

City of Biddeford
Planning Board
September 29, 2021 6:00 PM City Hall
Council Chambers, & via ZOOM
Sep 29, 2021 06:00 PM Eastern Time (US and Canada)
Topic: Planning Board

Please click the link below to join the webinar:

<https://biddeford.zoom.us/j/94446647502>

Or One tap mobile :

US: +13017158592,,94446647502# or +13126266799,,94446647502#

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Dial(for higher quality, dial a number based on your current location):

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346 248 7799 or +1 669 900 9128**

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International numbers available: <https://biddeford.zoom.us/u/aby6LzUAgO>

- 1. PLEDGE OF ALLEGIANCE**
- 2. DECLARATION OF QUORUM/VOTING MEMBERS**
- 3. ADJUSTMENTS TO THE AGENDA**
- 4. PLANNER'S BUSINESS**
- 5. CONSENT AGENDA**
 - 5.A. Approval of Planning Board Meeting Minutes from August 18, 2021 & September 1, 2021
[PB Minutes 081821-DRAFT.pdf](#)
[PB Minutes 090121-DRAFT.pdf](#)
- 6. UNFINISHED BUSINESS**
- 7. NEW BUSINESS**
 - 7.A. Limited Emergency - Remote Only Meetings
[20210720 Biddeford Remote Public Meeting Participation Policy-Planning Board Ratification.pdf](#)
[9-21-2021 Declaration-Limited Emergency-Remote Meetings.pdf](#)
 - 7.B. 2018.23 Request for an Extension of a Final Subdivision Approval & Site Plan Approval for 60 Barra Road for SPME Barra LLC (formerly Saxon Partners LLC), tax map 2, lots 43-1 & 42-1, tax map 7, lot 15.
[2018.23 Saxon Minor Amendment - Extension - NOD 092021-signed.pdf](#)
[2021.09.17 \(Letter to Greg Tansley, Biddeford City Planner, re request for extension of Final Subdivision Approval and Site Plan Approval; 60 Barra Road, Biddeford\).pdf](#)
[2018.23 Saxon Minor Amendment - Extension - Staff Memo 092221-signed.pdf](#)
 - 7.C. Public Hearing and recommendation to the City Council regarding a zoning amendment

which would allow Mobile Food Vendor Courts in the MSRD-1 and MSRD-3 Districts subject to Site Plan Review by the Planning Board.

[1.0 2021.39 MFV Courts PB Memo for 090121.pdf](#)

[2.0 Proposed Mobile Food Vendor Amendments Draft 090121.pdf](#)

[3.0 LDR sec 56 Restaurants.pdf](#)

- 7.D. Final Site Plan/Subdivision Review and a Public Hearing and make a recommendation to the City Council regarding a proposed Contract Zone for Adams Point, LP and Southern Maine Affordable Housing at 69 Adam's Street (Tax Map 38, Lot 296) to allow for 39 units of multi-family housing in a structure not to exceed 60 feet in height (5 stories) as measured from grade to the highest roof beams of a flat roof, excluding any parapets for elevators, roof access, or the screening of mechanical equipment, and to provide less than 1 parking spaces per unit. Multi-family housing is a permitted use in the underlying zone (MSRD-2).

[1.0 Tansley Transmittal 08-3-2021.pdf](#)

[2.0 Adams Point Application and Supporting Material 09-21-2021.pdf](#)

[3.0 Adams Point Drawings Site Plan Review 09-21-2021.pdf](#)

[4.0 Board Report - Adams Point Final Plan-rv \(929 MTG\).pdf](#)

[4.1 Adams Point Landscape Design Comments.pdf](#)

[5.0 Draft FOF for Adams Point 092921.pdf](#)

[6.0 DRAFT Contract Zone 20 FOF and PB Recommendation.pdf](#)

[7.0 Draft Contract Zone Agreement.pdf](#)

[8.0 2021.10 HPC 69 Adams St COA.pdf](#)

- 7.E. Public Hearing and make a recommendation to the City Council regarding an amendment to Article VI, Section 30 of the Zoning Ordinance to allow "extractive industries" to begin operation at 6 AM rather than 7 AM if they can demonstrate they will be in compliance the noise regulations of the City of Biddeford.

[1.0 2021.36 Extractive Industry PB Memo for 090121-signed.pdf](#)

[2.0 Extractive Industries Amendment 090121.pdf](#)

[3.0 LDR sec 30 Extractive industry.pdf](#)

[4.0 Chapter 34 Noise.pdf](#)

[5.0 LDR sec 48 Noise.pdf](#)

- 7.F. 2021.42 Site Plan and Subdivision Conceptual Review for South Street Village, LLC to create a 192-lot Manufactured (Mobile) Home Park at 413 South Street (Tax Map 7, Lot 8) in the RF and SR1 Zones and the MHP Overlay Zone.

[1.0 Hidden Hills Sketch Plan Submission Materials.pdf](#)

[2.0 Board Report - Hidden Hills Mobile Home Pk Subdv Sketch Plan.pdf](#)

[3.0 LDR sec 45 MHP.pdf](#)

8. OTHER BUSINESS

9. ADJOURN

The Board reserves the right to halt official business at 9:30 p.m. Items not heard at tonight's meeting shall be rescheduled to the next meeting of the Board. All materials pertaining to items on the agenda are available for public review at the Biddeford Planning Department, second floor, Biddeford City Hall during normal business hours.



CITY OF BIDDEFORD

Planning and Development Department

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City Planner
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P.O. Box 586
Biddeford, ME 04005
(207) 282-7119 or (207) 284-9115
Greg.Tansley@biddefordmaine.org

Planning Board Meeting Minutes (DRAFT)

Date: August 18, 2021
Time: 6:00 PM
Location: City Hall Council Chambers & REMOTE ACCESS MEETING (1MRSA § 403-A permits public proceedings through remote access during the declaration of state of emergency due to COVID-19).

1. Pledge of Allegiance
2. Declaration of Quorum/Voting Members
Quorum Present: Roch Angers (Vice Chair), Bruce Benway, Sean Tarpey, Spiros Droggitis, Alexa Plotkin (Voting Alternate), Michael Cantara (Alternate)
Vice Chair Angers opened the meeting at 6:01 PM
3. Adjustments to the Agenda
4. Planner's Business
5. Consent Agenda
 5. A. Approval of Planning Board Meeting Minutes from August 4, 2021

MOTIONS: 6:02
Benway-Motion- to approve the Consent Agenda for August 4, 2021.
Tarpey-Second
Vice Chair Angers-Roll Call for Vote-Motion Passed, Unanimous Approval 4-0 (Benway, Tarpey, Droggitis & Plotkin)
6. Unfinished Business
7. New Business
 7. A. 2021.24 Preliminary & Final Approval for a Subdivision Application to create 3 lots (2 new lots) for Pine Point Heights, LLC at 253-255 Hill Street (Tax Map 29, Lot 73) in the R-2 Zone.
 - Consulting Planner, Chris DiMatteo introduced the project mentioning the waivers being requested.
 - The applicant, Matthew Chamberlain, spoke on behalf of the project. He is dealing with the police on permitting for house numbers. He has received positive feedback from Public Works regarding the plans for the lot. The lot currently has a two family, which he is turning into a single residential unit, splitting the lot into two additional lots (creating 3 in total).
 - Lauren Edstrom of Ritz Avenue asked the applicant a few questions.

- The Board discussed the project with the applicant. The Board asked the applicant about landscaping that was suggested in the Planner's Report. The applicant also explained the addressing of the 3 lots.

MOTIONS: 6:18 PM

Benway-Motion- to grant the waivers to Chapter 66 (Subdivisions) Sections 35(d)(6), 35(d)(8), 35(d)(10) and 47(a) since no site improvements (roadways) are warranted and the Board determined this was a minor subdivision at the last meeting allowing for the waiver of submitting a Preliminary Plan.

Plotkin-Second

Vice Chair Angers-Roll Call for Vote-Motion Passed, Unanimous Approval 4-0 (Benway, Tarpey, Droggitis & Plotkin)

Benway-Motion- to grant Preliminary and Final approval of the 3-Lot Subdivision for Pine Point Heights, LLC at 253-255 Hill Street and approve the findings of fact based on the conditions recommended by Staff in the Draft Findings of Fact and that Planning Board authorizes the City Planner to sign the final plan on behalf of the Planning Board and declares that the final plan once signed by the City Planner shall be deemed to have been signed by individual members of the Planning Board evidencing approval of the final plan.

Plotkin-Second

Benway-Motion- to amend the original motion, that paragraph 4 of the report to the Planning Board dated 8-11-2021 be a part of the approval.

Plotkin-Second

Vice Chair Angers-Roll Call for Vote (of the amendment)-Motion Passed, Unanimous Approval 4-0 (Benway, Tarpey, Droggitis & Plotkin)

Vice Chair Angers-Roll Call for Vote (for original motion)-Motion Passed, Unanimous Approval 4-0 (Benway, Tarpey, Droggitis & Plotkin)

7. B. 2021.41 Consideration of the REAPPROVAL of the Site Plan and Conditional Use permit to create 14 storage units for Dempsey, LLC (formerly Landmatters, LLC) at 23 Marcel Avenue (Tax Map 74, Lots 102 & 11) in the Industrial 2 (I-2) Zone. The project has not changed since the original 2019 approval.

- Planner, Greg Tansley gave an update to the Planning Board regarding this re-approval application.
- The project was delayed due to COVID 19
- No other permits for this project have expired
- There are no changes in the application or the ordinance
- Recommendation of re-approval based on prior approval
- Thomas Gillis owner of Dempsey LLC & Landmatters spoke as applicant
- The applicant clarified that both entities are single member LLCs, same corporation.
- The Board asked Mr. Gillis to clarify the for sale sign on the property
- No member of the public spoke

MOTIONS: 6:33 PM

Benway-Motion- to grant the waivers to Article 6, Section 26.F, Article 6, Section 49, 5 & 10, Article 11, II.5.B.4.f.1, and Article 11, 5.B.4.i.3.

Plotkin-Second

Vice Chair Angers-Roll Call for Vote-Motion Passed, Unanimous Approval 4-0 (Benway, Tarpey, Droggitis & Plotkin)

Benway-Motion- to approve the Site Plan and Conditional Use Permit for Dempsey, LLC at Tax Map 74, Lot 11 and 10-2 and approve the findings of fact based on the conditions recommended by Staff in its Report (and Draft Findings of Fact).

Plotkin-Second

Vice Chair Angers-Roll Call for Vote-Motion Passed, Unanimous Approval 4-0 (Benway, Tarpey, Droggitis & Plotkin)

8. Other Business

- Planner Tansley told the Planning Board that at the next meeting (9-1-21) there are 3 Public Hearings.
- He also reminded the Board that Riverjam is this weekend.

9. Adjourn

MOTIONS: 6:40 PM

Benway-Motion-to adjourn

Plotkin-Second

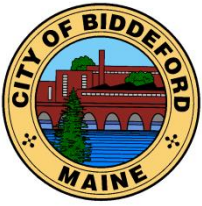
Vice Chair Angers-Roll Call for Vote-Motion Passed, Unanimous Approval 4-0 (Benway, Tarpey, Droggitis & Plotkin)

Meeting adjourned at 6:42 PM

Planning Board Chair/Vice Chair

Date

These minutes are summary and are not intended to be verbatim. Archived meetings are viewable on the City's website: www.biddefordmaine.org.



CITY OF BIDDEFORD

Planning and Development Department

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Planning Board Meeting Minutes (DRAFT)

Date: September 1, 2021
Time: 6:00 PM
Location: City Hall Council Chambers & REMOTE ACCESS MEETING (1MRSA § 403-A permits public proceedings through remote access during the declaration of state of emergency due to COVID-19).

1. In Attendance:

Bill Southwick, Chairman, Roch Angers, Bruce Benway, Sean Tarpey, Spiros Droggitis, Alexa Plotkin (Alternate), (via Zoom:Michael Cantara (Alternate))

Chair Southwick opened the meeting at 6:46

- Chair Southwick thanked everyone for their patience and explained that due to the technical difficulties, this meeting will need to be postponed until September 8, 2021. ***However, when Chair Southwick made this announcement, the only people who heard the announcement were those in the room. The live feed was not up so there was no live television coverage and the Zoom audio had not been activated. Therefore for legal purposes, the meeting will be held September 29, 2021 at 6:00 in the Council Chambers.***

MOTIONS: 6:47 PM

Benway-Motion-To postpone the Public Hearings and other agenda items to be heard September 8, 2021 at 6:00 PM in the Council Chambers

Angers-Second

Chair Southwick- Roll Call for Vote-Motion Passed, Unanimous Approval 5-0 (Angers, Benway, Tarpey, Droggitis & Plotkin)

2. Adjourn

MOTIONS: 6:48 PM

Benway-Motion-to adjourn

Angers-Second

Chair Southwick- Roll Call for Vote-Motion Passed, Unanimous Approval 5-0 (Angers, Benway, Tarpey, Droggitis & Plotkin)

Meeting adjourned at 6:49 PM

Planning Board Chair/Vice Chair

Date

These minutes are summary and are not intended to be verbatim. Archived meetings are viewable on the City's website: www.biddefordmaine.org.

**City of Biddeford
REMOTE MEETING PARTICIPATION POLICY**

Purpose:

Pursuant to 1 M.R.S. § 403-B, a municipality may continue to allow members of its various boards, committees, commissions, including city council, and the public to participate in public meetings by remote methods upon adoption of a written policy. This policy satisfies the legal and administrative requirements needed to allow remote participation.

Definitions:

Hybrid Public Meeting - means a public meeting consisting of a combination of in-person and remote participation, where there must be at least one member of the public meeting body present at the specified meeting location.

Remote Public Meeting – means a public meeting consisting of remote participation by all members of the meeting body and the public by remote methods.

In-Person Meeting – means a public meeting held in-person with no remote two-way participation option(s) for the public or participating members of the public meeting body.

Remote Methods - means telephonic or video technology allowing simultaneous reception of information and may include other means when such means are necessary to provide reasonable accommodation to a person with a disability. Public proceedings may not be conducted by text-only means such as e-mail, text messages or chat functions.

Meeting Body - means any of the various City of Biddeford public boards, committees, commissions, including city council.

Applicability:

This policy, as may be amended from time to time, applies to all boards, committees, commissions, including city council (meeting body). Municipal staff and each respective meeting body chairperson or assigned alternate shall ensure compliance with this policy.

Unless otherwise specified, all public meetings of the city meeting bodies shall be conducted as hybrid meetings.

Requirements:

1. All hybrid and remote public meetings must be properly noticed. The notice must include the means by which the public may access the meeting remotely, currently through Zoom, and will provide a method for disabled persons to request necessary accommodation to access the meeting. Notice will also identify a location where the public may attend a hybrid meeting in person. Notice timelines and format shall comply with existing meeting body rules or requirements and any applicable charter, ordinance, policy, or bylaw.
2. The public meeting body will make all documents and materials to be considered by the public meeting body available, electronically or otherwise, to the public who attend remotely for hybrid and remote meetings to the same extent customarily available to the public who attend

in person, provided no additional costs are incurred by the City. This requirement shall be satisfied upon publication of agenda materials on the city website and agenda software, currently Granicus.

3. All votes taken during a hybrid or remote public meeting will be by roll call vote that can be seen and heard if using video technology, or heard if using audio technology only, by other members of the meeting body and the public. A member of the meeting body who participates remotely will be considered present for purposes of a quorum and voting.
4. All meeting body members are expected to be physically present for the public meeting except when being physically present is not practical. Reasons for remote attendance may include:
 - a. An Emergency - the existence of an emergency or urgent issue that requires the entire public meeting body to meet by remote methods;
 - b. Illness, Physical Condition, or Distance - illness, other physical condition or temporary absence from the jurisdiction of the meeting body that causes a member of the meeting body to face significant difficulties traveling to and attending in person;
 - c. Geography of the Public Meeting Body's Influence - with respect to a public meeting body with statewide membership or influence, significant distance a member must travel to be physically present; and
 - d. Geography of the Public Meeting Body's Jurisdiction - The area of the public body's jurisdiction includes geographic characteristics that impede or slow travel, including but not limited to islands not connected by bridges.
5. A determination as to a member of a meeting body's ability to participate remotely shall be made by the meeting body's chairperson or assigned alternate in consultation with the assigned staff representative and/or city manager or assigned alternate.
6. A public body member shall provide notice to the respective chairperson as soon as practical if attendance at a scheduled public meeting is impractical.
7. Public attendance at a proceeding will not be limited solely to remote methods except under the conditions in paragraph 4, subparagraph (a).

Limitations:

1 M.R.S. § 403-B, does not allow regional school unit budget meetings held pursuant to Title 20-A, section 482-A to be conducted using remote methods.

This policy will remain in force indefinitely unless amended or rescinded.

Adopted by the Biddeford City Council: July 20, 2021 by Order 2021.82

Planning Board Ratification Date: August 4, 2021

A Resolution of the Biddeford City Council:

WHEREAS, in the Spring of 2021 the COVID-19 Pandemic had seemed to be coming to an end with the advent of vaccines and good vaccination rates, but instead infection rates, and new variants, hospitalizations, and deaths from the COVID-19 virus have been increasing in recent months; and

WHEREAS, in the two (2) weeks between July 14 and July 28, 2021, the rate of COVID-19 infections confirmed by testing have more than doubled in the United States, and those trends continue; and

WHEREAS, on July 1, 2021, in the State of Maine, the average daily case total was 22.1;

WHEREAS, since that time the rate of COVID-19 infections confirmed by testing in the State of Maine has increased at a significant rate to an average number of 67.1 daily cases as of July 27, 2021, for an increase of 203.6 percent, and those trends continue; and

WHEREAS, a majority of the new infections in the United States and the State of Maine involve the Delta variant, a highly contagious SARS-CoV-2 virus strain; and

WHEREAS, the Delta variant has increased transmission, the severity of COVID-19 infections based on hospitalization and case fatality rates, and decreased susceptibility to therapeutic agents; and

WHEREAS, the Delta variant represents 47.6 percent of all sequenced samples collected in July in the State of Maine; and

WHEREAS, as a result of the Delta variant and the increase in COVID-19 infections, the United States Centers for Disease Control and Prevention announced on July 27, 2021, that fully vaccinated individuals should wear masks in indoor public settings in parts of the country that are experiencing a substantial or high transmission of COVID-19; and

WHEREAS, the Maine Center for Disease Control and Prevention similarly announced on July 28, 2021, that masks are recommended to be worn by fully vaccinated individuals in public indoor settings in almost all Maine counties, including York County; and

WHEREAS, the risk of COVID-19 virus transmission from vaccinated individuals to unvaccinated individuals (for example children under 12) remains unknown; and

WHEREAS, the technology infrastructure and processes currently exist to continue to allow remote participation in and public access to City Council, Board, and Committee meetings in accordance with Maine law; and

WHEREAS, the City of Biddeford is committed to continuing to provide opportunities for public engagement which are accessible and safe; and

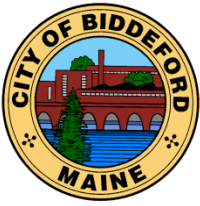
NOW, THEREFORE, BE IT ORDERED AND DECLARED by the Biddeford City Council that a limited emergency continues to exist within the City of Biddeford; and

BE IT FURTHER ORDERED, that as a result of the declared limited emergency and the existence of an “emergency or urgent issue” as described above, pursuant to 1 M.R.S. section 403-B and the City of Biddeford’s recently adopted Remote Participation Policy, being physically

present for meetings in Biddeford City buildings may not be practicable at this time, and therefore allows that all members of the City of Biddeford boards, committees, and other groups may conduct meetings by remote technology/methods only until the limited emergency is terminated without limitations that currently exist with the current policy; and

BE IT FURTHER ORDERED, that in addition, all City of Biddeford's boards, committees and commissions and other groups may conduct meetings by remote technology and/or methods only until the limited emergency is terminated, subject however, to a public vote by the respective meeting body to remote only meetings; and

BE IT FURTHER ORDERED that this Order is enacted as an Emergency so that it may take effect immediately, with an expiration of December 31, 2021, unless otherwise repealed or extended by the Biddeford City Council.



CITY OF BIDDEFORD

Planning and Development Department

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Greg.Tansley@biddefordmaine.org

NOTICE OF DECISION

September 20, 2021

Mr. David L. Arons, Attorney for Owner
Saxon Partners, LLC and SPME Barra, LLC
25 Recreation Park Drive, Suite 204
Hingham, MA 02043

Sent via e-mail to: darons@saxon-partners.com

Re: 2018.23 Site Plan Approval and Subdivision Approval Extensions for SPME Barra, LLC to develop 250 residential rental units located at 60 Barra Road involving Tax Map 2, Lots 43-1 & 42-1 and Tax Map 7, Lot 15.

Dear Mr. Arons:

This letter is in response to your request for a subdivision and site plan amendment to extend each approval through November 6, 2023. As explained in your letter dated September 17, 2021, the COVID-19 pandemic resulted in uncertainties in the development process that could not have been avoided.

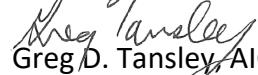
Based on your e-mail and letter of request, it is of my opinion that the proposed amendment(s) are minor in nature and there have been no changes in the Biddeford Code of Ordinances that would alter the approvals and granting the amendment(s) would have no impacts on neighboring properties. As such, it is my opinion this amendment does not require Planning Board review and approval.

Determination: The proposed change will not significantly alter the use of the site and is consistent with the Biddeford Zoning Ordinance and previous Planning Board approvals. Furthermore, the abovementioned change will not adversely affect neighboring properties. It is my opinion that the change requested meets the standards for minor modifications as outlined in *Article XI, Division II, Section 9.G* of the Biddeford Zoning Ordinance as well as for a diminutive change as authorized by the Biddeford Subdivision Regulations.

As such, your request for the minor amendment outlined above is **approved with the same conditions applying to the original approval in effect. I will present this approval to the Planning Board for its review on September 29, 2021 where I will ask for its concurrence.**

If you have any questions, please call me at 284-9115.

Sincerely,

A handwritten signature in cursive script, appearing to read "Greg Tansley".

Greg D. Tansley, AICP

Deputy Director/City Planner

Cc: T. Milligan, P.E., City Engineer
R. Fecteau, Code Enforcement Officer
M. Eddy, Planning and Development Director
File

David L. Arons, Attorney at Law
Saxon Partners, LLC and SPME Barra, LLC
25 Recreation Park Drive, Suite 204
Hingham, MA 02043
Office: 781-875-3317 / E-mail: darons@saxon-partners.com

September 17, 2021

Via e-mail to: Greg.Tansley@biddefordmaine.org

Mr. Gregory D. Tansley, A.I.C.P.
City Planner
City of Biddeford Planning and Development Department
P.O. Box 586
205 Main Street
Biddeford, Maine 04005

Re: Request for minor modifications to the Planning Board's Subdivision Approval and Site Plan Approval for the 250 unit residential rental housing development (the "Project") to be constructed on the 10.14-acre parcel situated at 60 Barra Road, Biddeford, which land is depicted on Tax Map 2, as Lots 43-1 & 42-1 and on Tax Map 7, as Lot 15 (collectively, the "Property")

Dear Mr. Tansley:

In follow-up to our telephone conversation on September 15, 2021, this confirms that I am in-house legal counsel to SPME Barra, LLC. Said entity (the "Owner") acquired record title to the Property on September 2, 2021, from Sawmill Park Properties, LLC, by a Deed recorded with the York County Registry of Deeds in Book 18790, Page 433. Prior to the closing date, Saxon Partners, LLC had assigned its interest in the Purchase and Sale Agreement for the Property to SPME Barra, LLC.

The Owner requests the following two **minor modifications** to the Planning Board's NOTICE OF DECISION dated November 12, 2019 (regarding the November 6, 2019 approval), as previously modified by the NOTICE OF DECISION dated September 21, 2020:

1. An extension of the Final Approval of the Subdivision Plan for the Project for two years from November 6, 2021, to **Monday, November 6, 2023**; and
2. An extension of the Site Plan Approval from November 6, 2021, to **Monday, November 6, 2023**.

In support of this request for minor modifications, the Owner states that due to the various delays and obstacles arising out of the Covid-19 pandemic, the Owner was not able to close the purchase of the Property until **September 2, 2021**. As you are aware, the pandemic has disrupted the development process due to uncertainties in financing, supply chain interruptions, labor shortages in the construction and building materials industries, major cost increases for building materials, and adverse impacts on employers and employees in many sectors.

The Owner has to complete numerous significant tasks, including without limitation the following, before it can request a building permit and commence construction of infrastructure improvements such as roadways, sewer lines, and water lines:

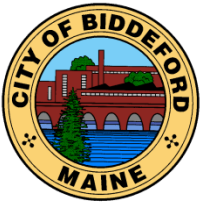
- (a) Secure municipal and state approval of the proposed Credit Enhancement Agreement (a municipal hearing thereon is scheduled for September 22, 2021);
- (b) Obtain financing for all elements of the construction of the Project;
- (c) Complete preparation of detailed building plans and specifications, including all necessary amenities, appliances, equipment, exterior and interior finishes, fixtures, infrastructure improvements, materials, and systems (electrical, HVAC, plumbing, etc.);
- (d) Upon completion of the final detailed building plans and specifications, develop detailed cost estimates and secure bids from general contractors and sub-contractors;
- (e) Review all bids, and negotiate and execute a contract with a general contractor; and
- (f) Secure all necessary materials and labor to commence construction, and coordinate and schedule all relevant work.

In light of the above facts, the grant of a two-year extension of the Final Subdivision Approval and the Site Plan Approval is warranted. If you have any questions, please call me at 781-875-3317. Thank you for your cooperation.

Very truly yours,



David L. Arons, as
Attorney for the Owner



CITY OF BIDDEFORD

Planning and Development Department

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Deputy Director/City Planner
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Greg.Tansley@biddefordmaine.org

PLANNING BOARD REPORT

TO: William Southwick, Chair & Members of the Biddeford Planning Board

FROM: Greg Tansley, AICP, Deputy Director/City Planner

A handwritten signature in cursive script, appearing to read "Greg Tansley", is written over the "FROM:" line.

DATE: September 22, 2021

RE: **2018.23 Site Plan Approval and Subdivision Approval Extensions for SPME Barra, LLC to develop 250 residential rental units located at 60 Barra Road involving Tax Map 2, Lots 43-1 & 42-1 and Tax Map 7, Lot 15.**

1. INTRODUCTION

Saxon Partners (now SPME Barra, LLC) was granted Site Plan and Subdivision approval by the Planning Board on November 6, 2019. As we are all aware, the COVID-19 pandemic ensued in February 2020 and has persisted through today. The COVID-19 pandemic has caused many projects delay including this one. Staff have tried to work with applicants who have requested there approvals be extended as a result of difficulties related to COVID-19.

2. REVIEW

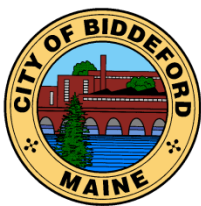
The Subdivision Regulations allow for minor amendments to approvals that do not alter the density of projects or significantly alter lots sizes by the City Planner and the City Engineer. If approved, the approval must be presented to the Planning Board which may reject Staff's approval.

Site Plan Review also allows for minor changes to approvals, but with only the City Planner's approval required. There is no requirement to present a Site Plan minor amendment to the Board for its concurrence but since the Subdivision extension does require the Board's concurrence, both are presented as one for the Board's consideration.

The City Planner and City Engineer have both reviewed the request to extend the approvals for Saxon to November 6, 2023 and present that approval to the Board. We have notified abutters that this will be presented to the Board for its concurrence or rejection.

3. RECOMMENDATION

Staff are of the opinion nothing has changed in the Ordinances or the project that would give reason for not extending the approvals as requested. We recommend the Board concur with Staff's approval of the extension request.



CITY OF BIDDEFORD

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PLANNING BOARD REPORT

TO: William Southwick, Chair & Members of the Biddeford Planning Board

FROM: Greg Tansley, AICP, City Planner

A handwritten signature in black ink, appearing to read "Greg Tansley", is written over the printed name in the "FROM:" line.

DATE: August 27, 2021

RE: **Mobile Food Vendor Courts Amendment**

HEARING DATE: **September 1, 2021 @ 6:00 PM**

The City has received a request for a Mobile Food Vendor Court to be located on the empty lot at the corner of Alfred and Jefferson. Mobile Food Vendors are permitted through the performance standards of the Land Development Regulations (Zoning Ordinance), Section 56 Restaurants, but the Zoning Ordinance does not address a situation where multiple vendors may wish to be located at the same location in a "court" fashion and does not identify where such a "court" could happen.

At the same time, the standards of Article VI, Section 56 are inconsistent with the licensing standards for mobile food vendors in Section 22 of the General Code by requiring mobile vendors to be located a minimum of 100 feet apart from each other and 100-foot setback from any fixed base food operation (restaurant). These restrictions would be changed per the Amendments to Section 22 of the General Code (not the Zoning Ordinance).

The City's Policy Committee has recently endorsed the changes that are now before the Planning Board. Technically, the subject of the Planning Board Public Hearing is only those changes proposed to Article VI, Section 56 of the Zoning Ordinance, but the other proposed changes are provided as well for context. These amendments would allow Mobile Food Vendor Courts in the MSRD-1 and MSRD-3 Districts (Downtown and the Mill District).

SAMPLE MOTIONS:

Motion to recommend/not recommend the Zoning Change pass at the City Council.

ATTACHMENTS

1. Draft Ordinance Revisions

Mobile Food Court Licensing and Zoning Amendments

DRAFT Date: August 4, 2021

Sec. 22-17 Purpose.

[Added 3-20-2018 by Ord. No. 2018.17]

The purpose of Sections 22-17 through 22-21.2 is to regulate mobile food vending on property owned or under the control of the City of Biddeford and mobile food vending on private property in order to create a desirable situation where mobile food apparatuses may conduct business.

Sec. 22-18 Definitions.

[Added 3-20-2018 by Ord. No. 2018.17]

As used in this chapter, unless the context otherwise indicates, the following terms shall have the following meanings.

EDIBLE GOODS

May include, but are not limited to:

- (1) Prepackaged food, including, but not limited to, candy, beverages, chips, popsicles and ice cream.
- (2) Prepared food, including, but not limited to, hot dogs, desserts, sandwiches and pizza.
- (3) On-site prepared food, including, but not limited to, shaved ice, sandwiches and tacos.

MOBILE FOOD VENDOR

Any business which sells edible goods from a nonstationary location within the City. The terms shall include, but not be limited to:

- (1) **MOBILE FOOD TRUCK**— A self-contained motorized unit selling items defined as "edible goods."
- (2) **CONCESSION TRAILER**— A vending unit which is pulled by a motorized unit and has no power to move on its own.

MOBILE FOOD VENDOR COURT

A collection of mobile food vendors in a common outdoor plaza or site providing a common area for self-serve dining. Mobile Food Vendor Courts are also subject to Article 56 (Restaurants) of the Zoning Ordinance and Planning Board Site Plan Review.

NONREFRIGERATED

Edible goods that are not required to be kept at a temperature below 41° F.

Sec. 22-19 Application and permit.

[Added 3-20-2018 by Ord. No. 2018.17]

- (a) Permit. Every mobile food vendor shall have a permit issued by the City to conduct business in the City.
- (b) Application. Every mobile food vendor shall apply for a permit on a form promulgated by the City. Each vending unit requires a separate permit. Applications for permits meeting the requirements for mobile vendors shall be processed within 10 business days.
- (c) Mobile food vendor application form. A complete application shall require the following information from the applicant to be considered:
 - (1) Name of applicant, as well as physical street address, mailing address, telephone number(s), and e-mail address.
 - (2) Legal name of business or entity.
 - (3) Signed permission form, or provide notarized affidavit from the private property owner granting permission for unit placement.
 - (4) Name, phone number and driver's license number of business owner and all employees operating within the mobile food vendor unit.
 - (5) Proposed itinerary with route, vending locations and times.
 - (6) Contact name and phone number for mobile food vending unit while in route.
 - (7) Description of product being sold.
 - (8) Site plan where the mobile food vending unit will be located on the property.
 - (9) Valid and current vehicle/trailer registration of mobile food unit.

Sec. 22-20 Permit regulations.

[Added 3-20-2018 by Ord. No. 2018.17]

- (a) The application fee for a mobile food vendor permit shall be \$200. Each mobile food vendor unit shall be permitted separately.
- (b) Mobile food vendor permits shall expire on December 31 of each year.
- (c) Mobile food vendors shall provide, at their expense, and keep in force during the term of their contract, with a responsible insurance company or companies authorized to do business in the state, commercial general liability insurance in the amount of at least \$1,000,000. The mobile food vendor shall deliver certificates of such insurance to the City at the time of application.
- (d) Mobile food vendors shall provide proof of a State of Maine health certificate at the time of application.
- (e) Upon renewal the applicant shall pay the renewal fee of \$200 and update any changes in the permitting documentation upon permit renewal. The applicant must submit the application and the renewal fee within 30 days before expiration of the permit or must reapply as a new applicant.
- (f) The City Manager is authorized to make reasonable rules and regulations, not

inconsistent with this section, governing the design, construction and location of pushcarts or food trucks.

- (g) Display of permit. Every permit, including those from the City, shall be displayed at all times in a conspicuous place where they can be read by the general public on the mobile food vendor's truck or concession trailer.

Sec. 22-21.1 Prohibited conduct.

[Added 3-20-2018 by Ord. No. 2018.17]

(a) Distance regulations:

- (1) No mobile food vendor shall conduct business within any single-family residential or agricultural zoning district unless otherwise approved in writing by the Code Enforcement Officer.
- (2) A mobile food vendor ~~shall~~ may not be located within 100 feet of the primary entrance of an open and operating fixed-location food service or eating establishment; or within 40 feet from another mobile food vendor, except in the following:
 - During City sponsored or other community events; or
 - Within a mobile food vendor court consistent with the Article VI (Performance Standards), Section 56 (Restaurants) of the Zoning Ordinance.

~~(3) A mobile food vendor shall not be located within 40 feet from another mobile food vendor except during City sponsored or other community events.~~

(b) A mobile food vendor, except when located in a mobile food vendor court, shall not conduct sales at a stationary location:

- (1) For a duration exceeding 60 minutes on any public street or public streets adjacent to public parks and recreational facilities, next to fire lanes and no-parking designated areas. Mobile vendors parking on public streets may not move to a new location without prior approval from the City.
- (2) In congested areas where the operation impedes vehicular or pedestrian traffic.
- (3) Between the hours of 1:00 a.m. and 6:00 a.m.

(c) Offenses and regulations.

- (1) It shall be unlawful for any individual as the agent or employee of another regulated under this section to sell edible goods in the City unless its principal or employer has received a permit under this section.
- (2) A permit issued under this section is not transferable.
- (3) It shall be unlawful for an individual to sell edible goods while displaying a valid permit issued by the City in the name of another individual, organization, or entity.
- (4) It shall be unlawful for any individual, directly or through an agent or employee, to sell goods within the corporate limits of the City after the expiration of the permit issued by the City under this section.
- (5) It shall be unlawful for an individual, directly or through an agent or

Commented [EM1]: Using the most streamlined approach, the approach here is leave the mobile food vendor rules intact, except where it applies to community events or within a mobile food vendor court.

employee, to misrepresent on the permit affidavit any acts that are regulated under this section.

- (6) It shall be unlawful for any individual, directly or through his agents or employees, to represent that the issuance of a permit by the City constitutes the City's endorsement or approval of the product for sale.

Sec. 22-21.2 Mobile food vendor requirements.

[Added 3-20-2018 by Ord. No. 2018.17]

The following regulations shall apply to mobile food vendors:

- (1) Each unit shall be equipped with a portable trash receptacle and shall be responsible for proper disposal of solid waste and wastewater in the sanitation facility legally accessed by the food service establishment. All disturbed areas must be cleaned following each stop to a minimum 20 feet of the sales location.
- (2) Mobile food vendors may not have a drive-through.
- (3) Continuous music or repetitive sounds shall not project from the mobile unit.
- (4) A five-foot clear space shall be maintained around the mobile food vending unit.
- (5) All mobile units shall have a gray water holding tank.
- (6) The mobile unit will be subject to inspection upon permit application through the Code Enforcement Department, the Health Department and the Fire Department, and may be subject to random inspection and upon reissuance of the permit.
- (7) No sales are allowed within public park facilities while park concession units are operating. Mobile units operating in public parks and on streets adjacent to public parks or recreational facilities require approval by the City's Recreation Director.

Section 56 Restaurants.

[Ord. of 8-3-1993(1); Ord. No. 2006.13, 3-7-2006]

1. a. The following provisions address restaurants, whether year-round or seasonal, seat down or takeout, building or mobile. Subsections A through E refer to nonmobile food service operations.
- b. For the purposes of this section, the term "restaurants" shall be divided into ~~three~~four categories:
 - (1) Establishments in permanent buildings;
 - (2) Establishments in mobile units, either towed or self-propelled, preparing and serving food products on a particular site; and
 - (3) Establishments in mobile units, either towed or self-propelled, serving prepared food products, and travelling to selected locations on a daily basis, and remaining on-site for limited time periods, i.e., during lunch breaks, etc. Such units are often referred to as catering services or food services.
 - (4) Establishments in mobile food units located in mobile food vendor courts

[and permitted in the MSRD-1 and MSRD-3 Districts.](#)

- A. The application for a permit shall state the maximum seating capacity of the restaurant. Any expansion or enlargement over the stated capacity shall require a new permit, and shall comply with setbacks, square footage, and all other requirements of this ordinance.
- B. Any restaurant located within 500 feet of an existing public sewer line shall connect with the sewer system at the expense of the owners. When subsurface sewage disposal is proposed, completed soil evaluation forms (HHE-200) shall be submitted. All proposed subsurface disposal systems shall meet the requirements of the Maine State Plumbing Code.
- C. All parking and loading facilities shall be located to side or rear of the building, and shall be screened from abutting residential lots. Screening shall be comprised of a continuous landscaped area not less than eight feet in width, containing evergreen shrubs, trees, fences, walls, berms, or any combination, forming a visual barrier not less than six feet in height. In the Rural Farm Zone, the parking and loading facilities shall also be screened from all public roadways.
- D. (Reserved)
- E. Storage and disposal of refuse, fuel, and other potentially hazardous materials shall be so conducted as to create no health hazard, rodent harborage, insect breeding areas, accident or fire hazards, or air pollution. Areas where such activities occur shall be effectively enclosed and screened by safety fences, walls, or any combination thereof.
- F. Mobile food service operations shall comply with the State of Maine rules relating to eating and lodging places, as periodically amended, and shall require a victualer's permit from the municipal officers [consistent with Section 22.17-22.21.2.](#)
 - a. Further, mobile food service operations, preparing food on-site, unless permanently connected to public utilities and approved by the Planning Board, shall not be left on-site or displayed, or left in public view, in the location of business during nonbusiness hours, unless otherwise conditioned by the City Council in their specific permit/licensing process.
 - b. The Building Inspector shall review mobile food service operations, preparing food on-site, to ensure, as a minimum, the following:
 - 1. The placement of the vehicle:
 - a. Shall not hinder vehicular traffic or cause traffic congestion; and
 - b. Shall not hinder, or interfere with, pedestrian traffic; and
 - c. Shall not block or otherwise hinder access to or from private property; and
 - d. Shall not adversely impact on abutting properties in regards to:
 - (1) Noise.
 - (2) Odor, fumes or smoke.
 - (3) Light and glare.
 - 2. The operator shall have written permission from the property owner to locate the vehicle on said property.
 - 3. The operator shall have available, and under written agreement, at least three off-street parking spaces. In cases where on-street parking is available immediately in front, the operator must have one off-street parking space for any vehicle belonging

to an employee working on a given shift.

4.
 - a. The operator shall provide at least one fifty-five-gallon covered trash receptacle, or similar sized container, to hold wastes and debris. No paper, food or other wastes shall be allowed to accumulate on-site.
 - b. The waste container shall be emptied at least daily into an approved commercial dumpster (it being emptied by a licensed hauler on a regular basis) or other suitable and approved means of transport away from the site. It shall be the responsibility of the operator to ensure that all wastes are handled and disposed of properly.
5. The operator shall ensure that there is an adequate supply of potable water for cleaning equipment and the preparation of foods.
6. The operator shall ensure that there is an adequate and safe source of electrical power.
7. The operator shall ensure that all storage of food supplies and other business material is within the vehicle or other container secured to the vehicle. No loose material shall be permitted outside of the vehicle.
8. There shall be no signs placed on sidewalks or other rights-of-way. No temporary or mobile signs shall be allowed.
9. The trailer, or vehicle, being used shall be [registered](#), in good upkeep, and provide a neat appearance.

Section 56. Restaurants. [Ord. of 8-3-1993(1); Ord. No. 2006.13, 3-7-2006]

1.
 - a. The following provisions address restaurants, whether year-round or seasonal, seat down or takeout, building or mobile. Subsections A through E refer to nonmobile food service operations. Subsection F addresses mobile food service operations.
 - b. For the purpose of this section, the term "restaurants" shall be divided into three categories:
 - (1) Establishments in permanent buildings;
 - (2) Establishments in mobile units, either towed or self-propelled, preparing and serving food products on a particular site; and
 - (3) Establishments in mobile units, either towed or self-propelled, serving prepared food products, and traveling to selected locations on a daily basis, and remaining on-site for limited time periods, i.e. during lunch breaks, etc. Such units are often referred to as catering services or food services.
 - A. The application for a permit shall state the maximum seating capacity of the restaurant. Any expansion or enlargement over the stated capacity shall require a new permit, and shall comply with setbacks, square footage, and all other requirements of this ordinance.
 - B. Any restaurant located within 500 feet of an existing public sewer line shall connect with the sewer system at the expense of the owners. When subsurface sewage disposal is proposed, completed soil evaluation forms (HHE-200) shall be submitted. All proposed subsurface disposal systems shall meet the requirements of the Maine State Plumbing Code.
 - C. All parking and loading facilities shall be located to side or rear of the building, and shall be screened from abutting residential lots. Screening shall be comprised of a continuous landscaped area not less than eight feet in width, containing evergreen shrubs, trees, fences, walls, berms, or any combination, forming a visual barrier not less than six feet in height. In the Rural Farm Zone, the parking and loading facilities shall also be screened from all public roadways.
 - D. (Reserved)
 - E. Storage and disposal of refuse, fuel, and other potentially hazardous materials shall be so conducted as to create no health hazard, rodent harborage, insect breeding areas, accident or fire hazards, or air pollution. Areas where such activities occur shall be effectively enclosed and screened by safety fences, walls, or any combination thereof.
 - F. Mobile food service operations shall comply with the State of Maine rules relating to eating and lodging places, as periodically amended, and shall require a victualer's permit from the municipal officers.
 - a. Further, mobile food service operations, preparing food on-site, unless

permanently connected to public utilities and approved by the Planning Board, shall not be left on-site or displayed, or left in public view, in the location of business during nonbusiness hours, unless otherwise conditioned by the City Council in their specific permit/licensing process.

- b. The Building Inspector shall review mobile food service operations, preparing food on-site, to ensure, as a minimum, the following:
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 - b. Shall not hinder, or interfere with, pedestrian traffic; and
 - c. Shall not block or otherwise hinder access to or from private property; and
 - d. Shall not adversely impact on abutting properties in regards to:
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 6. The operator shall ensure that there is an adequate and safe source of electrical power.
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business material is within the vehicle or other container secured to the vehicle. No loose material shall be permitted outside of the vehicle.

8. There shall be no signs placed on sidewalks or other rights-of-way. No temporary or mobile signs shall be allowed.
9. The trailer, or vehicle, being used shall be in good upkeep and provide a neat appearance.



OAK POINT
ASSOCIATES

architecture
engineering
planning

August 3, 2021

Greg Tansley
Biddeford Planning Department
P.O. Box 586
205 Main Street
Biddeford, Maine 04005

Re: Site Plan Review Application Final Plan Submission
Adams Street Housing
69 Adams Street
Biddeford, Maine 04005

Dear Greg,

Please find enclosed the following submission items for the above referenced project:

Ten (10) Copies of Full-Size Site Plans

Ten (10) Copies of Site Plan Review Application and Supporting Materials:

1. Project Description and Photographs
2. Draft Contract Zone Agreement
3. Locus Deed and Draft Easements for Fire Lane
4. Winter Management Plan
5. Letter of Approval from Fire Department
6. Ability to serve letter from Maine Water Company
7. Ability to serve letter from Tom Milligan regarding sanitary sewer service
8. Traffic Impact Study
9. Geotechnical Report
10. Stormwater Narrative and Calculations
11. Stormwater Maintenance Plan
12. Response to Preliminary Plan Submission Review Comments.
13. One (1) CD-ROM with electronic copy of plans and supporting materials

The Application fee and engineering deposit of \$4,800 has been previously submitted with the Concept Plan submission on April 14, 2021.

Please contact me to let me know if you have any questions or comments.

Jacques L Gagnon Jr., PE, LEED AP
Associate
Encl.



OAK POINT
ASSOCIATES

architecture
engineering
planning

September 22, 2021

Greg Tansley
Biddeford Planning Department
P.O. Box 586
205 Main Street
Biddeford, Maine 04005

Re: Site Plan Review Application Final Plan Submission
Response to Final Plan Review comments
Adams Street Housing
69 Adams Street
Biddeford, Maine 04005

Dear Greg,

Attached are the following in response to Final Plan review comments received from the city:

- Ten copies of full-size drawings (entire set)
- Ten copies of section 1 Project Description
- Ten copies of section 5 Letter of approval from Fire Department
- Ten copies of light fixture product data
- Three copies of section 10 Stormwater Narrative and Calculations
- Three copies of section 11 Stormwater Maintenance Plan
- An electronic copy of the complete application has been sent via email with a drop box link.

We have carefully reviewed the comments provided by your office and would like to summarize the revisions prior to responding to each review comment:

Summary of proposed plan revisions:

1. The plans have been revised to:
 - a. Reduce the driveway width from 24-feet to 22-feet.
 - b. Move the retaining wall further away from the southeasterly property line.
 - c. Relocate the dumpster and remove the widened portion of the first parking bay.
2. Plans and supporting material have updated for various minor housekeeping corrections.

Below are responses to each review comment:

CITY PLANNER, GREG TANSLEY

1. Attached are 3rd Party Engineer Review Comments as well as 2 sketches for your consideration. We believe there is room to work with the site to create a more compact layout with additional

distance from the abutters. The Planning Board appeared interested in your exploring further ways to reduce impacts on abutters and the one sketch will hopefully help give you some ideas. The other sketch also relates to Mr. Saucier's Comment "A" related to the entrance from Adam's Street into the site. **Response: The increased distance between the abutting properties and a more compact design has been seriously considered and has been incorporated into the revised design.**

SITE DESIGN ASSOCIATES

A. General

As we indicated to you earlier, in our opinion the driveway should intersect the Adams Street right of way at 90 degrees. The design has been revised to somewhat address this comment; however, a radius continues to be shown at the intersection with Adams Street. The applicant indicated that the radius was necessary to accommodate emergency vehicles. We reviewed the access with a turning template and found if the radius were omitted and the intersection were 90 degrees, access would not only be possible but would be slightly enhanced. This would also reduce the potential for conflicts with movements at the abutter's drive. **Response: We have explored this request to provide a 90-degree intersection with a 22-foot-wide driveway and have revised the design accordingly.**

The existing pole and guy wire would need to be relocated, which the applicant indicates is currently planned, and Adams Street would need a short extension for the full width. This would also enhance winter maintenance. **Response: Keynote 5 on drawing CD101 calls for the pole to be relocated. Drawings CS101, CU101 and CG101 do show the relocated pole but do not have a keynote. A keynote will be added to CU101 to further clarify the relocation of the pole and streetlight. A short extension of the pavement at the end of Adams Street will be added to the plans.**

1. Sheet 4 of 19 (now 4 of 22) – Site Plan

- c. The existing power pole and guy wire on the easterly side of Adams Street will need to be relocated, which should be noted on the drawings. The applicant indicated this was noted on the drawing; however, we were unable to confirm that. **Response: See response to general comment part 2 above.**
- k. What is planned for curbing material within the parking lot? The response indicated that notes were added to clarify the intent for curb, but we were unable to verify that. **Response: Keynote 1 on drawing CS101 refers to detail 4 on drawing C-503. Detail 4 calls out the concrete curb types on either side of the driveway. The title of the detail will be revised to state "TYPICAL DRIVEWAY/PARKING AREA/WALK/RETAINING WALL SECTION".**
- l. (New) No van accessible spaces are provided on the site. A minimum of one is necessary to meet ADA requirements. **Response: Keynote 8 on drawing CS101 indicates 11'x18' van accessible parking with a 5' access aisle. Parking space T7 will be expanded 3' to be a van accessible.**

2. Sheet 6 of 19 – Utility Plan

- d. (New) The plan calls for a future charging station for an EV in a parking space to the southeast, apparently at the base of the 4+ ft high retaining wall, which would reduce the

- depth of the parking stall. Could the charging station be located in a different location where there will not be a conflict with a retaining wall or other obstruction? **Response: The charging station can be wall-mounted and is less than 6" deep and 12" wide. The charging station can be placed on the wall on or near the parking stall markings in the zone between vehicles without reducing the depth of the parking stall.**
- e. (New) DMH 2 and 3 should be labelled. Based on the elevations in the table, it appears that DMH 1 shown is actually DMH 3. **Response: Drainage manhole labels will be added, you are correct DMH 1 should be DMH 3.**
 - f. (New) Why is the invert out of DMH 1 noted as higher than the invert in? **Response: Invert is incorrect and will be corrected.**
 - g. (New) Why are there two inverts out of DMH 2, and why are they both higher than the invert in? **Response: Invert is incorrect and will be corrected.**
 - h. Based on the retaining wall detail provided and the invert out of the DMH nearest the transformer, there is a conflict between the retaining wall and the storm drain. **Response: Footing depth of wall will be required to step down to accommodate the pipe. This will be noted on the profile and incorporated in the final construction drawings.**

3. Sheet 7 of 19 – Grading Plan

- e. How will the area between the stairway and the building be treated/stabilized? There is a five ft drop in the lower four feet of the slope. The response indicated the area is a 3:1 slope that will be planted and mulched. However, as noted above, a portion of the slope is actually shown much steeper. **Response: The slope is shown as 3:1 (18 feet between the 139 and 133 contours). There is only a one ft drop in the lower four feet of the slope (top of wall 133, grade four feet uphill from the wall is 134). The retaining wall is five feet high at this location (133-128).**
- j. (New) There are some slight conflicts for the bottom of wall elevations between the tables and the spot grades called out directly on the plan. **Response: Slight conflicts will be corrected.**

4. Sheet 11 of 19 (Now 12 of 22) – Site Details -1

- a. Typical sections should be provided for the parking lot, fire access, other retaining walls not associated with the access drive, and the wood chip area with underdrains. Will the parking lot pavement structure match the access drive? The other details were provided as requested. **Response: The parking lot section is the same as the road and the detail title will include the parking lot. Fire access details are called out on CS101 keynote 16, and detail 7 on sheet C-505. Keynote 3 on CS101 refers to concrete retaining wall details shown on detail 2 on drawing C-505. Other retaining walls associated with the parking lot, are the same as the access drive and as previously mentioned, the access drive detail title will include the parking lot. The wood chip area with underdrains is shown in detail 7 on drawing L2.0.**
- d. As noted previously, a potential savings may be associated with the access drive width. The traffic report indicates that 33 proposed units would generate 180 trips per day. With 39 units currently proposed, that would translate to 212 trips per day, which is less than the 250 trip maximum threshold for a minor residential street. The standard for a minor residential street permits 11 ft travel lanes, as opposed to the 12 ft travel lanes shown. Once in the parking lot, 24 ft would be required. The response indicates concern with snow

removal and emergency access may be an issue. Narrowing the road would actually provide more room for snow storage and it does not appear that emergency vehicle access would be negatively impacted. The width of the drive is certainly the applicants call. **Response: The lane widths have been reduced to 11-feet.**

- e. The foundation and wall drains should be shown along with outlet locations. Where will the wall drain outlet? **Response: Building foundation drains have been added to DMH3, CB6 and CB9.**

6. Stormwater Management

- c. The Inspection and Maintenance document should be updated to include separate inspection logs for the storage tanks and catch basins. The sample log should be updated to remove the City as the party responsible for maintenance and provide the owner information, and to remove BMP's that are not being utilized for this project. **Response: storage tanks and catch basins will have separate inspection logs and the city will be replaced with Southern Maine Affordable Housing as being responsible for maintenance of items outside of the right of way.**

- d. (New) The modeling for the storage tanks utilizes the storage volume from the bottom of the tank to the top of the tank. The details show a minimum sump of 8 inches in the tanks, which reduces the available storage in each system. In STOR-2, which utilizes 11.16 ft of storage in the model as opposed to the 10.41 ft available, this reduces the storage to less than the storage required according to the model. This should be reviewed. **Response: The storage has been reduced for the sump of 8-inches for the tanks, and there are no changes to peak flows.**

7. (New) Drawings C-301 and C-302

- a. An exterior drop is shown for SMH 1 which may not be necessary, while it looks like a drop is necessary for SMH 3. This should be reviewed. **Response: Drop manhole will be noted at SMH 3 and removed at SMH 1.**

LONG MEADOW PLANNING & LANDSCAPE ARCHITECTURE, LLC

COMPLIANCE WITH THE CITY'S ORDINANCES

Article 6 Section 47 Multifamily developments:

- 3. In addition, a sign should be considered at the entrance drive that, along with identification of the address, state that this not a through way and the public street ends here. **Response: This has been addressed on drawing CS101, Keynote 22.**

Article 6 Section 49 Off-Street Parking and Loading:

- 5. A photometrics plan has been submitted (E-100 by CHA). The plan, however, has not been revised to extend the limits to the property line and catalog cuts submitted for the fixtures and poles to review for cut-off/dark sky compliance. **Response: Lighting plan has been revised to show lighting values to the property line.**
- 9. The final parking calculations are be depicted on the final site plan (CS-101) under plan note 6.g. A ratio, however, of .80 rather than .75 parking spaces per unit is used, likely in response to a

previous review comment. The plan note should be revised to read: PARKING SPACES: 2 PER UNIT (78) .75 PER UNIT (30) (35 PROVIDED) **Response: Plan will be updated as recommended.**

13. A subdivision plan or combined subdivision site plan, needs to be prepared suitable for recording that documents the number of dwelling units created. The site plan (CS101) has been revised to include the total number of dwelling units as it relates to density. The plan, however, should further be revised to:
- Revise the drawing title to Subdivision and Site Plan; and
 - Add a plan note that describes the purpose of the plan as it relates to the regulatory approval that is sought, e.g. 39 affordable housing residential-unit development that is subject to the City's Subdivisions Ordinance (Chapter 66), Site Plan Review and Zoning regulations (Art. XI of the Land Development Regulations), and to Contract Zoning Amendment _____.
 - Revise the Zoning Summary (Note#6) to maintain the 'per ordinance' standard value if the development conforms, and add the value on how the development conforms as what is 'provided'. For example, 6.e. Minimum Lot Frontage per ordinance is 50 feet and 85.18 feet is listed under per contract zone. This value should remain at 50 feet, but reference that 85.18' is provided, e.g:

ZONING INFORMATION	PER ORD:	PER CONTRACT ZONE:
MAXIMUM LOT	50'	50' (85.18' PROVIDED)
FRONTAGE:		

Response: Will revise the plan as requested.

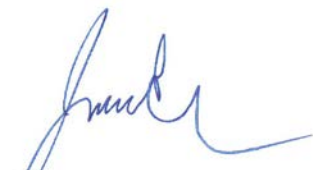
14. Site design as it relates to elevations grades and driveway design and how that informs the location of parking and the proximity of a very high retaining wall (maxing out at 18') still remains to be an area that should require more reconsideration by the applicant. The reasons given for not perusing a steeper grade for the driveway does not appear to reflect the maximum grades allowed by the City's ordinance for roads and recommended by AASHTO for urban streets.

The applicant and agent discussed this comment with City staff and peer-reviewers and considered an alternative that locates the parking further from the southeasterly property line that remains accommodating for Fire Department emergency vehicles with a slight and negligible increase to the entrance drive's grade (8.0% to 9.5%). This alternative allows for a larger portion of the existing slope and vegetation to be preserved and afford a retaining wall lower in height. Overall, this would allow for the development to better fit within the existing general character of the neighborhood. **Response: Plan has been revised to move the retaining wall further away from the southeasterly property line.**

15. The Landscape Plan provides for a varied and interesting plan palate. The applicant has revised the landscape plan to address previous comments. The applicant and Planning Board may want to consider having a plan note that allows flexibility on the placement of the proposed trees if the existing vegetation proves to be inadequate during construction as an effective screen. **Response: We are not opposed to this request and can add this note to the plan.**

16. The slope created between the northerly side of the building and the driveway, looks to be close to a 1:1 slope. The applicant has explained that a rock slope (existing ledge) is planned in this area and measures will be taken with regard to safety of residents negotiating through the property. **Response: This is addressed using a fence at the top of the slope to prevent direct access to the slope (see drawing CS101).**
17. Proposed Easements. All utilities and access (emergency and otherwise) between Birch Street and the site need to be clarified in an easement document and clearly identified on the plans. The applicant has revised the plans to address this, however, though draft easement submitted addresses all utilities to the proposed development from Birch Street, the plan does not include underground electrical connections to the proposed transformer from Birch Street. Either these lines need to be located within the easement referenced in the draft language, or the limits of the easement needs to change to accommodate the proposed underground electric lines proposed. **Response: The easement document and the plan will be updated to include the electrical line. CMP will also require easements for this line.**
18. Staff recommends sidewalks/walkways should be concrete and not bituminous as proposed. The applicant is proposing bituminous along the entrance drive and transitioning to concrete once at the ADA parking near the building. The Board should determine if this is satisfactory. **Response: The applicant has found that concrete sidewalks are more difficult to maintain in the winter due to limited use of de-icing salts and the light color that does not melt as quickly. The existing sidewalks on Adams Street are bituminous. It is preferred to keep asphalt walks where shown on the plan.**
19. After review with the Fire Department, identify a Fire Lane on the plans. The revised plans includes a striped 'No Parking' area in the proposed parking lot, however, nothing to indicate a fire lane in the existing parking lot for Parish Place. The plans should be revised to clearly indicate these areas are designated as a 'Fire Lane' in a note as well as when the pavement is striped/painted. **Response: The plan will be revised to include pavement marking and notes for the fire lane.**
20. Fencing appears to be chain link with privacy slats. The Planning Board should determine if that is satisfactory. Perhaps the applicant might consider black vinyl, that typical is more attractive. **Response: Detail 5 on drawing C-506 indicates black vinyl coating on the fence.**

Please contact me to let me know if you have any questions or comments.



Jacques L Gagnon Jr., PE, LEED AP
Associate
Encl.

Site Plan Review Application

CITY OF BIDDEFORD, MAINE
PLANNING BOARD
P.O. Box 586, 205 Main Street Biddeford, Maine 04005
207-284-9115

APPLICATION FORM

Type of Application:

- | | | |
|--|--|--------------------------------------|
| ☐ Shoreland Zoning Permit | ☒ Site Plan Review | ☐ Extraction |
| ☐ Conditional Use Permit | ☒ Subdivision | ☐ Private Way |
| ☐ Other: _____ | | |

Applicant Information:

Applicant's Name: Southern Maine Affordable Housing

Applicant's Mailing Address: 22 South Street Biddeford, ME 04005

Applicant's Telephone: 207-415-2939

What is Applicant's legal interest in the property?

- ☒ Owner ☐ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Name: Same as Above

Owner's Address: _____

Owner's Telephone: _____

Agent's Name: Jacques Gagnon Jr. P.E, LEED AP

Agent's Address: 231 Main Street Biddeford, ME 04005

Telephone: 207-283-0193

Engineer/Surveyor: Oak Point Associates

Engineer/Surveyor's Address: same as agent

Telephone: _____

Project Location and Lot Information:

Street Address: 69 Adams Street

Tax Map: 38 Lot: 296

Current Zoning: MSRD-2 Shoreland Zoning: N/A

Size of lot: 1.44 ☒ acres ☐ s.f. Lot Frontage: 85.18

Existing Use of Property: Vacant (former convent burned in 1995)

Property currently serviced by:

☒ City Road	☐ Private Road
☐ Public Sewer	☐ Septic System
☐ Public Water	☐ Private Well
☐ Public Trash	☐ Private Hauler

Slope Conditions in Area of Construction (if applicable):

☐ Flat (0-3 % slope) ☐ Rolling (3-8% slope) ☒ Hilly (8-15% slope) ☒ Steep (15% + slope)

Are there any wetlands or waterbodies on the site? ☐ Yes ☒ No If yes, attach information

Do you plan to bring fill onto the lot? ☒ Yes ☐ No If yes, attach information
(approximately 2000 cy fill)

Description of proposed use of property:

Project/Proposed Use Description: Construct 39 unit family housing

Property to be serviced by:

☒ City Road	☐ Private Road
☒ Public Sewer	☐ Septic System
☒ Public Water	☐ Private Well
☐ Public Trash	☒ Private Hauler

Is this project part of a larger project? ☐ Yes ☒ No

☐ N/A If in a Shoreland Zone:

Percent of residential lot coverage (Max. 20%): _____

Percent of structure expansion (Max. 30%): _____

☒ If Subdivision Review, number of lots proposed: 39 dwelling units

☐ N/A If a Private Way is proposed, number of lots served: _____

☒ If Site Plan Review, you must provide the following information:

Total new square feet footprint of structures: 9,050 sf

Total new square feet paving/parking: 24,050 sf

Waiver Requests (attach details):

1. See draft contract zone agreement - Article XI, Section 5.B.4.i.3 Parking and
2. Paving, from 30% to 38%. Paving and parking has been minimized, and the
3. unique nature of this site (large elevation rise) requires a waiver of this
4. standard in order to accommodate this development.
5. _____

Attachments:

A. Letters of Approval

- ☐ Fire Department - Contact Chief or Deputy Chief - 282-9986
- ☐ Ability to Serve for Water Service – Maine Water - 282-1543
- ☐ Ability to Serve for Sewer Service- Engineering Dept (Sewer) - Tom Milligan 284-9118
- ☒ Police Department - E-911 Road Name Designation - Contact Joanne Fisk - 282-5127

B. Letter to Planning Board describing project, waiver requests, proposed improvements, addressing permit requirements, etc.

C. Photographs of site.

D. Architectural renderings/drawings of proposed buildings, as required.

E. Engineered Plans, as required.

Fees (due at time of application): \$4,800

Refer to "Attachment A Fees and Charges" of the Land Development Regulations for more information. Consult with Planning Staff if you have questions.

Required Signatures:

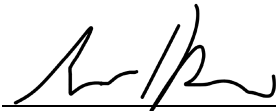
By signing this application, as the foresaid applicant or authorized agent:

- I certify that I have read and completely understand the application;
- I certify that the information contained in this application and it's attachments are true and correct;
- I understand that all information provided on this form and all other documents submitted as part of my proposal is a matter of public record;
- I understand that copies of this information may be supplied upon request to an interested party.
- I understand that additional funds may be required through the course of review for special studies, legal review costs, and/or engineering review.
- I understand that by submitting this application I am not guaranteed a place on any particular agenda. I further understand that the City Planner will place me on an agenda for review when the application is deemed substantially complete.

☒ Project proposed to have 1 acre or more of site disturbance:

-Project may need to apply for a Maine Construction General Permit and shall comply with the requirements of DEP Chapter 500 Stormwater Regulations, as they apply.

Signature of applicant:



Date: 8-2-2021

Signature of owner of property:



Date: 8-2-2021

**IF PLAN APPROVAL IS ANTICIPATED, PROVIDE 2 FULL SIZE MYLARS & 2 FULL SIZE PAPER COPIES FOR BOARD SIGNATURE (AS APPLICABLE).
CHECK WITH PLANNING STAFF FOR CLARIFICATION.**

CHECKLIST FOR *SITE PLAN* REQUIREMENTS

YES **NO**

- | | | |
|-------------------------------------|--------------------------|--|
| ☒ | ☐ | Be on sheet size of 24 by 36 inches. |
| ☒ | ☐ | The scale of said plan shall be not less than one inch equals 50 feet and shall be indicated on the plat by use of a bar scale. |
| ☒ | ☐ | The plan shall bear the date, title, north point. |
| ☒ | ☐ | The plan shall contain a location or vicinity sketch (suggested scale one inch equals 800 feet). |
| ☒ | ☐ | The plan shall contain the name and address of the developer and applicant. |
| ☒ | ☐ | All appropriate dimensional requirements. |
| ☒ | ☐ | Existing and proposed easements. |
| ☒ | ☐ | Plan of the site showing existing watercourses and water bodies, seasonal wet areas. |
| ☒ | ☐ | Plan of the site showing soil type and location of test borings. |
| ☒ | ☐ | Location of all existing and proposed utilities. |
| ☒ | ☐ | Topographic contours (every five percent for zero to three percent slope; or every two feet for steeper areas). |
| ☒ | ☐ | Plan should include preservation and supplementation of existing dominant vegetation. |
| ☒ | ☐ | Plan shall indicate which features are to be retained and which are to be removed or altered. |
| ☒ | ☐ | Location of stonewalls, graveyards, fences, stands of trees, and other important unique natural areas and site features, including but not limited to floodplains, deer wintering areas, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, sand and gravel aquifers, and historic and/or archaeological resources, together with description of such features. |
| ☒ | ☐ | Plan view of all buildings with their use, size, location, and first-floor elevation in respect to grade. |
| ☒ | ☐ | Standard elevation view of existing and proposed buildings or structures on-site. |

YES **NO**

- | | | |
|-------------------------------------|--------------------------|---|
| ☒ | ☐ | Outline of any buildings located within 200 feet of such existing or proposed buildings or structures indicating their shape, size, location, heights and volume. |
| ☒ | ☐ | Existing use of abutting properties shall be identified with approximate location of any structures thereon including access roads. |
| ☒ | ☐ | Location, width, curbing, and paving of access ways, egress ways, and streets within the site for both pedestrian and vehicular use. |
| ☒ | ☐ | The location of off-street parking and loading spaces with a layout of the parking indicated. |
| ☒ | ☐ | The size and proposed location of water mains and sanitary sewerage facilities will all necessary engineering data. |
| ☒ | ☐ | The size and location of all other existing and proposed public service connections including, without limitation, gas lines, power lines, telephone lines, and fire alarm connections and locations, indicating whether above or below ground. |
| ☒ | ☐ | The type, nature, and composition of all solid, liquid, and gaseous waste, industrial or otherwise, and the location, type, and design criteria of the storage and disposal facilities dealing with such waste. |
| ☒ | ☐ | A landscape plan and open space areas indicating grade change, vegetation to be preserved, new plantings used to stabilize areas of cut and fill, screening; plus size, location, purpose and type of vegetation. |
| ☒ | ☐ | A drainage plan including location, elevation, layout of catch basins and other surface and subsurface drainage features. |
| ☐ | ☐ | Location, size and design of proposed signs and other advertising or instructional devices. |
| ☒ | ☐ | Existing and proposed contours and finished grade elevations as well as the type, extent, and location of existing and proposed landscaping and open space areas which will be retained. |
| ☒ | ☐ | Location and type of lighting for outdoor facilities. |
| ☒ | ☐ | Lines of existing and proposed abutting streets showing width. |
| ☒ | ☐ | Surveyed property lines showing their bearing and distances and monument locations. |
| ☒ | ☐ | If subdivision is involved, the lines and names of all proposed streets, lanes, ways, or easements intended to be dedicated for public or private use. |

YES **NO**

- | | | |
|---------------------------------------|------------------------------|---|
| ☐ N/A | ☐ N/A | Provide copies of any covenants or restrictions that are intended to cover all or part of the land area to be developed. |
| ☐ N/A | ☐ N/A | Indicate limits of the wetland areas on the property. |
| ☒ X | ☐ | Delineate existing zoning boundaries within 1,000 feet of the site. |
| ☒ X | ☐ | Stamp and signature of either a Maine licensed land surveyor, professional engineer, or architect responsible for said plan. |
| ☒ X | ☐ | Any other exhibits or data deemed necessary by the Planning Board to evaluate the proposed development for site plan review purposes. |

1. Project Description and Photographs

Project Description
Site Plan/Subdivision Review Application
Adams Point
69 Adams Street
Biddeford, Maine 04005

August 2, 2021
Revised September 21, 2021

The purpose of this project is to construct a 39-unit apartment building with a footprint of 9,024 square feet. The building will be partially four stories and partially 5-stories. A 200-foot long, 22-foot-wide road with a 5-foot-wide sidewalk will be constructed to access the site. Pedestrian access will be provided from Adams Street and Birch Street. The pedestrian access will allow for residents to walk to work in the downtown area, utilize on-street parking on Adams and Birch Streets and access to bus services on Alfred Street. Parking for 35 vehicles, a drop off area and a firetruck turn around will be provided at the building site. Of the 35 parking spaces, three will be for visitors and employees one of the visitor parking spaces will be can accessible. The remaining 32 spaces will be available for tenants to provide a parking ratio of 0.82 spaces per unit. There are 11 accessible units, and the same parking ratio is provided for these units resulting in 9 accessible spaces. In order provide as much parking as possible for tenants (25 spaces), 6 of the required 9 accessible spaces will be marked as accessible and the 3 other accessible spaces will be converted and marked as accessible parking upon request. A 20- wide fire lane will be constructed from Birch Street to the site though an easement on Parish Place and St James School properties.

The project is located at the dead-end portion of Adams Street. The site was formerly used as a convent and then housing for the mentally ill until it burned down in 1996. The driveway, parking lot and old carriage house foundation remains on the site.

A boundary and topographic survey have been completed and it has been determined that there are two easements that exist on the site, one that reserves an area for a "Religious Grotto" to benefit the Roman Catholic Bishop of Portland, and the other is an "Area Reserved for a Street" to benefit the Roman Catholic Bishop of Portland. A 12' wide portion of this "Area Reserved for a Street" also benefits the Servantes du Coeur Immacule De Marie. These easements will be extinguished as part of the negotiations with the Roman Catholic Bishop of Portland. The site also has the benefit of a 15-foot-wide water line easement on the St James School property. This easement is in the process of being revised to allow a fire lane and pedestrian walk and approval by the Roman Catholic Bishop of Portland and will be finalized as a condition of approval. Parish Place (also owned by Southern Maine Affordable Housing) will grant an easement for fire truck turn around/fire lane, and a utility easement to benefit this new project site should ownership of 69 Adams Street change. The new fire lane/utility easement will be a 5-foot strip of land (adjacent to the abutting 15-foot-wide easement) to create a 20-foot fire lane. The proposed easement also includes a 6-foot-wide utility easement to the existing utility pole and an area for fire truck turn around within existing parking lot travel lanes.

No wetlands were observed on or adjacent to the site. Trees larger than 20" in diameter were survey located and are depicted on the plans. Large trees that will be saved are show on the removals and site plans.

Utilities will consist of domestic and fire suppression water, natural gas, electric, communications, sewer and storm drains. All utilities except sewer and storm drain will be connected to existing utilities on Birch Street. Sewer and storm drain will connect to the existing combined sewer on Adams Street. Exterior lighting will consist of a combination of free-standing pole mounted light fixtures and building mounted light fixtures.

Stormwater will be controlled by use of catch basins and subsurface piping that is directed to a underground storage tanks. The outlet of the storage tanks have controlled outlets to throttle flows to not exceed predevelopment rates. Two drain manholes with a stub for future stormwater separation will be constructed in Adams Street.



Photo 1 – View from Adams Street



Photo 2 – Former building location near Parish Place.



Photo 3 – Existing Access Drive with Guardrail



Photo 4 – St James School Playground (right) and Parish Place (left)

2. Draft Contract Zone Agreement

DRAFT – FOR CITY COUNCIL CONSIDERATION

CONTRACT ZONE AGREEMENT

AGREEMENT made as of _____, 2021, by and between Adams Point, LP, a Maine limited partnership and Southern Maine Affordable Housing, a Maine corporation with an established place of business in Biddeford, Maine (hereinafter, jointly and severally called the “Owner”) and THE CITY OF BIDDEFORD, a body politic and corporate located in Biddeford, Maine, (hereinafter called “Biddeford”).

WHEREAS, the Owner (or one of them) is the owner of certain real estate (the “Property”) situated at 69 Adams Street, so-called, in Biddeford, the Property is currently designated as Tax Map 38, Lot 296, and contains approximately 1.54 acres. Owner desires to transfer to Adams Point, LP (the “Developer”) who intends to develop the Property as a 39 unit affordable housing building for families on the Property. The description of the Property is shown on the plan entitled “Adams Point Housing – Biddeford, ME; Existing Conditions” prepared by Oak Point Associates as revised though [DATE TBD], attached hereto as EXHIBIT A; and

WHEREAS, Owner has applied for and obtained approval to re-zone the Property pursuant to the Contract Zoning provisions of the Zoning Ordinance of the City of Biddeford to create Contract Zone 19; and

WHEREAS, the parties are entering into this Agreement to provide written contractual evidence of the agreement of the parties and the terms and conditions of the Contract Zone.

NOW, THEREFORE,

in consideration of the mutual agreements hereinafter set forth and in consideration of the granting of the zoning ordinance change, the parties agree as follows:

1. **Development of the Property.** Owner agrees that in the event it shall transfer title to Developer, it shall require as a condition of sale that the Developer or its assignee approved by the Biddeford Planning Board or such other municipal board or committee having jurisdiction (the “Approved Assignee”) shall develop the Property in accordance with the following provisions and conditions:
 - A. Findings of Fact and Recommendations of the City of Biddeford Planning Board attached hereto as EXHIBIT B; and
 - B. Materials and plans entitled “Adams Point Housing”, prepared by Oak Point Associates and consisting of 10 pages attached hereto as [SIGNATURE SHEET OF SITE PLAN APPLICATION] of which contains the signatures of the Biddeford Planning Board members and will be duly recorded in the York Registry of Deeds.
2. **Failure to Complete Development.** In the event the Developer, or its Approved Assignee, shall fail to commence significant construction of the improvements within four (4) years of the effective date of the Contract Zone and shall complete construction within seven (7) years of the effective date of the Contract Zone, the Contract Zone granted hereby shall automatically

be void and the Property shall revert to the zoning classification of the abutting properties. Significant commencement of construction shall mean the installation of all infrastructure improvements and grading within the limits of the Project.

In the event that the zones have changed, each portion of the Property shall revert to the zoning classifications of the abutting properties. In the event the changed abutting properties shall have more than one zoning classification, the Property shall become part of the more restrictive abutting zone.

3. **Construction and Effect.** This agreement shall be construed in accordance with the laws of the State of Maine and shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the parties have caused this instrument to be signed all as of the day and date above written.

Witness:

ADAMS POINT, LP

By: _____
Guy M. Gagnon, Member

SOUTHERN MAINE AFFORDABLE HOUSING

By: _____
Guy M. Gagnon, President

CITY OF BIDDEFORD

By: _____
James Bennett, Its Manager

EXHIBIT B

Findings of Fact and Recommendations of the City of Biddeford Planning Board

To: Mayor Alan Casavant
Members of the Biddeford City Council

The Planning Board of the City of Biddeford has met and reviewed the Request for Contract Zone submitted by Adams Point, LP and Southern Maine Affordable Housing, with respect to property located at 69 Adams Street in Biddeford. The property is composed of the property currently designated as Tax Map 38, Lot 296 and contains approximately 67,082 square feet (1.54 acres). The Project will involve the construction of 39 total family housing units and 35 parking spaces. In addition to the creation of a Contract Zone, it will be necessary for the Project to be further reviewed under the site plan review procedures of the Biddeford Zoning Ordinance as well as the Maine Department of Environmental Protection.

Upon review, the Planning Board of the City of Biddeford makes the following findings of fact:

- A. The proposed contract zone as hereinafter set forth is consistent with the Comprehensive Plan of the City of Biddeford in that the area to be developed is located in a section of the City of Biddeford which is currently developed for large scale uses such as municipal offices, medical offices, office buildings, higher-density residential housing, and elderly care support facilities; and
- B. The proposed residential use is consistent with the existing or permitted uses within the original zone that is, the existing MSRD2 zone which provides for areas of medium density residential development; and
- C. The proposed zone change shall meet all of the area, front yard, side yard, rear yard and height requirements of the proposed contract zone; and
- D. The proposed zone will not create unreasonable traffic congestion on contiguous or adjacent streets, provided anticipated improvements required by various governmental approvals are constructed; and
- E. The proposed zone change and use authorized includes provisions for providing and maintaining adequate:
 - 1. Utility services; and
 - 2. Sewage disposal; and
 - 3. Drainage; and
 - 4. Solid waste disposal; and
 - 5. Access; and

6. Parking and loading; and
 7. All other necessary site improvements; and
-
- F. The proposed use will conform to the general character of the neighborhood in that the materials to be used, style of buildings, fences, plantings and the like are compatible with the character of the neighborhood; and
 - G. Insofar as practicable, the landscaping will be preserved in its natural state; and
 - H. There will be sufficient setbacks of structures and screening to provide an adequate visual and sound barrier; and
 - I. Off-street parking facilities are sufficiently screened from view of surrounding properties; and
 - J. There will be no significant adverse effect resulting from the proposed use and the proposed zone change upon the public health, safety and general welfare of the neighborhood.

The Planning Board of the City of Biddeford specifically finds there is a demonstrated need for the type of housing to be constructed which is intended to be for families of personnel employed by businesses located in the neighborhood. While Biddeford does have an existing rental housing stock, the units in this building will be affordable units specifically for families in the community.

The Planning Board of the City of Biddeford therefore recommends that the Request for Zone Change be affirmatively acted upon by the City Council.

The Board recommends that the real estate depicted on the Materials and plans entitled “Adams Point Housing-Biddeford, ME; Site Plan”, prepared by Oak Point Associates and consisting of 10 pages attached hereto as Exhibit A, be rezoned pursuant to the provisions of Article XVII, Section 3 of the Zoning Ordinance of the City of Biddeford to a zone which is labelled Contract Zone 19 (CZ-19).

CZ-19 shall provide for the following:

1. The permitted uses in the zone shall include the multifamily apartment building containing no more than 39 units of housing on the property.
2. The minimum lot size for each unit shall be 1,900 square feet. All buildings shall be located as ultimately approved by the Biddeford Planning Board as a part of its separate review under the Site Plan Review standards of the City of Biddeford Zoning Ordinance.
3. No building or structure as located and constructed shall exceed 60 feet in height or a maximum of five (5) stories. Height shall be as defined as the vertical distance from grade to top of the highest roof beams of a flat roof, excluding any parapets for elevators, roof access, or the screening of mechanical equipment.
4. The minimum required parking in the zone shall be 0.75 parking spaces per dwelling unit.

In consideration of such Contract Zone Change the Applicant agrees to use Applicant's (or the Developer's) best efforts to:

1. Construct thereon a maximum of 39 units of multifamily residential housing, all in accordance with the aforesaid Plan.
2. It shall be a condition of this Contract Zone Change that the Applicant shall undertake significant commencement of construction within 4 years of the effective date of the Zone Change and shall complete construction within 7 years of the effective date of the Zone Change. Significant commencement of construction shall mean the installation of all infrastructure improvements and grading within the limits of the Project.

In the event Applicant shall not comply with the provisions of this paragraph, the Zone Change granted hereby shall automatically be void and the property shall revert to the zoning classification that the Property was in of the date of the Contract Zone Agreement. In the event that the zones have changed, the property shall revert to the zoning classifications of the abutting properties. In the event the abutting properties shall have more than one zoning classification, the property shall become part of the most restrictive abutting zone.

City of Biddeford Planning Board

_____, 2021

By: _____
Its Chairman Duly authorized

The undersigned Applicant agrees with the City of Biddeford to be bound by the terms, conditions and provisions of this Approval, if the zone change is enacted

_____, 2021

ADAMS POINT, LP

By: _____

Guy M. Gagnon, Member

SOUTHERN MAINE AFFORDABLE HOUSING

By: _____

Guy M. Gagnon, Executive Director

EASEMENT AGREEMENT

KNOW ALL PERSONS BY THESE PRESENTS, that SOUTHERN MAINE AFFORDABLE HOUSING, a Maine nonprofit corporation with a place of business in Biddeford, Maine (the "Grantor"), FOR VALUABLE CONSIDERATION, hereby GRANTS to ADAMS POINT LP, a Maine limited partnership with a place of business and mailing address of 22 South Street, Biddeford Maine 04005, and its successors and assigns (collectively the "Grantee") a perpetual, nonexclusive easement over, under and across a portion of Grantor's land in Biddeford, York County, Maine, described in a deed to Grantor recorded in the York County Registry of Deeds in Book 16555, Page 44 ("Grantor's Land"), said portion of Grantor's Land being a strip of land abutting the northwesterly sideline of Grantor's Land running from the northerly corner of Grantor's Land and southerly boundary of Grantee's Land to the southerly boundary of Grantor's Land and the northerly boundary of Birch Street (the "Easement Area"). The Easement Area varies in width from approximately 5 to 20 feet wide and is shown on the site plan attached as Exhibit A. This easement is for the benefit of land of the Grantee as described in a deed from Southern Maine Affordable Housing to Grantee of near date recorded in the York County Registry of Deeds in Book_____, Page _____ ("Grantee's Land").

The easement granted herein is a perpetual easement and right of way in common with Grantor and Grantor's tenants, invitees, and successors and assigns, for ingress and egress by foot and emergency motor vehicle over the Easement Area to Grantee's Land from Birch Street, and for the installation, maintenance, repair and replacement of all utilities, at Grantee's expense, necessary for the use of Grantee's Land. In addition, Grantee shall have the right, at Grantee's sole cost and expense, to construct a sidewalk, plant trees, delineate emergency access areas and add shoulders along the Easement Area. The easement granted herein is to be shared with Grantor and Grantor's tenants, invitees, and successors and assigns, who may use the easement area in common with Grantee and Grantee's tenants and invitees, for pedestrian and emergency vehicle ingress and egress from Birch Street onto Grantor's Land. Neither party shall park motor vehicles within the Easement Area or otherwise obstruct or impede the other's use of the Easement Area.

Grantee shall have primary responsibility for maintaining the Easement Area (including the sidewalk to be built by Grantee and utilities installed by Grantee) in good condition, including, without limitation, plowing, sanding and salting, repair and replacement of pavement and striping, maintenance, repair and replacement of all utilities and the like.

The parties agree that: (i) during all times that either party is performing maintenance or work in the Easement Area, the parties shall carry, and shall cause their respective contractors to carry, liability insurance in commercially reasonable amounts, and (ii) each of Grantor and Grantee shall indemnify, defend and hold harmless the other and the other's partners, tenants and secured lenders, from and against any and all loss, costs, damage, liability and claims for personal injury (including death) or property damage arising from or relating to the exercise of their respective rights under this Agreement, such indemnity to include reasonable enforcement costs, including reasonable attorneys' fees.

TO HAVE AND TO HOLD the aforegranted and bargained easement, with all privileges and appurtenances thereof, to the Grantee and its successors and assigns, to its and their use and behoof, forever.

IN WITNESS WHEREOF, Grantor has caused this Easement Agreement to be signed and sealed as of the ____ day of _____, 2021.

WITNESS:

SOUTHERN MAINE AFFORDABLE
HOUSING, Grantor

By: _____
Guy M. Gagnon, its President

STATE OF MAINE
CUMBERLAND, ss.

_____, 2021

PERSONALLY APPEARED the above named Guy M. Gagnon, President of Southern Maine Affordable Housing as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said nonprofit corporation.

Before me,

Attorney-at-Law/Notary Public

Printed Name: _____

Commission expires: _____

[remainder of page left blank intentionally—signatures continue on next page]

IN WITNESS WHEREOF, Grantee has caused this Easement Agreement to be signed and sealed as of the ____ day of _____, 2021.

WITNESS:

ADAMS POINT LP, Grantee

BY: ADAMS POINT GP LLC, its
General Partner

By: _____
Guy M. Gagnon, its Manager

STATE OF MAINE
CUMBERLAND, SS.

_____, 2021

Personally appeared the above-named Guy M. Gagnon, Manager of Adams Point GP LLC, General Partner of Adams Point LP, as aforesaid, and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said limited liability company and limited partnership.

Before me,

Attorney-at-Law/Notary Public
Printed Name: _____
Commission expires: _____



3. Locus Deed and Draft Fire Lane Easements

SOUTHERN MAINE AFFORDABLE HOUSING

22 SOUTH STREET
BIDDEFORD, MAINE 04005

July 27, 2021

Roman Catholic Bishop of Portland
510 Ocean Avenue
Portland, ME 04103
Attn.: Denis Lafreniere, Jr.
Director - Office of Property Management

RE: Grant of easement

Dear Denis:

This letter confirms our mutual understanding concerning the grant of a permanent and perpetual easement by the Roman Catholic Bishop of Portland, a corporation sole ("RCBP") to Southern Maine Affordable Housing, a Maine nonprofit corporation, or its designated successor (collectively "SMAH") for underground utilities, pedestrian access and limited emergency access over a 20foot strip of land shown on the plan attached hereto as Exhibit A. The easement shall run with and benefit as an appurtenant easement the abutting land of SMAH, which land SMAH expects to develop as affordable rental housing.

We have agreed upon the following terms:

1. SMAH will pay RCBP the sum of \$40,000 at the time the easement, in the form agreed upon by SMAH and RCBP, is executed and delivered by RCBP to SMAH.
2. All of the following work within the easement area shall be done at the sole expense of SMAH, during the summer months when RCBP's school is not in regular session:
 - construction of 15foot wide pathway within 20foot easement, with appropriate underlayment and impervious surface.
 - Installation of a new fence along the pathway in the easement area to match the existing black chain link fence recently installed at school yard.
 - Moving of sheds and shifting over of school's play equipment.
 - Addition of new site lighting along the pathway, using lighting satisfactory to the RCBP.

Roman Catholic Bishop of Portland

July 27, 2021

Page 2

- Removal of existing brush, etc. and planting new trees and shrubbery within easement area.
- Repair of any pavement damage to schoolyard, to the sole satisfaction of the RCB.

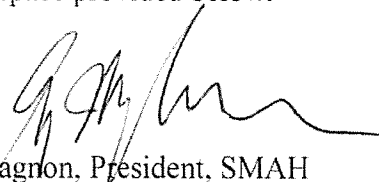
All terms of the easement shall be consistent with the terms expressed herein and otherwise mutually acceptable to both parties and shall contain a commercially reasonable indemnity provision in favor of RCBP for negligent acts or omissions by SMAH, its residents and guests. The easement shall be conveyed with good and marketable title free and clear of liens, claims or encumbrances. SMAH shall be obligated to maintain the easement area, including without limitation, fence maintenance, tree maintenance, winter maintenance, maintenance of the pathway, and lighting maintenance and repair. SMAH shall be obligated to pay on an ongoing basis for the cost of electrical service for the lighting of the path. SMAH may assign its rights and obligation in this letter, and the easement and associated obligations may be assigned to and in such case shall be assumed by, an affiliate of SMAH, provided that the affiliate is the party owning the land to be benefitted by the easement.

SMAH is proceeding with development plans for an affordable rental housing project to be built on land that will have the benefit of the easement and expects to begin and substantially complete construction on the above improvements in the easement area in the summer of 2023. The improvements in the easement area shall be completed to the reasonable satisfaction of the RCBP.

RCBP's obligation to convey the easement is conditional upon RCBP's satisfaction with the final design of the easement improvements and with the terms of affordable housing development approval by the City of Biddeford.

If this letter is satisfactory, please have it signed in the space provided below.

Sincerely,

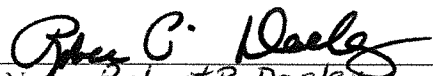


Guy M. Gagnon, President, SMAH

SEEN AND AGREED TO:

ROMAN CATHOLIC BISHOP OF PORTLAND

By:



Name: Robert P. Deeley
Title: Bishop of Portland

Milda A. Castner
Scott M. Edmunds
William J. Gallitto, III
Britton R. Garon
Michael W. Macleod-Ball
James S. Mundy
Sarah B. Neault



February 16, 2021

Durward W. Parkinson
Erin E. Sherman
Of Counsel
Jonathan Bangs
Barbara I. Belik
Christian L. Barner
In Memoriam
Wayne T. Adams

Guy M. Gagnon, President
Southern Maine Affordable Housing
22 South Street
Biddeford, ME 04005

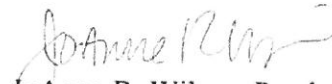
RE: 69 Adams Street, Biddeford, Maine

Dear Mr. Gagnon:

Enclosed is the original Quitclaim Deed that was electronically recorded with the York County Registry of Deeds.

If you should have any questions, please feel free to contact me.

Sincerely yours,


JoAnne R. Wilson, Paralegal

Enclosure

Maine R.E. Transfer Tax Paid

DLN 1002040123593

QUITCLAIM DEED

DIANE MORENCY of Wells, Maine and RAYMOND A. MORENCY of Lyman, Maine

for consideration paid, grants to

SOUTHERN MAINE AFFORDABLE HOUSING (SMAH), a Maine nonprofit corporation

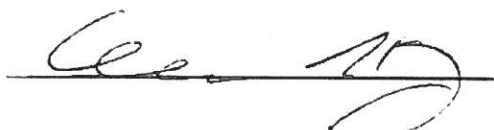
with a place of business located at 22 South Street, Biddeford, Maine 04005, without Covenants, the following described real property in the City of Biddeford, County of York and State of Maine:

See Exhibit A attached hereto and made a part hereof

Also hereby conveying all rights, easements, privileges, and appurtenances, belonging to the premises hereinabove described.

WITNESS our hands and seals this 30th day of November, 2020.

WITNESS


DIANE MORENCY


RAYMOND A. MORENCY

State of Maine
County of York, ss.

Personally appeared before me DIANE MORENCY and RAYMOND A. MORENCY, and acknowledged the foregoing instrument to be their free act and deed on November 30, 2020.

Before me,


Notary Public / Attorney-at-Law
Print Name: William S. Kay
My commission expires: _____

DLN 1002040123593

QUITCLAIM DEED

DIANE MORENCY of Wells, Maine and **RAYMOND A. MORENCY** of Lyman, Maine

for consideration paid, grants to

SOUTHERN MAINE AFFORDABLE HOUSING (SMAH), a Maine nonprofit corporation

with a place of business located at 22 South Street, Biddeford, Maine 04005, without Covenants, the following described real property in the City of Biddeford, County of York and State of Maine:

See Exhibit A attached hereto and made a part hereof

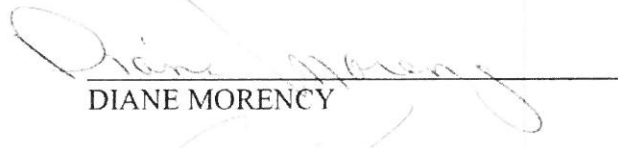
Also hereby conveying all rights, easements, privileges, and appurtenances, belonging to the premises hereinabove described.

WITNESS our hands and seals this 30th day of November, 2020.

WITNESS



DIANE MORENCY



RAYMOND A. MORENCY

State of Maine
County of York, ss.

Personally appeared before me **DIANE MORENCY** and **RAYMOND A. MORENCY**, and acknowledged the foregoing instrument to be their free act and deed on November 30, 2020.

Before me,



Notary Public / Attorney-at-Law

Print Name: William E. Kay

My commission expires: _____

EXHIBIT A
(69 Adams Street, Biddeford)

A certain lot or parcel of land with the buildings thereon, located off Adams Street in the City of Biddeford, County of York and State of Maine, being bounded and described as follows:

BEGINNING at an iron pipe set on the southerly side of Adams street at the northwest corner of land now or formerly of Harvey, thence southeast $40^{\circ}05'11''$ a distance of 202.5 feet along said land of Harvey to an iron fence post; thence $S46^{\circ}32'16''W$ a distance of 225.08 feet to an iron fence post and land of Parish Place Association; thence $N41^{\circ}13'52''W$ a distance of 160.96 feet along said land of Parish Place Association to an iron pipe and land of St. Joseph School; thence $N36^{\circ}48'14''W$ a distance of 171.52 feet along said land of St. Joseph School to an iron fence post and land of C.M. Cimino Realty Inc.; thence $N70^{\circ}07'26''E$ a distance of 194.27 feet along said land of Cimino Realty to an iron pipe set at the northwest end of Adams Street, thence $S40^{\circ}30''E$ a distance of 50 feet along the end of Adams Street to an iron pipe set at the southwesterly end of Adams Street; thence $N49^{\circ}30'E$ a distance of 35.41 feet along said Adams Street to the point of beginning.

