#### AMBIT ENGINEERING, INC. CIVIL ENGINEERS AND LAND SURVEYORS

200 Griffin Road, Unit 3, Portsmouth, NH 03801 Phone (603) 430-9282 Fax 436-2315

8 October, 2019

Juliet Walker, Chair City of Portsmouth Technical Advisory Committee 1 Junkins Avenue Portsmouth, NH 03801

# RE: Request for TAC Workshop at 60 Penhallow Street, Brick Market, Redevelopment Site Plan

Dear Ms. Walker:

On behalf of Mark McNabb and Dagny Taggart, LLC we are pleased to submit the attached plan set for **TAC Workshop Consultation** for the above-mentioned project at your October 15, 2019 Technical Advisory Committee Meeting. The project includes proposed new construction of a 4 story commercial building to be known as 60 Penhallow Street with the associated required site improvements. The site is currently a surface parking lot at the corner of Penhallow and Daniel Streets, on the opposite corner of the McIntire Building. The site redevelopment offers an excellent opportunity to link the McIntire Building site with Market Square by creating public access across the submitted and adjacent properties owned by the applicant and known as Tax Map 107, Lots 27 and 31. The TAC Committee will recall the recently submitted plans for the renovation of 3 Pleasant Street, the first part of the Brick Market project. This proposal involves the addition of a third property owned by Coventry Assets, LTD, that when taken together, as proposed herein, create a Community Development Area totaling 49,257 SF, which is greater than 1 acre. Under the Portsmouth Ordinance Section 10.5A43.43 this allows a developer to offer 20 % – 30 % Open Space in exchange for larger building footprints and 1 additional building story.

The application presented will use all three abutting properties to achieve the 30% minimum community space requirement allowing the added development under Section 10.5A43.43. This application will create community space easements connecting 30 and 60 Penhallow to 3 Pleasant Street for the larger footprint. This application seeks Technical Advisory Committee input herein under the **TAC Workshop Consultation** process.

The submission includes information from the project HDC Application, which includes Building Renderings and Color Details of the landscaping site amenities.

The following plans are included in our submission:

- Cover Sheet This shows the Development Team, Legend, Site Location, and Site Zoning.
- Standard Boundary Survey Plan and Easement Plan These plans show the existing property boundaries and property easements on the entire Community Development Area.
- Master Plan Exiting Conditions This plan shows the existing features and boundary of the Community Development Area.
- Master Plan Community Open Space This plan shows the 30 % of the Community Development Area that will be dedicated as Open Space.
- Existing Conditions Plan C1 This plan shows the existing conditions on the 60 Penhallow site.
- Demolition Plan C2 This plan shows the removal of the existing features on the subject site.
- Site Layout Plan C3 This plan shows the site development at 60 Penhallow in detail with the associated Zoning Calculations.
- Landscape Plan This plan shows Site Landscape and Hardscape for the proposed development in the entire Community Development Area.
- Utility Plan C4 This plan shows the proposed site utilities.
- Grading and Drainage Plan C5 This plan shows proposed grading and preliminary drainage.
- Floor Plan A0.01 This plan shows the building First Floor Level.
- Exterior Elevation Plan A0.02 & A0.03 These plan shows the proposed building exterior elevations.
- First and Second Parking Floor Plans A0.00A and A0.00B These plans show the two parking decks within the building that will provide underground parking to service the building.

Included in this submission is a preliminary Drainage Analysis; including cut sheets of the proposed strip drains.

We look forward to the TAC Committee's review of this submission and your feedback on the proposed design.

Sincerely,

John Chagnon

John R. Chagnon, PE

CC: Mark McNabb, Tracy Kozak, Robbi Woodburn, FX Bruton

3 June, 2019

To Whom It May Concern

RE: Client Representation for a proposed Site Plan for Dagny Taggart (McNabb Properties, Applicant) at 3 Pleasant Street, Portsmouth, NH

This letter is to inform the City of Portsmouth, NHDES, and other parties in accordance with State Law that Ambit Engineering is authorized to represent the above-mentioned property as my agent in the approval process. This includes signatory powers on any and all applications.

Please feel free to call me if there is any question regarding this authorization.

Sincerely,

Mark McNabb

Dagny Taggart, LLC; McNabb Properties, LLC

30 Penhallow Street Suite 300 East Portsmouth, NH 03801

# SITE REDEVELOPMENT

BRICK MARKET

60 PENHALLOW STREET

# **ATTORNEY: FX BRUTON**

**APPLICANT:** MCNABB PROPERTIES. LTD 30 PENHALLOW ST, STE 300 EAST DOVER, NH 03820 PORTSMOUTH, NH 03801 (603) 749-4529 (603) 427-0725

# CIVIL ENGINEER & LAND SURVEYOR:

**OWNER:** DAGNY TAGGART, LLC

AMBIT ENGINEERING, INC. 200 GRIFFIN ROAD, UNIT 3 PORTSMOUTH, N.H. 03801 Tel. (603) 430-9282 Fax (603) 436-2315

## STRUCTURAL ENGINEER:

JSN ASOCIATES. LLC 1 AUTUMN STREET PORTSMOUTH NH, 03801 TEL.(603) 433-8639

# MEP & FIRE PROTECTION:

PETERSEN ENGINEERING 127 PARROTT AVENUE PORTSMOUTH NH, 03801 TEL.(603) 436-4233

BRUTON & BERUBE. PLLC 601 CENTRAL AVENUE

# LANDSCAPE ARCHITECT:

WOODBURN & COMPANY 103 KENT PLACE NEWMARKET. NH 03857 TEL. (603) 659-5949 FAX (603) 659-5939

# ARCHITECT:

JSA ARCHITECTS 273 CORPORATE DRIVE SUITE 100 PORTSMOUTH NH 03801 TEL. (603) 436-2551 FAX (603) 436-6973

# **GEOTECHNICAL ENGINEER:**

Map 10.5A21A

Character Districts and Civic Districts

Historic District

CD5 Character District 5

CD4 Character District 4

CD4-W Character District 4-W

CD4-L1 Character District 4-L1

CD4-L2 Character District 4-L2

**Character Districts** 

**Civic District** 

Civic District

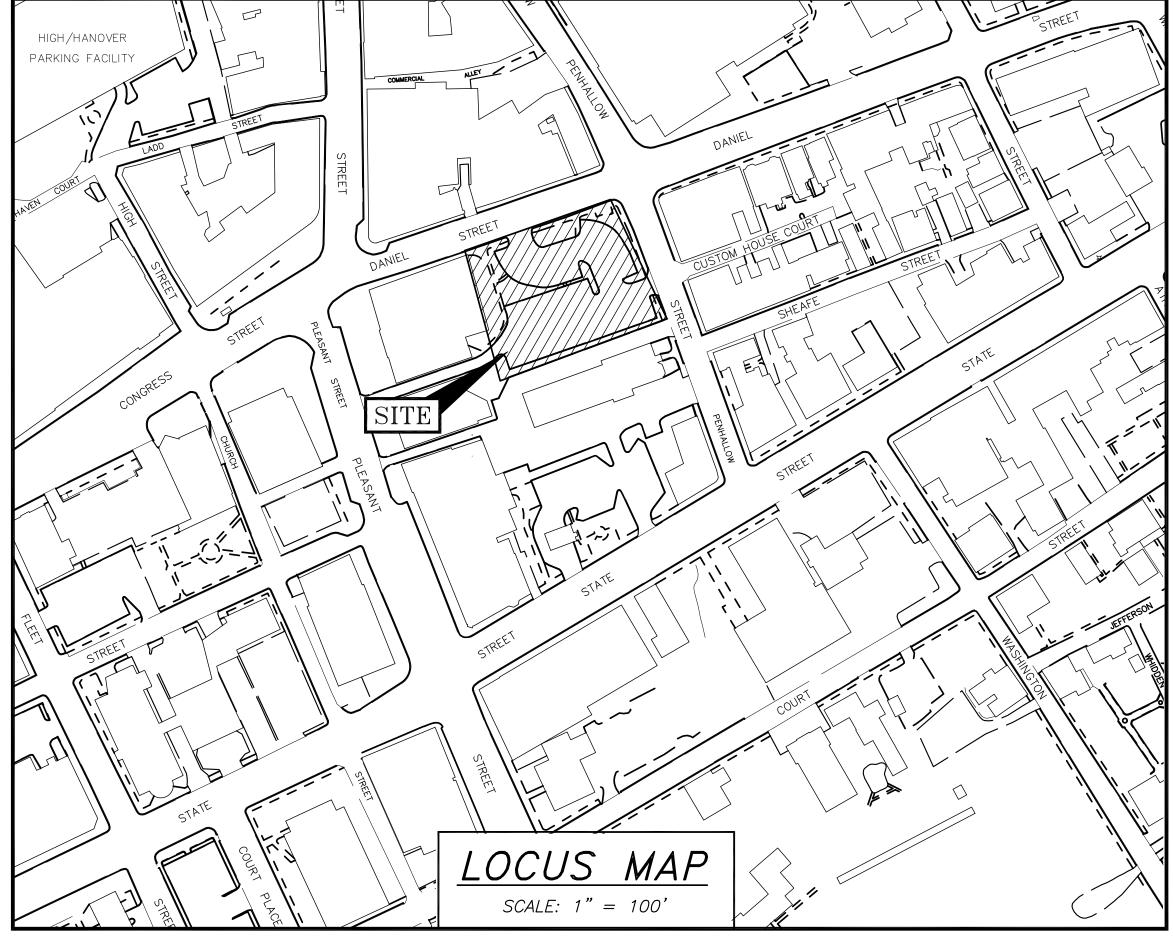
Municipal District

Municipal District

18 COTE AVENUE #11 GOFFSTOWN NH 03045 TEL. (603) 624-2722

# PORTSMOUTH, NEW HAMPSHIRE SITE PERMIT PLANS



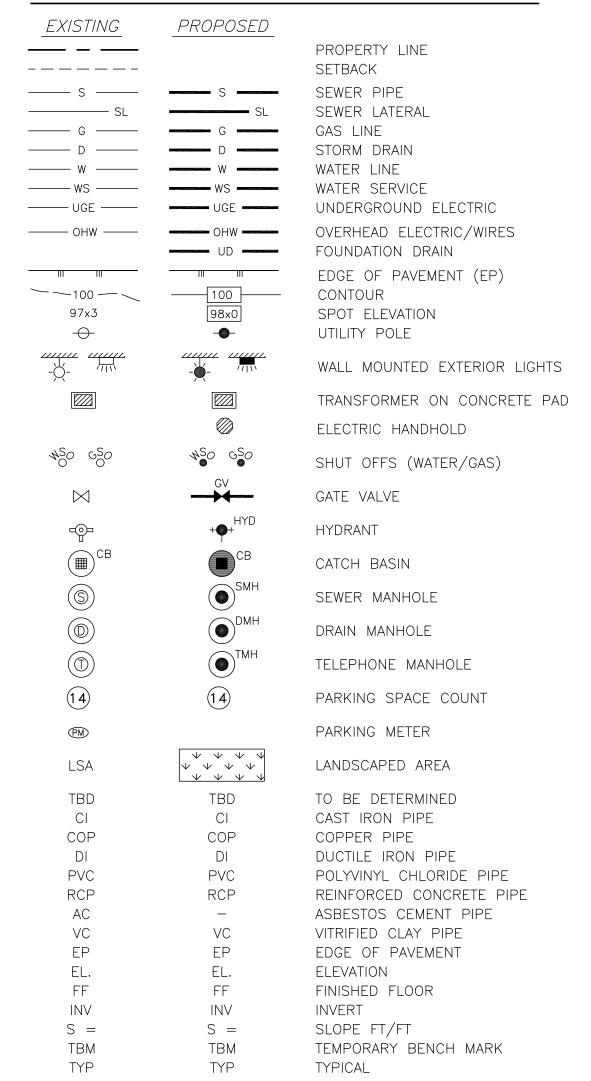




# PERMIT LIST:

PORTSMOUTH HDC PORTSMOUTH ZONING BOARD PORTSMOUTH SITE REVIEW

## LEGEND:



# Downtown Overlay District **MRO** GRB CHARACTER DISTRICT LINE

# INDEX OF SHEETS DWG No.

STANDARD BOUNDARY SURVEY EASEMENT PLAN (EXISTING & PROPOSED)

