

July 7, 2023

Pineland

Cumberland Hall 41 Campus Drive, Suite 301 New Gloucester, ME 04260

Portland

565 Congress Street, Suite 201 Portland, ME 04101

21-106

Eric Cousens
Director of Planning & Permitting
City of Auburn
60 Court Street
Auburn, ME 04210

405 Center Street - Site Plan Application Wu Chun (Jim) 405 Center Street, Auburn, ME

Dear Eric,

On behalf of Jim Wu, we are pleased to submit the Development Review Application for the 405 Center Street Apartments - a 21-unit apartment complex that was designed using the City's Site Plan standards. We are requesting to be placed on the agenda for the next available Planning Board meeting.

A previous iteration of this project was approved at the March Planning Board meeting. Much has remained the same from that project including:

- The number of units (21)
- The entrance location
- The number of buildings (2)
- The utility connection locations
- The removal of the retaining wall that is located along the Center Street frontage.
- The ability for the City to divert/expand the sidewalk behind an adjacent power pole.

The old design was abandoned in favor of the current layout because the building design and construction costs were prohibitive. The applicant believes that the new layout will be more affordable and provide for more screening from Center Street. The parking area is also smaller.

EXISTING PROJECT SITE

The project site is located at 405 Center Street and is approximately 1.22 ac. It's depicted on the City of Auburn Tax Map 271 as Lot 065. The site is located within the General Business District, where multifamily apartments are an allowed use. The standard net residential density for the district is up to 17 units per acre which means that the property can support 21 units.

The development parcel is located on the east side of Center Street approximately 200' south of the intersection of Center Street and East Dartmouth Street. The property contained an old 2.5 story building that had been converted from a residence to a commercial use at some point in

time, and was most recently a four-unit apartment building with an unoccupied commercial space on the first floor. The building was razed due to fire and water damage sustained in a recent fire.

The parcel can be accessed by two different curb cuts. One is located on each side of the Center Street frontage. A looped driveway connects the two entrances in front of the existing building. There is a parking lot located behind building that contains enough space for approximately 18 vehicles plus a loading area. The site is fully developed. All non-imperious area is maintained as lawn. There are no wetland areas located on the nearly fully developed site.

The property rises more than 30' in elevation from Center Street to the rear of the property.

PROPOSED PROJECT

The 405 Center Street Apartments project features two apartment buildings along with the associated parking, landscaping, lighting and stormwater areas. The buildings will contain 10 & 11 units, respectively. The apartment buildings are all three stories tall. Each unit will contain two bedrooms. The buildings were designed by Dirigo Architectural (See Attachment 9).

Schematic Layout: The site was designed to work within the elevation constraints. Retaining walls will be utilized throughout the property. The 24' wide entrance connects to Center Street on the northern side of the frontage. It rises at an 8% grade until it reaches the parking lot, where grades fluctuate between 1%-3%. Building #1 is a 3-story, 11-unit structure that is located closest to Center Street. Building #2 contains 10 units and is located behind Building #1. It will be 3 stories tall on the end closest to Center Street and 2 stories tall on the opposite side. A retaining wall will be constructed around the end of the parking area that connects into Building #2. Behind that, the existing slope will be re-graded to a sustained 2:1 slope. All 2:1 slope on the property will be armored with permanent erosion control matting.

We provided a vehicle turnaround near the midpoint of the parking area that will allow easy access and maneuverability for both the City's fire & rescue vehicles as well as trash removal trucks.

<u>Parking:</u> The plan features 31 parking spaces including two handicapped accessible spaces. This number equals the amount stipulated by the zoning ordinance where it's written that 1.5 spaces are required per unit.

<u>Access:</u> The northernmost existing curb-cut and driveway location will be used for the project access. Sidewalks will be constructed along the southern edge of the parking lot and extend to Center Street along the drive aisle. The internal sidewalk system is handicapped accessible.

The existing site features a retaining wall on the backside of the Center Street sidewalk. The wall is generally 4.5' high. The wall will be completely removed. The ground will slope up from the back of the sidewalk to Building #1 at a maximum slope of 3:1. The removal of the wall and existing slope will provide greater than 350' of sight distance at the project entrance in both directions.

Daily and peak hour trip generation was determined for the proposed project based upon trip tables presented in the tenth edition of the Institute of Transportation Engineers (ITE) "Trip

Generation" handbook. The ITE publication provides numerous land use categories and the average volume of trips generated by each category. Site trip estimates for this project are based upon LUC #221-Multifamily Housing (Mid-Rise); which is described in the ITE publication as: multifamily housing including apartments, townhouses, and/or condominiums located within the same building with at least three other dwelling units that have between three and ten levels. Calculation of the total number of trips generated per each corresponding time period are summarized below:

Land Use	Multifamily Housing (Mid-Rise) – LUC 221		
Time Period	Size # of units	Trip Generation Rate (Trips per Units)	Trips Generated
Weekday	21	5.44	114
AM Weekday Peak Hour (Street)	21	0.36	8
PM Weekday Peak Hour (Street)	21	0.44	9
AM Weekday Peak Hour (Generator)	21	0.32	7
PM Weekday Peak Hour (Generator)	21	0.41	9
Saturday	21	4.91	103
Saturday Peak Hour	21	0.44	9
Sunday	21	4.09	86
Sunday Peak Hour	21	0.39	8

<u>Utilities:</u> The complex will be served by public water, sewer, natural gas and underground power. The Center Street right of way contains all necessary utilities including public water & sewer, natural gas and above ground power lines.

A new 6" water line will connect to the existing 12" water main that will provide water service and fire protection to the building sprinkler systems. A new sewer manhole will be constructed within Center Street to allow connection of the proposed 8" gravity sewer line to the existing 18" public gravity sewer system. Gas & electrical service will make connection directly to the adjacent lines. The electric service will drop from the overhead lines and provide underground power. Two new ground-mounted transformers will be installed, one for each building.

<u>Stormwater Management:</u> The impervious area of the project has been reduced from the previous project by approximately 4,000 SF. We are using the perimeter swale system to control the peak rate of runoff. An outfall control structure will be constructed within the Catch Basin that is just west of Building #1 that will control the peak rate of runoff for the developed project to existing levels. A full stormwater report is attached.

<u>Snow Removal:</u> We have designated snow storage areas on the site plan. Snow storage areas are located off the end and sides of the parking area and drive aisle as well as beyond the fire truck turnaround.

<u>Landscaping & Lighting</u>: Barry Hosmer, RLA is currently preparing the landscaping plan. It will be provided under separate cover. We prepared the lighting plan. It features fully cut off, building mounted architectural light fixtures.

<u>Signage:</u> The applicant is proposing to construct a sign to be located between Building 1 & Center Street. The location is shown on the site plan.

ATTACHMENTS

The following items have been attached:

- 1. Application Form & Checklist
- 2. Property Deed
- 3. Standards Compliance Narrative
- 4. Stormwater Report
- 5. Utility Correspondence
- 6. Financial Capacity
- 7. Cost Estimate
- 8. Fire Truck Turning Template
- 9. Building Plans
- 10. Construction Plans

CLOSING

The project has been designed to meet the review standards of the City of Auburn's Zoning and Land Use Code. Narratives describing how these criteria and standards are met is attached to the Development Review Application. Please do not hesitate to reach out if you have any questions or require additional information.

Sincerely,

Jimmy C. Courbron, P.L.S.

TERRADYN CONSULTANTS, LLC

Attachment 1

Application Form



City of Auburn, Maine

Office of Planning & Permitting
Eric J. Cousens, Director
60 Court Street | Auburn, Maine 04210
www.auburnmaine.gov | 207.333.6601

Development Review Application

PROJECT NAME: 405 Center Street Apa	artments
PROPOSED DEVELOPMENT ADDRESS: 40	5 Center Street, Auburn, ME 04210
PARCEL ID #: 271-065	
	n Amendment □ sion Amendment □
PROJECT DESCRIPTION: Raze existing 2 1/2 story, m	ixed-use apartment building that was recently condemned due to
fire and water damage and replace with one 10-unit apartmen connect to public utilities.	t building and one 11-unit apartment building. New structures will
connect to public utilities.	
CONTACT INFORMATION: <u>Applicant</u> Property Owner	Property Owner
Name: Wu Chun (Jim)	Name:
Address: 279 Center St. Address:	
City / State Auburn, ME City / State	
Zip Code 04210 Zip Code	
Work #: Work #:	
Cell #: (207) 754-8474	Cell #:
Fax #:	Fax #:
Home #:	Home #:
Email:	Email:
jim.w009@yahoo.com	
Project Representative Terradyn Consultants, LLC	Other professional representatives for the project (surveyors, engineers, etc.),
Name: Jeffrey D. Amos, PE	Name: Jimmy C. Courbron, PLS
Address: 41 Campus Dr. Suite 301	Address: 95 Main St. Second Floor
City / State New Gloucester, ME 04260	City / State Auburn, ME
Zip Code	Zip Code 04210
Work #: (207) 926-5111	Work #: (207) 200-1678
Cell #:	Cell #: (207) 212-4478
Fax #:	Fax #:
Home #:	Home #:
Email:	Email:
jeff@terradynconsultants.com	jim@terradynconsultants.com

PROJECT DATA

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

-		
IMPERVIOUS SURFACE AREA/RATIO	47.005	
Existing Total Impervious Area	17,395	sq. ft.
Proposed Total Paved Area	12,905 24,388	sq. ft.
Proposed Total Impervious Area	+6,993	sq. ft.
Proposed Impervious Net Change	33	sq. ft.
Impervious surface ratio existing	46	% of lot area
Impervious surface ratio proposed	40	% of lot area
BUILDING AREA/LOT		
COVERAGE	3,500	sq. ft.
Existing Building Footprint	12,000	sq. 1t. sq. ft.
Proposed Building Footprint	343%	sq. 1t. sq. ft.
Proposed Building Footprint Net change	5,500	sq. ft.
Existing Total Building Floor Area	31,000	sq. ft.
Proposed Total Building Floor Area	565%	sq. ft
Proposed Building Floor Area Net Change	Yes	(yes or no)
New Building	7	% of lot area
Building Area/Lot coverage existing	23	% of lot area
Building Area/Lot coverage proposed		
ZONING	General Business	
Existing	N/A	
Proposed, if applicable		
LAND USE	Pacidontial	
Existing	Residential	
Proposed	Residential	
RESIDENTIAL, IF APPLICABLE	4	
Existing Number of Residential Units	4	
Proposed Number of Residential Units	21 N/A	
Subdivision, Proposed Number of Lots	N/A	
PARKING SPACES		
Existing Number of Parking Spaces	18	
Proposed Number of Parking Spaces	31	
Number of Handicapped Parking Spaces	2	<u></u>
Proposed Total Parking Spaces	31	
ESTIMATED COST OF PROJECT:	\$380,000	
DELEGATED REVIEW AUTHORITY CHECK	<u>LIST</u>	
SITE LOCATION OF DEVELOPMENT AND ST	ORMWATER MANAGEN	<u>MENT</u>
Existing Impervious Area	17,395	sq. ft.
Proposed Disturbed Area	53,000	sq. ft.
Proposed Impervious Area	24,388	sq. ft.
1. If the proposed disturbance is greater than one	acre, then the applicant sha	all apply for a Maine Construction
General Permit (MCGP) with MDEP.		
2. If the proposed impervious area is greater than		
11/16/05, then the applicant shall apply for a M. City.	DEP Stormwater Managen	nent Permit, Chapter 500, with the
3. If total impervious area (including structures, page 2)	avement, etc) is greater tha	on 3 acres since 1971 but less than 2
acres, then the applicant shall apply for a Site L	ocation of Development Pe	ermit with the City. If more than 7
acres then the application shall be made to MD. 4. If the development is a subdivision of more that		
 If the development is a subdivision of more that apply for a Site Location of Development Permi shall be made to MDEP unless determined other 	t with the City. If more tha	
TRAFFIC ESTIMATE		
Total traffic estimated in the peak hour-existing	0	passenger car equivalents (PCE)
(Since July 1, 1997)		
	r 1 4 400E)	
Total traffic estimated in the peak hour-proposed (Since If the proposed increase in traffic exceeds 100 one-way to		passenger car equivalents (PCE) novement permit will be required.

