mature, healthy plants with no evidence of washing or rilling of the topsoil.

B. Sodded Areas. For sodded areas, permanent stabilization means the complete binding of the sod roots into the underlying soil with no Slumping of the sod or die-off.

C. Permanent Mulch. For mulched areas, permanent mulching means total coverage of the exposed area with an approved mulch material. Erosion Control Mix may be used as mulch for permanent stabilization according to the approved application rates and limitations.

D. Riprap. For areas stabilized with riprap, permanent stabilization means that slopes stabilized with riprap have an appropriate backing of a well-graded gravel or approved geotextile to prevent soil movement from behind the riprap. Stone must be sized appropriately. It is recommended that angular stone be used.

E. Agricultural Use. For construction projects on land used for agricultural purposes, (e.g., pipelines across crop land) permanent stabilization may be accomplished by returning the disturbed land to agricultural use.

F. Paved areas. For paved areas, permanent stabilization means the placement of the compacted gravel subbase is completed.

G. Ditches, Channels, and Swales. For open channels, permanent stabilization means the channel is stabilized with mature vegetation at least three inches in height, with well-graded riprap, or with another non-erosive lining capable of withstanding the anticipated flow velocities and flow

depths without reliance on check dams to slow flow. There must be no evidence of slumping of the lining, undercutting of the banks, or down-cutting of the channel.

General Construction Phase

The following erosion control measures shall be followed by the contractor throughout construction of this project:

A. All topsoil shall be collected, stockpiled, seeded with rye at 3 pounds/1,000 SF and mulched, and reused as required. Siltation fencing shall be placed down gradient from the stockpiled loam. Loam shall be stockpiled at location designated by the owner and inspecting engineer.

B. The inspecting engineer at his/her discretion, may require additional erosion control measures and/or supplemental vegetative provisions to maintain stability of earthworks and finish graded areas. The contractor shall be responsible for providing and installing any supplemental measures as directed by the inspecting engineer. Failure to comply with the engineer's directions will result in discontinuation of construction activities.

C. Erosion control mesh shall be applied in accordance with the plans over all finish seeded areas as specified on the design plans.

D. All graded or disturbed areas including slopes shall be protected during clearing and construction in accordance with the approved erosion and sediment control plan until they are adequately stabilized.

E. All erosion, and sediment control practices and measures shall be constructed, applied and maintained in accordance with the approved erosion and sediment control plan.

F. Areas to be filled shall be cleared, grubbed and stripped of topsoil to remove trees, vegetation, roots or other objectionable materials.

G. Unless otherwise authorized by the project engineer, any fill used on the site will meet M.D.O.T. Standard 703.08 for common borrow, 703.06(b) for subbase aggregate, and 703.06(a) for base.

H. Areas shall be scarified to a minimum depth of 3 inches prior to placement of topsoil.

I. All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and conduits, etc., shall be compacted in accordance with local requirements or codes.

J. All fills shall be placed and compacted in layers not to exceed 8 inches in thickness.

K. Except for approved landfills or non-structural fills, fill material shall be free of brush, rubbish, rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent Construction of satisfactory lifts.

L. Frozen material or soft, mucky or highly compressible materials shall not be incorporated into fill slopes or structural fills.

M. Fill shall not be placed on a frozen foundation.

M. Seeps or springs encountered during construction shall be handled appropriately.

O. All graded areas shall be permanently stabilized immediately following finished grading.

P. Remove any temporary control measures, such as silt fence, within 30 days after permanent stabilization is attained. Remove any accumulated sediments and stabilize.

Permanent Vegetation

Permanent vegetative cover should be established on disturbed areas where permanent, long lived vegetative cover is needed to stabilize the soil, to reduce damages from sediment and runoff, and to enhance the environment.

Seedbed Preparation

A. Grade as feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application and anchoring, and maintenance.

B. Apply limestone and fertilizer according to soil tests such as those offered by the University of Maine Soil Testing Laboratory. Soil sample mailers are available from the local Cooperative Extension Service Office. If soil testing is not feasible on small or variable sites, or where timing is critical, fertilizer may be applied at the rate of 800 pounds per acre or 18.4 pounds per 1,000 square feet using 10-20-20 (N-P2O5-K2O) or equivalent. Apply ground limestone (equivalent to 50% calcium plus magnesium oxide) at a rate of 3 tons per acre (138 lb. Per 1,000 sq. ft).

C. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, spring tooth harrow or other suitable equipment. The final harrowing operation should be on the general contour. Continue tillage until a reasonably uniform, fine seedbed is prepared. All but clay or silty soils and coarse sands should be rolled to firm the seedbed wherever feasible.

D. Remove from the surface all stones 2 inches or larger in any dimension. Remove all other debris, such as wire, cable, tree roots, concrete, clods, lumps or other unsuitable material.

E. Inspect seedbed just before seeding. If traffic has left the soil compacted; the area must be tilled and firmed as above.

F. Permanent seeding should be made 45 days prior to the first killing frost or as a dormant seeding with mulch after the first killing frost and before snowfall. When crown vetch is seeded in later summer, at least 35% of the seed should be hard seed (unscarified). If seeding cannot be done within the seeding dates, mulch according to the Temporary Mulching BMP and Over-winter Stabilization and Construction to protect the site and delay seeding until the next recommended seeding period.

G. Following seed bed preparation, swale areas, fill areas and back slopes shall be seeded at a rate of 3 lbs./1,000 S.F. with a mixture of 35% creeping red **h.** fescue, 6% red top, 24% Kentucky bluegrass, 10% perennial ryegrass, 20% annual ryegrass and 5% white dutch clover.

I. Areas which have been temporarily or permanently seeded shall be mulched immediately following seeding.

J. Areas which cannot be seeded within the growing season shall be mulched for over-winter protection and the area should be seeded at the beginning of the growing season.

Winter Construction phase

The winter construction period is from November 15 through April 15. If an area is not stabilized with temporary or permanent measures by November 15, then the site must be protected with additional stabilization measures.

A. Permanent stabilization consists of at least 90% vegetation, Pavement/gravel base or riprap.

B. Do not expose slopes or leave slopes exposed over the winter or for any other extended time of work suspension unless fully protected with Mulch.

C. Apply hay mulch at twice the standard rate (150 lbs. Per 1,000 sf). The mulch must be thick enough such that the ground surface will not be visible and must be anchored.

D. Use mulch and mulch netting or an erosion control mulch blanket or mix for all slopes greater than 8 % or other areas exposed to direct wind.

E. Install an erosion control blanket in all drainage ways (bottom and sides) with a slope greater than 3 %.

F. During frozen conditions, sediment barriers shall consist of wood-waste filter berms as frozen soil prevents the proper installation of hay bales and silt fences.

G. Between the dates of October 15th and April 1st, loam or seed will not be required. During periods of above freezing temperatures, finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until such time as the final treatment can be applied. If the date is after November 1st and if the exposed area has been loamed, final graded with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched. Dormant seeding may be placed prior to the placement of mulch and fabric netting anchored with staples. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5lbs/1000 s.f. All areas seeded during the winter will be inspected in the spring for adequate catch. All areas not sufficiently vegetated (less than 75 % catch) shall be re-vegetated by replacing loam, seed and mulch.

H. Winter excavation and earthwork shall be completed as such that no more than 1 acre of the site is without stabilization at any one time.

I. An area within 100 feet of a protected natural resource must be protected with a double row of sediment barrier.

J. Temporary mulch must be applied within 7 days of soil exposure or prior to any storm event, but after every workday in areas within 100 feet from a protected natural resource.

K. Areas that have been brought to final grade must be permanently mulched that same day.

L. In the event of a snowfall greater than 1 inch (fresh or cumulative), the snow shall be removed from the areas due to be seeded and mulched.

