LETTER OF TRANSMITTAL

TO: **City of Portsmouth**
1 Junkins Avenue
Portsmouth, NH
03801

FROM:
AMBIT ENGINEERING, INC.
Civil Engineers and Land Surveyors
200 Griffin Road, Unit 3
Portsmouth, NH 03801
Phone (603) 430-9282 Fax 436-2315

DATE: **11/18/2019**	JOB NO. **3039**
ATTENTION: **Planning Department**	
RE: **Site Plan Approval**	
Brick Market - 60 Penhallow Street LU - 19-TBD	

WE ARE SENDING YOU
- ☒ ATTACHED
- ☐ UNDER SEPARATE COVER VIA
- ☐ SHOP DRAWING
- ☐ COPY OF LETTER
- ☐ PRINTS
- ☐ PLANS
- ☐ CHANGE ORDER
- ☐ SPECIFICATIONS
- ☐ SAMPLES
- ☐ OTHER

COPIES	DATE	REVISION	DESCRIPTION
3	**11-18-19**		**Site Plans**
7	**11-18-19**		**11X17 of same**
1	**11-18-19**		**Site Review Application / Site Cost Estimate / Fee Check**
1	**11-18-19**		**Checklist**
10	**11-18-19**		**Supplemental Information**

THESE ARE TRANSMITTED AS CHECKED BELOW

- ☒ FOR YOUR APPROVAL
- ☐ FOR YOUR USE
- ☐ AS REQUESTED
- ☐ FOR BIDS DUE
- ☐ FOR REVIEW AND COMMENT
- ☐ RETURNED AFTER LOAN TO US

REMARKS

On Line Permit Application Submitted

COPY TO **(via email): Dagney Taggart, JSA Architects, Woodburn & Company**

If enclosures are not as noted, kindly notify us at once.

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Owner/Applicant: Dagny Taggart, LLC/McNabb Properties, LTD Date Submitted: 11/18/19

Phone Number: Applicant: 603-427-0725 E-mail: christine@mcnabbgroup.com

Site Address: 60 Penhallow Street Map: 107 Lot: 27

Zoning District: Character District 4 (CD4) Lot area: 23,279 sq. ft.

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☐	Fully executed and signed Application form. **(2.5.2.3)**		N/A
☐	All application documents, plans, supporting documentation and other materials provided in digital Portable Document Format (PDF). **(2.5.2.8)**		N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Statement that lists and describes "green" building components and systems. **(2.5.3.1A)**	See attached from JSA	
☐	Gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1B)**	See Sheet C3	N/A
☐	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1C)**	See Sheet C1	N/A
☐	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1D)**	See Cover Sheet	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1E)**	See Standard Boundary Survey	N/A
☐	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1F)**	See Cover Sheet	N/A
☐	List of reference plans. **(2.5.3.1G)**	See Standard Boundary Survey	N/A
☐	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1H)**	See Cover Sheet	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director. Submittals shall be a minimum of 11 inches by 17 inches as specified by Planning Dept. staff. **(2.5.4.1A)**	Required on all plan sheets	N/A
☐	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☐	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	N/A	N/A
☐	Plans shall be drawn to scale. **(2.5.4.1D)**	Required on all plan sheets	N/A
☐	Plans shall be prepared and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	PE 07651	N/A
☐	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	N/A	N/A
☐	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	See Cover Sheet	N/A
☐	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	See Revision Block	N/A
☐	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☐	Source and date of data displayed on the plan. **(2.5.4.2D)**	See Plan Notes	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	See Cover Sheet, C3 Site Plan	N/A
☐	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**	See Sheet C3 Site Plan	N/A
☐	Plan sheets showing landscaping and screening shall also include the following additional notes: a. "The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials." b. "All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair." c. "The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director." **(2.13.4)**	See Sheet L1 & L2	N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
	1. Existing Conditions: (2.5.4.3A)		
☐	a. Surveyed plan of site showing existing natural and built features;	C1	
☐	b. Zoning boundaries;	Cover Sheet	
☐	c. Dimensional Regulations;	C3 Zoning Development	
☐	d. Wetland delineation, wetland function and value assessment;	N/A	
☐	e. SFHA, 100-year flood elevation line and BFE data.	Note 3, C1	
	2. Buildings and Structures: (2.5.4.3B)		
☐	a. Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation;	A0-1.0-1.2	
☐	b. Elevations: Height, massing, placement, materials, lighting, façade treatments;	A0-1.0-1.2	
☐	c. Total Floor Area;	A0-1.0-1.2	
☐	d. Number of Usable Floors;	A0-1.0-1.2	
☐	e. Gross floor area by floor and use.	A0-1.0-1.2	
	3. Access and Circulation: (2.5.4.3C)		
☐	a. Location/width of access ways within site;	C3	
☐	b. Location of curbing, right of ways, edge of pavement and sidewalks;	C3	
☐	c. Location, type, size and design of traffic signing (pavement markings);	C3	
☐	d. Names/layout of existing abutting streets;	Cover Sheet	
☐	e. Driveway curb cuts for abutting prop. and public roads;	C3	
☐	f. If subdivision; Names of all roads, right of way lines and easements noted;	N/A	
☐	g. AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	N/A	
	4. Parking and Loading: (2.5.4.3D)		
☐	a. Location of off street parking/loading areas, landscaped areas/buffers;	C3, Floor Plans	
☐	b. Parking Calculations (# required and the # provided).	N/A	
	5. Water Infrastructure: (2.5.4.3E)		
☐	a. Size, type and location of water mains, shut-offs, hydrants & Engineering data;	C4	
☐	b. Location of wells and monitoring wells (include protective radii).	N/A	
	6. Sewer Infrastructure: (2.5.4.3F)		
☐	a. Size, type and location of sanitary sewage facilities & Engineering data.	C4	
	7. Utilities: (2.5.4.3G)		
☐	a. The size, type and location of all above & below ground utilities;	C4	
☐	b. Size type and location of generator pads, transformers and other fixtures.	C4	

