CITY OF LEWISTON
PLANNING BOARD MEETING
Monday, September 28, 2020 – 5:30 P.M.
Lewiston City Government
27 Pine Street, Lewiston, ME

AGENDA

Remote Meeting Information:
In accordance with An Act To Implement Provisions Necessary to the Health, Welfare, and Safety of the Citizens of Maine in Response to the COVID-19 Public Health Emergency, as enacted to read: Sec. G-1 1 MRSA §403-A Public proceedings through remote access during the declaration of a state of emergency due to COVID-19, the meeting will be held through ZOOM video conferencing. To participate in the meeting, please go to https://www.lewistonmaine.gov/2020PB

Information regarding this application is available at http://www.lewistonmaine.gov/209/Planning-Board Questions, and comments on the application or meeting may be sent to dgreene@lewistonmaine.gov or by calling 207-513-3000, ext. 3223.

1. **ROLL CALL**

2. **ADJUSTMENTS TO THE AGENDA**

3. **CORRESPONDENCE**

4. **PUBLIC HEARINGS:**

   a. Stoneybrook Land Use, LLC, an agent for MRE, LLC (MRE) has submitted a development review application to construct a 64,800 sf. warehouse building at property located at 855 Lisbon Street, (Promenade Mall rear).

   b. Bild Architecture, an agent for Raise-Op has submitted a development review and subdivision application to construct a 9 unit multi-family structure at property located at 198 Blake Street.

5. **OTHER BUSINESS**

6. **READING OF THE MINUTES**: Motion to adopt the September 14, 2020 draft minutes.

7. **ADJOURNMENT**

The next scheduled Planning Board meeting is October 26, 2020

The City of Lewiston is an EOE. For more information, please visit our website @ www.lewistonmaine.gov and click on the Non-Discrimination Policy.

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: Lewiston Planning Board

FROM: Douglas Greene, AICP, RLA, City Planner

DATE: September 28, 2020

RE: Agenda Item 4a, Promenade Mall building expansion, 855 Lisbon Street

---

An application has been submitted by Stoneybrook Land Use, Inc., on behalf of MRE, LLC (MRE), to construct a 64,800 sf building addition to the Promenade Mall, located at 855 Lisbon Street.

PROJECT DESCRIPTION

The Promenade Mall was developed in the 1970s with commercial space and parking on the Lisbon Street side of the building and around the backside. The rear of the Mall is accessed around the right side of the building and from Essex Street. This development review application proposes a new 64,800 sf building expansion (270' x 240') at the rear southwest portion of the property.

The application's cover letter provides a history of the Promenade Mall and its evolution over the years regarding building coverage, impervious area, and types of uses. The proposed use for the 64,800 sf building is warehousing with no specific user named at this time. The Promenade Mall has been transitioning from what was mostly retail to, more recently, warehousing. The area proposed for the new building is primarily existing pavement. During construction, some existing pavement will be removed, and some impervious areas around the front of the Mall will be removed and replaced with landscaping. (See the application for photos) Overall the proposed development will create a net decrease of 50 square feet of impervious surface for the overall Mall. No special stormwater facilities are therefore required.

Included in the application is a Traffic Assessment Report, by Bill Bray, of Traffic Solutions. The report concludes that the project will generate 16 new vehicle trips in the peak PM hour and the AM peak, and Saturday peak trips will be less than 16 trips. The truck traffic associated with the new building will utilize Essex Street. Four employee parking spaces are being created for the project. The rear parking area will be used for truck movement, and no overnight parking will be allowed.

LIST TYPES OF APPROVALS

The Planning Board will need to review and take action on this development review application using Article XIII, Development Review and Standards, Section 4, Approval Criteria.

STAFF REVIEW and COMMENTS

The Staff met with the developer some months ago and discussed stormwater, traffic, and the proposed use. During the review of the application, some comments were:

1. Provide more information on truck traffic movement and how the rear parking lot will function.
2. Peak hour trip generation.
3. Add notes to the site plan.

The applicant addressed all the staff comments in a memo provided in the final application.

STAFF RECOMMENDATION

The Staff has no additional comments at this time. Staff recommends APPROVAL of the proposed project.

ACTION NECESSARY

Make a motion that the application submitted by Stoneybrook Land Use, Inc. on behalf of MRE, LLC (MRE) to construct a 64,800 sf building located at 855 Lisbon Street meets all of the necessary criteria contained in the Zoning and Land Use Code, including, but not limited to Article XIII, Section 4 of the Zoning and Land Use Code, and that approval be granted (including if any, specific conditions raised by the Planning Board or Staff).

Stoneybrook
Land Use, Inc.

4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281
(207) 513-6123

September 18, 2020

Douglas Greene, City Planner
Department of Planning & Code Enforcement
City of Lewiston
27 Pine Street
Lewiston, ME 04240-7201

Re: 855 Lisbon Street
Development Review Application

Dear Doug:

On behalf of MRE, LLC (MRE), I have attached a Development Review Application to construct a warehouse expansion at the Promenade Mall located at 855 Lisbon Street. MRE purchased the property in September of 2016. The property is shown on Tax Map 198 as Lot 15. The property contains 22.74 acres and has frontage on Essex Street and Lisbon Street. The parcel is subject to a contract zone agreement created in 1996 that created a Highway Business District which allows warehouse use at this property.

We have attached a full set of site engineering plans prepared by Summit Geoengineering Services, Inc. (Summit). These plans provide full details for the site improvements, utility connections and stormwater improvements. All improvements have been designed to meet City standards.

This project was originally approved by the Environmental Improvement Commission in April of 1971. The project is subject to minor amendments that have been previously approved by the Maine Department of Environmental Protection (MDEP) in 1974, 1975, 1979 and 1985. The City of Lewiston, under your delegated review authority, approved Parts America (now Advanced Auto) in 1997 and Tim Horton's in 1998, with MDEP permission. We would respectfully request that the City review this application under your delegated review authority as a minor modification.

Stoneybrook
Land Use, Inc.

4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281
(207) 513-6123

September 18, 2020

Douglas Greene, City Planner
Department of Planning & Code Enforcement
City of Lewiston
27 Pine Street
Lewiston, ME 04240-7201

Re: 855 Lisbon Street
Development Review Application

Dear Doug:

On behalf of MRE, LLC (MRE), I am pleased to provide this response to staff comments in support of our application to construct a warehouse expansion at the Promenade Mall located at 855 Lisbon Street.

Planning Comments-

1. Please elaborate on how truck traffic will move through the large paved area at the rear of the Promenade Mall. Will there be other parking spaces created beside the four new spaces shown on the plan? Will trucks park in that area?

   Trucks will enter the property from Essex Street as they have for many years. Previously, those movements were made by a mixture of tenants, like the theater, Cavalier Club and other retail tenants. Under the proposed plan, all other uses with small vehicle traffic will be eliminated. The lower parking area will only be used for truck movements in and out of the loading docks or drive-in door locations. Three loading dock areas were required to serve the existing lower level warehouse space due to the odd shape of the basement space. In the new building, the loading docks are centered and the drive-in doors are located at the ends of the building where grades will allow those movements. These locations were specifically selected to avoid truck movement conflicts with the docks in the existing building. While some pavement removal is proposed in the

rear lower parking area, those areas were minimized to maximize paved areas for truck movements or truck staging while those movements occur at numerous locations throughout the lower level of this site.

There will be no additional parking spaces created for the warehousing use other than the spaces shown on the project plans.

Trucks will not be parked onsite overnight. Trailers may be left overnight.

2. Can you provide more information on the potential use of the new warehouse space? What is the anticipated number of trips and the size of trucks? Hours of operation?

We do not have a specific tenant for the proposed space, so we cannot provide more detail at this time. We do have interest from existing warehouse tenants that could use additional space for the same client(s) they are currently serving.

The site is designed for use by the largest trucks allowed on the highway systems today. See the Traffic Assessment report for anticipated trip generation.

The warehouse needs to be available for 24 hours per day, 7 days per week operations to be marketable.

3. What is the anticipated route that trucks will take to get to the new building? How will the direction of the trucks be controlled if they use the main entrance at Lisbon Street and East Avenue? In other words, will they drive diagonally across the Mall parking lot through the existing parking spaces, as most vehicular drivers do? Will Essex Street be the primary way vehicles will get to the site?

Lisbon Street to Essex Street to the rear lower level.

This mall was established in the 1970's as a retail mall with Shaw's, Service Merchandise, Bradley's, Cinemas and numerous smaller retail tenants. Truck movements have always used the Lisbon Street/East Avenue entrance and upper level parking area to make deliveries. These

movements continue today for Staples, the Dollar Store and NEPW. There are several routes available for these deliveries without crossing diagonally through parking spots as they did when the project was first developed. Given the current uses at the mall today, there are no plans to prohibit those possible diagonal movements until parking demand and uses increase significantly.

As noted above, Essex Street will be the primary access for the rear lower level warehousing proposed for this application.

4. What kind of employee facilities will there be (bathrooms, breakrooms, etc.)?

   As noted above, we do not have a specific tenant for this building. Once a tenant is secured, the interior space will be built out to support that tenant's specific requirements. Bathrooms and small office areas may be necessary.

5. Please add standard notes (attached along with these comments in email).

   The standard notes have been added to Sheet 1 of the plan set.

We hope you find that these responses have addressed the concerns and comments provided. Please let me know if you have any questions. We can also provide additional information or answer any questions the Planning Board or staff may have at the meeting on September 29th.

Respectfully Yours

STONEYBROOK LAND USE, INC.

Michael F. Gotto

Site plans show a net decrease in impervious area on the property. We have reviewed the Stormwater Rules under a redevelopment project and have attached graphics and calculations under those requirements that show stormwater controls are not required for this project. Also, all construction activities are being done within the developed portions of the property, so there are no wetland areas that would be impacted.

The proposed building will include about 64,800 square feet. The building will be located at the rear of the property, behind the mall at the basement level. Utility services have been recently moved or are in the process of being relocated to make room for this expansion. All utility services for the new structure will come from the existing mall building or outside services located in the rear parking area. MRE has been renovating the building and updating services as they secure lease agreements with new tenants for the mall building.

As noted above, the mall was developed in the early 1970's. Site plans show an existing building footprint of 191,459 square feet. There is a basement level in the rear of the building with 81,322 square feet of floor area. The basement level had at least one unit where there was a second-floor mezzanine level of about 2,000 square feet. The main floor level had at least two units with a second-floor mezzanine level with a total of about 25,000 square feet of rentable space. Therefore, in the mall building, there was a total of 299,781 square feet of usable rentable space.

Tax records show a second freestanding building was built on the property in 1997. That building footprint was listed as 8,000 square feet and this unit is currently occupied by Advance Auto. At the same time, a second attached unit with a footprint of 6,000 square feet was approved, but it has not yet been constructed.

In 1999, tax records show that a Tim Hortons was constructed in a third freestanding building on this property. This building is said to include 3,200 square feet. City Planning files also include information of the approval process with site design plans for both of these freestanding buildings.

When MRE purchased the building in 2016, there were a number of vacancies. They have been making changes inside the mall building to covert the space for multiple tenant uses. Today, the lower level has been totally converted to warehousing. The entire 81,322 square feet is leased to Chapman Trucking. In the upper main floor level, all of the second-floor mezzanine space has been removed and 83,000 square feet is now leased to NEPW for warehousing. Staples occupies 24,000 square feet, Dollar General occupies 11,510 square feet and Paychex is occupying 12,490 square feet. The remaining 60,459 square feet is being renovated and they are talking with several possible tenants for that space. MRE has removed a total of 27,000 square feet of second floor mezzanine space in the upper and lower levels of the building.

Various site plans for the site show about 794 parking spaces between Lisbon Street and the front of the mall building. All parking spaces previously striped at the rear of the building in the lower parking area have been removed to make room for truck movements. Two parking spaces will be available for the existing warehouse tenant and 4 new spaces will be added for the proposed building. The current warehouse tenant operates the entire lower level with only two employees. There are no visitors allowed in the warehouse area. We believe that the parking available in the front parking lot will meet or exceed any future parking requirements for this parcel.

MRE is proposing to remove some paved areas in the lower parking area and along the southeasterly side of the upper parking lot. Pavement will also be removed in the front of the mall building to make room for landscape improvements that will match what was recently done at the new unit occupied by Paychex. We have attached several photographs showing those improvements. We hope this will avoid the need for a landscape plan. With these landscape improvements and pavement removal, there will be a net decrease of 50 square feet of impervious area on the property.

I have attached a traffic assessment report from Bill Bray of Traffic Solutions. This warehouse expansion will generate 16 new vehicle trips in the peak PM hour. Calculations for the AM peak hours and the Saturday peak hour are all less than 16 trips. Given the historic use of the property, this site still has

significant trip credits available to support future expansions at this site based upon the Bray report. Therefore, a Traffic Movement Permit (TMP) will not be required.

Based upon the City GIS information, there is about 723,993 square feet of existing impervious surface on the parcel. As noted above, the proposed project will decrease that total by 50 square feet. This total will result in an impervious coverage of 0.72. City code allows a maximum impervious coverage of 0.75 in the HB District. Total lot coverage within the parcel for the building improvements is 0.27. City code allows 0.50 lot coverage in the HB District. The proposed building expansion will meet all City setbacks and yard requirements.

The total estimated cost for the new building and site improvements is about $2.7 million. MRE will complete this project with funds on hand. Construction is scheduled to begin as soon as this project is approved. Occupancy of the building is planned by Spring of 2021.

We hope you find this application complete and we will plan to attend the Planning Board meeting to answer any questions the Planning Board or staff may have.

Respectfully Yours

STONEYBROOK LAND USE, INC.

Michael F. Gotto

cc: Dave Gendron
Todd Spencer

Development Review Application

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement

PROJECT NAME: Promenade Mall Building Addition

PROPOSED DEVELOPMENT ADDRESS: 855 Lisbon Street

PARCEL ID#: 198-15

REVIEW TYPE: Site Plan/Special Exception ☑ Site Plan Amendment ☐
Subdivision ☐ Subdivision Amendment ☐

PROJECT DESCRIPTION: See Cover Letter

CONTACT INFORMATION:

Applicant		Property Owner	
Name:	MRE, LLC	Name:	Same
Address:	P.O. Box 1915	Address:	
Zip Code	Lewiston, ME 04241-1915	Zip Code	
Work #:		Work #:	
Cell #:		Cell #:	
Fax #:		Fax #:	
Home #:		Home #:	
Email:		Email:	

Project Representative		Other professional representatives for the project (surveyors, engineers, etc.),	
Name:	Mike Gotto-Stoneybrook Land Use, Inc.	Name:	Summit Geoengineering Services
Address:	4846 Sun City Center Blvd., #300	Address:	145 Lisbon Street, Suite 701
Zip Code	Sun City Center, FL 33573-6281	Zip Code	Lewiston, ME 04240
Work #:		Work #:	(207) 576-3313
Cell #:	(207) 513-6123	Cell #:	
Fax #:		Fax #:	
Home #:		Home #:	
Email:	mike@stoneybrookllc.com	Email:	bpeterlein@summitgeoeng.com

PROJECT DATA

The following information is required where applicable, in order to complete the application

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	723,993	sq. ft.
Proposed Total Paved Area	456,263	sq. ft.
Proposed Total Impervious Area	723,943	sq. ft.
Proposed Impervious Net Change	-50	sq. ft.
Impervious surface ratio existing	72.4	% of lot area
Impervious surface ratio proposed	72.4	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	202,659	sq. ft.
Proposed Building Footprint	267,459	sq. ft.
Proposed Building Footprint Net change	64,800	sq. ft.
Existing Total Building Floor Area	310,981	sq. ft.
Proposed Total Building Floor Area	375,781	sq. ft.
Proposed Building Floor Area Net Change	64,800	sq. ft
New Building	No	(yes or no)
Building Area/Lot coverage existing	20.3	% of lot area
Building Area/Lot coverage proposed	26.8	% of lot area

ZONING

Existing	Highway Business
Proposed, if applicable	Highway Business

LAND USE

Existing	Retail/Warehouse
Proposed	Retail/Warehouse

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	0
Proposed Number of Residential Units	0
Subdivision, Proposed Number of Lots	N/A

PARKING SPACES

Existing Number of Parking Spaces	794
Proposed Number of Parking Spaces	800
Required Number of Parking Spaces	
Number of Handicapped Parking Spaces	18

ESTIMATED COST OF PROJECT

$2.7 million

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	723,993	sq. ft.
Proposed Disturbed Area	140,200	sq. ft.
Proposed Impervious Area	723,943	sq. ft.

1. ***If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with MDEP.***
2. ***If the proposed impervious area is greater than one acre including any impervious area crated since 11/16/05, then the applicant shall apply for a MDEP Stormwater Management Permit, Chapter 500, with the City.***
3. ***If total impervious area (including structures, pavement, etc) is greater than 3 acres since 1971 but less than 7 acres, then the applicant shall apply for a Site Location of Development Permit with the City. If more than 7 acres then the application shall be made to MDEP unless determined otherwise.***
4. ***If the development is a subdivision of more than 20 acres but less than 100 acres then the applicant shall apply for a Site Location of Development Permit with the City. If more than 100 acres then the application shall be made to MDEP unless determined otherwise.***

TRAFFIC ESTIMATE

Total traffic estimated in the peak hour-existing (Since July 1, 1997) _____ passenger car equivalents (PCE)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) _____ passenger car equivalents (PCE)

If the proposed increase in traffic exceeds 100 one-way trips in the peak hour then a traffic movement permit will be required.

Zoning Summary

1. Property is located in the Highway Business zoning district.
2. Parcel Area: 22.9 acres / _____ square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	None	22.9
Street Frontage	150'	970'
Min Front Yard	15'	15'
Min Rear Yard	10'	80'
Min Side Yard	10'	5'
Max. Building Height	65'	
Use Designation	Retail/Warehouse	Retail/Warehouse
Parking Requirement	1 space/ per _____ square feet of floor area	
Total Parking:		
Overlay zoning districts (if any):		
Urban impaired stream watershed?	YES/(NO) If yes, watershed name _____	

DEVELOPMENT REVIEW APPLICATION SUBMISSION

Submission shall include payment of fee and fifteen (15) complete packets containing the following materials:

1. Full size plans containing the information found in the attached sample plan checklist.
2. Application form that is completed and signed.
3. Cover letter stating the nature of the project.
4. All written submittals including evidence of right, title and interest.
5. Copy of the checklist completed for the proposal listing the material contained in the submitted application.

Refer to the application checklist for a detailed list of submittal requirements.

L/A's development review process and requirements have been made similar for convenience and to encourage development. Each Citys ordinances are available online at their prospective websites:
Auburn: www.auburnmaine.org under City Departments/ Planning and Permitting/Land Use Division/Zoning Ordinance.
Lewiston: http://www.ci.lewiston.me.us/clerk/ordinances.htm. Refer to Appendix A of the Code of Ordinances

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, I certify that the City's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for development review only; a Performance Guarantee, Inspection Fee, Building Permit Application and other associated fees and permits will be required prior to construction.

Signature of Applicant:	Date: 9/10/20

Development Review Checklist

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement

THE FOLLOWING INFORMATION IS REQUIRED WHERE APPLICABLE TO BE SUBMITTED FOR AN APPLICATION TO BE COMPLETE

PROJECT NAME: Promenade Mall Building Addition

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 855 Lisbon Street, 198-15

Required Information		Check Submitted		Applicable Ordinance	
Site Plan		**Applicant**	**Staff**	**Lewiston**	**Auburn**
	Owner's Names/Address	✓			
	Names of Development	✓			
	Professionally Prepared Plan	✓			
	Tax Map or Street/Parcel Number	✓			
	Zoning of Property	✓			
	Distance to Property Lines	✓			
	Boundaries of Abutting land	✓			
	Show Setbacks, Yards and Buffers	✓			
	Airport Area of Influence (Auburn only)				
	Parking Space Calcs	✓			
	Drive Openings/Locations	✓			
	Subdivision Restrictions	N/A			
	Proposed Use	✓			
	PB/BOA/Other Restrictions				
	Fire Department Review				
	Open Space/Lot Coverage	✓			
	Lot Layout (Lewiston only)	N/A			
	Existing Building (s)	✓			
	Existing Streets, etc.	✓			
	Existing Driveways, etc.	✓			
	Proposed Building(s)	✓			
	Proposed Driveways	✓			
Landscape Plan					
	Greenspace Requirements	✓			
	Setbacks to Parking	✓			
	Buffer Requirements	✓			
	Street Tree Requirements	N/A			
	Screened Dumpsters	✓			
	Additional Design Guidelines				

	Planting Schedule	✓			
Stormwater & Erosion Control Plan					
	Compliance w/ chapter 500	✓			
	Show Existing Surface Drainage	✓			
	Direction of Flow	✓			
	Location of Catch Basins, etc.	✓			
	Drainage Calculations	✓			
	Erosion Control Measures	✓			
	Maine Construction General Permit				
	Bonding and Inspection Fees				
	Post-Construction Stormwater Plan	✓			
	Inspection/monitoring requirements	✓			
	Third Party Inspections (Lewiston only)	✓			
Lighting Plan					
	Full cut-off fixtures	✓			
	Meets Parking Lot Requirements	✓			
Traffic Information					
	Access Management	✓			
	Signage	✓			
	PCE - Trips in Peak Hour	✓			
	Vehicular Movements	✓			
	Safety Concerns	✓			
	Pedestrian Circulation	✓			
	Police Traffic				
	Engineering Traffic	✓			
Utility Plan					
	Water	✓			
	Adequacy of Water Supply				
	Water main extension agreement	N/A			
	Sewer	✓			
	Available city capacity				
	Electric	✓			
	Natural Gas	✓			
	Cable/Phone	✓			
Natural Resources					
	Shoreland Zone	N/A			
	Flood Plain	N/A			
	Wetlands or Streams	✓			
	Urban Impaired Stream	N/A			
	Phosphorus Check	N/A			
	Aquifer/Groundwater Protection	N/A			
	Applicable State Permits	N/A			
	No Name Pond Watershed (Lewiston only)	N/A			

	Lake Auburn Watershed (Auburn only)				
	Taylor Pond Watershed (Auburn only)				
Right Title or Interest					
	Verify	✓			
	Document Existing Easements, Covenants, etc.				
Technical & Financial Capacity					
	Cost Est./Financial Capacity	✓			
	Performance Guarantee				
State Subdivision Law					
	Verify/Check	✓			
	Covenants/Deed Restrictions	N/A			
	Offers of Conveyance to City	✓			
	Association Documents	N/A			
	Location of Proposed Streets & Sidewalks	✓			
	Proposed Lot Lines, etc.	N/A			
	Data to Determine Lots, etc.	N/A			
	Subdivision Lots/Blocks	N/A			
	Specified Dedication of Land	N/A			
Additional Subdivision Standards					
	Single-Family Cluster (Lewiston only)				
	Multi-Unit Residential Development (Lewiston only)				
	Mobile Home Parks				
	Private Commercial or Industrial Subdivisions (Lewiston only)				
	PUD (Auburn only)				
A jpeg or pdf of the proposed site plan					
Final sets of the approved plans shall be submitted digitally to the City, on a CD or DVD, in AutoCAD format R 14 or greater, along with PDF images of the plans for archiving					

#

#

1. Landscaping at Paychex looking northwesterly.

SITE PHOTOS

Promenade Mall – 855 Lisbon Street, Lewiston
Pictures taken on September 9, 2020 by MFG

Stoneybrook
Land Use, Inc.

#

2. Landscaping at Paychex looking northwesterly.

SITE PHOTOS

Promenade Mall – 855 Lisbon Street, Lewiston
Pictures taken on September 9, 2020 by MFG

Stoneybrook
Land Use, Inc.

#

3. Landscaping at Paychex looking southeasterly from Staples.

SITE PHOTOS

Promenade Mall – 855 Lisbon Street, Lewiston
Pictures taken on September 9, 2020 by MFG

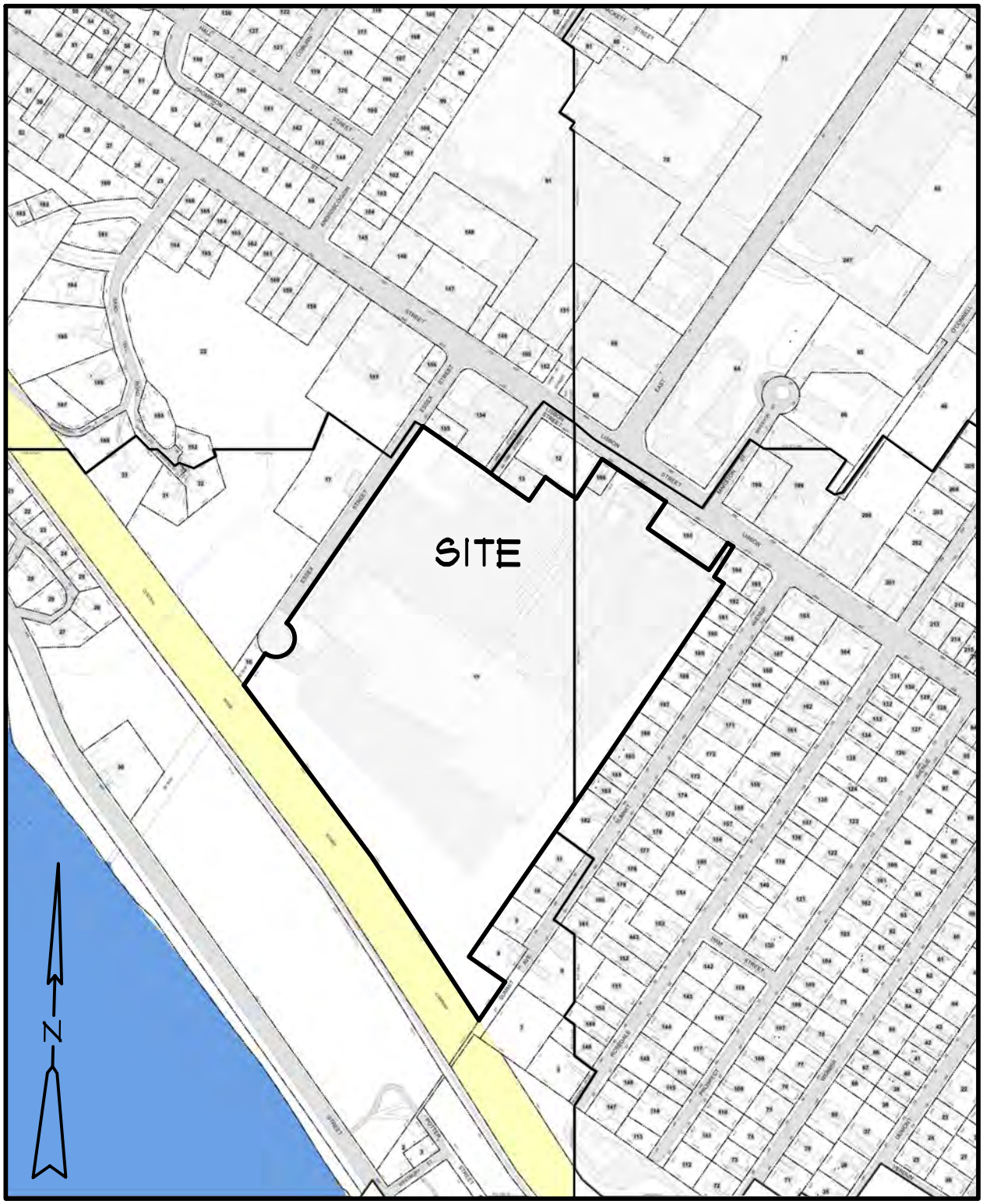
Stoneybrook
Land Use, Inc.

4. Landscaping at Paychex looking southeasterly from Staples.

SITE PHOTOS

Promenade Mall – 855 Lisbon Street, Lewiston
Pictures taken on September 9, 2020 by MFG

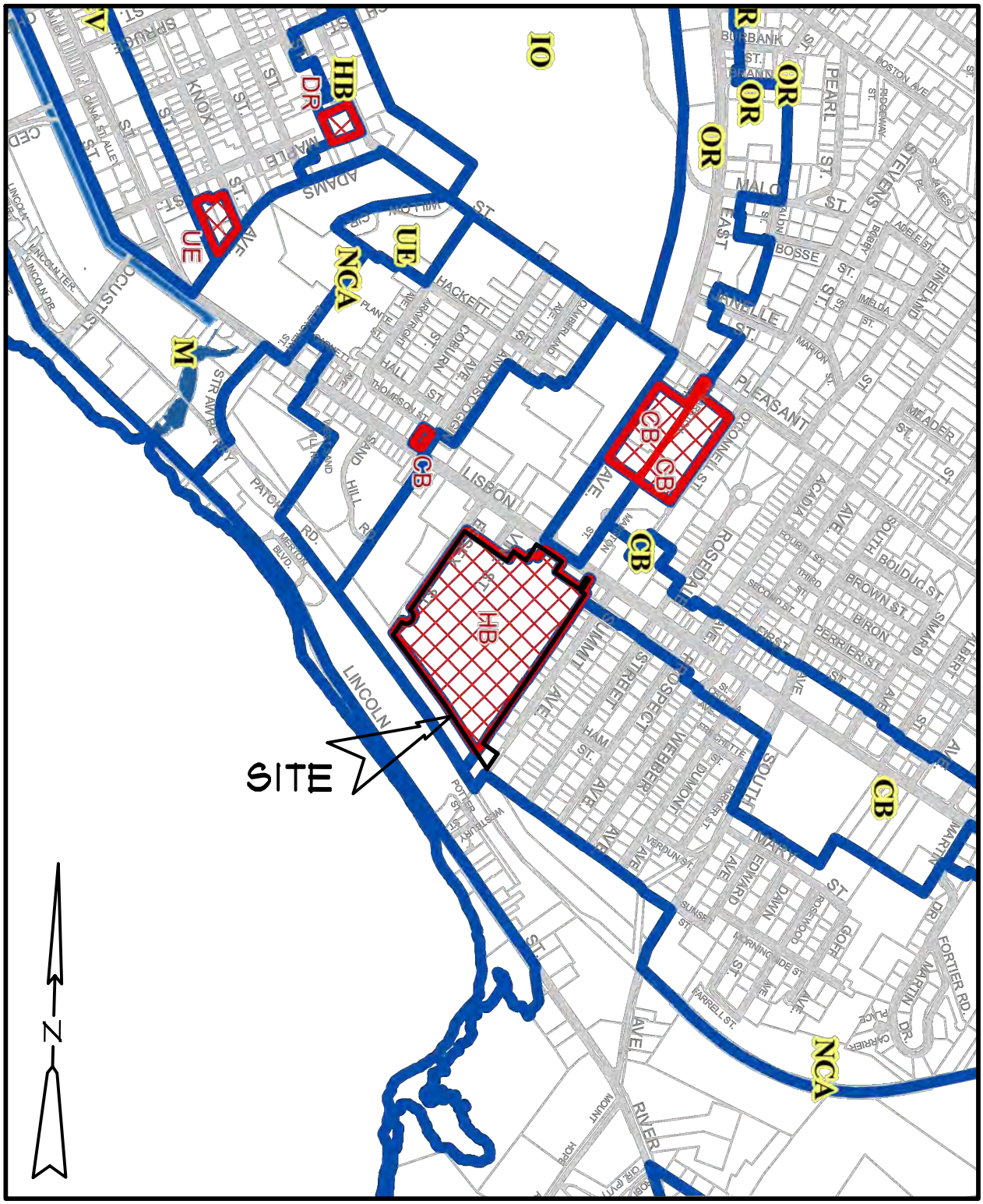
Stoneybrook
Land Use, Inc.



TAX MAP

PROMENADE MALL - LISBON STREET, LEWISTON
OWNER: GRE, LLC
SCALE: 1" = 400'
DATE OF GRAPHIC: AUGUST 27, 2020
SOURCE: CITY OF LEWISTON GIS
PUBLICATION DATE: 2020

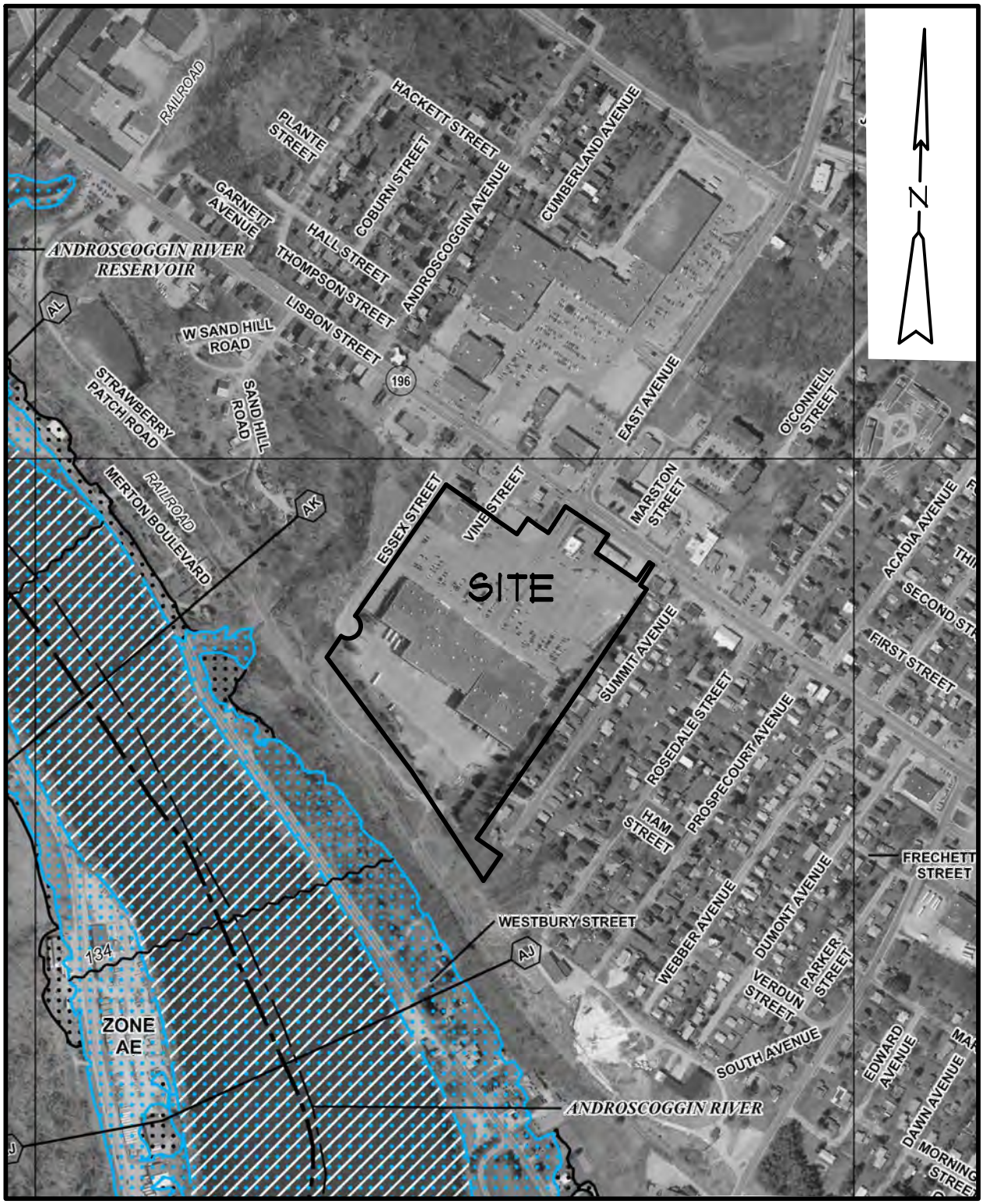
Stoneybrook
Land Use, Inc.



ZONING MAP

PROMENADE MALL - LISBON STREET, LEWISTON
OWNER: GRE, LLC
SCALE: 1" = 1,000'
DATE OF GRAPHIC: AUGUST 27, 2020
SOURCE: CITY OF LEWISTON ZONING MAP
PUBLICATION DATE: 2017

Stoneybrook
Land Use, Inc.



FLOOD MAP

PROMENADE MALL - LISBON STREET, LEWISTON
OWNER: GRE, LLC
SCALE: 1" = 600'
DATE OF GRAPHIC: AUGUST 27, 2020
SOURCE: FEMA FLOOD INSURANCE RATE MAP
PUBLICATION DATE: JULY 8, 2013

Stoneybrook
Land Use, Inc.

MDEP Stormwater Area Calculations
Promenade Mall - Lewiston
8/24/20

Existing Development				
	Area (acres)	Environmental Impact	Proposed Impact Rating	Ranked Impact
Roof	4.66	2	9.32	
Parking/Drives	11.96	3	35.88	
Grass	3.39	2	6.78	
Forested	0.13	0	0	
Total	20.14		51.98	**2.58**

Proposed Development				
	Area (acres)	Environmental Impact	Proposed Impact Rating	Ranked Impact
Roof	6.15	2	12.30	
Parking/Drives	10.55	3	31.65	
Grass	3.40	2	6.80	
Forested	0.04	0	0.00	
Total	20.14		50.75	**2.52**

2.58 (Proposed) - 2.52 (Existing) = -0.06 Ranked Impact Change

Traffic Solutions
William J. Bray, P.E.
17 Mountview Drive
Gorham, ME 04038
(207) 400-6890
trafficsolutions@maine.rr.com

September 14, 2020

Mike Gotto
Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd. #300
Sun City Center, FL 33573

RE: Site Trip Generation – Proposed Warehouse Expansion

Dear Mike:

Based upon your correspondence, the owner of the Promenade Mall property is proposing to construct a 64,800sf warehouse expansion of the site to the rear of the existing mall building. City staff has requested completion of a traffic assessment to determine if the proposed project requires a Traffic Movement Permit.

For clarification, MaineDOT in their Chapter 305 Rules and Regulations requires any project that generates 100 or more passenger car equivalent trips (PCE's) during the peak hour of traffic generation to file for a Traffic Movement Permit. Further, their regulations grant a trip credit for previously permitted or unpermitted trips that have been generated by the development for more than 10 years. MaineDOT has determined that the trip credits will be given for the highest permitted/actual use of the development that has occurred over the last 10 years.

Traffic Solutions applied the following process in determining if sufficient trip credits exist to support the proposed site expansion project:

Step 1. Establish trip generation of active site tenants in 2010.
Step 2. Establish 2020 trip generation of existing site tenants.
Step 3. Determine available trip credits of the site subtracting the 2010 trip volumes from the current 2020 site trip volumes.
Step 4. Estimate Trip generation of the proposed 64,800sf warehouse site.
Step 5. Mathematically subtract peak hour trip generation of the proposed warehouse site from the calculated trip credits.

Step #1 Establish Trip Generation of active site tenants in 2010

The following list of 2010 building tenants were actively occupying the site in 2010 and beyond; their site detail was used to calculate peak hour trip estimates for each critical peak hour time period:

Cavalier Club – 12,000sf
Chapman Trucking – 55,885sf
Flagship Cinemas – 26,385sf
Staples – 24,000sf
Dollar General – 11,510sf
Player's Edge – 8,000sf
Mr. Paperback – 22,900sf

Book Store (2) – 7,425sf
Mr. Paperback Storage – 7,500sf
Other Tenant Storage – 20,000sf
Tim Horton's - 3,200sf
Advanced Auto – 8,000sf

Total Building Area Occupied = 206,805sf

Peak hour trip generation was estimated based upon trip rates presented in the 10th Edition of the Institute of Transportation Engineers (ITE) **TRIP GENERATION** publication. Peak hour rates presented for Land-Use #820 - Shopping Center (159,920sf) were used to calculate peak hour trips for each tenant space except Chapman Trucking. Peak hour trips for Chapman Trucking (55,885sf) was estimated based upon Land-Use #150 - Warehousing. Table 1, below, presents the peak hour trip estimates for the Promenade Mall building tenants in 2010 and beyond.

Table 1
2010 Active Building Tenant(s)
Total Peak Hour
Trip Generation

Site Use	Peak Hour Time Period	Building Area (SF)	Trip Rate	Total Trips
Chapman Trucking		55,885sf		
	AM Peak Hour (Street)		0.17 trips/1,000sf	10
	PM Peak Hour (Street)		0.19 trips/1,000sf	11
	AM Peak Hour (Generator)		0.22 trips/1,000sf	12
	PM Peak Hour (Generator)		0.24 trips/1,000sf	13
	Saturday Peak Hour		0.05 trips/1,000sf	3
Shopping Center		150,920sf		
	AM Peak Hour (Street)		0.94 trips/1,000sf	142
	PM Peak Hour (Street)		3.81 trips/1,000sf	575
	AM Peak Hour (Generator)		3.00 trips/1,000sf	453
	PM Peak Hour (Generator)		4.21 trips/1,000sf	635
	Saturday Peak Hour		4.50 trips/1,000sf	679
Combined Total		206,805sf		
	AM Peak Hour (Street)	n/a	n/a	152
	PM Peak Hour (Street)	n/a	n/a	586
	AM Peak Hour (Generator)	n/a	n/a	465
	PM Peak Hour (Generator)	n/a	n/a	648
	Saturday Peak Hour	n/a	n/a	682

Step #2: Establish 2020 trip generation of existing site tenants
The following list of existing 2020 building tenants and their respective square foot area is presented as follows:

NEPW – 83,000sf
Chapman Trucking – 81,322sf
Staples – 24,000sf
Dollar General – 11.510sf
Paychex – 12,490sf
Advanced Auto – 8,000sf

Total Building Area Occupied = 220,322sf

Peak hour trip generation was estimated based upon trip rates presented in the 10th Edition of the Institute of Transportation Engineers (ITE) **TRIP GENERATION** publication. Peak hour rates presented for Land-Use #820 - Shopping Center (56,000sf) were used to calculate peak hour trips for each tenant space except Chapman Trucking and NEPW. Peak hour trips for Chapman Trucking and NEPW (164,322sf) were estimated based upon Land-Use #150 - Warehousing. Table 2, below, presents the peak hour trip estimates of the Promenade Mall building tenants in 2020.

Table 2
2020 Building Tenant(s)
Total Peak Hour
Trip Generation

Site Use	Peak Hour Time Period	Building Area (SF)	Trip Rate	Total Trips
Chapman Trucking/NEPW		164,322sf		
	AM Peak Hour (Street)		0.17 trips/1,000sf	28
	PM Peak Hour (Street)		0.19 trips/1,000sf	31
	AM Peak Hour (Generator)		0.22 trips/1,000sf	36
	PM Peak Hour (Generator)		0.24 trips/1,000sf	39
	Saturday Peak Hour		0.05 trips/1,000sf	8
Shopping Center		56,100sf		
	AM Peak Hour (Street)		0.94 trips/1,000sf	53
	PM Peak Hour (Street)		3.81 trips/1,000sf	213
	AM Peak Hour (Generator)		3.00 trips/1,000sf	168
	PM Peak Hour (Generator)		4.21 trips/1,000sf	236
	Saturday Peak Hour		4.50 trips/1,000sf	252
Combined Total		220,322sf		
	AM Peak Hour (Street)	n/a	n/a	81
	PM Peak Hour (Street)	n/a	n/a	244
	AM Peak Hour (Generator)	n/a	n/a	204
	PM Peak Hour (Generator)	n/a	n/a	275
	Saturday Peak Hour	n/a	n/a	260

Step 3. Determine available trip credits of the site subtracting the 2010 trip volumes from the current 2020 site trip volumes.

Table 3, below, presents the mathematical difference of the projected 2010 peak hour trips and the existing 2020 peak hour tips.

Table 3

Peak Hour Trip Comparison
2010 Site Uses versus 2020 Site Uses

Peak Hour Time Period	2010 Trip Projections	2020 Trip Projections	Balance of Trip Credits
AM Peak Hour (Street)	152 trips	81 trips	71 trips
PM Peak Hour (Street)	586 trips	244 trips	342 trips
AM Peak Hour (Generator)	465 trips	204 trips	261 trips
PM Peak Hour (Generator)	648 trips	275 trips	373 trips
Saturday Peak Hour	682 trips	260 trips	422 trips

Step 4. Estimate trip generation of the proposed 64,800sf warehouse site.

Peak hour trip generation for the proposed 64,800sf warehouse building was estimated based upon Land-Use #150 - Warehousing. Table 4, as follows, presents the peak hour trip generation of the proposed warehouse project.

Table 4
Peak Hour Trip Generation Summary
Proposed 64,800sf Warehouse

Peak Hour Time Period	Building Area (SF)	Trip Rate	Total Trips
	64,800sf		
AM Peak Hour (Street)		0.17 trips/1,000sf	11 trips
PM Peak Hour (Street)		0.19 trips/1,000sf	12 trips
AM Peak Hour (Generator)		0.22 trips/1,000sf	14 trips
PM Peak Hour (Generator)		0.24 trips/1,000sf	16 trips
Saturday Peak Hour		0.05 trips/1,000sf	3 trips

Step 5. Mathematically subtract peak hour trip generation of proposed warehouse site from calculated trip credits.

Table 5, below, provides the remaining trip credits for the existing Promenade Mall for each peak hour time period.

Table 5
Promenade Mall
Balance of Peak Hour Trip Credits

Peak Hour Time Period	Estimated Promenade Mall Peak Hour Trip Credits	Peak Hour Trip Generation Proposed Warehouse Space	Balance of Trip Credits
AM Peak Hour (Street)	71 trips	11 trips	60 trips
PM Peak Hour (Street)	342 trips	12 trips	330 trips
AM Peak Hour (Generator)	261 trips	14 trips	247 trips
PM Peak Hour (Generator)	373 trips	16 trips	357 trips
Saturday Peak Hour	422 trips	3 trips	419 trips

As presented in the preceding Table 5, sufficient trip credits generated by the proposed Promenade Mall property exceed the very insignificant increase in peak hour trip generation of the proposed 64,800sf warehouse building addition. As a result, a MaineDOT Traffic Permit is not required to support the proposed warehouse building project.

If further clarification or additional detail is required, please advise.

Very truly yours,

William J. Bray, P.E.

Cc: Tim Soucie, P.E., MaineDOT Region 3 Traffic Engineer.

NOTES

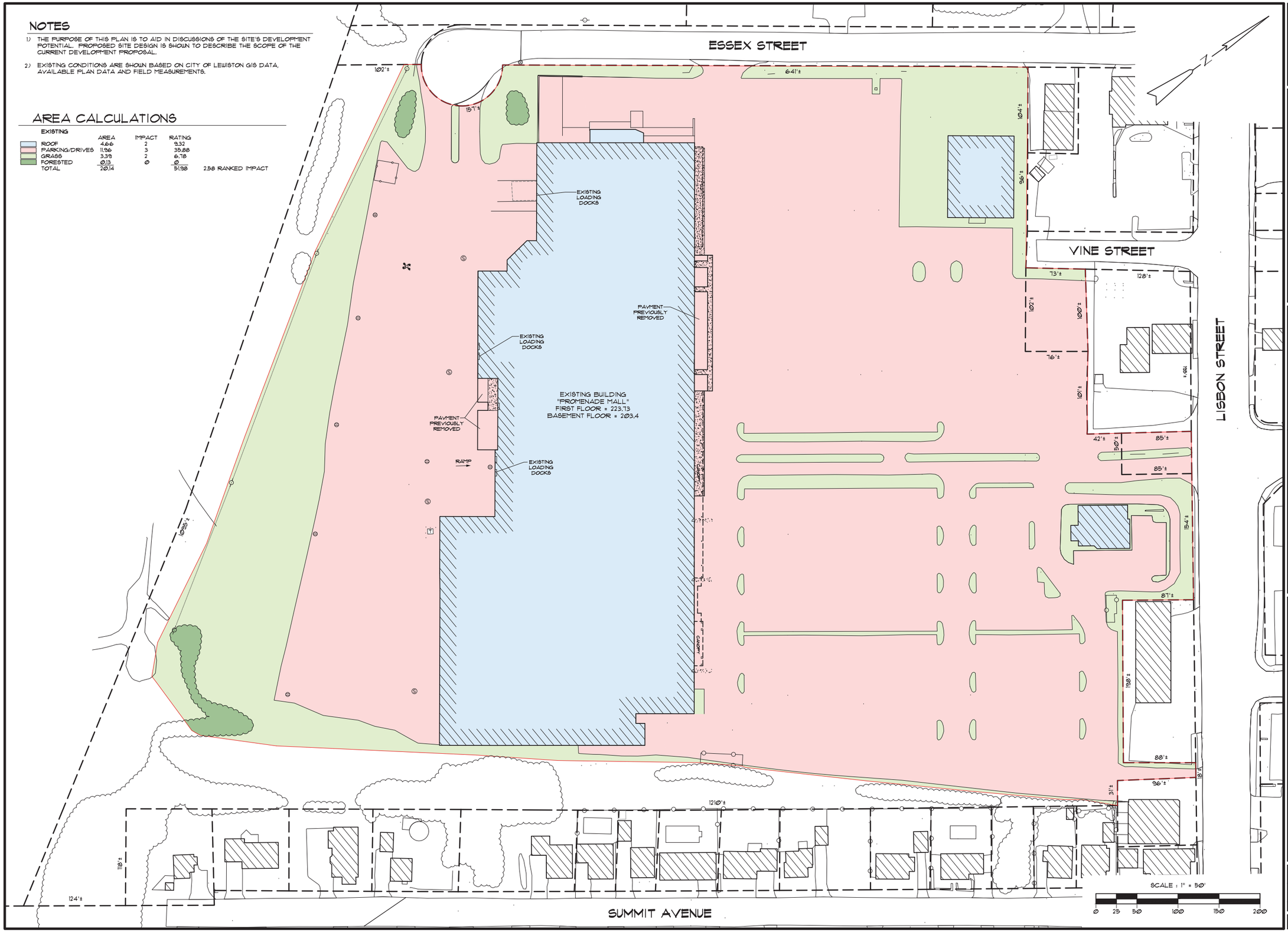
1) THE PURPOSE OF THIS PLAN IS TO AID IN DISCUSSIONS OF THE SITE'S DEVELOPMENT POTENTIAL. PROPOSED SITE DESIGN IS SHOWN TO DESCRIBE THE SCOPE OF THE CURRENT DEVELOPMENT PROPOSAL.

2) EXISTING CONDITIONS ARE SHOWN BASED ON CITY OF LEWISTON GIS DATA, AVAILABLE PLAN DATA AND FIELD MEASUREMENTS.

AREA CALCULATIONS

EXISTING

	AREA	IMPACT	RATING	
ROOF	4.66	2	9.32	
PARKING/DRIVES	11.96	3	35.88	
GRASS	3.39	2	6.78	
FORESTED	0.13	0	0	
TOTAL	20.14		51.98	2.58 RANKED IMPACT



Stoneybrook
Land Use, Inc.
4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281

REV.	DATE:	CHANGES:

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM STONEYBROOK LAND USE, INC.

EXISTING CONDITIONS GRAPHIC
PROMENADE MALL-BUILDING ADDITION
LEWISTON, MAINE
PREPARED FOR
MRE, LLC
P.O. BOX 1915 - LEWISTON, ME 04241-1915

DATE	PROJECT
AUG. 2010	16-034
DRAWN BY	SCALE
BRJ	1" = 50'
FILE: 16-034 EX GRAPHIC	

SHEET 1

NOTES

1) THE PURPOSE OF THIS PLAN IS TO AID IN DISCUSSIONS OF THE SITE'S DEVELOPMENT POTENTIAL. PROPOSED SITE DESIGN IS SHOWN TO DESCRIBE THE SCOPE OF THE CURRENT DEVELOPMENT PROPOSAL.

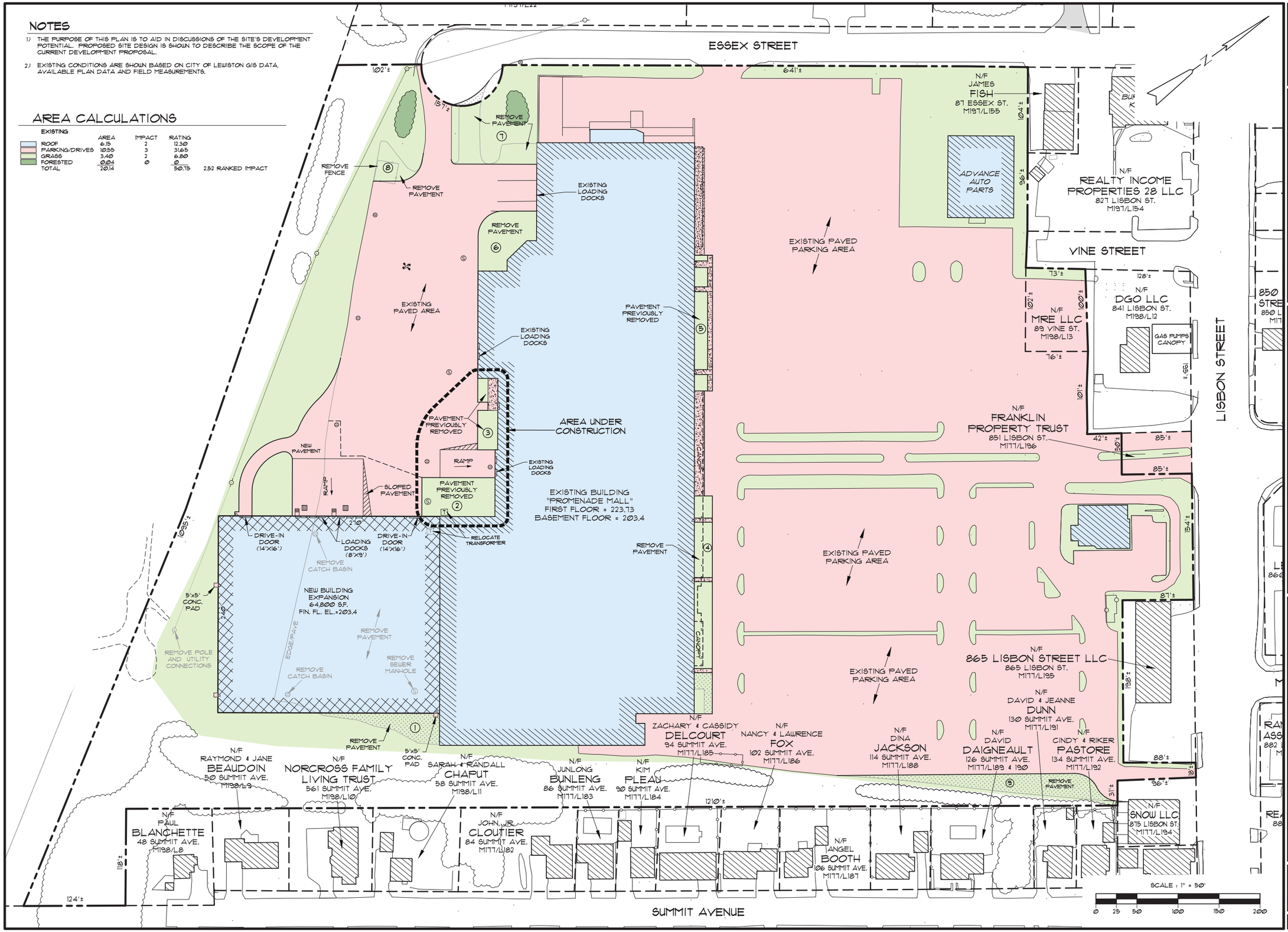
2) EXISTING CONDITIONS ARE SHOWN BASED ON CITY OF LEWISTON GIS DATA, AVAILABLE PLAN DATA AND FIELD MEASUREMENTS.

AREA CALCULATIONS

EXISTING

	AREA	IMPACT	RATING
ROOF	6.15	2	12.30
PARKING/DRIVES	10.55	3	31.65
GRASS	3.40	2	6.80
FORESTED	0.04	0	0
TOTAL	20.14		50.75

2.52 RANKED IMPACT



Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281

REV:	DATE:	CHANGES:

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM STONEYBROOK LAND USE, INC.

PROPOSED CONDITIONS GRAPHIC
PROMENADE MALL-BUILDING ADDITION

LEWISTON, MAINE

PREPARED FOR

MRE, LLC

P.O. BOX 1915 - LEWISTON, ME 04241-1915

DATE	PROJECT
AUG. 2020	16-034
DRAWN BY	SCALE
BRJ	1" = 50'

FILE: 16-034 PRO GRAPHIC

SHEET 1

LEWISTON DEVELOPMENT REVIEW NOTES

1) PRIOR TO ANY CERTIFICATE OF OCCUPANCY BEING ISSUED, THE APPLICANT SHALL MEET THE PROVISIONS OF ARTICLE XIII, SECTION 15(E), POST-CONSTRUCTION STORMWATER MANAGEMENT SYSTEM PLAN APPROVAL AND (F), POST-CONSTRUCTION STORMWATER MANAGEMENT SYSTEM PLAN COMPLIANCE.

2) PRIOR TO ANY CERTIFICATE OF OCCUPANCY BEING ISSUED, THE APPLICANT'S DESIGNING ENGINEER SHALL SUBMIT A FINAL INSPECTION REPORT TO THE CITY INDICATING THAT THE STORMWATER SYSTEM AND ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLAN.

3) A BUILDING/USE PERMIT SHALL BE REQUIRED FOR ALL ACTIVITIES REGULATED BY THE ZONING AND LAND USE CODE INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
   - (a) THE CONSTRUCTION, ALTERATION, RELOCATION, DEMOLITION, PLACEMENT, OR REMOVAL OF OR THE ADDITION TO ANY STRUCTURE OR BUILDING OR PART THEREOF.
   - (b) THE CONSTRUCTION/ INSTALLATION OF A WALL OR FENCE 3.5 FEET OR GREATER IN HEIGHT IN ACCORDANCE WITH ARTICLE XII, SEC. 7.
   - (c) THE ERECTION/ INSTALLATION OF A SIGN OR THE REPLACEMENT OF A SIGN FACE REGULATED IN ACCORDANCE WITH ARTICLE XII, SECTION 16 OF THIS CODE.
   - (d) THE CONSTRUCTION OF A DRIVEWAY OR PARKING LOT.
   - (e) THE CHANGE OF USE OR OCCUPANCY OF A BUILDING, STRUCTURE, OR LOT OF LAND.

4) NO PERMIT SHALL BE ISSUED FOR THE CONSTRUCTION, ADDITION, ALTERATION, REMOVAL, DEMOLITION OR CHANGE OF USE OF ANY BUILDING, STRUCTURE OR PART THEREOF, OR FOR THE USE OF ANY PREMISES UNLESS THE PLANS AND INTENDED USE INDICATE THAT THE BUILDING, STRUCTURE OR PREMISES IS TO CONFORM IN ALL RESPECTS TO ZONING AND LAND USE CODE OF THE CITY OF LEWISTON AND THE LAND USE LAWS OF THE STATE OF MAINE.

5) THE GRANTING OF THIS APPROVAL IS DEPENDENT UPON AND LIMITED TO THE PROPOSALS AND PLANS CONTAINED IN THE APPLICATION AND SUPPORTING DOCUMENTS SUBMITTED AND AFFIRMED TO BY THE APPLICANT. ANY VARIATION FROM THESE PLANS, PROPOSALS, AND SUPPORTING DOCUMENTS IS SUBJECT TO REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION. FURTHER SUBDIVISION OF PROPOSED LOTS BY THE APPLICANT OR FUTURE OWNERS IS SPECIFICALLY PROHIBITED WITHOUT PRIOR APPROVAL OF THE BOARD."

6) THE APPLICANT SHALL SECURE AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LICENSES, PERMITS, AUTHORIZATIONS, CONDITIONS, AGREEMENTS, AND ORDERS PRIOR TO OR DURING CONSTRUCTION AND OPERATION, AS APPROPRIATE."

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- EXISTING CATCH BASIN
- NEW CATCH BASIN
- EXISTING SEWER MANHOLE
- EXISTING TREE LINE
- EXISTING UTILITY POLE WITH OVERHEAD WIRES
- NEW TRANSFORMER PAD
- EXISTING HYDRANT
- N/F — NOW OR FORMERLY
- M197/L22 — TAX MAP AND LOT NUMBER
- EXISTING BUILDING
- NEW BUILDING
- EXISTING PAVEMENT
- NEW PAVEMENT
- EXISTING CONCRETE PAD
- PAVEMENT TO BE REMOVED

LOCATION MAP

NOTES

1) THE PURPOSE OF THIS PLAN IS TO FACILITATE MUNICIPAL APPROVALS OF THE PROPOSED BUILDING ADDITION AND RELATED CONSTRUCTION.

2) EXISTING CONDITIONS ARE SHOWN BASED ON CITY OF LEWISTON GIS DATA, AVAILABLE PLAN DATA AND FIELD MEASUREMENTS.

3) TOPOGRAPHIC INFORMATION SHOWN IS BASED ON LIDAR DATA COMPILED BY THE MAINE OFFICE OF GIS.

4) THE PARCEL IS LOCATED IN THE HIGHWAY BUSINESS ZONING DISTRICT.

5) THE PARCEL IS NOT LOCATED WITH A 100-YEAR FLOOD HAZARD AREA AS DELINEATED ON FLOOR INSURANCE RATE MAP, COMMUNITY PANEL #23001C 0329E, DATED JULY 8, 2013.

APPROVAL

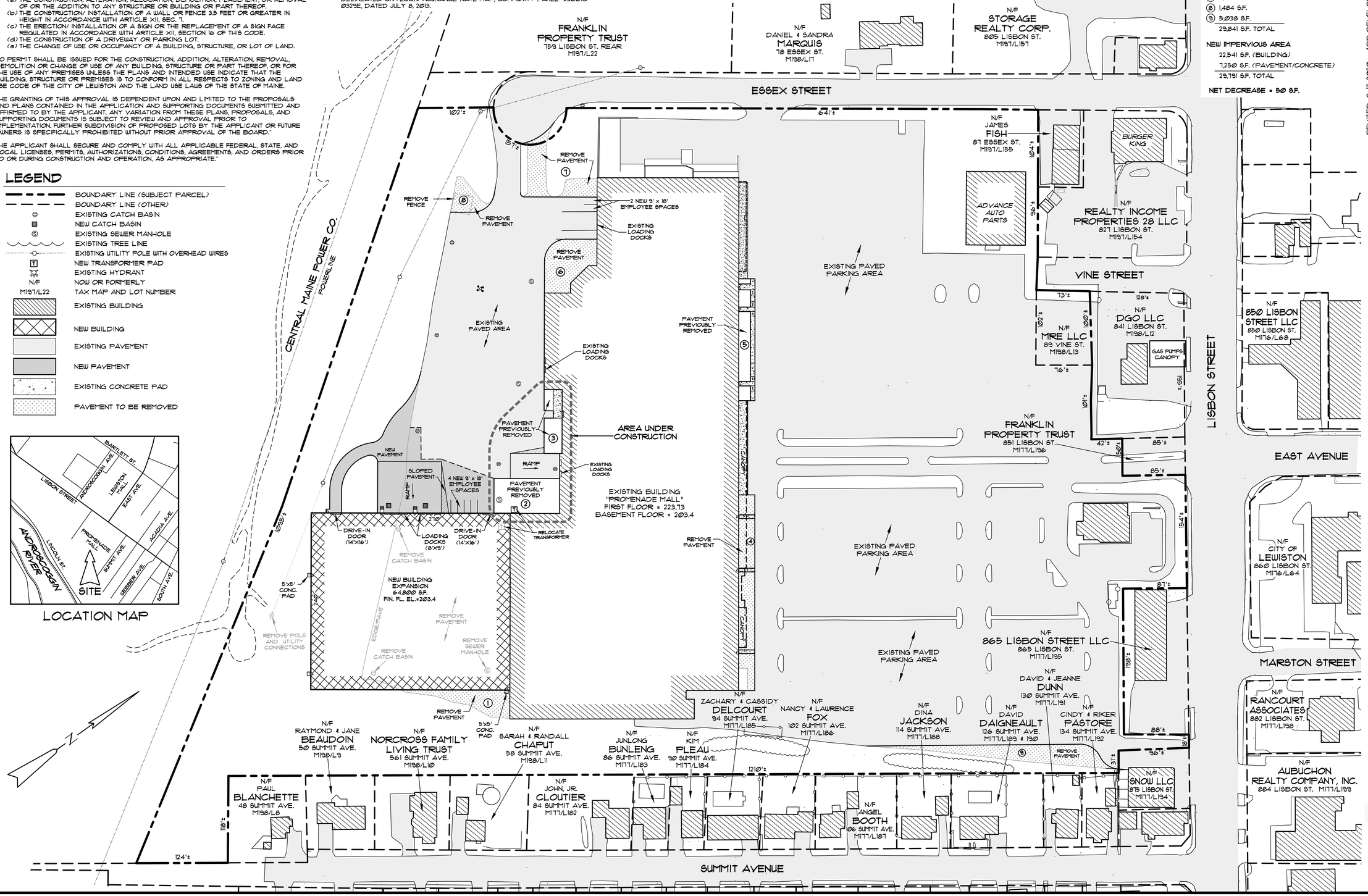
APPROVED BY THE CITY OF LEWISTON PLANNING BOARD

CHAIRMAN DATE

IF DEVELOPMENT HAS NOT OCCURRED AS DEFINED WITHIN THE SCOPE OF THE CITY OF LEWISTON CODE OF ORDINANCES, WITHIN 24 MONTHS OF THE DATE OF APPROVAL, DEVELOPMENT REVIEW APPROVAL SHALL EXPIRE. THE APPLICANT MAY NOT BEGIN CONSTRUCTION OR OPERATION OF THE DEVELOPMENT UNTIL A NEW APPROVAL IS GRANTED (ARTICLE XIII, SECTION 11).

SCALE : 1" = 60'

0 30 60 120 180 240



SITE TABULATIONS

IMPERVIOUS AREA REMOVED

1. 2,760 S.F.
2. 4,224 S.F. (PREVIOUSLY REMOVED)
3. 1,540 S.F. (PREVIOUSLY REMOVED)
4. 5,151 S.F.
5. 2,329 S.F. (PREVIOUSLY REMOVED)
6. 3,968 S.F.
7. 3,347 S.F.
8. 1,484 S.F.
9. 5,038 S.F.

29,841 S.F. TOTAL

NEW IMPERVIOUS AREA

22,541 S.F. (BUILDING)
7,250 S.F. (PAVEMENT/CONCRETE)
29,791 S.F. TOTAL

NET DECREASE = 50 S.F.

REVISED: 9-17-2020 - ADD DEVELOPMENT REVIEW NOTES

SHEET TITLE: OVERALL SITE PLAN

SCALE: 1" = 60'
DATE: SEPT. 10, 2020
DRAWN BY: KRF
CHECKED BY: WMP

PROJECT: PROMENADE MALL BUILDING ADDITION
LEWISTON, MAINE

CLIENT: MRE, LLC
P.O. BOX 1915 - LEWISTON, ME 04241-1915

Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd. #300
Sun City Center, FL 33573-6281

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

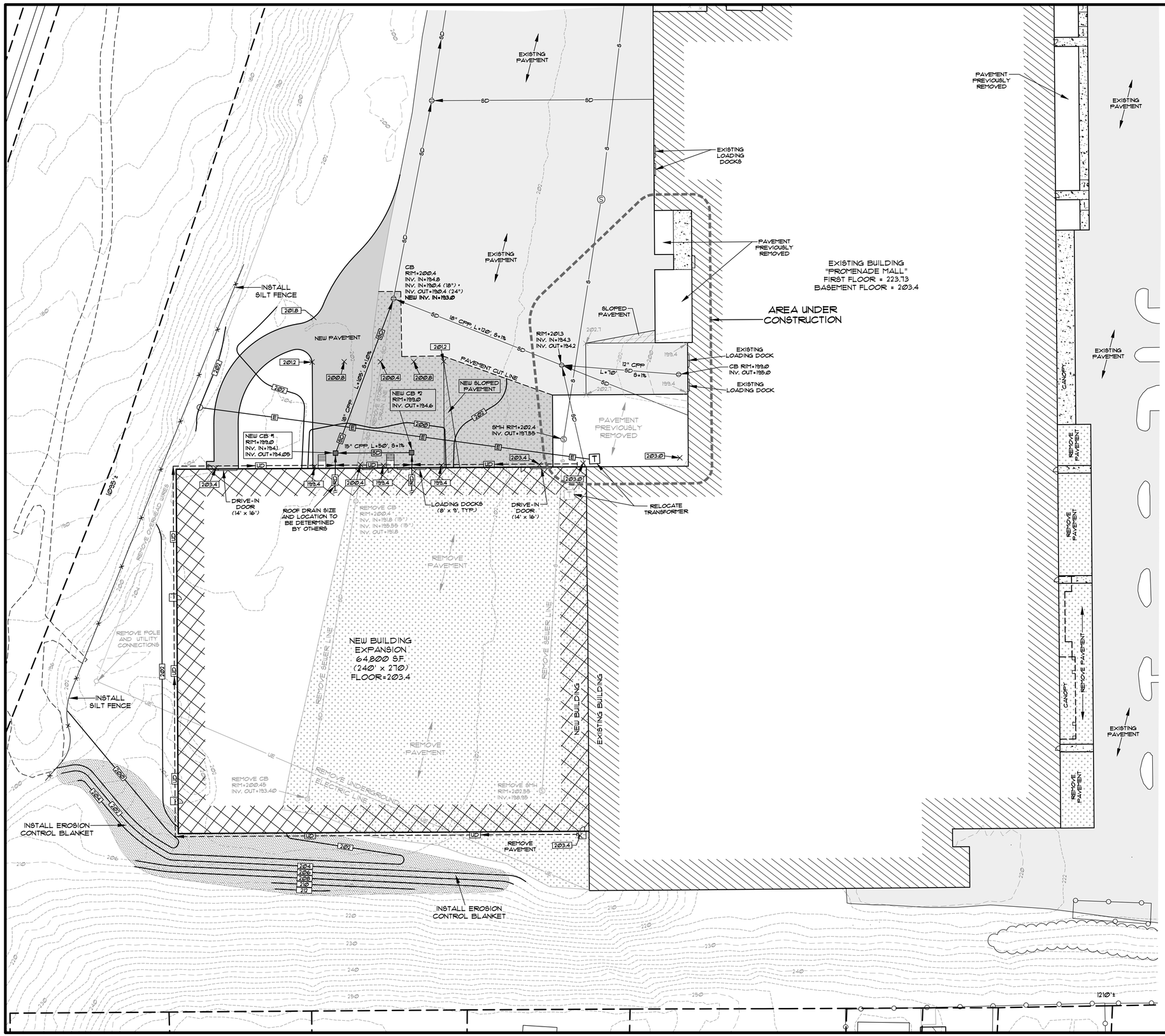
145 LISBON ST. - SUITE 701
LEWISTON, ME 04240
Tel.: (207) 576-3313

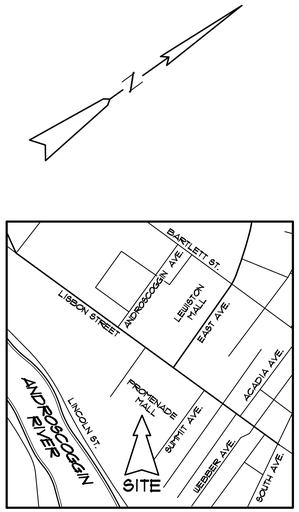
SUMMIT GEOENGINEERING SERVICES

STATE OF MAINE WILLIAM M. PETERLEIN 5787 LICENSED PROFESSIONAL ENGINEER

JOB NO. - 20297

SHEET 1





LOCATION MAP

NOTES

1) THE PURPOSE OF THIS PLAN IS TO FACILITATE MUNICIPAL APPROVALS OF THE PROPOSED BUILDING ADDITION AND RELATED CONSTRUCTION.

2) EXISTING CONDITIONS ARE SHOWN BASED ON CITY OF LEWISTON GIS DATA, AVAILABLE PLAN DATA AND FIELD MEASUREMENTS.

3) TOPOGRAPHIC INFORMATION SHOWN IS BASED ON LIDAR DATA COMPILED BY THE MAINE OFFICE OF GIS.

4) THE PARCEL IS LOCATED IN THE HIGHWAY BUSINESS ZONING DISTRICT.

5) THE PARCEL IS NOT LOCATED WITH A 100-YEAR FLOOD HAZARD AREA AS DELINEATED ON FLOOR INSURANCE RATE MAP, COMMUNITY PANEL #23001C 0329E, DATED JULY 8, 2013.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- EXISTING CATCH BASIN
- NEW CATCH BASIN
- EXISTING SEWER MANHOLE
- EXISTING TREE LINE
- EXISTING UTILITY POLE WITH OVERHEAD WIRES
- NEW TRANSFORMER PAD
- 263 EXISTING CONTOUR
- 263 NEW CONTOUR
- E NEW UNDERGROUND ELECTRIC LINE
- RD ROOF DRAIN CONNECTION
- UD NEW FOUNDATION UNDERDRAIN
- SD NEW STORM DRAIN LINE
- SD EXISTING STORM DRAIN LINE
- S EXISTING SEWER LINE
- S SEWER LINE TO BE REMOVED
- SD STORM DRAIN LINE TO BE REMOVED
- UE UNDERGROUND ELECTRIC LINE TO BE REMOVED
- 205.4 EXISTING SPOT GRADE
- 205.4 PROPOSED SPOT GRADE
- EXISTING BUILDING
- NEW BUILDING
- EXISTING PAVEMENT
- NEW PAVEMENT
- EXISTING CONCRETE PAD
- PAVEMENT TO BE REMOVED

SCALE : 1" = 30'

0 15 30 60 90 120

SHEET TITLE: GRADING & UTILITY PLAN

SCALE: 1" = 30'
DATE: SEPT. 10, 2020

DRAWN BY: KRF
CHECKED BY: WMP

PROJECT: PROMENADE MALL BUILDING ADDITION
LEWISTON, MAINE

CLIENT: MRE, LLC
P.O. BOX 1915 - LEWISTON, ME 04241-1915

Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd. #300
Sun City Center, FL 33573-6281

173 PLEASANT STREET
ROCKLAND, ME 04841
Tel.: (207) 318-7161

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

SUMMIT GEOENGINEERING SERVICES

STATE OF MAINE
WILLIAM M. PETERLEIN
5787
LICENSED PROFESSIONAL ENGINEER

JOB NO. - 20297

SHEET 2

GENERAL NOTES

1) THE CONTRACTOR IS REFERRED TO THE SPECIFICATIONS REGARDING COORDINATION WITH OTHERS, INCLUDING RESPONSIBILITIES AND RELATED COSTS. ALL UTILITY CONSTRUCTION IS SUBJECT TO APPROVAL INSPECTION BY UTILITY COMPANY PERSONNEL PRIOR TO BACKFILL OF TRENCHES.

2) CONTRACTOR SHALL CONTACT DIG SAFE/ON-TARGET TO DETERMINE THE EXISTENCE, LOCATION, DEPTH AND/OR SIZE OF ALL PUBLIC AND PRIVATE UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES IN THE PROJECT AREA PRIOR TO EXCAVATION. UTILITY CONTACTS ARE AS FOLLOWS:

DIGSAFE:
1-888-344-7233

ELECTRICAL:
CENTRAL MAINE POWER
83 EDISON DRIVE
AUGUSTA, ME 04336
TEL. (207) 779-9118

GAS
UNITIL
1075 FOREST AVENUE
PORTLAND, ME 04104
TEL. (207) 797-8002

TELECOMMUNICATIONS:
FIRSTLIGHT
491 LISBON STREET
LEWISTON, ME 04240
TEL. (207) 336-9911

FAIRPOINT COMMUNICATIONS:
521 E. MOREHEAD ST.
PORTLAND, ME 04101
TEL. 1-800-585-4466

WATER & SEWER:
LEWISTON WATER & SEWER DISTRICT:
103 ADAMS STREET
LEWISTON, ME 04240
TEL. (207) 513-3003

3) THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY UTILITY COMPANIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.

4) CONTRACTOR SHALL BE AWARE THAT DIGSAFE ONLY NOTIFIES ITS "MEMBER" UTILITIES ABOUT THE DIG. WHEN NOTIFIED, DIGSAFE WILL ADVISE CONTRACTOR OF MEMBER UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND CONTACTING NON-MEMBER UTILITIES DIRECTLY. NON-MEMBER UTILITIES MAY INCLUDE CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USG PUBLIC WORKS SYSTEMS.

5) CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3369-A. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITIES TO OBTAIN AUTHORIZATION PRIOR TO RELOCATION OF ANY EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS. IF A UTILITY CONFLICT ARISES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER, THE CITY, AND APPROPRIATE UTILITY COMPANY PRIOR TO PROCEEDING WITH ANY RELOCATION.

6) ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURES CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY.

7) IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO CMP OR FAIRPOINT, RESPECTIVELY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.

8) IN THOSE INSTANCES THAT A UTILITY NEEDS TO BE RELOCATED, THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY DIVISION/COMPANY TO SCHEDULE THE WORK AFTER THE COMPLETION OF THE TEST PITS.

9) THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL PERMITS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH PERMIT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL POST ALL BONDS AS REQUIRED, PAY ALL FEES & PROVIDE PROOF OF INSURANCE AS NECESSARY FOR THIS WORK.

10) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF ALL PROPOSED LINES AND GRADES AS SHOWN ON THE DRAWINGS. THE HORIZONTAL ALIGNMENT OF THE NEW STORM DRAIN CULVERTS AND STRUCTURES MAY BE ADJUSTED IN THE FIELD SUBJECT TO PRIOR APPROVAL BY THE ENGINEER.

11) THE OWNER SHALL PROVIDE THE NECESSARY HORIZONTAL AND VERTICAL CONTROL POINTS FOR THE CONTRACTOR FOR WORK OUTSIDE THE STREET RIGHT-OF-WAY AND CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THIS INFORMATION THROUGHOUT CONSTRUCTION. ALL ELEVATIONS REFER TO THE 1988 NATIONAL GEODETIC VERTICAL DATUM UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL ELEVATION REFERENCE INFORMATION PRIOR TO USE IN CONSTRUCTION.

12) THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEDIMENT CONTROL AND THE PREVENTION OF EROSION. ALL DISTURBED EARTH SURFACES ARE TO BE STABILIZED IN THE SHORTEST PRACTICAL TIME AND TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES SHALL BE EMPLOYED UNTIL SUCH TIME AS ADEQUATE SOIL STABILIZATION HAS BEEN ACHIEVED. TEMPORARY STORAGE OF EXCAVATED MATERIAL IS TO BE IN A MANNER THAT WILL MINIMIZE EROSION. MATERIALS AND METHODS USED FOR TEMPORARY SEDIMENT AND EROSION CONTROL SHALL BE AS SPECIFIED BY THE LATEST EDITION OF THE "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES" PREPARED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

13) COMPACTION TESTS SHALL BE PERFORMED IN ACCORDANCE WITH MDOT SPECIFICATIONS WITH RESULTS OF TESTING SUBMITTED TO THE OWNER. ANY SETTLEMENT OCCURRING WITHIN ONE YEAR OF SUBSTANTIAL COMPLETION OF THE PROJECT WILL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

14) OPEN TRENCHES MAY BE LEFT OPEN IF THE CONTRACTOR PROVIDES SAFE BARRICADING AND LIGHTS.

15) PROPER IMPLEMENTATION AND MAINTENANCE OF EROSION CONTROL MEASURES ARE OF PARAMOUNT IMPORTANCE FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER, THEIR REPRESENTATIVES, OR STATE/LOCAL/ FEDERAL INSPECTORS AT NO ADDITIONAL COST TO THE OWNER.

16) CONTRACTOR SHALL CONTROL DUST WITH APPROPRIATE DUST CONTROL MEASURES. CONTRACTOR SHALL NOT TRACK OR SPILL EARTH AND DEBRIS ON PUBLIC STREETS OUTSIDE THE PROJECT AREA. STREETS OPENED TO THE PUBLIC SHALL BE KEPT SWEPT AND FREE OF DEBRIS.

17) ALL ROAD SURFACES SHALL PITCH 1/4 INCH PER FOOT MINIMUM FROM CENTERLINE TO GUTTER UNLESS OTHERWISE NOTED. ALL VEGETATED AREAS THAT ARE EXCAVATED, FILLED OR OTHERWISE DISTURBED BY THE CONTRACTOR AND ARE NOT TO BE PAVED OR FILLED WITH RIP-RAP SHALL BE LOAMED, GRADED, LIMED, FERTILIZED, SEEDED AND MULCHED AT NO ADDITIONAL EXPENSE TO THE OWNER.

18) THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND ALL OTHER APPLICABLE LOCAL, STATE AND FEDERAL RULES, REGULATIONS AND LAWS.

19) THE CONTRACTOR SHALL NOT HAVE ANY RIGHT OF PROPERTY IN ANY SUITABLE MATERIALS TAKEN FROM ANY EXCAVATION. SUITABLE EXCAVATED MATERIAL, AS APPROVED BY THE ENGINEER, MAY BE INCORPORATED IN THE PROJECT, WITH EXCESS MATERIAL DISPOSED OF AT A LOCATION APPROVED BY THE OWNER. THESE PROVISIONS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO PROPERLY DISPOSE OF AND REPLACE ANY MATERIAL DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING. THE CONTRACTOR SHALL DISPOSE OF UNSUITABLE AND EXCESS MATERIAL IN ACCORDANCE WITH THE APPLICABLE RULES AND REGULATIONS.

20) MINOR ADJUSTMENTS TO THE ALIGNMENT OF PROPOSED UTILITIES SHALL BE ALLOWED TO ACCOMMODATE EXISTING UTILITIES WHERE APPROPRIATE AS APPROVED BY THE ENGINEER.

21) A MINIMUM VERTICAL OR HORIZONTAL SEPARATION OF 6 INCHES BETWEEN THE WATER LINES (INCLUDING SERVICES) AND STORM DRAINAGE PIPES AND STRUCTURES, SHALL BE MAINTAINED. 2" RIGID INSULATION SHALL BE INSTALLED WHEN SEPARATION IS LESS THAN 18 INCHES.

22) CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, FURNISHING, INSTALLING AND MONITORING ANY SHORING, BRACING OR OTHER EXCAVATION SUPPORT THAT MAY BE REQUIRED TO PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENT OR OTHER FACILITIES THAT COULD BE DAMAGED BY SETTLEMENT, LATERAL MOVEMENTS, UNDERMINING, WASHOUT OR OTHER HAZARDS THAT COULD DEVELOP DURING EXCAVATION SUPPORT AND PROTECTION OPERATIONS.

23) CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

24) INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND OWNER'S REQUIREMENTS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

25) CONTRACTOR SHALL CLEAN AND REMOVE DEBRIS AND SEDIMENT DEPOSITED ON PUBLIC STREETS, SIDEWALKS, ADJACENT AREAS, OR OTHER PUBLIC WAYS DUE TO CONSTRUCTION DAILY.

26) THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ENGINEER AND/OR OWNER.

27) DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. ANY MODIFICATION TO SUIT FIELD DIMENSION AND CONDITION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK.

28) BEFORE THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIALS, REPAIR OR REPLACE PRIVATE OR PUBLIC PROPERTY WHICH MAY HAVE BEEN DAMAGED OR DESTROYED DURING CONSTRUCTION AS DETERMINED BY THE CITY. CLEAN THE AREAS WITHIN AND ADJACENT TO THE PROJECT WHICH HAVE BEEN OBSTRUCTED BY HIS/HER OPERATIONS, AND LEAVE THE PROJECT AREA NEAT AND PRESENTABLE.

29) THE CONTRACT WORK TO BE PERFORMED ON THIS PROJECT CONSISTS OF FURNISHING ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, IMPLEMENTS, PARTS AND SUPPLIES NECESSARY FOR, OR APPURTENANT TO, THE INSTALLATION OF CONSTRUCTION IMPROVEMENTS IN ACCORDANCE WITH THESE DRAWINGS AND AS FURTHER ELABORATED IN ANY ACCOMPANYING SPECIFICATIONS.

30) THE WORK SHALL BE PERFORMED IN A THOROUGH WORKMANLIKE MANNER. ANY REFERENCE TO A SPECIFICATION OR DESIGNATION OF THE AMERICAN SOCIETY FOR TESTING MATERIALS, FEDERAL SPECIFICATIONS, OR OTHER STANDARDS, CODES OR ORDERS, REFERS TO THE MOST RECENT OR LATEST SPECIFICATION OR DESIGNATION.

31) THE CONTRACTOR SHALL GUARANTEE THE FAITHFUL REMEDY OF ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP AND GUARANTEES PAYMENT FOR ANY RESULTING DAMAGE WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT.

32) THE CONTRACTOR SHALL NOT USE PRIVATE PROPERTY FOR STOCKPILING MATERIALS OR PARKING EQUIPMENT OR VEHICLES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY DAMAGE DONE TO PRIVATE PROPERTY RESULTING FROM THESE ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT NO ADDITIONAL COST TO THE CITY/OWNER.

EROSION & SEDIMENTATION CONTROL NOTES

1) THE CONTRACTOR SHALL INSPECT EROSION & SEDIMENT CONTROL MEASURES WEEKLY AND AFTER HEAVY RAINFALLS THROUGHOUT THE DURATION OF THE PROJECT INCLUDING WEEKENDS AND HOLIDAYS. INSPECTION REPORTS MUST BE PROVIDED TO THE CITY AND OWNER WITHIN 48-HOURS OF INSPECTION. ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED PER BEST MANAGEMENT PRACTICES.

2) THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING THE EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES", DEPARTMENT OF ENVIRONMENTAL PROTECTION, DATED MARCH 2015 (DEPLW 888) ADDITIONAL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY DURING ON-SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES OR STATE/LOCAL/FEDERAL INSPECTORS AT NO ADDITIONAL COST TO THE OWNER.

3) PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWN GRADIENT EDGE OF THE DISTURBED AREA AND ADJACENT TO DRAINAGE CHANNELS WITHIN THIS AREA.

4) SILT FENCE AND BARK MULCH BERM LOCATIONS SHOWN ARE APPROXIMATE. INSTALL WHERE APPROPRIATE TO CONTROL SEDIMENTATION ON AND OFF SITE. SILT FENCE SHALL BE REMOVED AFTER THE SITE IS STABILIZED WITH AT LEAST 90% VEGETATED GROWTH.

5) NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2 TO 1).

6) AREAS DISTURBED DURING CONSTRUCTION SHALL BE MINIMIZED. AREAS SHALL BE TEMPORARILY STABILIZED WITH MULCH OR NON-ERODABLE COVER IF EXPOSED SOILS WILL NOT BE WORKED FOR MORE THAN 7 DAYS. PERMANENT SEEDING SHALL TAKE PLACE WITHIN 7 DAYS OF FINAL GRADING.

7) IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

8) TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED BY AUGUST 15th OR 45 DAYS PRIOR TO THE FIRST KILLING FROST (OCT. 1) TO PROTECT FROM SPRING RUNOFF PROBLEMS.

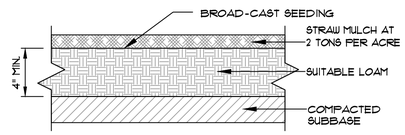
9) REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED AND PREPARED FOR FINAL SEEDING AS FOLLOWS:

A) 4" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.

B) APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 200 POUNDS PER ACRE OR 15 POUNDS PER SQUARE FOOT USING 10-20-20 (N-P2O5-K2O) OR EQUIVALENT. APPLY GROUND LIMESTON
(EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3.3 TONS PER ACRE (150 lbs. PER 1000 s.f.)

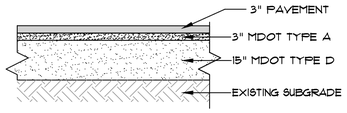
C) FOLLOWING SEED BED PREPARATION, DITCHES AND BARK SLOPES WILL BE SEEDED TO A MIXTURE OF 41% CREEPING RED FESCUE, 5% REDTOP AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEEDED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUEGRASS, 44% CREEPING RED FESCUE AND 12% PERENNIAL RYEGRASS. SEEDING RATE IS ONE POUND PER 1000 s.f. LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED. SEED MIX SHALL CONTAIN 10% ANNUAL RYEGRASS.

D) HAY MULCH AT THE RATE OF 70-90 lbs PER 1000 s.f. OR A HYDRO-APPLICATION OF ASPHALT, WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS WILL BE USED ON HAY MULCH FOR WIND CONTROL.



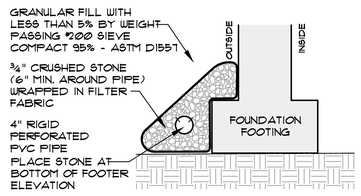
LOAM & SEED DETAIL

NOT TO SCALE



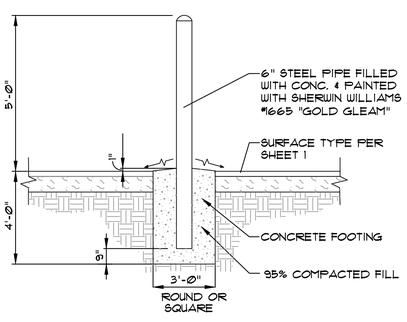
PAVEMENT CROSS SECTION

NOT TO SCALE



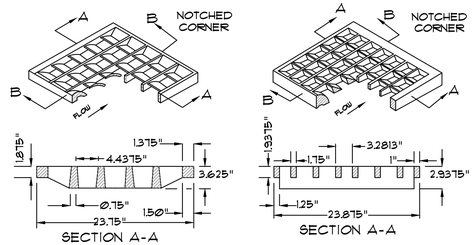
FOUNDATION UNDERDRAIN DETAIL

NOT TO SCALE



BOLLARD DETAIL

NOT TO SCALE

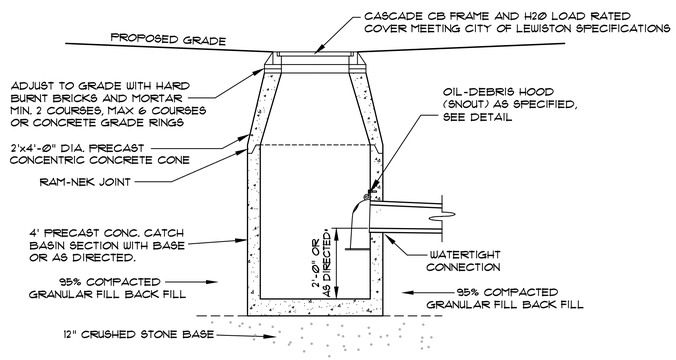


CASCADE CB FRAME AND GRATE TO MEET H20 LOAD RATED REQUIREMENTS

CASCADE GRATES TO MEET CITY OF LEWISTON CONSTRUCTION STANDARDS

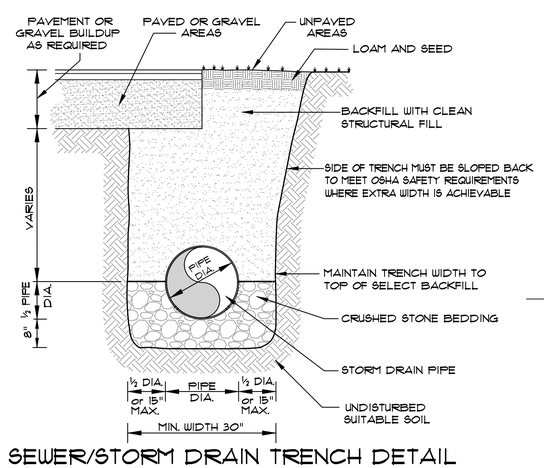
CASCADE TYPE GRATES

NOT TO SCALE



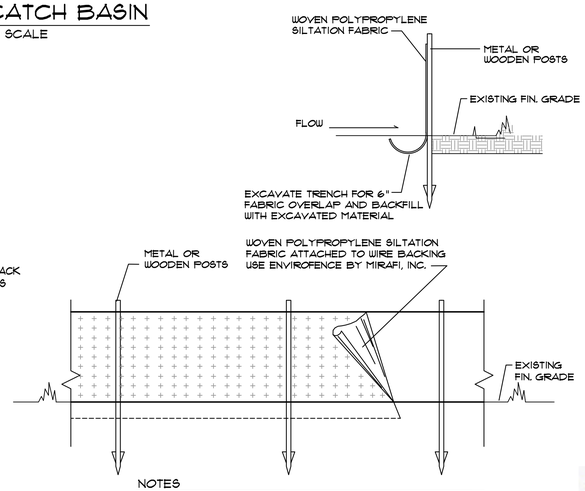
4'-0" DIA. CATCH BASIN

NOT TO SCALE



SEWER/STORM DRAIN TRENCH DETAIL

NOT TO SCALE



NOTES

REFERENCE IS MADE TO THE BEST MANAGEMENT PRACTICE FOR EROSION AND SEDIMENT CONTROL: B-1 SEDIMENT BARRIERS.

SILTATION FABRIC WITH INTEGRAL MESH AND POSTS MAY BE USED.

SILT FENCE DETAIL

NOT TO SCALE

SHEET TITLE: CONSTRUCTION NOTES & DETAILS

NOT TO SCALE
DATE: SEPT. 10, 2020

DRAWN BY: KRF
CHECKED BY: WMP

PROJECT: PROMENADE MALL BUILDING ADDITION
LEWISTON, MAINE

CLIENT: MRE, LLC
P.O. BOX 1915 - LEWISTON, ME 04241-1915

Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281

SUMMIT GEOENGINEERING SERVICES
145 LISBON ST. - SUITE 101
LEWISTON, ME 04240
Tel: (207) 516-3313
173 PLEASANT STREET
ROCKLAND, ME 04841
Tel: (207) 318-7161

STATE OF MAINE
WILLIAM M. PETERLIN
5787
LICENSED PROFESSIONAL ENGINEER

JOB NO. - 20297

SHEET 3

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: Lewiston Planning Board

FROM: Douglas Greene, AICP, RLA, City Planner

DATE: September 28, 2020

RE: Agenda Item 4 b, 9 unit multi-family structure at 198 Blake Street

---

Bild Architecture has submitted a development review and subdivision application on behalf of Raise-Op to construct a 9 unit multi-family structure at 198 Blake Street.

PROJECT DESCRIPTION

Raise-Op is a non-profit housing organization that has been managing cooperative housing in Lewiston since 2008. Raise-Op currently owns and operates 3 buildings with a total of 15 units. The project at 198 Blake Street consists of 4 lots, 186 Blake Street, 188 Blake Street, 194 Blake Street and 198 Blake Street. A driveway leads to a parking lot with ten parking spaces on the left side of the building, two spaces are ADA spaces. A covered bike storage is near the back of the building next the parking lot. The three story building will have four 1 bedroom units, two 2 bedroom units and three 3 unit apartments. The units on the ground floor will be accessible.

The site plan includes a landscape plan with evergreen buffering for the parking lot on the left side, street trees and fencing at the rear. A nice sized backyard includes a patio and open space.

LIST TYPES OF APPROVALS

The Planning Board needs to review the application and take action using Article XIII, Development Review and Standards, Section 4, Approval Criteria and Section 5, Coordination with State Subdivision Law. The submission of a plan for a 9 unit residential structure requires approval as a subdivision besides the approval of the development review (site plan) application.

STAFF REVIEW and COMMENTS

Staff met with the applicant at a preliminary meeting and discussed parking, lot size, provision of utilities, set-backs and building orientation and design. During the review process, the staff had the following comments.

1. Staff would like the four lots consolidated into one prior to the issuance of a certificate of occupancy.
2. Provide more information regarding project trip generation,
3. Addition of notes and certification block to the site plan.
4. Addition of recording block to the subdivision plan.
5. Add enclosure around dumpster.
6. Public Works asked for the installation of a manhole where site drainage connects to the city storm drain.

bild ARCHITECTURE

ingenuity thoughtfulness empathy

September 6, 2020

Douglas M. Greene; AICP, RLA
City Planner and Deputy Director of Planning and Code Enforcement
3rd floor, City Of Lewiston
27 Pine Street
Lewiston, ME 04240

RE: Site Plan Application, 9 Unit Residential Apartment Complex
198 Blake Street, Lewiston, Maine

Dear Doug,

On behalf of our client, Raise-Op, we are pleased to submit this Site Plan Application for the development of nine (9) residential apartment units at 198 Blake Street. We look forward to collaborating with you to help create quality, affordable housing in the Tree Streets Neighborhood of Lewiston.

The project represents a special opportunity for Raise-Op, an already well-established housing organization in Lewiston, to apply its mission to "operate safe and affordable housing that is democratically controlled by its Members on a non-profit basis" to new construction. The final product is being designed to Passive House Standards, and seeks to be an example for how to integrate quality affordable housing into the existing Tree Streets Neighborhood. The project will also set the organization on the path to operational sustainability.

The proposed building will be three (3) stories with surface parking for ten (10) vehicles, accessed by a drive aisle off of Blake Street. The ground floor units are planned to meet Fair Housing accessibility standards, and two (2) accessible parking spaces are planned. The ground level units will have direct entrances from the building exterior, and a single stair will provide access to the six (6) units on the 2nd and 3rd floors. The proposed building will have four (4) one-bedroom units, two (2) two-bedroom units, and three (3) three-bedroom family units. All units will have access to a ground level lobby that has entrances to the front and rear of the building.

The site layout is designed to activate the public sidewalk, provide needed parking and services, and provide shared recreational space. The site is engineered to treat more water runoff than is being treated in the existing vacant land condition, and landscaping is being used to engage the sidewalk and buffer the parking area.

In compiling this application, we have attempted to place the materials supporting our application in the same order as the City's checklist. Please feel free to contact me with any questions or concerns you may have regarding the attached application materials.

Sincerely,

Evan A. Carroll

Evan Carroll, AIA, LEED AP BC+D

bildarchitecture.com • evan@bildarchitecture.com • (207)408-0168
PO Box 8235, Portland, ME 04104 • 30 Danforth Street, Suite 105, Portland, ME 04101

Development Review Application

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement

PROJECT NAME: Blake Street Apartments

PROPOSED DEVELOPMENT ADDRESS: 198 Blake Street

PARCEL ID#: Map 196, Lots 81, 82, 83, 84

REVIEW TYPE:
Site Plan/Special Exception □
Subdivision X
Site Plan Amendment □
Subdivision Amendment □

PROJECT DESCRIPTION: The proposed Blake Street Apartments are a 9-unit cooperative housing apartment building with 10 off-street parking spaces. The existing lots are currently vacant.

CONTACT INFORMATION:

Applicant

Name: Craig Saddlemire Raise-Op
Address: 145 Pierce Street, Office 102
Zip Code Lewiston, ME 04240
Work #: 207-956-0508
Cell #: n/a
Fax #: n/a
Home #: n/a
Email: raiseop207@gmail.com

Property Owner

Name: Same as applicant
Address:
Zip Code
Work #:
Cell #:
Fax #:
Home #:
Email:

Project Representative

Name: Evan Carroll, Bild Architecture
Address: PO Box 8235, Portland, ME
Zip Code 04104
Work #: 207-408-0168
Cell #: 207-409-3589
Fax #: none
Home #: none
Email: evan@bildarchitecture.com

Other professional representatives for the project (surveyors, engineers, etc.),

Name: Sam Lebel
Address: PO Box 3372, Portland, ME
Zip Code 04104
Work #: 207-775-2655
Cell #: 207.478.4327
Fax #: none
Home #: none
Email: slebel@acorn-engineering.com

PROJECT DATA

The following information is required where applicable, in order to complete the application

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	4069	sq. ft.
Proposed Total Paved Area	4317	sq. ft.
Proposed Total Impervious Area	8415	sq. ft.
Proposed Impervious Net Change	+4346	sq. ft.
Impervious surface ratio existing	26%	% of lot area
Impervious surface ratio proposed	53%	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	0	sq. ft.
Proposed Building Footprint	3260	sq. ft.
Proposed Building Footprint Net change	+3260	sq. ft.
Existing Total Building Floor Area	0	sq. ft.
Proposed Total Building Floor Area	9780	sq. ft.
Proposed Building Floor Area Net Change	9780	sq. ft
New Building	yes	(yes or no)
Building Area/Lot coverage existing	0%	% of lot area
Building Area/Lot coverage proposed	21%	% of lot area

ZONING

Existing	DR - Dwontown Residential
Proposed, if applicable	N/A

LAND USE

Existing	Vacant
Proposed	Residential

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	0
Proposed Number of Residential Units	9
Subdivision, Proposed Number of Lots	n/a

PARKING SPACES

Existing Number of Parking Spaces	0
Proposed Number of Parking Spaces	10
Required Number of Parking Spaces	10
Number of Handicapped Parking Spaces	2

ESTIMATED COST OF PROJECT

$3,025,000

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	4069	sq. ft.
Proposed Disturbed Area		sq. ft.
Proposed Impervious Area	8415	sq. ft.

1. ***If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with MDEP.***
2. ***If the proposed impervious area is greater than one acre including any impervious area crated since 11/16/05, then the applicant shall apply for a MDEP Stormwater Management Permit, Chapter 500, with the City.***
3. ***If total impervious area (including structures, pavement, etc) is greater than 3 acres since 1971 but less than 7 acres, then the applicant shall apply for a Site Location of Development Permit with the City. If more than 7 acres then the application shall be made to MDEP unless determined otherwise.***
4. ***If the development is a subdivision of more than 20 acres but less than 100 acres then the applicant shall apply for a Site Location of Development Permit with the City. If more than 100 acres then the application shall be made to MDEP unless determined otherwise.***

TRAFFIC ESTIMATE

Total traffic estimated in the peak hour-existing (Since July 1, 1997) 0 passenger car equivalents (PCE)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) 6 passenger car equivalents (PCE)

If the proposed increase in traffic exceeds 100 one-way trips in the peak hour then a traffic movement permit will be required.

Zoning Summary

1. Property is located in the DR zoning district.
2. Parcel Area: 0.36 acres / 15,800 square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	5,000sf	15,800
Street Frontage	50'	158'
Min Front Yard	0'	6.5'
Min Rear Yard	10'	45'
Min Side Yard	10'	10'
Max. Building Height	60'	37'
Use Designation	Residential	Residential
Parking Requirement	1 space/ per _____ square feet of floor area	1 space/unit + 0.1 visitor space/unit
Total Parking:	10	10
Overlay zoning districts (if any):	n/a	n/a
Urban impaired stream watershed?	YES/NO If yes, watershed name	no

DEVELOPMENT REVIEW APPLICATION SUBMISSION

Submission shall include payment of fee and fifteen (15) complete packets containing the following materials:

1. Full size plans containing the information found in the attached sample plan checklist.
2. Application form that is completed and signed.
3. Cover letter stating the nature of the project.
4. All written submittals including evidence of right, title and interest.
5. Copy of the checklist completed for the proposal listing the material contained in the submitted application.

Refer to the application checklist for a detailed list of submittal requirements.

L/A's development review process and requirements have been made similar for convenience and to encourage development. Each Citys ordinances are available online at their prospective websites:
Auburn: www.auburnmaine.org under City Departments/ Planning and Permitting/Land Use Division/Zoning Ordinance
Lewiston: http://www.ci.lewiston.me.us/clerk/ordinances.htm Refer to Appendix A of the Code of Ordinances

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, I certify that the City's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for development review <u>only</u>; a Performance Guarantee, Inspection Fee, Building Permit Application and other associated fees and permits will be required prior to construction.

Signature of Applicant:	Date:
Gary A. Carroll	9/6/2020

Development Review Checklist

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement

THE FOLLOWING INFORMATION IS REQUIRED WHERE APPLICABLE TO BE SUBMITTED FOR AN APPLICATION TO BE COMPLETE

PROJECT NAME: Blake Street Apartments

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 198 Blake Street

Map 196, Lots 81, 82, 83, 84

Required Information		**Check Submitted**		**Applicable Ordinance**	
Site Plan		**Applicant**	**Staff**	**Lewiston**	**Auburn**
	Owner's Names/Address	✓			
	Names of Development	✓			
	Professionally Prepared Plan	✓			
	Tax Map or Street/Parcel Number	✓			
	Zoning of Property	✓			
	Distance to Property Lines				
	Boundaries of Abutting land				
	Show Setbacks, Yards and Buffers				
	Airport Area of Influence (Auburn only)	n/a			
	Parking Space Calcs	✓			
	Drive Openings/Locations	✓			
	Subdivision Restrictions	✓			
	Proposed Use	✓			
	PB/BOA/Other Restrictions	✓			
	Fire Department Review				
	Open Space/Lot Coverage				
	Lot Layout (Lewiston only)	✓			
	Existing Building (s)	✓			
	Existing Streets, etc.	✓			
	Existing Driveways, etc.	✓			
	Proposed Building(s)	✓			
	Proposed Driveways	✓			
Landscape Plan					
	Greenspace Requirements	✓			
	Setbacks to Parking	✓			
	Buffer Requirements	✓			
	Street Tree Requirements	✓			
	Screened Dumpsters	✓			
	Additional Design Guidelines	✓			

	Planting Schedule				
Stormwater & Erosion Control Plan					
	Compliance w/ chapter 500	✓			
	Show Existing Surface Drainage	✓			
	Direction of Flow	✓			
	Location of Catch Basins, etc.	✓			
	Drainage Calculations				
	Erosion Control Measures	✓			
	Maine Construction General Permit				
	Bonding and Inspection Fees				
	Post-Construction Stormwater Plan	✓			
	Inspection/monitoring requirements	✓			
	Third Party Inspections (Lewiston only)	✓			
Lighting Plan					
	Full cut-off fixtures				
	Meets Parking Lot Requirements				
Traffic Information					
	Access Management	✓			
	Signage	✓			
	PCE - Trips in Peak Hour	✓			
	Vehicular Movements	✓			
	Safety Concerns	✓			
	Pedestrian Circulation	✓			
	Police Traffic	✓			
	Engineering Traffic	n/a			
Utility Plan					
	Water	✓			
	Adequacy of Water Supply	✓			
	Water main extension agreement	n/a			
	Sewer	✓			
	Available city capacity				
	Electric	✓			
	Natural Gas	✓			
	Cable/Phone	✓			
Natural Resources					
	Shoreland Zone	n/a			
	Flood Plain	n/a			
	Wetlands or Streams	n/a			
	Urban Impaired Stream	n/a			
	Phosphorus Check	n/a			
	Aquifer/Groundwater Protection	✓			
	Applicable State Permits	n/a			
	No Name Pond Watershed (Lewiston only)	n/a			

	Lake Auburn Watershed (Auburn only)	n/a			
	Taylor Pond Watershed (Auburn only)	n/a			
Right Title or Interest					
	Verify	✔			
	Document Existing Easements, Covenants, etc.	✔			
Technical & Financial Capacity					
	Cost Est./Financial Capacity	✔			
	Performance Guarantee				
State Subdivision Law					
	Verify/Check	✔			
	Covenants/Deed Restrictions	✔			
	Offers of Conveyance to City	n/a			
	Association Documents	n/a			
	Location of Proposed Streets & Sidewalks	✔			
	Proposed Lot Lines, etc.	✔			
	Data to Determine Lots, etc.	✔			
	Subdivision Lots/Blocks	✔			
	Specified Dedication of Land	✔			
Additional Subdivision Standards					
	Single-Family Cluster (Lewiston only)	n/a			
	Multi-Unit Residential Development (Lewiston only)	n/a			
	Mobile Home Parks	n/a			
	Private Commercial or Industrial Subdivisions (Lewiston only)	n/a			
	PUD (Auburn only)	n/a			
A jpeg or pdf of the proposed site plan					
Final sets of the approved plans shall be submitted digitally to the City, on a CD or DVD, in AutoCAD format R 14 or greater, along with PDF images of the plans for archiving					

ingenuity thoughtfulness empathy

Raise-Op – 198 Blake Street Apartments

Development Review & Standards Approval Criteria Narrative

Art. XIII, Sec. 4 Worksheet

(a) Utilization of the site.

Reference: CES Survey

Reference: Oxford Title, Inc. Deed

The existing property at 186-198 Blake Street is a brownfield site in that it was previously developed, and is now vacant. The proposal will develop the parcel to bring it back to the previously existing use: urban neighborhood residential. The proposed building will be positioned to continue the street wall created by the neighboring buildings, and as such, will be regenerative infill development. There are no environmentally sensitive features on the site, and stormwater will be managed to preserve and/or improve existing drainage patterns.

(b) Traffic movement into and out of the development area.

Reference: Acorn Transportation Analysis

The proposed project is within the street grid of the Tree Streets Neighborhood, and the proposed infill will result in a residential density that is lower than nearby blocks of the neighborhood. Based on the 9th edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual, the project is expected to generate 4 trips during the peak hour of the week which will have a negligible impact on the existing street infrastructure. Specifically, the adjacent properties on the opposite side of Blake Street have street entrances on Bates Street which have resulted in Blake Street being underutilized by traffic

(c) Access into the site.

Reference: Acorn Site Plan C-10

On-site parking will be accessed by one (1) 26' curb-cut, located to the left of the proposed building. Sidewalks will be appropriately tipped down to the driveway and the building location and plantings preserve visibility for vehicles entering and exiting the property.

(d) Internal vehicular circulation.

Reference: Acorn Site Plan C-10

The proposed drive aisle within the parking lot provides maneuvering space for car parking and for turning around. The drive aisle also provides direct access to the proposed dumpster for solid waste removal.

(e) Pedestrian circulation.

Reference: Acorn Site Plan C-10

The Blake Street project is envisioned as a truly urban development and the building is designed for direct and welcoming pedestrian access from the street. Steps and a ramp lead directly from the public sidewalk to the front door, and each of the three ground floor units also has a door to the building exterior.

A sidewalk is also proposed between the drive aisle and the building to allow safe access to bicycle storage at the rear of the building.

(f) Stormwater management.

Reference: Acorn Grading & Drainage Plan C-30
Reference: Acorn Stormwater Management Report
Reference: Acorn Stormwater Inspection & Maintenance Plan

Historically, the site has contained buildings and parking areas causing the area to be infilled with compacted gravels and urban fill. As the site stands today, it's a combination of patchy grass and parking areas. The project aims to restore the natural infiltration of the green spaces by amending the soil and re-planting/re-seeding. Furthermore, the parking lot and driveway runoff will primarily be routed to a rain garden which will treat, cool, and attenuate stormwater before releasing it to the separated storm main in Blake St. The roof, which will contain relatively clean runoff, will be collected and piped into a storm drain, combining with the rain garden's discharge to the storm main. Overall, the project anticipates a decrease in peak flows for all design storms when comparing the current condition to the proposed project. This is especially true for the neighbors to the rear as the proposed project will slightly change the drainage patterns to contain the entirety of its runoff rather than shedding water towards the neighbors along Pierce Street. Please refer to the stormwater management report for more information which includes pre and post development hydrological analyses with supporting maps.

(g) Erosion control.

Reference: Acorn Erosion & sedimentation Control Details C-45
Reference: Acorn Erosion & Sedimentation Control Report

Within the plan set itself as well as a standalone narrative, best practices and guidelines have been provided such that erosion control will be controlled during construction. Given the small, flat site, erosion and sedimentation is not a significant concern; however, we have provided for typical best practices such as erosion control barriers and a construction entrance during earthwork activities. Please refer to the erosion and sedimentation control report for more information.

(h) Water supply.

Reference: Acorn Utility Plan C-20
Reference: Acorn Utilities Narrative

The proposed project will connect directly for domestic water and sprinkler water services in Blake Street. The connection will consist of 6" ductile iron line off of the water main with a parent child connection to a 2" copper line for domestic water. All construction shall be in accordance with the Lewiston Water & Sewer Division.

(i) Sewage disposal.

Reference: Acorn Utility Plan C-20
Reference: Acorn Utilities Narrative

The Blake Street project will connect directly to the Sanitary Sewer line in Blake Street in accordance with the City of Lewiston Standards.

(j) Utilities.

Reference: Acorn Utility Plan C-20
Reference: Acorn Utilities Narrative

Electrical and telecommunication lines shall be brought to the proposed development by underground lines. Natural gas will be brought to the building underground. Both sets of meters will be installed on the right side of the building and screened, away from vehicular and pedestrian travel. Lastly, sewer will be routed from the building to the sewer main via a 6" PVC gravity lateral.

(k) Natural features.

Reference: Acorn Site Plan C-10
Reference: CES Survey

Existing natural features are limited to grass and "volunteer" trees that have been allowed to grow from seed. This vegetation will be removed and replaced with intentional, native, low-maintenance landscaping. Grading and existing drainage patterns will be minimally impacted by the proposed development.

(l) Groundwater protection.

Reference: Acorn Grading & Drainage Plan C-30
Reference: Acorn Stormwater Management Report
Reference: Acorn Stormwater Inspection & Maintenance Plan

Given the residential use and proposed discharge of sewerage to the public sewer main, groundwater contamination is not anticipated as part of this project, nor are any controls related to preventing spills or monitoring nitrates, etc. as they are not necessary.

(m) Water and air pollution.

Reference: Acorn Grading & Drainage Plan C-30
Reference: Acorn Stormwater Management Report
Reference: Acorn Stormwater Inspection & Maintenance Plan

The proposed development is of a non-industrial nature and designed with the intention of meeting the numerical standards Passive House US. The building will be responsible for less pollution and CO2 emissions than many of the existing buildings in the surrounding neighborhood. Also see groundwater protection above.

(n) Exterior lighting.

Reference: Hubbell Site Photometric Pan 2026860R4

The project is proposed with an urban neighborhood lighting scheme with the intention of providing lighting that is both safe and welcoming. The lighting at building entries is downlighting from the entry canopies. Lighting for the parking area and pedestrian crossing of driveway will be pole-mounted and shielded.

(o) Waste disposal.

Reference: Acorn Site Plan C-10
Reference: Pine Tree Commercial Can Service Agreement

Solid waste will be stored in a dumpster located at the end of the proposed parking aisle. See draft contract for solid waste removal, attached.

(p) Lot layout.

Reference: Acorn Site Plan C-10

(q) Landscaping.

Reference: Acorn Site Plan C-10

The proposed landscape design provides three (3) street trees on private land and other attractive plantings at the front of the building. The proposed parking will have buffering between it and the adjacent property.

(r) Shoreland relationship.

The Blake Street proposal is not near any shorelands.

(s) Open space.

Reference: Acorn Site Plan C-10

As the proposed project has nine (9) units, and is not subject to the open space requirement. However, for the benefit of the residents, the property directly to the rear of the proposed building will be for shared recreational purposes.

(t) Technical and financial capacity.

Reference: Norway Savings Bank Loan Sheet

The Raise-Op has been developing and managing cooperative affordable housing since 2008. Today, we own and operate 3 apartment buildings (totaling 15 units) on Maple and Pierce streets, which provide affordable homes for 50 residents. We also own and operate a small office space for the Somali Bantu Community Association, and partner with the Nutrition Center for management of our community vegetable garden at 80 Birch Street. We have served as general contractor for substantial renovations at all of our properties, and have met the ongoing compliance standards for the HOME and/or CDBG funding sources used to develop each site. We have also layered additional funding sources for each project from CDFI's, private foundations, and individual lenders and donors.

The Development Team for this project is led by Craig Saddlemire, who has been working with the Raise-Op since its founding in 2008, and managing the Raise-Op in a professional capacity since 2015. He has been the key person in the development of all four of Raise-Op's buildings. Architecture design services are being provided by Evan Carroll of Bild Architecture. Evan has extensive experience with designing multi-unit buildings, especially in-fill residential properties in Portland, Maine, in neighborhoods with similar scale and architectural context to the Tree Streets of Lewiston. Matt Peters is our development consultant, who has developed over a dozen affordable housing projects, has 7.5 years of experience working for Avesta, and currently manages the Freeport Housing Trust. This Fall, we intend to procure a Construction Manager via a competitive proposal process who will join our development team and help us through the remaining stages of development, beginning with design development and ending with final construction.

Regarding financial capacity, our organization has successfully developed and maintained all of our properties to date, and are in good standing with all of our financial lenders and donors. It is well documented by market studies that the amortized capital cost of developing new multi-unit housing far exceeds the incomes of low, moderate, and even middle-income households in Lewiston-Auburn. Therefore, the majority of capital costs must be subsidized so that the property can support a debt service that - when combined with other operating costs - is affordable to residents. Furthermore, banks will only lend up to 75% or 80% of the property's appraised market value, which is based upon potential rent rather than capital invested. This means that is not possible to borrow for the capital needs of such

a project. Based on our latest proforma, we propose to borrow $285,000 in long term financing from Norway Savings Bank (please find attached Letter of Intent). We are pursuing grants from the Federal Homeloan Bank of Boston, HOME, CDBG, as well as private individuals and foundations for the balance of the capital needs, which are approximately $2.74 million. We have approximately one-third of the funding sources committed at this time. The other funding sources are currently being pursued and securing all of them will be the biggest determinant regarding whether we begin construction in the summer of 2021 or 2022.

(u) Buffering.

Reference: Acorn Site Plan C-10

The proposed dumpster is enclosed and the proposed parking has a landscape buffer.

(v) Compliance with district regulations.

Reference: Acorn Site Plan C-10

The Blake Street Apartments are in compliance with zoning regulations. Please see table on site plan, and information on Application.

(w) Design consistent with performance standards.

In the above narrative it has been shown that the proposed apartments at 198 Blake Street have been designed to meet the City of Lewiston Development Review & Standards.

OXFORD TITLE, INC.

a division of Hanley Adams serving the real estate needs of Western Maine
P.O. Box 280, 43 Main Street, South Paris, ME 04281
(Tel) 207.743.0743 (Fax) 207.739.2499

February 11, 2019

Raise-Op Housing Cooperative
Shad Masood, Treasurer
145 Pierce Street
Lewiston, ME 04240

Re: Property located: 198 Blake Street, Lewiston, ME

Dear Shad:

Enclosed please find the original Warranty Deed from Crop Dusting, LLC to Raise-Op Housing Cooperative, for your record.. This deed has been recorded in the Androscoggin County Registry of Deeds in Book 9851, Page 77.

I trust you will proceed to store your deed in a safe and secure place among your other important papers. If you have any questions regarding this matter, please don't hesitate to contact me at this office.

Sincerely,

Samantha J. Adams, Esq.

SJA/td
Enclosure

O:\OT SEC\FATIC POLICY REMITTALS\RAISE-OP FM CROP DUSTING T18-062.DOCX

Bk 9851 Pg75 #8057
06-04-2018 @ 11:51a

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS, that **CROP DUSTING, LLC** a Maine Limited Liability Company, with a mailing address of P.O. Box 1234, Auburn, Maine 04210, for consideration paid, grants to **RAISE-OP HOUSING COOPERATIVE**, with a mailing address of 145 Pierce Street, Lewiston, Maine 04240 with **WARRANTY COVENANTS**, the premises in the City of Lewiston, County of Androscoggin and State of Maine, being more particularly described in the Exhibit A attached hereto and made a part hereof.

IN WITNESS WHEREOF, the said Scott Ferland of **CROP DUSTING, LLC** has set his hand and seal this 17th day of May, 2018.

CROP DUSTING, LLC

Witness

By: Scott Ferland
Its: Member

MAINE REAL ESTATE TRANSFER TAX PAID

STATE OF MAINE
Androscoggin, ss.

May 17, 2018

Personally appearing the above-named Scott Ferland, as Member of Crop Dusting, LLC and acknowledged the forgoing to be his free act and deed and the free act and deed of Crop Dusting, LLC.

Before me,

Samantha J. Adams, Attorney at Law

EXHIBIT A

A certain lot or parcel of land, together with the buildings situated in Lewiston, County of Androscoggin and State of Maine, bounded and described as follows:

Beginning at a point on the easterly side of Blake Street a distance of 585 feet southerly from Walnut Street at the southwesterly corner of land conveyed to Samuel Mottram by deed numbered 657, dated March 28, 1877; thence running easterly by the southerly line of said land so conveyed to said Samuel Mottram a distance of 100 feet land now or formerly owned by Franklin Company; thence southerly by said land nor or formerly owned by the Franklin Company a distance of 50 feet to the northeasterly corner of land conveyed to H. Barbour by deed numbered 138, dated July 6, 1860; thence westerly by the northerly line of said land so conveyed to said H. Barbour a distance of 100 feet to said easterly side of said Blake Street; thence northerly by the easterly line of said Blake Street a distance of 50 feet to the point of beginning.

Subject to the restriction that no building thereon shall be placed nearer the line of said Blake Street than 12 feet.

Reference: Simon Streeter by virtue of a Quitclaim deed from Federal National Mortgage Association dated 01/24/2013 and recorded at the Androscoggin County Registry of Deeds in Book 8593, Page 190.

Being the same premises conveyed by Quitclaim Deed from Simon Streeter to Crop Dusting, LLC dated May 30, 2014, and recorded in the Androscoggin County Registry of Deeds in Book 8923, Page 53.

ANDROSCOGGIN COUNTY
TINA M CHOUINARD
REGISTER OF DEEDS

OXFORD TITLE, INC.

a division of Hanley Adams serving the real estate needs of Western Maine
P.O. Box 280, 43 Main Street, South Paris, ME 04281
(Tel) 207.743.0743 (Fax) 207.739.2499

February 11, 2019

Raise-Op Housing Cooperative
Shad Masood, Treasurer
145 Pierce Street
Lewiston, ME 04240

Re: Property located: 188 & 194 Blake Street, Lewiston, ME

Dear Shad:

Enclosed please find the original Warranty Deed from Daniel J. Fitzpatrick to Raise-Op Housing Cooperative, for your records. This deed has been recorded in the Androscoggin County Registry of Deeds in Book 9851, Page 80.

I trust you will proceed to store your deed in a safe and secure place among your other important papers. If you have any questions regarding this matter, please don't hesitate to contact me at this office.

Sincerely,

Samantha J. Adams, Esq.

SJA/td
Enclosure

O:\OT SEC\FATIC POLICY REMITTALS\RAISE-OP FM FITZPATRICK T18-061.DOCX

Bk 9851 Pg80 #8059
06-04-2018 @ 11:51a

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS, that **DANIEL J. FITZPATRICK** ~~**AND JERI FITZPATRICK**~~, whose mailing address is P.O. Box 148, Gray, Maine 04039, for consideration paid, grants to **RAISE-OP HOUSING COOPERATIVE**, with a mailing address of 145 Pierce Street, Lewiston, Maine 04240 with **WARRANTY COVENANTS**, the premises in the City of Lewiston, County of Androscoggin and State of Maine, being more particularly described in the Exhibit A attached hereto and made a part hereof.

The premises are conveyed subject to any easements and restrictions of record, and this deed includes all rights, easements, privileges and appurtenances belonging to the premises hereinabove described.

IN WITNESS WHEREOF, the **DANIEL FITZPATRICK AND JERI FITZPATRICK** has set their hands and seals this 17th day of May, 2018.

Witness

DANIEL FITZPATRICK

~~Witness~~

~~JERI FITZPATRICK~~

MAINE REAL ESTATE
TRANSFER TAX PAID

STATE OF MAINE
Androscoggin, ss.

May 17, 2018

Personally appearing the above-named Daniel Fitzpatrick ~~and Jeri Fitzpatrick~~ and acknowledged the forgoing to be their free act and deed.

Before me,

Samantha J. Adams, Attorney at Law

EXHIBIT A

LOT 1

A certain lot or parcel of land situated at 192-194 Blake Street in Lewiston, Androscoggin County, State of Maine, bounded and described as follow:

Commencing on the easterly side of Blake Street at the southwesterly corner of Peter Mottram's lot; thence easterly at a right angle with the easterly line of said Blake Street one hundred feet (100'); thence southerly at a right angle fifty feet (50'); thence westerly at a right angle one hundred feet (100') to Blake Street; thence by said street northerly fifty feet (50') to the point of commencement.

Being the same premises as conveyed to Norkam Investments, Inc. by a Release Deed from Mid Maine Savings Bank dated January 5, 1993, and recorded in the Androscoggin County Registry of Deeds in Book, 2977, Page 275.

Being the same premises as conveyed to Daniel Fitzpatrick and Jeri Fitzpatrick by a Maine Short Form Warranty Deed from NORKAM INVESTMENTS, INC. a Maine corporation dated October 29, 2002 and recorded in said Registry in Book 5166; Page 79.

LOT 2

The land with the buildings thereon, situated in Lewiston, County of Androscoggin and State of Maine, bounded and described as follows:

Commencing on the easterly line of Blake Street at a point one hundred twenty-nine (129') feet southerly from the southwesterly corner of a lot or parcel of land deeded to one S. H. Merrill; thence running easterly at right angles with the easterly line of Blake Street, one hundred (100') feet; thence southerly at right angles twenty-nine (29') feet; thence at right angles westerly one hundred (100') feet to the said easterly line of Blake Street; thence by said easterly line of said Blake Street northerly twenty-nine (29') feet to the point of beginning. Said parcel of land being more commonly known at 188 Blake Street in said Lewiston.

Excepting and reserving however, a perpetual right of way to Marie Dionne, her heirs and assigns over a strip five (5') feet in width on the southerly side of the above described lot. This conveyance is subject to the restriction that no building placed on said premises shall be nearer the line of said Blake Street than twelve (12') feet.

Being the same premises as conveyed to Normand L. Lauze and Karen E. Greenleaf by a Quitclaim Deed from Maurice E. Mailloux and Shirley D. Mailloux dated March 31, 1994 and recorded in said Registry in Book 3249, Page 99.

Being the same premises as conveyed to Daniel Fitzpatrick and Jeri Fitzpatrick by a Maine Short Form Warranty Deed from Normand L. Lauze and Karen E. Greenleaf dated October 29, 2002 and recorded in said Registry in Book 5166; Page 81.

ANDROSCOGGIN COUNTY
TINA M CHOUINARD
REGISTER OF DEEDS

OPTION AGREEMENT

THIS OPTION AGREEMENT (the "Agreement") made and entered into as of the 30th day of June, 2020, by and between the City of Lewiston, a municipality in the State of Maine with a mailing address of 27 Pine Street, Lewiston, Maine 04240 ("Grantor") and Raise-Op Housing Cooperative, a Maine non-profit corporation with a place of business and mailing address of 145 Pierce Street, Office 102, Lewiston, Maine 04240 ("Grantee")

WITNESSETH:

WHEREAS, Grantor wishes to grant the option set forth below to Grantee on the terms and conditions set forth in this Agreement;

NOW THEREFORE, in consideration of one dollar ($1) (the "Option Consideration"), the receipt of which is hereby acknowledged by Grantor, Grantor and Grantee hereby agree as follows:

1. Grant of Option. Grantor hereby grants to Grantee, its successors and assigns, the exclusive and irrevocable option to purchase a certain lot or parcel of land at 186 Blake Street described in a deed to Grantor recorded in the Androscoggin County Registry of Deeds in Book 3528, Page 45 together with all appurtenant rights and easements (collectively the "Property").

2. Expiration. This option shall expire 180 days after the date of this Agreement at 5 PM Eastern Time unless exercised by that date and time.

3. Notice of Exercise; Failure to Exercise. This option may be exercised only by Grantee giving written notice of election to exercise to Grantor by first class mail, postage prepaid, registered or certified, return receipt requested, addressed to Grantor at the address set forth at the beginning of this Agreement, or to such other address as Grantor may designate to Grantee in writing. Said notice shall be deemed to have been duly given if postmarked prior to the expiration date and time specified herein. In the event that Grantee fails to exercise the option granted in this Agreement within the time specified in Section 2 above, the Option Consideration shall be retained by Grantor, and thereafter neither Grantor nor Grantee shall have any further rights or claims against the other.

4. Exercise. In the event that Grantee exercises the option granted in this Agreement to purchase the Property as provided herein, the following provisions shall be applicable:

a. Purchase Price. Subject to any adjustments and prorations hereinafter described, the total purchase price for the Property shall be the sum of Five Thousand Six Hundred Dollars ($5,600) (the "Purchase Price"), payable at closing by certified or bank cashiers' check or by wire transfer. The Option Consideration shall be credited against the Purchase Price at closing.

b. Title. Grantor shall convey the Property to Grantee by municipal quit claim deed. Grantor agrees to convey the Property using any new survey description resulting from Grantee's boundary survey.

c. Closing. The closing under this Agreement shall take place not later than thirty (30) days after the date of exercise of the option granted in this Agreement, at Grantee's counsel's office, or at such other time and place as Grantor and Grantee shall mutually agree upon in writing. At the closing, Grantor shall execute and deliver to Grantee a Quitclaim Deed with Covenant as to the Property, underground storage tank

certification, and such other affidavits, instruments and documents as Grantee may reasonably request and which are customary in commercial real estate transactions in Maine.

d. Adjustments, Prorations and Closing Costs. The recording fee for the deed or deeds of conveyance and any expenses related to any mortgages which Grantee may grant to a lender in connection with the purchase of the Property shall be paid for by Grantee.

e. Risk of Loss. All risk of loss to the Property prior to the closing shall be on Grantor.

f. Default; Remedies. In the event that Grantee exercises its option but fails to close hereunder for a reason other than the default of Grantor, Grantor's sole remedy shall be to retain the Option Consideration as full and complete liquidated damages in lieu of any other legal or equitable remedy, whereupon this Agreement will terminate and neither party will be under any further obligation hereunder. In the event Grantor defaults under this Agreement, Grantee shall have available all remedies at law and in equity, including, without limitation, the right of specific performance or, in the alternative, the right to seek a complete refund of the Option Consideration.

g. Condition Precedent. Grantee's obligation to purchase the Property is conditioned upon there having occurred no material adverse change in or to the Property between the date of Grantee's inspections and the Closing Date. If this condition is not satisfied as of the Closing Date, Grantee may terminate this Agreement and receive a full and complete refund of the Option Consideration.

6. Inspection. At all times during the term of this Agreement, upon reasonable prior notice, Grantee and any prospective lender or investor of Grantee's shall have the right to enter the Property and perform, at Grantee's expense, any and all inspections, tests, surveys or other due diligence inquiries with respect to the Property as Grantee deems necessary or appropriate. Grantee agrees to return the Property as nearly as possible to its original condition after any such tests and inspections. Grantee shall indemnify Grantor for any property damage, bodily injury, or death occurring by reason of such entry and/or testing. Grantor shall cooperate with Grantee in such inspections. In the event Grantee is not satisfied for any reason by the results of such due diligence inspections, Grantee shall have the option of terminating this Agreement by written notice to Grantor.

7. Brokerage. The parties represent to one another that neither has dealt with or had contact with any broker in connection with the transaction described in this Agreement. The parties shall indemnify, defend and hold harmless one another from and against any breach of the foregoing representation.

8. Recording of Option. Grantor and Grantee agree that this Option shall not be recorded. Grantor agrees upon request of Grantee to execute and tender for recording a memorandum summarizing the terms of this Agreement (except the Purchase Price).

9. Notices. Except as provided in Section 3 above, all notices, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given on the date of service if served personally on the party to whom notice is to be given, or on the first business day after mailing if mailed to the party to whom notice is to be given by first class mail, postage prepaid, registered or certified, return receipt requested, addressed to the recipient at the addresses set forth at the beginning of this Agreement. Either party may change its address for purposes of this Section by giving the other party notice of the new address in the manner described herein.

10. Miscellaneous. This Option Agreement constitutes the entire agreement between Grantor and Grantee, there are no agreements or understandings between the parties except as set forth herein, and all prior

agreements and understandings are superseded by this Agreement. This Option Agreement will inure to the benefit of and bind the respective successors and assigns of Grantor and Grantee. As used in this Option Agreement, the singular number shall include the plural, the plural the singular, and the use of one gender shall be deemed applicable to all genders. This Agreement shall be governed by and construed in accordance with the laws of Maine. The recitals contained in this Agreement are deemed by the parties to be accurate statements of fact. If any provision of this Agreement is determined to be invalid or unenforceable, it shall not affect the validity or enforcement of the remaining provisions hereof.

11. Conditional Commitment of Federal Funds. Financing for this acquisition may in part include CDBG, HOME or other federal resources. Notwithstanding any provision of this agreement, the parties hereto agree and acknowledge that this agreement does not constitute a commitment of funds or site approval, and that such commitment of funds or approval may only occur upon satisfactory completions of environmental review and receipt by the City of a release of funds from the U.S. Department of Housing and Urban Development under 24 CFR Part §58. The parties further agree that the provision of any federal funds to the project is conditioned on the City's determination to proceed with, modify or cancel the project based on the results of a subsequent environmental review. Furthermore, Raise-Op Housing Cooperative or their contractor may not undertake or commit any funds to physical or choice-limiting actions (even with their own funds) including property acquisition, demolition, movement, rehabilitation, conversion, repair, or construction prior to the environmental clearance. A violation of this provision may result in the denial of any funds under this agreement.

13. Assigns. This Agreement is assignable by the Grantee to Raise-Op Housing Cooperative without consent by Grantor.

IN WITNESS WHEREOF, Grantor and Grantee have executed this Agreement as of the date first above written.

WITNESS:

Janet Labbe

City of Lewiston, Grantor

By: Denis D'Auteuil
Name: Denis D'Auteuil
Title: Deputy City Administrator

Raise-Op Housing Cooperative, Grantee

Craig Saddlemire
Craig Saddlemire, Manager

By:
Name: ELISABETH A JAMES
Title: VICE PRESIDENT.

PARID: RE00008117 186 BLAKE ST

Parcel

Parcel ID	RE00008117
Map/Lot	196/000/081
Property Location	186 BLAKE ST
Property Class	Municipalities
Land Area (acreage)	.07

Owners

Owner	LEWISTON CITY OF
Address	CITY BLDG - 27 PINE ST
City	LEWISTON
State	ME
Zip	04240
Book	3528
Page	45

PARID: RE00008117 **186 BLAKE ST**

Values

Current Land	$22,500
Current Building	$0
Current Assessed Total	$22,500

Transportation Analysis

Blake St Raise Op Housing
Lewiston, Maine

Introduction

The proposed project is the redevelopment of a 0.36-acre lot located at 194 Blake St (Map 196, Lot 83) within the Downtown Residential (DR) Zoning District in Lewiston, Maine. The project proposes to construct a three-story, 3,260 sf residential building consisting of 9 dwelling units. The following summarizes the traffic analysis for the proposed project.

Safety

Overall, the site has been designed to provide simple and easy maneuvering patterns. Motorists will have ample sight distance in both directions on Blake Street given the flat roadway, 90-degree approach, and lack of obstructions. Additionally, neither intersection at Blake Street was recorded as a High Crash Location by the Maine DOT. Accordingly, the proposed site is anticipated to be safe and functional and will not contribute to any preexisting issues within Lewiston's street network.

Trip Generation

The trip generation for the project has been calculated using the Institute of Transportation Engineers (ITE) publication, *Trip Generation*, Tenth Edition. The trip generation has been calculated using the Land Use Code 221 (Mid-Rise Apartments) based on the proposed 9 units. The following table summarizes the ITE trip generation for the site. Please refer to the attached excerpts from the ITE Manual for the basis of these results.

ITE Trip Generation Summary

Trip Generation Summary			
	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday Peak Hour
Peak Hour of Generator	3	4	4

As seen in the above table, the development will have a negligible effect on the overall street network, adding only 4 trips during the project's busiest hour of the week. These additional 4 trips are not anticipated to affect the level of service at the adjacent intersections.

Parking and Multimodal Transportation

The site has been designed to provide a central driveway and main sidewalk off the street. The location of the driveway, its orientation to the street, the lack of obstructions, and the significant separation from intersections results in a well-situated and safe driveway entrance. 10 proposed parking spaces are being provided which will provide one space per unit with an additional "flex" space for management or visitors, consistent with the zoning ordinance. Given the central location of the site to the downtown core, the proposed parking ratio is anticipated to be adequate as many residents will likely not rely on a vehicle to provide all of their transportation.

Adjacent to the parking area, covered and secure bicycle storage will be provided in addition to the optional inside storage within the units themselves. Lastly, beyond pedestrian, bicycle, and vehicle accommodations, the site is only an 8-minute walk to the Greyhound Bus Station, ultimately providing residents with four viable multimodal options for transportation to work, goods and services, and other destinations.

Multifamily Housing (Mid-Rise)
(221)

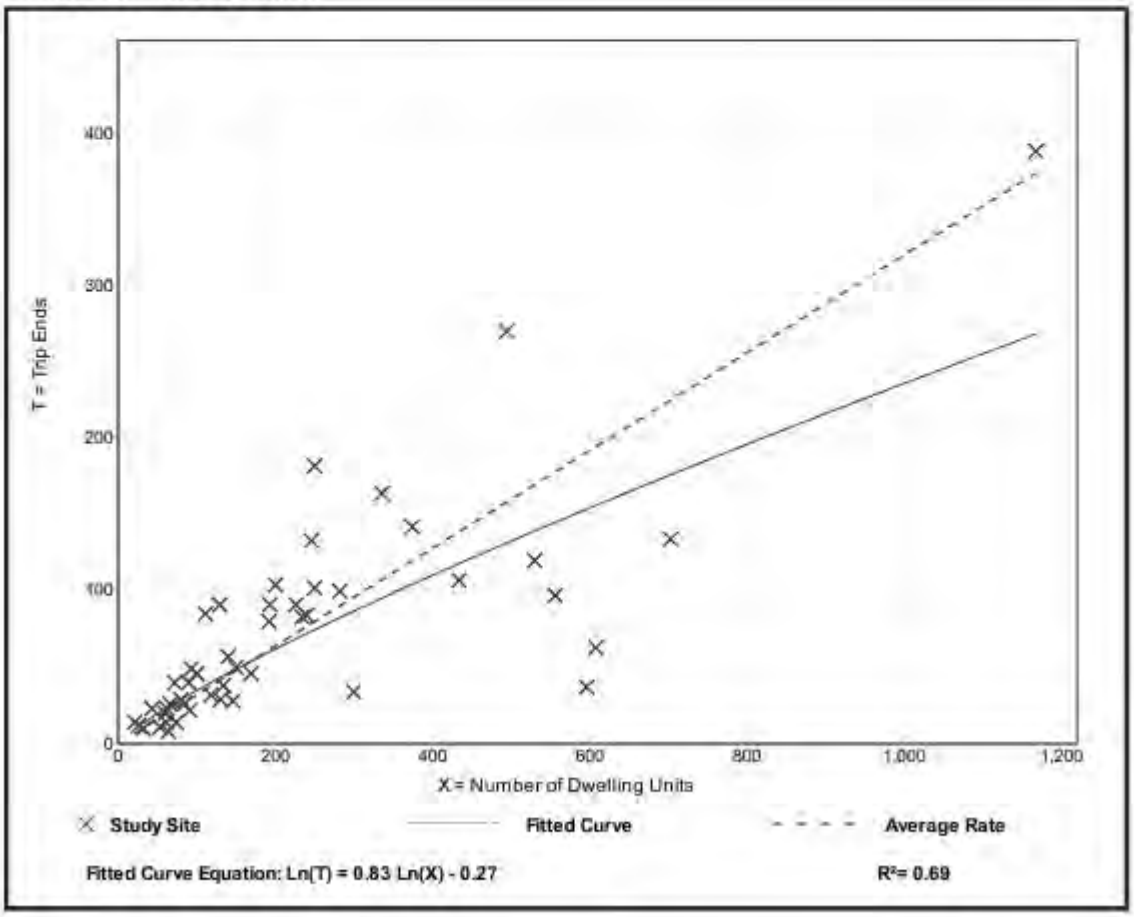
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
AM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 48
Avg. Num. of Dwelling Units: 225
Directional Distribution: 27% entering, 73% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.32	0.06 - 0.77	0.17

Data Plot and Equation



Multifamily Housing (Mid-Rise)
(221)

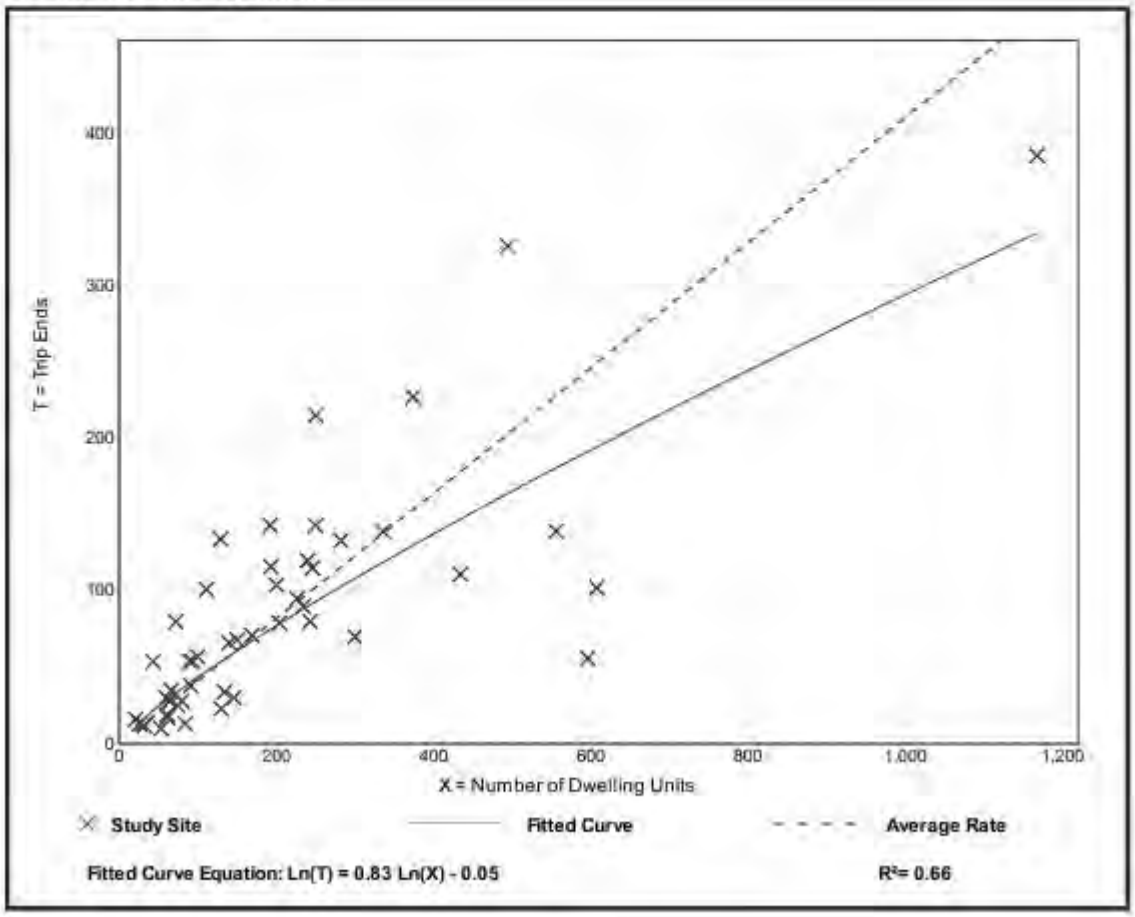
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
PM Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 47
Avg. Num. of Dwelling Units: 211
Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.41	0.09 - 1.26	0.22

Data Plot and Equation



Multifamily Housing (Mid-Rise)
(221)

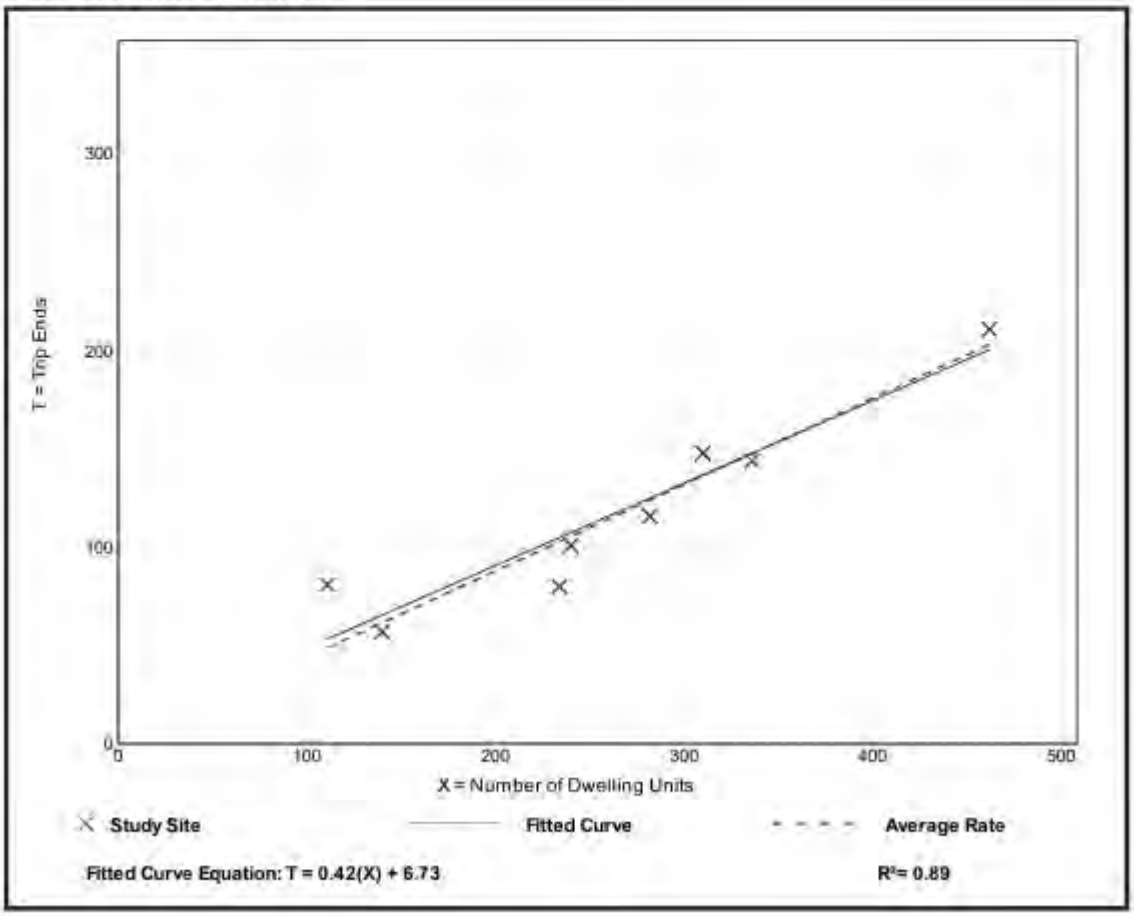
Vehicle Trip Ends vs: Dwelling Units
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 8
Avg. Num. of Dwelling Units: 264
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.44	0.34 - 0.73	0.08

Data Plot and Equation



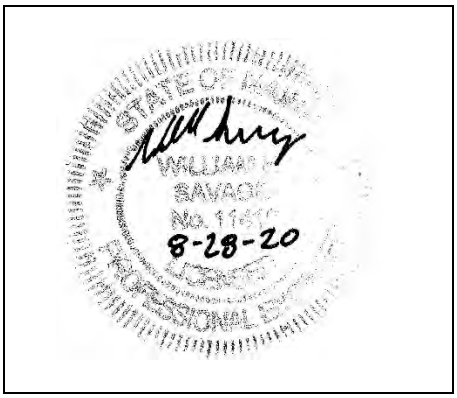
STORMWATER MANAGEMENT REPORT

Prepared For:

Blake St Raise OP Housing
145 Pierce St #102
Lewiston, Maine 04240

Prepared By:

Acorn Engineering, Inc.
65 Hanover Street
Portland, Maine 04104



August 2020

INTRODUCTION

Acorn Engineering, Inc. has been retained by Raise Op Housing Cooperative to provide civil engineering services for the proposed redevelopment at 194 Blake Street in Lewiston, Maine. The project is a 9-unit residential redevelopment in the Downtown Residential Zoning District.

A stormwater analysis will be prepared to demonstrate that the project will meet the following requirements of the City of Lewiston (the City):

- City of Lewiston Zoning and Land Use Code, Article XIII. Development Review Standards Section 4-f.

The proposed project will include the redevelopment of existing impervious areas of gravel driveways and former building pads. The current course of action is to detain the generated stormwater through a rain garden utilizing a Maine Department of Environmental Protection - Underdrained Bioretention Cell approved stormwater Best Management Practice (BMP). Given the scale of the project, it is subject to Flooding and Basic Standards, but not the General Standards for quality.

The stormwater analysis is documented with supporting calculations and reports attached to this narrative.

EXISTING CONDITIONS

The proposed lot is a combination of multiple properties which include Lewiston Tax Map 196-81, 82, 83, and 84 comprising 15,800 square feet. Lewiston has zoned this area as Downtown Residential (DR). An existing conditions plan has been prepared by CES, Inc. dated July 21, 2020, revised August 25, 2020. All abutting uses are residential.

Over a quarter of the lot is classified as impervious area, which includes the existing gravel driveway, sidewalk, and abutting gravel and pavement driveways which extend onto the lot currently. The grassed areas are in fair condition with some patches of exposed soils.

The lot is minimally sloped with a ridge running northwest to southeast which partitions the drainage into two subcatchments on the lot. One of the subcatchments drains the runoff to Blake Street whereas the other sub catchment drains to the abutting properties on the east side of the lot. The site is relatively flat with minimal slopes each side of the ridge.

The project team is not aware of the presence of any existing significant natural features located on the site. Given the urban setting, a field inventory of significant natural feature was not undertaken. The project is not located within a watershed classified as an Urban Impaired Stream.

PROPOSED DEVELOPMENT

The redevelopment proposes 9 residential units within a new 3-story building. On-site parking will be provided in accordance with the Off-Street Parking section within the Land Use Ordinance. Overall, the site will be graded so that all runoff will now be directed towards the rain garden and two field drains located on site. Additionally, the roof runoff will be collected and piped to a common 8" pipe which will convey the rain garden discharge, roof runoff, and field inlet collection to the Municipal Separated Storm Sewer System (MS4) in Blake Street. The majority of the parking lot will drain to the engineered rain garden which accounts for the runoff with the highest pollutant loading. Although this project is not subject to water quality standards, the rain garden will treat the majority of the parking lot runoff during smaller storm events in addition to cooling and attenuating stormwater flows.

As part of the proposal, the earthwork activities will include amending certain areas such that the proposed green space areas are restored to support vegetative growth and allow for a more porous ground cover. This is in contrast to the current condition of the site which features gravelly topsoil and urban fill which is not able to fully support vegetative growth as depicted by the sparse grass on site.

The development will be served by municipal water and sewer, the MS4, underground power/cable/communications, and natural gas. Solid waste and recycling will be contracted through a private waste disposal and recycling provider, there is a proposed concrete pad for a dumpster and recycling bins located at the rear of the parking lot. The project anticipates incorporating Maine DEP approved stormwater Best Management Practices (BMP) to meet Flooding Standards.

FLOODING STANDARD – WATER QUANTITY

The proposed project was modeled using HydroCAD to verify that the post-development conditions do not exceed the pre-development conditions. A 24-hour SCS Type III storm distribution for the 2, 10, and 25-year storm events were used. The corresponding rainfall amounts for these storms are 3.00", 4.30", and 5.40" respectively.

Due to the numerous variables, and inherent inaccuracies with the modeling program used to calculate stormwater runoff it is custom at Acorn Engineering, Inc. to round to the nearest whole number.

HydroCAD Adjustments

A simulation water quality outlet (vertical orifice) is modeled to mimic the minimum 24-hour release time through the soil filter media. This is completed by adjusting the rainfall amount in HydroCAD until the inflow volume is equal to or greater than the calculated water quality volume. The storm events are modeled as type III, 24-hour storm events in HydroCAD for Androscoggin County. A vertical orifice is then modeled in HydroCAD at the outlet structures of each BMP. The simulation orifice diameter is sized to mimic the percolation rate through the soil filter media, a physical orifice is not proposed. In this case, the orifice size is 0.1" which is the lowest diameter HyrdoCAD allows for an input.

This method is consistent with the provisions within Chapter 7 and corresponding specifications within the plan set requiring the soil filter media to release the water quality volume over 24-48 hours. As such, the model is able to analyze the effects from the corresponding infiltration rate that the vertical orifice mimics.

Time of Concentration (T_c)

Within the pre-development, calculating a Tc using site specific flow paths yielded a value of less than 6 minutes for subcatchment #1 so a default minimum value of 6 minutes (0.1 hour) was assumed in conformance with the TR-55 modeling guidelines. For subcatchment #2 a Tc value of 6.2 minutes was determined based upon the flow paths, slopes, and ground cover. Within the post-development, the Tc for subcatchment #1 was calculated to be below the minimum value of 6 minutes, thus 6 minutes was the direct entry input. Subcatchment #2 produced a value of 9.2 minutes. It should be noted that the sheet flow regime was capped at 100 feet during this analysis, consistent with other permitted projects both at the local and State level.

Curve Number

Within the pre-development model, the vegetated areas were considered fair grass cover within the hydrologic soil group C (representative of urban fill). The fair rating is due to a large portion of the ground consisting of urban fill/gravel material from previous uses. Although some of these areas historically served as the foundation for buildings, fair condition grass cover was assumed to be the existing condition to take a conservative approach in the pre-development modeling.

In the post-development plan, given the proposed soil amendments and the future anticipated maintenance, the landscaped areas were considered good grass cover within the same hydrologic soil group C represented by the underlying soils.

Pre-development Calculations

Two separate subcatchments for the pre-development condition were created given the grade break on site. There is a minor ridge running from north to south across the lot portioning the drainage. These subcatchments are described below:

- Subcatchment 1 – This portion drains to the abutting properties to the east of the lot. From here the runoff will enter the Pierce Street storm main.
- Subcatchment 2 – This portion drains to Blake Street and eventually the Blake Street storm main.

It should be noted that both Pierce and Blake Street storm mains converge downstream and outlet into the Androscoggin River, which is the point of interest in the model. The site was ultimately split up in subcatchments to evaluate the existing flows to the rear of the site.

A Pre-development Watershed Map developed for this project can be viewed in Attachment A, and a copy of the HydroCAD calculations is included within Attachment C, of this report.

Peak flow rates for the storm events are as follows:

Table 1 – Pre-Development Peak Stormwater Flows			
Drainage Area	**2 – Year Storm Event (cfs)**	**10 – Year Storm Event (cfs)**	**25 – Year Storm Event (cfs)**
POI #1	1	1	2

Post-development Calculations:

Two separate subcatchments for the post-development condition were created. These subcatchments are described below:

- Subcatchment 1 – This is comprised of the northwest side of the lot which consists of the majority of the parking lot and sidewalk. This runoff will be routed to the rain garden.
- Subcatchment 2 – This subcatchment is characterized as the rest of the site including the roof. Most of this runoff will be routed through a common pipe and field inlet on the southside of the building.

The post-development calculations include changes to the land use, and the compensation provided by the detention facility. The following table represents comparison of pre-development and post-development condition peak runoff rates for the proposed development and tributary area.

Table 2 – Comparison of Peak Flows						
Drainage Area	**2 – Year Storm Event (cfs)**		**10 – Year Storm Event (cfs)**		**25 – Year Storm Event (cfs)**	
	Pre	**Post**	**Pre**	**Post**	**Pre**	**Post**
POI #1	1	0	1	1	2	2

As shown in Table 2, the net impact of the post development peak flows will remain at or below the pre-development levels. A post-development watershed map developed for this project can be viewed in Attachment B, and a copy of the HydroCAD calculations is included within Attachment C of this report.

Down Gradient Property Owners:

It should be noted that the post development (proposed) peak stormwater surface flows tributary to the down gradient property owners will decrease as the proposed site grading reorients the topography to keep the runoff self-contained. The site will be regraded and any stormwater that falls on the proposed site will be drained away from any abutting properties, therefore improving upon the existing conditions to the abutting property owners.