M. Loam shall be free of frozen clumps before it is applied.

N. All vegetated ditch lines that have not been stabilized by November 1, or will be worked during the winter construction period, must be stabilized with an appropriate stone lining backed by an appropriate gravel bed or geotextile unless specifically released from this standard by the department.

O. Maintenance measures shall be applied as needed during the entire construction season. After each rainfall, snow storm or period of thawing and runoff, the site contractor shall perform a visual inspection of all installed erosion control measures and perform repairs as needed to ensure their continuous function. Following the temporary and or final seeding and mulching, the contractor shall in the spring inspect and repair any damages and/ or unestablished spots. Established vegetative cover means a minimum of 85 to 90% of areas vegetated with vigorous growth.

Construction Plan

The project will be constructed in one phase. The site work is estimated to take between 8-10 months to complete and would generally correspond to the following table:

	Start	Finish
1. Estimated construction time: 12 months	November 1, 2021	November 1, 2022
2 Erosion control measures placed	November 1, 2021	October 15, 2022
3. Site clearing, grubbing, excavation, filling and construction stormwater facilities	November 1, 2021	October 15, 2022
4. Excavation & construction of roads, parking lots and underground utilities.	November 1, 2021	October 15, 2022
5. Mulch spread for winter erosion control. (if necessary)	November 15, of construction year	May 1 the next year

6. Start progressive final seeding on prepared areas.	Within 24 hours of loam placement	September 15 of construction year
7. Bi-weekly monitoring of vegetative growth.	November 15, 2021	November 1, 2022
8. Re-seed, if necessary, and continue monitoring of growth until established.	November 15, 2021	October 17, 2022
9. Progressive removal of erosion control devices, based on field inspection.	November 15, 2021	October 17, 2022

Dates are subject to change at the discretion of the engineer depending on construction progress.

Maintenance and Inspection Phase

A. Contractor shall inspect disturbed and impervious areas, and erosion and stormwater control measures, areas used for storage that are exposed to precipitation, and locations where vehicles enter or exit the parcel at least once a week and before and after a storm event, prior to completion of permanent stabilization. A person with knowledge of erosion and stormwater must conduct the inspection. This person must be identified in the inspection log. If best management practices (BMPs) need to be modified or if additional BMPs are necessary, implementation must be completed within 7 calendar days and prior to any storm event (rainfall). All measures must be maintained in effective operating condition until areas are permanently stabilized.

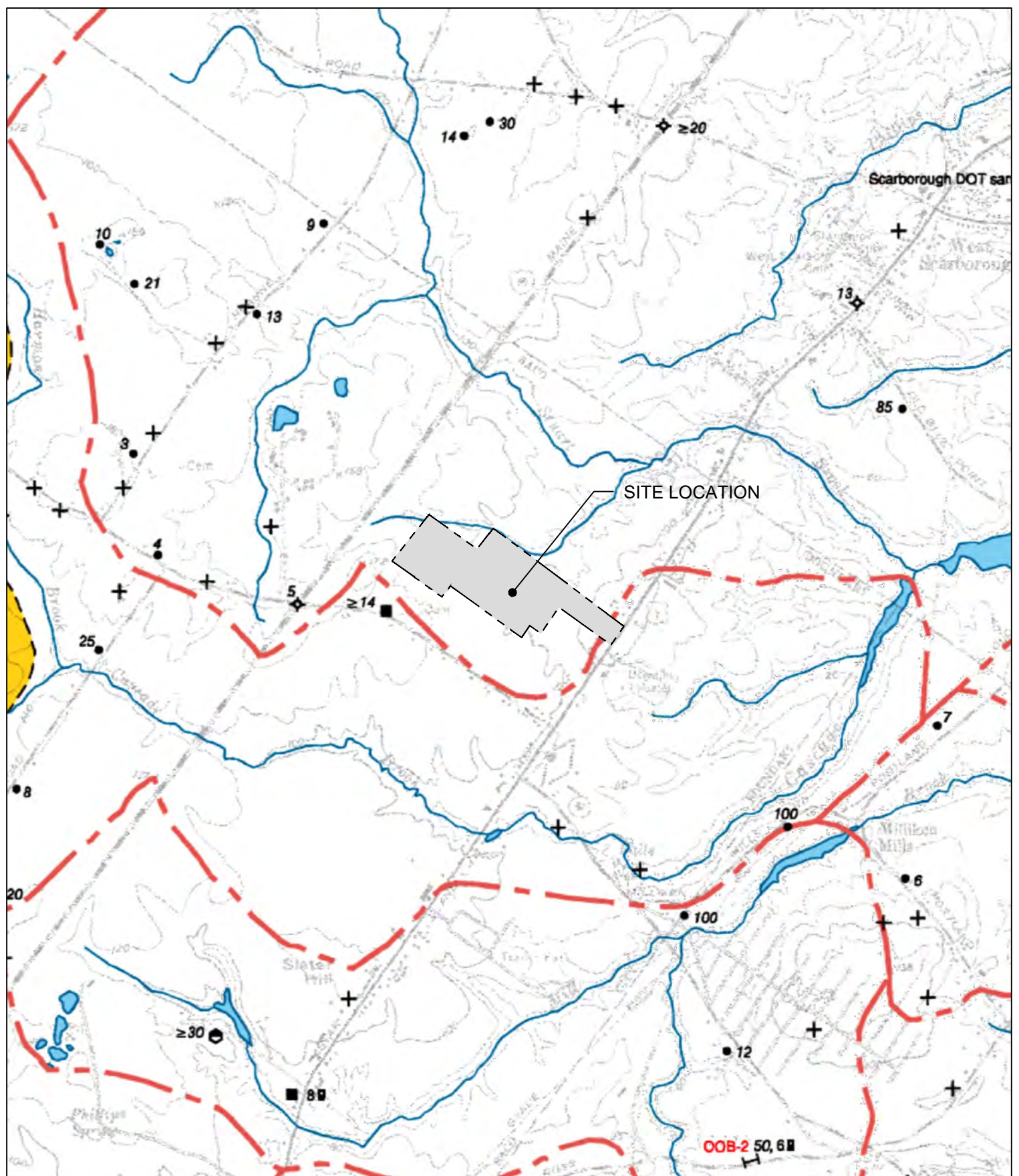
Following the final seedings, reseeding will be carried out, with follow-up inspections, in the event of any failures. All erosion control measures will be removed within 10 days after vegetation is adequately established. The applicant shall be responsible for making arrangements for the inspections.

B. A log (report) must be kept summarizing the scope of the inspection, name(s) and qualifications of the personnel making the inspection, the date(s) of the inspection, and major observations relating to operation of erosion and sedimentation controls and pollution prevention measures. Major observations must include: BMPs that need to be maintained; location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location; and location(s) where additional BMPs are needed that did not exist at the time of inspection. Follow-up to correct deficiencies or enhance controls must also be indicated in the log and dated, including what action was taken and when.

Section 15 - Groundwater

The project will not have any expected impact to the groundwater. The attached figure shows the site is not located on a sand and gravel aquifer. The development will connect to the public water system.

The stormwater system makes use of roof drain filter strips, a gravel wetland and permanent erosion control measures to filter stormwater and maximize potential infiltration.



AERIAL MAP

PROJECT:
CLOVER LEAF DEVELOPMENT
986 PORTLAND ROAD, SACO, ME
PREPARED FOR:
CLOVER LEAF DEVELOPMENT, LLC



207.926.5111 • info@terradyconsultants.com • www.terradyconsultants.com

PINELAND
41 CAMPUS DRIVE, SUITE 101
NEW GLOUCESTER, ME 04260

PORTLAND
565 CONGRESS STREET, SUITE 201
PORTLAND, ME 04101

PROJECT NO.