MASTER PLAN - EXISTING CONDITIONS MASTER PLAN - COMMUNITY OPEN SPACE

EXISTING CONDITIONS PLAN

DEMOLITION PLAN

SITE LAYOUT PLAN LANDSCAPE PLAN

UTILITY PLAN

GRADING & DRAINAGE PLAN

ARCHITECTURAL PLANS AND ELEVATION

A0.00A-A0.00B ARCHITECTURAL PARKING PLANS

# UTILITY CONTACTS

**ELECTRIC: EVERSOURCE** 1700 LAFAYETTE ROAD PORTSMOUTH, N.H. 03801 Tel. (603) 436-7708, Ext. 555.5678 ATTN: MICHAEL BUSBY, P.E. (MANAGER)

SEWER & WATER: PORTSMOUTH DEPARTMENT OF PUBLIC WORKS 680 PEVERLY HILL ROAD PORTSMOUTH, N.H. 03801 Tel. (603) 427-1530 ATTN: JIM TOW

NATURAL GAS: UNITIL 325 WEST ROAD PORTSMOUTH, N.H. 03801 Tel. (603) 294-5144

ATTN: DAVE BEAULIEU

**COMMUNICATIONS:** FAIRPOINT COMMUNICATIONS JOE CONSIDINE 1575 GREENLAND ROAD GREENLAND, N.H. 03840 Tel. (603) 427-5525

CABLE: COMCAST 155 COMMERCE WAY PORTSMOUTH, N.H. 03801 Tel. (603) 679-5695 (X1037) ATTN: MIKE COLLINS

SITE PERMIT PLANS MCNABB PROPERTIES, LTD. **60 PENHALLOW STREET** PORTSMOUTH, N.H.



AMBIT ENGINEERING, INC. Civil Engineers & Land Surveyors

200 Griffin Road - Unit 3 Portsmouth, N.H. 03801-7114 Tel (603) 430-9282

PLAN SET SUBMITTAL DATE: 8 OCTOBER 2019

APPROVED BY THE PORTSMOUTH PLANNING BOARD

ALL CONDITIONS ON THIS PLAN SET SHALL REMAIN IN EFFECT IN

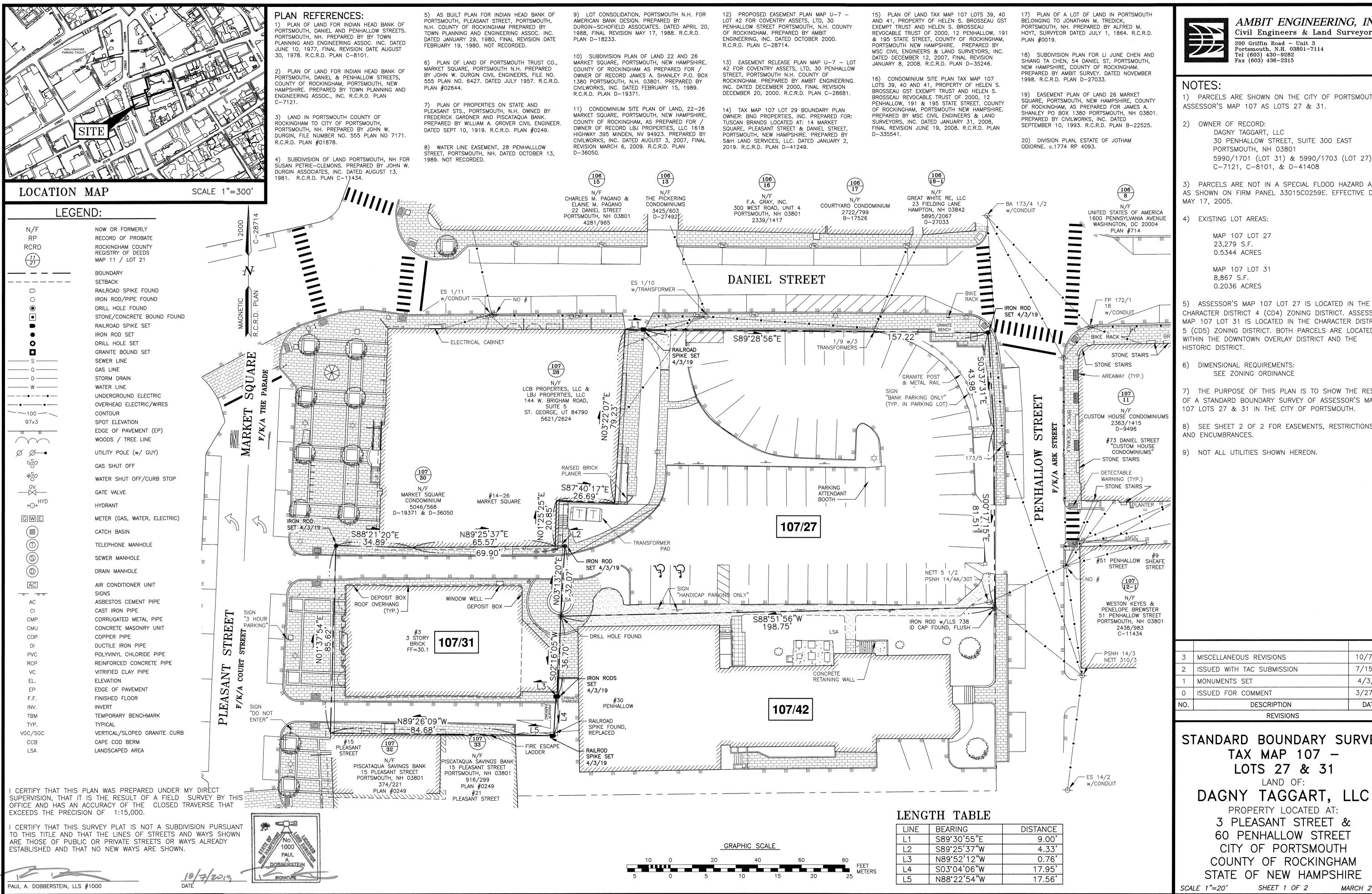
PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE CITY OF

PORTSMOUTH APPROVAL CONDITIONS NOTE:

PORTSMOUTH SITE PLAN REVIEW REGULATIONS.

CHAIRMAN

DATE



AMBIT ENGINEERING, INC. Civil Engineers & Land Surveyors

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH

5990/1701 (LOT 31) & 5990/1703 (LOT 27)

3) PARCELS ARE NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE

CHARACTER DISTRICT 4 (CD4) ZONING DISTRICT. ASSESSOR'S MAP 107 LOT 31 IS LOCATED IN THE CHARACTER DISTRICT 5 (CD5) ZONING DISTRICT. BOTH PARCELS ARE LOCATED WITHIN THE DOWNTOWN OVERLAY DISTRICT AND THE

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE RESULT OF A STANDARD BOUNDARY SURVEY OF ASSESSOR'S MAP 107 LOTS 27 & 31 IN THE CITY OF PORTSMOUTH.

8) SEE SHEET 2 OF 2 FOR EASEMENTS, RESTRICTIONS,

3	MISCELLANEOUS REVISIONS	10/7/19
2	ISSUED WITH TAC SUBMISSION	7/15/19
1	MONUMENTS SET	4/3/19
0	ISSUED FOR COMMENT	3/27/19
NO.	DESCRIPTION	DATE
	REVISIONS	