 Property is located in the Gen Parcel Area: 1.22 ac 	res / <u>53,296</u>	zoning district. square feet(sf).	
Regulationsac	Required/Allowed	Provided	
Min Lot Area	10,000 s.f.	/ 53,206	
Street Frontage	100'	/ 193'	
Min Front Yard	25'	/ 25'	
Min Rear Yard	35'	/ 35'	
Min Side Yard	25'	/ 25'	
Max. Building Height	45'	/ 39'	
Use Designation	Multi-family allowed	/ Multi-family proposed	
Parking Requirement		uare feet of floor area 1	I.5 spaces per unit
Total Parking:	31	/ 31	
Overlay zoning districts (if any):	None	/	/
Urban impaired stream watershed?	YES/NO If yes, water	rshed name	
•			

DEVELOPMENT REVIEW APPLICATION SUBMISSION

Submissions shall include fifteen (15) complete packets containing the following materials:

- 1. 5 Full size plans and 10 smaller (no larger than 11" x 17") plans containing the information found in the attached sample plan checklist.
- 2. Application form that is completed and signed by the property owner or designated representative.

 (NOTE: All applications will be reviewed by staff and any incomplete application will not be accepted until all deficiencies are corrected.
- 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.

To view the City of Auburn Zoning Ordinance, go to:

www.auburnmaine.gov under City Departments / Planning, Permitting & Code / Subdivisions / Land Use / Zoning Ordinance

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:
Coming Contra	July 7, 2023



City of Auburn, Maine

Office of Planning & Permitting
Eric J. Cousens, Director
60 Court Street | Auburn, Maine 04210
www.auburnmaine.gov | 207.333.6601

Development Review Checklist

The following information is required where applicable to be submitted for an application to be complete

PROJECT NAM	ME: 405 Center Street Apartments
•	EVELOPMENT ADDRESS: 405 Center St.
PARCEL#:	271-065

Required Information		Check when St	ubmitted	Applicable Ordinance
Site Plan		Applicant	Staff	
	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	N/A		
	Parking Space Calcs	✓		
	Drive Openings/Locations	/		
	Subdivision Restrictions	None		
	Proposed Use	✓		
	PB/BOA/Other Restrictions	None		
	Fire Department Review	✓		
	Open Space/Lot Coverage	/		

Required Information		Check when S	Check when Submitted	
Landscape Plan		Applicant	Staff	
	Greenspace Requirements	✓		
	Setbacks to Parking	✓		
	Buffer Requirements	None		
	Street Tree Requirements	N/A		
	Screened Dumpsters	/		
	Additional Design Guidelines	✓		
	Planting Schedule	✓		
Stormwater & Erosion Control Plan		Applicant	Staff	
	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	N/A		
Lighting Plan		Applicant	Staff	
	Full cut-off fixtures	/		
	Meets Parking Lot Requirements	✓		
Traffic Information		Applicant	Staff	
	Access Management	✓		
	Signage	✓		
	PCE - Trips in Peak Hour	✓		

Required Information		Check when S	Submitted	Applicable Ordinance
	Vehicular Movements	/		
	Safety Concerns	✓		
	Pedestrian Circulation	/		
	Police Traffic	/		
	Engineering Traffic	/		
Utility Plan		Applicant	Staff	
	Water	/		
	Adequacy of Water Supply	/		
	Water main extension agreement	✓		
	Sewer	_		
	Available city capacity	/		
	Electric	✓		
	Natural Gas	/		
	Cable/Phone	✓		
Natural Resources		Applicant	Staff	
	Shoreland Zone	N/A		
	Flood Plain	None		
	Wetlands or Streams	None		
	Urban Impaired Stream	None		
	Phosphorus Check	N/A		
	Aquifer/Groundwater Protection	None		
Stormwater PBR	Applicable State Permits			
	Lake Auburn Watershed	N/A		
	Taylor Pond Watershed	N/A		
Right, Title or Interest		Applicant	Staff	
	Verify	/		
	Document Existing Easements, Covenants, etc.	✓		

Required Information		Check when S	Submitted	Applicable Ordinance
Technical & Financial Capacity		Applicant	Staff	
	Cost Est./Financial Capacity	/		
	Performance Guarantee			
State Subdivision Law		Applicant	Staff	
	Verify/Check	N/A		
	Covenants/Deed Restrictions	None		
	Offers of Conveyance to City	None		
	Association Documents	N/A		
	Location of Proposed Streets & Sidewalks	N/A		
	Proposed Lot Lines, etc.	N/A		
	Data to Determine Lots, etc.	N/A		
	Subdivision Lots/Blocks	N/A		
	Specified Dedication of Land	None		
Additional Subdivision Standards		Applicant	Staff	
	Mobile Home Parks	N/A		
	PUD	N/A		
A JPEG or PDF of the proposed site plan		Applicant	Staff	
		✓		
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	Available after approval & upon Request.			

Attachment 2

Evidence of Right Title & Interest (deed)

WARRANTY DEED

Thomas F. Shields, of the City of Auburn, County of Androscoggin, and State of Maine, for consideration paid, grants to Chun Wu, with a mailing address of 782 Minot Avenue, Auburn, Maine, 04210, with WARRANTY COVENANTS, a certain lot or parcel of land, with any buildings thereon, situated at 405 Center Street in the City of Auburn, County of Androscoggin, and State of MAINE, bounded and described as follows:

Beginning on the easterly line of Center Street at the southwesterly corner of a lot or parcel of land conveyed by Herbert F. Curtis to John T. Spooner by deed dated April 30, 1928. and recorded in the Androscoggin Registry of Deeds in Book 381, Page 496; thence in a northerly direction, by the said easterly line of Center Street one hundred ninety-three and six tenths (193.6) feet to the southerly line of land owned by one Nash; thence in an easterly direction, by the southerly line of said Nash land, one hundred thirty-six and five tenths (136.5) feet; thence in a southeasterly direction, by the southwesterly line of land now or formerly owned by one Gagnon and by the southwesterly line of land owned by Lola R. Strout, one hundred eighty-seven (187) feet to an angle in said Strout's line; thence in a southerly direction, by the westerly line of said Strout's land, one hundred sixty-one and sixty-five hundredths (161.65) feet to the northerly line of land owned by one Anderson; thence in a westerly direction by said Anderson's northerly line two hundred thirteen and two-tenths (213.2) feet to an iron pipe driven into the ground, said iron pipe being located twenty-four (24) feet northerly from the foundation wall of said Anderson's house; said iron pipe also being located at the easterly corner of land conveyed by the said Herbert F. Curtis to John T. Spooner above referred to; thence in a westerly direction, by the northerly line of said Anderson's land, sixty-one and three tenths (61.3) feet to the said easterly line of Center Street and the point of beginning.

Also a right-of-way across the northwesterly corner of said Anderson's land as described in said deed from Curtis to Spooner above-referred to.

Together with all tenements, hereditaments, and appurtenances thereto belonging, but subject to easements and restrictions of record.

Being the same premises described in the deed to Thomas F. Shields from Lawrence M. Zanca and Edward R. Zanca dated July 12, 1983 and recorded on July 13, 1983 in the Androscoggin County Registry of Deeds in Book 1656, Page 130.

Excepting and reserving therefrom that certain lot or parcel of land conveyed by Thomas F. Shields to Paul H. Sasseville and Gail M. Sasseville by deed dated November 11, 2000, recorded in the Androscoggin County Registry of Deeds in Book 4547, Page 192, and as complimented by Mutual Release of all Claims dated December 11, 2000 and recorded in said Registry of Deeds in Book 4562, Page 91.

IN WITNESS WHEREOF, the Gran September, 2015. Witness	ntor has executed this instrument on this 30th day of Was A Shields Thomas F. Shields
STATE OF MAINE ANDROSCOGGIN, SS.	September 30, 2015
Then personally appeared the above-n foregoing instrument to be his free act and de	named Thomas F. Shields and acknowledged the sed.
	Notary Public / Attorney at Law Mchissa M. Dach Je Print Name: My Commission Expires:

F://Darlene/clients/shields/405 center street, auburn, me/deed to wu

Attachment 3

Standards Compliance Narratives



Pineland

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

Auburn

95 Main St. Suite 201 Auburn, ME 04210

July 7, 2023 Project# 22-106

COMPLIANCE WITH CITY OF AUBURN ZONING AND LAND USE CODE

405 Center St, Auburn, Maine

The following information describes how the proposed project, located at 555 Court Street in Auburn, Maine, complies with Chapter 60 of the City of Auburns Zoning Ordinance.

1. Will not result in undue water, air or noise pollution

The proposed project is a market rate residential apartments development and is not expected to result in any undue water, air or noise pollution.

2. <u>Has sufficient water available for the reasonably foreseeable needs of the subdivision;</u>

Please see the attached letter from the Auburn Water and Sewer District stating that they have capacity to serve the proposed project. District's comments have been addressed.

3. <u>Will not cause an unreasonable burden on the existing water supply, if one is to be utilized;</u>

The proposed project will not cause an unreasonable burden to the existing water supply. Please see the attached letter from the Auburn Water and Sewer District stating that they have capacity to serve the proposed project.

4. <u>Will not cause unreasonable soil erosion or reduction in capacity of the land to hold</u> water so that a dangerous or unhealthy condition may result;

The proposed project will not cause unreasonable soil erosion or a reduction in the of the land to hold water. Erosion and sediment controls are shown on the attached plans and a stormwater management report has been prepared demonstrating that post development runoff will not exceed predevelopment conditions.

5. Will not cause unreasonable highway or public road congestion or unsafe conditions with respect to the use of the highways or public roads existing or proposed;

The project will not cause unreasonable highway or public congestion or unsafe conditions.

6. Will provide for adequate sewage waste disposal;

The proposed development will be serviced by the Auburn Water and Sewer district please see the attached letter confirming capacity to serve the proposed development.

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

The applicant will contract with a private waste hauler to dispose of solid waste at a licensed facility. Please see the attached letter from the Auburn Water and Sewer district confirming capacity to serve the proposed development.

8. Will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites or areas and irreplaceable natural areas;

The proposed development will not have an adverse effect on the scenic or natural beauty of the area. The proposed development is located within the General Business District and is surrounded by commercial and multi-family uses. The subject parcel was recently used as a multi-family residence, and is proposed to be used for the same. The proposed development has a robust landscaping plan that will help enhance the beauty of the area and screen the new development.

9. <u>In conformance with a duly adopted subdivision regulation or ordinance, comprehensive plan, development plan, or land use plan, if any;</u>

The proposed development has been designed in conformance with all applicable regulations.

10. <u>Is funded by a [developer] that has adequate financial and technical capacity to meet the standards;</u>

The applicant has adequate funding to complete the project, please see that attached letter from Bertrand G. LaBonte, Certified Public Accountant.

The Applicant has assembled a highly qualified team of professionals to plan, permit and develop construction documents for the project. The team services will be provided by the following companies:

CONSULTANT TEAM

Civil Engineer	Jeff Amos, P.E. Terradyn Consultants, LLC 41 Campus Drive, Suite 301 New Gloucester, ME 04260 (207) 370-2776
Surveyor	Jim Courbron, P.L.S. Terradyn Consultants, LLC 41 Campus Drive, Suite 301 New Gloucester, ME 04260 (207) 926-5111
Architect	Maine Residential Design Casco, ME (207) 627-3362
Landscape Architect	Barry J. Hosmer P.L.A., A.S.L.A. 196 Whitney Avenue Portland, ME 04102 (207) 874-0248

The team of consultants retained by the Developer has expertise and experience in the design of similar projects. Resumes of key personnel for the development team can be provided upon request.

11. <u>Will not adversely affect the character of the surrounding neighborhood and will not tend to depreciate the value of property adjoining the neighboring property under application;</u>

The proposed project will not adversely impact the surrounding area. The residential development will replace an existing structure in need of repairs and seeks to enhance the surrounding area.

12. <u>Has provisions for on-site landscaping that are adequate to screen</u> neighboring properties from unsightly features of the development;

A robust landscaping plan has been prepared for the proposed development, please see the plan within the attached plan set. Dumpster areas will be fenced and screened.

13. <u>Will not create a fire hazard and has provided adequate access to the site</u> <u>for emergence vehicles:</u>

Adequate access has been provided for emergency vehicles, please see the attached turning figures which demonstrate that the City of Auburn's Fire truck can safely access and maneuver within the site. The buildings will also be outfitted with sprinkler systems.