2104

DATE

6/25/2021

SCALE

1"=2,000'

SHEET

1

OF

1

Section 16 - Water Supply

The Clover Leaf Development Project will feature a connection to the public water system that is located within Portland Road (Route 1). The Maine Water has the capacity to serve the project. Their ability to serve letter will be forwarded once received. They will also review and approve the water layout & design prior to final approval by the planning board. Their approval letter will be forwarded to the City of Saco Planning Department, once received.

Section 17 - Wastewater Disposal

The Clover Leaf Development will connect to the City sewer system. Our sewer design will be reviewed and approved by the water resource recovery department prior to final approval by the planning board. The department did not express concern about the project at the staff review meeting earlier this year. They will provide proof of capacity during their review.

Section 18 - Solid Waste

The Clover Leaf Development will generate solid waste during land clearing, construction of the infrastructure and buildings and after occupation. The specific types, quantities, haulers and disposal sites are described below.

Woodwaste, Stumps & Grubbings

The majority of the waste will be generated by the harvesting of trees and the removal of stumps. Marketable timber will be removed from the project site and sold. Smaller woody debris will be mulched and used as a soil amendment or as an erosion control measure. Stump grindings will be used to make erosion control mix berm whenever possible, which will be used to augment or substitute for silt fence. An estimate of the amount of stumps/grinding waste can be calculated by assuming that 400 CY of material produced per acre of disturbance of mature forest. This approximation yields 3,600 CY over the 9 acres of clearing.

Construction & Demolition Debris

The construction waste generation rate for both residential & commercial construction is approximately 4.4 lb/ft². This value is from Estimating 2003 Building-Related Construction and Demolition Materials Amounts, published by the US EPA. The site contains the following:

12 apartment buildings @ 8,640 SF ea	103,680 SF
Multi-Purpose Building	2,160 SF
Storage Building	1,800 SF
4 recycling buildings @ 312 SF ea	1,248 SF
Total	108,888 SF

This equates to approximately 240 tons of expected construction debris.

General construction waste material from roadway, utility and infrastructure construction as well as building construction will be disposed of at appropriately licensed disposal facilities. We anticipate that construction and demolition debris will be transported by Casella Waste and disposed of at the Juniper Ridge Landfill in West Old Town, ME or by Waste Management of Maine, Inc and disposed of at the Crossroads Landfill in Norridgewock, Maine or the turnkey Landfill in Rochester, NH.

Once the construction phase is completed, any general construction debris will be disposed of at appropriately licensed disposal facilities.

Site demolition will be limited to the two existing homes that are located along Portland Road as well as the related septic tanks & septic system (see **Special & Hazardous Wastes** below). Unpainted, uncontaminated inert fill such as cured concrete, bricks, fully hardened, aged asphalt

pavement, porcelain and ceramic tile, crushed clean glass, and natural aggregates may be reused as fill on site or off site. Clean inert fill may also be hauled away by the earthworks contractor for use in other projects. Operators who have crushing or grinding equipment may use crushed brick, concrete, and other inert materials as a base fill.

Septic systems that are dead or abandoned are allowed to 1) either be just disconnected, pumped out, and the septic tank just filled with sand, 2) the abandoned or dead leaching field can just be left on site or may be taken to an excavation contractor. The beneficial use of the granular components from spent septic system beds is as construction fill, provided the spent septic system bed material is covered by a concrete or asphalt paved surface, or by at least 18 inches of soil, and is not used on a residential, school or a property, area or facility open to the public unless it was generated on that property.

Household Solid Waste

It is estimated by the US EPA (<https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials>) that as of 2017, the average person generates 4.51 lbs per day.

The apartment complex contains 18 studio apartments, 84 one bedroom apartments & 18 two bedroom apartments. The studio & one-bedroom units would likely average no more than two people per unit. The two-bedroom units would likely be closer to the average household. According to the Pew Research Center (<https://www.pewresearch.org/fact-tank/2019/10/01/the-number-of-people-in-the-average-u-s-household-is-going-up-for-the-first-time-in-over-160-years>), the average person lives in a household consisting of 3.4 people. This brings the development average to $(2 \times 108 + 3.4 \times 18)/120 = 2.3$ people per apartment. Therefore, the assumed amount of household waste is approximately $(4.51 \text{ lbs/person/day} \times 2.3 \text{ people per apartment} \times 120 \text{ apartments}) = 1,245 \text{ lbs/day}$ (227 tons/year).

All waste from the apartments will be stored on site in dumpsters and recyclable receptacles that will be located in four separate buildings to be located in each main parking area. The waste will be collected by Waste Management of Maine, Inc and disposed of at the Crossroads Landfill in Norridgewock, Maine or the turnkey Landfill in Rochester, NH.

Industrial Solid Wastes – Not applicable

Special & Hazardous Wastes

Prior to demolition of the two houses, a building Demolition Notification Form (available from the Maine DEP) must be filed, and a pre-demolition asbestos & lead survey performed. If lead, asbestos or any other hazardous materials are found, it will need to be removed by an abatement contractor prior to demolition.

A list of licensed hazardous waste haulers can be found at the following web page: <https://www.maine.gov/dep/ftp/reports/activehaztrans.pdf>