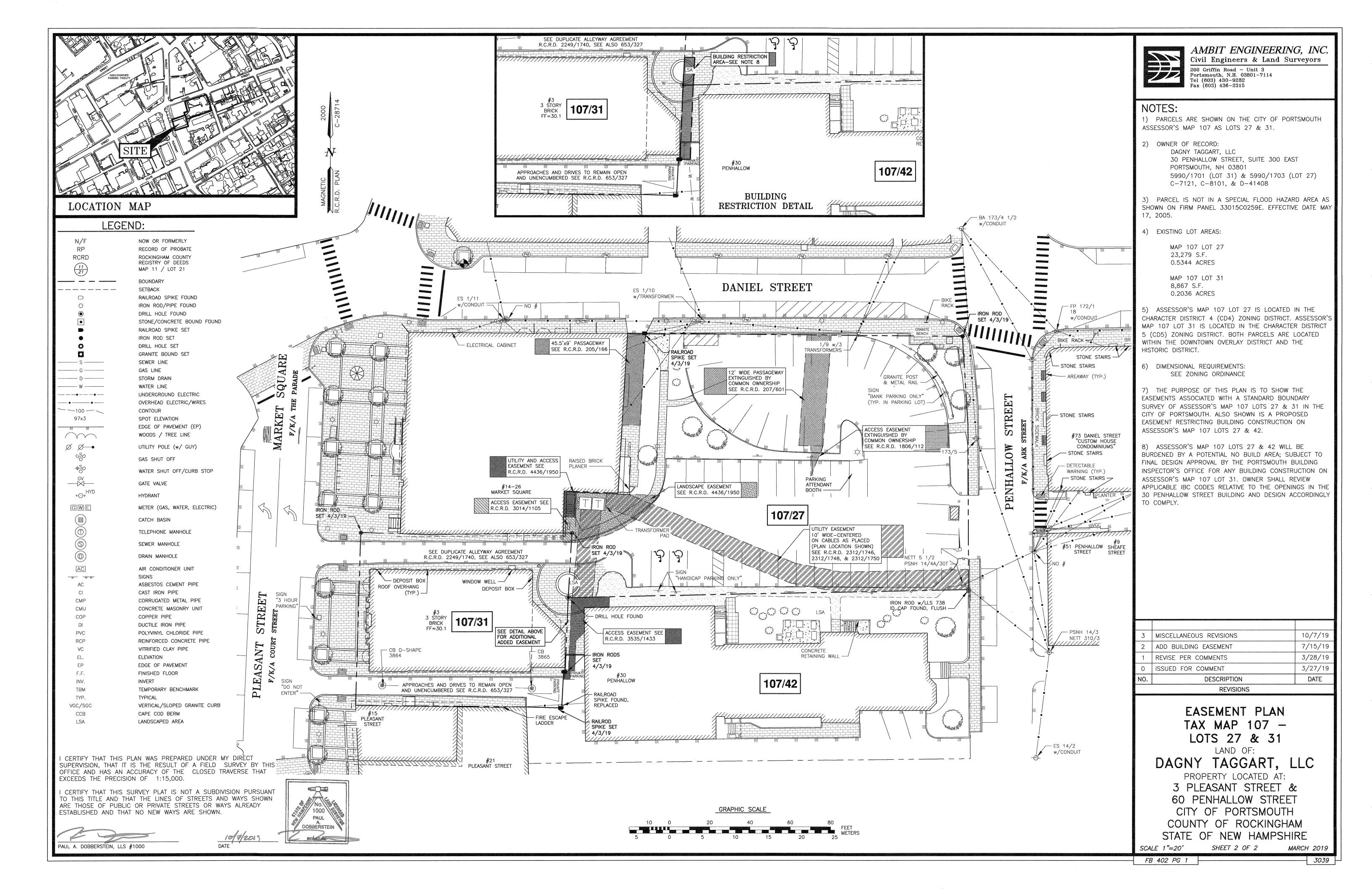
STANDARD BOUNDARY SURVEY TAX MAP 107 -

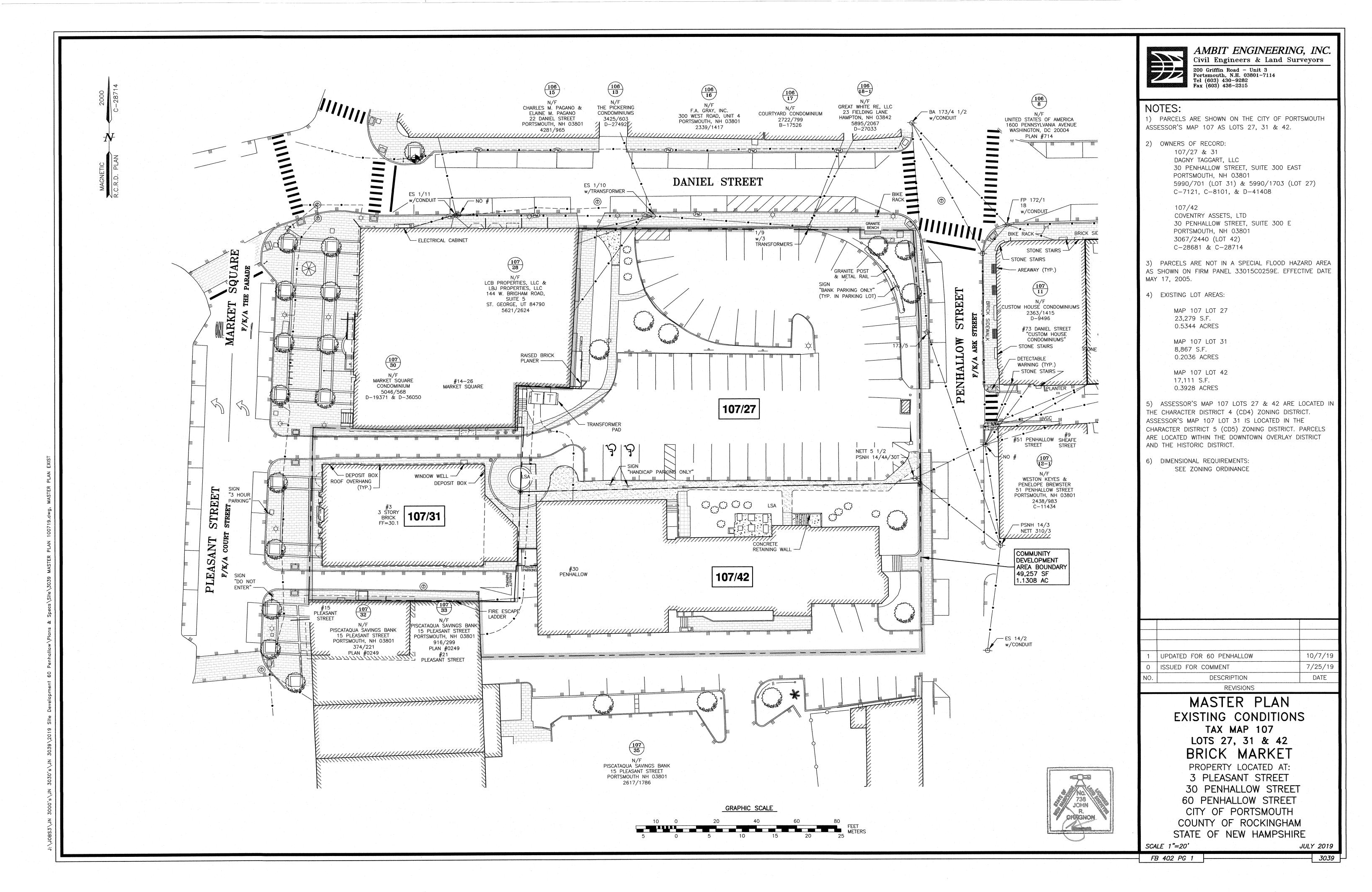
DAGNY TAGGART, LLC

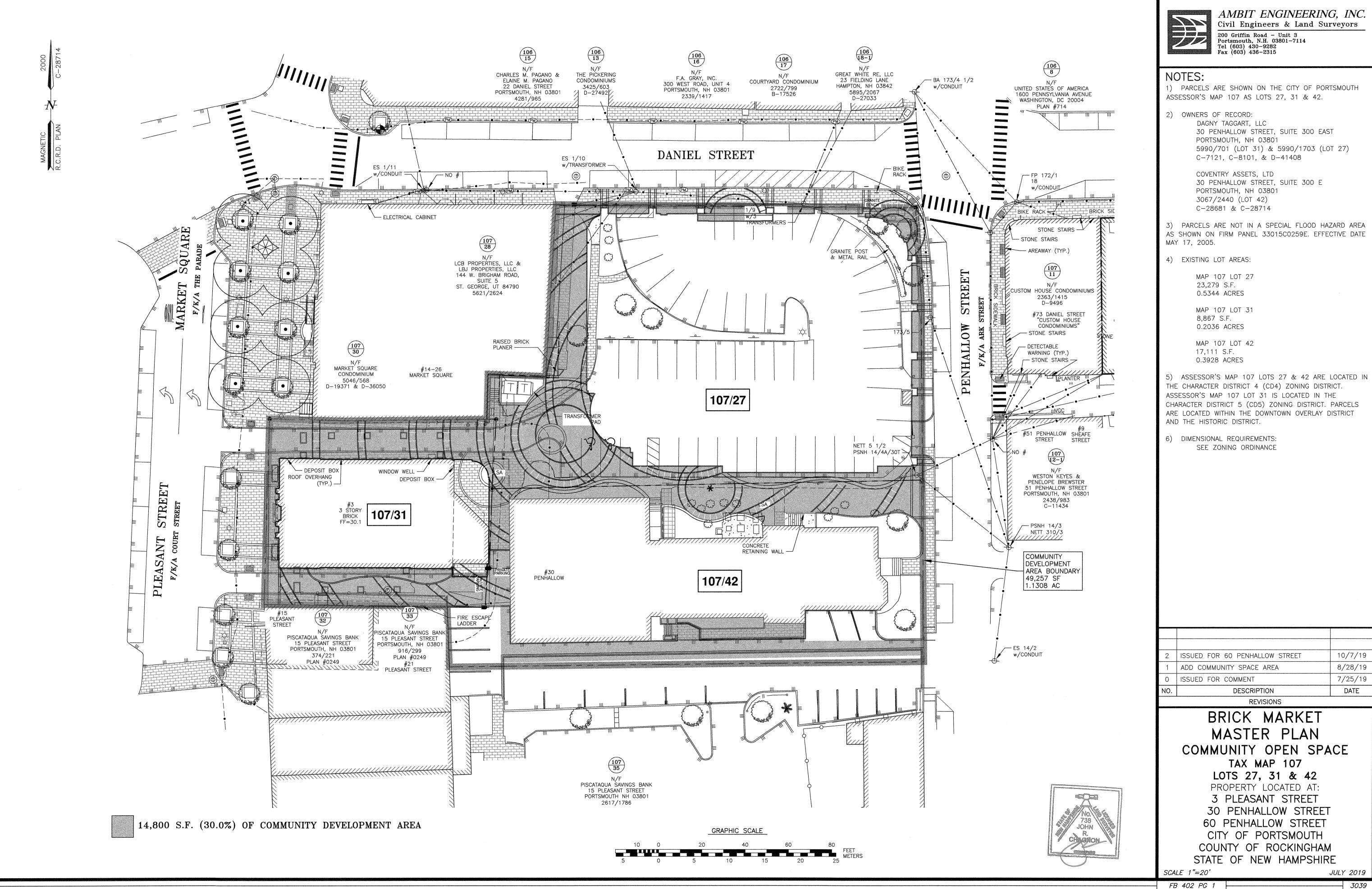
PROPERTY LOCATED AT: 3 PLEASANT STREET & 60 PENHALLOW STREET CITY OF PORTSMOUTH COUNTY OF ROCKINGHAM

MARCH 2019

FB 402 PG 1







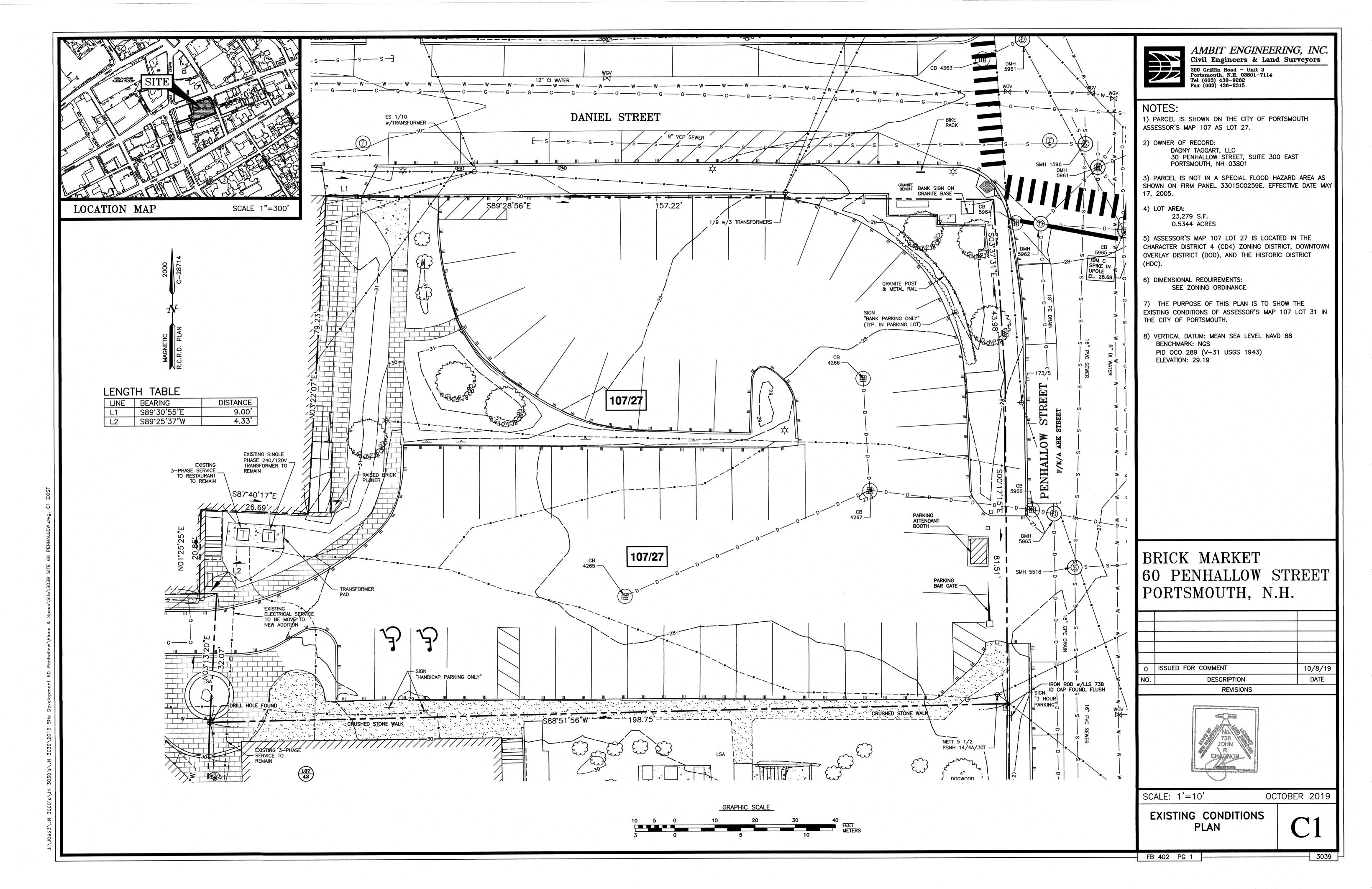
10/7/19

8/28/19

7/25/19

DATE

JULY 2019



B) ALL MATERIALS SCHEDULED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTORS UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DISPOSE OF ALL MATERIALS OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, ORDINANCES AND CODES. THE CONTRACTOR SHALL COORDINATE REMOVAL, RELOCATION, DISPOSAL, OR SALVAGE OF UTILITIES WITH THE OWNER AND APPROPRIATE UTILITY COMPANY.

C) ANY EXISTING WORK OR PROPERTY DAMAGED OR DISRUPTED BY CONSTRUCTION/ DEMOLITION ACTIVITIES SHALL BE REPLACED OR REPAIRED TO THE ORIGINAL EXISTING CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

D) THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES AND CALL DIG SAFE AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITIES.