SOILS

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County

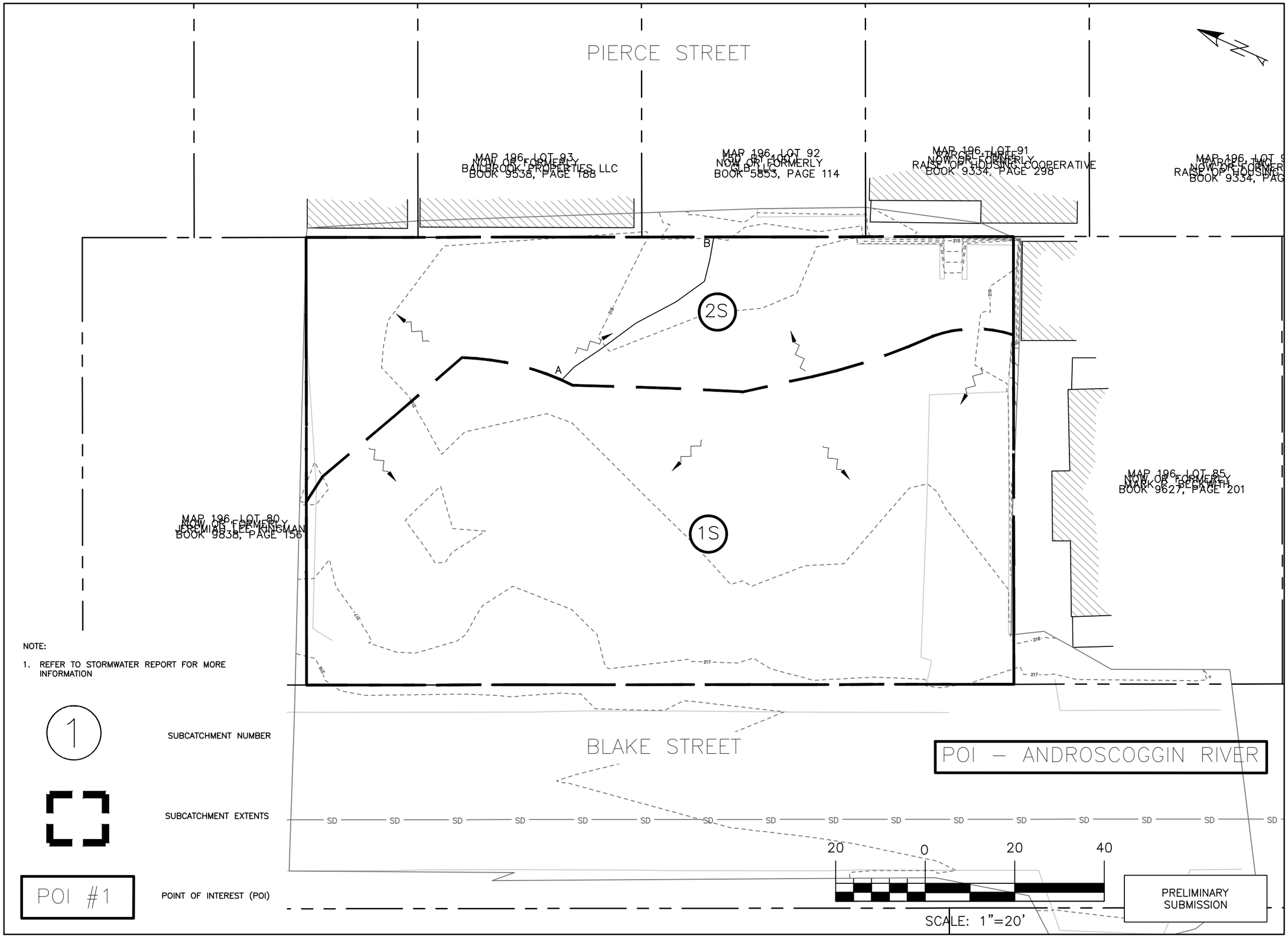
The applicant does not intend to perform a more intense hydric soil boundary delineation because no on-site wastewater or deep cuts are proposed as part of this project.

Conclusion

The proposed development was designed to meet the requirements implemented by Chapter 2, Section 2 – Storm Water Management and Erosion Control, as well as the City of Lewiston Zoning and Land Use Code, Article XIII. As a result, the design of the proposed development and stormwater system, the project does not anticipate to create erosion, drainage, or runoff problems either in the development or with respect to adjoining properties.

Attachments

Attachment A: Pre Development Watershed Map
Attachment B: Post Development Watershed Map
Attachment C: HydroCAD Calculations
Attachment D: Soil Survey



NOTE:

1. REFER TO STORMWATER REPORT FOR MORE INFORMATION

1 — SUBCATCHMENT NUMBER

SUBCATCHMENT EXTENTS

POI #1 — POINT OF INTEREST (POI)

PRELIMINARY SUBMISSION

ISSUED FOR	BY	DATE
SITE PLAN/SUB APP	WHS	9/4/2020

DRAWING NAME: PRE-DEVELOPMENT WATERSHED MAP

PROJECT NAME: BLAKE ST RAISE OP HOUSING

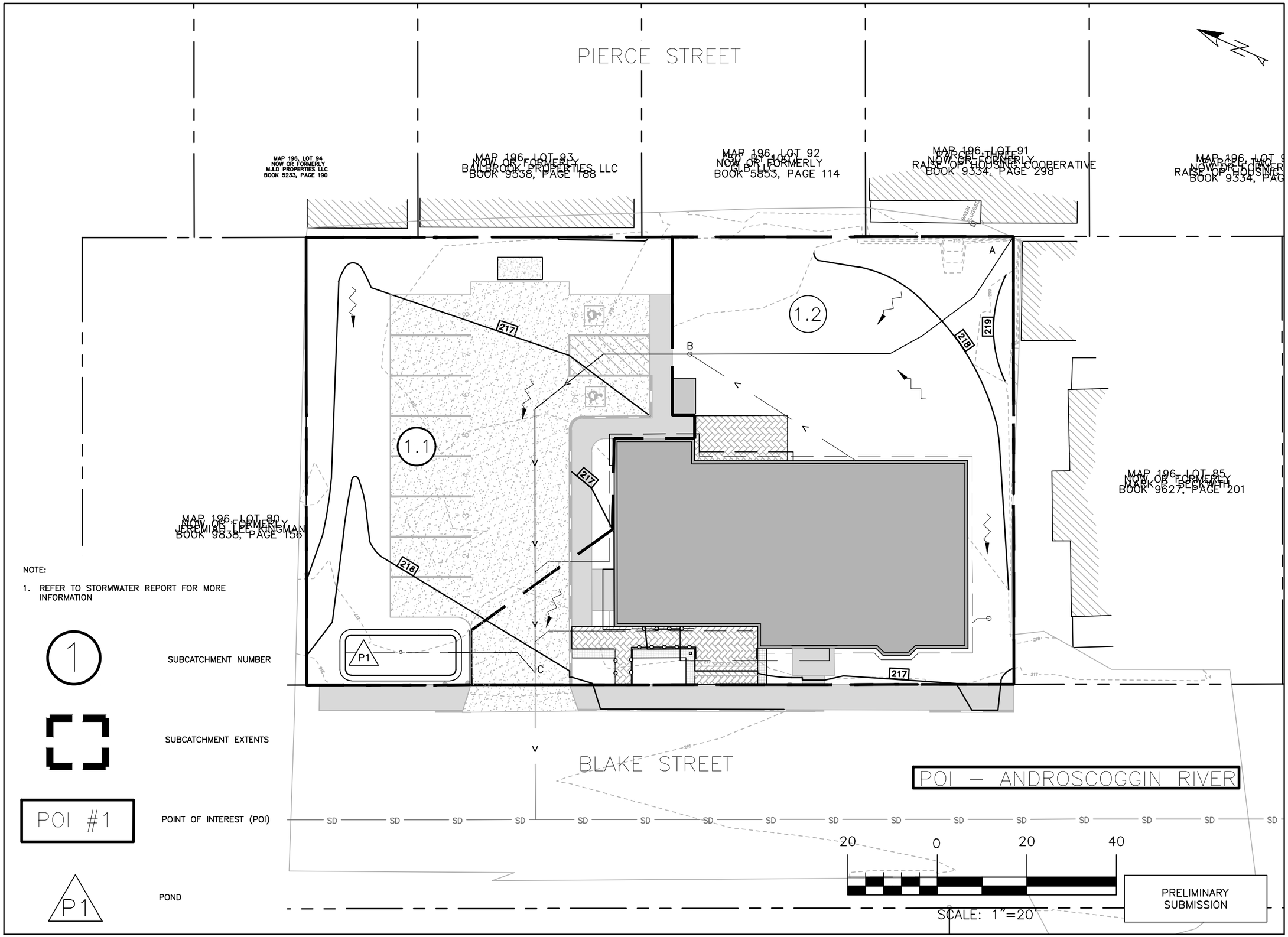
CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

ACORN ENGINEERING, INC
PO BOX 3372
PORTLAND, MAINE 04104
(207) 775-2655

FILE:	1143_CIVIL
JN:	1143
SCALE:	1"=20'
DESIGN BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

DRAWING NO.
PRE



NOTE:

1. REFER TO STORMWATER REPORT FOR MORE INFORMATION

1 — SUBCATCHMENT NUMBER

SUBCATCHMENT EXTENTS

POI #1 — POINT OF INTEREST (POI)

P1 — POND

ISSUED FOR	BY	DATE
SITE PLAN/SUB APP	WHS	9/4/2020

DRAWING NAME: POST-DEVELOPMENT WATERSHED MAP

PROJECT NAME: BLAKE ST RAISE OP HOUSING

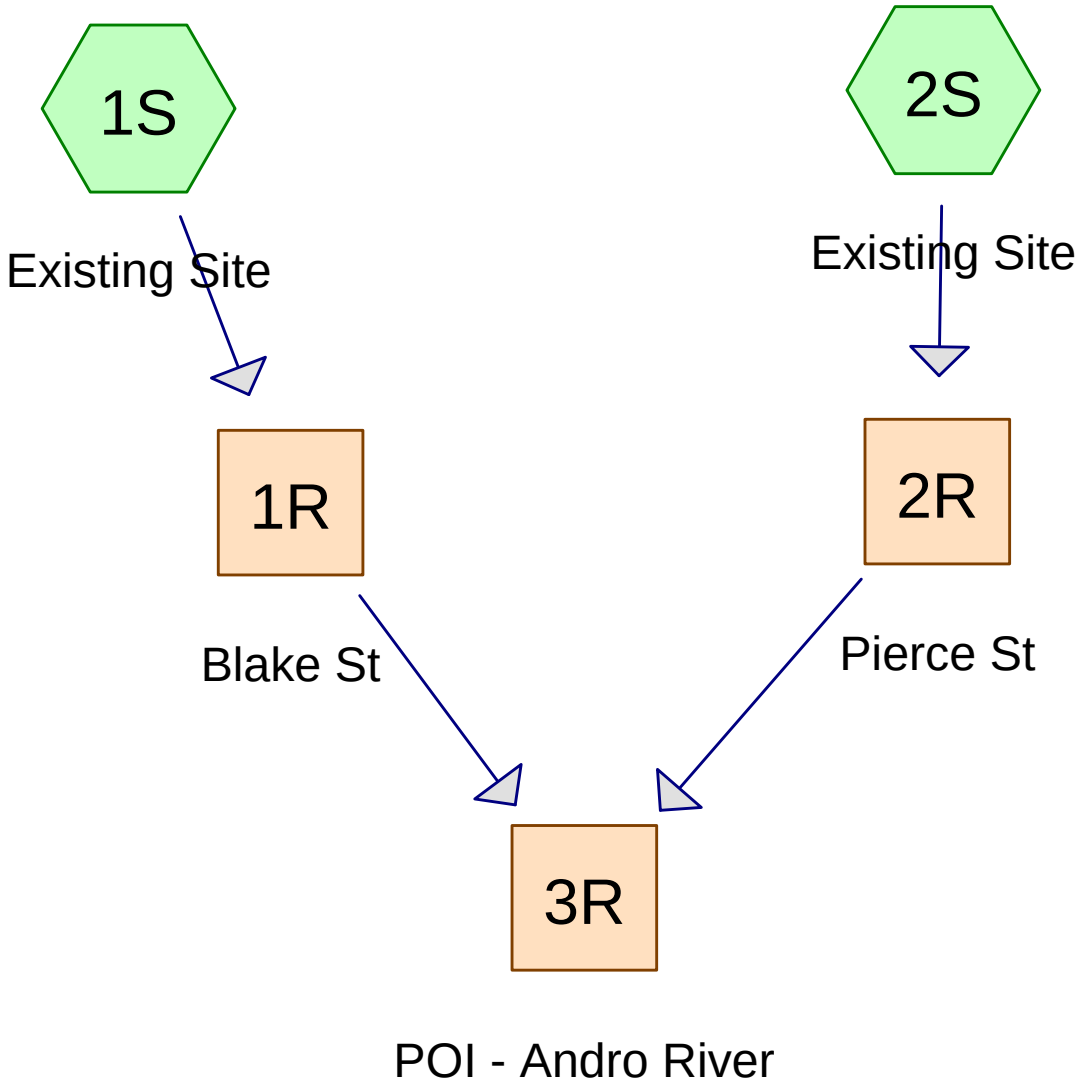
CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

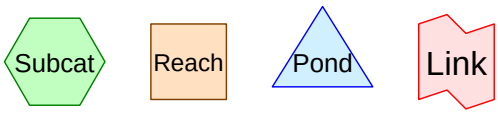
ACORN ENGINEERING, INC
PO BOX 3372
PORTLAND, MAINE 04104
(207) 775-2655

FILE:	1143_CIVIL
JN:	1143
SCALE:	1"=20'
DESIGN BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

DRAWING NO.
POST





Routing Diagram for Pre Development
Prepared by HP, Printed 9/4/2020
HydroCAD® 10.00-24 s/n 00620 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
11,731	79	Grass cover 50-75%, Fair, HSG C (1S, 2S)
2,558	96	Gravel (1S, 2S)
1,510	98	Pavement/Sidewalk (1S, 2S)
15,799	**84**	**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Sub Num
0	0	11,731	0	0	11,731	Grass cover 50-75%, Fair	
0	0	0	0	2,558	2,558	Gravel	
0	0	0	0	1,510	1,510	Pavement/Sidewalk	
0	**0**	**11,731**	**0**	**4,068**	**15,799**	**TOTAL AREA**	

Time span=1.00-36.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Existing Site Runoff Area=10,718 sf 13.58% Impervious Runoff Depth=1.59"
Tc=6.0 min CN=85 Runoff=0.46 cfs 1,419 cf

Subcatchment 2S: Existing Site Runoff Area=5,081 sf 1.08% Impervious Runoff Depth=1.25"
Flow Length=50' Slope=0.0150 '/' Tc=6.2 min CN=80 Runoff=0.17 cfs 529 cf

Reach 1R: Blake St Inflow=0.46 cfs 1,419 cf
Outflow=0.46 cfs 1,419 cf

Reach 2R: Pierce St Inflow=0.17 cfs 529 cf
Outflow=0.17 cfs 529 cf

Reach 3R: POI - Andro River Inflow=0.63 cfs 1,948 cf
Outflow=0.63 cfs 1,948 cf

Total Runoff Area = 15,799 sf Runoff Volume = 1,948 cf Average Runoff Depth = 1.48"
90.44% Pervious = 14,289 sf 9.56% Impervious = 1,510 sf

Summary for Subcatchment 1S: Existing Site

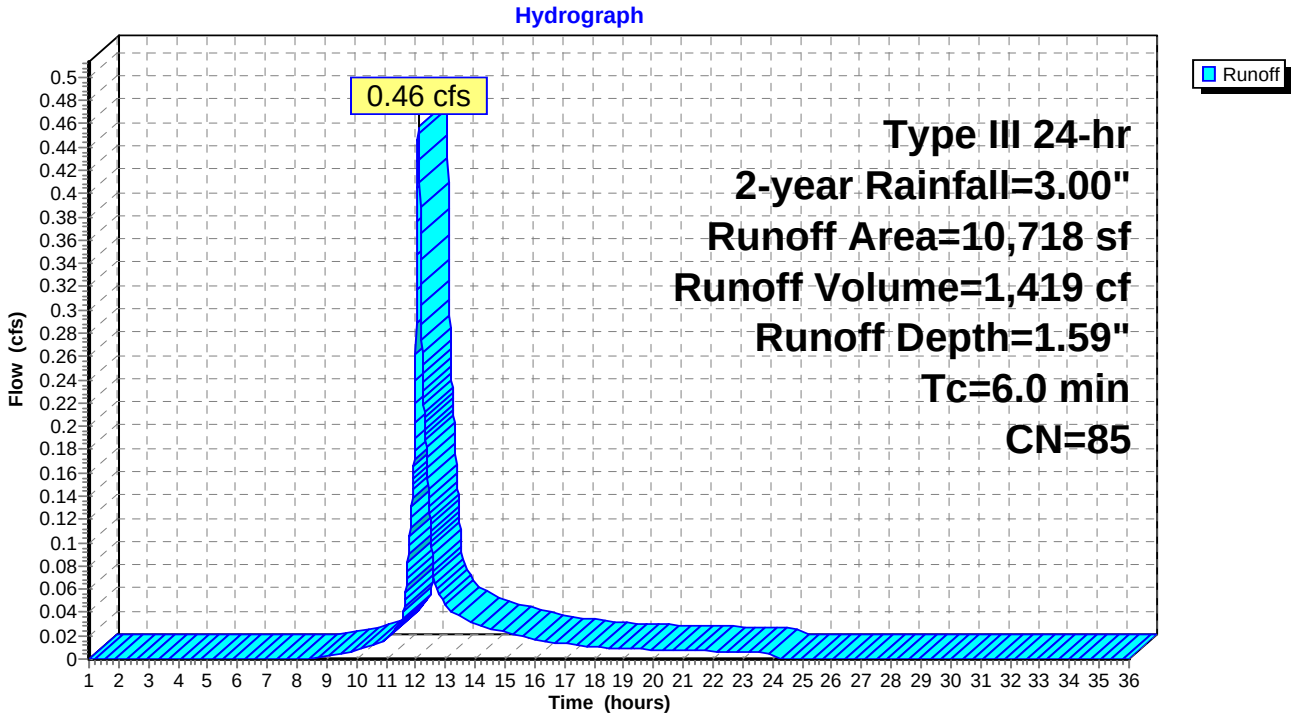
Runoff = 0.46 cfs @ 12.09 hrs, Volume= 1,419 cf, Depth= 1.59"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.00"

	Area (sf)	CN	Description
*	2,177	96	Gravel
*	1,455	98	Pavement/Sidewalk
*	7,086	79	Grass cover 50-75%, Fair, HSG C
	10,718	85	Weighted Average
	9,263		86.42% Pervious Area
	1,455		13.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, min. Tc (0.1 hour)**

Subcatchment 1S: Existing Site



Summary for Subcatchment 2S: Existing Site

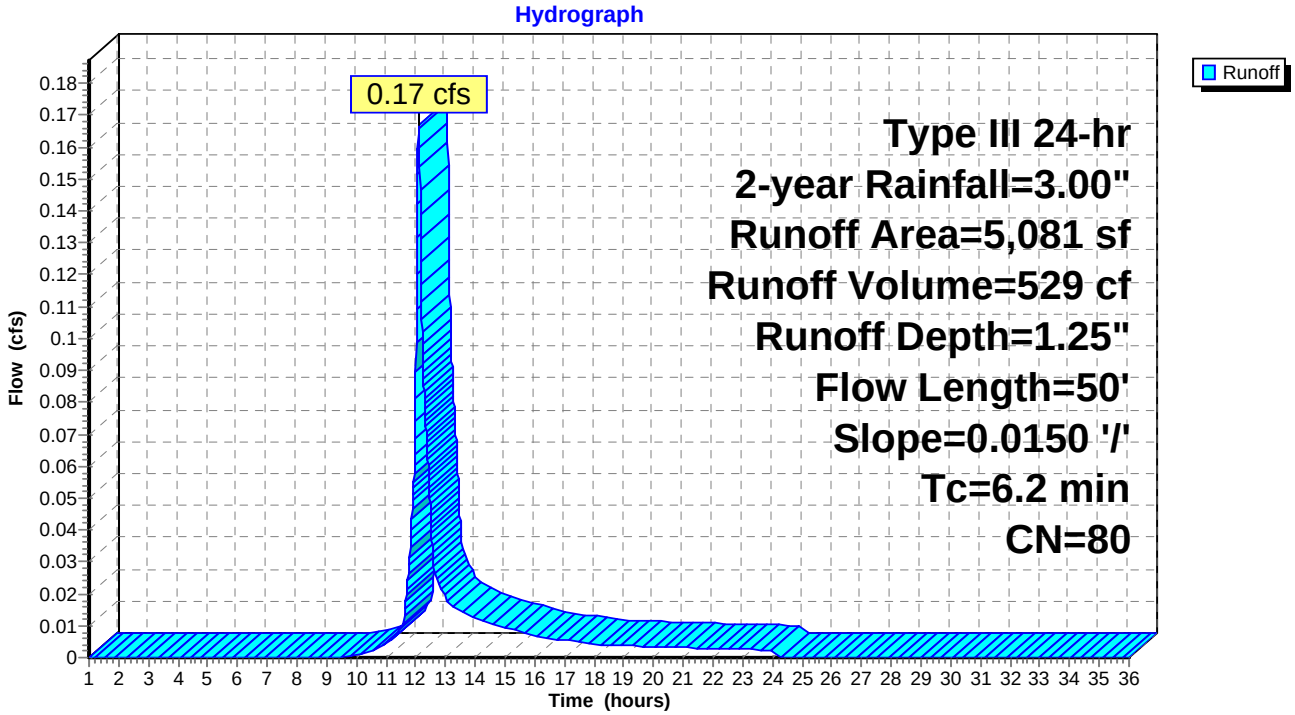
Runoff = 0.17 cfs @ 12.09 hrs, Volume= 529 cf, Depth= 1.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.00"

	Area (sf)	CN	Description
*	381	96	Gravel
*	55	98	Pavement/Sidewalk
*	4,645	79	Grass cover 50-75%, Fair, HSG C
	5,081	80	Weighted Average
	5,026		98.92% Pervious Area
	55		1.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	50	0.0150	0.13		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 3.27"

Subcatchment 2S: Existing Site

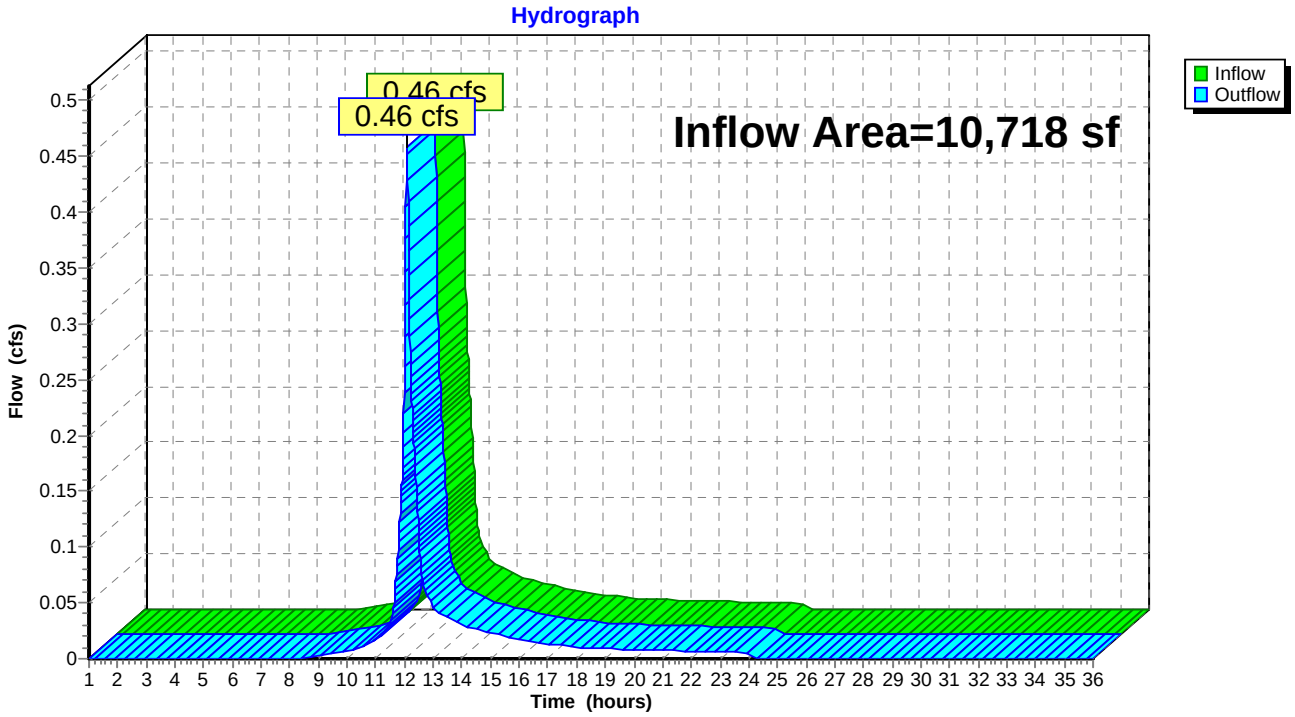


Summary for Reach 1R: Blake St

Inflow Area = 10,718 sf, 13.58% Impervious, Inflow Depth = 1.59" for 2-year event
Inflow = 0.46 cfs @ 12.09 hrs, Volume= 1,419 cf
Outflow = 0.46 cfs @ 12.09 hrs, Volume= 1,419 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 1R: Blake St

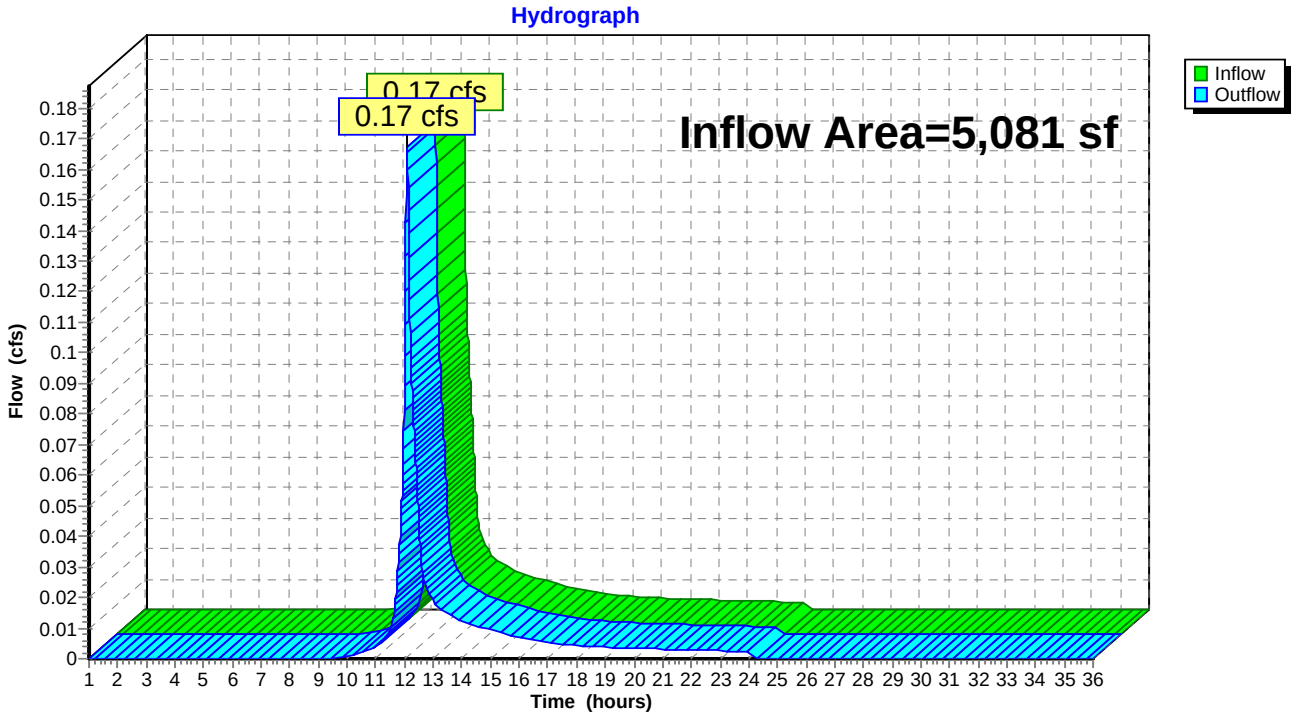


Summary for Reach 2R: Pierce St

Inflow Area = 5,081 sf, 1.08% Impervious, Inflow Depth = 1.25" for 2-year event
Inflow = 0.17 cfs @ 12.09 hrs, Volume= 529 cf
Outflow = 0.17 cfs @ 12.09 hrs, Volume= 529 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 2R: Pierce St

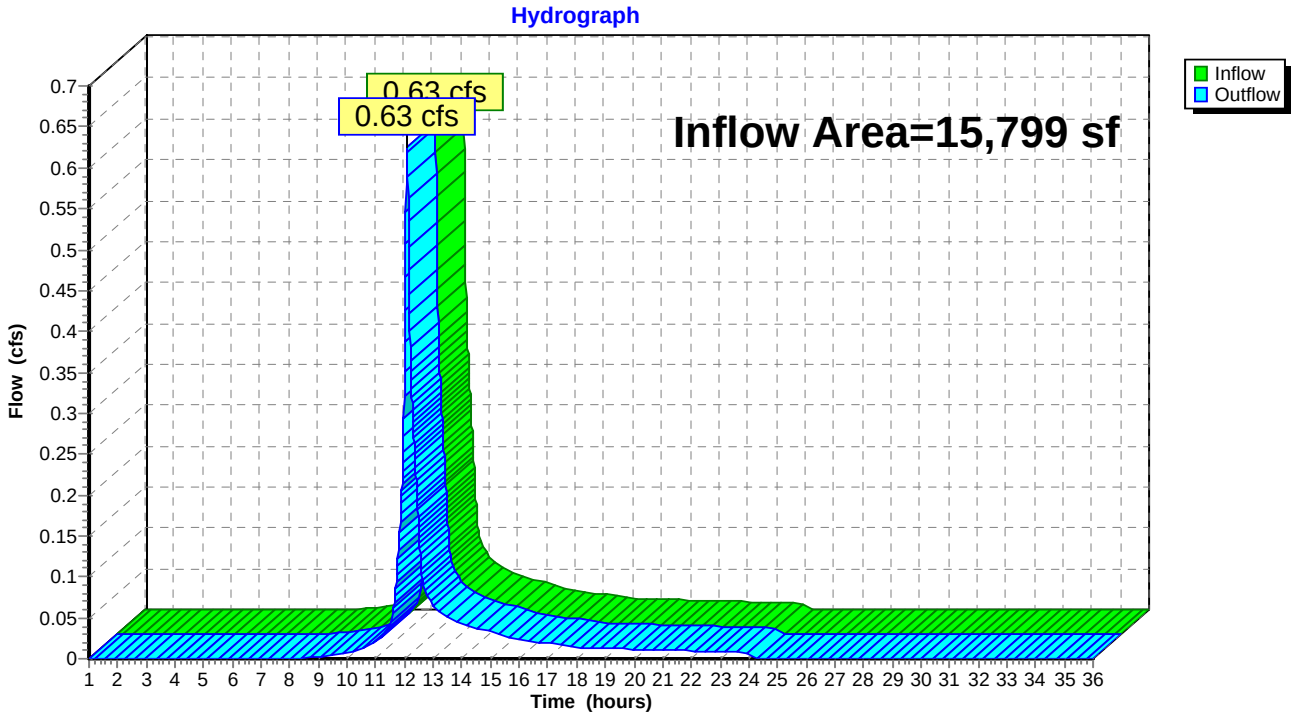


Summary for Reach 3R: POI - Andro River

Inflow Area = 15,799 sf, 9.56% Impervious, Inflow Depth = 1.48" for 2-year event
Inflow = 0.63 cfs @ 12.09 hrs, Volume= 1,948 cf
Outflow = 0.63 cfs @ 12.09 hrs, Volume= 1,948 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 3R: POI - Andro River



Time span=1.00-36.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Existing Site Runoff Area=10,718 sf 13.58% Impervious Runoff Depth=2.73"
Tc=6.0 min CN=85 Runoff=0.78 cfs 2,436 cf

Subcatchment 2S: Existing Site Runoff Area=5,081 sf 1.08% Impervious Runoff Depth=2.29"
Flow Length=50' Slope=0.0150 '/' Tc=6.2 min CN=80 Runoff=0.31 cfs 970 cf

Reach 1R: Blake St Inflow=0.78 cfs 2,436 cf
Outflow=0.78 cfs 2,436 cf

Reach 2R: Pierce St Inflow=0.31 cfs 970 cf
Outflow=0.31 cfs 970 cf

Reach 3R: POI - Andro River Inflow=1.09 cfs 3,407 cf
Outflow=1.09 cfs 3,407 cf

Total Runoff Area = 15,799 sf Runoff Volume = 3,407 cf Average Runoff Depth = 2.59"
90.44% Pervious = 14,289 sf 9.56% Impervious = 1,510 sf

Summary for Subcatchment 1S: Existing Site

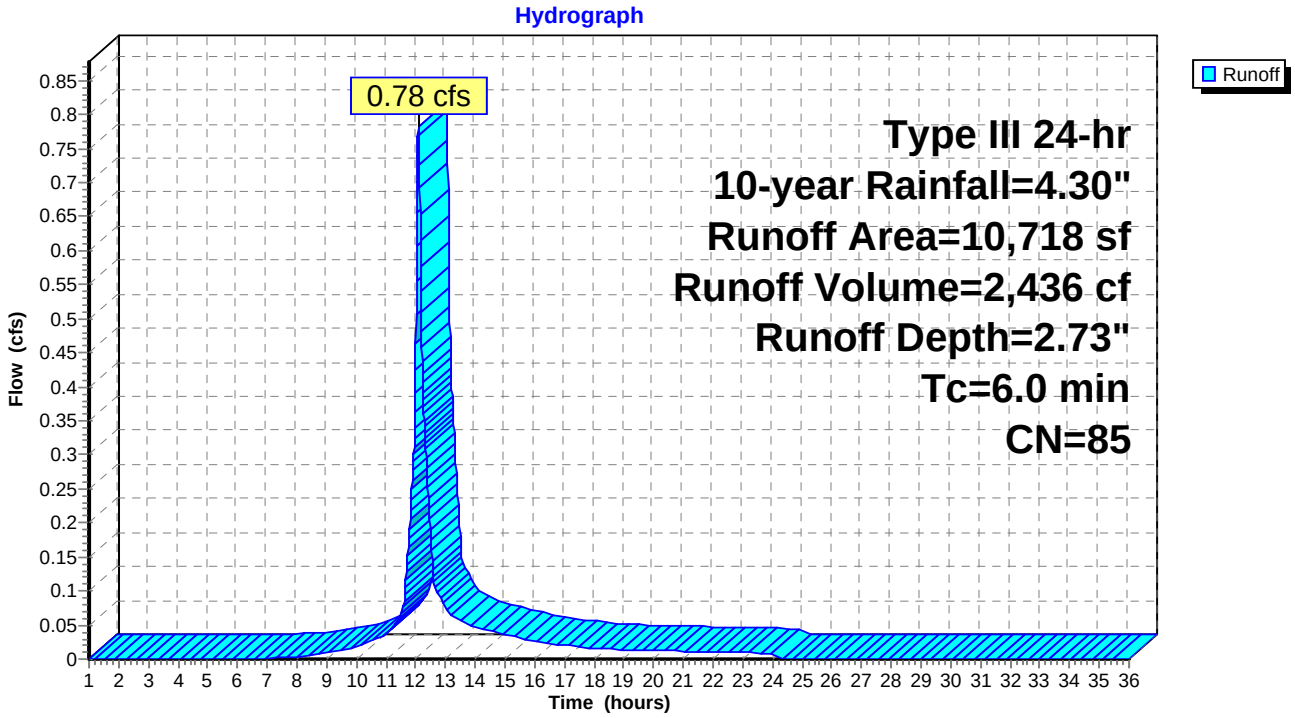
Runoff = 0.78 cfs @ 12.09 hrs, Volume= 2,436 cf, Depth= 2.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.30"

	Area (sf)	CN	Description
*	2,177	96	Gravel
*	1,455	98	Pavement/Sidewalk
*	7,086	79	Grass cover 50-75%, Fair, HSG C
	10,718	85	Weighted Average
	9,263		86.42% Pervious Area
	1,455		13.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, min. Tc (0.1 hour)**

Subcatchment 1S: Existing Site



Summary for Subcatchment 2S: Existing Site

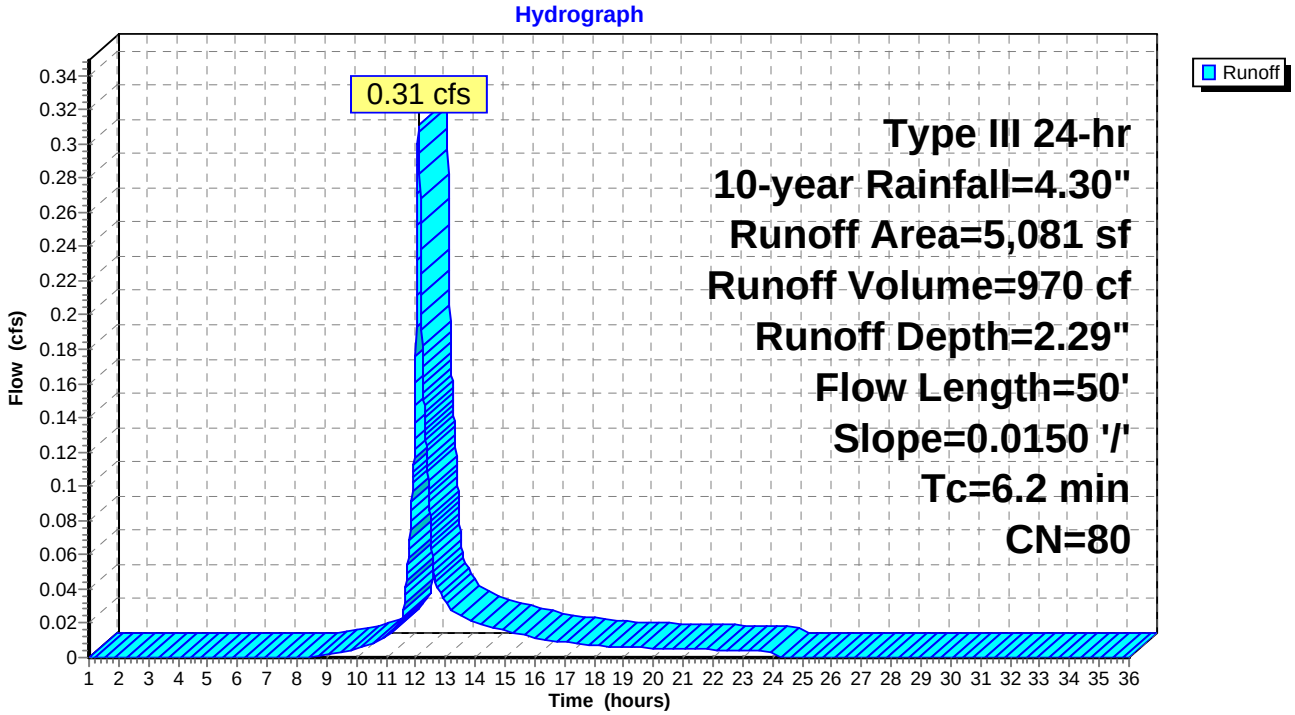
Runoff = 0.31 cfs @ 12.09 hrs, Volume= 970 cf, Depth= 2.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.30"

	Area (sf)	CN	Description
*	381	96	Gravel
*	55	98	Pavement/Sidewalk
*	4,645	79	Grass cover 50-75%, Fair, HSG C
	5,081	80	Weighted Average
	5,026		98.92% Pervious Area
	55		1.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	50	0.0150	0.13		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 3.27"

Subcatchment 2S: Existing Site

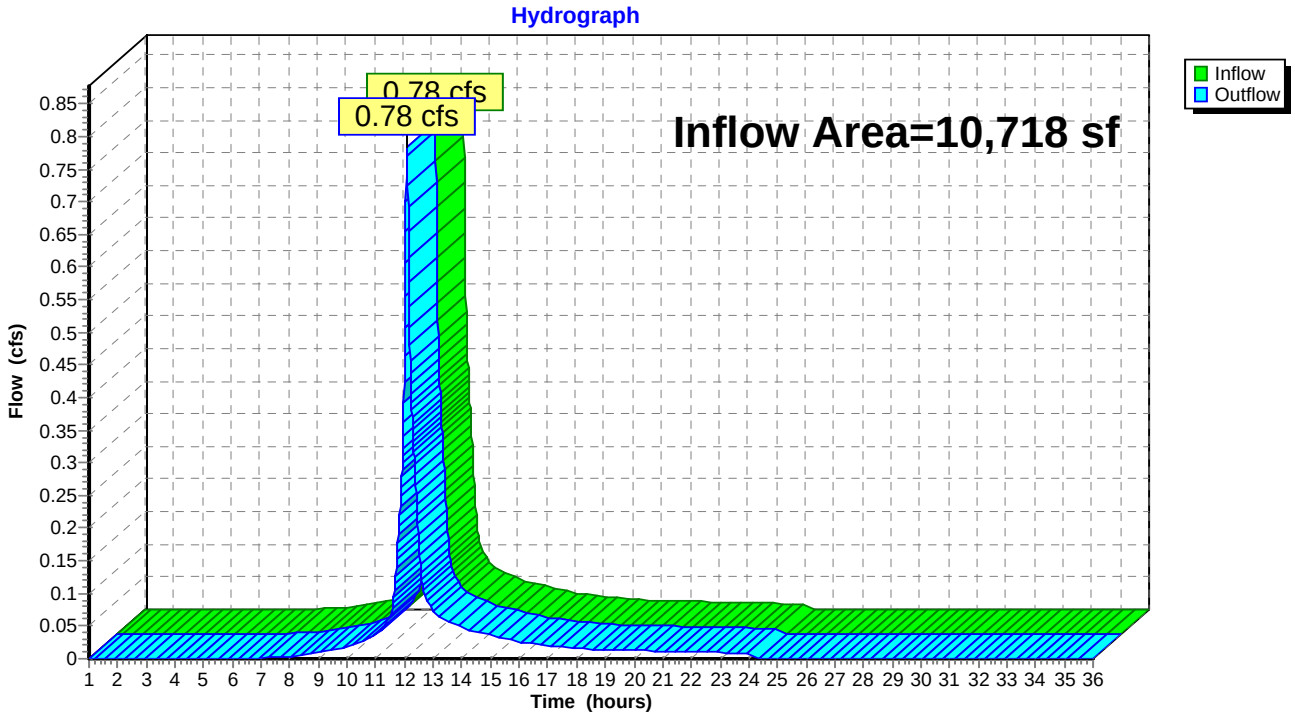


Summary for Reach 1R: Blake St

Inflow Area = 10,718 sf, 13.58% Impervious, Inflow Depth = 2.73" for 10-year event
Inflow = 0.78 cfs @ 12.09 hrs, Volume= 2,436 cf
Outflow = 0.78 cfs @ 12.09 hrs, Volume= 2,436 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 1R: Blake St

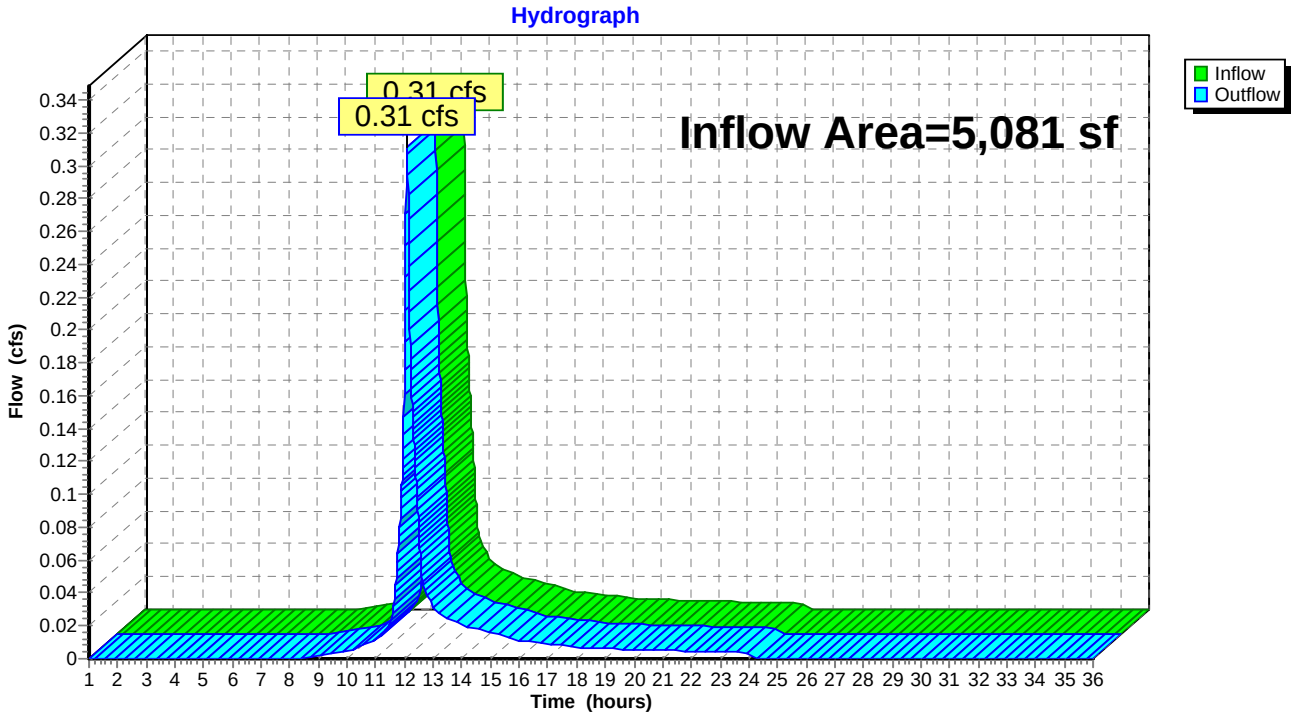


Summary for Reach 2R: Pierce St

Inflow Area = 5,081 sf, 1.08% Impervious, Inflow Depth = 2.29" for 10-year event
Inflow = 0.31 cfs @ 12.09 hrs, Volume= 970 cf
Outflow = 0.31 cfs @ 12.09 hrs, Volume= 970 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 2R: Pierce St

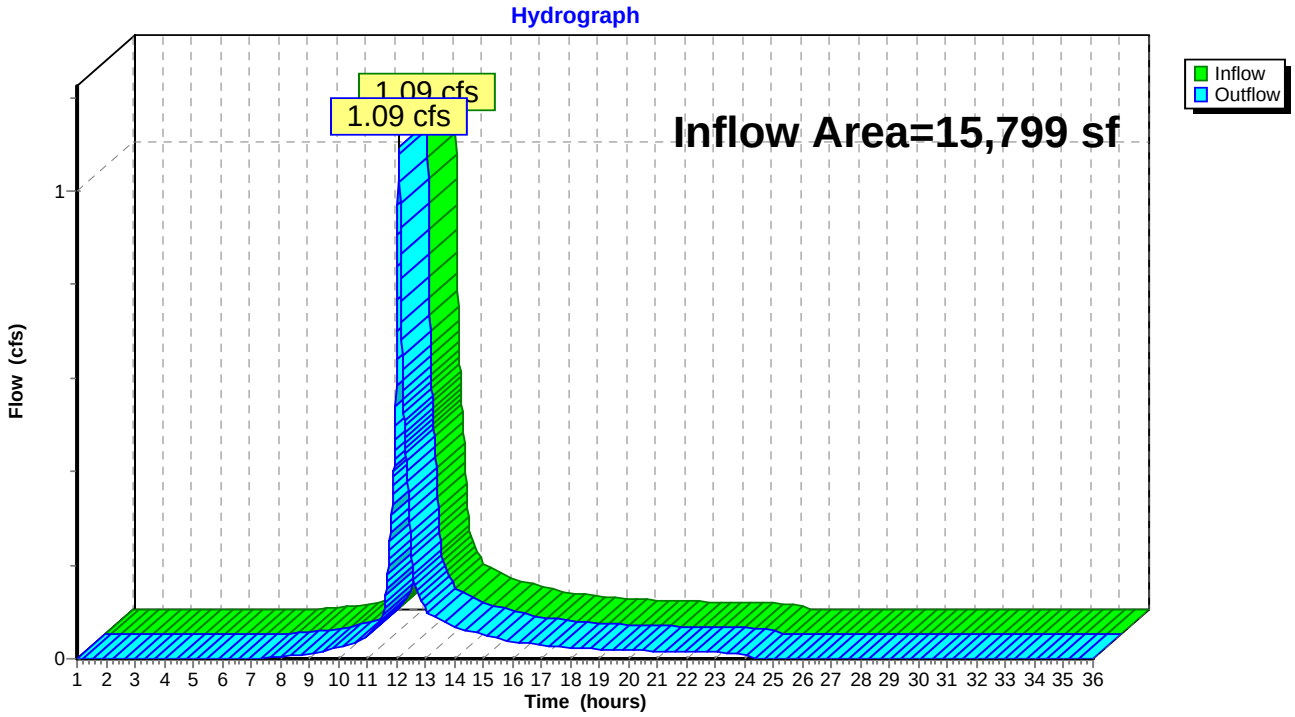


Summary for Reach 3R: POI - Andro River

Inflow Area = 15,799 sf, 9.56% Impervious, Inflow Depth = 2.59" for 10-year event
Inflow = 1.09 cfs @ 12.09 hrs, Volume= 3,407 cf
Outflow = 1.09 cfs @ 12.09 hrs, Volume= 3,407 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 3R: POI - Andro River



Time span=1.00-36.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Existing Site Runoff Area=10,718 sf 13.58% Impervious Runoff Depth=3.74"
Tc=6.0 min CN=85 Runoff=1.06 cfs 3,340 cf

Subcatchment 2S: Existing Site Runoff Area=5,081 sf 1.08% Impervious Runoff Depth=3.24"
Flow Length=50' Slope=0.0150 '/' Tc=6.2 min CN=80 Runoff=0.44 cfs 1,374 cf

Reach 1R: Blake St Inflow=1.06 cfs 3,340 cf
Outflow=1.06 cfs 3,340 cf

Reach 2R: Pierce St Inflow=0.44 cfs 1,374 cf
Outflow=0.44 cfs 1,374 cf

Reach 3R: POI - Andro River Inflow=1.50 cfs 4,714 cf
Outflow=1.50 cfs 4,714 cf

Total Runoff Area = 15,799 sf Runoff Volume = 4,714 cf Average Runoff Depth = 3.58"
90.44% Pervious = 14,289 sf 9.56% Impervious = 1,510 sf

Summary for Subcatchment 1S: Existing Site

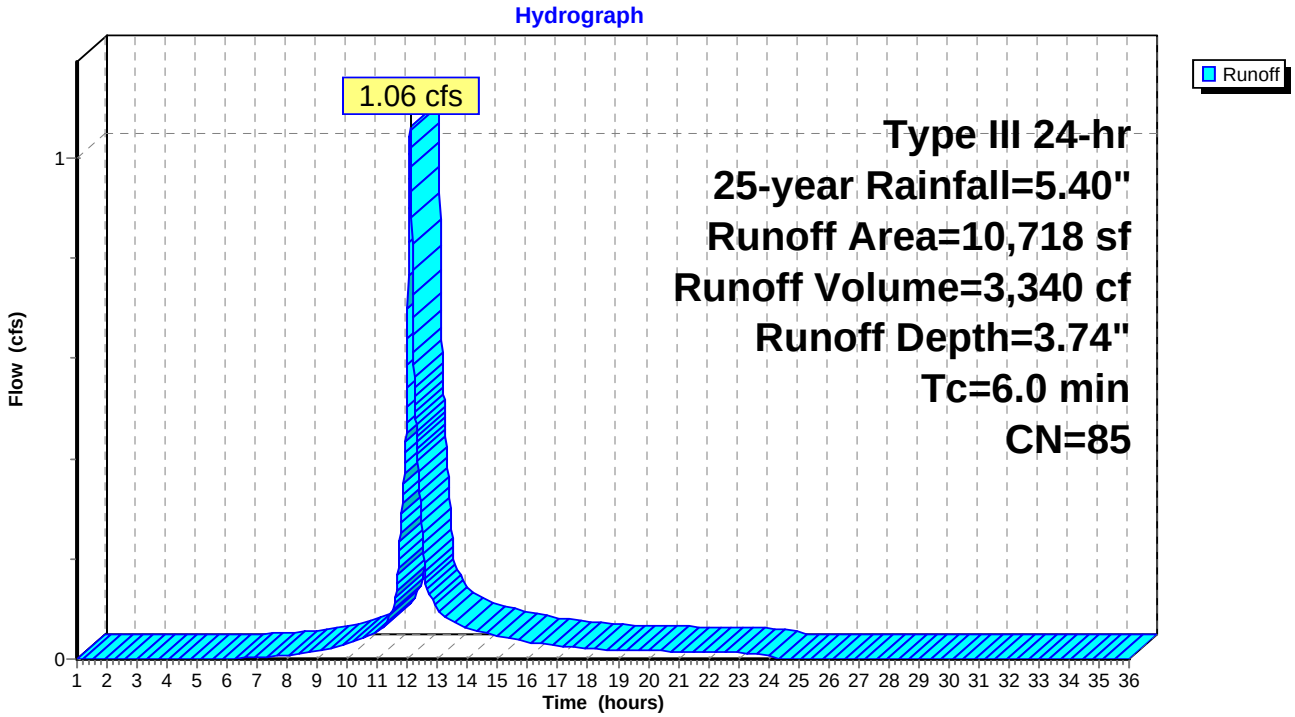
Runoff = 1.06 cfs @ 12.09 hrs, Volume= 3,340 cf, Depth= 3.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.40"

	Area (sf)	CN	Description
*	2,177	96	Gravel
*	1,455	98	Pavement/Sidewalk
*	7,086	79	Grass cover 50-75%, Fair, HSG C
	10,718	85	Weighted Average
	9,263		86.42% Pervious Area
	1,455		13.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, min. Tc (0.1 hour)**

Subcatchment 1S: Existing Site



Summary for Subcatchment 2S: Existing Site

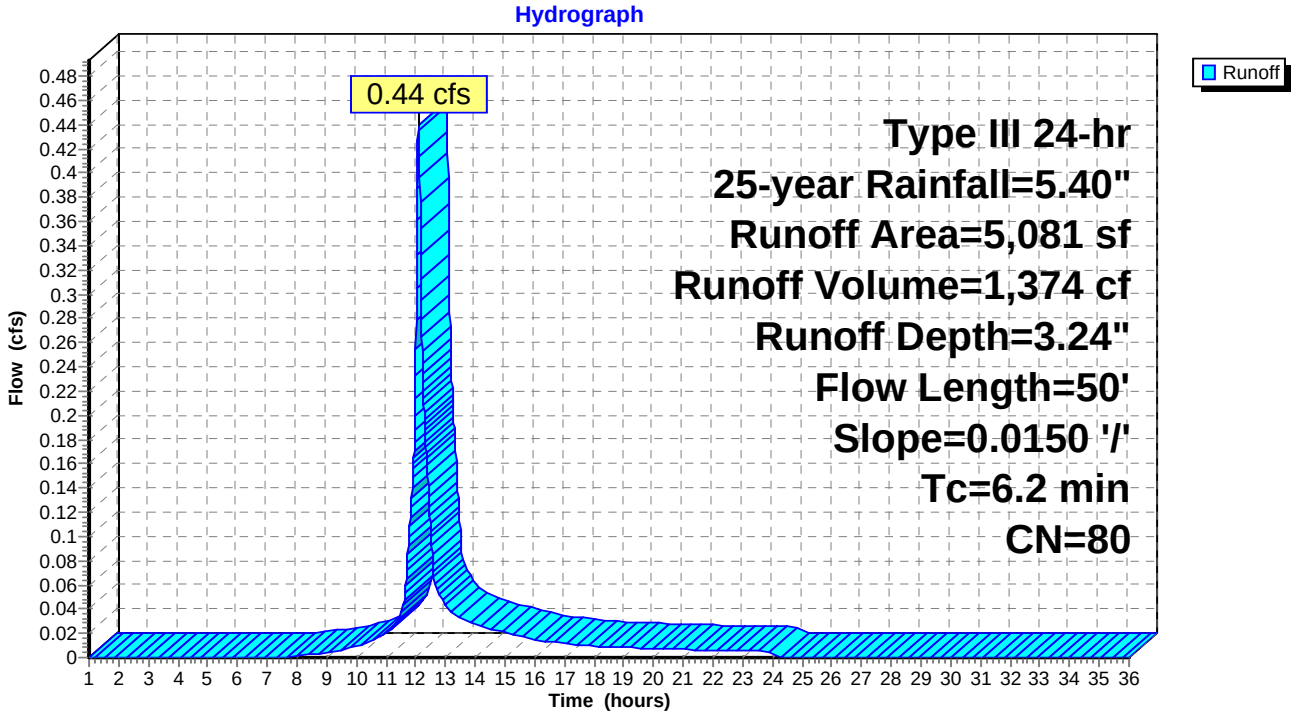
Runoff = 0.44 cfs @ 12.09 hrs, Volume= 1,374 cf, Depth= 3.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.40"

	Area (sf)	CN	Description
*	381	96	Gravel
*	55	98	Pavement/Sidewalk
*	4,645	79	Grass cover 50-75%, Fair, HSG C
	5,081	80	Weighted Average
	5,026		98.92% Pervious Area
	55		1.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	50	0.0150	0.13		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 3.27"

Subcatchment 2S: Existing Site

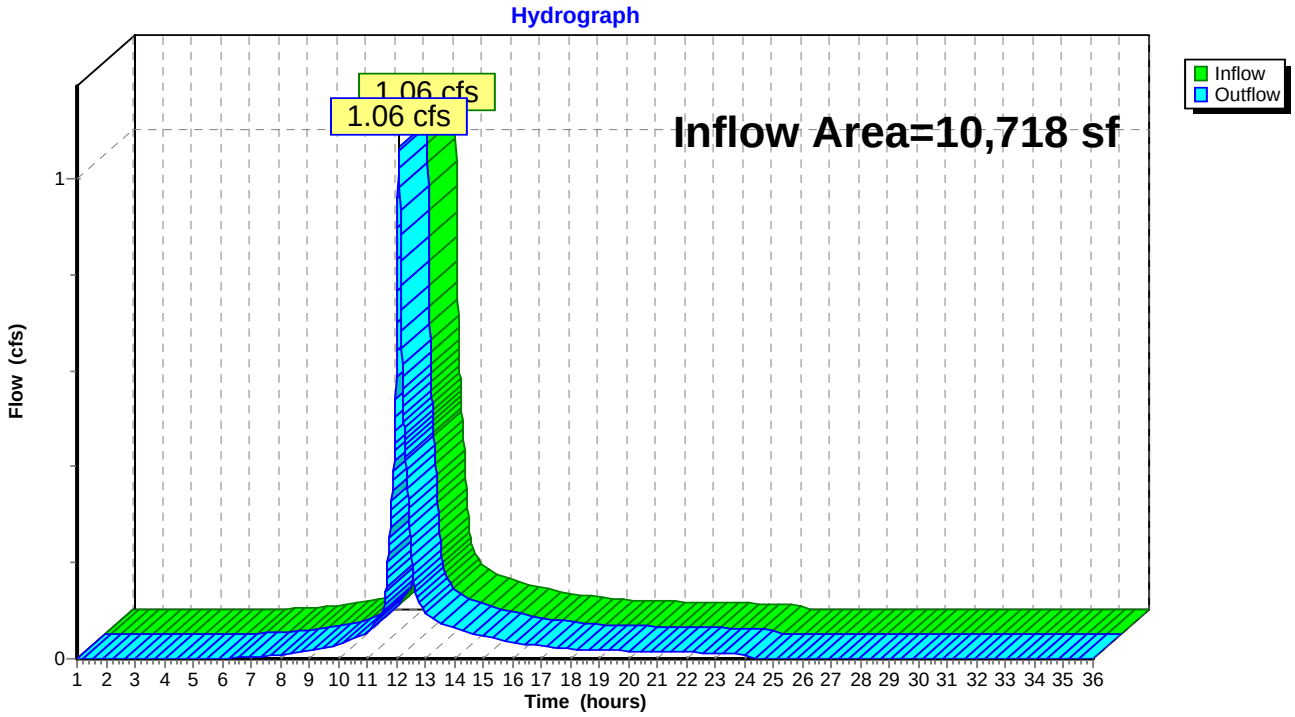


Summary for Reach 1R: Blake St

Inflow Area = 10,718 sf, 13.58% Impervious, Inflow Depth = 3.74" for 25-year event
Inflow = 1.06 cfs @ 12.09 hrs, Volume= 3,340 cf
Outflow = 1.06 cfs @ 12.09 hrs, Volume= 3,340 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 1R: Blake St

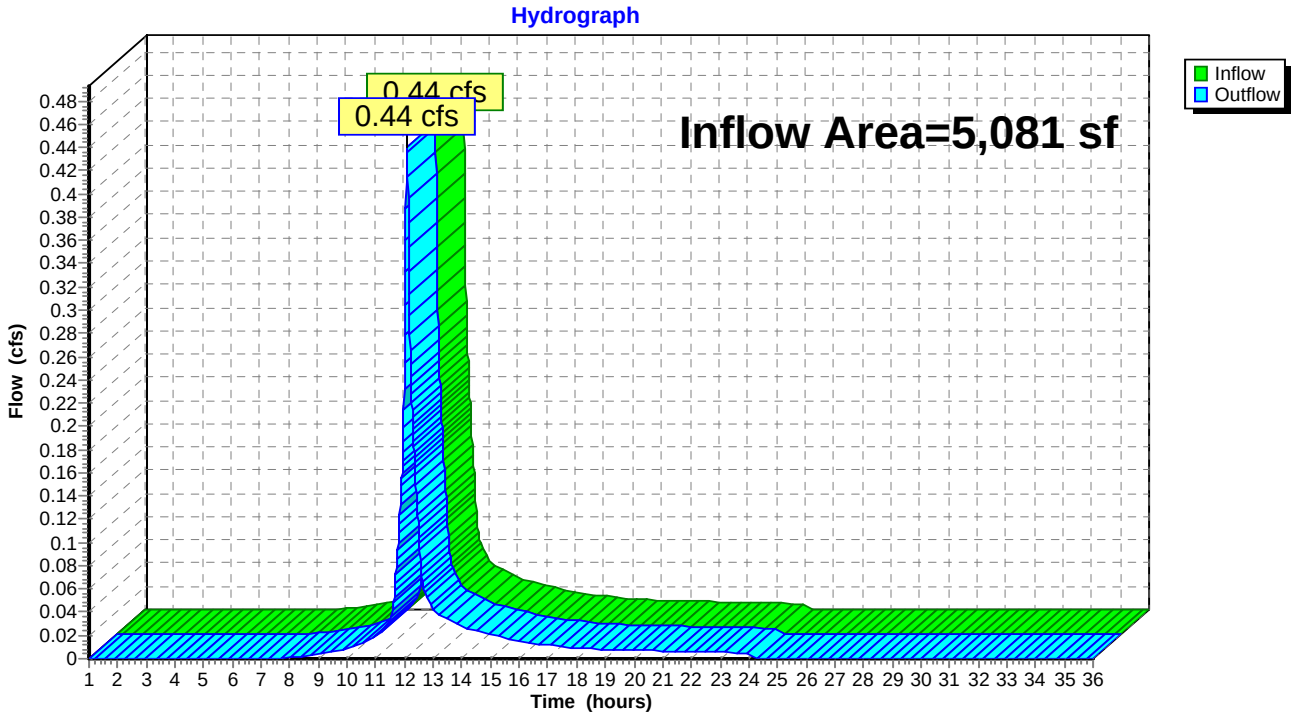


Summary for Reach 2R: Pierce St

Inflow Area = 5,081 sf, 1.08% Impervious, Inflow Depth = 3.24" for 25-year event
Inflow = 0.44 cfs @ 12.09 hrs, Volume= 1,374 cf
Outflow = 0.44 cfs @ 12.09 hrs, Volume= 1,374 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 2R: Pierce St

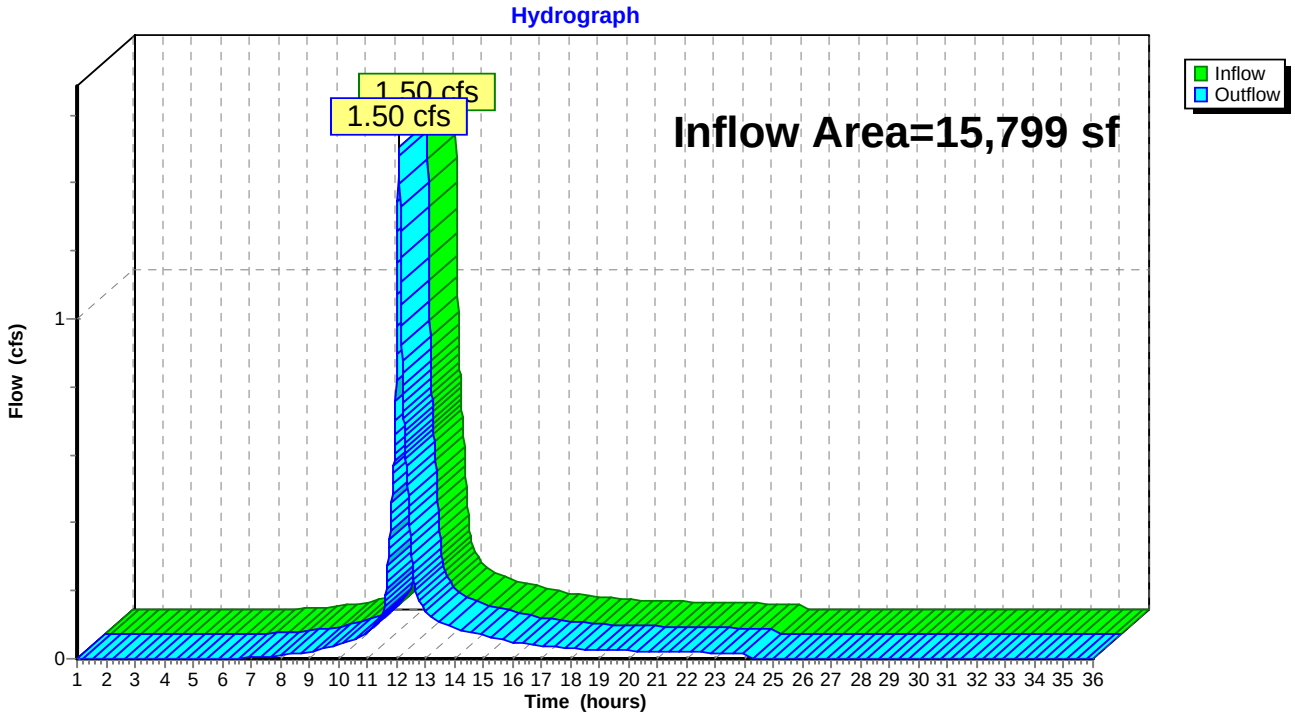


Summary for Reach 3R: POI - Andro River

Inflow Area = 15,799 sf, 9.56% Impervious, Inflow Depth = 3.58" for 25-year event
Inflow = 1.50 cfs @ 12.09 hrs, Volume= 4,714 cf
Outflow = 1.50 cfs @ 12.09 hrs, Volume= 4,714 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 3R: POI - Andro River



Time span=1.00-36.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Existing Site Runoff Area=10,718 sf 13.58% Impervious Runoff Depth=0.17"
Tc=6.0 min CN=85 Runoff=0.04 cfs 155 cf

Subcatchment 2S: Existing Site Runoff Area=5,081 sf 1.08% Impervious Runoff Depth=0.08"
Flow Length=50' Slope=0.0150 '/' Tc=6.2 min CN=80 Runoff=0.00 cfs 35 cf

Reach 1R: Blake St Inflow=0.04 cfs 155 cf
Outflow=0.04 cfs 155 cf

Reach 2R: Pierce St Inflow=0.00 cfs 35 cf
Outflow=0.00 cfs 35 cf

Reach 3R: POI - Andro River Inflow=0.04 cfs 190 cf
Outflow=0.04 cfs 190 cf

Total Runoff Area = 15,799 sf Runoff Volume = 190 cf Average Runoff Depth = 0.14"
90.44% Pervious = 14,289 sf 9.56% Impervious = 1,510 sf

Summary for Subcatchment 1S: Existing Site

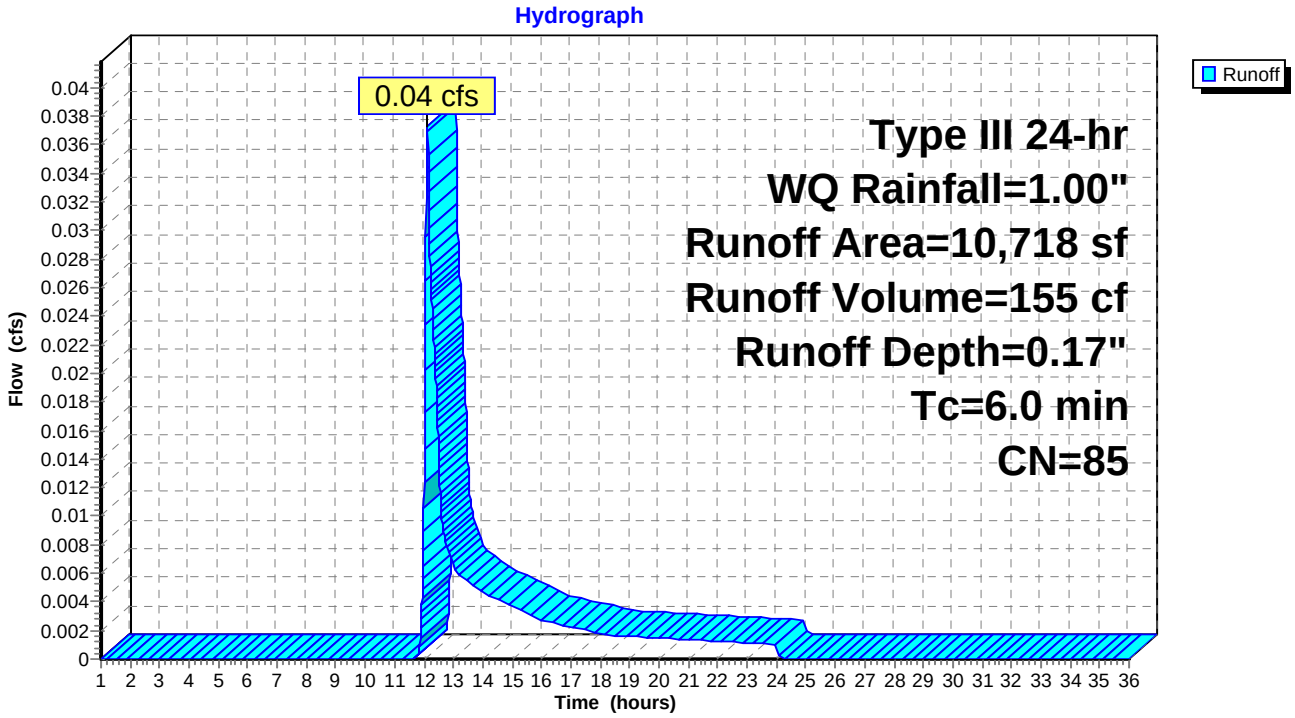
Runoff = 0.04 cfs @ 12.11 hrs, Volume= 155 cf, Depth= 0.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	2,177	96	Gravel
*	1,455	98	Pavement/Sidewalk
*	7,086	79	Grass cover 50-75%, Fair, HSG C
	10,718	85	Weighted Average
	9,263		86.42% Pervious Area
	1,455		13.58% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, min. Tc (0.1 hour)**

Subcatchment 1S: Existing Site



Summary for Subcatchment 2S: Existing Site

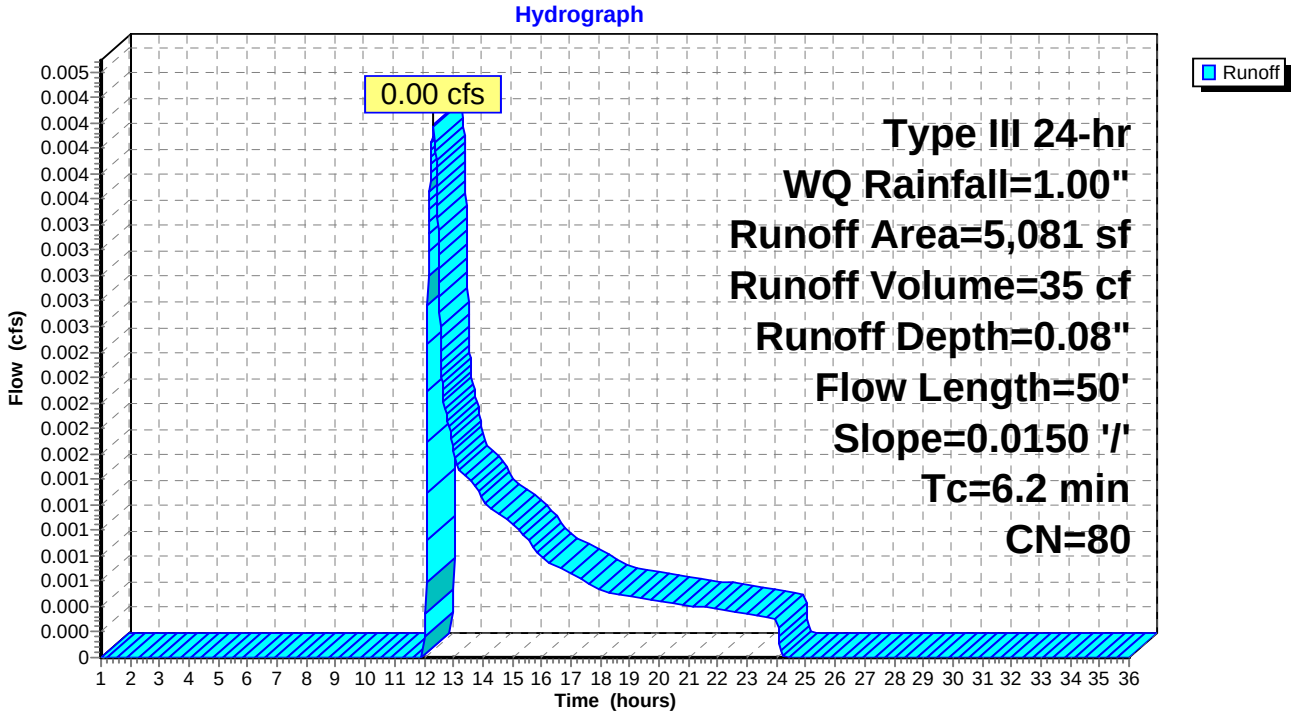
Runoff = 0.00 cfs @ 12.32 hrs, Volume= 35 cf, Depth= 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	381	96	Gravel
*	55	98	Pavement/Sidewalk
*	4,645	79	Grass cover 50-75%, Fair, HSG C
	5,081	80	Weighted Average
	5,026		98.92% Pervious Area
	55		1.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.2	50	0.0150	0.13		**Sheet Flow, A to B** Grass: Short n= 0.150 P2= 3.27"

Subcatchment 2S: Existing Site

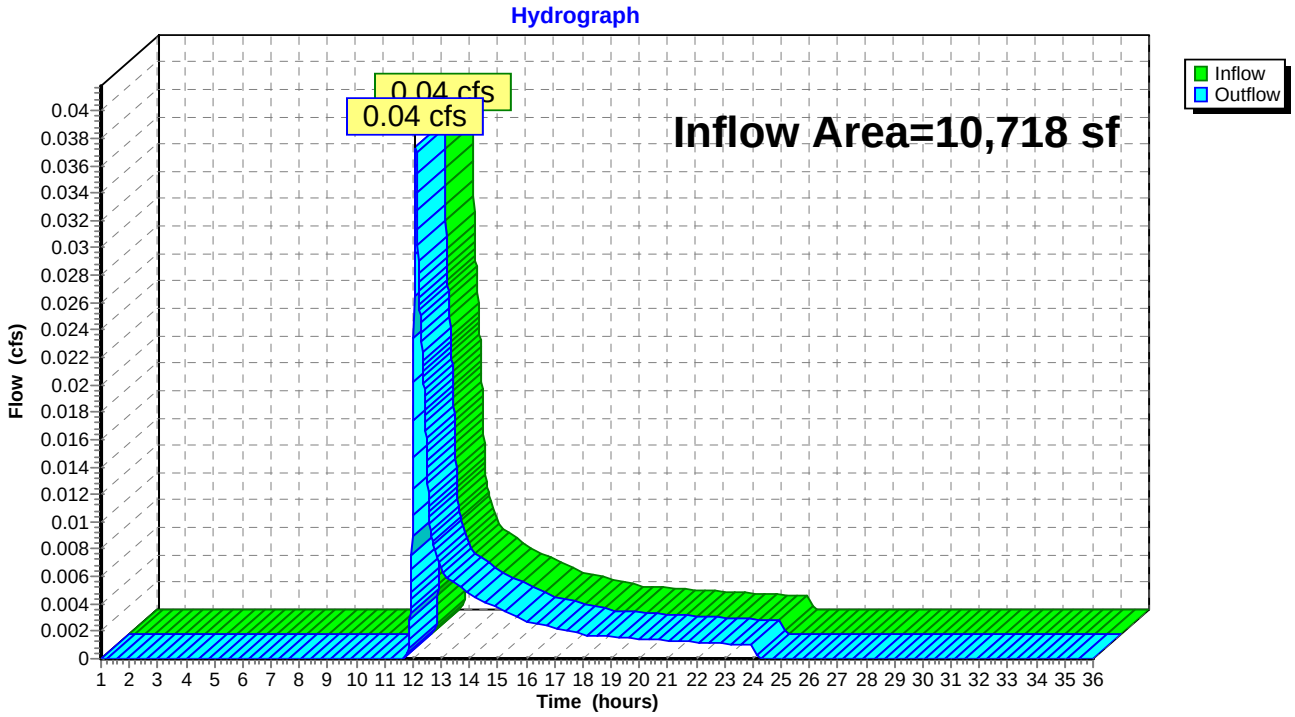


Summary for Reach 1R: Blake St

Inflow Area = 10,718 sf, 13.58% Impervious, Inflow Depth = 0.17" for WQ event
Inflow = 0.04 cfs @ 12.11 hrs, Volume= 155 cf
Outflow = 0.04 cfs @ 12.11 hrs, Volume= 155 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 1R: Blake St