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	**8. Solid Waste Facilities: (2.5.4.3H)**		
☐	a. The size, type and location of solid waste facilities.	Architectural Plans	
	9. Storm water Management: (2.5.4.3I)		
☐	a. The location, elevation and layout of all storm-water drainage.	C5	
	10. Outdoor Lighting: (2.5.4.3J)		
☐	a. Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and; b. photometric plan.	Lighting Plans	
☐	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	Lighting Plans	
	12. Landscaping: (2.5.4.3K)		
☐	a. Identify all undisturbed area, existing vegetation and that which is to be retained;	L1	
☐	**b.** Location of any irrigation system and water source.	L1	
	13. Contours and Elevation: (2.5.4.3L)		
☐	a. Existing/Proposed contours (2 foot minimum) and finished grade elevations.	C5	
	14. Open Space: (2.5.4.3M)		
☐	a. Type, extent and location of all existing/proposed open space.	C3 Community Space Plan	
☐	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	Easement Plan	
☐	**16. Location of snow storage areas and/or off-site snow removal. (2.5.4.3O)**	Remove Offsite/C3 Note	
☐	**17. Character/Civic District (All following information shall be included): (2.5.4.3Q)**		
	a. Applicable Building Height (10.5A21.20 & 10.5A43.30);	C3	
	b. Applicable Special Requirements (10.5A21.30);	C3	
	c. Proposed building form/type (10.5A43);	C3	
	d. Proposed community space (10.5A46).	Community Space Plan C3	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Traffic Impact Study or Trip Generation Report, as required. (*Four (4) hardcopies of the full study/report and Six (6) summaries to be submitted with the Site Plan Application*) **(3.2.1-2)**	GPI Report	
☐	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	C5	
☐	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	N/A	
☐	Indicate where measures to minimize impervious surfaces have been implemented. **(7.4.3)**	N/A	
☐	Calculation of the maximum effective impervious surface as a percentage of the site. **(7.4.3.2)**	C3	
☐	Stormwater Management and Erosion Control Plan. (*Four (4) hardcopies of the full plan/report and Six (6) summaries to be submitted with the Site Plan Application*) **(7.4.4.1)**	Drainage Analysis	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	All local approvals, permits, easements and licenses required, including but not limited to: a. Waivers; b. Driveway permits; c. Special exceptions; d. Variances granted; e. Easements; f. Licenses. **(2.5.3.2A)**	Cover Sheet	
☐	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: a. Calculations relating to stormwater runoff; b. Information on composition and quantity of water demand and wastewater generated; c. Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; d. Estimates of traffic generation and counts pre- and post-construction; e. Estimates of noise generation; f. A Stormwater Management and Erosion Control Plan; g. Endangered species and archaeological / historical studies; h. Wetland and water body (coastal and inland) delineations; i. Environmental impact studies. **(2.5.3.2B)**	Drainage Analysis C4 C5 GPI Report TBD Drainage Analysis N/A N/A N/A	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	Pending	
☐	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**	See Cover Sheet	

Applicant's Signature: _____ **Date:** 11-18-19

Construction Cost Estimate

Ambit Engineering

Date: November 18, 2019

Project: McNabb Properties - 60 Penhallow Street Job No: 3039

Location: 60 Penhallow Street, Portsmouth, NH

Scope: **Site Cost Estimate**

ITEM NO	DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL
1	6" PVC Sewer	LF	30	$120.00	$3,600.00
2	8" - 24" HDPE Drainage Pipe	LF	350	$100.00	$35,000.00
3	Slot Drains & Covers	LF	150	$65.00	$9,750.00
4	4' DMH	EA	2	$4,000.00	$8,000.00
5	Grease Trap	EA	1	$4,000.00	$4,000.00
6	Common Excavation	CY	17860	$25.00	$446,500.00
7	Miscallaneous Paving	TON	60	$100.00	$6,000.00
8	Bluestone	SF	840	$80.00	$67,200.00
9	Red Granite Edging	SF	320	$65.00	$20,800.00
10	Deer Isle Granite	SF	2700	$55.00	$148,500.00
11	Crushed Gravel / Base Preparaation	CY	215	$25.00	$5,375.00
12	Fountain	LS	1	$50,000.00	$50,000.00
13	Brick Sidewalk	SY	150	$96.00	$14,400.00
14	Landscape Plantings	LS	1	$75,000.00	$75,000.00
15	Re-Set Curb	LF	300	$60.00	$18,000.00
16	Underground Electric / Conduit	LF	350	$55.00	$19,250.00
17	Transformers & Pole Relocation	EA	3	$25,000.00	$75,000.00
18	Seating Walls	LF	150	$120.00	$18,000.00
19	Mural Walls	LF	80	$150.00	$12,000.00
20	Water & Sprinkler Services	LF	120	$180.00	$21,600.00
21	Podium Bench	EA	1	$12,000.00	$12,000.00
22	Shoring	LF	560	$35.00	$19,600.00
23	Erosion Control	LS	1	$2,500.00	$2,500.00
	TOTAL				**$1,092,075**

Note: This is an estimate of construction costs based upon various sources

APPLICATION FEE:

$500 + ($ 1,092,075 /1000 x $5) + (28,600 / 1,000 x $10)= $ 6,246.38

SITE REDEVELOPMENT

BRICK MARKET

60 PENHALLOW STREET
PORTSMOUTH, NEW HAMPSHIRE

SITE PERMIT PLANS

OWNER:
DAGNY TAGGART, LLC

APPLICANT:
MCNABB PROPERTIES, LTD
30 PENHALLOW ST, STE 300 EAST
PORTSMOUTH, NH 03801
(603) 427-0725

CIVIL ENGINEER & LAND SURVEYOR:
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

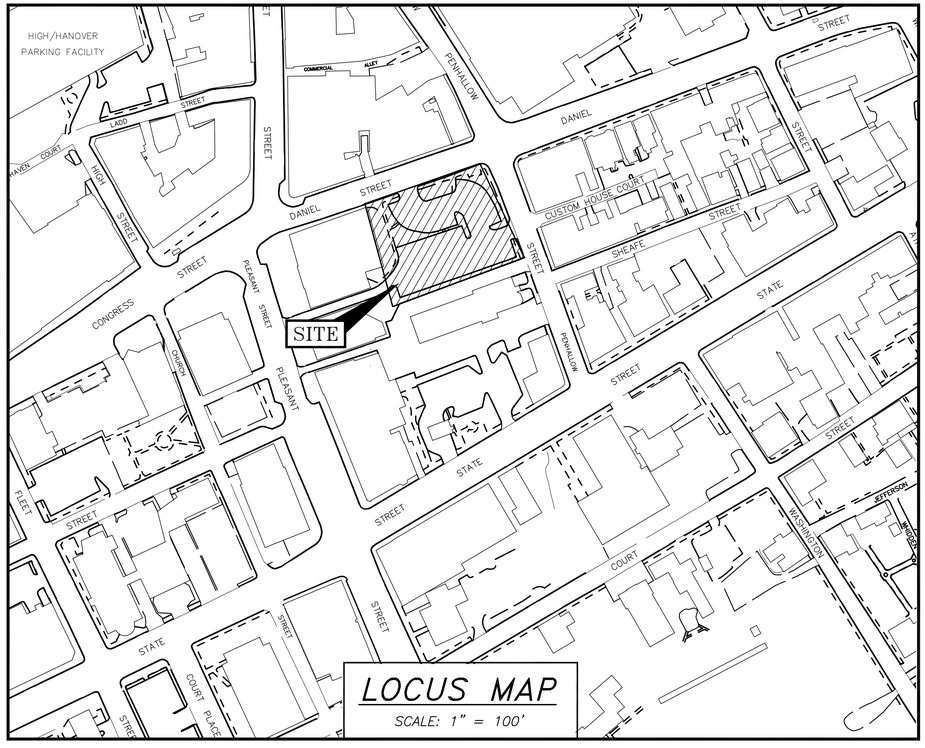
MEP & FIRE PROTECTION:
PETERSEN ENGINEERING
127 PARROTT AVENUE
PORTSMOUTH NH, 03801
TEL.(603) 436-4233

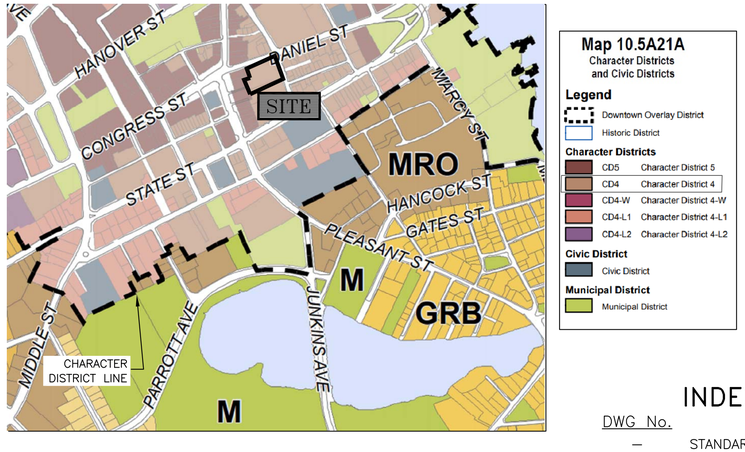
ATTORNEY:
FX BRUTON
BRUTON & BERUBE, PLLC
601 CENTRAL AVENUE
DOVER, NH 03820
(603) 749-4529

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





Map 10.5A21A
Character Districts and Civic Districts

Legend
- Downtown Overlay District
- Historic District

Character Districts
- 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

Civic District
- Civic District

Municipal District
- Municipal District

PERMIT LIST:
PORTSMOUTH HDC: APPROVED 11-13-19
PORTSMOUTH ZONING BOARD: PENDING
PORTSMOUTH SITE REVIEW: PENDING
PORTSMOUTH CONDITIONAL USE PERMIT: PENDING

LEGEND:

EXISTING	PROPOSED	
		PROPERTY LINE
		SETBACK
S	S	SEWER PIPE
SL	SL	SEWER LATERAL
G	G	GAS LINE
D	D	STORM DRAIN
W	W	WATER LINE
WS	WS	WATER SERVICE
UGE	UGE	UNDERGROUND ELECTRIC
OHW	OHW	OVERHEAD ELECTRIC/WIRES
	UD	FOUNDATION DRAIN
		EDGE OF PAVEMENT (EP)
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		UTILITY POLE
		WALL MOUNTED EXTERIOR LIGHTS
		TRANSFORMER ON CONCRETE PAD
		ELECTRIC HANDHOLD
		SHUT OFFS (WATER/GAS)
	GV	GATE VALVE
	HYD	HYDRANT
CB	CB	CATCH BASIN
	SMH	SEWER MANHOLE
	DMH	DRAIN MANHOLE
	TMH	TELEPHONE MANHOLE
14	14	PARKING SPACE COUNT
PM		PARKING METER
LSA		LANDSCAPED AREA
TBD	TBD	TO BE DETERMINED
CI	CI	CAST IRON PIPE
COP	COP	COPPER PIPE
DI	DI	DUCTILE IRON PIPE
PVC	PVC	POLYVINYL CHLORIDE PIPE
RCP	RCP	REINFORCED CONCRETE PIPE
AC	–	ASBESTOS CEMENT PIPE
VC	VC	VITRIFIED CLAY PIPE
EP	EP	EDGE OF PAVEMENT
EL.	EL.	ELEVATION
FF	FF	FINISHED FLOOR
INV	INV	INVERT
S =	S =	SLOPE FT/FT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL

DIG SAFE
MA – ME – NH – RI – VT
1-888-344-7233
CALL TOLL FREE

PORTSMOUTH APPROVAL CONDITIONS NOTE:
ALL CONDITIONS ON THIS PLAN SET SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS.

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

INDEX OF SHEETS

UTILITY CONTACTS

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

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

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

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

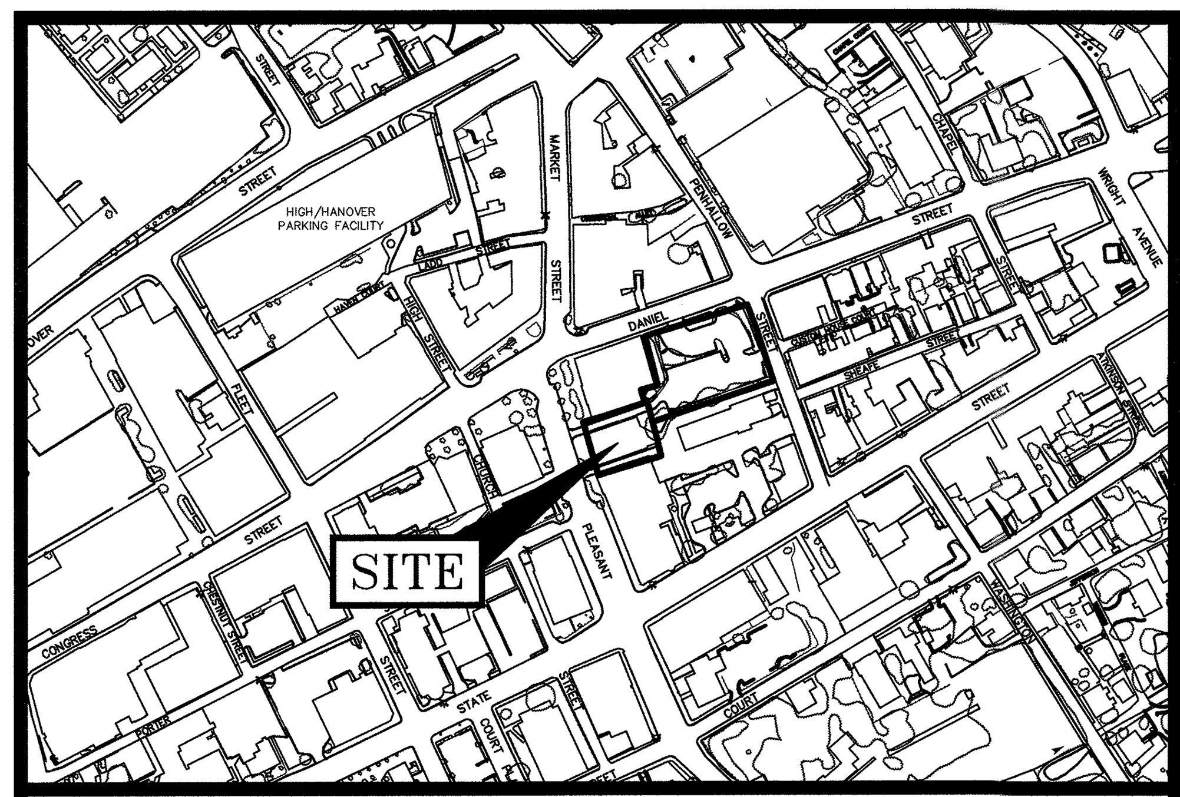
COMMUNICATIONS:
FAIRPOINT COMMUNICATIONS
JOE CONSIDINE
1575 GREENLAND ROAD
GREENLAND, N.H. 03840
Tel. (603) 427-5525

SITE PERMIT PLANS
BRICK MARKET
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
Fax (603) 436-2315

PLAN SET SUBMITTAL DATE: 18 NOVEMBER 2019

J:\JOBS3\JN 3000's\JN 3030's\JN 3039\2019 Site Development 60 Penhallow\Plans & Specs\Site\3039 COVER 60 PENHALLOW.dwg, COVER



LOCATION MAP SCALE 1"=300'

LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
11/21	MAP 11 / LOT 21
	BOUNDARY
	SETBACK
	RAILROAD SPIKE FOUND
	IRON ROD/PIPE FOUND
	DRILL HOLE FOUND
	STONE/CONCRETE BOUND FOUND
	RAILROAD SPIKE SET
	IRON ROD SET
	DRILL HOLE SET
	GRANITE BOUND SET
S	SEWER LINE
G	GAS LINE
D	STORM DRAIN
W	WATER LINE
	UNDERGROUND ELECTRIC
	OVERHEAD ELECTRIC/WIRES
100	CONTOUR
97x3	SPOT ELEVATION
	EDGE OF PAVEMENT (EP)
	WOODS / TREE LINE
	UTILITY POLE (w/ GUY)
GSO	GAS SHUT OFF
WSO	WATER SHUT OFF/CURB STOP
GV	GATE VALVE
HYD	HYDRANT
G W E	METER (GAS, WATER, ELECTRIC)
	CATCH BASIN
T	TELEPHONE MANHOLE
S	SEWER MANHOLE
D	DRAIN MANHOLE
AC	AIR CONDITIONER UNIT
	SIGNS
AC	ASBESTOS CEMENT PIPE
CI	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
COP	COPPER PIPE
DI	DUCTILE IRON PIPE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
VC	VITRIFIED CLAY PIPE
EL.	ELEVATION
EP	EDGE OF PAVEMENT
F.F.	FINISHED FLOOR
INV.	INVERT
TBM	TEMPORARY BENCHMARK
TYP.	TYPICAL
VGC/SGC	VERTICAL/SLOPED GRANITE CURB
CCB	CAPE COD BERM
LSA	LANDSCAPED AREA

PLAN REFERENCES:

1) PLAN OF LAND FOR INDIAN HEAD BANK OF PORTSMOUTH, DANIEL AND PENHALLOW STREETS. PORTSMOUTH, NH. PREPARED BY BY TOWN PLANNING AND ENGINEERING ASSOC. INC. DATED JUNE 10, 1977, FINAL REVISION DATE AUGUST 30, 1978. R.C.R.D. PLAN C-8101.

2) PLAN OF LAND FOR INDIAN HEAD BANK OF PORTSMOUTH, DANIEL & PENHALLOW STREETS, COUNTY OF ROCKINGHAM, PORTSMOUTH, NEW HAMPSHIRE. PREPARED BY TOWN PLANNING AND ENGINEERING ASSOC., INC. R.C.R.D. PLAN C-7121.

3) LAND IN PORTSMOUTH COUNTY OF ROCKINGHAM TO CITY OF PORTSMOUTH, PORTSMOUTH, NH. PREPARED BY JOHN W. DURGIN, FILE NUMBER NO. 555 PLAN NO 7171. R.C.R.D. PLAN #01878.

4) SUBDIVISION OF LAND PORTSMOUTH, NH FOR SUSAN PETRIE-CLEMONS. PREPARED BY JOHN W. DURGIN ASSOCIATES, INC. DATED AUGUST 13, 1981. R.C.R.D. PLAN C-11434.

5) AS BUILT PLAN FOR INDIAN HEAD BANK OF PORTSMOUTH, PLEASANT STREET, PORTSMOUTH, N.H. COUNTY OF ROCKINGHAM PREPARED BY TOWN PLANNING AND ENGINEERING ASSOC. INC. DATED JANUARY 29, 1980, FINAL REVISION DATE FEBRUARY 19, 1980. NOT RECORDED.

6) PLAN OF LAND OF PORTSMOUTH TRUST CO., MARKET SQUARE, PORTSMOUTH N.H. PREPARED BY JOHN W. DURGIN CIVIL ENGINEERS, FILE NO. 555 PLAN NO. 6427. DATED JULY 1957. R.C.R.D. PLAN #02644.

7) PLAN OF PROPERTIES ON STATE AND PLEASANT STS., PORTSMOUTH, N.H. OWNED BY FREDERICK GARDNER AND PISCATAQUA BANK. PREPARED BY WILLIAM A. GROVER CIVIL ENGINEER. DATED SEPT 10, 1919. R.C.R.D. PLAN #0249.

8) WATER LINE EASEMENT, 28 PENHALLLOW STREET, PORTSMOUTH, NH. DATED OCTOBER 13, 1989. NOT RECORDED.

9) LOT CONSOLIDATION, PORTSMOUTH N.H. FOR AMERICAN BANK DESIGN. PREPARED BY DURGIN-SCHOFIELD ASSOCIATES. DATED APRIL 20, 1988, FINAL REVISION MAY 17, 1988. R.C.R.D. PLAN D-18233.

10) SUBDIVISION PLAN OF LAND 22 AND 26 MARKET SQUARE, PORTSMOUTH, NEW HAMPSHIRE, COUNTY OF ROCKINGHAM AS PREPARED FOR / OWNER OF RECORD JAMES A. SHANLEY P.O. BOX 1380 PORTSMOUTH, N.H. 03801. PREPARED BY CIVILWORKS, INC. DATED FEBRUARY 15, 1989. R.C.R.D. PLAN D-19371.

11) CONDOMINIUM SITE PLAN OF LAND, 22-26 MARKET SQUARE, PORTSMOUTH, NEW HAMPSHIRE, COUNTY OF ROCKINGHAM, AS PREPARED FOR / OWNER OF RECORD LBJ PROPERTIES, LLC 1618 HIGHWAY 395 MINDEN, NV 94923. PREPARED BY CIVILWORKS, INC. DATED AUGUST 3, 2007, FINAL REVISION MARCH 6, 2009. R.C.R.D. PLAN D-36050.

12) PROPOSED EASEMENT PLAN MAP U-7 - LOT 42 FOR COVENTRY ASSETS, LTD, 30 PENHALLOW STREET PORTSMOUTH, N.H. COUNTY OF ROCKINGHAM. PREPARED BY AMBIT ENGINEERING, INC. DATED OCTOBER 2000. R.C.R.D. PLAN C-28714.