E) SAWCUT AND REMOVE PAVEMENT ONE FOOT OFF PROPOSED EDGE OF PAVEMENT OR EXISTING CURB LINE IN AREAS WHERE PAVEMENT TO BE REMOVED ABUTS EXISTING PAVEMENT OR CONCRETE TO REMAIN.

F) IT IS THE CONTRACTOR'S RESPONSIBILITY TO FAMILIARIZE THEMSELVES WITH THE CONDITIONS OF ALL THE PERMIT

G) THE CONTRACTOR SHALL OBTAIN AND PAY FOR ADDITIONAL CONSTRUCTION PERMITS, NOTICES AND FEES NECESSARY TO COMPLETE THE WORK AND ARRANGE FOR AND PAY FOR ANY INSPECTIONS AND APPROVALS FROM THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL AND OFF-SITE DISPOSAL OF MATERIALS REQUIRED TO COMPLETE THE WORK.

H) THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EXISTING STRUCTURES, CONCRETE, UTILITIES, VEGETATION, PAVEMENT, AND CONTAMINATED SOIL WITHIN THE WORK LIMITS SHOWN UNLESS SPECIFICALLY IDENTIFIED TO REMAIN. ANY EXISTING MONITORING WELLS IN THE PROJECT AREA IDENTIFIED DURING THE CONSTRUCTION AND NOT CALLED OUT ON THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER TO COORDINATE MONITORING WELL REMOVAL AND/OR RELOCATION WITH NHDES AND OTHER AUTHORITY WITH JURISDICTION PRIOR TO CONSTRUCTION.

I) ALL WORK WITHIN THE CITY OF PORTSMOUTH RIGHT OF WAY SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS (DPW).

J) CONTRACTOR SHALL PROTECT ALL PROPERTY MONUMENTATION THROUGHOUT DEMOLITION AND CONSTRUCTION OPERATIONS. SHOULD ANY MONUMENTATION BE DISTURBED, THE CONTRACTOR SHALL EMPLOY A NH LICENSED LAND SURVEYOR TO REPLACE

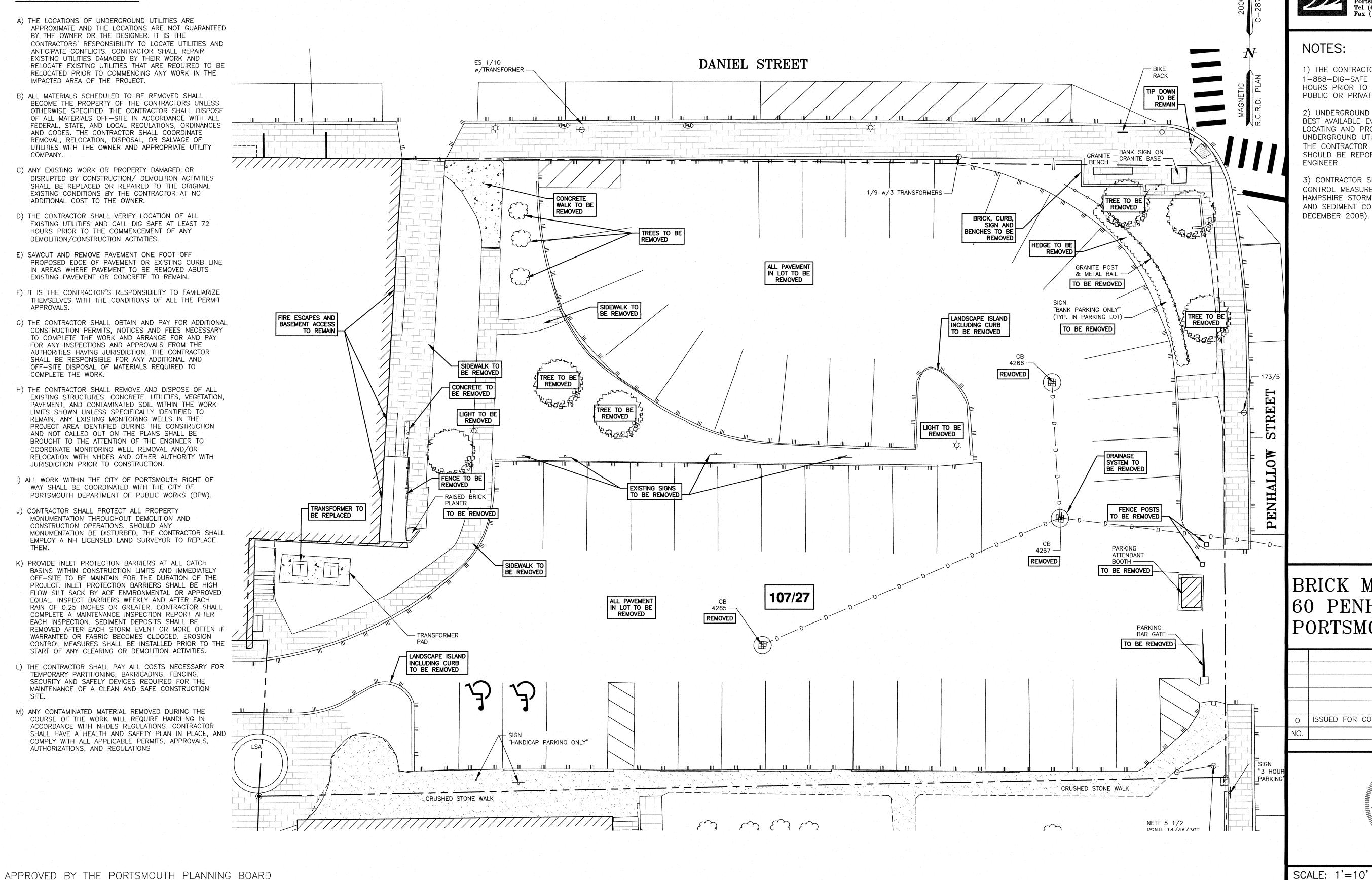
K) PROVIDE INLET PROTECTION BARRIERS AT ALL CATCH BASINS WITHIN CONSTRUCTION LIMITS AND IMMEDIATELY OFF-SITE TO BE MAINTAIN FOR THE DURATION OF THE PROJECT. INLET PROTECTION BARRIERS SHALL BE HIGH FLOW SILT SACK BY ACF ENVIRONMENTAL OR APPROVED EQUAL. INSPECT BARRIERS WEEKLY AND AFTER EACH RAIN OF 0.25 INCHES OR GREATER. CONTRACTOR SHALL COMPLETE A MAINTENANCE INSPECTION REPORT AFTER EACH INSPECTION. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT OR MORE OFTEN IF WARRANTED OR FABRIC BECOMES CLOGGED. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF ANY CLEARING OR DEMOLITION ACTIVITIES.

L) THE CONTRACTOR SHALL PAY ALL COSTS NECESSARY FOR TEMPORARY PARTITIONING, BARRICADING, FENCING, SECURITY AND SAFELY DEVICES REQUIRED FOR THE MAINTENANCE OF A CLEAN AND SAFE CONSTRUCTION

M) ANY CONTAMINATED MATERIAL REMOVED DURING THE COURSE OF THE WORK WILL REQUIRE HANDLING IN ACCORDANCE WITH NHDES REGULATIONS. CONTRACTOR SHALL HAVE A HEALTH AND SAFETY PLAN IN PLACE, AND COMPLY WITH ALL APPLICABLE PERMITS, APPROVALS, AUTHORIZATIONS, AND REGULATIONS

CHAIRMAN

DATE



AMBIT ENGINEERING, INC. Civil Engineers & Land Surveyors

200 Griffin Road - Unit 3 Portsmouth, N.H. 03801-7114 Tel (603) 430-9282

NOTES:

1) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1-888-DIG-SAFE (1-888-344-7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION ON PUBLIC OR PRIVATE PROPERTY.

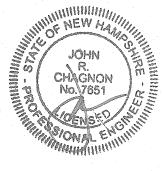
2) UNDERGROUND UTILITY LOCATIONS ARE BASED UPON BEST AVAILABLE EVIDENCE AND ARE NOT FIELD VERIFIED LOCATING AND PROTECTING ANY ABOVEGROUND OR UNDERGROUND UTILITIES IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND/OR THE OWNER. UTILITY CONFLICTS SHOULD BE REPORTED AT ONCE TO THE DESIGN

3) CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION CONTROL MEASURES IN ACCORDANCE WITH THE "NEW HAMPSHIRE STORMWATER MANUAL, VOLUME 3, EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION. (NHDES DECEMBER 2008).

BRICK MARKET 60 PENHALLOW STREET PORTSMOUTH, N.H.