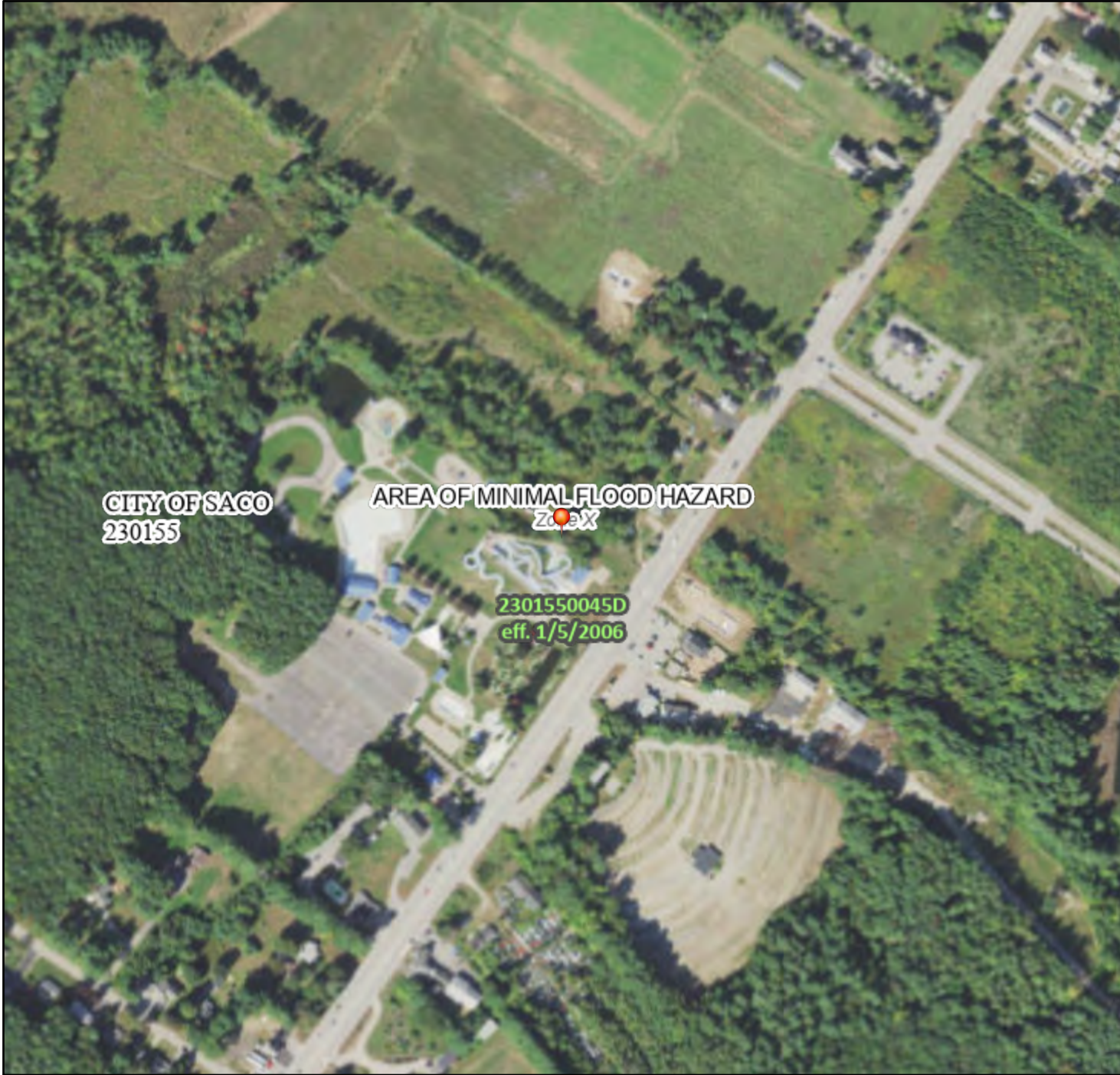
Section 19 - Flooding

The development area is not located within an area of flood hazard according to Federal Insurance Rate Map 230155 0045 D. See attached map.

National Flood Hazard Layer FIRMette



70°24'46"W 43°33'22"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000 70°24'9"W 43°32'56"N
Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

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 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



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 6/15/2021 at 7:13 PM 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.

Section 20 - Blasting

There are no areas of expected blasting. However, if blasting is unexpectedly determined to be necessary, the contractor shall adhere to the following plan.

A professional (licensed in the State of Maine) blasting contractor will be employed to conduct any blasting work in accordance with applicable State and local laws. At a minimum, the blasting contractor shall conduct his work in accordance with the following criteria:

1. "Manual of Accident Prevention in Construction" issued by Associated General Contractors of America, Inc.
2. "Construction Safety Rules and Regulations" as adopted by the State Board of Construction Safety, Augusta, Maine.
3. Section 107.12 of the "Standard Specifications" Maine Department of Transportation.
4. 30 CMR 815.64.

The blasting contractor will be required to prepare and submit a blasting plan to the owner prior to construction. At a minimum, the plan shall outline his proposal for monitoring of blasts, sequencing of blasts, sketches of proposed drill patterns, and specified field procedures, including the hours of operation, use of blasting mats, safety procedures, security measures in the work zone, and warning sequences. Blasting mats or earth cover shall be used to limit peak air overpressures and to protect against uncontrolled blast rock. Blasting vibrations, frequencies and overpressures shall not exceed the limits established by State or local codes. The maximum Peak Particle Velocity (PPV) shall be based on Fig. B-1 of Appendix B from the U. S. Bureau of Mines RI 8507

The Contractor shall design his charges using the Scaled Distance Equation as follows:

$$W = (D/D_s)^2$$

Where:

- | | | |
|----------------|---|--|
| W | = | Maximum allowable weight of explosives per delay of 8 milliseconds or greater. |
| D | = | The shortest distance between the blast area and any inhabitable structure not owned or controlled by the developer. |
| D _s | = | 70 ft./lb ^{1/2} |

The contractor shall prepare and submit a blasting schedule which shall be presented to the owner, the municipality, and the MDEP prior to blasting. This schedule shall, at a minimum, include the following:

- Name, address and phone number of blaster;
- Identification of specific blasting areas;
- Dates and times of blasts;
- Methods to restrict access in the blast area and warning whistle announcements;
- All blasting work shall be the responsibility of the blasting contractor.

The blasting contractor shall maintain accurate and current blasting records which shall be submitted to the owner, the municipality, and the MDEP on a weekly basis during blasting operations. These records shall contain, at a minimum:

- General location of the blast
- Depth and number of drill holes
- Type and quantity of explosives used (including sizing calculations based on the scaled distance equation)
- Time of blast
- Seismographic record of each blast taken within 300' of the blast area

The blasting contractor shall retain an independent firm to provide a seismograph to be set up within a 300 foot radius of blasting activities. The seismograph shall have a Seismic Frequency Range of 2 to 150 Hertz and a sound frequency range of 1-500 Hz. It shall be capable to recording longitudinal, transverse, and vertical peak particle motion and frequency. The following information shall be printed out for each blast:

- Instrument Type
- Instrument Calibration Date
- Date and Time of Blast
- Instrument Location
- Distance to Blast
- Resultant Peak Particle Velocity (in/sec)
- Longitudinal, Vertical and Transverse Peak Particle Velocity (in/sec)
- Frequency (Hz)
- Seismograph Operator
- Airblast (dB)
- Stratum Directly Beneath Geophone

The seismograph shall be used to determine the air blast and peak particle velocity of each shot in the area where the seismograph is set. Peak particle velocities recorded with a 300' radius which exceed the Frequency-Peak Particle Velocity Curve (Figure B from Appendix B of the US Bureau of Mines RI 8507) shall be documented and reported by the blaster to the owner's representative and a copy forwarded to the Department within 7 days of the record becoming available.

During the blasting operation, the blasting contractor shall be responsible for control of access in and around the general blast area. Equipment and traffic shall be stopped far enough away to ensure work area safety and shall not be released until the blast foreman issues the “all clear signal”. Warning signals shall be issued prior to every shot as follows:

- 3 whistles at 5 minutes prior to blast
- 2 whistles at 1 minute prior to blast
- once the shot has been checked for any misfires, one whistle will issue the “all clear”

Blasting shall only occur as needed during the hours of 7:00 A.M. to 5:00 P.M. daily, Monday through Friday. Explosives shall be delivered to the job site on a daily basis. Only that amount necessary for the day’s work shall be brought to the site. Explosives shall be transported and stored in approved magazines when not in use. No overnight storage of explosives on the site shall be permitted.

Section 21 - Air Emissions

No significant adverse air emissions are anticipated. The proposed road and parking areas will be paved. No stacks or expansive gravel areas are proposed. The estimated peak hour vehicle trips are not expected to be a significant source of air emissions. Temporary emissions may occur during the construction of the project due to earth moving activities and construction equipment. These emissions are expected to be limited in nature and of short duration. Provisions for dust control, if needed during construction, have been included in the Erosion and Sediment Control Plan attached to Section 14 of this application. Once the construction phase is complete, no undue air emissions are expected.

Section 22 - Odors

Odor generation is not expected to be significant and would be consistent with any normal residential use. Temporary limited odors may arise during construction as a result of construction equipment working on the site. This short-term odor potential is also not expected to be significant.

Section 23 - Water Vapor

Due to the proposed residential use of the property, no large scale water vapor emissions are anticipated.

Section 24 - Sunlight

Due to the proposed residential use of the property, no sunlight exposure or deprivation problems are anticipated.

Section 25 - Notices

Public notifications will be sent out as part of the local permitting process. We've attached an abutter list that includes all property owners within 200' of the property. However, City staff informed us that they'll prepare the official abutter list and will mail notices, as needed.