14. <u>Will not, alone or in conjunction with existing activities adversely affect the</u> quality or quantity of groundwater;

The proposed project will not adversely impact the quality or quantity of groundwater. The project will utilize public water and sewer.

15. <u>Does not have long-term cumulative effects on the proposed subdivision that will unreasonably increase a great pond phosphorus concentration during the construction phase and life of the proposed subdivision.</u>

The proposed project is not located within a great pond watershed.

Attachment 4

Stormwater Management Report



Revised 7-7-2023

STORMWATER MANAGEMENT PLAN

405 Center Street Auburn, Maine

The following Stormwater Management Plan has been prepared for the 405 Center Street Apartments Development to evaluate stormwater runoff and erosion control for the proposed 21 unit apartment complex to be located at 405 Center Street in Auburn, Maine.

Site Calculations

Total Property Area	1.22 Ac (+/-)
Total Existing Impervious Area	17,395 SF
Total Project Impervious Area	24,388 SF
Total Developed Area	1.22 Ac

Existing Conditions

The development parcel is located on the east side of Center Street approximately 200' south of the intersection of Center Street and East Dartmouth Street. The property contains an old 2.5 story building that had been converted from a residence to a commercial use at some point in time. The parcel can be accessed by two different curb cuts. One is located on each side of the Center Street frontage. A looped driveway connects the two entrances in front of the existing building. There is a parking lot located behind building that contains enough space for approximately 18 vehicles plus a loading area. The site is fully developed. All non-imperious area is maintained as lawn. There are no wetland areas located on the nearly fully developed site.

The site rises in elevation from an elevation of approximately 209 in Center Street to a high of 243 along the back property line. The grassy area behind the parking lot rises at an approximate grade of 20%.

The entire property and surrounding area drains to the Center Street stormwater system. The system ultimately flows into the Androscoggin River. Copies of the U.S.G.S. Quadrangle Map and an Aerial Map are attached to this submittal. The Center Street stormwater drainage system is modeled as Study Point #1 in this report.

Flooding

The development area is not located within an area of flood hazard according to the attached Federal Insurance Rate Map.

Post Development Stormwater Approach

We modeled the flow of stormwater runoff in both the pre & post development conditions from the development property. We modeled an existing catch basin that is located within our proposed drive aisle as the Study Point.

Modeling Assumptions

The onsite stormwater facilities were sized utilizing the USDA Soil Conservation Service (SCS) TR-20 Runoff Simulation Model, as contained in the HydroCAD computer software program (Version 9.0). Runoff curve numbers were determined for each direct watershed by measuring the area of each hydrologic soil group within each type of land cover. Weighted curve numbers were then calculated using curve numbers for various cover types and hydrologic soil groups, assuming "good" conditions as defined in U.S Soil Conservation Service (SCS) publications. Times of concentration and travel times were determined from site topographic maps in accordance with SCS procedures. A maximum length of 150 feet was used for sheet flow.

All of the watersheds' peak runoff rates were analyzed for the 2, 10, and 25-year frequency, 24-hour duration storm events. A Type III rainfall distribution was applied to these storms. The rainfall amounts for Androscoggin County are as follows:

Storm Frequency Precipitation (in./24 hr)							
2-year	3.0						
10-year	4.3						
25-year	5.4						

Onsite Soils

The soils were determined from the NRCS Web Soil Mapper. See attached NRCS Soils Map. All onsite soils were determined to be Hartland very fine sandy loam. They are of hydrologic soil group B.

Water Quantity (Flooding Standard)

The following table summarizes the results of stormwater calculations for the design storm events for the project areas. Calculations and computer modeling sheets are provided with this report.

Table 1 - Stormwater Runoff Summary Table Pre-Development vs. Post-Development								
Study	2Yr/24F	Ir (cfs)	10Yr/24	Hr (cfs)	25Yr/24Hr (cfs)			
Point #	Pre	Post	Pre	Post	Pre	Post		
1	1.0	1.4	2.2	2.2	3.3	2.9		

As the above result table shows, the post-development flow rates for the 2, 10, and 25-year/24 hour design storm events are nearly identical to the pre-development conditions.

Basic Standards

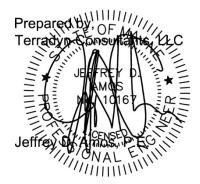
A site-specific Erosion & Sedimentation Control Plan has been developed for the project. Means and methods to control erosion and sedimentation during and after construction are detailed in the erosion control plan narrative and construction details, which are included directly on the project drawings for ease of reference during construction.

Requirements for inspection and maintenance of the stormwater management system are provided in the stormwater management system inspection and maintenance plan located in Attachment 6.

Housekeeping requirements are included in the Erosion & Sediment Control Narrative located on the project drawings as well as in Attachment 6. Draft buffer deed restrictions are provided in Appendix C and D.

Summary

Based on the results of this evaluation, the proposed stormwater design is not expected to cause flooding, erosion or other significant adverse effects downstream of the site.



Attached:

Site Figures:

USGS Quadrangle Map

Aerial Photo

Medium Intensity Soil Map

FEMA Floodmap

Pre & Post Development Hydrocad

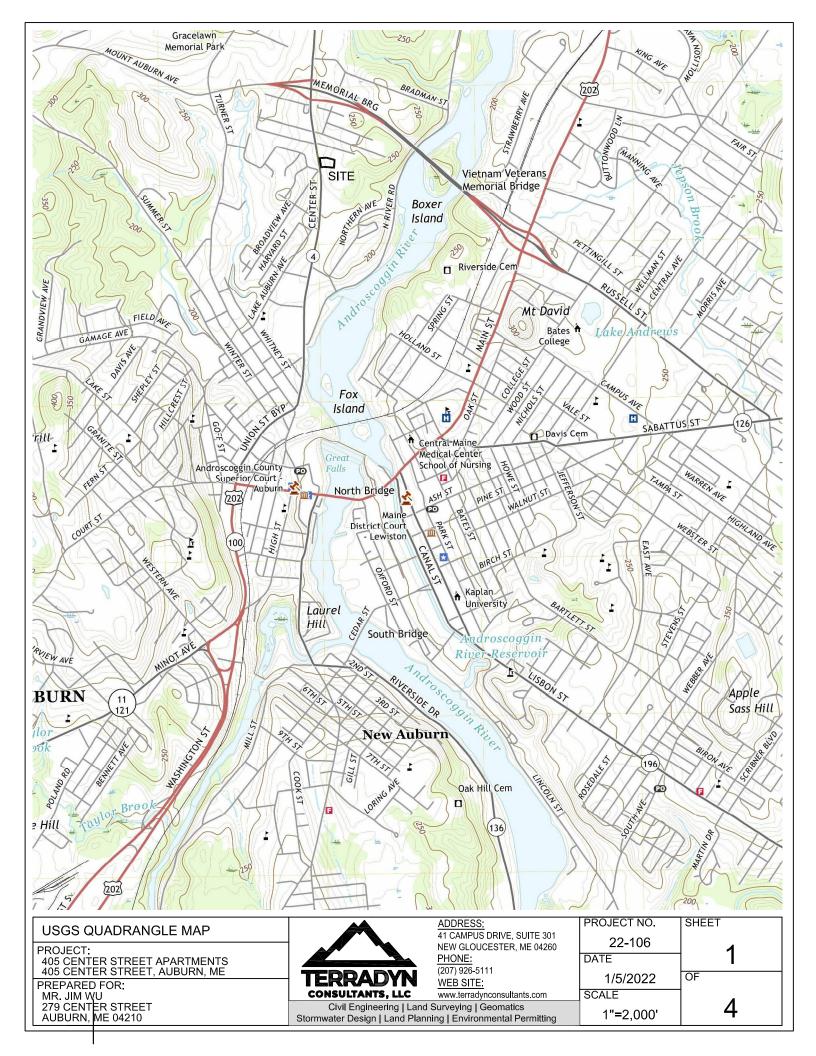
Calculations

Maintenance & Inspection of Stormwater

Facilities

Housekeeping Plan

Pre & Post Development Watershed Maps





AERIAL MAP

PROJECT: 405 CENTER STREET APARTMENTS 405 CENTER STREET, AUBURN, ME

PREPARED FOR: MR. JIM WU 279 CENTER STREET AUBURN, ME 04210



ADDRESS:
41 CAMPUS DRIVE, SUITE 301
NEW GLOUCESTER, ME 04260
PHONE:
(207) 926-5111
WEB SITE:

www.terradynconsultants.com Civil Engineering | Land Surveying | Geomatics
Stormwater Design | Land Planning | Environmental Permitting PROJECT NO. 22-106

1"=60'

SHEET

OF

DATE 1/5/2022

SCALE

4

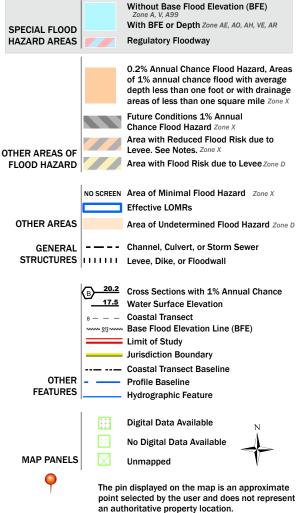
National Flood Hazard Layer FIRMette



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend FIGURE 3- FEMA FLOODMAP

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

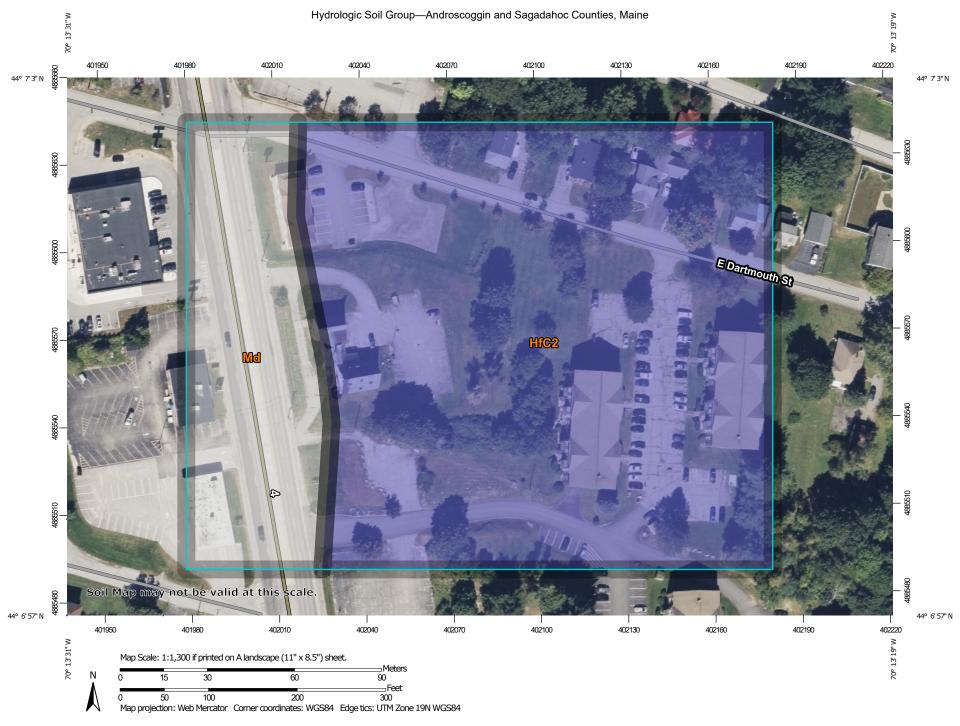


This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/7/2022 at 1:49 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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