> ISSUED FOR COMMENT DESCRIPTION

> > REVISIONS



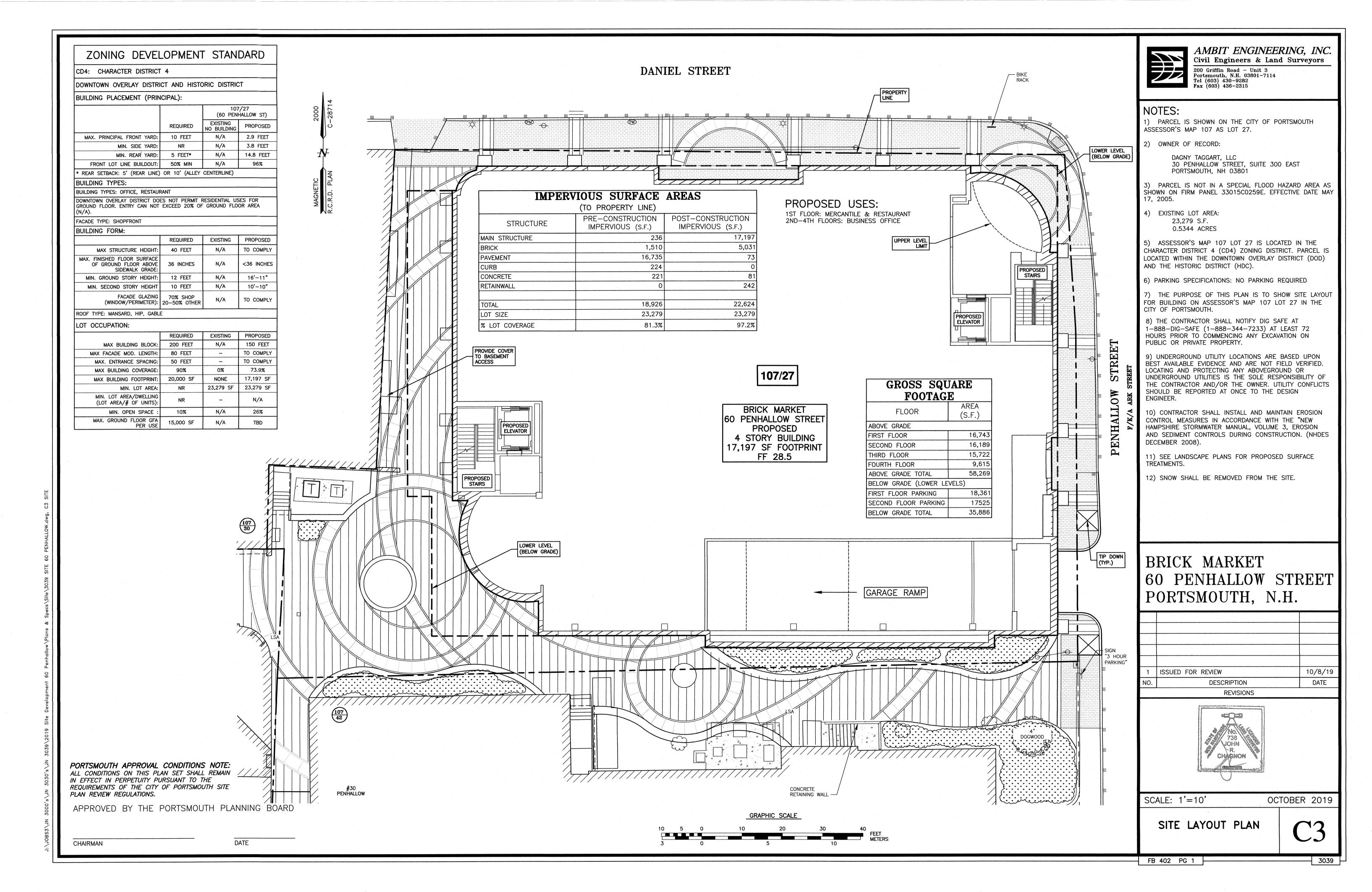
OCTOBER 2019

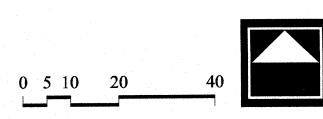
DEMOLITION PLAN

FB 402 PG 1

10/8/19

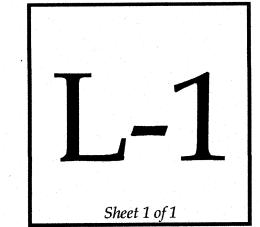
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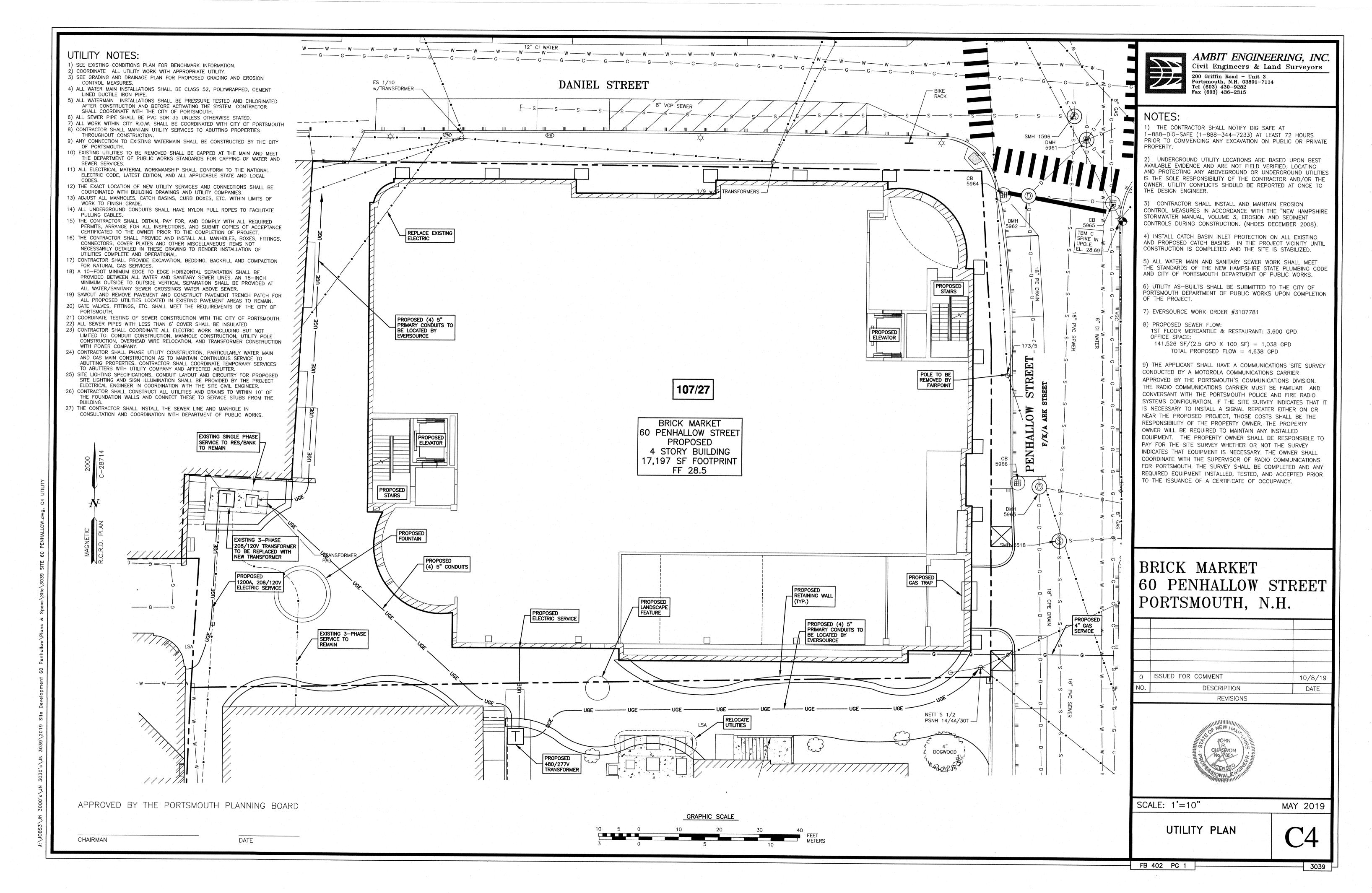


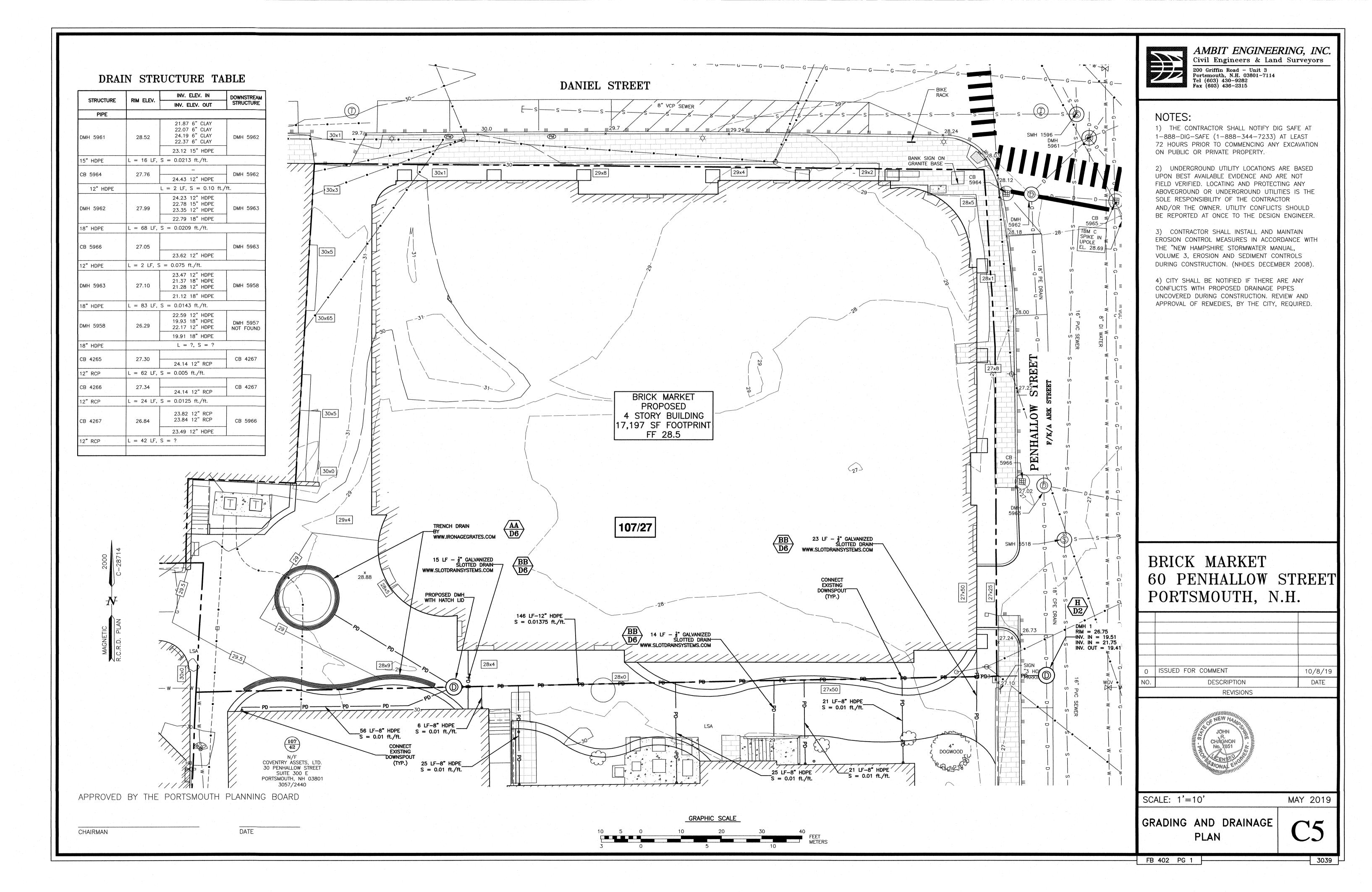


# Brick Market ANDSCAPE MASTER PLAN

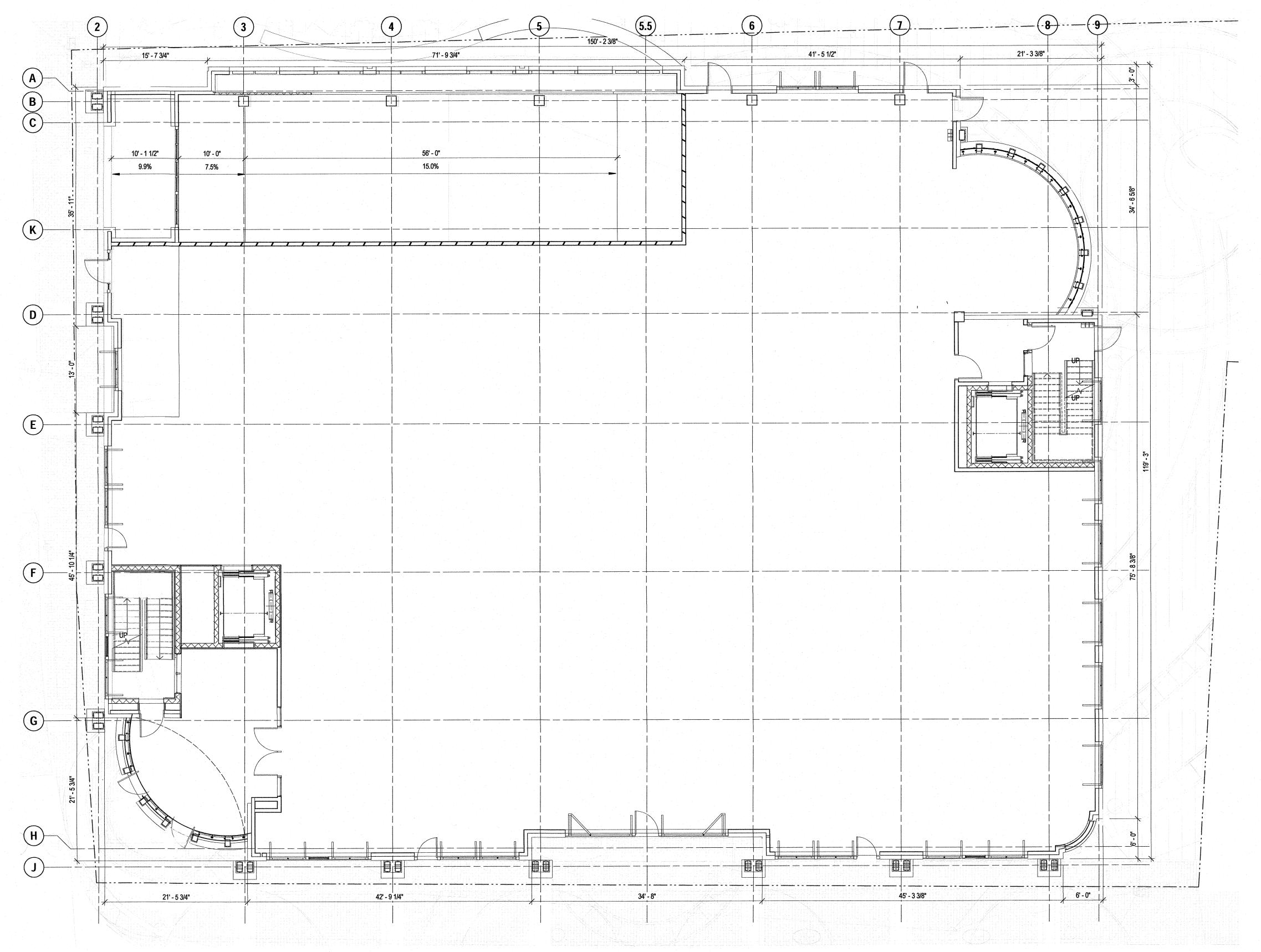
**≥**⊗







1) FIRST FLOOR OVERALL PLAN
1/8" = 1'-0"