Map	Lot	Grantee	Co-Grantee	Mailing	City	State	Zip
76	3	IVES MARILYN		133 FLAG POND RD	SACO	ME	4072
77	2	LEARY JAMES H & EDNA M		269 FLAGPOND RD	SACO	ME	4072
76	5	STARK NICHOLAS S & ERICA J		107 FLAG POND RD	SACO	ME	4072
63	3	AQUA MANAGEMENT LLC		980 PORTLAND RD	SACO	ME	4072
63	1-Mar	MITCHELL SHERRY	CONSIGLIO PAMELA	115 US RT 2 SOUTH	ALBURGH	VT	5440
76	4-May	SEAMANS CARY		2 FIERO DRIVE	OLD ORCHARD BEACH	ME	4072
76	2-Apr	IVES MARILYN		133 FLAG POND RD	SACO	ME	4072
76	3-May	SEAMANS CARY		2 FIERO DRIVE	OLD ORCHARD BEACH	ME	4072
76	1	LEARY JAMES H & EDNA M		269 FLAG POND RD	SACO	ME	4072
76	1-Apr	PICARD DANIELLE F		117 FLAG POND RD	SACO	ME	4072
64	14	LEARY JAMES H & EDNA M		269 FLAGPOND RD	SACO	ME	04072-9674
63	5	CONDO MAIN			SACO	ME	4072
63	4	BARBERA MICHAEL A & VERONICA H		992 PORTLAND RD	SACO	ME	4072
63	1-Jul	TK ENTERPRISES LLC		636 ROUTE 1	SCARBOROUGH	ME	4072
63	7	MKM REALTY TRUST LLC		198 SACO AVE	OLD ORCHARD BEACH	ME	4064
63	6	PARK NORTH DEVELOPMENT LLC		1022 PORTLAND RD	SACO	ME	4072
63	6	PARK NORTH DEVELOPMENT LLC		1022 PORTLAND RD	SACO	ME	4072

From: [Joseph A. Laverriere](#)
To: [Jeff Amos](#); [Jason Garnham](#)
Subject: RE: Responses to Engineering Comments - Clover Leaf Development
Date: Tuesday, May 31, 2022 1:09:08 PM

I have no further comments at this time. The recent response provided from Jeff Amos adequately addresses all of our previous comments.

Joseph Laverriere, P.E.

City Engineer
City of Saco
15 Phillips Spring Road
Saco, Maine 04072
Email: jlaverriere@sacomaine.org
Phone: 207.284.6641
Fax: 207.282.8212

From: Jeff Amos <jeff@terradynconsultants.com>
Sent: Friday, May 27, 2022 2:53 PM
To: Jason Garnham <jgarnham@sacomaine.org>; Joseph A. Laverriere <JLaverriere@sacomaine.org>
Subject: Responses to Engineering Comments - Clover Leaf Development

**[CAUTION: THIS EMAIL ORIGINATED FROM OUTSIDE THE CITY OF SACO
DOMAIN]**

Hi Jason & Joe,

Here are our official responses to Joe's comments. Let me know if there is anything additional to this.

Jeff Amos, P.E.
Terradyn Consultants, LLC
41 Campus Drive
Cumberland Hall, Suite 301
New Gloucester, ME 04260
Office: 207-926-5111
Cell: 207-272-7571



CITY OF SACO, MAINE

Saco Public Works Department
15 Phillips Spring Road
Saco, Maine 04072

Joseph A. Laverriere, P.E. – City Engineer
Telephone: (207) 284-6641
Email: jlaverriere@sacomaine.org

MEMORANDUM

TO: Jason Garnham, Planner
DATE: April 28, 2022
RE: **Clover Leaf Development – 986 Portland Road**
Tax Map 63, Lot 3-1

The Department of Public Works (DPW) has reviewed the final subdivision plan application materials for the above referenced project prepared by Terradyn Consultants, Inc., dated April 14, 2022. The following comments and recommendations have been prepared based upon our review:

1. As a housekeeping matter on Sheet C-1.0, please confirm the total number of parking spaces (211 versus 210) and the required number of parking spaces for phase 1 one-bedroom units (84 versus 81) and total required phase 1 parking (106 versus 103).
2. As commented previously, the applicant should consult with the Saco Fire Department on the requirements and locations for onsite fire hydrants, knox boxes, annunciator panels, external sprinkler riser connections, fire lanes, etc. In addition, the Saco Fire Department should be consulted on the requirements for emergency vehicle access within the site and need to accommodate provisions to turn emergency equipment around within the site (including initial phase of development).

Based upon the input from the Saco Fire Department on access requirements, provide turning movement diagrams demonstrating emergency response equipment access throughout the site, turn around, etc.

3. Provide turning movement diagrams for service vehicles accessing the site (i.e. solid waste disposal, deliveries, etc.).
4. Note 7 on Sheet C-1.0 should be revised to include the recently issued wetland permit approval order numbers.

As part of any subsequent site plan or subdivision approval, we continue to recommend the following conditions be included, which the applicant has included on Sheet C-1.0 of the plan set:

1. MaineDOT is scheduled to repave Portland Road in 2023; therefore, all work within the Portland Road roadway surface (utility improvements, storm drain improvements and curb line modifications) associated with this development shall be completed before September 15, 2022.
2. All work within the public right-of-way shall be subject to the terms and conditions of a Street Opening Permit to be issued by DPW. The developer shall be responsible for applying and obtaining a Street Opening Permit prior to the start of any work within the public right-of-way.
3. A final set of construction drawings for each phase of the project shall be provided to the City prior to the start of construction for each phase.

4. The applicant shall be required to perform routine inspection and maintenance of the stormwater facilities as outlined in the operations and maintenance manual development specifically for the site. A copy of the annual inspection and maintenance report including inspection log(s) shall be submitted annually (by July 15th of each year) to the City Public Works Department.
5. Prior to the start of construction, the applicant shall be required to execute Form 1 contained in Article XII of the zoning ordinance and provide a recorded copy to the Planning Department.
6. Prior to the start of construction, the buffer areas should be marked in the field and copies of the recorded buffer deed restrictions shall be provided to the Planning Department.
7. The design engineer shall be required to inspect the construction and stabilization of the gravel wetland basin to be constructed on the site in accordance with the requirements contained in Chapter 7 of the MDEP's Volume III Stormwater BMP Technical Design Manual. Inspections shall be performed as detailed in the Construction Oversight requirements contained in Section 7.4.
8. As part of the project's as-built certification for roadway and utility infrastructure, the applicant shall provide a Stormwater Basin As-Built Certification. Prior to the issuance of a Certificate of Occupancy for any unit, the Applicant shall submit evidence in the form of a letter with as-built survey plan prepared and stamped by a Professional Engineer who either prepared the Post-Construction Stormwater Management Plan and its associated Facilities or supervised the Plan and Facilities construction and implementation. The letter or plan shall certify that the Stormwater Management Facilities have been installed in accordance with the approved Post-Construction Stormwater Management Plan and that they will function as intended on said Plan. The as-built survey plan shall be performed for all post-construction stormwater facilities to document general conformance with the approved plan.

We look forward to discussing this project further and would be happy to clarify any of our comments made within this review memo.

December 15, 2021

Ms. Molly Kirchoff
Assistant Planner
Planning & Economic Development
Saco City Hall
300 Main Street
Saco, ME 04072-1538

RE: ADDITIONAL TRAFFIC REVIEW – 989 PORTLAND ROAD

James W. Sewall Co. (Sewall) has performed additional review regarding the Proposed Clover Leaf Development at 989 Portland Road. My preliminary review was summarized in a November 4, 2021 letter to you. This letter summarizes my original review, outstanding concerns and recommendations after a discussion with the City Engineer regarding other planned off-site improvements.