TOGETHER WITH that certain easement set forth in the deed from Raymond A. Morency and Diane Morency and the Roman Catholic Bishop of Portland, dated December 24, 2001 and recorded in the York County Registry of Deeds at Book 11252, Page 66

For title reference see Deed given by Diane Morency and Raymond A. Morency as tenants-in-common to Diane Morency and Raymond A. Morency as Joint Tenants, which deed was recorded in the York County Registry of Deeds in Book 17897, Page 243 on February 20, 2019.

28592

KNOW ALL MEN BY THESE PRESENTS, that it, the Roman Catholic Bishop of Portland, a body politic and corporation sole, created and existing under the laws of the State of Maine, and having its chancery in Portland, County of Cumberland and State of Maine, being the owner in fee simple of certain lands located in the City of Biddeford, County of York and State of Maine, and described as follows, viz:

Being a portion of the premises conveyed to the Grantor herein on June 20, 1929, and recorded in the York County Registry of Deeds in Book 2025, at Page 383 of the York County Registry of Deeds.

Said property is primarily used as a playground for school children and is situated on Birch Street in Biddeford and consists of an area approximately 15' wide and 205' in length along and adjacent to the property known as Parish Place and runs from said Birch Street to the property of Raymond A. Morency and Diane Morency along the property line of the said Roman Catholic Bishop of Portland at St. Joseph's Parish, Biddeford.

In consideration of One Dollar (\$1.00) and other valuable considerations paid by Raymond A. Morency and Diane Morency, both of Wells, said County and State, the receipt whereof is hereby acknowledged does hereby give, grant, sell and quit-claim to said Raymond A. Morency and Diane Morency, their heirs and assigns, the rights and easements hereinafter set forth which are to be exercised over the above described 15 x 250' strip parcel of land as follows: To enter upon, excavate, lay, relay, remove, repair and maintain, an underground water pipe and main and all appurtenances thereto belonging for the purpose of installing, connecting and operating a water line across and along the boundary line of property owned by the Grantor in Biddeford, Maine.

This conveyance is subject to the Grantee's agreement and covenant to promptly restore the surface of the Grantor's land to its prior condition after an excavation or disturbance to said surface in connection with the exercise of the rights, privileges and easements herein granted, such restoration to include, without limitation, regrading, regrass-seeding, and reasphalting of said surface as the Grantor shall direct.

Provided further, anything herein to the contrary notwithstanding, the Grantor, its successors and assigns, does hereby reserve the right of ingress and egress at all times to and from the subject premises and nothing herein granted by the Grantor to the Grantee is intended or in fact shall authorize a foreclosure, impediment or barrier to free passage of Grantor, its successors and assigns, to and from, over and upon the subject premises.

MAINE REAL ESTATE TRANSFER TAX PAID

12

TO HAVE AND TO HOLD the said rights, privileges and easements to said Raymond A. Morency and Diane Morency, their heirs and assigns forever.

IN WITNESS WHEREOF, it, the said Roman Catholic Bishop of Portland, has caused this easement to be executed this 19th day of July, A.D. 1988.

SIGNED, SEALED AND DELIVERED
IN THE PRESENCE OF

ROMAN CATHOLIC BISHOP OF PORTLAND

Joseph Ford
Witness

By: Edward C. O'Leary
Edward C. O'Leary, Roman Catholic
Bishop of Portland

STATE OF MAINE
Cumberland, ss.

Personally appeared the above-named Edward C. O'Leary, Roman Catholic Bishop of Portland, and acknowledged the foregoing instrument to be his free act and deed and the free act and deed of the said corporation sole.

Before me,

Ann P. Foley
Notary Public
Ann P. Foley

MY COMMISSION EXPIRES
JULY 31, 1989

RECEIVED YORK, SS.

1988 JUL 13 AM 10:03

RECORDED REGISTRY OF DEEDS

ATTEST: Ann M. Ponzetti
REGISTER

QUITCLAIM WITH COVENANT DEED

KNOW ALL MEN BY THESE PRESENTS,

THAT, we, **Raymond A. Morency** and **Diane Morency**, of Wells, County of York and State of Maine, in consideration of One Dollar (\$1.00) and other valuable considerations, paid by the **Roman Catholic Bishop of Portland**, a corporation sole and body politic with a Chancery at 500 Ocean Avenue, Portland, Maine, the receipt whereof we do hereby acknowledge, do hereby give, grant, and convey unto the said Roman Catholic Bishop of Portland, its successors and assigns forever, the following described premises:

See Exhibit A.

The Roman Catholic Bishop of Portland, a corporation sole, hereby enters into a COVENANT with Raymond A. Morency and Diane Morency that during any period of its ownership and control of the premises, it will reserve an area 800 square feet on the premises to be used for location of a religious grotto, to be accessible for veneration and prayer by the Roman Catholic faithful. The Roman Catholic Bishop of Portland in its discretion may from time to time relocate the said 800 square foot area for a grotto onto another portion of the premises. The premises are conveyed SUBJECT TO A FURTHER COVENANT INTENDED TO RUN WITH THE LAND that if the Roman Catholic Bishop of Portland transfers the premises, a 800 square foot grotto area shall remain on the premises, accessible for veneration and prayer, in such location as the Roman Catholic Bishop of Portland, at the time of such transfer, directs, or if no direction is provided at the time of such transfer, in such location as the grotto is then located.

The premises are conveyed SUBJECT TO THE RESTRICTION, intended to last for so long as the Roman Catholic Bishop of Portland owns and operates a school on adjoining property, that the Roman Catholic Bishop of Portland, shall not transfer ownership of the premises. This restriction shall automatically terminate of its own accord at such time as the Roman Catholic Bishop of Portland may cease to own and operate the said school, after which time any transfer of the premises shall be free of this restriction.

TO HAVE AND TO HOLD, the aforegranted and bargained premises, with all the privileges and appurtenances thereof, to the said Roman Catholic Bishop of Portland, its successors and assigns, to its and their use and behoof forever.

MAINE R.E. TRANSFER TAX PAID

EXHIBIT A

A certain lot or parcel of land with the buildings thereon, located off Adams Street in the City of Biddeford, County of York and State of Maine, being bounded and described as follows:

BEGINNING at an iron pipe set on the southerly side of Adams Street at the northwest corner of land now or formerly of Harvey, thence southeast $40^{\circ}05'11''$ a distance of 202.5 feet along said land of Harvey to an iron fence post; thence $S46^{\circ}32'16''W$ a distance of 225.08 feet to an iron fence post and land of Parish Place Association; thence $N41^{\circ}13'52''W$ a distance of 160.96 feet along said land of Parish Place Association to an iron pipe and land of St. Joseph School; thence $N36^{\circ}48'14''W$ a distance of 171.52 feet along said land of St. Joseph School to an iron fence post and land of C.M. Cimino Realty Inc.; thence $N70^{\circ}07'26''E$ a distance of 194.27 feet along said land of Cimino Realty to an iron pipe set at the northwest end of Adams Street, thence $S40^{\circ}30''E$ a distance of 50 feet along the end of Adams Street to an iron pipe set at the southwesterly end of Adams Street; thence $N49^{\circ}30'E$ a distance of 35.41 feet along said Adams Street to the point of beginning.

FOR SOURCE OF TITLE reference may be had to deed from the Servants of the Immaculate Heart of Mary, aka Les Servantes du Coeur Immacule de Marie, to Raymond A. Morency and Diane Morency, dated July 1, 1987, and recorded in the York County Registry of Deeds at Book 4365, Page 263.

ALSO conveying all right, title and interest in the easement set forth in the deed from the Roman Catholic Bishop of Portland to Raymond A. Morency and Diane Morency, dated July 8, 1988, and recorded in the York County Registry of Deeds at Book 4771, Page 317.

And we do covenant with the said Grantee, its successors and assigns, that we shall and will Warrant and Forever Defend the same to the said Grantee, its successors and assigns against the lawful claims and demands of all persons claiming by, through or under us.

IN WITNESS WHEREOF, we, the said Raymond A. Morency and Diane Morency, have hereunto set our hand and seal this 24th day of December, 2001.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF

John P. Kelly

John P. Kelly

Raymond A. Morency
Raymond A. Morency
Diane Morency
Diane Morency

STATE OF MAINE
Cumberland County, SS. Dec 24, 2001

Then personally appeared the above named Diane Morency and acknowledged the above instrument to be her free act and deed.

Before me,

Thomas R Kelly

Notary Public Attorney At Law Bar Roll No. 7555
Thomas R Kelly

STATE OF MAINE
Cumberland County, SS. Dec 24, 2001

Then personally appeared the above named Raymond A. Morency and acknowledged the above instrument to be his free act and deed.

Before me,

Thomas R Kelly

Notary Public Attorney At Law, Bar Roll No. 7555

RECEIVED YORK S.S. Thomas R Kelly

2001 DEC 31 AM 10:00

ATTEST: *John M. Mease*
REGISTER OF DEEDS

*Robinson Haysan + M
PO Box 568
Pitts, Me 04112-0568
JP*

KNOW ALL MEN BY THESE PRESENTS,

THAT, the **Roman Catholic Bishop of Portland**, a body politic and corporation sole, created and existing under the laws of the State of Maine, and having its chancery in Portland, County of Cumberland and State of Maine, in consideration of One Dollar (\$1.00) and other valuable considerations paid by Diane Morency, of Wells, Maine, and Raymond A. Morency of Alfred, Maine, the receipt of which consideration it does hereby acknowledge, does hereby remise, release, and convey, and forever quit-claim unto the said **Diane Morency and Raymond A. Morency**, as tenants-in-common, their successors and assigns, the following described real estate:

See attached Exhibit A.

To have and to hold the same, together with all the privileges and appurtenances thereunto belonging to the said Grantees, their successors and assigns forever.

The Grantor covenants with the Grantees, their heirs and assigns that it will warrant and forever defend the premises to the said Grantees, their heirs and assigns forever, against the lawful claims and demands of all persons claiming by, through or under the Grantor.

In Witness Whereof, the said Roman Catholic Bishop of Portland, a body politic and corporation sole, has caused this instrument to be sealed with its corporate seal and signed in its corporate name by Richard Malone, Roman Catholic Bishop of Portland, thereunto duly authorized, according to the discipline and government of the Roman Catholic Church and the

397 Robinson, Kriger & McCallum
P.O. Box 568
E Portland ME 04112
MAINE R.E. TRANSFER TAX PAID

laws of the State of Maine, this 11th day of January, in the year of our Lord
Two Thousand and Seven.

SIGNED, SEALED AND DELIVERED
IN PRESENCE OF

ROMAN CATHOLIC BISHOP OF PORTLAND

Arthur J. Buscetta

By: Richard Malone
Richard Malone, Roman Catholic
Bishop of Portland

STATE OF MAINE
Cumberland, ss.

January, 11, 2007

Personally appeared the above named Richard Malone, Roman Catholic Bishop of
Portland, and acknowledged the above instrument to be his free act and deed in his said capacity,
and the free act and deed of said corporation sole.

Before me,

Carol A. Connolly
Notary Public

CAROL A. CONNOLLY
Notary Public, Maine
My Commission Expires November 1, 2012

SEAL

Exhibit A

A certain lot or parcel of land with the buildings thereon, located off Adams Street in the City of Biddeford, County of York and State of Maine, being bounded and described as follows:

BEGINNING at an iron pipe set on the southerly side of Adams Street at the northwest corner of land now or formerly of Harvey, thence southeast $40^{\circ}05'11''$ a distance of 202.5 feet along said land of Harvey to an iron fence post; thence $S46^{\circ}32'16''W$ a distance of 225.08 feet to an iron fence post and land of Parish Place Association; thence $N41^{\circ}13'52''W$ a distance of 160.96 feet along said land of Parish Place Association to an iron pipe and land of St. Joseph School; thence $N36^{\circ}48'14''W$ a distance of 171.52 feet along said land of St. Joseph School to an iron fence post and land of C.M. Cimino Realty Inc.; thence $N70^{\circ}07'26''E$ a distance of 194.27 feet along said land of Cimino Realty to an iron pipe set at the northwest end of Adams Street, thence $S40^{\circ}30''E$ a distance of 50 feet along the end of Adams Street to an iron pipe set at the southwesterly end of Adams Street; thence $N49^{\circ}30'E$ a distance of 35.41 feet along said Adams Street to the point of beginning.

TOGETHER WITH that certain easement set forth in the deed from Raymond A.

Morency and Diane Morency and the Roman Catholic Bishop of Portland, dated December 24, 2001 and recorded in the York County Registry of Deeds at Book 11252, Page 66.

FOR SOURCE OF TITLE, reference may be had to a certain deed from Raymond A.

Morency and Diane Morency, dated December 24, 2001 and recorded in the York County Registry of Deeds at Book 11252, Page 66. With respect to any and all covenants, obligations or restrictions previously established by and between the Grantees on the one side and the Grantor on the other side, whether personal or running with the land hereby conveyed, including all such matters set forth in the deed referenced next above, the Grantor and Grantees acknowledge by delivery and acceptance of this deed, their discharge, termination and as applicable, merger by deed.

END OF DOCUMENT

4. Winter Management Plan



Winter Management Plan
Site Plan/Subdivision Review Application
Adams Point
69 Adams Street
Biddeford, Maine 04005

August 2, 2021

Introduction:

A comprehensive winter management plan the Adams Point Apartments for the harsh Maine winters. Keeping the property at safe when the Maine winters set in is important to maintaining the safety of the residents and public.

Traffic & Pedestrian area:

The areas of vehicular traffic exist at the driveway from Adams Street and the parking area. There is an emergency fire access lane from Birch Street to the site that will also require all weather access. A pedestrian walk will be constructed from Adams Street to the building. Another walkway will be constructed from Birch Street to the Building. Interior walkways on the site will connect various doors at the building to the main pedestrian walkways.

Proactive Measures:

To assist in ice and snow removal we take the most proactive approach possible. Removing snow and ice as soon as possible manually with shovels or snow truck plows to keep the ice and snow at bay. The owner also shovels and plows frequently to minimize buildup or vehicle compaction. Taking these actions allows the owner to minimize our use of sand & salt on the traffic, access drives and building entrances.

Ice or Sand:

Both sand and salt will have some type of effect on the environment and assets, we use these “tools” in moderation to maintain the safety of the residents and the general public. Maine winters and activities around or during the storms will require a tailored solution. While an ice storm would require the ice-busting salt to maintain safe travel-way and walkways. Sand would be best for assisting in traction for hard-packed snow.

Ice Removal & Management:

For ice management, the owner uses both salt & sand depending on the “tool” needed for the specific situation. The access drive is sanded or salted a local subcontractor that’s familiar with the local ice management needs, specifics of our property and understands the owners’ interest in minimizing any impact on the environment or assets. The building entrances and sidewalks are maintained by personnel using the same tools and mindset as our subcontractor. Ice-melt is stored in bags at the facilities building.

Snow Removal & Management:

Storm meetings and communication are performed for each potential storm event. Maine winter storms come in a wide range of precipitation types and the team performing the snow removal must adjust a bit to achieve a positive outcome for each type of event. Examples of adjustment could be starting removal operations very early in the morning and plowing periodically through the storm and working late. Due to limited space on site, it is anticipated that removal of snow will be required when snow storage limits are reached.

5. Letter of Approval from Fire Department

jgagnon@oakpoint.com

From: Tansley, Greg <Greg.Tansley@Biddefordmaine.org>
Sent: Tuesday, September 14, 2021 1:02 PM
To: jgagnon@oakpoint.com
Cc: Brooks More; ggagnonbha@maine.rr.com; Eddy, Mathew; cdimatteo@longmeadowpla.com
Subject: FW: Adams Point

Hi Jack,

Following up on our Zoom Meeting from this morning, it appears Kevin is comfortable with the layout you had sent him. See below.

Please let me know if there is anything else I can help with.

Greg

Greg Tansley, AICP
City Planner
PO Box 586
Biddeford, ME 04005
207-284-9115
Greg.Tansley@Biddefordmaine.org

From: Duross, Kevin <kevin.duross@biddefordmaine.org>
Sent: Tuesday, September 14, 2021 11:29 AM
To: Tansley, Greg <Greg.Tansley@Biddefordmaine.org>
Subject: RE: Adams Point

Hi Greg,

I do not see any issue with the alternate layout. Access and turnaround is acceptable for our largest vehicle.

Thank you,

Kevin





From: Tansley, Greg <Greg.Tansley@Biddefordmaine.org>
Sent: Tuesday, September 14, 2021 11:24 AM
To: Duross, Kevin <kevin.duross@biddefordmaine.org>
Subject: FW: Adams Point
Importance: High

Hi Kevin,

We are trying to button up this project in advance of a September 29 Planning Board Meeting.

Our engineers have reviewed these plans and are comfortable with a slightly higher slope to the driveway (slightly over 10%) with a 3% slope for 50 feet at the landing as it comes into Adam's Street.

I was wondering if you have had a chance to review this? They have confirmed fire and emergency apparatus can access the site (see the turning template on the plan). This layout results in additional separation of the development sight from neighbors and reduces the amount of pavement which is good for stormwater.

Perhaps we can meet to discuss it if that helps? We want to make sure you are comfortable with the layout and design moving forward.

Please let me know.

Thanks,

Greg

Greg Tansley, AICP
City Planner
PO Box 586
Biddeford, ME 04005
207-284-9115
Greg.Tansley@Biddefordmaine.org

From: jgagnon@oakpoint.com <jgagnon@oakpoint.com>
Sent: Tuesday, September 14, 2021 11:15 AM
To: Tansley, Greg <Greg.Tansley@Biddefordmaine.org>
Cc: 'Brooks More' <BMore@spha.net>; ggagnonbha@maine.rr.com
Subject: FW: Adams Point
Importance: High

Jacques L Gagnon Jr. | Associate
TEL 207.283.0193 | CELL 207.216.2836 | FAX 207.283.4283
www.oakpoint.com | jgagnon@oakpoint.com



From: ggagnonbha@maine.rr.com <ggagnonbha@maine.rr.com>
Sent: Wednesday, September 1, 2021 11:46 AM
To: kevin.duross@biddefordmaine.org
Cc: Jacques Gagnon <jgagnon@oakpoint.com>
Subject: Adams Point
Importance: High

Kevin:

Short notice, but the city engineers threw us a curveball late last week asking for a change to the entry drive and parking lot layout with the focus being less impact on neighbors and more controlled entry into the site. It has some benefits and most importantly, still meets all the turning requirements for your equipment.

As you recall, Jack, from Oakpoint, and I had discussed the potential for a change with you recently and I believe you had endorsed our previous plan, not this exact one. We have planning board approval being requested tonight and were hoping to at least get your unofficial thoughts on the attached plan from the FD perspective. Our thought was that we could get a formal letter from you at some point in the future as a condition of approval or if you wanted to produce one now, we could present it tonight.

Again, sorry for short notice but we are under a very tight and important time line in order to get this affordable housing application submitted, with Planning Board approval, to Maine Housing by Sept 9th. Any assistance you can provide would be great.

Feel free to contact me with questions

Guy M. Gagnon
Biddeford Housing, Exec. Dir.
207-415-2939
bhousing.org

The contents of this e-mail message and any attachments are confidential and are intended solely for addressee. The information may also be legally privileged. This transmission is sent in trust, for the sole purpose of delivery to the intended recipient. If you have received this transmission in error, any use, reproduction or dissemination of this transmission is strictly prohibited. If you are not the intended recipient, please immediately notify the sender by reply e-mail or phone and delete this message and its attachments, if any.

Under Maine law, documents - including e-mails - in the possession of public officials or city employees about government business may be classified as public records. There are very few exceptions. As a result, please be advised that what is written in an e-mail could be released to the public and/or the media if requested.

6. Ability to Serve Letter from Maine Water Company



June 11th, 2021

Oak Point Associates
ATTN: Jacques Gagnon Jr., P.E., LEED AP
231 Main St
Biddeford, ME 04005

Re: Ability to Serve – Adam's Point – Southern Maine Affordable Housing

Dear Mr. Gagnon,

The Maine Water Company (MWC) has received your request for an Ability to Serve Determination on behalf of your client, Southern Maine Affordable Housing, for the property located 69 Adams Street, Biddeford, Maine for the above referenced project. The request indicates a plan at, Map 38 / Lot 296 to build a 39-unit family housing building. The expected domestic demand has been presented as 8,640 gallons per day (gpd) with a peak demand of 200 gallons per minute (gpm). The estimated fire demand is between 750 to 1000gpm. The complex is proposed to be served with public water and accessed from Birch Street through an existing waterline easement across an abutting parcel. The static pressure in the area is approximately **45 psi**. Based on the criteria that has been presented, MWC does have sufficient capacity in the area from the existing 12-inch main on Birch Street to serve this project. Additional infrastructure improvements are required at the expense of the developer to meet the overall needs of this project.

Conditions of Service

- A hydrant flow test must be conducted at the expense of the developer at the nearest hydrant to ensure adequate flows are available in the event of a fire.
- Documentation of the existing waterline easement must be provided before final approval.
- An easement for access and operation of all water service valves on this property must be signed, notarized and registered with the county registry before activation. MWC will draft and supply this document to be executed by the owner.
- Additional coordination with MWC is required before construction. Maine Water requires upfront payment for inspection and paperwork to be fully completed before any construction on waterworks materials.

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 MWC Terms and Conditions as well as material specifications. All appropriate paperwork must be completed and 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 Maine Public Utility 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

From: [Marcus Knipp](#)
To: jgagnon@oakpoint.com
Subject: RE: 69 Adams St - Biddeford - Request for Ability to Serve Letter
Date: Friday, June 11, 2021 2:37:25 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[Ability to Serve - 69 Adams St - Adams Point.pdf](#)

Hi Jack,

Attached is an ability to serve determination for your review. Also some screenshots showing approximate waterline location around the proposed Birch Street connection. (Locations of waterline infrastructure are only approximate and must be field verified prior to construction)





Let me know once a utility plan is proposed and I'll provide comments before moving to our final approval process.

Thanks,
Have a good weekend.

Marcus

Marcus Knipp, E.I.T.
Engineer



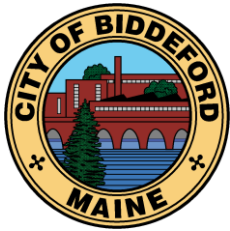
93 Industrial Park Road
Saco, ME 04072
Office: 207-294-6943
Cell: 207-468-2089

From: jgagnon@oakpoint.com <jgagnon@oakpoint.com>
Sent: Friday, June 11, 2021 9:58 AM
To: Marcus Knipp <Marcus.Knipp@MaineWater.com>
Subject: RE: 69 Adams St - Biddeford - Request for Ability to Serve Letter

Please note: THIS EMAIL ORIGINATED FROM AN EXTERNAL SOURCE.

Thanks!

7. Ability to Serve Letter from Tom Milligan Regarding Sanitary Sewer Service



City of Biddeford, Maine

City of Biddeford

Public Works Department / Engineering Division
P.O. Box 586 • 205 Main Street, Suite 301
Biddeford, ME 04005
Phone: (207) 284-9118 • Fax: (207) 571-0662

City of Biddeford, Maine
Wastewater Department
205 Main Street • PO Box 586 • Biddeford, Maine 04005-0586
Telephone 207 284-9118

Letter of Wastewater Treatment Plant Capacity to Serve

49 Adams Street Adams Point

Jacques Gagnon, PE
Oak Point Engineers
Main Street
Biddeford, Maine 04005

June 9, 2021

Brief description of project: **39 apartment units Adams Point Project**- Estimated flows: 8640 gpd.

Determination

You are proposing to build 39 apartment units on the subject parcel. You have indicated that previously there was a 32-34 rooming house in a single structure located on this lot.

The City of Biddeford Wastewater Department has reviewed the request to serve the above-described project. It has been determined that at this time the City has sufficient capacity at the City's Wastewater Treatment Facilities to serve the above described project. It is estimated that 8640 gpd of flow will be generated from the project. Changes to the project from that presented to this department may require a new review of the request for ability to serve. This determination will be effective for a period of one year from the date above.

Upon approval of the Planning Board the applicant must make application for sewer service. Flow amounts for the project will be determined at the time application is made and may or may not be the amount stated above. The applicant will be required to pay all fees including all impact fees based on the flow amount calculated at the time application is made and prior to the issuance of any building permits.

This Capacity to Serve Letter is intended only to state that the City of Biddeford Wastewater Treatment Plant Facility's ability to treat the flow from the above stated project once it is received at the treatment facility. The Planning Department, Engineering Department or other persons from the Wastewater Department may require further studies or documentation regarding the impact on the City's sewer collection system or its components.

205 Main Street, Biddeford, ME 04005 P: 207.284.9313 F: 207.571.0678 www.biddefordmaine.org

*The City of Biddeford is an equal opportunity provider. To file a complaint, write to
Human Resource Director, 205 Main Street Biddeford, ME 04005, or call (207) 286-0593.*

Thomas Milligan, PE
City Engineer
City of Biddeford Engineering Department
Tom.milligan@biddefordmaine.org
207-284-9118

CC: Jeff Demers, Public Works/Wastewater Director
Roby Fecteau, Code Enforcement
Greg Tansley, City Planner
Alex Buechner, Superintendent

8. Traffic Impact Study

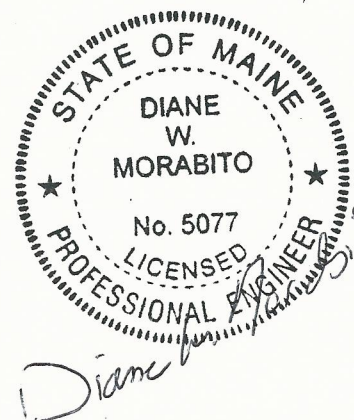
UPDATED TRAFFIC IMPACT STUDY
ADAMS POINT APARTMENTS
BIDDEFORD, MAINE

July 30, 2021

Prepared For:

Southern Maine Affordable Housing
22 South Street
Biddeford, Maine 04005

Prepared by:



ATFIC Company

40 Forest Falls Drive, Suite 2 • Yarmouth, Maine 04096 • +1.207.817.5440 • sewall.com • info@sewall.com

INTRODUCTION

The purpose of this report is to summarize a traffic impact study performed by James W. Sewall Company (Sewall) for the proposed Adams Point apartments in Biddeford, Maine. The site location, at the end of Adams Street, is shown on the map in Figure 1. There will be thirty-nine (39) affordable apartments in a five (5) story building. This report updates a previous study conducted by Sewall for thirty-three (33) units, dated April 19, 2021 to account for the increased units.

This report details the traffic analysis which determines the expected number of trips to be generated by the residential units and any off-site impacts on level of service or safety for local City of Biddeford approval purposes.

It is understood that construction of the apartments is expected to begin in 2022 with occupancy expected to be completed in the spring of 2023. Hence, 2023 was selected as the study year for traffic analysis purposes.

TRIP GENERATION ANALYSIS

The number of trips to be generated by the proposed apartments was estimated utilizing the latest Institute of Transportation Engineers (ITE) “Trip Generation, 10th edition”. Land use code (LUC) 221 – Multifamily Housing (mid-rise) was utilized on the basis of 39 dwelling units. The results are summarized below:

<u>Time Period</u>	ITE TRIP GENERATION
	<u>One-way Trips</u>
Weekday	212
Weekday AM Peak Hour	14
Entering	4
Exiting	10
Weekday PM Peak Hour	17
Entering	10
Exiting	7

The above results show that Adams Point apartments are expected to generate 212 one-way trips (106 roundtrips) on a daily basis (weekday). Fourteen (14) one-way trips will be generated in the AM peak hour with seventeen (17) during the PM peak hour. This level of traffic would not be expected to have a significant impact off-site on traffic operations beyond the site drive.

However, to assess level of service to meet the requirements of the Biddeford ordinances and to assure no capacity concerns, traffic analysis was conducted for the intersection of Adams Street and Jefferson Street. Given the residential use, with similar AM and PM volumes, both the weekday AM and PM peak hours were initially selected as analysis periods.

TRAFFIC VOLUMES

Turning movement/classification counts were conducted by Sewall during the weekday AM (7:00 – 9:00) and PM (3:00 – 6:00) peak hour periods at the intersection of Adams Street and Jefferson Street to determine existing volumes. The AM peak hour occurred from 7:45 to 8:45 while the PM peak hour occurred from 4:00 to 5:00 PM. The count records are included in the appendix. The counts were factored to 30th highest hour conditions using Maine Department of Transportation (MaineDOT) urban group mean factors. These volumes typically occur under peak summer conditions in July and August in Maine. The resulting 2021 summer volumes are shown in Figure 2. The results show that the PM peak hour volumes are approximately 55 % greater than the AM volumes. Given this and the limited trips expected to be generated by the apartments, the PM peak hour was selected as the analysis period.

The trip assignments for Adams Point were based upon the travel patterns recorded during the counts. The resulting trip assignments are shown in Figure 3. Based upon the trip assignments the new residential apartments are expected to have a minimal impact on off-site traffic operations. Generally, a project won't have an impact on traffic operations unless it generates in excess of 25 lane hour trips. Based upon the trip assignments, Adams point will generate a maximum of seven lane hour trips in the PM peak hour. Given these trip assignments the study area would typically only extend through the site drive intersection, but it was extended through the intersection of Jefferson Street to evaluate impact on nearby intersections.

Existing average annual daily traffic (AADT) data for the area was obtained from "Traffic Volume Counts, 2019 and 2014 Annual Reports", published by MaineDOT. This data is summarized below:

<u>Location Description</u>	Average Annual Daily Traffic				
	<u>2010</u>	<u>2013</u>	<u>2016</u>	<u>2018</u>	<u>2019</u>
Adams Street, south of Main Street	---	3410	3580	3990	3690
Jefferson Street, se of Washington St	---	5650	5680	---	5520
Alfred Street, sw of Pool Street	11770	---	11030	---	10440

<u>Location Description</u>	<u>2010</u>	<u>2013</u>	<u>2016</u>	<u>2018</u>	<u>2019</u>
Alfred Street, north of Union Street	---	11090	11030	---	11190
South Street, east of Route 1	---	3700	3540	---	---
South Street, west of Adams Street	---	930	870	---	710

As seen above, most locations showed declining or steady volumes during the longer-term nine-year period. Most locations also showed declining volumes for the most recent short-term period. Based upon this historical data, a conservative 1 % growth rate was utilized to project existing 2021 volumes to base 2023 conditions.

The City of Biddeford Planner was contacted to determine what other approved (but unbuilt) developments are expected to significantly impact Jefferson Street or Adams Street volumes, which need to be considered in the 2023 traffic analysis. The Planner identified The Riverdam and Draft Room project as the most recent. The Traffic Impact Study for the project was prepared by William Bray. Other development trips from previously approved projects, as well as the Riverdam project, were obtained from that study. These other development volumes are shown in Figure 4. The projected 2023 No Build volumes, based upon a 1 % traffic growth rate, with consideration of the other development projects, are shown in Figure 5. Lastly, the projected Build 2023 volumes for the PM peak hour analysis period are shown in Figure 6.

CAPACITY ANALYSIS

Traffic operations are evaluated in terms of level of service (LOS). Level of service is a qualitative measure that describes operations by letter designation. The levels range from A - very little delay to F - extreme delays. Level of service "D" is generally considered acceptable in urban locations while LOS "E" is generally considered the capacity of a facility and the minimum tolerable level. The level of service for unsignalized intersections is based upon average control delay per vehicle for each minor, opposed movement, as defined in the following table excerpted from the 2010 "Highway Capacity Manual":

Unsignalized Intersection Level of Service

<u>LOS</u>	<u>Delay Range</u>
A	< = 10.0 seconds
B	> 10.0 and <= 15.0
C	> 15.0 and <= 25.0
D	> 25.0 and <= 35.0
E	> 35.0 and <= 50.0
F	> 50.0

UNSIGNALIZED INTERSECTION ANALYSIS

The level of service (LOS) was determined for the unsignalized intersection of Adams and Jefferson Streets for existing 2021 and projected 2023 No Build and Build conditions using Synchro 10 and SimTraffic, the average of five (5) simulation runs. The results are provided in the appendix and are summarized below:

<u>Approach</u>	Adams Street & Jefferson Street PM Peak Hour Level of Service		
	Existing <u>2021</u>	No Build <u>2023</u>	Build <u>2023</u>
Jefferson Street Eastbound	A (0.2)	A (0.3)	A (0.2)
Jefferson Street Westbound	A (0.6)	A (0.8)	A (0.8)
Adams Street Northbound	A (5.9)	A (7.0)	A (7.0)
Adams Street Southbound	A (7.3)	A (8.3)	A (8.5)
Overall Intersection	A (3.4)	A (4.1)	A (4.2)

As seen above, Adams Street currently operates at a good LOS “A” during the PM peak hour with all approaches also at LOS “A”. The same level of service “A” is expected for all approaches under 2023 build volumes showing no significant delay. These results demonstrate the negligible impact off-site on traffic operations due to the new residential units, a 0.3 second increase in delay due to the increased volumes.

SAFETY ANALYSIS

ACCIDENT REVIEW

The Maine Department of Transportation uses two criteria to determine high crash locations (HCLs). The first is the critical rate factor (CRF), which is a measure of the accident rate. A CRF greater than one indicates a location which has a higher than expected crash rate. The expected rate is calculated as a statewide average of similar facilities.

The second criterion, which must also be met, is based upon the number of accidents that occur at a particular location. Eight or more accidents must occur over the three-year study period for the location to be considered a high crash location. The

MaineDOT Map Viewer was reviewed for any high crash locations within the vicinity of the site. Two high crash locations were identified for the three-year period (2017 – 2019) as noted below:

<u>Location Description</u>	<u># of Acc.</u>	<u>CRF</u>
Intersection of Adams and Jefferson Streets	8	2.67
Intersection of Jefferson and Washington Streets	11	3.69

Collision diagrams were obtained from MaineDOT for both intersections to determine if there are any accident patterns or trends, which could indicate a potentially correctable safety deficiency. The diagrams are evaluated as follows:

Intersection of Adams Street and Jefferson Street

There were four accidents in 2017, three in 2018 and one in 2019. Three were angle collisions exiting Adams Street northbound while one was an angle involving a southbound Adams Street vehicle. All angle collisions were attributed to failure to yield. Two of the accidents involved pedestrians being struck in two of the crosswalks. One vehicle lost control turning and struck an oncoming vehicle. The last collision was a single vehicle that struck a pole while turning.

A field review was conducted to determine if there were any physical deficiencies or sight distance restrictions contributing to the angle collisions exiting Adams Street. Assuming the 25-mph urban unposted speed limit, a minimum of 250' of sight distance is recommended. Sight distance from both Adams Street approaches exceeds 300' to the southeast. To the northwest the sight distance is approximately 200', to the intersection of South and Crescent Streets. Given that vehicles are turning onto Adams Street at a slower rate of speed this sight distance is likely adequate. To improve overall safety, especially for pedestrians, given this densely developed urban area, Sewall recommends that All-way stop control be implemented at this intersection.

The capacity analysis was repeated for the 2023 build volumes under all-way stop control. Those results are presented in the following table contrasted with the two-way stop results:

Adams Street & Jefferson Street		
Build PM Peak Hour Level of Service		
<u>Approach</u>	<u>Two-Way Stop</u>	<u>All-Way Stop</u>
Jefferson Street Eastbound	A (0.2)	A (5.9)
Jefferson Street Westbound	A (0.8)	A (6.3)
Adams Street Northbound	A (7.0)	A (5.0)
Adams Street Southbound	A (8.5)	A (6.2)
Overall Intersection	A (4.2)	A (6.1)

As seen above, all approaches and the intersection would remain at LOS “A” under all-way stop control. Queue lengths were also evaluated for 2023 Build volumes for both stop control options to assure that the change to all-way stop would not result in excessive queues. The results are summarized with the link lengths below:

Adams Street & Jefferson Street			
Build 2023 PM Peak Hour 95th Percentile Queues (Feet)			
<u>Approach</u>	<u>Link Length</u>	<u>Two-Way Stop</u>	<u>All-Way Stop</u>
Jefferson Street Eastbound	165	14	66
Jefferson Street Westbound	200	16	90
Adams Street Northbound	300+	44	42
Adams Street Southbound	140	120	92

As seen above, all projected queue lengths are contained within the existing link lengths creating no adjacent intersection interference concerns. The only approach where queue lengths are approaching the link length is southbound Adams Street. Under the all-way stop control option this queue length is reduced from 121 to 92 feet. Given these capacity and queue results, all-way stop control is recommended for the Adams Street and Jefferson Street intersection to improve safety and reduce crashes.

Intersection of Jefferson Street and Washington Street

There were five accidents in 2017 and six in 2018. No accidents were reported at the intersection in 2019. The intersection is equipped with an existing flashing beacon. Six of the collisions were angles exiting Washington Street northbound while the remaining five were angle collisions involving southbound Washington Street vehicles. Contributing causes were cited as failure to yield, excessive speed, and stop sign running.

A field review was also conducted of this intersection to see if any physical deficiencies are contributing to the accidents. The field review found generally adequate sight distances but noted that from the Washington Street approaches, there are some partial obstructions to sight lines, such as the flashing beacon pole and controller box combination and the fence line.

The recommended provision of all-way stop control at the adjacent Adams Street intersection may help to slow speeds on Jefferson Street and improve safety at this intersection as well given that these two intersections are just 250' apart. Given the provision of an existing flashing beacon and the proposed all-way stop at Adams Street, no other action is recommended at this intersection.

Updated accident data was obtained from MaineDOT for the more recent 2018 – 2020 3-year period. Based upon this most recent data, both of these locations are no longer HCLs. However, Sewall still recommends All-Way Stop control for the intersection of Adams Street and Jefferson Street given the pedestrian accidents that occurred there and since queue lengths are shown by the analysis to be reduced on southbound Adams Street.

SUMMARY AND RECOMMENDATIONS

The Adams Point apartments are expected to generate 14 to 17 one-way trips during peak hours. Given the traffic count results and the limited trip generation, the weekday PM peak hour was selected for the traffic analysis. Based upon the limited trip assignments, the study area was defined as extending from the site through the intersection of Jefferson Street to evaluate off-site impact on nearby intersections.

In terms of capacity, the unsignalized intersection of Adams Street and Jefferson Street currently operates at LOS "A" with all approaches also at LOS "A". LOS "A" is projected for all approaches and overall, under projected 2023 Build volumes showing no significant impact.

In terms of safety, there were two high crash locations within the study area at the time of the original study. Based upon a review of collision diagrams and a field review, Sewall recommends that the intersection of Adams Street and Jefferson Street be converted to All-way stop control. The intersection of Jefferson Street and Washington Street is equipped with a flashing beacon. The implementation of all-way stop control at Adams Street will likely also slow travel speeds at Washington Street improving safety there given that there is just 250' between these intersections. It is important to note that based

upon the most recent accident data, both locations are no longer classified as HCLs. However, Sewall still recommends All-Way Stop control for the intersection of Adams Street and Jefferson Street to improve pedestrian safety and reduce southbound queues on Adams Street.



Figure 1

Site Location Map

Adams Point Apartments

Biddeford, Maine





-- AM
(--) PM

AM Peak Hour: 7:45-8:45
PM Peak Hour: 4:00-5:00

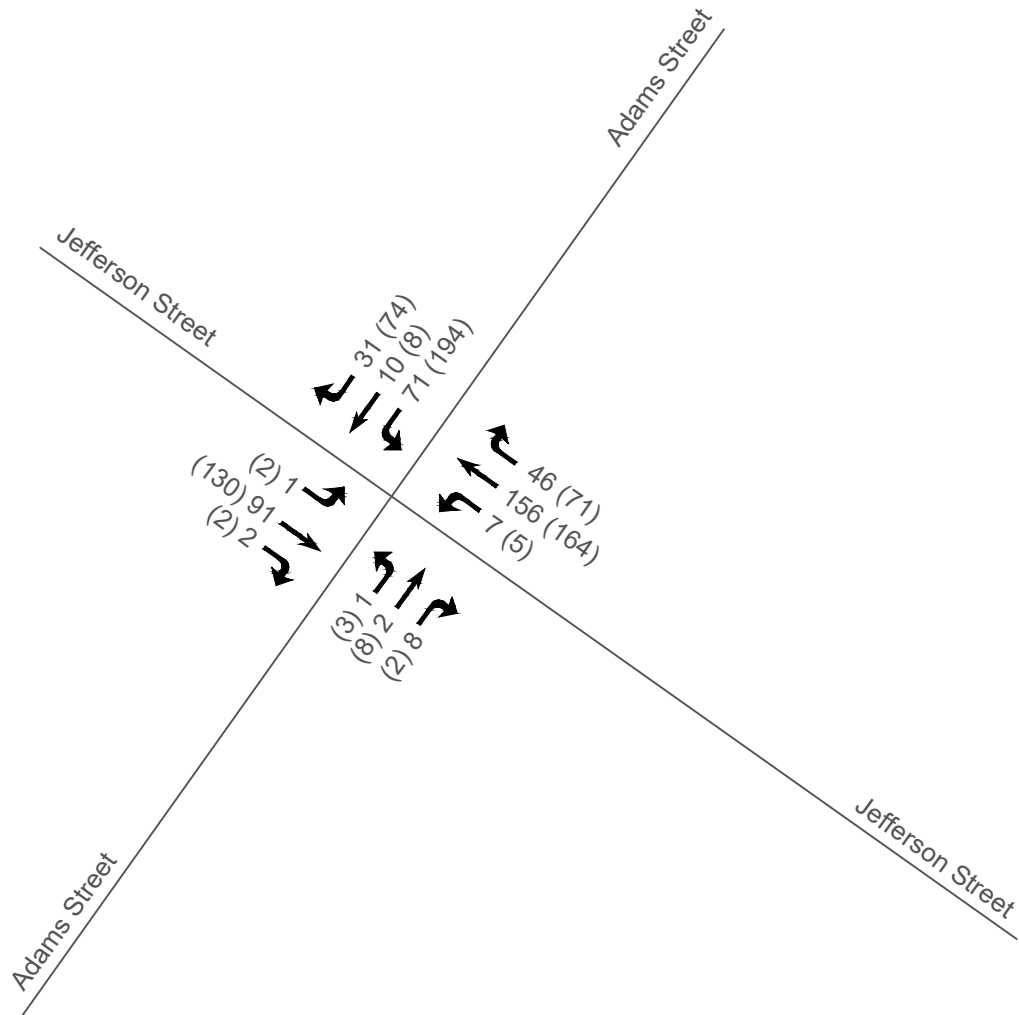


Figure 2

Existing 2021 Peak Hr Volumes

Adam's Point Apartments

Biddeford, Maine





(--> PM

Total Trips: 15
10 IN
7 OUT

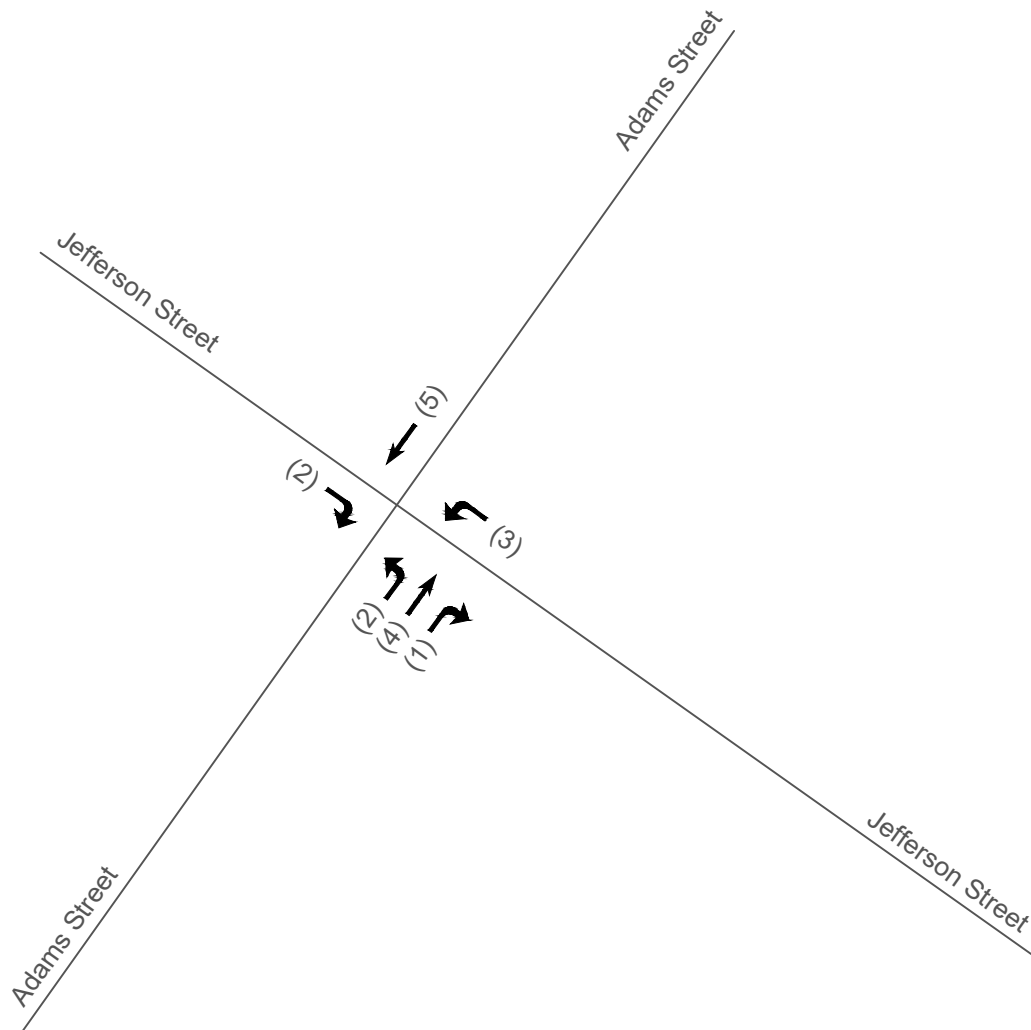


Figure 3

Trip Assignments - PM Peak Hr
Adam's Point Apartments
Biddeford, Maine





(--) PM

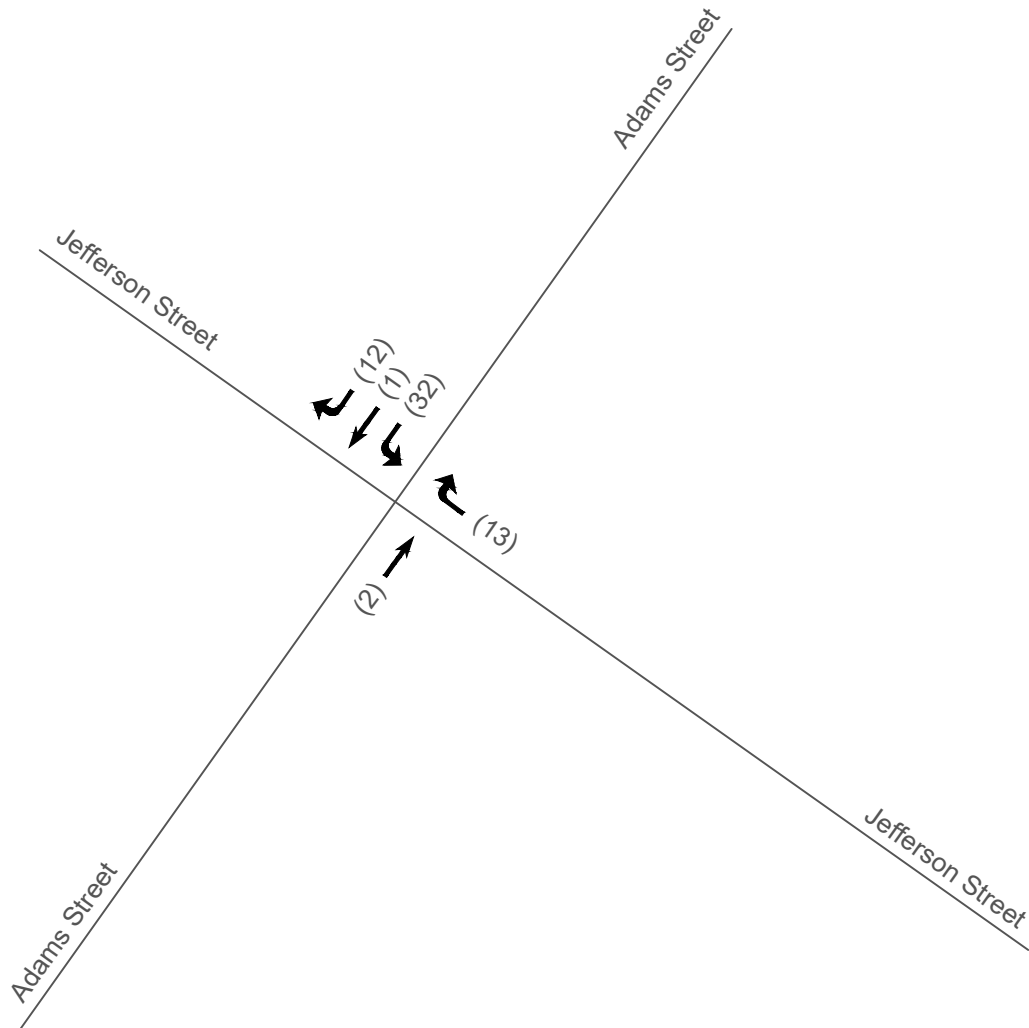


Figure 4

Other Developments - PM Peak Hr
Adam's Point Apartments
Biddeford, Maine





(-- PM

PM Peak Hour: 4:00-5:00

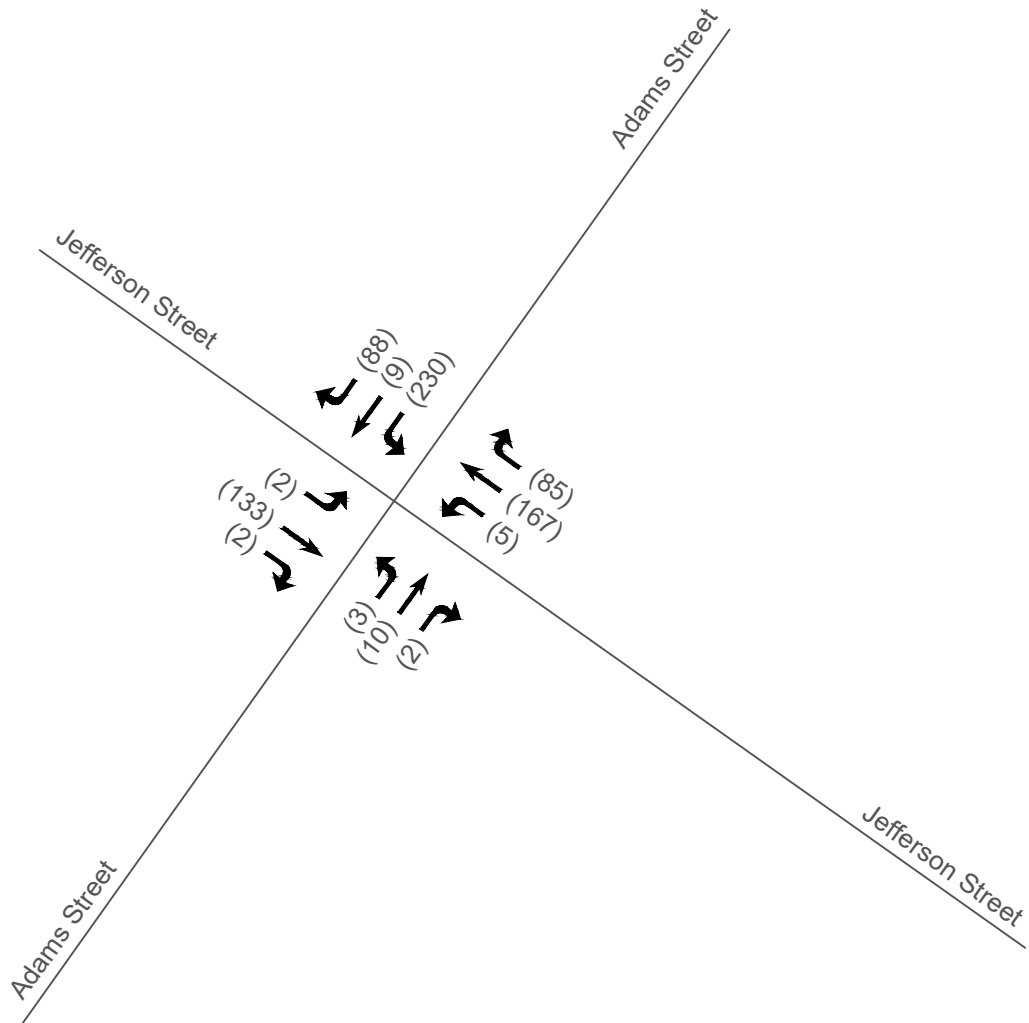


Figure 5

No Build 2023 PM Peak Hr Volumes
Adam's Point Apartments
Biddeford, Maine





(--) PM

PM Peak Hour: 4:00-5:00

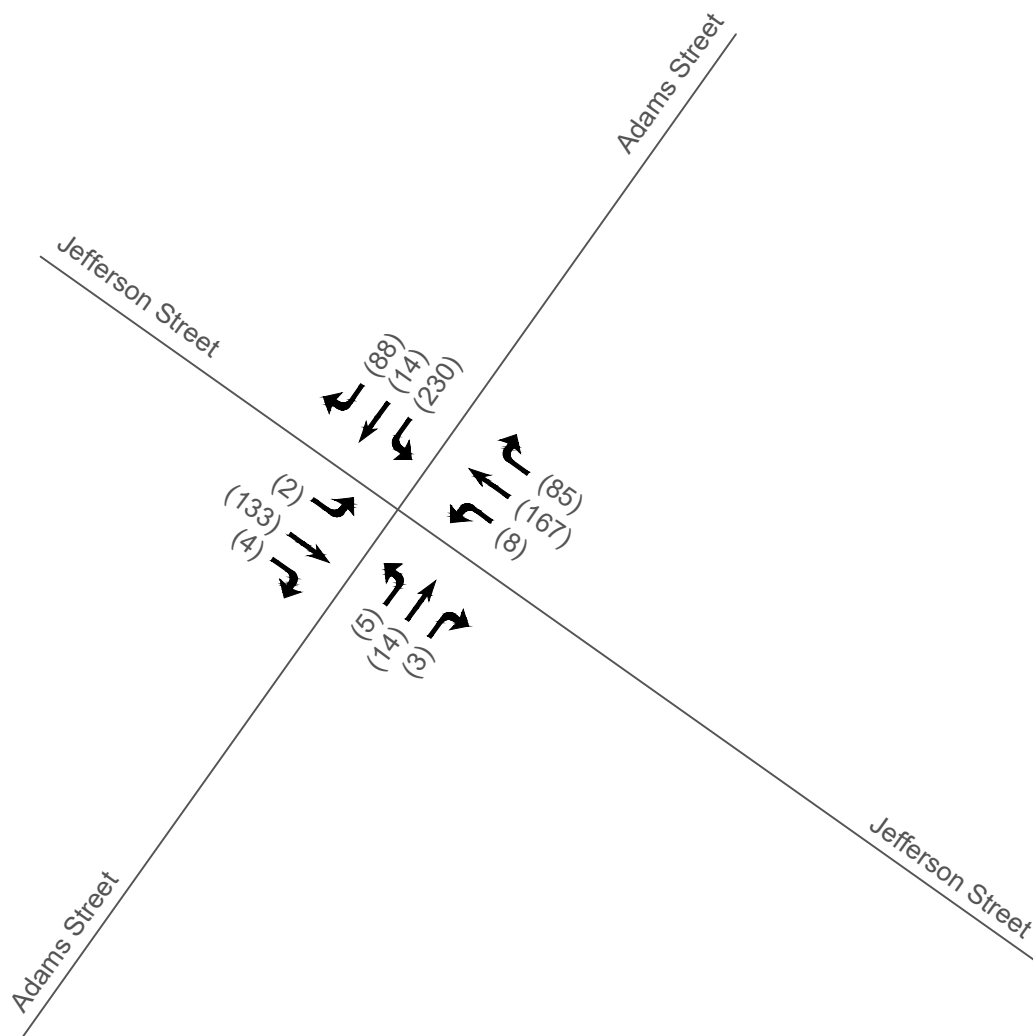


Figure 6

Build 2023 Peak PM Hr Volumes
Adam's Point Apartments
Biddeford, Maine



APPENDIX

Turning Movement Counts

Capacity Analysis

Collision Diagrams

Sewall

40 Forest Falls Drive
Yarmouth, Maine 04096

TITLE: Adams & Jefferson AM
TOWN: Biddeford
COUNTER: NAB
WEATHER: Clear

File Name : Adams&Jefferson AM
Site Code : 99999999
Start Date : 4/6/2021
Page No : 1

Groups Printed- PV - LV - HV

	Adams Street From North					Jefferson Street From East					Adams Street From South					Jefferson Street From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	14	1	4	1	20	0	12	13	0	25	1	1	0	0	2	1	5	0	2	8	55
07:15 AM	12	2	4	0	18	1	20	6	1	28	2	1	2	1	6	0	11	1	1	13	65
07:30 AM	24	2	13	0	39	0	23	10	0	33	0	1	2	1	4	2	26	1	0	29	105
07:45 AM	20	4	11	0	35	2	29	12	1	44	0	1	1	0	2	0	28	1	0	29	110
Total	70	9	32	1	112	3	84	41	2	130	3	4	5	2	14	3	70	3	3	79	335
08:00 AM	8	3	5	0	16	1	28	8	0	37	0	0	2	2	4	1	12	0	0	13	70
08:15 AM	16	1	5	1	23	1	25	13	0	39	1	1	2	1	5	0	16	1	1	18	85
08:30 AM	20	1	7	1	29	2	58	8	1	69	0	0	2	1	3	0	32	0	0	32	133
08:45 AM	19	1	7	1	28	0	38	13	0	51	0	1	0	5	6	0	18	0	0	18	103
Total	63	6	24	3	96	4	149	42	1	196	1	2	6	9	18	1	78	1	1	81	391
Grand Total	133	15	56	4	208	7	233	83	3	326	4	6	11	11	32	4	148	4	4	160	726
Apprch %	63.9	7.2	26.9	1.9		2.1	71.5	25.5	0.9		12.5	18.8	34.4	34.4		2.5	92.5	2.5	2.5		
Total %	18.3	2.1	7.7	0.6	28.7	1	32.1	11.4	0.4	44.9	0.6	0.8	1.5	1.5	4.4	0.6	20.4	0.6	0.6	22	
PV	131	15	55	3	204	7	226	82	3	318	4	6	11	10	31	4	141	4	4	153	706
% PV	98.5	100	98.2	75	98.1	100	97	98.8	100	97.5	100	100	100	90.9	96.9	100	95.3	100	100	95.6	97.2
LV	2	0	0	1	3	0	7	1	0	8	0	0	0	1	1	0	7	0	0	7	19
% LV	1.5	0	0	25	1.4	0	3	1.2	0	2.5	0	0	0	9.1	3.1	0	4.7	0	0	4.4	2.6
HV	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% HV	0	0	1.8	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1

Sewall

40 Forest Falls Drive
Yarmouth, Maine 04096

TITLE: Adams & Jefferson AM
TOWN: Biddeford
COUNTER: NAB
WEATHER: Clear

File Name : Adams&Jefferson AM
Site Code : 999999999
Start Date : 4/6/2021
Page No : 2

	Adams Street From North					Jefferson Street From East					Adams Street From South					Jefferson Street From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	20	4	11	0	35	2	29	12	1	44	0	1	1	0	2	0	28	1	0	29	110
08:00 AM	8	3	5	0	16	1	28	8	0	37	0	0	2	2	4	1	12	0	0	13	70
08:15 AM	16	1	5	1	23	1	25	13	0	39	1	1	2	1	5	0	16	1	1	18	85
08:30 AM	20	1	7	1	29	2	58	8	1	69	0	0	2	1	3	0	32	0	0	32	133
Total Volume	64	9	28	2	103	6	140	41	2	189	1	2	7	4	14	1	88	2	1	92	398
% App. Total	62.1	8.7	27.2	1.9		3.2	74.1	21.7	1.1		7.1	14.3	50	28.6		1.1	95.7	2.2	1.1		
PHF	.800	.563	.636	.500	.736	.750	.603	.788	.500	.685	.250	.500	.875	.500	.700	.250	.688	.500	.250	.719	.748
PV	63	9	27	2	101	6	136	41	2	185	1	2	7	4	14	1	82	2	1	86	386
% PV	98.4	100	96.4	100	98.1	100	97.1	100	100	97.9	100	100	100	100	100	100	93.2	100	100	93.5	97.0
LV	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	11
% LV	1.6	0	0	0	1.0	0	2.9	0	0	2.1	0	0	0	0	0	0	6.8	0	0	6.5	2.8
HV	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% HV	0	0	3.6	0	1.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3
	71	10	31			7	156	46			1	2	8			1	91	2			

$$\text{Gr. I} = 0.97/0.87 = 1.115$$

Sewall

40 Forest Falls Drive
Yarmouth, Maine 04096

TITLE: Adams & Jefferson PM
TOWN: Biddeford
COUNTER: NAB
WEATHER: Clear

File Name : ADAMS&JEFFERSON PM
Site Code : 99999999
Start Date : 3/24/2021
Page No : 1

Groups Printed- PV - LV - HV

	Adams Street From North					Jefferson Street From East					Adams Street From South					Jefferson Street From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
03:00 PM	31	1	10	0	42	3	36	15	2	56	1	2	1	2	6	4	26	0	0	30	134
03:15 PM	23	2	9	1	35	1	43	18	2	64	1	1	1	2	5	1	21	0	0	22	126
03:30 PM	34	6	14	2	56	1	34	14	0	49	2	2	1	4	9	2	28	4	1	35	149
03:45 PM	22	1	10	0	33	0	44	13	0	57	1	4	1	2	8	2	24	1	0	27	125
Total	110	10	43	3	166	5	157	60	4	226	5	9	4	10	28	9	99	5	1	114	534
04:00 PM	43	4	17	1	65	1	44	15	1	61	1	1	1	1	4	0	26	1	0	27	157
04:15 PM	49	1	22	1	73	0	35	10	0	45	1	4	0	1	6	0	32	1	0	33	157
04:30 PM	35	2	16	0	53	2	42	16	0	60	0	2	1	1	4	0	34	0	0	34	151
04:45 PM	43	0	10	0	53	1	23	21	0	45	1	0	0	4	5	2	22	0	1	25	128
Total	170	7	65	2	244	4	144	62	1	211	3	7	2	7	19	2	114	2	1	119	593
05:00 PM	41	1	14	6	62	1	48	21	0	70	1	3	0	2	6	1	15	1	0	17	155
05:15 PM	39	2	8	6	55	0	30	9	0	39	1	1	0	2	4	0	23	3	0	26	124
05:30 PM	29	2	12	5	48	3	26	9	0	38	0	1	2	2	5	2	27	2	0	31	122
05:45 PM	27	3	9	0	39	0	21	11	0	32	1	0	0	6	7	1	23	1	0	25	103
Total	136	8	43	17	204	4	125	50	0	179	3	5	2	12	22	4	88	7	0	99	504
Grand Total	416	25	151	22	614	13	426	172	5	616	11	21	8	29	69	15	301	14	2	332	1631
Apprch %	67.8	4.1	24.6	3.6		2.1	69.2	27.9	0.8		15.9	30.4	11.6	42		4.5	90.7	4.2	0.6		
Total %	25.5	1.5	9.3	1.3	37.6	0.8	26.1	10.5	0.3	37.8	0.7	1.3	0.5	1.8	4.2	0.9	18.5	0.9	0.1	20.4	
PV	416	25	149	19	609	13	426	172	5	616	11	21	7	27	66	15	300	14	1	330	1621
% PV	100	100	98.7	86.4	99.2	100	100	100	100	100	100	100	87.5	93.1	95.7	100	99.7	100	50	99.4	99.4
LV	0	0	0	3	3	0	0	0	0	0	0	0	1	2	3	0	1	0	1	2	8
% LV	0	0	0	13.6	0.5	0	0	0	0	0	0	0	12.5	6.9	4.3	0	0.3	0	50	0.6	0.5
HV	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% HV	0	0	1.3	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1

Sewall

40 Forest Falls Drive
Yarmouth, Maine 04096

TITLE: Adams & Jefferson PM
TOWN: Biddeford
COUNTER: NAB
WEATHER: Clear

File Name : ADAMS&JEFFERSON PM
Site Code : 99999999
Start Date : 3/24/2021
Page No : 2

	Adams Street From North					Jefferson Street From East					Adams Street From South					Jefferson Street From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	43	4	17	1	65	1	44	15	1	61	1	1	1	1	4	0	26	1	0	27	157
04:15 PM	49	1	22	1	73	0	35	10	0	45	1	4	0	1	6	0	32	1	0	33	157
04:30 PM	35	2	16	0	53	2	42	16	0	60	0	2	1	1	4	0	34	0	0	34	151
04:45 PM	43	0	10	0	53	1	23	21	0	45	1	0	0	4	5	2	22	0	1	25	128
Total Volume	170	7	65	2	244	4	144	62	1	211	3	7	2	7	19	2	114	2	1	119	593
% App. Total	69.7	2.9	26.6	0.8		1.9	68.2	29.4	0.5		15.8	36.8	10.5	36.8		1.7	95.8	1.7	0.8		
PHF	.867	.438	.739	.500	.836	.500	.818	.738	.250	.865	.750	.438	.500	.438	.792	.250	.838	.500	.250	.875	.944
PV	170	7	64	2	243	4	144	62	1	211	3	7	2	7	19	2	113	2	0	117	590
% PV	100	100	98.5	100	99.6	100	100	100	100	100	100	100	100	100	100	100	99.1	100	0	98.3	99.5
LV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	2
% LV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	0	100	1.7	0.3
HV	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% HV	0	0	1.5	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2
	194	8	74			5	164	71			3	8	2			2	130	2			

Gr. I factor = 0.99/.87 = 1.138

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:57	3:57	3:57	3:57	3:57	3:57
End Time	5:00	5:00	5:00	5:00	5:00	5:00
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	660	640	672	671	633	657
Vehs Exited	661	645	673	676	630	657
Starting Vehs	5	9	6	8	2	5
Ending Vehs	4	4	5	3	5	4
Travel Distance (mi)	126	121	127	128	119	124
Travel Time (hr)	5.9	5.6	5.9	5.8	5.5	5.7
Total Delay (hr)	0.8	0.8	0.8	0.7	0.7	0.8
Total Stops	300	307	291	269	267	287
Fuel Used (gal)	5.1	5.0	5.1	5.2	4.7	5.0

Interval #0 Information Seeding

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

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	660	640	672	671	633	657
Vehs Exited	661	645	673	676	630	657
Starting Vehs	5	9	6	8	2	5
Ending Vehs	4	4	5	3	5	4
Travel Distance (mi)	126	121	127	128	119	124
Travel Time (hr)	5.9	5.6	5.9	5.8	5.5	5.7
Total Delay (hr)	0.8	0.8	0.8	0.7	0.7	0.8
Total Stops	300	307	291	269	267	287
Fuel Used (gal)	5.1	5.0	5.1	5.2	4.7	5.0

3: Adams Street & Jefferson Street Performance by approach

Approach	SE	NW	NE	SW	All
Denied Del/Veh (s)	0.2	0.2	0.1	0.3	0.2
Total Del/Veh (s)	0.2	0.6	5.9	7.3	3.4

Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	3.9

Intersection: 3: Adams Street & Jefferson Street

Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	19	23	31	126
Average Queue (ft)	1	1	12	62
95th Queue (ft)	8	10	36	99
Link Distance (ft)	261	625	506	455
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	1	2	3	4	5	Avg
Start Time	3:57	3:57	3:57	3:57	3:57	3:57
End Time	5:00	5:00	5:00	5:00	5:00	5:00
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	697	714	737	728	735	721
Vehs Exited	698	719	728	734	737	723
Starting Vehs	5	9	0	10	7	7
Ending Vehs	4	4	9	4	5	4
Travel Distance (mi)	131	136	140	140	139	137
Travel Time (hr)	6.2	6.6	6.5	6.8	6.6	6.5
Total Delay (hr)	0.9	1.0	0.9	1.1	1.0	1.0
Total Stops	321	345	324	347	353	338
Fuel Used (gal)	5.3	5.7	5.7	5.8	5.7	5.6

Interval #0 Information Seeding

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

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	697	714	737	728	735	721
Vehs Exited	698	719	728	734	737	723
Starting Vehs	5	9	0	10	7	7
Ending Vehs	4	4	9	4	5	4
Travel Distance (mi)	131	136	140	140	139	137
Travel Time (hr)	6.2	6.6	6.5	6.8	6.6	6.5
Total Delay (hr)	0.9	1.0	0.9	1.1	1.0	1.0
Total Stops	321	345	324	347	353	338
Fuel Used (gal)	5.3	5.7	5.7	5.8	5.7	5.6

3: Adams Street & Jefferson Street Performance by approach

Approach	SE	NW	NE	SW	All
Denied Del/Veh (s)	0.2	0.2	0.1	0.3	0.2
Total Del/Veh (s)	0.3	0.8	7.0	8.3	4.1

Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	4.6

Intersection: 3: Adams Street & Jefferson Street

Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	40	43	35	150
Average Queue (ft)	2	2	14	72
95th Queue (ft)	16	20	39	120
Link Distance (ft)	261	625	506	455
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	1	2	3	4	5	Avg
Start Time	3:57	3:57	3:57	3:57	3:57	3:57
End Time	5:00	5:00	5:00	5:00	5:00	5:00
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	726	730	752	741	745	739
Vehs Exited	727	732	744	746	747	739
Starting Vehs	5	9	0	10	7	7
Ending Vehs	4	7	8	5	5	5
Travel Distance (mi)	138	139	142	142	141	140
Travel Time (hr)	6.5	6.7	6.7	6.9	6.8	6.7
Total Delay (hr)	0.9	1.1	0.9	1.1	1.1	1.0
Total Stops	335	365	330	358	354	349
Fuel Used (gal)	5.6	5.8	5.8	5.9	5.8	5.8

Interval #0 Information Seeding

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

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	726	730	752	741	745	739
Vehs Exited	727	732	744	746	747	739
Starting Vehs	5	9	0	10	7	7
Ending Vehs	4	7	8	5	5	5
Travel Distance (mi)	138	139	142	142	141	140
Travel Time (hr)	6.5	6.7	6.7	6.9	6.8	6.7
Total Delay (hr)	0.9	1.1	0.9	1.1	1.1	1.0
Total Stops	335	365	330	358	354	349
Fuel Used (gal)	5.6	5.8	5.8	5.9	5.8	5.8

3: Adams Street & Jefferson Street Performance by approach

Approach	SE	NW	NE	SW	All
Denied Del/Veh (s)	0.2	0.2	0.1	0.3	0.2
Total Del/Veh (s)	0.2	0.8	7.0	8.5	4.2

Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	4.8

Intersection: 3: Adams Street & Jefferson Street

Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	36	34	48	155
Average Queue (ft)	2	2	18	73
95th Queue (ft)	14	16	44	120
Link Distance (ft)	261	625	506	455
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	1	2	3	4	5	Avg
Start Time	3:57	3:57	3:57	3:57	3:57	3:57
End Time	5:00	5:00	5:00	5:00	5:00	5:00
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	718	726	767	722	754	737
Vehs Exited	719	730	760	725	756	738
Starting Vehs	5	10	1	10	7	7
Ending Vehs	4	6	8	7	5	6
Travel Distance (mi)	136	138	145	138	143	140
Travel Time (hr)	7.0	7.2	7.5	7.1	7.5	7.2
Total Delay (hr)	1.5	1.6	1.6	1.6	1.7	1.6
Total Stops	718	729	763	720	756	739
Fuel Used (gal)	6.1	6.2	6.4	6.2	6.4	6.3

Interval #0 Information Seeding

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

Interval #1 Information Recording

Start Time	4:00
End Time	5:00
Total Time (min)	60
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	718	726	767	722	754	737
Vehs Exited	719	730	760	725	756	738
Starting Vehs	5	10	1	10	7	7
Ending Vehs	4	6	8	7	5	6
Travel Distance (mi)	136	138	145	138	143	140
Travel Time (hr)	7.0	7.2	7.5	7.1	7.5	7.2
Total Delay (hr)	1.5	1.6	1.6	1.6	1.7	1.6
Total Stops	718	729	763	720	756	739
Fuel Used (gal)	6.1	6.2	6.4	6.2	6.4	6.3

3: Adams Street & Jefferson Street Performance by approach

Approach	SE	NW	NE	SW	All
Denied Del/Veh (s)	0.2	0.2	0.1	0.3	0.3
Total Del/Veh (s)	5.9	6.3	5.0	6.2	6.1

Total Network Performance

Denied Del/Veh (s)	0.3
Total Del/Veh (s)	7.4

Intersection: 3: Adams Street & Jefferson Street

Movement	SE	NW	NE	SW
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	79	111	31	106
Average Queue (ft)	41	56	18	62
95th Queue (ft)	66	90	42	92
Link Distance (ft)	261	625	506	455
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

H. C. L. CRASH COLLISION DIAGRAM DATA PACKAGE

COUNTY: **YORK**

TOWN: **BIDDEFORD**

LOW NODE: **58701** HIGH NODE: **0000**

REGION: **1**

U/R: **URBAN**

DESCRIPTION: **Jct of Adams St & Jefferson St**

RTE # / RD #: **3110002** DATE DRAWN: **8/27/2020** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2017**

STUDY TO: **12/31/2019**

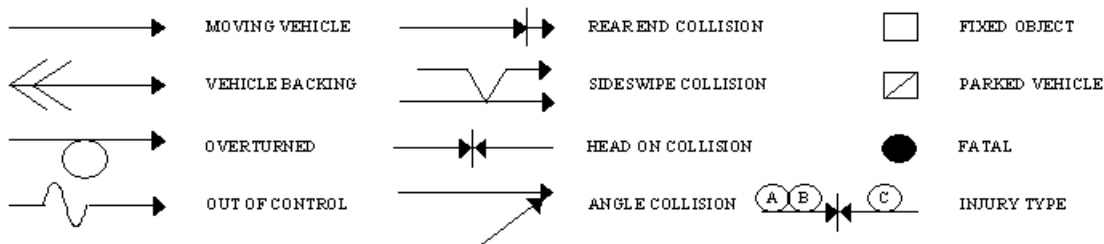
CRASH RATE: **1.24**

CRF: **2.66**

% INJURY: **25**

TOTAL CRASHES: **8**

LEGEND

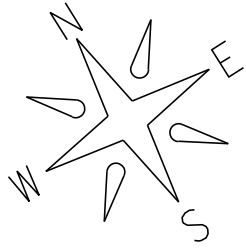


--- PATH OF: ☐ P PEDESTRIAN ☐ B BICYCLE ☐ A ANIMAL ☐ S SLED

PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM



STOP

18270 7-4-18 11:00A D/C Fail To Yield

Adams St.

Biddeford

Node: 58701

Study Period: 2017-2019

of Crashes: 8 / CRF: 2.66

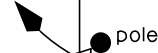
Prepared by Office of Safety (MP 8/27/20)

34230 11-13-17 3:15P W/R Fail To Yield



Jefferson St.

31900 10-26-17 12:40P
W/R Fail To Yield



40113 12-3-18 3:55P D/C Over corrected

31885 10-24-17 3:00P D/CL Reckless 0.U.I.



76079 12-13-19 9:55A D/CL Fail To Yield

Jefferson St.

STOP

Adams St.

36816 12-4-17 12:55P D/C Fail To Yield

40140 12-13-18 1:15P D/C Fail To Yield

H. C. L. CRASH COLLISION DIAGRAM DATA PACKAGE

COUNTY: **YORK**

TOWN: **BERWICK**

LOW NODE: **58702** HIGH NODE: **0000**

REGION: **1**

U/R: **URBAN**

DESCRIPTION: **Jct of Jefferson St & Washington St**

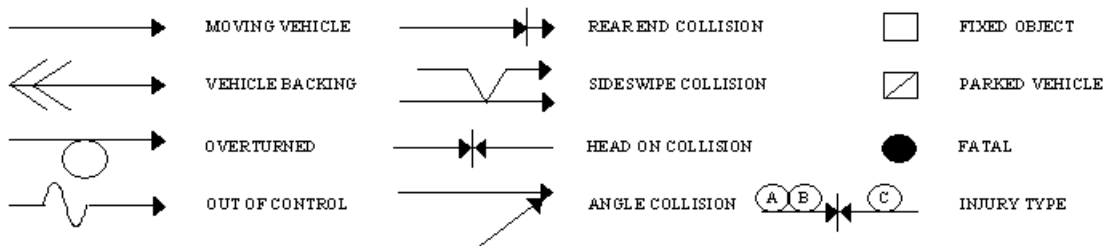
RTE # / RD #: **3110086** DATE DRAWN: **8/27/2020** DRAWN BY: **Michelle**

STUDY FROM: **1/1/2017**

STUDY TO: **12/31/2019**

CRASH RATE: **1.72** CRF: **3.69** % INJURY: **45.5** TOTAL CRASHES: **11**

LEGEND

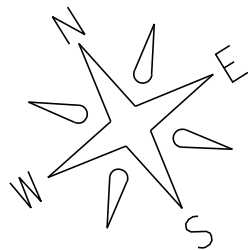


--- PATH OF: ☐ P PEDESTRIAN ☐ B BICYCLE ☐ A ANIMAL ☐ S SLED

PAVEMENT: D - DRY, I - ICY, W - WET, S - SNOW

WEATHER: C - CLEAR, F - FOG, R - RAIN, SL - SLEET, S - SNOW, CL - CLOUDY

TIME: A - AM, P - PM



STOP

17718 6-26-18 10:35A D/C Fail To Yield

Washington St.

Biddeford

Node: 58702

Study Period: 2017-2019

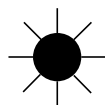
of Crashes: 11 / CRF 3.69

Prepared by Office of Safety (MP 8/27/20)

Pole

Jefferson St.

25215 9-4-18 8:10A D/C Ran Stop Sign
15958 6-4-18 4:50P W/R Fail To Yield
25215 9-4-18 8:10A D/C Ran Stop Sign
(B) 19146 7-10-18 12:05P D/C Fail To Yield
moped
(C)



29238 9-19-17 4:00P D/C Fail To Yield (C)

33328 10-29-18 12:20P W/R Fail To Yield

39006 12-10-17 12:35P SL/CL Fail To Yield

33872 11-10-17 4:30P D/C Ran Red Light

(C)
5446 2-9-17 12:25P S/S Speed
(B)
3688 2-3-17 2:45P D/CL Fail To Yield

Jefferson St.

STOP

 = Overhead Flasher

Washington St.

9. Geotechnical Report

The key to success starts with a solid foundation.
ENGINEERING | EXPLORATION | EXPERIENCE

Geotechnical Report

*Proposed Apartment Complex
Adams Street, Biddeford, ME*



Client

Southern Maine Affordable Housing
22 South Street
Biddeford, ME 04005

Project #: 21070
Date: 4/30/2021
REVISED: 8/2/2021

Geotechnical Report

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Appendix A – Exploration Location Plan

Appendix B – Exploration Logs

Appendix C – Bedrock Recommendations

April, 30, 2021 (REVISED 8/2/2021)
SGS Project #: 21070

Southern Maine Affordable Housing
22 South Street
Biddeford, ME 04005
Attn: Guy Gagnon

Reference: Geotechnical Report – Proposed Apartment Complex
Adams Street, Biddeford, ME

Dear Guy;

Summit Geoengineering Services, Inc. (SGS) has completed a geotechnical investigation for the construction of the proposed site development referenced above. Our scope of services included the observation of twelve test pits and the preparation of this geotechnical report summarizing our findings and providing geotechnical recommendations.

Our scope of services for this project did not include an environmental site assessment or further investigation for the presence or absence of hazardous or toxic material on, below, or around the site. Any statements in this report, or on the exploration logs, regarding odors or unusual and suspicious conditions observed are for informational purposes and are not intended to constitute an environmental assessment.

1.0 Project Description

1.1 Proposed Construction

The project consists of a new 39-unit apartment complex. The building will have a footprint area of approximately 9100 square feet. The finished floor of the East side of the building is Elevation 128 feet and Elevation 140 feet on the West side of the building. A large parking lot will append the building and will connect to an access road that will outlet to the end of Adams street. A large cast in place retaining wall will be placed to the East of the site to construct the proposed access road and parking lot.

1.2 Existing Conditions

The existing site is moderately wooded with an old access road and two existing building foundations. These existing foundations and slabs will be removed before the construction of the new building. The existing grades within the site boundaries range from Elevation 98 feet near the East portion to 138 feet near the West portion. Based on the existing grades and the finished floor elevation of the East side (FFE 128 feet) of the building, up to 6 feet of fill and 6 feet of cut will be necessary. For the West side of the building (FFE 140 feet), up to 8 feet of fill will be necessary, if no basement or other area is proposed underneath the finished floor elevation.

The site grades were referenced from a plan entitled *Adams Point Housing* by Oak Point Associates, dated March 2021.

2.0 Explorations

2.1 Test Pits

Summit Geoengineering Services (SGS) observed the subsurface conditions on March, 12, 2021 with the excavation of 12 test pits. The explorations were completed by SGS using a Kubota mini tracked excavator. Each test pit was backfilled after completion.

Test pits were excavated to depths ranging from 1 foot to 8.5 feet (Elevations 104 feet to 136.5 feet). Soils were visually classified (*ASTM D2488*) and layering was determined from the ground surface using a measuring tape.

The test pit locations were determined by others and marked out by SGS prior to the excavation of the test pits. A test pit location plan and the test pit logs are included in *Appendix A* and *Appendix B*, respectively.

3.0 Subsurface Conditions

3.1 Soil

According to the *Surficial Geology Map* from the Maine Geological Survey, the soil around Adams Street in Biddeford, ME is classified as both Marine Regressive and Marine Shoreline. These formations are a mixture of sands and gravel.

From the explorations, the soil at this site generally consists of **topsoil** over **fill** over **marine shoreline** over bedrock.

The **topsoil** is generally described as dark brown fine sand silt with trace rootlets. It is generally loose to compact and moist. It is generally 0.5 feet to 1.5 feet thick. It is visually classified as ML, in accordance with the USCS system.

The existing **fill** is generally described as brown silty fine sand with gravel, some cobbles and boulders, and few pieces of rubble and occasional plastic wrappers and metal pieces. It is generally loose to compact and moist. Some portions of the existing fill extended to bedrock across the site. The fill is visually classified as SM, in accordance with the USCS system. The following table summarizes the description and thickness of fill for each test pit across the site:

FILL DESCRIPTION		
Location	Thickness (ft)	Description
TP-1	5.5	Silty fine-medium SAND. Some Gravel, angular Cobbles, & Boulders. Few roots and brick.
TP-2	6.5	Fine-medium SAND. Some Silt, Gravel, & Cobbles. Few small metal pieces, plastic wrappers, roots, & brick. Food wrapper found from 2011.
TP-3	2.5	Silty fine SAND. With Gravel. Some Cobbles. Bricks layered at the bottom of the test pit.
TP-4	7	Sandy SILT. With Gravel. Some Cobbles, shredded cloth, brick, rubble, one metal pipe, & rootlets. Trace Clay.
TP-5	6.5	Gravelly fine-medium SAND. Some plastic wrappers. Few Cobbles and rubble. Trace Silt.
TP-6	5.5	Gravelly medium-coarse SAND. Some porcelain & brick. Trace Silt & small metal pieces.
TP-7	3	Silty fine SAND. With rootlets. Some Gravel & Cobbles. Few brick & small metal pieces.
TP-8	---	No fill encountered. Bedrock very shallow.
TP-9	2	Fine Sandy SILT. Trace Gravel & angular Cobbles.
TP-10	5	Clayey SILT. Some Gravel.
TP-11	2.5	Fine Sandy SILT. With Gravel & large Boulders.
TP-12	---	No fill encountered. Bedrock very shallow

The **marine shoreline** is generally described as brown coarse sand with gravel and some cobbles and boulders. It is generally compact and moist. Where encountered, this layer extended to refusal on bedrock at depths ranging from 6 feet to 8.5 feet (Elevations 114 feet to 125 feet). The marine shoreline is visually classified as SP, in accordance with the USCS system.

In Test Pit 5 (TP-5) and TP-6, the upper layer of marine shoreline had a layer of red brown fine sandy silt that was soft to firm and moist. This layer was generally 0.5 feet to 1 foot thick and was visually classified as ML, in accordance with the USCS system.

Detailed descriptions of the soil can be found in the exploration logs in *Appendix B*.

3.2 Groundwater

Groundwater was only encountered in TP-10 at a depth of 3 feet where rapid seepage occurred. The surface of the forest floor near TP-10 was saturated before excavation occurred. TP-10 also had a different fill material than the other test pits, consisting primarily of gray clayey silt with sand and gravel. No other test pit had any sort of seepage. Based on this, SGS believes that during excavation, a trapped pocket of water was likely struck, causing this rapid seepage. This pocket of water is usually an indicator of an old foundation being present. We recommend that SGS be notified to observe this area of the building footprint during construction to provide further recommendations.

3.3 Bedrock

Probable bedrock was encountered at all of the test pits on the site except for TP-1. The probable bedrock was encountered at depths ranging from 1 foot to 8.5 feet (Elevations 104 feet to 136.5 feet) when the excavator struck refusal.

The following table summarizes the depths and elevations of the probable bedrock around the development:

PROBABLE BEDROCK DEPTHS AND ELEVATIONS			
Location	Depth (ft)	Elevation (ft +/-)	Reference
TP-2	8	114	Excavator refusal
TP-3	3	104	Excavator refusal
TP-4	7	118	Excavator refusal
TP-5	8.5	117.5	Excavator refusal
TP-6	8	120	Excavator refusal
TP-7	3.5	131.5	Excavator refusal
TP-8	1	134	Excavator refusal
TP-9	2.5	129.5	Excavator refusal
TP-10	6	125	Excavator refusal
TP-11	3.5	133.5	Excavator refusal
TP-12	1.5	136.5	Excavator refusal

According to the *Bedrock Geology Map* from the Maine Geological Survey, the bedrock around Adams Street in Biddeford, ME is classified as a granite in the Biddeford Pluton.

4.0 Geotechnical Evaluations

The soils at the site are suitable to support conventional spread footings. The key geotechnical challenges are the potential large amounts of cut and fill necessary at the site and the potential removal of bedrock and construction on bedrock.

The fill material primarily consisted of coarse-grained soils. Most portions of the fill had occasional landfill-like materials (metal pieces, plastic wrappers, etc.) and former rubble materials (brick, porcelain, etc.); we will call these unconformities. The ratio between the coarse-grained soil and these unconformities will not affect our recommendations when dealing with the existing fill layer. During construction, if large amounts of unconformities are present, remove them before continuing with our recommendations.

5.0 Geotechnical Recommendations

5.1 Bearing Pressure

Spread footings resting on the native soil should be proportioned using an allowable bearing pressure of **3,000 psf**. This value is based on the friction angle of the bearing soil, the soil unit

weight, and the required frost protection depth. Spread footings resting on bedrock should be proportioned using an allowable bearing pressure of **10,000 psf**.

5.2 Subgrade Preparation

Foundations at the required frost depth should have the following steps to prepare the footing subgrade:

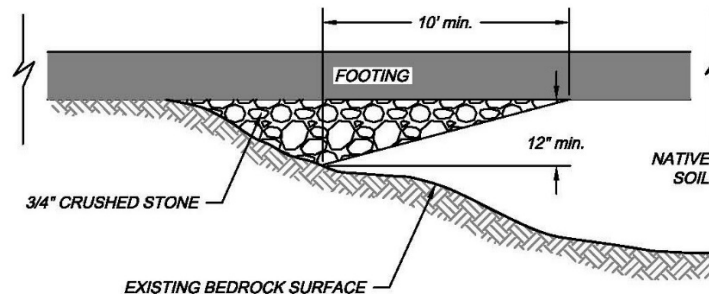
Footings on soil:

- After grubbing, excavate to the footing subgrade and proofroll the exposed soil by making a minimum of 4 passes in each of two perpendicular directions using a vibratory compactor. The footings can be constructed directly on the proofrolled native soil. Voids left at the base of the excavation from the removal of boulders should be filled with $\frac{3}{4}$ inch crushed stone (CS) or Structural Fill (SF).
- Soft, wet, and unstable areas should be removed and replaced with CS or SF.

Footings on bedrock:

- Footings should bear on hard bedrock when possible. Hard and intact bedrock is created by the removal of loose and weathered bedrock fragments down to a competent bedrock surface. Any large gaps or voids created by removing loose pieces of bedrock are filled with CS, flowable fill, or lean concrete.
- Footings on intact bedrock do not need the full frost protection since intact bedrock is non-frost susceptible.
- In the event that bedrock is sloping there are two options: cutting into the bedrock to make a shelf or placing a lean concrete or grout levelling pad directly on the intact bedrock surface. In the case of cutting to make the footing bearing area, dowelling into bedrock is optional unless required for uplift loadings. The level cut surface should extend a minimum of 1 foot beyond the edge of the footing. Where the footing construction surface is created by filling, dowelling into bedrock is strongly recommended.

The following figure covers the conditions where a portion of the foundation is on bedrock and a portion is on soil:



The CS transition is intended to reduce the differential settlement between footings supported on bedrock and footings supported on soil. Where bedrock is cut, it should be sloped to prevent ponding of groundwater.

5.3 Frost Protection

The design air freezing index for the Biddeford, Maine area is approximately 1,190-degree F days (10-year, 90% probability). Based on this, exterior footings and other footings exposed to freezing temperatures should be placed at a minimum depth of **4 feet** in order to provide adequate frost protection. We recommend that all foundations exposed to freezing temperatures be backfilled with Granular Borrow (GB). Specifications for GB are included in *Section 6.2* of this report.

Footings cast on bedrock, if clean, non-weathered, and hard, do not need to be at frost depth. The concrete should be placed directly on the bedrock to provide a water tight seal.

5.4 Seismic Design

Based on the discovered soils and their properties, this site can be classified as **Seismic Site Class D** in accordance with ASCE 7-10 and ASCE 7-16. The following seismic design coefficients should be used:

SUBGRADE SITE SEISMIC DESIGN COEFFICIENTS – ASCE 7-10 & ASCE 7-16		
Seismic Coefficient	ASCE 7-10 (Class D)	ASCE 7-16 (Class D)
Short period spectral response (S_S)	0.251	0.290
1 second spectral response (S_1)	0.079	0.072
Maximum short period spectral response (S_{MS})	0.402	0.455
Maximum 1 second spectral response (S_{M1})	0.190	0.173
Design short period spectral response (S_{DS})	0.268	0.303
Design 1 second spectral response (S_{D1})	0.127	0.115

5.5 Groundwater Control

Permanent groundwater is anticipated to be below the footings and excavations required to construct the footings. To account for any changes in the permanent groundwater table or seasonal precipitation, we recommend exterior perimeter foundation underdrains be installed. Underdrains should consist of 4" rigid PVC or flexible ADS pipe surrounded by 6" of CS, which is then surrounded by Mirafi 140N or equivalent. Underdrains should be outlet to a free draining location. Where exposed at the ground surface, a screen or other device should be placed over the outlet to prevent the migration of animals into the underdrain system.

Sub-slab foundation drains are not necessary.

5.6 Slabs-on-Grade

To provide a uniform support condition for slabs-on-grade, we recommend that slabs-on-grade be constructed on a minimum of 12 inches of SF or 8 inches of CS placed directly on the proofrolled native soil. Any soft or wet pockets should be removed and replaced with CS. Fill required to raise the grade to the base of the SF or CS can consist of the existing fill, the existing marine shoreline, GB or SF. The maximum particle size for these materials should be limited to 6 inches.

If bedrock prevents a level slab-on-grade, we recommend that the bedrock be removed (see *Section 6.1*) to a minimum of 6 inches below the bottom of the slab, while still allowing for a level surface. CS or SF should be placed between the bedrock and the bottom of the slab and compacted properly.

All fill should be compacted to 95% of ASTM D1557.

The gradation requirements for GB, CS, and SF can be found in *Section 6.2*.

5.7 Pavement Section Recommendations

The mean annual freezing index for the Biddeford, Maine area is estimated at 890-degree F days (2-year, 50% probability). Based on the subgrade and mean annual freezing index, the anticipated mean annual frost penetration depth is 36 inches.