ABOVE GRADE	
FIRST FLOOR	16,743
SECOND FLOOR	16,189
THIRD FLOOR	15,722
FOURTH FLOOR	9,615
TOTAL	58,269
BELOW GRADE	
FIRST FLOOR	18,361
SECOND FLOOR	17,525
TOTAL	35,886
GRAND TOTAL (ABOVE AND BELOW TOTALS)	94,155

JSA

ARCHITECTS INTERIORS PLANNERS

273 CORPORATE DRIVE PORTSMOUTH, NH 03801 T 603.436.2551 F 603.436.6973 www.jsainc.com

60 PENHALLOW STREET at BRICK MARKET

Penhallow Street Portsmouth, NH

MARK McNABB

Scale: 1/8" = 1'-0"
Date: 8/28/2019
Project Number: P19081.02

REVISIONS

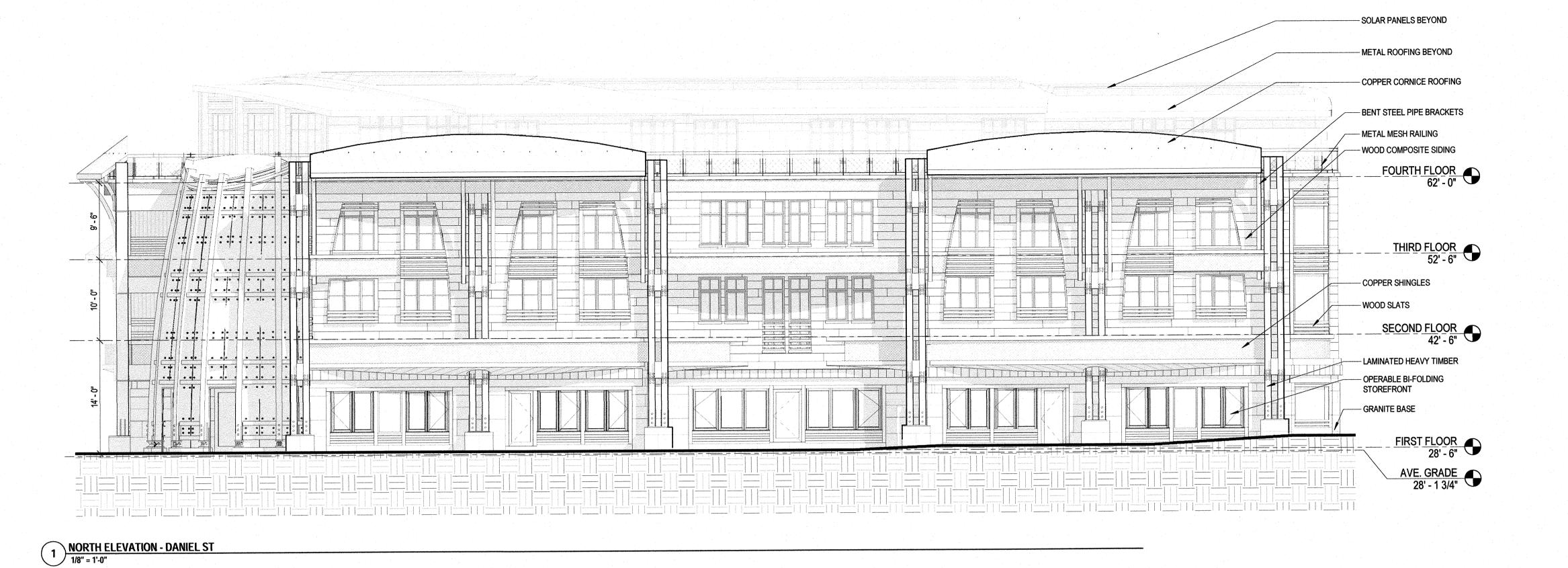
NO. DESCRIPTION DATE

SCHEMATIC PROGRESS

FIRST FLOOR PLAN

Δηη

GRAPHIC SCALE: 1/8" = 1'-0"
0' 4' 8'





2 EAST ELEVATION - PENHALLOW STREET
1/8" = 1'-0"

JSA

ARCHITECTS INTERIORS PLANNERS

273 CORPORATE DRIVE PORTSMOUTH, NH 03801 T 603.436.2551 F 603.436.6973 www.jsainc.com

60 PENHALLOW STREET at BRICK MARKET

Penhallow Street Portsmouth, NH

MARK McNABB

 Scale:
 1/8" = 1'-0"

 Date:
 8/28/2019

 Project Number:
 P19081.02

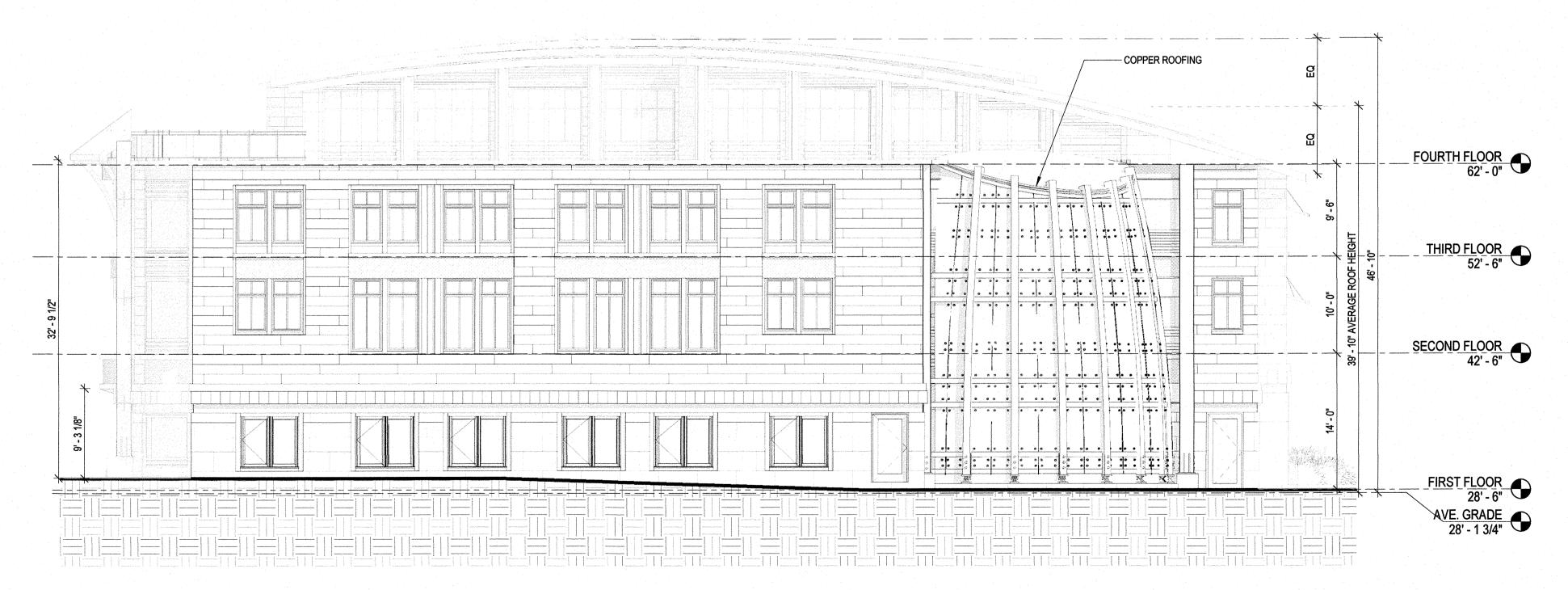
REVISIONS

NO. DESCRIPTION DATE

SCHEMATIC PROGRESS

EXTERIOR ELEVATIONS

A0.02



2 WEST ELEVATION - ALLEY
1/8" = 1'-0"

JSA ARCHITECTS

- RECESSED SOLAR

**PANELS** 

INTERIORS
PLANNERS

273 CORPORATE DRIVE
PORTSMOUTH, NH 03801
T 603.436.2551

F 603.436.6973 www.jsainc.com

60 PENHALLOW STREET at BRICK MARKET

Penhallow Street Portsmouth, NH

MARK McNABB

Scale:
Date:
Project Number:

REVISIONS

NO. DESCRIPTION DATE

1/8" = 1'-0"

8/28/2019

P19081.02

SCHEMATIC PROGRESS

EXTERIOR ELEVATIONS

A0.03

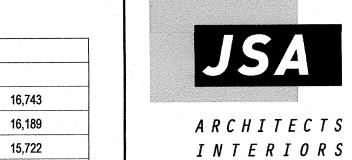
**5.5**)

**(5)** 

71' - 9 3/4"

15' - 7 3/4"

1 BASEMENT FIRST FLOOR OVERALL PLAN
1/8" = 1'-0"



**GROSS SQUARE FOOTAGE** 

15,722

9,615

58,269

18,361

17,525

35,886

94,155

ABOVE GRADE FIRST FLOOR

SECOND FLOOR

THIRD FLOOR

FOURTH FLOOR

BELOW GRADE

SECOND FLOOR

FIRST FLOOR

TOTAL

8

67' - 10 7/8"