1. Accident Data Review. Mr. Bray obtained crash data from MaineDOT for an acceptable study area. This crash data was provided for the 3-year 2017 to 2019 period. Newer data has been available for some time. Hence, this crash data should be updated to the most recent 2018 to 2020 period.
2. Traffic Volumes. Mr. Bray used projected 2024 Build volumes from the Park North study. I support the use of these already developed volumes. However, I would like supporting information provided regarding original count dates and growth rates utilized to assure they are still applicable. In that regard, Mr. Bray should provide historical AADT for Portland Road in the vicinity of the site to compare to the growth rates utilized in the Sebago Technics projections. I reviewed the volumes utilized in the study and concur with them provided the base growth rates are verified.
3. Trip Generation, Assignments and Study Area. I concur with Mr. Bray's trip generation estimates of 654 daily trips, 43 AM peak hour trips, 53 PM peak hour trips and 53 Saturday peak hour trips. This level of traffic requires a Traffic Impact Analysis under the Saco ordinance, which was provided. I also concur with the trip assignments for the Clover Leaf trips and the study area, extending from Flag Pond Road northerly to Waterfall Drive.

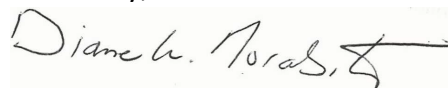
4. Level of Service Analysis. Mr. Bray performed capacity analysis for the study area intersections for projected 2024 No Build and Build conditions. The results are summarized in his "Level of Service Summary" table. Many of the result for both No Build and Build conditions are simply stated in this table as plus so many seconds, such as 200+ seconds. With the stated result the same for both No Build and Build conditions there is no quick way to see the impact of the project.

The analysis results show poor operations at both unsignalized Route 1 intersections of Flag Pond Road and Waterfall Drive. Based upon discussion with the City Engineer, signalization of both intersections are requirements of other development projects. Since Clover Leaf will generate limited off-site trips at these two intersections and since signalization is planned, I do not see the need for any other action or contribution by Clover Leaf.

5. Center Left-Turn Lane. The proposed site drive is in the terminating taper for an existing left-turn lane that is located just south of the site. Terradyn Consultants, in their Site Plan application letter, indicate that the existing two-way center left-turn lane is "scheduled" to be extended northerly. It is understood that this extension is a requirement of another development project. Hence, there is no guaranteed timeline for when this lane will be constructed.
6. Left-Turn Lane Warrant. Given that there is no timeline for construction of the left-turn lane extension Sewall performed left-turn lane warrant analysis. This analysis was performed utilizing the projected 2024 Build volumes of the Bray Study. The results, which are attached, show that a left-turn lane is warranted at the site drive during the PM peak hour. Hence, it is my recommendation that this left-turn lane be in place to serve the site drive prior to occupancy.

As always, let me know if you have any questions or concerns regarding my recommendations or requests for more information.

Sincerely,



Diane W. Morabito, P.E. PTOE
Vice President Traffic Engineering

Figure 2 - 5. Guideline for determining the need for a major-road left-turn bay at a two-way stop-controlled intersection.

4-lane roadway

INPUT

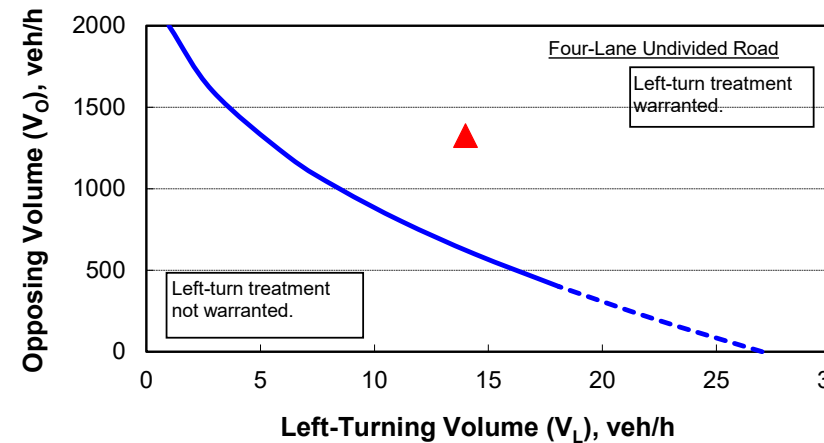
Variable	Value
Left-turning volume (V_L), veh/h:	14
Advancing volume (V_A), veh/h:	1141
Opposing volume (V_O), veh/h:	1326

OUTPUT

Variable	Message
Opposing volume (V_O) check:	O.K.
Combined volume (V_A and V_O) check:	O.K.
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	

CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	4.0
Critical headway, s:	6.0



Note: When $V_O < 400$ veh/h (dashed line), a left-turn lane is not normally warranted unless the advancing volume (V_A) in the same direction as the left-turning traffic exceeds 400 veh/h ($V_A > 400$ veh/h).

2024 Build PM Peak Hour - Left-Turn Lane Warranted

From: [David Pendleton](#)
To: [Jeff Amos](#); [Jason Garnham](#); [Joseph A. Laverriere](#)
Subject: RE: Clover Leaf 986 Portland Rd - review comments
Date: Thursday, May 26, 2022 3:55:49 PM
Attachments: [image001.png](#)

Jeff, I thought that would be the case. Jason, the FD is all set. Deputy Huntress may have spoken to building/unit identification previously and I am sure we'll have something sensical.

David

From: Jeff Amos <jeff@terradynconsultants.com>
Sent: Thursday, May 26, 2022 3:40 PM
To: David Pendleton <david.pendleton@sacomaine.org>; Jason Garnham <jgarnham@sacomaine.org>; Joseph A. Laverriere <JLaverriere@sacomaine.org>
Subject: RE: Clover Leaf 986 Portland Rd - review comments

**[CAUTION: THIS EMAIL ORIGINATED FROM OUTSIDE THE CITY OF SACO
DOMAIN]**

I had to modify a vehicle to match your vehicle's length, wheel base and turning radius. The base vehicle doesn't really matter. Your ladder truck will follow the path that's shown.

Jeff Amos, P.E.

From: David Pendleton <david.pendleton@sacomaine.org>
Sent: Thursday, May 26, 2022 3:33 PM
To: Jeff Amos <jeff@terradynconsultants.com>; Jason Garnham <jgarnham@sacomaine.org>; Joseph A. Laverriere <JLaverriere@sacomaine.org>
Subject: RE: Clover Leaf 986 Portland Rd - review comments

Thanks Jeff,

Old brain, short memory. The documents at the end of the attachment describe the ladder truck however the drawings show a single rear end pumper. I do not know if that matters.

David

From: Jeff Amos <jeff@terradynconsultants.com>
Sent: Thursday, May 26, 2022 2:57 PM
To: David Pendleton <david.pendleton@sacomaine.org>; Jason Garnham <jgarnham@sacomaine.org>; Joseph A. Laverriere <JLaverriere@sacomaine.org>
Subject: RE: Clover Leaf 986 Portland Rd - review comments

**[CAUTION: THIS EMAIL ORIGINATED FROM OUTSIDE THE CITY OF SACO
DOMAIN]**

Hi David,

We provided you with a vehicle turning diagram analysis last December. I've attached that entire response. There are two exhibits included within that shows that your truck can navigate through the site. Take a look and let me know if you need anything else.

Jeff Amos, P.E.

From: David Pendleton <david.pendleton@sacomaine.org>

Sent: Thursday, May 26, 2022 2:48 PM

To: Jason Garnham <jgarnham@sacomaine.org>; Jeff Amos <jeff@terradyconsultants.com>;
Joseph A. Laverriere <JLaverriere@sacomaine.org>

Subject: RE: Clover Leaf 986 Portland Rd - review comments

All,

If I missed it previously, I apologize. If one has not been developed, then yes, we should see it. Attached is the turning template.