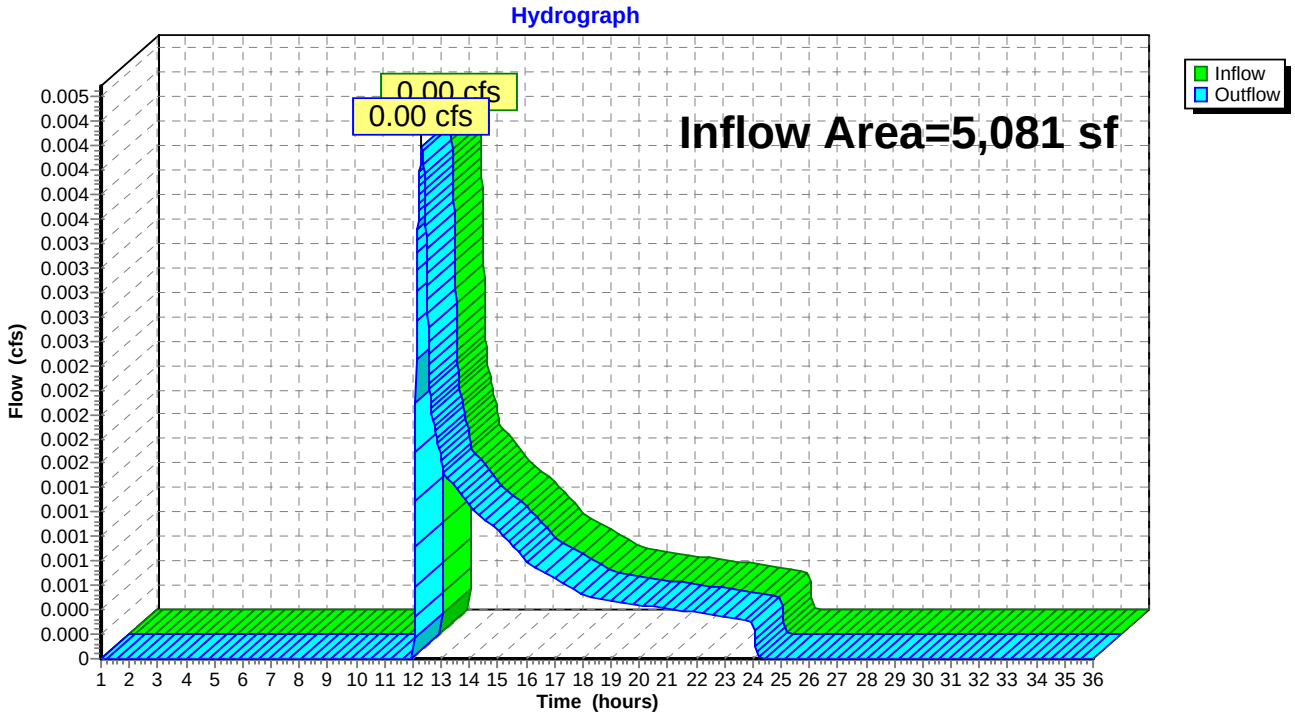


Summary for Reach 2R: Pierce St

Inflow Area = 5,081 sf, 1.08% Impervious, Inflow Depth = 0.08" for WQ event
Inflow = 0.00 cfs @ 12.32 hrs, Volume= 35 cf
Outflow = 0.00 cfs @ 12.32 hrs, Volume= 35 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 2R: Pierce St

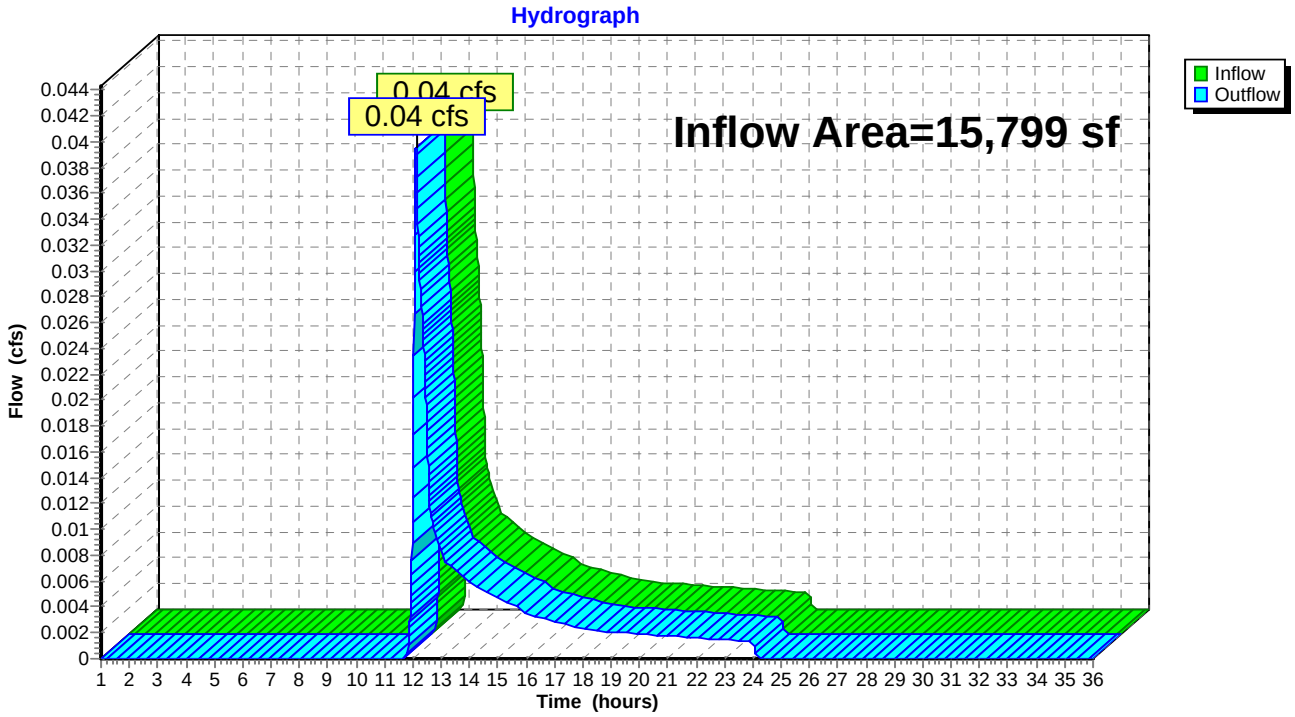


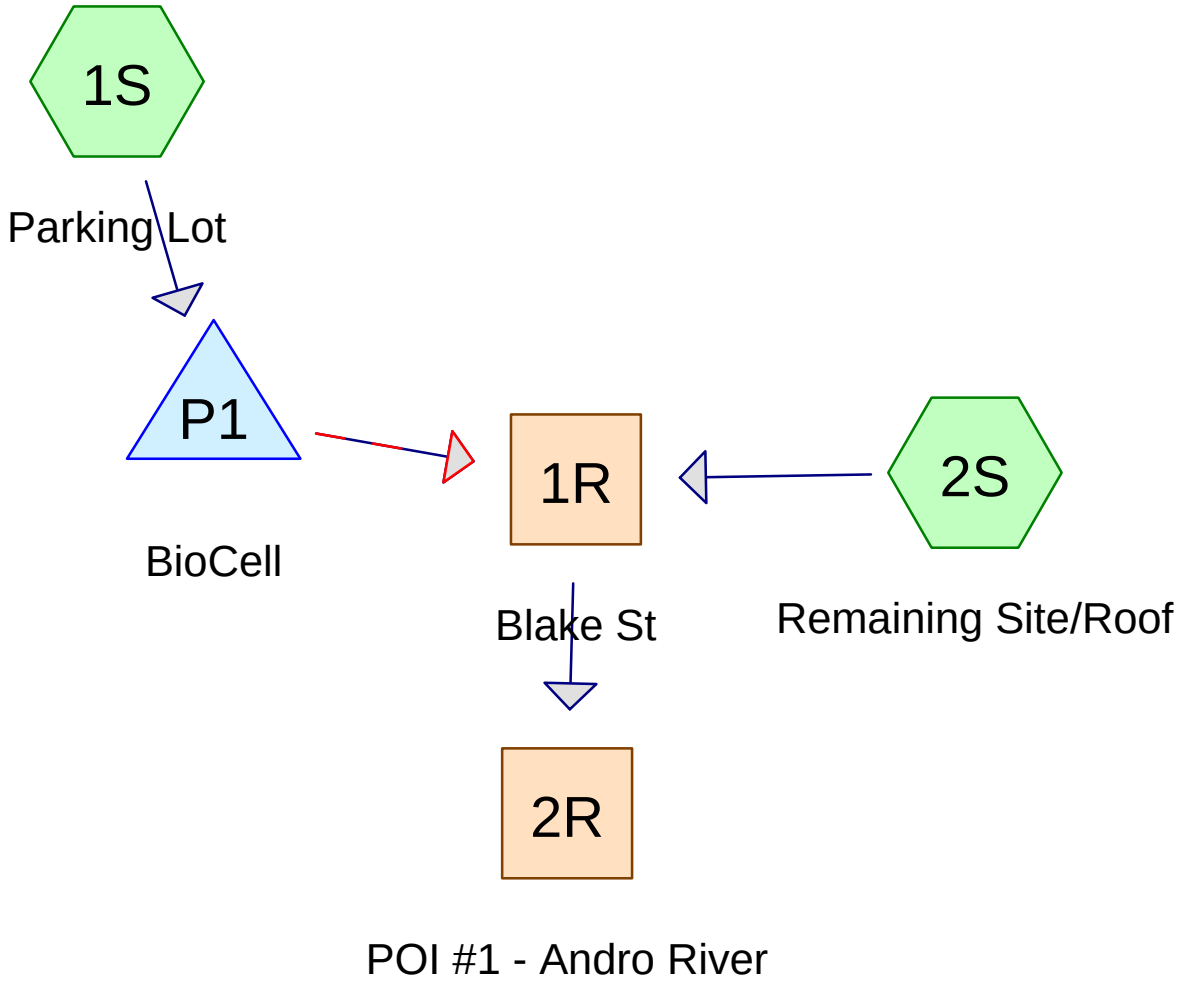
Summary for Reach 3R: POI - Andro River

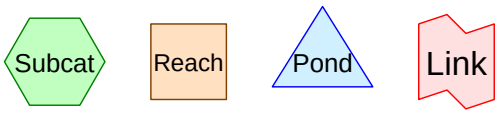
Inflow Area = 15,799 sf, 9.56% Impervious, Inflow Depth = 0.14" for WQ event
Inflow = 0.04 cfs @ 12.12 hrs, Volume= 190 cf
Outflow = 0.04 cfs @ 12.12 hrs, Volume= 190 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 3R: POI - Andro River







Routing Diagram for Post Development
Prepared by HP, Printed 9/4/2020
HydroCAD® 10.00-24 s/n 00620 © 2018 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
7,385	74	Grass cover >75%, Fair, HSG C (1S, 2S)
4,633	98	Pavement/Sidewalk (2S)
3,781	98	pave (1S)
15,799	**87**	**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Subca Numb
0	0	7,385	0	0	7,385	Grass cover >75%, Fair	
0	0	0	0	4,633	4,633	Pavement/Sidewalk	
0	0	0	0	3,781	3,781	pave	
0	**0**	**7,385**	**0**	**8,414**	**15,799**	**TOTAL AREA**	

Time span=1.00-36.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Parking Lot Runoff Area=6,728 sf 56.20% Impervious Runoff Depth=1.74"
Tc=6.0 min CN=87 Runoff=0.31 cfs 975 cf

Subcatchment 2S: Remaining Site/Roof Runoff Area=9,071 sf 51.07% Impervious Runoff Depth=1.66"
Flow Length=183' Tc=9.2 min CN=86 Runoff=0.36 cfs 1,257 cf

Reach 1R: Blake St Avg. Flow Depth=0.21' Max Vel=3.81 fps Inflow=0.36 cfs 1,351 cf
8.0" Round Pipe n=0.010 L=2.7' S=0.0111 '/' Capacity=1.66 cfs Outflow=0.36 cfs 1,351 cf

Reach 2R: POI #1 - Andro River Inflow=0.36 cfs 1,351 cf
Outflow=0.36 cfs 1,351 cf

Pond P1: BioCell Peak Elev=215.54' Storage=419 cf Inflow=0.31 cfs 975 cf
Discarded=0.02 cfs 881 cf Primary=0.06 cfs 94 cf Secondary=0.00 cfs 0 cf Outflow=0.08 cfs 975 cf

Total Runoff Area = 15,799 sf Runoff Volume = 2,232 cf Average Runoff Depth = 1.70"
46.74% Pervious = 7,385 sf 53.26% Impervious = 8,414 sf

Summary for Subcatchment 1S: Parking Lot

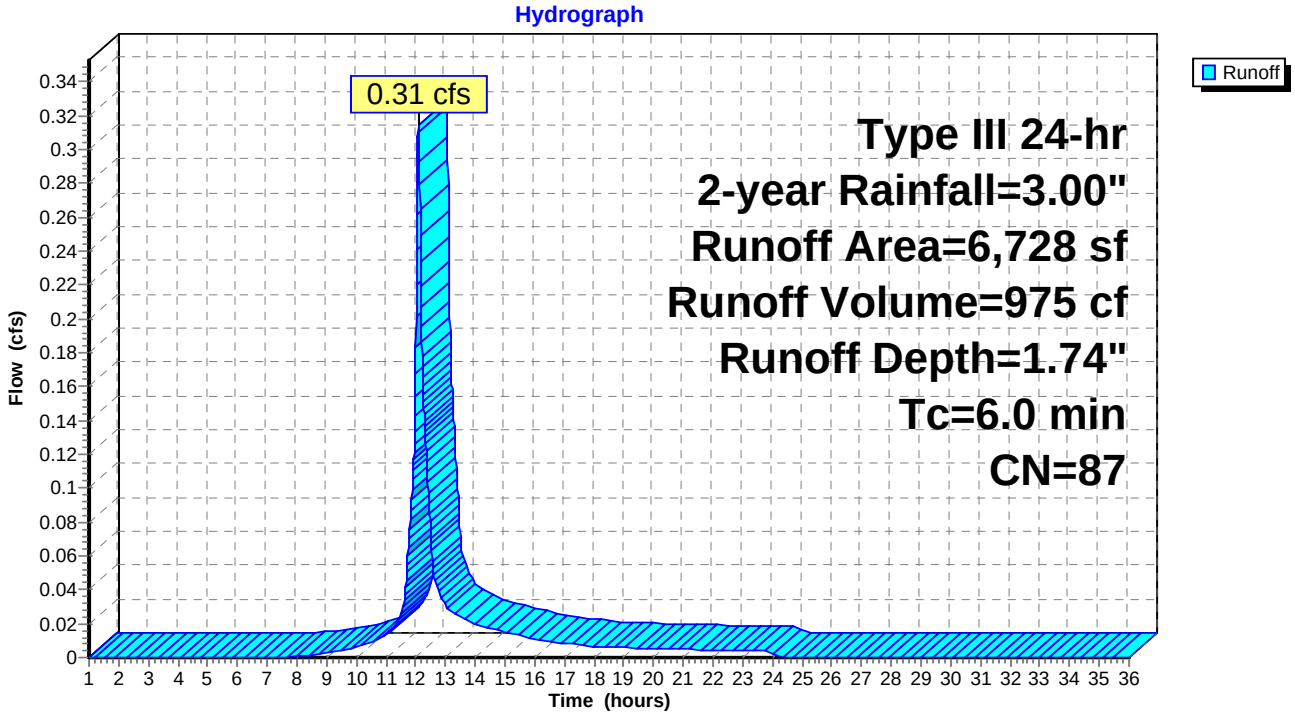
Runoff = 0.31 cfs @ 12.09 hrs, Volume= 975 cf, Depth= 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.00"

	Area (sf)	CN	Description
*	2,947	74	Grass cover >75%, Fair, HSG C
*	3,781	98	pave
	6,728	87	Weighted Average
	2,947		43.80% Pervious Area
	3,781		56.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Minimum Tc (0.1 hour)**

Subcatchment 1S: Parking Lot



Summary for Subcatchment 2S: Remaining Site/Roof

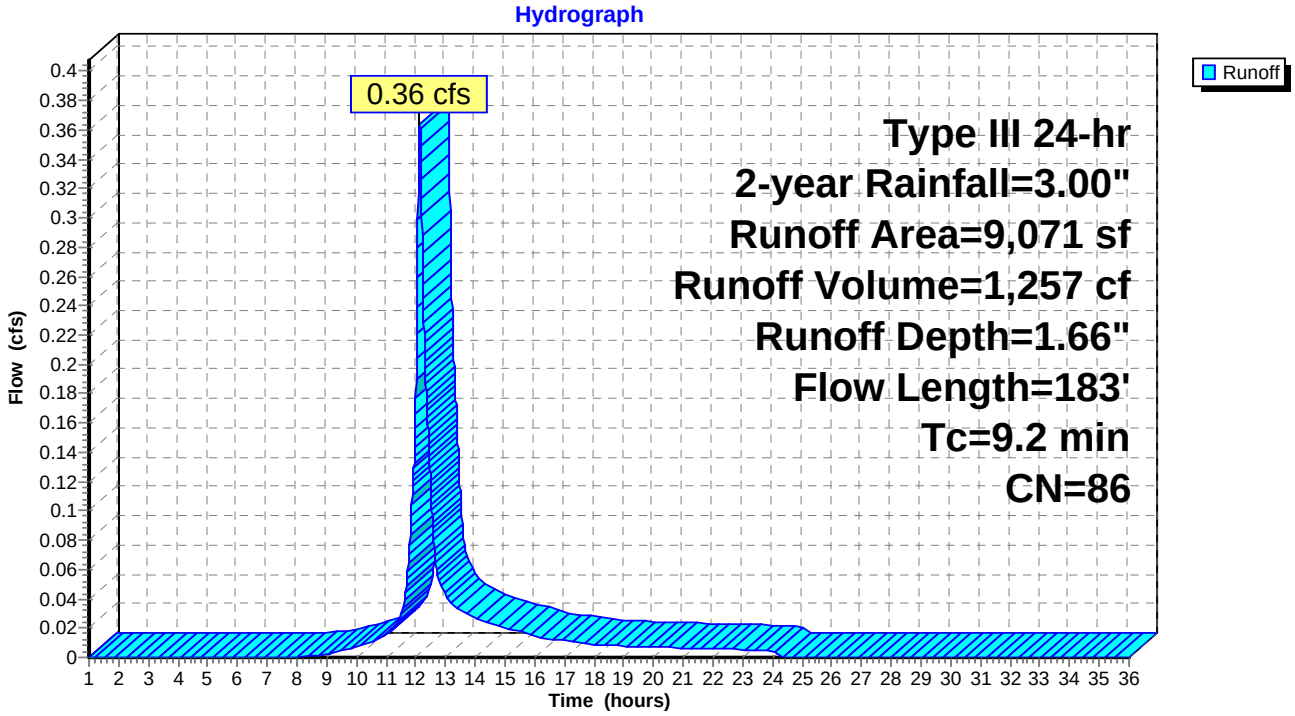
Runoff = 0.36 cfs @ 12.13 hrs, Volume= 1,257 cf, Depth= 1.66"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 2-year Rainfall=3.00"

	Area (sf)	CN	Description
*	4,633	98	Pavement/Sidewalk
*	4,438	74	Grass cover >75%, Fair, HSG C
	9,071	86	Weighted Average
	4,438		48.93% Pervious Area
	4,633		51.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	85	0.0470	0.16		**Sheet Flow, A to B** Grass: Dense n= 0.240 P2= 3.27"
0.4	98	0.0100	3.71	0.73	**Pipe Channel, B to C** 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.010
9.2	183	Total			

Subcatchment 2S: Remaining Site/Roof



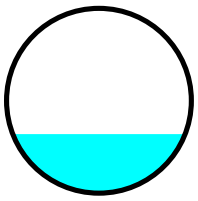
Summary for Reach 1R: Blake St

Inflow Area = 15,799 sf, 53.26% Impervious, Inflow Depth = 1.03" for 2-year event
Inflow = 0.36 cfs @ 12.13 hrs, Volume= 1,351 cf
Outflow = 0.36 cfs @ 12.13 hrs, Volume= 1,351 cf, Atten= 0%, Lag= 0.0 min

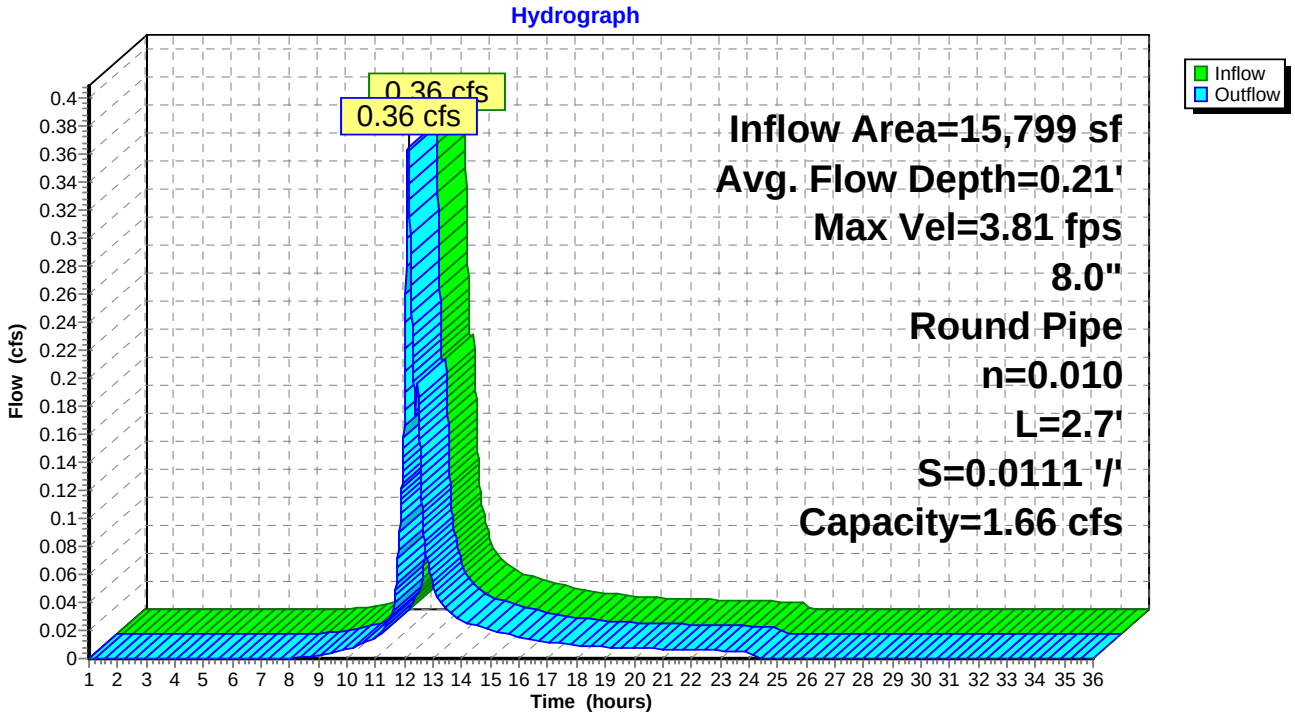
Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Max. Velocity= 3.81 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.21'
Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 1.66 cfs

8.0" Round Pipe
n= 0.010
Length= 2.7' Slope= 0.0111 '/'
Inlet Invert= 0.03', Outlet Invert= 0.00'



Reach 1R: Blake St

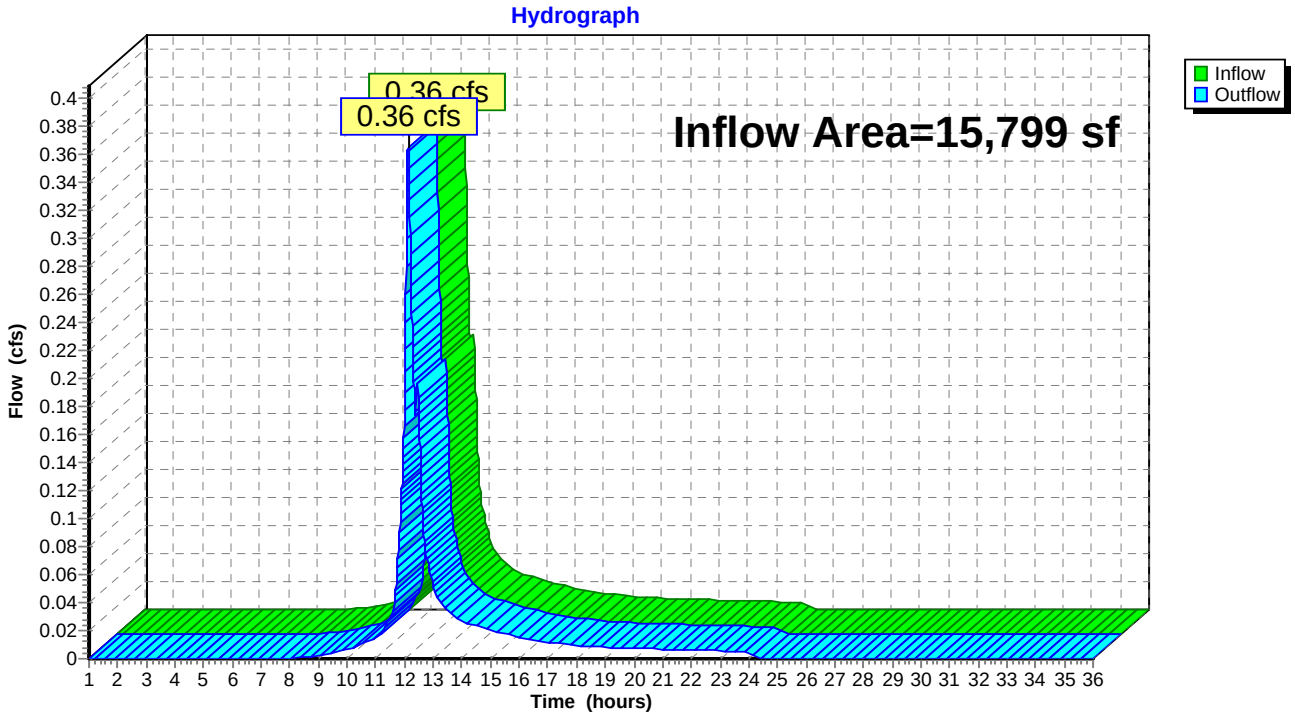


Summary for Reach 2R: POI #1 - Andro River

Inflow Area = 15,799 sf, 53.26% Impervious, Inflow Depth = 1.03" for 2-year event
Inflow = 0.36 cfs @ 12.13 hrs, Volume= 1,351 cf
Outflow = 0.36 cfs @ 12.13 hrs, Volume= 1,351 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 2R: POI #1 - Andro River



Summary for Pond P1: BioCell

Inflow Area =	6,728 sf, 56.20% Impervious, Inflow Depth = 1.74" for 2-year event				
Inflow =	0.31 cfs @	12.09 hrs, Volume=	975 cf		
Outflow =	0.08 cfs @	12.47 hrs, Volume=	975 cf, Atten= 73%, Lag= 22.9 min		
Discarded =	0.02 cfs @	12.47 hrs, Volume=	881 cf		
Primary =	0.06 cfs @	12.47 hrs, Volume=	94 cf		
Secondary =	0.00 cfs @	1.00 hrs, Volume=	0 cf		

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 215.54' @ 12.47 hrs Surf.Area= 982 sf Storage= 419 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 226.7 min (1,048.3 - 821.6)

Volume	Invert	Avail.Storage	Storage Description
#1	215.00'	264 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	214.50'	110 cf	**Topsoil direct entry ponding (Prismatic)** Listed below (Recalc)
#3	213.00'	33 cf	**Filter/Gravel Layers (Prismatic)** Listed below (Recalc) 330 cf Overall x 10.0% Voids
#4	211.50'	131 cf	**3/4" Crushed Stone (Prismatic)** Listed below (Recalc) 330 cf Overall - 3 cf Embedded = 327 cf x 40.0% Voids
#5	211.83'	2 cf	**4.0" Round Pipe Storage** Inside #4 L= 24.0' S= 0.0100 '/' 3 cf Overall - 0.5" Wall Thickness = 2 cf
		540 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
215.00	220	0	0
215.50	307	132	132
215.85	450	132	264

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
214.50	220	0	0
215.00	220	110	110

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
213.00	220	0	0
214.50	220	330	330

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
211.50	220	0	0
213.00	220	330	330

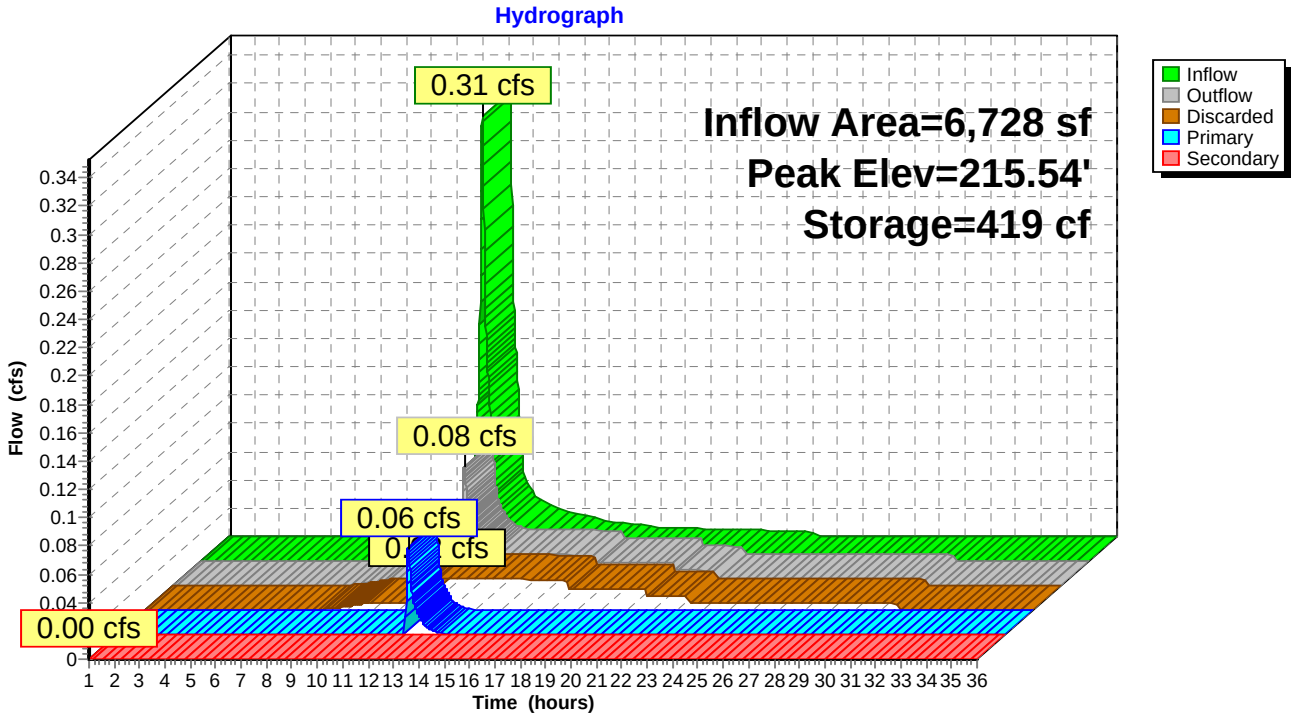
Device	Routing	Invert	Outlet Devices
#1	Primary	211.73'	**8.0" Round Culvert** L= 43.0' Ke= 0.600 Inlet / Outlet Invert= 211.73' / 211.52' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#2	Device 1	211.83'	**0.1" Vert. WQV** C= 0.600
#3	Device 1	215.50'	**10.0" Horiz. Beehive Overflow** C= 0.600 Limited to weir flow at low heads
#4	Secondary	215.65'	**8.0' long x 10.0' breadth Overflow at sidewalk** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	211.50'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 12.47 hrs HW=215.54' (Free Discharge)
└─**5=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.06 cfs @ 12.47 hrs HW=215.54' TW=0.18' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.06 cfs of 2.94 cfs potential flow)
  ├─**2=WQV** (Orifice Controls 0.00 cfs @ 9.27 fps)
  └─**3=Beehive Overflow** (Weir Controls 0.06 cfs @ 0.63 fps)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=211.50' TW=0.03' (Dynamic Tailwater)
└─**4=Overflow at sidewalk** (Controls 0.00 cfs)

Pond P1: BioCell



Time span=1.00-36.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Parking Lot Runoff Area=6,728 sf 56.20% Impervious Runoff Depth=2.91"
Tc=6.0 min CN=87 Runoff=0.52 cfs 1,633 cf

Subcatchment 2S: Remaining Site/Roof Runoff Area=9,071 sf 51.07% Impervious Runoff Depth=2.82"
Flow Length=183' Tc=9.2 min CN=86 Runoff=0.61 cfs 2,131 cf

Reach 1R: Blake St Avg. Flow Depth=0.39' Max Vel=5.03 fps Inflow=1.06 cfs 2,704 cf
8.0" Round Pipe n=0.010 L=2.7' S=0.0111 '/' Capacity=1.66 cfs Outflow=1.06 cfs 2,704 cf

Reach 2R: POI #1 - Andro River Inflow=1.06 cfs 2,704 cf
Outflow=1.06 cfs 2,704 cf

Pond P1: BioCell Peak Elev=215.64' Storage=454 cf Inflow=0.52 cfs 1,633 cf
Discarded=0.02 cfs 1,061 cf Primary=0.45 cfs 572 cf Secondary=0.00 cfs 0 cf Outflow=0.47 cfs 1,633 cf

Total Runoff Area = 15,799 sf Runoff Volume = 3,765 cf Average Runoff Depth = 2.86"
46.74% Pervious = 7,385 sf 53.26% Impervious = 8,414 sf

Summary for Subcatchment 1S: Parking Lot

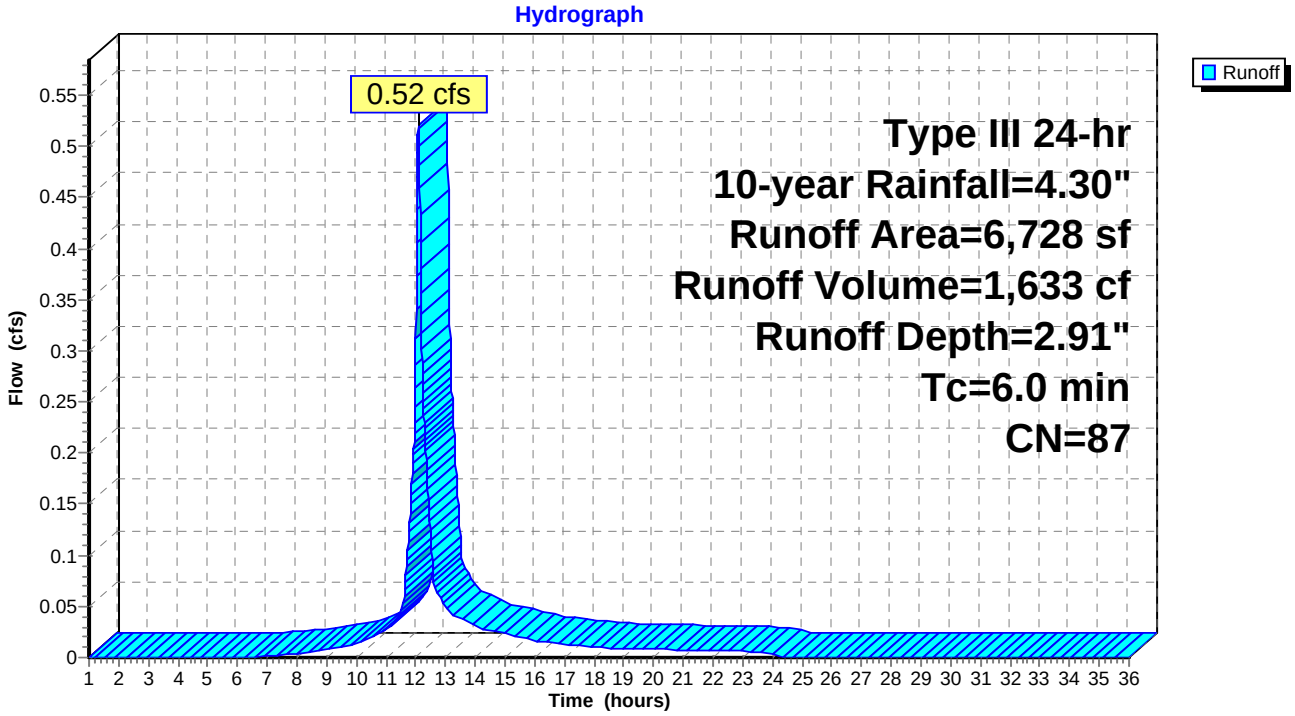
Runoff = 0.52 cfs @ 12.09 hrs, Volume= 1,633 cf, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.30"

	Area (sf)	CN	Description
*	2,947	74	Grass cover >75%, Fair, HSG C
*	3,781	98	pave
	6,728	87	Weighted Average
	2,947		43.80% Pervious Area
	3,781		56.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Minimum Tc (0.1 hour)**

Subcatchment 1S: Parking Lot



Summary for Subcatchment 2S: Remaining Site/Roof

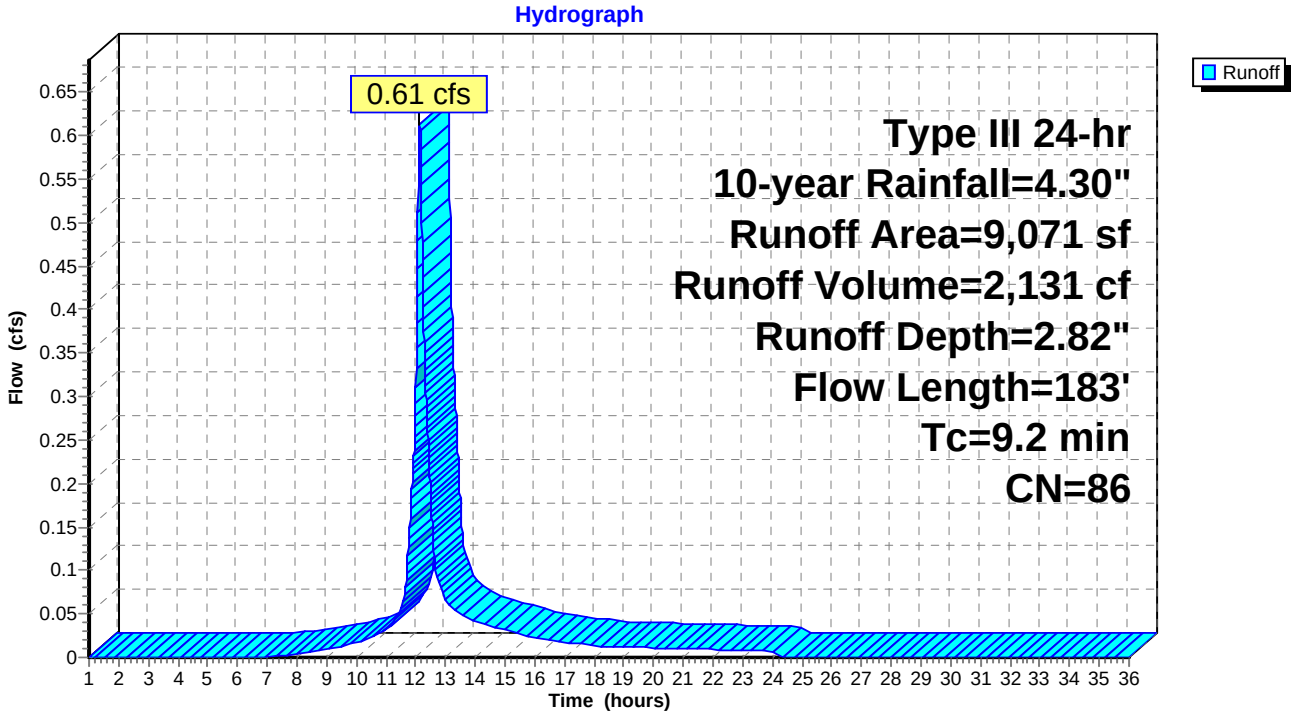
Runoff = 0.61 cfs @ 12.13 hrs, Volume= 2,131 cf, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-year Rainfall=4.30"

	Area (sf)	CN	Description
*	4,633	98	Pavement/Sidewalk
*	4,438	74	Grass cover >75%, Fair, HSG C
	9,071	86	Weighted Average
	4,438		48.93% Pervious Area
	4,633		51.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	85	0.0470	0.16		**Sheet Flow, A to B** Grass: Dense n= 0.240 P2= 3.27"
0.4	98	0.0100	3.71	0.73	**Pipe Channel, B to C** 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.010
9.2	183	Total			

Subcatchment 2S: Remaining Site/Roof



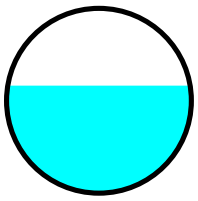
Summary for Reach 1R: Blake St

Inflow Area = 15,799 sf, 53.26% Impervious, Inflow Depth = 2.05" for 10-year event
Inflow = 1.06 cfs @ 12.13 hrs, Volume= 2,704 cf
Outflow = 1.06 cfs @ 12.13 hrs, Volume= 2,704 cf, Atten= 0%, Lag= 0.0 min

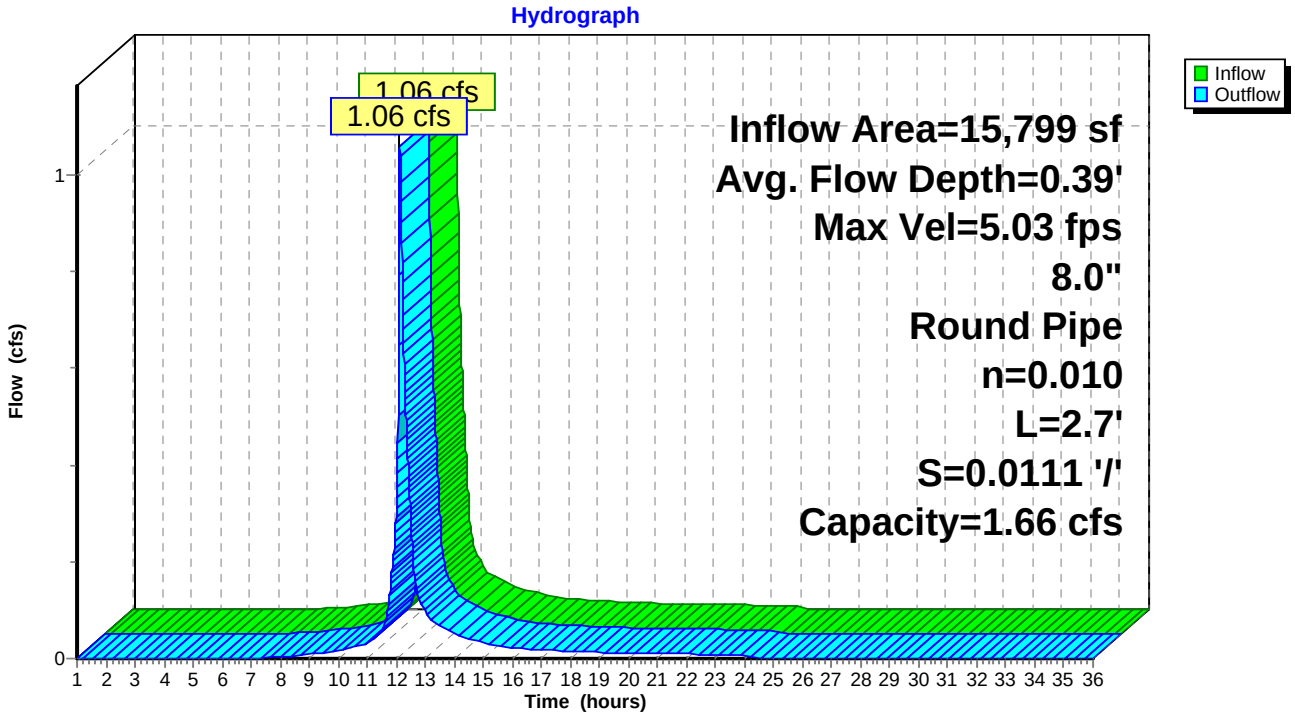
Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.03 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.33 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.39'
Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 1.66 cfs

8.0" Round Pipe
n= 0.010
Length= 2.7' Slope= 0.0111 '/'
Inlet Invert= 0.03', Outlet Invert= 0.00'



Reach 1R: Blake St

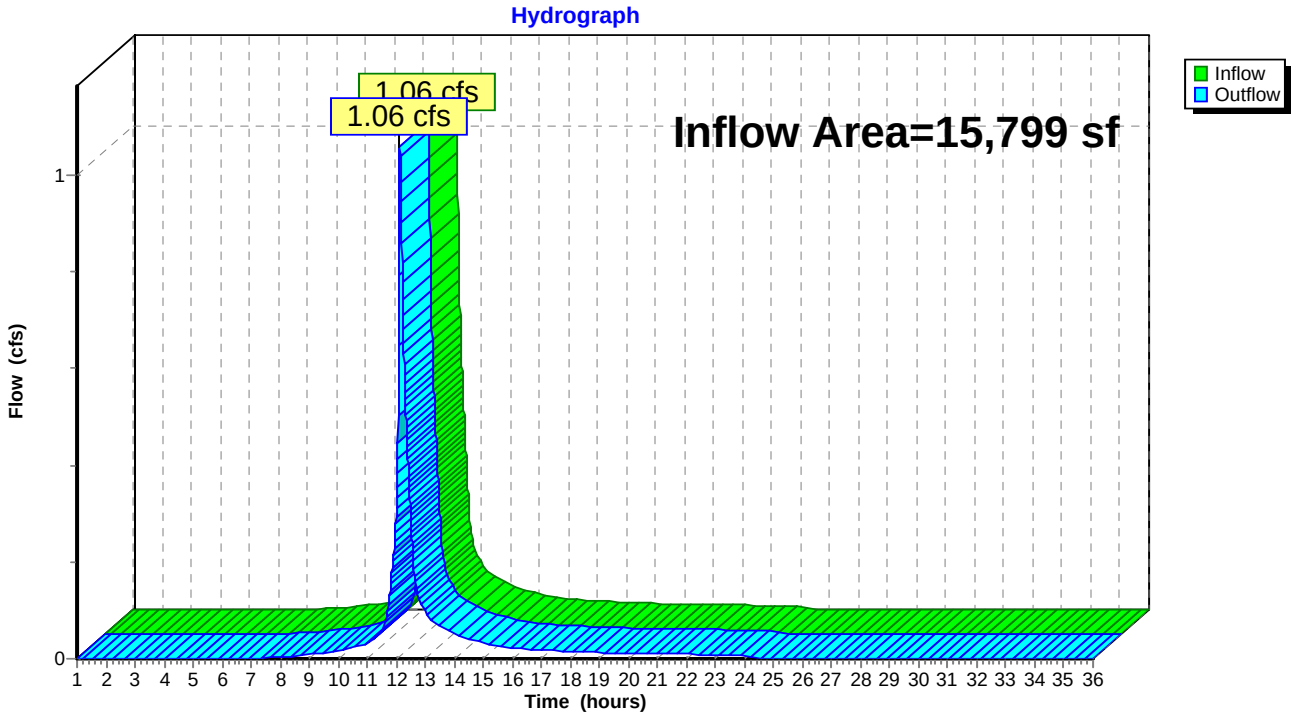


Summary for Reach 2R: POI #1 - Andro River

Inflow Area = 15,799 sf, 53.26% Impervious, Inflow Depth = 2.05" for 10-year event
Inflow = 1.06 cfs @ 12.13 hrs, Volume= 2,704 cf
Outflow = 1.06 cfs @ 12.13 hrs, Volume= 2,704 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 2R: POI #1 - Andro River



Summary for Pond P1: BioCell

Inflow Area =	6,728 sf, 56.20% Impervious, Inflow Depth = 2.91" for 10-year event				
Inflow =	0.52 cfs @	12.09 hrs, Volume=	1,633 cf		
Outflow =	0.47 cfs @	12.13 hrs, Volume=	1,633 cf, Atten= 10%, Lag= 2.4 min		
Discarded =	0.02 cfs @	12.13 hrs, Volume=	1,061 cf		
Primary =	0.45 cfs @	12.13 hrs, Volume=	572 cf		
Secondary =	0.00 cfs @	1.00 hrs, Volume=	0 cf		

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 215.64' @ 12.13 hrs Surf.Area= 1,024 sf Storage= 454 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 164.7 min (971.7 - 806.9)

Volume	Invert	Avail.Storage	Storage Description
#1	215.00'	264 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	214.50'	110 cf	**Topsoil direct entry ponding (Prismatic)** Listed below (Recalc)
#3	213.00'	33 cf	**Filter/Gravel Layers (Prismatic)** Listed below (Recalc) 330 cf Overall x 10.0% Voids
#4	211.50'	131 cf	**3/4" Crushed Stone (Prismatic)** Listed below (Recalc) 330 cf Overall - 3 cf Embedded = 327 cf x 40.0% Voids
#5	211.83'	2 cf	**4.0" Round Pipe Storage** Inside #4 L= 24.0' S= 0.0100 '/' 3 cf Overall - 0.5" Wall Thickness = 2 cf
		540 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
215.00	220	0	0
215.50	307	132	132
215.85	450	132	264

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
214.50	220	0	0
215.00	220	110	110

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
213.00	220	0	0
214.50	220	330	330

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
211.50	220	0	0
213.00	220	330	330

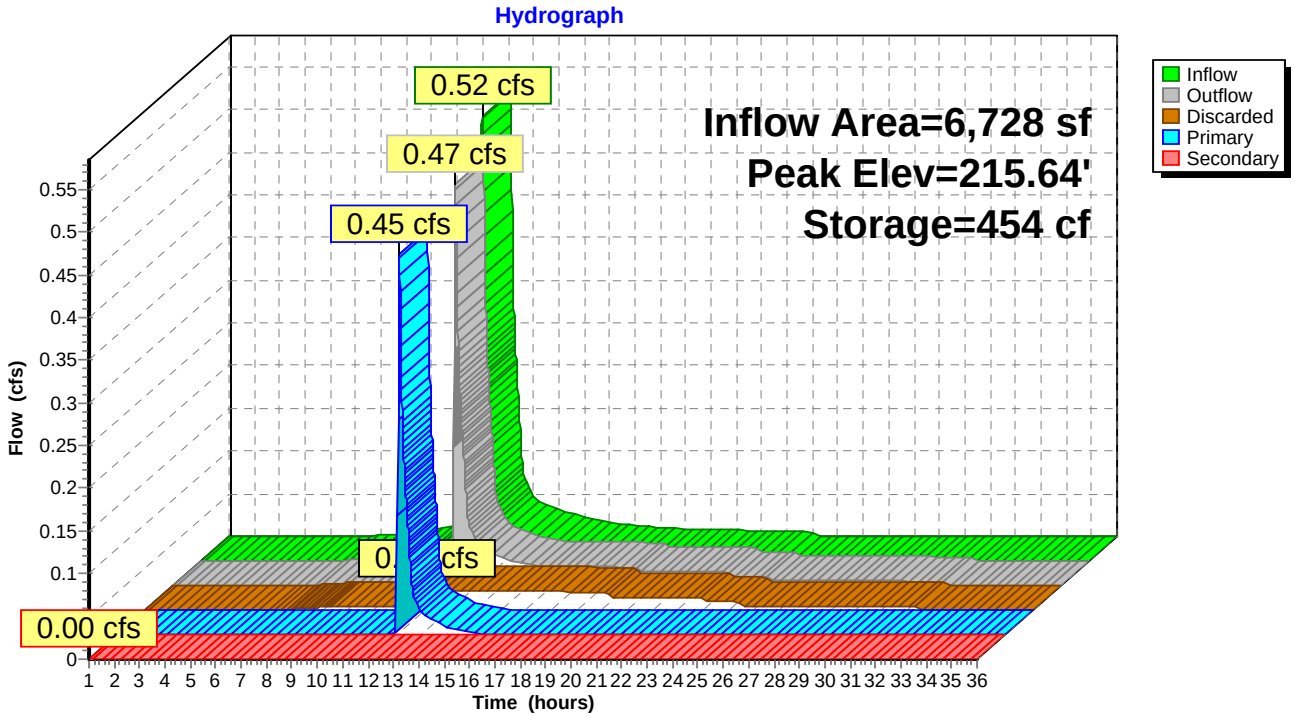
Device	Routing	Invert	Outlet Devices
#1	Primary	211.73'	**8.0" Round Culvert** L= 43.0' Ke= 0.600 Inlet / Outlet Invert= 211.73' / 211.52' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#2	Device 1	211.83'	**0.1" Vert. WQV** C= 0.600
#3	Device 1	215.50'	**10.0" Horiz. Beehive Overflow** C= 0.600 Limited to weir flow at low heads
#4	Secondary	215.65'	**8.0' long x 10.0' breadth Overflow at sidewalk** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	211.50'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 12.13 hrs HW=215.64' (Free Discharge)
└─**5=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.44 cfs @ 12.13 hrs HW=215.64' TW=0.42' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.44 cfs of 2.98 cfs potential flow)
  ├─**2=WQV** (Orifice Controls 0.00 cfs @ 9.39 fps)
  └─**3=Beehive Overflow** (Weir Controls 0.44 cfs @ 1.22 fps)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=211.50' TW=0.03' (Dynamic Tailwater)
└─**4=Overflow at sidewalk** (Controls 0.00 cfs)

Pond P1: BioCell



Time span=1.00-36.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Parking Lot Runoff Area=6,728 sf 56.20% Impervious Runoff Depth=3.95"
Tc=6.0 min CN=87 Runoff=0.70 cfs 2,212 cf

Subcatchment 2S: Remaining Site/Roof Runoff Area=9,071 sf 51.07% Impervious Runoff Depth=3.84"
Flow Length=183' Tc=9.2 min CN=86 Runoff=0.83 cfs 2,904 cf

Reach 1R: Blake St Avg. Flow Depth=0.49' Max Vel=5.36 fps Inflow=1.47 cfs 3,926 cf
8.0" Round Pipe n=0.010 L=2.7' S=0.0111 '/' Capacity=1.66 cfs Outflow=1.47 cfs 3,926 cf

Reach 2R: POI #1 - Andro River Inflow=1.47 cfs 3,926 cf
Outflow=1.47 cfs 3,926 cf

Pond P1: BioCell Peak Elev=215.67' Storage=466 cf Inflow=0.70 cfs 2,212 cf
Discarded=0.02 cfs 1,190 cf Primary=0.61 cfs 1,006 cf Secondary=0.06 cfs 16 cf Outflow=0.69 cfs 2,212 cf

Total Runoff Area = 15,799 sf Runoff Volume = 5,116 cf Average Runoff Depth = 3.89"
46.74% Pervious = 7,385 sf 53.26% Impervious = 8,414 sf

Summary for Subcatchment 1S: Parking Lot

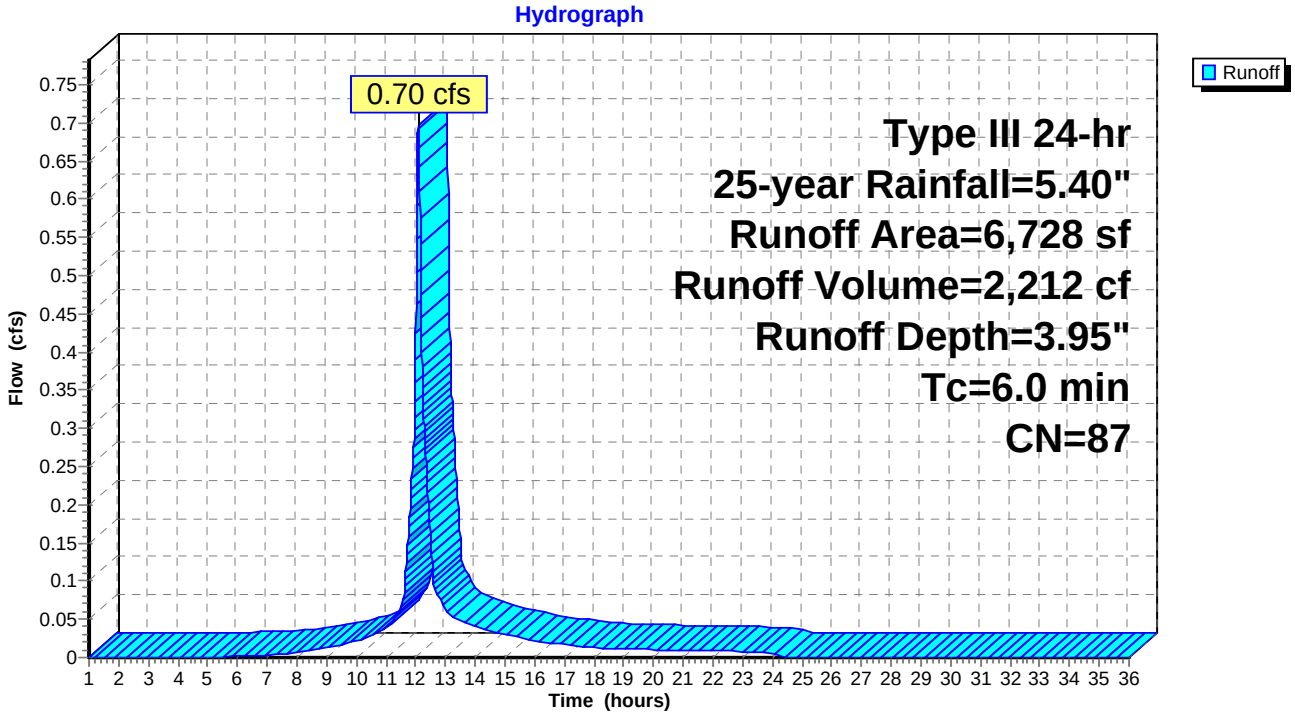
Runoff = 0.70 cfs @ 12.09 hrs, Volume= 2,212 cf, Depth= 3.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.40"

	Area (sf)	CN	Description
*	2,947	74	Grass cover >75%, Fair, HSG C
*	3,781	98	pave
	6,728	87	Weighted Average
	2,947		43.80% Pervious Area
	3,781		56.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Minimum Tc (0.1 hour)**

Subcatchment 1S: Parking Lot



Summary for Subcatchment 2S: Remaining Site/Roof

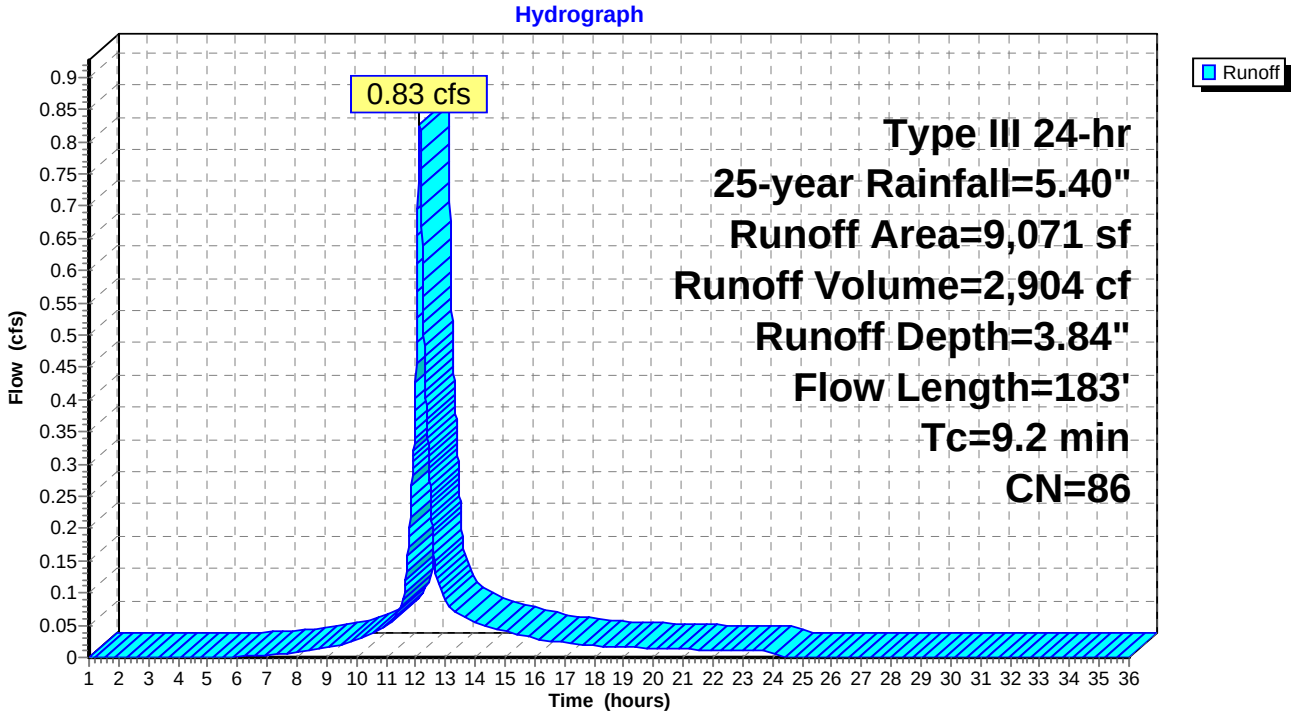
Runoff = 0.83 cfs @ 12.13 hrs, Volume= 2,904 cf, Depth= 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr 25-year Rainfall=5.40"

	Area (sf)	CN	Description
*	4,633	98	Pavement/Sidewalk
*	4,438	74	Grass cover >75%, Fair, HSG C
	9,071	86	Weighted Average
	4,438		48.93% Pervious Area
	4,633		51.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	85	0.0470	0.16		**Sheet Flow, A to B** Grass: Dense n= 0.240 P2= 3.27"
0.4	98	0.0100	3.71	0.73	**Pipe Channel, B to C** 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.010
9.2	183	Total			

Subcatchment 2S: Remaining Site/Roof



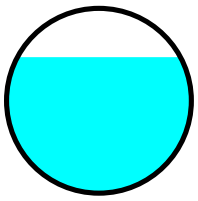
Summary for Reach 1R: Blake St

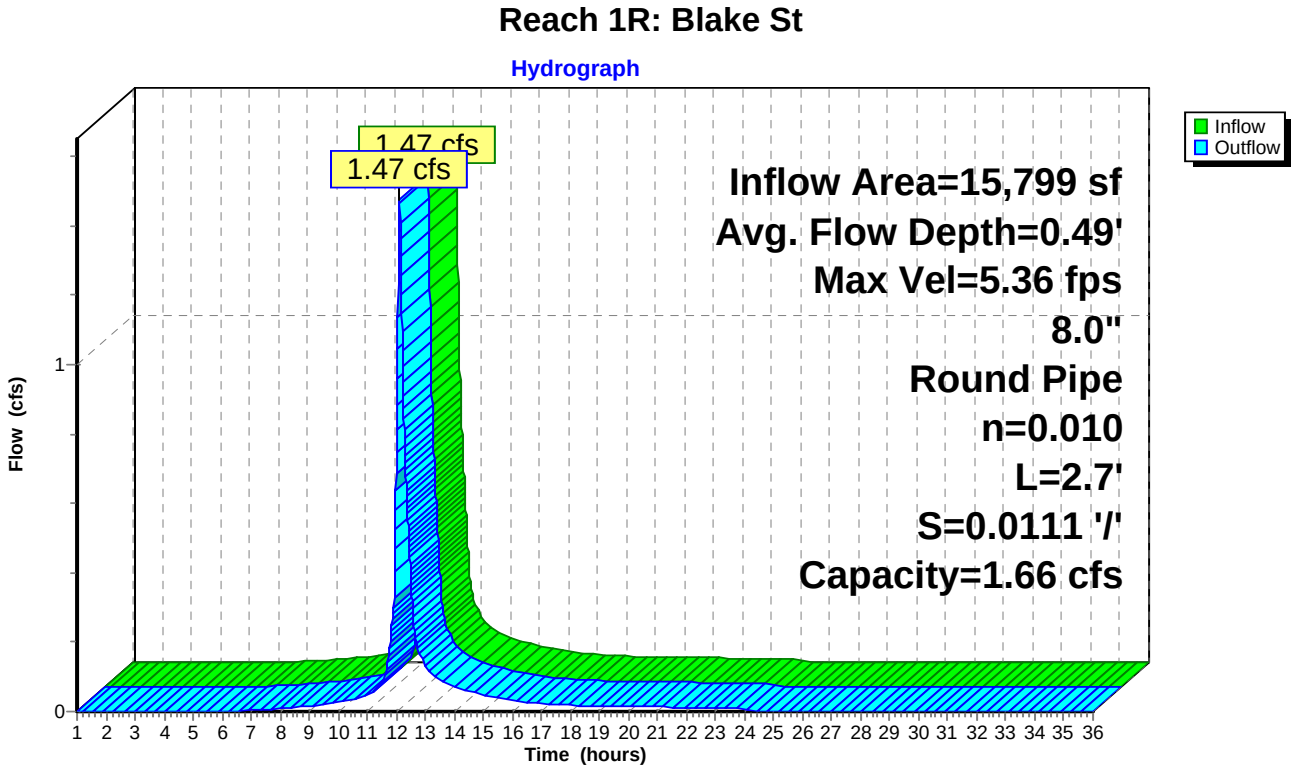
Inflow Area = 15,799 sf, 53.26% Impervious, Inflow Depth = 2.98" for 25-year event
Inflow = 1.47 cfs @ 12.11 hrs, Volume= 3,926 cf
Outflow = 1.47 cfs @ 12.11 hrs, Volume= 3,926 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Max. Velocity= 5.36 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 1.41 fps, Avg. Travel Time= 0.0 min

Peak Storage= 1 cf @ 12.11 hrs
Average Depth at Peak Storage= 0.49'
Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 1.66 cfs

8.0" Round Pipe
n= 0.010
Length= 2.7' Slope= 0.0111 '/'
Inlet Invert= 0.03', Outlet Invert= 0.00'



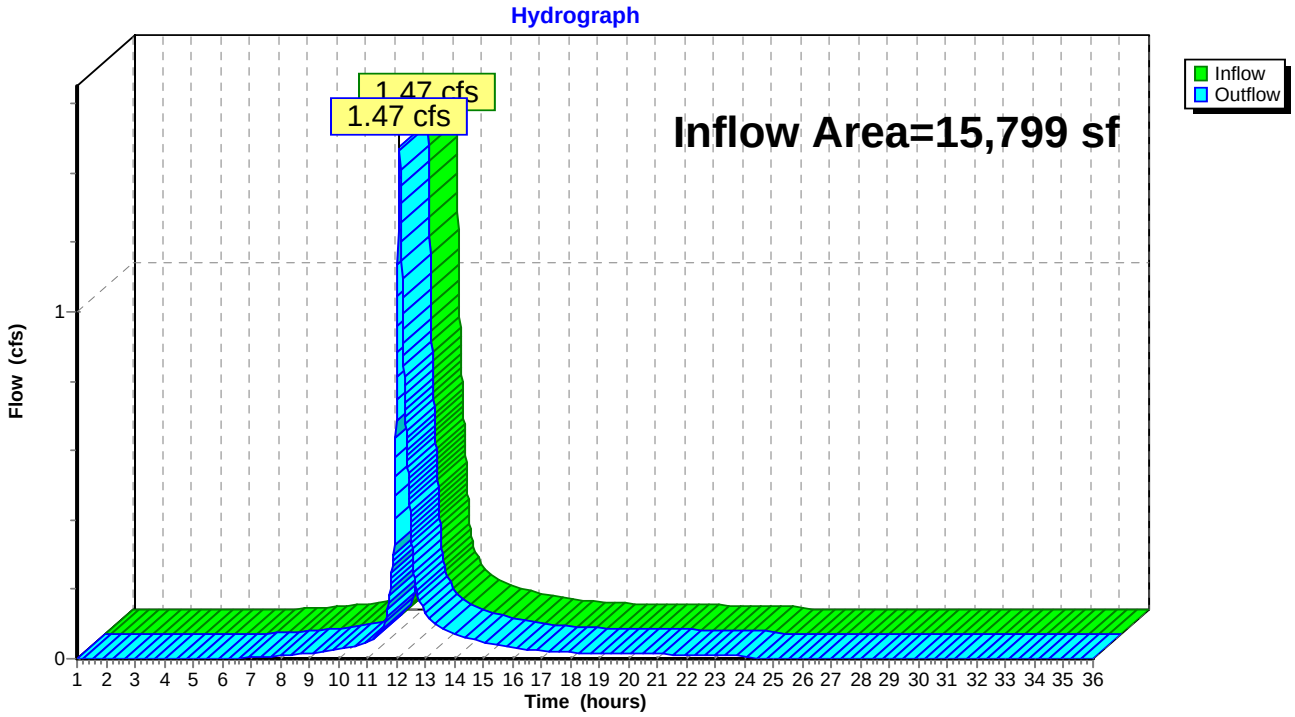


Summary for Reach 2R: POI #1 - Andro River

Inflow Area = 15,799 sf, 53.26% Impervious, Inflow Depth = 2.98" for 25-year event
Inflow = 1.47 cfs @ 12.11 hrs, Volume= 3,926 cf
Outflow = 1.47 cfs @ 12.11 hrs, Volume= 3,926 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 2R: POI #1 - Andro River



Summary for Pond P1: BioCell

Inflow Area =	6,728 sf, 56.20% Impervious, Inflow Depth = 3.95" for 25-year event				
Inflow =	0.70 cfs @	12.09 hrs,	Volume=	2,212 cf	
Outflow =	0.69 cfs @	12.10 hrs,	Volume=	2,212 cf,	Atten= 1%, Lag= 0.7 min
Discarded =	0.02 cfs @	12.10 hrs,	Volume=	1,190 cf	
Primary =	0.61 cfs @	12.10 hrs,	Volume=	1,006 cf	
Secondary =	0.06 cfs @	12.10 hrs,	Volume=	16 cf	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 215.67' @ 12.10 hrs Surf.Area= 1,037 sf Storage= 466 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 138.4 min (936.8 - 798.4)

Volume	Invert	Avail.Storage	Storage Description
#1	215.00'	264 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	214.50'	110 cf	**Topsoil direct entry ponding (Prismatic)** Listed below (Recalc)
#3	213.00'	33 cf	**Filter/Gravel Layers (Prismatic)** Listed below (Recalc) 330 cf Overall x 10.0% Voids
#4	211.50'	131 cf	**3/4" Crushed Stone (Prismatic)** Listed below (Recalc) 330 cf Overall - 3 cf Embedded = 327 cf x 40.0% Voids
#5	211.83'	2 cf	**4.0" Round Pipe Storage** Inside #4 L= 24.0' S= 0.0100 '/' 3 cf Overall - 0.5" Wall Thickness = 2 cf
		540 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
215.00	220	0	0
215.50	307	132	132
215.85	450	132	264

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
214.50	220	0	0
215.00	220	110	110

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
213.00	220	0	0
214.50	220	330	330

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
211.50	220	0	0
213.00	220	330	330

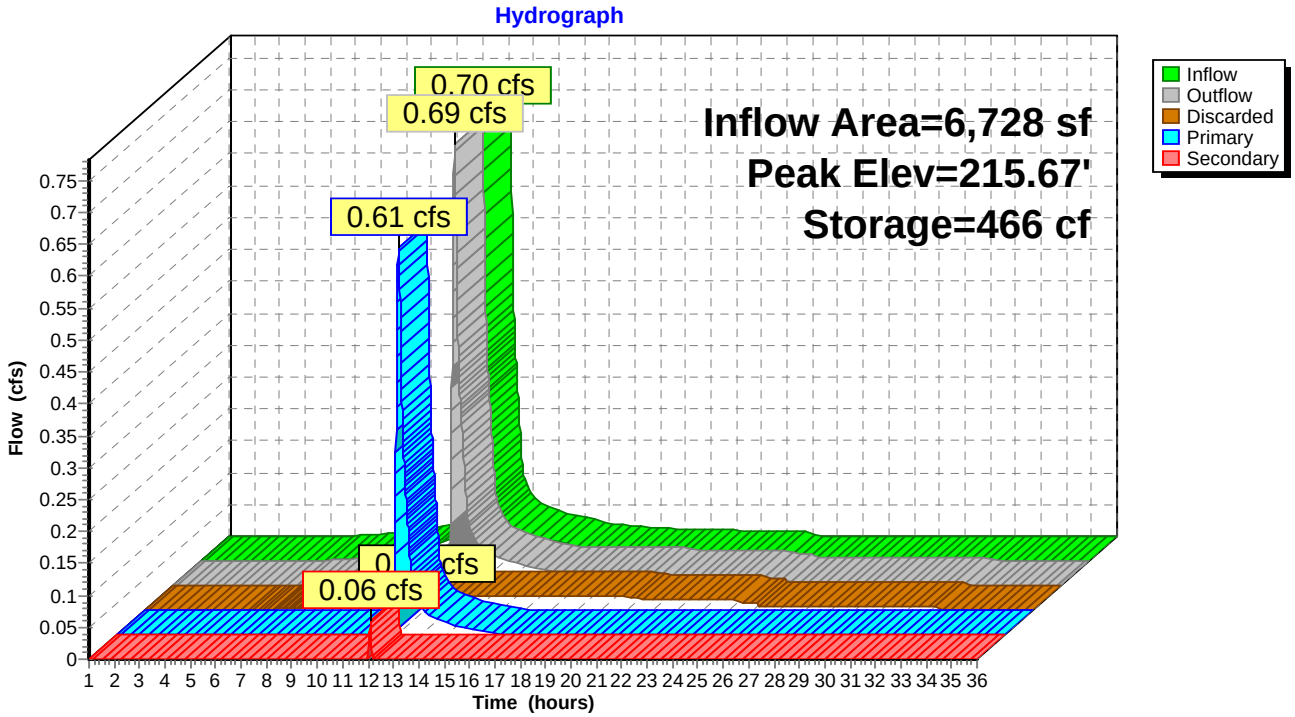
Device	Routing	Invert	Outlet Devices
#1	Primary	211.73'	**8.0" Round Culvert** L= 43.0' Ke= 0.600 Inlet / Outlet Invert= 211.73' / 211.52' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#2	Device 1	211.83'	**0.1" Vert. WQV** C= 0.600
#3	Device 1	215.50'	**10.0" Horiz. Beehive Overflow** C= 0.600 Limited to weir flow at low heads
#4	Secondary	215.65'	**8.0' long x 10.0' breadth Overflow at sidewalk** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	211.50'	**1.000 in/hr Exfiltration over Surface area**

Discarded OutFlow Max=0.02 cfs @ 12.10 hrs HW=215.67' (Free Discharge)
└─**5=Exfiltration** (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.61 cfs @ 12.10 hrs HW=215.67' TW=0.52' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.61 cfs of 2.99 cfs potential flow)
  ├─**2=WQV** (Orifice Controls 0.00 cfs @ 9.43 fps)
  └─**3=Beehive Overflow** (Weir Controls 0.61 cfs @ 1.35 fps)

Secondary OutFlow Max=0.06 cfs @ 12.10 hrs HW=215.67' TW=0.52' (Dynamic Tailwater)
└─**4=Overflow at sidewalk** (Weir Controls 0.06 cfs @ 0.36 fps)

Pond P1: BioCell



Time span=1.00-36.00 hrs, dt=0.01 hrs, 3501 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 1S: Parking Lot Runoff Area=6,728 sf 56.20% Impervious Runoff Depth=0.22"
Tc=6.0 min CN=87 Runoff=0.03 cfs 126 cf

Subcatchment 2S: Remaining Site/Roof Runoff Area=9,071 sf 51.07% Impervious Runoff Depth=0.20"
Flow Length=183' Tc=9.2 min CN=86 Runoff=0.03 cfs 149 cf

Reach 1R: Blake St Avg. Flow Depth=0.07' Max Vel=1.90 fps Inflow=0.03 cfs 150 cf
8.0" Round Pipe n=0.010 L=2.7' S=0.0111 '/' Capacity=1.66 cfs Outflow=0.03 cfs 150 cf

Reach 2R: POI #1 - Andro River Inflow=0.03 cfs 150 cf
Outflow=0.03 cfs 150 cf

Pond P1: BioCell Peak Elev=211.89' Storage=35 cf Inflow=0.03 cfs 126 cf
Discarded=0.01 cfs 125 cf Primary=0.00 cfs 0 cf Secondary=0.00 cfs 0 cf Outflow=0.01 cfs 126 cf

Total Runoff Area = 15,799 sf Runoff Volume = 275 cf Average Runoff Depth = 0.21"
46.74% Pervious = 7,385 sf 53.26% Impervious = 8,414 sf

Summary for Subcatchment 1S: Parking Lot

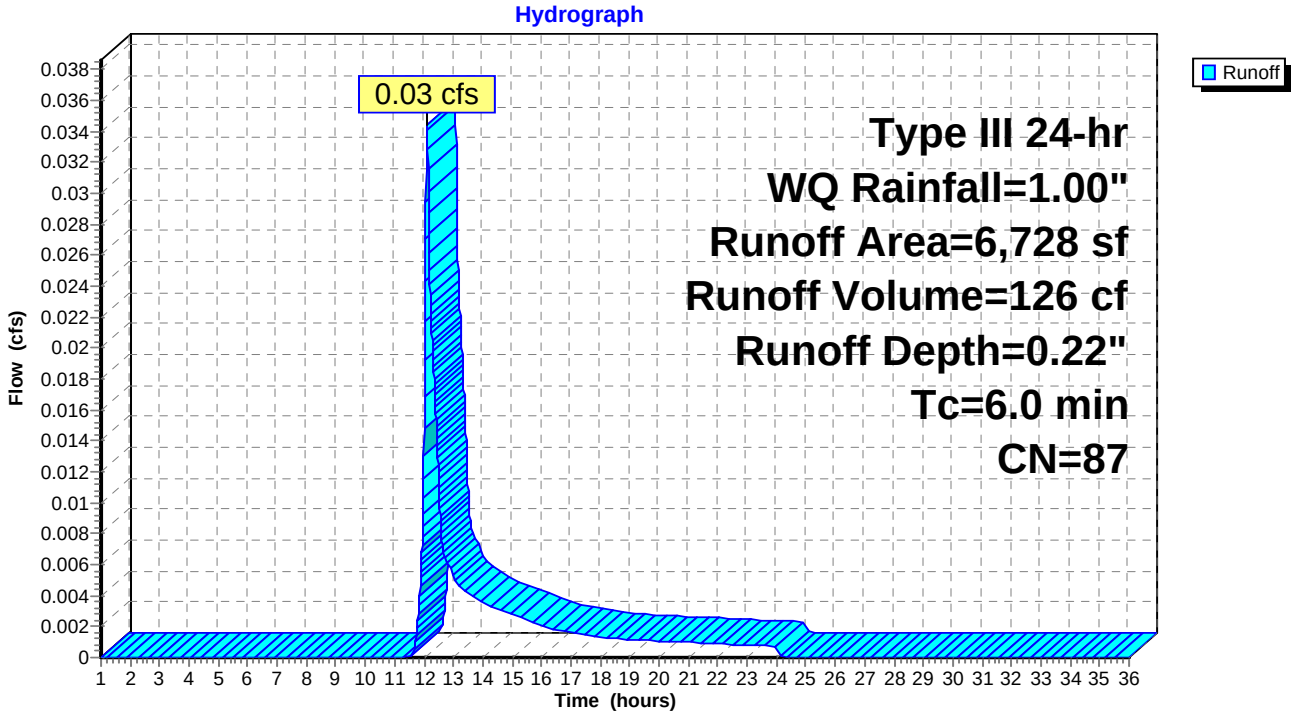
Runoff = 0.03 cfs @ 12.10 hrs, Volume= 126 cf, Depth= 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	2,947	74	Grass cover >75%, Fair, HSG C
*	3,781	98	pave
	6,728	87	Weighted Average
	2,947		43.80% Pervious Area
	3,781		56.20% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry, Minimum Tc (0.1 hour)**