9

INTERIORS PLANNERS

273 CORPORATE DRIVE PORTSMOUTH, NH 03801 T 603.436.2551 F 603.436.6973 www.jsainc.com

**60 PENHALLOW STREET** at BRICK MARKET

Penhallow Street Portsmouth, NH

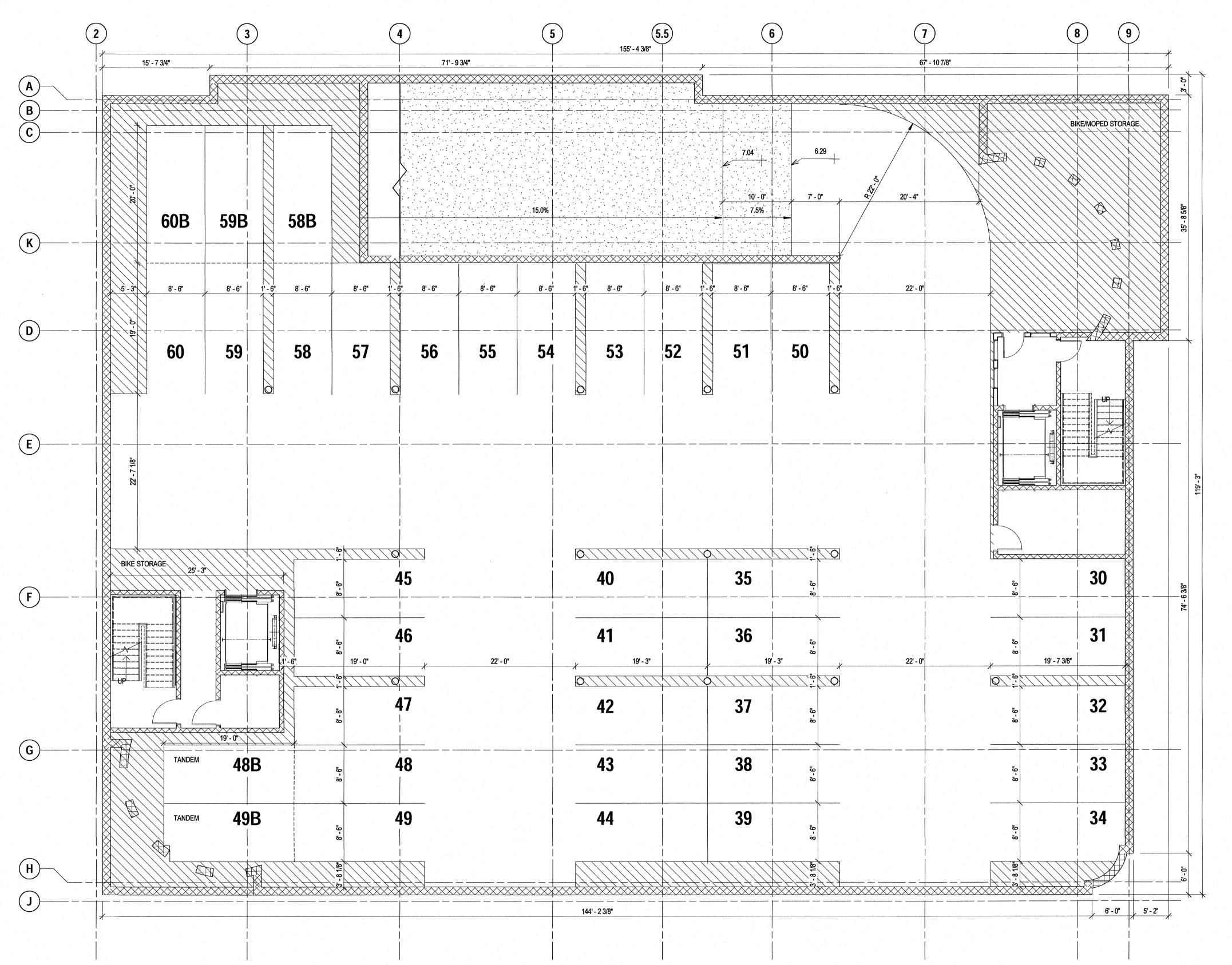
MARK McNABB

1/8" = 1'-0" 8/28/2019 P19081.02

**REVISIONS** NO. DESCRIPTION DATE

> SCHEMATIC **PROGRESS**

FIRST PARKING FLOOR PLAN



GROSS SQUARE FOOT	AGŁ
ABOVE GRADE	
FIRST FLOOR	16,743
SECOND FLOOR	16,189
THIRD FLOOR	15,722
FOURTH FLOOR	9,615
TOTAL	58,269
BELOW GRADE	
FIRST FLOOR	18,361
SECOND FLOOR	17,525
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ARCHITECTS

INTERIORS PLANNERS

273 CORPORATE DRIVE PORTSMOUTH, NH 03801 T 603.436.2551 F 603.436.6973 www.jsainc.com

**60 PENHALLOW STREET** at BRICK MARKET

**Penhallow Street** Portsmouth, NH

MARK McNABB

1/8" = 1'-0" 8/28/2019 P19081.02

**REVISIONS** NO. DESCRIPTION DATE

> **SCHEMATIC PROGRESS**

SECOND PARKING FLOOR PLAN

COPYRIGHT 2019

GRAPHIC SCALE: 1/8" = 1'-0"
0' 4' 8'

1 BASEMENT SECOND FLOOR OVERALL PLAN
1/8" = 1'-0"



# PERSPECTIVE NE DANIEL ST





# PERSPECTIVE NW DANIEL ST





# PERSPECTIVE SW COURTYARD



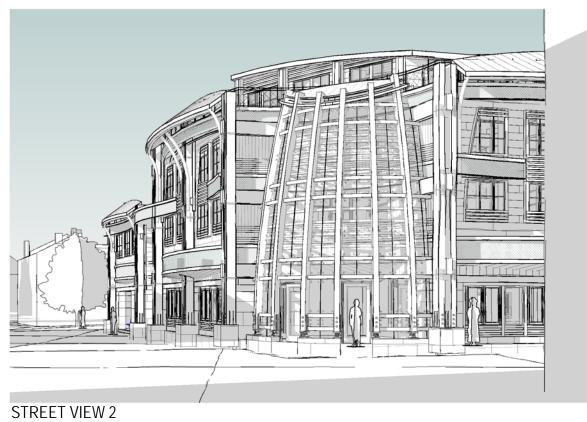


# PERSPECTIVE SE PENHALLOW ST

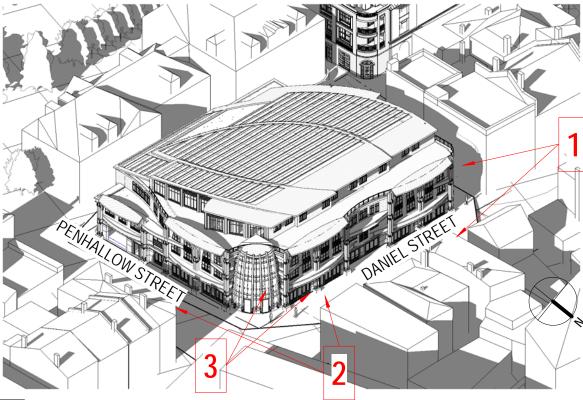




STREET VIEW 1







# 3D VIGNETTES - FRONT



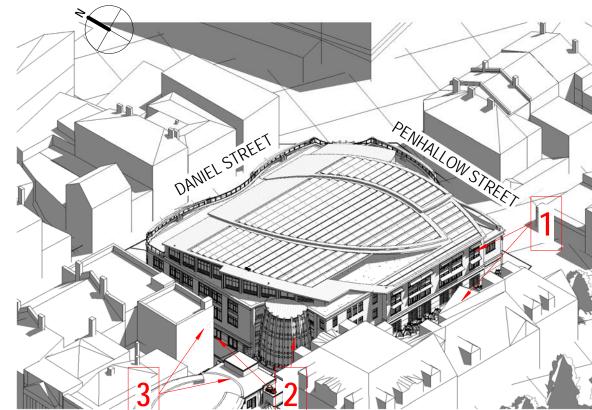








STREET VIEW 3



3D VIGNETTES - SIDES

60 PENHALLOW STREET at BRICK MARKET 53 DANIEL STREET HDC Work Session 2 AUGUST 7, 2019





Wausau Red Granite - Slim banding



Deer Isle Granite - Paving Field

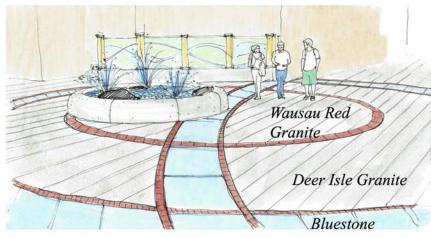


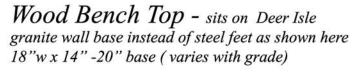
Bluestone



Podium Bench - 6'diameter

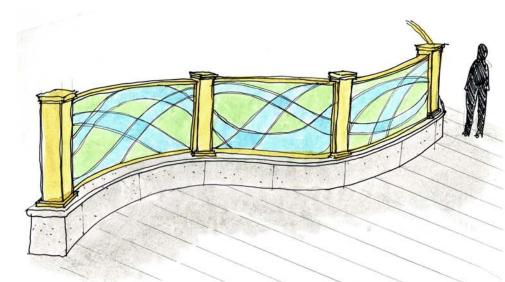






Granite Fountain - low sprays 18" high x 14' diameter

> Tree planters shown as core ten here 3'x3'x3'



Mural Wall - Height 6' and 8' see plan - Granite base 18x18" Posts wood to match building

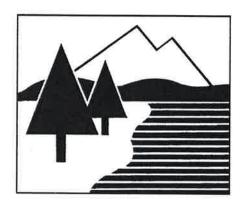
# LANDSCAPE MATERIALS



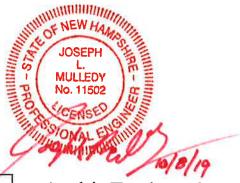
#### DRAINAGE ANALYSIS

### SITE REDEVELOPMENT

# 60 PENHALLOW STREET PORTSMOUTH, NH



#### **October 8, 2019**





# Ambit Engineering, Inc.

Civil Engineers and Land Surveyors 200 Griffin Road, Unit 3 Portsmouth, NH 03801

Phone: 603.430.9282; Fax: 603.436.2315 E-mail: <u>jlm@ambitengineering.com</u>

(Ambit Job Number 3039)

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E.	FEMA FIRM Map	
F.	Inspection & Maintenance Plan	

#### ATTACHMENTS

Existing Drainage Plan - W1

Proposed Drainage Plan - W2

#### **EXECUTIVE SUMMARY**

This drainage analysis examines the pre-development (existing) and post-development (proposed) stormwater drainage patterns for the proposed development which includes a constructing a multi-story mixed use building at 60 Penhallow Street in Portsmouth, NH. The site is shown on the City of Portsmouth Assessor's Tax Map 107 as Lot 27. The lot size is 23,279 square-feet (0.53 acres).

The new building will be serviced by public water and public sewer. The development has the potential to increase stormwater runoff to adjacent properties, and therefore must be designed in a manner to prevent that occurrence. This will be done primarily by capturing stormwater runoff and routing it through appropriate stormwater facilities, designed to ensure that there will be no increase in peak runoff from the site as a result of this project.

The hydrologic modeling uses the "Extreme Precipitation" values from The Northeast Regional Climate Center (Cornell University) for modeling purposes. Because Portsmouth is in the Seacoast area, we have increased these values by 15% and incorporated these values in this report.

#### SITE REDEVELOPMENT

60 Penhallow Street

PORTSMOUTH, NH

#### INTRODUCTION / PROJECT DESCRIPTION

This drainage report is designed to assist the owner, planning board, contractor, regulatory reviewer, and others in understanding the impact of the proposed development project on local surface water runoff and quality. The project site is shown on the City of Portsmouth, NH Assessor's Tax Map 107 Lot 27.

Bounding the site to the north is Daniel Street. Bounding the site to the West are commercial buildings with frontage along Daniel Street and Market Square / Pleasant Street. Bounding the site to the south is a commercial building with frontage on Penhallow Street. Bounding the Site to the east is Penhallow Street. The subject property is situated in the Character District 4 (CD4), Downtown Overlay District (DOD) and the Historic District (HDC). A vicinity map is included in the Appendix to this report.

The proposed development plan is to construct a new commercial building with a below grade, two level garage and other associated improvements such as utilities and landscaping. The project is anticipated to begin construction in the spring of 2020 and be substantially completed by the summer of 2021.

This report includes information about the existing site and the proposed development necessary to analyze stormwater runoff and to design any required mitigation. The report includes maps of pre-development and post-development watersheds, sub-catchment areas and calculations of runoff. The report will provide a narrative of the stormwater runoff and describe numerically and graphically the surface water runoff patterns for this site. Proposed stormwater management and treatment structures and methods will also be described, as well as erosion and sediment control practices. To fully understand the proposed site development the reader should also review a complete site plan set in addition to this report.

#### **METHODOLOGY**

This report uses the US Soil Conservation Service (SCS) Method for estimating stormwater runoff. The SCS method is published in The National Engineering Handbook (NEH), Section 4 "Hydrology" and includes the Technical Release No. 20, (TR-20) "Computer Program for Project Formulation Hydrology", and Technical Release No. 55 (TR-55) "Urban Hydrology for Small Watersheds" methods. This report uses the HydroCAD version 10.0 program, written by HydroCAD Software Solutions LLC, Chocorua, N.H., to apply these methods for the calculation of runoff and for pond modeling. Hydrologic modeling employs the "Extreme Precipitation" values from The Northeast Regional Climate Center (Cornell University) increased by 15%. These values have been used and are included in this report.

Time of Concentration (Tc) is calculated by entering measured flow path data such as flow path type, length, slope and surface characteristics into the HydroCAD program. For the purposes of this report, and as directed by TR55, a minimum time of concentration of 5 minutes is used.

The storm events used for the calculations in this report are the 2-year, 10-year and 50-year (24-hour) storms. Watershed basin boundaries have been delineated and subsequently revised using topographic maps prepared and updated by Ambit Engineering survey data, record plans and field observations to confirm.

#### SITE SPECIFIC INFORMATION

Based on the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Soil Survey of Rockingham County, New Hampshire, the site is made up of one soil type:

699 – Urban land. This soil has been assigned a Hydrologic Soil Group (HSG) classification of B, with a Low runoff class.