13) EASEMENT RELEASE PLAN MAP U-7 - LOT 42 FOR COVENTRY ASSETS, LTD, 30 PENHALLOW STREET, PORTSMOUTH N.H. COUNTY OF ROCKINGHAM. PREPARED BY AMBIT ENGINEERING. INC. DATED DECEMBER 2000, FINAL REVISION DECEMBER 20, 2000. R.C.R.D. PLAN C-28681.

14) TAX MAP 107 LOT 29 BOUNDARY PLAN OWNER: BNG PROPERTIES, INC. PREPARED FOR: TUSCAN BRANDS LOCATED AT: 14 MARKET SQUARE, PLEASANT STREET & DANIEL STREET, PORTSMOUTH, NEW HAMPSHIRE. PREPARED BY S&H LAND SERVICES, LLC. DATED JANUARY 2, 2019. R.C.R.D. PLAN D-41249.

15) PLAN OF LAND TAX MAP 107 LOTS 39, 40 AND 41, PROPERTY OF HELEN S. BROSSEAU GST EXEMPT TRUST AND HELEN S. BROSSEAU REVOCABLE TRUST OF 2000, 12 PENHALLOW, 191 & 195 STATE STREET, COUNTY OF ROCKINGHAM, PORTSMOUTH NEW HAMPSHIRE. PREPARED BY MSC CIVIL ENGINEERS & LAND SURVEYORS, INC. DATED DECEMBER 12, 2007, FINAL REVISION JANUARY 8, 2008. R.C.R.D. PLAN D-35246.

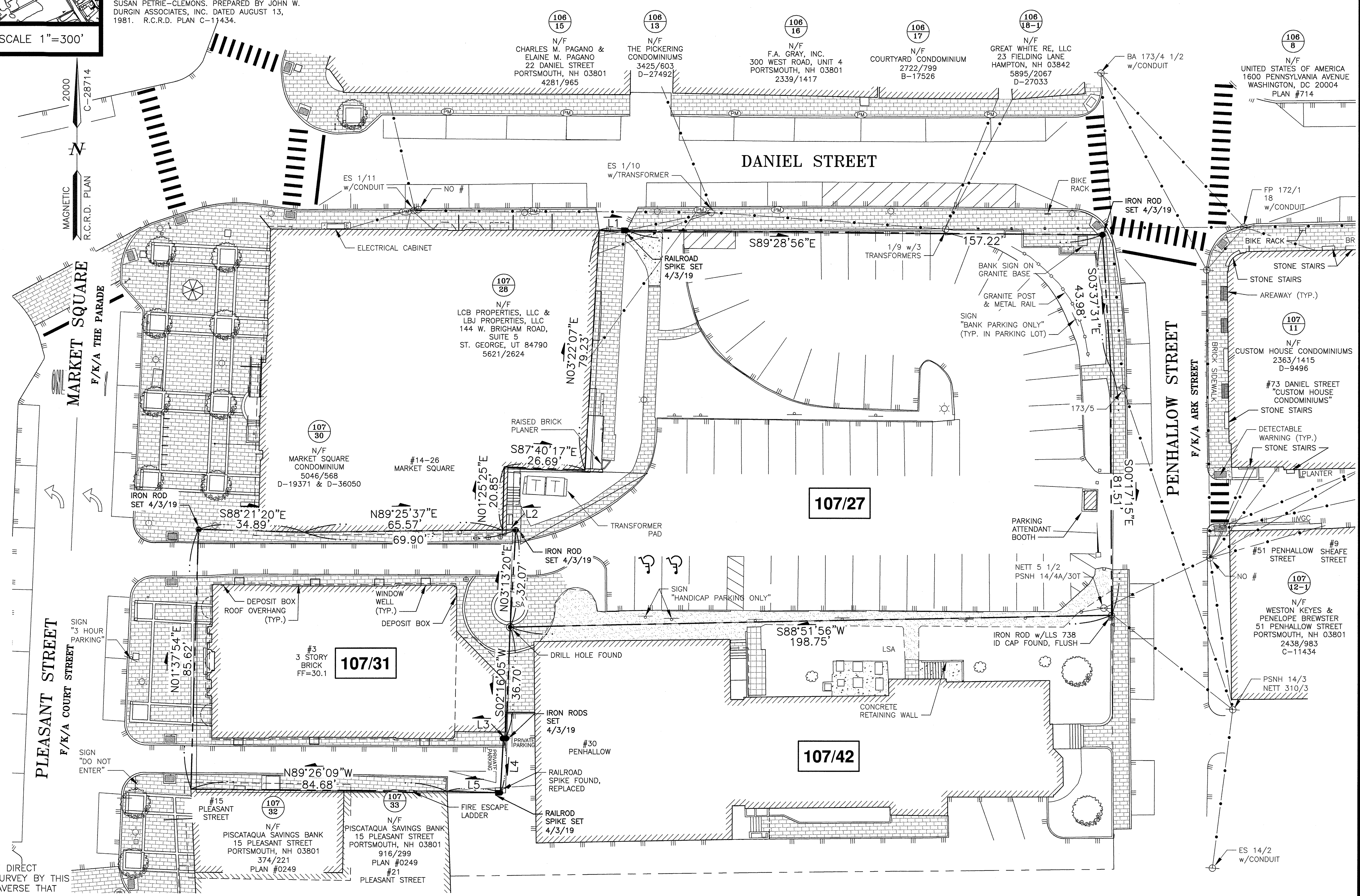
16) CONDOMINIUM SITE PLAN TAX MAP 107 LOTS 39, 40 AND 41, PROPERTY OF HELEN S. BROSSEAU GST EXEMPT TRUST AND HELEN S. BROSSEAU REVOCABLE TRUST OF 2000, 12 PENHALLOW, 191 & 195 STATE STREET, COUNTY OF ROCKINGHAM, PORTSMOUTH NEW HAMPSHIRE. PREPARED BY MSC CIVIL ENGINEERS & LAND SURVEYORS, INC. DATED JANUARY 31, 2008, FINAL REVISION JUNE 19, 2008. R.C.R.D. PLAN D-335541.