Subcatchment 1S: Parking Lot



Summary for Subcatchment 2S: Remaining Site/Roof

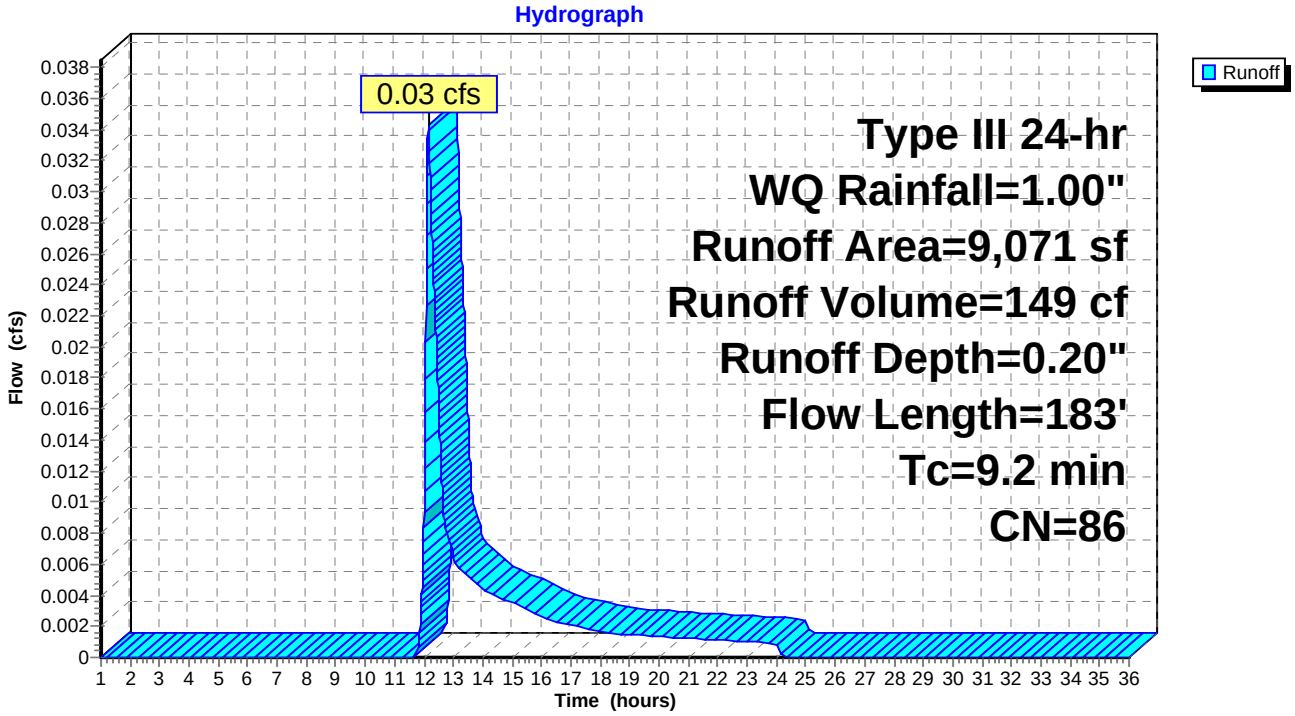
Runoff = 0.03 cfs @ 12.15 hrs, Volume= 149 cf, Depth= 0.20"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Type III 24-hr WQ Rainfall=1.00"

	Area (sf)	CN	Description
*	4,633	98	Pavement/Sidewalk
*	4,438	74	Grass cover >75%, Fair, HSG C
	9,071	86	Weighted Average
	4,438		48.93% Pervious Area
	4,633		51.07% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	85	0.0470	0.16		**Sheet Flow, A to B** Grass: Dense n= 0.240 P2= 3.27"
0.4	98	0.0100	3.71	0.73	**Pipe Channel, B to C** 6.0" Round Area= 0.2 sf Perim= 1.6' r= 0.13' n= 0.010
9.2	183	Total			

Subcatchment 2S: Remaining Site/Roof



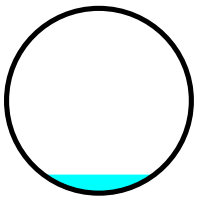
Summary for Reach 1R: Blake St

Inflow Area = 15,799 sf, 53.26% Impervious, Inflow Depth = 0.11" for WQ event
Inflow = 0.03 cfs @ 12.15 hrs, Volume= 150 cf
Outflow = 0.03 cfs @ 12.15 hrs, Volume= 150 cf, Atten= 0%, Lag= 0.0 min

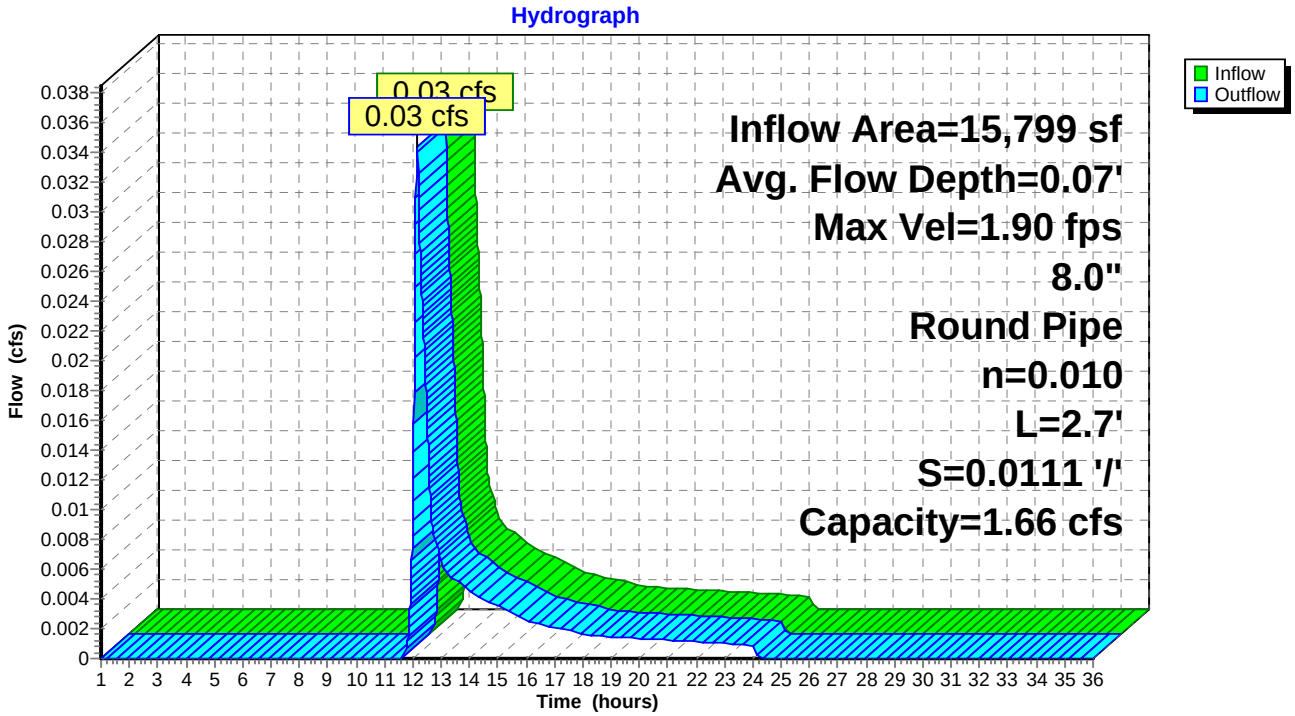
Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Max. Velocity= 1.90 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.85 fps, Avg. Travel Time= 0.1 min

Peak Storage= 0 cf @ 12.15 hrs
Average Depth at Peak Storage= 0.07'
Bank-Full Depth= 0.67' Flow Area= 0.3 sf, Capacity= 1.66 cfs

8.0" Round Pipe
n= 0.010
Length= 2.7' Slope= 0.0111 '/'
Inlet Invert= 0.03', Outlet Invert= 0.00'



Reach 1R: Blake St

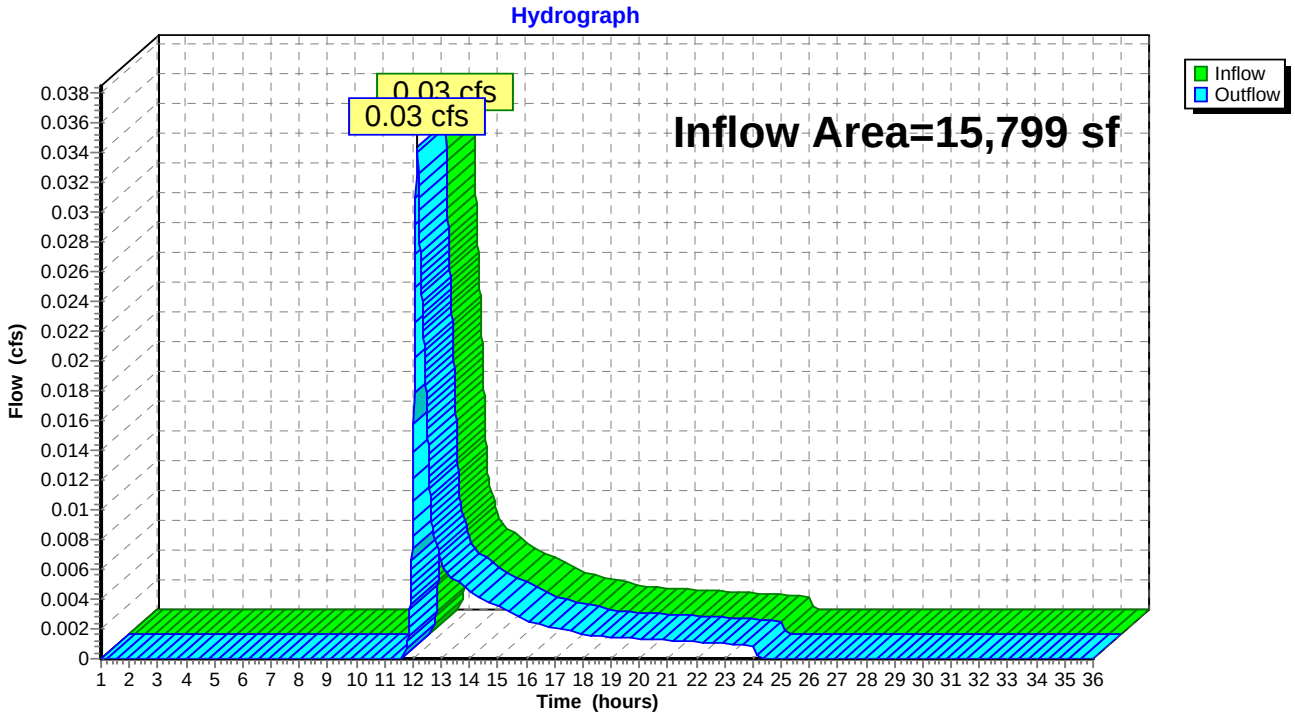


Summary for Reach 2R: POI #1 - Andro River

Inflow Area = 15,799 sf, 53.26% Impervious, Inflow Depth = 0.11" for WQ event
Inflow = 0.03 cfs @ 12.15 hrs, Volume= 150 cf
Outflow = 0.03 cfs @ 12.15 hrs, Volume= 150 cf, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs

Reach 2R: POI #1 - Andro River



Summary for Pond P1: BioCell

Inflow Area = 6,728 sf, 56.20% Impervious, Inflow Depth = 0.22" for WQ event
Inflow = 0.03 cfs @ 12.10 hrs, Volume= 126 cf
Outflow = 0.01 cfs @ 13.00 hrs, Volume= 126 cf, Atten= 85%, Lag= 53.7 min
Discarded = 0.01 cfs @ 12.05 hrs, Volume= 125 cf
Primary = 0.00 cfs @ 13.00 hrs, Volume= 0 cf
Secondary = 0.00 cfs @ 1.00 hrs, Volume= 0 cf

Routing by Dyn-Stor-Ind method, Time Span= 1.00-36.00 hrs, dt= 0.01 hrs
Peak Elev= 211.89' @ 13.00 hrs Surf.Area= 220 sf Storage= 35 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 55.5 min (940.0 - 884.5)

Volume	Invert	Avail.Storage	Storage Description
#1	215.00'	264 cf	**Ponding above surface (Prismatic)** Listed below (Recalc)
#2	214.50'	110 cf	**Topsoil direct entry ponding (Prismatic)** Listed below (Recalc)
#3	213.00'	33 cf	**Filter/Gravel Layers (Prismatic)** Listed below (Recalc) 330 cf Overall x 10.0% Voids
#4	211.50'	131 cf	**3/4" Crushed Stone (Prismatic)** Listed below (Recalc) 330 cf Overall - 3 cf Embedded = 327 cf x 40.0% Voids
#5	211.83'	2 cf	**4.0" Round Pipe Storage** Inside #4 L= 24.0' S= 0.0100 '/' 3 cf Overall - 0.5" Wall Thickness = 2 cf
		540 cf	Total Available Storage

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
215.00	220	0	0
215.50	307	132	132
215.85	450	132	264

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
214.50	220	0	0
215.00	220	110	110

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
213.00	220	0	0
214.50	220	330	330

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
211.50	220	0	0
213.00	220	330	330

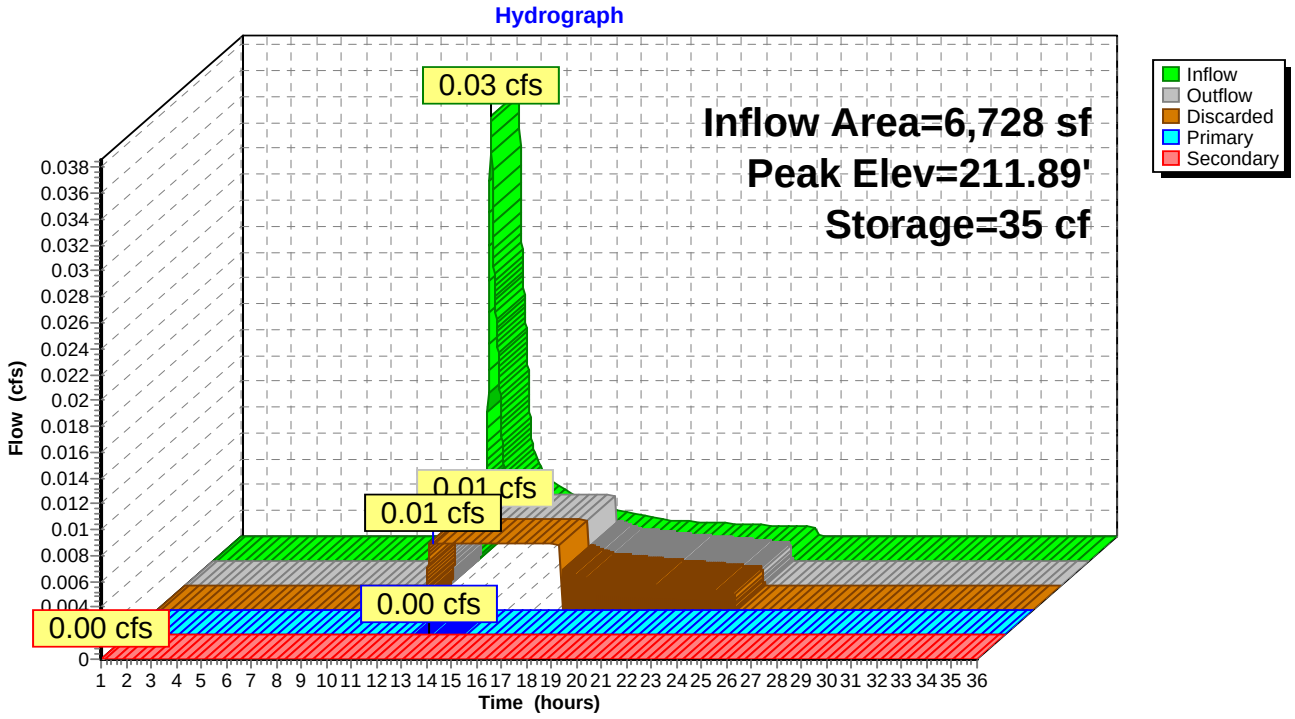
Device	Routing	Invert	Outlet Devices
#1	Primary	211.73'	**8.0" Round Culvert** L= 43.0' Ke= 0.600 Inlet / Outlet Invert= 211.73' / 211.52' S= 0.0049 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.35 sf
#2	Device 1	211.83'	**0.1" Vert. WQV** C= 0.600
#3	Device 1	215.50'	**10.0" Horiz. Beehive Overflow** C= 0.600 Limited to weir flow at low heads
#4	Secondary	215.65'	**8.0' long x 10.0' breadth Overflow at sidewalk** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64
#5	Discarded	211.50'	**1.000 in/hr Exfiltration over Surface area**

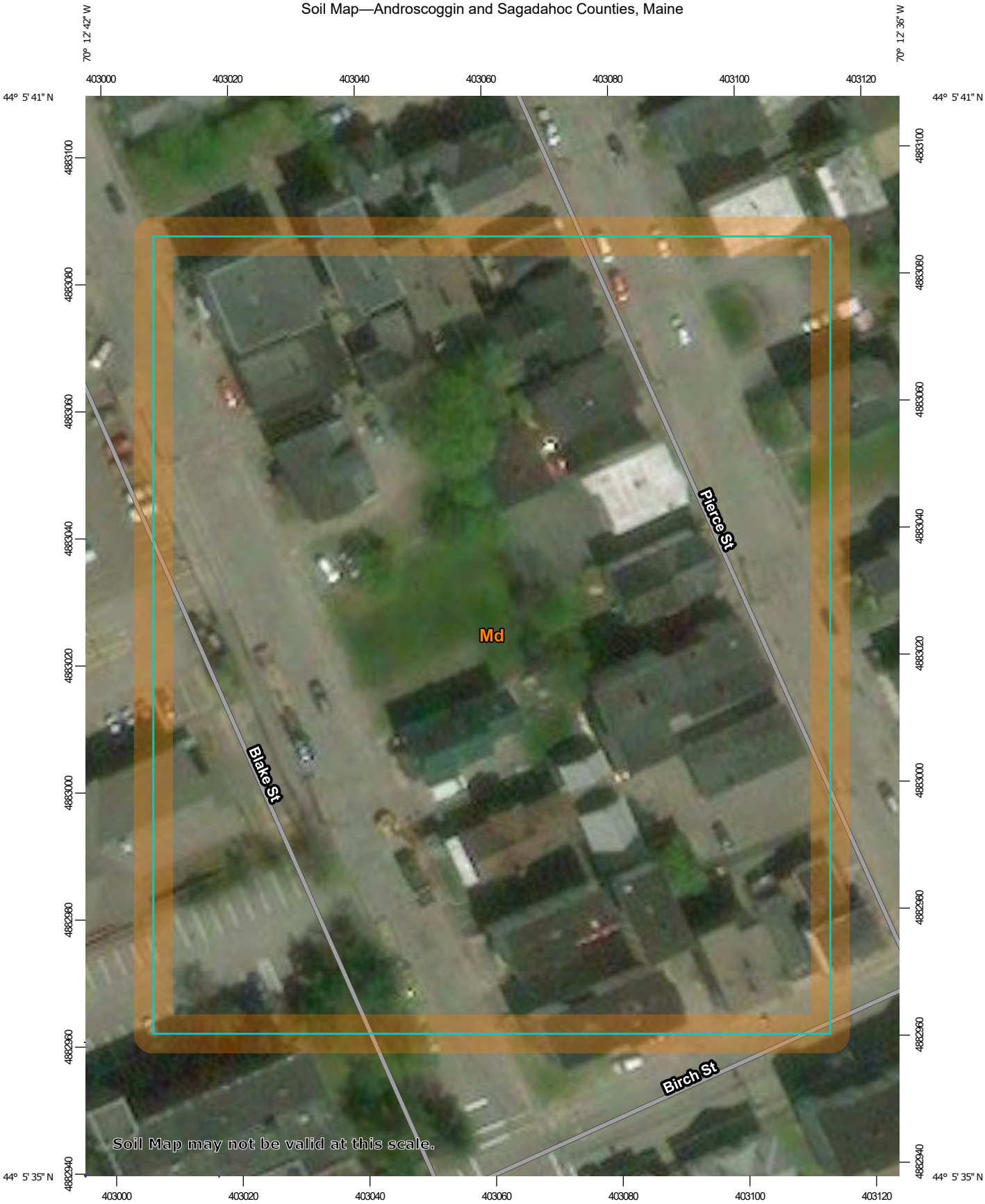
Discarded OutFlow Max=0.01 cfs @ 12.05 hrs HW=211.55' (Free Discharge)
└─**5=Exfiltration** (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 13.00 hrs HW=211.89' TW=0.06' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.00 cfs of 0.07 cfs potential flow)
  ├─**2=WQV** (Orifice Controls 0.00 cfs @ 1.16 fps)
  └─**3=Beehive Overflow** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 1.00 hrs HW=211.50' TW=0.03' (Dynamic Tailwater)
└─**4=Overflow at sidewalk** (Controls 0.00 cfs)

Pond P1: BioCell





Map Scale: 1:828 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 40 80 160 240

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

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons

Soil Map Unit Lines

Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

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

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

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

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

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

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

Soil Survey Area: Androscoggin and Sagadahoc Counties, Maine
Survey Area Data: Version 21, Jun 1, 2020

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

Date(s) aerial images were photographed: Apr 18, 2012—Nov 1, 2016

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Md	Made land, loamy materials	3.3	100.0%
Totals for Area of Interest		**3.3**	**100.0%**

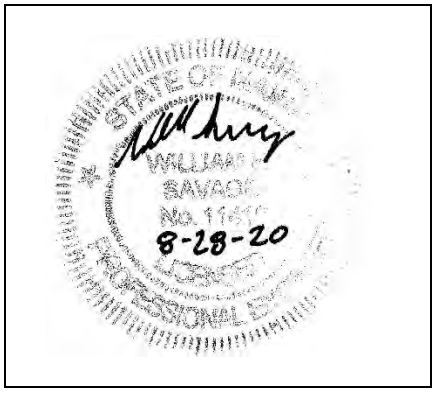
POST CONSTRUCTION - STORMWATER INSPECTION & MAINTENANCE PLAN

Prepared For:

Raise Op Housing Cooperative
145 Pierce St #102
Lewiston, Maine 04240

Prepared By:

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104



September 2020

RESPONSIBLE PARTY

The owner, Raise Op Housing Cooperative, and or their successor shall be responsible for contracting with a qualified stormwater professional to implement the Inspection and Maintenance Plan. The qualified stormwater professional shall maintain a stormwater log (report) summarizing inspections, maintenance, and corrective action taken. The Qualified Stormwater Professional shall annually submit the Stormwater Log to the Department of Public Works prior to June 30th.

The following is an example of a qualified stormwater professional that the homeowners association may contract through.

Organization: Will Savage, PE
Acorn Engineering, Inc
Portland, Maine

Phone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

The inspection and maintenance criteria is based upon the Maine DEP - Stormwater Management for Maine, Volume III: BMPs Technical Design Manual. Refer to the Grading and Drainage Plan for the location of the BMPs.

PURPOSE

This Inspection and Maintenance Plan has been individually tailored to this parcel's stormwater infrastructure, site characteristics, and their respective opportunities and limitations related to reducing the pollutant load on the receiving watershed. The maintenance of a parcel's impervious surfaces and stormwater infrastructure is critical to extending the long term performance and effectiveness of Best Management Practices (BMPs). The Inspection and Maintenance Plan represents the parcel's minimum activities to meet the permit requirements. The parcel shall still be subject to any applicable Civil Site Plans, Permit Applications, Erosion and Sedimentation Control Plans Reports, Stormwater Management Plans, Inspection and Maintenance Manuals, and all Municipal, State, and Federal rules.

OPERATION AND MAINTENANCE ACTIVITY

Underdrained Bioretention Cell:

The maintenance of the underdrained bioretention cell shall be in accordance with the following activities identified below and the most recent version of the Maine DEP Volume III BMPs Technical Design Manual Chapter 7.2 Underdrained Bioretention Cell.

- The bioretention basin should be inspected semi-annually and following major storm events. The filter should be drain within 48 hours of a one-inch storm or greater.
- A healthy vegetative cover should be maintained to avoid clogging the filter with fine sediments. If ponding exceeds 48 hours, the top of the filter should be rototilled to reestablish the soil's filtration capacity.
- If there is ponding for more than 72 hours the top several inches of the filter can be replaced with fresh material.
- Overflow rim should be checked after each plowing season to ensure the device is intact and fully functional. The grate should remain clear of debris.
- Any signs of rill erosion should be corrected and potentially stabilized with river stone if necessary.

Sweeping:

Annual sweeping of the driveway and parking areas following the snow melt for accumulated winter sand, if necessary. Appropriately dispose of all collected material. This activity will largely function as preventative maintenance for the bioretention cell. Collecting debris on the driveway surface before it reaches the bioretention cell will be significantly more time and cost effective than removing sediment and debris downstream within the cell.

Field Inlets:

The field inlet shall be annually inspected for the presence of accumulated sediment or debris. Any sediment shall be removed as required.

- The equipment shall meet the following minimum specifications; power jet and water source for washing down the field inlet, vacuum attachment for catch basin cleaning, and a liquid handling method to dewater the material.
- Inspect and legally dispose of accumulated sediment and debris within the field inlet. Liquids must be decanted on-site and returned to the catch basin.

Landscaped and Vegetated Areas:

Inspect all landscaped and or vegetated slopes and embankments on an annual basis. Vegetated areas with bare areas or sparse growth (<90% coverage) shall be revegetated. Mulch shall be applied to landscaped areas, as necessary. Dead or decaying landscaping (ground cover, shrubs, trees etc.) shall be replanted in accordance with the approved Landscape Plan.

INSPECTION AND MAINTENANCE TABLE

Inspection and Maintenance Frequency	Spring or Yearly	Summer	Fall	As Necessary
Underdrained Bioretention Cell	X			X
Sweeping	X			X
Field Inlets				X
Landscaped/Vegetated Areas	X			X

It should be noted that per the City of Lewiston's Ordinance Appendix A Article XIII Sec. 15 requirements, the estimated cost of repair or replacement of the Stormwater Management Facilities serving the proposed development is to be provided. The approximate value of repair or replacement of these items was estimated to be $9,000.

STORMWATER MAINTENANCE AND INSPECTION AGREEMENT: INSPECTION LOG

FILTRATION BMP:	
Location: 190 Blake St - Lewiston, Maine	Latitude:
	Longitude:
Description of Located Point: Rain Garden at the front of the property	Inspector:
	Date of Inspection:
	Weather Conditions:

Maintenance Items	Inspect In Spring	Inspect In Fall	Inspect As Necessary		Maintenance Requested (Date)	Maintenance Completed (Date)	Summary of Maintenance Required
Underdrained Ditch, Vegetated Underdrain Soil Filter, Bio-retention Cell, etc.							
Soil filter retains the design volume for a drain down time greater than 24-hours and less than 48-hours	☑	☑	☐	☐ Yes ☐ No ☐ N/A			
Permeability is between 0.13 and 0.25 in/hr for a bio-retention cell and between 0.38 and 0.75 in/hr for an underdrained ditch	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
Invasive plants have not rooted in the rain garden	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
Filter area is properly grassed, showing no bare spots.	☐	☐	☑	☐ Yes ☐ No ☐ N/A			
Site is free of unwanted vegetative growth. In bio retention cell, mulch layer is at least 3" thick	☐	☐	☑	☐ Yes ☐ No ☐ N/A			
Outlet pipe is unobstructed and functioning properly	☐	☐	☑	☐ Yes ☐ No ☐ N/A			
Area around rain garden shows no signs of erosion	☑	☐	☑	☐ Yes ☐ No ☐ N/A			
Embankment grass height is no less than 6"	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
Outlet pipe is free of sediment	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
Plantings are in good condition and do not show signs of rot or decay	☐	☑	☐	☐ Yes ☐ No ☐ N/A			

STORMWATER MAINTENANCE AND INSPECTION AGREEMENT: INSPECTION LOG

Maintenance Items	Inspect In Spring	Inspect In Fall	Inspect As Necessary		Maintenance Requested (Date)	Maintenance Completed (Date)	Summary of Maintenance Required
General							
Access to facility is adequate	☐	☑	☐	☐ Yes ☐ No ☐ N/A			
Photographs of most recent site inspection are included	☐	☑	☐				Photographs are attached.
Additional Comments:							

CITY OF LEWISTON

Annual Stormwater Management Facilities Certification

(to be sent to Planning and Code Enforcement and Public Works as required by Appendix A Zoning and Land Use Code, Article XIII. Development Review and Standards, Section 15. Post-construction stormwater management standards)

I, _____ (print or type name), certify the following:

1. I am making this Annual Stormwater Management Facilities Certification for the following property: *Blake Street Housing* (print or type name of subdivision, condominium or other development) located at *188-191 Blake St, Lewiston, ME 04240* (print or type address), (the "Property");

2. The owner, operator, tenant, lessee or homeowners' association of the Property is:
Raise Op Housing Cooperative (name(s) of owner, operator, tenant, lessee, homeowners' association or other party having control over the Property);

3. I am a Qualified Third-Party Inspector (as defined by the City of Lewiston Post-Construction Stormwater Management Ordinance, and) hired by the owner, operator, tenant, lessee or homeowners' association of the Property (circle one);

5. On _____, 20__, I inspected the Stormwater Management Facilities, including but not limited to parking areas, catch basins, drainage swales, detention basins and ponds, pipes and related structures required by the approved Post-Construction Stormwater Management Plan for the Property;

6. At the time of my inspection of the Stormwater Management Facilities on the Property, I identified the following need(s) for routine maintenance or deficiencies in the Stormwater Management Facilities:
_____
_____
_____
_____
_____
_____

7. On _____, 20__, the owner, operator, tenant, lessee or homeowners' association of the Property took or had taken the following routine maintenance or the following corrective action(s) to address the deficiencies in the Stormwater Management Facilities stated in 6. above:
_____
_____

_____
_____
_____
_____

8. As of the date of this certification, the Stormwater Management Facilities are functioning as intended by the approved Post-Construction Stormwater Management Plan for the Property.

Date:_____, 20__.

By:_____

Signature

_____

Print Name

STATE OF MAINE

_____, ss. _____, 20__

Personally appeared the above-named _____, the _____ of _____, and acknowledged the foregoing Annual Certification to be said person's free act and deed in said capacity.

Before me,

_____

Notary Public/Attorney at Law

Print Name:

_____

Mail this certification to the City of Lewiston at the following address:

Director of Planning & Code Enforcement
City Building
27 Pine Street
Lewiston, ME 04240

Director of Public Works
103 Adams Avenue
Lewiston, ME 04240

EROSION & SEDIMENTATION CONTROL REPORT

Prepared For:

Blake St Raise OP Housing
145 Pierce St #102
Lewiston, Maine 04240

Prepared By:

Acorn Engineering, Inc.
65 Hanover Street
Portland, Maine 04101

August 2020

INTRODUCTION

Acorn Engineering, Inc. has been retained by Raise Op Housing Cooperative to provide civil engineering services for the proposed redevelopment at 194 Blake Street in Lewiston, Maine. The project is a 9-unit residential redevelopment in the Downtown Residential Zoning District.

The following Erosion and Sedimentation Control Report was developed in accordance with the standards outlined in the Maine DEP's Erosion & Sediment Control BMP's Manual, revised in 2016 as well as the City of Lewiston Land Use Ordinance.

1.0 EXISTING CONDITIONS

The proposed project site is located on Blake St. A boundary plan has been prepared by CES, Inc Maine dated July 21, 2020, revised August 10, 2020.

All surrounding lots are used for residential housing.

The existing site is currently vacant and consists of a gravel driveway and spotty grass cover. The average slope is minimal with a ridge running north to south across the lot and the grades dropping from the west to east adjacent to the ridge.

1.1 Existing Soils

Onsite soil information includes the following:

- Soil Conservation Service Medium Intensity Soil Survey for Cumberland County
- United States Department of Agriculture Web Soil Survey

Based on the publicly available resources, the existing site consists of "urban fill" or "made land". Given the wastewater will be served by the public sewer main and no deep cuts are proposed, the Applicant does not intend to pursue a more intense soil survey.

1.2 Existing Erosion Problems

There are no signs of erosion.

1.3 Critical Areas

Critical areas that would require special attention during construction include the existing retaining wall at the southeast border of the site.

1.4 Protected Natural Resource

The client is not aware of the presence of any existing significant natural features located on the site as listed in Section 14-526 (b) 1. of the Land Use Code. The

project is not located within a watershed classified as an Urban Impaired Stream by the Maine DEP.

1.5 Previous Construction Activity (5 years)

Acorn Engineering, Inc. is not aware of any construction related activities within the project limits within the past 5 years.

1.6 Timber Harvesting

Acorn Engineering, Inc. is not aware of any timber harvesting within the past five years.

2.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

As part of the site development, the following temporary and permanent erosion and sedimentation control devices shall be implemented. Devices shall be installed as described in this report or within the plan set. See the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices for further reference.

2.1 Temporary Erosion Control Measures

The following temporary erosion and sedimentation control measures are planned for the project's construction period:

2.1.1 Crushed stone stabilized construction entrances shall be placed at all access points to the project site where there are disturbed areas. The following specifications shall be followed at a minimum:

- Stone size shall be 2-3 inches or reclaimed or recycled concrete equivalent.
- The thickness of the entrance stone layer shall be no less than 6 inches.
- The entrance shall not be less than 20 feet wide, however not less than the full width of points where ingress or egress occurs. The length shall not be less than 50 feet in length.
- Geotextile fabric (woven or non-woven) shall be placed over the entire entrance area.
- The entrance/exit shall be maintained to the extent that it will prevent the tracking of sediment onto public roadways.

2.1.2 Siltation fence or erosion control berm shall be installed down gradient of any disturbed areas to trap runoff borne sediments until permanent stabilization is achieved. The silt fence or erosion control berm shall be installed per the details provided in the plan set and inspected before and immediately after each rainfall and at least daily during prolonged rainfall. Repairs shall be made if there are any signs of erosion or sedimentation below the fence line or berm. If there are signs of undercutting at the center or the edges, or

impounding of large volumes of water behind the fence or berm, the barrier shall be replaced with a stone check dam.

2.1.3 Hay mulch including hydro seeding is intended to provide cover for denuded or seeded areas until revegetation is established. Mulch placed between April 15th and November 1st on slopes of less than 15 percent shall be covered by fabric netting and anchored with staples in accordance with the manufacturer's recommendation. Mulch placed between November 1st and April 15th on slopes equal to or steeper than 8 percent and equal to or flatter than 2:1 shall use mats or fabric netting and anchored with staples in accordance with the manufacturer's recommendation.

2.1.4 At any time of the year, all slopes greater than 3:1 shall be stabilized with Double Net Erosion Control Blanket Bionet SC150BN by North American Green or Approved Equal, or Erosion Control Mix Slope Protection as detailed within the plans.

2.1.5 Blake Street shall be swept to control mud and dust from the construction site as necessary. Add additional stone to the stabilized construction entrance to minimize the tracking of material off the site and onto the surrounding roadways.

2.1.6 During demolition, clearing and grubbing operations, stone check dams shall be installed at any areas of concentrated flow. The maximum height of the check dam shall not exceed 2 feet. The center of the check dam shall be 6 inches below the outer edges of the dam. The contractor shall mulch the side slopes and install stone check dams for all newly excavated ditch lines within 24 hours of their creation.

2.1.7 Silt fence stake spacing shall not exceed 6 feet unless the fence is supported with 14-gauge wire in which case the maximum spacing shall not exceed 10 feet. The silt fence shall be "toed" into the ground.

2.1.8 Storm drain inlet protection shall be provided to storm drains using any of the following: hay bale drop inlet structures, silt fence drop inlet sediment filter, gravel and wire mesh drop inlet sediment filter, or curb inlet sediment filter. Barriers shall be inspected after every rainfall event and repaired as necessary. Sediments shall be removed when accumulation has reached ½ the design height.

2.1.9 Dust control shall be accomplished using any of the following: water, calcium chloride, stone, or an approved MDEP product. Measures shall be applied as needed to accomplish dust control.

2.1.10 Temporary loam, seed, and mulching shall be used in areas where no other erosion control measure is used. Application rates for seeding are provided at the end of this report.

2.1.11 Stockpiles shall be stabilized within 7 days of formation unless a scheduled rain event occurs prior to the 7-day window, in which case the stockpile shall be stabilized prior to the rain event. Methods of stabilization shall be mulch, erosion control mix, or erosion control blankets/mats. Silt fence or a wood waste compost filter berm shall be placed downhill of any soil stockpile location.

2.1.12 For disturbance between November 1 and April 15, please refer to winter stabilization plan in this report and the Maine Erosion and Sediment Control BMP manual for further information.

2.1.13 It is of the utmost importance that stormwater runoff and potential sediment from the construction site be diverted around the proposed underdrains until the trench is backfilled.

2.2 Permanent Erosion Control Measures

The following permanent erosion control measures are intended for post disturbance areas of the project.

2.2.1 All disturbed areas during construction, not subject to other proposed conditions, shall receive a minimum 4" of loam, limed, and mulched. Erosion control blankets or mats shall be placed over the mulch in areas noted in paragraph 4.1 of this report.

2.2.2 All stormwater devices shall be installed, and tributary areas stabilized prior receiving stormwater.

2.2.3 Refer to the Maine Erosion and Sediment Control BMP manual for additional information.

3.0 EROSION AND SEDIMENTATION CONTROL PLAN

3.1 The Erosion and Sedimentation Control Plan is included within the plan set.

4.0 DETAILS AND SPECIFICATIONS

4.1 Erosion Control Details and Specifications are included in the plan set.

5.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

Winter Construction consists of earthwork disturbance between the dates of November 1 and April 15. If a construction site is not stabilized with pavement, a road gravel base, 75% mature vegetation cover or riprap by November 15, then the site shall be protected with over-winter stabilization. Any area not stabilized with pavement, vegetation, mulching,

erosion control mix, erosion control mats, riprap, or gravel base on a road shall be considered open.

The contractor shall limit the work area to areas that work will occur in during the subsequent 15 days and so that it can be mulched one day prior to a snow event. The contractor shall stabilize work areas prior to opening additional work areas to minimize areas without erosion control measures.

The following measures shall be implemented during winter construction periods:

5.1 Sediment Barriers

During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

5.2 Mulching

All areas shall be considered to be denuded until seeded and mulched. Hay and straw mulch shall be applied at a rate of 150 lb. per 1,000 square feet or 3 tons/acre (twice the normal accepted rate of 75-lbs./1,000 s.f. or 1.5 tons/acre) and shall be properly anchored. Erosion control mix must be applied with a minimum 4-inch thickness. Mulch shall not be spread on top of snow. The snow shall be removed down to a one-inch depth or less prior to application. After each day of final grading, the area shall be properly stabilized with anchored hay or straw or erosion control matting. An area shall be considered to have been stabilized when exposed surfaces have been either mulched or adequately anchored so that ground surface is not visible through the mulch. Between the dates of November 1 and April 15, all mulch shall be anchored by either mulch netting, tracking or wood cellulose fiber. The cover will be considered sufficient when the ground surface is not visible through the mulch. After November 1st, mulch and anchoring of all exposed soil shall occur at the end of each final grading workday.

5.3 Soil Stockpiling

Stockpiles of soil or subsoil shall be mulched for over winter protection with hay or straw at twice the normal rate or with a four-inch layer of erosion control mix. This shall be done within 24 hours of stocking and re-established prior to any rainfall or snowfall.

5.4 Seeding

Between the dates of October 15th and April 1st, loam or seed shall not be required. During periods of above freezing temperatures finished areas shall be fine graded and either protected with mulch or temporarily seeded and mulched until the final treatment can be applied. If the date is after November 1st and if the exposed area has not been loamed, final grading with a uniform surface, then the area may be dormant seeded at a rate of 3 times higher than specified for permanent seed and then mulched.

Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas shall receive 4" of loam and seed at an application rate of 5 lbs./1,000 s.f. All areas seeded during the winter shall be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75% catch) shall be revegetated by replacing loam, seed and mulch. If dormant seeding is not used for the site, all disturbed areas shall be revegetated in the spring.

5.5 Over winter stabilization of disturbed soils

By September 15th, all disturbed soils on areas having a slope less than 15% shall be seeded and mulched. If the disturbed areas are not stabilized by this date, then one of the following actions shall be taken to stabilize the soil for late fall and winter:

- Stabilize the soil with temporary vegetation – By October 1st, seed the disturbed soil with winter rye at a seeding rate of 3lbs per 1,000 s.f., lightly mulch the seeded soil with hay or straw at 75 lbs per 1,000 s.f., and anchor the mulch with plastic netting. Monitor growth of the rye over the next 30 days. If the rye fails to grow at least three inches or fails to cover at least 75% of the disturbed soil before November 1st, then mulch the area for over-winter protection.

- Stabilize the soil with sod – Stabilize the disturbed soil with properly installed sod by October 1st. Proper installation includes pinning the sod onto the soil with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil.

- Stabilize the soil with mulch – By November 15th, mulch the disturbed soil by spreading hay or straw at a rate of at least 150 lbs per 1,000 s.f. on the area so that no soil is visible through the mulch. Immediately after applying the mulch, anchor the mulch with plastic netting to prevent wind from moving the mulch off the disturbed soil.

5.6 Over winter stabilization of disturbed slopes

All stone-covered slopes shall be constructed and stabilized by November 15th. All slopes to be vegetated shall be seeded and mulched by September 1st. A slope is considered a grade greater than 15%. If a slope to be vegetated is not stabilized by September 1st, then one of the following action shall be taken to stabilize the slope for late fall and winter:

- Stabilize the soil with temporary vegetation and erosion control mats – By October 1st the disturbed slope shall be seeded with winter rye at a seeding rate of 3 lbs per 1,000 s.f. and then install erosion control mats or anchored mulch over the seeding. If the rye fails to grow at least three inches or fails to cover at least 75% of the slope by November 1st, then the contractor shall cover the slope with a layer of erosion control mix or with stone riprap.

- Stabilize the soil with sod – The disturbed slope shall be stabilized with properly installed sod by October 1st. Proper installation includes the contractor pinning the sod onto the slope with wire pins, rolling the sod to guarantee contact between the sod and underlying soil, and watering the sod to promote root growth into the disturbed soil. The contractor shall not use late-season sod installation to stabilize slopes having a grade greater than 3H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with erosion control mix – Erosion control mix shall be properly installed by November 15th. The contractor shall not use erosion control mix to stabilize slopes having grades greater than 2H:1V or having groundwater seeps on the slope face.

- Stabilize the soil with stone riprap – Place a layer of stone riprap on the slope by November 15th. A registered professional engineer shall be hired to determine the stone size needed for stability on the slope and to design a filter layer for underneath the riprap.

6.0 INSPECTION AND MAINTENANCE

A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct periodic visual inspections of installed erosion control measures. The frequency of inspection shall occur at least once every two weeks, as well as after a "storm event". A "storm event" shall consist 0.5 inches of rain within a 24-hour period. The following Erosion and Sediment Control - Best Management Practices (BMP's) shall inspected in the manner as described.

6.1 Sediment Barriers

Hay bale barriers, silt fences and filter berms shall be inspected and repaired for the following if there are any signs of erosion or sedimentation below them. If there are signs of undercutting at the center or the edges of the barrier, or impounding of large volumes of water behind them, sediment barriers shall be replaced with a temporary check dam. Should the fabric on a silt fence or filter barrier decompose or become ineffective prior to the end of the expected usable life and the barrier is still necessary, the fabric shall be replaced promptly. Sediment deposits should be removed when deposits reach approximately one-half the height of the barrier. Filter berms should be reshaped as needed. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required should be dressed to conform to the existing grade, prepared and seeded.

6.2 Stabilized Stone Construction Entrances

The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. When the control pad becomes ineffective, the stone shall be removed along with the collected soil material and redistributed on site in a stable manner. The entrance should then be reconstructed. The contractor shall sweep or wash pavement at exits, which have experienced mud-tracking on to the

pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment trapping device. All sediment shall be prevented from entering storm drains, ditches, or waterways.

6.3 Mulched Areas

All mulches must be inspected periodically, in particular after rainstorms, to check for rill erosion. If less than 90% of the soil surface is covered by mulch, additional mulch shall be immediately applied. Nets must be inspected after rain events for dislocation or failure. If washouts or breakage occur, re-install the nets as necessary after repairing damage to the slope. Where mulch is used in conjunction with ornamental plantings, inspect periodically throughout the year to determine if mulch is maintaining coverage of the soil surface. Repair as needed.

6.4 Dust Control

When temporary dust control measures are used, repetitive treatment shall be applied as needed to accomplish control.

6.5 Stormwater Appurtenances

All underdrains, storm drains, and catch basins need to be operating effectively and free of debris.

6.6 Erosion and Sedimentation Control Inspections:

Acorn Engineering has personnel qualified to conduct Erosion and Sedimentation Control Inspections. For further information, contact:

Contact: Will Savage, PE
Telephone: (207) 775-2655

Qualifications:

- Maine Professional Engineering License #11419
- Maine DEP - Certified in Maintenance & Inspection of Stormwater BMP's Cert #14
- Certified Erosion, Sediment and Storm Water Inspector (CESSWI) Cert #0293
- Certified Professional in Erosion and Sediment Control (CPESC) Cert. #4620

The Contractor has sole responsibility for complying with the Erosion and Sedimentation Report/Plan, including control of fugitive dust. The Contractor shall be responsible for any monetary penalties resulting from failure to comply with these standards.

7.0 IMPLEMENTATION SCHEDULE

The following implementation sequence is intended to maximize the effectiveness of the above described erosion control measures. Contractors should avoid overexposing disturbed areas and limit the amount of stabilization area.

1. Install a stabilized construction entrance in all locations where construction traffic will enter and exit the site.
2. Install perimeter silt fence or erosion control berm.
3. Commence installation of drainage infrastructure.
4. Install all other erosion control devices as necessary throughout the remainder of this schedule.
5. Commence earthwork operations, associated with the roadway construction.
6. Commence installation of utilities.
7. Continue earthwork and grading to subgrade as necessary for construction.
8. Complete installation of drainage infrastructure, as well as other utility work.
9. Complete remaining earthwork operations.
10. Install sub-base and base gravels in paved areas.
11. Install paving, curbing and brickwork.
12. Loam, lime, fertilize, seed and mulch disturbed areas and complete all landscaping.
13. Once the site is stabilized, 90% catch of grass has been obtained, or mulching of landscape areas is complete, remove all temporary erosion control measures.
14. Touch up areas without a vigorous catch of grass with loam and seed.
15. Complete site signage and striping.
16. Execute proper maintenance of all temporary and permanent erosion control measures throughout the project.

The above implementation sequence should be generally followed by the site contractor. However, the contractor may construct several items simultaneously. The contractor shall submit to the owner a schedule of the completion of the work. If the contractor is to commence the construction of more than one item above, they shall limit the amount of exposed areas to those areas in which work is expected to be undertaken during the following 30 days.

The contractor shall re-vegetate disturbed areas as rapidly as possible. All areas shall be permanently stabilized within 7 days of final grading or before a storm event. The contractor shall incorporate planned inlets and drainage systems as early as possible into the construction phase.

8.0 CONCLUSION

The above erosion control narrative is intended to minimize the development impact by implementing temporary and permanent erosion control measures. The contractor shall also refer to the Maine Erosion and Sediment Control BMP manual for additional information.

9.0 ATTACHMENTS

- Temporary Seeding Plan
- Permanent Seeding Plan

TEMPORARY SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of temporary seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.	Recommended Seeding Dates
Winter Rye	2.57	Aug-15 to Oct-1
Oats	1.84	Apr-1 to Jul-1 Aug-15 to Sep-15
Annual Ryegrass	0.92	Apr-1 to Jul-1
Sudangrass	0.92	May-15 to Aug-15
Perennial	0.92	Aug-15 to Sep-15

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to temporary seeding and mulching.

PERMANENT SEEDING PLAN

Site Preparation

The seeded areas shall be feasibly graded out to provide the use of equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. If necessary, the site may require additional temporary erosion control measures outlined in the Erosion Control report.

Seedbed Preparation

Fertilizer shall be applied to the site at a rate of 13.8 pounds per 1,000 square feet. The composition of the fertilizer shall be 10-10-10 (N-P2O5-K2O) or equivalent.

Limestone shall be applied to the site at a rate of 138 pounds per 1,000 square feet.

Seeding

The composition and amount of permanent seed applied to a site shall be determined by the following table:

Seed	Pounds / 1,000 S.F.
Kentucky Bluegrass	0.46
Creeping Red Fescue	0.46
Perennial Ryegrass	0.11
Total	1.03

Mulching

Mulch shall be applied at a rate of 70 lbs – 90 lbs per 1,000 square feet. The mulch shall be installed at a minimum depth of 4 inches. The seeded area shall be mulched immediately after seed is applied. Mulching during the winter season shall be double the normal amount.

Recommendations

Permanent seeding is recommended to be completed in the spring. Later summer seeding is allowed if completed prior to September 1st. If seeding cannot be accomplished during the periods recommended for permanent seeding, then the contractor shall perform temporary seeding per the temporary seeding plan.

Conclusion

Please refer to the Maine Erosion and Sediment Control BMP manual for additional information pertaining to permanent seeding and mulching.

Utilities

The proposed project will include installation of multiple utility services to the new building.

Water:

The existing water services that used to serve the former houses will be retired as part of this project. It is proposed to tap a 6" service line off the water main within Blake St. The 6" line will serve as the sprinkler line with a 2" child connection for a domestic service.

Sewer:

A new 6" PVC lateral is proposed to serve the development and tie into the existing sewer main located within Blake St. We have referenced the 1983 Street Reconstruction plans from the Lewiston Engineering Department that was provided to us to map the existing sewer in relation to the site, including the gap in the main. Should any existing lateral be discovered that may have formerly served the prior buildings, they will be plugged and formally abandoned in coordination with the Department of Public Works.

Stormwater:

There is currently no drainage infrastructure on site. The proposed site will accommodate runoff from the parking lot by constructing a rain garden BMP. The remaining site will be drained through a series of field inlets and roof leaders, all of which will connect to a separated 8" storm drain line that is proposed to wye into the storm main within Blake St. Please see the Stormwater Management Report for more information.

UGE/T/C:

There are currently no overhead services routed to the site. It is proposed that new underground conduits be dropped from the existing three-phase utility pole directly across the site from the proposed redevelopment. At this time 3-phase power is anticipated to be sufficient for the redevelopment without the need for a pole-mounted transformer; however, this is subject to final loading by the electrician or design-builder.

Gas:

Gas will service the site by tapping off the existing main and routing the pipe run to the side of the building. There was no existing service identified by Unitil or the Surveyor.

Ability to serve letters were sent out to the respective utility companies on August 20, 2020. Responses from the utility companies can be found attached to this section. Any outstanding responses will be forwarded to the Planning Department upon receipt.

ACORN ENGINEERING, INC.

Lewiston Water and Sewer Division
Attn: Mr. Kevin Gagne
103 Adams Ave
Lewiston, Maine 04240

August 20, 2020

Subject: 194 Blake Street Redevelopment
Re: Ability to Serve – Water

Mr. Gagne:

On behalf of Raise Op Housing Cooperative we are pleased to submit the following request for Lewiston Water and Sewer Division's ability to serve the proposed development. The proposed project is located at 194 Blake St (Map-Lot, 196-83), within the Downtown Residential (DR) Zoning District in Lewiston, Maine. The lot will be redeveloped into a three-story, multi-family residential building with 9-units. The proposed lot is currently vacant.

According to the existing conditions survey, there are two existing services within the project limits that served buildings which formerly occupied the lot. It is proposed that the existing services be retired in accordance with Lewiston Water and Sewer Division's standards. A 6" sprinkler line and 2" domestic line are proposed to service the development with a parent-child connection. The 6" line is proposed to tie into the water main located within Blake St via an 8"x6" tapping sleeve. Based upon the Section 4 of the Maine Subsurface Wastewater Disposal Rules, and assuming the units will be comprised of (4) 1-bedroom units, (2) 2-bedroom units, and (3) 4-bedroom units, the project anticipates the following design flows:

Estimate of Anticipated Daily Flows			
Development	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing Flow			
Total Gallons per Day (Existing)			0
Proposed Flow			
Apartments (1-Bedroom)	4	120	480
Apartments (2-Bedroom)	2	180	360

Apartments (4-Bedroom)	3	360	1,080
Total Gallons per Day (Proposed)			+1,920
Net Change			**+1,920 GPD**
*Values based on STATE OF MAINE: SUBSURFACE WASTEWTAER DISPOSAL RULES, most recent edition			

The proposed project is anticipated to increase the net flow by approximately 1,920 gallons per day (GPD). It should be noted that these values were developed using conservative estimates from the State of Maine Subsurface Wastewater Disposal Rules. Additionally, although this site historically had water demand for the two former buildings, those values were not accounted for in the existing flows.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within Blake St and confirmation of the location and size of the services to the existing property and the size and material of the water main within Blake St.
2. Alternative connection locations from the property to the existing system.
3. Lewiston Water and Sewer Division's proposed infrastructure improvements within the project vicinity, if any.
4. Flow data for adjacent hydrants.
5. Lewiston Water and Sewer Division's ability to serve the project.

I have attached an existing conditions plan developed by CES, Inc and the proposed preliminary utility plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Sam Lebel

Sam Lebel, E.I.
Project Engineer
Acorn Engineering, Inc.

A C O R N
ENGINEERING, INC.

Lewiston Water and Sewer Division
Attn: Mr. Kevin Gagne
103 Adams Ave
Lewiston, Maine 04240

August 20, 2020

Subject: 194 Blake Street Redevelopment
Re: Ability to Serve – Sanitary Sewer

Mr. Gagne:

On behalf of Raise Op Housing Cooperative we are pleased to submit the following request for Lewiston Water and Sewer Division's ability to serve the proposed development. The proposed project is located at 194 Blake St (Map-Lot, 196-83), within the Downtown Residential (DR) Zoning District in Lewiston, Maine. The lot will be redeveloped into a three-story, multi-family residential building with 9-units. The proposed lot is currently vacant.

According to the existing conditions survey, there is an existing brick sewer main within Blake St. It is proposed that any existing services found on the lot during construction be retired in accordance with Lewiston Water and Sewer Division's standards. A 6" PVC sewer lateral is proposed to serve the development and tie into the existing sewer main located within Blake St. We have referenced the 1983 Street Reconstruction plans from the Lewiston Engineering Department that was provided to us to map the existing sewer in relation to the site, including the gap in the main. Additionally, we are proposing to tie an 8" storm drain into the separated storm main within Blake Street. The storm drain will collect and outlet the foundation drain, roof leaders, and the water from the proposed rain garden after it attenuates and treats runoff from the parking area.

Based upon Section 4 of the Maine Subsurface Wastewater Disposal Rules, and assuming the units will be comprised of (4) 1-bedroom units, (2) 2-bedroom units, and (3) 4-bedroom units, the project anticipates the following design flows:

Estimate of Anticipated Daily Flows			
Development	Number of Units	Gallons per Day per Unit	Total Gallons per Day
Existing Flow			
Total Gallons per Day (Existing)			0
Proposed Flow			
Apartments (1-Bedroom)	4	120	480

Apartments (2-Bedroom)	2	180	360
Apartments (4-Bedroom)	3	360	1,080
Total Gallons per Day (Proposed)			+1,920
Net Change			**+1,920 GPD**
*Values based on STATE OF MAINE: SUBSURFACE WASTEWTAER DISPOSAL RULES, most recent edition			

The proposed project is anticipated to increase the net flow by approximately 1,920 gallons per day (GPD). It should be noted that these values were developed using conservative estimates from the State of Maine Subsurface Wastewater Disposal Rules. Additionally, the former existing structures sewer discharge was not accounted for within the existing flows.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within Blake St and confirmation of the location and size of the services to the existing property and the size and material of the sewer main within Blake St.
2. Alternative connection locations from the property to the existing system.
3. Lewiston Water and Sewer Division's proposed infrastructure improvements within the project vicinity, if any.
4. Lewiston Water and Sewer Division's ability to serve the project.

I have attached an existing conditions plan developed by CES, Inc and the proposed preliminary utility plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Sam Lebel

Sam Lebel, E.I.
Project Engineer
Acorn Engineering, Inc.

From: Kevin Gagne
To: Sam Lebel
Subject: RE: 190 Blake Street - Ability to Serve
Date: Thursday, September 3, 2020 2:47:23 PM

Good afternoon Sam,
I did receive your email and will be working to provide letter of ability to serve.
You should receive this letter early next week.
Thanks

Kevin

Kevin A. Gagne, P.E.
Deputy Director of Public Works
Superintendent of Water & Sewer Operations
City of Lewiston, Maine 04240
kgagne@lewistonmaine.gov
The City of Lewiston is an EOE. For more information, please visit our website @ www.lewistonmaine.gov
and click on the Non-Discrimination Policy

From: Sam Lebel <slebel@acorn-engineering.com>
Sent: Monday, August 31, 2020 11:19 AM
To: Kevin Gagne <KGagne@lewistonmaine.gov>
Subject: RE: 190 Blake Street - Ability to Serve

Hi Kevin – just wanted to confirm receipt of this email and see if perhaps you've had a chance to take a look at our proposal.

Thanks,
Sam

C. 207.478.4327

Please note Acorn Engineering employees may be working remotely. All employees have laptops and full access to project files using Sharepoint. To do our part and reduce unnecessary exposure all meetings will be held remotely using video conferencing software such as Teams or Zoom. If an in-person meeting is necessary then the meeting will be held outside.

From: Sam Lebel
Sent: Thursday, August 20, 2020 12:00 PM
To: kgagne@lewistonmaine.gov
Subject: 190 Blake Street - Ability to Serve

Hi Kevin,

On behalf of Raise Op, Acorn is providing you with ability to serve letters for water and sewer services for the proposed 3-story, 9-unit apartment building on Blake Street. We have included the

letter, existing conditions plan, and the preliminary utility plan for your review.

Please reach out with any questions or concerns. We anticipate submitting the full site plan/subdivision application to the Planning Department in a couple weeks.

Thanks,
Sam

Sam Lebel, E.I.
Project Engineer

Licensed in Maine

Acorn Engineering, Inc.
PO Box 3372
Portland, Maine 04104

Website | Instagram | LinkedIn

B. 207.775.2655
C. 207.478.4327

Please note Acorn Engineering employees may be working remotely. All employees have laptops and full access to project files using Sharepoint. To do our part and reduce unnecessary exposure all meetings will be held remotely using video conferencing software such as Teams or Zoom. If an in-person meeting is necessary then the meeting will be held outside.

This electronic communication, which includes any files or attachments thereto, contains proprietary or confidential information and may be privileged and otherwise protected under copyright or other applicable intellectual property laws. All information contained in this electronic communication is solely for the use of the individual(s) or entity to which it was addressed. If you are not the intended recipient(s), you are hereby notified that distributing, copying, or in any way disclosing any of the information in this e-mail is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately, and destroy the communication and any files or attachments in their entirety, whether in electronic or hard copy format. Since data stored on electronic media can deteriorate, be translated or modified, Acorn Engineering, Inc., and/or affiliates will not be liable for the completeness, correctness or readability of the electronic data. The electronic data should be verified against the hard copy.

A C O R N
ENGINEERING, INC.

Spectrum Cable
Attn: Mr. Paul Ouellete
118 Johnson Road
Portland, Maine 04102

September 1, 2020

Subject: 194 Blake Street Redevelopment
Re: Ability to Serve

Paul:

On behalf of Raise Op Housing Cooperative we are pleased to submit the following request for Spectrum's ability to serve the proposed development. The proposed project is located at 194 Blake St (Map-Lot, 196-83), within the Downtown Residential (DR) Zoning District in Lewiston, Maine. The lot will be redeveloped into a three-story, multi-family residential building with 9-units. The proposed lot is currently vacant.

It is proposed that new underground conduits be dropped from the existing utility pole directly across the street. The conduits will cross Blake St to the proposed building.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within Blake St.
2. Any easements for overhead services currently crossing the proposed development.
3. Alternative connection locations from the property to the existing communication system.
4. Spectrum's proposed infrastructure improvements within the project vicinity.
5. Spectrum's ability to serve the project.

I have attached an existing conditions plan created by CES, Inc as well as the proposed preliminary utility plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Sam Lebel

Sam Lebel, E.I.
Project Engineer
Acorn Engineering, Inc.

A C O R N
ENGINEERING, INC.

Consolidated Communications
Attn: Tracy Porell
5 Davis Farm Road
Portland, Maine 04103

September 1, 2020

Subject: 194 Blake Street Redevelopment
Re: Ability to Serve

Tracy:

On behalf of Raise Op Housing Cooperative, we are pleased to submit the following request for Consolidated's ability to serve the proposed development. The proposed project is located at 194 Blake St (Map-Lot, 196-83), within the Downtown Residential (DR) Zoning District in Lewiston, Maine. The lot will be redeveloped into a three-story, multi-family residential building with 9-units. The proposed lot is currently vacant.

It is proposed that services be routed underground from the existing pole directly across the street.

On behalf of the client, we are requesting the following information:

1. Any additional information, such as utility mapping within Blake St.
2. Any easements for overhead services currently crossing the proposed development.
3. Alternative connection locations from the property to the existing communication system.
4. Consolidated's proposed infrastructure improvements within the project vicinity.
5. Consolidated's ability to serve the project.

I have attached an existing conditions plan created by CES, Inc as well as the proposed preliminary utility plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Sam Lebel

Sam Lebel, E.I.
Project Engineer
Acorn Engineering, Inc.

From:	Sam Lebel
To:	Porell, Tracy; Morrison, Patrick
Subject:	RE: 190 Blake St - Lewiston
Date:	Thursday, September 3, 2020 2:26:00 PM
Attachments:	1143_CIVIL-UTILITY.pdf 12977.001-V-XP NAC 7-27-2020.pdf Consolidated_ATS.pdf

---

Thanks Pat.

Tracy – see attached for your records.

Thanks,
Sam

C. 207.478.4327

Please note Acorn Engineering employees may be working remotely. All employees have laptops and full access to project files using Sharepoint. To do our part and reduce unnecessary exposure all meetings will be held remotely using video conferencing software such as Teams or Zoom. If an in-person meeting is necessary then the meeting will be held outside.

From: Porell, Tracy <Tracy.Porell@consolidated.com>
Sent: Thursday, September 3, 2020 8:16 AM
To: Morrison, Patrick <Patrick.Morrison@consolidated.com>; Sam Lebel <slebel@acorn-engineering.com>
Subject: RE: 190 Blake St - Lewiston

Hi Sam, The attachment was lost in the forward. Please send again only if you need my sign off. We do have the capacity to serve off either pole for this project.

Thanks

TRACY A. PORELL | Outside Plant Engineer
D: 207.985.3513 | C: 207.595.0090
tracy.porell@consolidated.com
consolidated.com | NASDAQ: CNSL

From: Morrison, Patrick [mailto:Patrick.Morrison@consolidated.com]
Sent: Thursday, September 03, 2020 7:56 AM
To: Sam Lebel
Cc: Porell, Tracy
Subject: RE: 190 Blake St - Lewiston

Good morning Sam,

I do not have the Lewiston area. I have cc'd Tracy Porell, the engineer for the area.

Thanks,

Patrick Morrison | Outside Plant Engineer – Portland, Maine
5 Davis Farm Rd Portland, ME
D: 207.535.4271 | C: 207.745.9363
Patrick.Morrison@consolidated.com
consolidated.com | NASDAQ: CNSL

Notice: This electronic mail transmission may contain confidential information and is intended only for the person(s) named. Any use, copying or disclosure by any other person is strictly prohibited. If you have received this transmission in error, please notify the sender by email.

From: Sam Lebel [mailto:slebel@acorn-engineering.com]
Sent: Tuesday, September 01, 2020 4:55 PM
To: Morrison, Patrick
Subject: 190 Blake St - Lewiston

[This email comes from outside of your organization. Please be cautious opening or clicking on any attachments or links.]

Hi Pat – please find attached an ability to serve letter for the proposed 9-unit apartment building in Lewiston.

At this time we are exploring coming off either pole across the street from the development with a preference on the southerly pole. Please confirm your capacity to serve from each pole and we will update you as the design progresses.

Thanks,
Sam

C. 207.478.4327

Please note Acorn Engineering employees may be working remotely. All employees have laptops and full access to project files using Sharepoint. To do our part and reduce unnecessary exposure all meetings will be held remotely using video conferencing software such as Teams or Zoom. If an in-person meeting is necessary then the meeting will be held outside.

A C O R N
ENGINEERING, INC.

Central Maine Power Company
Attn: Paul DuPerre
162 Canco Road
Portland, Maine 04103

August 20, 2020

Subject: 194 Blake Street Redevelopment
Re: Ability to Serve

Mr. DuPerre

On behalf of Raise Op Housing Cooperative we are pleased to submit the following request for CMP's ability to serve the proposed development. The proposed project is located at 194 Blake St (Map-Lot, 196-83), within the Downtown Residential (DR) Zoning District in Lewiston, Maine. The lot will be redeveloped into a three-story, multi-family residential building with 9-units. The proposed lot is currently vacant.

It is proposed that new underground conduits be dropped from the existing three-phase utility pole directly across the site from the proposed redevelopment. The conduits will cross Blake St to the proposed building. No elevator is proposed as part of this development; therefore 3-phase power is anticipated to be sufficient without the need for a pole-mounted transformer depending on the current capacity in the system.

On behalf of the client, we are requesting the following information:

1. Current capacity and the potential need for a transformer, as discussed above.
2. Any easements for overhead services currently crossing the proposed development.
3. Alternative connection locations from the development to the existing system.
4. CMP's proposed infrastructure improvements within the project vicinity, if any.
5. CMP's ability to serve the project.
6. Access requirements to the CMP meters.

I have attached an existing conditions plan developed by CES, Inc as well as the proposed preliminary utility plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Sam Lebel

Sam Lebel, E.I.
Project Engineer
Acorn Engineering, Inc.

A C O R N
ENGINEERING, INC.

Unitil Service Corp.
Attn: Bridget Harmon
376 Riverside Industrial Parkway
Portland, Maine 04103

August 20, 2020

Subject: 194 Blake Street Redevelopment
Re: Ability to Serve

Dear Ms. Harmon:

On behalf of Raise Op Housing Cooperative we are pleased to submit the following request for Unitil's ability to serve the proposed development. The proposed project is located at 194 Blake St (Map-Lot, 196-83), within the Downtown Residential (DR) Zoning District in Lewiston, Maine. The lot will be redeveloped into a three-story, multi-family residential building with 9-units. The proposed lot is currently vacant.

It is proposed that any gas lines currently serving the existing building be retired, if found during construction and a new service be installed from the existing gas main on Blake St to the proposed building's eastern side.

On behalf of the client, we are requesting the following information:

1. Any additional utility mapping such as gas lines within Blake St.
2. A confirmation of an existing gas main within Blake St, as well as the size of any gas lines and services in the vicinity.
3. Unitil's proposed infrastructure improvements within the project vicinity.
4. Unitil's ability to serve the project.

I have attached an existing conditions plan created by CES, Inc as well as the proposed preliminary utility plan from our office to facilitate your review. Please do not hesitate to contact me or the office for any questions or clarifications.

Sincerely,

Sam Lebel

Sam Lebel, E.I.
Project Engineer
Acorn Engineering, Inc.

August 24, 2020

Acorn Engineering, Inc.
Attn: Sam Lebel, E.I.
PO Box 3372
Portland, Maine 04104

Subject: 194 Blake Street, Lewiston
Re: Ability to Serve

Dear Mr. Lebel:

Thank you for your interest in using natural gas for the above referenced project.

This is to confirm that natural gas can be made available from our distribution system to serve your proposed project.

There are no currently planned infrastructure improvements in the vicinity of this project. The existing natural gas main is 2" plastic intermediate pressure. Any improvements to the existing distribution system necessary to provide this service, as well as the design of the gas system within the project will be established as the design and scope of the project progresses. Once gas loads are provided, the evaluation can be completed.

If you have any further questions or require additional information, please contact me at 207-541-2536 or email at harmon@unitil.com.

Sincerely,

ME GAS CUSTOMER ENERGY SOLUTIONS
376 Riverside Industrial Parkway
Portland, ME 04103

T 207-541-2508 www.unitil.com

Bridget L. Harmon

Business Development Representative
Unitil Service Corporation
(O) 207-541-2536

PUBLIC WORKS DEPARTMENT

Dale F. Doughty, Director

September 10, 2020

Mr. Sam Lebel, EI
Acorn Engineering, Inc
PO Box 3372
Portland, Maine 04104

RE: Ability to serve proposed Raise Op 9 unit res. building on 190 Blake St, Lewiston, Me

Dear Mr. Lebel:

You indicated in your email on August 20, 2020, the design a new 9 unit residential building project at 190 Blake Street in Lewiston, will be going for review by the Lewiston Development Review Committee and this project requires evidence that water and sewer utility service is available and the utility has the ability to serve this use.

Based on the engineering design standards you used, as stated in your letter, to develop an average water demand for the project of 1,920 gallons per day and with the water service line provided by an 8 inch City water main on Blake Street, the City of Lewiston Water Division (after review and input from City engineering staff) can meet or exceed the minimum volume and pressure required by the Maine Public Utilities Commission (PUC) to the proposed development.

Based on the same estimates of usage and discharge for the proposed development, to the 12"x18" brick City sewer main the City of Lewiston Sewer Division (after review and input from City engineering staff) can handle the expected sewer discharge and can serve this proposed building.

If you have any questions, please feel free to call me at 513-3003, Ext. 3430.

Sincerely,

Kevin A. Gagne

Kevin A. Gagne, P.E.
Deputy Director of Public Works
Superintendent of Water & Sewer Operations

103 Adams Ave, Lewiston, ME 04240 • Tel. (207) 513-3003 • Fax (207) 784-5647
Email: ddoughty@lewistonmaine.gov **Page:** www.lewistonmaine.gov

87 Pleasant Hill Rd
Scarborough, ME 04074
Phone: 207-883-9777
Fax: 207-883-1954
Toll Free: 1-888-857-0800

Commercial Can Service Agreement

Account Number	
Effective Start Date	

Billing Cycle	NWCMP	
	SVCMP	NEW
	LCCMP	

CUSTOMER INFORMATION

BILLING INFORMATION	
Customer	Raise-Op Housing Cooperative
Address	145 Pierce St Office 102
City	Lewiston. ME
Zip	04240
Phone Number	207-956-0508
Fax Number	
Tax ID# or D&B #	
Contact	Craig Saddlemire

SERVICE INFORMATION	
Customer	Raise-Op Housing Cooperative
Address	198 Blake St
City	Lewiston, ME
Zip	04240
Phone Number	SAMe
Fax Number	
E-Mail	
Contact	SAME

NEW SERVICE INFORMATION

Qty	Container Type FL RL	Container Size	Service Frequency	Material Type	Rental Rate	Haul Rate	Disposal Site Code	Disposal Rate Per Ton	Extra Pickup Fee	Monthly Service Fee
1	fl	8	eow	MSW					$67.00	$158.32
						NEW				

Apply FL / RL Container Fees fc $50.00 ea

A Fuel Surcharge/Environmental Compliance Fee will be assessed to the total costs of services on this account. **Yes**

		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Route Days Recycling								
Route Days MSW								

PREVIOUS SERVICE INFORMATION

Qty	Container Type FL RL	Container Size	Service Frequency	Material Type	Rental Rate	Haul Rate	Disposal Site Code	Disposal Rate Per Ton	Extra Pickup Fee	Monthly Service Fee

Industry Weight Estimated _____ lbs/cu. yd. Agreed Upon Terms 36 months

Special Comments Directions and placement are on Delivery Spec Sheet. 1st pick-up will be _____

Payment Terms: Invoices are due and payable within 30 days of the invoice date.
I have read and understand the terms and conditions on pages 1 & 2 of this agreement

Customers Authorized Signature _____

Account Representative Signature Dan Johnson

Print Name & Title _____

Account Representative Phone Number 207-650-5493

Date _____

Date _____

NOTE: Faxed Signatures will be treated as originals. Document is 2 pages

Terms and Conditions

Our Commitment:

* To provide the proper equipment necessary to insure you the best quality of service in the industry relative to your recycling and solid waste needs.
* To continue to evaluate your recycling and solid waste service needs and to recommend better service alternatives based on new technology, alternate disposal methodologies, or changes in regulatory requirements.

Your Commitment:

* The opportunity to collect and dispose of your non-hazardous waste materials.
* Payment of the monthly invoice by the end of the month in which it's received.

References: All references throughout this document to "Us", "We" or "Our," shall be deemed herein to be Pine Tree Waste, Inc., the Casella entity responsible for providing the services described and, set forth herein.

Changes in Services: Changes in services or fees may be made by verbal or written agreement between us and are considered agreed upon with receipt of payment for new services or fees.

Terms: This Agreement will be effective upon the signature date for the period defined on the front of the agreement.

Disposal: We will dispose of waste materials according to all applicable laws, regulations and ordinances. We will use a disposal facility (landfill, transfer station, etc.) that meets all legal and regulatory requirements and is the most overall cost effective disposal option.

Responsibility of Disposed Materials: We are responsible for all non-hazardous and recycling materials once collected in our trucks. You will be responsible for any fines or penalties and additional handling fees if you dispose of any hazardous material in our container. Hazardous material is defined but not limited to: any substance that is toxic, ignitable, reactive, corrosive, acidic, radioative, volatile, highly flammable, explosive, biomedical or infectious and that is regulated by any local goverment, state government or United States government including certain electronic devices categorized as Universal Waste.

Weight: The weight of your waste material is a comprehensive part of the overall cost for service. On the reverse side we have specified a weight per cubic yard that is based on industry averages for similar businesses. We have used this weight as a component in calculating your monthly charge. If through our weight evaluation, your actual weight doesn't meet this industry estimate we may adjust your monthly charge to reflect the change.

Adjustment: Because disposal, collection, processing, and compliance are components of our cost for providing service, any increase these costs may result in a proportionate increase in you monthly rate.

Responsibility for Equipment and Property:

Equipment:

* We will deliver and install our equipment to the location specified by you on this Agreement and/or addendum
* We will maintain the equipment and repair any damage to the equipment that may occur as a result of normal wear and tear.
* We retain the right to charge you for any repairs as a result of misuse of the equipment that occurs while our equipment is in your possession.

Property:

* Proper roadways, surfaces and pavement need to be provided in order to service your account and therefore, we are not responsible for damage to roadways, surfaces and pavement that are not suitable for access.
* We reserve the right to suspend service if suitable roadways or pavement are not provided.
* Container placement must be in mutually agreed upon designated areas.

Cancellation: Although there is no early cancellation penalty, as your partner we are committed to resolving any issue that may arise. In the event that you are still not satisfied, we request you give ua a four months notice in writing so that we can find a new home for your container.

Norway Savings Bank

August 25, 2020

Craig Saddlemier
Cooperative Manager
Raise-Op Housing Cooperative

Dear Craig:

This letter, when properly signed, accepted and delivered, will constitute an agreement between Norway Savings Bank (the "Bank") which agrees to lend, and Raise Op (the "Borrower") which agrees to borrow, in accordance with the following terms and conditions:

Borrower:	Raise Op Housing Cooperative
Amount of Loan:	Up to $435,000.00 Construction Loan – converts to a $285,000.00 Commercial Real Estate Mortgage (CREM) Loan
Purpose:	Construction of a 9 unit residential building at 198 Blake Street, Lewiston, Maine
Loan Repayment:	Monthly interest only during construction; monthly P&I thereafter based on a 20 year amortization
Maturity:	Construction Loan Term: up to 24 months (converts to amortizing CREM upon issuance of Certificate of Occupancy); CREM loan 20 years.
Interest Rate:	During Construction: WSJ Prime +1%; CREM loan fixed @ 250 BPs over the subsidized rate under the programmatic rules of FHLBB's AHP
Conditions:	Borrower shall have received all non-bank funded portions of this project, as specified by Borrower's pro-forma Sources and Uses plan, prior to any loan disbursements by the bank
Commitment Fee:	$2,500.00.
Documentation Fee:	Bank's legal fees, if any, are in addition to this amount.
Prepayment Penalty:	3% (only applicable if refinanced with another lender)
Collateral:	1. First position real estate mortgage on land and buildings, fixture filing and collateral assignment of all leases and rents on real estate at 198 Blake Street 2. Assignment of all approvals/contracts/permits and development rights 3. Sufficient pledged cash collateral held at Norway Savings Bank to meet the LTV requirement. (See Appraisal below)

Appraisal: A real estate appraisal will be performed on the property by an independent appraisal firm/broker acceptable to the Bank. The valuation is to be commissioned by the Bank and satisfactory in all respects to the Bank. The loan amount shall be up to 80% utilizing the lower of the project cost or the "as-completed" valuation. A final inspection of the completed construction by the appraiser is required.