For the proposed roadway and parking lots, we recommend a minimum total section thickness of **18 inches**. We further recommend that the pavement section consist of the following materials:

PAVEMENT SECTION MATERIALS AND THICKNESSES		
Material	Thickness (in)	Specifications
Asphalt Surface Course	3/4	MDOT 703.09 Type 12.5 mm
Asphalt Binder Course	2 1/4	MDOT 703.09 Type 12.5 mm
Base Soil	3	MDOT 703.06 Type A
Subbase Soil	12	MDOT 703.06 Type D

Reference: MDOT Standard Specifications (2014)

If bedrock is encountered in the construction of the paved areas, the guidelines for removing bedrock should be followed as noted in *Section 6.1*. We recommend a minimum of 6 inches of Type A Gravel be placed between the bedrock and the bottom of the asphalt layer.

Fill beneath the subbase soil can consist of the existing fill, the existing marine shoreline or GB, placed and compacted to a minimum of 95% of ASTM D1557.

Based on the depth to groundwater, underdrains will not be necessary beneath paved areas. Adequate side ditching should be provided to shed surface water away from the base and subbase soil.

5.8 Cast-in-Place Retaining Wall

The following table provides design recommendations for equivalent fluid pressures (EFP) for cast-in-place retaining walls:

EFP'S FOR CAST-IN-PLACE RETAINING WALLS			
Condition	γ_t (pcf)	ϕ (deg)	EFP (psf/ft)
At-Rest	130	36	55
Active	130	36	35
Passive	130	33	305

The above EFP's assume that the retaining wall is backfilled with GB and an underdrain is installed at the base of the walls.

The at-rest condition assumes that structural support at the top of the walls is provided prior to backfilling.

The active condition assumes the walls are free to rotate at the top.

Underdrains for the walls should consist of a 4" rigid perforated PVC surrounded by a minimum of 6 inches of CS and filter fabric to prevent clogging from the migration of the fine soil particles in the backfill soils. Underdrains should outlet at the end of the walls or through the face at a maximum spacing of 50 feet.

We recommend that the walls be designed using a minimum live load surcharge of **250 psf** for construction, transportation, and firefighting loads behind the wall, as applicable.

5.9 Segmental Block Walls

We recommend that segmental block walls be designed by a Maine Licensed Professional Engineer.

We recommend that a ¾" crushed stone column with a minimum thickness of 12" be installed behind the entire wall, between the back of the blocks and the wall backfill, to prevent infiltrated water behind the wall from creating a hydrostatic load on the wall. An underdrain system should be provided continuously behind the retaining wall near its base to prevent the buildup of hydrostatic pressures.

Underdrains for the walls should consist of a 4" rigid perforated PVC surrounded by a minimum of 6 inches of CS and filter fabric to prevent clogging from the migration of the fine soil particles

in the foundation backfill soils. Underdrains should outlet at the end of the walls or through the face at a maximum spacing of 50 feet.

We anticipate that the segmental block walls will be constructed on the existing fill materials, the marine nearshore, imported fill, or bedrock. We recommend that the wall be constructed on a leveling pad consisting of a minimum 12" thick layer of CS. A geotextile fabric (such as Mirafi 180N) should be placed on the native soil beneath the wall leveling pad. We recommend that the exposed soil beneath the leveling pad be proofrolled prior to placing the geotextile and CS.

For leveling pads on bedrock, we recommend the subgrade preparation outlined in *Section 5.2* be followed. Where the wall base consists of bedrock, the geotextile layer between the bedrock and crushed stone levelling pad can be eliminated.

The walls can be designed using the allowable bearing pressure stated in *Section 5.1*.

The segmental block walls should be designed in accordance with the *National Concrete Masonry Association (NCMA), 3rd Edition*, design manual. Retaining wall backfill for gravity retaining walls and reinforced soil for geogrid reinforced retaining walls should consist of SF compacted to a minimum of 90% of its maximum dry density in accordance with ASTM D1557. The maximum particle size should be limited to 4 inches. Soil properties presented in the table below can be used in the wall design:

DESIGN PARAMETERS – SEGMENTAL BLOCK WALLS				
Soil Location	Soil Description	γ_t (pcf)	Shear Strength	
			ϕ'	c' (psf)
Foundation	Existing Fill/Marine Shoreline	128	32°	100
	CS over Weathered or Intact Bedrock	140	40°	0
Retained and Reinforced	Structural Fill (SF)	135	34°	0

We recommend that the walls be designed using a minimum live load surcharge of **250 psf** for construction, pedestrian, and firefighting loads behind the wall, if applicable.

Since modular blocks are tolerable to some shifting, the blocks do not need to be placed down to full frost depth. We recommend the following minimum embedment depths:

MINIMUM SEGMENTAL RETAINING WALL EMBEDMENT DEPTH	
Slope in Front of Wall	Minimum Embedment to Top of CS
Horizontal	H/20
3H:1V	H/10
2H:1V	H/7
Minimum Embedment	6 inches

Passive resistance of embedded portions of the wall should be ignored.

6.0 Earthwork Considerations

6.1 Earthwork for Construction

The marine shoreline can be used as fill beneath the SF or CS under slabs and in areas outside of the building footprint where fill is needed.

The marine shoreline and existing fill are classified as OSHA Type C classification. Based on this, any excavation deeper than 5 feet and below the groundwater should have side slopes which do not exceed 1.5H:1V.

Adequate proof rolling of the subgrade soil as mentioned in *Section 5.2* is important to the success of the frost protection material as a uniform bearing material, especially if the subgrade soil is loose in isolated areas.

Cuts may be required for the desired finished floor elevations, the proposed paved areas, and the proposed cast-in-place retaining wall. If bedrock prevents the desired elevation, excavation of the bedrock, mechanically or by controlled blasting, may be necessary. If controlled blasting is necessary, we recommend it be performed in general accordance with the guidelines presented in *Appendix C*. We recommend that the guidelines outlined in *Section 5.2* be followed for the CS transition of footings resting on both bedrock and soil.

6.2 Materials

The gradation requirements reflect the portion of soil passing the 3-inch sieve size. The following table presents the recommended grain sizes for the materials to be used at the site:

GRADATION REQUIREMENTS FOR SITE MATERIALS			
Sieve Size	¹ Structural Fill	² Crushed Stone	³ Granular Borrow
3 Inch	100	---	100
2 Inch	---	---	---
1 Inch	---	100	---
¾ Inch	---	90 - 100	---
½ Inch	35 – 80	20 - 55	---
⅜ Inch	---	0 - 15	---
¼ Inch	25 – 60	---	---
No. 4	---	0 – 5	---
No. 40	0 – 30	---	0 – 70
No. 200	0 – 7	---	0 – 7
Maximum Particle Size	6"	1"	8"
⁴ Minimum Compaction Requirement	95%	---	⁵ 95%

¹Maine DOT Specification 703.06, Type D (2014)

² Maine DOT Specification 703.13, Crushed Stone ¾-Inch

³ Maine DOT Specification 703.19, Granular Borrow for Embankment Construction

⁴ Per ASTM D1557

⁵ Compaction requirement for GB can be reduced to 90%, where in landscaping areas.

CS should be placed in 12-inch maximum lifts and compacted with a minimum of 4 passes with a vibratory compactor.

GB should consist of a free draining, granular soil.

7.0 Closure

Our recommendations are based on professional judgment, generally accepted principles of geotechnical engineering and project information provided by others. Some changes in subsurface conditions from those presented in this report may occur. Should the subsurface conditions, finish grades, or foundation loadings differ materially from those described in this report, SGS should be notified so that we can re-evaluate our recommendations.

We recommend that a qualified third-party testing agency be retained to provide QA/QC services during construction.

SGS should be contacted to provide subgrade inspections prior to construction of the foundations.

We appreciate the opportunity to serve you during this phase of your project. If there are any questions or if additional information is required, please do not hesitate to call.

Sincerely,
Summit Geoengineering Services, Inc.



Colin M. Plante, E.I.
Geotechnical Engineer



William M. Peterlein, P.E.
President & Principal Engineer



Appendix A

Exploration Location Plan

LEGEND

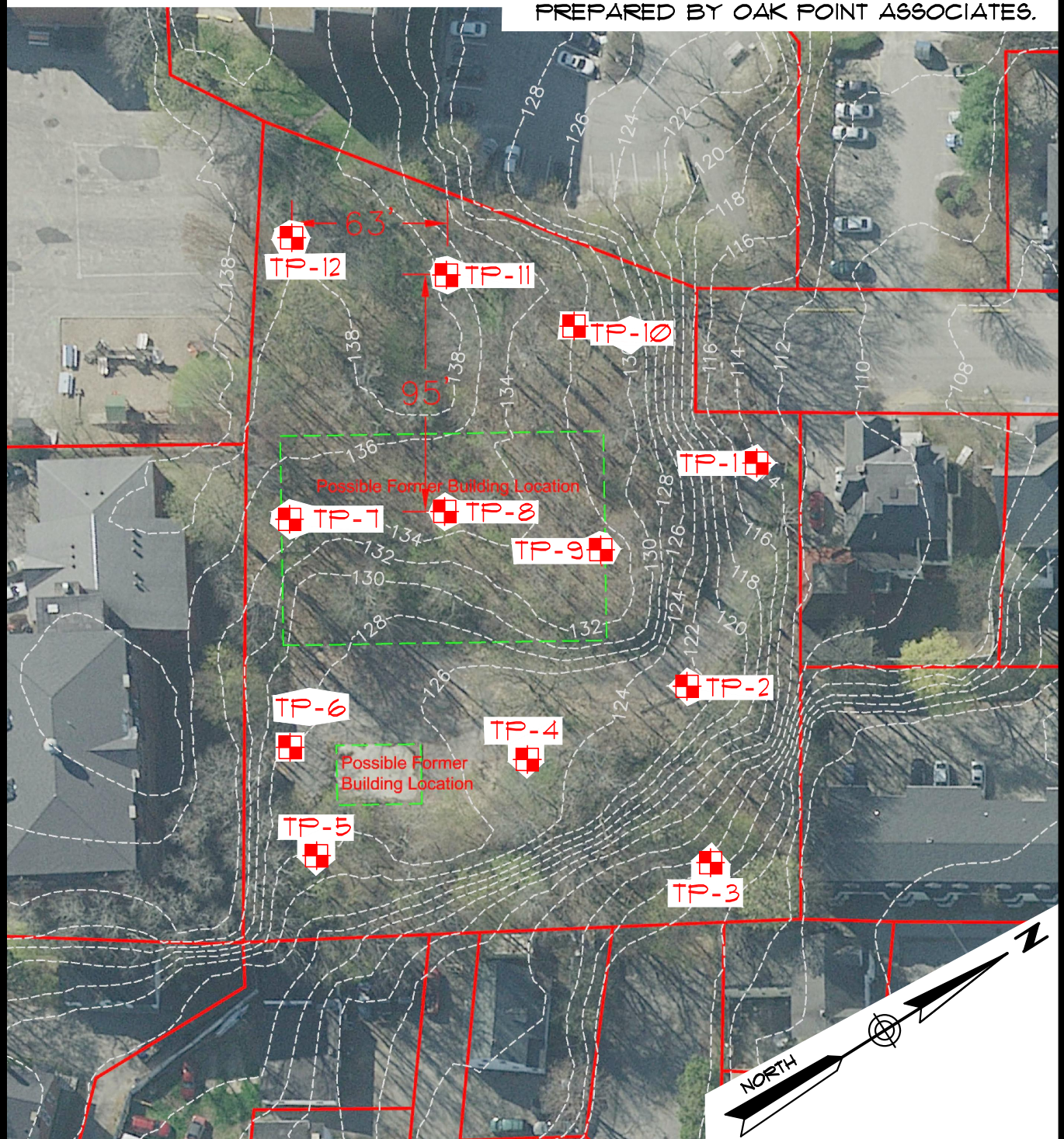


TP-1

SUMMIT TEST PIT
(MARCH 12, 2021)

PLAN REFERENCE

"ADAMS POINT HOUSING - EXISTING
CONDITIONS", DATED FEBRUARY 2021,
PREPARED BY OAK POINT ASSOCIATES.



TEST PIT LOCATION PLAN PROPOSED APARTMENTS

ADAMS STREET - BIDDEFORD, MAINE

PREPARED FOR

SOUTHERN MAINE AFFORDABLE HOUSING

145 LISBON ST. - SUITE 101
LEWISTON, ME 04240
Tel.: (207) 576-3313

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-1161

SUMMIT
GEOENGINEERING SERVICES
www.summitgeoeng.com

DATE: 3-15-2021	DRAWN BY: KRF	CHECKED BY: UMP
JOB: 21070	SCALE: 1" = 60'	FILE: 21070 TP

Appendix B

Exploration Logs

		TEST PIT LOG		Test Pit #	TP-1
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #:	21070
				Groundwater:	None observed
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 114 ft +/-			
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021			
Summit Staff: C. Plante, E.I.		Date: 3/12/2021		Weather: Sunny	
Depth (ft)	DESCRIPTION				
	ENGINEERING		GEOLOGIC/GENERAL		
	D brn Gravelly SILT, sm f Sand, tr roots, loose, moist, ML		TOPSOIL		
1	Brown Silty fine to medium SAND, some Gravel, compact, moist, SM		FILL		
2					
3	Brick fragments seen throughout				
4	Angular Cobbles with some Boulders and roots at 3.5 ft More Gravelly at 4 ft				
5	Brick fragments and very large boulder at 5 ft				
6	Hole caved-in frequently				
	End of Test Pit at 6 ft - No refusal				
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

		TEST PIT LOG		Test Pit # TP-2
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #: 21070
				Groundwater: None observed
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 122 ft +/-		
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021		
Summit Staff: C. Plante, E.I.		Date: 3/12/2021	Weather: Sunny	
Depth (ft)	DESCRIPTION			
	ENGINEERING		GEOLOGIC/GENERAL	
	D brn Silty f SAND, tr Grav and roots, compact, moist, SM		TOPSOIL	
1	Brown fine to medium SAND, some Silt and Gravel, loose, moist, SP		FILL	
2				
3				
4				
5				
6	Metal pipe, trash, and brick fragments at 3 ft			
7	Food wrapper found, dated 2011			
8	1" gray Clayey SILT balls and some Cobbles at 5 ft			
9	Roots to 6 ft			
10	Brown coarse SAND, with Gravel, few Boulders, compact, moist, SP		MARINE SHORELINE	
11	End of Test Pit at 8 ft - Refusal on a dense stratum		PROBABLE BEDROCK	
12				
13				
14				
15				
16				
17				

		TEST PIT LOG		Test Pit # TP-3
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #: 21070
				Groundwater: None observed
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 107 ft +/-		
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021		
Summit Staff: C. Plante, E.I.		Date: 3/12/2021	Weather: Sunny	
Depth (ft)	DESCRIPTION			
	ENGINEERING	GEOLOGIC/GENERAL		
	Forest Duff with many rootlets	TOPSOIL		
1	Brown Silty fine SAND, with Gravel, loose, moist, SM Cobbles at 1 ft	FILL		
2				
3	Many bricks, layered at 2.5 ft			
4	End of Test Pit at 3 ft - Refusal on a dense stratum			
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				



		TEST PIT LOG		Test Pit # TP-4
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #: 21070
				Groundwater: None observed
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 125 ft +/-		
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021		
Summit Staff: C. Plante, E.I.		Date: 3/12/2021	Weather: Sunny	
Depth (ft)	DESCRIPTION			
	ENGINEERING	GEOLOGIC/GENERAL		
1	Dark brown fine Sandy SILT, with Gravel, firm, moist, ML	FILL		
2	Cobbles and shredded cloth at 2 ft			
3	Brick fragments from 2 ft to 4 ft			
4	Sandy SILT becomes more Gravelly from 2 ft to 4 ft			
4	Rubble from 2 ft to 4 ft			
5	Brown fine Sandy SILT, some Gravel, trace Clay, firm, moist, ML	PROBABLE BEDROCK		
6				
7	Metal pipe, Cobbles, and rootlets at 6.5 ft			
8	End of Test Pit at 7 ft - Refusal on a dense stratum			
9				
10				
11				
12				
13				
14				
15				
16				
17				

		TEST PIT LOG		Test Pit # TP-5
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #: 21070
				Groundwater: None observed
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 126 ft +/-		
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021		
Summit Staff: C. Plante, E.I.		Date: 3/12/2021	Weather: Sunny	
Depth (ft)	DESCRIPTION			
	ENGINEERING		GEOLOGIC/GENERAL	
1	D brn f Sandy SILT, tr roots and trash, compact, moist, ML		TOPSOIL	
2	Brown Gravelly fine to medium SAND, trace Silt, some brick fragments, loose, moist, SW Larger Gravel, few Cobbles, and rubble at 3 ft		FILL	
3				
4				
5				
6	Brown medium Sandy GRAVEL, trace Silt, loose, moist, GP		MARINE SHORELINE	
7	Roots to 7 ft			
8	Red brn f Sandy SILT, with Gravel, compact, moist, ML Brn co SAND, w/ Gravel and Cobbles, compact, moist, SP			
9	End of Test Pit at 8.5 ft - Refusal on a dense stratum			
10				
11				
12				
13				
14				
15				
16				
17				

		TEST PIT LOG		Test Pit # TP-6
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #: 21070
				Groundwater: None observed
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 128 ft +/-		
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021		
Summit Staff: C. Plante, E.I.		Date: 3/12/2021	Weather: Sunny	
Depth (ft)	DESCRIPTION			
	ENGINEERING	GEOLOGIC/GENERAL		
1	Forest Duff	TOPSOIL		
2	Brown Gravelly medium SAND, trace Silt, compact, moist, SP	FILL		
3	White Gravelly coarse SAND, loose, moist, SP			
4	Metal pipe at 3 ft			
5	Brown Gravelly medium SAND, trace Silt, some porcelain and brick, compact, moist, SP			
6		MARINE SHORELINE		
7	Light reddish brown fine Sandy SILT, soft, moist, ML			
8	Brown Gravelly coarse SAND, compact, moist, SP			
9	End of Test Pit at 8 ft - Refusal on a dense stratum			
10				
11				
12				
13				
14				
15				
16				
17				

		TEST PIT LOG		Test Pit #	TP-7
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #:	21070
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 135 ft +/-		Groundwater:	None observed
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021			
Summit Staff: C. Plante, E.I.		Date: 3/12/2021	Weather: Sunny		
Depth (ft)	DESCRIPTION				
	ENGINEERING		GEOLOGIC/GENERAL		
	Forest Duff		TOPSOIL		
1	Brown Silty fine SAND, some Gravel, with Rootlets, loose, moist, SM		FILL		
2	Larger Gravel and Cobbles at 1 ft				
3	Brick fragments and large metal piece at 3 ft				
4	End of Test Pit at 3.5 ft - Refusal on probable bedrock		PROBABLE BEDROCK		
5	Test pit was lengthened to observe the tendencies of the probable bedrock				
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

		TEST PIT LOG		Test Pit #	TP-8
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #:	21070
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 135 ft +/-		Groundwater:	None observed
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021			
Summit Staff: C. Plante, E.I.		Date: 3/12/2021	Weather: Sunny		
Depth (ft)	DESCRIPTION				
	ENGINEERING		GEOLOGIC/GENERAL		
1	Dark/light brown Sandy SILT, trace Rootlets, loose, moist, ML		TOPSOIL		
2	End of Test Pit at 1 ft - Refusal on probable bedrock		PROBABLE BEDROCK		
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					



		TEST PIT LOG		Test Pit #	TP-9
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #:	21070
				Groundwater:	None observed
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 132 ft +/-			
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021			
Summit Staff: C. Plante, E.I.		Date: 3/12/2021		Weather: Sunny	
Depth (ft)	DESCRIPTION				
	ENGINEERING		GEOLOGIC/GENERAL		
1	Forest Duff with Rootlets		TOPSOIL		
	Brown fine Sandy SILT, trace Gravel, loose, moist, ML		FILL		
2	Large Gravel and angular Cobbles at 2 ft				
3	End of Test Pit at 2.5 ft - Refusal on probable bedrock		PROBABLE BEDROCK		
4	Refusal on bedrock ranged from 2.5 ft to 3.5 ft (East to West)				
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					

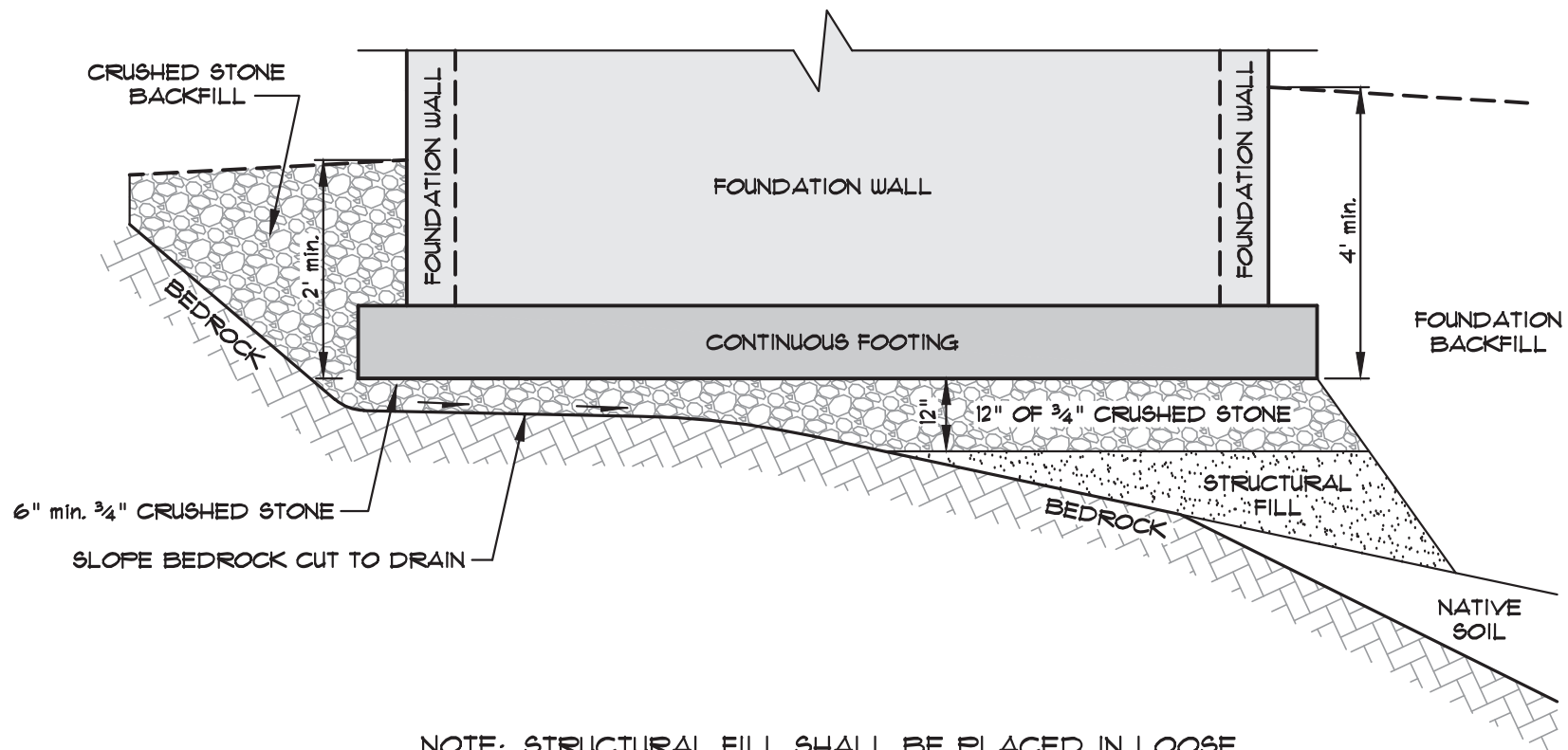
		TEST PIT LOG		Test Pit # TP-10
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #: 21070 Groundwater: Rapid seepage at 3 ft
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 131 ft +/-		
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021		
Summit Staff: C. Plante, E.I.		Date: 3/12/2021	Weather: Sunny	
Depth (ft)	DESCRIPTION			
	ENGINEERING		GEOLOGIC/GENERAL	
1	Gray Clayey SILT, some Gravel, firm, moist, ML		FILL	
2				
3				
4	Brown fine Sandy SILT, soft, wet, ML		MARINE SHORELINE	
5	Brown Gravelly medium SAND, compact, wet, SP Roots to 5 ft			
6				
7	End of Test Pit at 6 ft - Refusal on a dense stratum		PROBABLE BEDROCK	
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

		TEST PIT LOG		Test Pit # TP-11
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #: 21070
				Groundwater: None observed
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 137 ft +/-		
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021		
Summit Staff: C. Plante, E.I.		Date: 3/12/2021	Weather: Sunny	
Depth (ft)	DESCRIPTION			
	ENGINEERING		GEOLOGIC/GENERAL	
1	Dark brown fine Sandy SILT, with rootlets, loose, moist, ML		TOPSOIL	
2	Light brown fine Sandy SILT, with Gravel, soft, moist, ML		FILL	
3	Large Boulders at 1.5 ft			
4	End of Test Pit at 3.5 ft - Refusal on probable bedrock		PROBABLE BEDROCK	
5	Refusal on bedrock ranged from 0.5 ft to 3.5 ft (South to North)			
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				

		TEST PIT LOG		Test Pit # TP-12
		Project: Proposed Apartment Complex Adams Street Biddeford, ME		Project #: 21070
				Groundwater: None observed
Contractor: Summit Geoengineering Services, Inc.		Ground Surface Elevation: 138 ft +/-		
Equipment: Kubota Mini Tracked Excavator		Reference: Adams Point Housing, Existing Conditions, 02/2021		
Summit Staff: C. Plante, E.I.		Date: 3/12/2021	Weather: Sunny	
Depth (ft)	DESCRIPTION			
	ENGINEERING	GEOLOGIC/GENERAL		
1	Dark brown fine Sandy SILT, with Rootlets, loose, moist, ML	TOPSOIL		
2	End of Test Pit at 1.5 ft - Refusal on probable bedrock	PROBABLE BEDROCK		
3	Refusal on bedrock ranged from 0.5 ft to 1.5 ft (South to North)			
4				
5				
6				
7				
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12				
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15				
16				
17				

Appendix C

Bedrock References



NOTE: STRUCTURAL FILL SHALL BE PLACED IN LOOSE LIFTS WITH A MAXIMUM THICKNESS OF 12" AND BE COMPACTED TO 95% OF ASTM D1557.

CONTINUOUS FOOTING ON BEDROCK & SOIL

DATE: FEB. 3, 2021
JOB: 19344
FILE: 19344 SLAB
CHECKED BY: WMP
NOT TO SCALE

FIGURE 5.4

145 LISBON ST. - SUITE 601
LEWISTON, ME 04240
Tel.: (207) 576-3313



173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-7761

**SLAB & FOOTING CROSS SECTION
RINGING POINT**

COOKSEY DRIVE, MOUNT DESERT ISLAND, ME
PREPARED FOR
RINGING POINT, LLC

GENERAL BLASTING RECOMMENDATIONS

Introduction

Blasting operations will be performed in general accordance with the applicable Maine Revised Statute Title 125 and Title 38, U.S. Department of the Interior Rules, the recommendations provided below, and a normal standard of care.

Blast Design

The blasting contractor shall submit a blasting plan to the Owner for approval prior to blasting operations. The blasting plan shall include a schedule, sketches of the drill patterns (hole spacing and depth), type and amount of explosives, number and sequence of delays, methods for minimizing flyrock, and any other information pertinent to demonstrating compliance with the applicable U.S. Department of the Interior Rules and the requirements of the applicable Statute requirements of 38 MRSA.

Notification

Oral notification to the abutters within one-half mile of the blast area shall be provided prior to blasting. Warning and all clear signals of different character or pattern that are audible within one-half mile from the point of the blast shall be given. The meaning of the signals shall be conveyed to the abutters at the time they are notified.

Pre-blast Surveys

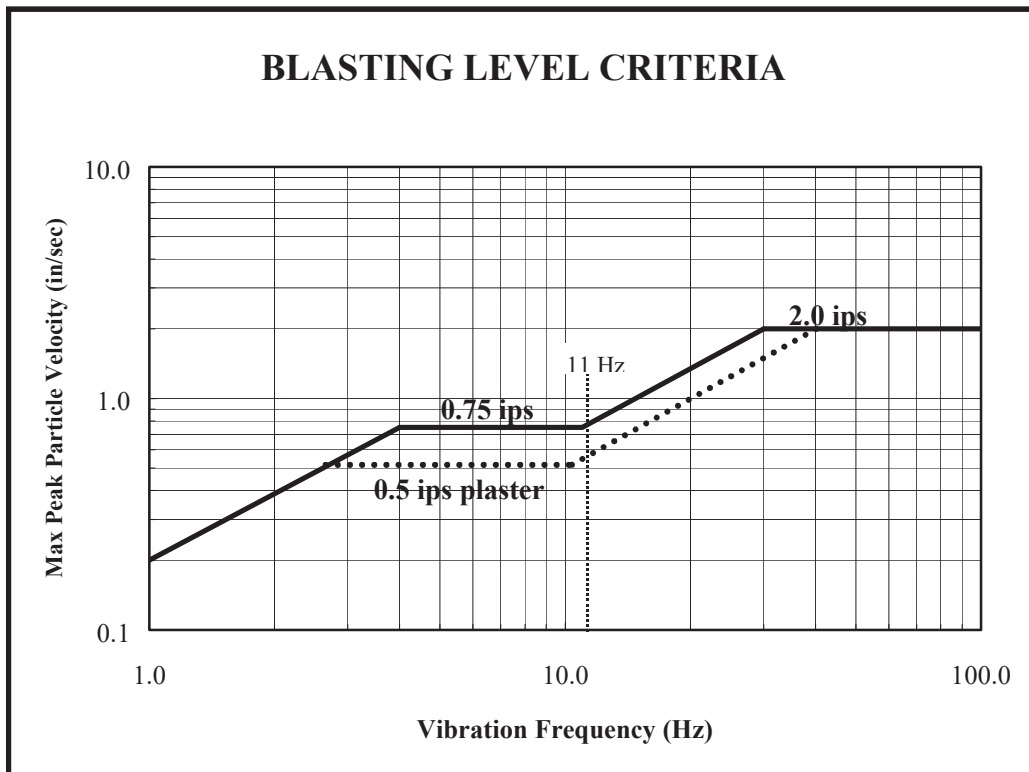
All blasting operations are the direct responsibility of the Blasting Contractor. Reports of damage to structures caused by blasting operations are the sole responsibility of the Blasting Contractor. Therefore, it is incumbent upon the Blasting Contractor to perform pre-blast surveys as they deem necessary.

Airblast Limits

Airblast overpressure shall not exceed the limits stipulated in 38 MRSA 490-Z(14)(H) at the nearest structure. This currently requires sound from blasting to not exceed 129 decibels peak at inhabited structures and 140 decibels peak at uninhabited structures.

Ground Vibration Limits

The maximum ground vibration at any structure shall not exceed the limits presented in the following chart:



REFERENCE: OSM alternative blasting criteria (Modified from figure B-1, Bureau of Mines, RI 8507)

The Blasting Contractor shall provide a seismographic record to the Owner for each blast event at the nearest off-site structure. The record shall include the date and time of the blast, peak and resultant particle velocities and associated frequencies, and the airblast overpressure.

Flyrock

Sufficient stemming, matting, or natural protective cover shall be provided to prevent flyrock from leaving property owned or under control of the operator or from entering protected natural resources or natural buffer strips.

Records

Records of blasts shall be recorded in accordance with Maine Statute 38 MRSA 490-Z(14)(L). The current requirements are as follows.

- Name of blasting company or blasting contractor
- Location, date and time of blast
- Name, signature and social security number of blaster
- Type of material blasted
- Number and spacing of holes and depth of burden or stemming
- Diameter and depth of holes
- Type of explosives used
- Total amount of explosives used
- Maximum amount of explosives used per delay period of 8 milliseconds or greater
- Maximum number of holes per delay period of 8 milliseconds or greater
- Method of firing and type of circuit
- Direction and distance in feet to the nearest dwelling, public building, school, church or commercial or institutional building neither owned nor controlled by the developer
- Weather conditions, including factors such as wind direction and cloud cover
- Height or length of stemming
- Amount of mats or other protection used
- Type of detonators used and delay periods used
- The exact location of each seismograph and the distance of each seismograph from the blast
- Seismographic readings
- Name and signature of the person operating each seismograph
- Names of the person and the firm analyzing the seismographic data

**MAXIMUM PARTICLE VELOCITY/DISTANCE CRITERIA
FOR BLASTING NEAR UNCURED CONCRETE**

Time From Batching (hr)	Non-Structural Concrete	Structural Concrete
0 – 4	4D	2D
4 – 24	1D	0.25D
24 – 72	1.5D	1D
72 – 168	3D	2D
168 – 240	8D	5D
Over 240	15D	10D

Distance (ft)	D (in/sec)
0 to 50	1.0
50 to 150	0.8
150 to 250	0.7
Over 250	0.6

NOTE: Allowable vibration levels are reduced with increasing distance since concrete can withstand higher vibration levels at higher frequencies. Vibration frequencies decrease as the distance from the blast increases because there is an attenuation of frequency with distance.

Reference: Wyllie, Duncan C. Foundations on Rock, 1st Ed, Chapman & Hall, London, 1992

10.Stormwater Narrative and Calculations

Stormwater Narrative
Site Plan/Subdivision Review Application
Adams Point
69 Adams Street
Biddeford, Maine 04005

August 2, 2021
Revised September 21, 2021

Stormwater flows for this project are required meet the requirements of the City of Biddeford Ordinance, and the post development flow rates must not exceed pre-development flow rates for the 25-year storm. Since this project is connected to an existing combined system, the 2-year and 10-year storms must not exceed pre-development flow rates.

Stormwater erosion and sedimentation controls are required to meet the State of Maine Chapter 500 Stormwater Management Rules (permit by rule with basic standards). The permit by rule application process is a notification to the department and a two-week waiting period at which time the department will contact the owner to request more information. The DEP permit by rule application was submitted on August 11, 2021 and there was no response from the DEP which indicates the permit was accepted by the department.

Stormwater quantity controls are achieved by use of underground storage tanks with controlled outlets.

The site is located at 69 Adams Street in Biddeford, Maine. The development work associated with this project will take place on property currently owned by Southern Maine Affordable Housing and is adjacent to another property (Parish Place) that is also under the same ownership. The property totals approximately 1.44 acres in size and was previously developed with a large rooming house, driveway, parking area and the foundation of a carriage house. The rooming house was lost in a fire in 1995. Most of the site is now wooded, and the pavement and carriage house foundation remain. This project is in the Saco River Watershed and drainage is conveyed via a subsurface stormwater/combined sewer system. This development includes of the following:

Existing Developed Area:	0.22 AC
Proposed Total Developed Area:	<u>1.02 AC</u>
<i>Net increase in Developed Area:</i>	<i>0.80 AC</i>

Existing Impervious Area:	0.22 AC
Proposed Impervious Area:	<u>0.76AC</u>
<i>Net Increase in Impervious Area:</i>	<i>0.56AC</i>

The site is situated within an urban area and generally bounded on the north and south by residential development. The site itself is mostly wooded. The site is generally sloping to the north and east at slopes ranging from 2 to 33 percent.

Topography on this site is generally steeply sloping from a high point at the north-northwest portion of the site which generally flows to the east and southeast towards Adams and Washington Streets.

The drainage areas affected by this project are indicated on drawing WS101 ("Watershed Plans"), included in the plan set. As indicated on this drawing, there are five different discharge points within the project area:

DP1 consists of runoff primarily from project area that drains into an existing catch basin on the south side of Adams Street. The existing driveway and paved area as well as a portion of the roof from Parish Place drain into this analysis point. This catch basin has a 12-inch outlet and is connected to the combined 12-inch sewer line in the center of Adams Street.

DP2 consists of runoff from a small portion of the proposed site and a larger area from the adjacent parking and roof areas associated with existing multi-family developments to the north of Adams Street. The run-off from this sub catchment follows the curb line to a catch basin on the north side of Adams Street.

DP3 consists of runoff from a wooded and sloped portion at the southwest area of the site and off-site roofs and parking at Parish Place and the rear of developed properties on Alfred and Washington Streets. Stormwater from this area flows into the curb line of Washington Street and into an existing catch basin.

DP4 consists of runoff from a wooded and sloped portion at the southeast area of the site and off-site roofs and parking of adjacent housing developments at the rear of Adams and Washington Streets. Stormwater from this area flows into the curb line of Washington Street and into an existing catch basin.

DP5 consists of runoff from the paved area at St James School to the north and the paved area at Parish Place on the east side of Birch Street. Stormwater from this area flows into an existing catch basin at parish place that discharges into a 10-inch pipe connected to the combined sewer on Birch Street.

In accordance with the Maine Stormwater Management Rules (Chapter 500), the project requires compliance with the Basic Standards. This will be achieved using Maine Erosion and Sedimentation Control Best Management Practices. The methods that will be used are shown in detail on the included drawings. They include the following:

- Sediment barriers placed on the down gradient of exposed soils
- Inlet protection on downstream structures
- Mulch or temporary seeding for temporary stabilization
- Erosion control blankets, netting, or riprap in erosion-prone areas (e.g. steep slopes and vegetated ditches)
- Excavation dewatering (silt bags or sediment ponds) for excavations below the groundwater elevation

Pre- and post-development runoff from the site has been modeled using the HydroCAD Stormwater Modeling System. The HydroCAD program is based largely on hydrology techniques developed by the Soil Conservation Service, primarily TR-55. In the HydroCAD Stormwater Model, it was assumed that all land cover types were in "good" condition as defined in U.S. Department of Agriculture Soil Conservation Services (SCS) publications.

A summary of pre and post runoff conditions are as follows:

Curve Numbers:

<u>Pre-Development Areas</u>					<u>Post-Development Areas</u>				
	Total	Imp	Woods	Land		Total	Imp	Woods	Land
1	31923	9348	21811	764	10	32145	16482	10017	5646
2	17060	5366	10277	1417	11	7244	655	0	6589
					20	9031	9031	0	0
					21	11110	6606	42	2386
					22	6408	3615	1758	1035
3	59081	31821	10196	17064	30	57888	31627	5016	21245
4	41667	20716	11331	9620	40	30666	15998	2290	11678
5	50046	31877	10115	8054	50	45225	31877	4600	8748
6	44117	36602	0	7515	60	44117	35651	0	8466

Time to Concentration:

Flow Path Data - Pre

Subcatchment 1					
		start	end		
item	length	elev	elev	slope	surface
sheet	100	139.4	135.17	0.042	woods
scf	115	135.17	127.37	0.068	woods
scf	134	127.37	122.5	0.036	pavement

Subcatchment 2					
		start	end		
item	length	elev	elev	slope	surface
sheet	74	134.2	129	0.070	woods
scf	39	129	113	0.410	woods
scf	100	113	107.5	0.055	pavement

Flow Path Data - Post

Subcatchment 10					
		start	end		
item	length	elev	elev	slope	surface
sheet	36	139.25	128	0.313	turf
scf	62	128	126.87	0.018	pavement

Subcatchment 11					
		start	end		
item	length	elev	elev	slope	surface
sheet	100	139.1	136.6	0.025	turf

Subcatchment 20					
		start	end		
item	length	elev	elev	slope	surface
sheet	32	-	-	0.010	Roof

Subcatchment 21					
		start	end		
item	length	elev	elev	slope	surface
sheet	62	126.5	124.7	0.0278	turf
scf	7	119	118.86	0.020	pavement

Subcatchment 22					
		start	end		
item	length	elev	elev	slope	surface
sheet	61	130.5	112	0.303	turf
scf	97	112	108.1	0.040	pavement

Subcatchment 3					
		start	end		
item	length	elev	elev	slope	surface
sheet	20	134.75	131.47	0.164	turf
sheet	30	131.47	128.52	0.098	pavement
scf	110	128.52	118.7	0.089	pavement
scf	85	118.7	111.33	0.087	pavement
scf	85	111.33	107.71	0.043	pavement

Subcatchment 30					
		start	end		
item	length	elev	elev	slope	surface
sheet	20	134.75	131.47	0.164	turf
sheet	30	131.47	128.52	0.098	pavement
scf	110	128.52	118.7	0.089	pavement
scf	85	118.7	111.33	0.087	pavement
scf	85	111.33	107.71	0.043	pavement

Subcatchment 4					
		start	end		
item	length	elev	elev	slope	surface
sheet	40	122.46	117.53	0.123	turf
sheet	10	117.53	116.7	0.083	pavement
scf	125	117.53	103.88	0.109	pavement
scf	50	103.88	102.04	0.037	pavement
scf	75	102.04	96.31	0.076	turf
scf	45	96.31	95.77	0.012	pavement

Subcatchment 40					
		start	end		
item	length	elev	elev	slope	surface
sheet	40	122.46	117.53	0.123	turf
sheet	10	117.53	116.7	0.083	pavement
scf	125	117.53	103.88	0.109	pavement
scf	50	103.88	102.04	0.037	pavement
scf	75	102.04	96.31	0.076	turf
scf	45	96.31	95.77	0.012	pavement

Subcatchment 5					
		start	end		
item	length	elev	elev	slope	surface
sheet	75	98.94	97.15	0.024	pavement
scf	180	97.15	93.11	0.022	pavement

Subcatchment 50					
		start	end		
item	length	elev	elev	slope	surface
sheet	75	98.94	97.15	0.024	pavement
scf	180	97.15	93.11	0.022	pavement

Subcatchment 6					
		start	end		
item	length	elev	elev	slope	surface
sheet	75	137.36	136.57	0.011	pavement
scf	225	136.57	131.12	0.024	pavement

Subcatchment 60					
		start	end		
item	length	elev	elev	slope	surface
sheet	75	137.36	136.57	0.011	pavement
scf	225	136.57	131.12	0.024	pavement

Runoff Rates:

Pre- and Post-Development Peak Runoff Rates (ft³/s)

Discharge Point	2-Year Storm		10-Year Storm		25-Year Storm	
	Pre	Post	Pre	Post	Pre	Post
DP1	1.2	1.2	2.4	2.1	3.4	3.3
DP2	3.2	3.2	5.5	5.5	7.4	7.4
DP3	2.1	1.6	3.8	2.8	5.1	3.8
DP4	2.9	2.9	4.9	4.7	6.5	6.1
DP5	3.1	3.0	4.8	4.8	6.2	6.1
Sum	12.5	11.9	21.4	19.9	28.6	26.7

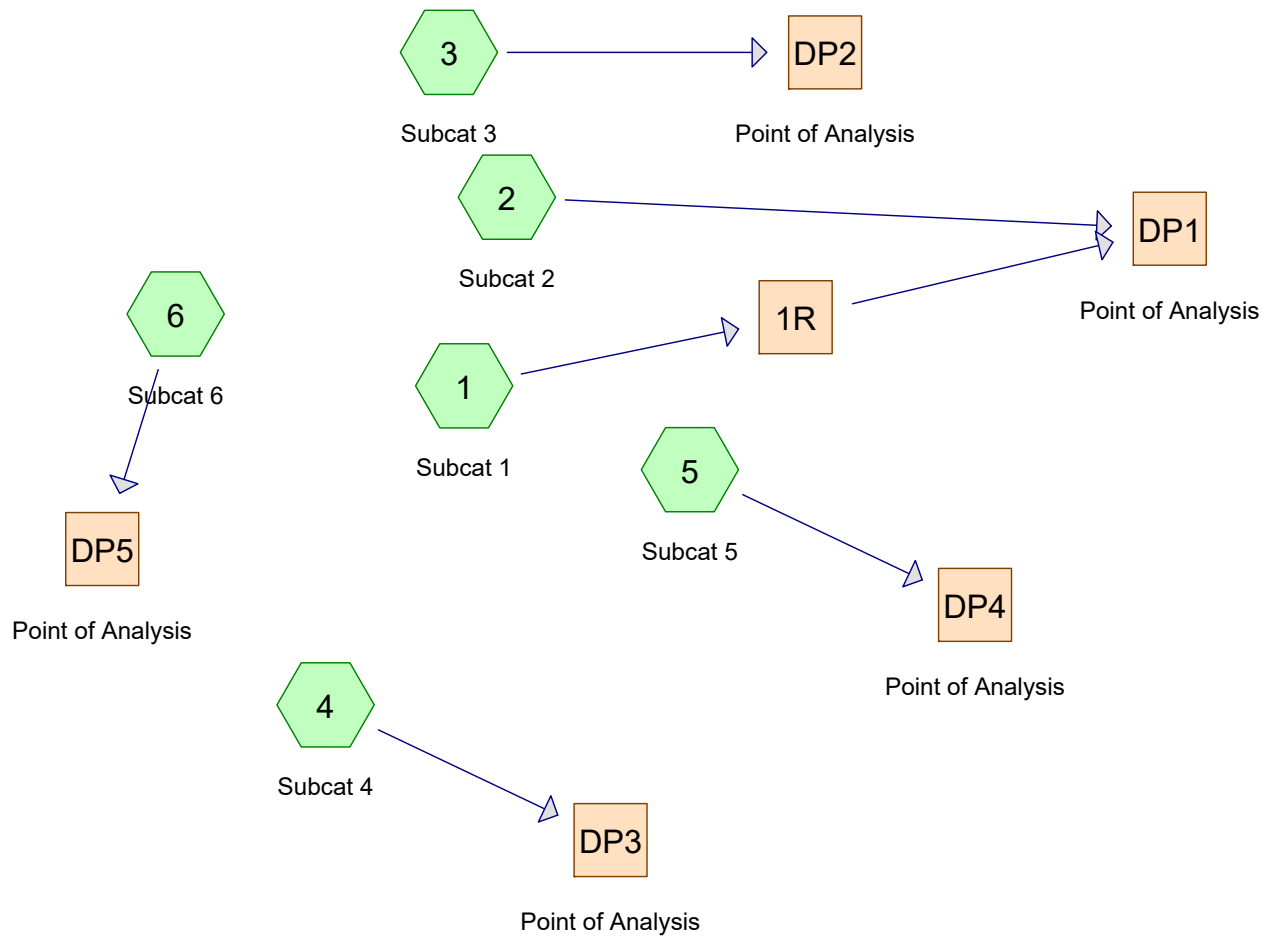
As indicated on the above table, post-development peak runoff rates for the sum of the discharge points are less than the pre-development rates for all storm events analyzed.

10.Stormwater Narrative and Calculations

a. Watershed Plans (Included in plan set)

10.Stormwater Narrative and Calculations

b. Pre-Developed Calculations



22104.04-Pre*Type III 24-hr 2-Year Rainfall=3.30"*

Prepared by {enter your company name here}

Printed 9/22/2021

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Page 1

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Subcat 1Runoff Area=31,923 sf 29.28% Impervious Runoff Depth>1.34"
Flow Length=349' Tc=19.5 min CN=78 Runoff=0.77 cfs 3,567 cf**Subcatchment2: Subcat 2**Runoff Area=17,060 sf 31.45% Impervious Runoff Depth>1.41"
Flow Length=213' Tc=11.7 min CN=79 Runoff=0.53 cfs 2,002 cf**Subcatchment3: Subcat 3**Runoff Area=59,081 sf 53.86% Impervious Runoff Depth>1.92"
Flow Length=330' Tc=5.0 min CN=86 Runoff=3.17 cfs 9,456 cf**Subcatchment4: Subcat 4**Runoff Area=41,667 sf 49.72% Impervious Runoff Depth>1.84"
Flow Length=345' Tc=5.1 min CN=85 Runoff=2.14 cfs 6,394 cf**Subcatchment5: Subcat 5**Runoff Area=50,046 sf 63.70% Impervious Runoff Depth>2.09"
Flow Length=255' Tc=5.0 min CN=88 Runoff=2.90 cfs 8,697 cf**Subcatchment6: Subcat 6**Runoff Area=44,117 sf 82.97% Impervious Runoff Depth>2.64"
Flow Length=300' Tc=5.0 min CN=94 Runoff=3.11 cfs 9,702 cf**Reach 1R:**Inflow=0.77 cfs 3,567 cf
Outflow=0.77 cfs 3,567 cf**Reach DP1: Point of Analysis**Inflow=1.21 cfs 5,569 cf
Outflow=1.21 cfs 5,569 cf**Reach DP2: Point of Analysis**Inflow=3.17 cfs 9,456 cf
Outflow=3.17 cfs 9,456 cf**Reach DP3: Point of Analysis**Inflow=2.14 cfs 6,394 cf
Outflow=2.14 cfs 6,394 cf**Reach DP4: Point of Analysis**Inflow=2.90 cfs 8,697 cf
Outflow=2.90 cfs 8,697 cf**Reach DP5: Point of Analysis**Inflow=3.11 cfs 9,702 cf
Outflow=3.11 cfs 9,702 cf

22104.04-Pre*Type III 24-hr 10-Year Rainfall=4.90"*

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Subcat 1Runoff Area=31,923 sf 29.28% Impervious Runoff Depth>2.62"
Flow Length=349' Tc=19.5 min CN=78 Runoff=1.54 cfs 6,960 cf**Subcatchment2: Subcat 2**Runoff Area=17,060 sf 31.45% Impervious Runoff Depth>2.71"
Flow Length=213' Tc=11.7 min CN=79 Runoff=1.03 cfs 3,852 cf**Subcatchment3: Subcat 3**Runoff Area=59,081 sf 53.86% Impervious Runoff Depth>3.37"
Flow Length=330' Tc=5.0 min CN=86 Runoff=5.49 cfs 16,597 cf**Subcatchment4: Subcat 4**Runoff Area=41,667 sf 49.72% Impervious Runoff Depth>3.27"
Flow Length=345' Tc=5.1 min CN=85 Runoff=3.76 cfs 11,364 cf**Subcatchment5: Subcat 5**Runoff Area=50,046 sf 63.70% Impervious Runoff Depth>3.57"
Flow Length=255' Tc=5.0 min CN=88 Runoff=4.88 cfs 14,893 cf**Subcatchment6: Subcat 6**Runoff Area=44,117 sf 82.97% Impervious Runoff Depth>4.21"
Flow Length=300' Tc=5.0 min CN=94 Runoff=4.82 cfs 15,464 cf**Reach 1R:**Inflow=1.54 cfs 6,960 cf
Outflow=1.54 cfs 6,960 cf**Reach DP1: Point of Analysis**Inflow=2.41 cfs 10,812 cf
Outflow=2.41 cfs 10,812 cf**Reach DP2: Point of Analysis**Inflow=5.49 cfs 16,597 cf
Outflow=5.49 cfs 16,597 cf**Reach DP3: Point of Analysis**Inflow=3.76 cfs 11,364 cf
Outflow=3.76 cfs 11,364 cf**Reach DP4: Point of Analysis**Inflow=4.88 cfs 14,893 cf
Outflow=4.88 cfs 14,893 cf**Reach DP5: Point of Analysis**Inflow=4.82 cfs 15,464 cf
Outflow=4.82 cfs 15,464 cf

Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 3

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment1: Subcat 1Runoff Area=31,923 sf 29.28% Impervious Runoff Depth>3.74"
Flow Length=349' Tc=19.5 min CN=78 Runoff=2.20 cfs 9,954 cf**Subcatchment2: Subcat 2**Runoff Area=17,060 sf 31.45% Impervious Runoff Depth>3.85"
Flow Length=213' Tc=11.7 min CN=79 Runoff=1.47 cfs 5,474 cf**Subcatchment3: Subcat 3**Runoff Area=59,081 sf 53.86% Impervious Runoff Depth>4.60"
Flow Length=330' Tc=5.0 min CN=86 Runoff=7.39 cfs 22,628 cf**Subcatchment4: Subcat 4**Runoff Area=41,667 sf 49.72% Impervious Runoff Depth>4.49"
Flow Length=345' Tc=5.1 min CN=85 Runoff=5.09 cfs 15,583 cf**Subcatchment5: Subcat 5**Runoff Area=50,046 sf 63.70% Impervious Runoff Depth>4.81"
Flow Length=255' Tc=5.0 min CN=88 Runoff=6.48 cfs 20,081 cf**Subcatchment6: Subcat 6**Runoff Area=44,117 sf 82.97% Impervious Runoff Depth>5.49"
Flow Length=300' Tc=5.0 min CN=94 Runoff=6.20 cfs 20,187 cf**Reach 1R:**Inflow=2.20 cfs 9,954 cf
Outflow=2.20 cfs 9,954 cf**Reach DP1: Point of Analysis**Inflow=3.44 cfs 15,428 cf
Outflow=3.44 cfs 15,428 cf**Reach DP2: Point of Analysis**Inflow=7.39 cfs 22,628 cf
Outflow=7.39 cfs 22,628 cf**Reach DP3: Point of Analysis**Inflow=5.09 cfs 15,583 cf
Outflow=5.09 cfs 15,583 cf**Reach DP4: Point of Analysis**Inflow=6.48 cfs 20,081 cf
Outflow=6.48 cfs 20,081 cf**Reach DP5: Point of Analysis**Inflow=6.20 cfs 20,187 cf
Outflow=6.20 cfs 20,187 cf

Summary for Subcatchment 1: Subcat 1

Runoff = 2.20 cfs @ 12.27 hrs, Volume= 9,954 cf, Depth> 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
*	9,348	98	Paved parking and Roofs, HSG C
*	764	74	Lawn Areas, HSG C
*	21,811	70	Woods, HSG C
	31,923	78	Weighted Average
	22,575		70.72% Pervious Area
	9,348		29.28% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.4	100	0.0420	0.10		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 2.70"
1.5	115	0.0680	1.30		Shallow Concentrated Flow, B-C
					Woodland Kv= 5.0 fps
0.6	134	0.0360	3.85		Shallow Concentrated Flow, C-D
					Paved Kv= 20.3 fps
19.5	349	Total			

Summary for Subcatchment 2: Subcat 2

Runoff = 1.47 cfs @ 12.16 hrs, Volume= 5,474 cf, Depth> 3.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
*	5,366	98	Paved parking and Roofs, HSG C
*	1,417	74	Lawn Areas, HSG C
*	10,277	70	Woods, HSG C
	17,060	79	Weighted Average
	11,694		68.55% Pervious Area
	5,366		31.45% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	74	0.0700	0.11		Sheet Flow, A-B
					Woods: Light underbrush n= 0.400 P2= 2.70"
0.2	39	0.4100	3.20		Shallow Concentrated Flow, B-C
					Woodland Kv= 5.0 fps
0.4	100	0.0550	4.76		Shallow Concentrated Flow, C-D
					Paved Kv= 20.3 fps
11.7	213	Total			

Summary for Subcatchment 3: Subcat 3

Runoff = 7.39 cfs @ 12.07 hrs, Volume= 22,628 cf, Depth> 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
*	31,821	98	Paved parking and Roofs, HSG C
*	17,064	74	Lawn Areas, HSG C
*	10,196	70	Woods, HSG C
	59,081	86	Weighted Average
	27,260		46.14% Pervious Area
	31,821		53.86% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	20	0.1640	0.18		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.70"
0.3	30	0.0980	1.88		Sheet Flow, B-C Smooth surfaces n= 0.011 P2= 2.70"
0.3	110	0.0890	6.06		Shallow Concentrated Flow, C-D Paved Kv= 20.3 fps
0.2	85	0.0870	5.99		Shallow Concentrated Flow, D-E Paved Kv= 20.3 fps
0.3	85	0.0430	4.21		Shallow Concentrated Flow, E-F Paved Kv= 20.3 fps
2.9	330	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 4: Subcat 4

Runoff = 5.09 cfs @ 12.07 hrs, Volume= 15,583 cf, Depth> 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
*	20,716	98	Paved parking and Roofs, HSG C
*	9,620	74	Lawn Areas, HSG C
*	11,331	70	Woods, HSG C
	41,667	85	Weighted Average
	20,951		50.28% Pervious Area
	20,716		49.72% Impervious Area

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Type III 24-hr 25-Year Rainfall=6.20"

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	40	0.1230	0.18		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.70"
0.1	10	0.0830	1.41		Sheet Flow, B-C Smooth surfaces n= 0.011 P2= 2.70"
0.3	125	0.1090	6.70		Shallow Concentrated Flow, C-D Paved Kv= 20.3 fps
0.2	50	0.0370	3.90		Shallow Concentrated Flow, D-E Paved Kv= 20.3 fps
0.6	75	0.0760	1.93		Shallow Concentrated Flow, E-F Short Grass Pasture Kv= 7.0 fps
0.3	45	0.0120	2.22		Shallow Concentrated Flow, F-G Paved Kv= 20.3 fps
5.1	345	Total			

Summary for Subcatchment 5: Subcat 5

Runoff = 6.48 cfs @ 12.07 hrs, Volume= 20,081 cf, Depth> 4.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

Area (sf)	CN	Description
* 31,877	98	Paved parking and Roofs, HSG C
* 8,054	74	Lawn Areas, HSG C
* 10,115	70	Woods, HSG C
50,046	88	Weighted Average
18,169		36.30% Pervious Area
31,877		63.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	75	0.0240	1.28		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.70"
1.0	180	0.0220	3.01		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
2.0	255	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 6: Subcat 6

Runoff = 6.20 cfs @ 12.07 hrs, Volume= 20,187 cf, Depth> 5.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

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Type III 24-hr 25-Year Rainfall=6.20"

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	Area (sf)	CN	Description
*	36,602	98	Paved parking and Roofs, HSG C
*	7,515	74	Lawn Areas, HSG C
*	0	70	Woods, HSG C
	44,117	94	Weighted Average
	7,515		17.03% Pervious Area
	36,602		82.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	75	0.0110	0.94		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.70"
1.2	225	0.0240	3.14		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
2.5	300	Total, Increased to minimum Tc = 5.0 min			

Summary for Reach 1R:

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 31,923 sf, 29.28% Impervious, Inflow Depth > 3.74" for 25-Year event
 Inflow = 2.20 cfs @ 12.27 hrs, Volume= 9,954 cf
 Outflow = 2.20 cfs @ 12.27 hrs, Volume= 9,954 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Summary for Reach DP1: Point of Analysis

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 48,983 sf, 30.04% Impervious, Inflow Depth > 3.78" for 25-Year event
 Inflow = 3.44 cfs @ 12.21 hrs, Volume= 15,428 cf
 Outflow = 3.44 cfs @ 12.21 hrs, Volume= 15,428 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Summary for Reach DP2: Point of Analysis

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 59,081 sf, 53.86% Impervious, Inflow Depth > 4.60" for 25-Year event
 Inflow = 7.39 cfs @ 12.07 hrs, Volume= 22,628 cf
 Outflow = 7.39 cfs @ 12.07 hrs, Volume= 22,628 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Summary for Reach DP3: Point of Analysis

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 41,667 sf, 49.72% Impervious, Inflow Depth > 4.49" for 25-Year event
Inflow = 5.09 cfs @ 12.07 hrs, Volume= 15,583 cf
Outflow = 5.09 cfs @ 12.07 hrs, Volume= 15,583 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Summary for Reach DP4: Point of Analysis

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 50,046 sf, 63.70% Impervious, Inflow Depth > 4.81" for 25-Year event
Inflow = 6.48 cfs @ 12.07 hrs, Volume= 20,081 cf
Outflow = 6.48 cfs @ 12.07 hrs, Volume= 20,081 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3

Summary for Reach DP5: Point of Analysis

[40] Hint: Not Described (Outflow=Inflow)

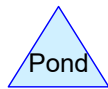
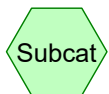
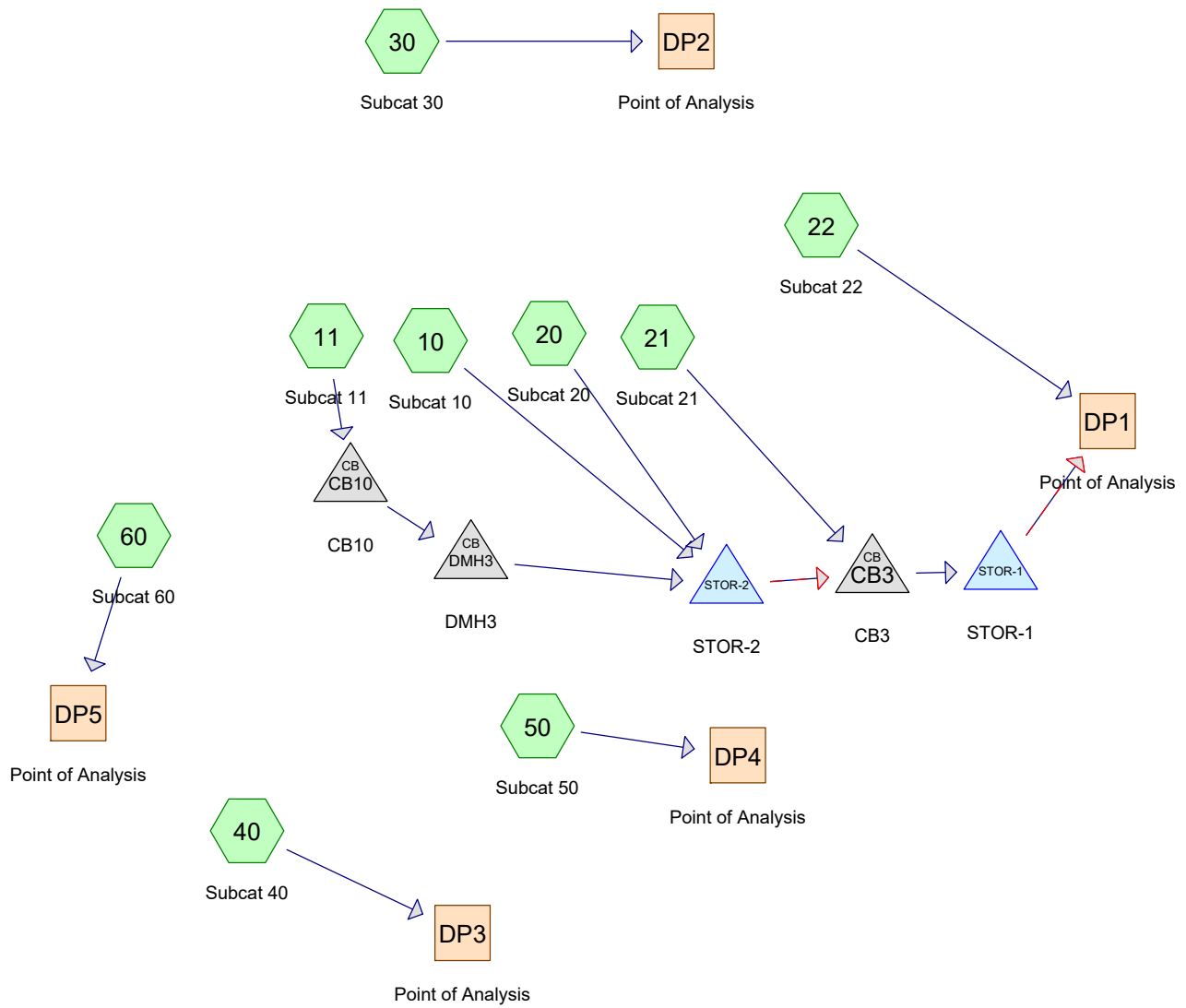
Inflow Area = 44,117 sf, 82.97% Impervious, Inflow Depth > 5.49" for 25-Year event
Inflow = 6.20 cfs @ 12.07 hrs, Volume= 20,187 cf
Outflow = 6.20 cfs @ 12.07 hrs, Volume= 20,187 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 3



10. Stormwater Narrative and Calculations

c. Post-Developed Calculations



Routing Diagram for 22104.04-Post
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Type III 24-hr 2-Year Rainfall=3.30"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment10: Subcat 10Runoff Area=32,145 sf 51.27% Impervious Runoff Depth>1.84"
Flow Length=98' Tc=5.0 min CN=85 Runoff=1.65 cfs 4,933 cf**Subcatchment11: Subcat 11**Runoff Area=7,244 sf 9.04% Impervious Runoff Depth>1.22"
Flow Length=100' Slope=0.0250 '/' Tc=14.2 min CN=76 Runoff=0.18 cfs 735 cf**Subcatchment20: Subcat 20**Runoff Area=9,031 sf 100.00% Impervious Runoff Depth>3.07"
Flow Length=32' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=0.69 cfs 2,307 cf**Subcatchment21: Subcat 21**Runoff Area=11,110 sf 59.46% Impervious Runoff Depth>2.08"
Flow Length=69' Tc=9.3 min CN=88 Runoff=0.56 cfs 1,929 cf**Subcatchment22: Subcat 22**Runoff Area=6,408 sf 56.41% Impervious Runoff Depth>1.92"
Flow Length=158' Tc=5.0 min CN=86 Runoff=0.34 cfs 1,026 cf**Subcatchment30: Subcat 30**Runoff Area=57,888 sf 54.63% Impervious Runoff Depth>2.00"
Flow Length=330' Tc=5.0 min CN=87 Runoff=3.23 cfs 9,657 cf**Subcatchment40: Subcat 40**Runoff Area=30,666 sf 52.17% Impervious Runoff Depth>1.92"
Flow Length=345' Tc=5.1 min CN=86 Runoff=1.64 cfs 4,908 cf**Subcatchment50: Subcat 50**Runoff Area=45,225 sf 70.49% Impervious Runoff Depth>2.35"
Flow Length=255' Tc=5.0 min CN=91 Runoff=2.91 cfs 8,858 cf**Subcatchment60: Subcat 60**Runoff Area=44,117 sf 80.81% Impervious Runoff Depth>2.54"
Flow Length=300' Tc=5.0 min CN=93 Runoff=3.02 cfs 9,338 cf**Reach DP1: Point of Analysis**Inflow=1.20 cfs 10,848 cf
Outflow=1.20 cfs 10,848 cf**Reach DP2: Point of Analysis**Inflow=3.23 cfs 9,657 cf
Outflow=3.23 cfs 9,657 cf**Reach DP3: Point of Analysis**Inflow=1.64 cfs 4,908 cf
Outflow=1.64 cfs 4,908 cf**Reach DP4: Point of Analysis**Inflow=2.91 cfs 8,858 cf
Outflow=2.91 cfs 8,858 cf**Reach DP5: Point of Analysis**Inflow=3.02 cfs 9,338 cf
Outflow=3.02 cfs 9,338 cf**Pond CB10: CB10**Peak Elev=132.58' Inflow=0.18 cfs 735 cf
12.0" Round Culvert n=0.013 L=42.0' S=0.0079 '/' Outflow=0.18 cfs 735 cf**Pond CB3: CB3**Peak Elev=110.03' Inflow=1.23 cfs 9,840 cf
12.0" Round Culvert n=0.013 L=68.0' S=0.0021 '/' Outflow=1.23 cfs 9,840 cf

22104.04-Post*Type III 24-hr 2-Year Rainfall=3.30"*

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Pond DMH3: DMH3

Peak Elev=124.70' Inflow=0.18 cfs 735 cf
12.0" Round Culvert n=0.013 L=165.0' S=0.0101 '/' Outflow=0.18 cfs 735 cf

Pond STOR-1: STOR-1

Peak Elev=106.92' Storage=544 cf Inflow=1.23 cfs 9,840 cf
Primary=1.06 cfs 9,822 cf Secondary=0.00 cfs 0 cf Outflow=1.06 cfs 9,822 cf

Pond STOR-2: STOR-2

Peak Elev=113.89' Storage=2,009 cf Inflow=2.45 cfs 7,975 cf
Primary=0.77 cfs 7,911 cf Secondary=0.00 cfs 0 cf Outflow=0.77 cfs 7,911 cf

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Type III 24-hr 10-Year Rainfall=4.90"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment10: Subcat 10Runoff Area=32,145 sf 51.27% Impervious Runoff Depth>3.27"
Flow Length=98' Tc=5.0 min CN=85 Runoff=2.91 cfs 8,767 cf**Subcatchment11: Subcat 11**Runoff Area=7,244 sf 9.04% Impervious Runoff Depth>2.45"
Flow Length=100' Slope=0.0250 '/' Tc=14.2 min CN=76 Runoff=0.37 cfs 1,477 cf**Subcatchment20: Subcat 20**Runoff Area=9,031 sf 100.00% Impervious Runoff Depth>4.66"
Flow Length=32' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=1.03 cfs 3,507 cf**Subcatchment21: Subcat 21**Runoff Area=11,110 sf 59.46% Impervious Runoff Depth>3.57"
Flow Length=69' Tc=9.3 min CN=88 Runoff=0.94 cfs 3,304 cf**Subcatchment22: Subcat 22**Runoff Area=6,408 sf 56.41% Impervious Runoff Depth>3.37"
Flow Length=158' Tc=5.0 min CN=86 Runoff=0.60 cfs 1,800 cf**Subcatchment30: Subcat 30**Runoff Area=57,888 sf 54.63% Impervious Runoff Depth>3.47"
Flow Length=330' Tc=5.0 min CN=87 Runoff=5.51 cfs 16,741 cf**Subcatchment40: Subcat 40**Runoff Area=30,666 sf 52.17% Impervious Runoff Depth>3.37"
Flow Length=345' Tc=5.1 min CN=86 Runoff=2.84 cfs 8,614 cf**Subcatchment50: Subcat 50**Runoff Area=45,225 sf 70.49% Impervious Runoff Depth>3.88"
Flow Length=255' Tc=5.0 min CN=91 Runoff=4.70 cfs 14,631 cf**Subcatchment60: Subcat 60**Runoff Area=44,117 sf 80.81% Impervious Runoff Depth>4.10"
Flow Length=300' Tc=5.0 min CN=93 Runoff=4.75 cfs 15,061 cf**Reach DP1: Point of Analysis**Inflow=2.11 cfs 18,751 cf
Outflow=2.11 cfs 18,751 cf**Reach DP2: Point of Analysis**Inflow=5.51 cfs 16,741 cf
Outflow=5.51 cfs 16,741 cf**Reach DP3: Point of Analysis**Inflow=2.84 cfs 8,614 cf
Outflow=2.84 cfs 8,614 cf**Reach DP4: Point of Analysis**Inflow=4.70 cfs 14,631 cf
Outflow=4.70 cfs 14,631 cf**Reach DP5: Point of Analysis**Inflow=4.75 cfs 15,061 cf
Outflow=4.75 cfs 15,061 cf**Pond CB10: CB10**Peak Elev=132.68' Inflow=0.37 cfs 1,477 cf
12.0" Round Culvert n=0.013 L=42.0' S=0.0079 '/' Outflow=0.37 cfs 1,477 cf**Pond CB3: CB3**Peak Elev=110.32' Inflow=1.99 cfs 16,974 cf
12.0" Round Culvert n=0.013 L=68.0' S=0.0021 '/' Outflow=1.99 cfs 16,974 cf

22104.04-Post*Type III 24-hr 10-Year Rainfall=4.90"*

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Pond DMH3: DMH3

Peak Elev=124.80' Inflow=0.37 cfs 1,477 cf
12.0" Round Culvert n=0.013 L=165.0' S=0.0101 '/' Outflow=0.37 cfs 1,477 cf

Pond STOR-1: STOR-1

Peak Elev=109.18' Storage=869 cf Inflow=1.99 cfs 16,974 cf
Primary=1.70 cfs 16,823 cf Secondary=0.19 cfs 128 cf Outflow=1.89 cfs 16,951 cf

Pond STOR-2: STOR-2

Peak Elev=116.76' Storage=3,663 cf Inflow=4.17 cfs 13,751 cf
Primary=1.43 cfs 13,670 cf Secondary=0.00 cfs 0 cf Outflow=1.43 cfs 13,670 cf

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Type III 24-hr 25-Year Rainfall=6.20"

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Time span=0.00-24.00 hrs, dt=0.01 hrs, 2401 points x 2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment10: Subcat 10Runoff Area=32,145 sf 51.27% Impervious Runoff Depth>4.49"
Flow Length=98' Tc=5.0 min CN=85 Runoff=3.94 cfs 12,022 cf**Subcatchment11: Subcat 11**Runoff Area=7,244 sf 9.04% Impervious Runoff Depth>3.54"
Flow Length=100' Slope=0.0250 '/' Tc=14.2 min CN=76 Runoff=0.54 cfs 2,139 cf**Subcatchment20: Subcat 20**Runoff Area=9,031 sf 100.00% Impervious Runoff Depth>5.96"
Flow Length=32' Slope=0.0100 '/' Tc=5.0 min CN=98 Runoff=1.31 cfs 4,484 cf**Subcatchment21: Subcat 21**Runoff Area=11,110 sf 59.46% Impervious Runoff Depth>4.81"
Flow Length=69' Tc=9.3 min CN=88 Runoff=1.24 cfs 4,455 cf**Subcatchment22: Subcat 22**Runoff Area=6,408 sf 56.41% Impervious Runoff Depth>4.60"
Flow Length=158' Tc=5.0 min CN=86 Runoff=0.80 cfs 2,454 cf**Subcatchment30: Subcat 30**Runoff Area=57,888 sf 54.63% Impervious Runoff Depth>4.71"
Flow Length=330' Tc=5.0 min CN=87 Runoff=7.37 cfs 22,698 cf**Subcatchment40: Subcat 40**Runoff Area=30,666 sf 52.17% Impervious Runoff Depth>4.60"
Flow Length=345' Tc=5.1 min CN=86 Runoff=3.82 cfs 11,745 cf**Subcatchment50: Subcat 50**Runoff Area=45,225 sf 70.49% Impervious Runoff Depth>5.15"
Flow Length=255' Tc=5.0 min CN=91 Runoff=6.13 cfs 19,407 cf**Subcatchment60: Subcat 60**Runoff Area=44,117 sf 80.81% Impervious Runoff Depth>5.38"
Flow Length=300' Tc=5.0 min CN=93 Runoff=6.13 cfs 19,765 cf**Reach DP1: Point of Analysis**Inflow=3.31 cfs 25,433 cf
Outflow=3.31 cfs 25,433 cf**Reach DP2: Point of Analysis**Inflow=7.37 cfs 22,698 cf
Outflow=7.37 cfs 22,698 cf**Reach DP3: Point of Analysis**Inflow=3.82 cfs 11,745 cf
Outflow=3.82 cfs 11,745 cf**Reach DP4: Point of Analysis**Inflow=6.13 cfs 19,407 cf
Outflow=6.13 cfs 19,407 cf**Reach DP5: Point of Analysis**Inflow=6.13 cfs 19,765 cf
Outflow=6.13 cfs 19,765 cf**Pond CB10: CB10**Peak Elev=132.76' Inflow=0.54 cfs 2,139 cf
12.0" Round Culvert n=0.013 L=42.0' S=0.0079 '/' Outflow=0.54 cfs 2,139 cf**Pond CB3: CB3**Peak Elev=110.87' Inflow=2.89 cfs 23,005 cf
12.0" Round Culvert n=0.013 L=68.0' S=0.0021 '/' Outflow=2.89 cfs 23,005 cf

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Pond DMH3: DMH3

Peak Elev=124.87' Inflow=0.54 cfs 2,139 cf
12.0" Round Culvert n=0.013 L=165.0' S=0.0101 '/' Outflow=0.54 cfs 2,139 cf

Pond STOR-1: STOR-1

Peak Elev=109.61' Storage=931 cf Inflow=2.89 cfs 23,005 cf
Primary=1.79 cfs 21,551 cf Secondary=1.07 cfs 1,428 cf Outflow=2.86 cfs 22,979 cf

Pond STOR-2: STOR-2

Peak Elev=119.00' Storage=4,954 cf Inflow=5.59 cfs 18,645 cf
Primary=1.95 cfs 18,551 cf Secondary=0.00 cfs 0 cf Outflow=1.95 cfs 18,551 cf

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Summary for Subcatchment 10: Subcat 10

Runoff = 3.94 cfs @ 12.07 hrs, Volume= 12,022 cf, Depth> 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
*	16,482	98	Paved parking and Roofs, HSG C
*	5,646	74	Lawn Areas, HSG C
*	10,017	70	Woods, HSG C
	32,145	85	Weighted Average
	15,663		48.73% Pervious Area
	16,482		51.27% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.3	36	0.3130	0.26		Sheet Flow, A-B
					Grass: Dense n= 0.240 P2= 2.70"
0.4	62	0.0180	2.72		Shallow Concentrated Flow, B-C
					Paved Kv= 20.3 fps
2.7	98	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 11: Subcat 11

Runoff = 0.54 cfs @ 12.20 hrs, Volume= 2,139 cf, Depth> 3.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
*	655	98	Paved parking and Roofs, HSG C
*	6,589	74	Lawn Areas, HSG C
*	0	70	Woods, HSG C
	7,244	76	Weighted Average
	6,589		90.96% Pervious Area
	655		9.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.2	100	0.0250	0.12		Sheet Flow, A-B
					Grass: Dense n= 0.240 P2= 2.70"

Summary for Subcatchment 20: Subcat 20

Runoff = 1.31 cfs @ 12.07 hrs, Volume= 4,484 cf, Depth> 5.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

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	Area (sf)	CN	Description
*	9,031	98	Paved parking and Roofs, HSG C
*	0	74	Lawn Areas, HSG C
*	0	70	Woods, HSG C
	9,031	98	Weighted Average
	9,031		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.7	32	0.0100	0.76		Sheet Flow, A-B
					Smooth surfaces n= 0.011 P2= 2.70"
0.7	32	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 21: Subcat 21

Runoff = 1.24 cfs @ 12.13 hrs, Volume= 4,455 cf, Depth> 4.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
*	6,606	98	Paved parking and Roofs, HSG C
*	4,462	74	Lawn Areas, HSG C
*	42	70	Woods, HSG C
	11,110	88	Weighted Average
	4,504		40.54% Pervious Area
	6,606		59.46% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	62	0.0278	0.11		Sheet Flow, A-B
					Grass: Dense n= 0.240 P2= 2.70"
0.0	7	0.0200	2.87		Shallow Concentrated Flow, BC
					Paved Kv= 20.3 fps
9.3	69	Total			

Summary for Subcatchment 22: Subcat 22

Runoff = 0.80 cfs @ 12.07 hrs, Volume= 2,454 cf, Depth> 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
*	3,615	98	Paved parking and Roofs, HSG C
*	1,035	74	Lawn Areas, HSG C
*	1,758	70	Woods, HSG C
	6,408	86	Weighted Average
	2,793		43.59% Pervious Area
	3,615		56.41% Impervious Area

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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	61	0.3030	0.29		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.70"
0.4	97	0.0400	4.06		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
3.9	158	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 30: Subcat 30

Runoff = 7.37 cfs @ 12.07 hrs, Volume= 22,698 cf, Depth> 4.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
*	31,627	98	Paved parking and Roofs, HSG C
*	21,245	74	Lawn Areas, HSG C
*	5,016	70	Woods, HSG C
	57,888	87	Weighted Average
	26,261		45.37% Pervious Area
	31,627		54.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.8	20	0.1640	0.18		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.70"
0.3	30	0.0980	1.88		Sheet Flow, B-C Smooth surfaces n= 0.011 P2= 2.70"
0.3	110	0.0890	6.06		Shallow Concentrated Flow, C-D Paved Kv= 20.3 fps
0.2	85	0.0870	5.99		Shallow Concentrated Flow, D-E Paved Kv= 20.3 fps
0.3	85	0.0430	4.21		Shallow Concentrated Flow, E-F Paved Kv= 20.3 fps
2.9	330	Total, Increased to minimum Tc = 5.0 min			

Summary for Subcatchment 40: Subcat 40

Runoff = 3.82 cfs @ 12.07 hrs, Volume= 11,745 cf, Depth> 4.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

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	Area (sf)	CN	Description
*	15,998	98	Paved parking and Roofs, HSG C
*	11,678	74	Lawn Areas, HSG C
*	2,990	70	Woods, HSG C
	30,666	86	Weighted Average
	14,668		47.83% Pervious Area
	15,998		52.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.6	40	0.1230	0.18		Sheet Flow, A-B Grass: Dense n= 0.240 P2= 2.70"
0.1	10	0.0830	1.41		Sheet Flow, B-C Smooth surfaces n= 0.011 P2= 2.70"
0.3	125	0.1090	6.70		Shallow Concentrated Flow, C-D Paved Kv= 20.3 fps
0.2	50	0.0370	3.90		Shallow Concentrated Flow, D-E Paved Kv= 20.3 fps
0.6	75	0.0760	1.93		Shallow Concentrated Flow, E-F Short Grass Pasture Kv= 7.0 fps
0.3	45	0.0120	2.22		Shallow Concentrated Flow, F-G Paved Kv= 20.3 fps
5.1	345	Total			

Summary for Subcatchment 50: Subcat 50

Runoff = 6.13 cfs @ 12.07 hrs, Volume= 19,407 cf, Depth> 5.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
*	31,877	98	Paved parking and Roofs, HSG C
*	8,748	74	Lawn Areas, HSG C
*	4,600	70	Woods, HSG C
	45,225	91	Weighted Average
	13,348		29.51% Pervious Area
	31,877		70.49% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	75	0.0240	1.28		Sheet Flow, A-B Smooth surfaces n= 0.011 P2= 2.70"
1.0	180	0.0220	3.01		Shallow Concentrated Flow, B-C Paved Kv= 20.3 fps
2.0	255	Total, Increased to minimum Tc = 5.0 min			

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Summary for Subcatchment 60: Subcat 60

Runoff = 6.13 cfs @ 12.07 hrs, Volume= 19,765 cf, Depth> 5.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-Year Rainfall=6.20"

	Area (sf)	CN	Description
*	35,651	98	Paved parking and Roofs, HSG C
*	8,466	74	Lawn Areas, HSG C
*	0	70	Woods, HSG C
	44,117	93	Weighted Average
	8,466		19.19% Pervious Area
	35,651		80.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	75	0.0110	0.94		Sheet Flow, A-B
					Smooth surfaces n= 0.011 P2= 2.70"
1.2	225	0.0240	3.14		Shallow Concentrated Flow, B-C
					Paved Kv= 20.3 fps
2.5	300	Total, Increased to minimum Tc = 5.0 min			

Summary for Reach DP1: Point of Analysis

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 65,938 sf, 55.19% Impervious, Inflow Depth > 4.63" for 25-Year event
 Inflow = 3.31 cfs @ 12.17 hrs, Volume= 25,433 cf
 Outflow = 3.31 cfs @ 12.17 hrs, Volume= 25,433 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2

Summary for Reach DP2: Point of Analysis

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 57,888 sf, 54.63% Impervious, Inflow Depth > 4.71" for 25-Year event
 Inflow = 7.37 cfs @ 12.07 hrs, Volume= 22,698 cf
 Outflow = 7.37 cfs @ 12.07 hrs, Volume= 22,698 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2

Summary for Reach DP3: Point of Analysis

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 30,666 sf, 52.17% Impervious, Inflow Depth > 4.60" for 25-Year event
 Inflow = 3.82 cfs @ 12.07 hrs, Volume= 11,745 cf
 Outflow = 3.82 cfs @ 12.07 hrs, Volume= 11,745 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2

Summary for Reach DP4: Point of Analysis

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 45,225 sf, 70.49% Impervious, Inflow Depth > 5.15" for 25-Year event
 Inflow = 6.13 cfs @ 12.07 hrs, Volume= 19,407 cf
 Outflow = 6.13 cfs @ 12.07 hrs, Volume= 19,407 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2

Summary for Reach DP5: Point of Analysis

[40] Hint: Not Described (Outflow=Inflow)

Inflow Area = 44,117 sf, 80.81% Impervious, Inflow Depth > 5.38" for 25-Year event
 Inflow = 6.13 cfs @ 12.07 hrs, Volume= 19,765 cf
 Outflow = 6.13 cfs @ 12.07 hrs, Volume= 19,765 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2

Summary for Pond CB10: CB10

Inflow Area = 7,244 sf, 9.04% Impervious, Inflow Depth > 3.54" for 25-Year event
 Inflow = 0.54 cfs @ 12.20 hrs, Volume= 2,139 cf
 Outflow = 0.54 cfs @ 12.20 hrs, Volume= 2,139 cf, Atten= 0%, Lag= 0.0 min
 Primary = 0.54 cfs @ 12.20 hrs, Volume= 2,139 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 132.76' @ 12.20 hrs

Flood Elev= 137.12'

Device	Routing	Invert	Outlet Devices
#1	Primary	132.36'	12.0" Round Culvert L= 42.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 132.36' / 132.03' S= 0.0079 ' S= 0.0079 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.54 cfs @ 12.20 hrs HW=132.76' TW=124.87' (Dynamic Tailwater)

↑ **1=Culvert** (Barrel Controls 0.54 cfs @ 2.73 fps)

Summary for Pond CB3: CB3

Inflow Area = 59,530 sf, 55.05% Impervious, Inflow Depth > 4.64" for 25-Year event
 Inflow = 2.89 cfs @ 12.16 hrs, Volume= 23,005 cf
 Outflow = 2.89 cfs @ 12.16 hrs, Volume= 23,005 cf, Atten= 0%, Lag= 0.0 min
 Primary = 2.89 cfs @ 12.16 hrs, Volume= 23,005 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2

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Peak Elev= 110.87' @ 12.16 hrs

Flood Elev= 112.96'

Device	Routing	Invert	Outlet Devices
#1	Primary	109.24'	12.0" Round Culvert L= 68.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 109.24' / 109.10' S= 0.0021 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=2.89 cfs @ 12.16 hrs HW=110.86' TW=109.57' (Dynamic Tailwater)↑**1=Culvert** (Barrel Controls 2.89 cfs @ 3.68 fps)**Summary for Pond DMH3: DMH3**

Inflow Area = 7,244 sf, 9.04% Impervious, Inflow Depth > 3.54" for 25-Year event
Inflow = 0.54 cfs @ 12.20 hrs, Volume= 2,139 cf
Outflow = 0.54 cfs @ 12.20 hrs, Volume= 2,139 cf, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.20 hrs, Volume= 2,139 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 124.87' @ 12.20 hrs

Flood Elev= 137.38'

Device	Routing	Invert	Outlet Devices
#1	Primary	124.50'	12.0" Round Culvert L= 165.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 124.50' / 122.84' S= 0.0101 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=0.54 cfs @ 12.20 hrs HW=124.87' TW=118.30' (Dynamic Tailwater)↑**1=Culvert** (Inlet Controls 0.54 cfs @ 2.06 fps)**Summary for Pond STOR-1: STOR-1**

Inflow Area = 59,530 sf, 55.05% Impervious, Inflow Depth > 4.64" for 25-Year event
Inflow = 2.89 cfs @ 12.16 hrs, Volume= 23,005 cf
Outflow = 2.86 cfs @ 12.18 hrs, Volume= 22,979 cf, Atten= 1%, Lag= 1.6 min
Primary = 1.79 cfs @ 12.18 hrs, Volume= 21,551 cf
Secondary = 1.07 cfs @ 12.18 hrs, Volume= 1,428 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 109.61' @ 12.18 hrs Surf.Area= 144 sf Storage= 931 cf

Flood Elev= 112.28' Surf.Area= 144 sf Storage= 1,076 cf

Plug-Flow detention time= 7.2 min calculated for 22,969 cf (100% of inflow)

Center-of-Mass det. time= 6.5 min (821.2 - 814.7)

Volume	Invert	Avail.Storage	Storage Description
#1	103.14'	1,076 cf	9.00'W x 16.00'L x 7.47'H Prismaoid

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Device	Routing	Invert	Outlet Devices
#1	Primary	103.14'	4.0" Vert. Orifice/Grate C= 0.600
#2	Primary	106.36'	4.0" Vert. Orifice/Grate C= 0.600
#3	Secondary	108.90'	12.0" Round Culvert L= 6.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 108.90' / 108.87' S= 0.0050 ' S= 0.0050 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.79 cfs @ 12.18 hrs HW=109.60' TW=0.00' (Dynamic Tailwater)└─**1=Orifice/Grate** (Orifice Controls 1.05 cfs @ 12.08 fps)└─**2=Orifice/Grate** (Orifice Controls 0.74 cfs @ 8.45 fps)**Secondary OutFlow** Max=1.06 cfs @ 12.18 hrs HW=109.60' TW=0.00' (Dynamic Tailwater)└─**3=Culvert** (Barrel Controls 1.06 cfs @ 2.53 fps)**Summary for Pond STOR-2: STOR-2**

Inflow Area = 48,420 sf, 54.04% Impervious, Inflow Depth > 4.62" for 25-Year event
Inflow = 5.59 cfs @ 12.07 hrs, Volume= 18,645 cf
Outflow = 1.95 cfs @ 12.39 hrs, Volume= 18,551 cf, Atten= 65%, Lag= 18.7 min
Primary = 1.95 cfs @ 12.39 hrs, Volume= 18,551 cf
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2

Peak Elev= 119.00' @ 12.38 hrs Surf.Area= 576 sf Storage= 4,954 cf

Flood Elev= 121.10' Surf.Area= 576 sf Storage= 6,048 cf

Plug-Flow detention time= 34.9 min calculated for 18,543 cf (99% of inflow)

Center-of-Mass det. time= 31.7 min (820.0 - 788.3)

Volume	Invert	Avail.Storage	Storage Description
#1	110.40'	6,048 cf	9.00'W x 16.00'L x 10.50'H Prismatic x 4

Device	Routing	Invert	Outlet Devices
#1	Primary	110.40'	4.0" Vert. Orifice/Grate C= 0.600
#2	Primary	115.74'	4.0" Vert. Orifice/Grate C= 0.600
#3	Secondary	119.36'	12.0" Round Culvert L= 6.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 119.36' / 119.33' S= 0.0050 ' S= 0.0050 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Primary OutFlow Max=1.95 cfs @ 12.39 hrs HW=119.00' TW=110.66' (Dynamic Tailwater)└─**1=Orifice/Grate** (Orifice Controls 1.21 cfs @ 13.90 fps)└─**2=Orifice/Grate** (Orifice Controls 0.74 cfs @ 8.47 fps)**Secondary OutFlow** Max=0.00 cfs @ 0.00 hrs HW=110.40' TW=109.24' (Dynamic Tailwater)└─**3=Culvert** (Controls 0.00 cfs)

11.Stormwater Maintenance Plan

Stormwater Maintenance / Inspection Plan

This Maintenance Plan has been prepared for this specific site. Regular maintenance of the on-site stormwater facilities is required to ensure they are functioning as intended and to prevent re-suspension and transport of sediment to existing downstream watercourses.

Maintenance of the stormwater management system components will be the responsibility of the Southern Maine Affordable Housing. The person responsible for implementing the maintenance plan and coordinating maintenance procedures with contracted entities is as follows:

Guy Gagnon, Facilities Director
Southern Maine Affordable Housing
22 South Street
Biddeford, ME 04005
Phone: 207-415-2939
Email: ggagnonbha@maine.rr.com

Records of all stormwater facilities inspections and maintenance work accomplished must be kept on file and retained for a minimum period of five years. A sample maintenance log is attached.

During construction of the proposed treatment areas, inspection and maintenance of erosion and sedimentation control practices and stormwater treatment practices will be the responsibility of the contractor. Refer to the attached drawings for inspection and maintenance requirements during construction.

Facilities that will require regular maintenance after the project has been accepted by the owner are listed below along with a description of the required maintenance. The specified maintenance tasks and schedule is intended to identify the minimum requirements. Additional maintenance may be required based on site specific conditions.

Sweeping

Paved surfaces shall be swept or vacuumed at least 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.

Roadways and Parking Surfaces			
	Spring	Fall or Yearly	After a Major Storm
Clear accumulated winter sand in parking lots and along walkways.	X		
Sweep pavement to remove sediment.	X		
Ensure that stormwater is not impeded by accumulations of material.	X		

Catch Basins

Catch basins shall be inspected annually for debris and the accumulation of sediments. Large debris and debris blocking inlet grates shall be removed immediately. Sediment accumulations shall be removed when sediment reaches two thirds of the total volume of the sump. Vacuuming sediments from catch basins must be done by a vacuum truck. The removed material must be disposed of in accordance with Maine's Solid Waste Disposal Rules. Sump skimmers installed in basins located in paved areas to absorb hydrocarbons shall be inspected and replaced when saturated.

<u>Catch Basin</u>				
	<u>Spring</u>	<u>Fall or Yearly</u>	<u>After a Major Storm</u>	<u>As Needed</u>
Inspect sump skimmer (catch basins in paved areas). Replace when saturated		<u>X</u>		
Inspect for accumulation of sediments		<u>X</u>		
Remove and legally dispose of accumulated sediments and debris from the bottom of the basin, inlet grates, inflow channels to the basin, and pipes between basins.				<u>X</u>
Remove floating debris and floating oils (using oil absorptive pads).	<u>X</u>	<u>X</u>		<u>X</u>
Inspect sumps annually and clean with vacuum pump when sediment occupies more than two thirds of the sump capacity. Clean drain lines when sediment occupies more than 20% of pipe diameter.	<u>X</u>	<u>X</u>		<u>X</u>

Storage Tanks

Storage Tanks shall be inspected annually for debris and the accumulation of sediments. Large debris and debris blocking inlet or outlets shall be removed immediately. Sediment accumulations shall be removed when sediment reaches the inverts of the pipes. Vacuuming sediments from Storage Tanks must be done by a vacuum truck. The removed material must be disposed of in accordance with Maine's Solid Waste Disposal Rules.