MAP LEGEND MAP INFORMATION The soil surveys that comprise your AOI were mapped at Area of Interest (AOI) С 1:15.800. Area of Interest (AOI) C/D Soils Warning: Soil Map may not be valid at this scale. D **Soil Rating Polygons** Enlargement of maps beyond the scale of mapping can cause Not rated or not available Α misunderstanding of the detail of mapping and accuracy of soil **Water Features** line placement. The maps do not show the small areas of A/D contrasting soils that could have been shown at a more detailed Streams and Canals Transportation B/D Rails ---Please rely on the bar scale on each map sheet for map measurements. Interstate Highways C/D Source of Map: Natural Resources Conservation Service **US Routes** Web Soil Survey URL: D Major Roads Coordinate System: Web Mercator (EPSG:3857) Not rated or not available -Local Roads Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts Soil Rating Lines Background distance and area. A projection that preserves area, such as the Aerial Photography 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. B/D Soil Survey Area: Androscoggin and Sagadahoc Counties, Survey Area Data: Version 23, Aug 30, 2022 Soil map units are labeled (as space allows) for map scales 1:50,000 or larger. Not rated or not available Date(s) aerial images were photographed: Jul 11, 2021—Oct 29, **Soil Rating Points** 2021 The orthophoto or other base map on which the soil lines were A/D 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. B/D

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI				
HfC2	Hartland very fine sandy loam, 8 to 15 percent slopes, eroded	В	6.0	78.0%				
Md	Made land, loamy materials		1.7	22.0%				
Totals for Area of Intere	st	7.7	100.0%					

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

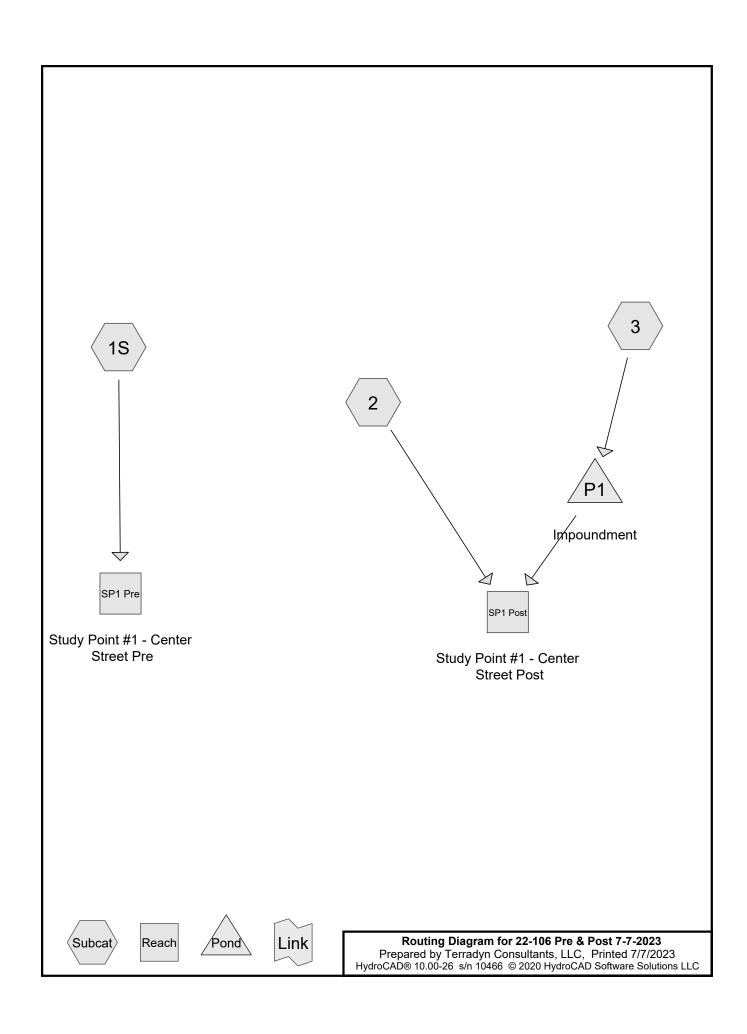
Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition
Component Percent Cutoff: None Specified

Tie-break Rule: Higher



Pre & Post Hydrocad - 405 Center Street

Type III 24-hr 2 Year Rainfall=3.00"

Prepared by Terradyn Consultants, LLC

Printed 7/7/2023

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Time span=1.00-24.00 hrs, dt=0.05 hrs, 461 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Runoff Area = 53,296 sf 32.54% Impervious Runoff Depth > 0.86"

Flow Length=295' Tc=8.9 min CN=73 Runoff=1.00 cfs 0.087 af

Subcatchment2: Runoff Area=25,778 sf 53.46% Impervious Runoff Depth>1.31"

Flow Length=282' Tc=6.0 min CN=81 Runoff=0.89 cfs 0.065 af

Subcatchment3: Runoff Area=27,518 sf 38.55% Impervious Runoff Depth>0.96"

Flow Length=220' Tc=8.5 min CN=75 Runoff=0.60 cfs 0.050 af

Reach SP1 Post: Study Point #1 - Center Street Post Inflow=1.38 cfs 0.115 af

Outflow=1.38 cfs 0.115 af

Reach SP1 Pre: Study Point #1 - Center Street Pre Inflow=1.00 cfs 0.087 af

Outflow=1.00 cfs 0.087 af

Pond P1: Impoundment Peak Elev=215.10' Storage=86 cf Inflow=0.60 cfs 0.050 af

Outflow=0.57 cfs 0.050 af

Total Runoff Area = 2.447 ac Runoff Volume = 0.202 af Average Runoff Depth = 0.99" 60.85% Pervious = 1.489 ac 39.15% Impervious = 0.958 ac

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Summary for Subcatchment 1S:

Runoff = 1.00 cfs @ 12.14 hrs, Volume= 0.087 af, Depth> 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Rainfall=3.00"

	_										
	A	rea (sf)	CN D	escription							
*		17,343	98 L	98 Lot Impervious (Water Tower)							
		35,953	61 >								
_		53,296		Veighted A	,	,					
		35,953			vious Area						
		17,343	-		ervious Ar						
		17,545	J	2.04 /0 IIIIp	CI VIOUS AIT	G a					
	Тс	Length	Slope	Velocity	Capacity	Description					
	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	Description					
_		, ,			(013)	01 (5)					
	7.7	100	0.1000	0.22		Sheet Flow,					
						Grass: Dense n= 0.240 P2= 3.00"					
	0.7	15	0.3300	0.35		Sheet Flow,					
						Grass: Short n= 0.150 P2= 3.00"					
	0.4	70	0.0200	2.87		Shallow Concentrated Flow,					
						Paved Kv= 20.3 fps					
	0.1	110	0.1000	15.54	12.21	Pipe Channel,					
						12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25'					
						n= 0.012					
	8.9	295	Total								

Summary for Subcatchment 2:

Runoff = 0.89 cfs @ 12.10 hrs, Volume= 0.065 af, Depth> 1.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Rainfall=3.00"

	Area (sf)	CN	Description	
*	13,781	98	Lot Impervious (Water Tower)	
	11,997	61	>75% Grass cover, Good, HŚG B	
25,778 81		81	Weighted Average	
11,997			46.54% Pervious Area	
	13,781		53.46% Impervious Area	

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Tc	Length	Slope	Velocity	Capacity	Description
(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)	
2.3	10	0.0200	0.07		Sheet Flow,
					Grass: Dense n= 0.240 P2= 3.00"
1.0	172	0.0200	2.87		Shallow Concentrated Flow,
					Paved Kv= 20.3 fps
0.1	100	0.0500	12.75	15.65	Pipe Channel,
					15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31'
					n= 0.012
2.6					Direct Entry, Minimum Tc Adjustment
 6.0	282	Total			

Summary for Subcatchment 3:

Runoff = 0.60 cfs @ 12.13 hrs, Volume= 0.050 af, Depth> 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs Type III 24-hr 2 Year Rainfall=3.00"

_	Α	rea (sf)	CN I	Description								
*		10,607	98 I	B Lot Impervious								
		16,911	61	>75% Gras	'5% Grass cover, Good, HSG B							
27,518 75 Weighted Average												
		16,911	(31.45% Per	vious Area							
		10,607	;	38.55% Imp	pervious Ar	ea						
	Tc	Length	Slope		Capacity	Description						
_	(min)	(feet)	(ft/ft)	(ft/sec)	(cfs)							
	6.4	35	0.0200	0.09		Sheet Flow,						
						Grass: Dense n= 0.240 P2= 3.00"						
	2.1	185	0.0100	1.50		Shallow Concentrated Flow,						
_						Grassed Waterway Kv= 15.0 fps						
	8.5	220	Total									

Summary for Reach SP1 Post: Study Point #1 - Center Street Post

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

Inflow Area = 1.224 ac, 45.76% Impervious, Inflow Depth > 1.13" for 2 Year event

Inflow = 1.38 cfs @ 12.11 hrs, Volume= 0.115 af

Outflow = 1.38 cfs @ 12.11 hrs, Volume= 0.115 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

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Summary for Reach SP1 Pre: Study Point #1 - Center Street Pre

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

Inflow Area = 1.224 ac, 32.54% Impervious, Inflow Depth > 0.86" for 2 Year event

Inflow = 1.00 cfs @ 12.14 hrs, Volume= 0.087 af

Outflow = 1.00 cfs @ 12.14 hrs, Volume= 0.087 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs

Summary for Pond P1: Impoundment

Inflow Area = 0.632 ac, 38.55% Impervious, Inflow Depth > 0.96" for 2 Year event

Inflow = 0.60 cfs @ 12.13 hrs, Volume= 0.050 af

Outflow = 0.57 cfs @ 12.17 hrs, Volume= 0.050 af, Atten= 6%, Lag= 2.3 min

Primary = 0.57 cfs @ 12.17 hrs, Volume= 0.050 af

Routing by Stor-Ind method, Time Span= 1.00-24.00 hrs, dt= 0.05 hrs Peak Elev= 215.10' @ 12.17 hrs Surf.Area= 373 sf Storage= 86 cf

Plug-Flow detention time= 4.0 min calculated for 0.050 af (100% of inflow)

Center-of-Mass det. time= 3.1 min (867.2 - 864.1)

Volume	Inve	ert Avail.Sto	rage	Storage D	escription		
#1	215.0	0' 4,1	25 cf	Custom S	tage Data (Pr	rismatic)Listed below	
Elevatio (fee 215.0 216.0 217.0	et) 00 00	Surf.Area (sq-ft) 250 1,500 5,000	(cubic	Store c-feet) 0 875 3,250	Cum.Store (cubic-feet) 0 875 4,125		
Device	Routing	Invert	Outle	et Devices			
#1	Primary	209.00'	12.0	" Round C	ulvert		
			L= 50.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 209.00' / 208.50' S= 0.0100 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.79 sf				
#2	Device 1	209.00'	,				
#3	Device 2	215.00'			ifice/Grate C		
			Limit	ed to weir f	low at low hea	ads	

Primary OutFlow Max=0.58 cfs @ 12.17 hrs HW=215.10' (Free Discharge)

1=Culvert (Passes 0.58 cfs of 7.06 cfs potential flow)

—2=Orifice/Grate (Orifice Controls 0.58 cfs @ 11.77 fps)

1-3=Orifice/Grate (Passes 0.58 cfs of 0.61 cfs potential flow)

HOUSEKEEPING PERFORMANCE STANDARDS

FOR: 405 CENTER STREET AUBURN, MAINE

Project Developer: Mr. Jim Wu

279 Center Street Auburn, Me 04210

Responsible Party: Mr. Jim Wu

279 Center Street Auburn, Me 04210

Introduction:

The contractor shall be responsible for maintaining proper housekeeping standards throughout the construction phase of the project. After the construction phase has been completed, the owner or operator of the project will be responsible.

Standards:

In accordance with the housekeeping performance standards required by MDEP chapter 500 stormwater regulations, the following standards shall be met:

- 1. **Spill prevention.** Controls must be used to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.
- 2. Groundwater protection. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.
- **3.** Fugitive sediment and dust. Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.

Operations during wet months that experience tracking of mud off the site onto public roads should provide for sweeping of road areas at least once a week and prior to significant storm events. Where chronic mud tracking occurs, a stabilized construction entrance should be provided. Operations during dry months, that experience fugitive dust problems, should wet down the access roads once a week or more frequently as needed.

4. Debris and other materials. Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

To prevent these materials from becoming a source of pollutants, construction and post-construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

- 5. Trench or foundation de-watering. Trench de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the department.
- **6. Authorized Non-stormwater discharges.** Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:
- (a) Discharges from firefighting activity;
- (b) Fire hydrant flushings;
- (c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
- (d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);
- (e) Routine external building washdown, not including surface paint removal, that does not involve detergents;
- (f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
- (g) Uncontaminated air conditioning or compressor condensate;
- (h) Uncontaminated groundwater or spring water;
- (i) Foundation or footer drain-water where flows are not contaminated;
- (j) Uncontaminated excavation dewatering (see requirements in Appendix C(5));
- (k) Potable water sources including waterline flushings; and
- (I) Landscape irrigation.
- 7. **Unauthorized non-stormwater discharges** . The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Appendix C (6). Specifically, the Department's approval does not authorize discharges of the following:
- (a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
- (b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
- (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and
- (d) Toxic or hazardous substances from a spill or other release.