Construction Monitoring: Construction monitoring to be performed by a firm acceptable to the Bank

Authority of Borrower: Borrower shall provide to Bank at closing proof satisfactory to Bank counsel of 1) the due organization, legal existence and good standing of Borrower in its state of organization (if other than Maine), Bank will require Borrower to register with the Maine Secretary of State to do business in Maine; 2) all loan documents are duly authorized, executed and delivered by Borrower; 3) no action, suit or proceeding pending or threatened against or affecting Borrower, or the Collateral, before any court administration agency, arbitrator or governmental authority.

Legal Opinions: Borrower shall provide Bank at closing with legal opinions from counsel satisfactory to the Bank with respect to Borrower's Project

Environmental Inspection: This commitment is subject to receipt and satisfactory review of an environmental Phase 1 Assessment.. The Bank shall have the right to terminate this commitment if the Phase I is not satisfactory to the Bank, at its sole discretion. Borrower will be required to indemnify the Bank for any hazardous waste.

Insurance: The Borrower will provide (builders risk/casualty/hazard/general liability insurance coverage) on the collateral in a form acceptable to the Bank. The policy shall name Norway Savings Bank as mortgagee, loss payee and/or additional insured as required by Bank.

Flood Insurance: If the subject property is located in a federally designated flood hazard zone, flood insurance shall be required to be maintained for the life of the loan. The terms of the flood insurance policy shall be acceptable to the Bank, and shall name Norway Savings Bank as mortgagee.

Title Insurance: The Borrower shall provide the Bank with an ALTA Lender's Title Insurance Policy on the property issued by a title insurance company acceptable to the Bank. The policies shall have mechanic's lien, survey and tenants-in-possession exceptions deleted and shall be in such forms and containing such coverages as Bank or its counsel shall require.

Construction Contract: Subject to a fixed price construction contract or G-Max satisfactory to the Bank

Cooperative Documents: This commitment is subject to receipt and satisfactory review of cooperative documents including, but not limited to, cooperative financial statements and budget.

Compliance With Law: This commitment is subject to compliance with all applicable federal, state and local laws and ordinances pertaining to the development and use of the collateral.

Legal: All legal and loan documentation will be satisfactory in all respects to the Bank and its counsel. This commitment does not contain all terms and conditions of the loan documents.

Closing Costs/Expenses: Whether or not this loan is closed, the Borrower shall be responsible for all expenses associated with the transaction including, but not limited to, the costs for Bank's counsel, title search, lender title insurance premiums, valuation(s), flood zone determinations, environmental due diligence, and recordings.

Deposit Relationship: The rate and terms of this commitment are in express reliance on your maintenance of a comprehensive deposit relationship with Norway Savings Bank.

Financial Statements: Borrower will provide the Bank with financial statements and accountant prepared income tax returns, complete with property cash flow statements, rent rolls and other information in a form and frequency satisfactory to Norway Savings Bank, but at least annually, within 120 days of fiscal year end. Borrower shall also provide the bank with signed federal income tax returns, including all schedules for any related entity in which they have a 20% or greater ownership interest, annually within 120 days of fiscal year end.

Construction Monitoring: A third party Construction Monitor shall be engaged by Norway Savings Bank) to oversee the work to be completed at 198 Blake Street, Lewiston. Lien waivers shall be required for all invoices paid over $5,000.00. Title updates and date-down endorsements, in a form and frequency determined by the Bank, shall be required prior to payment of advances. Upon completion of construction, a final lien waiver and evidence of clear title confirming no mechanic's liens shall be obtained prior to funding of the final disbursement. All costs shall be borne by the Borrower.

Other Conditions: Payment of developer's fee to be deferred until the completion of construction.

FHLBB AHP Loan Program approvals prior to bank funding

All loan payments are to be automatically debited from one of the Borrower's deposit accounts at the Bank

The Borrower shall not have a change of ownership without the Bank's prior written consent

Borrower shall not incur any new debt without the express prior written consent of Norway Savings Bank.

Borrower hereby expressly authorizes Bank to file any UCC-1 Financing Statements covering the collateral described above in advance of closing of the loan(s) described herein.

Borrower shall not rely upon Bank's review and satisfaction with any matters including, but not limited to, appraisals, environmental matters, status of title, condominium or homeowner association documents, building inspections, collateral inspections and lien waivers. Instead, Borrower shall assume responsibility for their own due diligence with respect to all such matters.

This is notification to you under Maine law, no promise, contract, or agreement to lend money, extend credit, forbear from collection of a debt or make any other accommodation for the repayment of a debt for more than

$250,000 may be enforced against Lender unless the promise, contract, or agreement is in writing and signed by Lender, nor can any change, forbearance or other accommodation relating to the loan be enforced against Lender unless it is in writing and signed by Lender.

This commitment assumes that all information provided to date by the Borrower is accurate. It shall be a condition for closing this loan that the financial condition and/or prospects of the Borrower(s) be satisfactory to the Bank. The Bank reserves the right to terminate this commitment and not close the loan in the event: 1) of an adverse change, as determined by the Bank, in the financial condition of the Borrower prior to closing; 2) any information provided to Bank which proves to be inaccurate; or 3) a case or proceeding is commenced by or against the Borrower(s) under any bankruptcy or insolvency law.

All parties hereto agree that this commitment shall survive the loan closing and that each of the obligations and undertakings of the Borrower hereunder shall continue until the entire loan, together with interest and fees, is paid in full. In the event of a conflict between this commitment and the loan documents, the language of the loan documents shall govern.

This commitment represents the entire agreement between the parties and supersedes all prior agreements or discussions with respect to the loan(s). This commitment letter cannot be waived, modified, amended or changed except by a signed agreement, in writing, by all parties to the commitment letter and, that until or unless it is modified and signed by all parties, it shall continue unchanged as a valid and enforceable obligation. This commitment is non-assignable and non-transferable.

If the terms of this commitment letter are acceptable to you, please sign as indicated and return it to me, along with the commitment fee of $_____. This commitment must be signed and returned to the Bank by October 7th, 2020. This commitment will expire January 7th, 2021 if the loan is not closed by that date.

Sincerely,

Janice de Lima
Vice President

SEEN AND ACKNOWLEDGED:

BORROWER:

_____

Raise Op Housing Coperative Date

By Its: Cooperative Manager

ingenuity thoughtfulness empathy

Raise-Op – 198 Blake Street Apartments

Maine Subdivision Standards Narrative

Art. XIII, Sec. 5 Worksheet

(1) Will not result in undue water or air pollution. In making this determination, it shall at least consider: the elevation of land above sea level and its relation to the floodplains; the nature of soils and subsoils and their ability to adequately support waste disposal; the slope of the land and its effect on effluents; the availability of streams for disposal of effluents; and the applicable state and local health and water resources regulations.

Reference: Acorn Grading & Drainage Plan C-30
Reference: Acorn Stormwater Management Report
Reference: Acorn Stormwater Inspection & Maintenance Plan
The proposed development is of a non-industrial nature and designed with the intention of meeting the numerical standards Passive House US. The building will be responsible for less pollution and CO2 emissions than many of the existing buildings in the surrounding neighborhood.

(2) Has sufficient water available for the reasonably foreseeable needs of the subdivision.

Reference: Acorn Utility Plan C-20
Reference: Acorn Utilities Narrative
The proposed project will connect directly for domestic water and sprinkler water services in Blake Street. The connection will consist of 6" ductile iron line off of the water main with a parent child connection to a 2" copper line for domestic water. All construction shall be in accordance with the Lewiston Water & Sewer Division.

(3) Will not cause an unreasonable burden on an existing water supply, if one is to be utilized.

Reference: Acorn Utility Plan C-20
Reference: Acorn Utilities Narrative
The existing property at 198 Blake Street is a brownfield site in that it was previously developed, and is now vacant. The proposal will develop the parcel to bring it back to the previously existing use: urban neighborhood residential, at a residential density that is lower than the surrounding neighborhood. The proposed project will connect to the same Lewiston Public Water system as the surrounding neighborhood.

(4) 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.

Reference: Acorn Erosion & sedimentation Control Details C-45
Reference: Acorn Erosion & Sedimentation Control Report
Within the plan set itself as well as a standalone narrative, best practices and guidelines have been provided such that erosion control will be controlled during construction. Given the small, flat site, erosion

and sedimentation is not a significant concern; however, we have provided for typical best practices such as erosion control barriers and a construction entrance during earthwork activities. Please refer to the erosion and sedimentation control report for more information.

(5) 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.

Reference: Acorn Transportation Analysis

The proposed project is within the street grid of the Tree Streets Neighborhood, and the proposed infill will result in a residential density that is lower than nearby blocks of the neighborhood. Based on the 9th edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual, the project is expected to generate 4 trips during the peak hour of the week which will have a negligible impact on the existing street infrastructure. Specifically, the adjacent properties on the opposite side of Blake Street have street entrances on Bates Street which have resulted in Blake Street being underutilized by traffic.

(6) Will provide for adequate sewage waste disposal.

Reference: Acorn Utility Plan C-20

Reference: Acorn Utilities Narrative

The Blake Street project will connect directly to the Sanitary Sewer line in Blake Street in accordance with the City of Lewiston Standards.

(7) Will not cause an unreasonable burden on the ability of a municipality to dispose of solid waste and sewage, if municipal services are to be utilized.

Reference: Acorn Site Plan C-10

Reference: Pine Tree Commercial Can Service Agreement

Solid waste will be stored in a dumpster located at the end of the proposed parking aisle. See draft contract for solid waste removal, attached.

(8) 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 any public rights for physical or visual access to the shoreline.

Reference: Acorn Site Plan C-10

Reference: CES Survey

Existing natural features are limited to grass and “volunteer” trees that have been allowed to grow from seed. This vegetation will be removed and replaced with intentional, native, low-maintenance landscaping. Grading and existing drainage patterns will be minimally impacted by the proposed development.

(9) Is in conformance with this Code and the city's comprehensive plan.

Reference: Acorn Site Plan C-10

The Blake Street Apartments are in compliance with zoning regulations. Please see table on site plan, and information on Application.

(10) The subdivider has adequate financial and technical capacity to meet the above stated standards.

Reference: Norway Savings Bank Loan Sheet

The Raise-Op has been developing and managing cooperative affordable housing since 2008. Today, we own and operate 3 apartment buildings (totaling 15 units) on Maple and Pierce streets, which provide affordable homes for 50 residents. We also own and operate a small office space for the Somali Bantu

Community Association, and partner with the Nutrition Center for management of our community vegetable garden at 80 Birch Street. We have served as general contractor for substantial renovations at all of our properties, and have met the ongoing compliance standards for the HOME and/or CDBG funding sources used to develop each site. We have also layered additional funding sources for each project from CDFI's, private foundations, and individual lenders and donors.

The Development Team for this project is led by Craig Saddlemire, who has been working with the Raise-Op since its founding in 2008, and managing the Raise-Op in a professional capacity since 2015. He has been the key person in the development of all four of Raise-Op's buildings. Architecture design services are being provided by Evan Carroll of Bild Architecture. Evan has extensive experience with designing multi-unit buildings, especially in-fill residential properties in Portland, Maine, in neighborhoods with similar scale and architectural context to the Tree Streets of Lewiston. Matt Peters is our development consultant, who has developed over a dozen affordable housing projects, has 7.5 years of experience working for Avesta, and currently manages the Freeport Housing Trust. This Fall, we intend to procure a Construction Manager via a competitive proposal process who will join our development team and help us through the remaining stages of development, beginning with design development and ending with final construction.

Regarding financial capacity, our organization has successfully developed and maintained all of our properties to date, and are in good standing with all of our financial lenders and donors. It is well documented by market studies that the amortized capital cost of developing new multi-unit housing far exceeds the incomes of low, moderate, and even middle-income households in Lewiston-Auburn. Therefore, the majority of capital costs must be subsidized so that the property can support a debt service that - when combined with other operating costs - is affordable to residents. Furthermore, banks will only lend up to 75% or 80% of the property's appraised market value, which is based upon potential rent rather than capital invested. This means that is not possible to borrow for the capital needs of such a project. Based on our latest proforma, we propose to borrow $285,000 in long term financing from Norway Savings Bank (please find attached Letter of Intent). We are pursuing grants from the Federal Homeloan Bank of Boston, HOME, CDBG, as well as private individuals and foundations for the balance of the capital needs, which are approximately $2.74 million. We have approximately one-third of the funding sources committed at this time. The other funding sources are currently being pursued and securing all of them will be the biggest determinant regarding whether we begin construction in the summer of 2021 or 2022.

(11) Whenever situated, in whole or in part, within 250 feet of any pond, lake, river or tidal waters, will not adversely affect the quality of that body of water or unreasonably affect the shoreline of that body of water.
The proposed project is on an urban site, with no direct drainage to natural waterways.

(12) Will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater.
Reference: Acorn Grading & Drainage Plan C-30
Reference: Acorn Stormwater Management Report
Reference: Acorn Stormwater Inspection & Maintenance Plan
Given the residential use and proposed discharge of sewerage to the public sewer main, groundwater contamination is not anticipated as part of this project, nor are any controls related to preventing spills or monitoring nitrates, etc. as they are not necessary.

(13) The subdivider will determine, based on the Federal Emergency Management Agency's Flood Boundary and Floodway Maps and Flood Insurance Rate Maps, whether the subdivision is in a flood-prone area. If the subdivision, or any part of it, is in such an area the subdivider will determine the 100-year flood elevation and flood hazard boundaries within the subdivision. The proposed subdivision plan shall include a condition of plat approval requiring that principal structures on lots in the subdivision shall be constructed with their lowest floor, including the basement, at least one foot above the 100-year flood elevation.

The proposed project is not in a flood area.

(14) Will not interfere unreasonably with the solar access of existing buildings or adjacent parcels.

Reference: Bild Architectural Plan Set

The proposed project is located on the southern corner of the site and will cast the most shadow on the same parcel. The proposed building is of the same height and massing of the neighboring buildings.

All review comments from city staff have been addressed to staff's satisfaction with revisions provided by the applicant, which is included in the complete application.

STAFF RECOMMENDATION
City staff has no additional comments at this time. Staff recommends APPROVAL of the proposed project, with the following conditions:

1. The applicant shall consolidate the existing four lots; 186 Blake Street, 188 Blake Street, 194 Blake Street and 198 Blake Street into one lot with a street address of 198 Blake Street prior to the issuance of a certificate of occupancy.

ACTION NECESSARY
Make a motion that the development review and subdivision application submitted by Bild Architecture on behalf of Raise-Op to construct a nine (9) unit multi-family structure located at 198 Blake Street meets all of the necessary criteria contained in the Zoning and Land Use Code, including, but not limited to Article XIII, Development Review and Standards, Section 4, Approval Criteria and Section 5, Coordination with State Subdivision Law of the Zoning and Land Use Code, and that approval be granted (including, if any, specific conditions raised by the Planning Board or staff).

BLAKE ST RAISE OP HOUSING

RAISE OP HOUSING COOPERATIVE
LEWISTON, MAINE

LEGEND

EXISTING		PROPOSED
REFER TO THE EXISTING CONDITIONS PLAN FOR ADDITIONAL INFORMATION	UNDERDRAIN	
	GREEN SPACE	
	UTILITY PAVEMENT CUTS	
	STRIPING	
	SEDIMENTATION BARRIER	
	EDGE OF EX. PAVEMENT	
	CURB	
	SIGN	
	LAMP OR LIGHT POLE	
	UTILITY POLE	
	GUY WIRE	
	WATER VALVE	
	FIRE HYDRANT	
	SEWER MANHOLE	
	CATCH BASIN	
	DRAIN MANHOLE	
	UNDERGROUND ELECTRIC LINE	UGE/T/C
WL — WL	UNDERGROUND WATER LINE	TW — TW
64	MINOR CONTOURS (1 FT)	64
65	MAJOR CONTOURS (5 FT)	65
GAS — GAS	GAS LINE	GAS — GAS
SD — SD	STORM DRAIN LINE	> — >
SS — SS	SEWER LINE	S — S
	EXISTING/PROPOSED BUILDING	
OHU — OHU	OVERHEAD ELECTRICAL/TELEPHONE/CABLE	
	PROPERTY LINE	
	SETBACKS	

INDEX

C–01	COVER SHEET & LEGEND
C–02	GENERAL NOTES
EX	BOUNDARY AND TOPOGRAPHIC SURVEY – BY CES INC
C–10	SITE PLAN
C–20	UTILITY PLAN
C–30	GRADING & DRAINAGE PLAN
C–40	SITE DETAILS – 1
C–41	SITE DETAILS – 2
C–42	UTILITY DETAILS – 1
C–43	UTILITY DETAILS – 2
C–44	DRAINAGE DETAILS
C–45	EROSION & SEDIMENTATION CONTROL DETAILS & NOTES

CALL BEFORE YOU DIG
1–888–DIG–SAFE
1–888–344–7233

UTILITIES

SEWER:

LEWISTON WATER AND SEWER DIVISION
103 ADAMS AVE
LEWISTON, MAINE 04240
CONTACT: KEVIN GAGNE, P.E.
(207) 513–3003 EXT. 3430

WATER:

LEWISTON WATER AND SEWER DIVISION
103 ADAMS AVE
LEWISTON, MAINE 04240
CONTACT: KEVIN GAGNE, P.E.
(207) 513–3003 EXT. 3430

ELECTRIC:

CENTRAL MAINE POWER COMPANY (CMP)
162 CANCO ROAD
PORTLAND, MAINE 04103
CONTACT: JAMIE COUGH
(207) 458–0382

TELEPHONE:

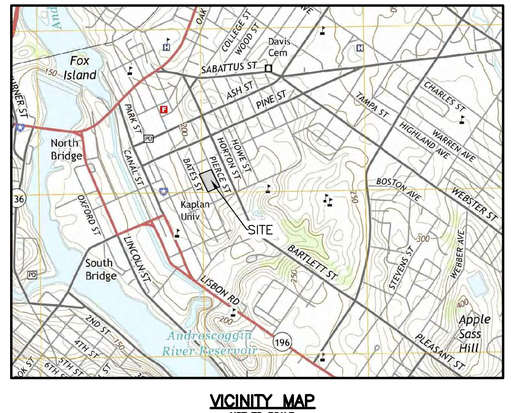
CONSOLIDATED COMMUNICATIONS
(FORMERLY FAIRPOINT)
45 FOREST AVENUE
PORTLAND, MAINE 04101
CONTACT: PAT MORRISON
(207) 745–9363

CABLE:

SPECTRUM CABLE
118 JOHNSON ROAD
PORTLAND, MAINE, 04102
CONTACT: MARK PELLETIER
(877) 546–0962

NATURAL GAS:

UNITIL SERVICE CORP
1075 FOREST AVENUE
PORTLAND, ME 04103
CONTACT: BRIDGET HARMON
(207) 541–2536



VICINITY MAP
NOT TO SCALE

PROJECT TEAM

DEVELOPER:

RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102
LEWISTON, MAINE 04240
CONTACT: CRAIG SADDLEMIRE
(207) 956–0508

ARCHITECT:

BILD ARCHITECTURE
30 DANFORTH STREET #105
PORTLAND, MAINE 04101
CONTACT: EVAN CARROLL, M.L.A.
(207) 408–0168 (OFFICE)

SURVEYOR:

CES, INC.
45 LISBON STREET
LEWISTON, MAINE 04240
CONTACT: JEFF TEUNISEN, P.L.S.
(207) 989–4824

LANDSCAPE ARCHITECT:

ACETO LANDSCAPE ARCHITECTURE + URBAN DESIGN
428 FORE STREET
PORTLAND, MAINE 04101
CONTACT: NICK ACETO, R.L.A.
(207) 221–3390

STRUCTURAL ENGINEER:

STRUCTURAL INTEGRITY CONSULTING ENGINEERS, INC
46 FOREST AVE
PORTLAND, MAINE 04101
CONTACT: AARON JONES, P.E.
(207) 774–4614

CIVIL ENGINEER:

ACORN ENGINEERING, INC.
65 HANOVER STREET
PORTLAND, MAINE 04101
CONTACT: WILL SAVAGE, P.E.
(207) 775–2655

ABBREVIATIONS

PARTIAL LIST OF ABBREVIATIONS AND THEIR CORRESPONDING MEANING. PLEASE CONTACT THE ENGINEER FOR ANY CLARIFICATION

APPROX.	APPROXIMATE
BC	BOTTOM OF CURB
BMP	BEST MANAGEMENT PRACTICE
BOT.	BOTTOM
CB	CATCH BASIN
CF	CUBIC FOOT
CIP	CAST IN PLACE
CL	CENTERLINE
CM	CONSTRUCTION MANAGER
CMP	CENTRAL MAINE POWER
CONC.	CONCRETE
CPP	CORRUGATED PLASTIC PIPE
CY	CUBIC YARD
DIP	DUCTILE IRON PIPE
DIA.	DIAMETER
DIM.	DIMENSION
EA.	EACH
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQUIV.	EQUIVALENT
EST.	ESTIMATE
EX.	EXISTING
FFE	FINISH FLOOR ELEVATION
FT.	FEET
GAL.	GALVANIZED
ID	INNER DIAMETER
IN.	INCH
INV.	INVERT
L	LENGTH
MAX.	MAXIMUM
MDOT	MAINE DEPARTMENT OF TRANSPORTATION
M.E.P	MECHANICAL, ELECTRICAL, PLUMBING DESIGNER
MFG.	MANUFACTURED
MH	MANHOLE
MIN.	MINIMUM
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
OHE/T/C	OVERHEAD ELECTRIC/TELEPHONE/CABLE
PC	PRECAST
PE	PROFESSIONAL ENGINEER
PL	PROPERTY LINE
PLS	PROFESSIONAL LAND SURVEYOR
PROP.	PROPOSED
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PWD	PORTLAND WATER DISTRICT
R	RADIUS
RD	ROOF DRAIN
RET.	RETAINING
ROW	RIGHT OF WAY
S	SLOPE
SD	STORM DRAIN
SDR	STANDARD DIMENSION RATIO
SF	SQUARE FEET
SMH	SEWER MANHOLE
SPEC.	SPECIFICATION
TC	TOP OF CURB
TW	TOP OF WALL
TYP.	TYPICAL
UD	UNDERDRAIN
UGE	UNDERGROUND ELECTRIC
VIF	VERIFY IN FIELD

PRELIMINARY
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY	DATE
SITE PLAN/SUB APP	WHS	8/4/2020
UTILITY POLE MOD.	WHS	9/4/2020
COMMENT RESPONSE	WHS	9/21/2020

DRAWING NAME: COVER SHEET & LEGEND

PROJECT NAME: BLAKE ST RAISE OP HOUSING 186–198 BLAKE ST

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
PO BOX 3373, PORTLAND, MAINE 04101
(207) 775–2655

THE PLAN SHALL NOT BE REPRINTED WITHOUT WRITTEN AUTHORIZATION FROM ACORN ENGINEERING. MODIFICATIONS TO THE PLAN WITHOUT WRITTEN AUTHORIZATION OR, OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1143_DETAILS
JN:	1143
SCALE:	NTS
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11
8-28-20
PROFESSIONAL ENGINEER

DRAWING NO.
C-01

GENERAL NOTES:

1. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANIES AND DIG SAFE AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. OTHERWISE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF UNDERGROUND UTILITIES AND LOCATE ANY POTENTIAL CONFLICTS WITH THE APPROVED PLANS PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES SHOWN ON THE PLAN. IF DEEMED NECESSARY BY THE OWNER OR OWNER'S REPRESENTATIVE (IF APPLICABLE), ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL PREPARE THEIR OWN MATERIAL SCHEDULE BASED ON THE PLANS AND FIELD VERIFICATION BY THE CONTRACTOR. ALL MATERIAL SCHEDULES SHOWN WITHIN THE PLAN SET ARE FOR GENERAL INFORMATION ONLY.
4. ALL CONSTRUCTION METHODS, TESTING AND MATERIALS SHALL CONFORM TO THE MAINE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, IF ANY. IN CASES WHERE THESE CONFLICT THE MOST STRINGENT SPECIFICATION SHALL APPLY AT NO ADDITIONAL COST TO THE OWNER.
5. THE SITE CONTRACTOR SHALL MAINTAIN A SET OF PAPER AND CAD DRAWINGS WHICH SHALL RECORD THE ACTUAL LOCATION, DIMENSIONS, ELEVATIONS, MATERIALS OF THEIR WORK, INDICATING THEREON ALL VARIATIONS FROM THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH ONE COMPLETE SET OF REPRODUCIBLE RECORD DRAWINGS, IN .DWG FORMAT AND PAPER, STAMPED ''AS-BUILT''. IF AUTOCAD CAPABILITY IS NOT AVAILABLE, EXCLUDE FROM BID IN WRITING.
6. THE CONTRACTOR WILL REMAIN SOLELY AND COMPLETELY RESPONSIBLE FOR ENFORCEMENT OF AND COMPLIANCE WITH 1) ALL CONTRACT PLANS AND SPECIFICATIONS, 2) APPLICABLE INTERNATIONAL BUILDING CODE REQUIREMENTS, AND 3) ALL SITE WORKING CONDITIONS AND SAFETY REQUIREMENTS, DAY AND NIGHT, FOR BOTH PERSONS AND PROPERTY, IN EACH CASE BOTH BY THE CONTRACTOR AND ITS SUBCONTRACTORS. THESE INCLUDE ALL OSHA, NIOSH, U.S. EPA AND ANY OTHER APPLICABLE GOVERNMENTAL REGULATIONS.
7. EXISTING CONDITIONS, BOUNDARY SURVEY, AND TOPOGRAPHY FROM THE PLAN TITLED BOUNDARY AND TOPOGRAPHIC SURVEY BLAKE STREET, LEWISTON, MAINE BY CES, INC. DATED 7/27/2020 WITH THE LATEST REVISION BEING 8/25/2020.
8. SUBSURFACE DATA HAS NOT BEEN OBTAINED AND SHALL BE COMPLETED BEFORE CONSTRUCTION. THE CONTRACTOR SHALL ALSO REVIEW THE REPORT PRIOR TO SUBMITTING A BID.
9. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ACCESS TO THE SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY MARKINGS, SIGNAGE AND INCIDENTALS TO MAINTAIN A SAFE VEHICLE AND PEDESTRIAN ACCESS THOUGH THE LIFE OF THE PROJECT. THE CONTRACTOR SHALL NOTIFY THE PORTLAND PUBLIC SAFETY DIVISION ROUTINELY REGARDING TEMPORARY IMPACTS OR CHANGES TO SITE ACCESS CONDITIONS.
10. CONTRACTOR TO DETERMINE SOIL CLASSIFICATION INDEPENDENTLY FOR TRENCH, SHORING, AND OTHER SIMILAR CONSTRUCTION MEANS AND METHODS APPLICATIONS.
11. NO HOLES, TRENCHES, OR STRUCTURES SHALL BE LEFT OPEN OR UNATTENDED OVERNIGHT IN ANY AREA ACCESSIBLE TO THE PUBLIC OR WITHIN THE PUBLIC RIGHT-OF-WAY.
12. THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION SURVEY OF INTERIOR SUBGRADE AND ABOVE GRADE ACCESSIBLE WALLS, CEILINGS, FLOORS, ROOF AND VISIBLE EXTERIOR AS VIEWED FROM THE GRADE LEVEL. THIS SHALL BE COMPLETED AT A MINIMUM FOR ADJACENT STRUCTURES. A COPY OF THE SURVEY SHOULD BE PROVIDED TO THE OWNER. DOCUMENT WITH PICTURES AT A MINIMUM.
13. THE CONTRACTOR SHALL SURVEY ROCK SURFACE PRIOR TO EXCAVATION AND DEVELOP VOLUME CALCULATIONS TO SHARE WITH THE ENGINEER, ACORN ENGINEERING INC. (ACORN), IF ANY.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL TREES AND SHRUBS ON THE PROJECT WHICH ARE NOT TO BE REMOVED.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY TRENCH PAVEMENT THAT HAS EXPERIENCED EXCESSIVE SETTLEMENT, CRACKING, OR OPENING OF JOINTS. REPAIRS MAY INCLUDE OVERLAY. REMOVAL OF WORK MAY BE NECESSARY AFTER THE FINAL ACCEPTANCE OF WORK OR PRIOR TO THE END OF THE WARRANTY PERIOD. THIS WORK SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

CIVIL SITE NOTES:

1. THE CONTRACTOR SHALL SUBMIT IN WRITING ANY REQUESTS TO ACORN TO MODIFY THE CONTRACT DOCUMENTS.
2. ALL SHOP, ERECTION, AND CONSTRUCTION DRAWINGS SHALL BE CHECKED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMISSION FOR ACORN'S REVIEW. ANY UNCHECKED OR NON-STAMPED SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
3. CONTRACTOR SHALL THOROUGHLY INSPECT AND SURVEY EXISTING STRUCTURES AND SITE TO VERIFY CONDITIONS THAT AFFECT THE WORK SHOWN ON THE DRAWINGS. CONTRACTOR TO NOTIFY ACORN OF ANY DISCREPANCIES PRIOR TO PROCEEDING.
4. DETAILS SHOWN APPLY TO ALL SIMILAR CONDITIONS UNLESS OTHERWISE INDICATED.
5. ALTHOUGH ALL DUE DILIGENCE HAS BEEN APPLIED TO MAKE THE DRAWINGS AS COMPLETE AS POSSIBLE, NOT ALL DETAILS ARE ILLUSTRATED, NOR IS EVERY EXCEPTION CONDITION ADDRESSED WITHIN THE CONTRACT DOCUMENTS.
6. ALL PROPRIETARY CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK, INCLUDING DIMENSION AND LAYOUT VERIFICATION, MATERIALS COORDINATION, SHOP DRAWING REVIEW, AND THE WORK OF ANY SUBCONTRACTORS.
8. UNLESS OTHERWISE SPECIFICALLY INDICATED, THE DRAWINGS DO NOT DESCRIBE OR DIRECT MEANS OR METHODS OF CONSTRUCTION.
9. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PERFORM OR SUPERVISE ALL WORK NECESSARY TO ACHIEVE THE FINAL COMPLETED STRUCTURE, AND TO PROTECT THE STRUCTURE, WORKMEN, AND OTHERS DURING THE CONSTRUCTION. SUCH WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR EXCAVATION, FORMWORK, SCAFFOLDING, SAFETY DEVICES AND PROGRAMS OF ALL KINDS, SUPPORT AND BRACING FOR CRANES AND OTHER ERECTION EQUIPMENT.
10. DO NOT BACKFILL AGAINST RETAINING WALLS UNTIL SUPPORTING SLABS AND FLOOR FRAMING ARE IN PLACE AND SECURELY ANCHORED, UNLESS ADEQUATE BRACING IS PROVIDED. PRIOR TO BACKFILL,, PROVIDE CURING OF CONCRETE FOR 28 DAYS OR AS DIRECTED BY MATERIALS TESTING ENGINEER.
11. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL FLOORS, WALLS, ROOFS AND OTHER SUPPORTING ELEMENTS ARE IN PLACE, IF APPLICABLE.
12. ALL PAVEMENT JOINTS SHALL BE SAWCUT AND APPLIED WITH TACK COAT PRIOR TO PAVING TO PROVIDE A DURABLE AND UNIFORM JOINT.
13. ACORN BEARS NO RESPONSIBILITY FOR THE ABOVE ITEMS, AND SITE OBSERVATION VISITS DO NOT IN ANY WAY INCLUDE INSPECTION OF THEM.
14. EXCAVATIONS ACCOMPLISHED AS PART OF THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH SUBPART P OF 29 CRF PART 1926.650-.652 (CONSTRUCTION STANDARD FOR EXCAVATIONS).
15. ALL TRENCH PAVEMENT REPAIR SHALL BE COMPLETED WITH THE USE OF A STREET PAVER WITH A SCREED WIDTH CAPABLE OF SPANNING THE FULL WIDTH OF THE TRENCH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

SPECIAL INSPECTION NOTES

1. ALL SITE SOILS-RELATED WORK AND FOOTING EXCAVATIONS PRIOR TO PLACING FORMS SHALL BE REVIEWED BY THE PROJECT GEOTECHNICAL ENGINEER.
2. ALL SITE DRAINAGE-RELATED WORK SHALL BE REVIEWED BY ACORN ENGINEERING.
3. NORMAL REVIEWS BY LOCAL BUILDING DEPARTMENT. NOTIFY 48 HOURS PRIOR TO REQUIRED REVIEW.
4. REQUIRED SPECIAL INSPECTIONS PER I.B.C. SECTION 1705.6 BY AN APPROVED SPECIAL INSPECTOR RETAINED BY OWNER. CONTRACTOR TO COORDINATE SPECIAL INSPECTIONS.
5. SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

5.1. DUTIES AND RESPONSIBILITIES OF THE SPECIAL INSPECTOR SHALL BE TO OBSERVE AND/OR TEST THE WORK ASSIGNED AND OUTLINE ABOVE FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

5.2. THE SPECIAL INSPECTOR SHALL FURNISH REGULAR REPORTS TO THE BUILDING OFFICIAL, THE ARCHITECT AND ENGINEER OF RECORD, AND OTHER DESIGNATED PERSONS. PROGRESS REPORTS FOR CONTINUOUS INSPECTION SHALL BE FURNISHED WEEKLY. INDIVIDUAL REPORTS OF PERIODIC INSPECTIONS SHALL BE FURNISHED WITHIN ONE WEEK OF INSPECTION DATES. THE REPORTS SHALL NOTE UNCORRECTED DEFICIENCIES, AND NET CHANGES TO THE APPROVED CONSTRUCTION DOCUMENTS AUTHORIZED BY THE ENGINEER OF RECORD.

5.3. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT WITHIN TEN DAYS OF THE FINAL INSPECTION STATING WHETHER THE WORK REQUIRING A SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE AND BELIEF, IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE INTERNATIONAL BUILDING CODE. WORK NOT IN COMPLIANCE SHALL BE NOTED IN THE REPORT.

5.4. SPECIAL INSPECTOR SHALL BE EMPLOYED BY RAISE OP HOUSING COOPERATIVE AND COORDINATED BY THE CONTRACTOR.

LAYOUT NOTES:

1. MONUMENTS DELINEATING PROPERTY LINES OR RIGHT OF WAYS SHALL NOT BE DISTURBED DURING CONSTRUCTION OPERATIONS. IN THE CASE A MONUMENT IS DISTURBED, AT THE CONTRACTOR'S EXPENSE, THE MONUMENT SHALL BE RESET TO ITS ORIGINAL LOCATION AND ELEVATION BY A REGISTERED LAND SURVEYOR.
2. ALL DIMENSIONS ON THE FOLLOWING SHEETS TAKE PRECEDENT OVER SCALED DIMENSIONS. EACH DRAWING WITH A BAR SCALE MEANS THAT THE DRAWING/DETAIL HAS BEEN SCALED AS ACCURATELY AS POSSIBLE, AND THE BAR SCALE IS FOR GENERAL REFERENCE ONLY. IF NO BAR SCALE IS PRESENT, THEN THERE IS NO SCALE TO THAT DRAWING/DETAIL. AT NO TIME SHOULD DRAWINGS BE SCALED FROM. ANY DISCREPANCIES BETWEEN DRAWINGS, DETAILS, SPECIFICATIONS AND THE FIELD CONDITION SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.
3. SIGNAGE, STRIPING, AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. ALL TRAFFIC CONTROL SIGNS INDICATED ON THE SITE LAYOUT PLAN ARE TO MEET ALL REQUIREMENTS & CONDITIONS OF THE CITY OF LEWISTON, MAINE DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
5. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED PROFESSIONAL LAND SURVEYOR TO PROVIDE A MINIMUM OF TWO TEMPORARY BENCHMARKS WITHIN THE SITE AND TO LOCATE PROPOSED STRUCTURE CORNERS.
6. CONTRACTOR TO ENSURE THAT ACCESS, INCLUDING BUT NOT LIMITED TO WALKWAYS, DRIVEWAYS, AND MAILBOXES ADJACENT TO THE PROJECT REMAIN FUNCTIONAL AND AVAILABLE FOR USE AT ALL TIMES.

PERMITTING NOTES

1. THIS PROJECT IS SUBJECT TO THE TERMS AND CONDITIONS OF SITE PLAN/SUBDIVISION APPLICATION FROM THE CITY OF LEWISTON.
2. THE CONTRACTOR SHALL REVIEW THE ABOVE REFERENCED PERMITS PRIOR TO SUBMITTING A BID FOR THIS PROJECT, AND INCLUDE COSTS AS NECESSARY TO COMPLY WITH THE CONDITIONS OF THESE PERMITS.
3. ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY REQUIRES A STREET OPENING PERMIT FROM THE CITY OF LEWISTON. ADDITIONALLY, COORDINATE WITH THE DEPARTMENT OF PUBLIC WORKS.

GRADING AND DRAINAGE NOTES:

1. TOPSOIL STRIPPED FROM THE SITE THAT IS SUITABLE FOR REUSE AS LOAM (MEETS THE REQUIREMENTS WITHIN SECTION 615 OF THE MDOT STANDARD SPECIFICATIONS, MOST RECENT VERSION AND IS FREE OF TRACEABLE AMOUNTS OF CONTAMINANTS) SHALL BE STOCKPILED WITHIN THE PROPOSED LIMIT OF WORK AREA. THE CONTRACTOR SHALL NOT ASSUME THAT ANY STRIPPED TOPSOIL WILL BE ACCEPTABLE FOR REUSE WITH THEIR ESTIMATE.
2. THE CONTRACTOR SHALL ANTICIPATE THAT GROUNDWATER WILL BE ENCOUNTERED DURING CONSTRUCTION AND SHALL INCLUDE SUFFICIENT COSTS WITHIN THEIR BID TO PROVIDE DEWATERING AS NECESSARY; NO SEPARATE PAYMENT SHALL BE MADE TO THE CONTRACTOR FOR DEWATERING. DEWATERING SHALL INCLUDE TREATMENT OF SILT THROUGH THE USE OF A DIRTBAG BY ACF ENVIRONMENTAL OR APPROVED EQUIVALENT. FLOWS FROM DEWATERING ACTIVITIES SHALL NOT BE DISCHARGED INTO SANITARY SEWERS.
3. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ANY EASEMENT OR TEMPORARY CONSTRUCTION RIGHTS AS NECESSARY BY PRIVATE ADJACENT LAND OWNERS. THE CONTRACTOR SHALL NOT DISTURB ANY SOIL BEYOND THE PROPERTY LINE WITHOUT NOTIFYING AND OBTAINING SUCH EASEMENT OR TEMPORARY CONSTRUCTION RIGHT FROM THE ADJACENT LAND OWNERS. PRIOR TO THE CONTRACTOR PRICING THE WORK, THEY SHALL PROVIDE ACORN WITH PROOF OF SUCH EASEMENT OR TEMPORARY RIGHTS. SHOULD EASEMENTS OR TEMPORARY RIGHTS NOT BE AVAILABLE, THE CONTRACTOR SHALL INCLUDE COST FOR BRACING AND SHORING AS NECESSARY.
4. THE CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS. THE MINIMUM SLOPE SHALL MEET OR EXCEED 0.5% IN ALL CASES. ALL SLOPES SHALL BE AWAY FROM BUILDINGS AND TOP OF PAVEMENT SHALL BE AT OR BELOW EXISTING FINISH FLOOR ELEVATIONS.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST GEOTECHNICAL REPORT PREPARED BY THE PROJECT GEOTECHNICAL ENGINEER.
6. NO ADDITIONAL PAYMENT FOR UNSUITABLE MATERIALS.
7. ALL STORM DRAIN PIPE SHALL BE SMOOTH BORE INTERIOR PROVIDING A MANNINGS ROUGHNESS COEFFICIENT OF N=0.012 OR LESS.
8. ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
9. NATIVE SOILS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LIMIT THE DISTURBANCE TO SUBGRADE SOILS. SHOULD THE SUBGRADE BECOME YIELDING OR DIFFICULT TO WORK, CONTACT ACORN. THE DISTURBED AREAS SHALL BE EXCAVATED AND BACKFILLED WITH COMPACTED SELECT FILL OR CRUSHED STONE AT NO ADDITIONAL EXPENSE TO THE OWNER.
10. ALL SUBGRADE PREPARATION IS SUBJECT TO THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL ENGINEER, IF APPLICABLE.

EROSION CONTROL NOTES:

1. DISTURBED AREAS ARE DEFINED AS THOSE SURFACES WHERE EXISTING VEGETATION OR STRUCTURES HAVE BEEN REMOVED, EXPOSING NATIVE SOIL TO THE ELEMENTS.
2. ALL ROUTINE WORK ACTIVITIES SHALL BE CONDUCTED IN SUCH A WAY TO LIMIT THE AMOUNT OF DISTURBED AREA AT ONE TIME TO THE EXTENT PRACTICABLE.
3. PRIOR TO THE START OF ANY CLEARING/LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL APPLICABLE EROSION CONTROL DEVICES SUCH AS PERIMETER SILT FENCE, AND OTHER APPLICABLE MEASURES. IN THE EVENT THE CONTRACTOR IS NOT SURE A EROSION CONTROL MEASURE SHOULD BE IMPLEMENTED, THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD TO CONFIRM IMPLEMENTATION OF ANY EROSION CONTROL DEVICES.
4. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED, SEEDED AND MULCH SHALL BE APPLIED AS SOON AS POSSIBLE WITHIN 7 DAYS FOLLOWING THE COMPLETION OF ANY SOIL DISTURBANCE, AND PRIOR TO ANY STORM EVENT.
5. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED TO THE SATISFACTION OF THE CITY. THE CONTRACTOR SHALL REFERENCE THE APPROVED EROSION AND SEDIMENTATION CONTROL REPORT FOR TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES IN ADDITION TO THE PLAN SET. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE D.E.P.'S PERMIT CONDITIONS, FINDINGS OF FACT AND ORDER (IF ANY), AND THE CURRENT MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.
6. PRIOR TO PAVING, THE CONTRACTOR SHALL REMOVE ALL SEDIMENT FROM STORM DRAINS, CATCH BASINS, AND APPURTENANCES.
7. REFER TO THE EROSION CONTROL DETAILS & NOTES FOR ADDITIONAL INFORMATION.

UTILITY NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED UPON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TEST PIT TO DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES TO COORDINATE WITH THE PROPOSED CONNECTIONS OR CROSSING. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO ACORN FOR FURTHER DIRECTIONS BEFORE ANY ADDITIONAL WORK PROCEEDS.
2. CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, CONDUCT EXPLORATORY EXCAVATIONS AT LOCATIONS WHERE PROPOSED EXCAVATION WILL INTERSECT WITH EXISTING UTILITIES, PRIOR TO THE ORDERING OF STRUCTURES.
3. ALL NEW SANITARY MANHOLES SHALL BE VACUUM TESTED BEFORE BACKFILLING. TESTING SHALL BE COMPLETED IN ACCORDANCE WITH TECHNICAL REPORT #16 (TR-16): GUIDES FOR THE DESIGN OF WASTEWATER TREATMENT WORKS, PREPARED BY THE NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION.
4. SEWER MANHOLES SHALL BE 4' ID UNLESS OTHERWISE STATED ON THE PLANS.
5. CONTRACTOR TO PROVIDE 5.5' OF COVER FROM TOP OF PIPE TO FINISH GRADE FOR WATER MAINS.
6. THRUST BLOCKS SHALL BE USED FOR THRUST RESTRAIN ON WATER MAINS. DETAIL AND LIMITS FOR THRUST BLOCKS ARE SHOWN WITHIN THE PLAN SET.
7. WATER INFRASTRUCTURE SHALL BE TESTED IN ACCORDANCE WITH THE CITY OF LEWISTON'S SPECIFICATIONS.
8. ALL REQUIRED FITTINGS FOR THE WATER MAIN ARE NOT SHOWN ON DRAWINGS. CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY FITTINGS REQUIRED TO CONSTRUCT THE WATER MAIN IN ACCORDANCE WITH THE CITY OF LEWISTON, STATE OF MAINE, AND AMERICAN WATER WORKS ASSOCIATION STANDARDS AND REGULATIONS.
9. CONTRACTOR SHALL COORDINATE WORK REGARDING ANY WATER MAIN CONNECTION, SERVICE RETIREMENT, OR WATER MAIN SHUTDOWN WITH THE LEWISTON WATER AND SEWER DISTRICT AT LEAST SEVEN (7) DAYS PRIOR TO CONSTRUCTION.
10. ALL WATER PIPE INSTALLATION SHALL CONFORM WITH THE LEWISTON WATER AND SEWER DISTRICT SPECIFICATIONS AND PROCEDURES, MOST RECENT EDITION.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
12. SEWER, GAS, TELEPHONE, ELECTRICITY, CABLE, WATER AND ANY OTHER UTILITY CONNECTIONS SHALL BE REVIEWED BY PLUMBING, ELECTRICAL, AND MECHANICAL DESIGNER FOR CONSISTENCY WITH THEIR PLANS PRIOR TO CONSTRUCTION.
13. COORDINATE EXIT POINT FOR SECONDARY UTILITY SERVICES WITH THE ARCHITECT/ELECTRICAL ENGINEER. SECONDARY LINE LOCATIONS NOT PROVIDED BY ACORN WITHIN THE UTILITY PLAN.
14. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL THE NECESSARY PERMITS FOR THE INSTALLATION OF THE UTILITIES AND STORMDRAINS WITHIN THE PUBLIC RIGHT OF WAY. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN TO THE CITY IN ACCORDANCE WITH THE CITY OF LEWISTON'S STANDARDS PRIOR TO ANY WORK.
15. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL AT NO EXTRA EXPENSE TO THE OWNER.
16. ALL PIPE LINES SHALL SLOPE UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS OR SAGS IN THE PIPING WILL BE PERMITTED. ALL HORIZONTAL AND VERTICAL BENDS IN PRESSURIZED PIPE LINES SHALL BE SUITABLY RESTRAINED WITH THRUST BLOCKS OR RETAINER GLANDS. RETAINER GLANDS ALLOWED FOR DUCTILE IRON PIPE ONLY. PROVIDE ALL BENDS, HORIZONTAL AND VERTICAL, AS REQUIRED TO MEET THE GRADES AND ALIGNMENTS INDICATED ON THE DRAWINGS.
17. ALL WASTEWATER PIPING, EXCLUDING BUILDING DRAINS, AND ALL PRESSURIZED PIPING, TO INCLUDE WATER MAINS, INSTALLED BENEATH STRUCTURES SHALL BE ENCASED IN CONCRETE.
18. WHERE NEW PIPING IS TO BE CONNECTED TO EXISTING PIPING, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ADAPTERS, FITTINGS AND ADDITIONAL PIPE AS REQUIRED TO ENSURE A COMPLETE AND PROPERLY FUNCTIONING CONNECTION. CONTRACTOR TO VERIFY LOCATION, ELEVATION, ORIENTATION AND MATERIAL OF CONSTRUCTION. ADAPTERS AND FITTINGS ARE INCIDENTAL TO THE PIPE INSTALLATION.
19. WHENEVER POSSIBLE, WATER LINES SHOULD BE INSTALLED OVER WASTEWATER LINES. A MINIMUM SEPARATION OF 18 INCHES BETWEEN THE BOTTOM OF THE WATER LINE AND THE TOP OF THE WASTEWATER LINE SHALL BE MAINTAINED WHERE POSSIBLE. WHERE A WATER LINE CROSSES UNDER THE WASTEWATER LINE, A FULL LENGTH OF WASTEWATER PIPE SHALL BE CENTERED ABOVE THE WATER LINE SO THAT BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE.
20. THE CONTRACTOR SHALL BE ANTICIPATE THAT THE NATIVE SILT AND CLAY SOILS WILL NOT BE SUITABLE FOR PIPE TRENCH BACKFILL IN PAVED AREAS.
21. GROUNDWATER SHALL BE CONTROLLED TO A LEVEL OF AT LEAST ONE FOOT BELOW SUBGRADE OF THE PIPE OR STRUCTURE. THE CONTRACTOR SHALL MAINTAIN THE LOWERED GROUNDWATER LEVEL UNTIL CONSTRUCTION HAS BEEN COMPLETED TO SUCH AN EXTENT THAT THE STRUCTURES OR PIPES WILL NOT BE FLOATED OR OTHERWISE DAMAGED.
22. EXCAVATION TO SUBGRADE IN NATIVE SILT AND CLAY SHALL BE COMPLETED WITH A SMOOTH EDGE BUCKET TO MINIMIZE SUBGRADE DISTURBANCE.
23. ALL ADJUSTMENTS TO FINISHED GRADE ARE TO BE COMPLETED BY THE CONTRACTOR. THE CONTRACTOR SHALL CONFIRM STRUCTURES THAT REQUIRE ADJUSTMENT WITH THE ENGINEER OR OWNERS REPRESENTATIVE PRIOR TO ADJUSTING FRAMES.

DEMOLITION NOTES:

1. THE FOLLOWING ITEMS ARE TYPICAL OF MATERIAL WHICH MAY BE ON SITE:
   - ROCK AND CONCRETE FOUNDATIONS
   - CONCRETE SLABS
   - BITUMINOUS ASPHALT PAVEMENT
   - CONCRETE PADS AND BLOCKS
   - FENCE POST AND FENCING
   - UNDERGROUND UTILITY LINES
   - ABOVE AND OR BELOW FUEL OIL AND PROPANE GAS TANKS
   - STORM DRAIN PIPES AND APPURTENANCE STRUCTURES
   - OTHER TRASH & MISCELLANEOUS SOLID WASTES
2. THE CONTRACTOR IS ADVISED TO VISIT THE SITE TO CONFIRM DEMOLITION ITEMS SINCE THE LIST IS NOT INCLUSIVE OF THE SITE CONDITIONS WHICH MAY BE ENCOUNTERED
3. ALL DISPOSAL OF DEMOLITION DEBRIS OR WASTE SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS. CONTRACTORS SHALL PROVIDE OWNER WITH APPROPRIATE "BILLS OF LADING" DEMONSTRATING PROPER DISPOSAL OF ALL MATERIALS.
4. CES, INC HAS COMPLETED A PHASE I - ENVIRONMENTAL SITE ASSESSMENT FOR THE PROPERTY. CONTRACTOR TO REVIEW AND REFER TO THIS CONTRACT DOCUMENT.

PRELIMINARY
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY / DATE
SITE PLAN/SUB APP	WHS 9/4/2020
COMMENT RESPONSE	WHS 9/21/2020

DRAWING NAME: GENERAL NOTES

PROJECT NAME: BLAKE ST RAISE OP HOUSING 186-198 BLAKE ST

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

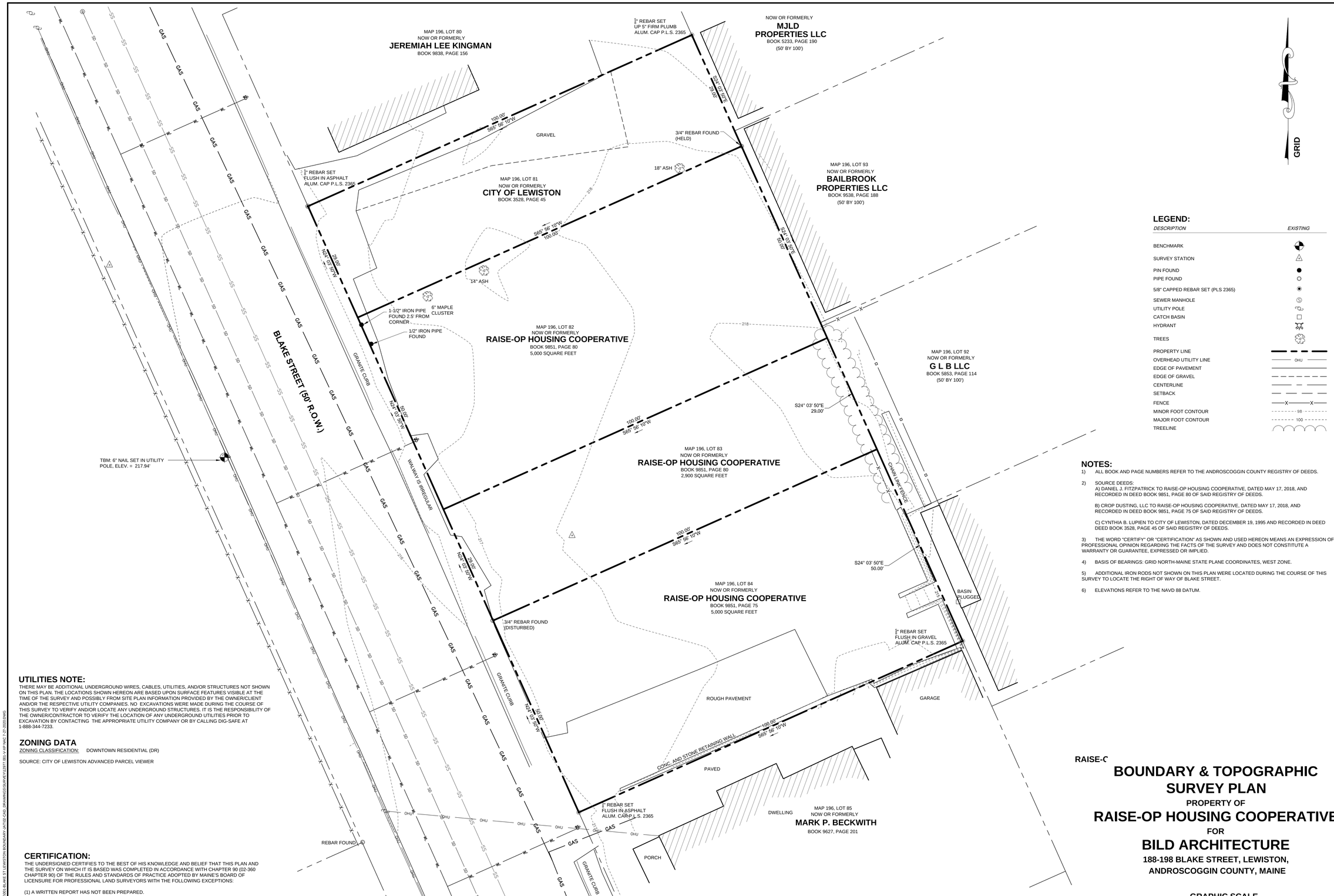
ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1143_DETAILS
JN:	1143
SCALE:	NTS
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11416
8-28-20
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-02



LEGEND:

DESCRIPTION	*EXISTING*
BENCHMARK	
SURVEY STATION	
PIN FOUND	
PIPE FOUND	
5/8" CAPPED REBAR SET (PLS 2365)	
SEWER MANHOLE	
UTILITY POLE	
CATCH BASIN	
HYDRANT	
TREES	
PROPERTY LINE	
OVERHEAD UTILITY LINE	OHU
EDGE OF PAVEMENT	
EDGE OF GRAVEL	
CENTERLINE	
SETBACK	
FENCE	X X
MINOR FOOT CONTOUR	98
MAJOR FOOT CONTOUR	100
TREELINE	

NOTES:

1) ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

2) SOURCE DEEDS:
A) DANIEL J. FITZPATRICK TO RAISE-OP HOUSING COOPERATIVE, DATED MAY 17, 2018, AND RECORDED IN DEED BOOK 9851, PAGE 80 OF SAID REGISTRY OF DEEDS.

B) CROP DUSTING, LLC TO RAISE-OP HOUSING COOPERATIVE, DATED MAY 17, 2018, AND RECORDED IN DEED BOOK 9851, PAGE 75 OF SAID REGISTRY OF DEEDS.

C) CYNTHIA B. LUPIEN TO CITY OF LEWISTON, DATED DECEMBER 19, 1995 AND RECORDED IN DEED DEED BOOK 3528, PAGE 45 OF SAID REGISTRY OF DEEDS.

3) THE WORD "CERTIFY" OR "CERTIFICATION" AS SHOWN AND USED HEREON MEANS AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS OF THE SURVEY AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED.

4) BASIS OF BEARINGS: GRID NORTH-MAINE STATE PLANE COORDINATES, WEST ZONE.

5) ADDITIONAL IRON RODS NOT SHOWN ON THIS PLAN WERE LOCATED DURING THE COURSE OF THIS SURVEY TO LOCATE THE RIGHT OF WAY OF BLAKE STREET.

6) ELEVATIONS REFER TO THE NAVD 88 DATUM.

UTILITIES NOTE:

THERE MAY BE ADDITIONAL UNDERGROUND WIRES, CABLES, UTILITIES, AND/OR STRUCTURES NOT SHOWN ON THIS PLAN. THE LOCATIONS SHOWN HEREON ARE BASED UPON SURFACE FEATURES VISIBLE AT THE TIME OF THE SURVEY AND POSSIBLY FROM SITE PLAN INFORMATION PROVIDED BY THE OWNER/CLIENT AND/OR THE RESPECTIVE UTILITY COMPANIES. NO EXCAVATIONS WERE MADE DURING THE COURSE OF THIS SURVEY TO VERIFY AND/OR LOCATE ANY UNDERGROUND STRUCTURES. IT IS THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO VERIFY THE LOCATION OF ANY UNDERGROUND UTILITIES PRIOR TO EXCAVATION BY CONTACTING THE APPROPRIATE UTILITY COMPANY OR BY CALLING DIG-SAFE AT 1-888-344-7233.

ZONING DATA

ZONING CLASSIFICATION: DOWNTOWN RESIDENTIAL (DR)

SOURCE: CITY OF LEWISTON ADVANCED PARCEL VIEWER

CERTIFICATION:

THE UNDERSIGNED CERTIFIES TO THE BEST OF HIS KNOWLEDGE AND BELIEF THAT THIS PLAN AND THE SURVEY ON WHICH IT IS BASED WAS COMPLETED IN ACCORDANCE WITH CHAPTER 90 (02-360 CHAPTER 90) OF THE RULES AND STANDARDS OF PRACTICE ADOPTED BY MAINE'S BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS WITH THE FOLLOWING EXCEPTIONS:

(1) A WRITTEN REPORT HAS NOT BEEN PREPARED.

(2) NARRATIVE PROPERTY DESCRIPTIONS WERE NOT PREPARED.

CES INC. / JEFF A. TEUNISEN P.L.S. #2365 DATE:

RAISE-C

BOUNDARY & TOPOGRAPHIC SURVEY PLAN

PROPERTY OF

RAISE-OP HOUSING COOPERATIVE

FOR

BILD ARCHITECTURE

188-198 BLAKE STREET, LEWISTON, ANDROSCOGGIN COUNTY, MAINE

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

www.cesincusa.com
Brewer
465 South Main Street
PO Box 639
Brewer, ME
T.207-989-4824
F.207-989-4881

CES INC
Engineers • Environmental Scientists • Surveyors

PROJECT TITLE
RAISE-OP HOUSING COOPERATIVE
BILD ARCHITECTURE

SHEET TITLE
BOUNDARY AND TOPOGRAPHIC SURVEY
BLAKE STREET, LEWISTON, MAINE

REV	DESCRIPTION	DATE	DRAWN BY	CHECKED BY
1.	SURVEY CITY OF LEWISTON LOT	7/21/2020		

ISSUE STATUS
NOT FOR CONSTRUCTION

STATE OF MAINE
JEFF A. TEUNISEN
No. 2365
LICENSED
LAND SURVEYOR

SCALE	1" = 10'
DATE	2020.08.25
DRAWN BY JAT	CHECKED BY
DESIGNED BY	APPROVED BY
JOB NUMBER	12977.001
SHEET NUMBER	

P:\12977-BILD_ARCHITECTURE\001-BLAKE ST LEWISTON BOUNDARY-JAT\02-CAD_DRAWINGS\SURVEY\12977-001-LV-XP-MAC 7-22-2020.DWG

GENERAL NOTES:

1. ALL SIDEWALK AND CURBING TO BE REPLACED SHALL BE REBUILT TO CITY OF LEWISTON STANDARDS.
2. EXISTING CONDITIONS PROVIDED BY CES, INC ON A PLAN ENTITLED BOUNDARY AND TOPOGRAPHIC SURVEY. PLAN IS DATED JULY 27, 2020 WITH A MOST RECENT REVISION DATE OF AUGUST 25, 2020.
3. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF LEWISTON STANDARDS.
4. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
5. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
6. ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
7. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
8. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.

STANDARD NOTES FOR MAJOR DEVELOPMENT REVIEW PLANS:

1. PRIOR TO ANY CERTIFICATE OF OCCUPANCY BEING ISSUED, THE APPLICANT'S DESIGNING ENGINEER SHALL SUBMIT A FINAL INSPECTION REPORT TO THE CITY INDICATING THAT THE STORMWATER SYSTEM AND ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLAN.
2. A BUILDING/USE PERMIT SHALL BE REQUIRED FOR ALL ACTIVITIES REGULATED BY THE ZONING AND LAND USE CODE INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
   - 3.1 THE CONSTRUCTION, ALTERATION, RELOCATION, DEMOLITION, PLACEMENT, OR REMOVAL OF OR THE ADDITION TO ANY STRUCTURE OR BUILDING OR PART THEREOF;
   - 3.2 THE CONSTRUCTION/ INSTALLATION OF A WALL OR FENCE 3.5 FEET OR GREATER IN HEIGHT IN ACCORDANCE WITH ARTICLE XII, SEC. 7;
   - 3.3 THE ERECTION/ INSTALLATION OF A SIGN OR THE REPLACEMENT OF A SIGN FACE REGULATED IN ACCORDANCE WITH ARTICLE XII, SECTION 16 OF THIS CODE;
   - 3.4 THE CONSTRUCTION OF A DRIVEWAY OR PARKING LOT;
   - 3.5 THE CHANGE OF USE OR OCCUPANCY OF A BUILDING, STRUCTURE, OR LOT OF LAND
3. NO PERMIT SHALL BE ISSUED FOR THE CONSTRUCTION, ADDITION, ALTERATION, REMOVAL, DEMOLITION OR CHANGE OF USE OF ANY BUILDING, STRUCTURE OR PART THEREOF, OR FOR THE USE OF ANY PREMISES UNLESS THE PLANS AND INTENDED USE INDICATE THAT THE BUILDING, STRUCTURE OR PREMISES IS TO CONFORM IN ALL RESPECTS TO ZONING AND LAND USE CODE OF THE CITY OF LEWISTON AND THE LAND USE LAWS OF THE STATE OF MAINE.
4. THE GRANTING OF THIS APPROVAL IS DEPENDENT UPON AND LIMITED TO THE PROPOSALS AND PLANS CONTAINED IN THE APPLICATION AND SUPPORTING DOCUMENTS SUBMITTED AND AFFIRMED TO BY THE APPLICANT. ANY VARIATION FROM THESE PLANS, PROPOSALS, AND SUPPORTING DOCUMENTS IS SUBJECT TO REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION. FURTHER SUBDIVISION OF PROPOSED LOTS BY THE APPLICANT OR FUTURE OWNERS IS SPECIFICALLY PROHIBITED WITHOUT PRIOR APPROVAL OF THE BOARD
5. THE APPLICANT SHALL SECURE AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LICENSES, PERMITS, AUTHORIZATIONS, CONDITIONS, AGREEMENTS, AND ORDERS PRIOR TO OR DURING CONSTRUCTION AND OPERATION, AS APPROPRIATE.

APPROVED: CITY OF LEWISTON PLANNING BOARD

CHAIRPERSON: DATE:

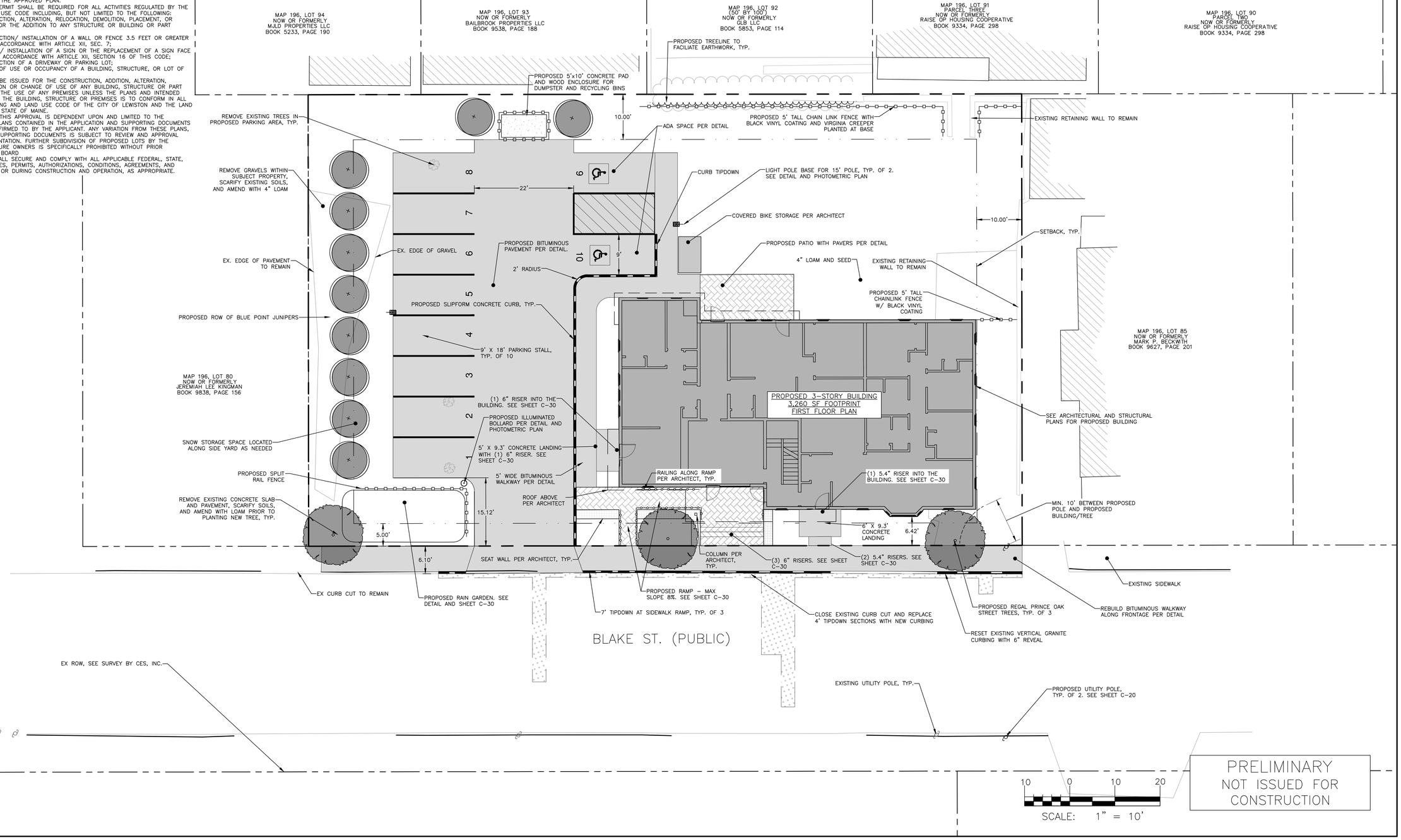
IF DEVELOPMENT HAS NOT OCCURRED AS DEFINED WITHIN THE SCOPE OF THE CITY OF LEWISTON CODE OF ORDINANCES, WITHIN 24 MONTHS OF THE DATE OF APPROVAL, DEVELOPMENT REVIEW APPROVAL SHALL EXPIRE. THE APPLICANT MAY NOT BEGIN CONSTRUCTION OR OPERATION OF THE DEVELOPMENT UNTIL A NEW APPROVAL IS GRANTED (ARTICLE XIII, SECTION 11)

SPACE AND BULK STANDARDS

ZONE: DR – DOWNTOWN RESIDENTIAL	REQUIRED	PROPOSED
MINIMUM LOT SIZE	4,000 SF	15,800 SF
MINIMUM NET LOT AREA PER D.U.	1,250 SF	1,756 SF (9 UNITS)
MINIMUM STREET FRONTAGE	40'	158'
MINIMUM FRONT SETBACK	5'	6.5'
MINIMUM SIDE SETBACK	5'	10'
MINIMUM REAR SETBACK	10'	45'
MAXIMUM IMPERVIOUS COVERAGE	75%	53%
MAXIMUM BUILDING HEIGHT	60'	35.6'
MINIMUM BUILDING HEIGHT	20'	

CURRENT PARKING SUMMARY

REQUIRED PARKING	
USE	# PARKING SPACES
MULTIFAMILY RESIDENTIAL UNITS	9
1 SPACE PER UNIT	9
0.1 SPACES PER UNIT FOR VISITORS	0.9
TOTAL	10
PROPOSED PARKING	
TYPE	# PARKING SPACES
9'X18'	8
ADA (9'X18')	2
TOTAL	10



PRELIMINARY
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE PLAN/SUB APP	WHS	9/4/2020
UTILITY POLE MOD.	WHS	9/4/2020
COMMENT RESPONSE	WHS	9/21/2020

DRAWING NAME: SITE PLAN

PROJECT NAME: BLAKE ST RAISE OP HOUSING 186–198 BLAKE ST

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE COPIED, MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY REPRODUCTION, MODIFICATION OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND RESPONSIBILITY TO OPPOSE ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3777, PORTLAND, MAINE 04101
(207) 775-2655

FILE:	1143_CIVIL
JN:	1143
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11447 8-28-20 LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-10

GENERAL NOTES:

1. FOR INFORMATION REGARDING PROPOSED UTILITIES, REFER TO THE UTILITY PLAN, SHEET C-20, MOST RECENT VERSION.
2. FOR INFORMATION REGARDING PROPOSED GRADING AND STORMWATER, REFER TO THE GRADING & DRAINAGE PLAN, SHEET C-30, MOST RECENT VERSION.
3. UNIT TABULATION PROVIDED BY BILD ARCHITECTURE; REFER TO ARCHITECTURAL PLANS FOR FLOOR PLANS AND BUILDING HEIGHTS.
4. TOTAL SITE AREA INCLUDES 0.363 ACRES (15,800 S.F.). R.O.W. WIDTH FOR BLAKE STREET IS **50 FEET** PER BOUNDARY SURVEY AND TOPOGRAPHICAL MAP WITH EXISTING CONDITIONS COMPLETED BY CES, INC. DATED 7/27/2020 WITH THE MOST RECENT REVISION BEING 8/25/2020.
5. SITE BOUNDARIES PER PLAN TITLED BOUNDARY AND TOPOGRAPHIC SURVEY BLAKE STREET, LEWISTON, MAINE BY CES, INC. DATED 7/27/2020 WITH THE MOST RECENT REVISION BEING 8/25/2020.
6. THE SITE IS BOUNDED BY THE DR ZONE ON ALL SIDES OF THE PROPERTY PER CITY OF LEWISTON GIS WEBSITE.
7. LOCUS PARCEL IS SHOWN ON THE CITY OF LEWISTON GIS VIEWER, MAP 196, LOTS 82, 83, AND 84.
8. LOCUS PARCEL DOES NOT FALL IN A SPECIAL FLOOD HAZARD AREA PER FEMA FLOOD MAP SERVICE CENTER, MAP NUMBER 23001C0329E, DATED 7/18/2013.
9. ALL BUILDING CORNER OFFSETS TO BOUNDARY LINES ARE FROM THE BUILDING FOUNDATION, UNLESS OTHERWISE NOTED.
10. THIS SHEET IS THE SUBDIVISION PLAT FOR THE CREATION OF UP TO NINE (9) DWELLING UNITS ON THE EXISTING SUBJECT PROPERTY. APPROVAL OF THIS PLAT DOES NOT CREATE ANY SUBDIVISION OF LAND ON THE SUBJECT PROPERTY.
11. THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SIDEWALKS, STORMWATER DEVICES, SITE LIGHTING, TRASH REMOVAL, RETAINING WALLS, AND SNOW REMOVAL.

SURVEY NOTES:

1. ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.
2. SOURCE DEEDS:
   - 2.1. DANIEL J. FITZPATRICK TO RAISE-OP HOUSING COOPERATIVE, DATED MAY 17, 2018, AND RECORDED IN DEED BOOK 9851, PAGE 80 OF SAID REGISTRY OF DEEDS.
   - 2.2. CROP DUSTING, LLC TO RAISE-OP HOUSING COOPERATIVE, DATED MAY 17, 2018, AND RECORDED IN DEED BOOK 9851, PAGE 75 OF SAID REGISTRY OF DEEDS.
   - 2.3. CYNTHIA B. LUPIEN TO CITY OF LEWISTON, DATED DECEMBER 19, 1995 AND RECORDED IN DEED DEED BOOK 3528, PAGE 45 OF SAID REGISTRY OF DEEDS.
3. THE WORD "CERTIFY" OR "CERTIFICATION" AS SHOWN AND USED HEREON MEANS AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS OF THE SURVEY AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED.
4. BASIS OF BEARINGS: GRID NORTH-MAINE STATE PLANE COORDINATES, WEST ZONE.
5. ADDITIONAL IRON RODS NOT SHOWN ON THIS PLAN WERE LOCATED DURING THE COURSE OF THIS SURVEY TO LOCATE THE RIGHT OF WAY OF BLAKE STREET.
6. ELEVATIONS REFER TO THE NAVD 88 DATUM.

EASEMENTS:

THERE ARE NO EXISTING EASEMENTS PER BOUNDARY & TOPOGRAPHIC SURVEY PLAN DATED AUGUST 26, 2020 BY CES, INC.

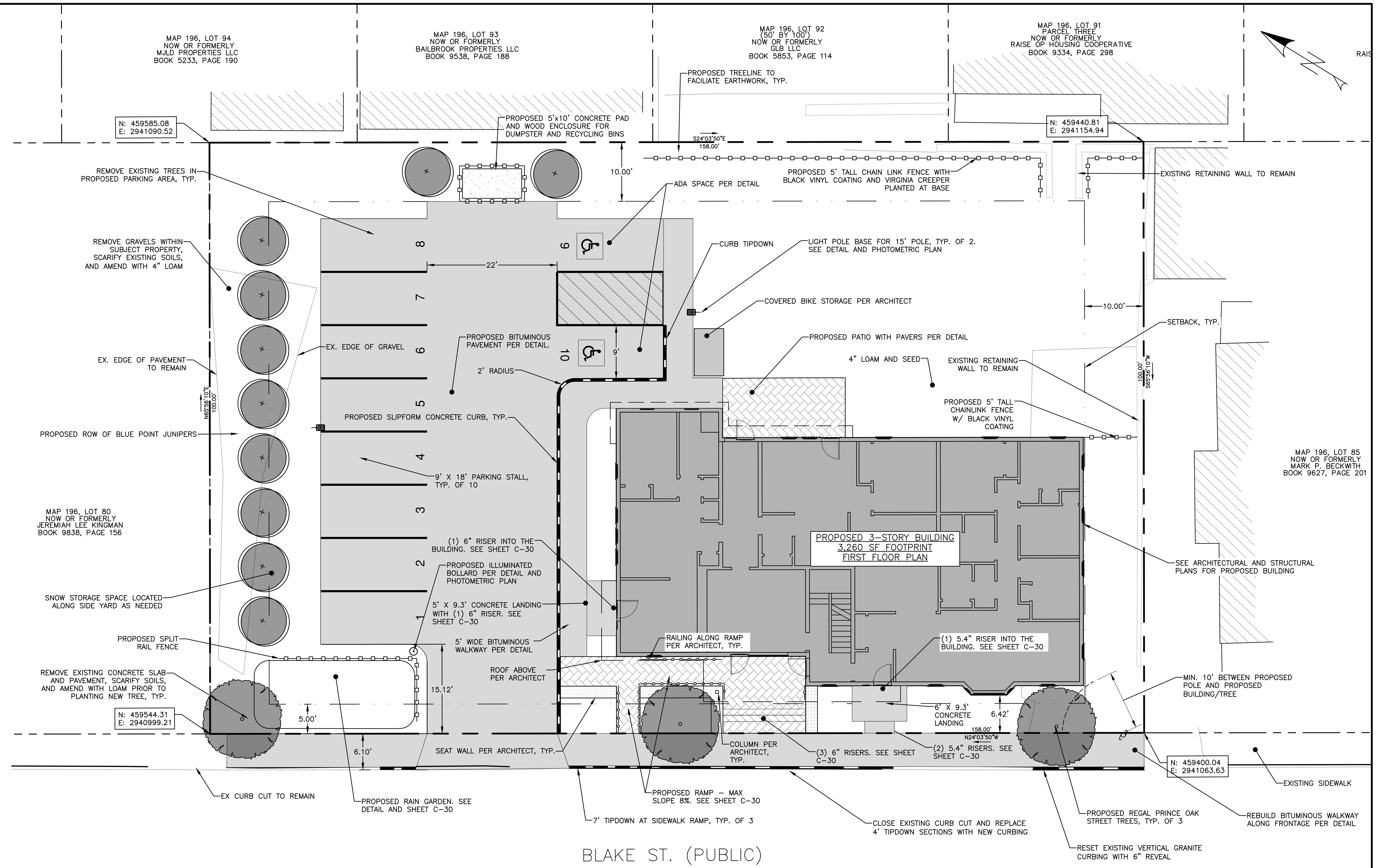
THERE ARE NO PROPOSED EASEMENTS.