The physical characteristics of the site consist of (3-15%) grades that generally slope downward into the center of the site. At least three catch basins located on site provide adequate drainage in the existing conditions. Elevations on the site range from 30 to 27 feet above sea level. Currently the site is a private commercial parking lot. The existing vegetation around the lot consists of established grasses, shrubs and trees.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) number 33015C0259E (effective date May 17, 2005), the project site is not located in a floodplain. A copy of the FIRM map is included in the Appendix.

#### PRE-DEVELOPMENT DRAINAGE

The existing site drains via overland flow from the outer bounds of the property towards the center of the site to three catch basins located within the parking lot. These three catch basins combine and discharge to a 12" HDPE through CB 5966 located along the curb line in Penhallow Street. We have placed the design point at the end of the existing 12" HDPE, entering CB 5966 and then into an 18" HDPE main trunkline at DMH 5963. There is no existing stormwater detention or treatment on the site.

In the pre-development condition, the site has been analyzed as four watershed basins (ES1, ES2, ES3 and ES4) based on localized topography and discharge location. As described above, ES1 represents the majority of on site runoff while ES2, ES3 and ES4 are the offsite runoff from adjacent streets. The runoff curve number (CN) for Subcatchment ES1 is calculated to be 91 with impervious coverage of 76.9%. The runoff curve numbers for ES2, ES3 and ES4 is 98 since they are entirely impervious surface consisting of asphalt and brick sidewalk.

Watershed Basin ID	Basin Area (SF)	Te (MIN)	CN	2-Year Runoff (CFS)	10-Year Runoff (CFS)	50-Year Runoff (CFS)	Design Point
ES1	30,432	5.0	91	2.25	3.67	5.80	DP1
ES2	4,330	5.0	98	0.37	0.56	0.86	DP1
ES3	1,701	5.0	98	0.14	0.22	0.34	DP1
ES4	803	5.0	98	0.07	0.10	0.16	DP1

#### POST-DEVELOPMENT DRAINAGE

The proposed development has been designed to match the pre-development drainage patterns to the greatest extent feasible. In the post-development condition, the site has been analyzed as four (4) separate subcatchments (PS1, PS2, PS3 and PS4) based on localized topography and discharge locations. In general, the proposed subcatchments are similar area as the existing subcatchemnts. Basin PS1 is the rooftop runoff from the new building. PS2 is the runoff from Daniel Street. PS3 is the runoff from Penhallow Street. PS4 is runoff from the alley way that flows out to Penhallow Street.

The runoff curve number (CN), Time of Concentration (TC), % Impervious, and Peak Flow Rate (CFS) for the Post Development Watersheds are shown in Table 2: Post Development Water Shed Summary below.

Table 2: Post-Development Watershed Basin Summary
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Watershed Basin ID	Basin Area (SF)	Tc (MIN)	CN	2-Year Runoff (CFS)	10-Year Runoff (CFS)	50-Year Runoff (CFS)	Design Point
PS1	17,104	5.0	98	1.46	2.23	3.39	DP1
PS2	5,601	5.0	98	0.48	0.73	1.11	DP1
PS3	1,995	5.0	98	0.17	0.26	0.40	DP1
PS4	12,558	5.0	98	1.00	1.58	2.45	DP1

The overall impervious coverage of the area analyzed in this report for all basins **increases** from 30,251 square feet (81.1%) in the pre-development condition to 35,773 square feet (95.9%) in the post-development condition. Since runoff from the site is largely roof top and brick type paver walkways, there is no real need for treatment of stormwater runoff as the runoff will be relatively clean.

Table 3 shows a summary of the comparison between pre-developed flows and post-developed flows for the design point.

Table 3: Pre-Development to Post-Development Comparison

	Q2 (	CFS)	Q10 (CFS)		Q25 (CFS)		Q50 (CFS)	
Design Point	Pre	Post	Pre	Post	Pre	Post	Pre	Post
DP1	2.83	3.11	4.56	4.80	5.90	6.11	7.16	7.34

#### EROSION AND SEDIMENT CONTROL PRACTICES

The erosion potential for this site as it exists is low due to the existing pavement at the site. During construction, the major potential for erosion is wind and stormwater runoff. The contractor will be required to inspect and maintain all necessary erosion control measures, as well as installing any additional measures as required. All erosion control practices shall conform

to "The Stormwater Management and Erosion Control Handbook for Urban and Developing Areas in New Hampshire." Some examples of erosion and sediment control measures to be utilized for this project during construction may include:

- Silt Soxx (or approved alternative) located at the toe of disturbed slopes
- Stabilized construction entrance at access point to the site
- Temporary mulching and seeding for disturbed areas
- Spraying water over disturbed areas to minimize wind erosion

After construction, permanent stabilization will be accomplished by permanent seeding, landscaping and surfacing the access drives and parking areas with asphalt paving

#### **CONCLUSION**

The existing site is largely impervious surface. The proposed development will add a nominal amount of impervious surface to the overall area. This results in marginal increases between 0.28 cfs and 0.18 cfs in stormwater runoff for the range of storms analyzed. Considering that there is a closed drainage system located within Penhallow Street, in our opinion these increases can be absorbed with no concern for negative impacts.

#### REFERENCES

- 1. City of Portsmouth, NH. Site Plan Review Regulations amended September 15, 2016.
- 2. Comprehensive Environmental Inc. and New Hampshire Department of Environmental Services. *New Hampshire Stormwater Manual (Volumes 1, 2 and 3)*, December 2008 (Revision 1.0).
- 3. Minnick, E.L. and H.T. Marshall. Stormwater Management and Erosion and Sediment Control Handbook for Urban and Developing Areas in New Hampshire, prepared by Rockingham County Conservation District, prepared for New Hampshire Department of Environmental Services, in cooperation with USDA Soil Conservation Service, August 1992.
- 4. HydroCAD Software Solution, LLC. *HydroCAD Stormwater Modeling System Version* 10.0 copyright 2013. HydroCAD Software Solution, LLC. *HydroCAD Stormwater Modeling System Version* 10.0 copyright 2013.
- 5. University of New Hampshire Stormwater Center 2009 Biannual Report, Pages 14-21 for references to Lag time (TC) for Porous Pavement and Filtration Basins.



#### 9000 SERIES SLOT DRAIN® SPECIFICATION SHEET

#### **SPECIFICATIONS**

The surface drainage system shall be 9000 Series Slot Drain complete with slotted linear trench opening as manufactured by Slot Drain Systems.

#### MATERIALS:

T304 Stainless Steel, T316 Stainless Steel, Galvanized Steel, Fiberglass

#### **DESIGN OPTIONS:**

Slot Opening (#): ½" (0), 1" (1), 1 ¼" (5) End (\*): Open (0), End Cap (1), Flush Nipple (5) Section Lengths: Full 9'8", Half 4'10"
Typical runs start with 102 or 102B (Half Section).

#### LOAD CLASS:

Load Class F (10,000 lbs.)

DADT NO

#### FLOW RATE:

11 gpm (per foot of drain) 1/2" 18 gpm (per foot of drain) 1 1 1/4" 27 gpm (per foot of drain)

#### ACCESSORIES:

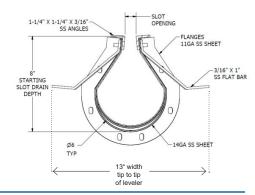
Cleaning paddle, Cleaning Brush, Flush Flo, CIP

#### INSTALLATION:

The 9000 Series Slot Drain System shall be installed in accordance with the manufacturer's installation instructions and recommendations.

#### Typical Modular Layout of a Slot Drain® System (Sections fit together as illustrated below)





INVERT DEEP

DESCRIPTION	PART NO.	INCHES MM	INCHES MM
9000 SERIES SS SLOT 102 HALF	SD95#*-102B	8 <sup>5</sup> / <sub>16</sub> 211.137	8 <sup>5</sup> / <sub>8</sub> 219.075
9000 SERIES SS SLOT 102	SD95#*-102	8 203.2	8 <sup>5</sup> / <sub>8</sub> 219.075
9000 SERIES SS SLOT 203	SD95#*-203	8 <sup>5</sup> / <sub>8</sub> 219.075	9 1/4 234.95
9000 SERIES SS SLOT 304	SD95#*-304	9 1/4 234.95	9 7/8 250.825
9000 SERIES SS SLOT 405	SD95#*-405	9 1/8 250.825	10 <sup>1</sup> / <sub>2</sub> 266.7
9000 SERIES SS SLOT 505 N	SD95#*-505B	10 ½ 266.7	10 ½ 266.7
9000 SERIES SS SLOT 506	SD95#*-506	10 <sup>1</sup> / <sub>2</sub> 266.7	11 <sup>1</sup> / <sub>8</sub> 282.575
9000 SERIES SS SLOT 607	SD95#*-607	11 1/8 282.575	11 <sup>3</sup> / <sub>4</sub> 298.45
9000 SERIES SS SLOT 708	SD95#*-708	11 <sup>3</sup> / <sub>4</sub> 298.45	12 <sup>3</sup> / <sub>8</sub> 314.325
9000 SERIES SS SLOT 809	SD95#*-809	12 <sup>3</sup> / <sub>8</sub> 314.325	13 330.2

#### **CATCH BASIN**

**DRAIN CHANNELS** 

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DESCRIPTION	TOP WIDTH INCHES MM	TOP LENGTH INCHES MM	BOTTOM WIDTH INCHES MM	BOTTOM LENGTH INCHES MM	HEIGHT INCHES MM	OUTLET HEIGHT INCHES MM	EDGE OF FRAME INCHES MM
9000 SS CB	13 304.8	13 304.8	13 304.8	13 304.8	20 <sup>1</sup> / <sub>4</sub> 508	4 or 6 101.6 - 152.4	15 381

SPECIFYING ENGINEER IS RESPONSIBLE FOR CONCRETE ENCASEMENT AND REINFORCING BASED UPON APPLICATION AND LOCAL CODES. SLOT DRAIN SYSTEMS RESERVES THE RIGHT TO CHANGE THE PRODUCT AND SPECIFICATIONS WITHOUT NOTICE

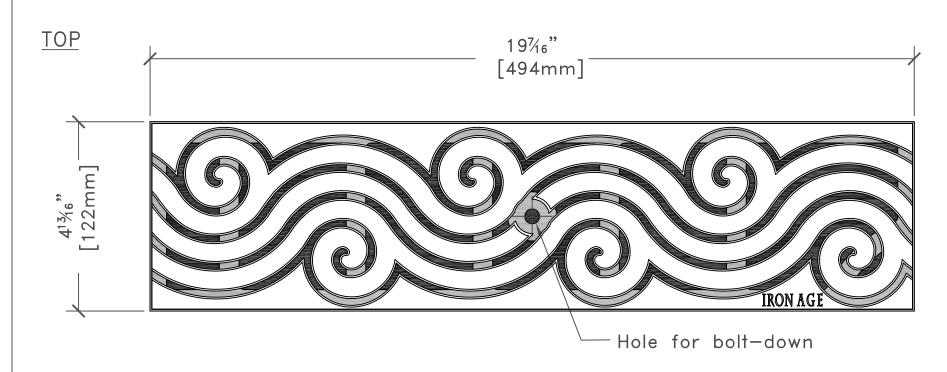
INVERT SHALLOW

9000 SERIES 90° SS SLOT

9000 SERIES SS TRANSITION PIT

#### 3 GRATES ARRAYED







IRON AGE 2104 SW 152nd St #4 TEL 206.276.0925 Burien, WA 98166 FAX 206.257.0318 W W W . ironagegrates.com

Argo 5"x20" Heel-Proof Trench Grate drawn by: CD scale: NTS drawing no. ARG.A.05x20 date: 01/01/09

#### **NOTES:**

- 1. Material: cast iron 5. No openings greater than  $\frac{1}{4}$ "
- 2. Natural finish
- 3. Total thickness:  $\frac{13}{16}$ "
- 4. Fits drain channels manufactured by:
- 7. Weight: 11 lbs. per casting

6. Due to casting inconsistencies,

all dimensions are nominal.

ABT® PolyDrain®, ACO™ KlassikDrain-K100/K100S MEADRAIN® 1000 Series

Registration Number: VA 2-007-074

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