Inspection & Maintenance January 2023

405 Center Stret Apartments Auburn, ME

Pineland

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

Portland

565 Congress Street, Suite 201 Portland, ME 04101

MAINTENANCE PLAN OF STORMWATER MANAGEMENT FACILITIES

405 CENTER STREET AUBURN, MAINE

Project Owner/Developer: Mr. Jim Wu

279 Center Street Auburn, Me 04210

Responsible Party: Mr. Jim Wu

279 Center Street Auburn, Me 04210

Prepared By: Jeffery Amos, P.E.

Terradyn Consultants, LLC 41 Campus Drive, Suite 101 New Gloucester, Maine 04260

(207) 926-5111

INTRODUCTION:

Regular inspection and maintenance of the entire stormwater management system is crucial to the long-term effectiveness of the system. The responsible party must provide regular inspection and maintenance of all permanent erosion control measures and stormwater management structures, establish any contract services required to implement the program, and keep records and a maintenance log book of inspection and maintenance activities. At a minimum, the inspection and maintenance activities outlined herein should be performed at the recommended intervals.

All measures must be maintained in effective operating condition. A person with knowledge of erosion and sedimentation practices, stormwater management, and the standards and conditions of all local, state and federal permits for the project shall conduct the inspections. The following areas, facilities, and measures must be inspected and identified deficiencies must be corrected.

INSPECTION TASKS

Inspect vegetated areas, particularly slopes and embankments, early in the growing season
or after heavy rains to identify active or potential erosion problems. Replant bare areas or
areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate
lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.

- 2. Inspect ditches, swales and other open stormwater channels in the spring, in late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, to control vegetated growth that could obstruct flow, and to repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or sideslopes.
- 3. Inspect **culverts** in the spring, in late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet.
- 4. Inspect **Roof Drain Filter Strip** semi-annually and following major storm events. Debris and sediment buildup shall be removed as needed. Area should be weeded as necessary.
- 5. Inspect and clean out **catch basins**. Clean-out must include the removal and legal disposal of any accumulated sediments and debris at the bottom of the basin, at any inlet grates, at any inflow channels to the basin, and at any pipes between basins. If the basin outlet is designed to trap floatable materials, then remove the floating debris and any floating oils (using oil-absorptive pads).

Conveyance & Distribution Systems: (Stormwater Channels & Culverts, etc.)

1. Inspection schedule:

- a. Inspect ditches, swales and other open stormwater channels in the spring, in late fall, and after heavy rains (one inch of rain in 24 hours) to remove any obstructions to flow, remove accumulated sediments and debris, to control vegetated growth that could obstruct flow, and to repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Any woody vegetation growing through riprap linings must also be removed. Repair any slumping side slopes as soon as practicable. If the ditch has a riprap lining, replace riprap on areas where any underlying filter fabric or underdrain gravel is showing through the stone or where stones have dislodged. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side-slopes.
- b. Inspect culverts in the spring, in late fall, and after heavy rains to remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit; and to repair any erosion damage at the culvert's inlet and outlet.
- c. Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.
- 2. Mowing: Grass should not be trimmed extremely short, as this will reduce the filtering effect of the swale (MPCA, 1989). The cut vegetation should be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale. The mowed height of the grass should be 2-4 inches taller than the maximum flow depth of the design water quality

storm. A minimum mow height of 6 inches is generally recommended (Galli, 1993).

- **3. Erosion:** It is important to install erosion and sediment control measures to stabilize this area as soon as possible and to retain any organic matter in the bottom of the trench.
- **4. Fertilization:** Routine fertilization and/or use of pesticides is strongly discouraged. If complete re-seeding is necessary, half the original recommended rate of fertilizer should be applied with a full rate of seed.
- **5. Sediment Removal:** The level of sediment deposition in the channel should be monitored regularly, and removed from grassed channels before permanent damage is done to the grassed vegetation, or if infiltration times are longer than 12 hours. Sediment should be removed from riprap channels when it reduces the capacity of the channel.

Roadway Surfaces:

Paved surfaces shall be swept or vacuumed at least once annually in the Spring to remove all Winter sand, and periodically during the year on an as-needed basis to minimize transportation of sediment during rainfall events.

Catch Basin Systems:

Catch basins are designed with a deep sump to trap larger sediment. Catch basins shall be inspected for sediment depth in the spring and fall, and accumulated sediment shall be removed and disposed of lawfully when it reaches 50% of the design capacity of the sump.

Vegetated Swales:

Mowing: Grass should not be trimmed extremely short, as this will reduce the filtering effect of the swale (MPCA, 1989). The cut vegetation should be removed to prevent the decaying organic litter from adding pollutants to the discharge from the swale. The mowed height of the grass should be 2-4 inches taller than the maximum flow depth of the design water quality storm. A minimum mow height of 6 inches is generally recommended (Galli, 1993).

Routine Maintenance and Inspection: The area should be inspected for failures following heavy rainfall (one inch of rain in 24 hours) and repaired as necessary for newly formed channels or gullies, reseeding/sodding of bare spots, removal of trash, leaves and/or accumulated sediments, the control of woody or other undesirable vegetation and to check the condition and integrity of the check dams.

Aeration: The buffer strip may require periodic mechanical aeration to restore infiltration capacity. This aeration must be done during a time when the area can be reseeded and mulched prior to any significant rainfall.

Erosion: It is important to install erosion and sediment control measures to stabilize this area as soon as possible and to retain any organic matter in the bottom of the trench.

Fertilization: Routine fertilization and/or use of pesticides is strongly discouraged. If complete reseeding is necessary, half the original recommended rate of fertilizer should be applied with a full

Inspection & Maintenance January 2023 rate of seed.

Sediment Removal: The level of sediment deposition in the channel should be monitored regularly, and removed from grassed channels before permanent damage is done to the grassed vegetation, or if infiltration times are longer than 12 hours. Sediment should be removed from riprap channels when it reduces the capacity of the channel.

DOCUMENTATION

Keep a log (report) summarizing inspections, maintenance, and any corrective actions taken. The log must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal. The log must be made accessible to Department of Environmental Protection staff and a copy provided to the Department upon request. The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization.

The log attached at the end of this plan is from the *Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual for Designers and Engineers (May 2016)*. The log may be used or adapted for this project.

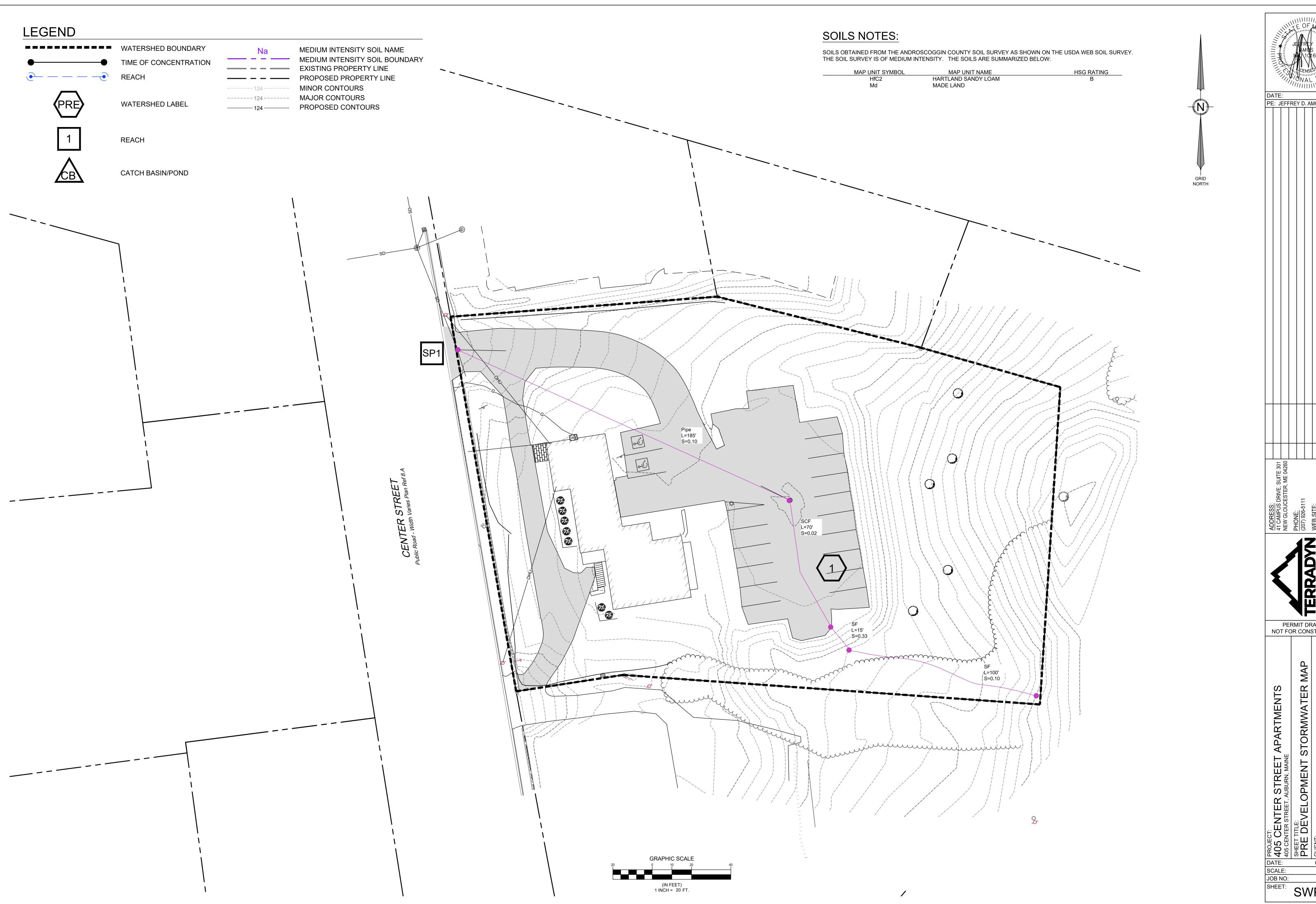
ATTACHMENTS:

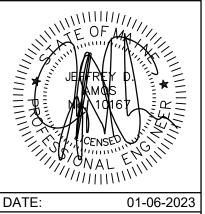
Stormwater Management Facilities Inspection & Maintenance Log

Stormwater Management Facilities Inspection & Maintenance Log 405 Center Street Apartments General Information: Date: Weather: Inspected by: Reason for Inspection: (Regular Inspection) (Major Rain Event) **BMP Conditions Observed** 1. Vegetated Areas 2. Ditches, Swales, Open Channels 3. Culverts 4. Roof Drain Filter Strip 5. Catch Basin **Detailed Repair Notes: BMP Type Date Description of Repairs & Sediment Disposal**

Notes:

If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal. A copy of this log shall be retained for a period of at least five years from the completion of permanent stabilization. The log must be made accessible to City of Auburn staff upon request.