Storage Tanks				
	<u>Spring</u>	<u>Fall or Yearly</u>	<u>After a Major Storm</u>	<u>As Needed</u>
Inspect for accumulation of sediments		<u>X</u>		
Remove and legally dispose of accumulated sediments and debris from the bottom of the storage tanks, inlet and outlet pipes, and pipes between structures.				<u>X</u>
Remove floating debris and floating oils (using oil absorptive pads).	<u>X</u>	<u>X</u>		<u>X</u>
Inspect tanks annually and clean with vacuum pump when sediment reaches the invert of the pipes.	<u>X</u>	<u>X</u>		<u>X</u>

Vegetated Areas

Areas of maintained lawn are to be inspected regularly for signs of erosion and channelization. Areas where erosion is occurring, or areas of sparse growth shall be replanted and stabilized.

Vegetated Areas			
	<u>Spring</u>	<u>Fall or Yearly</u>	<u>After a Major Storm</u>
Inspect all slopes and embankments.	X		
Replant bare areas or areas with sparse growth.	X		
A armor areas with rill erosions with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows.	X		

*A major storm event is classified as a rainfall total of 1.0 inches or more in a 24-hour period (a 2-year storm event).

Stormwater Maintenance/Erosion & Sediment Control
Maintenance Log

This sample Maintenance Log is intended to accompany the Stormwater Management Facilities Maintenance Plan. The contractor shall maintain this log (or a similar log) from the start of construction through acceptance of the facilities by the owner. Following acceptance of the facilities, the owner shall be responsible for maintenance and updating the maintenance log.

The following items shall be checked, cleaned, and maintained on a regular basis as specified in the Maintenance Plan and/or as described in the table below.

Item	Maintenance Required & Frequency	Date Completed	Maintenance Personnel	Comments
Roadways and Parking Surfaces	Clear accumulated winter sand in parking lots and along walkways.			
	Sweep pavement to remove sediment.			
	Ensure that stormwater is not impeded by accumulations of material.			
Catch Basins & Drain Lines	Inspect sump skimmers in catch basins in paved areas (annually in spring). Replace when saturated.			
	Inspect sumps (annually in spring). Clean with vacuum pump when sediment occupies more than two thirds of the sump capacity.			
	Inspect drain lines (annually in spring). Clean when sediment occupies more than 20% of pipe diameter.			
	Inspect drain line inlets/outlets (annually in spring). Remove accumulated sediments when needed.			
Storage Tanks	Inspect Bottom and pipe inverts (annually in spring). Clean with vacuum pump when sediment reaches pipe inverts.			
	Inspect drain lines (annually in spring). Clean when sediment occupies more than 20% of pipe diameter.			

Sample (continued...)

Item	Maintenance Required & Frequency	Date Completed	Maintenance Personnel	Comments
Vegetated Areas	Inspect all slopes and embankments (annually in spring).			
	Replant bare areas or areas with sparse growth (annually in spring).			
	Aarmor areas with rill erosions with an appropriate lining or divert the erosive flows to on-site areas able to withstand concentrated flows (annually in spring).			

*A major storm event is classified as a rainfall total of 3.0 inches or more in a 24-hour period (a 2-year storm event).

12. Response to Preliminary Plan Submission Review Comments



August 2, 2021

Greg Tansley
Biddeford Planning Department
P.O. Box 586
205 Main Street
Biddeford, Maine 04005

Re: Site Plan Review Application – Response to Preliminary Plan Review Comments
Adams Street Housing
69 Adams Street
Biddeford, Maine 04005

Dear Greg,

We have carefully reviewed the comments provided by your office and would like to summarize the revisions made prior to responding to each review comment:

Summary of proposed plan revisions:

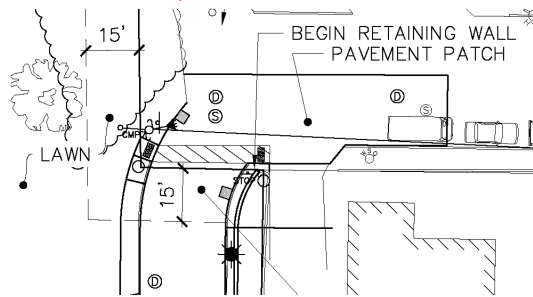
1. Revised driveway entrance to be subordinate to Adams Street including sidewalk crossing, tactile warning panels, stop sign, address sign, and streetlight relocation.
2. Provided dumpster enclosure detail and extend concrete pad in front of enclosure.
3. Bituminous walkway will transition to concrete at the parking lot.
4. Multiple curb cuts have been reviewed and have been consolidated. ADA parking grades have been revised to be ADA compliant.
5. Fence locations and types have been added to plan views, and additional details are provided.
6. Slopes of utility lines have been revised.
7. Stormwater calculations and design have been finalized and revised to keep post development flows to less than or equal to pre-development flows. Connection to the city combined system has been revised per Engineering Department recommendations. Underdrains, utility profiles, and spot grades have been added to the plan set.
8. Additional site details for drop manholes, stormwater structures, cast in place retaining walls, rock slope, Fire Lane, playground area, and Adams/Jefferson Stop signs have been added to the plan set.
9. The 2-foot area between parking curb and retaining wall has been increased to 4-feet.
10. A waiver of Article XI Site Plan Review, section 5.i.3 for paved access/parking/pedestrian surfaces from 30% to 38% has been requested in the revised application form.

Below are responses to each review comment:

Site Design Associates

A. General

As we indicated to you earlier, in our opinion the driveway should intersect the Adams Street right of way at 90 degrees, and the drive should not be constructed as an extension of Adam Street. **Response: The driveway does essentially intersect Adams Street at 90 degrees, but does have a 30-foot radius to provide proper geometry for emergency vehicles. The sidewalk has been revised, and a stop sign have been provided to reduce speeds and increase safety.**



B. Drawings

1. Sheet 4 of 19 – Site Plan

- The pavement repair in Adams Street should be shown with a consistent width and saw cuts and butt joints called out on the drawing. **Response: Pavement patch has been revised to consistent width and saw-cut and milled joints have been shown.**
- Tactile warnings and ramps should be shown at both ends of a formal crosswalk in the public right of way. **Response: Tactile warnings have been added to ramps in crosswalk within the public right of way.**
- The existing power pole and guy wire on the easterly side of Adams Street will need to be relocated, which should be noted on the drawings. **Response: Pole and guy wire have been relocated and noted as such.**
- Will there be a concrete pad at the dumpster enclosure? **Response: Yes, concrete pad has been provided and extended in front of the dumpster enclosure.**
- Were details for the enclosure provided? We did not note any on the drawings. **Response: Details for enclosure have been added to the plan set.**
- Where is the transition from concrete walks to bituminous pavement walks in front of the building? **Response: Transition from asphalt to concrete walks have been clarified.**
- The plan appears to show multiple ramps for the accessible parking on the southerly side of the building. From a constructability and maintenance standpoint it may be easier to slope the entire length of the sidewalk rather than have separate ramps and grade changes. **Response: The multiple ramps have been reviewed and consolidated.**
- What do the four rectangles on the property northerly of the fire access represent? **Response: These are gardens, see drawing L1.0.**
- Are any railings or fences planned for the tops of the retaining walls around the parking lot? **Response: Yes, see detail 4 on C-503. Additional call outs and materials have been added to the drawings for the retaining wall on the northwest end of the parking lot.**
- What does the square with two lines at the top of the stairs on the south side of the building represent? **Response: They are bike racks, see drawing L1.0.**

k. What is planned for curbing material within the parking lot? **Response: Slip formed concrete, additional notes to clarify intent have been added.**

2. Sheet 6 of 19 – Utility Plan

a. The slope of the sanitary sewer from SMH 1 to SMH 2 is approximately 12%. Have the flow velocities been checked to make sure they are not excessive? **Response: Slopes and flow velocities have been reviewed and revised.**

b. The drainage structure schedule indicates that all stormwater storage structure rims have been installed at the same level. Based on the grading plan elevations, this may not be possible. **Response: Rim elevations have been provided for each individual rim.**

c. A riser and access for STOR 1 is shown in the curb line and should be relocated. **Response: Manhole have been revised to be out of curb line.**

3. Sheet 7 of 19 – Grading Plan

a. Wood chip area underdrain elevations should be provided. **Response: underdrain elevations have been added to the plan set.**

b. A 2 ft elevation differential is shown across the transformer pad. **Response: Grades have been reviewed, and elevation differential has been addressed.**

c. One of the trees to be protected is located within a few feet of the southerly wood chip underdrain and may be impacted by the installation of the drain. **Response: Underdrains in this area have been revised to reduce or eliminate impact to the tree.**

d. Based on the transformer location atop a parking lot retaining wall, and 3-4 ft below the fire access, how will it be accessed for service? **Response: The transformer can be accessed with a boom truck on the fire access lane. The 3-4 ft lift has been revised, and the transformer has been moved closer to the fire lane while meeting required setbacks.**

e. How will the area between the stairway and the building be treated/stabilized? There is a five ft drop in the lower four feet of the slope. **Response: Slopes are 3:1 and is only 10-feet wide and 18-feet long. The area has been planted and mulched, see drawing L1.0.**

f. What does “F” signify when used with spot grades? **Response: F means finish grade and is included the legend on drawing G-001.**

g. The treatment of the steep slopes on the northwest and northeast sides of the buildings should be called out on the drawings. **Response: The northwest side has been treated with topsoil and seed, and erosion control blanket has been added to stabilize the area while the seed is becoming established. The northeast side of the building is a rock slope.**

h. The grades of the accessible parking spaces exceed ADA requirements. **Response: The grades have been reviewed and revised and some spaces have been relocated to be in areas with proper slopes.**

i. Spot grades at the tops and bottoms of the various retaining walls would be helpful. **Response: Spot grades have been added.**

4. Sheet 11 of 19 – Site Details -1

a. Typical sections should be provided for the parking lot, fire access, other retaining walls not associated with the access drive, and the wood chip area with underdrains. **Response: Details have been added for the items requested.**

b. A detail should be provided for an outside drop manhole. **Response: Detail have been provided.**

- c. There are potential savings if the access drive pavement and gravel buildups were reduced, along with the thickness of the aggregate under the proposed sidewalk. Reference could be made to the geotechnical report for appropriate material thicknesses. **Response: The geotechnical recommendations are minimums, and the section provided will provide a longer life. The sidewalk aggregate base thickness is intended to reduce frost action.**
- d. Another potential savings may be associated with the access drive width. The traffic report indicates that 33 proposed units would generate 180 trips per day. With 39 units currently proposed, that would translate to 212 trips per day, which is less than the 250-trip maximum threshold for a minor residential street. The standard for a minor residential street permits 11 ft travel lanes, as opposed to the 12 ft travel lanes shown. Once in the parking lot, 24 ft would be required. **Response: Due to the curve in the driveway, geometric requirements for fire truck access and snow removal, 12-foot lanes were retained.**
- e. The foundation and wall drains should be shown along with outlet locations. **Response: Foundation drains have been added to the drawings.**
- f. The retaining wall detail should incorporate recommendations from the geotechnical report as necessary. **Response: Recommendations from the geotechnical report have been incorporated.**
- g. In regard to note 1, a design prepared and sealed by a Maine Professional Engineer should be required. **Response: Note has been added to require design of retaining wall by a Maine Professional Engineer.**
- h. The detail calls for concrete curb, and as shown, it appears precast concrete curb is being specified. Slipform concrete curb may be a less expensive option. **Response: The intent was to use slipform concrete. The curb and slipform profile have been added to the drawings.**
- i. The drive detail shows the face of the guardrail six inches from the face of curb, which leaves very little room for snow removal. **Response: The space has been increased to 1'-4".**
- j. The trench patch detail shows the sawcut in the wrong location and should be revised. **Response: Leader line has been corrected.**

5. Sheet 12 of 19 – Site Details -2

- a. We recommend that the relevant elevations of pipe inverts, top of structure, finished grade, etc. be shown on the storage detail. **Response: It is preferable to only show the information in one location to avoid discrepancies, however, due to the complexity of this system, this information has been added to the detail.**
- b. The detail shows 3 ft minimum and 5 ft maximum cover over the storage tanks, while the elevations provide for less than 2 ft of cover over the tanks. **Response: minimum and actual design depths have been coordinated.**
- c. The dimensions for the tank depths conflict with the elevations provided and with the dimensions used in the stormwater modeling. **Response: Calculations and drawings have been coordinated.**
- d. No sumps are proposed in the bottoms of the tanks. In order to control sediment buildup and prevent trash from accumulating in the tanks, it would be advisable to provide 3 ft sumps and outlet traps in the catch basins directly contributing to the storage tanks. **Response: Deep sumps and outlet traps have been added to catch basins upstream of the storage tanks.**

6. Stormwater Management

- a. The modeling appears to include a three-tank setup for STOR 1 (shown as storage 2 in the model) while the plans show one tank. If so, either the plan or the model needs to be revised. **Response: We have revised the calculations to reduce the 2-year developed condition at DP1 to be at or below existing flows. The result is one tank for STOR-1 and four tanks for STOR-2.**
- b. Storage invert elevations conflict with the elevations shown on the plans. **Response: Calculations and drawings have been coordinated.**
- c. We have attached copies of the DEP Checklists for stormwater review and ask that the applicant review the checklist and address any outstanding issues with the plans and the Inspection and Maintenance document as related to the basic standards. For example, a significant rainfall which would trigger an inspection is defined as 0.5" during construction and 1.0" post construction, which should be included in the document, separate forms should be provided for each engineered BMP, an inspection plan for during construction should be provided, etc. **Response: Inspection during construction is included in drawing C-501. Checklists have been reviewed and incorporated into the C-501 and post construction forms.**

City of Biddeford – Engineering Department

- Site Plan Checklist

- o Subdivision checked-off as required; not sure if this is true. New lot dimensions not identified on plans. **Response: Leased dwelling units are not subject to subdivision review if municipal reviewing authority has determined that other review exists at least as stringent as subdivision review, sometimes multifamily housing is reviewed under local Site Plan Review Ordinance. It is our understanding that this project will follow Preliminary and Final review process.**

- Supporting Materials

- o Section 5 Fire
 - Approval response not provided from Paul Labrecque; dimensions/specs not identified for firetruck model used for truck turn exhibit. **Response: We have met with the Fire Department twice so far and a written response to comments was provided to the Fire Department on June 30 and we are awaiting a response. Paul Labrecque has officially retired now, and Deputy Duross has been contacted to follow up, but no response received at this time. We will continue to pursue this approval.**
- o Section 10 Stormwater
 - Watershed areas, individual land cover areas, curve numbers, and times of concentration not summarized for pre- and post-development conditions. **Response: This information is included in the stormwater calculations, and this information have been added to the summary within the narrative.**

- According to the peak runoff summary table, there is a 0.4-CFS increase for the 2-year storm at DP-1 – whereas the body text states a 0.2-CFS increase.
Response: Calculations and design have been revised to reduce peak flows to at or below pre-developed conditions and the summary had been updated.
- Storage pond routing confirmed; recommend adding invert elevation information for two storage facilities (Page 157 of 172) to design plans/sections.
Response: Invert information is shown on CG101 and C-301. This information will also be added to the detail on C-504.

- Sheet V-101

- Information not provided for two grate inlets within Adams Street (one within right-of-way, one within adjacent neighbor driveway). **Response: Rims and inverts have been measured and have been added to the CG101.**

- Sheet CD101

- No inlet protection provided for grate inlet within adjacent neighbor's driveway on Adams Street. **Response: This basin is uphill from any disturbance and does not require inlet protection during construction.**
- Assume the 'right-to-disturb' within St. James School/Parish Place property has been approved. **Response: St James School has been contacted and easement negotiations are nearly complete, written intent to convey the easement have been provided. Parish Place is owned by the applicant, draft easements have been provided for both properties.**

- Sheet CS101

- Curb material not identified/called out. **Response: Material is slipform concrete and has been clarified on the drawings.**
- Retaining wall material not identified/called out. **Response: Materials are segmental concrete for the fill areas and cast in-place concrete for the cut areas and have been clarified on the drawings.**
- Fence material not identified/called out. **Response: Material is chain link fence and has been clarified on the drawings.**
- Door not shown for building's west façade entrance. **Response: Door has been added to the drawings.**
- Should three individual ADA parking ramps be consolidated into one continuous ramp? **Response: The multiple ramps have been reviewed and consolidated.**
- No crosswalk provided from the site's entrance sidewalk to Adams Street's easterly sidewalk. **Response: In response to Site Design Associates a: General comment, the sidewalk has been revised to connect to the east side of Adams Street.**
- Stops bars and signage not identified at Adams Street entrance. **Response: In response to Site Design Associates General Comment A, a stop sign and stop bar have been added to the Adams Street Entrance.**
- 4" thick crushed stone surface behind sidewalk (per Detail 4/C-503) not identified on plan. **Response: Plan has been updated to show crushed stone behind sidewalk.**

- Sheet CU101

- o New storm drainage connecting to existing combined sewer; this goes against all the city's efforts for CSO abatement. **Response: Per recommendation of Tom Milligan, the stormwater system has been constructed with two additional drain manholes and stubs to allow for future separation.**
- o Callout states 'underground stormwater treatment and storage'; is water quality treatment provided, or detention only? **Response: This system provides storage only as treatment is not required by the DEP. The note has been corrected.**
- o Storm and sanitary profiles only provided for piping within first 200-LF of the driveway; no utility profiles provided for CB7, CB6, CB9, DMH1, SMH3, and building connections. **Response: Additional profiles have been provided.**
- o 4" thick crushed stone surface behind sidewalk (per Detail 4/C-503) not identified on plan. **Response: The plan has been updated to show crushed stone behind sidewalk.**
- o underdrain connection locations should be identified (i.e. retaining wall, sidewalk crushed stone). **Response: Underdrain connections have been added.**

- Sheet CG101

- o No spot elevations or slope-percentage arrows provided, only contour labels. **Response: Spot grades and/or slope arrows have been added to the plan.**
- o No bottom-of-wall or top-of-wall spot elevations identified. **Response: Top and bottom of wall elevations have been provided.**
- o No grading information provided for concrete sidewalk to Birch Street. **Response: Grading information has been added to the plan.**
- o Detailed inset grading plan recommended for ADA parking/accessible sidewalks to confirm compliancy. **Response: ADA Parking is now located in areas of 2 percent or less.**

- Sheet C-301

- o STOR-1 not labeled. **Response: STOR-1 has been labeled.**

- Sheet C-503

- o Detail 4 – connection locations for sidewalk underdrain and retaining wall underdrain should be identified. **Response: Underdrain connections have been added.**

- Sheet C-504

- o Detail 1 – separate details/plans/sections should be provided for each individual detention system (STOR-1 and STOR-2) with proposed rim/invert/bottom elevations identified. **Response: Details for each storage system have been provided.**
- o Manufacturer/model name identified, or standard details provided. **Response: There are no manufacturer specific items and standard details are provided.**

- Sheet L1.0

- o Underground utilities should be turned on to identify any utility conflicts with proposed trees. **Response: Landscaping has been reviewed and coordinated with underground utilities.**

- **Sheet WS101**

- o Watershed areas, individual land cover areas, curve numbers, and times of concentration not identified/summarized for pre- and post-development conditions.
Response: This information is has been added to the plan.

LONG MEADOW PLANNING & LANDSCAPE ARCHITECTURE, LLC

1. Proposed sidewalk. At first glance it appears the proposed sidewalk along the entrance drive ends abruptly at Adams Street. With closer examination, the applicant may be assuming that simply terminating it at the public ROW is sufficient to connect with the public sidewalk. The Planning Board and the applicant should discuss the expectation here concerning pedestrian connections the two existing public sidewalks along Adams Street. Perhaps the applicant, in consultation with Public Works, should propose a design for appropriate crosswalks and sidewalk ramps within the ROW. **Has the applicant consulted with Public Works on the design of the intersection? See comment #9 below for more elaboration?** **Response: Plans have been revised to connect the new sidewalk to the existing sidewalk on the east side of Adams Street. This will provide more area for snow storage, more reasonable grades, and safer exit speeds.**
2. Parking design. It is assumed that the proposed number of parking spaces is based on the requested (March 18, 2021, letter from the applicant) parking requirement of .75 spaces per housing unit, rather than the 2 spaces per unit required. It is stated that this has been found to be the average for the other affordable housing developments the applicant manages. Considering the 33 dwelling units referenced in the 3/18 letter (the application includes 39 proposed units, the applicant should clarify), and the reduced ratio, 25 parking spaces would be required. This would include the required single van accessible handicap parking space. Is there a need for the 10 other accessible spaces proposed? **See comments #15 thru #18 below for more elaboration.** **Response: Parking for 35 vehicles, a drop off area and a firetruck turn around will be provided at the building site. Of the 35 parking spaces, 3 will be for visitors and employees one of the visitor parking spaces will be can accessible. The remaining 32 spaces will be available for tenants to provide a parking ratio of 0.82 spaces per unit. There are 11 accessible units, and the same parking ratio is provided for these units resulting in 9 accessible spaces. In order provide as much parking as possible for tenants (25 spaces), 6 of the required 9 accessible spaces will be marked as accessible and the 3 other accessible spaces will be converted and marked as accessible parking upon request. The following factors that are unique to this property support the reduced parking need:**
 - a. There are 40 on-street parking spaces on Adams Street and 44 parking spaces on Birch Street. Birch Street on-street parking is currently not heavily used, and Adams Street parking demand have been greatly reduced when the existing courthouse is replaced with the new courthouse on Route 1.
 - b. There are two municipal parking lots within 1,000 feet of the project.
 - c. There is numerous businesses nearby that would allow employees to walk or bicycle to work.

- d. Public transportation is available. The Orange and Black bus line that can be accessed at the intersection of Birch and Alfred Streets.
 - e. Affordable family housing occupants tend to have one or less vehicles.
3. Site design. The applicant should discuss constraints of the site and the proposed building location. Has there been any consultation with the Fire Department that has been informed the current site design? With consideration of what appears to be a 17-foot-high wall in the vicinity of the first parking space to the left coming up the driveway, and the potential for less parking and need for closer fire access to the building, perhaps the location of new parking proposed as close as it is along the steep southeast slope of the property should be reconsidered. Other items that might be considered for discussion/elaboration include: the need for a vehicular drop-off and type of open space (see landscape plan) being proposed. **The applicant has stated in the cover letter that changes to the site design were considered but not incorporated. See comment #22 for more. Response:**
- a. The main constraints of the site include a 25-foot elevation rise from Adams Street, a 39-foot elevation rise from Washington Street and limited right of way access to Adams Street.
 - b. The fire department has been consulted several times and fire truck paths and staging locations have been shown on plans provided to the fire department. The Ladder truck chassis data was provided by the fire department, and a custom vehicle simulation was used to determine proper access for the ladder truck.
 - c. The parking spaces and maneuvering area are adequate for the intended use. Guard rails and fencing have been used to ensure safety. We have increased the 2-foot distance between the curb and top of retaining wall to 4-feet.
 - d. Vehicular drop off is provided by the 40-foot-wide portion of the driveway near the main entrance. Striping has been added to clarify the intended drop off area.
 - e. The type of open space provided is mainly playground with several specimen trees to be saved. The landscape plan includes extensive plantings consisting of trees, shrubs, and groundcovers.
4. In addition to the general site development and subdivision standards, the applicant should review Section 47 Multifamily developments (Article VI Performance Standards under the Land Development Regulations (LDR)). The Planning Board should provide input early on one provision in particular, Sec.47.D.3 concerning the Board's discretion on requiring more than one street access for development containing more than 15 dwelling units. **The applicant has proposed emergency access via a proposed easement from Birch Street. See comment #10 below for more elaboration. Response:** The applicant has pursued gaining additional access to the site via Birch Street with the St James School, and the school is only willing to allow emergency access through their property. Due to grade differences between Birch and Adams Street, the presence of existing structures, and ledge at the top of the site, it is not possible to provide a continuous driveway connection between Birch and Adams Streets. We believe the emergency access from Birch Street meets the spirit of the ordinance.

5. The Board may want the applicant to elaborate on the building's architectural design and how it will appear among the neighboring buildings adjacent to the site and in the area. The Board should share their expectations on what architectural information is to be included in subsequent submittals. **The applicant has submitted architectural elevations.** Response: The architectural design is a modern design that fits within the neighborhood that has been developed with buildings with various types of types of architecture that was current when they were constructed. Examples of the different types of architecture in the areas include the Parish Place (1920) St James School (1946), Ledgewood Apartments (1974), and Five Graham Street (2002). A Certificate of Appropriateness has been obtained from the Biddeford Historic Commission.
6. A parking plan with bicycle and pedestrian components is required for all development within the MSRD districts, per Sec. 49 Off-street parking and loading. **See comment #14 for more.** Response: Parking, pedestrian and bicycle components are shown on CS101, L1.0, and A100. Adams Street and the driveway have been a shared bike lane which is appropriate for this location due to low speeds and the dead-end street.

LAND DEVELOPMNENT REGULATIONS

Under Article 4 Section 6 District regulations/land use/lot size requirements, multifamily along with nonresidential uses shall be subject to Site Plan (Article XI) Review. The following are performance standards that may be applicable for multifamily development:

Article 6 Section 47 Multifamily developments:

7. Subsection B Design requirements appear to have been met or have been met through the Building Permit application process, with the exception of the requirement for a group or common mailbox system located on site. The applicant should address the specifics of this item. Response: Common mailbox inside the building will be provided, see drawing A100.
8. Subsection C Stormwater and drainage. The applicant has submitted a Stormwater Report. See comments from the Engineering Peer-review letter prepared by Site Design Associates. No response required.
9. Subsection D Access, circulation, and parking. A Traffic Impact Study has been prepared and submitted for the Board's review. That applicant should review the proposed design of intersection of the site's driveway and Adams Street. As Site Design Associates has pointed out, the proposed driveway design has the effect of extending Adams Street into the site. The Board may want to consider changes that would make it clearer the extent of the public street. The proposed driveway is 24 feet wide, larger than the Adams Street travel way when excluding the on-street parking. Consideration should be given to providing for a traditional hammerhead-turn around at the end of Adams and a more modest driveway entrance to the development.

Response:

- a. Adams Street is currently 36 feet wide curb to curb. This allows for two 11-foot travel lanes and 7-foot-wide parking on each side of the street. The full 36-foot width is utilized for vehicle movements at intersections and existing driveways. While the new driveway is slightly wider than the travel lanes on Adams Street, the extra two feet is recommended due to the curves and curbing on the new driveway to provide proper room for emergency vehicles and snow removal.
- b. The existing right of way is 50 feet wide and 34 feet of frontage at the driveway entrance. There are very few options to creating a traditional hammer head or cul-de sac turn around. The new driveway in combination with the emergency access drive to Ledgewood Apartments essentially creates a hammerhead that can be used as a turn around. The new driveway improves area available for turn around maneuvers. A sign at the end of the new driveway stating the address (69 Adams Street PVT) and "NOT A THOUGH STREET" will clarify the end of the public way.

10. Subsection D.3. More than one street access. It appears the applicant is proposing a 20-foot-wide fire lane from Birch Street to the proposed building along the existing parking lot serving Parish Place (apartments currently owned and managed by the applicant). The applicant should clarify that the access to this proposed emergency access is via the existing parking lot entrance to the Parish Place apartments. If this is the case, a draft easement should be submitted for review prior to final approval. Installation of signage identifying the fire lane and prohibition of parking should be depicted on the plans.

Response: Drawing CS101 calls out the fire lane easement on both Parish Place and St James School properties. Draft easements have been provided for the final submission.

Article 6 Section 49 Off-Street Parking and Loading: Subsection A.11 are standards pertinent to the MSRD District. The following provisions appear to be applicable to the proposed development.

11. (d) Exterior lighting shall not create glare onto the street or onto or into residential properties. Lighting fixtures shall be in concert with the existing historic lighting on Main Street. **A photometrics plan has been submitted. The plan should be revised to extend the limits to the property line and catalog cuts for the fixtures and poles need to be submitted for review in cut-off/dark sky compliance.** Response: Boundaries of the light level values have been extended to the property line and reviewed for compliance.
12. (f) Parking spaces shall be provided as required and made available for use prior to the issuance of the certificate of occupancy. **This should be reflected on the final plans. A note to require parking be available prior to occupancy certificate has been added to the plans.**
13. (g) The existing landscaping shall be preserved in its natural state wherever possible. Parking lots shall be landscaped with a continuous border of shrubbery along all lot lines. Large parking lots covering more than one quarter of an acre shall be proposed with a landscape plan stamped by a licensed landscape architect. The plan should include plantings in coordination with the City's arboretum, if possible. Except where screening is provided, parking areas should be designed and landscaped to avoid long,

uninterrupted rows of vehicles. Parking lots containing more than 30 spaces shall be broken as by the use of landscaped islands, pedestrian and bicycle areas and/or buildings. **A Landscape Plan has been prepared and submitted. See comment #24 for more. No response required.**

Article 6 Section 49 Off-Street Parking and Loading: Subsection C are standards that appear to be applicable to the proposed development.

14. (5) All new buildings or redevelopment of existing buildings in the MSRD districts shall include a parking plan with a bicycle and pedestrian circulation plan component. **The plans depict a total of four bicycle racks outside (two at each level) on the Landscape Plan and a dedicated storage room in the basement depicted on the building floor plans. The applicant should confirm the total capacity (interior/exterior) that is proposed for the development and include it as a plan note on the Site Plan.**

Response: Capacity had been confirmed and note added to the site plan.

Table 6-49B Parking Space Requirements. The minimum required parking for a residential use is 2 spaces per dwelling unit, plus 5% more for multifamily developments. There is an intent by the City to allow for 1 parking space for 1-bedroom and studio dwellings. The proposed development provides for 39 dwelling units consisting of 13 one-bedroom apartments and 26 two-bedroom and larger apartments. The required parking calculates to be a total of 65 spaces ((26 x 2) + (13 x 1)), three spaces of which being accessible. The proposed number of parking spaces is 35, that includes 11 accessible spaces (narrative references 36). 1 for every 24 parking spaces is required to be ADA, which equates to 3 spaces for the proposed development.

15. The applicant should elaborate on the logistics and rationale behind providing only 24 standard (non-ADA) spaces for 39 apartments. Will parking spaces be designated? Is it the assumption that 11 out of the 39 apartments (28%) will require an ADA parking space? Is it assumed that people that don't have an ADA placard/license plate will park on the street if the other 24 spaces are occupied? Or will there be parking available on the adjacent Parish Place property? **Response: See response to comment 2. Parish Place will not be utilized for additional parking for this project.**

16. In the draft contract zone, .75 parking spaces per unit is referenced as the parking space requirement proposed for the development. That equates to just less than 30 spaces, or 46% of the required 65 spaces. Planning should determine if the overall 54% reduction is reasonable (65 spaces reduced to 35) as well as the increase in ADA spaces. **Response: See response to Comment 2.**

17. Since the parking space reduction is proposed as part of the contract zone and not as a waiver, should the parking ratio be based on what is actually proposed, where 35 spaces equates to .9 parking spaces per unit. **Response: the contract Zone states 0.75 is the minimum, it can be changed to 0.80 deemed necessary.**

18. The final parking calculations should be depicted on the final plan. **Response: Final Parking Calculations have been added to the final plan.**

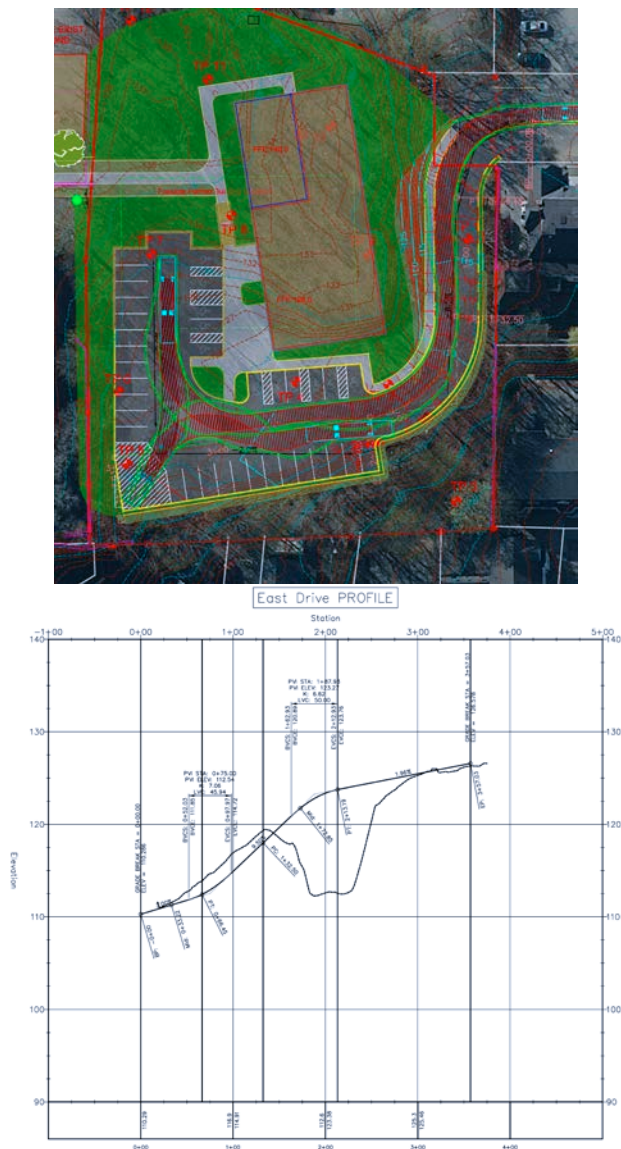
Site design criteria. There are a number of provisions/requirements that are applicable to the proposed development that would be easier to determine compliance with the aid of a narrative that specifically addresses the criteria under Sec. 5.B. of Article XI (part II) of the Land Development Regulations. The following are some comments from an initial review.

19. Sec. 5.B.4.a Design of buildings. The applicant has provided building elevations that depict proposed materials and colors. The Board should review and determine if it conforms to the ordinance. **Response: See Certificate of Appropriateness from Biddeford Historical Commission.**
20. Sec. 5.B.4.c Fire protection. Has the applicant reviewed the standards with the Fire Department? **Response: We have met with the Fire Department twice so far and a written response to comments was provided to the Fire Department on June 30 and we are awaiting a response. Paul Labrecque has officially retired now, and Deputy Duross has been contacted to follow up, and no response received at this time. We will continue to pursue this approval.**
21. Sec. 5.B.4.i Parking, loading, and protective buffers. Calculations and values for the non-vegetated areas should be provided and included in the Site Plan notes. **Response: The area of non-vegetated surface is 58.5%, the paved access/parking/pedestrian surface is 37.6%, and the natural areas and landscaped areas is 41.5% of the total area. Since the amount of paved access/parking and pedestrian surface has been minimized, and the unique nature of this site (large elevation rise), a waiver from 30% to 38% for paved/parking/pedestrian areas is respectfully requested.**

ADDITIONAL COMMENTS

22. A subdivision plan or combined subdivision site plan, needs to be prepared suitable for recording that documents the number of dwelling units created. **Response: A combined subdivision Site plan will be utilized for recording. The total number of units has been added to the site plan.**
23. Site design as it relates to elevations grades and driveway design and how that informs the location of parking and the proximity of a very high retaining wall (maxing out at 18') still remains to be an area that should require more reconsideration by the applicant. The reasons given for not perusing a steeper grade for the driveway does not appear to reflect the maximum grades allowed by the City's ordinance for roads and recommended by AASHTO for urban streets. The applicant should demonstrate the design changes, be it with the driveway assent or by lowering the Finished Floor Elevation of the building cannot be reasonably accommodated to address the height of the wall. **Response:**
 - a. **While this is not really considered a street, the City Ordinance does allow up to 14% slopes, but the intersection transition must be 3% for the first 75 feet and 25 feet added for every percentage over 8%. There is simply not enough distance between Adams Street right of way and the parking area (180'+/-) to have a 125-foot segment of 3% grade and any appreciable elevation gain (3.8') to access the upper portion of the site.**

- b. The 9.9% grade was discussed with the fire department and was not recommended.
- c. The presence of ledge at the top of the site is a major impediment to lowering the building. The proposed plan was carefully designed to balance site access and rock removal.



24. After consideration of methods to reduce the height of the wall, it is likely the height will still remain high in some locations and the potential safety issues associated with such structures, e.g. children climbing or falling off, should be considered. **Response:** The retaining walls will have fences for safety. Access to the walls for climbing is not readily convenient due to the fences and shrub plantings at the base of the wall.

25. The Landscape Plan provides for a varied and interesting plan palate. The applicant should clarify difference in screening needs between the development and Parish Place and the other abutting buildings in that there appears to be more of a robust design. It would appear that abutting properties along the new parking lot and driveway may require more than the proposed flowering wall climbing vine. These properties would likely benefit from a mix of evergreen and flowering trees and shrubs. **Response: We have reviewed the plantings in this area and have added additional plantings.**
26. The slope created between the northerly side of the building and the driveway, looks to be close to a 1:1 slope, should be reconsidered, and determine other ways to manage the slope. If required (perhaps reducing the driveway width as mentioned earlier could help) low walls that terrace the slope and ornamentally planted, might be a more esthetic and safer solution. If a planting solution is favored, details on the slope stabilizing system that have been utilized and the manner to discourage/keep people from negotiating down it (from the building down to the drive). **Response: The northeast side of the building have been a rock slope. It is agreed that a fence or barrier is needed for safety at the top of the slope and has been added to CS101. The rock slope will be evaluated during construction and if deemed stable, a terraced retaining wall will be implemented.**
27. Existing sanitary sewer (ESS (4")) lines between the Parish Place and the site are noted on the plans to be abandoned, however are not identified on the removals plan as being removed. Please explain. **Response: Abandoned sewer lines have been identified for removal on drawing CD101.**
28. Proposed Easements. All easements, new and modified, should be shown on the plan and draft language provided prior to final approval. It appears there is proposed utilities and relocation of structures (shed/playground) that is depicted on the plans that is not supported by easements and/or permission from the abutting property. All utilities and access (emergency and otherwise) between Birch Street and the site need to be clarified in an easement document and clearly identified on the plans. **Response: Draft easements have been provided for the final submission.**
29. The Removals Plan does not appear to be complete when compared to existing features on the survey plan, e.g. "concrete stairs" and altar are not called out to be removed. **Response: additional removal notes have been added to CD101.**
30. All sidewalks/walkways should be concrete and not bituminous as proposed. **Response: It is desired to have a bituminous walk adjacent to the driveway and it will transition to concrete adjacent to the ADA parking area and near the building. The applicant has found that concrete sidewalks are more difficult to maintain in the winter due to limited use of de-icing salts and the light color that does not melt as quickly. The existing sidewalks on Adams Street are bituminous.**

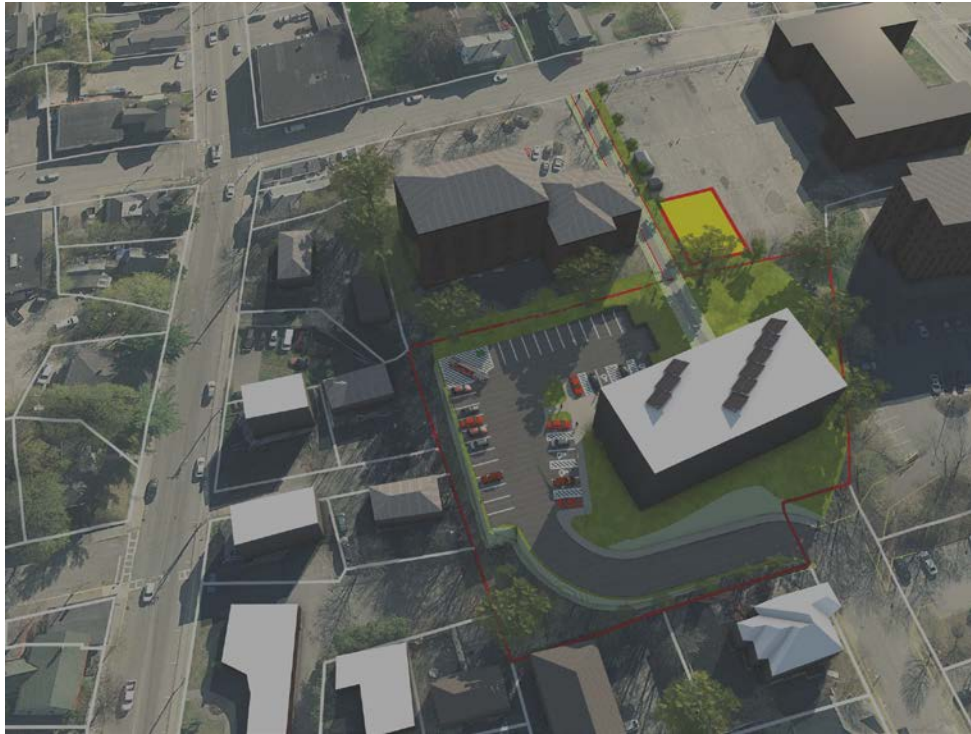
31. Please elaborate on the different accessible access proposed for the two banks of handicap parking. In front of the building individual ramps are used while the other has a continuous ramp. The latter, with flush curb, needs to provide a different design to keep vehicles from encroaching on the access walk. **Response:**
- a. A combined ramp of has been implemented.
 - b. The parking with a continuous ramp has been supplemented with parking stops to control encroachment into the sidewalk.
32. After review with the Fire Department, identify a Fire Lane on the plans. **Response: Fire Lanes designations have been added to the plan.**
33. Provide a conceptual intersection design for Adams and Jefferson streets for review with City Staff. **Response: An intersection plan to show the new stop signs and stop bars have been provided.**
34. Review detail sheets and ensure all applicable details are included, e.g. stairways, ADA parking space and signage, dumpster enclosure (Wooden Privacy Enclosure w/gate), striping, etc... **Response: Details of requested site elements have been provided.**

Planning Board Comments

1. How will the retaining wall affect the neighboring properties? **Response: The following photos show before and after images for the project area. Since there are mature trees on site, there will be little change in shadows cast on adjacent properties.**



August 4 pm



August 4 pm

Please contact me to let me know if you have any questions or comments.

A handwritten signature in blue ink, appearing to read "J. Gagnon".

Jacques L Gagnon Jr., PE, LEED AP
Associate
Encl.



ML660 MILLENIA SERIES

LED

EPA
1.3 (ft²)
WEIGHT
35 LBS

7 YEAR
WARRANTY

LUMEN
RANGE
2,065 to
7,820

LIFE SPAN
L70
MINIMUM
100,000
HOURS

UL
LISTED

CLICK
FOR FAQ's

JOB NAME _____

FIXTURE TYPE _____

MEMO _____

BUILD A PART NUMBER

ORDERING EXAMPLE: **PT-ML660-12L40T3-MDLO18-SV1-FHD-BLOC/4SQ12-.125/UGMT**

Mounting Config.	Fixture	LED	CCT	Distribution Type	Driver	Lens	Option Fuse	Option House Side Shield	Arm See Arm Spec Sheets	Pole See Pole Spec Sheets	Finish

Mounting Configuration

(Click here to link to mounting configuration specification page)

- IW
- PT
- 1A
- 1APT
- 2A
- 2A90
- 2APT
- 3A
- 3A90
- 3APT
- 4A
- 4APT
- 1AM
- 2AM

W = Wall Mount A = Arm Mount AM = Arm Mid-Mount

Fixture

- ML660

LED

- 24L
- 16L
- 12L

CCT - Color Temperature (K)

- 27(00)
- 30(00)
- 35(00)
- 40(00)
- 50(00)

Distribution Type

- T2
- T3
- T4
- T5

Driver

- MDLO18¹ (120V-277V, 180mA)
- MDHO18¹ (347V-480V, 180mA)
- MDLO14² (120V-277V, 140mA)
- MDHO14² (347V-480V, 140mA)
- MDLO08³ (120V-277V, 80mA)
- MDHO08³ (347V-480V, 80mA)

¹ 16L or 12L system only.

² 24L or 12L system only.

³ 12L system only.

Lens

- CA (Clear Acrylic)
- SV1 (Flat Soft Vue Light Diffused Acrylic)
- SV2 (Flat Soft Vue Moderate Diffused Acrylic)

Options (Click here to view accessories sheet)

- FHD⁴ Double Fuse and Holder
- HSS External 120° House Side Shield
- BLOC Back Light Optical Control

⁴ Ships loose for installation in base

Arm (Click here to view arm website page)

See Arms & Wall Brackets specification sheets.

- 480

Pole (Click here to link to pole specification page)

See Pole specification sheets.

Finish

Standard Urban Finishes (Click here to view paint finish sheet)

- UGMT Gun Metal Textured
- UGM Gun Metal Matte
- UBT Urban Bronze Textured
- UB Urban Bronze Matte
- ULBT Urban Light Bronze Textured
- ULB Urban Light Bronze Matte
- USLT Urban Silver Textured
- USL Urban Silver Matte
- UWHT Urban White Textured
- UWH Urban White Matte
- UCHS Urban Champagne Satin Smooth
- BKT Black Textured

Custom Urban Finishes⁵

- CM Custom Match

⁵ Smooth finishes are available upon request.

Specifications

Fixture

The medium scale ML660 Millenia® post top luminaire is a breakthrough in modern area lighting technology. Its new world urban design transcends traditional lighting convention by seamlessly interweaving form and function to yet another level. Our convective AAD™ "Advanced Air-flow Dynamics" maximizes heat sink expulsion to deliver unsurpassed thermal management for long-life LED performance and energy efficiency. Available with a myriad of options, the Millenia is perfect for commercial, institutional and municipal markets. The cast aluminum slipfitter slips a 3" OD x 3" tall tenon. The Luminaire shall be UL listed in US and Canada.

LEDs

The luminaire shall use high output, high brightness LED's. They shall be mounted in arrays, on printed circuit boards designed to maximize heat transfer to the heat sink surface. The arrays shall be roof mounted to minimize up-light. The LED's and printed circuit boards shall be 100% recyclable; they

shall also be protected from moisture and corrosion by a conformal coating. They shall not contain lead, mercury or any other hazardous substances and shall be RoHS compliant. The LED life rating data shall be determined in accordance with IESNA LM-80. The High Performance white LED's will have a life expectancy of approximately 100,000 hours with not less than 70% of original brightness (lumen maintenance), rated at 25°C. The High Brightness, High Output LED's shall be 5000K (4500K, 3000K, 3500K or 2700K option) color temperature with a minimum CRI of 70. Consult factory for custom color CCT. The luminaire shall have a minimum _____ (see table) delivered initial lumen rating when operated at steady state with an average ambient temperature of 25°C (77°F).

Optics

The luminaire shall be provided with refractor type optics applied to each LED array. The luminaire shall provide Type ____ (2, 3, 4 or 5) light distribution per the IESNA classifications. Testing shall be done in accordance with IESNA LM-79.

BLOC Optic: An optional "Back Light Optical Control" shield can be provided at the factory. This is an internal optic level "House Side Shield" offering significantly reduced backlight and glare while maintaining the original design aesthetics of the luminaire.

Electronic Drivers

The LED driver shall be U.L. Recognized. It shall be securely mounted inside the fixture, for optimized performance and longevity. It shall be supplied with a quick-disconnect electrical connector on the power supply, providing easy power connections and fixture installation. It shall have overload, overheat and short circuit protection, and have a DC voltage output, constant current design, 50/60HZ. It shall be supplied with line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines. It shall be a high efficiency driver with a THD less than 20% and a high power factor greater than .9. It shall be dimming capable

See next page



SternbergLighting

ESTABLISHED 1923

800-621-3376
555 Lawrence Ave., Roselle, IL 60172
contactus@sternberglighting.com
www.sternberglighting.com

using a 0-10v signal, consult factory for more information.

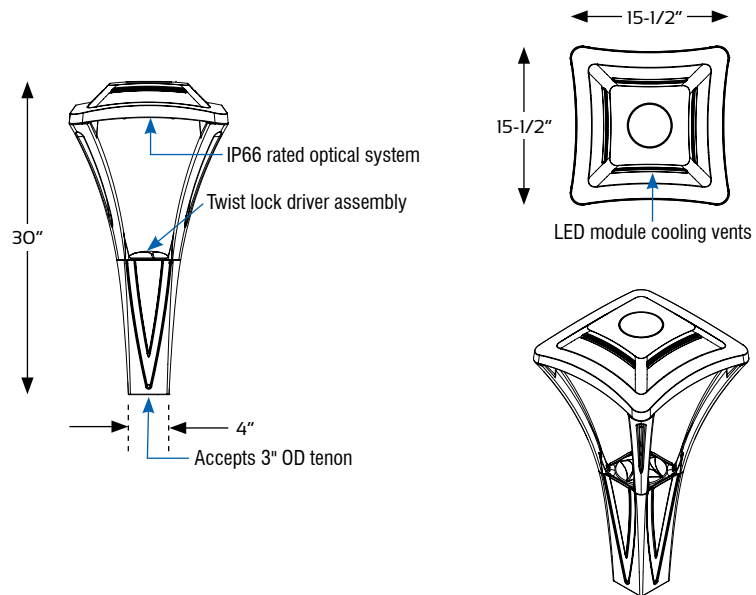
Warranty

Seven-year limited warranty. See product and finish warranty guide for details.

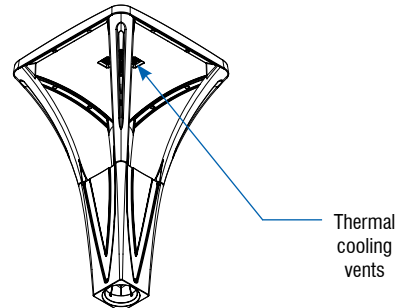
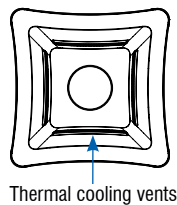
Finish

Refer to website for details.

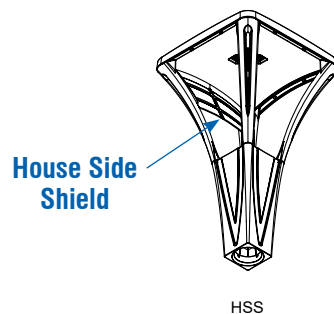
Fixtures



Features



Options



SternbergLighting
ESTABLISHED 1923

800-621-3376
555 Lawrence Ave., Roselle, IL 60172
contactus@sternberglighting.com
www.sternberglighting.com

Performance (Based on CA Lens)

MODEL #	T2 LUMENS	BUG	EFFICACY (LPW)	T3 LUMENS	BUG	EFFICACY (LPW)	T4 LUMENS	BUG	EFFICACY (LPW)	T5 LUMENS	BUG	EFFICACY (LPW)	WATTS
24L40T_-MDL014	8400	B2U0G2	95.5	8410	B2U0G2	95.6	7925	B2U0G2	90.1	8510	B3U0G1	96.7	88
24L30T_-MDL014	8010	B2U0G2	91.0	8020	B2U0G2	91.1	7555	B2U0G2	85.9	8115	B3U0G1	92.2	88
24L27T_-MDL014	7240	B2U0G2	82.3	7250	B1U0G1	82.4	6830	B1U0G1	77.6	7335	B2U0G1	83.4	88
16L40T_-MDL018	6930	B2U0G1	87.7	6880	B1U0G1	87.1	6460	B1U0G1	81.8	6960	B2U0G1	88.1	79
16L30T_-MDL018	6605	B2U0G1	83.6	6560	B1U0G1	83.0	6160	B1U0G1	78.0	6635	B2U0G1	84.0	79
16L27T_-MDL018	5975	B1U0G1	75.6	5930	B1U0G1	75.1	5570	B1U0G1	70.5	6000	B2U0G1	75.9	79
12L40T_-MDL018	5155	B1U0G1	85.9	5140	B1U0G1	85.7	4900	B1U0G1	81.7	5170	B2U0G2	86.2	60
12L30T_-MDL018	4915	B1U0G1	81.9	4900	B1U0G1	81.7	4670	B1U0G1	77.8	4930	B2U0G2	82.2	60
12L27T_-MDL018	4445	B1U0G1	74.1	4430	B1U0G1	73.8	4225	B1U0G1	70.4	4455	B2U0G2	74.3	60
12L40T_-MDL014	4235	B1U0G1	92.1	4270	B1U0G1	92.8	4035	B1U0G1	87.7	4250	B2U0G2	92.4	46
12L30T_-MDL014	4040	B1U0G1	87.8	4070	B1U0G1	88.5	3845	B1U0G1	83.6	4050	B2U0G2	88.0	46
12L27T_-MDL014	3650	B1U0G1	79.3	3680	B1U0G1	80.0	3480	B1U0G1	75.7	3665	B2U0G1	79.7	46
12L40T_-MDL008	2585	B1U0G1	95.7	2635	B1U0G1	97.6	2475	B1U0G1	91.7	2600	B1U0G1	96.3	27
12L30T_-MDL008	2465	B1U0G1	91.3	2510	B1U0G1	93.0	2360	B1U0G1	87.4	2480	B1U0G1	91.9	27
12L27T_-MDL008	2230	B1U0G1	82.6	2270	B1U0G1	84.1	2135	B1U0G1	79.1	2240	B1U0G1	83.0	27





ML630 MILLENIA SERIES

LED

EPA
.83 (ft²)
WEIGHT
27 LBS

7 YEAR
WARRANTY

LUMEN
RANGE
2,605 to
9,965

LIFE SPAN
L70
MINIMUM
100,000
HOURS

UL
LISTED

CLICK
FOR FAQ's

JOB NAME

FIXTURE TYPE

MEMO

BUILD A PART NUMBER

ORDERING EXAMPLE: **1A-ML630-12L40T3-MDL018-SV1-FHD-BLOC/5SQ-16-188/UGMT**

Mounting Config.	Fixture	LED	CCT	Type	Driver	Lens	Option Round Pole Adapter	Option Motion Sensor	Option Fuse	Option House Side Shield	Pole See Pole Spec Sheets	Finish

Mounting Configuration

(Click here to link to mounting configuration specification page)

- 1W
- 1A
- 2A
- 2A90
- 3A
- 3A90
- 4A
- 1AM
- 2AM

W = Wall Mount A = Arm Mount AM = Arm Mid-Mount

Fixture

- ML630

LED

- 24L
- 16L
- 12L

CCT - Color Temperature (K)

- 27(00)
- 30(00)
- 35(00)
- 40(00)
- 50(00)

Distribution Type

- T2
- T3
- T4
- T5

Driver

- MDL018¹ (120V-277V, 180mA)
- MDH018¹ (347V-480V, 180mA)
- MDL014² (120V-277V, 140mA)
- MDH014² (347V-480V, 140mA)
- MDL008³ (120V-277V, 80mA)
- MDH008³ (347V-480V, 80mA)

¹ 16L or 12L system only.

² 24L or 12L system only.

³ 12L system only.

Lens

- CA (Clear Acrylic)
- SV1 (Flat Soft Vue Light Diffused Acrylic)
- SV2 (Flat Soft Vue Moderate Diffused Acrylic)

Options (Click here to view accessories sheet)

- RP34⁴ For 3" to 4" diameter poles
- RP56⁴ For 5" to 6" diameter poles
- MOT1 360° lens, maximum coverage 40' diameter from 20' height
- MOT2 360° lens, maximum coverage 70' diameter from 20' height
- FHD⁵ Double Fuse and Holder
- HSS External 120° House Side Shield
- BLOC Back Light Optical Control

⁴ Required for round poles

⁵ Ships loose for installation in base

Pole (Click here to link to pole specification page)

See Pole specification sheets.

Finish

Standard Urban Finishes (Click here to view paint finish sheet)

- UGMT Gun Metal Textured
- UGM Gun Metal Matte
- UBT Urban Bronze Textured
- UB Urban Bronze Matte
- ULBT Urban Light Bronze Textured
- ULB Urban Light Bronze Matte
- USLT Urban Silver Textured
- USL Urban Silver Matte
- UWHT Urban White Textured
- UWH Urban White Matte
- UCHS Urban Champagne Satin Smooth
- BKT Black Textured

Custom Urban Finishes⁶

- CM Custom Match

⁶ Smooth finishes are available upon request.

Specifications

Fixture

The medium scale ML630 Millenia® arm mount luminaire is a breakthrough in modern area lighting technology. Its new world urban design transcends traditional lighting convention by seamlessly interweaving form and function to yet another level. Our convective AAD™ "Advanced Air-flow Dynamics" maximizes heat sink expulsion to deliver unsurpassed thermal management for long-life LED performance and energy efficiency. Available with a myriad of options, the Millenia is perfect for commercial, institutional and municipal markets. The Luminaire shall be UL listed in US and Canada.

LEDs

The luminaire shall use high output, high brightness LED's. They shall be mounted in arrays, on printed circuit boards designed to maximize heat transfer to the heat sink surface. The arrays shall be roof mounted to minimize up-light. The LED's and printed circuit boards shall be 100% recyclable; they shall also be protected from moisture and corrosion by a conformal coating. They shall not contain lead, mercury or any other hazardous substances and shall be RoHS compliant. The LED life rating data shall be determined in accordance with IESNA LM-80. The High Performance white LED's will have a life expectancy of approximately 100,000 hours with not less than 70% of original brightness (lumen maintenance), rated at 25°C. The High Brightness, High Output LED's shall be 5000K (4500K, 3000K, 3500K or 2700K option) color temperature with a minimum CRI of 70. Consult factory for custom color CCT. The luminaire shall have a minimum _____ (see table) delivered initial lumen rating when operated at steady state with an average ambient temperature of 25°C (77°F).

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Optics

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BLOC Optic: An optional "Back Light Optical Control" shield can be provided at the factory. This is an internal optic level "House Side Shield" offering significantly reduced backlight and glare while maintaining the original design aesthetics of the luminaire.

Electronic Drivers

The LED driver shall be U.L. Recognized. It shall be securely mounted inside the fixture, for optimized performance and longevity. It shall be supplied with a quick-disconnect electrical connector on the power supply, providing easy power connections and fixture installation. It shall have overload, overheat and short circuit protection, and have a DC voltage output, constant current design, 50/60HZ. It shall be supplied with line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines. It shall be a high efficiency driver with a THD less than 20% and a high power factor greater than .9. It shall be dimming capable using a 0-10v signal, consult factory for more information. *See next page*



SternbergLighting

ESTABLISHED 1923

800-621-3376
555 Lawrence Ave., Roselle, IL 60172
contactus@sternberglighting.com
www.sternberglighting.com

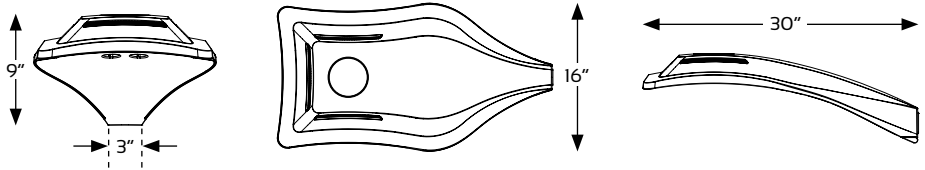
Warranty

Seven-year limited warranty. See product and finish warranty guide for details.

Finish

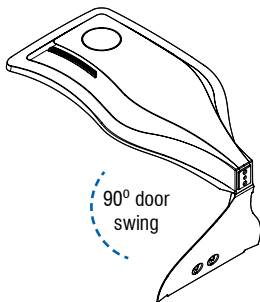
Refer to website for details.

Fixtures

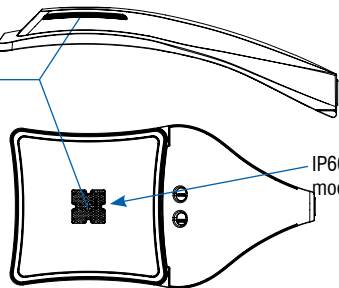


Features

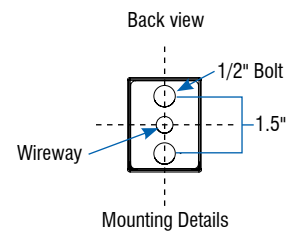
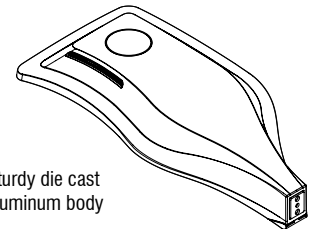
Tool-less latch mechanism to access electrical components and driver



Thermal cooling vents

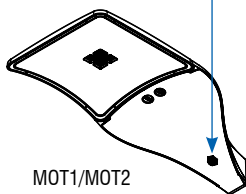


Sturdy die cast aluminum body

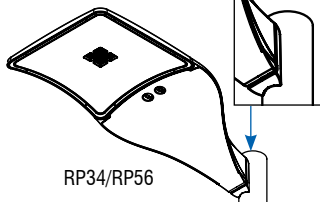


Options

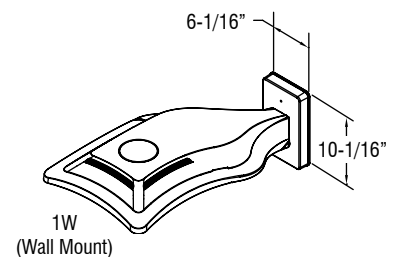
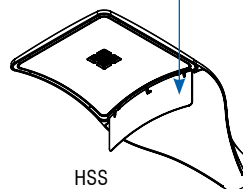
Motion Sensor



Round Pole Adapter



House Side Shield



SternbergLighting

ESTABLISHED 1923

800-621-3376
555 Lawrence Ave., Roselle, IL 60172
contactus@sternberglighting.com
www.sternberglighting.com

Performance (Based on CA Lens)

MODEL #	T2 LUMENS	BUG	EFFICACY (LPW)	T3 LUMENS	BUG	EFFICACY (LPW)	T4 LUMENS	BUG	EFFICACY (LPW)	T5 LUMENS	BUG	EFFICACY (LPW)	WATTS
24L40T_-MDL014	9935	B2U0G2	111.6	9965	B2U0G2	112.0	9420	B2U0G2	105.8	9820	B3U0G1	110.3	89
24L30T_-MDL014	9475	B2U0G2	106.5	9500	B2U0G2	106.7	8980	B2U0G2	100.9	9365	B3U0G1	105.2	89
24L27T_-MDL014	8565	B2U0G2	96.2	8590	B1U0G1	96.5	8120	B1U0G1	91.2	8465	B2U0G1	95.1	89
16L40T_-MDL018	8460	B2U0G2	105.8	8525	B1U0G1	106.6	8130	B1U0G1	101.6	8395	B2U0G1	104.9	80
16L30T_-MDL018	8065	B2U0G2	100.8	8130	B1U0G1	101.6	7750	B1U0G1	96.9	8005	B2U0G1	100.1	80
16L27T_-MDL018	7295	B2U0G2	91.2	7350	B1U0G1	91.9	7010	B1U0G1	87.6	7235	B2U0G1	90.4	80
12L40T_-MDL018	6265	B1U0G1	102.7	6330	B1U0G1	103.8	6025	B1U0G1	98.8	6230	B2U0G2	102.1	61
12L30T_-MDL018	5975	B1U0G1	98.0	6035	B1U0G1	98.9	5745	B1U0G1	94.2	5940	B2U0G2	97.4	61
12L27T_-MDL018	5400	B1U0G1	88.5	5455	B1U0G1	89.4	5195	B1U0G1	85.2	5370	B2U0G2	88.0	61
12L40T_-MDL014	5140	B1U0G1	109.4	5195	B1U0G1	110.5	4980	B1U0G1	106.0	5110	B2U0G2	108.7	47
12L30T_-MDL014	4900	B1U0G1	104.3	4955	B1U0G1	105.4	4750	B1U0G1	101.1	4870	B2U0G2	103.6	47
12L27T_-MDL014	4430	B1U0G1	94.3	4480	B1U0G1	95.3	4295	B1U0G1	91.4	4405	B2U0G1	93.7	47
12L40T_-MDL008	3135	B1U0G1	116.1	3165	B1U0G1	117.2	3020	B1U0G1	111.9	3125	B1U0G1	115.7	27
12L30T_-MDL008	2990	B1U0G1	110.7	3020	B1U0G1	111.9	2880	B1U0G1	106.7	2980	B1U0G1	110.4	27
12L27T_-MDL008	2705	B1U0G1	100.2	2730	B1U0G1	101.1	2605	B1U0G1	96.5	2695	B1U0G1	99.8	27



ADAMS POINT HOUSING

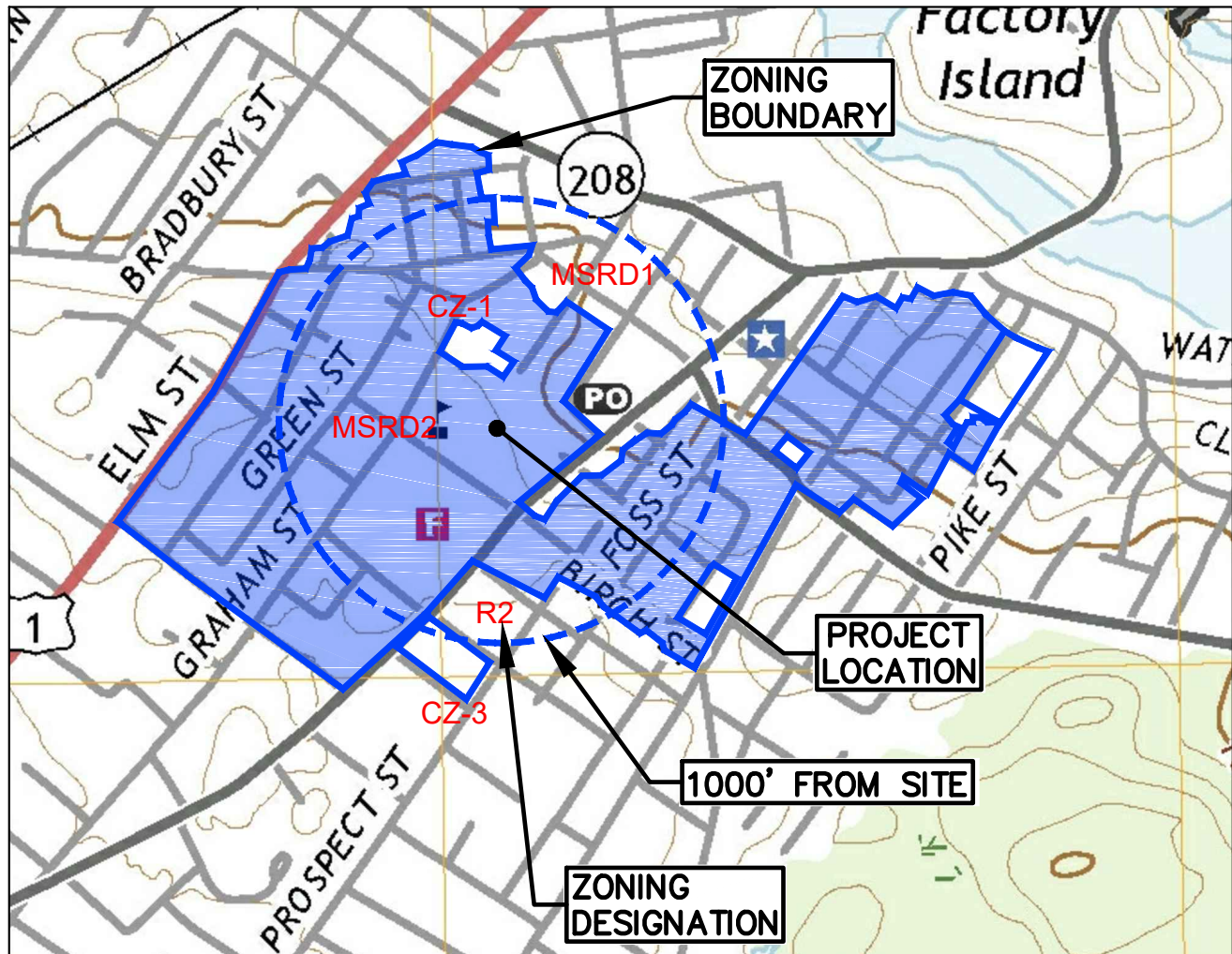
69 ADAMS STREET, BIDDEFORD, MAINE, 04005

LEGEND

	EXISTING EDGE OF ASPHALT CONCRETE PAVEMENT
	SAWCUT (SHEET CD101 ONLY)
	REMOVALS (SHEET CD101 ONLY)
	EDGE OF ASPHALT CONCRETE PAVEMENT
	EXISTING BUILDING LINE
	BUILDING LINE
	EXISTING STORM DRAIN LINE (PIPE SIZE IF KNOWN)
	STORM DRAIN LINE (PIPE SIZE INDICATED)
	EXISTING SANITARY SEWER LINE (PIPE SIZE IF KNOWN)
	SANITARY SEWER LINE (PIPE SIZE INDICATED)
	EXISTING WATER LINE (PIPE SIZE AND IF KNOWN)
	DOMESTIC WATER LINE (PIPE SIZE INDICATED)
	EXISTING OVERHEAD ELECTRIC AND COMMUNICATION LINE
	UNDERGROUND ELECTRIC CONDUIT (SIZE INDICATED).
	UNDERGROUND ELECTRIC CONDUIT (SIZE INDICATED).
	UNDERGROUND COMMUNICATIONS CONDUIT (SIZE INDICATED).
	EXISTING UNDERGROUND NATURAL GAS (PIPE SIZE IF KNOWN).
	UNDERGROUND NATURAL GAS LINE (SIZE INDICATED).
	SILT FENCE
	EXISTING ELEVATION CONTOURS (DECIMAL FEET)
	FINISH ELEVATION CONTOURS (DECIMAL FEET)
	UTILITY POINT OF CONNECTION
	EXISTING PIPE FLOW DIRECTION
	PIPE FLOW DIRECTION
	EXISTING SURFACE FLOW
	EXISTING PAD MOUNTED TRANSFORMER.
	EXISTING LIGHT POLE WITH CONCRETE FOUNDATION
	EXISTING WATER SHUT-OFF VALVE
	WATER SHUT-OFF VALVE
	FOUNDATION DRAIN CLEANOUT
	EXISTING TREELINE
	REMOVAL TREELINE
	TREELINE
	EXISTING SPOT GRADE
	FINISH SPOT GRADE
	EXISTING AND FINISH SPOT GRADES (NO CHANGE IN GRADES)
	FINISH SPOT GRADE
	EXISTING SPOT GRADE
	EXISTING SOIL TEST PIT
	DETAIL NUMBER SHEET WHERE DETAIL IS DRAWN SHEETS WHERE DETAIL IS TAKEN
	DETAIL NUMBER SHEET WHERE DETAIL IS DRAWN
	DEMOLITION KEYNOTE
	NEW WORK KEYNOTE

ABBREVIATIONS

@	AT
&	AND
#,NO	NUMBER
°	DEGREES
±	PLUS/MINUS
ACT	ACOUSTICAL CEILING TILE
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
BD	BOARD
¢	CENTERLINE
CONC	CONCRETE
DIA Ø	DIAMETER
EPDM	ETHYLENE PROPYLENE DIENE TERPOLYMER
ELEV,EL	ELEVATION
EMERG	EMERGENCY
EQ	EQUAL
EXIST,E	EXISTING
F	FINISH
FDN	FOUNDATION
FEC	FIRE EXTINGUISHER CABINET
FFE	FINISH FLOOR ELEVATION
FRT	FIRE RETARDANT TREATED
FT	FOOT, FEET
HDPE	HIGH DENSITY POLYETHYLENE
IN	INCH(ES)
INSUL	INSULATION
INV	INVERT
MAX	MAXIMUM
MIN	MINIMUM
mm	MILLIMETER(S)
MTL	METAL
N	NORTH
OC	ON CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PLYWD	PLYWOOD
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PT	PRESSURE TREATED
REINF	REINFORCED
SF	SQUARE FEET
SIM	SIMILAR
SQ	SQUARE
SS	STAINLESS STEEL
STL	STEEL
STRUCT	STRUCTURAL
SYS	SYSTEM
TBM	TEMPORARY BENCH MARK
TOS	TOP OF STEEL
TYP	TYPICAL
VIF	VERIFY IN FIELD
W/	WITH
WD	WOOD



VICINITY MAP

SCALE: 1"=800'



GRID NORTH



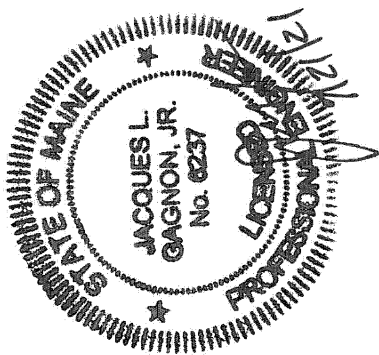
NOTES

- THESE ARE GENERAL PROJECT NOTES THAT APPLY TO THE ENTIRE PROJECT INCLUDING EACH DISCIPLINE.
- ALL COMPONENTS ARE NEW AND SHALL BE PROVIDED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
- VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO COMMENCING WORK. REPORT ANY DISCREPANCIES TO THE ARCHITECT. PROCEED WITH THE WORK AFTER DISCREPANCIES HAVE BEEN RESOLVED.
- CONFORM TO STATE, NATIONAL AND OTHER CODES AND ORDINANCES WHICH ARE APPLICABLE TO THIS PROJECT, KNOWN PERMITS THAT HAVE BEEN OBTAINED BY THE OWNER INCLUDE:
 - CITY OF BIDDEFORD SITE PLAN REVIEW.
 - STATE OF MAINE STORMWATER PERMIT BY RULE.
- WORK FROM GIVEN DIMENSIONS AND LARGE SCALE DETAILS ONLY. DO NOT SCALE DRAWINGS.
- DO NOT PENETRATE NEW BEAMS, GIRDERS, WAFFLE SLABS OR OTHER STRUCTURAL MEMBERS UNLESS SHOWN OTHERWISE ON THE STRUCTURAL DRAWINGS.
- DURING THE ENTIRE CONTRACT PERIOD, MAINTAIN THE CONSTRUCTION SITE IN A SECURE, WEATHER TIGHT, NEAT, CLEAN AND SAFE CONDITION.
- DISPOSE OF AND/OR RECYCLE CONSTRUCTION DEBRIS FROM THE PROJECT AS REQUIRED BY THE CONTRACT AND STATE OF MAINE. OBTAIN DISPOSAL PERMITS WHICH ARE REQUIRED. DISPOSE OF CONSTRUCTION DEBRIS FROM THE PROJECT IN A STATE APPROVED LANDFILL.
- COMPLETE WORK IN COMPLIANCE WITH INDUSTRY STANDARDS AND PERFORM WORK IN A WORKMANLIKE PROFESSIONAL MANNER.
- UNLESS NOTED OTHERWISE, DIMENSIONS ARE TO FACE OF FRAMING.
- ELEVATIONS ARE BASED UPON NAVD 88.
- RESTORE SURFACES, SITE FEATURES AND LANDSCAPING THAT ARE DAMAGED BY CONSTRUCTION TO THEIR ORIGINAL CONDITION, AS ACCEPTABLE TO THE OWNER.
- DO NOT DIRECT VEHICLE OR EQUIPMENT EXHAUST TOWARDS THE BUILDINGS.
- HAND EXCAVATE WITHIN 5' OF EXISTING UNDERGROUND UTILITIES AND EXISTING FOUNDATION WALLS.
- CONTACT "DIGSAFE" AT 1-888-344-7233 AND OBTAIN A "DIGSAFE" PERMIT PRIOR TO COMMENCING EXCAVATION OPERATIONS. ADDITIONALLY CONTACT "OKTODIG" AT 1-866-658-6344 FOR NON-DIG SAFE MEMBERS WITHIN THE CITY OF BIDDEFORD.

LIST OF DRAWINGS

SHEET NUMBER	DISCIPLINE SHEET	TITLE
1	OF 22	G-001 LIST OF DRAWINGS, MAPS, NOTES, LEGEND AND ABBREVIATIONS
2	OF 22	V-101 BOUNDARY, EXISTING CONDITIONS,AND TOPOGRAPHIC SURVEY
3	OF 22	CD101 REMOVALS SITE PLAN
4	OF 22	CS101 SUBDIVISION AND SITE PLAN
5	OF 22	CL101 LAYOUT PLAN
6	OF 22	CU101 UTILITY PLAN
7	OF 22	CG101 GRADING PLAN
8	OF 22	C-301 ROAD PROFILE
9	OF 22	C-302 UTILITY PROFILES
10	OF 22	C-501 EROSION CONTROL NOTES AND DETAIL
11	OF 22	C-502 EROSION CONTROL DETAILS
12	OF 22	C-503 SITE DETAILS - 1
13	OF 22	C-504 SITE DETAILS - 2
14	OF 22	C-505 SITE DETAILS - 3
15	OF 22	C-506 SITE DETAILS - 4
16	OF 22	L1.0 LANDSCAPE PLAN
17	OF 22	L2.0 LANDSCAPE DETAILS
18	OF 22	A100 GROUND FLOOR PLAN
19	OF 22	A101 FIRST FLOOR - 4th FLOOR PLAN
20	OF 22	A200 EXTERIOR ELEVATIONS
21	OF 22	E100 EXTERIOR LIGHTING PLAN
22	OF 22	WS101 WATERSHED PLANS

FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION



DESIGNED BY: JLG
DRAWN BY: DEW
CHECKED BY: JLG
PROJECT: 22104.04

OWNER:
SOUTHERN MAINE
AFFORDABLE HOUSING

22 South Street
Biddeford, Maine, 04005

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING

69 Adams Street
Biddeford, Maine, 04005

LIST OF
DRAWINGS,
MAPS, NOTES,
LEGEND AND
ABBREVIATIONS

SCALE: AS NOTED

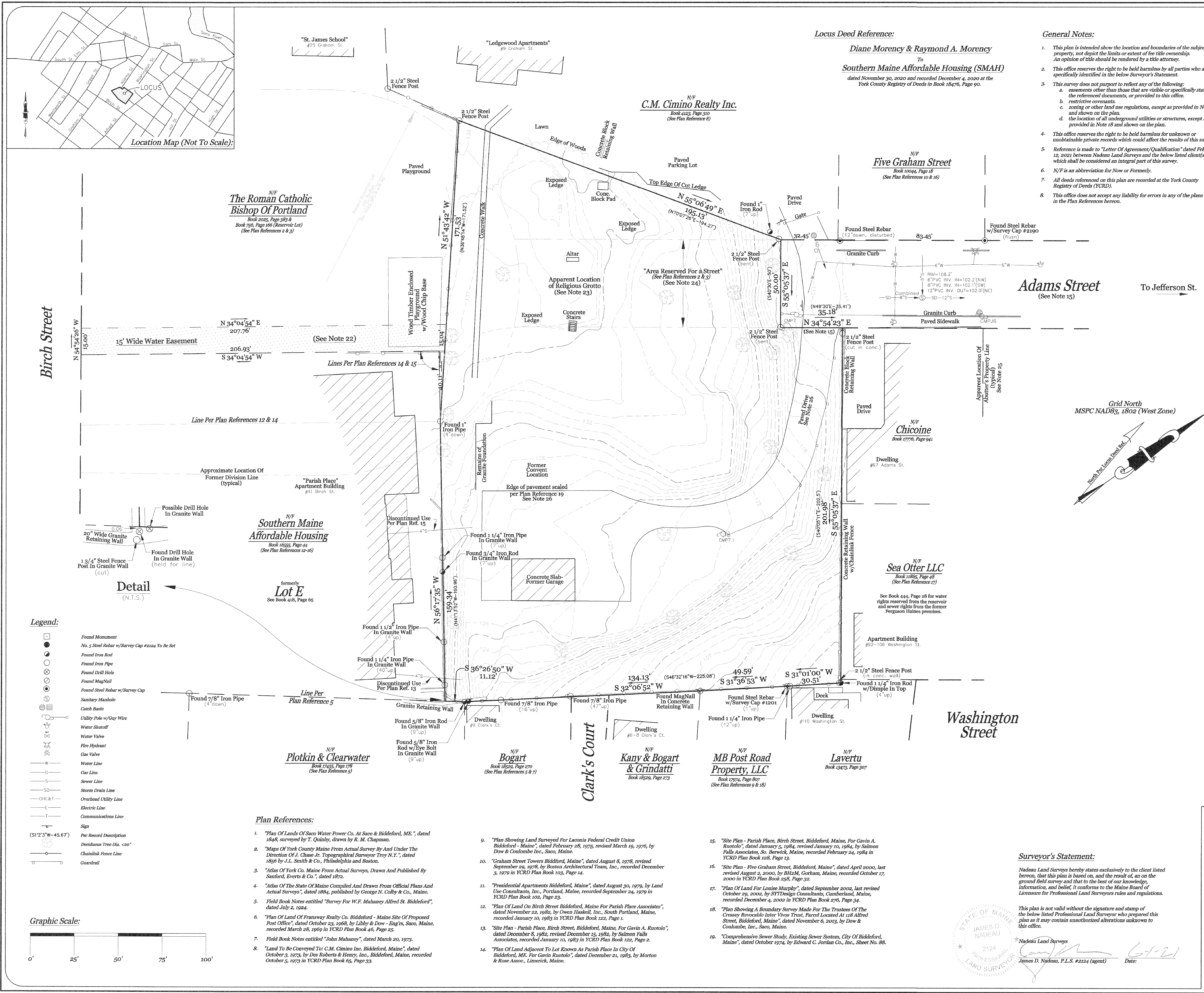
DATE: 08-02-2021

DWG.: G-001

SHEET: 1 OF 22

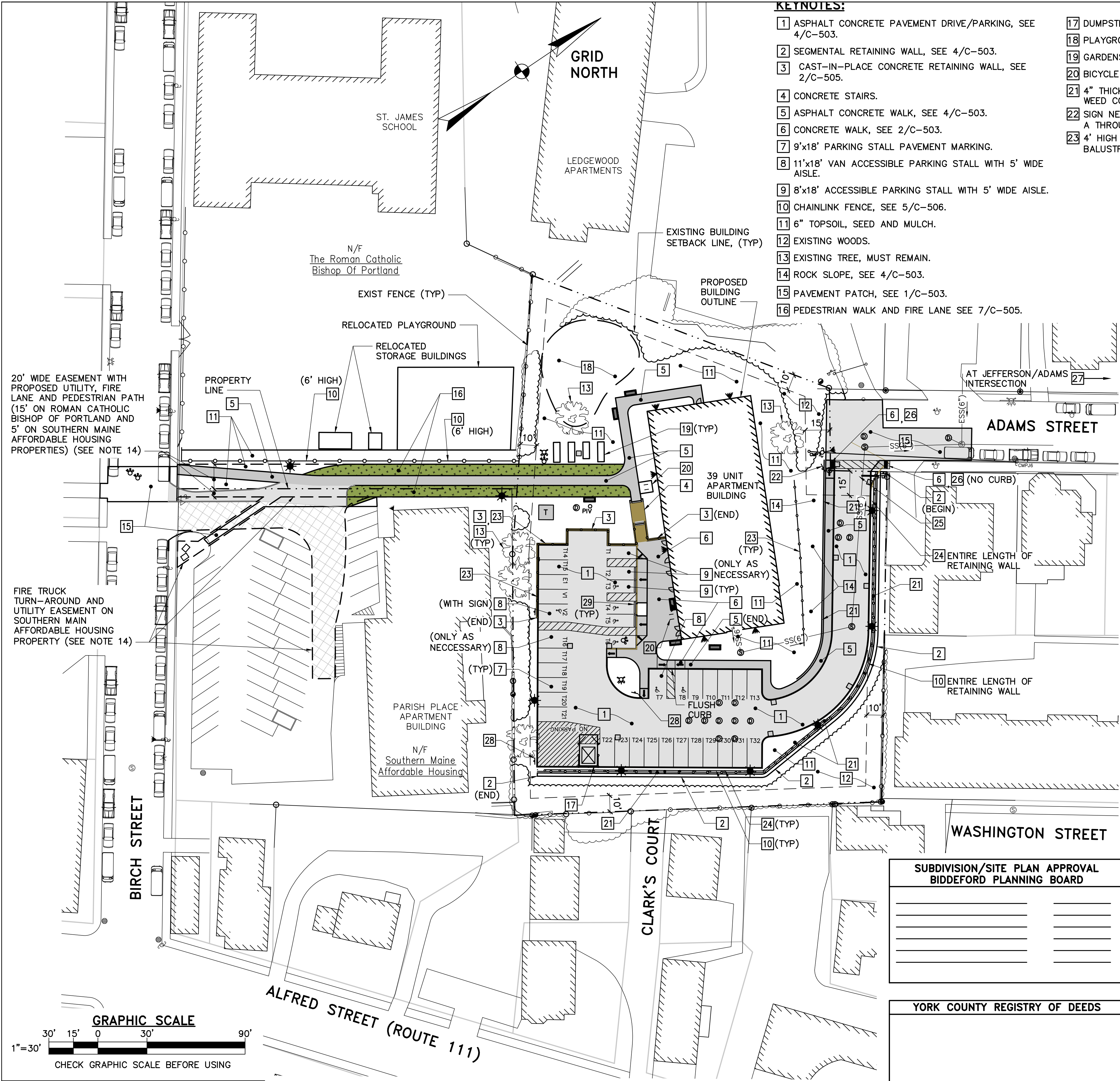
OAK POINT
ASSOCIATES
ARCHITECTURE ■ ENGINEERING ■ PLANNING
231 Main Street, Biddeford, Maine 04005 (T) 207-283-0183 (F) 207-283-1283
www.oakpoint.com

C:\FILE\22104.04-V101.dwg, 7/30/2021 4:22:55 PM



Plan Depicting The Results Of A Boundary, Existing Conditions
And Topography Survey Made For
Southern Maine Affordable Housing
Southwesterly Terminus of Adams Street
Biddeford, Maine

PREPARED BY:		 Nadeau Land Surveys	
918 BRIGHTON AVENUE PORTLAND, ME 04102	Professional Land Surveyors Certified Floodplain Managers	PH: (207) 878-7870 FAX: (207) 878-7871	
RECORD OWNER: Southern Maine Affordable Housing 22 South Street Biddeford, Maine 04005	DRAWN BY: MLC CHECKED BY: JDN/TPB INSTR: Topcon GT-505 & Topcon HiPer II GPS	PLAN DATE: 06/01/2021 SURVEY DATE: January - March 2021 SCALE: 1" = 25'	
FIELD BOOK: FB 412 & Topcon Tesla	JOB No: 2212129BECT	SHEET No: 1 of 1	



KEYNOTES:

- 1 ASPHALT CONCRETE PAVEMENT DRIVE/PARKING, SEE 4/C-503.
- 2 SEGMENTAL RETAINING WALL, SEE 4/C-503.
- 3 CAST-IN-PLACE CONCRETE RETAINING WALL, SEE 2/C-505.
- 4 CONCRETE STAIRS.
- 5 ASPHALT CONCRETE WALK, SEE 4/C-503.
- 6 CONCRETE WALK, SEE 2/C-503.
- 7 9'x18' PARKING STALL PAVEMENT MARKING.
- 8 11'x18' VAN ACCESSIBLE PARKING STALL WITH 5' WIDE AISLE.
- 9 8'x18' ACCESSIBLE PARKING STALL WITH 5' WIDE AISLE.
- 10 CHAINLINK FENCE, SEE 5/C-506.
- 11 6" TOPSOIL, SEED AND MULCH.
- 12 EXISTING WOODS.
- 13 EXISTING TREE, MUST REMAIN.
- 14 ROCK SLOPE, SEE 4/C-503.
- 15 PAVEMENT PATCH, SEE 1/C-503.
- 16 PEDESTRIAN WALK AND FIRE LANE SEE 7/C-505.

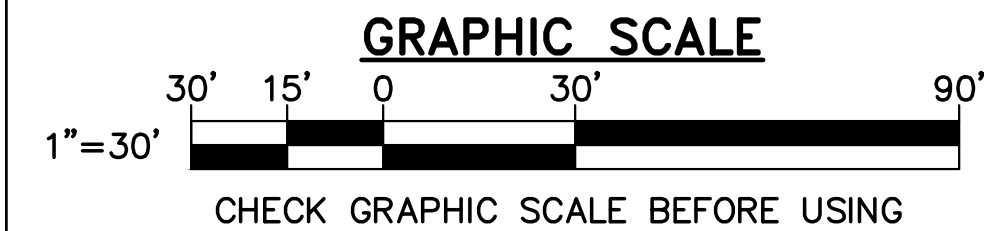
- 17 DUMPSTER PAD AND ENCLOSURE, SEE 1/C-506.
- 18 PLAYGROUND, SEE 7/L2.0.
- 19 GARDENS, SEE DRAWING L1.0.
- 20 BICYCLE RACK, SEE DRAWING L1.0.
- 21 4" THICK, 3/4" CRUSHED STONE WITH WEED CONTROL FABRIC.
- 22 SIGN NEAR 69 ADAMS STREET: "NOT A THROUGH STREET".
- 23 4' HIGH DECORATIVE FENCE (VERTICAL BALUSTRADES WITH BLACK FINISH).

- 24 VEHICLE GUARD RAIL, SEE 4/C-503.
- 25 1' WIDE WHITE STOP BAR.
- 26 TACTILE WARNING PANEL, SEE 4/C-505.
- 27 PROVIDE STOP SIGNS AND STOP BAR AT JEFFERSON AND ADAMS INTERSECTION, SEE 6-C505.
- 28 "LOADING ZONE NO PARKING" SIGN AND POST.
- 29 PARKING STOP.