David

From: Jason Garnham <jgarnham@sacomaine.org>

Sent: Thursday, May 26, 2022 2:37 PM

To: David Pendleton <david.pendleton@sacomaine.org>; Jeff Amos
<jeff@terradyconsultants.com>; Joseph A. Laverriere <JLaverriere@sacomaine.org>

Subject: RE: Clover Leaf 986 Portland Rd - review comments

Thanks Dave. Do I understand that a vehicle turning diagram is requested/ being prepared for review?

-Jason

From: David Pendleton <david.pendleton@sacomaine.org>

Sent: Thursday, May 26, 2022 2:26 PM

To: Jeff Amos <jeff@terradyconsultants.com>; Jason Garnham <jgarnham@sacomaine.org>;
Joseph A. Laverriere <JLaverriere@sacomaine.org>

Subject: RE: Clover Leaf 986 Portland Rd - review comments

Gents,

Jeff and I have had great discussions and I was able to recently speak with developer Carey Anderson as well. I may have well overlooked apparatus turning movements and I do not see them in the most recent drawings. We want to make sure the ladder truck, our largest apparatus can maneuver as needed. The near drive/parking area may have room to permit the ladder truck to turn around. If the template shows differently, I do not see backing out being an issue. I am more confident that the ambulance can turn around there. The center loop should provide for the ladder truck to drive through from either direction and make the turns in and out on the main drive. The far drive/parking area cannot accommodate the ladder truck turning around therefore backing out is acceptable. Is the last parking spot just before the crosswalk part of the turn around? We want to allow the ambulance to turn around.

Regards,

David

From: Jeff Amos <jeff@terradynconsultants.com>
Sent: Thursday, May 26, 2022 1:29 PM
To: Jason Garnham <jgarnham@sacomaine.org>
Cc: Joseph A. Laverriere <JLaverriere@sacomaine.org>; David Pendleton <david.pendleton@sacomaine.org>
Subject: RE: Clover Leaf 986 Portland Rd - review comments

[CAUTION: THIS EMAIL ORIGINATED FROM OUTSIDE THE CITY OF SACO DOMAIN]

Hi guys,

In regard to fire department sign off, I've had talked with David about this a couple of times and I believe that he's all set. We have their hydrant & fire department connections to the buildings where they requested.

David, if its not too much trouble, please respond to this email to let Joe & Jason know that you're all set.

Thanks,

Jeff Amos, P.E.

From: Jason Garnham <jgarnham@sacomaine.org>
Sent: Monday, May 9, 2022 2:59 PM
To: Jeff Amos <jeff@terradynconsultants.com>
Cc: Joseph A. Laverriere <JLaverriere@sacomaine.org>
Subject: RE: Clover Leaf 986 Portland Rd - review comments

Comments attached. Sorry if I forgot to include them last time.

-Jason

From: Jeff Amos <jeff@terradyconsultants.com>
Sent: Monday, May 9, 2022 1:33 PM
To: Jason Garnham <jgarnham@sacomaine.org>
Cc: Joseph A. Laverriere <JLaverriere@sacomaine.org>
Subject: RE: Clover Leaf 986 Portland Rd - review comments

[CAUTION: THIS EMAIL ORIGINATED FROM OUTSIDE THE CITY OF SACO DOMAIN]

Would you please forward the comments to me?

Jeff Amos, P.E.

From: Jason Garnham <jgarnham@sacomaine.org>
Sent: Friday, May 6, 2022 3:08 PM
To: Jeff Amos <jeff@terradyconsultants.com>
Cc: Joseph A. Laverriere <JLaverriere@sacomaine.org>
Subject: Clover Leaf 986 Portland Rd - review comments

Jeff,

Saco's City Engineer had a few comments on the 986 Portland Rd/ Clover Leaf project. They're minor or advisory in nature, though a vehicle maneuvering diagram should be prepared for review before final site plan approval. Please review and let Joe know if you have any questions.

Thanks,

-Jason



JASON GARNHAM, AICP
City Planner
300 Main Street | Saco, ME 04072
t 207.282.3487 | sacomaine.org
Follow us: [Facebook](#) | [Twitter](#) | [Instagram](#)

From: [Emily C. Prescott](#)
To: [Jason Garnham](#)
Cc: [Howard Carter](#)
Subject: Re: Clover Leaf comments
Date: Wednesday, June 1, 2022 3:57:22 PM
Attachments: [image001.png](#)

A condition before pre con would be the preference so we're all on the same page before building permit. Thanks!

Also, if you can include a condition that impact fees per unit shall apply that would be super helpful.

Thank you,
Emily

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From: Jason Garnham <jgarnham@sacomaine.org>
Sent: Wednesday, June 1, 2022 3:55:26 PM
To: Emily C. Prescott <EPrescott@sacomaine.org>
Cc: Howard Carter <HCarter@sacomaine.org>
Subject: RE: Clover Leaf comments

Thanks for the quick turnaround on this, Emily.

Will the additional details for grease handling be reviewed as part of the building permit process, or shall I prepare a condition of approval requiring them before pre-con?

-Jason

From: Emily C. Prescott <EPrescott@sacomaine.org>
Sent: Wednesday, June 1, 2022 1:47 PM
To: Jason Garnham <jgarnham@sacomaine.org>
Cc: Howard Carter <HCarter@sacomaine.org>
Subject: FW: Clover Leaf comments

Jason,

Based on the provided information and assuming each unit is over 800 square feet, there is capacity to serve the site. We will need to see details on grease handling for the multi-purpose building, and would appreciate some more information on that moving forward.

The applicant is also subject to impact fees for each unit.

Is the plan to rent these units or have condos?

Thank you for your help in tracking down this information with us. I really appreciate it.

Talk soon,
Emily

From: Jeff Amos <jeff@terradynconsultants.com>
Sent: Wednesday, June 1, 2022 7:56 AM
To: Jason Garnham <jgarnham@sacomaine.org>
Cc: Emily C. Prescott <EPrescott@sacomaine.org>; Corey Huntress <CHuntress@sacomaine.org>
Subject: RE: Clover Leaf comments

**[CAUTION: THIS EMAIL ORIGINATED FROM OUTSIDE THE CITY OF SACO
DOMAIN]**

Hi Jason,

See below for my responses. Let me know if you need anything further.

Thanks to all of you,

Jeff Amos, P.E.

From: Jason Garnham <jgarnham@sacomaine.org>
Sent: Thursday, May 26, 2022 11:25 AM
To: Jeff Amos <jeff@terradynconsultants.com>
Cc: Emily C. Prescott <EPrescott@sacomaine.org>; Corey Huntress <CHuntress@sacomaine.org>
Subject: Clover Leaf comments

Jeff,

I'm getting a handle on the Clover Leaf project and preparing a staff report for the planning board. A few things:

- A. Saco WRRD (sewer) staff requested several items, including: *Capacity to serve request; Wastewater Discharge Application; and that each building have a separate water meter. We also had questions about what the multi-purpose building will include?*

Each building will have a separate water meter, as shown on our utility plans. I've attached a signed Wastewater Discharge Application on behalf of the applicant as well as a capacity to serve request letter. The multipurpose building is intended to be a shared work space and for gatherings of the tenants who live at Clover Leaf only. It will include a small kitchenette (not full size kitchen) and two bathrooms.

- B. Saco Parks & Rec staff commented: *Looking at the landscape plans I could not find a legend that states what the planting are. With that if they hold true to the amount of trees and shrubs it will provide so nice screening. It will also make the property feel not so big with all the units and pavement.*

The legend has been added to the plans. The amount of landscaping is an accurate

representation of what is planned. The applicant appreciates this comment.