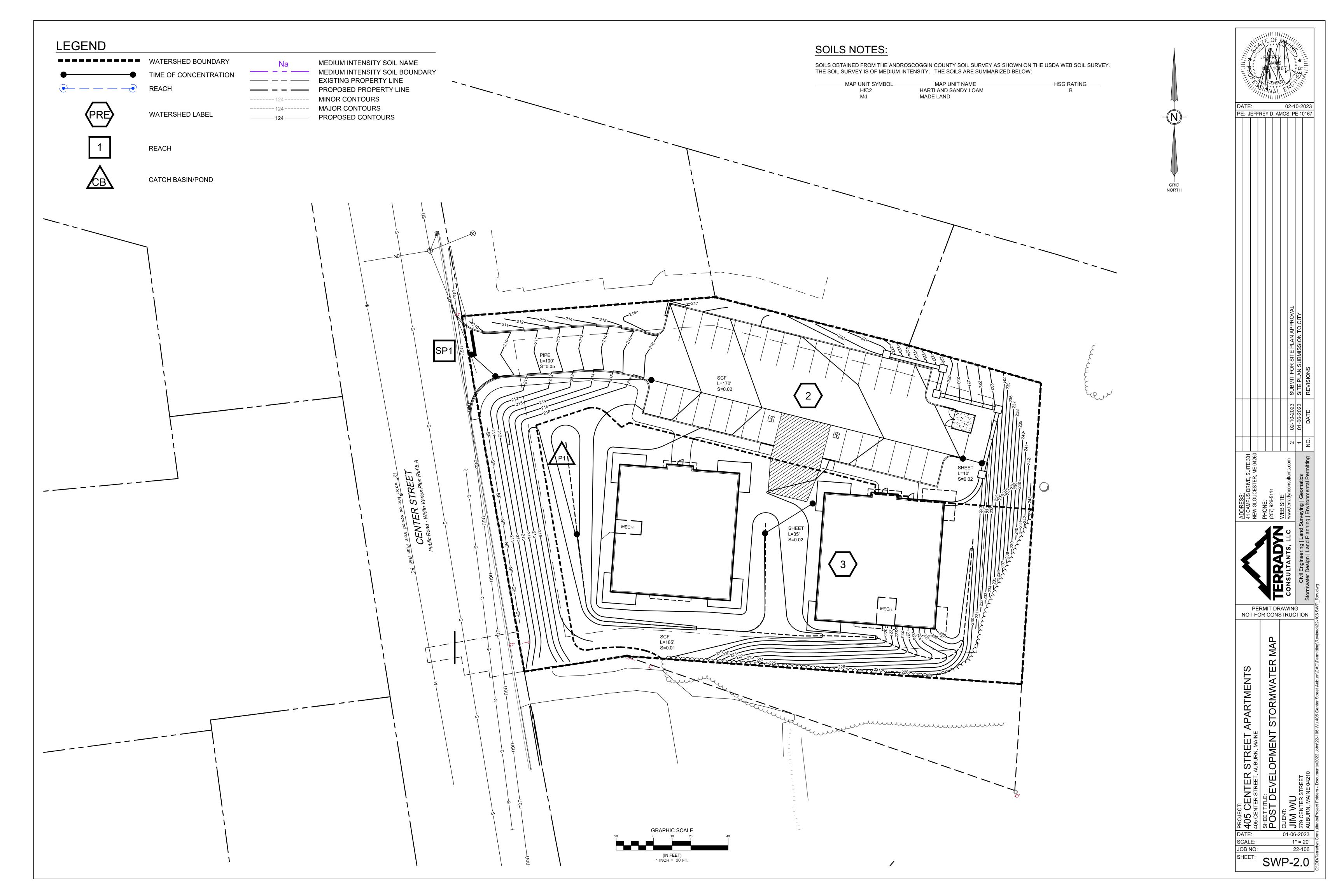


PE: JEFFREY D. AMOS, PE 10167

PERMIT DRAWING NOT FOR CONSTRUCTION

01-06-2023 1" = 20' 22-106

SWP-1.0



Utility Correspondence

Auburn Water and Sewer Districts



MEMO

To: Eric Cousens, John Blais, Katherine Cook

From: Michael Broadbent, Superintendent

CC:

Date: January 19, 2023 **Re:** 405 Center Street

The blow comments are based on the review of the 1/6/2023 Utility plan for 405 Center Street.

Water:

The Utility plan incorrectly shows the location of the water main in Center Street. The District's 12" water main is on the opposite side of the road, close to the median. I've attached a map for the owner's consultant's reference. They should know that Lewiston has a large water main between the AWD main and the property. Their contractor should locate this so that they can avoid elevation conflicts during installation.

If the buildings are to be sprinkled, they will need separate isolation valves on the exterior of the buildings so that the lines (domestic and fire) can be shut off independently of each other. This will require 4 additional valves from what is shown on the plans. If the buildings are not sprinkled there should be an isolation valve for each line where they split adjacent to building 1.

All water main materials installed within the rite-of-way of Center Street must be purchased from the District, the rest of the materials can be purchased at the discretion of the contractor. The owner will also be responsible for water meter fees and installation.

All water mains servicing this development will be privately owned and maintained, the District's Ownership/responsibility will end at the tapping gate.

Sewer:

The utility plan does not show a sewer service for building 1. Building 2 shows a 4" service between the building and the proposed SMH-2. This section of service line needs to be up-sized to 6" between Building 2 and SMH-2. The service for building 1 should also be 6".

The owner will be responsible for Sewer Connection fees, these fees are based on the size of the water meters and can be found on our website.

All of the sewer mains and services including the connection to the District's main will be privately owned and maintained.

Capacity:

The District has sufficient water and sewer capacity to serve this development. Once the above deficiencies are corrected the District would like the opportunity to review the changes on a corrected set of plans.

Malul shellant

Financial Capacity

Bertrand G. LaBonte, CPA, MBA, MST 185 Webster Street Lewiston, Maine 04240 (207)782-9500 Fax (207)782-9600 e-mail bglcpa@aol.com

January 24, 2023

Eric Cousens, Director Planning Board City of Auburn Maine

Dear Mr. Cousens:

I am pleased to inform you that James Wu enjoys a great reputation in the LA Metro area. He brings many years of experience in both residential and commercial real estate development. Not only does he have the expertise and knowledge but he also has the financial capacity to complete the project on 405 Center Street in Auburn, Maine.

I am more than happy to provide more validation and specifics on similar projects that he has recently completed and others over his many years in real estate development.

Feel free to reach me at 207-782-9500 or by email at the above address.

Sincerely,

Bertrand G. LaBonte

Certified Public Accountant

But I H Falloute

Cost Estimate

TERRADYN CONSULTANTS, LLC JOB NO.

22-106

1

P.O. Box 339 New Gloucester, ME 04260 (207) 926-5111

SHEET NO. CALCULATED BY

OF JDA DATE

2/10/2023

BUDGETARY COST ESTIMATE - SITE WORK 405 CENTER STREET APARTMENTS - AUBURN MAINE

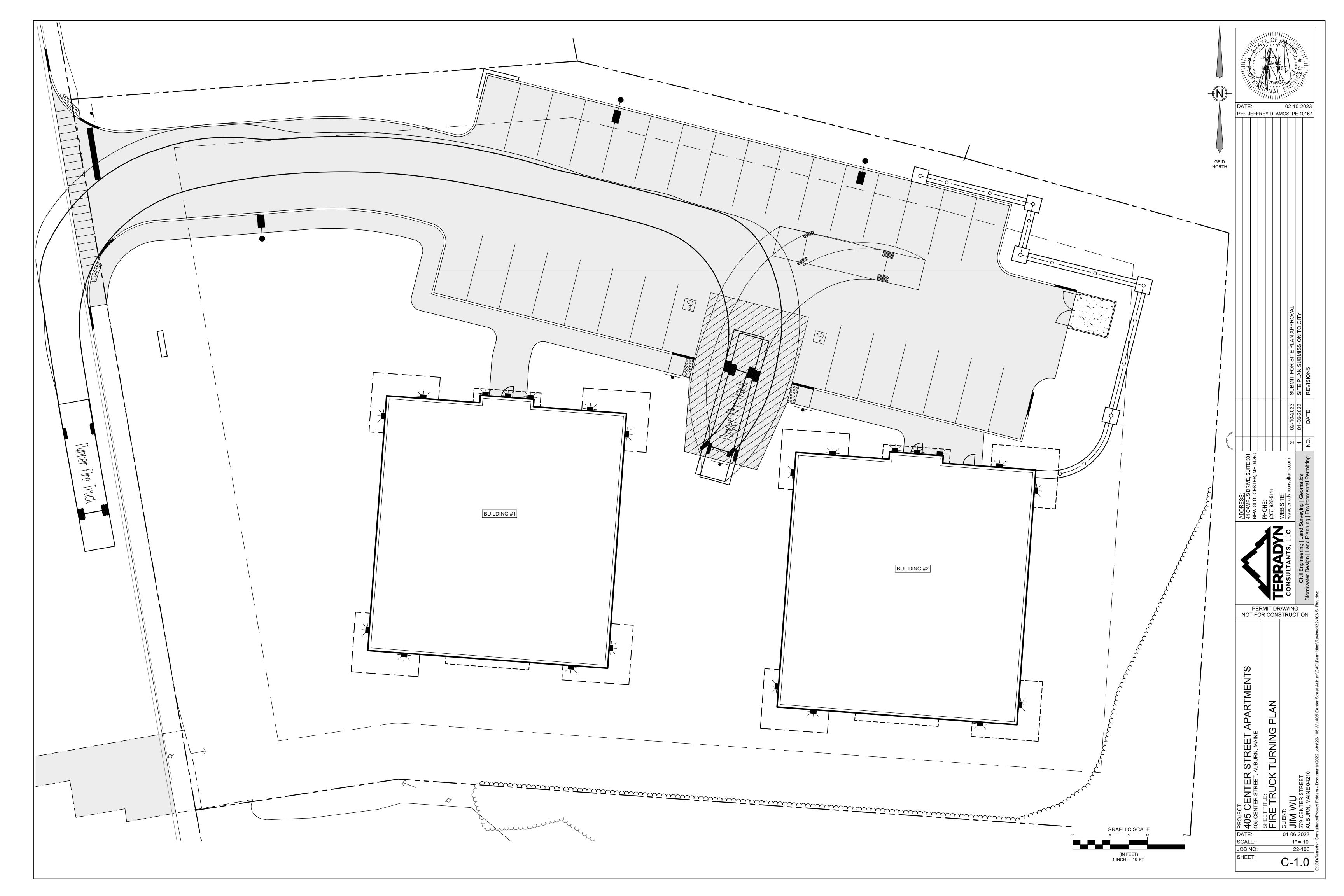
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	AMOUNT
	EARTHWORK				
1	GRUB OPEN AREA	AC	\$2,000.00	1	\$1,000.00
	ROADWAY AND SIDEWALKS				
2	HOT BITUMINOUS SURFACE PAVEMENT	TON	\$100.00	90	\$9,000.00
3	HOT BITUMINOUS BINDER PAVEMENT	TON	\$120.00	180	\$21,600.00
4	BASE GRAVEL MDOT TYPE A	CY	\$33.00	135	\$4,455.00
5	SUBBASE GRAVEL MDOT TYPE D	CY	\$21.00	675	\$14,175.00
6	SLIPFORM CURB (ROAD & PARKING)	LF	\$15.00	660	\$9,900.00
7	5' WIDE SIDEWALK	SY	\$40.00	595	\$23,800.00
8	STRIPING	LS	\$2,000.00	1	\$2,000.00
	SITE IMPROVEMENTS				
9	SIGNS	EA	\$250.00	4	\$1,000.00
10	RETAINING WALLS	LS	\$150,000.00	1	\$150,000.00
	DRAINAGE				
11	12" DIAMETER STORM DRAIN	LF	\$40.00	105	\$4,200.00
12	15" DIAMETER STORM DRAIN	LF	\$45.00	184	\$8,280.00
13	4" UNDERDRAIN	LF	\$20.00	418	\$8,360.00
14	4' DIAMETER CATCH BASIN	EA	\$5,000.00	6	\$30,000.00
15	FIELD INLET	EA	\$3,000.00	1	\$3,000.00
	UTILITIES				
16	8" SEWER LINE	LF	\$80.00	175	\$14,000
17	6" SEWER LINE	LF	\$60.00	80	\$4,800
18	4' DIAMETER SEWER MANHOLE	EA	\$5,000.00	2	\$10,000
19	6" WATER LINE - PRIVATE	LF	\$60.00	90	\$5,400
20	4" WATER LINE - PRIVATE	LF	\$45.00	185	\$8,325
21	2" WATER LINE - PRIVATE	LF	\$25.00	25	\$625
22	12" TAPPING SLEEVE & 8" GATE VALVE	EA	\$2,500.00	1	\$2,500
23	6"x4" TEE & 4" GATE VALVE	EA	\$1,500.00	1	\$1,500
24	4" GATE VALVE	EA	\$1,500.00	2	\$3,000
25	TRANSFORMER PAD	EA	\$1,500.00	2	\$3,000
26	LIGHT POLE BASES	EA	\$600.00	0	\$0
27	SITE ELECTRICAL	LF	\$15.00	245	\$3,675
	EROSION & SEDIMENT CONTROL				
28	STABILIZED CONSTRUCTION ENTRANCE	EA	\$2,000.00	1	\$2,000.00
29	RIPRAP	CY	\$40.00	0	\$0.00
30	EROSION CONTROL BLANKET	SY	\$15.00	230	\$3,450.00
31	SILT FENCE	LF	\$5.00	330	\$1,650.00
32	LOAM & SEED	CY	\$8.00	250	\$2,000.00
33	LANDSCAPING	LS	\$15,000.00	1	\$15,000.00