NOTES:

- PROPERTY INFORMATION
 - 1.a. OWNER: SOUTHERN MAINE AFFORDABLE HOUSING
22 SOUTH STREET
BIDDEFORD, MAINE 04005
 - 1.b. LOCUS TAX MAP: MAP 38, LOT 290
 - 1.c. DEED REFERENCE: BOOK 18476, PAGE 90 (EASEMENT: BOOK 15062, PAGE 209)
 - 1.d. TOTAL PARCEL AREA (BASED ON BOUNDARY SURVEY REFERENCED IN NOTE 2, BELOW): 62,971.5 FT² (1.44 ACRES)
- INFORMATION SHOWN HEREON IS BASED ON THE FOLLOWING:
 - 2.a. A PLAN ENTITLED "A PLAN DEPICTING THE RESULTS OF A BOUNDARY, EXISTING CONDITIONS AND TOPOGRAPHIC SURVEY MADE FOR SOUTHERN MAINE AFFORDABLE HOUSING, SOUTHWESTERLY TERMINUS OF ADAMS STREET, BIDDEFORD, MAINE". PREPARED BY NADEAU LAND SURVEYS, 918 BRIGHTON AVENUE, PORTLAND, ME, 04102; PLAN DATE 06/01/2021.
 - 2.b. TOPOGRAPHIC SURVEY DATA INFORMATION FROM THE PLAN REFERENCE 2.a. ABOVE.
 - 2.c. SUBSURFACE WATER AND GAS MAIN LOCATIONS FROM GEOGRAPHICAL INFORMATION SYSTEM DATABASE INFORMATION OBTAINED FROM MAINE WATER COMPANY AND UNITIL CO.
 - 2.d. SUBSURFACE SEWER AND STORM DRAIN INFORMATION PROVIDED BY THE CITY OF BIDDEFORD, MAINE IN MAY, 2021 CONSISTING OF THE FOLLOWING:
 - 2.d.d. GEOGRAPHIC INFORMATION SYSTEM INFORMATION.
 - 2.d.b. A PLAN ENTITLED "GRAHAM STREET TOWERS", BIDDEFORD, MAINE, DRAWING 1 OF 2 BY BOSTON ARCHITECTURAL TEAM REVISED SEPT 19, 1978.
 - 2.d.c. A PLAN ENTITLED "PARISH PLACE", BIRCH STREET, BIDDEFORD, MAINE, SHEET S1 BY SWIFT ENGINEERING AND SALMON FALLS ASSOCIATES DATED 1-5-84.
 - 2.d.d. A PLAN ENTITLED "PLAN OF LAND FOR LOUISE MURPHY", SHEET S-100 BY SYTDESIGN CONSULTANTS DATED SEPT 2002.
 - 2.d.e. PLAN ENTITLED "EXISTING SEWER SYSTEM" INCLUDED IN THE PROJECT ENTITLED "COMPREHENSIVE SEWER STUDY" BY EDWARD C. JORDAN CO, INC, DATED OCTOBER, 1974.
- ELEVATIONS INDICATED HEREON ARE BASED ON THE NAVD 88 VERTICAL DATUM.
- UTILITIES INDICATED HEREON ARE BASED ON FIELD RECONNAISSANCE AND INFORMATION PROVIDED BY THE CITY OF BIDDEFORD, MAINE WATER, UNITIL, AND PLAN REFERENCE 2.a. THEY ARE SHOWN IN THEIR APPROXIMATE LOCATION. AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCING WORK, DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES IN THE WORK AREA, INCLUDING UTILITIES IN HILL STREET, AND CONTACT THE FOLLOWING:
 - 4.a. "DIGSAFE" AT 1-888-344-7233 TO OBTAIN A "DIGSAFE" PERMIT
 - 4.b. "OK-TO-DIG" AT 1-866-658-6344
 - 4.c. MAINE WATER AT 1-800-287-1643
 - 4.d. CITY OF BIDDEFORD AT 207-282-1579 OR AT 207-282-1350
- REPORT DISCREPANCIES BETWEEN THE DRAWINGS AND THE FIELD-IDENTIFIED UTILITY LOCATIONS TO THE OWNER PRIOR TO DISTURBING AREAS SURROUNDING THE EXISTING UNDERGROUND UTILITIES.
- ZONING INFORMATION:

6.a. ZONE:	PER ORDINANCE:	PER CONTRACT ZONE:
6.b. FRONT YARD SETBACK:	MSRD 2	CONTRACT ZONE NO. 20
6.c. SIDE AND REAR YARD SETBACKS:	15'	15' (41.5' PROVIDED)
6.d. MINIMUM LOT SIZE PER DWELLING:	10'	10' (21.3' PROVIDED)
6.e. MINIMUM LOT FRONTAGE:	2,000 FT ²	1,614 FT ² (39 UNITS)
6.f. MAXIMUM HEIGHT:	50'	50' (85.18' PROVIDED)
6.g. PARKING SPACES:	3 STORIES (35')	5 STORIES (60')
6.h. BICYCLES:	2 PER UNIT (78)	0.75 PER UNIT (30) (35 PROVIDED)
6.i. PARKING AND PROTECTIVE BUFFERS:	-	8 OUTDOOR, 20 INDOOR PROVIDED
6.i.a. NON-VEGETATED:	75% MAX	75% MAX (53.0% PROVIDED)
6.i.b. PAVED/PARKING AND PEDESTRIAN SURFACE:	30% MAX	30% MAX (38.6%, WITH WAIVER OF ARTICLE XI,5.1.3)
6.i.c. NATURAL AREAS/ LANDSCAPED AREAS:	25% MIN	25% MIN (47.0% PROVIDED)
- TRAFFIC CONTROL NOTE: PREPARE AND SUBMIT A WRITTEN TRAFFIC CONTROL PLAN TO THE CITY OF BIDDEFORD FOR APPROVAL PRIOR TO ANY LANE CLOSURES OR WORK WITHIN THE RIGHT OF WAY.
- OBTAIN CITY OF BIDDEFORD STREET OPENING PERMIT PRIOR TO PERFORMING WORK IN THE RIGHT OF WAY.
- PRIOR TO BEGINNING EXCAVATION, PROVIDE PRODUCT INFORMATION SUBMITTALS FOR THE FOLLOWING PRODUCTS TO THE CITY OF BIDDEFORD ENGINEERING DEPARTMENT AND PUBLIC WORKS DEPARTMENT FOR REVIEW AND APPROVAL:
 - 9.a. STORM DRAIN PIPING
 - 9.b. STORM DRAIN LATERAL CONNECTION
 - 9.c. DRAIN MANHOLE
 - 9.d. SEWER LINE PIPING
- PRIOR TO BEGINNING EXCAVATION, COORDINATE WITH THE CITY OF BIDDEFORD PUBLIC WORKS DEPARTMENT FOR INSPECTIONS OF THE FOLLOWING ITEMS:
 - 10.a. LATERAL CONNECTIONS TO THE EXISTING STORM DRAIN SYSTEM
 - 10.b. STORM DRAIN LINE INSTALLATION WITHIN THE ADAMS STREET RIGHT OF WAY
 - 10.c. CONNECTIONS TO THE EXISTING SANITARY SEWER STUB AT THE EDGE OF THE ADAMS STREET RIGHT OF WAY
- MAIL BOXES WILL BE INSIDE BUILDING LOBBY.
- PARKING MUST BE AVAILABLE FOR USE BEFORE OCCUPANCY PERMIT IS ISSUED.
- THE PURPOSE OF THIS PLAN IS APPROVAL OF A 39 AFFORDABLE HOUSING RESIDENTIAL-UNIT DEVELOPMENT THAT IS SUBJECT TO THE CITY OF BIDDEFORD'S SUBDIVISION ORDINANCE (CHAPTER 66), SITE PLAN AND ZONING REGULATIONS (ARTICLE XI OF THE LAND DEVELOPMENT REGULATIONS), AND CONTRACT ZONE AMENDMENT NO. 20.
- FIRE LANE AND UTILITY EASEMENT FROM BIRCH STREET TO 69 ADAMS STREET CONSISTS OF A 15-FOOT WIDE EASEMENT FROM THE ROMAN CATHOLIC BISHOP OF PORTLAND PROPERTY TO BE EXECUTED AS A CONDITION OF APPROVAL. A 5-FOOT WIDE UTILITY EASEMENT AND FIRE TRUCK TURNING EASEMENT FROM SOUTHERN MAINE AFFORDABLE HOUSING TO A FUTURE OWNER OF 69 ADAMS STREET MUST BE EXECUTED AS PART OF THE PROPERTY TRANSFER.



1	9/21/21	REVISE PER FINAL REVIEW COMMENTS	JLG
NO.	DATE	DESCRIPTION	BY
REVISIONS			

1 SUBDIVISION AND SITE PLAN
CS101 SCALE: 1"=30'

NOTE:
SEE THE LANDSCAPE SHEET L1.0 FOR PLANTINGS, SITE AMENITIES, AND GROUND COVERS.

SUBDIVISION/SITE PLAN APPROVAL
BIDDEFORD PLANNING BOARD

YORK COUNTY REGISTRY OF DEEDS

FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION

OAK POINT ASSOCIATES

ARCHITECTURE • ENGINEERING • PLANNING
221 Main Street, Biddeford, Maine 04005 (T) 207-283-0183 (F) 207-283-0283
www.oakpoint.com

JLG
DEW
JLG

DESIGNED BY:
DRAWN BY:
CHECKED BY:
PROJECT:

22104.04

OWNER:
SOUTHERN MAINE
AFFORDABLE HOUSING

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING

SUBDIVISION
AND
SITE
PLAN

SCALE: AS NOTED

DATE: 08-02-2021

DWG.: CS101

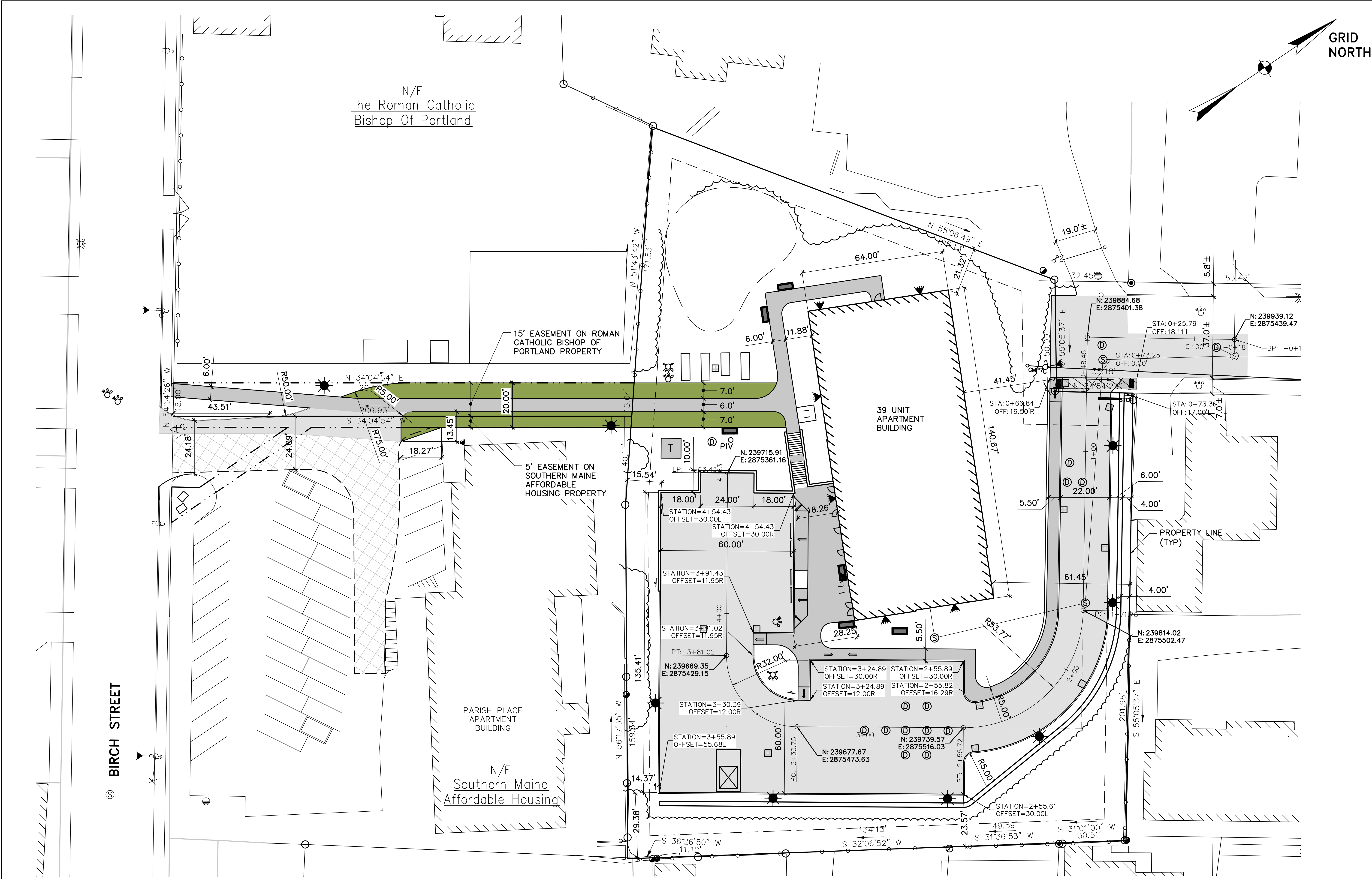
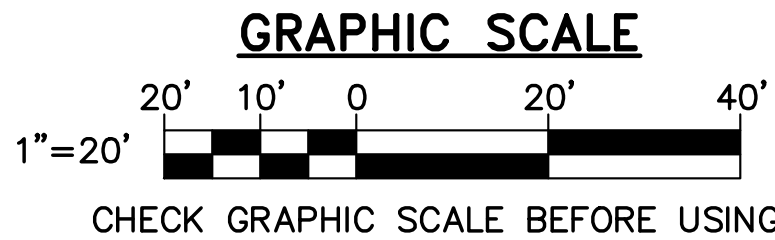
SHEET: 4 OF 22

1	9/21/21	REVISE PER FINAL REVIEW COMMENTS	JLG
NO.	DATE	DESCRIPTION	BY
REVISIONS			

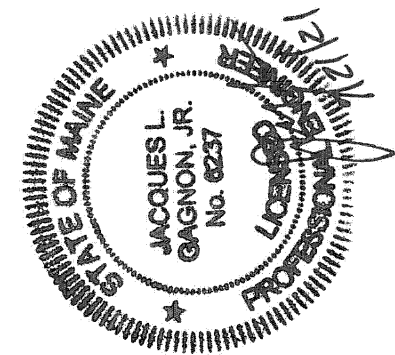
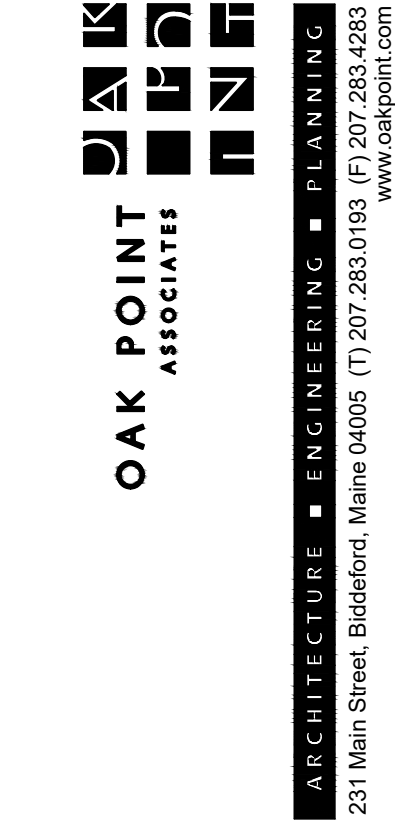
1 LAYOUT PLAN
CL101 SCALE: 1"=20'

LAYOUT NOTES:

- DIMENSIONS SHOWN TO FACE OF CURB, FACE OF RETAINING WALL, EDGE OF PAVEMENT, EDGE OF STABILIZED TURF, AND FACE OF BUILDING FOUNDATION WALL UNLESS NOTED OTHERWISE.
- DIMENSIONS SHOWN ARE IN DECIMAL FEET.
- COORDINATES ARE BASED ON MAINE STATE PLANE COORDINATES NAD83 WEST ZONE.



FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION



DESIGNED BY: JLG
DRAWN BY: DEW
CHECKED BY: JLG
PROJECT: 22104.04

OWNER:
SOUTHERN MAINE
AFFORDABLE HOUSING
22 South Street
Biddeford, Maine, 04005

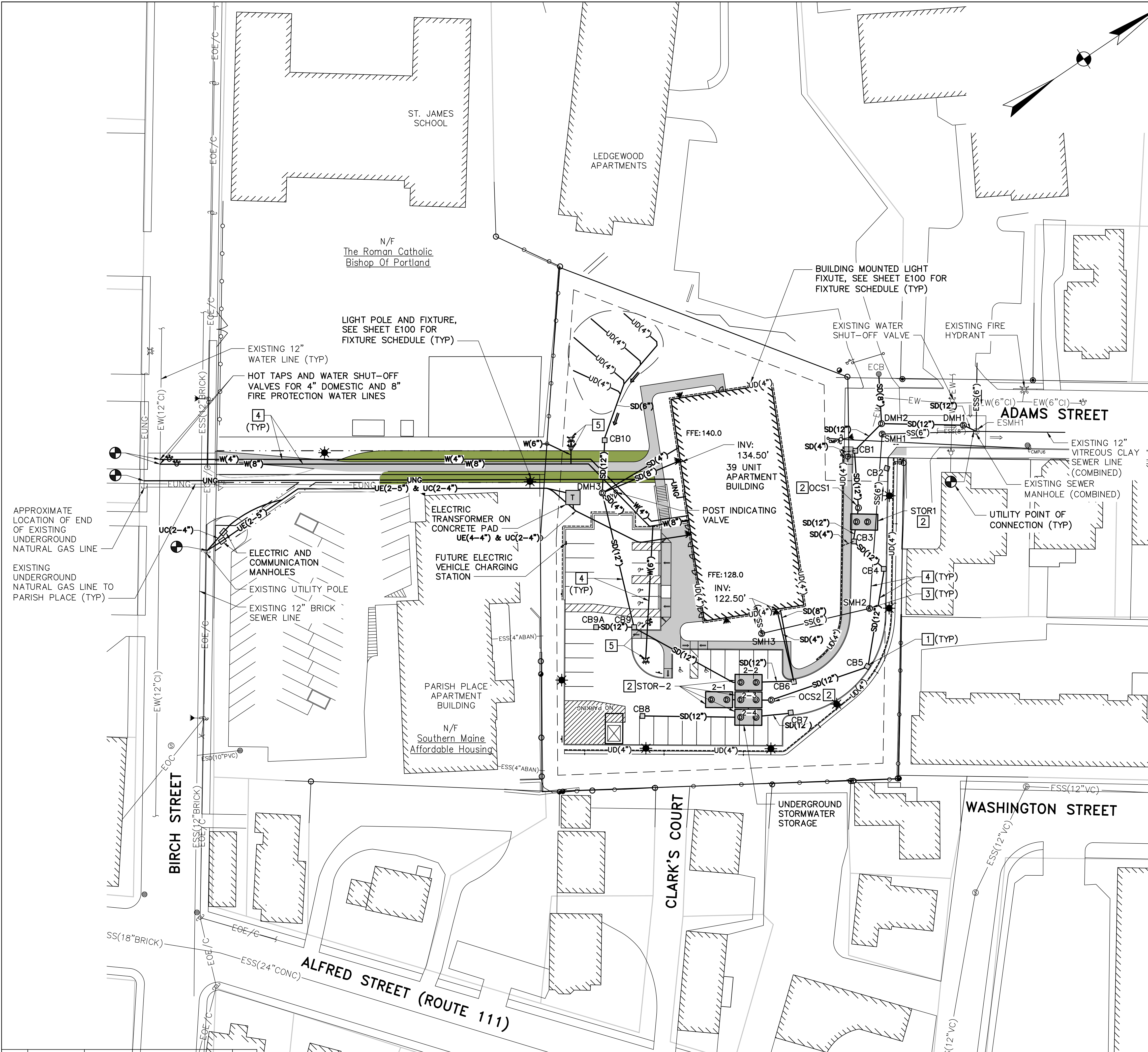
PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING
69 Adams Street
Biddeford, Maine, 04005

LAYOUT
PLAN

SCALE: AS NOTED
DATE: 08-02-2021

DWG.: CL101

SHEET: 5 OF 22



GRID NORTH

KEYNOTES

- 1 CATCH BASIN, SEE 5/C-503.
- 2 STORAGE TANK AND OUTLET CONTROL STRUCTURE, SEE 1/C-504 AND 2-C504.
- 3 SANITARY SEWER MANHOLE, SEE 3/C-505.
- 4 PIPE TRENCH (TYP), SEE 5/C-505.
- 5 FIRE HYDRANT AND SHUT-OFF VALVE

STRUCTURE NAME:	DETAILS:
ESMH1	RIM:108.70 INV IN:102.10, SS(6") INV IN:102.20, ESS(6") INV IN:102.10, SD(12") INV OUT:102.00, ESS(12")
SMH1	RIM:111.20 INV IN:105.76, SS(6") INV OUT:104.93, SS(6")
SMH2	RIM:118.29 INV IN:113.30, SS(6") INV OUT:113.20, SS(6")
SMH3	RIM:126.00 INV IN:121.50, SS(6") INV OUT:118.18, SS(6")

STRUCTURE NAME:	DETAILS:
CB1	RIM:111.94 INV IN:102.82, SD(12") INV IN:107.14, SD(12") INV IN:106.06, SD(4") INV OUT:102.72, SD(12")
CB2	RIM:112.18 INV OUT:106.89, SD(12")
CB3	RIM:113.96 INV IN:109.27, SD(12") INV IN:109.24, SD(4") INV OUT:109.16, SD(12")
CB4	RIM:115.55 INV IN:109.50, SD(12") INV OUT:109.40, SD(12")
CB5	RIM:121.42 INV IN:109.91, SD(12") INV OUT:109.81, SD(12")
CB6	RIM:123.82 INV IN:119.82, SD(8") INV IN:119.82, SD(4") INV OUT:119.72, SD(12")
CB7	RIM:123.89 INV OUT:119.79, SD(12")
CB8	RIM:125.67 INV OUT:119.79, SD(12")
CB9	RIM:126.66 INV IN:122.84, SD(12") INV IN:122.61, SD(12") INV OUT:122.74, SD(12")
CB9A	RIM:126.71 INV OUT:122.49, SD(12")
CB10	RIM:137.12 INV OUT:132.36, SD(12")
DMH1	RIM:108.69 INV IN:102.24, SD(12") INV OUT:102.14, SD(12")
DMH2	RIM:111.82 INV IN:102.60, SD(12") INV IN:102.70, SD(8") INV OUT:102.50, SD(12")
DMH3	RIM:138.38 INV IN:132.03, SD(12") INV IN:132.03, SD(4") INV IN:132.03, SD(8") INV OUT:124.50, SD(12") INV OUT:122.88, SD(4")
ECB	RIM:110.78 INV OUT:107.78, SD(8")

STRUCTURE NAME:	DETAILS:
OCS1	RIM:113.00 INV IN:103.10, SD(4") INV IN:106.32, SD(4") INV IN:108.86, SD(12") INV OUT:103.00, SD(12")
OCS2	RIM:124.30 INV IN:110.33, SD(4") INV IN:115.67, SD(4") INV IN:119.29, SD(12") INV OUT:110.23, SD(12")
STOR1	RIM:113.28 INV IN:109.10, SD(12") INV OUT:108.90, SD(12") INV OUT:106.36, SD(4") INV OUT:103.14, SD(4")
STOR2-1	RIM:124.87 INV OUT:110.50, SD(12")
STOR2-2	RIM:124.34 INV IN:119.09, SD(12") INV IN:120.51, SD(12") INV OUT:110.51, SD(12")
STOR2-3	RIM:124.50 INV IN:110.50, SD(12") INV IN:110.51, SD(12") INV OUT:119.36, SD(12") INV OUT:115.74, SD(4") INV OUT:110.40, SD(4")
STOR2-4	RIM:124.29 INV IN:119.46, SD(12") INV IN:119.94, SD(12") INV OUT:110.51, SD(12")

GRAPHIC SCALE

1"=30'

30' 15' 0 30' 90'

CHECK GRAPHIC SCALE BEFORE USING

1	9/21/21	REVISE PER FINAL REVIEW COMMENTS	JLG
NO.	DATE	DESCRIPTION	BY
REVISIONS			

1 UTILITY PLAN
CU101 SCALE: 1"=30'

FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION

OAK POINT ASSOCIATES

ARCHITECTURE ■ ENGINEERING ■ PLANNING

231 Main Street, Biddeford, Maine 04005 (T) 207-283-0183 (F) 207-283-0283
www.oakpoint.com

DESIGNED BY: JLG
DRAWN BY: DEW
CHECKED BY: JLG
PROJECT: 22104.04

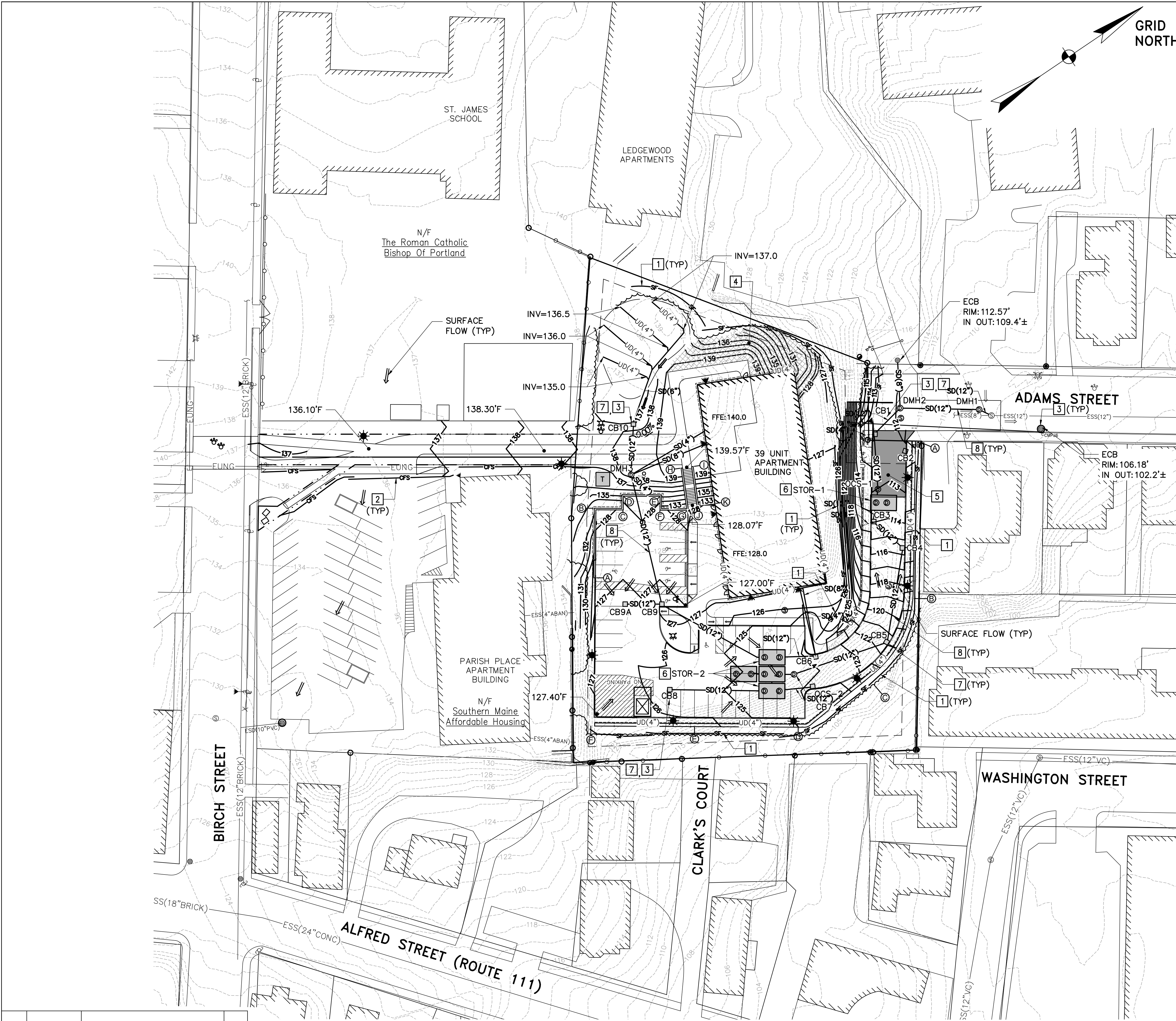
OWNER:
SOUTHERN MAINE AFFORDABLE HOUSING
22 South Street
Biddeford, Maine, 04005

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING
69 Adams Street
Biddeford, Maine, 04005

UTILITY PLAN

SCALE: AS NOTED
DATE: 08-02-2021
DWG.: CU101
SHEET: 6 OF 22

98



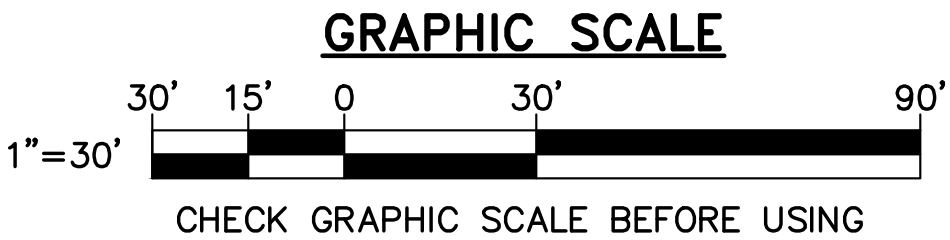
NOTES:

1. SEE DRAWING C-501 FOR EROSION CONTROL NOTES.
2. SEE DRAWING CU101 FOR RIM AND INVERT INFORMATION.

KEYNOTES: (THIS SHEET ONLY)

- 1 SILT FENCE, SEE 1/C-501.
- 2 SEDIMENT CONTROL FILTER SOCK, SEE 1/C-502.
- 3 CATCH BASIN INLET PROTECTION, SEE 2/C-502.
- 4 EROSION CONTROL BLANKET, SEE 8/C-502.
- 5 STABILIZED CONSTRUCTION ENTRANCE/EXIT, SEE 3/C-502.
- 6 OUTLET CONTROL STRUCTURE AND UNDERGROUND STORMWATER STORAGE, SEE 1/C-504 AND 2/C-504.
- 7 CATCH BASIN, SEE 5/C-503.
- 8 PIPE TRENCH, SEE 5/C-505.

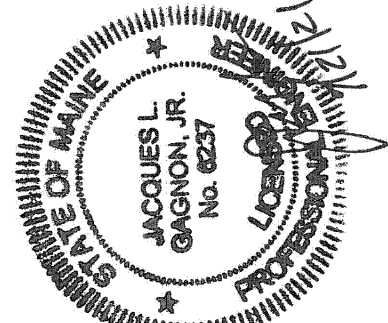
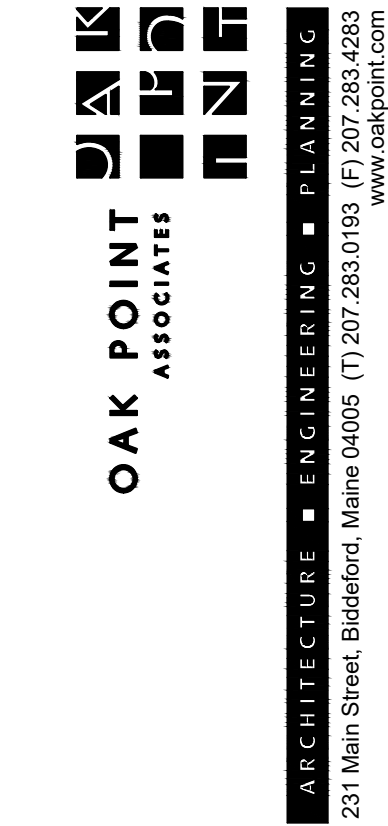
RETAINING WALL ELEVATIONS			
PARKING LOT: EAST/NORTH			
PT	BOW	TOW	HEIGHT
A	111.60	112.54	0.94
B	111.40	118.98	7.58
C	108.93	123.68	14.75
D	107.00	124.85	17.85
E	120.16	126.36	6.20
F	124.62	125.54	0.92
PARKING LOT: SOUTH/WEST			
PT	BOW	TOW	HEIGHT
A	127.36	128.50	1.14
B	128.24	133.50	5.26
C	127.90	133.50	5.60
D	128.08	136.00	7.92
E	128.08	136.00	7.92
F	127.90	133.50	5.60
G	128.24	133.50	5.26
H	139.37	140.37	1.00
I	139.44	140.37	0.93
J	128.02	133.00	4.98
K	128.02	133.00	4.98



NO.	DATE	DESCRIPTION	BY
1	9/21/21	REVISE PER FINAL REVIEW COMMENTS	JLG
REVISIONS			

1 GRADING PLAN
CG101 SCALE: 1"=30'

FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION



DESIGNED BY: JLG
DRAWN BY: JLG
CHECKED BY: JLG
PROJECT: 22104.04

OWNER:
**SOUTHERN MAINE
AFFORDABLE HOUSING**
22 South Street
Biddeford, Maine, 04005

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING
69 Adams Street
Biddeford, Maine, 04005

**GRADING
PLAN**

SCALE: AS NOTED

DATE: 08-02-2021

DWG.: **CG101**

SHEET: **7** OF **22**



STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
ESMH1	RIM: 108.70 INV IN: 102.10, SS(6") INV IN: 102.20, ESS(6") INV IN: 102.10, SD(12") INV OUT: 102.00, ESS(12")
SMH1	RIM: 111.20 INV IN: 105.76, SS(6") INV OUT: 104.93, SS(6")
SMH2	RIM: 118.29 INV IN: 113.30, SS(6") INV OUT: 113.20, SS(6")
SMH3	RIM: 126.00 INV IN: 121.50, SS(6") INV OUT: 118.18, SS(6")

KEYNOTES

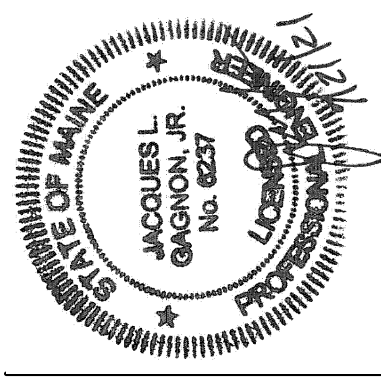
1	CATCH BASIN, SEE 5/C-503.
2	STORAGE TANK AND OUTLET CONTROL STRUCTURE, SEE 1/C-504 AND 2-C504.
3	SANITARY SEWER MANHOLE, SEE 3/C-505.
4	PIPE TRENCH (TYP), SEE 5/C-505.

OAK POINT
ASSOCIATES

DAK
PO
IN

ARCHITECTURE ■ ENGINEERING ■ PLANNING

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www.oakpoint.com



DESIGNED BY: JLG
DRAWN BY: DEW
CHECKED BY: JLG
PROJECT: 22104.04

OWNER:
SOUTHERN MAINE
AFFORDABLE HOUSING
22 South Street
Biddeford, Maine, 04005

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING
69 Adams Street
Biddeford, Maine, 04005

ROAD PROFILE

SCALE: AS NOTED

DATE: 08-02-2021

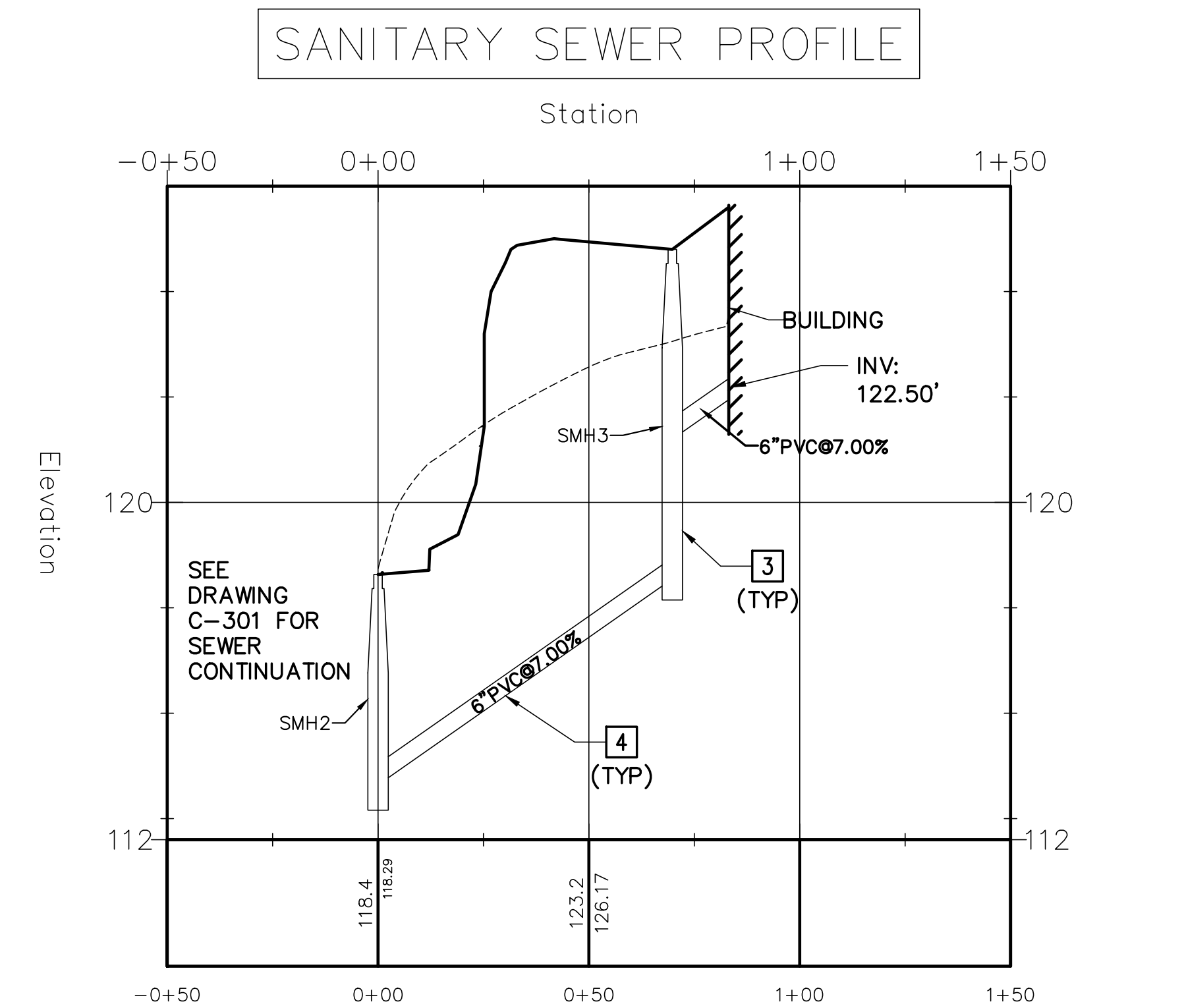
DWG.: **C-301**

SHEET: 8 OF **22**

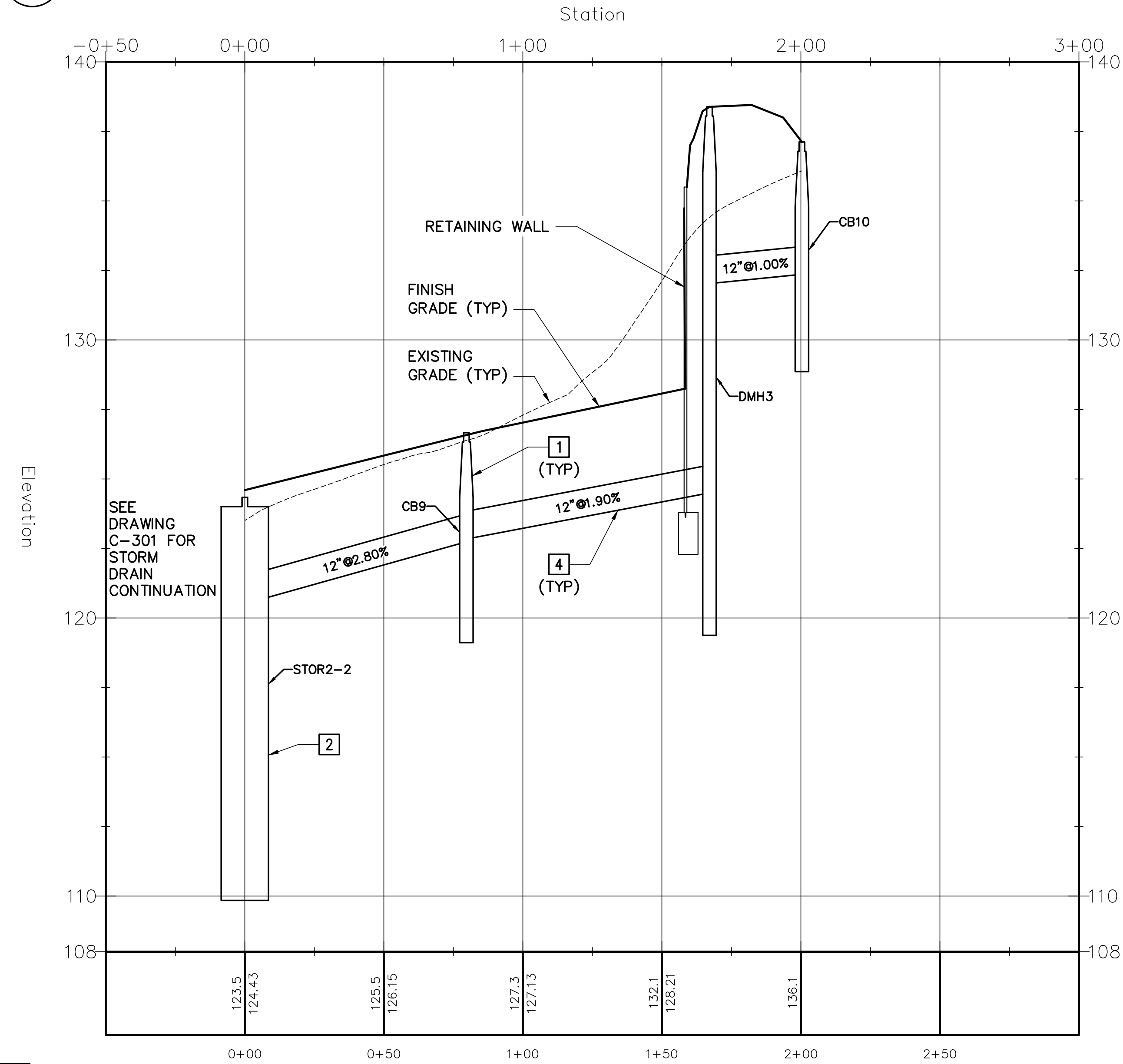
228

1	9/21/21	REVISE PER FINAL REVIEW COMMENTS	JLG
NO.	DATE	DESCRIPTION	BY
REVISIONS			

1	9/21/21	REVISE PER FINAL REVIEW COMMENTS	JLG
NO.	DATE	DESCRIPTION	BY
REVISIONS			



2 SANITARY SEWER PROFILE
C-302 SCALE: 1"=30' HORIZ, 1"=3' VERT



1 STORM DRAIN PROFILE
C-302 SCALE: 1"=30' HORIZ, 1"=3' VERT

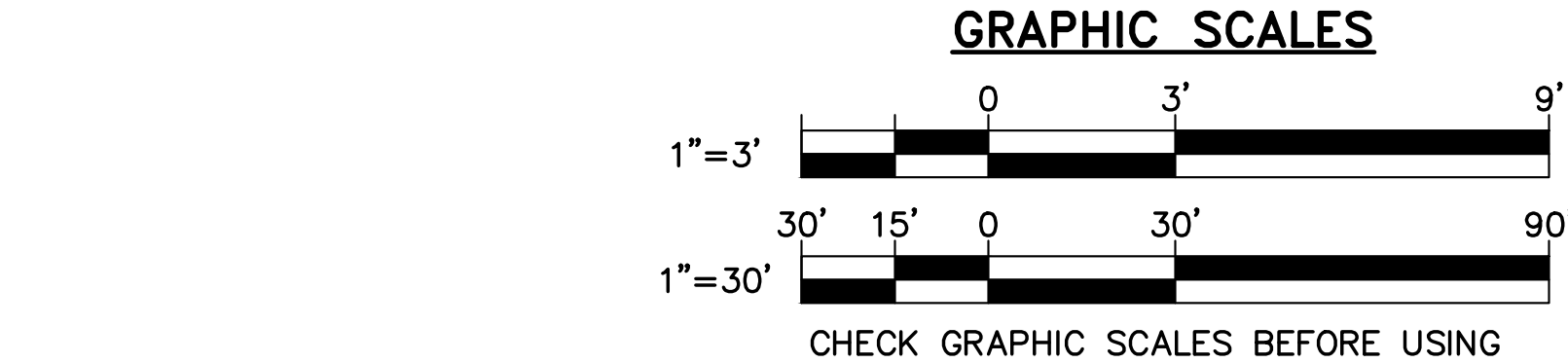
STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
CB1	RIM: 111.94 INV IN: 102.82, SD(12") INV IN: 107.14, SD(12") INV IN: 106.06, SD(4") INV OUT: 102.72, SD(12")
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CB3	RIM: 113.96 INV IN: 109.27, SD(12") INV IN: 109.24, SD(4") INV OUT: 109.16, SD(12")
CB4	RIM: 115.55 INV IN: 109.50, SD(12") INV OUT: 109.40, SD(12")
CB5	RIM: 121.42 INV IN: 109.91, SD(12") INV OUT: 109.81, SD(12")
CB6	RIM: 123.82 INV IN: 119.82, SD(8") INV IN: 119.82, SD(4") INV OUT: 119.72, SD(12")
CB7	RIM: 123.89 INV OUT: 119.89, SD(12")
CB8	RIM: 125.67 INV OUT: 119.79, SD(12")
CB9	RIM: 126.66 INV IN: 122.84, SD(12") INV IN: 122.61, SD(12") INV OUT: 122.74, SD(12")
CB9A	RIM: 126.71 INV OUT: 122.49, SD(12")
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ECB	RIM: 110.78 INV OUT: 107.78, SD(8")

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
ESMH1	RIM: 108.70 INV IN: 102.10, SS(6") INV IN: 102.20, ESS(6") INV IN: 102.10, SD(12") INV OUT: 102.00, ESS(12")
SMH1	RIM: 111.20 INV IN: 105.76, SS(6") INV OUT: 104.93, SS(6")
SMH2	RIM: 118.29 INV IN: 113.30, SS(6") INV OUT: 113.20, SS(6")
SMH3	RIM: 126.00 INV IN: 121.50, SS(6") INV OUT: 118.18, SS(6")

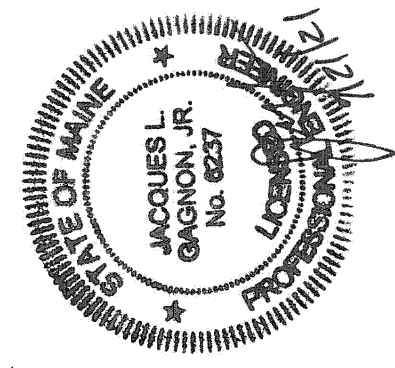
KEYNOTES

- 1 CATCH BASIN, SEE 5/C-503.
- 2 STORAGE TANK AND OUTLET CONTROL STRUCTURE, SEE 1/C-504 AND 2-C504.
- 3 SANITARY SEWER DROP MANHOLE, SEE 3/C-505.
- 4 PIPE TRENCH (TYP), SEE 5/C-505.

STRUCTURE TABLE	
STRUCTURE NAME:	DETAILS:
OCS1	RIM: 113.00 INV IN: 103.10, SD(4") INV IN: 106.32, SD(4") INV IN: 108.86, SD(12") INV OUT: 103.00, SD(12")
OCS2	RIM: 124.30 INV IN: 110.33, SD(4") INV IN: 115.67, SD(4") INV IN: 119.29, SD(12") INV OUT: 110.23, SD(12")
STOR1	RIM: 113.28 INV IN: 109.10, SD(12") INV OUT: 108.90, SD(12") INV OUT: 106.36, SD(4") INV OUT: 103.14, SD(4")
STOR2-1	RIM: 124.87 INV OUT: 110.50, SD(12")
STOR2-2	RIM: 124.34 INV IN: 119.09, SD(12") INV IN: 120.51, SD(12") INV OUT: 110.51, SD(12")
STOR2-3	RIM: 124.50 INV IN: 110.50, SD(12") INV IN: 110.51, SD(12") INV OUT: 119.36, SD(12") INV OUT: 115.74, SD(4") INV OUT: 110.40, SD(4")
STOR2-4	RIM: 124.29 INV IN: 119.46, SD(12") INV IN: 119.94, SD(12") INV OUT: 110.51, SD(12")



FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION



DESIGNED BY: JLG
DRAWN BY: DEW
CHECKED BY: JLG
PROJECT: 22104.04

OWNER:
SOUTHERN MAINE
AFFORDABLE HOUSING

22 South Street
Biddeford, Maine, 04005

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING

69 Adams Street
Biddeford, Maine, 04005

UTILITY
PROFILES

SCALE: AS NOTED

DATE: 08-02-2021

DWG.: C-302

SHEET: 9 OF 22

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EROSION AND SEDIMENT CONTROL

A. GENERAL NOTES

1. DURING CONSTRUCTION AND THEREAFTER, IMPLEMENT EROSION CONTROL MEASURES AS INDICATED AND SPECIFIED. ALL EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION "MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS" BY THE MAINE DEP.
2. IMPLEMENT ALL NECESSARY MEASURES TO CONTROL EROSION AND SEDIMENTATION FROM THE PROJECT SITE AS REQUIRED PURSUANT TO THE MAINE EROSION AND SEDIMENTATION CONTROL LAW.
3. LIMIT AREAS OF EXPOSED SOILS TO THOSE AREAS THAT WILL ACTIVELY BE WORKED. TEMPORARILY STABILIZE ANY AREA OF DISTURBED SOIL THAT REMAINS UNWORKED FOR MORE THAN 14 DAYS USING TEMPORARY MULCHING (IF THE SOIL WILL BE PERMANENTLY STABILIZED WITHIN 30 DAYS) OR TEMPORARY SEEDING AND MULCHING (IF THE SOIL WILL NOT BE PERMANENTLY STABILIZED WITHIN 30 DAYS). PERMANENTLY STABILIZE ANY AREA OF DISTURBED SOIL BROUGHT TO FINAL GRADE WITHIN 7 DAYS. DISTURBED SOILS DO NOT INCLUDE COMPACTED STRUCTURAL FILLS USED FOR ROADS, PARKING LOTS, AND BUILDING FOUNDATIONS.
4. TEMPORARY EROSION CONTROL MEASURES INCLUDE THE USE OF EROSION CONTROL DEVICES, TEMPORARY SEEDING AND MULCHING, CONSTRUCTION PHASING, AND PROVISIONS FOR STABILIZING INACTIVE AREAS. PERMANENT EROSION CONTROL MEASURES INCLUDE THE USE OF EROSION CONTROL BLANKETS, RIPRAP OUTLET PROTECTION, AND PERMANENT SEEDING AND MULCHING.
5. PROVIDE INLET PROTECTION FOR EACH CATCH BASIN ON THE SAME DAY THAT BACKFILL IS PLACED AROUND THE CATCH BASIN.
6. PROVIDE PLANTING SOIL, SEED, FERTILIZER AND MULCH ON ALL DISTURBED AREAS NOT OTHERWISE SPECIFIED. PERMANENT SEEDING SHALL BE ACCOMPLISHED BETWEEN THE DATES OF APRIL 15 AND SEPTEMBER 15. WATER ALL VEGETATED AREAS AS NECESSARY TO ESTABLISH A VIGOROUS GRASS.

B. INSPECTION AND MAINTENANCE

1. INSPECT DISTURBED AND IMPERVIOUS AREAS, 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 EACH STORM EVENT, GREATER THAN 0.5 INCH, PRIOR TO COMPLETION OF PERMANENT STABILIZATION. MAJOR OBSERVATIONS SHALL 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 SHALL ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.
2. A LOG (REPORT) SHALL 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 SHALL 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 SHALL ALSO BE INDICATED IN THE LOG AND DATED, INCLUDING WHAT ACTION WAS TAKEN AND WHEN.
3. MAINTAIN ALL EROSION CONTROL MEASURES FOR THE LIFE OF THE PROJECT AND UNTIL PERMANENT STABILIZATION OF THE ENTIRE SITE IS ESTABLISHED. PERMANENT STABILIZATION SHALL CONSIST OF AT LEAST 90%-PERCENT VEGETATION, PAVEMENT, GRAVEL BASE, OR RIPRAP.
4. SEDIMENT ACCUMULATIONS SHALL BE REMOVED FROM SILT FENCES, HAY BALE BARRIERS, AND STONE CHECK DAMS WHEN THE SEDIMENT DEPTH APPROACHES 6 INCHES, OR AS INDICATED ON DETAILS ON DRAWINGS C-501 AND C-502.
5. THE AREA OF THE DETENTION POND AND EMBANKMENTS SHALL BE INSPECTED WEEKLY AND AFTER EACH STORM EVENT. ALL EROSION AND AREAS OF EXPOSED SOILS SHALL BE PROMPTLY SEEDED AND MULCHED.
6. PROTECT ALL STABILIZED AREAS FROM EROSION AND IMMEDIATELY REPAIR / REVEGETATE ERODED AREAS.
7. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES WITHIN 30 DAYS AFTER THE TRIBUTARY AREA HAS BEEN PERMANENTLY STABILIZED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.

C. CONSTRUCTION DEWATERING

1. IF DEWATERING OF EXCAVATIONS ARE NECESSARY, UTILIZE BAG-TYPE DEWATERING SEDIMENT FILTERS. DEWATERING SEDIMENT FILTERS SHALL BE LOCATED A MINIMUM OF 100 FEET FROM ANY WATER BODY OR WETLAND. SEE DETAIL 4/C-502.

D. SEQUENCE OF CONSTRUCTION

1. CONSTRUCTION SHALL BE PHASED TO DISTURB THE LEAST PRACTICAL AREA AT A TIME AND MINIMIZE DISRUPTION. FOR APPROXIMATE CONSTRUCTION PHASE LIMITS, SEQUENCE AND TIMING. CONSTRUCTION IS EXPECTED TO BEGIN IN THE APRIL 2022 AND BE COMPLETED BY JUNE 2023. INITIAL OPERATIONS INCLUDE LAYOUT OF CLEARING LIMITS AND INSTALLATION OF SILT FENCE, EROSION CONTROL MIX AND CONSTRUCTION ENTRANCE / EXIT AS INDICATED ON REMOVALS SITE PLAN AND GRADING PLANS.
2. CLEAR TREES, GRUB OUT STUMPS, AND STRIP TOPSOIL. REMOVE ALL WOODY DEBRIS FROM THE PROJECT SITE. STOCKPILE TOPSOIL AS SHOWN ON REMOVALS SITE PLAN AND GRADING PLAN. PROVIDE SILT FENCE DOWNGRADE OF ALL STOCKPILES AND COVER STOCKPILES WITH MULCH.
3. COMMENCE LARGE-SCALE EARTH MOVING OPERATIONS AND INSTALL EROSION CONTROL BLANKETS AND STONE CHECK DAMS AND SWALES AND OTHER AREAS ARE ESTABLISHED. AS AREAS APPROACH FINISH GRADE, AND AFTER ESTABLISHMENT OF GRASS IN THE DETENTION BASIN, CONSTRUCT STORM DRAINAGE SYSTEM BEGINNING AT THE LOW POINT IN THE SYSTEM. PROVIDE CULVERT INLET AND OUTLET PROTECTION AS SOON AS PIPES ARE INSTALLED.
4. PERFORM GRADING AND SHAPING TO FILTER BED SUBGRADE FOR ALL GRASSED UNDERDRAIN SOIL FILTERS AND SAND FILTERS, AS DEPICTED ON GRADING PLANS. TREATMENT AREAS MAY BE USED AS STORMWATER AND SEDIMENTATION CONTROL TO FACILITATE CONSTRUCTION. AFTER TRIBUTARY AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE ANY ACCUMULATED SEDIMENT AND INSTALL UNDERDRAIN TO COMPLETE THE CONSTRUCTION OF THE FILTER BED.
5. CONTINUE WITH OTHER UTILITY (WATER, SEPTIC, ELECTRICAL, ETC.) AND BUILDING CONSTRUCTION. PROVIDE VEGETATION, TEMPORARY SEEDING, MULCHING, OR OTHER SURFACE TREATMENTS AS INDICATED IMMEDIATELY UPON ESTABLISHMENT OF FINISH GRADES.

ITEM	IMPLEMENTATION SCHEDULE
SILT FENCE / EROSION CONTROL MIX / SEDIMENT CONTROL FILTER SOCK	INSTALL AS FIRST ORDER OF WORK AND AS NECESSARY TO CONTROL EROSION FROM THE WORK AREA.
CONSTRUCTION ENTRANCE / EXIT	CONSTRUCT AFTER INSTALLING SILT FENCE AND PRIOR TO EARTHWORK OPERATIONS.
CATCH BASIN INLET PROTECTION	INSTALL SAME DAY THAT BACKFILL IS PLACED AROUND STRUCTURE.
STABILIZATION OF INACTIVE AREAS	MULCH AREAS THAT REMAIN UN-WORKED FOR MORE THAN 14 DAYS AND WILL BE STABILIZED WITHIN 30 DAYS.
SWALES, STEEP SLOPES	INSTALL RIPRAP OR EROSION CONTROL BLANKET/NETTING (AS INDICATED ON DRAWINGS) THE SAME DAY FINAL GRADE IS ESTABLISHED.
GRASS ESTABLISHMENT	SEED AND MULCH DISTURBED AREAS WITHIN 7 DAYS OF BEING BROUGHT TO FINAL GRADE.

F. DITCH AND CULVERT STABILIZATION

1. ANY SECTION OF DITCH, SWALE, OR CHANNEL BROUGHT TO FINAL GRADE SHALL BE STABILIZED WITH A RIPRAP LINING OR PROPERLY-INSTALLED EROSION CONTROL BLANKETS (USED OVER PERMANENT SEEDING) WITHIN 24 HOURS.
2. USE STONE CHECK DAMS AND TEMPORARY MULCHING IN ANY ROUGH-GRADED DITCH THAT WILL NOT BE FINAL GRADED AND PERMANENTLY STABILIZED WITHIN THE NEXT 7 DAYS. THE STONE CHECK DAMS AND MULCHING SHALL BE PUT IN PLACE WITHIN 48 HOURS OR PRIOR TO ANY RAINFALL.

F. SOIL STOCKPILE STABILIZATION

1. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 30 DAYS SHALL BE COVERED WITH HAY MULCH (AT 90 LBS HAY/1000 SF) OR COVERED WITH A 4 MIL POLYETHYLENE SHEETING, WOVEN OR NON-WOVEN GEOTEXTILE FABRIC WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
2. POLYETHYLENE SHEETING OR GEOTEXTILE FABRIC SHALL BE CONTINUOUSLY ANCHORED ON ALL SIDES AND 12" TO 24" OVERLAP AT SEAMS IN THE DIRECTION OF THE RUNOFF. PROVIDE ADDITIONAL ANCHORS ON THE WINDY SIDE OF THE STOCKPILE.
2. SOIL AND FILL STOCKPILES EXPECTED TO REMAIN LONGER THAN 30 DAYS SHALL BE SEEDED WITH A CONSERVATION MIX OF ANNUAL RYE GRASS (AT 0.9 LBS/1000 SF) AND HAY MULCHED (AT 90 LBS HAY/1000 SF) WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
3. ALL SOIL AND FILL STOCKPILES SHALL HAVE A SEDIMENT BARRIER (e.g. HAY-BALE BARRIER OR SILT FENCING) INSTALLED AROUND THE DOWNHILL EDGE OF THE STOCKPILE TO TRAP SEDIMENTS.

G. TEMPORARY SEEDING -- (DURING CONSTRUCTION AND PRIOR TO PERMANENT SEEDING) WITHIN 14 DAYS OF INACTIVITY OR 7 DAYS AFTER BEING BROUGHT TO FINISH GRADE.

1. BEDDING -- REMOVE STONES AND TRASH WITHIN SEEDING THE AREA. TILL THE SOIL TO A DEPTH OF ABOUT 3" TO PREPARE SEED BED AND MIX THE FERTILIZER INTO THE SOIL.
2. FERTILIZER -- FERTILIZER SHALL BE UNIFORMLY SPREAD OVER THE AREA PRIOR TO BEING TILLED INTO THE SOIL. A 10-10-10 MIX OF FERTILIZER SHALL BE APPLIED AT A RATE OF 300 POUNDS PER ACRE (OR 7 LBS/1,000 SF).
3. SEED MIXTURE -- USE ANY OF THE FOLLOWING IN UPLAND AREAS:

TEMPORARY SEEDING RATES			
SPECIES	PER ACRE	PER 1,000 SF	SEEDING DATES
WINTER RYE	112 LBS	2.6 LBS	8/15-10/1
OATS	80 LBS	1.8 LBS	4/1-7/1 & 8/15-9/15
ANNUAL RYE GRASS	40 LBS	0.9 LBS	4/1-7/1 WITH MULCH

4. MULCHING FOR TEMPORARY SEEDING -- WHERE IT IS IMPRACTICAL TO INCORPORATE FERTILIZER AND SEED INTO MOIST SOIL, THE SEEDED AREA SHALL BE MULCHED TO FACILITATE GERMINATION. MULCH IN THE FORM OF HAY OR STRAW SHALL BE APPLIED AT A RATE OF 70 TO 90 LBS PER 1,000 SF.

H. MULCHING

TEMPORARY MULCHING SHALL BE USED ON SLOPES, CHANNELS, OTHER EROSION PRONE AREAS, AND ALL EXPOSED SOILS THAT CANNOT RECEIVE PERMANENT COVER WITH 14 DAYS OF DISTURBANCE OR WITHIN 7 DAYS IN AREAS WITHIN 100' OF A NATURAL RESOURCE. MULCH SHALL ALSO BE USED FOLLOWING TEMPORARY AND PERMANENT SEEDING AS SPECIFIED. MULCH ANCHORS SHALL BE USED ON SLOPES GREATER THAN 5% IN FALL (PAST SEPTEMBER 15 AND OVER WINTER TO APRIL 15).

MULCHING RATES		
MULCH TYPE	RATE PER 1,000 SF	USE AND COMMENTS
HAY OR STRAW	70 TO 90 LBS *	MOLD FREE AND DRY, MAY BE USED WITH PLANTINGS.
	* DOUBLE THE RATE FOR OVER WINTER STABILIZATION	ANCHOR IN AREAS OF STRONG WIND AND SLOPES GREATER THAN 5%.
WOOD CHIPS OR BARK MULCH	3" THICK OR MORE	USE IN FLAT AREAS AND SHORT 4:1 SLOPES.
EROSION CONTROL BLANKETS / MATS	SEE DETAIL 8/C-502	DITCHES AND STEEP SLOPES.
EROSION CONTROL MIX	2" FOR SLOPES FLATTER THAN 3:1 OR 4" FOR SLOPES GREATER THAN 3:1. ADD AND ADDITIONAL 1/2" PER 20' OF SLOPE UP TO 100' IF SLOPE IS STEEPER THAN 3:1	FOR USE ON SLOPES LESS THAN 45%.

L. TEMPORARY EROSION CONTROL BLANKET SPECIFICATIONS

1. EXCELSIOR EROSION CONTROL BLANKET SHALL CONSIST OF A MACHINE PRODUCED MAT OF CURLED WOOD EXCELSIOR COVERED WITH EITHER A 3 BY 1 INCH WEAVE OF TWISTED CRAFT PAPER OR A 2 BY 1 INCH BIOGRADABLE EXTRUDED PLASTIC MESH. THE BLANKET SHALL BE OF CONSISTENT THICKNESS WITH FIBERS EVENLY DISTRIBUTED THROUGHOUT. 80 PERCENT OF THE FIBERS SHALL BE OVER 6 INCHES IN LENGTH. MINIMUM WIDTH: 48 INCHES, MINIMUM WEIGHT: 0.8 POUNDS PER SQUARE YARD.
2. STRAW-COCONUT EROSION CONTROL BLANKET SHALL CONSIST OF A MACHINE PRODUCED BLANKET OF 70 PERCENT WHEAT STRAW AND 30 PERCENT COCONUT FIBER WITH PHOTODEGRADABLE NETTING ON BOTH SIDES AND SEWN TOGETHER WITH COTTON THREAD. MINIMUM WIDTH: 48 INCHES, MINIMUM WEIGHT: 0.75 POUNDS PER SQUARE YARD.

J. EXTENDED USE EROSION CONTROL BLANKET SPECIFICATION

1. JUTE EROSION CONTROL BLANKETS SHALL BE OF UNIFORM PLAIN WEAVE SINGLE JUTE YARN AVERAGING APPROXIMATELY 130 POUNDS PER SPINDLE OF 14,400 YARDS. THE YARN SHALL BE LOOSELY TWISTED AND WOVEN INTO 48 INCH WIDE BLANKETS WITH A MINIMUM AVERAGE WEIGHT OF 1.0 POUNDS PER SQUARE YARD.

K. OVER WINTER CONSTRUCTION -- (WINTER CONSTRUCTION PERIOD IS FROM NOVEMBER 1 THROUGH APRIL 15)

ADDITIONAL STABILIZATION MEASURES SHALL BE PROVIDED BY NOVEMBER 1 FOR WINTER AND SPRING SNOW MELT IF THE CONSTRUCTION SITE IS NOT PERMANENTLY STABILIZED WITH PAVEMENT, GRAVEL ROAD BASE, 90% MATURE VEGETATION COVER, EROSION CONTROL MULCH OR RIPRAP. PERMANENT SEEDING SHOULD OCCUR BY AUGUST 15 (45 DAYS BEFORE THE FIRST KILLING FROST). OTHERWISE, OVER WINTER MULCHING IS REQUIRED.

1. DITCHES AND CHANNELS : CONSTRUCT AND STABILIZE ALL GRASS-LINED DITCHES AND CHANNELS BY SEPTEMBER 1. CONSTRUCT AND STABILIZE ALL STONE-LINED DITCHES AND CHANNELS BY NOVEMBER 15.

IF THE CONTRACTOR FAILS TO STABILIZE A DITCH OR CHANNEL TO BE GRASS-LINED (75% COVER) BY NOVEMBER 15, THEN THE CONTRACTOR SHALL TAKE THE FOLLOWING ACTION TO STABILIZE THE DITCH FOR WINTER AND SPRING:

- a. **STONE RIPRAP LINING IN THE DITCH OR CHANNEL**
LINE THE DITCH OR CHANNEL WITH STONE RIPRAP BY NOVEMBER 15. USE ANGULAR D50 = 6" STONE FOR STONE RIPRAP OVER FILTER FABRIC. IF NECESSARY, THE CONTRACTOR SHALL REGRADE THE DITCH / CHANNEL PRIOR TO PLACING THE STONE RIPRAP LINING TO PREVENT THE STONE RIPRAP LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.

2. VEGETATED AREAS WITH SLOPES OF 15% SLOPE OR LESS: SHOULD HAVE 90% GRASS COVER BY NOVEMBER 1st OR BE SEEDED WITH WINTER RYE AT 3 LBS PER 1,000 SF, MULCHED WITH HAY AT 75 LBS PER 1,000 SF, AND ANCHORED WITH NETTING OR, BY NOVEMBER 15th THE CONTRACTOR SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR WINTER AND SPRING:

- a. **EROSION CONTROL BLANKET** -- SEE DETAIL 6/C-502.
- b. **EROSION CONTROL MIX** --
THE MIX MUST BE WELL-GRADED WITH AN ORGANIC COMPONENT THAT IS BETWEEN 50 AND 100% OF DRY WEIGHT, AND THAT IS COMPOSED OF FIBROUS AND ELONGATED FRAGMENTS. THE MINERAL PORTION OF THE MIX SHOULD BE NATURALLY INCLUDED IN THE PRODUCT WITH NO LARGER ROCKS (>3") OR LARGE AMOUNTS OF FINES (SILTS AND CLAYS). IN STUMP GRINDING, THE MINERAL SOIL ORIGINATES FROM THE ROOT BALL AND SHOULD NOT BE REMOVED BEFORE GRINDING. THE MIX SHOULD BE FREE OF REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR UNSUITABLE MATERIAL (BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS). APPLY A THICKNESS OF 2" ON 3:1 SLOPES OR LESS AND ADD AN ADDITIONAL 1/2" PER 20' OF SLOPE OR UP TO 4" FOR A 100' SLOPE.

- c. **HAY MULCH** --
APPLY AT A RATE OF 150 LBS PER 1,000 SF (3 TONS PER ACRE) AND ANCHORED WITH NETTING (PEG AND TWINE) OR A TRAKIFIER TO PREVENT MULCH DISPLACEMENT BEFORE FREEZING CONDITIONS. NO SOIL SHOULD BE VISIBLE THROUGH THE MULCH AND HAY MULCH CAN NOT BE APPLIED OVER SNOW.

3. VEGETATED SLOPES GREATER THAN 15% : SHOULD BE SEEDED AND MULCHED BY SEPTEMBER 1. IF A SLOPE IS NOT STABILIZED BY OCTOBER 15, THE SOIL MAY BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1,000 SF AND PROTECTED WITH EROSION CONTROL BLANKETS. IF THE RYE FAILS TO GROW 3" OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 15, THE CONTRACTOR SHALL TAKE ONE OF THE FOLLOWING ACTIONS TO STABILIZE THE SLOPE FOR WINTER AND SPRING:

- a. **EROSION CONTROL BLANKET** -- SEE DETAIL 8/C-502.
- b. **EROSION CONTROL MIX** --
THE MIX MUST BE WELL-GRADED WITH AN ORGANIC COMPONENT THAT IS BETWEEN 50 AND 100% OF DRY WEIGHT, AND THAT IS COMPOSED OF FIBROUS AND ELONGATED FRAGMENTS. THE MINERAL PORTION OF THE MIX SHOULD BE NATURALLY INCLUDED IN THE PRODUCT WITH NO LARGER ROCKS (>3") OR LARGE AMOUNTS OF FINES (SILTS AND CLAYS). IN STUMP GRINDING, THE MINERAL SOIL ORIGINATES FROM THE ROOT BALL AND SHOULD NOT BE REMOVED BEFORE GRINDING. THE MIX SHOULD BE FREE OF REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR UNSUITABLE MATERIAL (BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS). APPLY A THICKNESS OF 4" ON GREATER THAN 3:1 AND AND IF SLOPES ARE GREATER THAN 60' LONG, 5" IS NEEDED.
- c. **RIPRAP** --
ANGULAR STONE WITH SIZE AND THICKNESS APPROPRIATE TO STABILIZE THE SLOPE.

4. SOIL STOCKPILES : SHOULD BE MULCHED FOR OVER WINTER PROTECTION WITH HAY AT TWICE THE NORMAL RATE (150 LBS PER 1,000 SF), OR WITH 4" LAYER OF EROSION CONTROL MIX. DO NOT LEAVE STOCKPILES, EVEN OVER WINTER (EVEN MULCHED), WITHIN 100' OF OF A PROTECTED RESOURCE.

L. PERMANENT SEEDING -- (SEEDING DATES APRIL 15 TO AUGUST 15 ONLY)

1. PERMANENT SEEDING SHALL OCCUR BY AUGUST 15 (45 DAYS BEFORE THE FIRST KILLING FROST TO ALLOW FOR 90% STAND OF TURF TO ESTABLISH PRIOR TO NOVEMBER 1.
2. SITE PREPARATION -- INSTALL NEEDED SURFACE WATER CONTROL MEASURES PRIOR TO SEEDING. GRADE TO PERMIT USE OF CONVENTIONAL EQUIPMENT FOR SEED-BED PREPARATION. PROVIDE ADEQUATE DRAINAGE WHERE INTERNAL WATER MOVEMENT MAY CAUSE SEEPS OR SLIPPAGE BEFORE SEEDING IS WELL ESTABLISHED.
3. BEDDING -- STONES, TRASH, ROOTS, AND OTHER DEBRIS THAT WILL INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA SHALL BE REMOVED. WHERE FEASIBLE, THE SOIL SHALL BE TILLED TO A DEPTH OF 4" TO PREPARE A SEEDBED AND MIX FERTILIZER INTO THE SOIL. WHEN PRACTICAL, PERFORM ALL CULTURAL OPERATIONS AT RIGHT ANGLES TO THE SLOPE. PROVIDE THE BEST CONDITIONS POSSIBLE FOR SEEDING.

4. FERTILIZER -- LIME AND FERTILIZER SHALL BE APPLIED EVENLY OVER THE AREA PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL. KINDS AND AMOUNTS OF LIME AND FERTILIZER SHALL BE BASED ON AN EVALUATION OF SOIL TESTS. WHEN A SOIL TEST IS NOT AVAILABLE, THE FOLLOWING MINIMUM SHALL BE APPLIED:

- a. GROUND LIMESTONE AT A RATE OF 138 LBS PER 1,000 SF (3 TONS PER ACRE) 10-20-20 FERTILIZER OR EQUIVALENT AT 18.4 LBS PER 1,000 SF (800 LBS PER ACRE) WORK LIME AND FERTILIZER INTO THE SOIL TO A DEPTH OF 4" EITHER BEFORE OR DURING THE FINAL SEEDED PREPARATIONS.

5. SEED MIXTURE: SEE SPECIFICATIONS AND DRAWINGS FOR SEEDING MIXTURES AND LOCATIONS OF SEED MIXTURE TYPES.

M. RIPRAP SPECIFICATION

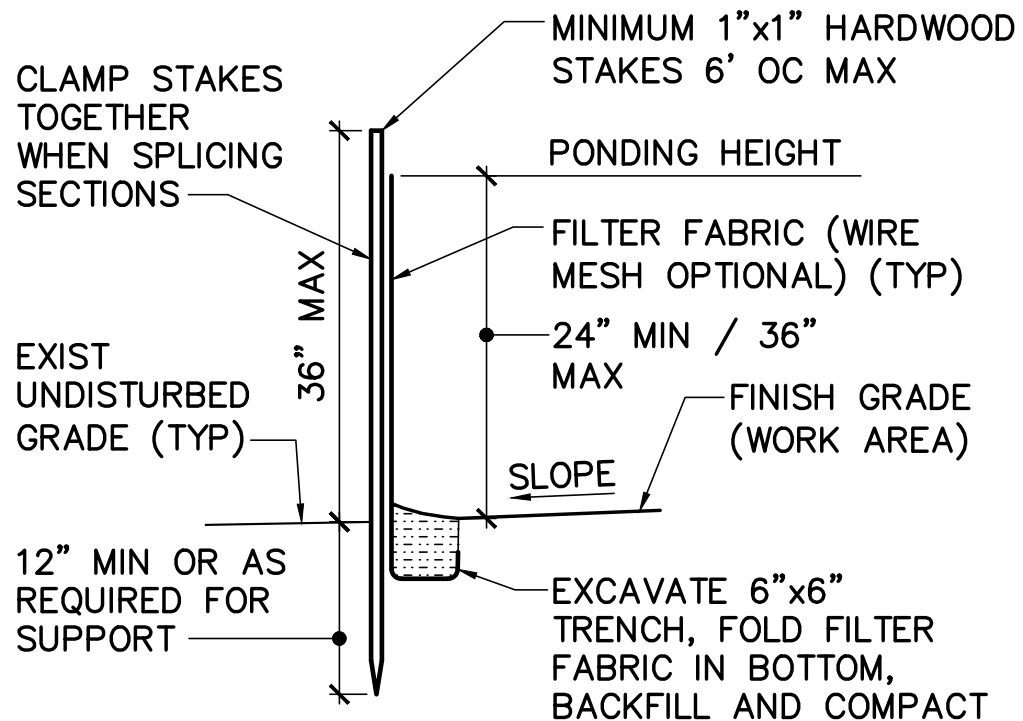
ALL RIPRAP AND STONE FOR CHECK DAMS AND STONE LININGS SHALL CONSIST OF SOUND, DURABLE ROCK WHICH WILL NOT DISINTEGRATE BY EXPOSURE TO WATER OR WEATHER. ANGULAR FIELD STONE, ROUGH QUARRY STONE OR BLASTED LEDGE ROCK MAY BE USED. THE MEDIAN STONE SIZE SHALL BE AS INDICATED. THE MAXIMUM STONE SIZE SHALL BE TWICE THE MEDIAN SIZE. INCLUDE ENOUGH SMALLER STONES TO FILL THE VOIDS IN THE LARGER STONES.

N. OFF-SITE VEHICLE TRACKING

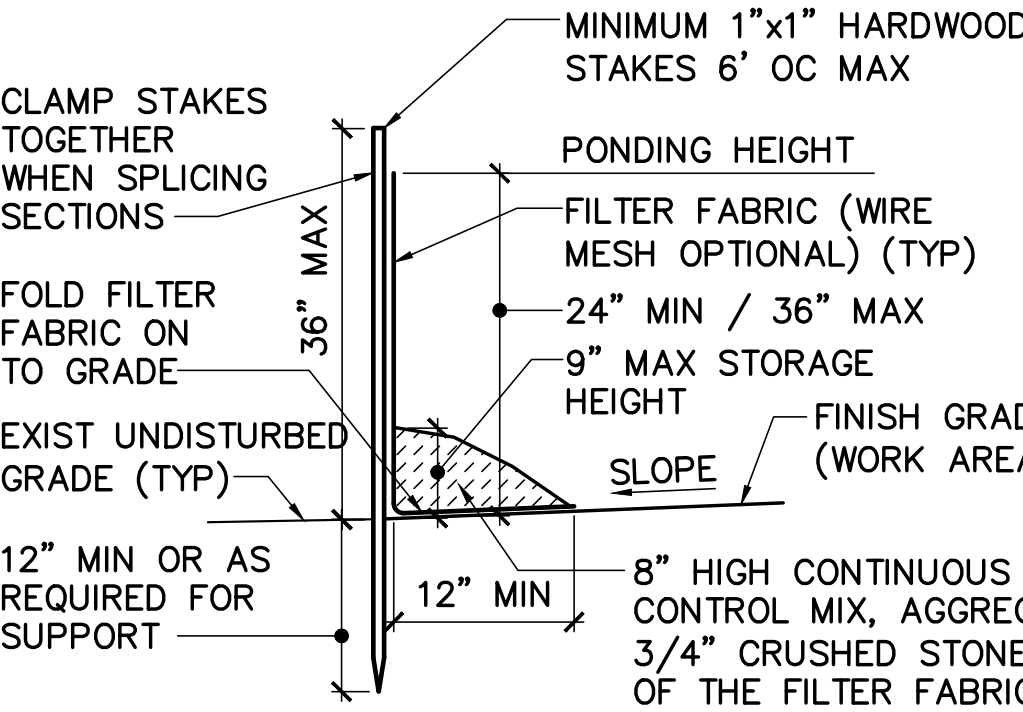
1. VEHICLE ACCESS TO THE CONSTRUCTION AREA SHALL UTILIZE A STABILIZED CONSTRUCTION ENTRANCE, SEE DETAIL 3/C-502.

O. HOUSEKEEPING

1. ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN SECURELY LIDDED RECEPTACLES. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN A DUMPSTER. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE.
2. ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATIONS OR BY THE MANUFACTURER.
3. ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS A MINIMUM OF ONCE PER WEEK BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.
4. ALL MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR PROPER (ORIGINAL IF POSSIBLE) CONTAINER AND IF POSSIBLE UNDER A ROOF OR OTHER ENCLOSURE. STORE ONLY SUFFICIENT AMOUNTS OF MATERIALS TO COMPLETE THE JOB.
5. DISPOSE OF NOT TO BE USED SURPLUS MATERIALS OFF SITE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND STATE AND FEDERAL CODES.
6. ALL CONSTRUCTION RELATED EQUIPMENT AND VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE LEAKAGE.
7. CONCRETE TRUCKS SHALL DISCHARGE AND WASH OUT SURPLUS CONCRETE OR DRUM WASH WATER IN A CONTAINED AREA ON SITE.
8. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED METHODS. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIAL STORAGE AREA ON SITE AND SHALL INCLUDE, BUT BE NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, KITTY LITTER, SAND, SAWDUST AND PLASTIC OR METAL TRASH CONTAINERS. SPILLS OF TOXIC OR HAZARDOUS MATERIALS SHALL BE REPORTED TO THE APPROPRIATE STATE OR LOCAL GOVERNMENT AGENCY IMMEDIATELY REGARDLESS OF THE SIZE.



WITH TRENCHING



WITHOUT TRENCHING

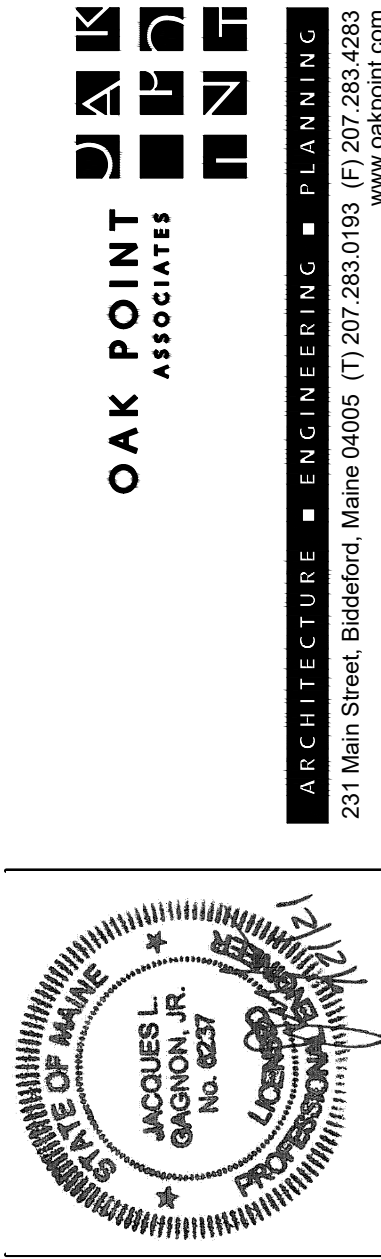
SILT FENCE NOTES

1. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN DEPOSITS EXCEED 6" IN DEPTH.
2. SILT FENCES SHALL BE INSPECTED AFTER EACH RAINFALL AND ALL NECESSARY REPAIRS/REPLACEMENT MADE IMMEDIATELY.
3. SILT FENCES SHALL BE REMOVED AFTER SATISFACTORY VEGETATIVE COVER IS ESTABLISHED. PROVIDE TOPSOIL, FINISH GRADE, SEED AND MULCH DISTURBED AREAS.
4. IN AREAS WHERE SILT FENCE CAN NOT BE TRENCHED SUCH AS FROZEN GROUND, BEDROCK, STONY SOIL, ROOTS OR NEAR A PROTECTED RESOURCE THE SILT FENCE SHALL BE ANCHORED USING THE "WITHOUT TRENCHING" METHOD SHOWN ABOVE.

1 TYP SILT FENCE DETAIL C-501/NOT TO SCALE

CD101, CG101

FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION



DESIGNED BY: JLG
DRAWN BY: DEW
CHECKED BY: JLG
PROJECT: 22104.04

OWNER:
SOUTHERN MAINE AFFORDABLE HOUSING

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING

22 South Street
Biddeford, Maine, 04005

69 Adams Street
Biddeford, Maine, 04005

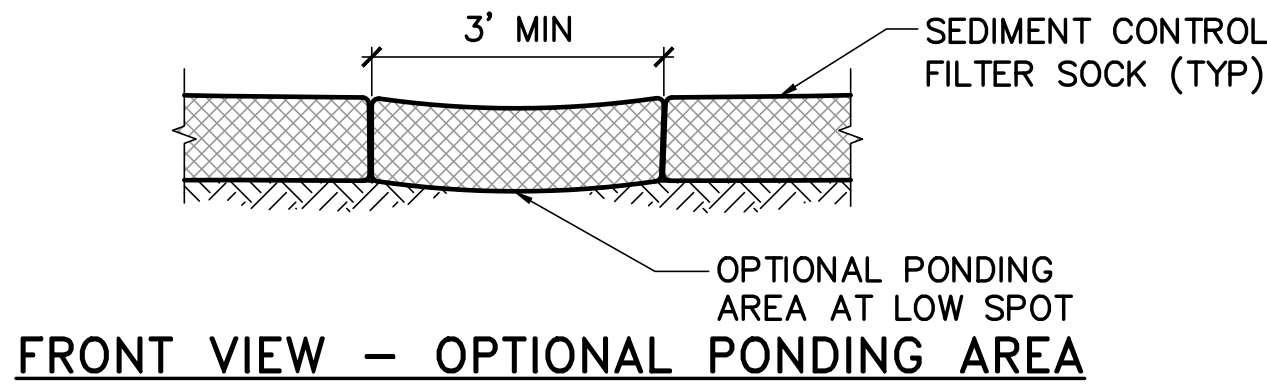
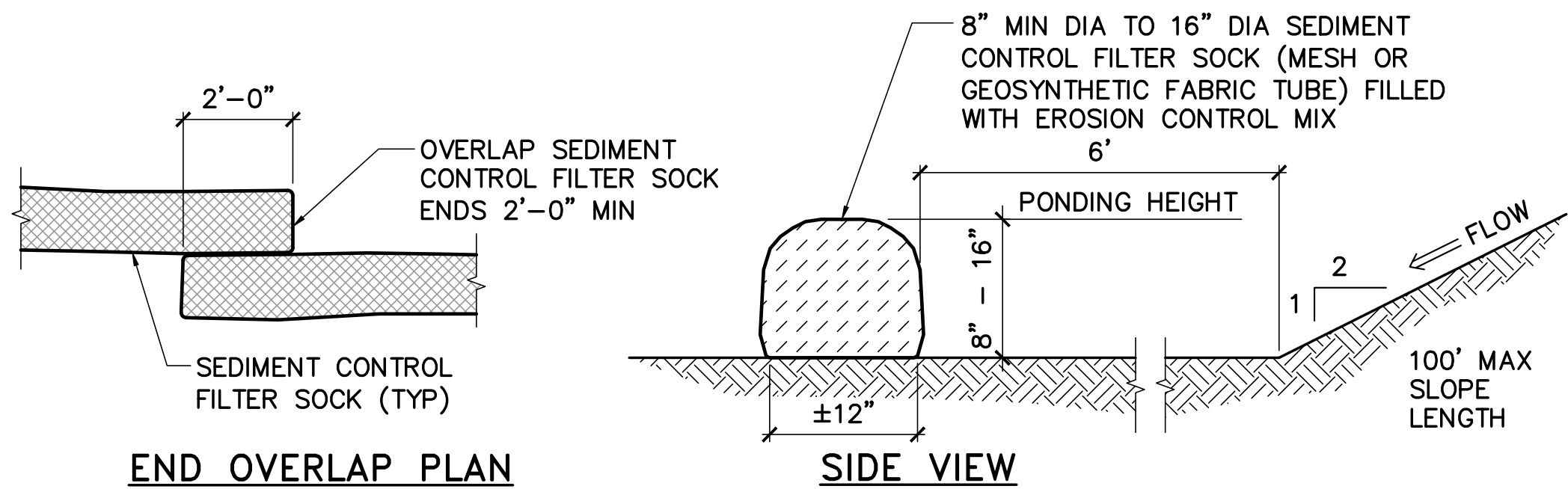
EROSION CONTROL NOTES AND DETAIL

SCALE: AS NOTED

DATE: 08-02-2021

dwg.: C-501

SHEET: 10 OF 22

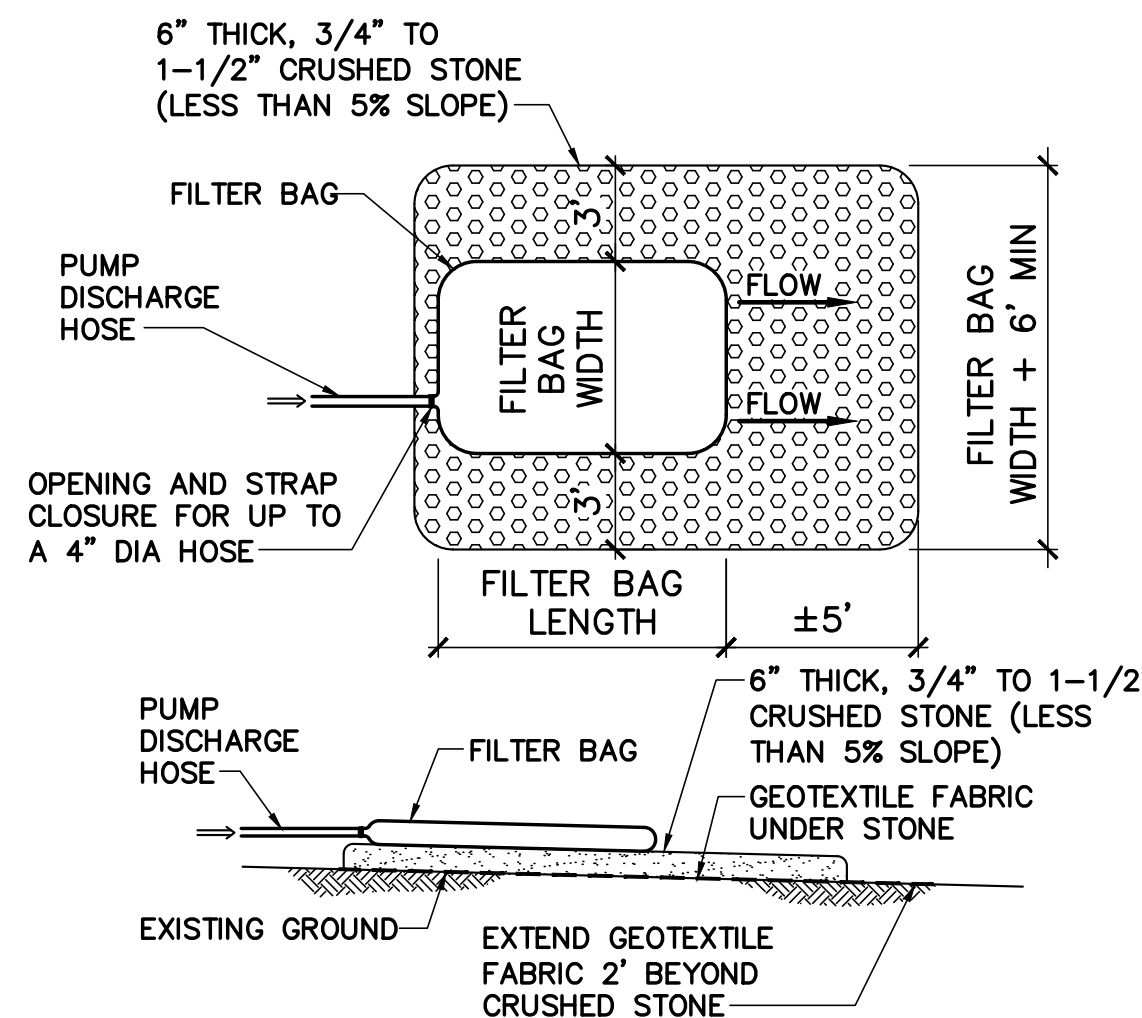


SEDIMENT CONTROL FILTER SOCK NOTES:

1. SEDIMENT CONTROL FILTER SOCKS SHALL BE MANUFACTURED FOR THE PURPOSE OF TEMPORARY SEDIMENT CONTROL AND INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS.
2. REMOVE ROOTS, ROCKS, MOW OR FLATTEN GRASS TO MAINTAIN FULL CONTACT WITH GROUND AND FILTER SOCK.
3. REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES ONE HALF THE FILTER SOCK HEIGHT.
4. SEDIMENT CONTROL FILTER SOCKS SHALL REMAIN IN PLACE UNTIL ALL AREAS ARE STABILIZED.
5. SECURE SEDIMENT CONTROL FILTER SOCKS WITH CONCRETE BLOCKS AND/OR WOOD STAKES IN LOCATIONS WHERE SOCK FAILS TO REMAIN IN PLACE DUE TO HYDRAULIC FORCE.
6. EROSION CONTROL MIX SHALL CONSIST PRIMARILY OF WELL GRADED ORGANIC MATERIAL AND SHALL INCLUDE SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR OTHER PRODUCTS BASED ON A SIMILAR RAW SOURCE. SILT, CLAY, OR FINE SAND ARE NOT ACCEPTABLE IN THE FILTER SOCK EROSION CONTROL MIX.

1 TYP SEDIMENT CONTROL FILTER SOCK DETAIL

CD101, CG101, C-502 NOT TO SCALE

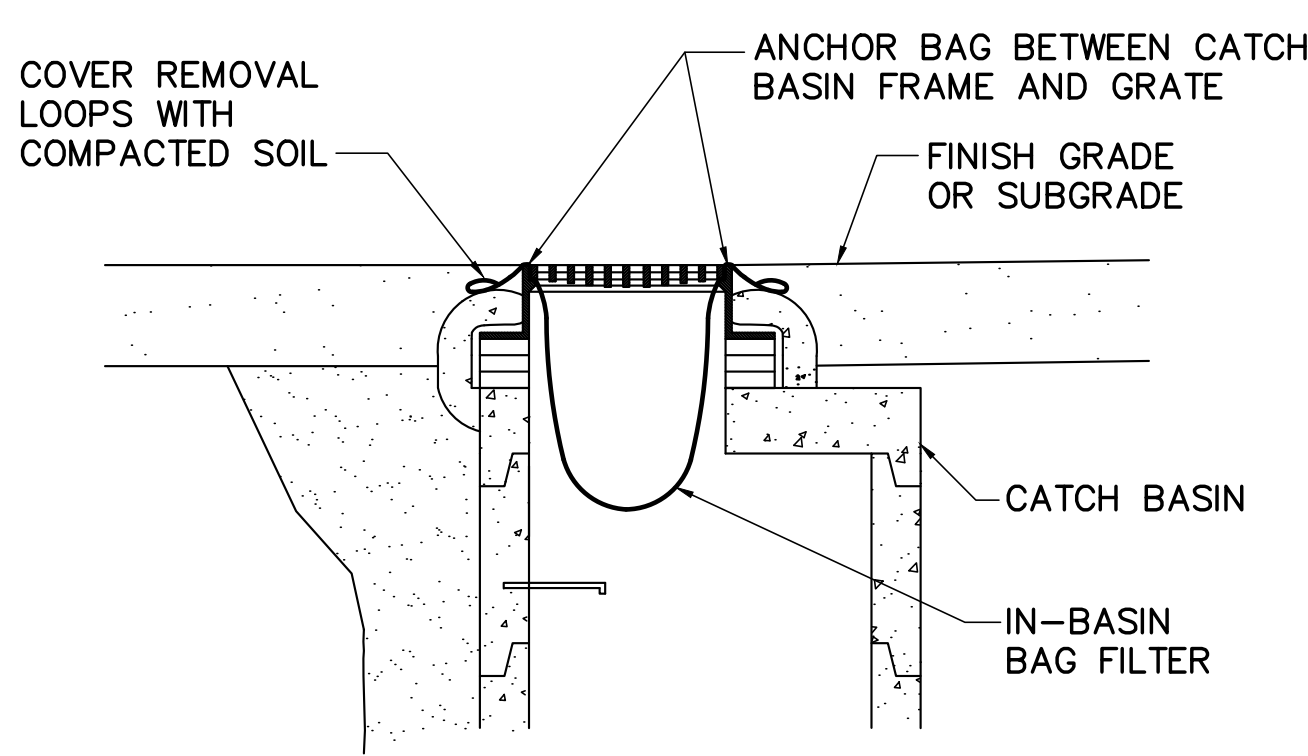


GEOTEXTILE FILTER BAG NOTES:

1. DEWATERING SEDIMENT FILTERS SHALL BE LOCATED A MINIMUM OF 100 FEET FROM ANY WATER BODY OR WETLAND. DEWATERING SEDIMENT FILTERS SHALL BE A NON-WOVEN GEOTEXTILE FABRIC WITH THE FOLLOWING MINIMUM PROPERTIES:
 - a. WEIGHT IN ACCORDANCE WITH ASTM D3776: 8 OZ/YARD MIN
 - b. GRAB TENSILE STRENGTH IN ACCORDANCE WITH ASTM D4632: 205 LBS MIN
 - c. PUNCTURE RESISTANCE IN ACCORDANCE WITH ASTM D4833: 110 LBS MIN
 - d. MULLEN BURST STRENGTH IN ACCORDANCE WITH ASTM D3786: 350 PSI MIN
 - e. AOS % RETAINED IN ACCORDANCE WITH ASTM D4751: 100 US SIEVE
 - f. FLOW RATE IN ACCORDANCE WITH ASTM D4491: 60 GAL/MIN/SF
2. INSTALL, OPERATE AND REMOVE DEWATERING SEDIMENT FILTERS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND PRINTED INSTRUCTIONS.