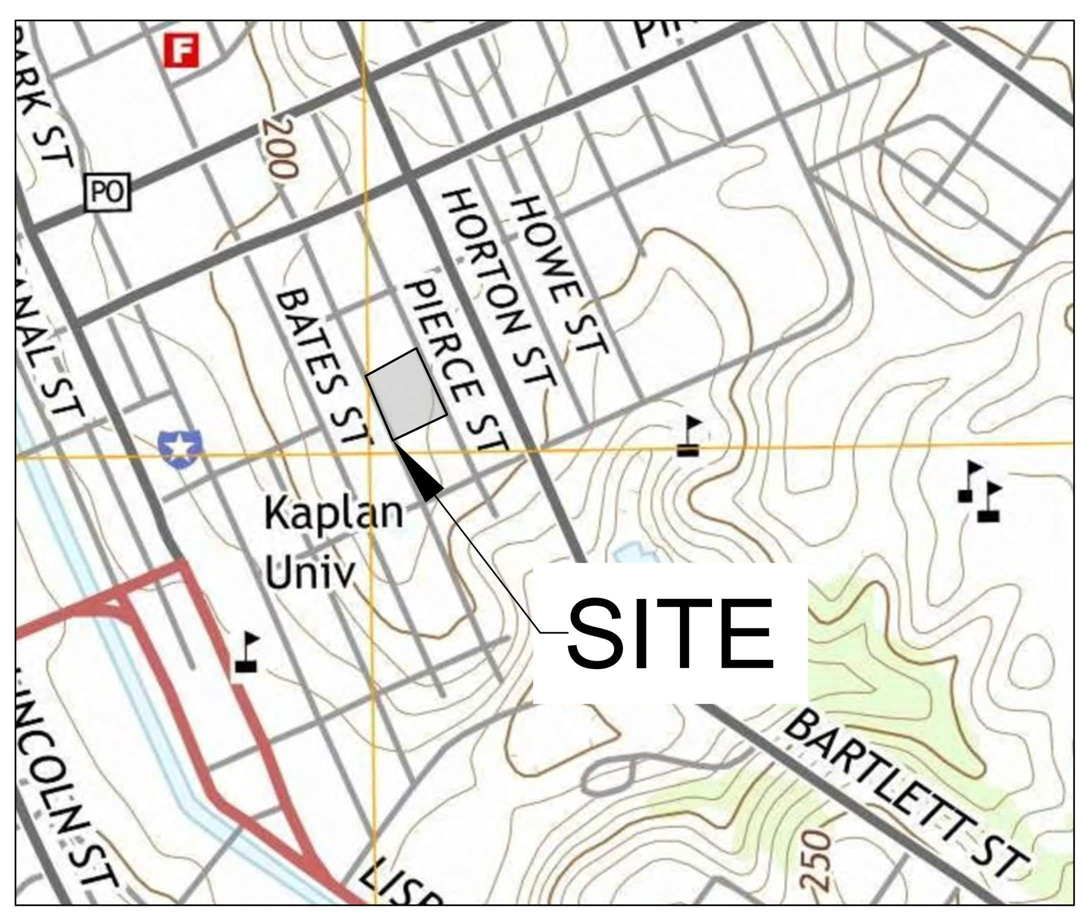
THIS SURVEY CONFORMS TO THE CURRENT STANDARDS OF PRACTICE SET FORTH BY THE MAINE STATE BOARD OF LICENSURE FOR LAND SURVEYORS.

JEFF A. TEUNISEN, MAINE P.L.S. #2365 DATE:
CES, INC.

STANDARD NOTES FOR MAJOR DEVELOPMENT REVIEW PLANS:

1. PRIOR TO ANY CERTIFICATE OF OCCUPANCY BEING ISSUED, THE APPLICANT'S DESIGNING ENGINEER SHALL SUBMIT A FINAL INSPECTION REPORT TO THE CITY INDICATING THAT THE STORMWATER SYSTEM AND ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLAN.
2. A BUILDING/USE PERMIT SHALL BE REQUIRED FOR ALL ACTIVITIES REGULATED BY THE ZONING AND LAND USE CODE INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
   - 3.1 THE CONSTRUCTION, ALTERATION, RELOCATION, DEMOLITION, PLACEMENT, OR REMOVAL OF OR THE ADDITION TO ANY STRUCTURE OR BUILDING OR PART THEREOF;
   - 3.2 THE CONSTRUCTION/ INSTALLATION OF A WALL OR FENCE 3.5 FEET OR GREATER IN HEIGHT IN ACCORDANCE WITH ARTICLE XII, SEC. 7;
   - 3.3 THE ERECTION/ INSTALLATION OF A SIGN OR THE REPLACEMENT OF A SIGN FACE REGULATED IN ACCORDANCE WITH ARTICLE XII, SECTION 16 OF THIS CODE;
   - 3.4 THE CONSTRUCTION OF A DRIVEWAY OR PARKING LOT;
   - 3.5 THE CHANGE OF USE OR OCCUPANCY OF A BUILDING, STRUCTURE, OR LOT OF LAND
3. NO PERMIT SHALL BE ISSUED FOR THE CONSTRUCTION, ADDITION, ALTERATION, REMOVAL, DEMOLITION OR CHANGE OF USE OF ANY BUILDING, STRUCTURE OR PART THEREOF, OR FOR THE USE OF ANY PREMISES UNLESS THE PLANS AND INTENDED USE INDICATE THAT THE BUILDING, STRUCTURE OR PREMISES IS TO CONFORM IN ALL RESPECTS TO ZONING AND LAND USE CODE OF THE CITY OF LEWISTON AND THE LAND USE LAWS OF THE STATE OF MAINE.
4. THE GRANTING OF THIS APPROVAL IS DEPENDENT UPON AND LIMITED TO THE PROPOSALS AND PLANS CONTAINED IN THE APPLICATION AND SUPPORTING DOCUMENTS SUBMITTED AND AFFIRMED TO BY THE APPLICANT. ANY VARIATION FROM THESE PLANS, PROPOSALS, AND SUPPORTING DOCUMENTS IS SUBJECT TO REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION. FURTHER SUBDIVISION OF PROPOSED LOTS BY THE APPLICANT OR FUTURE OWNERS IS SPECIFICALLY PROHIBITED WITHOUT PRIOR APPROVAL OF THE BOARD
5. THE APPLICANT SHALL SECURE AND COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LICENSES, PERMITS, AUTHORIZATIONS, CONDITIONS, AGREEMENTS, AND ORDERS PRIOR TO OR DURING CONSTRUCTION AND OPERATION, AS APPROPRIATE.





VICINITY MAP
NOT TO SCALE

RECORDING INFORMATION
STATE OF MAINE, ANDROSCOGGIN COUNTY REGISTRY OF DEEDS

RECEIVED: ______
RECORDED IN ______
ATTEST: ______ REGISTRAR

APPROVED: CITY OF LEWISTON PLANNING BOARD

CHAIRPERSON: ______ DATE: ______

IF DEVELOPMENT HAS NOT OCCURRED AS DEFINED WITHIN THE SCOPE OF THE CITY OF LEWISTON CODE OF ORDINANCES, WITHIN 24 MONTHS OF THE DATE OF APPROVAL, DEVELOPMENT REVIEW APPROVAL SHALL EXPIRE. THE APPLICANT MAY NOT BEGIN CONSTRUCTION OR OPERATION OF THE DEVELOPMENT UNTIL A NEW APPROVAL IS GRANTED (ARTICLE XIII, SECTION 11)

DEVELOPER:

RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102
LEWISTON, MAINE 04240
CONTACT: CRAIG SADDLEMIRE
(207) 956-0508

CIVIL/SITE ENGINEER:

ACORN ENGINEERING, INC.
65 HANOVER STREET
PORTLAND, MAINE 04101
CONTACT: WILL SAVAGE, P.E.
(207) 775-2655

SURVEYOR:

CES, INC.
45 LISBON STREET
LEWISTON, MAINE 04240
CONTACT: JEFF TEUNISEN, P.L.S.
(207) 989-4824

PROPERTY LINE	— - - —
SETBACK	— — —
PROPOSED BUILDING	(dark shading)
PROPOSED PAVEMENT	(light shading)
CURB	▬▬
STRIPING	▭

UNIT TABULATION

UNIT	SIZE (SF)*
1-A	624
1-B	592
1-C	1280
2-A	901
2-B	630
2-C	1280
3-A	901
3-B	630
3-C	1280

*UNIT AREA MEASURED FROM OUTSIDE OF EXTERIOR WALLS TO THE CENTER OF SHARED WALLS

SPACE AND BULK STANDARDS

ZONE: DR	REQUIRED	PROPOSED
MINIMUM LOT SIZE	4,000 SF	15,800 SF
MINIMUM NET LOT AREA PER D.U.	1,250 SF	1,756 SF
MINIMUM STREET FRONTAGE	40'	158'
MINIMUM FRONT SETBACK	5'	6.5'
MINIMUM SIDE SETBACK	5'	10'
MINIMUM REAR SETBACK	10'	45'
MAXIMUM IMPERVIOUS COVERAGE	75%	53%
MAXIMUM BUILDING HEIGHT	60'	35.6'
MINIMUM BUILDING HEIGHT	20'	

PARKING SUMMARY

	# PARKING SPACES
REQUIRED	10
9'X18'	8
ADA (9'X18')	2
TOTAL PROPOSED SPACES	10

PRELIMINARY
NOT ISSUED FOR CONSTRUCTION

10 0 10 20
SCALE: 1"=10'

ISSUED FOR	BY / DATE
SITE PLAN/SUB APP	WHS 9/4/2020

DRAWING NAME: **SUBDIVISION PLAT – 194 BLAKE STREET LEWISTON, ME 04240**

PROJECT NAME: **BLAKE ST RAISE OP HOUSING 186-198 BLAKE ST**

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

A C O R N ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

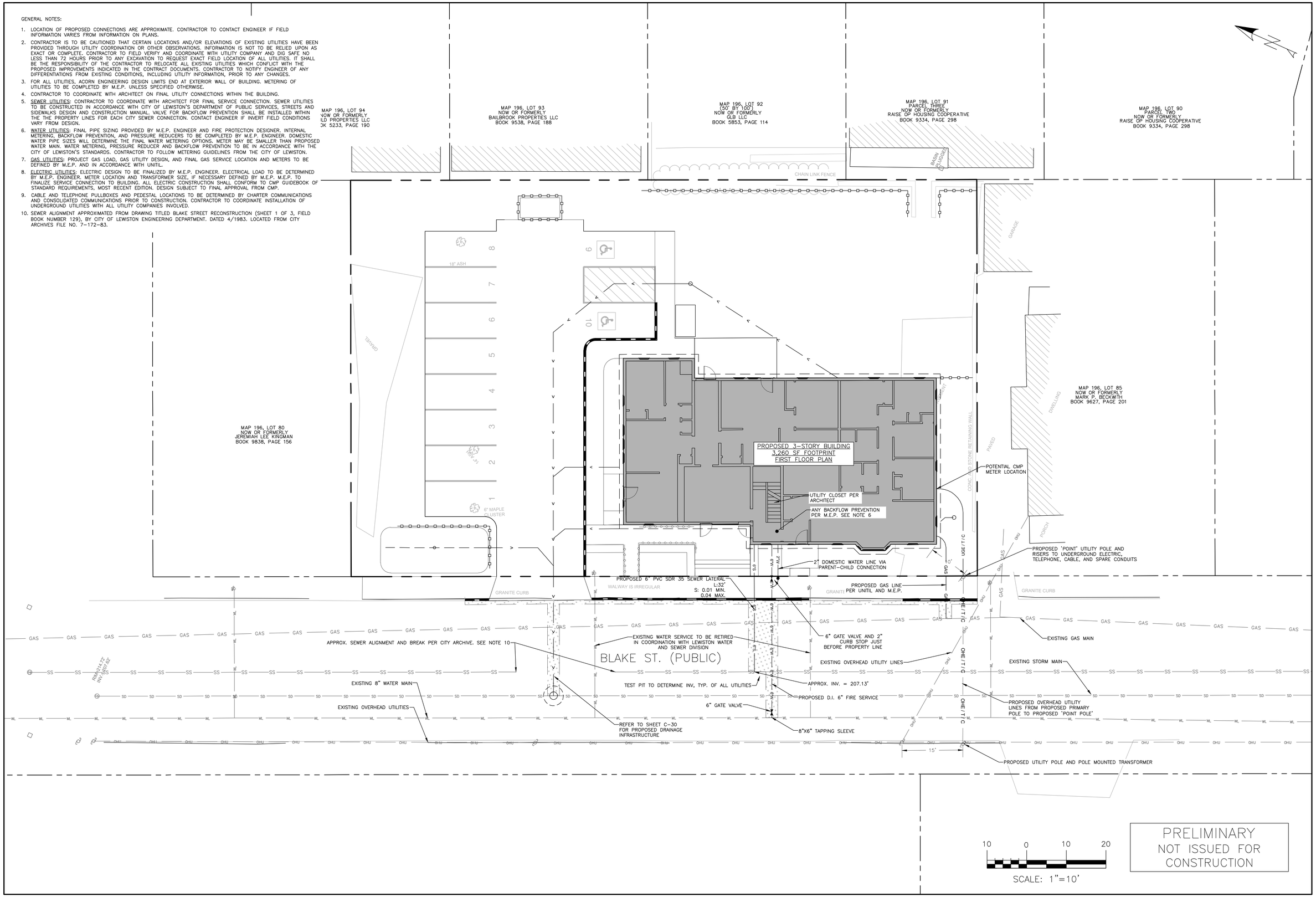
FILE:	1143_CIVIL
JN:	1143
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE — WILLIAM SAVAGE — No. 11466 — LICENSED PROFESSIONAL ENGINEER — 8-28-20

DRAWING NO.
PLAT

GENERAL NOTES:

1. LOCATION OF PROPOSED CONNECTIONS ARE APPROXIMATE. CONTRACTOR TO CONTACT ENGINEER IF FIELD INFORMATION VARIES FROM INFORMATION ON PLANS.
2. CONTRACTOR IS TO BE CAUTIONED THAT CERTAIN LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES HAVE BEEN PROVIDED THROUGH UTILITY COORDINATION OR OTHER OBSERVATIONS. INFORMATION IS NOT TO BE RELIED UPON AS EXACT OR COMPLETE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY COMPANY AND DIG SAFE NO LESS THAN 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF ALL UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR TO NOTIFY ENGINEER OF ANY DIFFERENTIATIONS FROM EXISTING CONDITIONS, INCLUDING UTILITY INFORMATION, PRIOR TO ANY CHANGES.
3. FOR ALL UTILITIES, ACORN ENGINEERING DESIGN LIMITS END AT EXTERIOR WALL OF BUILDING. METERING OF UTILITIES TO BE COMPLETED BY M.E.P. UNLESS SPECIFIED OTHERWISE.
4. CONTRACTOR TO COORDINATE WITH ARCHITECT ON FINAL UTILITY CONNECTIONS WITHIN THE BUILDING.
5. SEWER UTILITIES: CONTRACTOR TO COORDINATE WITH ARCHITECT FOR FINAL SERVICE CONNECTION. SEWER UTILITIES TO BE CONSTRUCTED IN ACCORDANCE WITH CITY OF LEWISTON'S DEPARTMENT OF PUBLIC SERVICES, STREETS AND SIDEWALKS DESIGN AND CONSTRUCTION MANUAL. VALVE FOR BACKFLOW PREVENTION SHALL BE INSTALLED WITHIN THE THE PROPERTY LINES FOR EACH CITY SEWER CONNECTION. CONTACT ENGINEER IF INVERT FIELD CONDITIONS VARY FROM DESIGN.
6. WATER UTILITIES: FINAL PIPE SIZING PROVIDED BY M.E.P. ENGINEER AND FIRE PROTECTION DESIGNER. INTERNAL METERING, BACKFLOW PREVENTION, AND PRESSURE REDUCERS TO BE COMPLETED BY M.E.P. ENGINEER. DOMESTIC WATER PIPE SIZES WILL DETERMINE THE FINAL WATER METERING OPTIONS. METER MAY BE SMALLER THAN PROPOSED WATER MAIN. WATER METERING, PRESSURE REDUCER AND BACKFLOW PREVENTION TO BE IN ACCORDANCE WITH THE CITY OF LEWISTON'S STANDARDS. CONTRACTOR TO FOLLOW METERING GUIDELINES FROM THE CITY OF LEWISTON.
7. GAS UTILITIES: PROJECT GAS LOAD, GAS UTILITY DESIGN, AND FINAL GAS SERVICE LOCATION AND METERS TO BE DEFINED BY M.E.P. AND IN ACCORDANCE WITH UNITIL.
8. ELECTRIC UTILITIES: ELECTRIC DESIGN TO BE FINALIZED BY M.E.P. ENGINEER. ELECTRICAL LOAD TO BE DETERMINED BY M.E.P. ENGINEER. METER LOCATION AND TRANSFORMER SIZE, IF NECESSARY DEFINED BY M.E.P. M.E.P. TO FINALIZE SERVICE CONNECTION TO BUILDING. ALL ELECTRIC CONSTRUCTION SHALL CONFORM TO CMP GUIDEBOOK OF STANDARD REQUIREMENTS, MOST RECENT EDITION. DESIGN SUBJECT TO FINAL APPROVAL FROM CMP.
9. CABLE AND TELEPHONE PULLBOXES AND PEDESTAL LOCATIONS TO BE DETERMINED BY CHARTER COMMUNICATIONS AND CONSOLIDATED COMMUNICATIONS PRIOR TO CONSTRUCTION. CONTRACTOR TO COORDINATE INSTALLATION OF UNDERGROUND UTILITIES WITH ALL UTILITY COMPANIES INVOLVED.
10. SEWER ALIGNMENT APPROXIMATED FROM DRAWING TITLED BLAKE STREET RECONSTRUCTION (SHEET 1 OF 3, FIELD BOOK NUMBER 129), BY CITY OF LEWISTON ENGINEERING DEPARTMENT. DATED 4/1983. LOCATED FROM CITY ARCHIVES FILE NO. 7-172-83.



PRELIMINARY
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY / DATE
SITE PLAN/SUB APP	WHS 9/4/2020
UTILITY POLE MOD.	WHS 9/5/2020
COMMENT RESPONSE	WHS 9/21/2020

DRAWING NAME: UTILITY PLAN

PROJECT NAME: BLAKE ST RAISE OP HOUSING 186-198 BLAKE ST

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS, OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
2321 LAKE SHORE DRIVE, PORTLAND, MAINE 04101
PO BOX 7051 (207) 775-2655

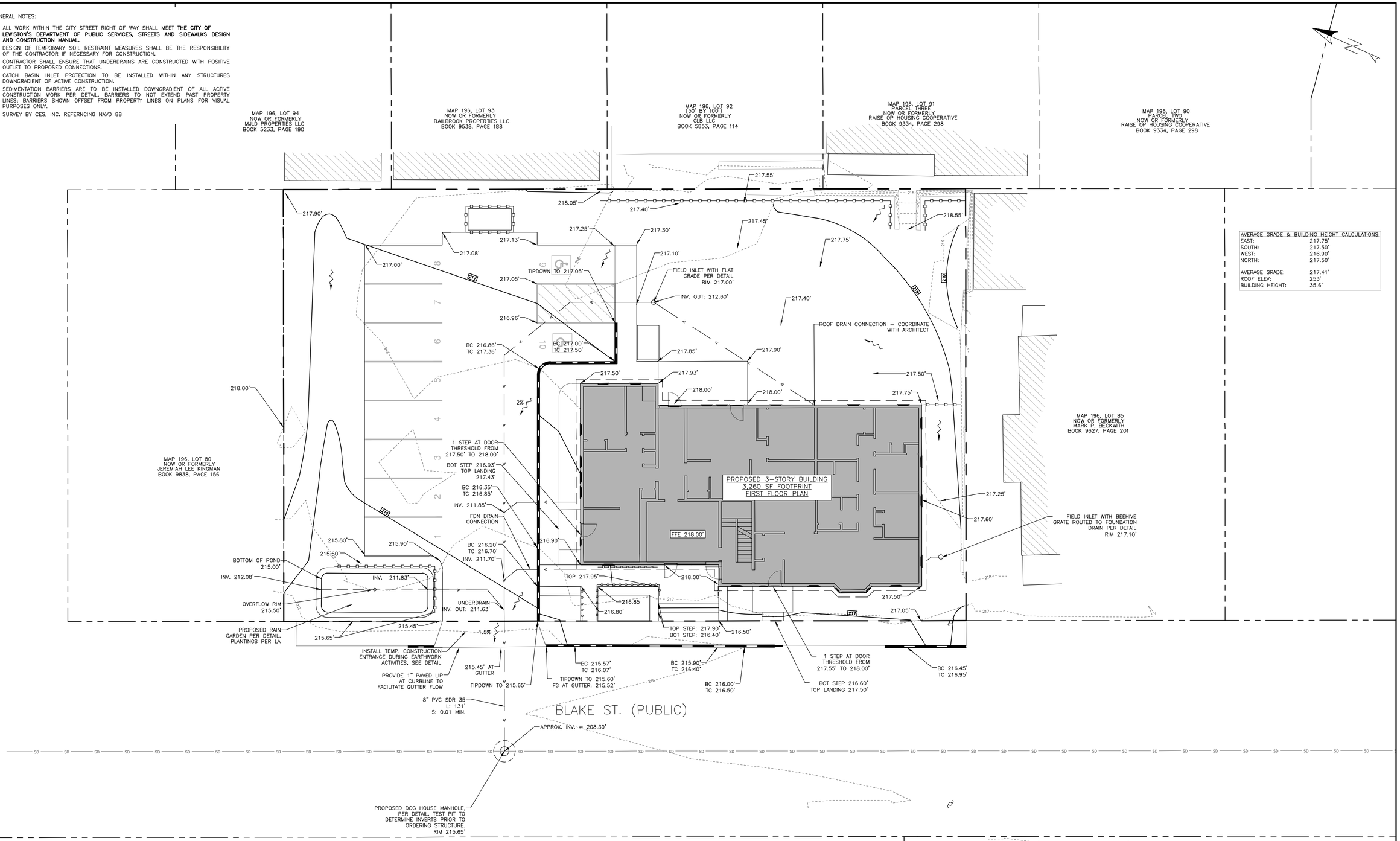
FILE:	1143_CIVIL
JN:	1143
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11414 8-28-20 LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-20

GENERAL NOTES:

1. ALL WORK WITHIN THE CITY STREET RIGHT OF WAY SHALL MEET **THE CITY OF LEWISTON'S DEPARTMENT OF PUBLIC SERVICES, STREETS AND SIDEWALKS DESIGN AND CONSTRUCTION MANUAL.**
2. DESIGN OF TEMPORARY SOIL RESTRAINT MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR IF NECESSARY FOR CONSTRUCTION.
3. CONTRACTOR SHALL ENSURE THAT UNDERDRAINS ARE CONSTRUCTED WITH POSITIVE OUTLET TO PROPOSED CONNECTIONS.
4. CATCH BASIN INLET PROTECTION TO BE INSTALLED WITHIN ANY STRUCTURES DOWNGRADIENT OF ACTIVE CONSTRUCTION.
5. SEDIMENTATION BARRIERS ARE TO BE INSTALLED DOWNGRADIENT OF ALL ACTIVE CONSTRUCTION WORK PER DETAIL. BARRIERS TO NOT EXTEND PAST PROPERTY LINES; BARRIERS SHOWN OFFSET FROM PROPERTY LINES ON PLANS FOR VISUAL PURPOSES ONLY.
6. SURVEY BY CES, INC. REFERNCING NAVD 88



AVERAGE GRADE & BUILDING HEIGHT CALCULATIONS:	
EAST:	217.75'
SOUTH:	217.50'
WEST:	216.90'
NORTH:	217.50'
AVERAGE GRADE:	217.41'
ROOF ELEV:	253'
BUILDING HEIGHT:	35.6'

10 0 10 20

SCALE: 1"=10'

PRELIMINARY
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE PLAN/SUB APP	WHS	9/4/2020
COMMENT RESPONSE	WHS	9/21/2020

DRAWING NAME: GRADING & DRAINAGE PLAN

PROJECT NAME: BLAKE ST RAISE OP HOUSING 186–198 BLAKE ST

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE COPIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ALTERATIONS, ADDITIONS OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND RESPONSIBILITY, PURSUANT TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3297, PORTLAND, MAINE 04101
(207) 775-2655

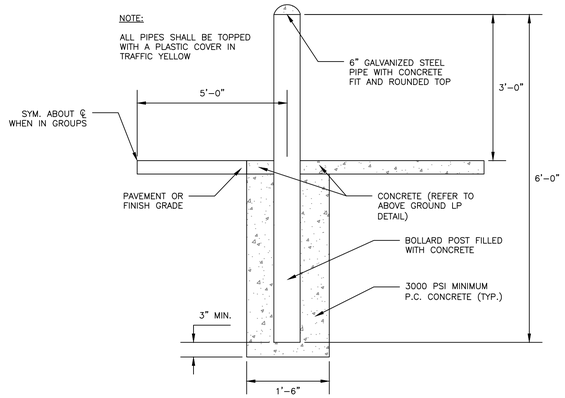
FILE:	1143_CIVIL
JN:	1143
SCALE:	AS NOTED
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SALVAGE
No. 11414
8-28-20
PROFESSIONAL ENGINEER

DRAWING NO.
C-30

NOTE:

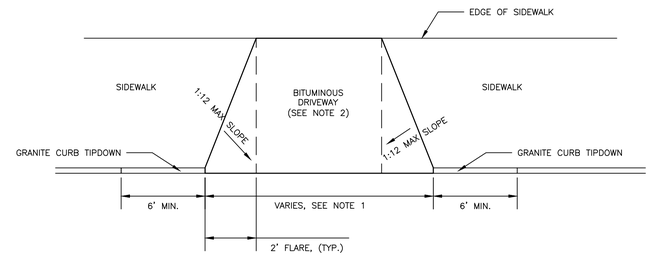
ALL PIPES SHALL BE TOPPED WITH A PLASTIC COVER IN TRAFFIC YELLOW



PIPE BOLLARD

NOT TO SCALE

NOTES:
1. REFER TO GRADING PLAN FOR SITE GRADING
2. REFER TO BITUMINOUS PAVEMENT PROFILE DETAIL FOR APRON CROSS-SECTION



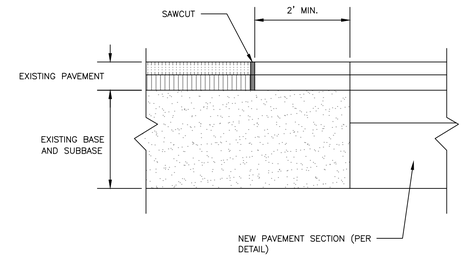
DRIVEWAY APRON LAYOUT DETAIL

NOT TO SCALE

NOTES:

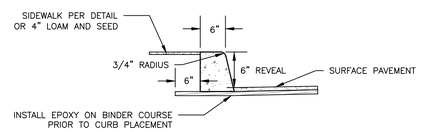
1. SAWCUT EXISTING PAVEMENT AND REMOVE 2' STRIP OF EXISTING PAVEMENT. APPLY BITUMINOUS TACK COAT PRIOR TO PLACEMENT OF NEW BITUMINOUS PAVEMENT.

2. THE NEW PAVEMENT SECTION SHALL MEET THE CITY OF PORTLAND ARTERIAL BITUMINOUS PAVEMENT SECTION DETAIL AT A MINIMUM OR THE THE EXISTING PAVEMENT AND AGGREGATE BASE AND SUBBASE DEPTH WHICHEVER IS GREATER.



PAVEMENT SAWCUT DETAIL

NOT TO SCALE

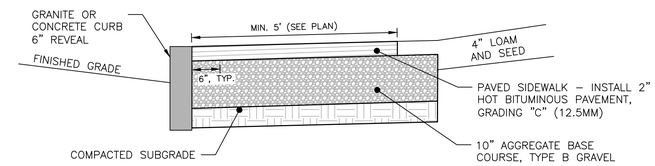


SLIPFORM CONCRETE CURB DETAIL

NOT TO SCALE

NOTE:

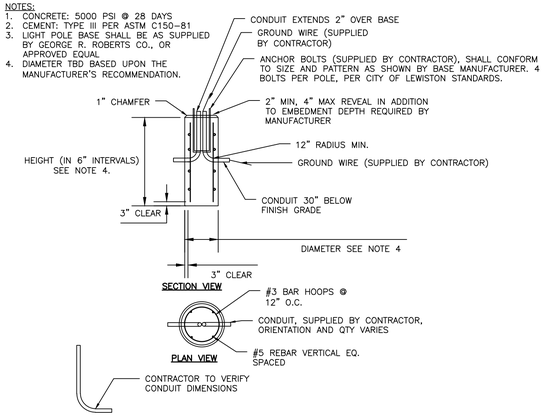
COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORNDANCE WITH ASTM D-1557



BITUMINOUS SIDEWALK DETAIL

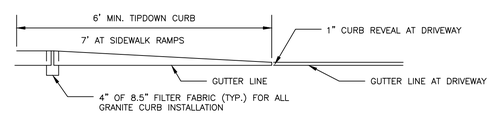
NOT TO SCALE

NOTES:
1. CONCRETE: 5000 PSI @ 28 DAYS
2. CEMENT: TYPE III PER ASTM C150-81
3. LIGHT POLE BASE SHALL BE AS SUPPLIED BY GEORGE R. ROBERTS CO., OR APPROVED EQUAL
4. DIAMETER TBD BASED UPON THE MANUFACTURER'S RECOMMENDATION.

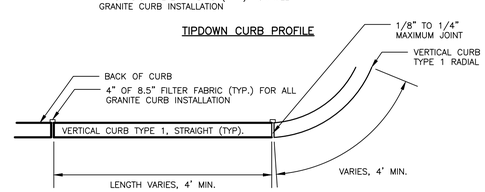


LIGHT POLE BASE

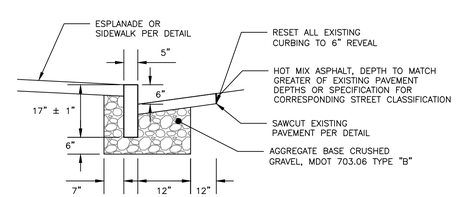
NOT TO SCALE



TIPDOWN CURB PROFILE



VERTICAL GRANITE CURB PLAN VIEW



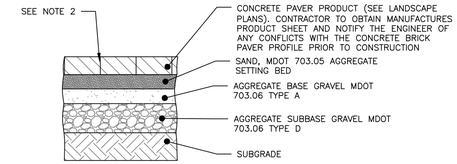
VERTICAL GRANITE CURB CROSS SECTION

NOTES:

1. CURB SHALL BE RESET IN ACCORDANCE WITH MDOT 609.08 WITH THE EXCEPTION OF CURB SPACING TO BE INSTALLED PER DETAIL.

VERTICAL GRANITE CURB AND TIPDOWN INSTALLATION IN EXISTING STREETS DETAIL

NOT TO SCALE

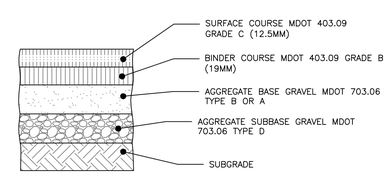


NOTE:
1. COMPACT AGGREGATE MATERIALS AND SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557
2. INSTALL WITH ALLIANCE GATOR XP POLY SAND PER MANUFACTURER'S RECOMMENDATION. POLY SAND COLOR PER LANDSCAPE ARCHITECT.

THICKNESS OF LAYERS	
STANDARD	LAYERS
2"	AGGREGATE BASE SAND MDOT 703.05
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE A
10"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

CONCRETE BRICK PAVER PROFILE

NOT TO SCALE



NOTE:
1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.
2. IF BLAKE ST IS FOUND TO CONTAIN GREATER SUBBASE, BASE, OR PAVEMENT DEPTHS THAN DEPICTED IN THIS DETAIL, THEN TRENCH REPAIRS SHALL MATCH THE EXISTING ROAD PROFILE WITH RESPECT TO MATERIALS AND DEPTHS. OTHERWISE, REPAIR TRENCHES PER DETAIL.

THICKNESS OF LAYERS	
STANDARD	LAYERS
1-1/2"	SURFACE COURSE MDOT 403.09 GRADE C (12.5mm)
2"	BINDER COURSE MDOT 403.09 GRADE B (19mm)
3"	AGGREGATE BASE GRAVEL MDOT 703.06 TYPE B OR A
15"	AGGREGATE SUBBASE GRAVEL MDOT 703.06 TYPE D

BITUMINOUS PAVEMENT PROFILE

NOT TO SCALE

PRELIMINARY
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY	DATE
SITE PLAN/SUB APP	WHS	9/4/2020
COMMENT RESPONSE	WHS	9/21/2020

DRAWING NAME: SITE DETAILS - 1

PROJECT NAME: BLAKE ST RAISE OP HOUSING 186-198 BLAKE ST

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

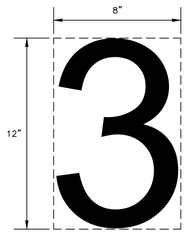
ACORN ENGINEERING, INC.
ACORN ENGINEERING, INC.
P.O. BOX 7322, PORTLAND, ME 04112
(207) 775-2655

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE WITHOUT WRITTEN PERMISSION OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1143_DETAILS
JN:	1143
SCALE:	NTS
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11416 8-28-20 LICENSED PROFESSIONAL ENGINEER

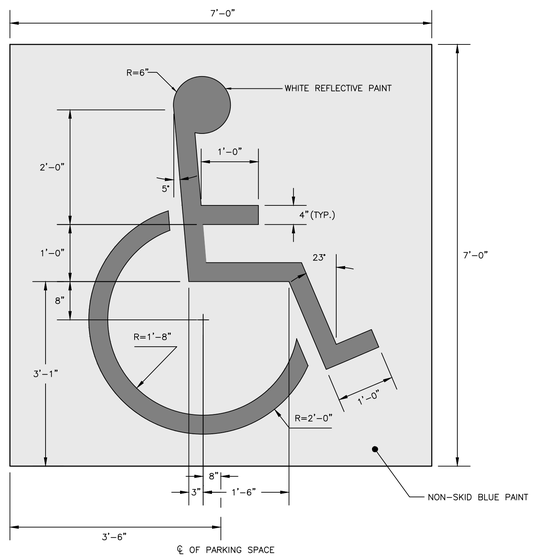
DRAWING NO.
C-40



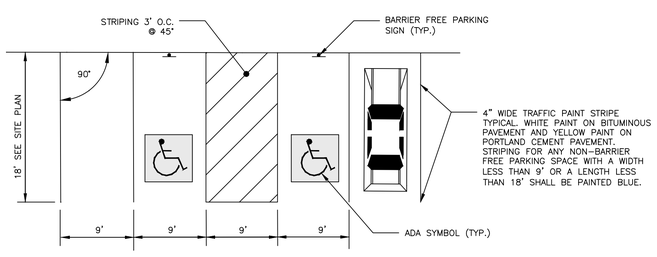
NOTES:

1. NUMBERS TO BE PAINTED AS THE SAME COLOR AS THE CORRESPONDING PARKING SPACE.
2. BOTTOM OF NUMBER TO BE FLUSH WITH THE FRONT OF THE PARKING SPACE.

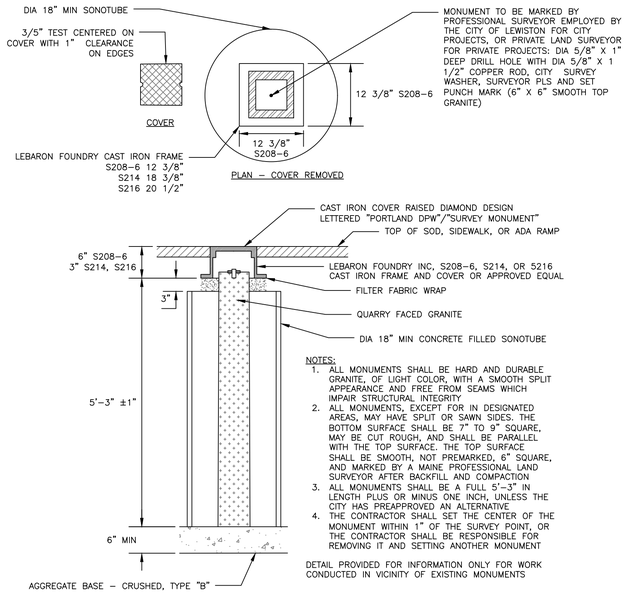
PARKING STALL NUMBER DETAIL
NOT TO SCALE



INTERNATIONAL BARRIER FREE SYMBOL
NOT TO SCALE



PARKING SPACE DIMENSIONS
NOT TO SCALE

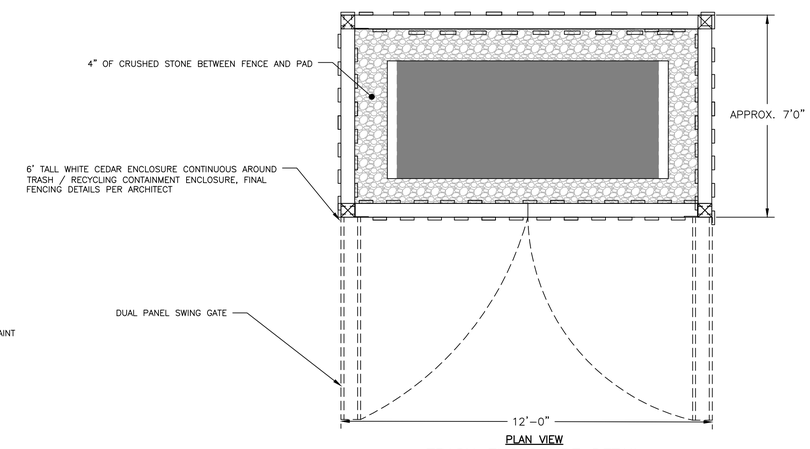


NOTES:

1. ALL MONUMENTS SHALL BE HARD AND DURABLE GRANITE, OF LIGHT COLOR, WITH A SMOOTH SPLIT APPEARANCE AND FREE FROM SEAMS WHICH IMPAIR STRUCTURAL INTEGRITY
2. ALL MONUMENTS, EXCEPT FOR IN DESIGNATED AREAS, MAY HAVE SPLIT OR SAWN SIDES. THE BOTTOM SURFACE SHALL BE 7" TO 9" SQUARE, MAY BE CUT ROUGH, AND SHALL BE PARALLEL WITH THE TOP SURFACE. THE TOP SURFACE SHALL BE SMOOTH, NOT PREMARKED, 6" SQUARE, AND MARKED BY A MAINE PROFESSIONAL LAND SURVEYOR AFTER BACKFILL AND COMPACTION
3. ALL MONUMENTS SHALL BE A FULL 5'-3" IN LENGTH PLUS OR MINUS ONE INCH, UNLESS THE CITY HAS PREAPPROVED AN ALTERNATIVE
4. THE CONTRACTOR SHALL SET THE CENTER OF THE MONUMENT WITHIN 1" OF THE SURVEY POINT, OR THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING IT AND SETTING ANOTHER MONUMENT

DETAIL PROVIDED FOR INFORMATION ONLY FOR WORK CONDUCTED IN VICINITY OF EXISTING MONUMENTS

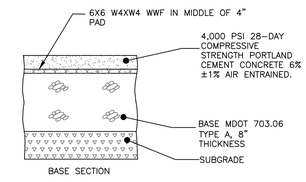
GRANITE STREET MONUMENT
NOT TO SCALE

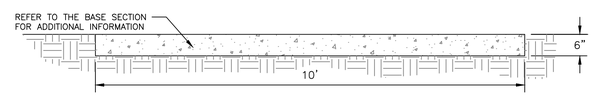


TRASH ENCLOSURE DETAIL
NOT TO SCALE

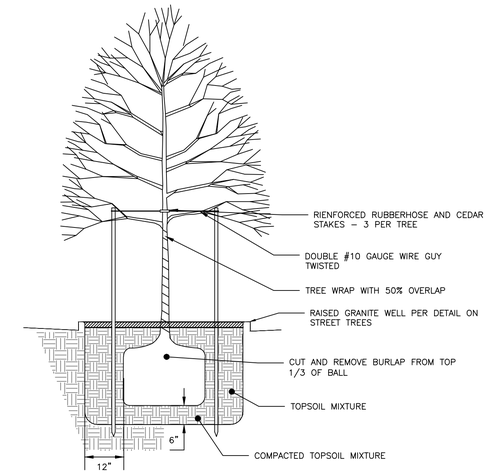
NOTES:

1. COMPACT SUBGRADE TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.
2. FINISH WITH A STIFF, COARSE, FIBER BROOM.





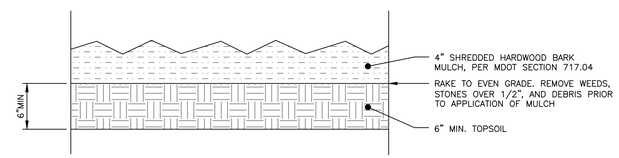
CONCRETE PAD DETAIL
NOT TO SCALE



TREE PLANTING DETAIL
NOT TO SCALE

PLANTING NOTES:

1. ALL PLANT SELECTION AND INSTALLATION WILL BE IN COMPLIANCE WITH THE CITY OF LEWISTON
2. CONTRACTOR TO VERIFY ALL UTILITIES ON PROPERTY AND TO PROTECT ALL UTILITIES DURING EXCAVATION FOR PLANTS.
3. IF THERE IS A DISCREPANCY BETWEEN THE NUMBER OF PLANTS SHOWN ON THE PLAN AND THE NUMBER OF PLANTS SHOWN IN PLANT LIST (IF ANY), THE NUMBER OF PLANTS SHOWN ON PLAN WILL TAKE PRECEDENCE.
4. ALL MATERIAL SHALL COMPLY WITH THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, AMERICAN ASSOCIATION OF NURSERYMAN.
5. ALL DISTURBED AREAS NOT TO BE PAVED OR PLANTED SHALL BE LOAMED AND SEEDED AS SHOWN. THE SEED MIX SPECIFICATIONS ARE AS FOLLOWS: LESCO FINE FESCUE LINKS BLEND OF 35% HARD FESCUE, 35% CREEPING RED FESCUE, 20% CHEWINGS FESCUE AND 10% SHEEP FESCUE. ADD 5% LITTLE BLUESTEM AND 5% NORTHEAST WILDFLOWER SEED MIXTURE BY WEIGHT TO THE LINKS BLEND.
6. FOR PRICING PURPOSES, PROVIDE A PER TREE UNIT COST FOR STAKING AND GUYING. IF STAKING AND GUYING IS REQUIRED, REMOVE TREE WRAP, STAKES, AND GUY WIRES AT END OF FIRST GROWING SEASON.
7. FOR TREE PLANTING IN LAWN AREAS, ANY DISTURBED LAWN SHALL BE LOAMED AND SEEDED AS NECESSARY.
8. NEW TREES TO BE INSTALLED WITH A SLOW RELEASE WATERING BAG.
9. CONTRACTOR TO BE HELD RESPONSIBLE FOR THE WATERING AND MAINTENANCE OF ALL PLANT MATERIAL AND LANDSCAPING IMPROVEMENTS FOR AT LEAST 30 DAYS FOLLOWING INSTALLATION. FOLLOWING THIS PERIOD, THE LANDOWNER OR PROPERTY MANAGEMENT SHALL BE RESPONSIBLE FOR CONTINUED WATERING AND MAINTENANCE. CONTRACTOR TO MAINTAIN A ONE YEAR WARRANTY ON ALL PLANTINGS FOLLOWING FINAL INSTALLATION.
10. ALL PROPOSED PLANTS SHALL BE LOCATED AS SHOWN ON THE PLANS. CONTRACTOR TO NOTIFY ENGINEER WHEN PLANTINGS HAVE BEEN MOBILIZED ON SITE. ENGINEER TO INSPECT AND ACCEPT OR REJECT ANY SPECIMENS ON THE BASIS OF APPARENT HEALTH, HARDINESS, AND CONFORMANCE WITH THE PLANTING SCHEDULE. REJECTED SPECIMENS ARE TO BE REPLACED BY THE CONTRACTOR AT NO ADDED COST TO THE OWNER. ACCEPTANCE DOES NOT WAIVE THE REQUIRED ONE YEAR PLANTING WARRANTY.



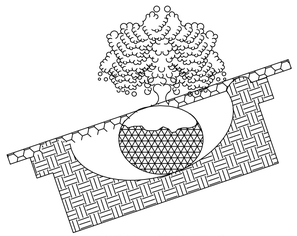
BARK MULCH DETAIL
NOT TO SCALE

DIG HOLE AT LEAST 2 TIMES THE DIAMETER OF THE ROOT BALL AND AS DEEP AS THE ROOT BALL (NO DEEPER). SET ROOT BALL CENTERED, WITH THE TOP AT DOWNHILL EDGE OF THE HOLE.

TOPSOIL BACKFILL SHALL BE NATURAL FRIABLE, FERTILE, FINE LOAMY SOIL POSSESSING THE CHARACTERISTICS OF TOPSOIL IN THE VICINITY WHICH PRODUCE A HEAVY GROWTH. TOPSOIL SHALL CONTAIN NOT LESS THAN 6% NOR MORE THAN 20% ORGANIC MATTER. TOP SOIL SHALL HAVE A pH VALUE OF NOT LESS THAN 5.5 NOR MORE THAN 7.0.

CONTAINER GROWN STOCK - REMOVE CONTAINER PROTECTING THE ROOT BALL. GENTLY COMB OUT THE ROOTS. PRUNE DAMAGED ROOTS.

BACKFILL THE HOLE WITH TOPSOIL TO A DEPTH NOT TO EXCEED 8" THEN WATER SUFFICIENTLY TO SETTLE TOPSOIL. REPEAT SOIL BACKFILL, WATER, DRAIN. TOPSOIL SHALL BE TAMPED UNDER EDGES OF THE BALLED PLANTS. BACKFILL TO FINISH GRADE AND CREATE AN EARTHEN SAUCER. SOAK PLANTS TWICE WITHIN THE FIRST TWENTY-FOUR HOURS OF PLANTING.



TYPICAL PLANTING
NOT TO SCALE

PRELIMINARY
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY / DATE
SITE PLAN/SUB APP	WHS 9/4/2020
COMMENT RESPONSE	WHS 9/21/2020

DRAWING NAME: SITE DETAILS - 2

PROJECT NAME: BLAKE ST RAISE OP HOUSING 186-198 BLAKE ST

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

ACORN ENGINEERING, INC.

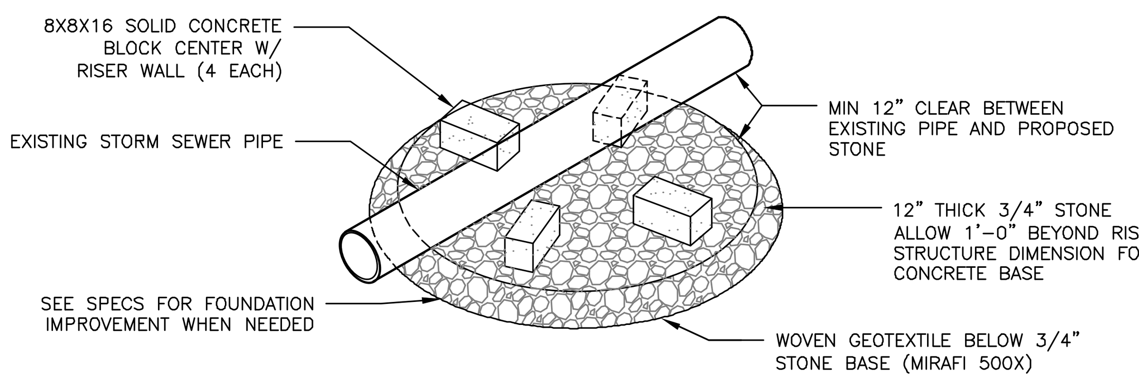
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS, WHETHER OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 7555, PORTLAND, MAINE 04101
(207) 775-2655

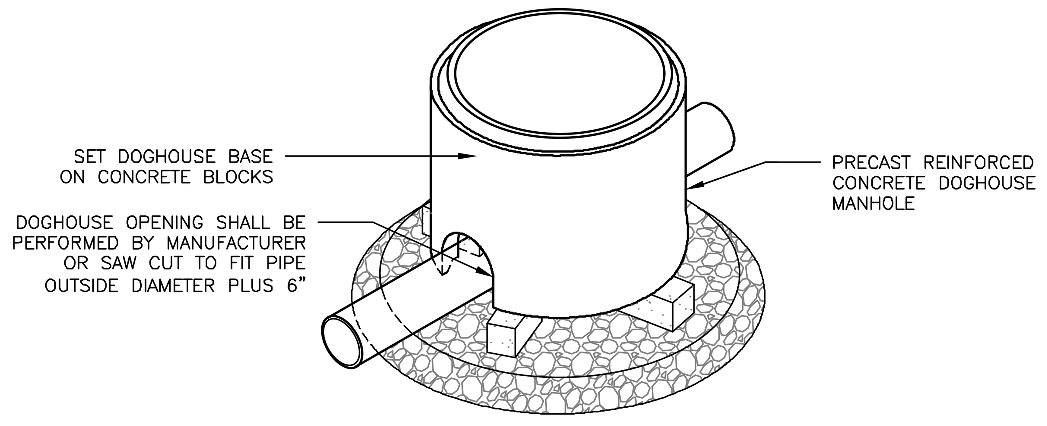
FILE:	1143_DETAILS
JN:	1143
SCALE:	NTS
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11416 LICENSED PROFESSIONAL ENGINEER 8-28-20

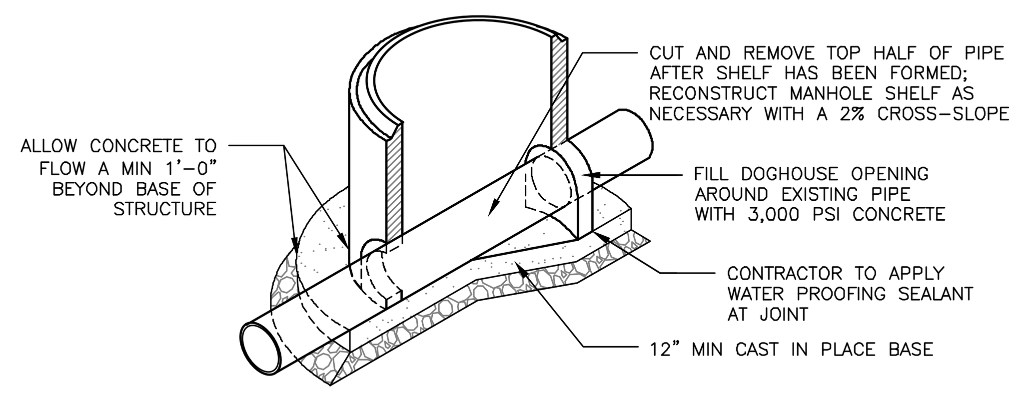
DRAWING NO.
C-41



BASE ISOMETRIC VIEW



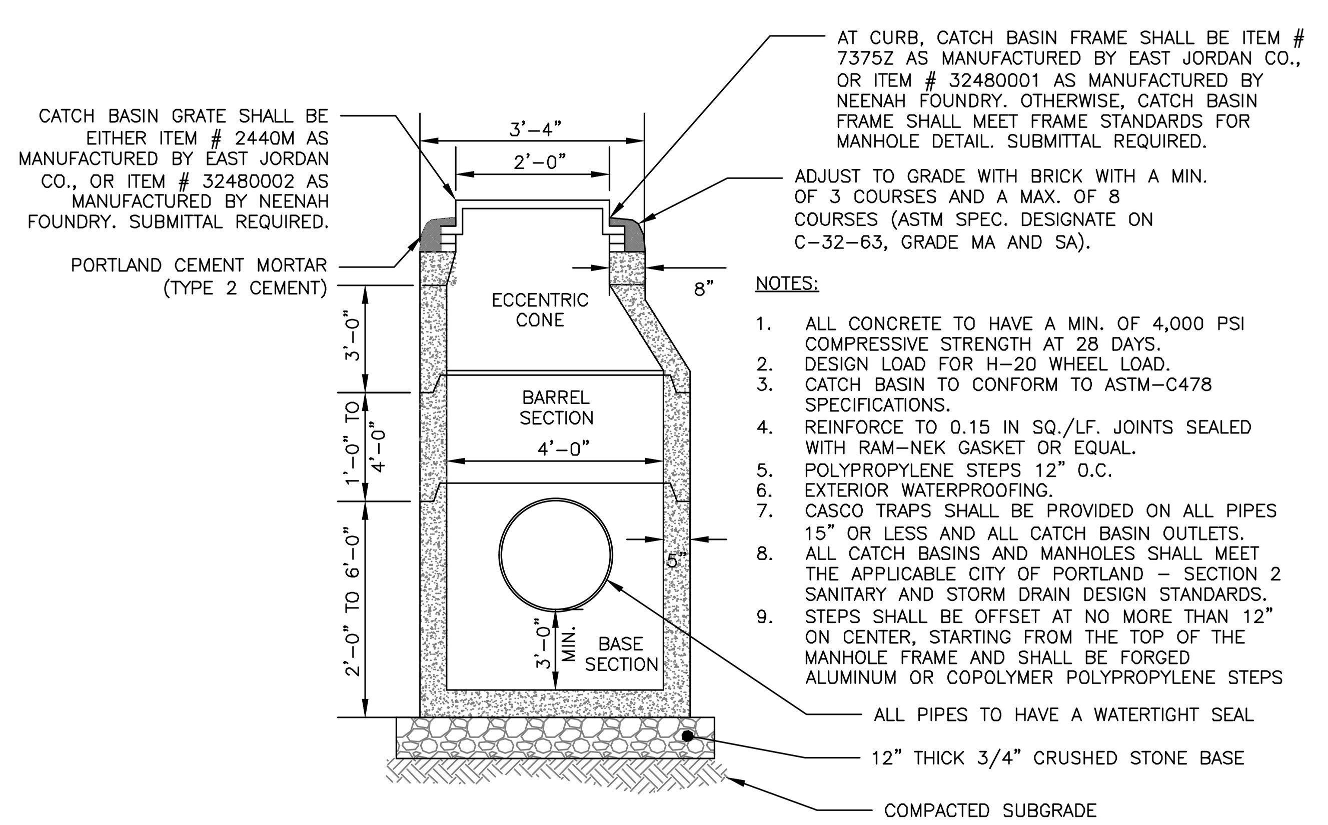
RISER ISOMETRIC VIEW



FOUNDATION SECTION VIEW

NOTES:
1. UNLESS OTHERWISE SPECIFIED, CONCRETE SHALL BE 4000 PSI @28 DAYS.
2. RECONSTRUCT INTERIOR MANHOLE INVERT AS NECESSARY TO ACCOMMODATE NEW PIPE.
3. THIS DETAIL IS INTENDED TO PROVIDE ADDITIONAL INFORMATION TO THE CONTRACTOR IN REGARDS TO THE CONNECTION OF THE DOGHOUSE MANHOLE BASE TO THE EXISTING STORM MAIN SYSTEM. MANHOLE INSTALLATION INFORMATION NOT EXPLICITLY REFERRED TO IN THIS DETAIL SHALL BE PER THE "4'-0" DIAMETER PRECAST CATCH BASIN/MANHOLE" DETAIL

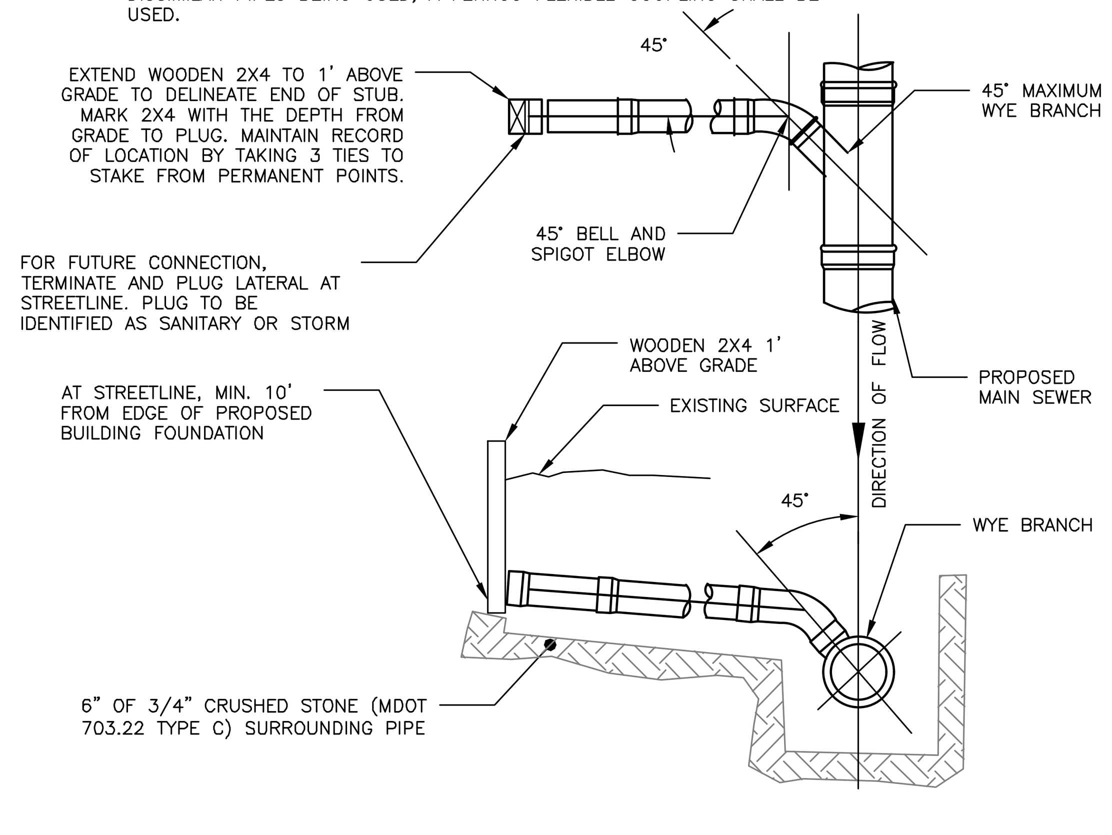
DOGHOUSE MANHOLE DETAIL
NOT TO SCALE



NOTES:
1. ALL CONCRETE TO HAVE A MIN. OF 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
2. DESIGN LOAD FOR H-20 WHEEL LOAD.
3. CATCH BASIN TO CONFORM TO ASTM-C478 SPECIFICATIONS.
4. REINFORCE TO 0.15 IN SQ./LF. JOINTS SEALED WITH RAM-NEK GASKET OR EQUAL.
5. POLYPROPYLENE STEPS 12" O.C.
6. EXTERIOR WATERPROOFING.
7. CASCO TRAPS SHALL BE PROVIDED ON ALL PIPES 15" OR LESS AND ALL CATCH BASIN OUTLETS.
8. ALL CATCH BASINS AND MANHOLES SHALL MEET THE APPLICABLE CITY OF PORTLAND - SECTION 2 SANITARY AND STORM DRAIN DESIGN STANDARDS.
9. STEPS SHALL BE OFFSET AT NO MORE THAN 12" ON CENTER, STARTING FROM THE TOP OF THE MANHOLE FRAME AND SHALL BE FORGED ALUMINUM OR COPOLYMER POLYPROPYLENE STEPS

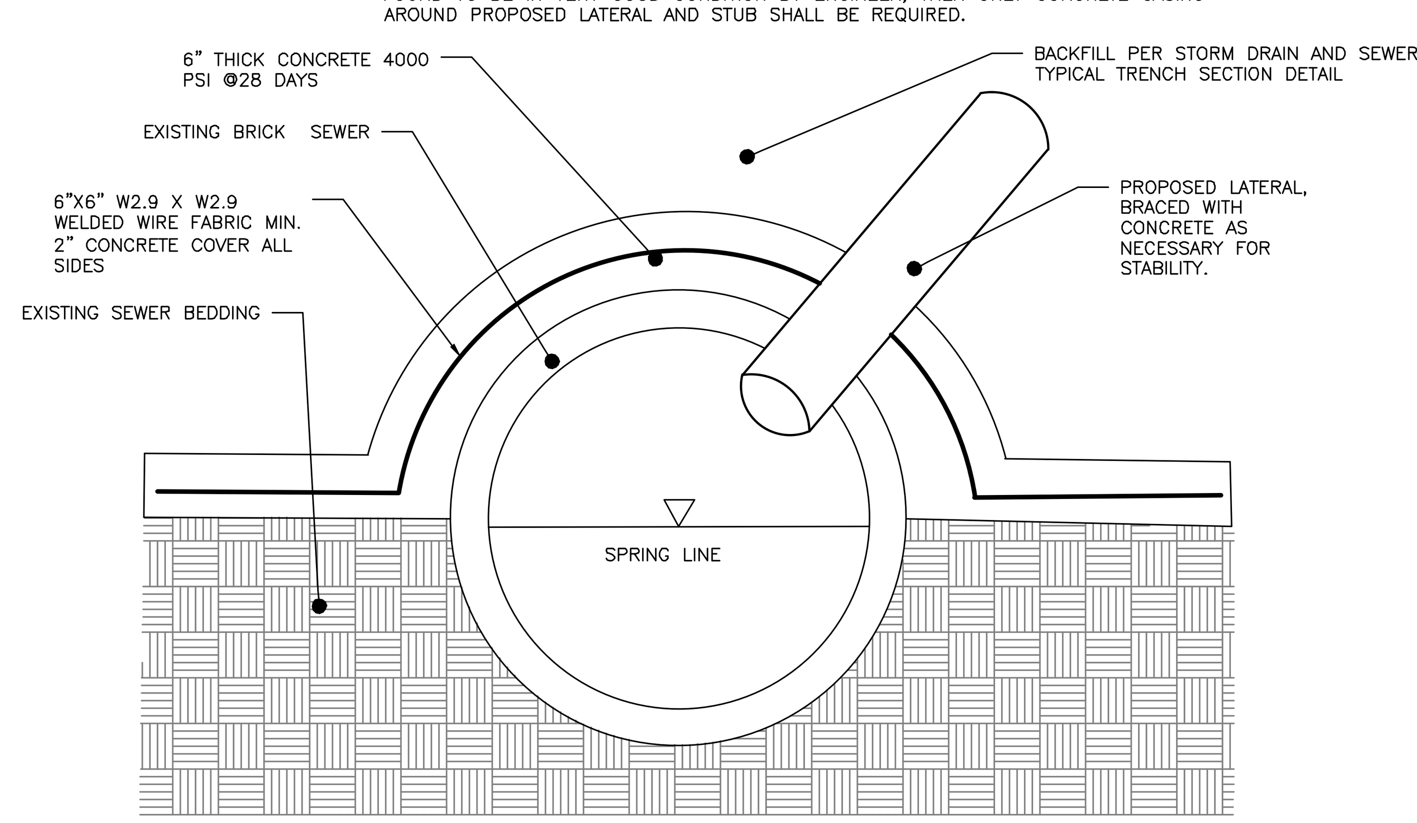
4'-0" DIAMETER PRECAST CATCH BASIN/MANHOLE
NOT TO SCALE

NOTES:
1. LOCATION WITH WARNING TAPE SHALL BE INSTALLED OVER CENTERLINE OF PIPE AT A MAXIMUM OF 24 INCHES BELOW FINISH GRADE.
2. SITE CONTRACTOR TO COORDINATE CONNECTION OF SEWER LATERAL TO HOUSEHOLD PLUMBING WITH ARCHITECTURAL CONTRACTOR
3. CONNECTION OF PROPOSED SEWER LATERAL TO HOUSEHOLD PLUMBING SHOULD INCORPORATE USE OF SIMILAR PIPE MATERIALS. IN THE CASE OF DISSIMILAR PIPES BEING USED, A FERNCO FLEXIBLE COUPLING SHALL BE USED.

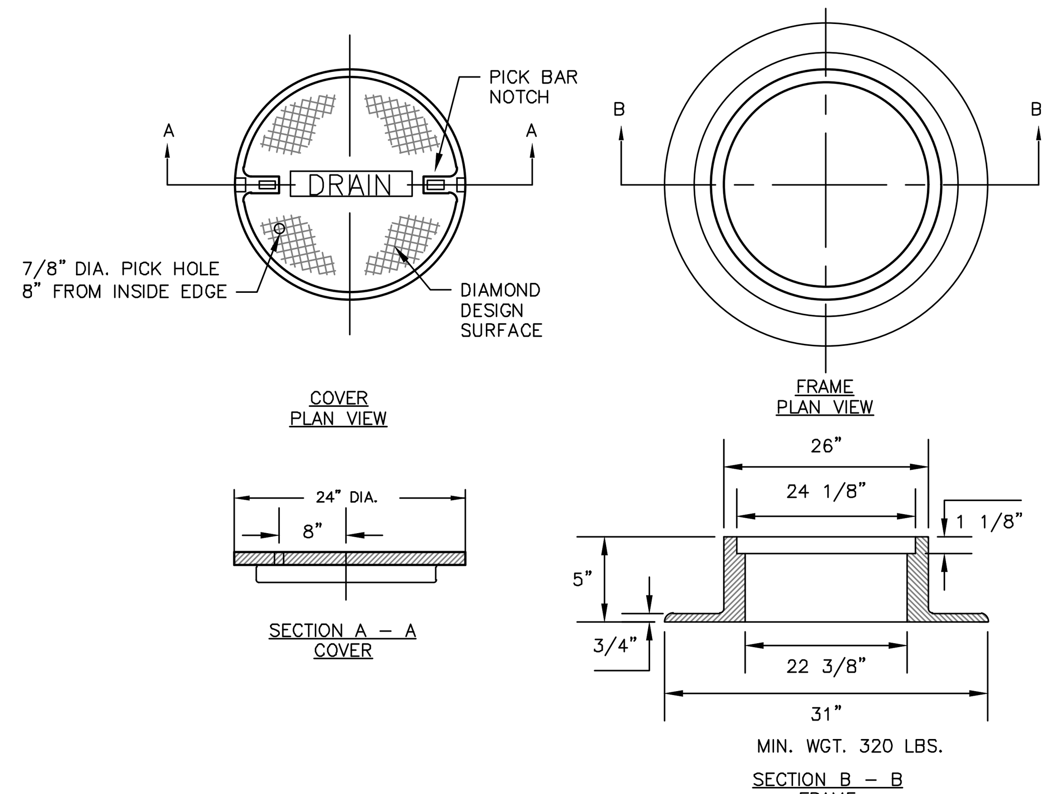


SEWER TEE/WYE CONNECTION DETAIL
NOT TO SCALE

NOTES:
1. CONCRETE CASING AROUND PIPE SHALL CONTINUE LENGTHWISE FOR AT LEAST 4' OF PIPE, OR LENGTH OF PIPE DAMAGED DURING CONSTRUCTION, WHICHEVER IS GREATER.
2. INSTALL ALL ITEMS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. ENGINEER SHALL BE CONTACTED DURING CONNECTION TO BRICK SEWER. IF SEWER IS FOUND TO BE IN VERY GOOD CONDITION BY ENGINEER, THEN ONLY CONCRETE CASING AROUND PROPOSED LATERAL AND STUB SHALL BE REQUIRED.

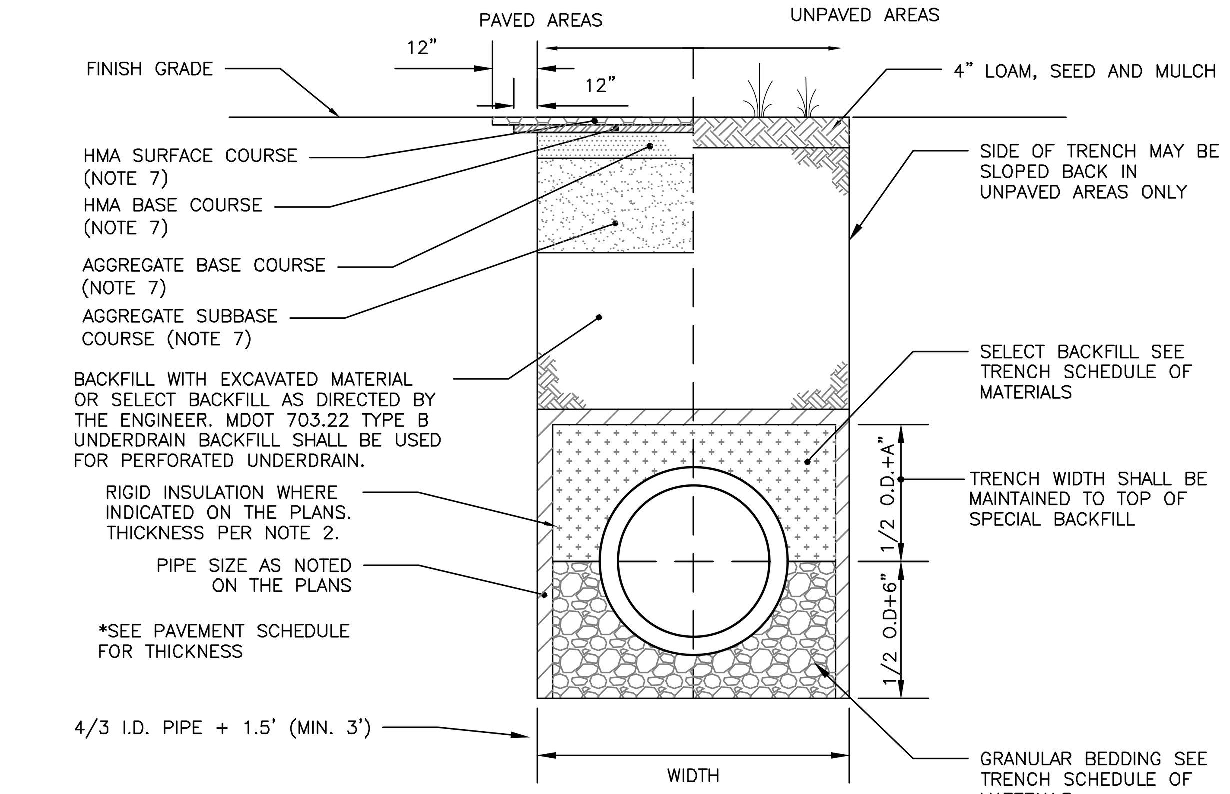


CONNECTION TO BRICK SEWER
NOT TO SCALE



NOTES:
1. ALL MANHOLE COVERS SHALL BE SOLID AND SHALL HAVE ONE 7/8" DIAMETER DRILLED PICK HOLE, LOCATED 8" FROM THE CENTER OF THE COVER
2. ALL SANITARY AND STORMWATER/DRAIN MANHOLE COVERS SHALL BE 24" x 5".
3. ALL SANITARY MANHOLE COVERS AND SHALL HAVE "SEWER" CAST INTO THE COVER.
4. ALL STORMWATER/DRAIN MANHOLE COVERS SHALL HAVE "DRAIN" CAST INTO THE COVER.
5. APPROVED MANHOLE FRAMES:
5.1. EAST JORDAN = 1690Z
5.2. NEENAH = R-1496
5.3. OR APPROVED EQUAL
6. APPROVED MANHOLE COVERS
6.1. EAST JORDAN = 2160A
6.2. NEENAH = R-1496
6.3. OR APPROVED EQUAL

CAST IRON MANHOLE COVER AND FRAME
NOT TO SCALE

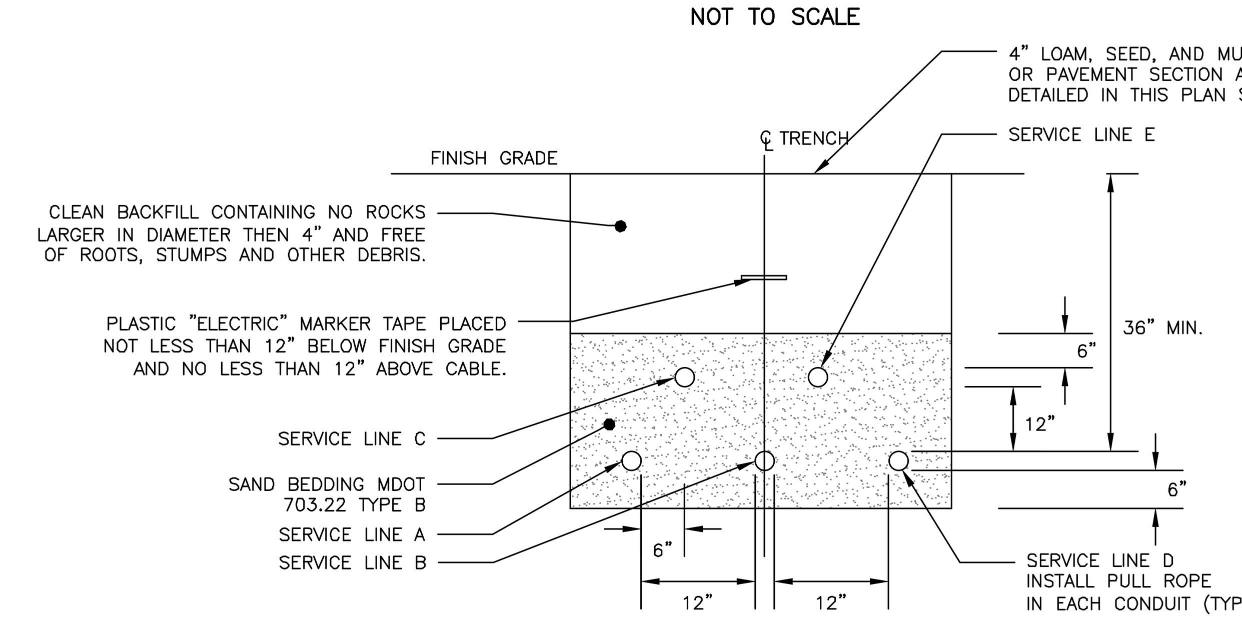


ALLOWABLE PIPE MATERIALS:
- REINFORCED CONCRETE PIPE (RCP) MIN. STRENGTH OF CLASS III
- PVC RING TYPE SEWER (SDR 35) OR EQUIVALENT, MIN PS-46 RATING
- PVC RING TYPE SEWER PIPE MEETING ASTM F 789
- DUCTILE IRON PIPE (DIP)
- ADS N-12 HP TRIPLE-WALL MIN PS-46 RATING
- ADS SANITITE HP MIN. PS-46

SCHEDULE OF MATERIALS		
TYPE OF PIPE	GRANULAR BEDDING	SELECT BACKFILL
CMP DUCTILE IRON RCP	MDOT 703.22 TYPE B UD BACKFILL	MDOT 703.22 TYPE B UD BACKFILL
PVC/HDPE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE B UD BACKFILL
CMP	MDOT 703.22 TYPE C 3/4" CRUSHED STONE	MDOT 703.22 TYPE C 3/4" CRUSHED STONE

NOTES:
1. BRACING AND SHEETING OR OTHER TRENCH PROTECTION TO BE PROVIDED TO MEET APPLICABLE STATE AND O.S.H.A. SAFETY STANDARDS. ALL SUCH TRENCH PROTECTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
2. STORM DRAIN COVER BETWEEN 2' AND 3' SHALL INCLUDE 4" OF RIGID INSULATION. COVER BETWEEN 3' AND 4' SHALL INCLUDE 2' RIGID INSULATION. OTHER UTILITIES: ADD 2" OF RIGID INSULATION FOR EACH FOOT ABOVE MINIMUM DEPTH.
3. INSTALL WARNING TAPE DIRECTLY ABOVE UTILITIES AT THE TOP OF SUBGRADE.
4. MINIMUM COVER
4.1. 2'-0" - STORM DRAIN
4.2. 5'-0" - SEWER
5. NO TREES SHALL BE PLANTED WITHIN 5' OF A SEWER PIPE OR SERVICE
6. THICKNESS AS NOTED BY SURFACE DETAILS

STORM DRAIN AND SEWER TYPICAL TRENCH SECTION
NOT TO SCALE



CONDUIT TYPE				
SERVICE	CONDUIT SIZE	GRASS AND PAVED AREAS	UTILITY	REMARKS
A	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
B	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	PRIMARY POWER	SEE NOTE 1
C	2-4"	SCHEDULE 40 PVC	COMMUNICATION	-
D	5"	SCHEDULE 40 PVC ELECTRICAL GRADE	SPARE	SEE NOTE 1
E	2-4"	SCHEDULE 40 PVC	CABLE	-

NOTES:
1. ONE CONDUIT CAPPED FOR SPARE, PROVIDE GALVANIZED STEEL LONG SWEEP AT RISER POLE AND EXTEND GALVANIZED CONDUIT TO 10" ABOVE GRADE AT POLE WITH STAND-OFF BRACKETS.
2. MINIMUM SEPARATION OF 24 INCHES BETWEEN PRIMARY CABLE/CONDUIT AND GAS LINES SHALL BE MAINTAINED.
3. CONDUITS WITHIN THE CITY RIGHT-OF-WAY SHALL BE ENCASED IN CONCRETE.
4. FINAL SIZE OF CONDUITS TO BE SPECIFIED BY MEP, ELECTRICIAN, OR DESIGN/BUILD ELECTRICAL CONTRACTOR.

UTILITY TRENCH - PRIMARY AND SECONDARY POWER, TELEPHONE, AND CABLE
NOT TO SCALE

PRELIMINARY
NOT ISSUED FOR CONSTRUCTION

ISSUED FOR	BY DATE
SITE PLAN/SUB APP	WHS 9/4/2020
COMMENT RESPONSE	WHS 9/21/2020

DRAWING NAME: UTILITY DETAILS - 1

PROJECT NAME: BLAKE ST RAISE OP HOUSING 186-198 BLAKE ST

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

ACORN ENGINEERING, INC.

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775-2655

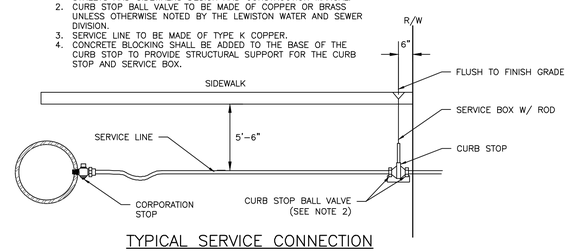
FILE:	1143_DETAILS
JN:	1143
SCALE:	NTS
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11419
8-28-20
LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-42

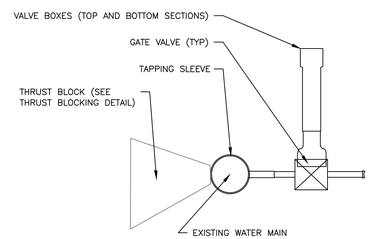
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES MUST COMPLY WITH THE CITY OF LEWISTON'S DEPARTMENT OF PUBLIC SERVICES, STREETS AND SIDEWALKS DESIGN AND CONSTRUCTION MANUAL.
2. CURB STOP BALL VALVE TO BE MADE OF COPPER OR BRASS UNLESS OTHERWISE NOTED BY THE LEWISTON WATER AND SEWER DIVISION.
3. SERVICE LINE TO BE MADE OF TYPE K COPPER.
4. CONCRETE BLOCKING SHALL BE ADDED TO THE BASE OF THE CURB STOP TO PROVIDE STRUCTURAL SUPPORT FOR THE CURB STOP AND SERVICE BOX.