NOTES

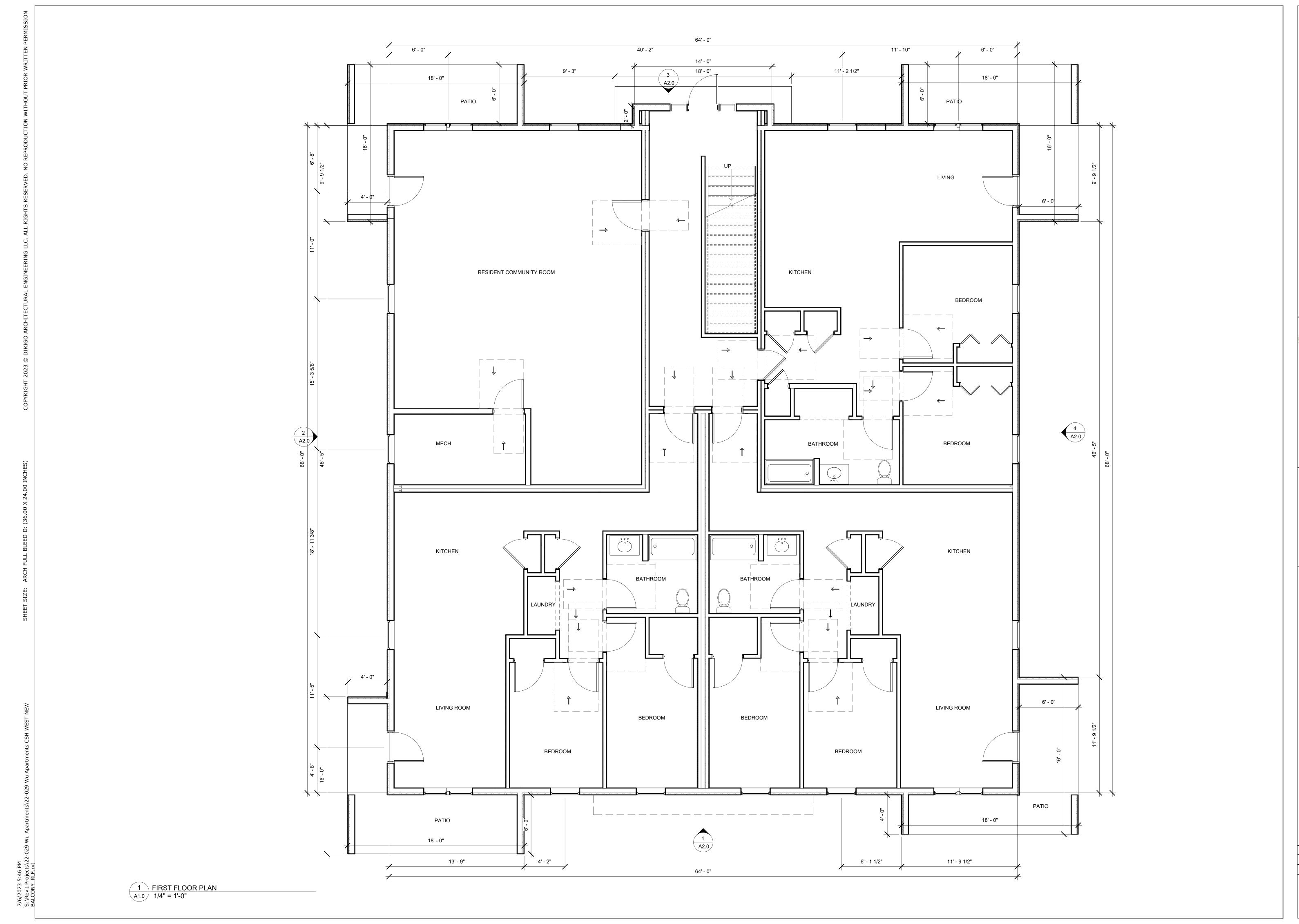
- 1. THE OPINION OF PROBABLE CONSTRUCTION COST IS BASED UPON THE PERMITTING PLANS FOR 405 CENTER STREET APARTMENTS DATED FEBRUARY 10, 2023, PREPARED BY TERRADYN CONSULTANTS, LLC. THIS ESTIMATE IS IN NO WAY, IMPLIED OR EXPRESSED OTHERWISE, A WARRANTEE THAT THE PROJECT CAN BE CONSTRUCTED FOR THE ABOVE COSTS. THIS ESTIMATE IS INTENDED TO BE USED AS A SITE WORK ALLOWANCE FOR PERFORMANCE GUARANTEE PURPOSES ONLY. IT DOES NOT INCLUDE COST ASSOCIATED WITH THE BUILDING CONSTRUCTION, ENGINEERING DESIGN FEES, LAND ACQUISITION, LEGAL FEES, PERMITING FEES, TESTING SERVICES OR CONSTRUCTION PHASE SERVICES.
- 2. THE ONSITE PAVEMENT AND GRANULAR MATERIAL QUANTITIES FOR THE PARKING LOT ARE BASED UPON THE FOLLOWING SECTION:

MATERIAL DESCRIPTION		PAVEMENT BUILDUP (IN)			
	ROAD	PARKING LOT	DRIVEWAY		
BITUMINOUS CONCRETE SURFACE COURSE (INCHES)	N/A	1	N/A		
BITUMINOUS CONCRETE BINDER COURSE (INCHES)	N/A	2	N/A		
AGGREGATE BASE GRAVEL (INCHES)	N/A	3	N/A		
AGGREGATE SUBBASE GRAVEL (INCHES)	N/A	15	N/A		

Turning Figures



Building Plans



405 Center Street Apartments - We 279 Center Street, Auburn, ME 04210
FOR

A R C H I T E C T U R

SCARBOROUGH, MAINE 04074 WS: DIRIG

DRAFT

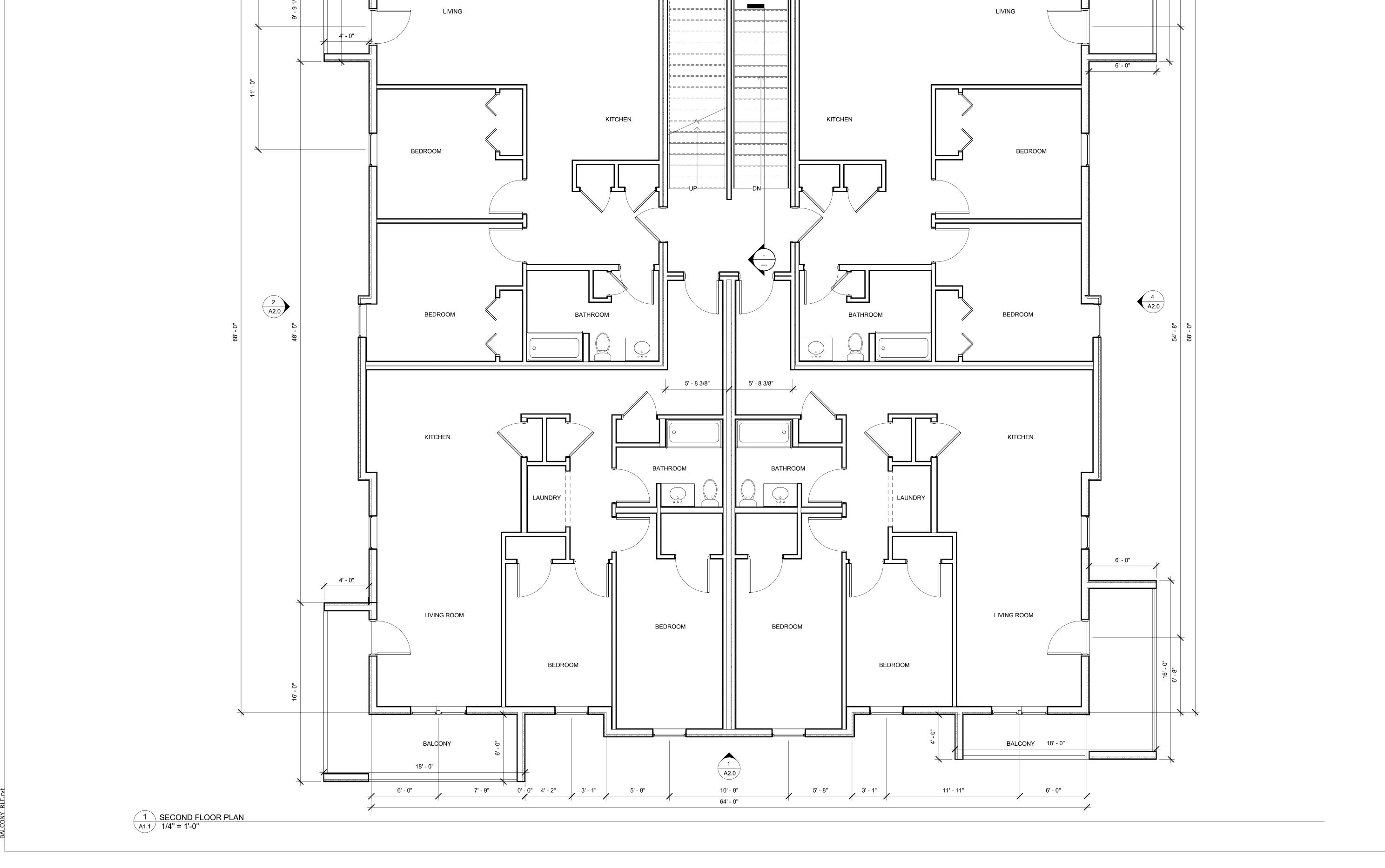
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RST FLOOR PLAN

DESCRIPTION

SCALE: AS NOTED
DATE: 7/6/2023 5:46 PM
PROJECT NO. 22-029

SHEET NO.



64' - 0"

28' - 4"

14' - 0"

11' - 10"

6' - 0"

18' - 0"

11' - 10"

6' - 0"

18' - 0"

BALCONY

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FLOOR SECOND AS NOTED

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405 Center Street Apartments - W
279 Center Street, Auburn, ME 04210
FOR
Jim Wu

A R C H I T E C T U SARBOROUGH, MAINE 04074 WS: D

NOT FOR CONSTRUCTION

IIRD FLOOR PLAN
DESCRIPTION

THIRD DEC. DATE D

SCALE: AS NOTED

DATE: 7/6/2023 5:46 PM

PROJECT NO. 22-029 SHEET NO.