4 TYP GEOTEXTILE FILTER BAG DETAIL

C-501, C-502 NOT TO SCALE

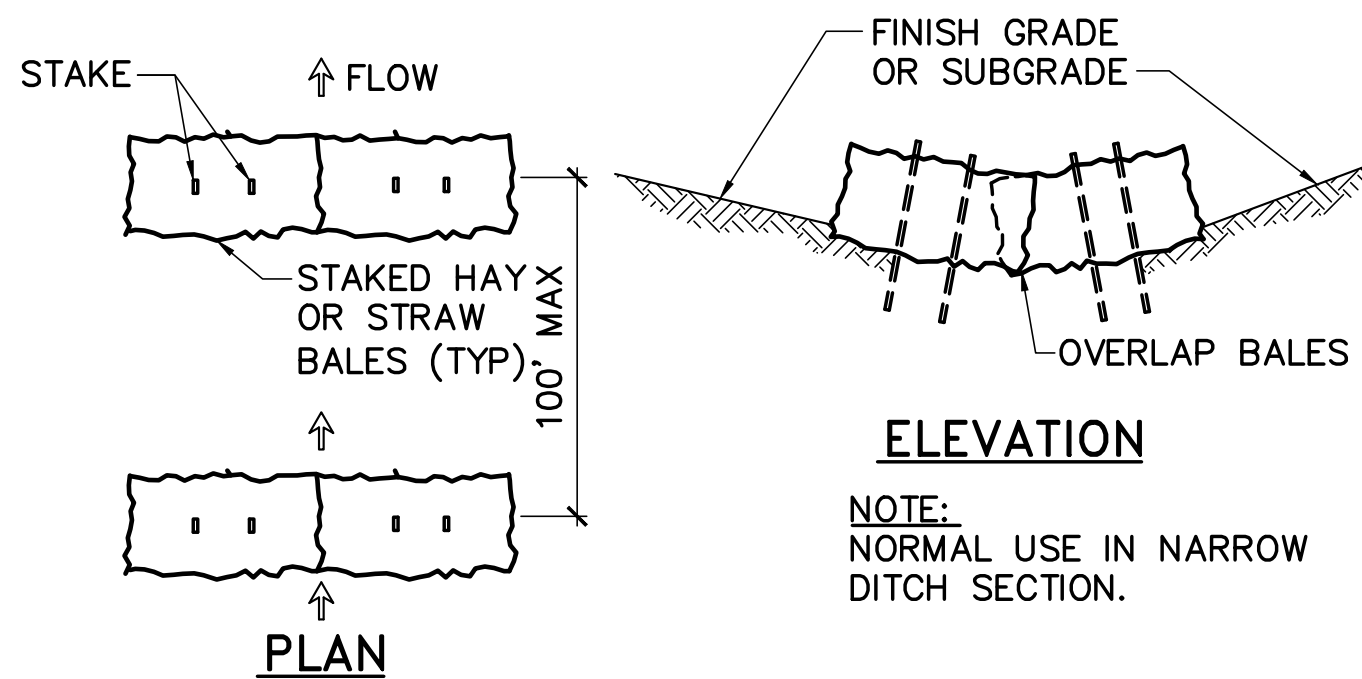


NOTES

1. IN-BASIN BAG FILTERS SHALL BE A WOVEN POLYPROPYLENE WITH THE FOLLOWING MINIMUM PROPERTIES:
 - a. GRAB TENSILE STRENGTH ACCORDING TO ASTM D4632: 300 LBS
 - b. PUNCTURE RESISTANCE ACCORDING TO ASTM D4833: 120 LBS
 - c. MULLEN BURST ACCORDING TO ASTM D3786: 800 PSI
 - d. FLOW RATE ACCORDING TO ASTM D4491: 44 GAL/MIN/SF
2. BAG FILTER SEAMS SHALL BE DOUBLE STITCHED WITH HIGH-STRENGTH NYLON THREAD AND SHALL HAVE AN AVERAGE WIDE WIDTH STRENGTH PER ASTM D4884 OF 165 LBS/INCH.
3. PROVIDE TYPE A INLET PROTECTION IN EXISTING OR NEWLY PAVED AREAS WITH NON-STABILIZED TRIBUTARY WATERSHEDS.
4. REMOVE ACCUMULATED SEDIMENTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DO NOT PUNCTURE BAG FILTER TO CLEAN OUT SEDIMENT.

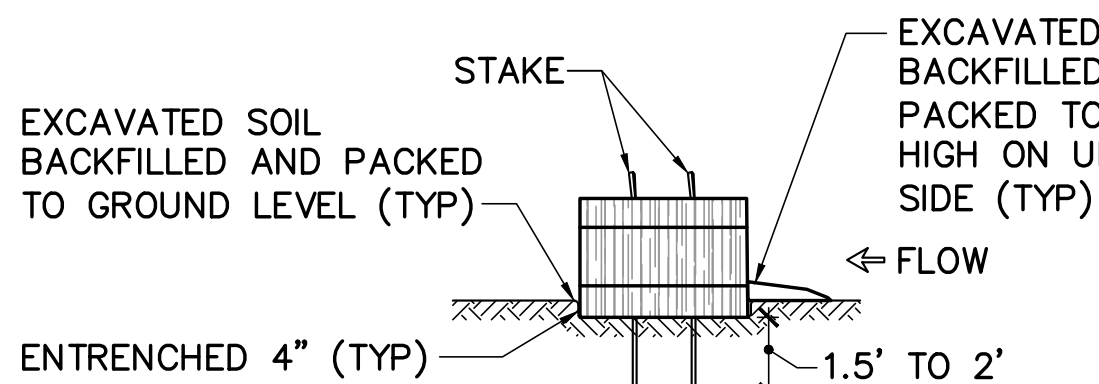
2 TYP CATCH BASIN INLET PROTECTION DETAIL

CD101, CG101, C-502 NOT TO SCALE



ELEVATION

NOTE:
NORMAL USE IN NARROW DITCH SECTION.



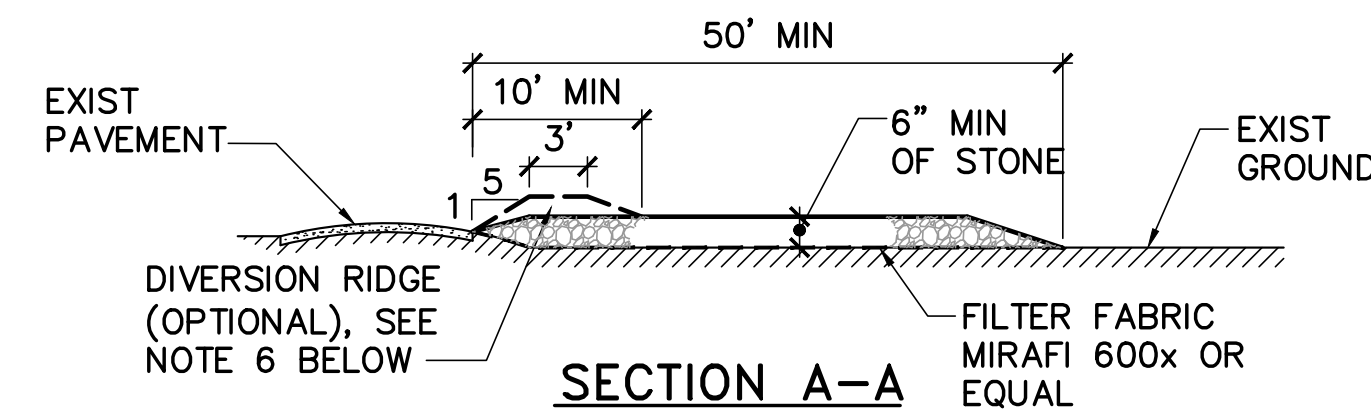
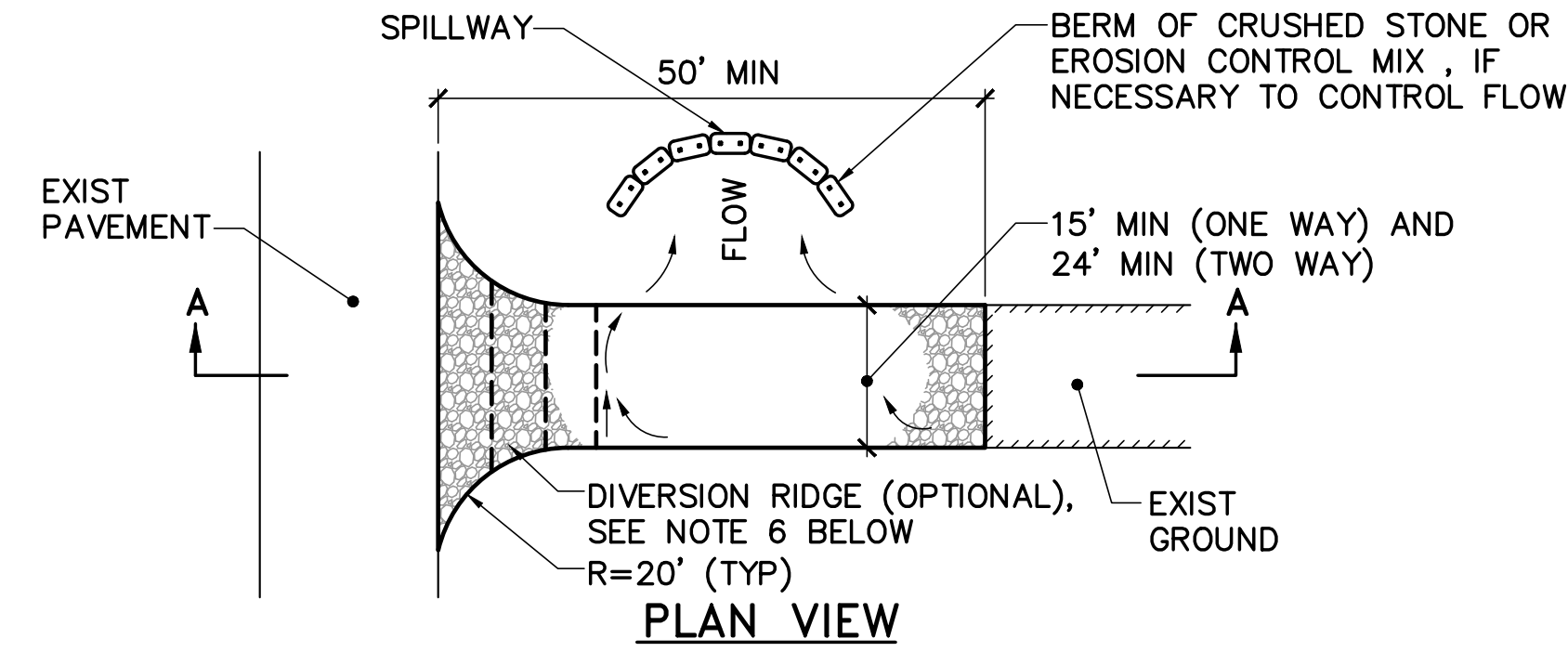
ENTRENCHED DETAIL

HAY BALE EROSION PROTECTION NOTES:

1. EACH BALE SHALL BE ENTRENCHED IN THE SOIL A MINIMUM OF 4".
2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY A MINIMUM OF 2 STAKES DRIVEN THROUGH THE BALES 1.5' TO 2' INTO THE GROUND. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER. THE BINDINGS ON THE BALES SHALL BE PARALLEL WITH THE GROUND.
3. FILL GAPS BETWEEN BALES BY CHINKING / WEDGING WITH HAY OR STRAW TO PREVENT WATER FLOW BETWEEN BALES.
4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE IMMEDIATELY AS NEEDED.
5. BALES ARE FOR USE AS SEDIMENT BARRIERS FOR SMALL DISTURBANCES WITH A SMALL WATERSHED, AND AS AS EMERGENCY MEASURE FOR CONTROLLING UNEXPECTED SEDIMENTATION.
6. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. BALES MAY BE USED AS SILT FENCE REINFORCEMENT AS NECESSARY. PLACE THE BALE IN CONTACT (THE LONG SIDE OF THE BALE) AND PARALLEL TO THE SILT FENCE ON THE DOWN SLOPE SIDE.

5 TYP HAY BALE EROSION PROTECTION DETAIL

C-502 NOT TO SCALE

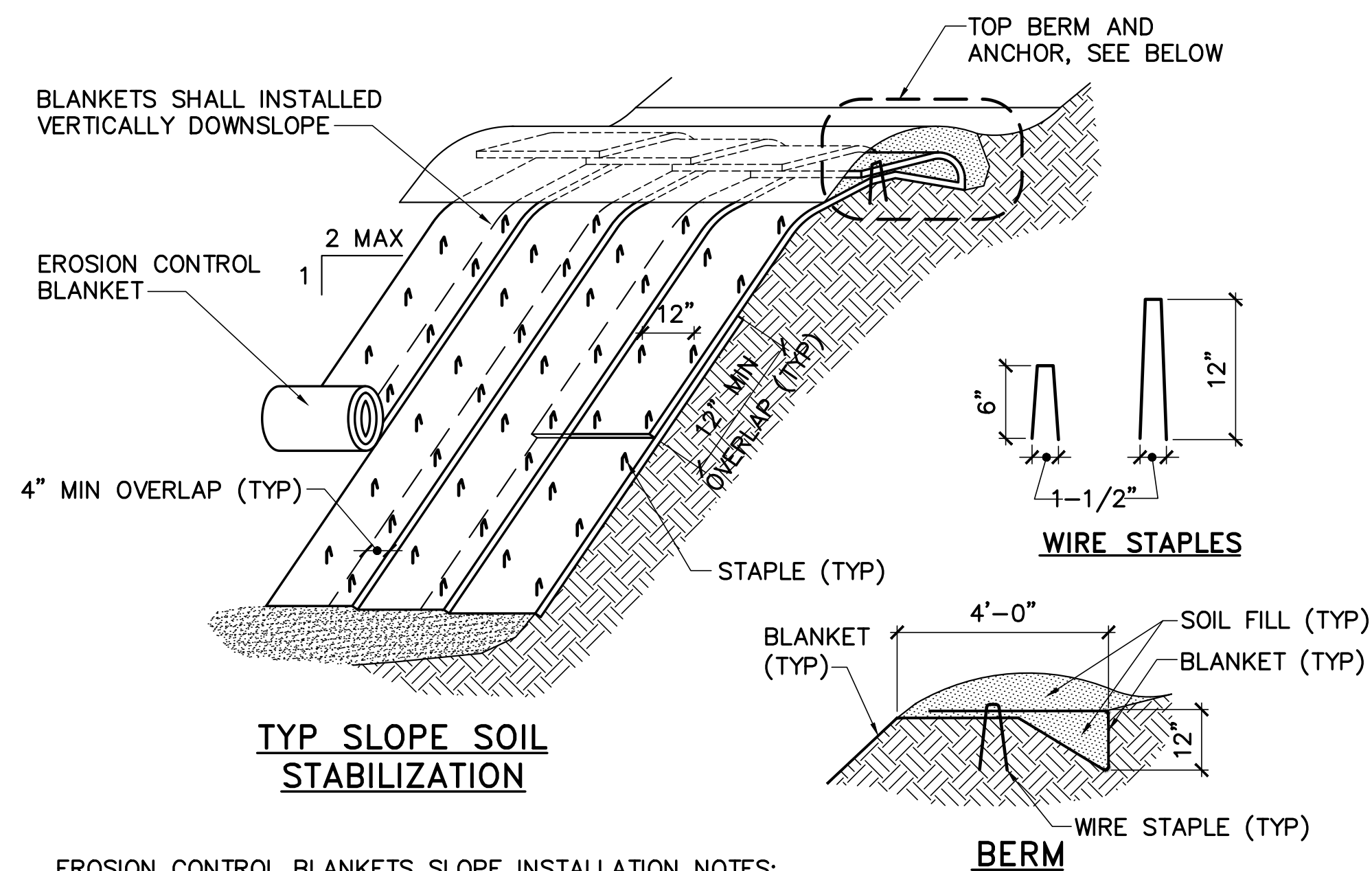


STABILIZED CONSTRUCTION ENTRANCE / EXIT NOTES

1. STONE FOR A STABILIZED CONSTRUCTION ENTRANCE / EXIT SHALL BE ANGULAR 2 TO 3 INCH STONE OR APPROPRIATE RECLAIMED CONCRETE MATERIAL.
2. THE LENGTH OF THE STABILIZED ENTRANCE / EXIT SHALL NOT BE LESS THAN 50 FEET.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE / EXIT SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE / EXIT SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 20 FEET, WHICHEVER IS GREATER.
5. GEOTEXTILE FILTER FABRIC SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE / EXIT SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A DIVERSION RIDGE WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE. IF THE ENTRANCE / EXIT SLOPES 5% OR MORE TOWARD THE EXISTING ROAD A DIVERSION RIDGE IS REQUIRED.
7. THE ENTRANCE / EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY SHALL BE REMOVED IMMEDIATELY.
8. WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE PERFORMED ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

3 STABILIZED CONSTRUCTION ENTRANCE / EXIT DETAIL

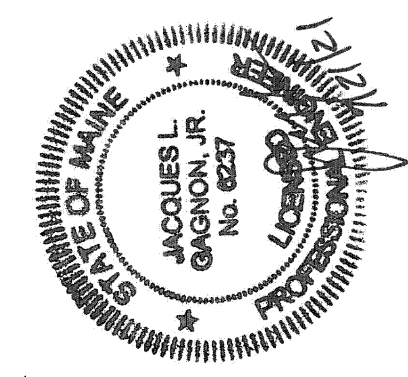
CD101, CG101, C-501, C-502 NOT TO SCALE



TYP SLOPE SOIL STABILIZATION

EROSION CONTROL BLANKETS SLOPE INSTALLATION NOTES:

1. INSTALL BLANKETS AND WIRE STAPLES PER MANUFACTURER'S WRITTEN RECOMMENDATIONS. THE NUMBER OF WIRE STAPLES AND ROWS OF STAPLES PER EROSION CONTROL BLANKET MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. BLANKETS SHALL HAVE GOOD SOIL CONTACT.
3. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
4. LAY BLANKETS LOOSELY AND WIRE STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL, DO NOT STRETCH.



DESIGNED BY: JLG
DRAWN BY: DEW
CHECKED BY: JLG
PROJECT: 22104.04

OWNER:
SOUTHERN MAINE
AFFORDABLE HOUSING
22 South Street
Biddeford, Maine, 04005

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING
69 Adams Street
Biddeford, Maine, 04005

EROSION CONTROL DETAILS

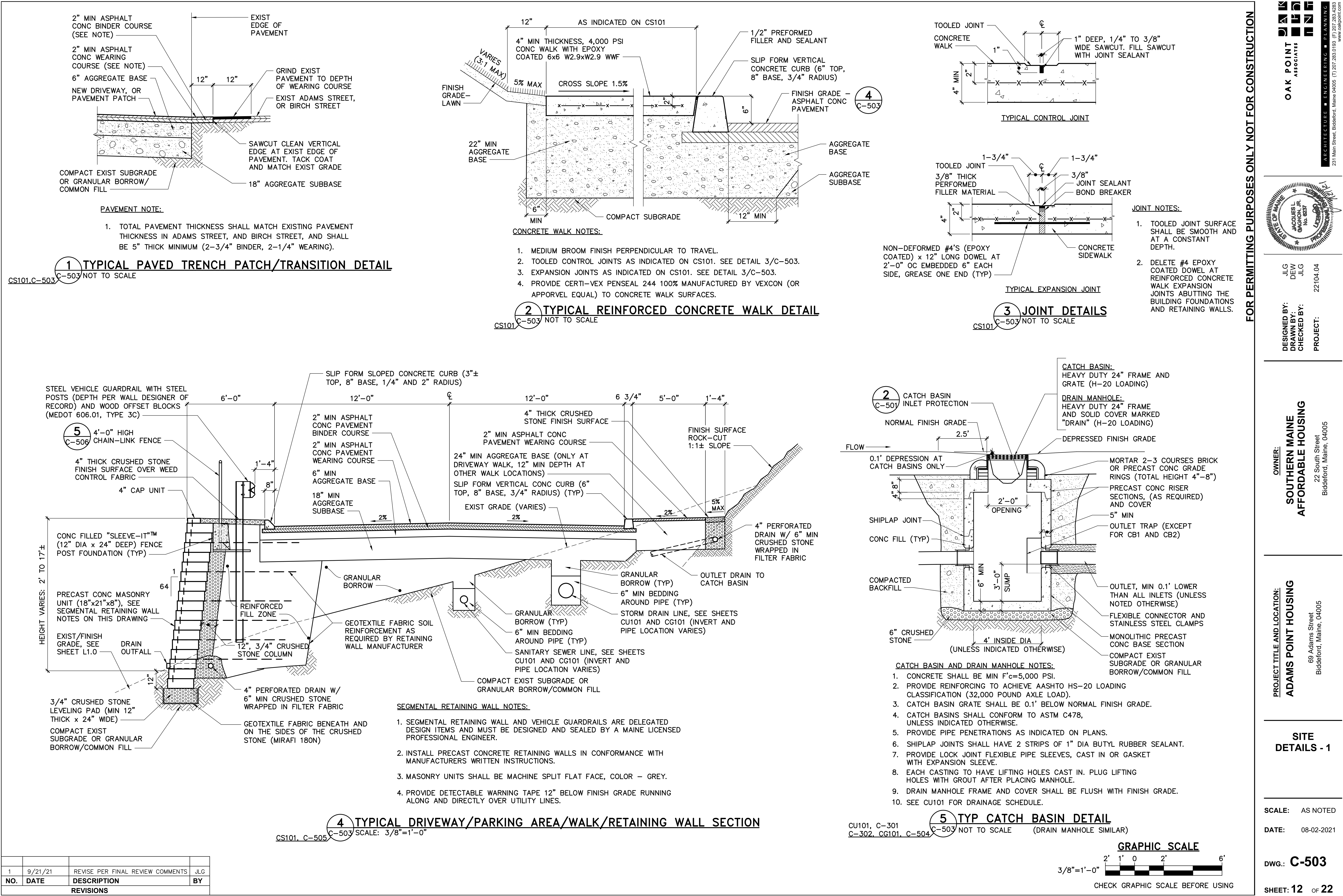
SCALE: AS NOTED

DATE: 08-02-2021

DWG.: C-502

SHEET: 11 OF 22

NO.	DATE	DESCRIPTION	BY
1	9/21/21	REVISE PER FINAL REVIEW COMMENTS	JLG
REVISIONS			



1	9/21/21	REVISE PER FINAL REVIEW COMMENTS	JLG
NO.	DATE	DESCRIPTION	BY
REVISIONS			

OAK POINT ASSOCIATES

ARCHITECTURE

ENGINEERING

PLANNING

231 Main Street, Biddeford, Maine 04005 (T) 207-283-0183 (F) 207-283-0283
www.oakpoint.com

STATE OF MAINE
JACQUES L. GAGNON JR.
No. 0007
Professional Seal

JLG
DESIGNED BY:
JLG
DRAWN BY:
JLG
CHECKED BY:
22104.04
PROJECT:

OWNER:
SOUTHERN MAINE
AFFORDABLE HOUSING
22 South Street
Biddeford, Maine, 04005

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING

69 Adams Street
Biddeford, Maine, 04005

SITE
DETAILS - 1

SCALE: AS NOTED
DATE: 08-02-2021
DWG.: C-503
SHEET: 12 OF 22

232

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NO.	DATE	DESCRIPTION	BY
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REVISIONS			

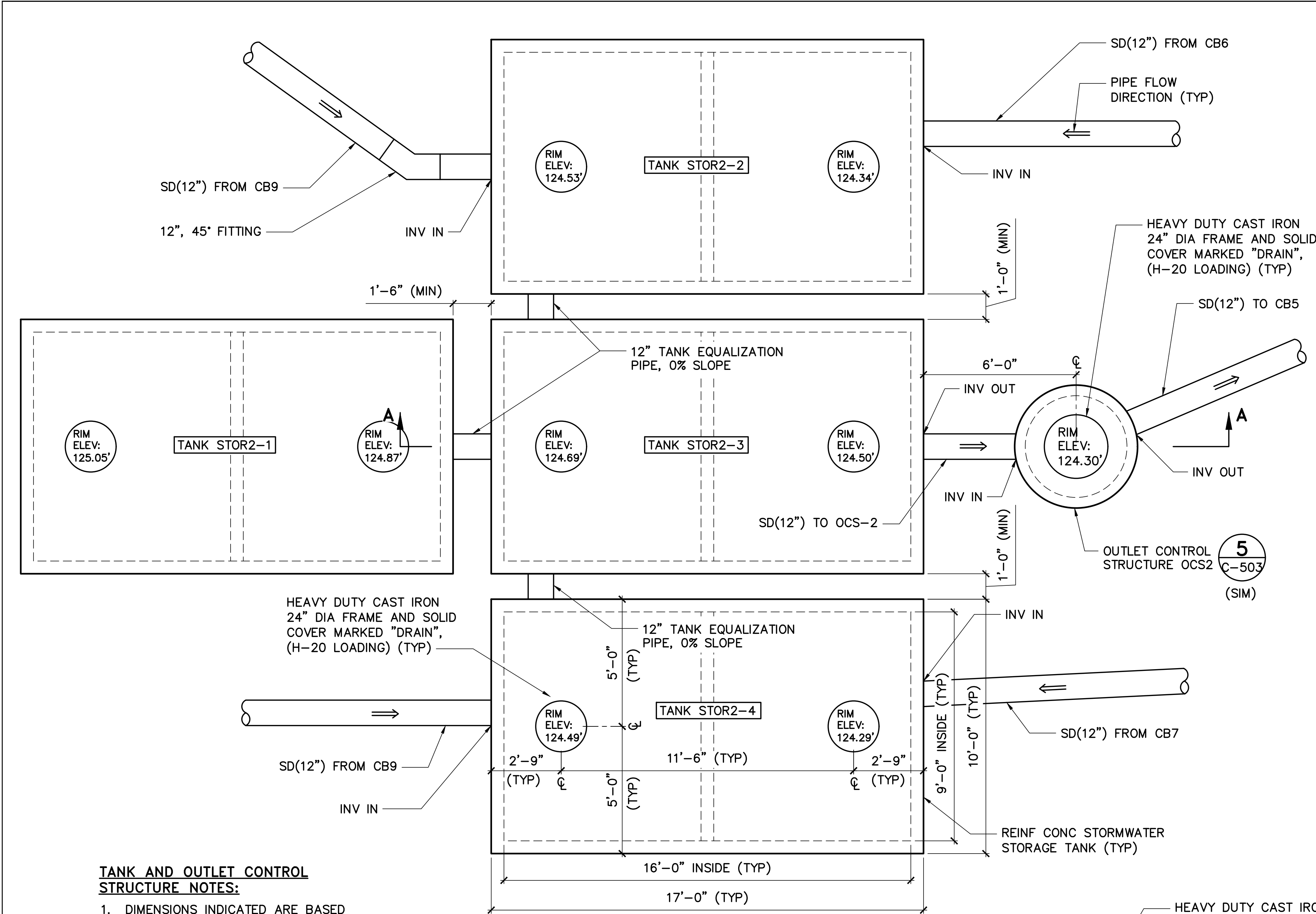
CU101, CG101

1
C-504 SCALE: 3/8"=1'-0"

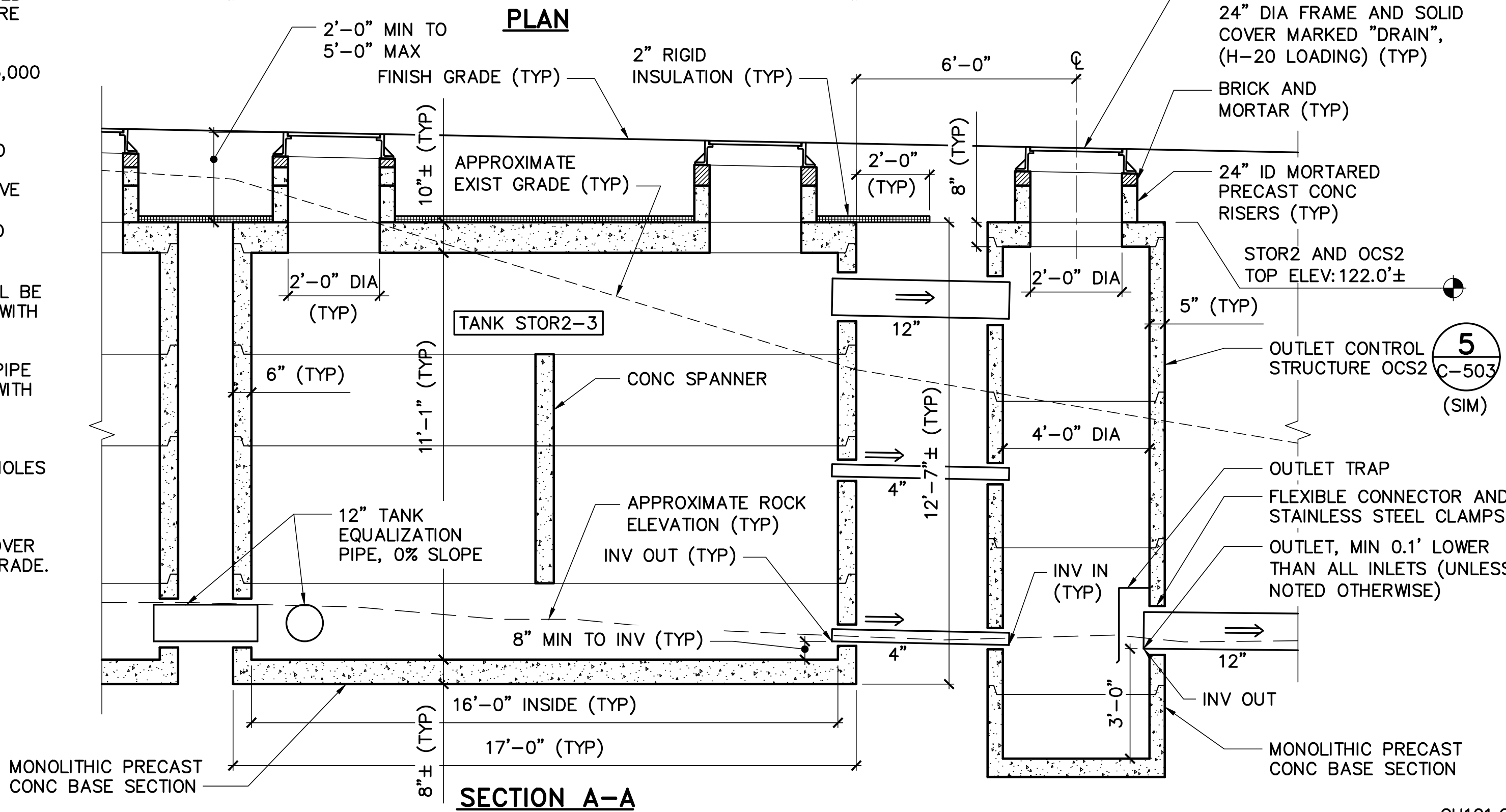
STOR2 STORMWATER STORAGE AND
OCS2 OUTLET CONTROL STRUCTURE DETAIL

TANK AND OUTLET CONTROL
STRUCTURE NOTES:

- DIMENSIONS INDICATED ARE BASED ON ONE MANUFACTURER AND ARE APPROXIMATE.
- CONCRETE SHALL BE MINIMUM 5,000 PSI 28-DAY COMPRESSIVE STRENGTH.
- KEYED JOINTS SHALL BE SEALED WITH BUTYL RUBBER.
- PROVIDE REINFORCING TO ACHIEVE AASHTO HS-20 LOADING CLASSIFICATION (32,000 POUND AXLE LOAD).
- PRECAST CONCRETE TANK SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C1227.
- PROVIDE LOCK JOINT FLEXIBLE PIPE SLEEVES, CAST IN OR GASKET WITH EXPANSION SLEEVE.
- EACH CASTING TO HAVE LIFTING HOLES CAST IN. PLUG LIFTING HOLES WITH GROUT AFTER PLACING MANHOLE.
- DRAIN MANHOLE FRAME AND COVER SHALL BE FLUSH WITH FINISH GRADE.
- SEE CU101 FOR DRAINAGE STRUCTURE SCHEDULE.



PLAN

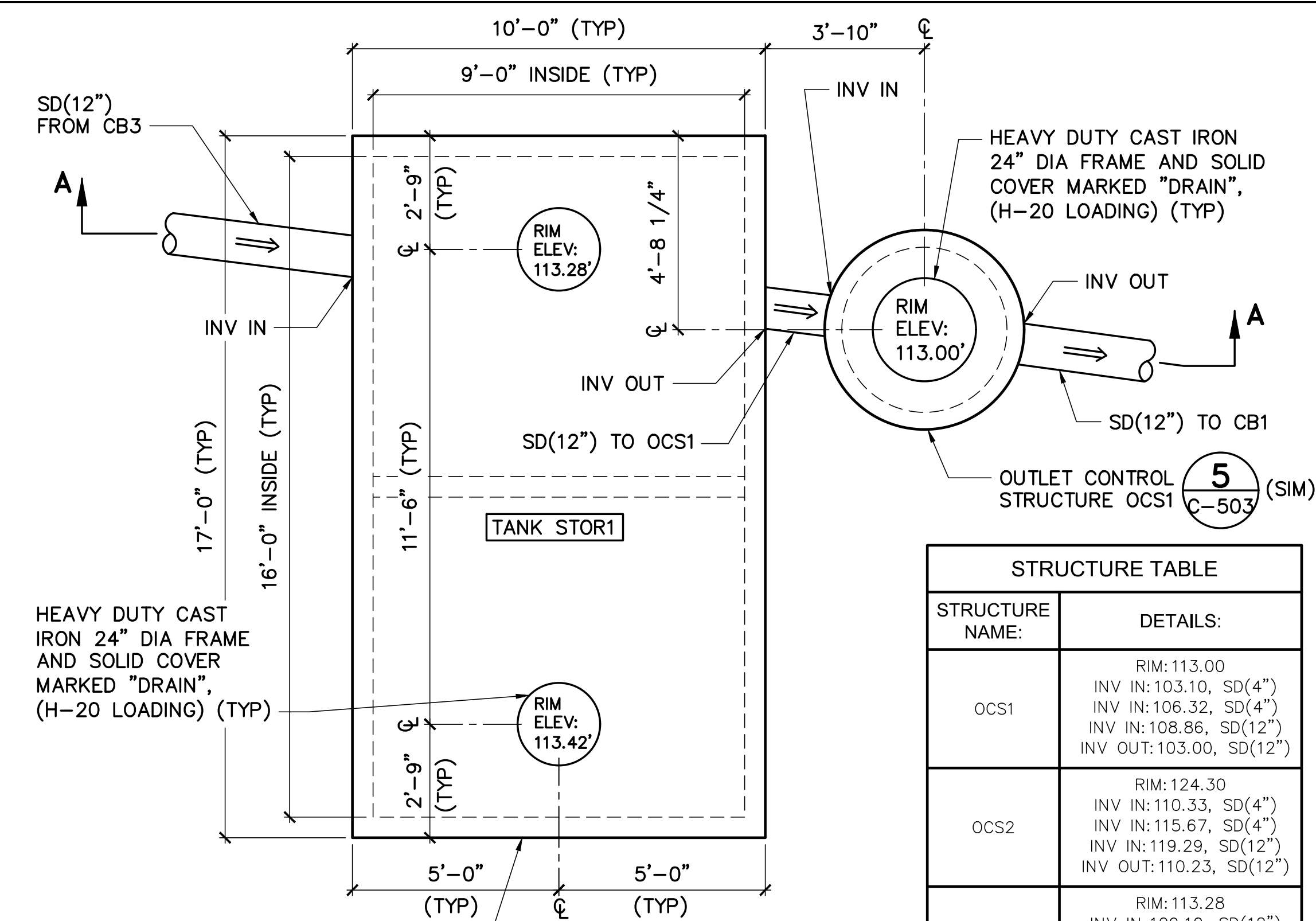


SECTION A-A

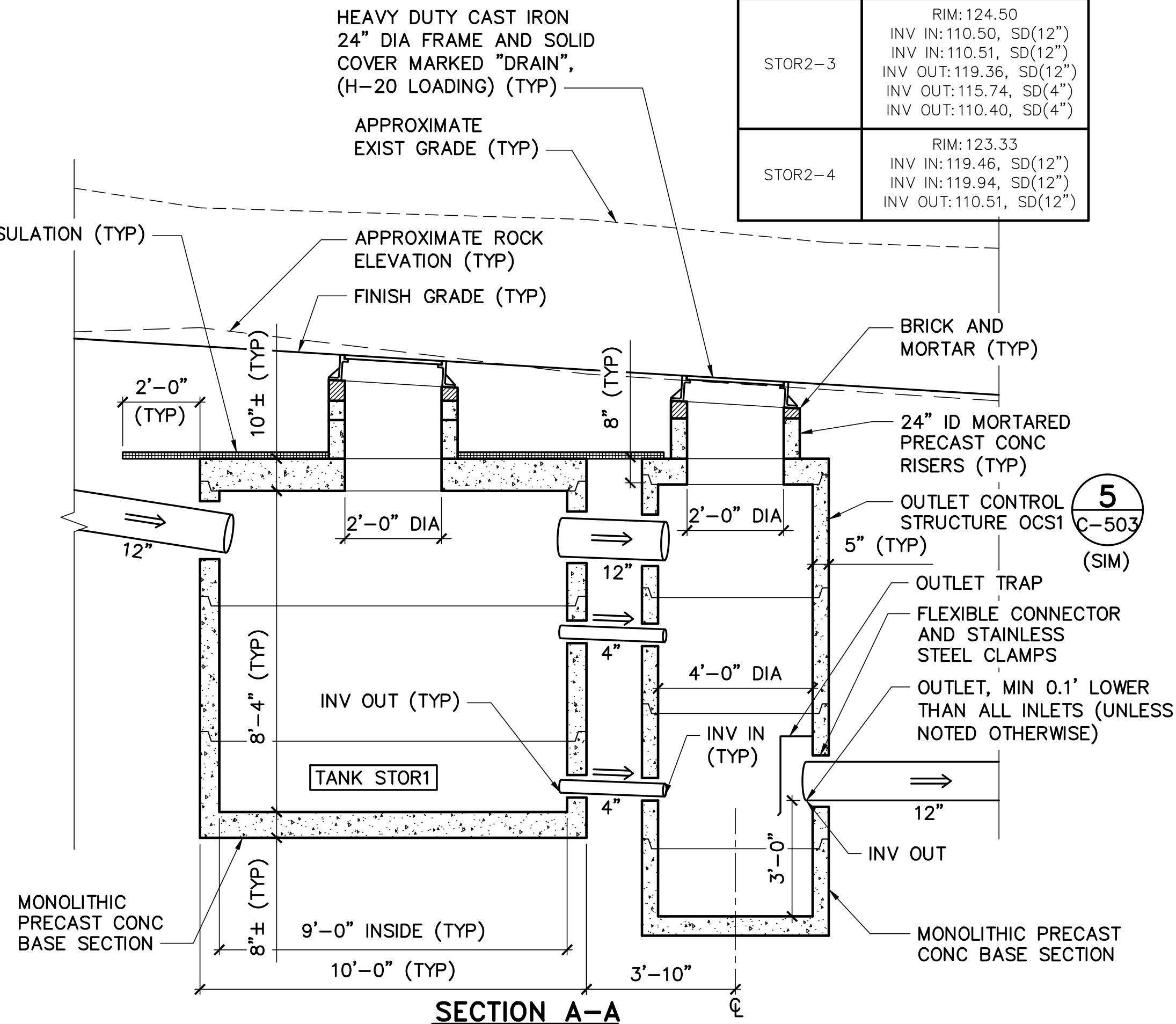
CU101,CG101,C-301,C-302

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C-504 SCALE: 3/8"=1'-0"

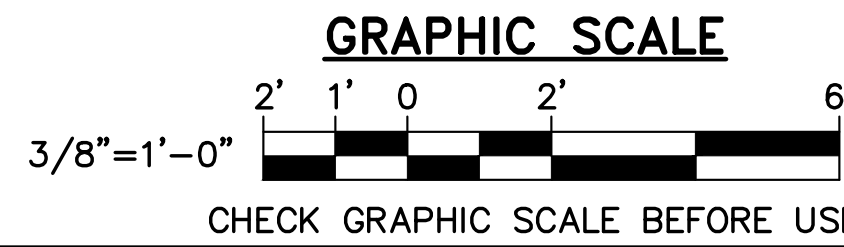
STOR1 STORMWATER STORAGE AND
OCS1 OUTLET CONTROL STRUCTURE DETAIL



PLAN



SECTION A-A



CHECK GRAPHIC SCALE BEFORE USING

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CHECKED BY: JLG
PROJECT: 22104.04

OWNER:
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22 South Street
Biddeford, Maine, 04005

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING
69 Adams Street
Biddeford, Maine, 04005

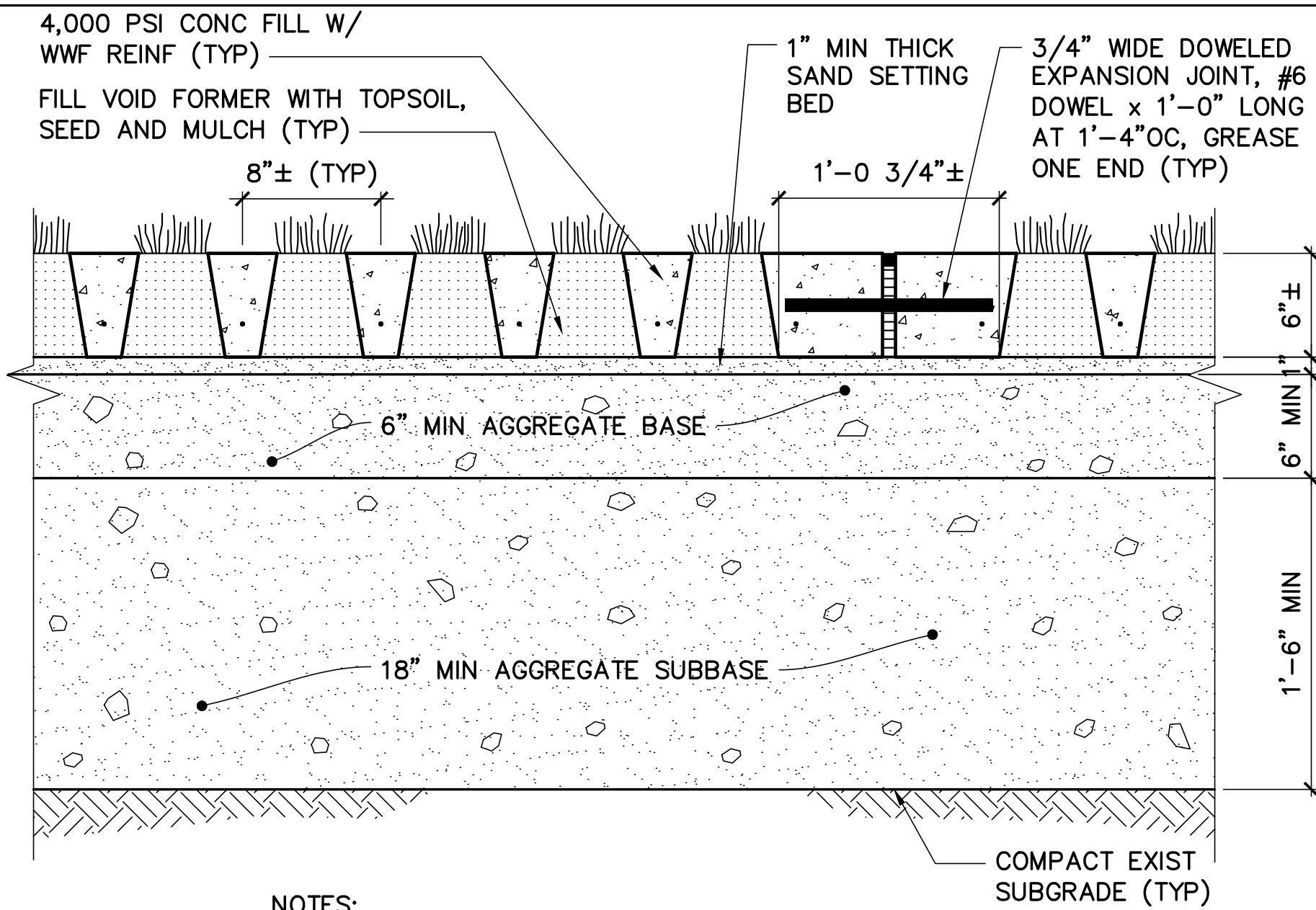
SITE
DETAILS - 2

SCALE: AS NOTED

DATE: 08-02-2021

DWG.: C-504

SHEET: 13 OF 22

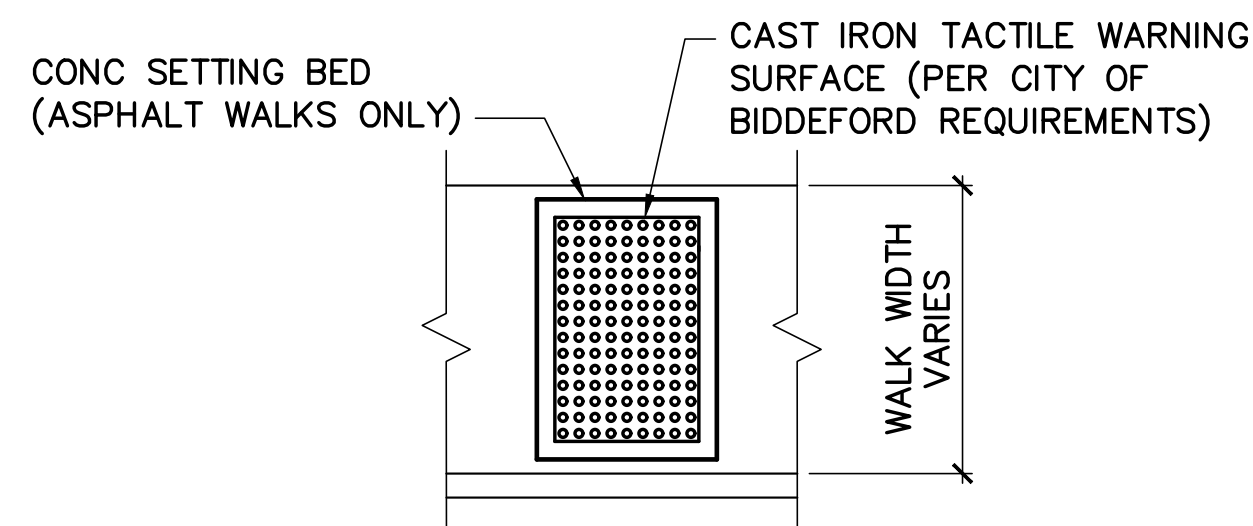


NOTES:

1. STABILIZED TURF SHALL BE CAPABLE OF H-20 LOADING, AND FIRE TRUCK OUTRIGGER LOADING.
2. BASIS OF DESIGN: GRASS CONCRETE LIMITED, MODEL GC2 VOID FORMER, <https://www.grasscrete.com/index.html>.
3. INSTALL PER MANUFACTURERS WRITTEN INSTRUCTIONS.

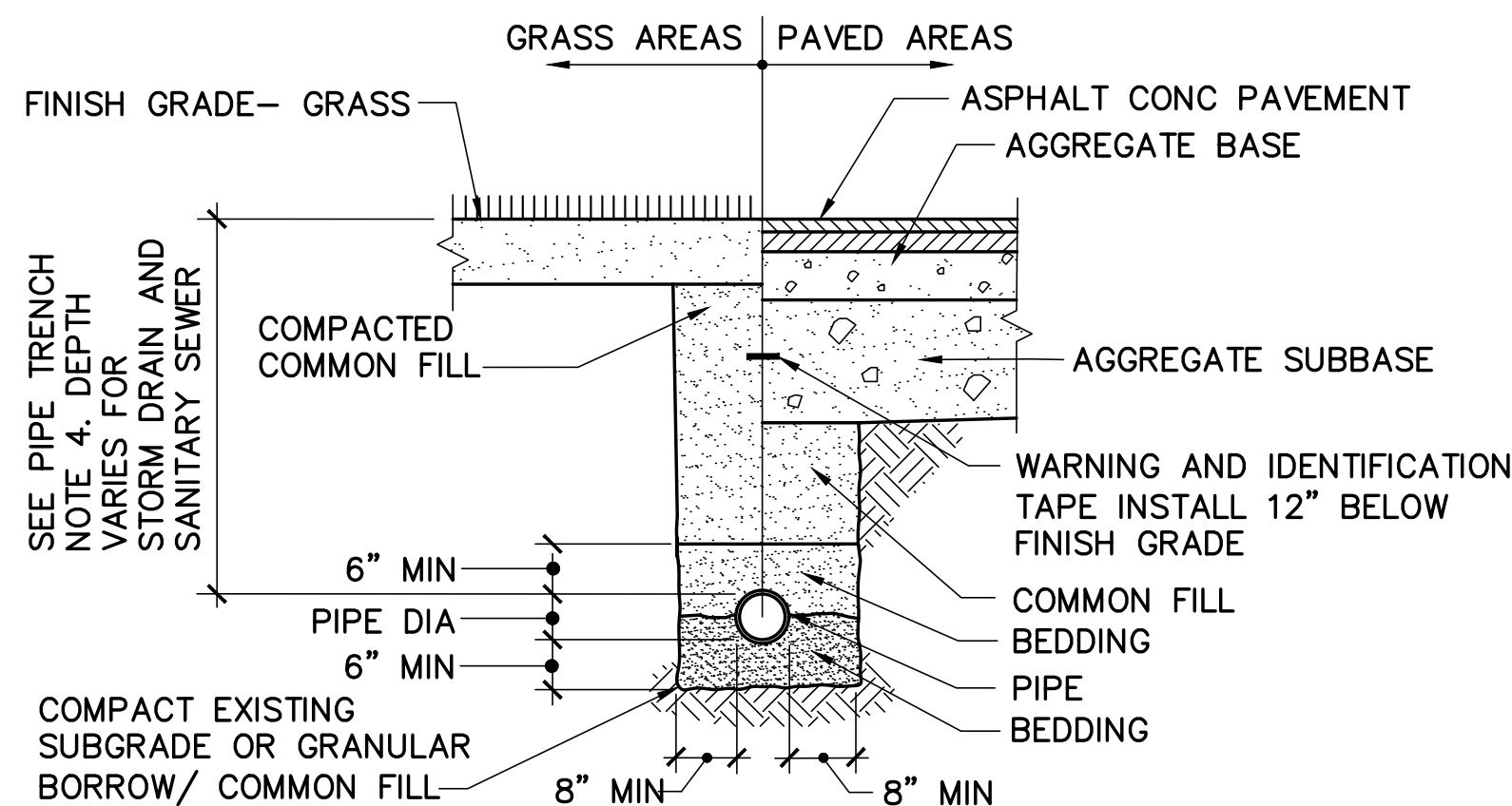
1 TYP STABILIZED TURF DETAIL

C-505 SCALE: 1-1/2"=1'-0"



4 TYP TACTILE WARNING PANEL DETAIL

CS101 C-505 NOT TO SCALE



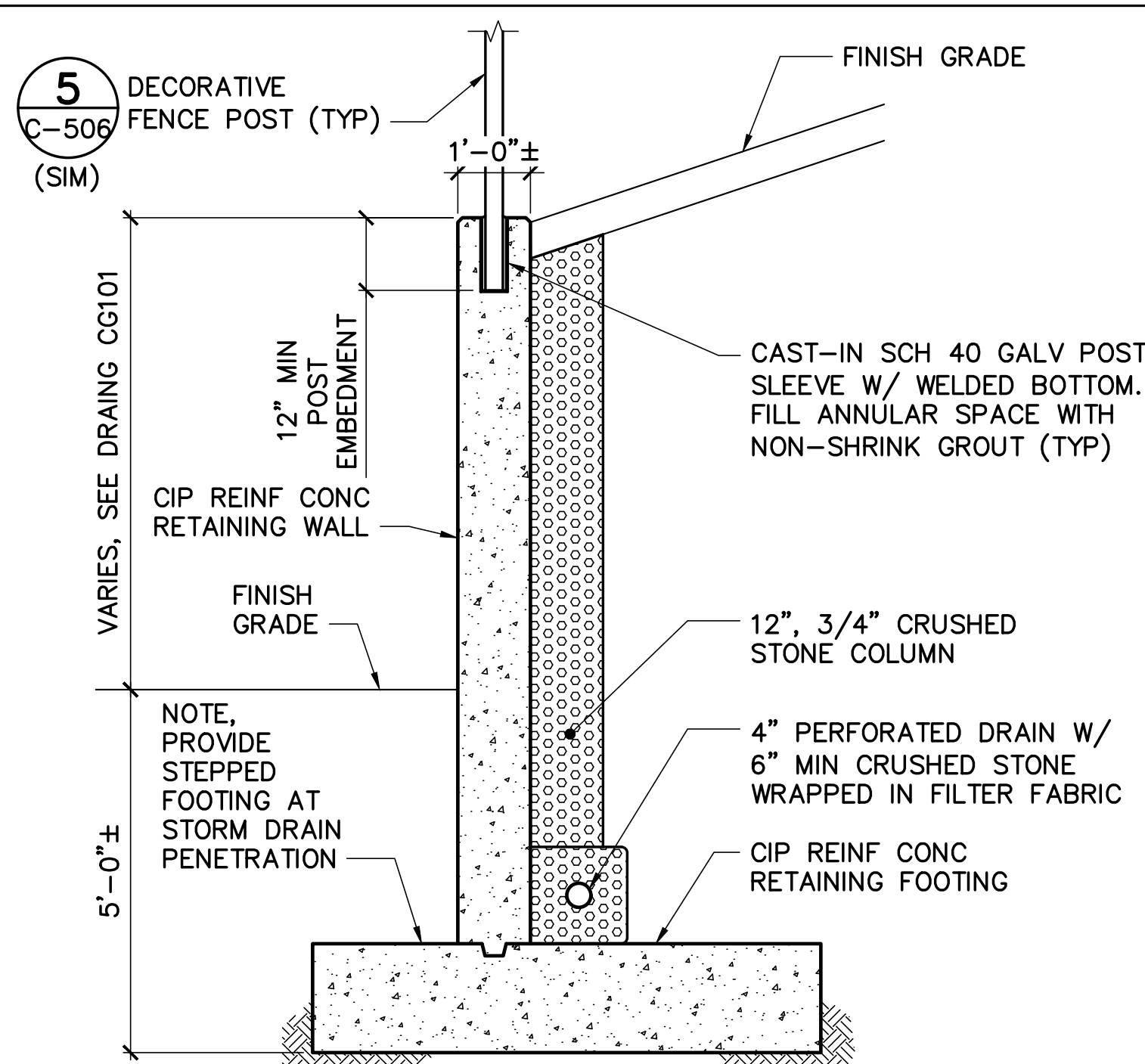
PIPE TRENCH NOTES:

1. INSTALL THERMOPLASTIC (HDPE AND PVC) GRAVITY PIPING IN ACCORDANCE WITH ASTM D 2321 (CLASS II BEDDING/BLANKET UNLESS INDICATED OTHERWISE).
2. ALL EXCAVATION WORK SHALL COMPLY WITH OSHA STANDARDS. TRENCH SIDEWALLS SHALL BE VERTICAL FROM TRENCH BOTTOM TO 12" ABOVE TOP OF PIPE.
3. PROVIDE A MINIMUM OF 6" VERTICAL CLEARANCE BETWEEN CROSSING PIPES.
4. MAINTAIN THE FOLLOWING DEPTH OF COVER FOR EACH SERVICE:

SERVICE	MINIMUM DEPTH OF COVER
WATER (FIRE PROTECTION)	6'-0"
WATER (DOMESTIC)	5'-0" MIN
SANITARY SEWER (GRAVITY)	4'-0"
STORM DRAIN	4'-0"
NATURAL GAS	PER NATURAL GAS PROVIDER'S REQUIREMENTS.

5 TYP UTILITY TRENCH DETAIL

CU101,CG101,C-301,C-302 C-505 NOT TO SCALE

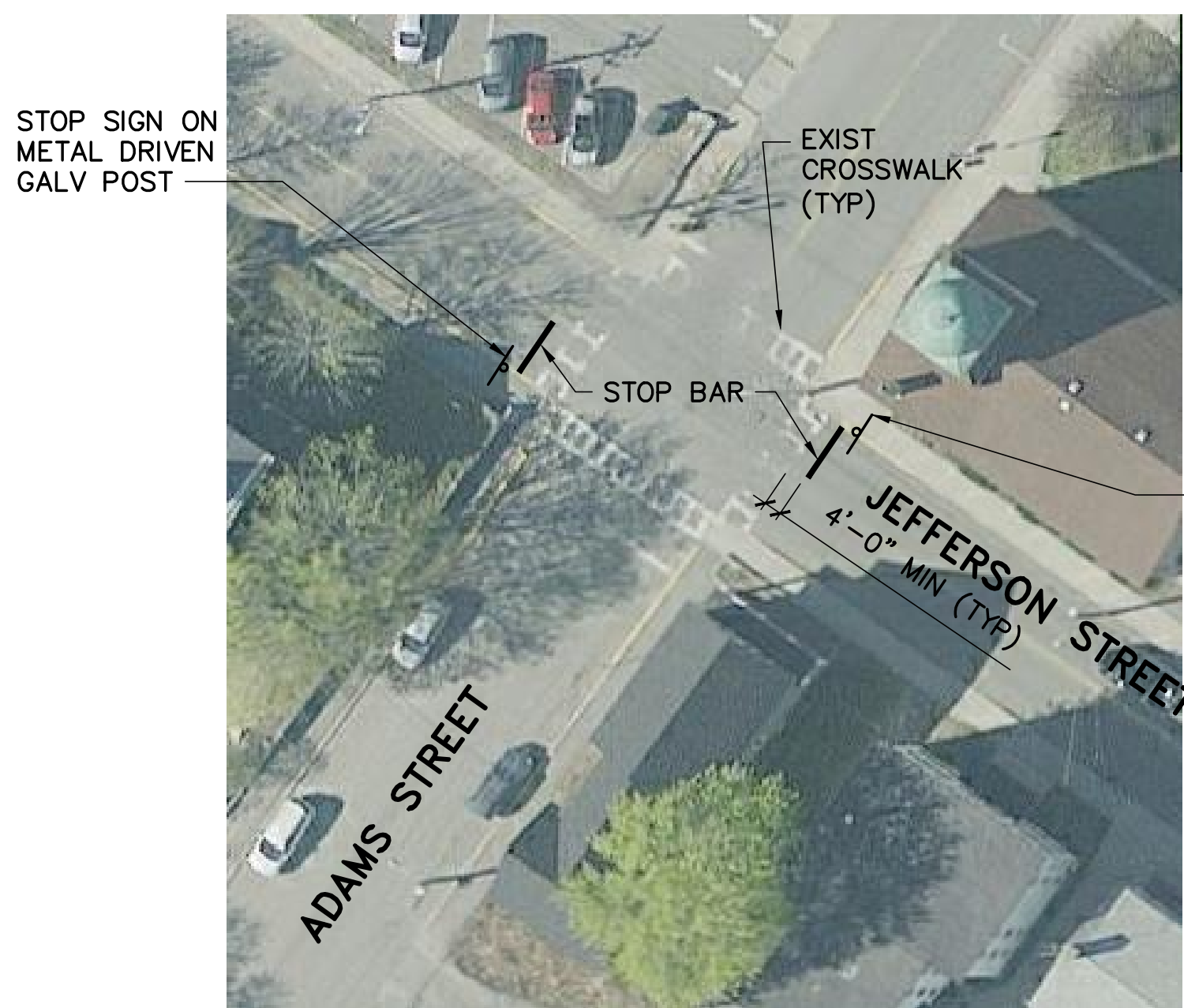


CAST-IN-PLACE RETAINING WALL NOTES:

1. CAST-IN-PLACE REINFORCED CONCRETE RETAINING WALL IS A DELEGATED DESIGN ITEM AND MUST BE DESIGNED AND SEALED BY A MAINE LICENSED PROFESSIONAL ENGINEER.
2. REINFORCING NOT SHOWN.
3. DIMENSIONS SHOWN ARE NOT FINAL AND WILL LIKELY CHANGE DURING THE DELEGATED DESIGN.
4. SEE DRAWING CG101 FOR SPOT GRADES AND ELEVATION CONTOURS.
5. BACKFILL ADJACENT TO THE RETAINING WALL IS STRUCTURAL FILL.
6. 3/4" CHAMFERS ON EXPOSED HORIZONTAL AND VERTICAL CORNERS.
7. EXPOSED SURFACE FINISH: RUBBED.

2 TYP CAST-IN-PLACE RETAINING WALL DETAIL

CS101 C-505 SCALE: 1/2"=1'-0"



NOTES:

1. STOP BARS: 1'-0" WIDE x TO CENTER OF ROAD, WHITE PAVEMENT MARKING.
2. STOP SIGNS: MUTCD R1-1, SIZE = 30"x30".
3. STOP BAR LAYOUT PER MAINE DOT STANDARD DETAILS DATED MARCH 2020, PAGE 627(03).

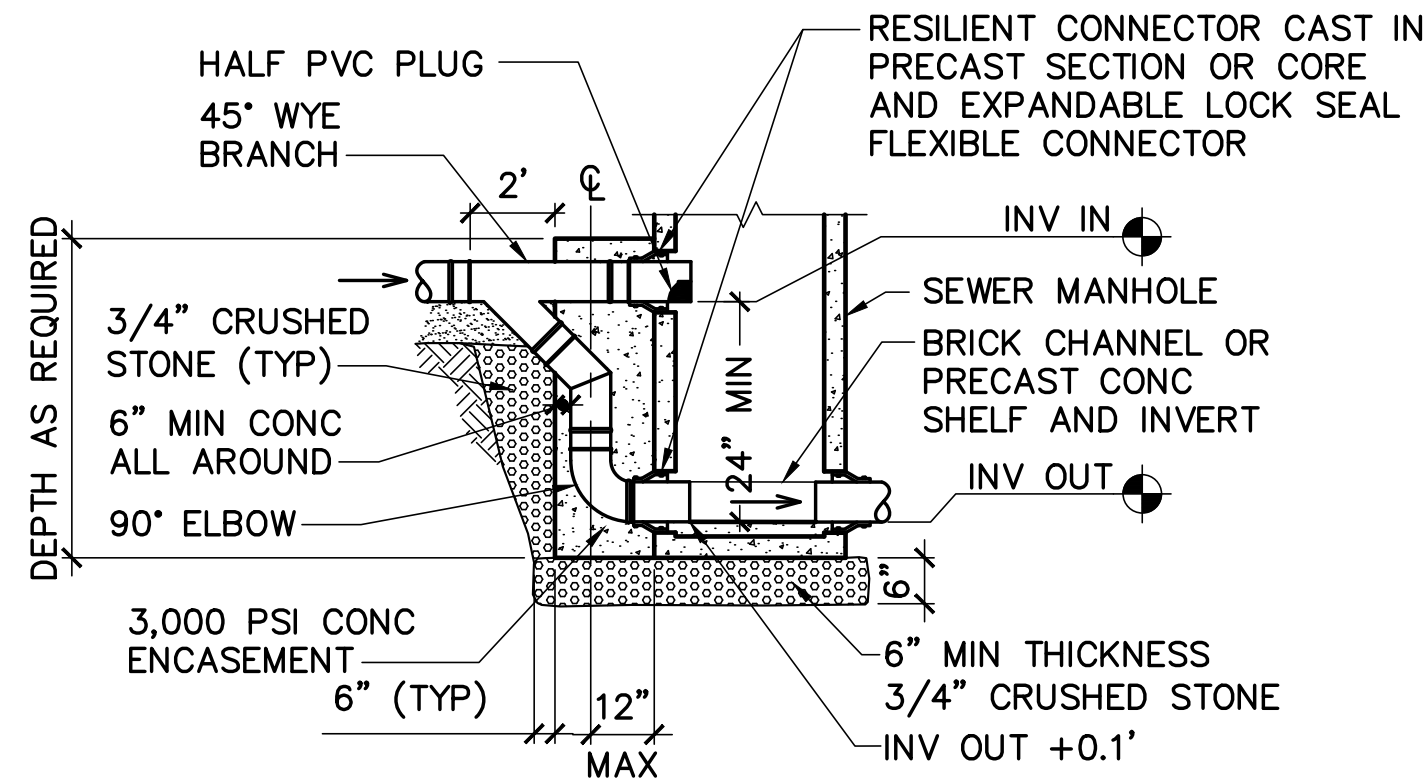
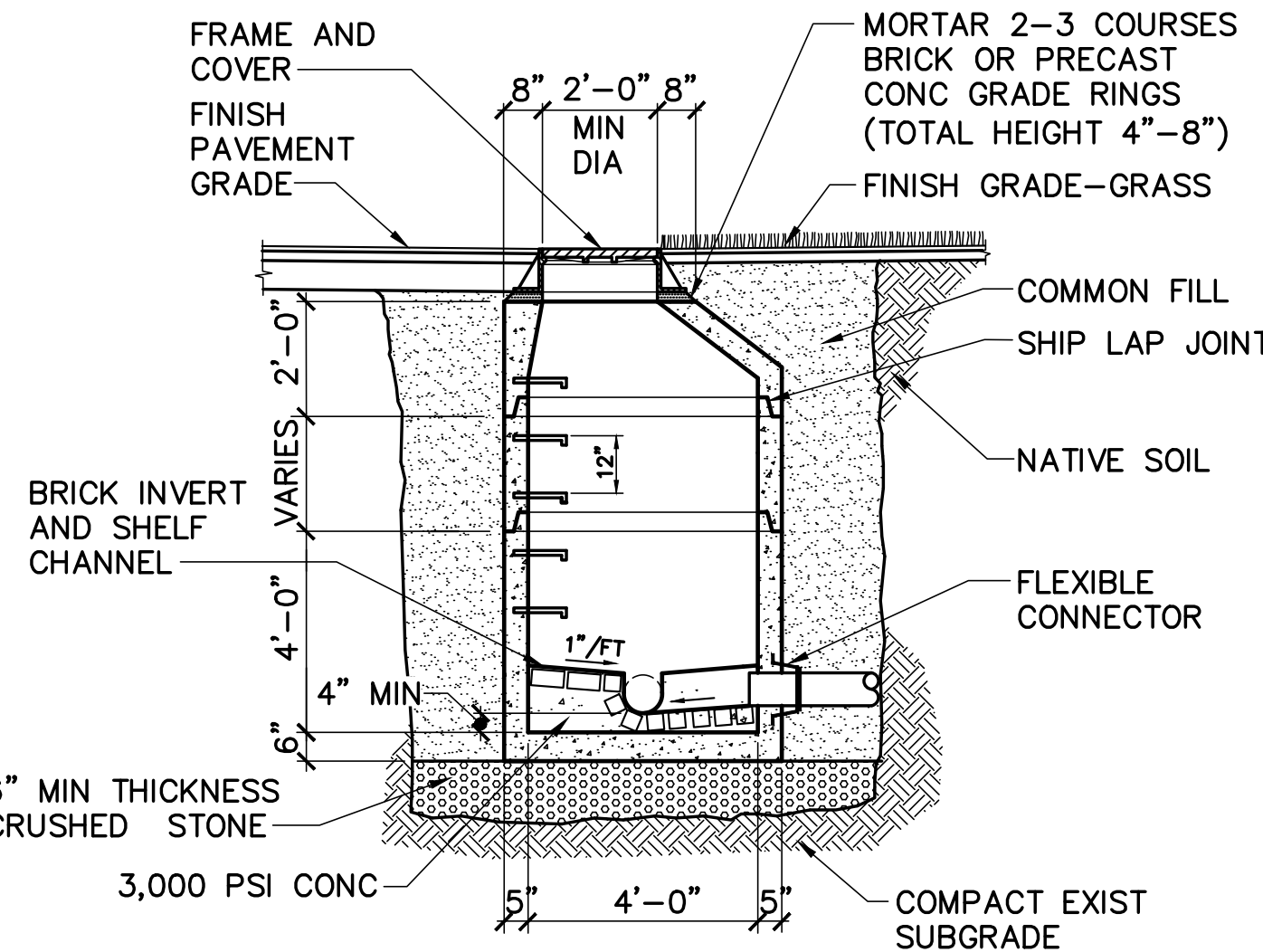
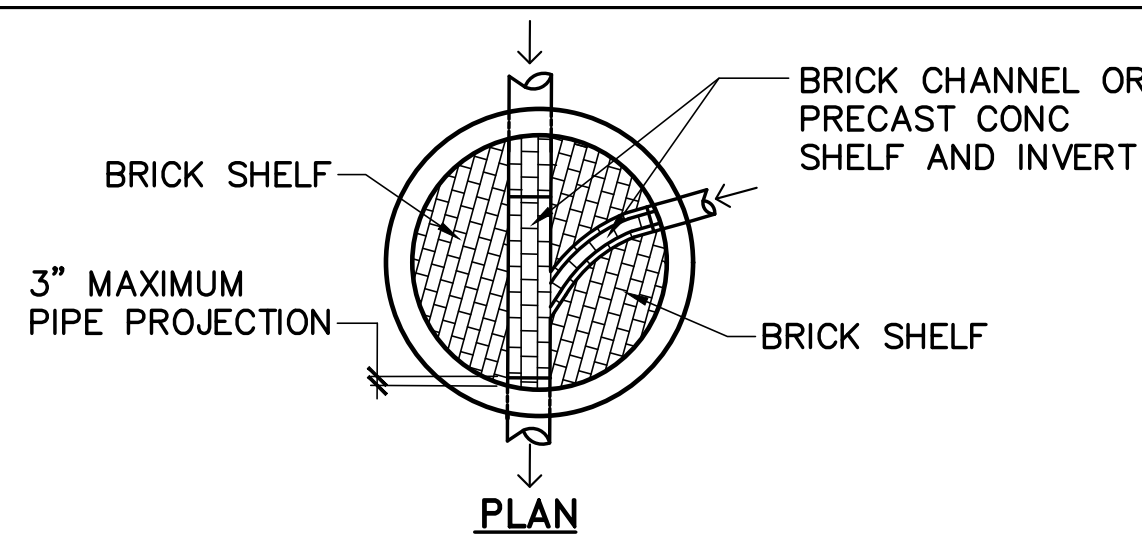
ADAMS/JEFFERSON

6 INTERSECTION IMPROVEMENTS PLAN

CS101 C-505 SCALE: 1"=30'

MANHOLE NOTES:

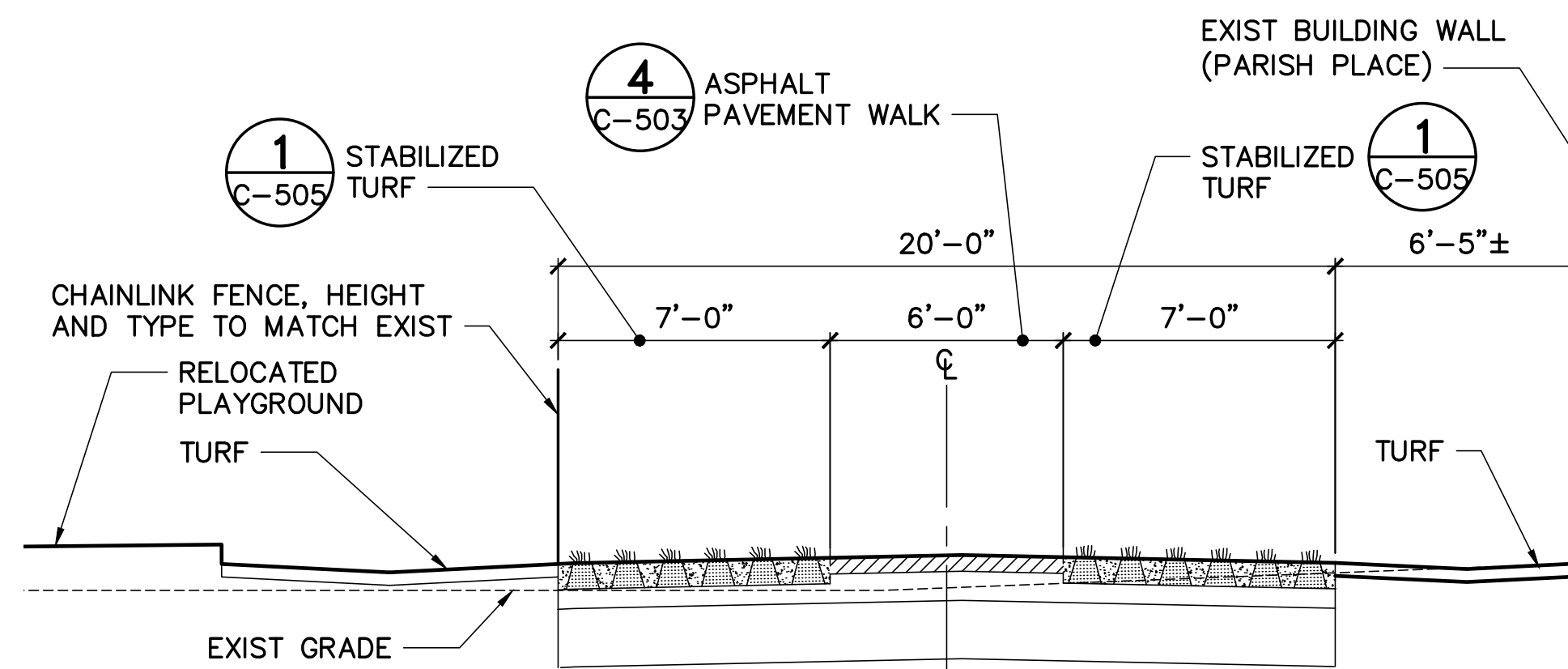
1. CONCRETE: 5,000 PSI AFTER 28 DAYS.
2. PROVIDE REINFORCING TO ACHIEVE AASHTO HS-20 LOADING CLASSIFICATION (32,000 POUND AXLE LOAD).
3. SHIPLAP JOINTS SHALL BE SEALED WITH 2 STRIPS OF 1" DIA BUTYL RUBBER SEALANT.
4. PROVIDE LOCK JOINT FLEXIBLE PIPE SLEEVES, CAST INTO BASE.
5. EACH CASTING TO HAVE LIFTING HOLES CAST IN. PLUG LIFTING HOLES WITH GROUT AFTER PLACING MANHOLE.
6. PROVIDE MANHOLE STEPS @ 12" OC.
7. INVERT SHELF TO BE PLACED AFTER LEAKAGE TEST.
8. INVERT BRICKS SHALL BE LAID ON EDGE.



OUTSIDE DROP MANHOLE (ONLY WHERE INDICATED)

3 TYP SANITARY SEWER MANHOLE DETAIL

CU101, C-301, C-302 C-505 NOT TO SCALE



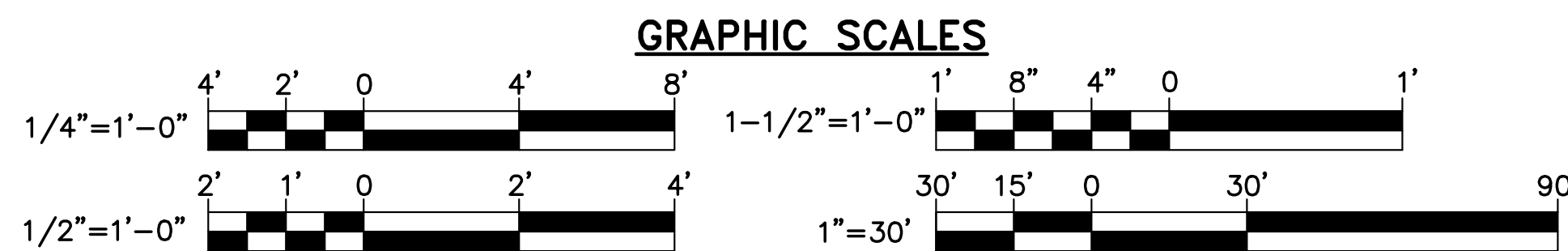
1 STABILIZED TURF

4 ASPHALT PAVEMENT WALK

1 STABILIZED TURF

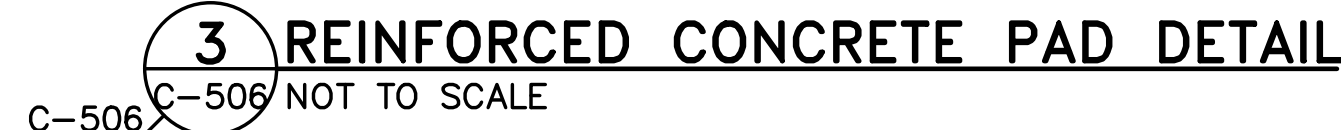
7 TYP STABILIZED TURF FIRE LANE SECTION

CS101 C-505 SCALE: 1/4"=1'-0"

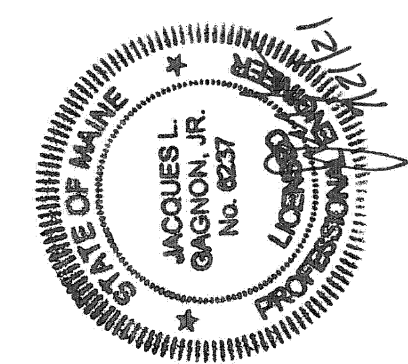
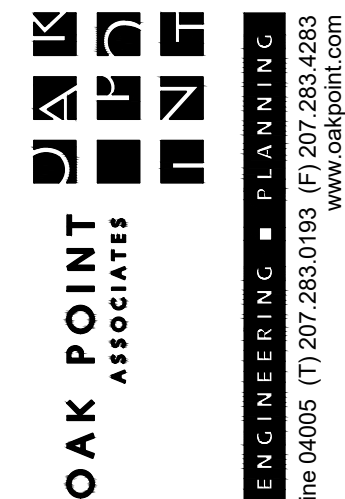


CHECK GRAPHIC SCALES BEFORE USING

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- 5 CHAIN LINK FENCE DOUBLE-LEAF GATE DETAIL
CS101.C-505.C-506 C-506 NOT TO SCALE



DESIGNED BY: JLG
 DRAWN BY: DEW
 CHECKED BY: JLG
 PROJECT: 22104.04

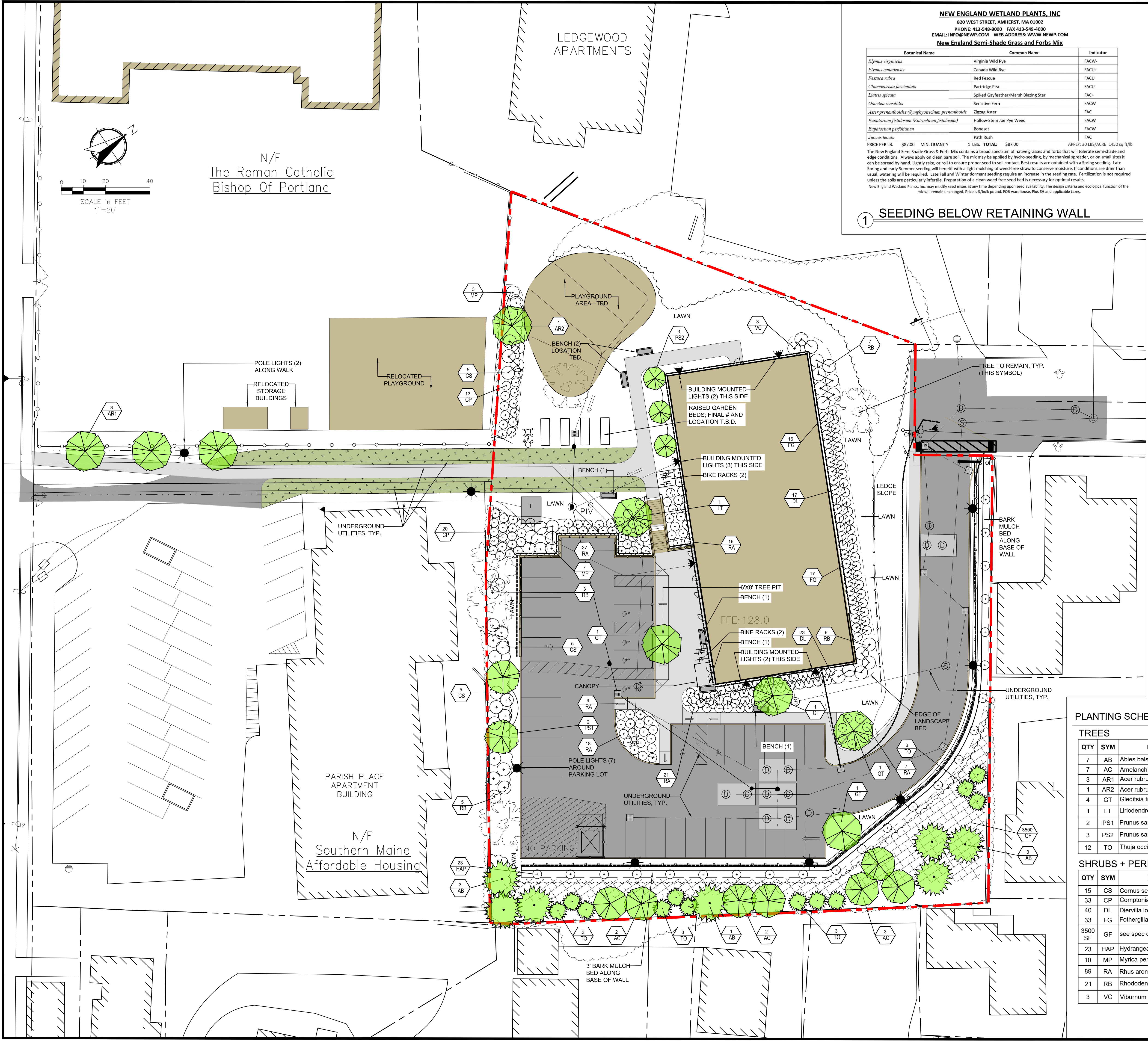
OWNER:
SOUTHERN MAINE
AFFORDABLE HOUSING
22 South Street
Biddeford, Maine, 04005

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING
69 Adams Street
Biddeford, Maine, 04005

SITE DETAILS - 4

DWG.: **C-506**

SHEET: 15 OF **22**



NEW ENGLAND WETLAND PLANTS, INC.
820 WEST STREET, AMHERST, MA 01002
PHONE: 413-548-8000 FAX 413-549-4000
EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM
New England Semi-Shade Grass and Forbs Mix

Botanical Name	Common Name	Indicator
<i>Elymus virginicus</i>	Virginia Wild Rye	FACW-
<i>Elymus canadensis</i>	Canada Wild Rye	FACU+
<i>Festuca rubra</i>	Red Fescue	FACU
<i>Chamaecrista fasciculata</i>	Partridge Pea	FACU
<i>Liatris spicata</i>	Spotted Gayfeather/Marsh Blazing Star	FAC+
<i>Osmunda cinnamomea</i>	Sensitive Fern	FACW
<i>Aster praeanthes</i> (<i>Symphoricarpos praeanthes</i>)	Zigzag Aster	FAC
<i>Eupatorium fistulosum</i> (<i>Eutrochium fistulosum</i>)	Hollow-Stem Joe Pye Weed	FACW
<i>Eupatorium perfoliatum</i>	Boneset	FACW
<i>Juncus tenuis</i>	Path Rush	FAC

PRICE PER LB. \$87.00 MIN. QUANTITY 1 LBS. TOTAL: \$87.00 APPLY: 30 LBS/ACRE (1450 sq ft/lb)
The New England Semi Shade Grass & Forb Mix contains a broad spectrum of native grasses and forbs that will tolerate semi-shade and edge conditions. Always apply on clean bare soil. The mix may be applied by hydro-seeding, by mechanical spreader, or on small sites it can be spread by hand. Lightly rake, or roll to ensure proper seed to soil contact. Best results are obtained with a Spring seeding. Late Spring and early Summer seeding will benefit with a light mulching of weed-free straw to conserve moisture. If conditions are drier than usual, watering will be required. Late Fall and Winter dormant seeding require an increase in the seeding rate. Fertilization is not required unless the soils are particularly infertile. Preparation of a clean weed free seed bed is necessary for optimal results.
New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is \$/bulk pound, FOB warehouse, Plus SH and applicable taxes.

SEEDING BELOW RETAINING WALL

PLANTING NOTES:

- CONTRACTOR SHALL BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING AND SHALL CONTINUE UNTIL FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF WATERING AND MAINTENANCE.
- CONTRACTOR SHALL SUPPLY PLANTS IN QUANTITIES SUFFICIENT TO COMPLETE WORK SHOWN ON THE PLAN. ANY DISCREPANCY BETWEEN THE QUANTITIES SHOWN IN THE PLANT SCHEDULE AND THOSE REQUIRED ON THE PLAN SHALL NOT ENTITLE THE CONTRACTOR TO ADDITIONAL RENUMERATION. ANY DISCREPANCIES SHALL BE CLARIFIED WITH THE LANDSCAPE ARCHITECT PRIOR TO ORDERING PLANT MATERIAL.
- ALL MATERIALS SHALL CONFORM TO SPECIFICATIONS OF THE AMERICAN STANDARDS FOR NURSERY STOCK (LATEST EDITION) AS SET FORTH BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS THE ORIGINAL GRADES BEFORE DIGGING.
- THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR ONE (1) FULL YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
- ALL PLANT MATERIALS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AT THE NURSERY AND AT THE SITE.
- ALL PLANT BEDS SHALL MEET MINIMUM TOPSOIL REQUIREMENTS (SEE SPECIFICATIONS).
- NO PLANT MATERIAL SHALL BE INSTALLED UNTIL GRUBBING, BED PREPARATION, AND FINISH GRADING HAS BEEN COMPLETED IN THE IMMEDIATE AREA.
- ALL PLANTS BEDS AND TREE WELLS SHALL HAVE A MINIMUM OF 3" OF UNIFORMLY DISTRIBUTED, DARK, SHREDDED BARK MULCH.
- CONTRACTOR SHALL SUBMIT SOIL SAMPLE AND TEST OF TOPSOIL TO LANDSCAPE ARCHITECT PRIOR TO INSTALLATION. SOIL ADMIXTURE SHALL BE ADDED TO EXISTING SOIL (BY CONTRACTOR) IF DEEMED NECESSARY BY SOIL TEST RESULTS.
- ROUGH GRADING AND BED PREPARATION SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANT INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT 48 HOURS PRIOR TO REQUIRED SITE VISIT.
- ALL PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. ALL ROOT WRAPPING AND CONTAINER MATERIAL MADE OF SYNTHETICS OR PLASTICS SHALL BE REMOVED AT THE TIME OF PLANTING.
- ALL BROAD LEAF EVERGREEN PLANTS SHALL BE SPRAYED WITH AN ANTI-DESSICANT AT THE BEGINNING OF THEIR FIRST WINTER.
- ALL PLANTS SHALL BE INSTALLED AS PER DETAILS AND THE CONTRACT SPECIFICATIONS. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE CONTRACT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- ALL PLANTS SHALL BE WATERED BY THE CONTRACTOR, AS NECESSARY TO INSURE HEALTH UNTIL FINAL ACCEPTANCE.
- CONTRACTOR SHALL STAKE TREES IF DEEMED NECESSARY BY THE LANDSCAPE ARCHITECT.
- THE LANDSCAPE CONTRACTOR SHALL PROVIDE PREPARED SOIL PLANTING MIX AS PER THE CONTRACT SPECIFICATIONS.
- THE LANDSCAPE CONTRACTOR SHALL REFER TO THE PLANT LIST AND PLANTING SPECIFICATIONS FOR SEASONAL REQUIREMENTS AND OTHER RESTRICTIONS RELATED TO THE TIME AND SEASON OF PLANTING.
- PLANTING SOIL MIX: 1 PART COMPOST, 8 PARTS TOPSOIL, 3 PARTS HUMUS. TOPSOIL: FERTILE, FRIABLE, NATURAL TOPSOIL OF LOAMY CHARACTER, WITHOUT ADMIXTURE OF SUBSOIL MATERIAL, FREE FROM CLAY, LUMPS, COARSE SANDS, STONES, PLANTS, ROOTS, STICKS, AND OTHER FOREIGN MATERIALS GREATER THAN 1" IN ANY DIMENSION, PH RANGE 5.0-7.0, AND SHALL CONTAIN NOT LESS THAN 6% ORGANIC MATTER BY WEIGHT. SANDY LOAM OR LOAM SOIL AS DEFINED BY THE USDA SOIL CONSERVATION SERVICE, AND HAVE THE FOLLOWING MECHANICAL ANALYSIS:

TEXTURAL CLASS	% OF TOTAL WEIGHT	AVERAGE %
SAND (0.05- 2.0 MM)	45 TO 75%	60%
SILT (0.002- 0.05 MM)	15 TO 35%	25%
CLAY (< 0.002 MM)	5 TO 25%	15%
- THE APPLICANT HAS FLEXIBILITY ON THE FINAL PLACEMENT OF THE PROPOSED TREES, ALONG THE SOUTH EASTERN PROPERTY LINE, IF THE EXISTING VEGETATION PROVES TO BE INADEQUATE TO PROVIDE AN EFFECTIVE SCREEN.