TYPICAL SERVICE CONNECTION

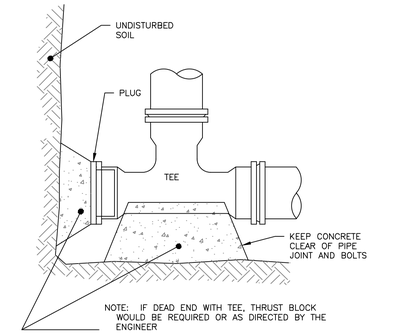
NOT TO SCALE



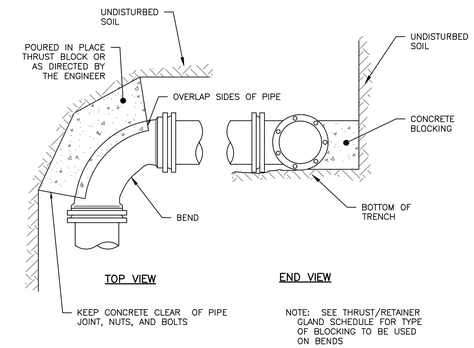
SIDE VIEW

TAPPING SLEEVE AND VALVE

NOT TO SCALE



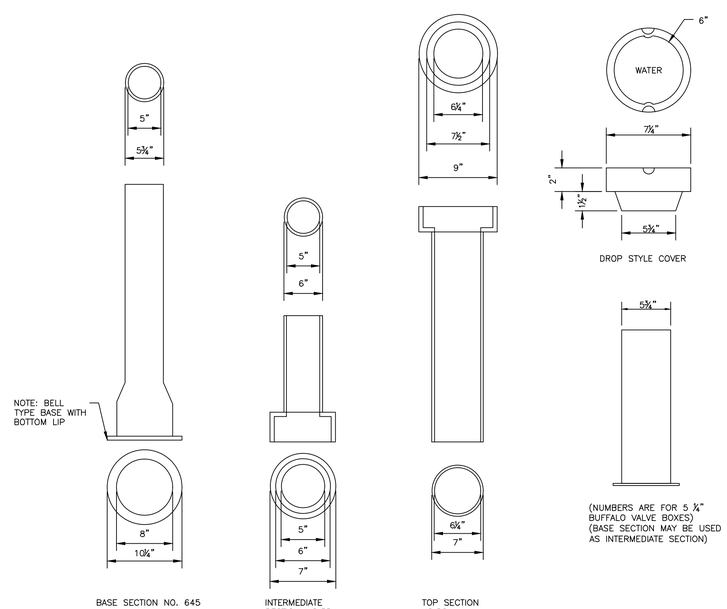
END SECTION



REGULAR BEND

THRUST BLOCKING

NOT TO SCALE

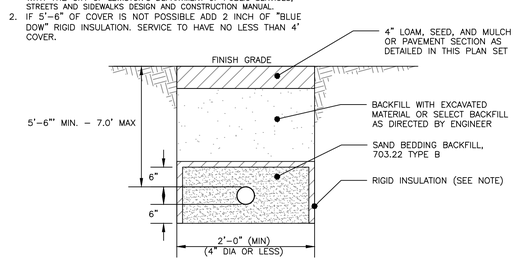


VALVE BOX & COVER

NOT TO SCALE

NOTES:

1. THE WATER TRENCH SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF LEWISTON'S DEPARTMENT OF PUBLIC SERVICES, STREETS AND SIDEWALKS DESIGN AND CONSTRUCTION MANUAL.
2. IF 5'-6" OF COVER IS NOT POSSIBLE ADD 2 INCH OF "BLUE DOW" RIGID INSULATION. SERVICE TO HAVE NO LESS THAN 4' COVER.



WATER SERVICE TRENCH SECTION DETAIL

NOT TO SCALE

PRELIMINARY
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY / DATE
SITE PLAN/SUB APP	WHS 9/4/2020
COMMENT RESPONSE	WHS 9/21/2020

DRAWING NAME: UTILITY DETAILS – 2

PROJECT NAME: BLAKE ST RAISE OP HOUSING 186–198 BLAKE ST

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 7234, PORTLAND, MAINE 04101
(207) 775-2655

THIS DWG SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS, WITHOUT WRITTEN OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

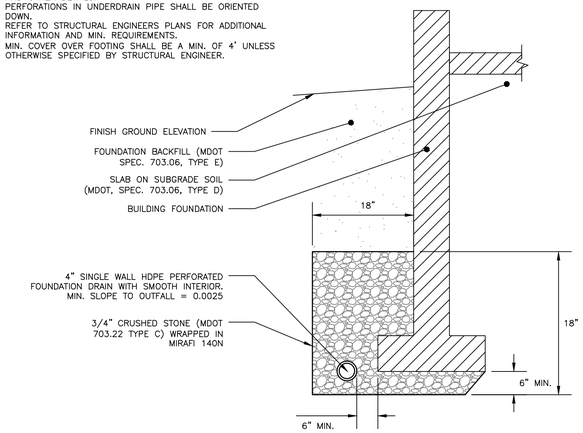
FILE:	1143_DETAILS
JN:	1143
SCALE:	NTS
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11416 8-28-20 LICENSED PROFESSIONAL ENGINEER

DRAWING NO.
C-43

NOTES:

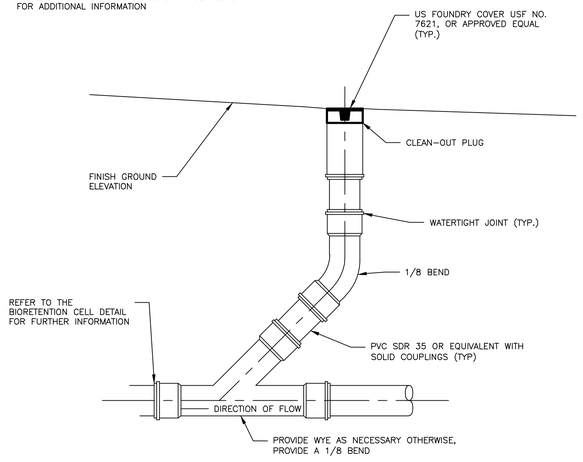
1. REFER TO THE BUILDING ARCHITECTS PLANS FOR THE BUILDING FOUNDATION, BACKFILL, ROOF DRAIN, SIDEWALK AND OTHER DETAILS.
2. PERFORATIONS IN UNDERDRAIN PIPE SHALL BE ORIENTED DOWN.
3. REFER TO STRUCTURAL ENGINEERS PLANS FOR ADDITIONAL INFORMATION AND MIN. REQUIREMENTS.
4. MIN. COVER OVER FOOTING SHALL BE A MIN. OF 4' UNLESS OTHERWISE SPECIFIED BY STRUCTURAL ENGINEER.



FOUNDATION DRAIN DETAIL

NOT TO SCALE

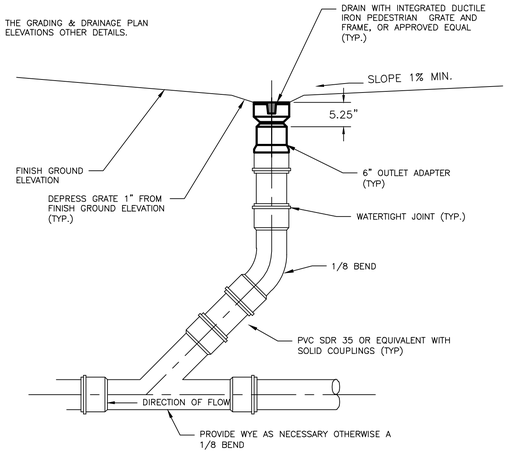
DESIGN NOTES:
1. REFER TO THE GRADING AND DRAINAGE PLANS FOR ADDITIONAL INFORMATION



CLEANOUT DETAIL

NOT TO SCALE

NOTES:
1. REFER TO THE GRADING & DRAINAGE PLAN FOR LAYOUT, ELEVATIONS OTHER DETAILS.

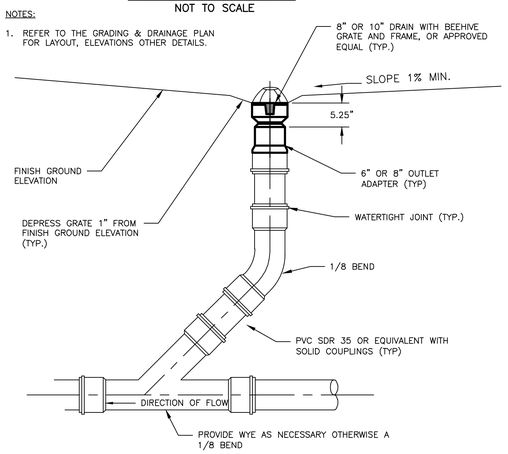


INLINE DRAIN DETAIL

NOT TO SCALE

NOTES:

1. REFER TO THE GRADING & DRAINAGE PLAN FOR LAYOUT, ELEVATIONS OTHER DETAILS.

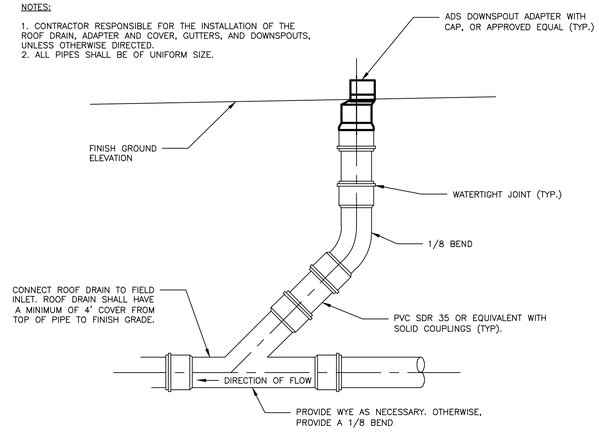


INLINE DRAIN DETAIL WITH DOME

NOT TO SCALE

NOTES:

1. CONTRACTOR RESPONSIBLE FOR THE INSTALLATION OF THE ROOF DRAIN, ADAPTER AND COVER, GUTTERS, AND DOWNSPOUTS, UNLESS OTHERWISE DIRECTED.
2. ALL PIPES SHALL BE OF UNIFORM SIZE.



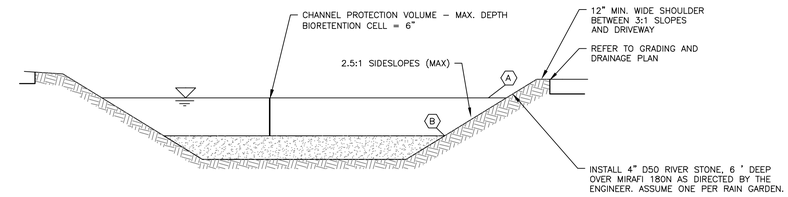
ROOF DRAIN DETAIL

NOT TO SCALE

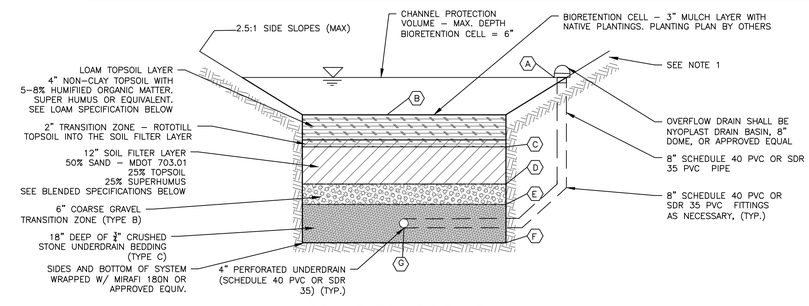
CONSTRUCTION OBSERVATION:

CONSTRUCTION OBSERVATION SHALL BE PROVIDED FOR EACH PHASE OF CONSTRUCTION BY ACORN ENGINEERING. THE CONTRACTOR OR OWNERS REPRESENTATIVE SHALL NOTIFY ACORN ENGINEERING A MINIMUM 48 HOURS OR 2 BUSINESS DAY WHICH EVER IS GREATER PRIOR TO ANY OF THE PHASES OF CONSTRUCTION LISTED BELOW SO THAT THE FOLLOWING SITE VISITS MAY BE SCHEDULED.

1. ONE SITE VISIT AFTER PRELIMINARY CONSTRUCTION OF THE BIORETENTION CELL GRADES;
2. ONE SITE VISIT DURING THE INSTALLATION OR THE IMPERVIOUS LINER.
3. ONE SITE VISIT AFTER THE UNDER DRAIN PIPES ARE INSTALLED BUT NOT BACKFILLED.
4. ONE SITE VISIT DURING THE CONSTRUCTION OF THE SOIL FILTER LAYER.
5. ONE SITE VISIT DURING THE CONSTRUCTION OF THE TOPSOIL LAYER.
6. ONE SITE VISIT DURING THE FLOODING OF THE BIORETENTION CELL, IF REQUIRED.



SOIL FILTER CROSS SECTION



SOIL FILTER SIDE VIEW

NOTES:
1. THE SIDESLOPES SHALL BE STABILIZED WITH A MIN. OF 4" LOAM, EROSION CONTROL BLANKETS SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL AND A CONSERVATION SEED MIX.

2. LIGHT COMPACTION SOIL FILTER AND PIPE BEDDING MATERIAL. (90 TO 92% STANDARD PROCTOR). TESTING SHALL BE PERFORMED BY A QUALIFIED MATERIAL TESTING FIRM.

3. THE SOIL FILTER MEDIA SHALL NOT BE CONSTRUCTED UNTIL THE AREA DRAINING TO THE BASIN HAS BEEN PERMANENTLY STABILIZED.

4. MINIMUM UNDERDRAIN SLOPE 0.01.

5. TESTING: SIEVE ANALYSIS INCLUDING HYDROMETER TESTING FOR CLAY CONTENT FOR EACH LAYER SHALL BE PERFORMED BY A QUALIFIED SOIL TESTING LABORATORY AND SUBMITTED TO THE PROJECT ENGINEER FOR APPROVAL 2 WEEKS PRIOR TO CONSTRUCTION. ALL TESTING AND SUBMITTALS SHALL BE IN ACCORDANCE WITH THE MOST RECENT VERSION OF THE MAINE DEP – TECHNICAL DESIGN MANUAL SECTION 7.2.5 TESTING AND SUBMITTALS.

6. ACORN ENGINEERING, INC., RECOMMENDS THE SOIL FILTER LAYER BE SUPPLIED BY JONES ASSOCIATES, INC., AUBURN, ME.

SCHEDULE	
ITEM	BIOCELL
(A) PROPOSED OVERFLOW RIM	215.50
(B) TOP OF LOAM TOPSOIL LAYER	215.00
(C) TOP OF FILTER	214.50
(D) TOP OF TRANSITION GRAVEL	213.50
(E) TOP OF CRUSHED STONE	213.00
(F) BOTTOM OF CRUSHED STONE	211.50
(G) UNDERDRAIN INVERT	211.83

6" LOAM TOPSOIL LAYER SPECIFICATION	
SIEVE SIZE	% PASSING BY WEIGHT
#4	75–95
#10	60–90
#40	35–85
#200	20–70
1. CLAY FRACTION <10% PASSING THE #200 SIEVE.* 2. LOAM SHALL BE LOOSE AND FRIABLE AND SHALL BE FREE FROM ADMIXTURE OF SUBSOIL, REFUSE, LARGE STONES, CLODS OR ROOTS OR RHIZOMES OR "WITCH GRASS" OR OTHER UNDESIRABLE GRASSES.	

*<10% CLAY PASSING THE #200 SIEVE ALLOWED PER EMAIL FROM MARIANNE HUBERT – MDEP TO WILL SAVAGE DATED 9/20/13

SOIL FILTER BED – SUPERHUMUS OR EQUIV. SPECIFICATION	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
#200	0–5
MINIMAL CLAY CONTENT, NO MORE THAN 3–5% PASSING #200 SIEVE	

12" SOIL FILTER BED – BLENDED SAND, LOAM, SUPERHUMUS SIEVE ANALYSIS	
SIEVE SIZE	% PASSING BY WEIGHT
#10	85–100
#20	70–100
#60	15–40
#200	8–15
1. CLAY FRACTION <2% PASSING THE #200 SIEVE. 2. SUPERHUMUS OR EQUIVALENT	

SOIL FILTER BED – TRANSISTION ZONE (TYPE B)	
SIEVE SIZE	% PASSING BY WEIGHT
1"	90–100
1/2"	75–100
#4	50–100
#20	15–80
#50	0–15
#200	0–5

SOIL FILTER BED – UNDERDRAIN BEDDING (TYPE C)	
SIEVE SIZE	% PASSING BY WEIGHT
1"	100
3/4"	90–100
3/8"	0–75
#4	0–25
#10	0–5

RAIN GARDEN OR BIORETENTION CELL DETAIL

NOT TO SCALE

PRELIMINARY
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY / DATE
SITE PLAN/SUB APP	WHS 9/4/2020
COMMENT RESPONSE	WHS 9/21/2020

DRAWING NAME: DRAINAGE DETAILS

PROJECT NAME: BLAKE ST RAISE OP HOUSING 186–198 BLAKE ST

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

ACORN ENGINEERING, INC.
PO BOX 2592, PORTLAND, MAINE 04101
(207) 775-2655

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY MODIFICATIONS MADE WITHOUT WRITTEN PERMISSION OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

FILE:	1143_DETAILS
JN:	1143
SCALE:	NTS
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE WILLIAM H. SAVAGE No. 11456 8-28-20 PROFESSIONAL ENGINEER

DRAWING NO.
C-44

1.0 EROSION CONTROL MEASURES AND SITE STABILIZATION

AS PART OF THE SITE DEVELOPMENT, THE FOLLOWING TEMPORARY AND PERMANENT EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE IMPLEMENTED. DEVICES SHALL BE INSTALLED AS DESCRIBED IN THIS REPORT OR WITHIN THE PLAN SET. SEE THE MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES FOR FURTHER REFERENCE.

1.1 TEMPORARY EROSION CONTROL MEASURES

THE FOLLOWING TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES ARE PLANNED FOR THE PROJECT'S CONSTRUCTION PERIOD:

1.1.1 CRUSHED STONE STABILIZED CONSTRUCTION ENTRANCES SHALL BE PLACED AT ALL ACCESS POINTS TO THE PROJECT SITE WHERE THERE ARE DISTURBED AREAS. THE FOLLOWING SPECIFICATIONS SHALL BE FOLLOWED AT A MINIMUM:
- STONE SIZE SHALL BE 2–3 INCHES, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
- THE THICKNESS OF THE ENTRANCE STONE LAYER SHALL BE NO LESS THAN 6 INCHES.
- THE ENTRANCE SHALL NOT BE LESS THAN 20 FEET WIDE, HOWEVER NOT LESS THAN THE FULL WIDTH OF POINTS WHERE INGRESS OR EGRESS OCCURS. THE LENGTH SHALL NOT BE LESS THAN 50 FEET IN LENGTH.
- GEOTEXTILE FABRIC (WOVEN OR NON–WOVEN) SHALL BE PLACED OVER THE ENTIRE ENTRANCE AREA.
- THE ENTRANCE/EXIT SHALL BE MAINTAINED TO THE EXTENT THAT IT WILL PREVENT THE TRACKING OF SEDIMENT ONTO PUBLIC ROAD WAYS.

1.1.2 SILTATION FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED DOWN GRADIENT OF ANY DISTURBED AREAS TO TRAP RUNOFF BORNE SEDIMENTS UNTIL PERMANENT STABILIZATION IS ACHIEVED. THE SILT FENCE OR EROSION CONTROL BERM SHALL BE INSTALLED PER THE DETAILS PROVIDED IN THE PLAN SET AND INSPECTED BEFORE AND IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS SHALL BE MADE IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE OR BERM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE OR BERM, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM.

1.1.3 HAY MULCH INCLUDING HYDRO SEEDING IS INTENDED TO PROVIDE COVER FOR DENUDED OR SEEDED AREAS UNTIL REVEGETATION IS ESTABLISHED. MULCH PLACED BETWEEN APRIL 15TH AND NOVEMBER 1ST ON SLOPES OF LESS THAN 15 PERCENT SHALL BE COVERED BY FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. MULCH PLACED BETWEEN NOVEMBER 1ST AND APRIL 15TH ON SLOPES EQUAL TO OR STEEPER THAN 8 PERCENT AND EQUAL TO OR FLATTER THAN 2:1 SHALL USE MATS OR FABRIC NETTING AND ANCHORED WITH STAPLES IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

1.1.4 AT ANY TIME OF THE YEAR, ALL SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH DOUBLE NET EROSION CONTROL BLANKET BIONET SC150BN BY NORTH AMERICAN GREEN OR APPROVED EQUAL, OR EROSION CONTROL MIX SLOPE PROTECTION AS DETAILED WITHIN THE PLANS.

1.1.5 BLAKE STREET SHALL BE SWEPT TO CONTROL MUD AND DUST FROM THE CONSTRUCTION SITE AS NECESSARY. ADD ADDITIONAL STONE TO THE STABILIZED CONSTRUCTION ENTRANCE TO MINIMIZE THE TRACKING OF MATERIAL OFF THE SITE AND ONTO THE SURROUNDING ROADWAYS.

1.1.6 DURING DEMOLITION, CLEARING AND GRUBBING OPERATIONS, STONE CHECK DAMS SHALL BE INSTALLED AT ANY AREAS OF CONCENTRATED FLOW. THE MAXIMUM HEIGHT OF THE CHECK DAM SHALL NOT EXCEED 2 FEET. THE CENTER OF THE CHECK DAM SHALL BE 6 INCHES BELOW THE OUTER EDGES OF THE DAM. THE CONTRACTOR SHALL MULCH THE SIDE SLOPES AND INSTALL STONE CHECK DAMS FOR ALL NEWLY EXCAVATED DITCH LINES WITHIN 24 HOURS OF THEIR CREATION.

1.1.7 SILT FENCE STAKE SPACING SHALL NOT EXCEED 6 FEET UNLESS THE FENCE IS SUPPORTED WITH 14 GAUGE WIRE IN WHICH CASE THE MAXIMUM SPACING SHALL NOT EXCEED 10 FEET. THE SILT FENCE SHALL BE "TOED" INTO THE GROUND.

1.1.8 STORMDRAIN INLET PROTECTION SHALL BE PROVIDED TO STORMDRAINS THROUGH THE USE OF ANY OF THE FOLLOWING: HAY BALE DROP INLET STRUCTURES, SILT FENCE DROP INLET SEDIMENT FILTER, GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER, OR CURB INLET SEDIMENT FILTER. BARRIERS SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT AND REPAIRED AS NECESSARY. SEDIMENTS SHALL BE REMOVED WHEN ACCUMULATION HAS REACHED ½ THE DESIGN HEIGHT.

1.1.9 DUST CONTROL SHALL BE ACCOMPLISHED BY THE USE OF ANY OF THE FOLLOWING: WATER, CALCIUM CHLORIDE, STONE, OR AN APPROVED MDEP PRODUCT. DUST CONTROL SHALL BE APPLIED AS NEEDED TO ACCOMPLISH DUST CONTROL.

1.1.10 TEMPORARY LOAM, SEED, AND MULCHING SHALL BE USED IN AREAS WHERE NO OTHER EROSION CONTROL MEASURE IS USED. APPLICATION RATES FOR SEEDING ARE PROVIDED AT THE END OF THIS REPORT.

1.1.11 STOCKPILES SHALL BE STABILIZED WITHIN 7 DAYS OF FORMATION UNLESS A SCHEDULED RAIN EVENT OCCURS PRIOR TO THE 7 DAY WINDOW, IN WHICH CASE THE STOCKPILE SHALL BE STABILIZED PRIOR TO THE RAIN EVENT. METHODS OF STABILIZATION SHALL BE MULCH, EROSION CONTROL MIX, OR EROSION CONTROL BLANKETS/MATS. SILT FENCE OR A WOOD WASTE COMPOST FILTER BERM SHALL BE PLACED DOWNHILL OF ANY SOIL STOCKPILE LOCATION.

1.1.12 FOR DISTURBANCE BETWEEN NOVEMBER 1 AND APRIL 15, PLEASE REFER TO WINTER STABILIZATION PLAN IN THIS REPORT AND THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR FURTHER INFORMATION.

1.1.13 IT IS OF THE UTMOST IMPORTANCE THAT STORMWATER RUNOFF AND POTENTIAL SEDIMENT FROM THE CONSTRUCTION SITE BE DIVERTED AROUND THE PROPOSED UNDERDRAINS UNTIL THE TRENCH IS BACKFILLED.

1.2 PERMANENT EROSION CONTROL MEASURES

THE FOLLOWING PERMANENT EROSION CONTROL MEASURES ARE INTENDED FOR POST DISTURBANCE AREAS OF THE PROJECT.

1.2.1 ALL DISTURBED AREAS DURING CONSTRUCTION, NOT SUBJECT TO OTHER PROPOSED CONDITIONS, SHALL RECEIVE A MINIMUM 4" OF LOAM AND SHALL BE LIMED, AND MULCHED.
EROSION CONTROL BLANKETS OR MATS SHALL BE PLACED OVER THE MULCH IN AREAS NOTED IN PARAGRAPH 4.2 OF THIS REPORT.

1.2.2 ALL STORMWATER DEVICES SHALL BE INSTALLED AND TRIBUTARY AREAS STABILIZED PRIOR RECEIVING STORMWATER.

1.2.3 REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.

2.0 EROSION AND SEDIMENTATION CONTROL PLAN

2.1 THE EROSION AND SEDIMENTATION CONTROL PLAN IS INCLUDED WITHIN THE PLAN SET.

3.0 DETAILS AND SPECIFICATIONS

3.1 EROSION CONTROL DETAILS AND SPECIFICATIONS ARE INCLUDED IN THE PLAN SET.

4.0 STABILIZATION PLAN FOR WINTER CONSTRUCTION

WINTER CONSTRUCTION CONSISTS OF EARTHWORK DISTURBANCE BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15. IF A CONSTRUCTION SITE IS NOT STABILIZED WITH PAVEMENT, A ROAD GRAVEL BASE, 75% MATURE VEGETATION COVER OR RIPRAP BY NOVEMBER 15, THEN THE SITE SHALL BE PROTECTED WITH OVER–WINTER STABILIZATION. ANY AREA NOT STABILIZED WITH PAVEMENT, VEGETATION, MULCHING, EROSION CONTROL MIX, EROSION CONTROL MATS, RIPRAP, OR GRAVEL BASE ON A ROAD SHALL BE CONSIDERED OPEN.

THE CONTRACTOR SHALL LIMIT THE WORK AREA TO AREAS THAT WORK WILL OCCUR IN DURING THE SUBSEQUENT 15 DAYS AND SO THAT IT CAN BE MULCHED ONE DAY PRIOR TO A SNOW EVENT. THE CONTRACTOR SHALL STABILIZE WORK AREAS PRIOR TO OPENING ADDITIONAL WORK AREAS TO MINIMIZE AREAS WITHOUT EROSION CONTROL MEASURES.

THE FOLLOWING MEASURES SHALL BE IMPLEMENTED DURING WINTER CONSTRUCTION PERIODS:

4.1 SEDIMENT BARRIERS

DURING FROZEN CONDITIONS, SEDIMENT BARRIERS MAY CONSIST OF EROSION CONTROL MIX BERMS OR ANY OTHER RECOGNIZED SEDIMENT BARRIERS AS FROZEN SOIL PREVENTS THE PROPER INSTALLATION OF HAY BALES OR SILT FENCES.

4.2 MULCHING

ALL AREAS SHALL BE CONSIDERED TO BE DENUDED UNTIL SEEDED AND MULCHED. HAY AND STRAW MULCH SHALL BE APPLIED AT A RATE OF 150 LB. PER 1,000 SQUARE FEET OR 3 TONS/ACRE (TWICE THE NORMAL ACCEPTED RATE OF 75–LBS./1,000 S.F. OR 1.5 TONS/ACRE) AND SHALL BE PROPERLY ANCHORED. EROSION CONTROL MIX MUST BE APPLIED WITH A MINIMUM 4 INCH THICKNESS. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW. THE SNOW SHALL BE REMOVED DOWN TO A ONE–INCH DEPTH OR LESS PRIOR TO APPLICATION. AFTER EACH DAY OF FINAL GRADING, THE AREA SHALL BE PROPERLY STABILIZED WITH ANCHORED HAY OR STRAW OR EROSION CONTROL MATTING. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED OR ADEQUATELY ANCHORED SO THAT GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. BETWEEN THE DATES OF NOVEMBER 1 AND APRIL 15, ALL MULCH SHALL BE ANCHORED BY EITHER MULCH NETTING, TRACKING OR WOOD CELLULOSE FIBER. THE COVER WILL BE CONSIDERED SUFFICIENT WHEN THE GROUND SURFACE IS NOT VISIBLE THROUGH THE MULCH. AFTER NOVEMBER 1ST, MULCHING AND ANCHORING OF ALL EXPOSED SOIL SHALL OCCUR AT THE END OF EACH FINAL GRADING WORKDAY.

4.3 SOIL STOCKPILING

STOCKPILES OF SOIL OR SUBSOIL SHALL BE MULCHED FOR OVER WINTER PROTECTION WITH HAY OR STRAW AT TWICE THE NORMAL RATE OR WITH A FOUR–INCH LAYER OF EROSION CONTROL MIX. THIS SHALL BE DONE WITHIN 24 HOURS OF STOCKING AND RE–ESTABLISHED PRIOR TO ANY RAINFALL OR SNOWFALL.

4.4 SEEDING

BETWEEN THE DATES OF OCTOBER 15TH AND APRIL 1ST, LOAM OR SEED SHALL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES FINISHED AREAS SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS NOT BEEN LOAMED, FINAL GRADING WITH A UNIFORM SURFACE, THEN THE AREA MAY BE DORMANT SEEDED AT A RATE OF 3 TIMES HIGHER THAN SPECIFIED FOR PERMANENT SEED AND THEN MULCHED.

DORMANT SEEDING MAY BE PLACED PRIOR TO THE PLACEMENT OF MULCH OR EROSION CONTROL BLANKETS. IF DORMANT SEEDING IS USED FOR THE SITE, ALL DISTURBED AREAS SHALL RECEIVE 4" OF LOAM AND SEED AT AN APPLICATION RATE OF 5 LBS/1,000 S.F. ALL AREAS SEEDED DURING THE WINTER SHALL BE INSPECTED IN THE SPRING FOR ADEQUATE CATCH. ALL AREAS INSUFFICIENTLY VEGETATED (LESS THAN 75% CATCH) SHALL BE REVEGETATED BY REPLACING LOAM, SEED AND MULCH. IF DORMANT SEEDING IS NOT USED FOR THE SITE, ALL DISTURBED AREAS SHALL BE REVEGETATED IN THE SPRING.

4.5 OVER WINTER STABILIZATION OF DISTURBED SOILS

BY SEPTEMBER 15TH, ALL DISTURBED SOILS ON AREAS HAVING A SLOPE LESS THAN 15% SHALL BE SEEDED AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS SHALL BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION – BY OCTOBER 1ST, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3LBS PER 1,000 S.F., LIGHTLY MULCH THE SEEDED SOIL WITH HAY OR STRAW AT 75 LBS PER 1,000 S.F., AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE DISTURBED SOIL BEFORE NOVEMBER 1ST, THEN MULCH THE AREA FOR OVER–WINTER PROTECTION.
- STABILIZE THE SOIL WITH SOD – STABILIZE THE DISTURBED SOIL WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
- STABILIZE THE SOIL WITH MULCH – BY NOVEMBER 15TH, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 150 LBS PER 1,000 S.F. ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.

4.6 OVER WINTER STABILIZATION OF DISTURBED SLOPES

ALL STONE–COVERED SLOPES SHALL BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15TH. ALL SLOPES TO BE VEGETATED SHALL BE SEEDED AND MULCHED BY SEPTEMBER 1ST. A SLOPE IS CONSIDERED A GRADE GREATER THAN 15%. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1ST, THEN ONE OF THE FOLLOWING ACTION SHALL BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER:

- STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS – BY OCTOBER 1ST THE DISTURBED SLOPE SHALL BE SEEDED WITH WINTER RYE AT A SEEDING RATE OF 3 LBS PER 1,000 S.F. AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 1ST, THEN THE CONTRACTOR SHALL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP.
- STABILIZE THE SOIL WITH SOD – THE DISTURBED SLOPE SHALL BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1ST. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. THE CONTRACTOR SHALL NOT USE LATE–SEASON SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 3H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
- STABILIZE THE SOIL WITH EROSION CONTROL MIX – EROSION CONTROL MIX SHALL BE PROPERLY INSTALLED BY NOVEMBER 15TH. THE CONTRACTOR SHALL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GRADES GREATER THAN 2H:1V OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
- STABILIZE THE SOIL WITH STONE RIPRAP – PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15TH. A REGISTERED PROFESSIONAL ENGINEER SHALL BE HIRED TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP.

5.0 INSPECTION AND MAINTENANCE

A PERSON WITH KNOWLEDGE OF EROSION AND STORMWATER CONTROL, INCLUDING THE STANDARDS AND CONDITIONS IN THE PERMIT, SHALL CONDUCT PERIODIC VISUAL INSPECTIONS OF INSTALLED EROSION CONTROL MEASURES. THE FREQUENCY OF INSPECTION SHALL OCCUR AT LEAST ONCE EVERY TWO WEEKS, AS WELL AS AFTER A "STORM EVENT". A "STORM EVENT" SHALL CONSIST 0.5 INCHES OF RAIN WITHIN A 24 HOUR PERIOD. THE FOLLOWING EROSION AND SEDIMENT CONTROL – BEST MANAGEMENT PRACTICES (BMP'S) SHALL INSPECTED IN THE MANNER AS DESCRIBED.

5.1 SEDIMENT BARRIERS

HAY BALE BARRIERS, SILT FENCES AND FILTER BERMS SHALL BE INSPECTED AND REPAIRED FOR THE FOLLOWING IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THEM. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES OF THE BARRIER, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THEM, SEDIMENT BARRIERS SHALL BE REPLACED WITH A TEMPORARY CHECK DAM. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE–HALF THE HEIGHT OF THE BARRIER. FILTER BERMS SHOULD BE RESHAPED AS NEEDED. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

5.2 STABILIZED STONE CONSTRUCTION ENTRANCES

THE EXIT SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS–OF–WAY. WHEN THE CONTROL PAD BECOMES INEFFECTIVE, THE STONE SHALL BE REMOVED ALONG WITH THE COLLECTED SOIL MATERIAL AND REDISTRIBUTED ON SITE IN A STABLE MANNER. THE ENTRANCE SHOULD THEN BE RECONSTRUCTED. THE CONTRACTOR SHALL SWEEP OR WASH PAVEMENT AT EXITS, WHICH HAVE EXPERIENCED MUD–TRACKING ON TO THE PAVEMENT OR TRAVELED WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH AGGREGATE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING STORM DRAINS, DITCHES, OR WATERWAYS.

5.3 MULCHED AREAS

ALL MULCHES MUST BE INSPECTED PERIODICALLY, IN PARTICULAR AFTER RAINSTORMS, TO CHECK FOR RILL EROSION. IF LESS THAN 90% OF THE SOIL SURFACE IS COVERED BY MULCH, ADDITIONAL MULCH SHALL BE IMMEDIATELY APPLIED. NETS MUST BE INSPECTED AFTER RAIN EVENTS FOR DISLOCATION OR FAILURE. IF WASHOUTS OR BREAKAGE OCCUR, RE–INSTALL THE NETS AS NECESSARY AFTER REPAIRING DAMAGE TO THE SLOPE. WHERE MULCH IS USED IN CONJUNCTION WITH ORNAMENTAL PLANTINGS, INSPECT PERIODICALLY THROUGHOUT THE YEAR TO DETERMINE IF MULCH IS MAINTAINING COVERAGE OF THE SOIL SURFACE. REPAIR AS NEEDED.

5.4 DUST CONTROL

WHEN TEMPORARY DUST CONTROL MEASURES ARE USED, REPETITIVE TREATMENT SHALL BE APPLIED AS NEEDED TO ACCOMPLISH CONTROL.

5.5 STORMWATER APPURTENANCES

ALL UNDERDRAINS, STORM DRAINS, AND CATCH BASINS NEED TO BE OPERATING EFFECTIVELY AND FREE OF DEBRIS.

5.6 EROSION AND SEDIMENTATION CONTROL INSPECTIONS:

ACORN ENGINEERING HAS PERSONNEL QUALIFIED TO CONDUCT EROSION AND SEDIMENTATION CONTROL INSPECTIONS. FOR FURTHER INFORMATION CONTACT:

CONTACT: WILL SAVAGE, PE
TELEPHONE: (207) 775–2655

QUALIFICATIONS:

- MAINE PROFESSIONAL ENGINEERING LICENSE #11419
- MAINE DEP – CERTIFIED IN MAINTENANCE & INSPECTION OF STORMWATER BMP'S CERT #14
- CERTIFIED EROSION, SEDIMENT AND STORM WATER INSPECTOR (CESSWI) CERT #0293
- CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) CERT. #4620

THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLYING WITH THE EROSION AND SEDIMENTATION REPORT/PLAN, INCLUDING CONTROL OF FUGITIVE DUST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONETARY PENALTIES RESULTING FROM FAILURE TO COMPLY WITH THESE STANDARDS.

6.0 IMPLEMENTATION SCHEDULE

THE FOLLOWING IMPLEMENTATION SEQUENCE IS INTENDED TO MAXIMIZE THE EFFECTIVENESS OF THE ABOVE DESCRIBED EROSION CONTROL MEASURES. CONTRACTORS SHOULD AVOID OVEREXPOSING DISTURBED AREAS AND LIMIT THE AMOUNT OF STABILIZATION AREA.

1. INSTALL A STABILIZED CONSTRUCTION ENTRANCE IN ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC WILL ENTER AND EXIT THE SITE.
2. INSTALL PERIMETER SILT FENCE OR EROSION CONTROL BERM.
3. INSTALL ALL OTHER EROSION CONTROL DEVICES AS NECESSARY THROUGHOUT THE REMAINDER OF THIS SCHEDULE.
4. COMMENCE INSTALLATION OF DRAINAGE INFRASTRUCTURE.
5. PRIORITIZE THE DOWNHILL SIDE TO CONTAIN RUNOFF WITHIN THE SITE WHILE PROVIDING AN ENGINEERED OUTLET WITH SILTATION BARRIER TO THE MUNICIPAL STORMWATER SYSTEM WITHIN BLAKE STREET.
6. COMMENCE EARTHWORK OPERATIONS, WALL AND FOUNDATION INSTALLATION.
7. COMMENCE INSTALLATION OF UTILITIES.
8. CONTINUE EARTHWORK AND GRADING TO SUBGRADE AS NECESSARY FOR CONSTRUCTION.
9. COMPLETE INSTALLATION OF DRAINAGE INFRASTRUCTURE, AS WELL AS OTHER UTILITY WORK.
10. COMPLETE REMAINING EARTHWORK OPERATIONS.
11. INSTALL SUB–BASE AND BASE GRAVELS IN PAVED AREAS.
12. INSTALL PAVING, CURBING AND BRICKWORK.
13. LOAM, LIME, FERTILIZE, SEED AND MULCH DISTURBED AREAS AND COMPLETE ALL LANDSCAPING.
14. ONCE THE SITE IS STABILIZED, 90% CATCH OF GRASS HAS BEEN OBTAINED, OR MULCHING OF LANDSCAPE AREAS IS COMPLETE REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
15. TOUCH UP AREAS WITHOUT A VIGOROUS CATCH OF GRASS WITH LOAM AND SEED.
16. COMPLETE SITE SIGNAGE AND STRIPING.
17. EXECUTE PROPER MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES THROUGHOUT THE PROJECT.

THE ABOVE IMPLEMENTATION SEQUENCE SHOULD BE GENERALLY FOLLOWED BY THE SITE CONTRACTOR. HOWEVER, THE CONTRACTOR MAY CONSTRUCT SEVERAL ITEMS SIMULTANEOUSLY. THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SCHEDULE OF THE COMPLETION OF THE WORK. IF THE CONTRACTOR IS TO COMMENCE THE CONSTRUCTION OF MORE THAN ONE ITEM ABOVE, THEY SHALL LIMIT THE AMOUNT OF EXPOSED AREAS TO THOSE AREAS IN WHICH WORK IS EXPECTED TO BE UNDERTAKEN DURING THE FOLLOWING 30 DAYS.

THE CONTRACTOR SHALL RE–VEGETATE DISTURBED AREAS AS RAPIDLY AS POSSIBLE. ALL AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING OR BEFORE A STORM EVENT. THE CONTRACTOR SHALL INCORPORATE PLANNED INLETS AND DRAINAGE SYSTEMS AS EARLY AS POSSIBLE INTO THE CONSTRUCTION PHASE.

7.0 SEEDING PLAN

7.1 SITE PREPARATION

THE SEEDED AREAS SHALL BE FEASIBLY GRADED OUT TO PROVIDE THE USE OF EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. IF NECESSARY, THE SITE MAY REQUIRE ADDITIONAL TEMPORARY EROSION CONTROL MEASURES OUTLINED IN THE EROSION CONTROL REPORT.

7.2 SEEDBED PREPARATION

FERTILIZER SHALL BE APPLIED TO THE SITE AT A RATE OF 13.8 POUNDS PER 1,000 SQUARE FEET. THE COMPOSITION OF THE FERTILIZER SHALL BE 10–10–10 (N–P2O5–K2O) OR EQUIVALENT.

LIMESTONE SHALL BE APPLIED TO THE SITE AT A RATE OF 138 POUNDS PER 1,000 SQUARE FEET.

7.3 SEEDING

THE COMPOSITION AND AMOUNT OF TEMPORARY SEED APPLIED TO A SITE SHALL BE DETERMINED BY THE FOLLOWING TABLE:

TEMPORARY SEED APPLICATION RATES

SEED	LBS / ACRE	RECOMMENDED SEEDING DATES
WINTER RYE	2.57	8/15 TO 10/1
OATS	1.84	4/1 TO 7/1 8/15 TO 9/15
ANNUAL RYGRASS	0.92	4/1 TO 7/1
SUDANGRASS	0.92	5/15 TO 8/15
PERENNIAL	0.92	8/15 TO 9/15
TOTAL	7.17 LBS/ACRE	

PERMANENT SEED APPLICATION RATES

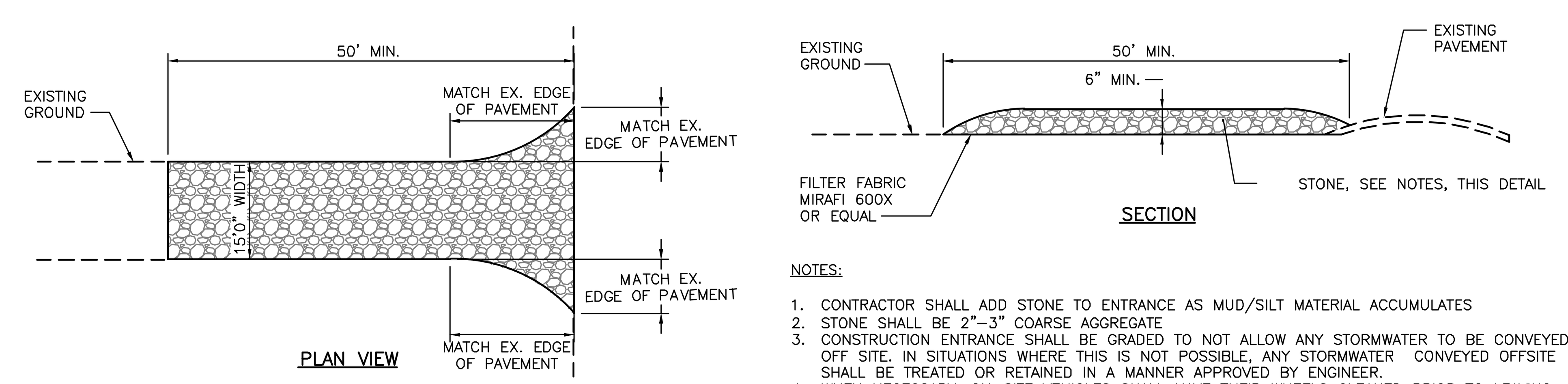
SEED	LBS / ACRE
KENTUCKY BLUEGRASS	20.00
CREEPING RED FESCUE	20.00
PERENNIAL RYEGRASS	4.80
TOTAL	44.8 LBS/ACRE

7.4 MULCHING

MULCH SHALL BE HARDWOOD AND APPLIED AT A RATE OF 70 LBS – 90 LBS PER 1,000 SQUARE FEET. THE MULCH SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 INCHES. THE SEEDED AREA SHALL BE MULCHED IMMEDIATELY AFTER SEED IS APPLIED. MULCHING DURING THE WINTER SEASON SHALL BE DOUBLE THE NORMAL AMOUNT. REFER TO DETAIL FOR MORE INFORMATION.

8.0 CONCLUSION

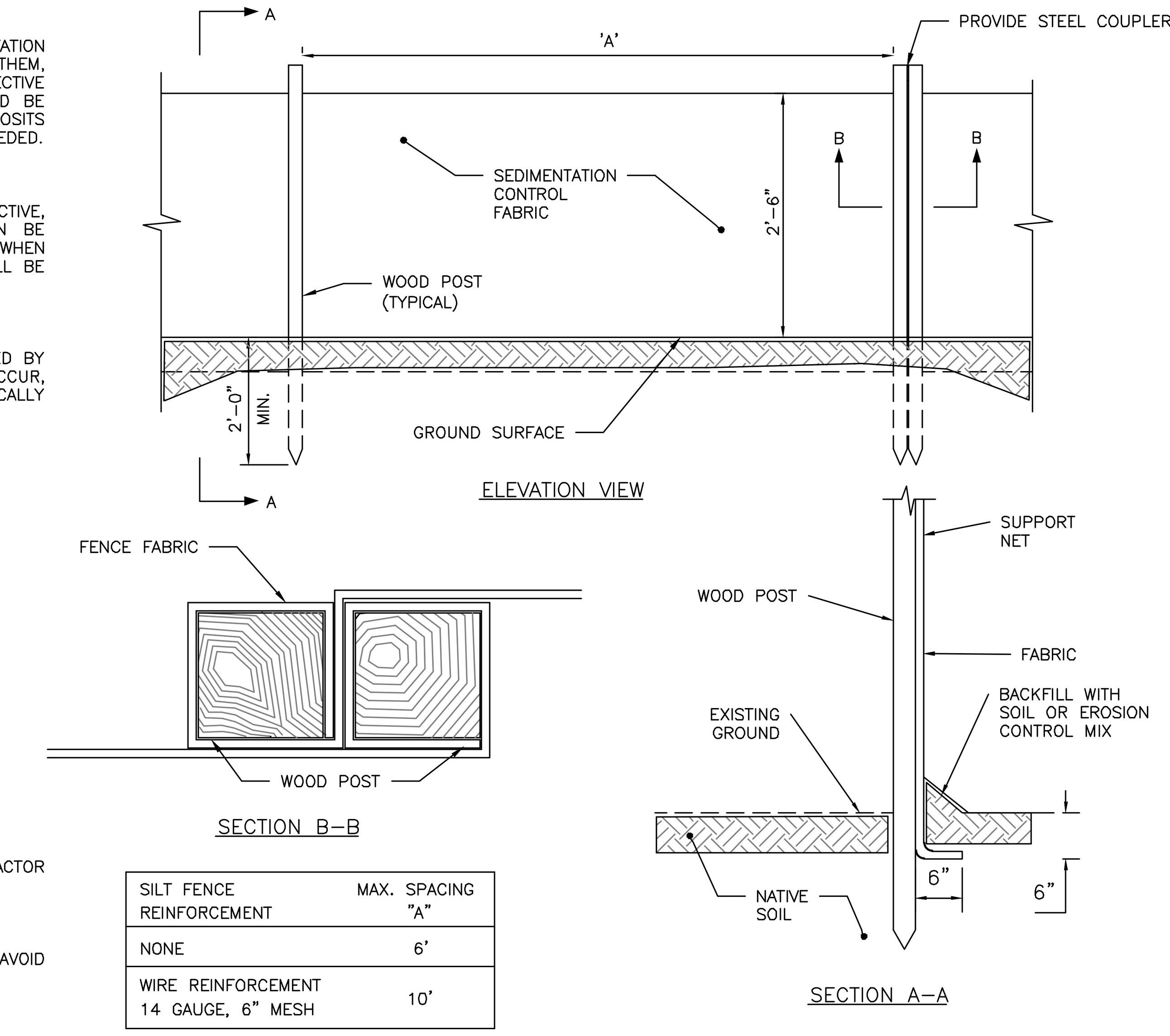
THE ABOVE EROSION CONTROL NARRATIVE IS INTENDED TO MINIMIZE THE DEVELOPMENT IMPACT BY IMPLEMENTING TEMPORARY AND PERMANENT EROSION CONTROL MEASURES. THE CONTRACTOR SHALL ALSO REFER TO THE MAINE EROSION AND SEDIMENT CONTROL BMP MANUAL FOR ADDITIONAL INFORMATION.



NOTES:

1. CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES
2. STONE SHALL BE 2"–3" COARSE AGGREGATE
3. CONSTRUCTION ENTRANCE SHALL BE GRADED TO NOT ALLOW ANY STORMWATER TO BE CONVEYED OFF SITE. IN SITUATIONS WHERE THIS IS NOT POSSIBLE, ANY STORMWATER CONVEYED OFFSITE SHALL BE TREATED OR RETAINED IN A MANNER APPROVED BY ENGINEER.
4. WHEN NECESSARY, ON–SITE VEHICLES SHALL HAVE THEIR WHEELS CLEANED PRIOR TO LEAVING SITE.
5. CONSTRUCTION ENTRANCE SHALL BE GRADED IN A MANNER THAT PREVENTS TRACKING OF SEDIMENTS ONTO PUBLIC RIGHT–OF–WAY

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE

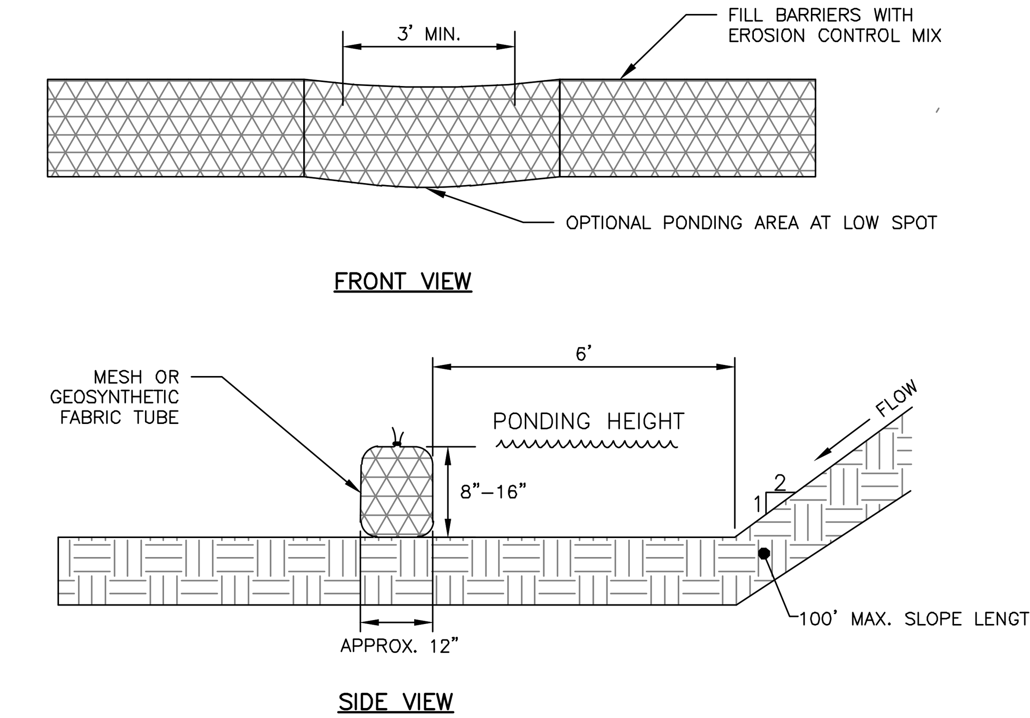


SILT FENCE REINFORCEMENT	MAX. SPACING "A"
NONE	6'
WIRE REINFORCEMENT 14 GAUGE, 6" MESH	10'

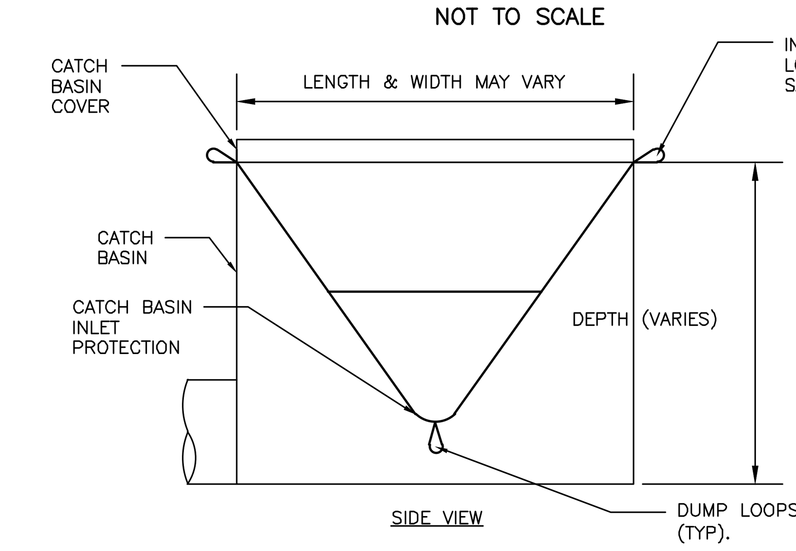
SILTATION FENCE DETAIL
NOT TO SCALE

NOTES:

1. FULL CONTACT WITH THE GROUND IS CRITICAL TO PREVENT SHORT CIRCUITING UNDER THE TUBE – THE GROUND SURFACE SHOULD BE SMOOTH AND LEVEL. IN WOODED AREAS, PROTRUDING ROOTS AND DEBRIS MAY NEED TO BE REMOVED. IN GRASSED AREAS, THE GRASS NEEDS TO BE EITHER MOWED OR COMPRESSED DOWN.
2. STAKING MAY BE NECESSARY ON STEEP SLOPES.
3. UPON FINAL STABILIZATION, THE TUBE CAN BE CUT OPEN AND THE MATERIAL SPREAD OUT ONTO THE GROUND. THE MESH MATERIAL SHOULD BE REMOVE.
4. LOOSE COMPOST MAY BE BACKFILLED ALONG THE UPSLOPE SIDE OF THE COMPOST FILTER SOCK, FILLING THE SEAM BETWEEN THE SOIL SURFACE AND THE DEVICE, IMPROVING FILTRATION AND SEDIMENT RETENTION.



FILTER SOCK DETAIL
NOT TO SCALE



NOTES:
1. CATCH BASIN INLET PROTECTION SHALL BE INSTALLED DOWNGRADIENT OF PROPOSED PROJECT AND ROUTINELY MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
2. CATCH BASIN SIZE VARIES. CONTRACTOR TO ENSURE CATCH BASIN INLET PROTECTION MATCHES CATCH BASIN DIMENSIONS.
3. SILT SACK SHALL BE ACF ENVIRONMENTAL SILT SACK, TYPE A, OR APPROVED EQUAL.

CATCH BASIN INLET PROTECTION
NOT TO SCALE

PRELIMINARY
NOT ISSUED FOR
CONSTRUCTION

ISSUED FOR	BY / DATE
SITE PLAN/SUB APP	WHS 9/4/2020
COMMENT RESPONSE	WHS 9/21/2020

DRAWING NAME: EROSION & SEDIMENTATION CONTROL DETAILS & NOTES

PROJECT NAME: BLAKE ST RAISE OP HOUSING 186–198 BLAKE ST

CLIENT: RAISE OP HOUSING COOPERATIVE
145 PIERCE STREET #102, LEWISTON, ME 04240

A C O R N
ENGINEERING, INC.

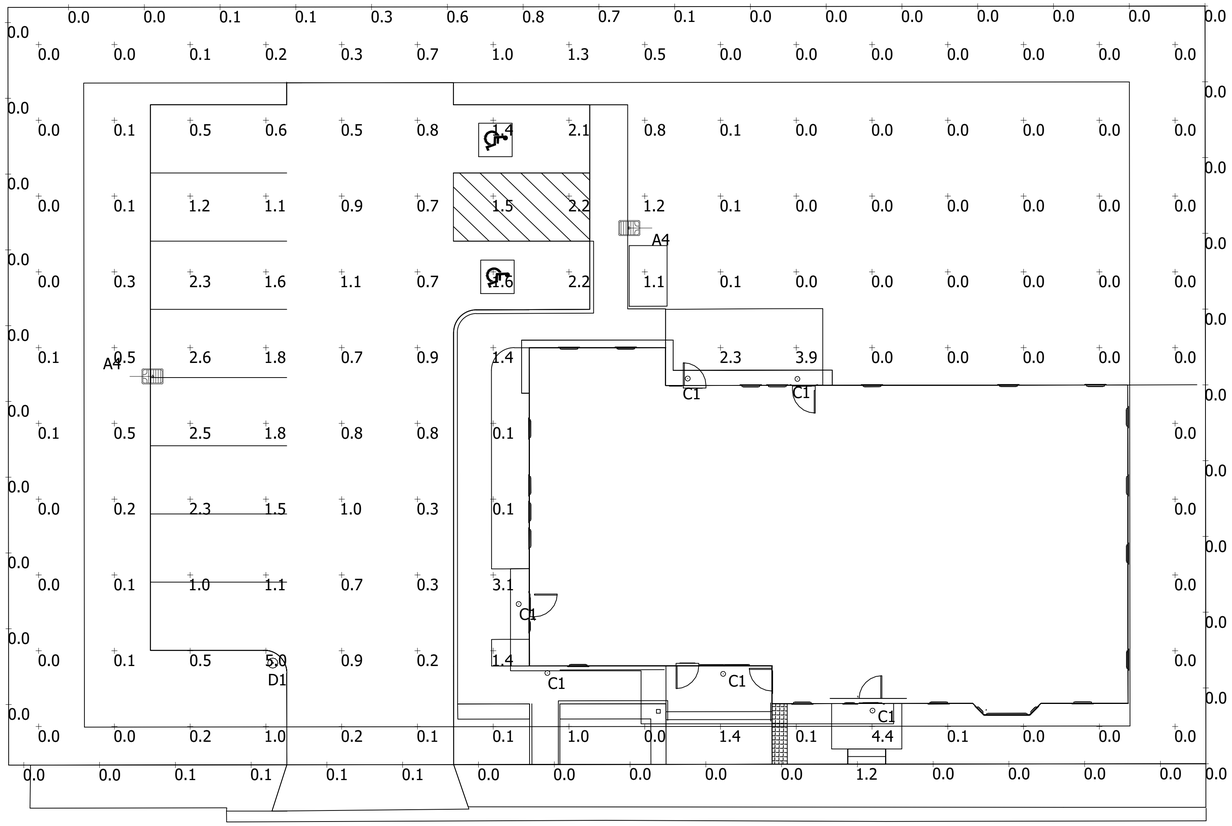
THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION FROM ACORN ENGINEERING, INC. ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK AND WITHOUT LIABILITY TO ACORN ENGINEERING, INC.

ACORN ENGINEERING, INC.
PO BOX 3372, PORTLAND MAINE 04101
(207) 775–2655

FILE:	1143_DETAILS
JN:	1143
SCALE:	NTS
DESIGNED BY:	SJL
DRAWN BY:	NPH
CHECKED BY:	WHS

STATE OF MAINE
WILLIAM H. SAVAGE
No. 11419
LICENSED
PROFESSIONAL ENGINEER
8-28-20

DRAWING NO.
C-45



Luminaire Schedule							
Symbol	Qty	Label	Mounting Height	LLF	Lum. Lumens	Lum. Watts	Description
	2	A4	15' - 0" AFG	0.900	3815	55	VP-S-24L-55-4K7-4W-BC
	6	C1	3' - 6" AFG	0.900	644	8	LTR-4RD-H-SL06L-DM1_LTR-4RD
	1	D1	9' - 0" AFG	0.900	873	25	B30-8R-20L4K

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	0.64	5.0	0.0	N.A.	N.A.
Parking Area	Illuminance	Fc	1.26	2.7	0.1	12.60	27.00
Property Line	Illuminance	Fc	0.08	1.2	0.0	N.A.	N.A.

10 0 5 10 20 40

1 inch = 10 - FT.

1. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO HUBBELL LIGHTING. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC.) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.
2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.
3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

TITLE:

BLAKE STREET APARTMENTS
LEWISTON, ME
SITE PHOTOMETRIC PLAN

REVISED FROM DRAWING NUMBER(S):
R1: 08/21/20
R2: 08/27/20
R3: 08/28/20
R4: 08/31/20

HUBBELL®
Hubbell Lighting, Inc.
701 MILLENNIUM BLVD.
GREENVILLE, SC 29607

DN BY:	DATE:	CHK BY:
DHK	08/18/20	N/A
REV. BY: DHK	DATE: 08/31/20	SCALE: AS NOTED
QUOTE: N/A	DRAWING / DESIGN NO.: 2026860R4	

RAISE·Op
Housing Cooperative

Blake Street Apartments

9 Units of Cooperative Housing
in the
Tree Streets Neighborhood
of
Lewiston, Maine

bild ARCHITECTURE

RIPCORD engineering

ALA

ACORN ENGINEERING, INC

Bild Architecture
PO Box 8235
Portland, ME 04104
207-408-0168
evan@bildarchitecture.com

bild ARCHITECTURE

PROJECT NO.
19030

PROJECT
Raise-Op - Blake Street

DRAWN BY
EAC

DESCRIPTION
Title Page

ISSUED
8/31/2020

SCALE
NTS

A

000

101

A

ISSUED
8/31/2020

SCALE
1/8" = 1'-0"

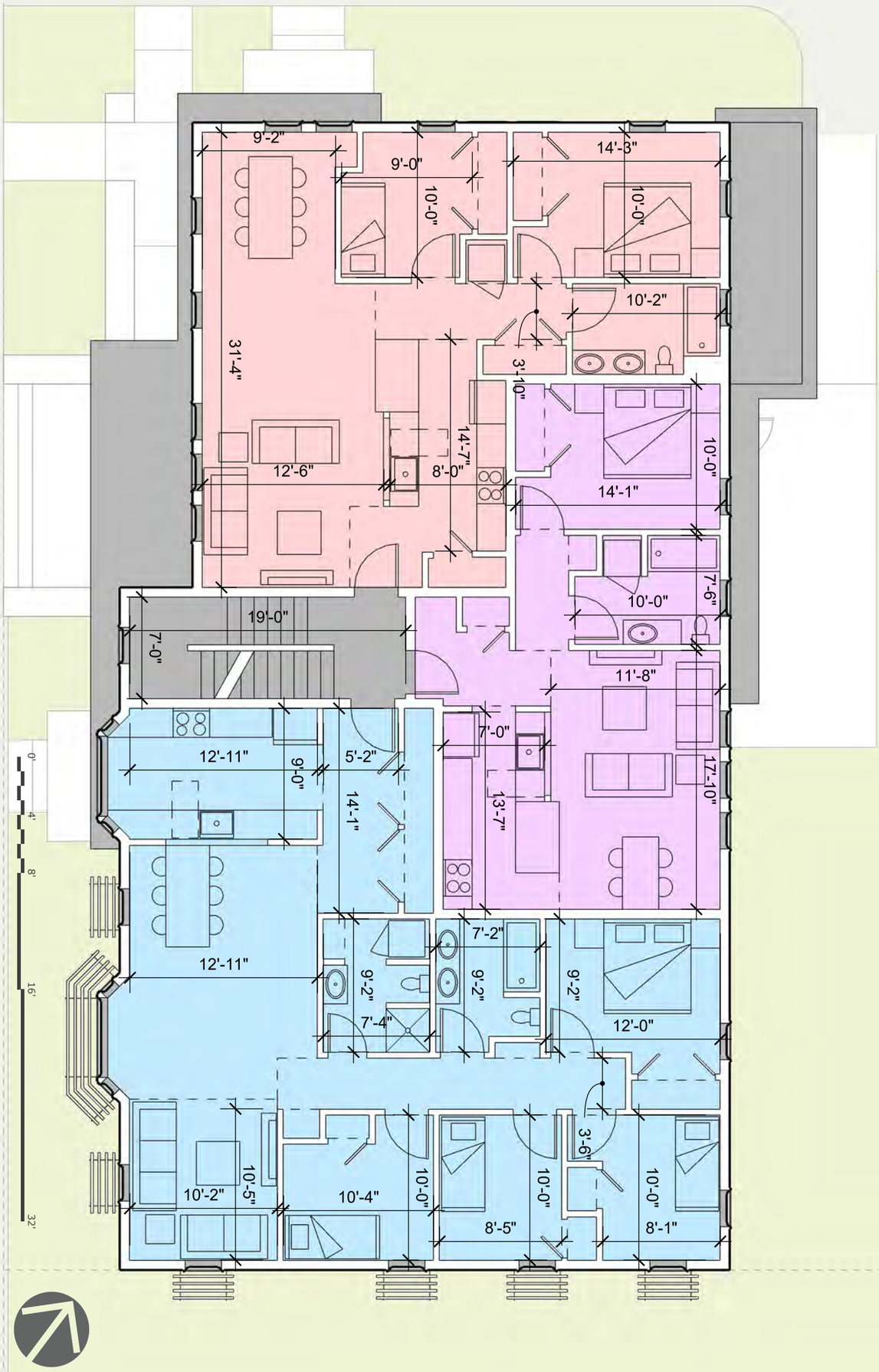
DRAWN BY
EAC

DESCRIPTION
First Floor Plan

PROJECT NO.
19030

PROJECT
Raise-Op - Blake Street

Bild Architecture
PO Box 8235
Portland, ME 04104
207-408-0168
evan@bildarchitecture.com



102

A

ISSUED
8/31/2020

SCALE
1/8" = 1'-0"

DRAWN BY
EAC

DESCRIPTION
Second Floor Plan

PROJECT NO.
19030

PROJECT
Raise-Op - Blake Street

Bild Architecture
PO Box 8235
Portland, ME 04104
207-408-0168
evan@bildarchitecture.com

103

A

ISSUED
8/31/2020

SCALE
1/8" = 1'-0"

DRAWN BY
EAC

DESCRIPTION
Third Floor Plan

PROJECT NO.
19030

PROJECT
Raise-Op - Blake Street

Bild Architecture
PO Box 8235
Portland, ME 04104
207-408-0168
evan@bildarchitecture.com

Bild Architecture
PO Box 8235
Portland, ME 04104
207-408-0168
evan@bildarchitecture.com

PROJECT NO.
19030

PROJECT
Raise-Op - Blake Street

DRAWN BY
EAC

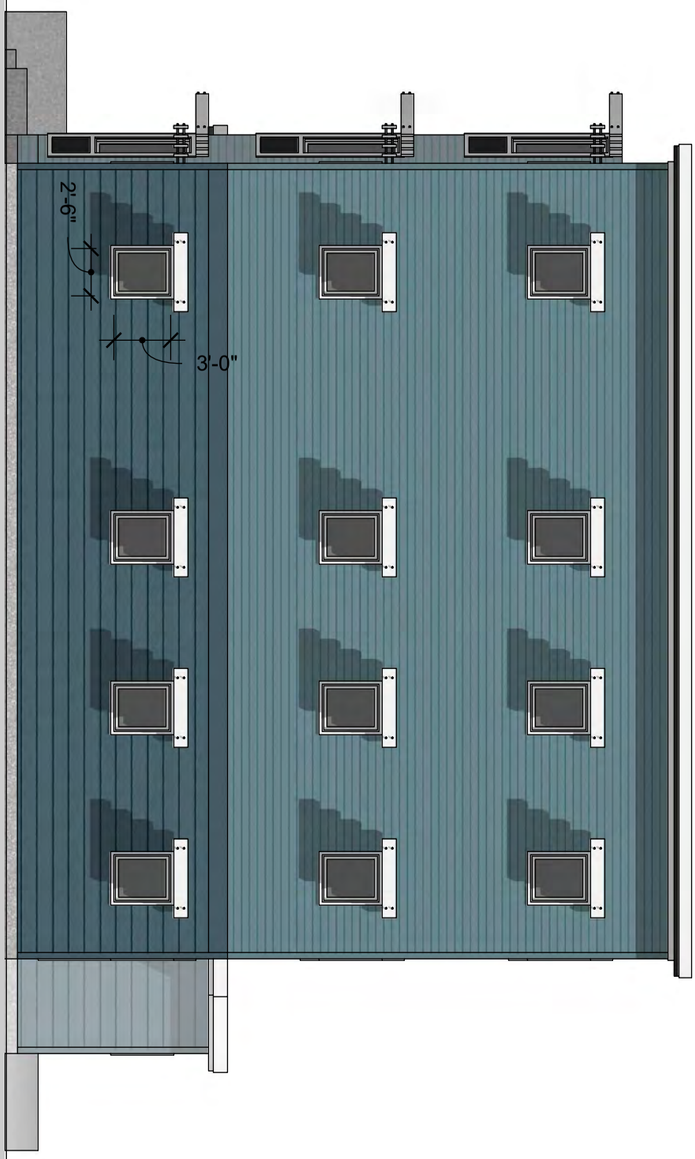
DESCRIPTION
West Elevation

ISSUED
8/31/2020

SCALE
1/8" = 1'-0"

A

201



A

202

ISSUED
8/31/2020

SCALE
1/8" = 1'-0"

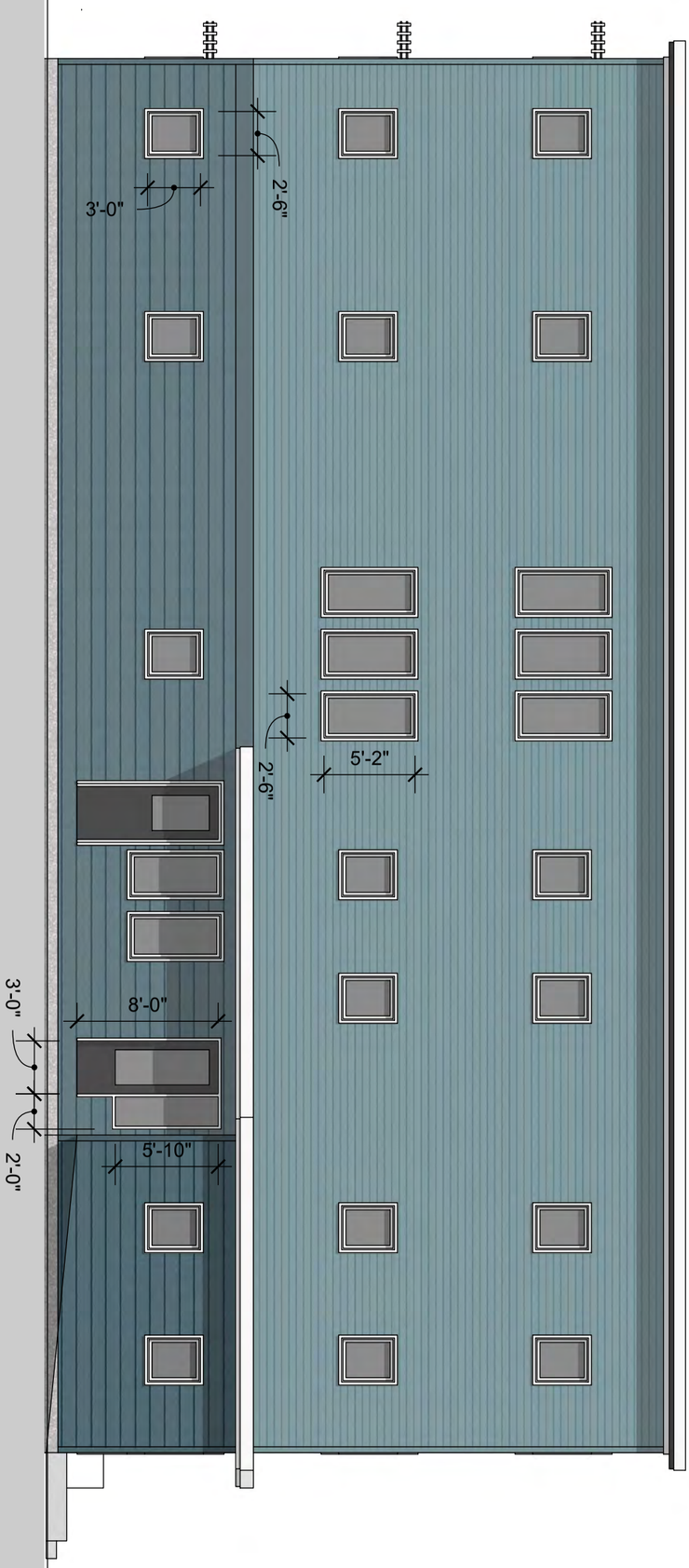
DRAWN BY
EAC

DESCRIPTION
South Elevation

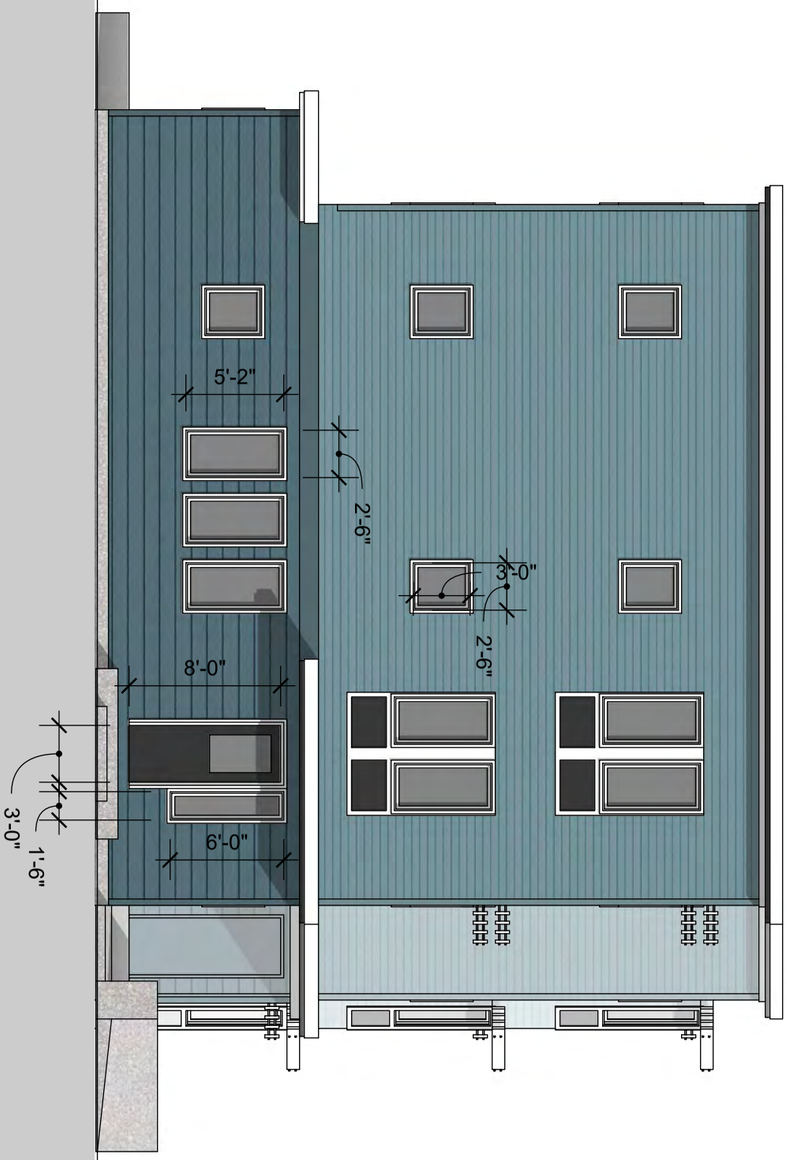
PROJECT NO.
19030

PROJECT
Raise-Op - Blake Street

Bild Architecture
PO Box 8235
Portland, ME 04104
207-408-0168
evan@bildarchitecture.com



A 203	ISSUED 8/31/2020 SCALE 1/8" = 1'-0"	DRAWN BY EAC DESCRIPTION East Elevation	PROJECT NO. 19030 PROJECT Raise-Op - Blake Street	bild ARCHITECTURE Bild Architecture PO Box 8235 Portland, ME 04104 207-408-0168 evan@bildarchitecture.com



A

204

ISSUED
8/31/2020

SCALE
1/8" = 1'-0"

DRAWN BY
EAC

DESCRIPTION
North Elevation

PROJECT NO.
19030

PROJECT
Raise-Op - Blake Street

Bild Architecture
PO Box 8235
Portland, ME 04104
207-408-0168
evan@bildarchitecture.com

901

A

ISSUED
8/31/2020

SCALE
NTS

DRAWN BY
EAC

DESCRIPTION
Concept Rendering

PROJECT NO.
19030

PROJECT
Raise-Op - Blake Street

Bild Architecture
PO Box 8235
Portland, ME 04104
207-408-0168
evan@bildarchitecture.com

902

A

ISSUED
8/31/2020

SCALE
NTS

DRAWN BY
EAC

DESCRIPTION
Concept Rendering

PROJECT NO.
19030

PROJECT
Raise-Op - Blake Street

bild ARCHITECTURE
Bild Architecture
PO Box 8235
Portland, ME 04104
207-408-0168
evan@bildarchitecture.com

903

A

ISSUED
8/31/2020

SCALE
NTS

DRAWN BY
EAC

DESCRIPTION
Concept Rendering

PROJECT NO.
19030

PROJECT
Raise-Op - Blake Street

Bild Architecture
PO Box 8235
Portland, ME 04104
207-408-0168
evan@bildarchitecture.com

904

A

ISSUED
8/31/2020

SCALE
NTS

DRAWN BY
EAC

DESCRIPTION
Concept Rendering

PROJECT NO.
19030

PROJECT
Raise-Op - Blake Street

Bild Architecture
PO Box 8235
Portland, ME 04104
207-408-0168
evan@bildarchitecture.com