- C. From me/ Saco Planning: *Lighting plans do not include temperature (in degrees kelvin) of proposed illumination. Please be advised that Saco's Planning Board strongly prefers warm exterior lighting. I will prepare a generic condition of approval requiring lighting to meet City standards for light temperature. I advise providing this information to the planning board prior to or during the meeting.*

The lighting plan does show temperature. The lights as shown in the cut sheets on the plan have several temperature options, so they're noted on the light fixture table as part of the manufacturer's ID. They are all 3K (PROV2-36L-295-3K7-3). This means all of the lights feature 3000 K Color.

- D. Saco's Police Department commented: 1. *On the plans I see they plan to name the road. Will it be public or private. If public can they incorporate a bike lane into their road.*

It will be private. No bike lane is proposed.

2. *Did not see location for community mail box*

The mailbox will be in the community building.

3. *Are they planning on having a bus stop at this location, if so can they create an area for the bus to pull out of the travel lane into a bus loading area only adjacent to Portland Rd on their property.*

There are no plans for a bus stop.

I don't know if you received these comments previously. Most of them should be addressed prior to approval. Let me know if you'd like to discuss. Items for the June 7 planning board meeting need to be on my desk by next Wednesday. Sorry this doesn't give you much time...

I'll let you know if anything else comes up. Thanks,

-Jason



JASON GARNHAM, AICP

City Planner

300 Main Street | Saco, ME 04072

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Wastewater Discharge Application
Water Resource Recovery Department
300 Main Street, Saco, ME 04072
#207-282-3564 / EPrescott@sacomaine.org

Please complete this form if you plan to connect to any part of the City of Saco's sewer system. This form is used to help the WRRD understand potential impacts to the sewer system. The WRRD uses this form to assist businesses with any required industrial pretreatment and retains the data for sewer infrastructure planning.

Contact Information

Legal name of business or industry:	Cloverleaf Development, LLC
Physical Facility Address:	989 Portland Road
Mailing Address:	P.O. Box 6799, Scarborough, ME 04070
Facility Contact (Name, title, work email, work phone):	Kerry Anderson kerry@kdadevelopment.com 207-252-0243

Use Details

Type of Business / Use / Operations: Multi-Family

For Multi-family Only: Anticipated number of housing units: 120

Pump Station Required?: No *If multi-family housing, stop and skip to signature section.*

Number of Employees: 0 *Operated by management company. No office onsite.*

Normal hours of operation: n/a (apartments)

Applicable industry classification codes (NAICS or SIC codes):

Hazardous or other types of chemicals stored or used at facility? No

Operational Details

Do you use water for purposes other than sanitary (toilet, shower) use? No

Do you discharge process wastewater to the public sewer system? No

Does the facility have a grease trap or oil/water separator? No

Grease trap size:	
Location of grease trap within facility:	
Maintenance schedule:	
Hauler name:	
Destination of intercepted waste:	

Does the facility generate or receive any wastes? No

Material:	
Amount (gallons or lbs./month):	
Removal schedule:	
Hauler name:	
Describe storage method and location:	

Wastewater Details

This section required only for light industrial, heavy industrial, processing facilities, and breweries/distilleries uses. If you do not know the answers to the below questions, please contact the Industrial Compliance Manager at the City of Saco Water Resource Recovery Department to discuss.

Biochemical Oxygen Demand (BOD) in mg/L:

Total Suspended Solids (TSS) in mg/L:

pH:

Fats, Oils and Grease (FOG) in mg/L:

Arsenic concentration in mg/L:

Select all contaminants that may be in your wastewater: Choose an item

Will your process water have any kind of discoloration? Choose an item

Are you planning on treating your wastewater prior to discharge? Choose an item

Water and/or sewer account number(s), if applicable:

For Light Industrial, Heavy Industrial, Brewery/Distillery, Food Processing & Restaurant Uses: Attach site plans, floor plans, mechanical and pumping plans and details to show all sewers, sewer connections, inspection manholes, sampling chambers, and appurtenances by size, location and elevation, if applicable. All sources of discharge should be numbered and identified as being process flow, sanitary flow, or combinations thereof, if applicable.

Certification & Signature: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I understand per ARTICLE XV §176-74 of SACO CITY CODE that new, proposed dischargers shall file permit applications at least 90 days prior to connecting to the city's wastewater facilities. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.


Signature

Owner

Title

Rhonda Anderson

Printed Name

5/31/2022

Date

Memorandum

Friday October 15, 2021

TO: Molly Kirchoff
FROM: Benjamin Griffith, Wetland Scientist, Normandeau Associates, Inc.
SUBJECT: Clover Leaf DVP, Wetland Delineation Peer Review

Normandeau Associates conducted a review on Thursday, November 18, 2021, of the wetland delineation performed by Mark Hampton Associates, Inc, at the proposed subdivision at 986 Portland Road. The area of the proposed development primarily of early successional scrub-shrub dominated by trembling aspen (*Populus tremuloides*). The majority of the parcel outside of the developed area consists of a large forested and emergent wetland. The review of the delineated wetland boundaries included an examination of the vegetation, soils, and hydrology to determine accuracy according to the guidelines contained in the 2012 Regional Supplement to the U.S. Army Corps of Engineers Wetland Delineation Manual. A total of three wetlands were identified on site, and some flagging from the delineation remained in place at the time of the review. Two smaller wetlands located within the impact area appear to be primarily the result of excavation as described in the permit. The larger wetland to the northwest is accurately delineated according to the submitted plans. Note that this larger wetland appears to contain 20,000 square feet of emergent marsh vegetation, and if so, would be subject to at 75 foot buffer.

Normandeau finds that the wetland delineation accurately depicts the current conditions at the site within the proposed project area. No alterations to the wetland boundaries as depicted on the provided plan set are needed.

Please contact me at bgriffith@normandeau.com at (603) 637-1136 if you have any questions.

Regards,



Benjamin Griffith, Wetland Scientist
Normandeau Associates, Inc.

From: [Lisa Harmon](#)
To: [Jason Garnham](#); [PB](#)
Subject: FW: Clover Leaf development
Date: Tuesday, May 31, 2022 3:28:52 PM

FYI ~

Lisa Harmon, Planning Coordinator
City of Saco, Planning & Economic Development
300 Main Street | Saco, ME 04072
t 207.282-3487 (ext. 352) | [sacomaine.org](mailto:lharmon@sacomaine.org)
lharmon@sacomaine.org

-----Original Message-----

From: Leary Tim <learyfarmsaco@gmail.com> On Behalf Of Leary Tim
Sent: Tuesday, May 31, 2022 9:56 AM
To: Lisa Harmon <lharmon@sacomaine.org>
Subject: Clover Leaf development

[CAUTION: THIS EMAIL ORIGINATED FROM OUTSIDE THE CITY OF SACO DOMAIN]

To the attention of the Saco Planning Board:

My name is Tim Leary, owner and operator of Leary Farm on the Flag Pond Rd.
We also own the property at 1006 Portland Rd. and use that acreage for vegetable production as well as our vegetable stand. We have a shared boundary with the Clover Leaf project.

Based on past experiences with adjacent developments and in the interest of safety for both us and the future residents of Clover Leaf, we would like to see included in the development plan a fence on the common boundary.

Trespassers can pose a real problem for us. The obvious concern is the hazards from heavy equipment and agricultural sprays, but we also follow strict food safety requirements and cannot have unauthorized access to the fields and risk potential contamination of our produce.

A stockade or chain link fence to keep both people and pets out of the fields would be best. It's a temptation to let dogs use the neighboring fields as a bathroom but it's not sanitary where food for human consumption is being grown.

I'm sorry I can't attend tonight's meeting. Please call or email with any questions.

Tim Leary
207-807-2839
Tim@learyfarm.com