A1.2

405 Center Street Apartments - We 279 Center Street, Auburn, ME 04210
FOR Jim Wu 279 Center Street, Auburn, ME 04210

A R C H I T E C T U R A

SCARBOROUGH, MAINE 04074 WS: DIRIGOAE

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CONSTRUCTION

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EXTERIOR ELEVATIONS

DESCRIPTION

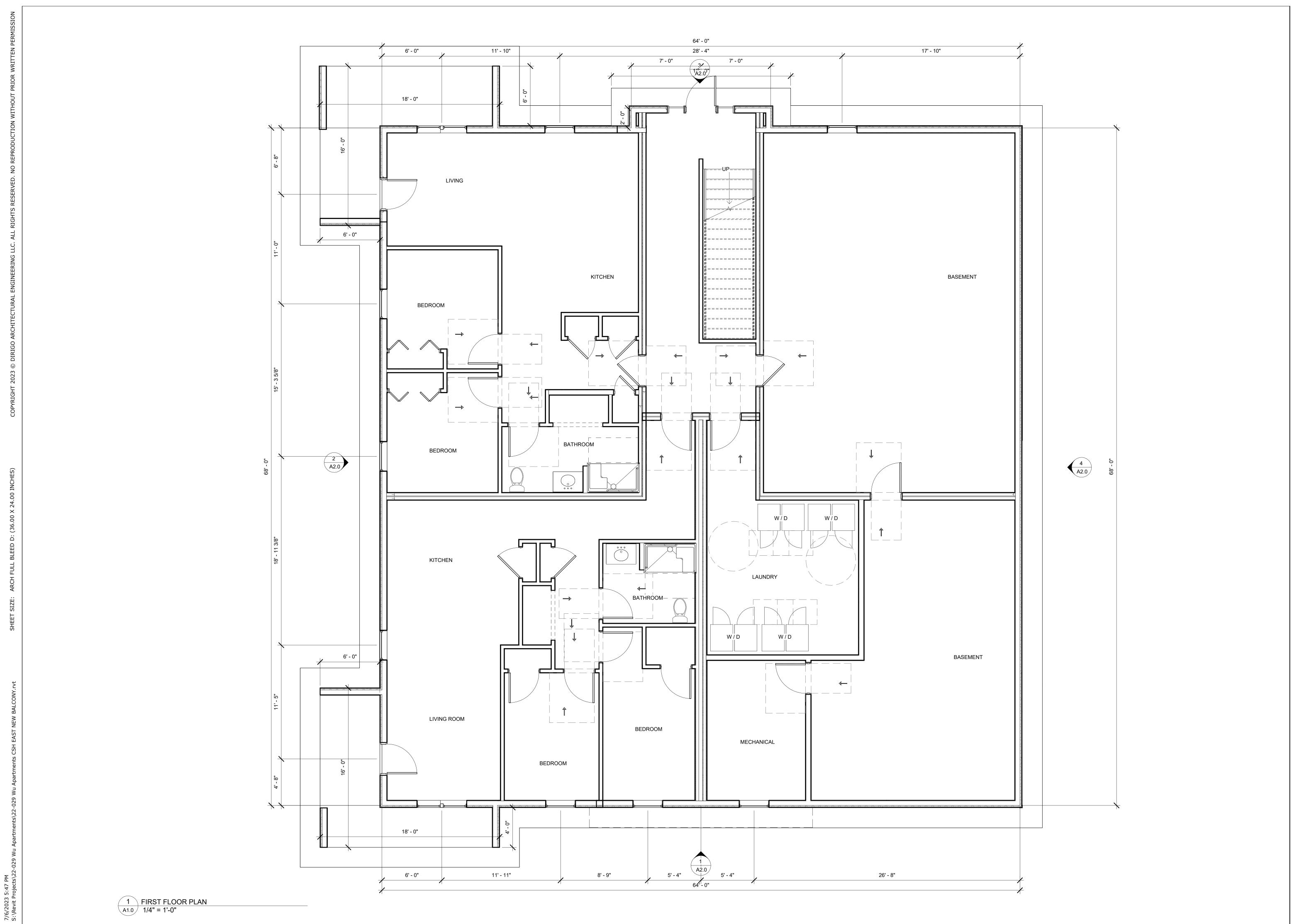
REV. DATE CHECK

SCALE: AS NOTED

DATE: 7/6/2023 5:46 PM

PROJECT NO. 22-029

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405 Center Street Apartments - Ea
279 Center Street, Auburn, ME 04210
FOR

A R C H I T E C T U R A L

SCARBOROUGH, MAINE 04074 WS: DIRIGOAE.COM

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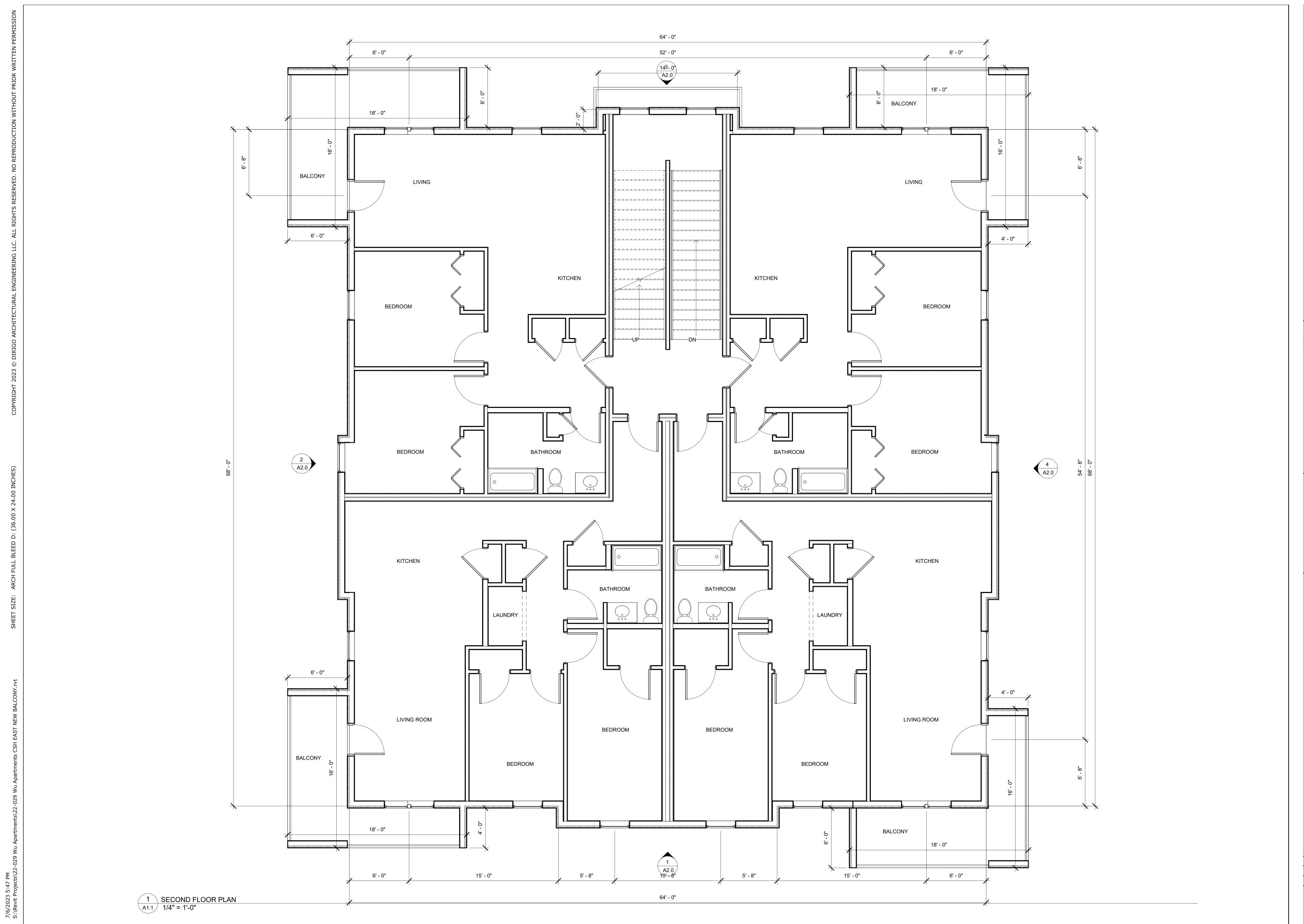
NOT FOR CONSTRUCTION

FIRST FLOOR PLAN

DESCRIPTION

SCALE: AS NOTED
DATE: 7/6/2023 5:47 PM
PROJECT NO. 22-029

A1.C



279 Center Street, Auburn, ME 0421 405 Center Street Apartments - East FOR Jim Wu

A R C H I T E C T U R A L

SCARBOROUGH, MAINE 04074 WS: DIRIGOAE.COM

DRAFT

NOT FOR

NOT FOR CONSTRUCTION

SECOND FLOOR PLAN

SEV. DATE DESCRIPTION

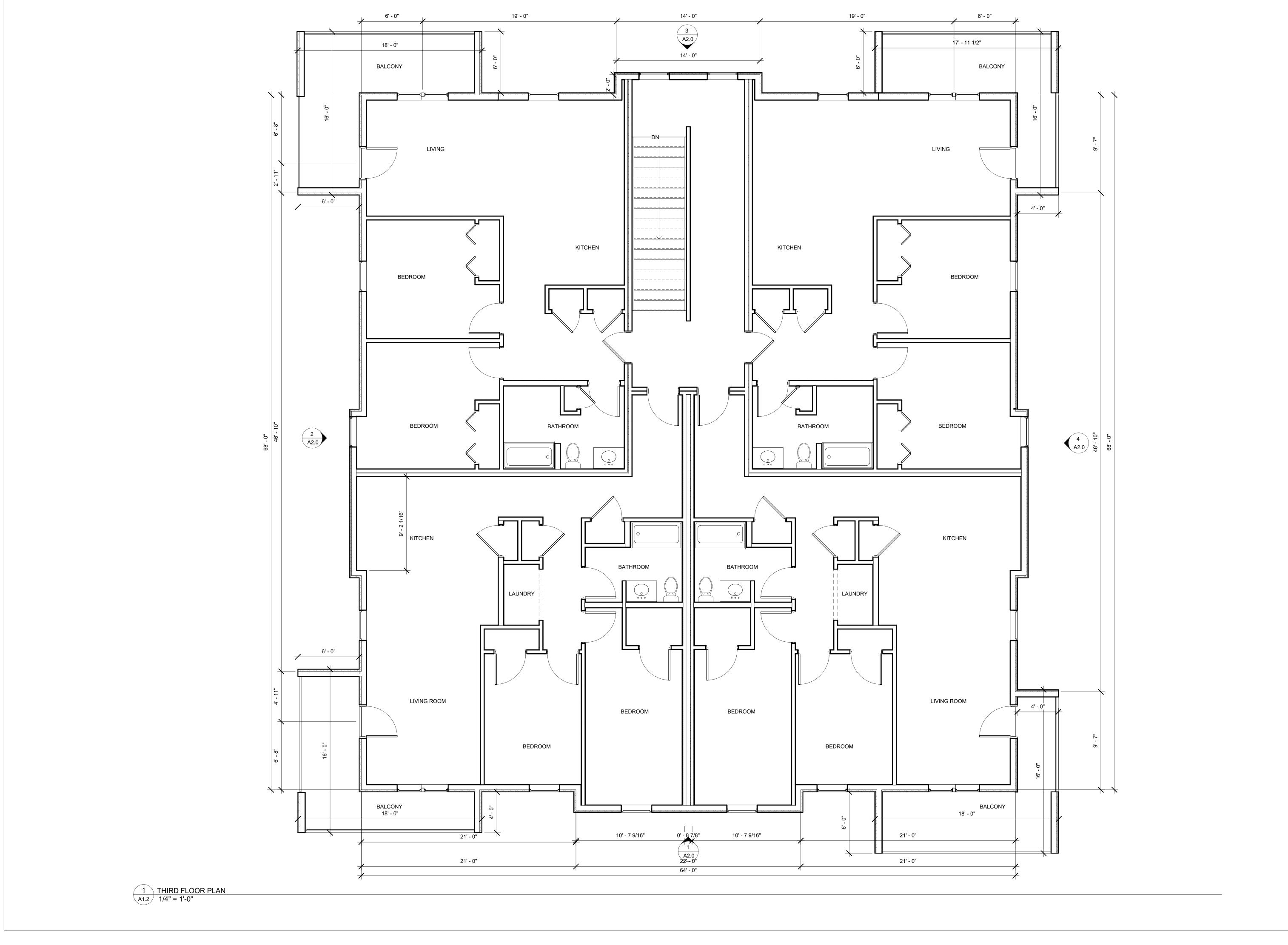
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SCALE: AS NOTED

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PROJECT NO. 22-029

SHEET NO.



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FLOOR

AS NOTED

SCALE: DATE: 7/6/2023 5:47 PM PROJECT NO. 22-029

405 Center Street Apartments - East
279 Center Street, Auburn, ME 04210
FOR
Jim Wu
279 Center Street, Auburn, ME 04210

A R C H I T E C T U R A

SCARBOROUGH, MAINE 04074 WS: DIRIGOAE

NO SON STRUCTION MANAGEM

PH: (207) 225
PH:

DRAFT

NOT FOR CONSTRUCTION

OR ELEVATIONS
DESCRIPTION

EXTERIOR ELEV

SCALE: AS NOTED

DATE: 7/6/2023 5:47 PM

PROJECT NO. 22-029

SHEET NO.

A2.0