PLANTING SCHEDULE

TREES						
QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	NATIVE
7	AB	Abies balsamea var. phanerolepis	Canaan Balsam Fir	8-10' HT.		
7	AC	Amelanchier canadensis	Native Shadbush	7-8' HT	B+B, CLUMP	X
3	AR1	Acer rubrum 'Karpick'	Red Maple	2-2.5"	B+B	X
1	AR2	Acer rubrum 'Northwood'	Red Maple	2-2.5"	B+B	X
4	GT	Gleditsia triacanthos 'Street Keeper'	Honeylocust	2-2.5"	B+B	
1	LT	Liriodendron tulipifera 'Little Volunteer'	Tulip tree	2-2.5"	B+B	X
2	PS1	Prunus sargentii	Sargent Cherry	2-2.5"	B+B	
3	PS2	Prunus sargentii 'Rancho' or 'Columaris'	Sargent Cherry	2-2.5"	B+B	
12	TO	Thuja occidentalis 'Techny'	Arborvitae	6-7' HT	B+B	X

SHRUBS + PERENNIALS + VINES + GROUND COVERS

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS	NATIVE
15	CS	Cornus sericea 'Farrow'	Red Twig Dogwood	4'-5'/#7		X
33	CP	Comptonia peregrina	Sweetfern	#7		X
40	DL	Diervilla lonicera	Northern Bush Honeysuckle	#5		X
33	GF	Fothergilla gardenii	Dwarf Bottlebrush Bush	#5		
3500 SF	GF	see spec on L1.0	Grass + Forbs mix (semi-shade blend)	1,450 SF PER LBS		X
23	HAP	Hydrangea anomala petiolaris	Climbing Hydrangea	4-5'/#10	15' O.C.	
10	MP	Myrica pensylvanica 'Bobee'	Northern Bayberry	3-4'/#7		X
89	RA	Rhus aromatica 'Gro-Low'	Fragrant Sumac	2.5'-3'/#7		X
21	RB	Rhododendron 'Boule-de-Neige'	Rhododendron	3' HT	B+B	
3	VC	Viburnum cassinoides	Witherod Viburnum	3-3.5' HT	B+B	X

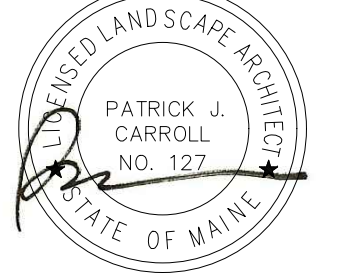
OWNER:
SOUTHERN MAINE AFFORDABLE HOUSING
22 SOUTH STREET
P.O. BOX 2287
BIDDEFORD, MAINE 04005

APPLICANT:
BIDDEFORD HOUSING AUTHORITY
22 SOUTH STREET
P.O. BOX 2287
BIDDEFORD, MAINE 04005



Project: **ADAMS POINT**

Description		Revised per City comments	
Date			
09/21/2021			
Revisions			
#1			



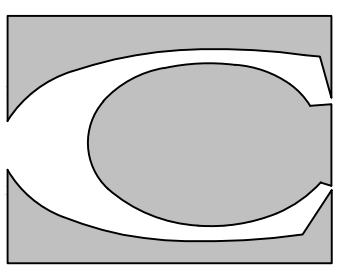
Scale: as shown

Approved By: PC

Drawn By: MAP

LANDSCAPE PLAN

Phase:
PLANNING BOARD APPLICATION



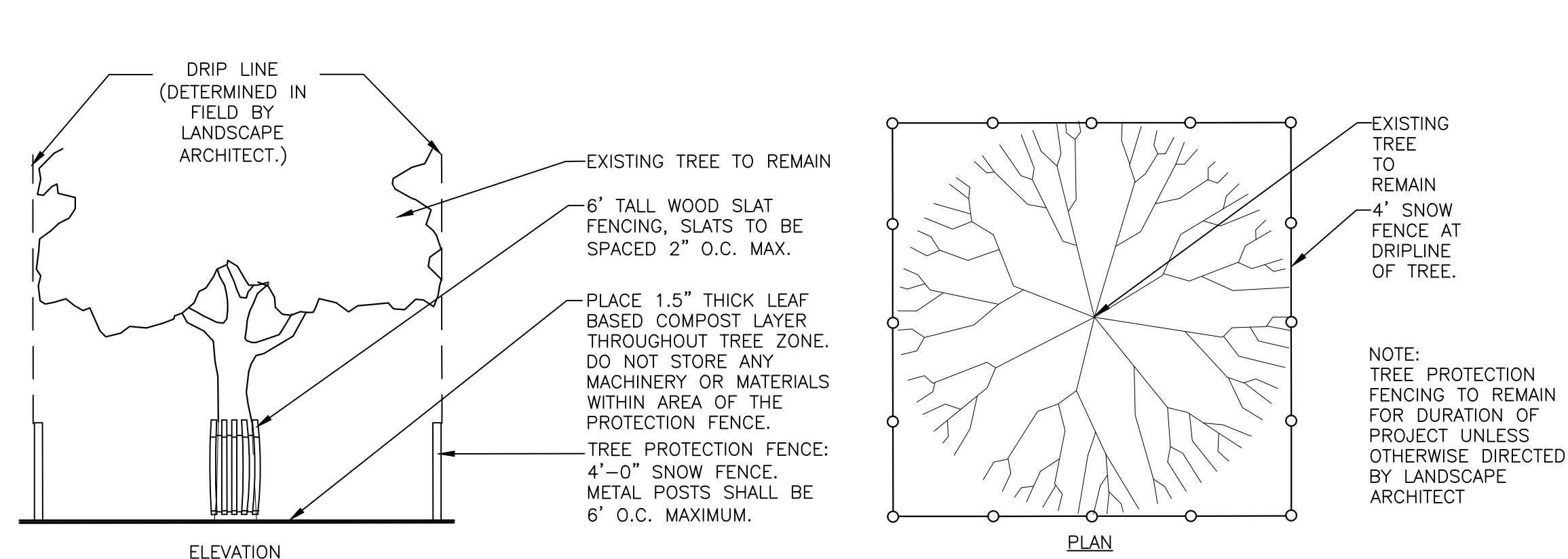
CARROLL ASSOCIATES
LANDSCAPE ARCHITECTS
217 COMMERCIAL STREET, STE 200
PORTLAND, MAINE 04101
207.772.1552 V F. 207.772.0712

Date:
JUNE 14, 2021

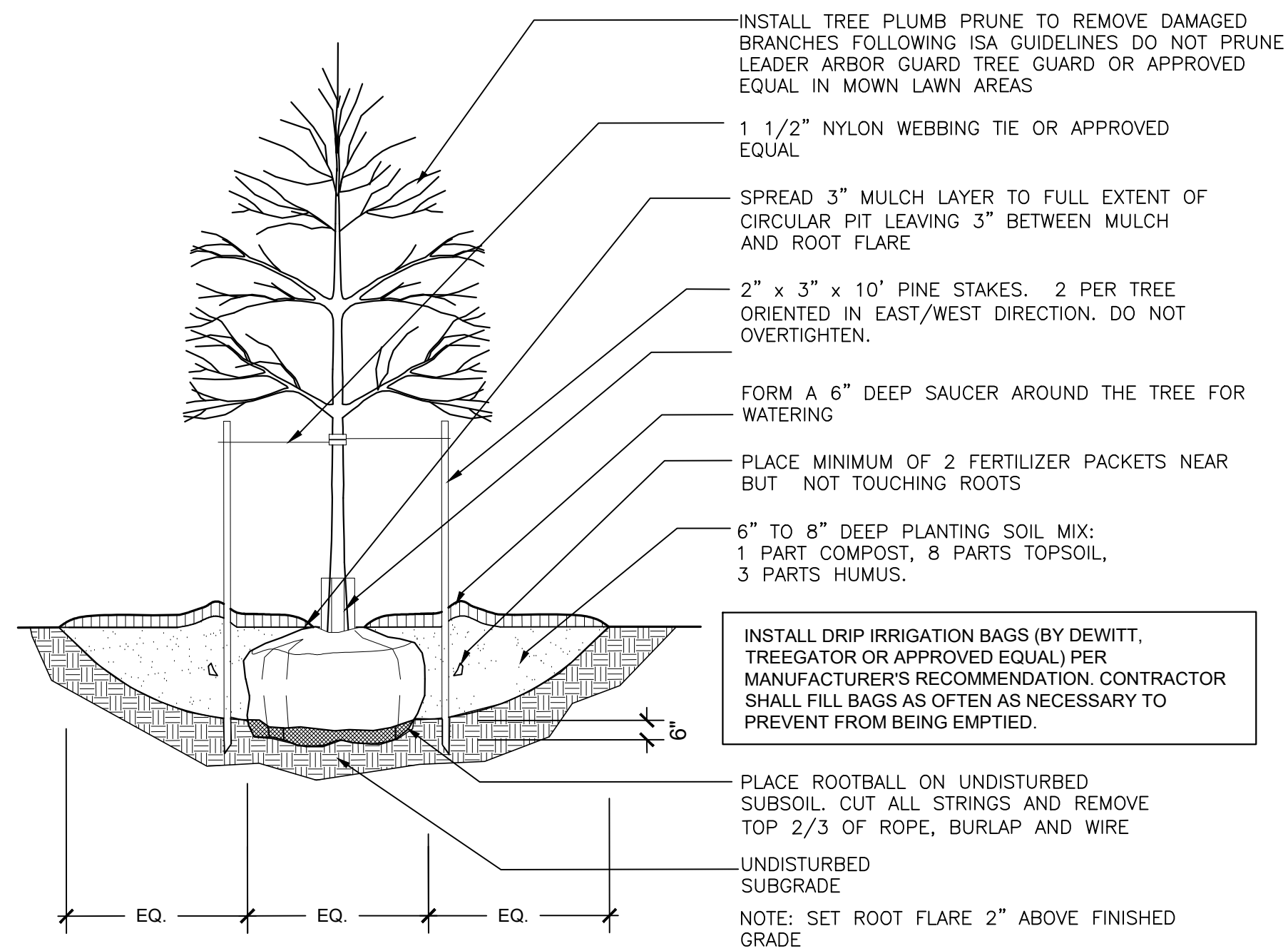
Sheet No:

NOT FOR CONSTRUCTION

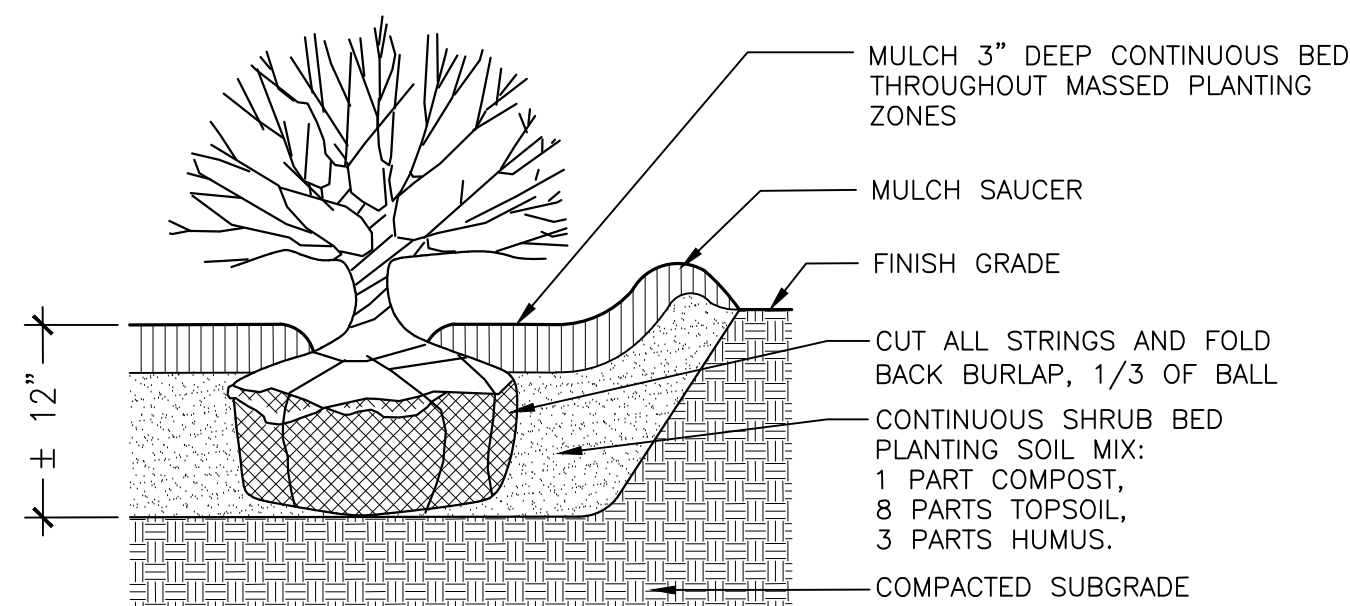
L1.0



1 TYPICAL TREE PROTECTION



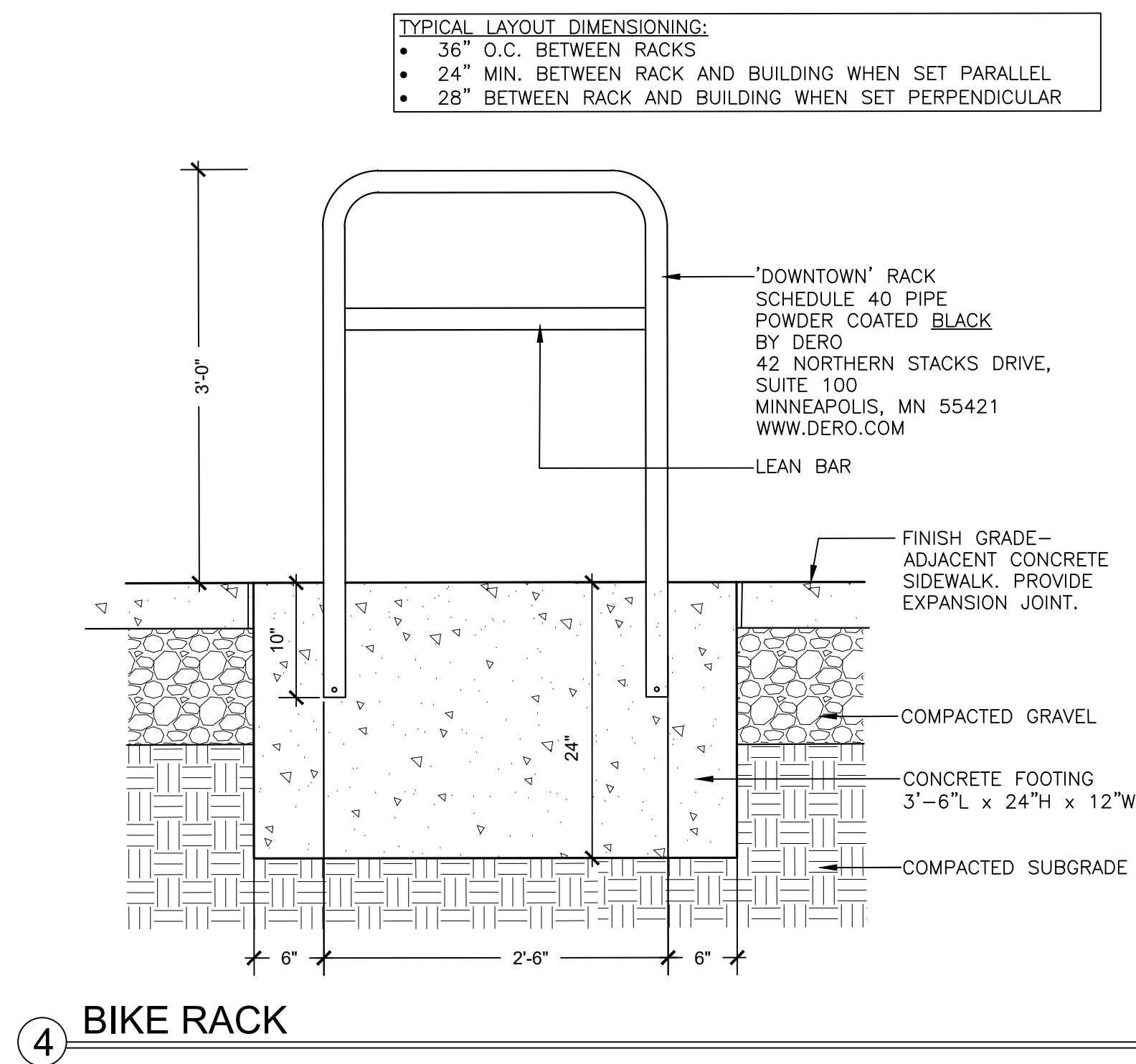
2 TYPICAL TREE PLANTING



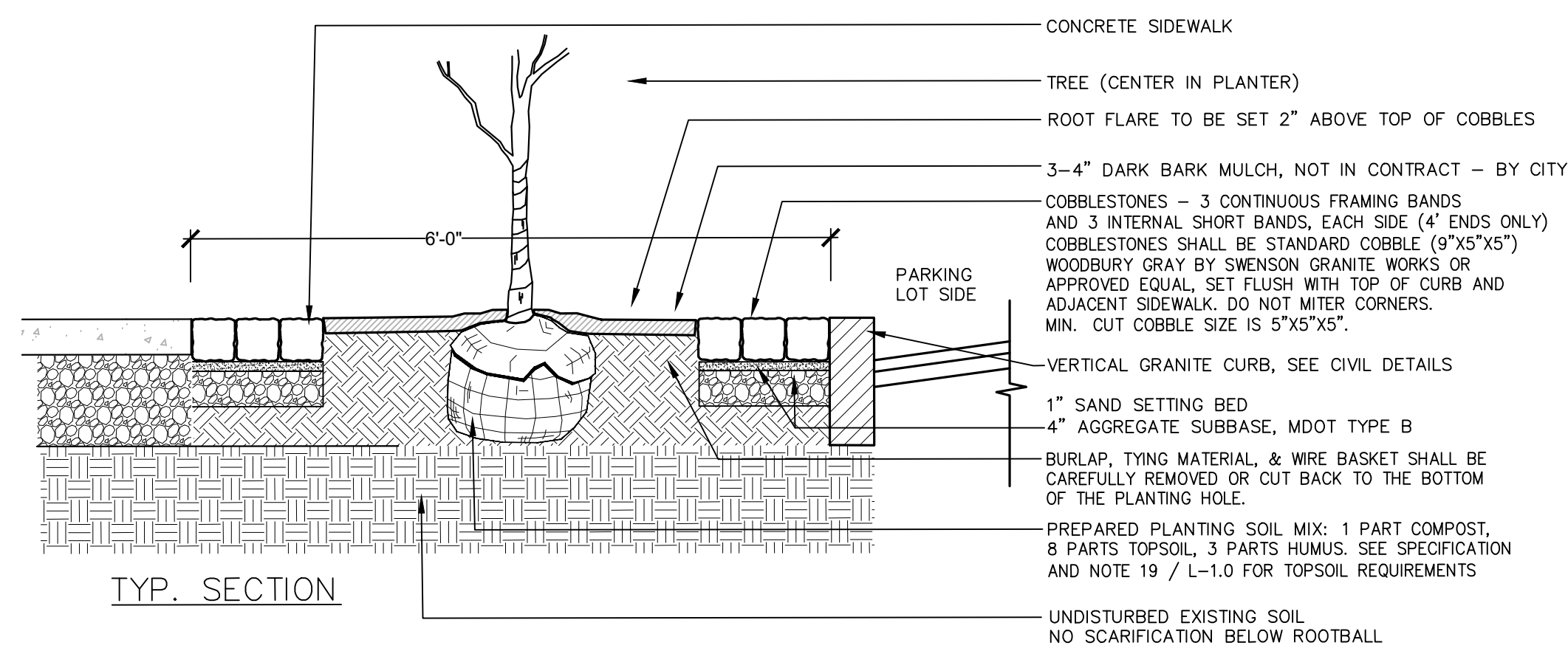
3 TYPICAL SHRUB PLANTING



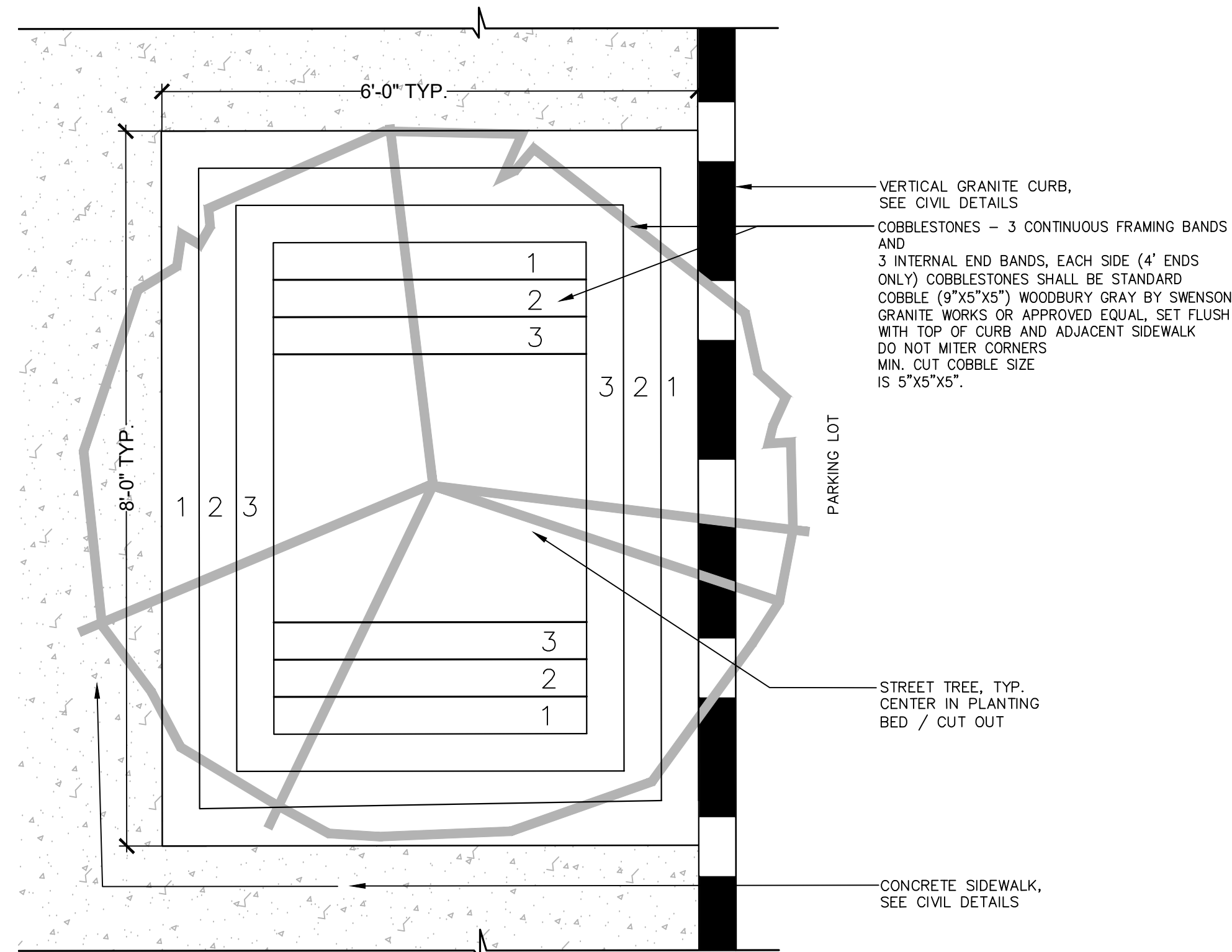
5 TREE PIT



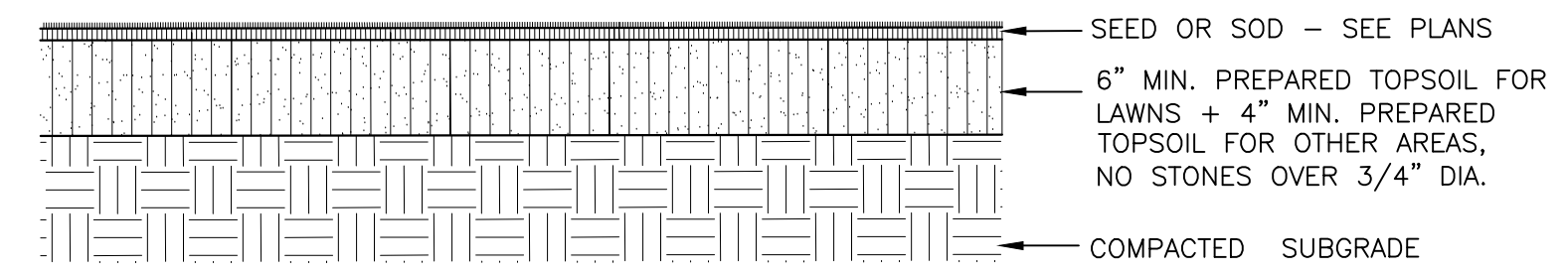
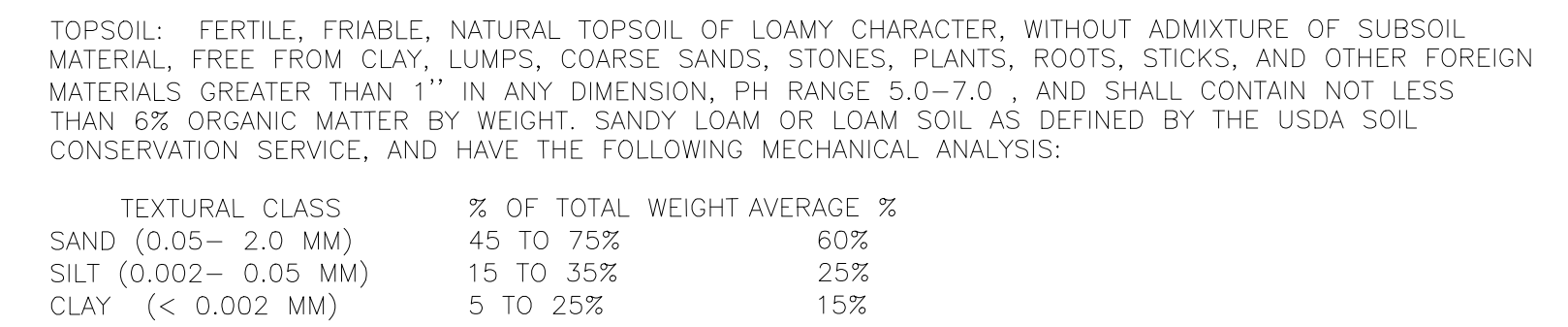
4 BIKE RACK



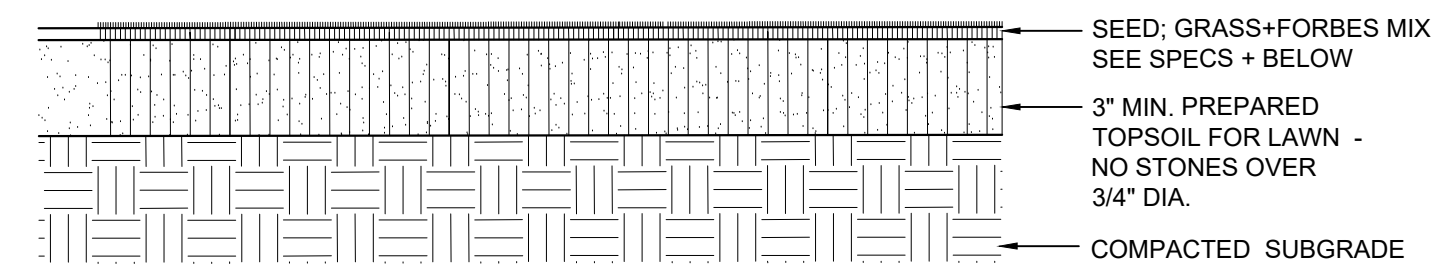
TYP. SECTION



TYP. PLAN VIEW

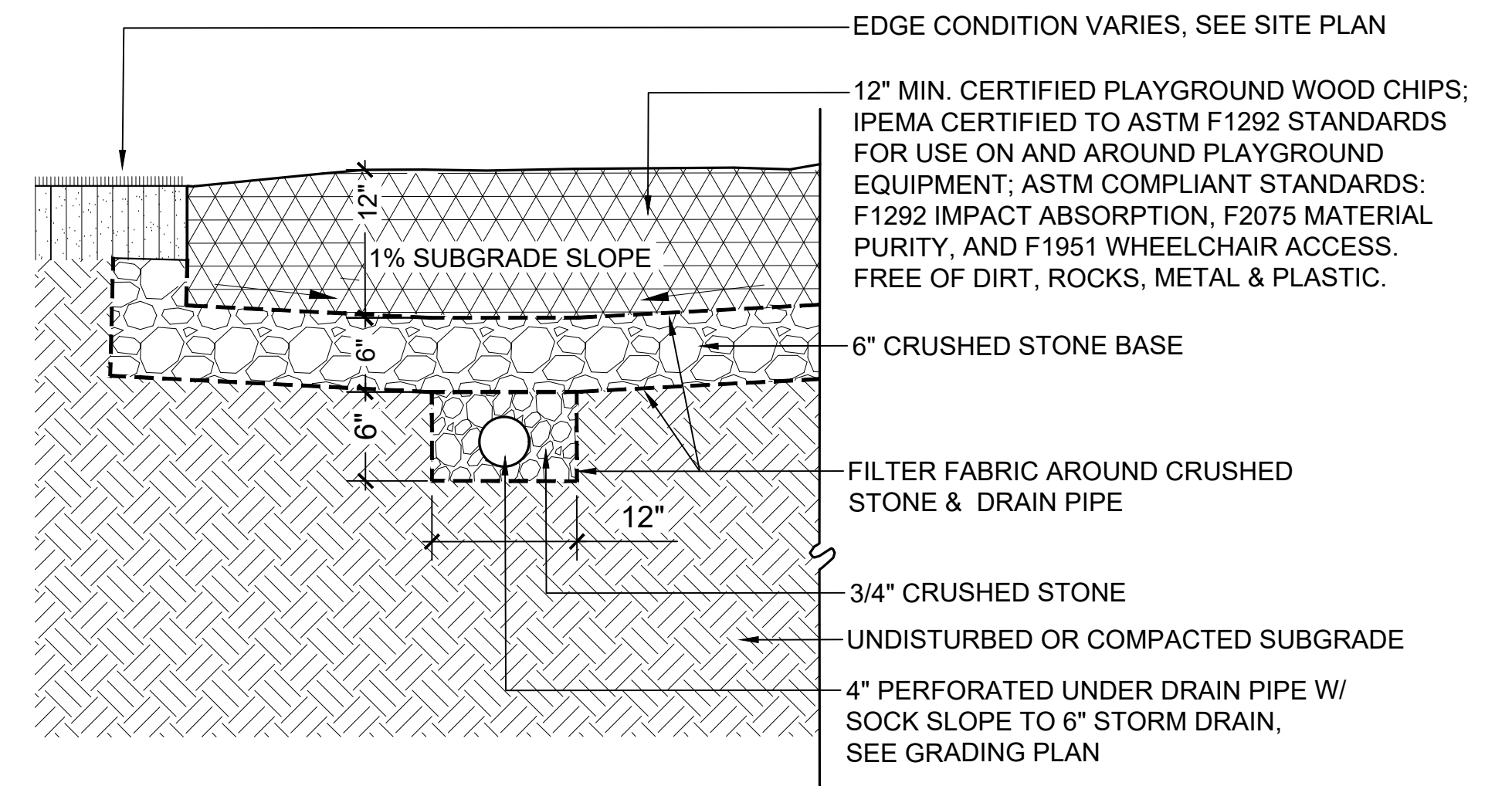


SEED MIX PLANTING (LAWN & OTHER AREAS)

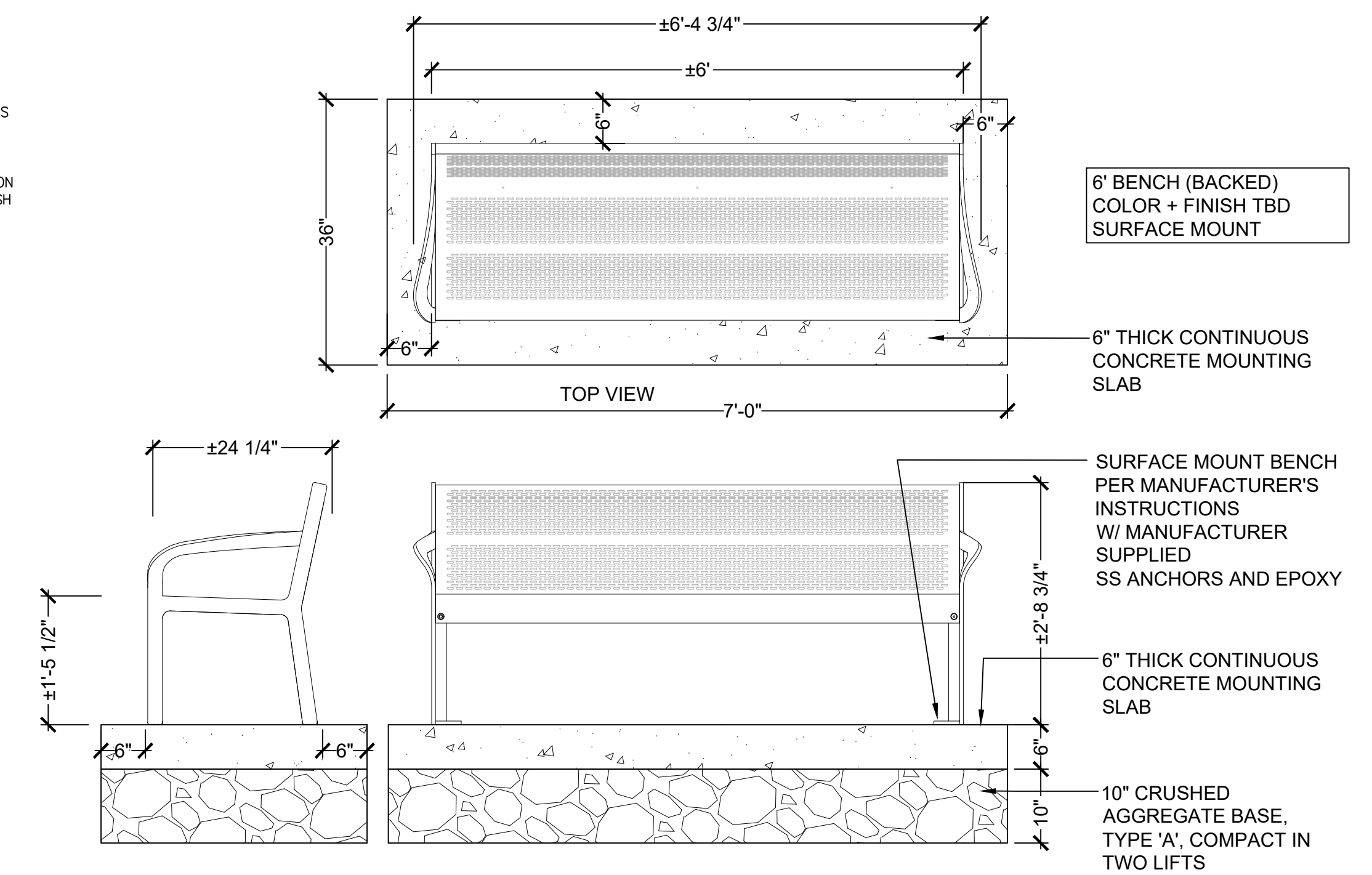


SEED MIX PLANTING (NON-LAWN AREAS)

SEEDING



PLAYGROUND SURFACING



8 BENCH

~~NOT FOR CONSTRUCTION~~

OWNER:

SOUTHERN
MAINE
AFFORDABLE
HOUSING
2 SOUTH STREET
P.O. BOX 2287
ODEFORD, MAINE
04005

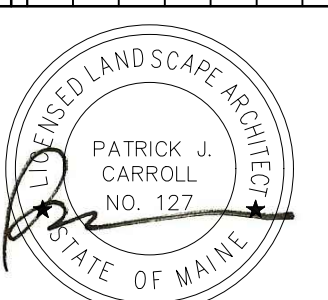
APPLICANT:

BIDDEFORD
HOUSING
AUTHORITY
2 SOUTH STREET
P.O. BOX 2287
BIDDEFORD, MAINE
04005



ADAMS
POINT

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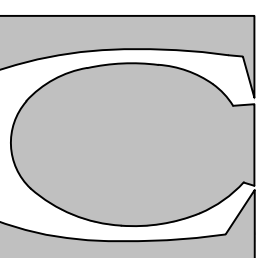
	*	*
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[illegible]

Phase:

PLANNING BOARD
APPLICATION



ROLL ASSOCIATES
SCAPE ARCHITECTS
COMMERCIAL STREET, STE 200
PORTLAND, MAINE 04101
1552 V. F. 207.772.0712

JUNE 14, 2021

O:

2.0

ADAMS POINT MULTI FAMILY HOUSING

69 Adams St. Biddeford, ME 04005

No.	Date	Description
Revision Schedule		

JOB NO.
Project Number

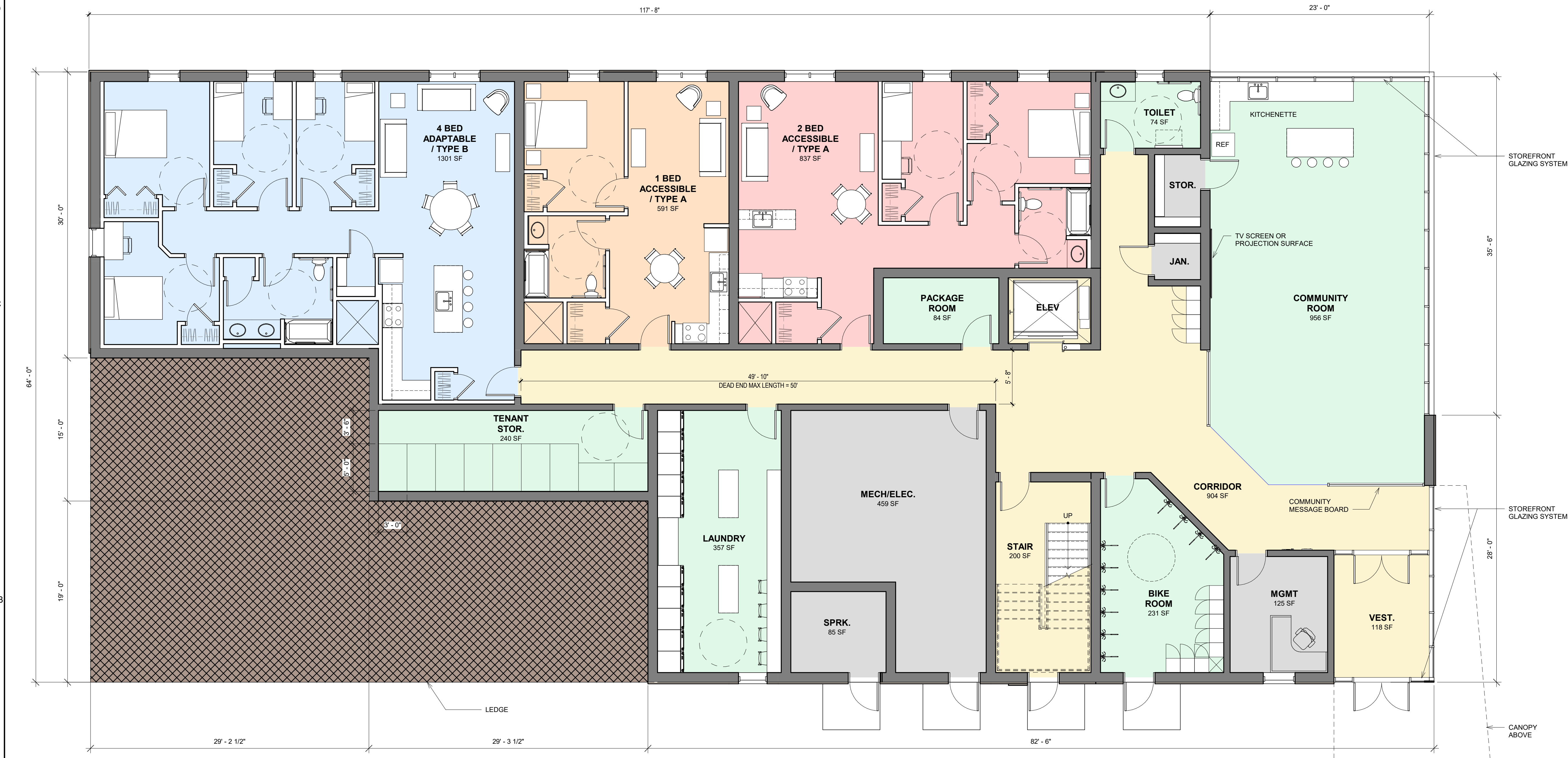
DRWN. CHK
Author Checker

SCALE:
3/16" = 1'-0"

ISSUE:
ISSUED FOR BID
04/02/2021

TITLE
Ground Floor Plan

SHEET
A100



1 GROUND FLOOR - CONCEPT
3/16" = 1'-0"

GROUND FLOOR PLAN SUMMARY

UNITS:
(1) - 4 BED ROOM UNIT
(1) - 2 BED ROOM UNIT
(1) - 1 BED ROOM UNIT

AREA:
FLOOR FOOTPRINT: 7,450sf
FLOOR PLATE (EXCLUDES STAIRS, ELEV.
AND MECHANICAL SHAFTS): 7,360sf

BUILDING INTERIOR FINISHES SUMMARY

FLOORING
CARPET
• CORRIDORS
• MANAGEMENT OFFICE
VINYL SHEET FLOORING W/ BACKING:
• LAUNDRY, BATHROOMS
SOLID VINYL FLOOR TILE
• THROUGHOUT LIVING UNITS
(EXCLUDING BATHROOMS)
LUXURY VINYL FLOORING:
• COMMUNITY ROOM
• MAIL ROOM
WALK-OFF MATT
• VESTIBULE
RUBBER
• STAIRS AND LANDINGS
SEALED CONC.
• MECH/ELEC.
• SPRINKLER ROOM
• JANITOR
• STORAGE SPACES

WALLS
PAINT
• ASSUME SINGLE COLOR (ZERO-
VOC) THROUGHOUT LIVING UNITS
• ASSUME (2) COLORS FOR SHARED
SPACES
FIBERGLASS REINFORCED PLASTIC:
• JANITOR
• GRND FLR. TOIL.
• PACKAGE ROOM
COUNTERTOPS
LAMINATE
• LIVING UNIT KITCHENS
QUARTZ
• BATHROOMS

BUILDING PROGRAM LEGEND

- 1 BED UNIT
- 2 BED UNIT
- 4 BED UNIT
- BUILDING STORAGE
- BUILDING SUPPORT
- CIRCULATION
- MANAGEMENT
- SHARED SPACE

ADAMS POINT MULTI FAMILY HOUSING

69 Adams St. Biddeford, ME 04005

No.	Date	Description
B		Revision Schedule

JOB NO.
Project Number

DRWN. CHK
Author Checker

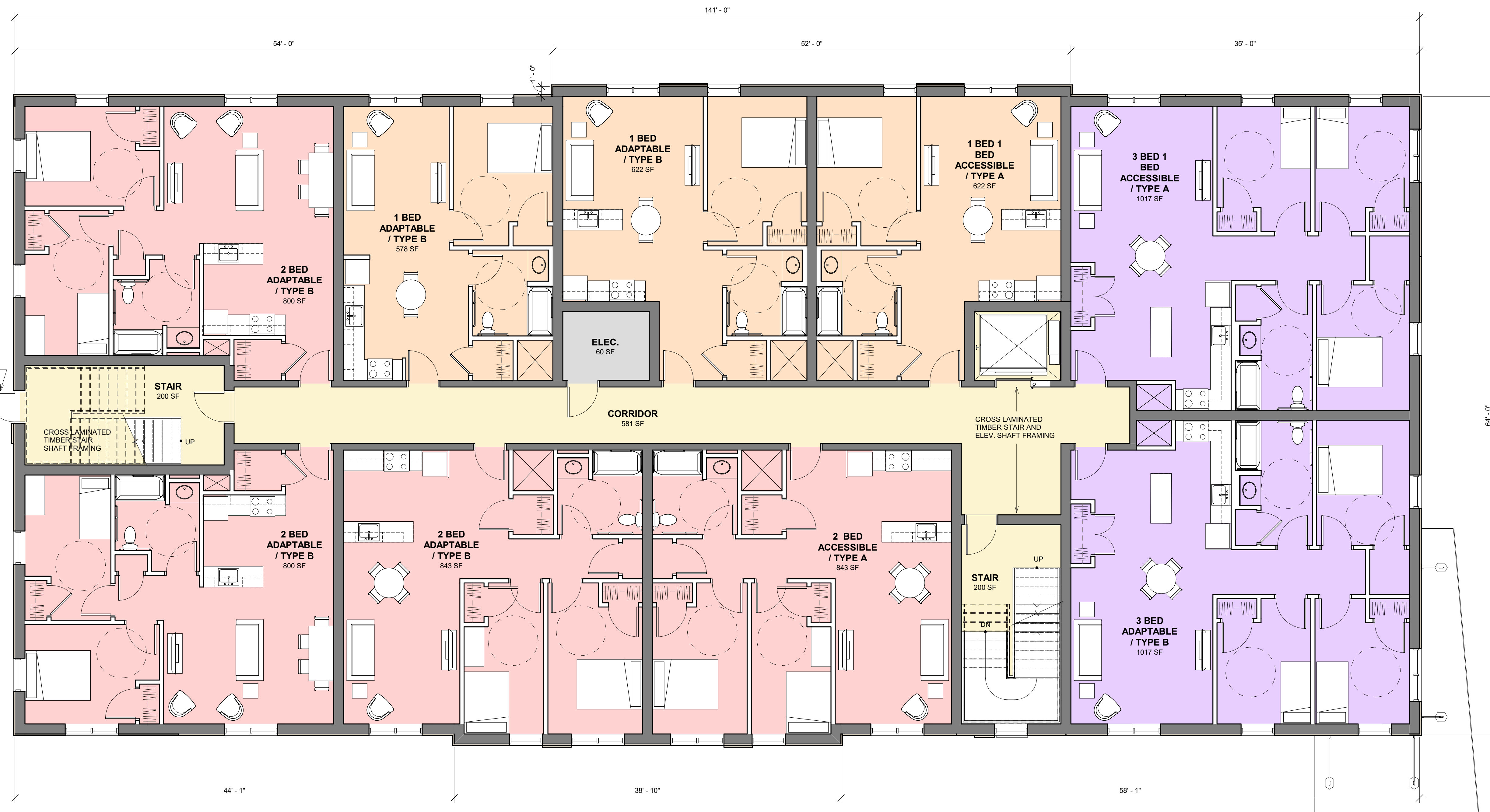
SCALE:
3/16" = 1'-0"

ISSUE:
ISSUED FOR BID
04/02/2021

TITLE
First Floor - 4th Floor
Plan

SHEET

A101



TYPICAL FLOOR PLAN 1ST THRU 4TH FLOORS

UNITS:
(2) - 3 BED ROOM UNITS
(4) - 2 BED ROOM UNITS
(3) - 1 BED ROOM UNITS

AREA:
FLOOR FOOTPRINT: 9,115sf
FLOOR PLATE (EXCLUDES STAIRS, ELEV.
AND MECHANICAL SHAFTS): 8,392sf

BUILDING PROGRAM LEGEND

- 1 BED UNIT
- 2 BED UNIT
- 3 BED UNIT
- BUILDING SUPPORT
- CIRCULATION

1 TYPICAL FLOOR PLAN - CONCEPT
3/16" = 1'-0"



1 EXTERIOR ELEVATION - SOUTH
1/8" = 1'-0"



2 EXTERIOR ELEVATION - EAST
1/8" = 1'-0"



3 EXTERIOR ELEVATION - WEST
1/8" = 1'-0"



4 EXTERIOR ELEVATION - NORTH
1/8" = 1'-0"

Revision Schedule		
No.	Date	Description

JOB NO.
Project Number

DRWN. CHK
Checker

SCALE:

ISSUE
06/08/2021

TITLE
Exterior Elevations

SHEET
A200

[illegible]

Designed By: MA	Drawn By: DN	Checked By:
Issue Date: 06/10/2021	Project No: 068944	Scale:

E-100

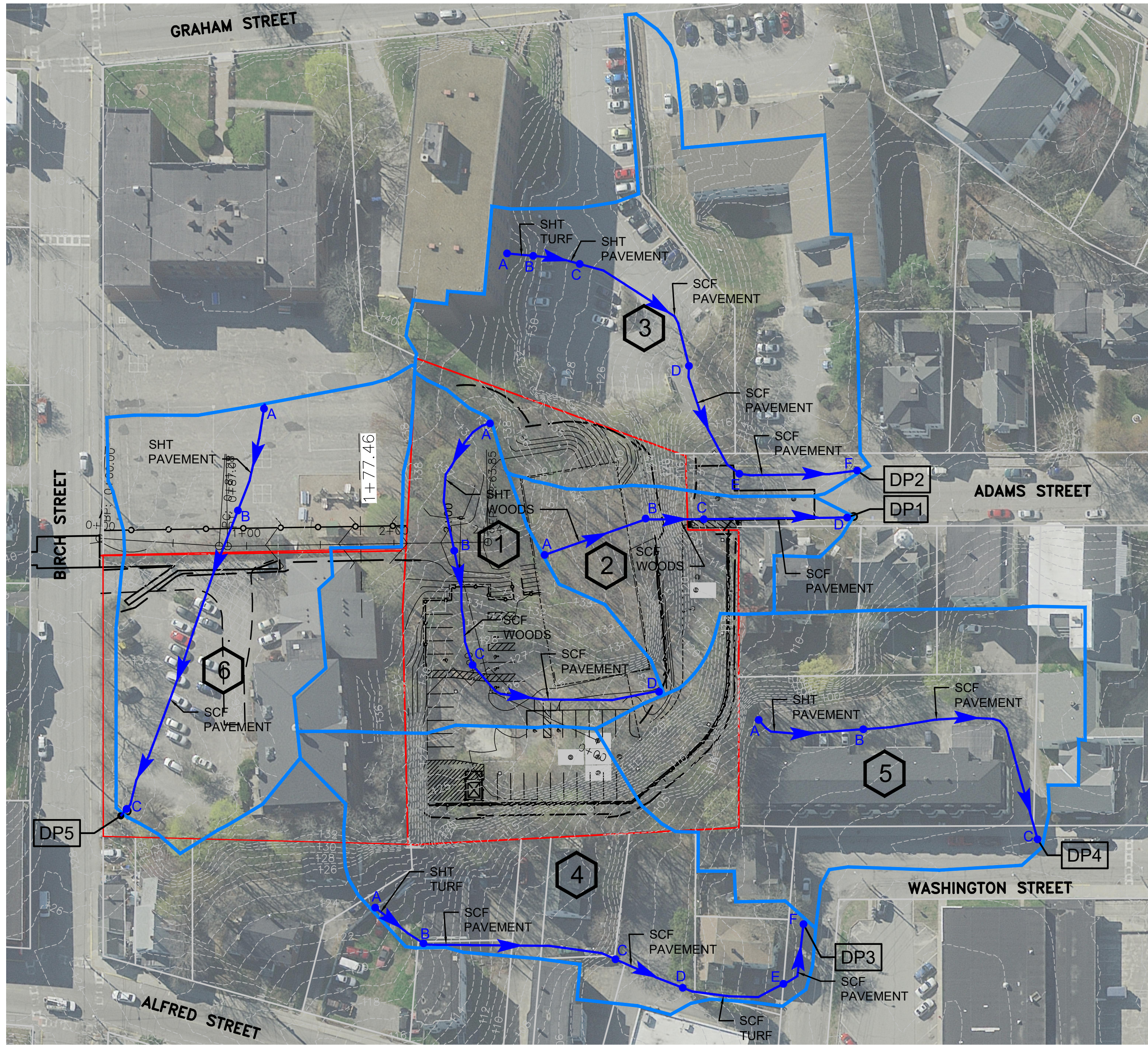
This technical site plan illustrates a parking lot layout with a grid of numbered parking spaces. The plan includes several key features:

- Parking Spaces:** A grid of numbered spaces, with numbers ranging from 0.0 to 7.2, distributed across the lot.
- Access Roads and Driveways:** Indicated by dashed lines and solid lines with arrows, showing the flow of traffic into and out of the parking area.
- Buildings and Structures:** Various building footprints are shown, including a large building on the left and several smaller structures on the right.
- NO PARKING Zones:** Specific areas are marked with "NO PARKING" text, indicating restricted parking zones.
- Points of Interest:** Labeled points A, B, and C are marked with small squares, likely indicating specific locations of interest or infrastructure.
- Topography and Landmarks:** The plan shows the surrounding urban environment, including adjacent streets and building footprints.

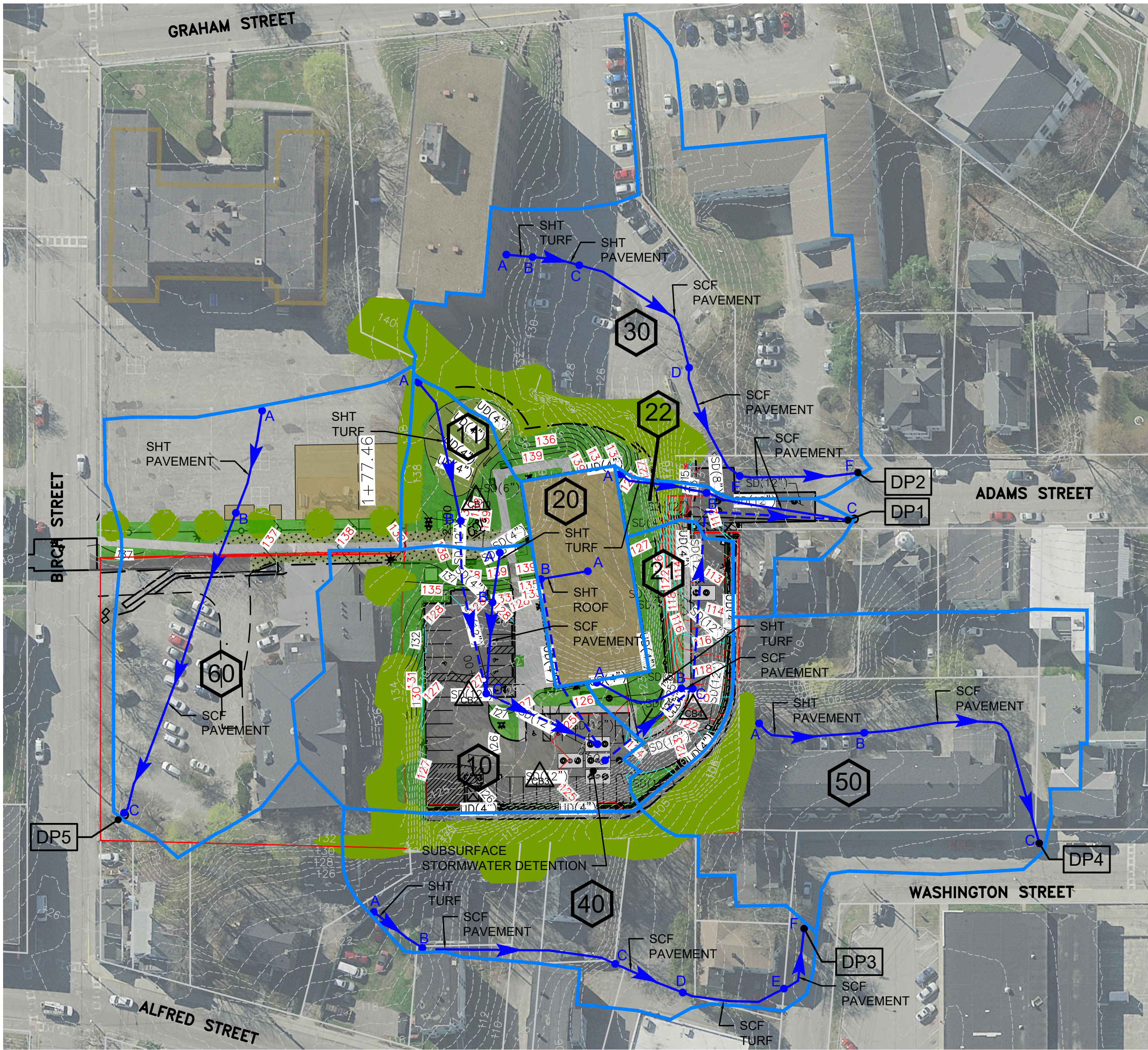
GRAPHIC SCALE (FEET)

1" = 20'

A horizontal graphic scale bar with alternating black and white segments. The segments represent 20-foot intervals. Above the bar, the scale is marked at 0', 20', 40', 60', 80', and 100'. The text 'GRAPHIC SCALE (FEET)' is centered above the bar. To the left of the bar, the text '1" = 20'' indicates the scale.



1 PRE-DEVELOPMENT WATERSHED PLAN
WS101 1"=50'



2 POST-DEVELOPMENT WATERSHED PLAN
WS101 1"=50'

LEGEND

- 1 WATERSHED NUMBER
- A B TIME OF CONCENTRATION FLOW PATH
- CATCH BASIN/REACH FLOW PATH
- WATERSHED BOUNDARY
- EXISTING CONTOUR LINE
- DP1 DISCHARGE POINT (POINT OF ANALYSIS)
- CATCH BASIN/POND ROUTING
- REACH ROUTING
- SHT SHEET FLOW
- SCF SHALLOW CONCENTRATED FLOW
- CHAN CHANNEL FLOW
- PIPE PIPE FLOW

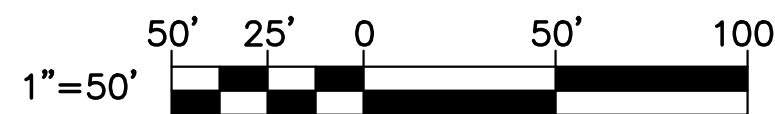
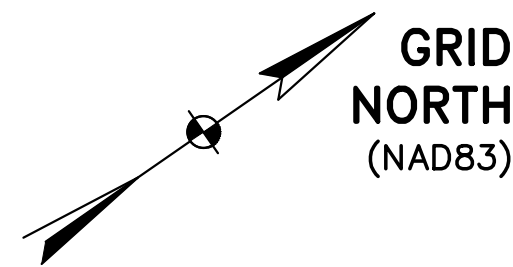
Pre-Development Areas					Post-Development Areas				
Total	Imp	Woods	Land		Total	Imp	Woods	Land	
1	31923	9348	21811	764	10	32145	16482	10017	5646
2	17060	5366	10277	1417	11	7244	655	0	6589
					20	9031	9031	0	0
					21	11110	6606	42	2386
					22	6408	3615	1758	1035
3	59081	31821	10196	17064	30	57888	31627	5016	21245
4	41667	20716	11331	9620	40	30666	15998	2290	11678
5	50046	31877	10115	8054	50	45225	31877	4600	8748
6	44117	36602	0	7515	60	44117	35651	0	8466

Pre- and Post-Development Peak Runoff Rates (ft ³ /s)						
Discharge Point	2-Year Storm		10-Year Storm		25-Year Storm	
	Pre	Post	Pre	Post	Pre	Post
DP1	1.2	1.2	2.4	2.1	3.4	3.3
DP2	3.2	3.2	5.5	5.5	7.4	7.4
DP3	2.1	1.6	3.8	2.8	5.1	3.8
DP4	2.9	2.9	4.9	4.7	6.5	6.1
DP5	3.1	3	4.8	4.8	6.2	6.1
Sum	12.5	11.9	21.4	19.9	28.6	26.7

Time to Concentration:												
Flow Path Data - Pre						Flow Path Data - Post						
Subcatchment 1						Subcatchment 10						
item	length	start elev	end elev	slope	surface	item	length	start elev	end elev	slope	surface	
sheet	100	139.4	135.17	0.042	woods	sheet	36	139.25	128	0.313	turf	
scf	115	135.17	127.37	0.068	woods	scf	62	128	126.87	0.018	pavement	
scf	134	127.37	122.5	0.036	pavement							
Subcatchment 2						Subcatchment 20						
item	length	start elev	end elev	slope	surface	item	length	start elev	end elev	slope	surface	
sheet	74	134.2	129	0.07	woods	sheet	32	-	-	-	0.01	Roof
scf	39	129	113	0.41	woods							
scf	100	113	107.5	0.055	pavement							
Subcatchment 3						Subcatchment 21						
item	length	start elev	end elev	slope	surface	item	length	start elev	end elev	slope	surface	
sheet	20	134.75	131.47	0.164	turf	sheet	62	126.5	124.7	0.028	turf	
sheet	30	131.47	128.52	0.098	pavement	scf	7	119	118.86	0.02	pavement	
scf	110	128.52	118.7	0.080	pavement							
scf	85	118.7	111.33	0.087	pavement							
scf	85	111.33	107.71	0.043	pavement							
Subcatchment 4						Subcatchment 22						
item	length	start elev	end elev	slope	surface	item	length	start elev	end elev	slope	surface	
sheet	40	122.46	117.53	0.123	turf	sheet	61	130.5	112	0.303	turf	
sheet	10	117.53	116.7	0.083	pavement	scf	97	112	108.1	0.04	pavement	
scf	125	117.53	103.88	0.109	pavement							
scf	50	103.88	102.04	0.037	pavement							
scf	75	102.04	96.31	0.076	turf							
scf	45	96.31	95.77	0.012	pavement							
Subcatchment 5						Subcatchment 30						
item	length	start elev	end elev	slope	surface	item	length	start elev	end elev	slope	surface	
sheet	75	98.94	97.15	0.024	pavement	sheet	20	134.75	131.47	0.164	turf	
scf	180	97.15	93.11	0.022	pavement	sheet	30	131.47	128.52	0.098	pavement	
						scf	100	128.52	118.7	0.080	pavement	
						scf	85	118.7	111.33	0.087	pavement	
						scf	85	111.33	107.71	0.043	pavement	
Subcatchment 6						Subcatchment 40						
item	length	start elev	end elev	slope	surface	item	length	start elev	end elev	slope	surface	
sheet	75	137.36	136.57	0.011	pavement	sheet	40	122.46	117.53	0.123	turf	
scf	225	136.57	131.12	0.024	pavement	sheet	10	117.53	116.7	0.080	pavement	
						scf	125	117.53	103.88	0.109	pavement	
						scf	50	103.88	102.04	0.037	pavement	
						scf	75	102.04	96.31	0.076	turf	
						scf	45	96.31	95.77	0.012	pavement	
Subcatchment 60						Subcatchment 50						
item	length	start elev	end elev	slope	surface	item	length	start elev	end elev	slope	surface	
sheet	75	137.36	136.57	0.011	pavement	sheet	75	98.94	97.15	0.024	pavement	
scf	225	136.57	131.12	0.024	pavement	scf	180	97.15	93.11	0.022	pavement	

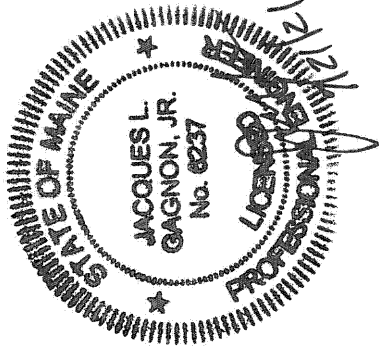
NOTES:

1. THE SOILS FOR THE ENTIRE SITE ARE CLASSIFIED AS "URBAN" BASED ON A CLASS D MEDIUM INTENSITY SOIL SURVEY PERFORMED IN SPRING, 2021. FOR THE PURPOSES OF STORMWATER ANALYSIS, THE HYDROLOGIC SOIL GROUP IS ASSUMED TO BE "C."
2. ELEVATION INFORMATION SHOWN IS BASED ON GPS STATIC OBSERVATIONS TAKEN FEBRUARY 25, 2021. THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988.



FOR PERMITTING PURPOSES ONLY NOT FOR CONSTRUCTION

OAK POINT ASSOCIATES
ARCHITECTURE • ENGINEERING • PLANNING
231 Main Street, Biddeford, Maine 04005 (T) 207.283.0183 (F) 207.283.0283
www.oakpoint.com



JSD
DESIGNED BY:
DRAWN BY:
CHECKED BY:
PROJECT:
22104.04

OWNER:
SOUTHERN MAINE
AFFORDABLE HOUSING
22 South Street
Biddeford, Maine, 04005

PROJECT TITLE AND LOCATION:
ADAMS POINT HOUSING
69 Adams Street
Biddeford, Maine, 04005

WATERSHED
PLANS

SCALE: AS NOTED

DATE: 08-02-2021

DWG.: WS101

SHEET: 22 OF 22

PLANNING BOARD
REPORT

September 24, 2021

Biddeford Planning Board
Greg Tansley, City Planner
City of Biddeford
205 Main Street
Biddeford, Maine 04005

Application: Adams Point Housing – Southern Maine Affordable Housing
69 Adams Street (Tax Map 38 Lot 296)

Site Plan/Subdivision Final Plan Review

Review Status: Preliminary Plan approved at the 7/21/2021 Meeting.
(Sketch Plan reviewed at the 5/5/21 Mtg)

Board members and Mr. Tansley,

The following application information has been provided for review:

1. Cover letter by Oak Point Associates dated 6/14/2021.
2. *Site Plan Review Application* prepared by Oak Point Associates. Information includes: revised Application form dated 8/5/2021, project description and photographs, draft Contract Zone Agreement, property deed, winter management plan, Fire Department and ability to serve letters, Traffic Impact Study (Sewall), Geotechnical report, Stormwater management report, Stormwater maintenance plan, and response to preliminary plan review comments.
3. Engineering Final Plan set entitled: *Adams Point Housing, 69 Adams Street, Biddeford, Maine*. Date: 8/2/2021 (REV DATE 9/21/21). Prepared by Oak Point Associates. (landscape, building and lighting plans by others, see below)
4. Landscape Plan entitled *Adams Point* dated June 14, 2021, prepared by Carroll Associates.
5. Architectural Floor Plans and Elevations entitled: *Adams Point Multi Family Housing*. Issue date 4/2/2021 - 6/8/2021. Prepared by CHA Architecture.
6. *Exterior Lighting Plan* prepared by CHA Architecture (E-100) Issue date 6/10/2021.
7. Cover letter/Response to Comments by Oak Point Associates dated 9/22/2021.

With review of the above information and the Land Development Regulations, I offer the following comments on compliance with the City's ordinances. (This report has been revised with status of the comments and any new comments in red, with the exception of the Conclusion.)

PROJECT DESCRIPTION

The project site, located on an approx. 1.5 AC vacant lot in the MSRD-2 Zone between. The property has access to Adams Street to the north and, via a 15-foot-wide water easement, access to Birch Street to the south. The site is located behind the current Parish Place Apartments, and the St. James School and Ledgewood Apartments (Graham Street). The applicant is seeking approval, in conjunction with a contract zone, for 39 affordable housing units in a new five story building.

COMPLETENESS REVIEW

The application is before the Planning Board as required by Article XI (Site Plan Review) of the Land Development Regulations and Chapter 66 (Subdivisions) subject to Site Plan and Subdivision review and approval. Per the City's Subdivision ordinance (66-26), all applications have a three-tier approval process beginning with a Sketch plan review that was reviewed in May.

The applicant had prepared and submitted information that resulted in preliminary plan approval on July 21, 2021. The applicant has identified factors addressed by the submitted draft contract zone.

The application, as it pertains to Sec. 66-35 of the *Subdivisions* ordinance and Article VI, Sec. 47.A *Multifamily developments* (LDR), generally **appears to be complete** for final plan review.

COMPLIANCE WITH THE CITY'S ORDINANCES

Below are comments that remain to be pertinent or are new comments concerning overall conformance with the Subdivisions ordinance and the Land Development Regulations:

LAND DEVELOPMENT REGULATIONS

Under Article 4 Section 6 District regulations/land use/lot size requirements, multifamily along with nonresidential uses shall be subject to Site Plan (Article XI) Review. The following are performance standards that may be applicable for multifamily development:

Article 6 Section 47 Multifamily developments:

1. Subsection B Design requirements appear to have been met or will be met through the Building Permit application process, with the exception of the requirement for a group or common mailbox system located on site. The applicant has stated that a common mailbox inside the building will be provided, and noted on the plan.
2. Subsection C Stormwater and drainage. The applicant has submitted a Stormwater Report. See comments from the Engineering Peer-review letter prepared by Site Design Associates (Dated 8/14/2021).

3. Subsection D Access, circulation, and parking. A Traffic Impact Study has been prepared and submitted for the Board's review. The proposed design of the intersection of the site's driveway and Adams Street has the effect of extending Adams Street into the site. The proposed driveway is 24 feet wide, larger than the Adams Street travel way when excluding the on-street parking. Consideration should be given to providing for a traditional hammerhead-turn around at the end of Adams and a more modest driveway entrance to the development.

The applicant and agent discussed this comment with City Staff, the Contract Planner and 3rd Party Review Engineer and considered an alternative that is narrower in width and with an alignment that is 90 degrees to the Street Right-Of-Way. This alternative would accommodate the City's interest in the terminus of the street to be paved to accommodate some snow storage. In addition, a sign should be considered at the entrance drive that, along with identification of the address, state that *this not a through way and the public street ends here*. It appears from review of vehicle turning-templates overlaid on the alternative design that Fire Department vehicles can be accommodated, although, the Department has not to date reviewed the alternative.

City Staff and peer-review consultants met (zoom call) with the applicant and agents to review outstanding issues and reviewed the intersection design of the driveway with Adams Street as it relates to alignment and space for snow storage. The revised plans reflect what was discussed. The proposed sign, however, 'Not a through Street' should reflect that the access is a driveway and not a street at all. In addition, at a minimum the address of the property should be included to facilitate emergency 911 calls. **See recommended Condition of Approval #1 below.**

4. Subsection D.3. More than one street access. The applicant is proposing a 20-foot-wide fire lane from Birch Street to the proposed building along the existing parking lot serving Parish Place (apartments currently owned and managed by the applicant). The applicant has provided a draft easement for review. Installation of signage identifying the fire lane and prohibition of parking should be depicted on the plans. The Planning Board should determine if the emergency access addresses this provision of the Zoning Ordinance's Multifamily development standards.

Article 6 Section 49 Off-Street Parking and Loading: Subsection A.11 are standards pertinent to the MSRD District. The following provisions appear to be applicable to the proposed development.

5. *(d) Exterior lighting shall not create glare onto the street or onto or into residential properties. Lighting fixtures shall be in concert with the existing historic lighting on Main Street.*

A photometrics plan has been submitted (E-100 by CHA). The plan, however, has not been revised to extend the limits to the property line and catalog cuts submitted for the fixtures

and poles to review for cut-off/dark sky compliance. **Catalog cuts have been submitted. The plan, however, does not reflect the most current site design and needs to be revised, preferably with a clearly depicted property line and a current date. See recommended Condition of Approval #2 below.**

6. *(g) The existing landscaping shall be preserved in its natural state wherever possible. Parking lots shall be landscaped with a continuous border of shrubbery along all lot lines. Large parking lots covering more than one quarter of an acre shall be proposed with a landscape plan stamped by a licensed landscape architect. The plan should include plantings in coordination with the City's arboretum, if possible. Except where screening is provided, parking areas should be designed and landscaped to avoid long, uninterrupted rows of vehicles. Parking lots containing more than 30 spaces shall be broken as by the use of landscaped islands, pedestrian and bicycle areas and/or buildings. A Landscape Plan has been revised and submitted. See comment #15 for more.*

Article 6 Section 49 Off-Street Parking and Loading: Subsection C are standards that appear to be applicable to the proposed development.

7. *(5) All new buildings or redevelopment of existing buildings in the MSRD districts shall include a parking plan with a bicycle and pedestrian circulation plan component. The Site Plan (CS-101) depicts (and Plan Note 6.h. references) a total of four bicycle racks (capacity for 8 bicycles) outside (two at each level) and a dedicated storage room in the basement for 20 bicycles depicted on the building floor plans.*

Table 6-49B Parking Space Requirements. The minimum required parking for a residential use is 2 spaces per dwelling unit, plus 5% more for multifamily developments. There is an intent by the City to allow for 1 parking space for 1-bedroom and studio dwellings. The proposed development provides for 39 dwelling units consisting of 13 one-bedroom apartments and 26 two-bedroom and larger apartments. The required parking calculates to be a total of 65 spaces ((26 x2) + (13 x1)), three spaces of which being accessible. The proposed number of parking spaces is 35, that includes 8 accessible spaces (1 for every 24 parking spaces is required to be ADA, which equates to 3 spaces for the proposed development). Two (2) spaces have been designated for visitors and one (1) for employees. No parking will be available at the adjacent Parish Place development.

8. In the draft contract zone, .75 parking spaces per unit is referenced as the parking space requirement proposed for the development. That equates to just less than 30 spaces, or 46% of the required 65 spaces. If the Planning Board approves this project it will do so with an overall 54% reduction (65 spaces reduced to 35) as well as the increase in ADA spaces.
9. The final parking calculations are to be depicted on the final site plan (CS-101) under plan note 6.g. A ratio, however, of .80 rather than .75 parking spaces per unit is used, likely in response to a previous review comment. The plan note should be revised to read: *PARKING*

SPACES: 2 PER UNIT (78) .75 PER UNIT (30) (35 PROVIDED). The comment has been addressed.

Site design criteria. There are a number of provisions/requirements that are applicable to the proposed development that would be easier to determine compliance with the aid of a narrative that specifically addresses the criteria under Sec. 5.B. of Article XI (part II) of the Land Development Regulations. The following are those that appear to be pertinent:

10. Sec. 5.B.4.a Design of buildings. The applicant has provided building elevations that depict proposed materials and colors. The Board should review and determine if it conforms to the ordinance.
11. Sec. 5.B.4.c Fire protection. The Fire Department has reviewed the plans with the applicant, however, the most recent site design alternatives involving changes to the main drive and parking lot aisle widths have not been reviewed. The Fire Department has reviewed the latest changes to the site design and have no concerns.
12. Sec. 5.B.4.i Parking, loading, and protective buffers. Calculations and values for the non-vegetated areas should be provided and included in the Site Plan notes. **The applicant is seeking a waiver** from subsection 3 of this provision; 38% instead of 30% maximum percent of parking and paving on the site.

ADDITIONAL COMMENTS

13. A subdivision plan or combined subdivision site plan, needs to be prepared suitable for recording that documents the number of dwelling units created. The site plan (CS101) has been revised to include the total number of dwelling units as it relates to density. The plan, however, should further be revised to:
 - a. Revise the drawing title to *Subdivision and Site Plan*; and
 - b. Add a plan note that describes the purpose of the plan as it relates to the regulatory approval that is sought, e.g. 39 affordable housing residential-unit development that is subject to the City's Subdivisions Ordinance (Chapter 66), Site Plan Review and Zoning regulations (Art. XI of the Land Development Regulations), and to Contract Zoning Amendment _____.
 - c. Revise the Zoning Summary (Note#6) to maintain the 'per ordinance' standard value if the development conforms, and add the value on how the development conforms as what is 'provided'. For example, 6.e. Minimum Lot Frontage per ordinance is 50 feet and 85.18 feet is listed under per contract zone. This value should remain at 50 feet, but reference that 85.18' is provided, e.g:

ZONING INFORMATION	PER ORD:	PER CONTRACT ZONE:
MAXIMUM LOT FRONTAGE:	50'	50' (85.18' PROVIDED)

This comment has been addressed.

14. Site design as it relates to elevations grades and driveway design and how that informs the location of parking and the proximity of a very high retaining wall (maxing out at 18') still remains to be an area that should require more reconsideration by the applicant. The reasons given for not perusing a steeper grade for the driveway does not appear to reflect the maximum grades allowed by the City's ordinance for roads and recommended by AASHTO for urban streets.

The applicant and agent discussed this comment with City staff and peer-reviewers and considered an alternative that locates the parking further from the southeasterly property line that remains accommodating for Fire Department emergency vehicles with a slight and negligible increase to the entrance drive's grade (8.0% to 9.5%). This alternative allows for a larger portion of the existing slope and vegetation to be preserved and afford a retaining wall lower in height. Overall, this would allow for the development to better fit within the existing general character of the neighborhood.

City Staff and peer-review consultants met (zoom call) with the applicant and agents to review outstanding issues. The applicant presented an alternative design to the parking layout that provides for a net gain of six additional feet between the wall, that remains at 17.5 feet at its highest point, and the property line, for a total of 17.5 feet at the closest point. The grade of the driveway is at 10.5%, which the Fire Department had no issue with. The revised plans reflect this change.

15. The Landscape Plan provides for a varied and interesting plan palate. The applicant has revised the landscape plan to address previous comments. The applicant and Planning Board may want to consider having a plan note that allows flexibility on the placement of the proposed trees if the existing vegetation proves to be inadequate during construction as an effective screen. With another look at the planting design proposed to screen the wall at the southeast portion of the property, the applicant and Board may want to consider a different layout. Attached is a sketch that places the deciduous trees (and recommend overstory canopy rather than small flowering) and evergreen trees along the wall where there is the new edge of vegetation and access to light, rather than under the existing tree canopy that is being salvaged. When young the deciduous trees will help screen the wall and at maturity will grow above the wall and the evergreen trees will be wider at the base as they mature. The existing trees in this area are not especially noteworthy specimens and will likely not provide an adequate screening of the wall and development on a whole in the long-term. **See recommended Condition of Approval #5 below.**

16. The slope created between the northerly side of the building and the driveway, looks to be close to a 1:1 slope. The applicant has explained that a rock slope (existing ledge) is planned in this area and measures will be taken with regard to safety of residents negotiating though the property. This has been addressed with the addition of a fence.

17. Proposed Easements. All utilities and access (emergency and otherwise) between Birch Street and the site need to be clarified in an easement document and clearly identified on the plans. The applicant has revised the plans to address this, however, though draft easement submitted addresses all utilities to the proposed development from Birch Street, the plan does not include underground electrical connections to the proposed transformer from Birch Street. Either these lines need to be located within the easement referenced in the draft language, or the limits of the easement needs to change to accommodate the proposed underground electric lines proposed. **The Plan has not been updated. See recommended Condition of Approval #3 below.**
18. Staff recommends sidewalks/walkways should be concrete and not bituminous as proposed. The applicant is proposing bituminous along the entrance drive and transitioning to concrete once at the ADA parking near the building. The Board should determine if this is satisfactory. **City staff provided the applicant design information that is used to make concrete sidewalks withstand road salt, an issue the applicant has raised. It appears the applicant prefers to keep the asphalt walks where shown on the plan. See recommended Condition of Approval #4 below.**
19. After review with the Fire Department, identify a Fire Lane on the plans. The revised plans includes a striped 'No Parking' area in the proposed parking lot, however, nothing to indicate a fire lane in the existing parking lot for Parish Place. The plans should be revised to clearly indicate these areas are designated as a 'Fire Lane' in a note as well as when the pavement is striped/painted. **The plans have not been revised. See recommended Condition of Approval #6 below.**
20. Fencing appears to be chain link with privacy slats. The Planning Board should determine if that is satisfactory. Perhaps the applicant might consider black vinyl, that typical is more attractive. **The plans have not been revised.**

NEW COMMENTS

21. **With another review of the light plan it may be prudent to have the exterior pole lights proposed along the driveway to be located along the back of sidewalk rather than along the abutting property line. This should allow for better distribution of light where it is needed and less light where it is not. The applicant and Board should discuss.**
22. **The proposed planting for screening the transformer would benefit with the addition of evergreen shrubs that are larger in size than the deciduous plants proposed. See recommended Condition of Approval #5 below.**
23. **The applicant and Planning Board may want to consider including the segmented rather than cast-in-place retaining wall in the vicinity of the stairs at the end of the parking lot. See recommended Condition of Approval #7 below.**
24. **The City Engineering Department has the following comments:**

- a. Site Plan: They are still calling out asphalt sidewalks (See Key Note 5)
- b. Grading Plan: There is still minimal spot elevations shown and no spot elevations for the ADA parking spaces or accessible ramp. ADA compliance cannot be confirmed via plans provided. Previous review comments recommended detailed grading insets for ADA areas.

See recommended Condition of Approval #8 below.

WAIVER REQUESTS

With prior past contract zones, waivers that may be granted as part of a Planning Board approved plan are addressed in the agreement when there is a Contract Zoning application. The following is the list of those items that under a non-contract zoning review would have require a waiver:

1. Sec. 5.B.3.a. Parking/off-street parking section of Article VI of this Zoning Ordinance
2. Sec. 5.B.4.i.3 Parking, loading, and protective buffers/30% max. of parking or paving on site.
3. Sec. 5.B.4.j.1 Open Space/1,000 SF per dwelling unit
4. Table 6-49B Parking Space Requirements/Residential: 2 spaces per dwelling unit

CONCLUSION

The submitted revised final plan application includes revisions that address many comments that have been raised, with some comments that still remain. The two more significant issues, having to do with how the entrance drive intersects with Adams Street, and the site layout of the parking lot as it relates to requiring a retaining wall as high as 17 feet in some places, have been addressed in a modest way though enough to provide adequate space for a vegetative screen.

Revised alternatives were reviewed again by City Staff, the Contract Planner and 3rd Party Review Engineer with the applicant and agent. These alternatives are reflected in the revised plans. The Planning Board should share its expectation on the use of asphalt sidewalks and if it votes to approve the application, it should do so with the following **suggested conditions**:

1. Revise the proposed sign, 'Not a through Street' to reflect that the access is a private driveway and not a street at all, and add the address of the property to facilitate emergency 911 calls.
2. Revise the Photometrics Plan to reflect the latest design and to extend the limits to the property line (that is depicted on the plan) and submit to the City Planner.
3. Address with a revised plan, the proposed electric service lines to the proposed development from Birch Street with regard to its need to be supported by an easement since it is located on the abutting property.

4. All sidewalks shall be concrete rather than bituminous (asphalt).
5. Revise the Landscape Plan to reflect changes recommended in the Board Report dated 9/23/21.
6. Revise plans to clearly indicate areas designated as a 'Fire Lane' in a plan note and include that the pavement will be striped/painted accordingly or in the manner that the Fire Department indicates.
7. Revise plans to change the cast in place concrete retaining wall to a segmented retaining wall from the parking lot through to the stairway adjacent to the building.
8. Revise plans and/or submit information to address comments from Site Design Associates and remaining City comments, including the provision of additional spot grades and enlarged plans to verify ADA accessibility compliance.

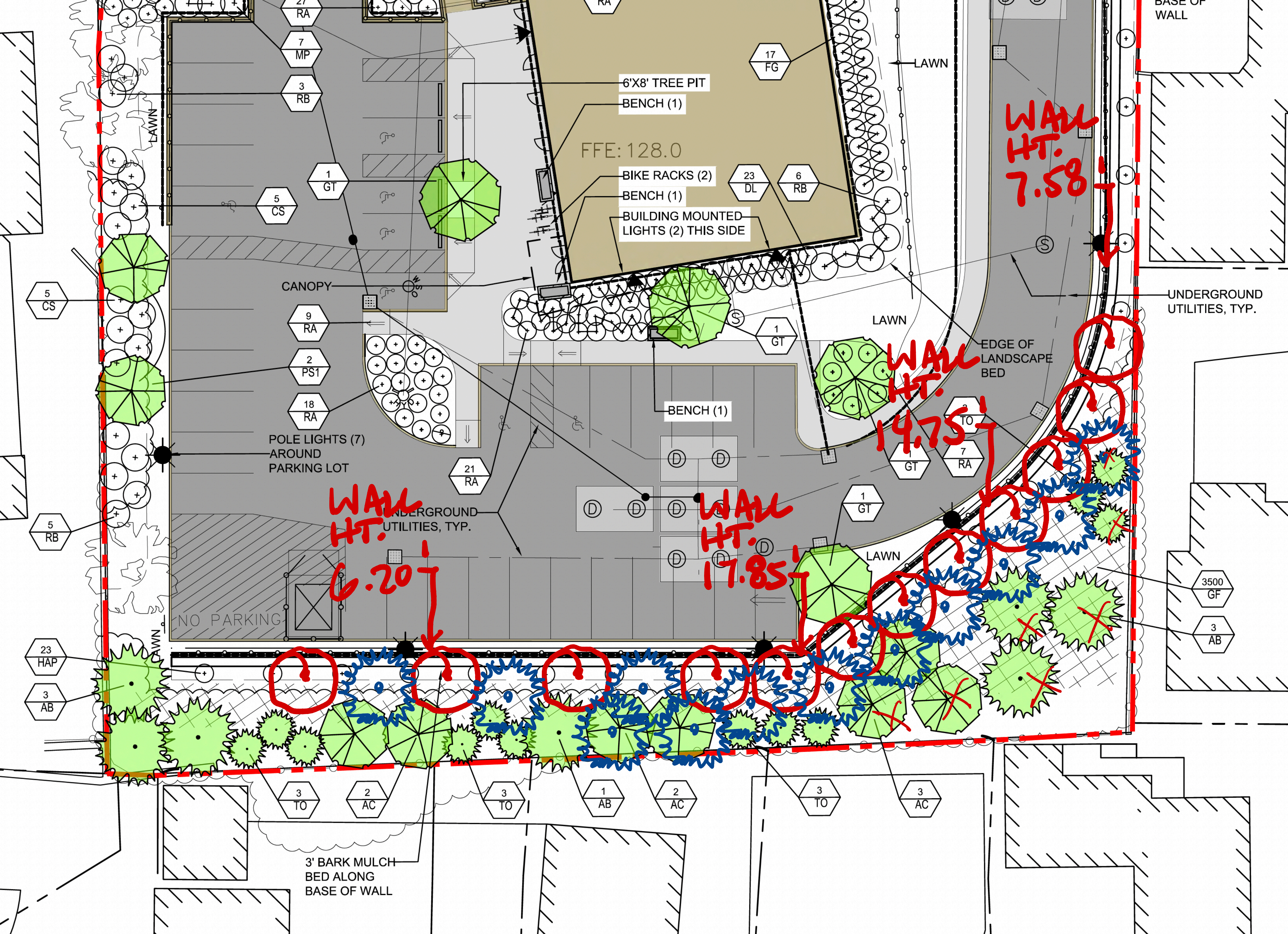
For these and all other the suggested conditions of approval see draft Findings of Fact. **For suggested motions see Planning Board Packet Summary.**

Feel free to contact me with questions.

Best regards,



Christopher Di Matteo
City of Biddeford Contract Planner.
cdimatteo@longmeadowpla.com
207.604.4245



TOPSOIL: FERTILE, FRIABLE, NATURAL TOPS
ADMXTURE OF SUBSOIL MATERIAL, FREE FR
PLANTS, ROOTS, STICKS, AND OTHER FOREIC
DIMENSION, PH RANGE 5.0-7.0 , AND SHALL C
BY WEIGHT.
SANDY LOAM OR LOAM SOIL AS DEFINED BY
HAVE THE FOLLOWING MECHANICAL ANALYS

TEXTURAL CLASS	% OF TOTAL
SAND (0.05- 2.0 MM)	45 TO 75%
SILT (0.002- 0.05 MM)	15 TO 35%
CLAY (< 0.002 MM)	5 TO 25%

20. THE APPLICANT HAS FLEXIBILITY ON THE FIN
ALONG THE SOUTH EASTERN PROPERTY LIN
INADEQUATE TO PROVIDE AN EFFECTIVE SCI

PLANTING SCHEDULE

TREES

QTY	SYM	BOTANICAL NAME	COMMON NAME
7	AB	Abies balsmea var. phanerolepis	Canaan Balsam Fir
7	AC	Amelanchier canadensis	Native Shadbush
3	AR1	Acer rubrum 'Karpick'	Red Maple
1	AR2	Acer rubrum 'Northwood'	Red Maple
4	GT	Gleditsia triacanthos 'Street Keeper'	Honeylocust
1	LT	Liriodendron tulipifera 'Little Volunteer'	Tulip tree
2	PS1	Prunus sargentii	Sargent Cherry
3	PS2	Prunus sargentii 'Rancho' or 'Columnaris'	Sargent Cherry
12	TO	Thuja occidentalis 'Techny'	Arborvitae

SHRUBS + PERENNIALS + VINES + GROUND COVE

QTY	SYM	BOTANICAL NAME	COMMON NAME
15	CS	Cornus sericea 'Farrow'	Red Twig Dogwood
33	CP	Comptonia peregrina	Sweetfern
40	DL	Diervilla lonerica	Northern Bush Honeysuc
33	FG	Fothergilla gardenii	Dwarf Bottlebrush Bush
3500	GF	see spec on L1.0	Grass + Forbes mix (semi-shade blend)
23	HAP	Hydrangea anomala petiolaris	Climbing Hydrangea
10	MP	Myrica pensylvanica 'Bobee'	Northern Bayberry
89	RA	Rhus aromatica 'Gro-Low'	Fragrant Sumac
21	RB	Rhododendron 'Boule-de-Neige'	Rhododendron
3	VC	Viburnum cassinoides	Witherod Viburnum



CITY OF BIDDEFORD

Planning and Development Department

FINDINGS OF FACT AND CONCLUSIONS OF LAW SITE PLAN AND SUBDIVISION REVIEW FOR A 39 UNIT MULTIFAMILY DEVELOPMENT AT 69 ADAMS STREET

Pursuant to the provisions of the City of Biddeford Code of Ordinances Chapter 66 (Subdivisions) and Land Development Regulations Article XI (Site Plan Review), the Biddeford Planning Board has considered the application of **Southern Maine Affordable Housing**, including supportive data, public hearing testimony and related materials contained in the record. Based on Public Comment and Staff's review and recommendation, the Planning Board makes the following Findings of Fact and Conclusions of Law:

Findings of Fact:

1.	Applicant	Southern Maine Affordable Housing 22 South Street, Biddeford Maine, 04005
2.	Owner	Southern Maine Affordable Housing 22 South Street Biddeford Maine, 04005
3.	Agent:	Jacques Gagnon Jr., PE Oak Point Associates 231 Main Street, Biddeford, ME 04005
4.	Surveyor:	Nadeau Land Surveys (#2124) 918 Brighton Ave, Portland, ME 04102
5.	Architect	CHA 49 Dartmouth St, Portland, ME 04101
6.	Project Location:	69 Adams Street Biddeford, ME 04005
7.	Project Tax Map #/Lot #:	Tax Map 38, Lot 296
8.	Lot Size:	1.44 AC +/-
9.	Existing Zoning:	MSRD 2
10.	Overlay Zoning:	None
11.	Existing Use:	Vacant (previously developed)
12.	Proposed Use:	Multi-family dwelling
13.	Floodplain Status:	None
14.	Approvals Required:	Site Plan and Subdivision
15.	Uses in the Vicinity:	Residential and Mixed use
16.	Dimensional Requirements (MSRD-2):	
	Min. Setback from R.O.W: 15 FT	Minimum Lot Size per Dwelling: 2,000 SF

	Minimum Side/Rear Setback: 10 FT	Maximum Height: 3 stories / 35 FT
17.	Waivers Needed (if it were not a Contract Zone):	
	Under the City's Land Development Regulations: a. Sec. 5.B.3.a. Parking/off-street parking section of Article VI b. Sec. 5.B.4.i.3 Parking, loading, and protective buffers/30% max. of parking or paving on site. c. Sec. 5.B.4.j.1 Open Space/1,000 SF per dwelling unit d. Table 6-49B Parking Space Requirements/Residential: 2 spaces per dwelling unit	
18.	Waivers Granted:	N/A
19.	Variances Needed for Approval:	None.
20.	Other Approvals Required:	Contract Zoning, Historic Preservation, and Building Permits from the Biddeford Code Enforcement Office.
21.	Other Permits Obtained:	Historic Preservation Certificate of Appropriateness granted July 14, 2021
22.	Other Non-City Permits Required:	None
23.	LDR Attachment A: Fees Paid:	Yes
24.	Application Materials Submitted: 1. Cover letter by Oak Point Associates dated 6/14/2021. 2. <i>Site Plan Review Application</i> prepared by Oak Point Associates. Information includes: revised Application form dated 8/5/2021, project description and photographs, draft Contract Zone Agreement, property deed, winter management plan, Fire Department and ability to serve letters, Traffic Impact Study (Sewall), Geotechnical report, Stormwater management report, Stormwater maintenance plan, and response to preliminary plan review comments. 3. Engineering Final Plan set entitled: <i>Adams Point Housing, 69 Adams Street, Biddeford, Maine</i>. Date: 8/2/2021. Prepared by Oak Point Associates. (landscape, building and lighting plans by others, see below) (REV DATE 9/21/21). 4. Landscape Plan entitled <i>Adams Point</i> dated June 14, 2021, prepared by Carroll Associates. 5. Architectural Floor Plans and Elevations entitled: <i>Adams Point Multi Family Housing</i>. Issue date 4/2/2021 - 6/8/2021. Prepared by CHA Architecture. 6. <i>Exterior Lighting Plan</i> prepared by CHA Architecture (E-100) Issue date 6/10/2021. 7. Cover letter/Response to Comments by Oak Point Associates dated 9/22/2021.	
25.	Planning Board Review History:	
	A. Conceptual Review	Meeting on May 5, 2021
	B. Preliminary Review	Meeting on July 21, 2021

	C. Final Review/Public Hearing	Meeting on September 29, 2021
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Conclusions of Law:

The Planning Board concludes based on the application information submitted, peer-review and staff reports prepared and testimony provided at their meetings, the application conforms to the following provisions:

A. Section 66-39 (below) applicable standard and requirements of Chapter 66 of the City's subdivision ordinance:

1. The project will not result in undue water or air pollution.
2. The project has sufficient water available for the reasonably foreseeable needs of the subdivision;
3. The project will not cause an unreasonable burden on an existing water supply, if one is utilized;
4. The project will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy, condition may result;
5. The project will not cause unreasonable highway or public road congestion or unsafe conditions with respect to use of the highways or public roads existing or proposed;
6. The project will provide for adequate sewage waste disposal;
7. The project will not cause unreasonable burden on the ability of the municipality to disposal of solid waste and sewage if municipal services are to be utilized;
8. The project will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites, or rare and irreplaceable natural areas or public rights for physical or visual access to the shoreline. Environmentally sensitive areas, including but not limited to wetlands, steep slopes, floodplains, significant wildlife habitats, fisheries, scenic areas, habitat for rare and endangered plants and animals, unique natural communities and natural areas, and sand and gravel aquifers will be maintained and preserved to the maximum extent;
9. The project is in conformance with a duly adopted subdivision regulation or ordinance, Comprehensive Plan, development plan, or land use plan, if any.
10. The subdivider has adequate financial and technical capacity to meet the above stated standards;
11. Whenever situated, in whole or in part, within 250 feet of any lake, pond, river or tidal waters, the project will not adversely affect the quality of that body of water, or unreasonably affect the shoreline of that body of water, as indicated on the City of Biddeford, Official Zoning Map and referenced in the City's Comprehensive Plan;
12. The project will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of ground water;
13. The project is not in a flood prone area;
14. The project will not unreasonably obstruct abutting properties or structures access to direct sunlight;

15. If any portion of the site has been identified as containing historic or archaeological resources, the development shall include appropriate measures for protecting these resources, including but not limited to modification of the proposed design of the site, timing of construction, and limiting the extent of construction.

B. Article VI Performance standards of the City's Land Development Regulations, including Section 47 *Multifamily Developments*, and Section 49 *Off-Street Parking and Loading*.

C. Article XI Site Plan Review per Section 5 Site design and development criteria of the City's Land Development Regulations, including the applicable standards and requirements of subsection B. Site design criteria.

Determination:

Based on the evidence available and the conclusions above, the Biddeford Planning Board approves the application with the following conditions:

Conditions of Approval:

1. **Prior to any ground disturbance (other than that required under Condition of Approval 1.h. for the installation of erosion and sediment control measures, including a stabilized construction entrance) or issuance of any permits:**
 - a. The following outstanding items related to review comments shall be addressed to the satisfaction of the City Planner:
 1. Revise the proposed sign, 'Not a through Street' to reflect that the access is a private driveway and not a street at all, and add the address of the property to facilitate emergency 911 calls.
 2. Revise the Photometrics Plan to reflect the latest design and to extend the limits to the property line (that is depicted on the plan) and submit to the City Planner.
 3. Address with a revised plan, the proposed electric service lines to the proposed development from Birch Street with regard to its need to be supported by an easement since it is located on the abutting property.
 4. All sidewalks shall be concrete rather than bituminous (asphalt).
 5. Revise the Landscape Plan to reflect changes recommended in the Board Report from Long Meadow Planning & Landscape Architecture (9/23/2021)
 6. Revise plans to clearly indicate areas designated as a 'Fire Lane' in a plan note and include that the pavement will be striped/painted accordingly or in the manner that the Fire Department indicates.
 7. Revise plans to change the cast in place concrete retaining wall to a segmented retaining wall from the parking lot through to the stairway adjacent to the building.

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6. **Copies of the maintenance logs for any stormwater facilities shall be submitted to the City for each calendar year no later than January 15th of the following year. If the Engineering Department does not receive these copies within 30 days after the deadline, the applicant may be required to return to the Planning Board for further review.**
7. **The applicant shall obtain all other pertinent local, state and federal permits, licenses, and insurance such as blasting, building, electrical, plumbing, etc., prior to commencing business, unless authority issuing said permit allows for such actions.**
8. **Once completed, as-built drawings of the site shall be provided to the Planning Department.**
9. **Upon completion of the work the project engineer shall certify that the project has been completed as per the approved plans or shall note any deviations from the approved plans.**
10. **Standard Conditions of Approval apply.**
11. **This approval is conditioned upon approval of a Contract Zone by the Biddeford City Council.**

Planning Board Chairman

Date

Findings of Fact and Recommendations of the City of Biddeford Planning Board

To: Mayor Alan Casavant
Members of the Biddeford City Council

The Planning Board of the City of Biddeford has met and reviewed the Request for Contract Zone submitted by Adams Point, LP and Southern Maine Affordable Housing, with respect to property located at 69 Adams Street in Biddeford. The property is composed of the property currently designated as Tax Map 38, Lot 296 and contains approximately 67,082 square feet (1.54 acres). The Project will involve the construction of 39 total family housing units and 35 parking spaces. In addition to the creation of a Contract Zone, it will be necessary for the Project to be further reviewed under the site plan review procedures of the Biddeford Zoning Ordinance as well as the Maine Department of Environmental Protection.

Upon review, the Planning Board of the City of Biddeford makes the following findings of fact:

- A. The proposed contract zone as hereinafter set forth is consistent with the Comprehensive Plan of the City of Biddeford in that the area to be developed is located in a section of the City of Biddeford which is currently developed for large scale uses such as municipal offices, medical offices, office buildings, higher-density residential housing, and elderly care support facilities; and
- B. The proposed residential use is consistent with the existing or permitted uses within the original zone that is, the existing MSRD2 zone which provides for areas of medium density residential development; and
- C. The proposed zone change shall meet all of the area, front yard, side yard, rear yard and height requirements of the proposed contract zone; and
- D. The proposed zone will not create unreasonable traffic congestion on contiguous or adjacent streets, provided anticipated improvements required by various governmental approvals are constructed; and
- E. The proposed zone change and use authorized includes provisions for providing and maintaining adequate:
 - 1. Utility services; and
 - 2. Sewage disposal; and
 - 3. Drainage; and
 - 4. Solid waste disposal; and
 - 5. Access; and
 - 6. Parking and loading; and
 - 7. All other necessary site improvements; and

- F. The proposed use will conform to the general character of the neighborhood in that the materials to be used, style of buildings, fences, plantings and the like are compatible with the character of the neighborhood; and
- G. Insofar as practicable, the landscaping will be preserved in its natural state; and
- H. There will be sufficient setbacks of structures and screening to provide an adequate visual and sound barrier; and
- I. Off-street parking facilities are sufficiently screened from view of surrounding properties; and
- J. There will be no significant adverse effect resulting from the proposed use and the proposed zone change upon the public health, safety and general welfare of the neighborhood.

The Planning Board of the City of Biddeford specifically finds there is a demonstrated need for the type of housing to be constructed which is intended to be for families of personnel employed by businesses located in the neighborhood. While Biddeford does have an existing rental housing stock, the units in this building will be affordable units specifically for families in the community.

The Planning Board of the City of Biddeford therefore recommends that the Request for Zone Change be affirmatively acted upon by the City Council.

The Board recommends that the real estate depicted on the Materials and plans entitled "Adams Point Housing-Biddeford, ME; Site Plan", prepared by Oak Point Associates and attached hereto as Exhibit A, be rezoned pursuant to the provisions of Article XVII, Section 3 of the Zoning Ordinance of the City of Biddeford to a zone which is labelled Contract Zone 20 (CZ-20).

CZ-20 shall provide for the following:

1. The permitted uses in the zone shall include the multifamily apartment building containing no more than 39 units of housing on the property.
2. The minimum lot size for each unit shall be 1,900 square feet. All buildings shall be located as ultimately approved by the Biddeford Planning Board as a part of its separate review under the Site Plan Review standards of the City of Biddeford Zoning Ordinance.
3. No building or structure as located and constructed shall exceed 60 feet in height or a maximum of five (5) stories. Height shall be as defined as the vertical distance from grade to top of the highest roof beams of a flat roof, excluding any parapets for elevators, roof access, or the screening of mechanical equipment.
4. The minimum required parking in the zone shall be 0.75 parking spaces per dwelling unit.

In consideration of such Contract Zone Change the Applicant agrees to use Applicant's (or the Developer's) best efforts to:

1. Construct thereon a maximum of 39 units of multifamily residential housing, all in accordance with the aforesaid Plan.
2. It shall be a condition of this Contract Zone Change that the Applicant shall undertake significant commencement of construction within 4 years of the effective date of the Zone Change and shall complete construction within 7 years of the effective date of the Zone Change. Significant commencement of construction shall mean the installation of all infrastructure improvements and grading within the limits of the Project.

In the event Applicant shall not comply with the provisions of this paragraph, the Zone Change granted hereby shall automatically be void and the property shall revert to the zoning classification that the Property was in of the date of the Contract Zone Agreement. In the event that the zones have changed, the property shall revert to the zoning classifications of the abutting properties. In the event the abutting properties shall have more than one zoning classification, the property shall become part of the most restrictive abutting zone.

City of Biddeford Planning Board

_____, 2021

By: _____
Its Chairman Duly authorized

The undersigned Applicant agrees with the City of Biddeford to be bound by the terms, conditions and provisions of this Approval, if the zone change is enacted

_____, 2021

ADAMS POINT, LP

By: _____

Guy M. Gagnon, Member

SOUTHERN MAINE AFFORDABLE HOUSING

By: _____

Guy M. Gagnon, Executive Director

DRAFT – FOR CITY COUNCIL CONSIDERATION

CONTRACT ZONE AGREEMENT

AGREEMENT made as of _____, 2021, by and between Adams Point, LP, a Maine limited partnership and Southern Maine Affordable Housing, a Maine corporation with an established place of business in Biddeford, Maine (hereinafter, jointly and severally called the “Owner”) and THE CITY OF BIDDEFORD, a body politic and corporate located in Biddeford, Maine, (hereinafter called “Biddeford”).

WHEREAS, the Owner (or one of them) is the owner of certain real estate (the “Property”) situated at 69 Adams Street, so-called, in Biddeford, the Property is currently designated as Tax Map 38, Lot 296, and contains approximately 1.54 acres. Owner desires to transfer to Adams Point, LP (the “Developer”) who intends to develop the Property as a 39 unit affordable housing building for families on the Property. The description of the Property is shown on the plan entitled “Adams Point Housing – Biddeford, ME; Existing Conditions” prepared by Oak Point Associates as revised though [DATE TBD], attached hereto as EXHIBIT A; and

WHEREAS, Owner has applied for and obtained approval to re-zone the Property pursuant to the Contract Zoning provisions of the Zoning Ordinance of the City of Biddeford to create Contract Zone 20; and

WHEREAS, the parties are entering into this Agreement to provide written contractual evidence of the agreement of the parties and the terms and conditions of the Contract Zone.

NOW, THEREFORE,

in consideration of the mutual agreements hereinafter set forth and in consideration of the granting of the zoning ordinance change, the parties agree as follows:

1. **Development of the Property.** Owner agrees that in the event it shall transfer title to Developer, it shall require as a condition of sale that the Developer or its assignee approved by the Biddeford Planning Board or such other municipal board or committee having jurisdiction (the “Approved Assignee”) shall develop the Property in accordance with the following provisions and conditions:
 - A. Findings of Fact and Recommendations of the City of Biddeford Planning Board attached hereto as EXHIBIT B; and
 - B. Materials and plans entitled “Adams Point Housing”, prepared by Oak Point Associates and attached hereto as [SIGNATURE SHEET OF SITE PLAN APPLICATION] of which contains the signatures of the Biddeford Planning Board members and will be duly recorded in the York Registry of Deeds.
2. **Failure to Complete Development.** In the event the Developer, or its Approved Assignee, shall fail to commence significant construction of the improvements within four (4) years of the effective date of the Contract Zone and shall complete construction within seven (7) years of the effective date of the Contract Zone, the Contract Zone granted hereby shall automatically

be void and the Property shall revert to the zoning classification of the abutting properties. Significant commencement of construction shall mean the installation of all infrastructure improvements and grading within the limits of the Project.

In the event that the zones have changed, each portion of the Property shall revert to the zoning classifications of the abutting properties. In the event the changed abutting properties shall have more than one zoning classification, the Property shall become part of the more restrictive abutting zone.

3. **Construction and Effect.** This agreement shall be construed in accordance with the laws of the State of Maine and shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the parties have caused this instrument to be signed all as of the day and date above written.

Witness:

ADAMS POINT, LP

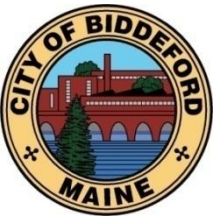
By: _____
Guy M. Gagnon, Member

SOUTHERN MAINE AFFORDABLE HOUSING

By: _____
Guy M. Gagnon, President

CITY OF BIDDEFORD

By: _____
James Bennett, Its Manager



CITY OF BIDDEFORD

PLANNING DEPARTMENT

Greg Tansley, A.I.C.P.
205 Main Street
PO Box 586
Biddeford, ME 04005
(207) 284-9115

Greg.Tansley@Biddefordmaine.org

HISTORIC PRESERVATION COMMISSION REQUEST FOR CERTIFICATE OF APPROPRIATENESS

NOTICE OF DECISION

July 15, 2021

Applicant: CHA Consulting
Shane Dunn
49 Dartmouth St
Portland ME 04101
sdunn@chacompanies.com

File # 2021.10 HPC

Project Address: 69 Adams Street

Map/Lot: 38/290

Project Zone: MSRD-2

☐ Contributing ☒ Not Contributing ☐ N/A

Nature of Application:

The applicant proposes to construct a new 39-unit affordable residential building at 69 Adams Street. This project received preliminary review by this commission at its May 12, 2021 meeting.

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Findings:

	<i>SUBJECT</i>	<i>DATA/INFORMATION</i>
1.	Applicant:	CHA Consulting Shane Dunn 49 Dartmouth St Portland ME 04101 sdunn@chacompanies.com
2.	Owner of Property:	Southern Maine Affordable Housing 22 South St. Biddeford ME 04005 ggagnonbha@maine.rr.com
3.	Contractor/Developer:	CHA Consulting Shane Dunn 49 Dartmouth St Portland ME 04101 sdunn@chacompanies.com
6.	Project Agent/Architect:	CHA Consulting
5.	Project Location:	69 Adams St.
6.	Project Tax Map #/Lot #:	Tax Map 38, Lots 290
7.	Existing Zoning:	MSRD-2
8.	Overlay Zoning:	Biddeford Historic District.
9.	Contributing/Non-contributing:	N/A
10.	Existing Use:	None
11.	Proposed Use:	Residential
12.	Proposed Project:	New Construction
13.	Approvals Required:	Certificate of Appropriateness
14.	Uses in the Vicinity:	Residential, institutional
15.	Other Permits Obtained:	None
16.	Historic Preservation Commission Review History:	July 14, 2021 Meeting: The notice was posted on the city website on July 2, 2021. Abutter notices were also sent out to all abutters within 100' on July 7, 2021 – 17 notices were sent out.

Decision:

The Certificate of Appropriateness **is approved** by the Historic Preservation Commission at its July 14, 2021 meeting, conditioned on the materials and assertions presented and:

- 1. All permits must be obtained from Code Enforcement prior to beginning any work.**
- 2. All changes of materials presented at the July 14 meeting must go before the full Historic Preservation Commission for further review prior to installation..**
- 3. All rooftop HVAC screening must be set back as far as possible from the roof edge. The material(s) used for this screening must be reviewed by the full historic Preservation Commission prior to installation.**

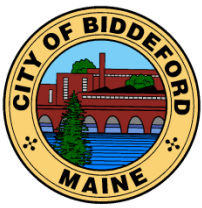
Thank you for participating in the City of Biddeford's historic preservation efforts.

ON BEHALF OF THE HISTORIC PRESERVATION COMMISSION



Brad Favreau
Biddeford Economic Development Coordinator

CC: R. Fecteau, Code Enforcement Officer,
M. Fenton, Code enforcement Office,
S. Welton, Code Enforcement Office,
D. Charron, Code Enforcement Office Manager,
N. Whitten, Planning and Development,
File



CITY OF BIDDEFORD

Planning and Development Department

Greg D. Tansley, A.I.C.P.
City Planner
205 Main Street
P.O. Box 586
Biddeford, ME 04005
(207) 282-7119 or (207) 284-9115
Greg.Tansley@biddefordmaine.org

PLANNING BOARD REPORT

TO: William Southwick, Chair & Members of the Biddeford Planning Board

FROM: Greg Tansley, AICP, City Planner

A handwritten signature in black ink, appearing to read "Greg Tansley", is written over the printed name.

DATE: August 27, 2021

RE: **Extractive Industry Amendment**

HEARING DATE: September 1, 2021 @ 6:00 PM

The City has received a request from Auburn Concrete, located off Cole Road, to begin their operations one hour earlier than currently permitted per the Zoning Ordinance, Article VI, Section 30 (Extractive Industry). Their reason is to get concrete to their construction sites, in the region, in a timely manner. In consideration of this request, we have provided language that would permit the Planning Board to allow an Extractive Industry, such as Auburn Concrete, to begin operations at 6 AM rather than 7 AM so long as they can demonstrate they will be compliant with the applicable noise regulations for that time period in that area.

At the request of the City Council we have notified all properties within 1,000 feet of 21 Cole Road (Auburn Concrete) and as of the date and time of the Report we have not received any written or verbal comments back.

Staff have given some consideration to how an applicant may be able to demonstrate that they will be in compliance with the noise regulations for that period and will provide some suggestions for the Board to consider on September 1 at the meeting.

SAMPLE MOTIONS:

Motion to recommend/not recommend the Zoning Change pass at the City Council.

ATTACHMENTS

1. Draft Ordinance Revisions

Extractive Industries Amendment

Public Hearing on September 1, 2021

**Land Development Regulations (Zoning Ordinance), Article VI (Performance Standards), Section 30
Extractive industry.**

Section 9, I:

Hours of operation shall not exceed 7:00 a.m. to 6:00 p.m., Monday through Friday and 7:00 a.m. to 2:00 p.m. on Saturdays. No Sunday operation is permitted. The Planning Board may allow for an extractive industry to begin operations between 6:00 a.m. and 7:00 a.m., Monday through Friday, if the applicant can demonstrate that such operation will be in compliance with Chapter 34, Article III (Noise) and Land Development Regulations, Article VI (Performance Standards), Section 48 (Noise) of the Biddeford Code of Ordinances. If allowed, the ability to do so shall be conditioned on noise regulation compliance and that the Planning Board may revoke such an allowance upon evidence that the operation is not compliant with the noise regulations for the period between 6:00 a.m. and 7:00 a.m., Monday through Friday. Hours of operation for blasting operations shall be according to Chapter 34, Environment, Article V, Blasting. The hours of operation may be further restricted by the Planning Board if it is determined that the above-listed hours of operation will unreasonably interfere with residential uses in existence at the time an application for an excavation permit is determined to be complete. In the event of an emergency request for sand or gravel from public safety officials, the Code Enforcement Officer may temporarily authorize alternative hours of operation. Use of the property upon which the extraction operation occurs shall be restricted to activity related to the extraction operation.

Section 30. Extractive industry. [Ord. No. 99.64, 8-17-1999; Ord. No. 2007.38, 6-19-2007]

1. Purpose. The purpose of this section is to regulate the removal, filling, processing and storage of topsoil, rock, sand gravel and other similar materials within the City of Biddeford. Collectively, such activities are termed "excavation." These provisions are specifically intended to protect the quality of groundwater and other natural resources, minimize the adverse impact on abutting property owners and the community, and ensure proper rehabilitation of all affected lands.
2. Definitions.
 - A. Abutting property. Property sharing a common boundary with or within 200 feet of the property proposed for excavation, whether or not these properties are separated by a public or private way.
 - B. Freshwater wetland. Freshwater swamps, marshes, bogs and similar areas that are:
 - a. Inundated or saturated by surface or groundwater at a frequency and for a duration sufficient to support, and which under normal circumstances do support, a prevalence of wetland vegetation typically adapted for life in saturated soils; and
 - b. Not considered part of a great pond, coastal wetland, river, stream or brook.
 - C. River, stream or brook. A channel between defined banks which is created by the action of surface water and has two or more of the following characteristics:
 - a. It is depicted as a solid or broken blue line on the most recent edition of the U.S. Geological Survey 7.5 minute series topographic map or, if that is not available, a fifteen-minute series topographic map.
 - b. It contains or is known to contain flowing water continuously for a period of at least three months of the year in most years.
 - c. The channel bed is primarily composed of mineral materials such as sand and gravel, parent material or bedrock that has been deposited or scoured by water.
 - d. The channel contains aquatic animals such as fish, aquatic insects or mollusks in the water or, if no surface water is present, within the stream bed.
 - e. The channel contains aquatic vegetation and is essentially devoid of upland vegetation.

River, stream or brook does not mean a ditch or other drainageway constructed and maintained solely for the purpose of draining stormwater, or a grassy swale.

- D. Natural buffer strip. An area of undisturbed natural vegetation intended to shield neighboring properties and public rights-of-way from an excavation operation.
 - E. Naturally internally drained. Areas of a site that, as a result of predevelopment topography and interim and final topography produced during development of the site, are and will remain at all times over the course of the development graded so that neither eroded materials or runoff either crosses the property boundary or enters a river, brook, stream, great pond or freshwater or coastal wetland or other protected area. Areas that rely on man-made structures to maintain internal drainage are not considered naturally internally drained.
 - F. Sight distance. The length of roadway visible in all directions at the intersection of the access road with a public road. It is measured at a point 10 feet back from the edge of the travel way to the center line of the opposing land(s) assuming a height of eye of 3.5 feet and a height of object of 4.25 feet.
 - G. Subject property. The parcel, including any adjoining parcels in the same ownership, upon which excavation and any associated activities take place. For the purposes of this ordinance, associated activities include, but are not limited to, processing, equipment and vehicle storage, disposal of stumps and grubblings, storage of overburden and topsoil and stockpiling of excavated materials.
3. Exemptions.
- A. Excavations whose sole purpose is to determine the nature or extent of mineral resources if accomplished by hand sampling, test boring or other methods that create minimal disturbance. Test holes shall be filled in immediately after use.
 - B. The removal, processing, filling or storage of 500 cubic yards of material, or 100 cubic yards of topsoil, in any one year. This limitation may be exceeded if the excavation is undertaken as part of an approved on-site construction project, is part of normal farm operations or is moved to a contiguous site in the same ownership.
- In the event of the removal, processing, filling or storage of fewer than 500 cubic yards of material, if in the judgment of the Code Enforcement Officer there is the potential for an adverse impact on neighboring properties, the community, groundwater or other natural resources, then the party responsible for the removal, processing, filling or storage of fewer than 500 cubic yards of material shall be required to file an application for review by the Planning Board.
4. Applicability. Unless exempted in Subsection 3, above, the following excavations

shall require an excavation permit. In the case of multiple excavations on the same parcel of land, all such excavations shall be deemed part of a single operation for the purposes of this ordinance.

- A. Excavations proposed after the effective date of this ordinance.
- B. Expansion of existing excavations which exceed the limits of Subsection 3B.
- C. The City recognizes that a number of excavation operations exist that do not conform with standards set forth in this section. It is the intent of the City that the five-year temporary permit that had been issued for an existing operation shall be reduced to a one-year permit. When said permit has run its course, previous to its expiration the owner(s) of the existing operation shall submit an application as described herein, which shall be reviewed according to the standards herein.

Any operation in existence at the time of the effective date of this section that has not received a five-year temporary permit shall be considered to be illegal. The Code Enforcement and Planning offices shall work with the City Attorney in order to cause the temporary closure of said operation until review under this section can be completed, or the permanent closure of said operation if the owner or operator of said operation chooses not to participate in the review process.

- 5. Procedure. An application for an excavation permit shall be filed with the Planning Office. Within 30 days of receipt of a complete application, the City Planner shall schedule said application on the agenda of a regular meeting of the Planning Board.
- 6. Application Requirements. An application for an excavation permit shall consist of the following:
 - A. Name and address of the owner of the property.
 - B. Name and address of the operator of the excavation if different than the owner.
 - C. Right, title or interest in the property.
 - D. Names and addresses of all persons owning property abutting or within 500 feet of the subject property.
 - E. Site plan at a scale of not less than one inch = 100 feet. The plan:
 - a. Shall be shown on a sheet measuring 24 inches by 36 inches.
 - b. Shall be prepared by and shall include the stamp and signature of either a Maine licensed land surveyor or a professional engineer.
 - c. Shall include the following information, as well as any additional information deemed necessary by the board:
 - 1. Boundaries of the subject property.

2. Existing wells, rivers, brooks, streams, freshwater wetland and coastal wetland.
 3. Depth of groundwater as determined by test borings, wells or pits.
 4. Topography of the property at a contour interval no greater than five feet.
 5. Existing site features such as fields, wooded areas, structures, roads and driveways.
 6. Residences and wells within 500 feet of the subject property.
 7. Existing and proposed excavation areas including acreage, phasing, depth of excavation and final grades.
 8. Location and size of product and topsoil stockpiles.
 9. Areas to be used for processing of excavated materials.
 10. Location of proposed buildings and structures.
 11. Types and locations where equipment, materials or fuels are to be stored.
 12. Locations of proposed access and any roads to be constructed within the site.
 13. Sight distances of intersection of the access road with a public road.
 14. Method and location of controlling access into the site.
 15. Improvements for the control of drainage, sedimentation and erosion.
- F. Proposed hours of operation.
- G. Proposed rehabilitation plan including temporary and final seeding, plantings and permanent drainage improvements.
- H. A spill prevention, control and countermeasures (SPCC) plan if any fuels or hazardous materials are to be stored or equipment refueling or oil changes are to take place on the subject property.
- I. A traffic study conducted by a traffic engineer registered in the State of Maine which shall include:
- a. An estimate of daily traffic to be generated, to include size and capacity of trucks that will haul material, routes proposed for hauling material, and current Maine DOT or City data on traffic counts for all public and private ways upon which material will be hauled;
 - b. A description of existing or potential traffic hazards on roads servicing

the site and the applicant's proposal to address such hazards. Said description shall consider the existence and impact of existing extraction operations. The study shall describe the ability of such roads to withstand the additional traffic generated by the site.

- c. If, in the opinion of the Planning Board a separate, independent traffic study is warranted, or review of the submitted traffic study by an independent traffic engineer or consultant, the cost of such an independent study or review shall be borne by the applicant.
- J. Plan for screening excavation from direct view from residences and public road through the use of fencing or existing or proposed vegetation. The applicant shall demonstrate that the screening plan will:
 - a. Ensure adequate sight distance and visibility for vehicles entering and exiting the site;
 - b. Ensure adequate sight distance for vehicles traveling the roadway from which the excavation is accessed;
 - c. Ensure that the proposed fencing and/or vegetative screen is adequate to shield neighboring properties and public rights-of-way from the excavation operation;
 - d. Be installed prior to the commencement of the extraction operation. No hauling or processing of material shall occur prior to the installation of screening.
- K. Disposition of stumps and grubblings.
- L. Estimate of the cost of rehabilitating the site in conformance with requirements of Section 11.
- M. Estimate of types and amounts of material that will be excavated from the site.
- N. Estimate of proposed life of excavation based on amount of material on site.
- O. Aerial photo(s) of the proposed site so that the boundaries of the site may be identified and that the extent of excavation, if any, at the time of the Board's review may be clearly delineated.
- 7. Waivers. The Planning Board may grant waivers from specific submission requirements upon written request by the applicant if it determines that such information is not necessary for proper review of the application.
- 8. Review criteria. The following criteria shall be applied in the review of the proposed operation:
 - a. Will not unreasonably result in unsafe or unhealthful conditions;
 - b. Will not unreasonably result in erosion or sedimentation;

- c. Will not unreasonably result in water pollution nor adversely affect existing groundwater, springs, ponds, rivers, brooks or streams;
 - d. Will conserve natural beauty in keeping with the rehabilitation provisions of Subsection 11 of this section.
 - e. Will not adversely affect public ways;
 - f. Will not adversely affect surrounding properties; and
 - g. Is in conformance with the following performance standards.
9. Performance standards.
- A. Excavation shall not occur within five feet of the seasonal high water table. If standing water already exists in the excavated area, no further excavation that would result in an increased area of standing water shall be allowed. The Planning Board may allow excavation to extend to or below the water table and an area of standing water may be increased through excavation if such excavation is approved by the Maine Department of Environmental Protection (MDEP).
 - B. At least one pit or monitoring well must be maintained on each five acres of excavation. Said pit or well shall be available to public officials or their agents should data on either water table elevation or water quality be deemed necessary to adequately monitor the operation's impact on groundwater.
 - C. The following setbacks must be maintained between the excavation and a water supply in existence prior to the excavation:
 - 1. Dug well or point-driven well: 300 feet.
 - 2. Well drilled into saturated bedrock: 150 feet.
 - 3. Public water supply serving 500 or fewer persons: 500 feet.
 - 4. Public water supply serving more than 500 persons: 1,000 feet.
 - D. All fuels or hazardous materials must be stored within spill-proof secondary containment with sufficient capacity to contain 110% of the volume of the single largest container. Equipment refueling and oil changes must take place over impervious surfaces. Routine maintenance operations are allowed for fixed equipment such as screens, crushers and wash facilities, provided that precautionary measures such as portable drip pans or vacuum devices are used. The applicant shall further detail what measures he/she is prepared to take in the event of a fuel or hazardous materials spill.
 - E. No part of any extraction operation shall be permitted within 100 feet of any property line or right-of-way. Natural buffer strips shall be maintained between the excavation and adjacent natural and man-made features. If vegetation within a natural buffer strip was removed or disturbed by the

excavation before it became subject to this ordinance, the vegetation shall be reestablished in a manner that conforms to the screening requirements of this section before any additional excavation takes place.

Natural buffer strips shall be required as follows:

1. Great pond, river or coastal wetland: 250 feet.
 2. Stream, brook or freshwater wetland: 250 feet.
 3. Public road right-of-way: 100 feet.
 4. Private road right-of-way: 50 feet.
 5. Property boundary: 75 feet.
- F. Except for access roads and grubbed areas, all reclaimed and unreclaimed areas must be naturally internally drained unless the applicant prepares a stormwater management plan that demonstrates to the satisfaction of the Planning Board that surface water discharges from areas that are not internally drained will not be increased as a result of stormwater runoff from storms up to a level of intensity of a twenty-five-year, twenty-four-hour storm.
- G. Topsoil stockpiles to be used for reclamation must be seeded, mulched or stabilized, grubbed areas must be stabilized and all disturbed portions of the subject parcel must be protected from erosion and sedimentation by a plan approved by the Planning Board and in conformance with the Maine Erosion and Sediment Control Handbook Best Management Practices, March, 1991, or as amended.
- H. Sufficient sight distance shall be provided at the intersection of the access road with a public or private road. At a minimum, sight distance shall be 10 feet for every mile per hour of posted speed limit on the public or private road. Points of access of the excavation operation onto public or private roads must be located, posted and constructed in accordance with the standards for roadways adopted in Chapter 62, Streets, Sidewalks and Other Public Places, of the City's Revised Code of Ordinances.
- I. Hours of operation shall not exceed 7:00 a.m. to 6:00 p.m., Monday through Friday and 7:00 a.m. to 2:00 p.m. on Saturdays. No Sunday operation is permitted. Hours of operation for blasting operations shall be according to Chapter 34, Environment, Article V, Blasting. The hours of operation may be further restricted by the Planning Board if it is determined that the above-listed hours of operation will unreasonably interfere with residential uses in existence at the time an application for an excavation permit is determined to be complete. In the event of an emergency request for sand or gravel from public safety officials, the Code Enforcement Officer may temporarily authorize alternative hours of operation. Use of the property upon which the extraction operation occurs shall be restricted to activity related to the extraction operation.

- J. Noise levels generated by an extraction operation shall be regulated by Chapter 34, Article III, Noise, of the City of Biddeford Revised Code of Ordinances.
 - K. The access road and internal roadways shall be treated to control dust as necessary with water or calcium chloride. The access road leading from the excavation site to a public road shall be paved for a distance of no less than 100 feet from its intersection with the public road.
 - L. Loaded vehicles shall be in accordance with Maine Revised Statutes Annotated.
 - M. No blasting shall be done as part of any excavation operation except in accordance with Chapter 34, Environment, Article V, Blasting.
10. Rehabilitation requirements.
- A. Final side slopes shall be graded at a slope not to exceed 2.5 feet vertical to one foot horizontal. The slope may be increased if it is demonstrated to the satisfaction of the Planning Board that the proposed slope will be stable.
 - B. Rehabilitation of continuing operations shall be conducted in phases so that the active excavation area, not including roads, structures or stockpiles, does not exceed five acres. A vegetative cover by seeding, planting and loaming must be established within three months of completion of each phase and within six months of completion of the final phase of excavation.
 - C. Vegetative cover used for rehabilitation must consist of grasses, legumes, herbaceous or woody plants, shrubs, trees or a mixture of these. A vegetative cover by seeding, planting and loaming must be established within nine months of completion of each phase of excavation. Vegetative cover is acceptable if:
 - 1. The planting of all materials results in a permanent 90% ground cover; and
 - 2. The planting of trees and shrubs results in a permanent stand or a stand capable of regeneration and succession, sufficient to ensure 76% survival rate.
 - D. The stumps and grubblings from the site may be covered with topsoil and used to stabilize the banks. Strippings may be distributed over the excavation area, removed from the parcel, burned or chipped.
 - E. The areas of pits with solid or broken ledge rock shall be trimmed of loose rock and the bottom of the excavation graded to be compatible with the surrounding land.
 - F. The excavation shall be graded to maintain internal drainage, prevent standing water and minimize erosion and sedimentation. Sediment shall be prevented from entering streams or drainage ways.

- G. Groundwater monitoring wells shall be filled and sealed upon completion of the final phase of excavation.
 - H. All structures shall be removed and all access roads, haul roads and other support roads shall be rehabilitated once they are no longer in use.
11. Inspections. The Code Enforcement Officer, or his/her designee, shall conduct an annual compliance inspection prior to the anniversary date of the original permit to determine whether the permit holder has complied with the approved plan. The Code Enforcement Officer shall maintain a file on each active extraction operation in order to retain a record of complaints or actions generated by activity at each operation. Reports shall be provided to the Planning Board within 14 days of completion of annual inspections.
12. Performance guarantee. The applicant must submit a performance guarantee in an amount that the Planning Board determines to be sufficient to cover the total cost of meeting the rehabilitation requirements of Section 11. The City Engineer shall assist in determining an amount sufficient for the performance guarantee. The performance guarantee may consist of one of the following:
- A. An escrow account consisting of a certified check, savings account or certificate of deposit of which the City is named as sole owner. Funds may be withdrawn by the City only when rehabilitation does not conform with the approved land. The principal or residual amount and any accrued interest shall be returned to the applicant when the rehabilitation is complete.
 - B. A performance bond, payable to the City, issued by an approved surety company, with details of its conditions, and with methods of release for the specific project clearly delineated.
 - C. A letter of credit from a financial institution approved by the City. This credit must be irrevocable, and be sufficient to cover rehabilitation of the approved project, and from which the City may draw if rehabilitation does not conform to the approved plan.
- The performance guarantee shall remain in force until the Planning Board certifies that the site has been rehabilitated in conformance with the approved plan.
13. Permit term. A permit granted by the Planning Board under the provisions of this ordinance shall be issued on a graduated basis, e.g., the initial permit for a period of one year, the second permit for a period of two years and so on up to a maximum of five years so as to encourage compliance with this section. The permit holder must submit an application for permit renewal at least 30 days prior to expiration of the permit. Such application shall consist of evidence that the excavation has been conducted in conformance with the approved plan.

In the event the application for permit renewal is not submitted at least 30 days prior to expiration of the permit, or it is determined by the Planning Board that the excavation is not in conformance with the approved plan, the applicant shall apply for a new permit from the Planning Board under these ordinance provisions. The Planning Board shall request that the Code Enforcement Officer issue a stop work order if and when it becomes evident that the owner/operator of an excavation operation is in violation of these provisions.

14. Severability. In the event that a court of competent jurisdiction rules any provision of this ordinance to be invalid, the remaining provisions shall continue in full force and effect. In the event that any provision of this ordinance conflicts with state statute, the stricter provision shall govern.
15. Conflict with Other Ordinances. This ordinance shall not repeal, annul, or in any way impair or remove the necessity of compliance with any other rule, regulation, bylaw, permit or provision of law. Where this ordinance imposes a higher standard for the promotion and protection of health, safety and welfare, the provisions of this ordinance shall prevail.
16. Enforcement. The Planning Board may order the owner or operator of an excavation that is in noncompliance with the provisions of this section to cease operations until such noncompliance is corrected.
17. Fines and Penalties. The Planning Board may impose a fine not to exceed \$250 per day as a penalty to the owner or operator of an excavation that is in noncompliance with the provisions of this section. In the event of an owner or operator who has been ordered to cease excavating and/or hauling at an excavation operation due to noncompliance with this section, but has failed to cease as ordered, the Planning Board may impose a fine not to exceed \$500 per day, beginning no sooner than five calendar days after a registered letter has been mailed to the owner or operator from City Hall.

ARTICLE III NOISE

Sec. 34-51. Definitions. [Code 1975, § 15-30]

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

AMBIENT NOISE LEVEL — The all-encompassing noise level associated with a given environment, being a composite of sounds from many distant, individually indistinguishable sources, excluding the alleged offensive noise.

COMPLAINING RECEPTOR (COMPLAINANT) — Any person who owns, controls, or occupies as a temporary or permanent residence real property or any part thereof and notifies the Noise Control Officer or other proper enforcement authority of a possible violation of this article affecting such real property and his enjoyment thereof.

CONSTRUCTION — Any site preparation, assembly, erection, substantial repair, alteration, or similar action, but excluding demolition, for or of public or private rights-of-way, structures, utilities or similar property.

CONSTRUCTION EQUIPMENT — Any equipment or device operated by fuel or electric power used in construction or demolition work.

DAYTIME HOURS — The hours between 7:00 a.m. and 10:00 p.m.

DECIBEL (db) — The practical unit of measurement for sound pressure level; the number of decibels of a measured sound is equal to 20 times the logarithm to the base 10, of the ratio of the sound pressure of the measured sound to the sound pressure of a standard sound (20 micropascals); abbreviated "db."

DEMOLITION — Any dismantling, intentional destruction or removal of structures, utilities, public or private right-of-way.

DOMESTIC POWER EQUIPMENT — Means, but is not limited to, power saws, drills, grinders, lawn and garden tools and other domestic power equipment intended for use in residential areas by a homeowner or other authorized person.

EMERGENCY — Any occurrence or set of circumstances involving actual or imminent physical trauma or property damage which demands immediate action.

EMERGENCY VEHICLE — Any motor vehicle authorized by the City to have sound warning devices such as sirens and bells which can lawfully be used when responding to an emergency.

EMERGENCY WORK — Work made necessary to restore property to a safe condition following an emergency, or work required to protect persons or property from exposure to imminent danger.

LOUD AND UNREASONABLE NOISE — Any sound, the intensity of which exceeds the standards set forth in Section 34-54 and Section 6-91(a)(2).

MOTOR VEHICLE — Any vehicle which is propelled or drawn on land by a motor,

such as, but not limited to, passenger cars, trucks, truck-trailers, semitrailers, campers, go-carts, snowmobiles, amphibious craft on land, dune buggies, or racing vehicles, but not including motorcycles, trailbikes or minibikes.

NIGHTTIME HOURS — The hours between 10:00 p.m. and 7:00 a.m.

NOISE CONTROL OFFICER — A municipal employee trained in the use of sound level meters. This article shall normally be enforced by a police officer, but may also be enforced by the Code Enforcement Officer during normal working hours.

NOISE LEVEL — The sound pressure level as measured with a sound level meter using either the A- or C-weighting network. The level so read is designated db(A) or db(C).

PERSON — Any individual, firm, partnership, association, syndicate, company, trust, corporation, municipality, agency, or political or administrative subdivision of the state or other legal entity of any kind.

PREMISES — Any building, structure, land or portion thereof, including all appurtenances, and shall include yards, lots, courts, inner yards, and real properties without buildings or improvements, owned or controlled by a person.

PROPERTY LINE — That real or imaginary line along the ground surface and its vertical extension which separates real property owned or controlled by any person from contiguous real property owned or controlled by another person, and which separates real property from the public right-of-way. In situations involving multiple buildings on the same lot, the property line shall be deemed to be the exterior walls. In situations involving multiple occupancies within the same building, the property line between individual units shall be deemed to be common walls (including floors and ceilings).

RECREATIONAL VEHICLE — Any internal combustion engine powered vehicle which is being used for recreational purposes.

RESIDENTIAL DISTRICT — All residential zones specified in the City Zoning Ordinance (suburban residential, general residential, and single-family residential).

SOUND LEVEL — The sound pressure level measured in decibels with a sound level meter set for A-weighting or C-weighting; sound level is expressed in db(A) or db(C).

SOUND LEVEL METER — An instrument for the measurement of sound levels conforming to A.N.S.I. Type I or Type II standards.

SOUND PRESSURE LEVEL — The level of a sound measured in db units with a sound level meter which has a uniform (flat) response over the band of frequencies measured.

Sec. 34-52. Findings and purpose. [Code 1975, § 15-21]

It is recognized that people have a right to and should be ensured an environment free from excessive noise that may jeopardize their health, safety or welfare or degrade the quality of life. This article is enacted to protect, preserve and promote the health, safety, welfare and quality of life for the citizens of the City through the reduction, control and prevention of excessive noise.

Sec. 34-53. Noise levels. [Code 1975, § 15-22]

It shall be unlawful for any person to emit or cause to be emitted any noise beyond the boundaries of his premises in excess of the noise levels established in this article.

Sec. 34-54. Noise level standards. [Code 1975, § 15-23]

Sound from any source controlled by this article shall not exceed the following limits at the property line of the source:

Type of District	7:00 a.m. through 10:00 p.m.		10:00 p.m. through 7:00 a.m.	
	db(A)	db(C)	db(A)	db(C)
Industrial	70	82	60	72
Commercial	60	72	50	62
Residential	55	67	45	57

- (1) Where the emitting and receiving premises are in different districts, the limits governing the stricter district shall apply to any regulated noise entering that district.
- (2) The levels specified may be exceeded by 10 dbA for a single period, no longer than 15 minutes, in any one day.

Sec. 34-55. Exclusions from noise level standards. [Code 1975, § 15-24]

The noise level standards set out in Section 34-54 shall not apply to noise emitted by or related to:

- (1) Natural phenomena.
- (2) Any bell or chime from any building clock, school or church.
- (3) Any siren, whistle or bell lawfully used by emergency vehicles, or any other alarm systems used in an emergency situation; provided, however, that burglar alarms not terminating within 30 minutes after being activated shall be unlawful.
- (4) Warning devices required by OSHA or other state or federal safety regulations.
- (5) Farming equipment or farming activity.

Sec. 34-56. Exemptions from noise regulations. [Code 1975, § 15-25; Ord. No. 2007.38, 6-19-2007]

The following shall be exempt from this article, subject to special conditions spelled out:

- (1) Noise from domestic power equipment, such as but not limited to power saws, sanders, grinders, lawn and garden tools or similar devices operated during daytime hours.
- (2) The noises of safety signals, warning devices, emergency pressure relief valves, and

any other emergency activity.

- (3) Timber harvesting (falling trees and removing logs from the woods) during daytime hours.
- (4) Noise generated by any construction or demolition equipment which is operated during daytime hours and emergency construction or repair work by the state or public utilities also is exempted.
- (5) Noise created by municipal vehicles in the removal of snow, debris or refuse.
- (6) Noise created by any recreational activities which are permitted by law and for which a license or permit has been granted by the City, including, but not limited to, parades, sporting events, concerts, and fireworks displays.
- (7) Noise created by blasting operations, except that all blasting operations shall be in accordance with Chapter 34, Environment, Article V, Blasting.

Sec. 34-57. Prohibited activities. [Code 1975, § 15-26]

The following activities are specifically prohibited:

- (1) Animals and birds. Owning, possessing or harboring any animal or bird which intermittently or continuously for 1/2 hour or more makes sounds which disturb the peace and tranquility of a residential area, or makes such sounds to the disturbance of any person residing in such residential area, at any time of the day or night, regardless of whether the animal or bird is situated on private property.
- (2) Motor vehicle noise, truck idling. No person shall operate an engine or any standing motor vehicle with a weight in excess of 10,000 pounds manufacturer's gross vehicle weight for a period in excess of 15 minutes within any hour during daytime hours and in excess of 15 minutes within any eight-hour period during nighttime hours, when such vehicle is parked on a residential premises or on a City street next to a residential premises.

Sec. 34-58. Noise level measurement procedures. [1975, § 15-27]

For the purpose of determining noise levels as set forth in this article, the following guidelines shall be applicable:

- (1) All personnel conducting sound measurements shall be trained in the current techniques and principles of sound measuring equipment and instrumentation.
- (2) Instruments used to determine sound level measurements shall conform to the sound level meters as defined by this article. Specifically, they shall be ANSI Type I or Type II meters.
- (3) The general steps listed below shall be followed when preparing to take sound level measurements:
 - a. The instrument manufacturer's specific instructions for the preparation and use

of the instrument shall be followed.

- b. The sound level meter shall be calibrated before and after each set of measurements. The calibrator itself shall be recalibrated at least once every year.
- c. When measurements are taken out of doors, a wind screen shall be placed over the microphone of the sound level meter as per the manufacturer's instructions. No sound level measurements, shall be taken at wind speeds greater than 12 miles per hour.
- d. The sound level meter shall be placed as specified by the manufacturer's instructions and at least four feet above the ground. It shall be so placed as not to be interfered with by individuals conducting the measurements.
- e. Sound measurements shall be taken at a point that is located at least one foot beyond the property line of the emitter's premises and at least one foot within the complaining receptor's (complainant's) premises.

Sec. 34-59. Inspections; interference with authorized personnel. [Code 1975, § 15-28]

- (a) For the purpose of determining compliance with the provisions of this article, the Noise Control Officer, upon complaint, is authorized to make tests whenever necessary to determine the level of noise.
- (b) No person shall hinder, obstruct, delay, resist, prevent in any way, interfere or attempt to interfere with any authorized person while in the performance of his duties under this article.

Sec. 34-60. Enforcement; arrests and summonses; notice of violation; service of notice. [Code 1975, § 15-29]

- (a) The Noise Control Officer is directed to enforce the provisions of this article and is hereby authorized to and may arrest or summons any person when he has reasonable cause to believe that such person has violated this article. Such person may only be summonsed or arrested if he has previously received written notice of an initial violation of this article in accordance with Subsections (c) and (d) of this section.
- (b) No person shall interfere with, oppose or resist any authorized person charged with the enforcement of this article while such person is engaged in the performance of his duty.
- (c) Violations of this article shall be prosecuted in the same manner as other violations, provided, however, that in the event of an initial violation of the provisions of this article, a written notice shall be given the alleged violator which specifies the time by which the condition shall be corrected. No complaint or further action shall be taken if the cause of the violation has been removed or the condition abated or fully corrected within the time period specified in the written notice.

- (d) If the alleged violator cannot be located in order to serve the written notice of initial violation as required in this section, the notice shall be deemed to be given upon mailing such notice by registered or certified mail to the alleged violator at his last known address or at the place where the violation occurred, in which event the specified time period for abating the violation or applying for a variance shall commence at the date of the day following the mailing of such notice. Subsequent violations of the same nature shall result in the immediate filing of a misdemeanor complaint.

Sec. 34-61. through Sec. 34-100. (Reserved)

Section 48. Noise.

Loud, uncontrolled noise, or other sounds is not conducive to a quality way of life. All reasonable and technologically acceptable steps shall be taken to reduce sounds to the lowest levels possible at the edge of the subject property lines. Further:

- A. Excessive noise at unreasonable hours (between 9:00 p.m. and 7:00 a.m.) shall be muffled so as not to be objectionable due to intermittence, beat frequency, shrillness, or volume.
- B. The maximum permissible sound pressure level of any continuing, regular or frequent source of sound produced by any activity regulated by this ordinance shall be as established by the time period and type of land use district listed below. Sound pressure levels shall be measured at the lot lines at a height of at least four feet above the ground.

Table 6-48

Allowable Noise Levels

Sound pressure level limits measured in dB(A)s:

	7:00 a.m. to 10:00 p.m.		10:00 p.m. to 7:00 a.m.	
	db(A)	db(C)	db(A)	db(C)
Industrial Districts	70	82	60	72
Business Districts	60	72	50	62
Other districts	55	67	45	57

Noise levels shall be further regulated by conditions and standards outlined in Chapter 34, Article III, of the Biddeford Code of Ordinances, as periodically amended.

- C. The levels specified may be exceeded by 10 dB(A) for a single fifteen-minute period per day. Noise shall be measured by a meter set on the A-weighted response scale, slow response. The meter shall meet the American National Standards Institute (ANSI S1.4-1961) American Standard Specification for General Purpose Sound Level Meters.
- D. No person shall engage in construction activities on a site abutting any residential use between the hours of 9:00 p.m. and 7:00 a.m., which exceed those limits established for residential districts. Otherwise the following activities shall be exempt from these regulations:
 - 1. Noises created by construction and maintenance activities between 7:00 a.m. and 6:00 p.m.
 - 2. The noises of safety signals, warning devices, and emergency pressure relief valves and any other emergency activity.
 - 3. Traffic noise on existing public roads, and railways.

- E. Violation of this section shall be subject to the conditions and actions of Chapter 34, Article III, of the Biddeford Code of Ordinances.

**Pineland**

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

Portland

565 Congress Street, Suite 310
Portland, ME 04101

21-13

August 11, 2021

Greg Tansley, City Planner
Biddeford City Hall
P.O. Box 586
Biddeford, ME 04005

Planning & Development Review
Hidden Hills Manufactured Housing Park
413 South Street, Biddeford, ME

Greg,

On behalf of South Street Village, LLC, we are pleased to submit the Subdivision Application for the Hidden Hills Manufactured Housing Park. The project consists of approximately 190 units along with an assortment of potential amenities.

Existing Property Description

The development parcel is located on the southerly side of South Street, just west of the Maine Turnpike at 413 South Street. The property also has access to a private road along the northwestern edge of the property that serves the water district property. The parcel is shown as lot 8 on the City of Biddeford Tax Map 7. The 312.1-acre property is located within both the Suburban Residential (SR1) District and the Rural Farm (RF) District and also contains a Mobile Home Park (MHP) Overlay Zone. The portion of the property that is located within the MHP is approximately 160 acres. The allowable density for any park served by any subsurface wastewater disposal system is 1 unit per 20,000 SF. The net residential area calculation shows that the property can support approximately 348 manufactured homes within the MHP.

Proposed Project Overview

The applicants plan to create affordable homes to potential residents by using the mobile home park overlay to provide a modern manufactured and modular home community. They plan to provide potential examples of the types and styles of housing and amenities at the planning board meeting.

The Hidden Hills Concept Plan features 192 manufactured home lots. Potential amenities include a community center, pocket parks, a basketball court, and a tennis court. The applicants have been in communication with the neighboring water company in hopes of developing a network of walking trails.

Lots

Each of the proposed 192 lots contains at least 12,000 SF and is generally 80' wide by 150' deep. The City Ordinance stipulates that lots served by a central subsurface wastewater disposal system must be at least 12,000 SF and 75' wide.

As previously mentioned, the property can support approximately 348 units. The applicants believe that number of units to be too high to create a quality neighborhood while providing the space to accommodate the walking trails, amenities, open space & buffering. They think that the proposed 192 lots would tastefully fit on the property.

Access

The development is proposed to gain access from the existing private road that serves the adjacent water company. The project roads will connect to the existing private way in two locations. The internal road system will create a large loop through the site. Additional internal roads will cross through the site. Altogether, approximately 12,000' of new private road is expected to be developed. The concept plan does not contain any dead-end road segments.

The Manufactured Housing Park standards allow for 20' wide roads to be located within rights-of-ways as narrow as 23'. The applicants are evaluating different options for the road, but plan to increase the right-of-way to 50' to allow more room for grading and utilities outside of the lot areas.

Vehicle Sight Distance Assessment (per Bill Bray, P.E., Traffic Engineer)

The Maine Department of Transportation's Highway Entrance and Driveway Rules require the following minimum sight distance for a non-mobility roadway:

Sight Distance Standards	
Posted Speed Limit	Sight Distance Standard
25 mph	200-feet
30	250
35	305
40	360
45	425
50	495

MaineDOT's Highway Entrance Rules requires vehicle sight distance measured in accordance with the following standard:

"Sight distance is measured from the point on the centerline of the proposed access that is located 10 feet from the edge of traveled way. The height of the hypothetical person's view is considered to be 3½ feet above the pavement and the height of the object being viewed is considered to be 4¼ feet above the pavement."

The proposed mobile home subdivision will be accessed from Water Works Drive directly onto South Street. Vehicle sight distance was carefully reviewed at the point of intersection to ensure adequate sight distance is provided in accordance with MaineDOT's regulations. South Street is presently posted at 35mph in the immediate vicinity of Water Works Drive, requiring a minimum of 305-feet of unobstructed sight distance. Field measurements in excess of 375-feet were recorded in each direction of travel from the Water Works Drive approach. Based upon our field investigation acceptable sight distance is provided

in both directions of travel on South Street well in excess of the minimum standard for a posted speed limit of 35mph.

Site Trip Generation (per Bill Bray, P.E., Traffic Engineer)

Daily and peak hour trip generation was determined for the proposed South Street mobile home subdivision 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 240: Mobile Home Park was applied in estimating trip generation for the proposed mobile home subdivision project.

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

Land Use #240 – Mobile Home Park

Weekday	= 5.00 trips per dwelling unit
AM Peak Hour (Street)	= 0.26 trips per dwelling unit
PM Peak Hour (Street)	= 0.46 trips per dwelling unit
AM Peak Hour (Generator)	= 0.26 trips per dwelling unit
PM Peak Hour (Generator)	= 0.49 trips per dwelling unit
Saturday Peak Hour	= 0.40 trips per dwelling unit

The proposed **192**-unit mobile home subdivision is expected to generate a total of **960** trips during a typical weekday: **50** trips in the weekday morning peak hour of the street, **89** trips in the evening peak hour of the street, **50** and **95** trips, respectively, for the weekday morning and evening peak hours of the generator (site) and **77** trips in the Saturday peak hour.

Utilities

The complex will be served by public water and underground power. Shared septic systems will be located throughout the project. The systems will generally be sized to handle anywhere from two to five units.

Buffering & Open Space

The Park will be surrounded by a vegetated buffer that will generally far exceed the ordinance minimum of 50’. Along the South Street frontage, the backs of the lots will be approximately 400’ away from the road. The buffer width varies along the turnpike frontage but will be a minimum of 100’ deep.

The concept plan features more than 80 acres of common open space. Nearly 50% of the mobile home park overlay zone will be preserved as open space.

Stormwater Management

The project will need to meet MDEP water quantity and quality standards. We anticipate several stormwater ponds will need to be constructed to meet the needs of the projects. Additionally, roof drain filter strips and level spreader/buffer combinations will be used whenever possible to provide additional treatment.

Waste Disposal

The applicants will contract with a private waste hauler for removal of all trash and recycling materials that is generated by the future residents. The hauler will provide curbside pickup for the future residents.

Waivers

The applicants do not currently plan to ask for any waivers from the submission requirements.

Attachments

The following items are attached as required by the Subdivision Application procedures:

- Conceptual Subdivision Application Fee - \$23,040
- Engineering Review Escrow - \$4,500
- Administration Fee \$75
- Conceptual Subdivision Application
- Concept Plan

We are hopeful that this application can be placed on the agenda for the September 1, 2021 Planning Board Meeting. Thank you for your consideration, and please call me if you have any questions as you review the enclosed plans and information.

Prepared by
TerraDyn Consultants, LLC
JEFFREY D. AMOS
MA 10167
JEFFREY D. AMOS, P.E.
LICENSED PROFESSIONAL ENGINEER

A circular professional engineer seal for Jeffrey D. Amos, MA 10167. The seal features a signature across the center and the text "JEFFREY D. AMOS, P.E." and "LICENSED PROFESSIONAL ENGINEER" around the perimeter.

CITY OF BIDDEFORD, MAINE
PLANNING BOARD
P.O. Box 586, 205 Main Street Biddeford, Maine 04005
207-284-9115

APPLICATION FORM

Type of Application:

- | | | |
|---|---|--------------------------------------|
| ☐ Shoreland Zoning Permit | ☐ Site Plan Review | ☐ Extraction |
| ☐ Conditional Use Permit | ☐ Subdivision | ☐ Private Way |
| ☒ Other: <u>Sketch /Concept Plan - Hidden Hills Manufactured Housing Park</u> | | |

Applicant Information:

Applicant's Name: South Street Village, LLC

Applicant's Mailing Address: 762 Main Street, South Portland, ME 04106

Applicant's Telephone: (207) 450-7653

What is Applicant's legal interest in the property?

- ☒ Owner ☐ Potential Buyer with Contract ☐ Lease/Rental Agreement

Owner's Name: South Street Village, LLC

Owner's Address: 762 Main Street

Owner's Telephone: (207) 450-7653

Agent's Name: _____

Agent's Address: _____

Telephone: _____

Engineer/Surveyor: Terradyn Consultants, LLC c/o Jeff Amos, P.E.

Engineer/Surveyor's Address: 41 Campus Drive, Suite 101, New Gloucester, ME 04106

Telephone: 207-926-5111

Project Location and Lot Information:

Street Address: 413 South Street

Tax Map: 7 Lot: 8

Current Zoning: SR, RF & MHP Overlay Shoreland Zoning: _____

Size of lot: 312.1 ☒ acres ☐ s.f. Lot Frontage: 1,975' (approximate)

Existing Use of Property: property is vacant and undeveloped.

Property currently serviced by:

☒ City Road	☒ Private Road
☐ Public Sewer	☐ Septic System
☒ Public Water	☐ Private Well
☐ Public Trash	☐ Private Hauler

Slope Conditions in Area of Construction (if applicable):

☐ Flat (0-3 % slope) ☒ Rolling (3-8% slope) ☐ Hilly (8-15% slope) ☐ Steep (15% + slope)

Are there any wetlands or waterbodies on the site? ☒ Yes ☐ No If yes, attach information

Do you plan to bring fill onto the lot? ☒ Yes ☐ No If yes, attach information
(most likely)

Description of proposed use of property:

Project/Proposed Use Description: 192 lot manufactured housing park

Property to be serviced by:

☐ City Road	☒ Private Road
☐ Public Sewer	☒ Septic System
☒ Public Water	☐ Private Well
☒ Public Trash	☐ Private Hauler

Is this project part of a larger project? ☐ Yes ☒ No

☐ If in a Shoreland Zone: n/a

Percent of residential lot coverage (Max. 20%): _____

Percent of structure expansion (Max. 30%): _____

☒ If Subdivision Review, number of lots proposed: _____ 192

☒ If a Private Way is proposed, number of lots served: _____ 192

☐ **If Site Plan Review, you must provide the following information:**

Total new square feet footprint of structures: _____

Total new square feet paving/parking: _____

Waiver Requests (attach details):

1. _____ Perhaps none - to be determined for preliminary submission
2. _____
3. _____
4. _____
5. _____

Attachments:

A. Letters of Approval (to be submitted at preliminary submission)

- ☐ Fire Department - Contact Chief or Deputy Chief - 282-9986
- ☐ Ability to Serve for Water Service – Maine Water - 282-1543
- ☐ Ability to Serve for Sewer Service- Engineering Dept (Sewer) - Tom Milligan 284-9118
- ☐ Police Department - E-911 Road Name Designation - Contact Joanne Fisk - 282-5127

B. Letter to Planning Board describing project, waiver requests, proposed improvements, addressing permit requirements, etc.

C. Photographs of site.

D. Architectural renderings/drawings of proposed buildings, as required.

E. Engineered Plans, as required.

Fees (due at time of application):

Refer to “Attachment A Fees and Charges” of the Land Development Regulations for more information. Consult with Planning Staff if you have questions.

Required Signatures:

By signing this application, as the foresaid applicant or authorized agent:

- I certify that I have read and completely understand the application;
- I certify that the information contained in this application and it's attachments are true and correct;
- I understand that all information provided on this form and all other documents submitted as part of my proposal is a matter of public record;
- I understand that copies of this information may be supplied upon request to an interested party.
- I understand that additional funds may be required through the course of review for special studies, legal review costs, and/or engineering review.
- I understand that by submitting this application I am not guaranteed a place on any particular agenda. I further understand that the City Planner will place me on an agenda for review when the application is deemed substantially complete.

☒ Project proposed to have 1 acre or more of site disturbance:

-Project may need to apply for a Maine Construction General Permit and shall comply with the requirements of DEP Chapter 500 Stormwater Regulations, as they apply.

Signature of applicant:

Matthew Chamberlain

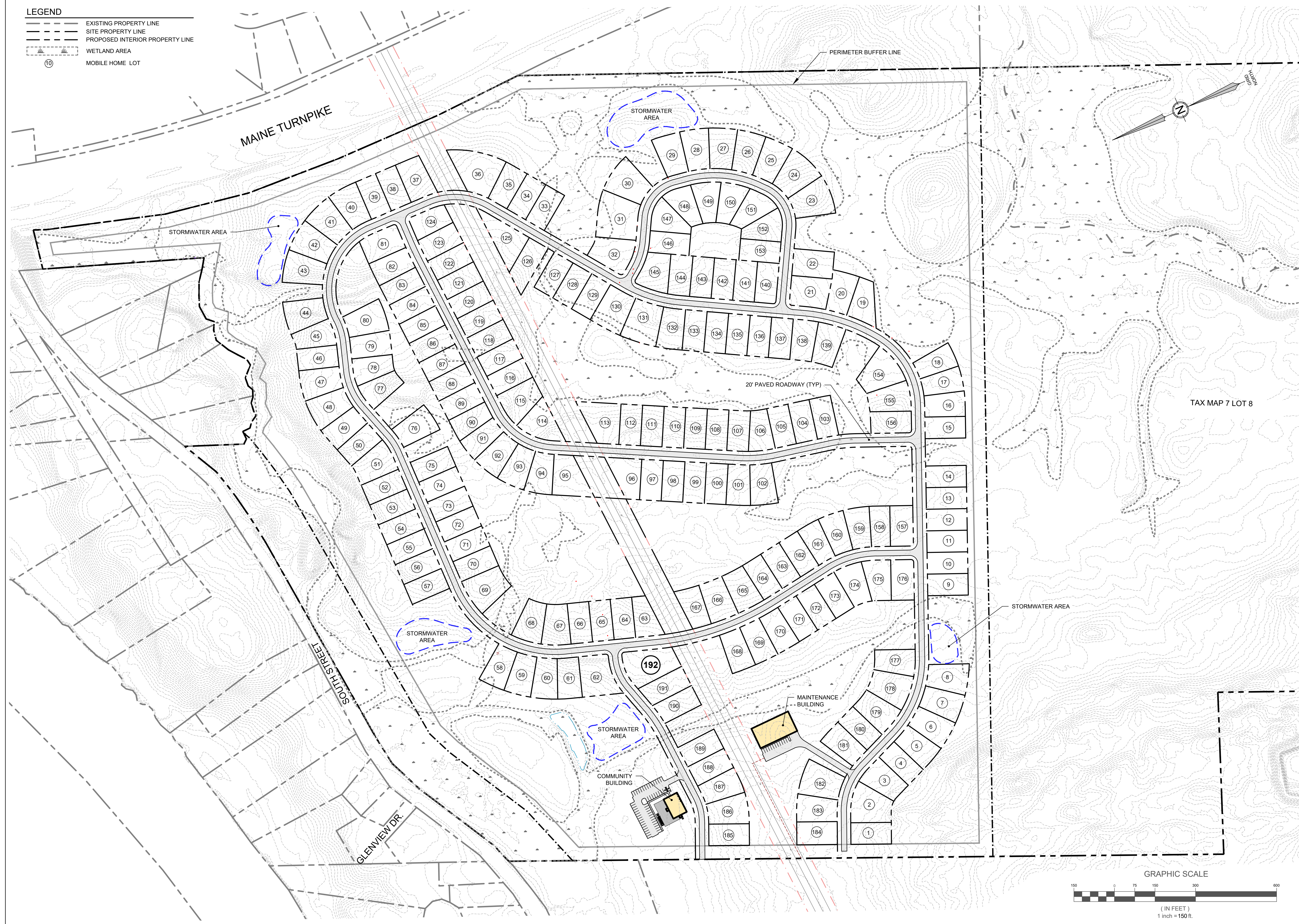
Date: 8/11/2021

Signature of owner of property:

Matthew Chamberlain

Date: 8/11/2021

**IF PLAN APPROVAL IS ANTICIPATED, PROVIDE 2 FULL SIZE MYLARS & 2 FULL SIZE PAPER COPIES FOR BOARD SIGNATURE (AS APPLICABLE).
CHECK WITH PLANNING STAFF FOR CLARIFICATION.**



PROJECT: SOUTH STREET SUBDIVISION SOUTH STREET, BIDDEFORD, ME		SHEET TITLE: CONCEPT PLAN	CLIENT: SOUTH STREET VILLAGE, LLC 762 MAIN STREET SOUTH PORTLAND, MAINE 04106	DATE: 5/14/2021					
				SCALE: 1"=150'					
DESIGNED: JDA		JOB NO: 21-13		FILE: 21-13.SK4					
SHEET		C-1.0							
PERMIT DRAWING NOT FOR CONSTRUCTION				 41 CAMPUS DRIVE SUITE 101 NEW GLOUCESTER, ME 02860 OFFICE: (207) 926-5111 FAX: (207) 221-1317 www.terradynconsultants.com		565 CONGRESS STREET SUITE 201 PORTLAND, ME 04102			
Civil Engineering Land Planning Stormwater Design Environmental Permitting				NO.		DATE		REVISIONS	
								APP'D BT	
DATE:									
P.E.:									

PLANNING BOARD
REPORT

August 27, 2021

Biddeford Planning Board
Greg Tansley, City Planner
City of Biddeford
205 Main Street
Biddeford, Maine 04005

Application: Hidden Hills Manufactured Housing Park– South Street Village, LLC.
413 South Street (Tax Map 7 Lot 8)

Subdivision (Mobile Home Park) Sketch Plan Review

Review Status: New application

Board members and Mr. Tansley,

The following application and attached information has been provided for review:

1. Application form dated 6/14/2021.
2. Cover letter (Narrative) dated 8/11/2021, from Terradyn Consultants.
3. Plan entitled: *Concept Plan, South Street Subdivision, South Street, Biddeford, ME...* Dated 5/14/2021

With review of the above information and the Land Development Regulations and Subdivision Ordinance, I offer the following comments on compliance with the City's ordinances.

PROJECT DESCRIPTION

The applicant seeks to create 190 mobile home park on a lots a 312± AC parcel located in the Rural Farm (RF) zone and Mobile Home Parks (MHP) Overlay Zone. The site includes a large freshwater wetland among open field and woods and a portion of the Thatcher Brook.

COMPLETENESS REVIEW

The application is before the Planning Board as required by Article XI (Site Plan Review) of the Land Development Regulations and Chapter 66 (Subdivisions) subject to Subdivision review and approval. Per the City's Subdivision ordinance (66-26). With regards to the latter, all applications have a three-tier approval process beginning with a Sketch plan review, while the former has two-tier review process (Sketch and Final). The applicant has submitted a cover letter with a narrative

describing the proposal accompanied by, density calculations, concept plan that appears to be adequate for a Sketch Plan review.

REVIEW PROCESS

As outlined in Sec. 66-30, the Planning Board and the applicant have three primary objectives/areas of focus: 1) general nature of the project and its impact on the community; 2) determining the development is a major or minor subdivision; and 3) clustered subdivision development. The latter is required for properties in the RF Zone, however, the mobile home park performance standards (Sec. 45, Article VI of the Zoning Ordinance) supersedes all other city ordinances per Division 2.A of those same standards.

Another item for discussion and action is to determine if the application, prior to review and approval of the preliminary plan will require any studies for the Board's consideration. This is outlined in Sec. 66-38.

And lastly, in addition to the items above, and with an eye on the preliminary plan review application, it would be helpful for the applicant to provide a narrative(s) that address how the application conforms to the various applicable standards required by Chapter 66 and by the Land Development Regulations, including Article VI, Sec. 45 Manufactured housing/mobile home parks.

COMPLIANCE WITH THE CITY'S ORDINANCES

When considering the review at this point is intended by the process to be general in nature, the applicant should take the opportunity to introduce the project and the Board should ask questions and provide feedback. The following are comments that Board and the applicant may consider in the discussion:

BUFFERING

Section 66-79 in the Subdivision Ordinance, among other items, requires a 75-foot-wide vegetated buffer. The concept appears to have the proposed development setback from South Street at distances much greater than 75 feet, though technically the 50-foot-wide buffer (Sec. 45, Div.2 E.3) would supersede this. The Planning Board may want to discuss how the applicant anticipates the proposed development looking like from South Street. In those areas where there is not an adequate buffer along South Street, the Board and applicant may want to consider having screening vegetation closer to the proposed lots rather than within the first 25 feet outside the ROW as described in Sec. 45, Div.2 E.3. This might allow preservation of the existing views and character of agricultural fields along this portion of South Street, where it appears from the concept plan that a fairly large swath of land along the street is being preserved, or can be preserved.

REMAINING PARCEL

It appears from the concept plan that land to the rear of the development is being divided out as a separate parcel. Assuming this is not being conveyed to abutting property, further consideration

and review, perhaps by City staff, may be warranted since it appears, based on the information submitted, that the new parcel would have no street frontage. In addition to providing a boundary survey that may provide more insight on this, the applicant should provide existing and proposed easements, especially regarding access to the development. Subsequent plan submittals should include the access to South Street via the Maine Water Company property, for City staff and the Planning Board to consider.

OPEN SPACE (Article VI, Sec. 45, Div.2 E.3, Zoning Ord.)

The applicant will need to review this provision and demonstrate compliance with the specific criteria that is included, e.g. slope of the land, soil characteristics, and suitability for recreational purposes. The applicant may want to consider, if lots 185 through 187 are expendable or can be realized somewhere else, locating the community building and parking on the other side of the entrance drive and using this area to accommodate a small multipurpose athletic field and small playground. The number of units proposed will surely create a need to provide opportunities for active recreation for the youth that will likely reside in the development.

In addition, the applicant, as part of their preliminary plan submission, should determine the different types of open space that will be provided and, though a management plan, elaborate on how these areas will be maintained.

DEAD-END STREETS (Article VI, Sec. 45, Div.2 E.5.c, Zoning Ord.)

The applicant will need to demonstrate that the proposed development will not exceed a 1,500-foot dead-end street condition as required by the road design standards, subsections c.ii and c.iii. It is difficult to determine at this point since the extent of the current plan doesn't include the Maine Water Company drive. In reviewing the aerial images available on Google Maps and considering the approximate location of the development, it appears that the distance from where the Maine Water Company drive intersects South Street, to the intersection of the drive and the power lines (as shown on the aerial) is 1,000 feet alone. Applicant should confirm the remaining distance to the beginning of the proposed loop drive is less than 500 feet.

ENVIRONMENTAL CONSIDERATIONS

WETLANDS: Wetland delineation and reports that have been prepared should be provided as part of the preliminary plan submission. If not previously considered, the presence of vernal pools should be evaluated, and that information should inform the site design. In the same manner, any information on wildlife habitat on the property should be used in finalizing the final site design. Ideally, proposed lots would not include wetlands so it is clear it is part of the common lands of the development. If this is not possible, perhaps clear communication to the future residents that wetlands are not to be disturbed unless the park owner receives applicable review and permitting. The Board may want to solicit comments from the Conservation Commission.

THATCHER BROOK: A portion of the property appears to lie within the Thatcher Brook Watershed. This should be confirmed and if it is to be the case, the applicant and Board should consider

recommendations from the Thatcher Brook Watershed Management Plan. Among other things this may inform winter operations and stormwater management.

OUTSIDE AGENCY REVIEW AND APPROVAL

The applicant should inform the Board and Staff on what is anticipated for other required permits, e.g. Maine Department of Transportation, Maine Department of Environmental Protection.

WAIVER REQUESTS

None requested. The applicant should review compliance with standards and provide a list of those standards they seek a waiver from along with a rationale for the Board to grant it.

CONCLUSION

The Planning Board and applicant should discuss the comments/topics outlined above, along with other comments the Board, applicant and staff may have regarding the specifics of the proposed development. In addition, the Planning Board should make a formal determination as to the status of the development, minor or major subdivision. The latter appears to be the case.

Feel free to contact me with questions.

Best regards,



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Section 45. Manufactured housing/mobile home parks. [Ord. No. 2004.45, 7-12-2004]

Division 1. Manufactured Housing, General

- A. Applicability. These regulations shall apply to all manufactured housing to be located in the City of Biddeford or moved from one part of the City to another.
- B. Permit requirements:

- 1. No person, firm, corporation or other legal entity shall locate a manufactured home in the City of Biddeford, or move a manufactured home from one lot or parcel of and to another, without a permit from the Building Inspector. The Building Inspector shall issue the permit within 10 days of receipt of a written application and submission of proof that the manufactured home meets the requirements of this ordinance.
- 2. No person other than a dealer licensed by the State of Maine with a sales tax certificate may construct or locate any new manufactured housing within the City of Biddeford without first providing a bill of sale indicating the name, address, dealer license number and sales tax certificate number of the person who sold or provided the manufactured housing to the buyer locating the housing in Biddeford.

If no such bill of sale is presented, evidence of certification of payment of the sales tax in accordance with Title 36 M.R.S.A. § 1760(40), and 36 M.R.S.A. § 1952-B must be provided.

- 3. A mobile home shall not be occupied for dwelling purposes unless it is properly placed on a permanent foundation and connected to water, sewage/septic, and electrical utilities.
- C. Definitions. For the purposes of this section the following definitions shall be used. Any other terms shall be defined as provided in Article II of the Zoning Ordinance:

- 1. Manufactured housing means a structural unit or units designed for occupancy and constructed in a manufacturing facility and transported, by use of its own chassis or an independent chassis, to a building site. The term includes any type of building which is constructed at a manufacturing facility and transported to a building site where it is used for housing and may be purchased or sold by a dealer in the interim. For purposes of this section, two types of manufactured housing are included. Those two types are:
 - a. Those units constructed after June 15, 1976, commonly called "newer mobile homes," which the manufacturer certifies are constructed in compliance with the United States Department of Housing and Urban Development standards, meaning structures transportable in one or more sections, which in traveling mode are

14 body feet or more in width and are 750 or more square feet, and which are built on permanent chassis and designed to be used as dwellings, with or without permanent foundations, when connected to the required utilities including the plumbing, heating, air conditioning or electrical systems contained in the unit;

- b. This term also includes any structure which meets all the requirements of this subparagraph, except the size requirements, and with respect to which the manufacturer voluntarily files a certification required by the Secretary of the United States Department of Housing and Urban Development and complies with the standards established under the National Manufactured Housing Construction and Safety Standards Act of 1974, U.S. Code, title 42, Section 5401 et seq.; and
 - c. Those units commonly called "modular homes," ("state certified manufactured homes") which the manufacturer certifies are constructed in compliance with 10 M.R.S.A. § 9041 et seq., and rules adopted under that chapter, meaning structures, transportable in one or more sections, which may or may not be constructed on a permanent chassis and are designed to be used as dwellings on foundations when connected to required utilities, including the plumbing, heating, air conditioning or electrical systems contained in the unit.
2. Mobile home park means a parcel of land under unified ownership approved by the municipality under the City of Biddeford Code, Chapter 66, Subdivisions, for the placement of three or more manufactured homes.
 - a. Mobile home park lot means the area of land on which an individual home is situated within a mobile home park and which is reserved for the use by occupants of that home. A municipality may require a lot to be designated on a mobile home park plan.
 3. Mobile home subdivision or development means a parcel of land approved by the municipal reviewing authority under the City of Biddeford Code, Chapter 66, Subdivisions, for the placement of manufactured houses on individually owned lots.
 4. Permanent foundation means all the following:
 - A. For "newer mobile homes," as defined by the previous Subsection C1a, a foundation that conforms to the installation standards established by the Manufactured Housing Board.
 - B. For "modular homes," as defined by the previous Subsection C1c, a foundation that conforms to the City of Biddeford Building Code.
 5. Pitched, shingled roof means a roof with a pitch of two or more vertical

units for every 12 horizontal units of measurement and which is covered with asphalt or fiberglass composition shingles or other materials, but specifically excludes corrugated metal roofing material.

- D. Prohibitions. No person, firm, corporation or other legal entity shall locate, or move from one lot or parcel of land to another, an older mobile home, trailer, or manufactured home, built prior to June 15, 1976, which fails to meet the requirements of Subsection F below unless legally located within Biddeford prior to August 4, 1988.
- E. Nonconforming structures. Mobile homes and trailers, and manufactured homes which fail to meet the standards set forth in Subsection F of this section, which were lawfully established prior to the effective date of this section, shall be considered nonconforming structures and may continue and may be maintained, repaired, improved, and expanded in accordance with the provisions of this ordinance related to nonconforming structures.
- F. Manufactured housing standards.
 - 1. All manufactured housing proposed to be located within the City of Biddeford or relocated from one lot to another within the City, and built prior to June 15, 1976, shall meet the following safety standards:
 - a. City of Biddeford Building Code;
 - b. All electrical utilities shall comply with the National Electric Codes.
 - 2. All manufactured housing proposed to be located within the City of Biddeford after August 4, 1988, shall meet the following design requirements:
 - a. The minimum width shall be 14 feet.
 - b. All units shall contain a minimum living area of 750 square feet.
 - c. All units shall be on a permanent foundation as defined in Subsection C4 above.
 - d. All mobile homes shall be equipped with adequate skirting to enclose the underside of the mobile home.
 - e. All units shall have a pitched, shingled roof of not less than two vertical units for every 12 horizontal units of measurement.
 - f. Exterior siding shall conform to any requirements for exterior siding of site-built housing in the City of Biddeford.

Division 2. Mobile Home Parks.

- A. Applicability. Except as stipulated below, mobile home parks shall meet all the requirements for a residential subdivision contained in Chapter 66 of the Code, and shall conform to all applicable state laws and local ordinances or

regulations. Where the provisions of this section conflict with specific provisions of the City of Biddeford Ordinances the provisions of this section shall prevail.

- B. Permitted housing units. Mobile home parks, as defined, shall be limited to the siting of manufactured housing meeting the definition standards specified in Division 1C1(a) and (b) as such refers to "mobile homes."
- C. Approval; inspections.
 - 1. Mobile home parks shall be permitted after review and approval by the Planning Board in those districts designated on the Official Zoning Map of the City of Biddeford. The Planning Board shall determine the adequacy of the design with respect to lot layout, traffic circulation, water supply and sewage disposal, and other features specified in this ordinance and in the Subdivision Ordinance to assure conditions which preserve the health, safety, and welfare of the occupants, the surrounding neighborhood and the City generally. All mobile home parks shall meet the minimum standards of the manufactured Housing Board as well as the provisions of this ordinance, effective at the date of application.
 - 2. Park owners shall be held responsible for the notification of the Building Inspector to inspect new or replacement units being placed in the park. Failure to notify the Building Inspector's office for inspection, or the failure to receive a certificate of occupancy (CO) shall be a violation of Chapter 18 of the Code. Such violation shall be punishable under the terms of the applicable chapter. In cases where the two chapters apply, the stricter of the two shall apply.
 - 3. Owners of mobile home parks shall apply for a permit to operate a mobile home park. This application shall be submitted to the City Clerk's office. The application shall be submitted to the Building Inspector, the Fire Chief, and the Health Officer for their investigation and recommendation. This application shall be reviewed for approval by the municipal officers based on the recommendation of the several public officers. The municipal officers shall act upon the application. Licenses granted by the municipal officers shall be valid for two years, but in no case shall a license be transferred. Failure to have a license renewed shall result in no more certificates of occupancy being issued until such license is renewed.
- D. Permit: method of application and requirements. Applications shall be submitted by the applicant or his/her agent as specified in the Subdivision Ordinance. The applicant shall file with the application proof of ownership of the premises or of a lease or written permission from the owner thereof together with a complete set of plans drawn to scale, by a professional engineer, or land surveyor, registered with the State of Maine, showing the location of the proposed park, and which includes:
 - 1. Dimensions of park boundary lines.

2. Name of park, North arrow, date, and scale of plan.
 3. Name and address of owner of record, and the name and address of proposed park operator.
 4. Names of abutting owners of properties and the nature of present use of abutting properties.
 5. Locations, names and widths of adjacent street and rights-of-way.
 6. Locations and dimensions of all roadways, walkways, public areas, and reserved strips.
 7. Location and description of all existing or proposed buildings or other permanent structures.
 8. Locations and dimensions of all proposed mobile home or trailer spaces.
 9. Existing and proposed utilities, installations, service connections from adjacent streets or properties and the method of sewage disposal.
 10. Drainage plan.
 11. Traffic impact analysis.
 12. Open space management plan.
 13. Park management plan. Each application for a mobile home park shall have a park management plan. This plan shall state in detail, besides the name, address and telephone number of park owner and arrangements for daily contact of park manager/operator, the rules of the park, schedule for park maintenance, trash removal, road maintenance, security of the park, etc.
 14. Landscaping plan that includes details for buffer areas, open space areas and entryways.
 15. Any other reasonable information required by the Biddeford Subdivision Ordinance.
- E. Design requirements. Mobile home parks shall conform to the following minimum requirements. These requirements shall be shown on the park plan.
1. Lot area and lot width requirements. Notwithstanding the dimensional requirements table located in Article VI, Section 6A of this section, lots in a mobile home park shall meet the following lot area and lot width requirements.
 - a. Lots served by public sewer:
 - Minimum lot area: 6,500 square feet
 - Minimum lot width: 50 feet

- b. Lots served by individual subsurface wastewater disposal systems.
Minimum lot area: 20,000 square feet
Minimum lot width: 100 feet
 - c. Lots served by a central subsurface wastewater disposal system approved by the Maine Department of Health and Human Services.
Minimum lot area: 12,000 square feet
Minimum lot width: 75 feet
 - d. The overall density of any park served by any subsurface wastewater disposal system shall not exceed one dwelling unit per 20,000 square feet of total park area.
 - e. Lots located within any shoreland zoning district shall meet the lot area, lot width and shore frontage requirements for that district.
2. Unit setback requirements.
 - a. On lots 10,000 square feet in area or larger, structures shall not be located less than 15 feet from any boundary lines of an individual lot. On lots less than 10,000 square feet in area, structures shall not be located less than 10 feet from any boundary lines of an individual lot.
 - b. On lots which are located within a shoreland zoning district, structures shall comply with all sections of Article XIV, Shoreland Zoning Ordinance.
 3. Buffering. If a park is proposed with a residential density at least twice the density of adjacent development in existence, or at least twice the density permitted in the zoning district in which the park is located if the neighboring land is undeveloped, the park shall be designed with a continuous landscaped area not less than 50 feet in width which shall contain no structures, driveways, utilities or streets. The first 25 feet of the buffer strip, as measured from the exterior boundaries of the park shall contain evergreen shrubs, trees, fences, walls or any combination which forms an effective visual barrier to be located on all exterior lot lines of the park, except that driveways shall be kept open to provide visibility for vehicles entering and leaving the park.
 4. Open space reservation. An area no less than 10% of the total area of those lots with a lot area of 10,000 square feet or less shall be reserved as open space. The area reserved as open space shall be suitable to be used for recreational purposes or use by the residents of the park for storage. Generally, the reserved open space shall have slopes less than 5% shall not be located on poorly or very poorly drained soils, and shall be accessible directly from roads within the park. The Planning Board may

waive the requirement for open space when the park is located within 1/2 mile of a publicly owned recreation area.

5. Road design, circulation, and traffic impacts. Streets within a park shall be designed by a professional engineer, registered in the State of Maine.
 - a. Streets which the applicant proposes to be dedicated as public ways shall be designed and constructed in accordance with the standards for streets in the Biddeford City Code, Chapter 62.
 - b. Streets which the applicant proposes to remain private ways shall meet the following minimum geometric design standards.
 - i. Minimum right-of-way width: 23 feet.
 - ii. Minimum width of traveled way: 20 feet.
 - c. Dead-end streets shall provide a suitable turnaround at the closed end. In addition the following shall apply:
 - i. Any mobile home park expected to generate average daily traffic of 200 trips per day or more shall have at least two street connections with existing public streets. Any street within a park with an average daily traffic of 200 trips per day or more, shall have at least two street connections leading to existing public streets, other streets within the park, or other streets shown on an approved subdivision plan. Trip generation numbers will be determined by the latest version of the publication "Recommended Guidelines for Subdivision Streets" by the Institute of Transportation Engineers (ITE) or other acceptable ITE manuals.
 - ii. A dead-end street shall not exceed in length a distance of 1,500 feet, as measured along the proposed street center line, from the end of the dead end road to the outside edge of the traveled way of the nearest intersecting through road.
 - iii. Exceptions to the maximum dead-end lengths:
 - a. If an applicant can demonstrate (through a master plan) that the street will be connected to create a through street in future development, the Planning Board may allow dead-end lengths to temporarily exceed 1,500 feet.
 - b. If a road loops back on to itself (i.e. lollipop or p-shaped), it may exceed the standards above, provided that the point at which the road loops back onto itself as measured from the beginning of the dead-end road is not more than 1,500 feet.
 - d. No individual lot within a park shall have direct vehicular access

onto an existing public street.

- e. The intersection of any street within a park and an existing public street shall meet the following standards.
 - i. Angle of intersection. The desired angle of intersection shall be 90°. The minimum angle of intersection shall be 75°.
 - ii. Maximum grade within 75 feet of intersection. The maximum permissible grade within 75 feet of the intersection shall be 2%.
 - iii. Minimum sight distance. A minimum sight distance of 10 feet for every mile per hour of posted speed limit on the existing road shall be provided. Sight distances shall be measured from the driver's seat of a vehicle that is 10 feet behind the curb or edge of shoulder line with the height of the eye 3 1/2 feet above the pavement and the height of object 4 1/4 feet.
 - iv. Distance from other intersections. The center line of any street within a park intersecting an existing public street shall be no less than 125 feet from the center line of any other street intersecting that public street.
 - f. The application shall contain an estimate of the average daily traffic projected to be generated by all units within the park units completed in an earlier phase of the mobile home park development. Estimates of traffic generation shall be based on the latest Trip Generation Manual, published by the Institute of Transportation Engineers. If the park is projected to generate more than 400 vehicle trip ends per day, the application shall also include a traffic impact analysis, by a registered professional engineer with experience in transportation engineering.
6. Groundwater impacts.
- a. Assessment submitted. Accompanying the application for approval of any mobile home park which is not served by public sewer shall be an analysis of the impacts of the proposed mobile home park on ground water quality. The hydrogeologic assessment shall be prepared by a certified geologist or registered professional engineer, experienced in hydrogeology and shall contain at least the following information.
 - i. A map showing the basic soils types.
 - ii. The depth to the water table at representative points throughout the mobile home park.
 - iii. Drainage conditions throughout the mobile home park.
 - iv. Data on the existing ground water quality, either from test wells

in the mobile home park or from existing wells on neighboring properties.

- v. An analysis and evaluation of the effect of the mobile home park on ground water resources. The evaluation shall, at a minimum, include a projection of post-development nitrate-nitrogen concentrations at any wells within the mobile home park, at the mobile home park boundaries and at a distance of 1,000 feet from potential contamination sources, whichever is a shorter distance. For mobile home parks within the watershed of a lake, projections of the development's impact on groundwater phosphate concentrations shall also be provided.
 - vi. A map showing the location of any subsurface wastewater disposal systems and drinking water wells within the mobile home park and within 200 feet of the mobile home park boundaries.
- b. Standards for acceptable groundwater impacts.
- i. Projections of groundwater quality shall be based on the assumption of drought conditions (assuming 60% of annual average precipitation).
 - ii. No mobile home park shall increase any contaminant concentration in the groundwater to more than 1/2 of the Primary Drinking Water Standards. No mobile home park shall increase any contaminant concentration in the groundwater to more than the Secondary Drinking Water Standards.
 - iii. If groundwater contains contaminants in excess of the primary standards, and the mobile home park is to be served by on-site groundwater supplies, the applicant shall demonstrate how water quality will be improved or treated.
 - iv. If groundwater contains contaminants in excess of the secondary standards, the mobile home park shall not cause the concentration of the parameters in question to exceed 150% of the ambient concentration.
- c. Subsurface wastewater disposal systems and drinking water wells shall be constructed as shown on the map submitted with the assessment. If construction standards for drinking water wells are recommended in the assessment, those standards shall be included as a note on the plan.
7. Conversion without approval. No development or subdivision which is approved under this section as a mobile home park may be converted to another use without the approval of the Planning Board, and meeting the appropriate lot size, lot width, setback and other requirements. The plan

to be recorded at the Registry of Deeds and filed with the municipality shall include the following restrictions as well as any other notes or conditions of approval.

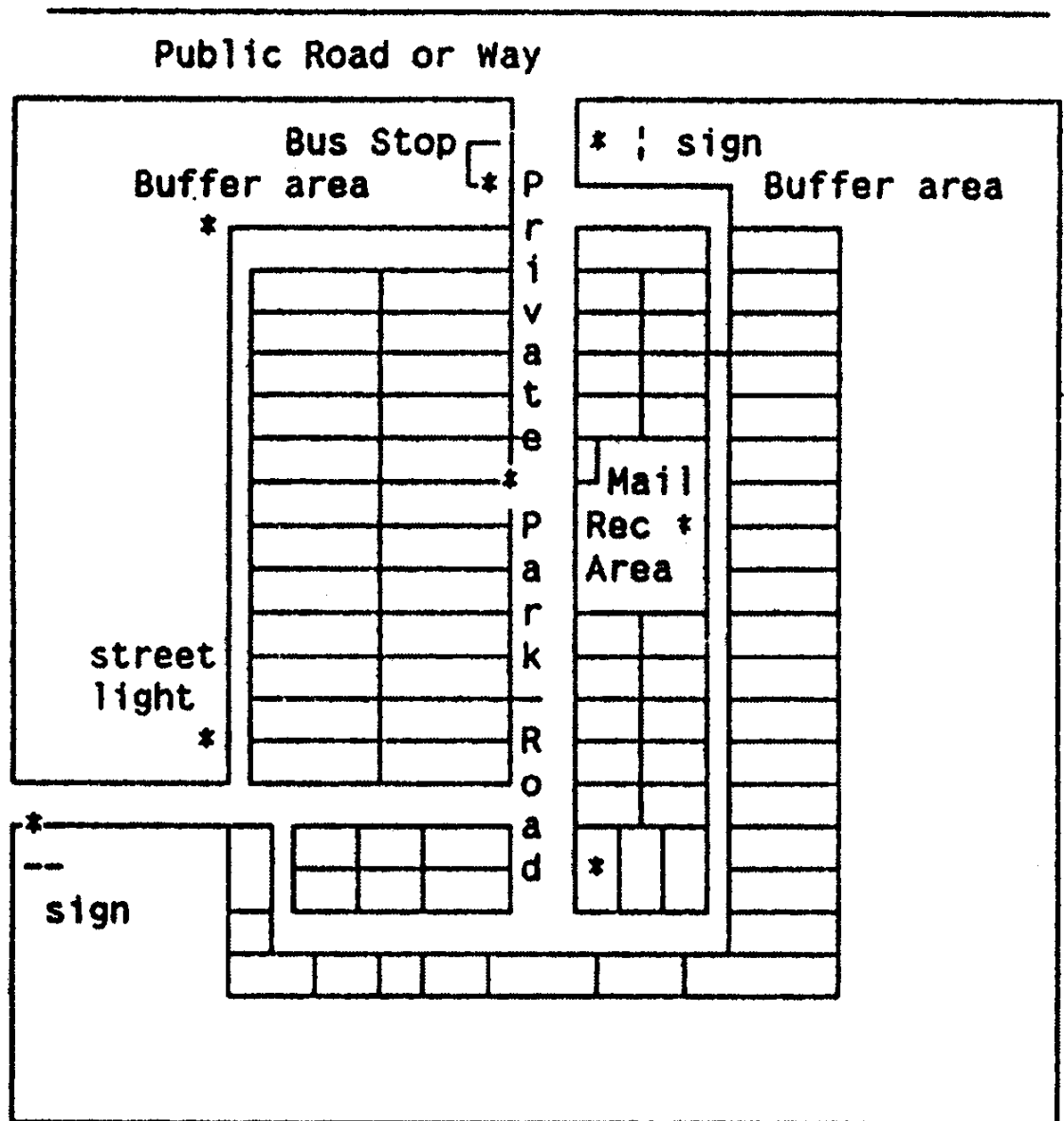
- a. The land within the park shall remain in a unified ownership and the fee to lots or portions of lots shall not be transferred.
- b. No dwelling unit other than a manufactured housing unit shall be located within the park.

Division 3. Mobile Home Subdivisions and Developments Other Than Mobile Home Parks.

- A. Mobile home subdivisions and developments other than mobile home parks shall meet the standards established under the Zoning Ordinance and the Subdivision Ordinance. If provisions conflict, the stricter standard shall prevail.

SAMPLE MOBILE HOME PARK

(Not to Scale)



Sample Mobile Home Park

Buffer area would maintain the natural vegetation and be landscaped as needed.