17) PLAN OF A LOT OF LAND IN PORTSMOUTH BELONGING TO JONATHAN M. TREDICK, PORTSMOUTH, NH. PREPARED BY ALFRED M. HOYT, SURVYEOR DATED JULY 1, 1864. R.C.R.D. PLAN #0019.

18) SUBDIVISION PLAN FOR LI JUNE CHEN AND SHIANG TA CHEN, 54 DANIEL ST, PORTSMOUTH, NEW HAMPSHIRE, COUNTY OF ROCKINGHAM. PREPARED BY AMBIT SURVEY. DATED NOVEMBER 1998. R.C.R.D. PLAN D-27033.

19) EASEMENT PLAN OF LAND 26 MARKET SQUARE, PORTSMOUTH, NEW HAMPSHIRE, COUNTY OF ROCKINGHAM, AS PREPARED FOR JAMES A. SHANLEY PO BOX 1380 PORTSMOUTH, NH 03801. PREPARED BY CIVILWORKS, INC. DATED SEPTEMBER 10, 1993. R.C.R.D. PLAN B-22525.

20) DIVISION PLAN, ESTATE OF JOTHAM ODIORNE. c.1774 RP 4093.



LENGTH TABLE

LINE	BEARING	DISTANCE
L1	S89°30'55"E	9.00'
L2	S89°25'37"W	4.33'
L3	N89°52'12"W	0.76'
L4	S03°04'06"W	17.95'
L5	N88°22'54"W	17.56'

GRAPHIC SCALE

10 0 20 40 60 80 FEET

5 0 5 10 15 20 25 METERS

I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

PAUL A. DOBBERSTEIN, LLS #1000

DATE 11/18/2019

STATE OF NEW HAMPSHIRE PAUL A. DOBBERSTEIN No. 1000 LICENSED LAND SURVEYOR SIGNATURE

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 107 AS LOTS 27 & 31.

2) OWNER OF RECORD:
DAGNY TAGGART, LLC
30 PENHALLOW STREET, SUITE 300 EAST
PORTSMOUTH, NH 03801
5990/1701 (LOT 31) & 5990/1703 (LOT 27)
C-7121, C-8101, & D-41408

3) PARCELS ARE NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE MAY 17, 2005.

4) EXISTING LOT AREAS:

MAP 107 LOT 27
23,279 S.F.
0.5344 ACRES

MAP 107 LOT 31
8,867 S.F.
0.2036 ACRES

5) ASSESSOR'S MAP 107 LOT 27 IS LOCATED IN THE 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 HISTORIC DISTRICT.

6) DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE

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, AND ENCUMBRANCES.

9) NOT ALL UTILITIES SHOWN HEREON.

NO.	DESCRIPTION	DATE
4	ISSUED WITH 60 PENHALLOW	11/18/19
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

REVISIONS

STANDARD BOUNDARY SURVEY TAX MAP 107 - LOTS 27 & 31

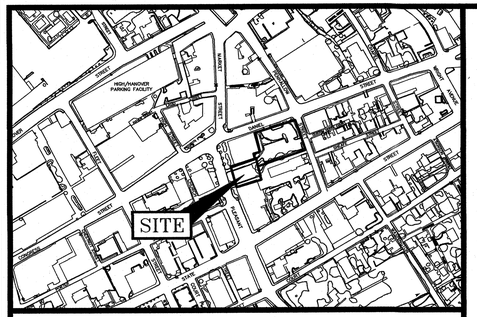
LAND OF:

DAGNY TAGGART, LLC

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

SCALE 1"=20' SHEET 1 OF 2 MARCH 2019

FB 402 PG 1 3039

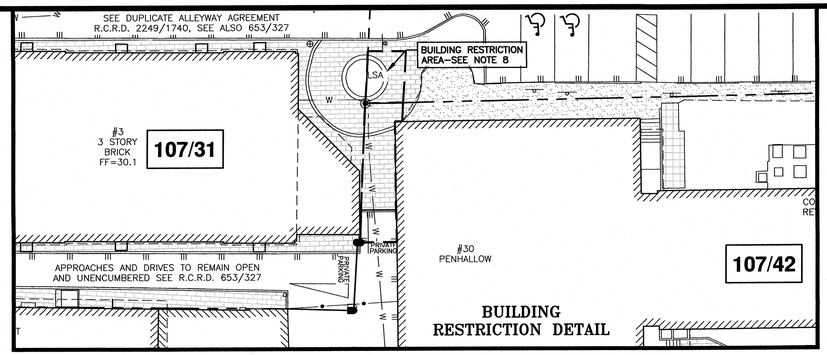


LOCATION MAP

2000 C-28714

N

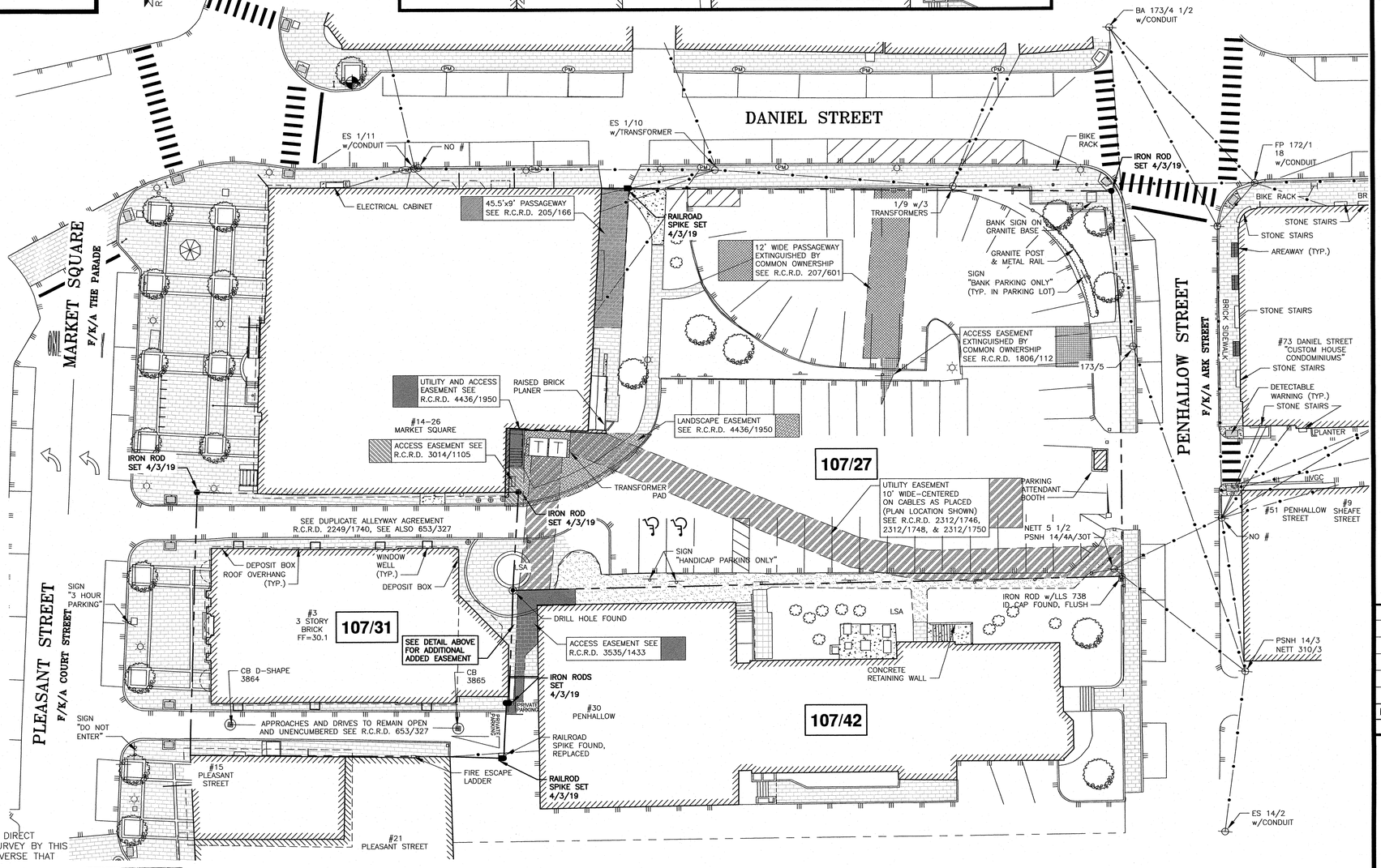
MAGNETIC R.C.R.D. PLAN



LEGEND:

N/F	NOW OR FORMERLY
RP	RECORD OF PROBATE
RCRD	ROCKINGHAM COUNTY REGISTRY OF DEEDS
11/27	MAP 11 / LOT 21
	BOUNDARY
	SETBACK
	RAILROAD SPIKE FOUND
	IRON ROD/PIPE FOUND
	DRILL HOLE FOUND
	STONE/CONCRETE BOUND FOUND
	RAILROAD SPIKE SET
	IRON ROD SET
	DRILL HOLE SET
	GRANITE BOUND SET
S	SEWER LINE
G	GAS LINE
D	STORM DRAIN
W	WATER LINE
	UNDERGROUND ELECTRIC
	OVERHEAD ELECTRIC/WIRES
100	CONTOUR
97x3	SPOT ELEVATION
	EDGE OF PAVEMENT (EP)
	WOODS / TREE LINE
	UTILITY POLE (w/ GUY)
	GAS SHUT OFF
	WATER SHUT OFF/CURB STOP
GV	GATE VALVE
HYD	HYDRANT
GWE	METER (GAS, WATER, ELECTRIC)
	CATCH BASIN
T	TELEPHONE MANHOLE
S	SEWER MANHOLE
D	DRAIN MANHOLE
AC	AIR CONDITIONER UNIT
	SIGNS

AC	ASBESTOS CEMENT PIPE
CI	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
COP	COPPER PIPE
DI	DUCTILE IRON PIPE
PVC	POLYVINYL CHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
VC	VITRIFIED CLAY PIPE
EL.	ELEVATION
EP	EDGE OF PAVEMENT
F.F.	FINISHED FLOOR
INV.	INVERT
TBM	TEMPORARY BENCHMARK
TYP.	TYPICAL
VGC/SGC	VERTICAL/SLOPED GRANITE CURB
CCB	CAPE COD BERM
LSA	LANDSCAPED AREA



GRAPHIC SCALE

10 0 20 40 60 80 FEET
5 0 5 10 15 20 25 METERS

I CERTIFY THAT THIS PLAN WAS PREPARED UNDER MY DIRECT SUPERVISION, THAT IT IS THE RESULT OF A FIELD SURVEY BY THIS OFFICE AND HAS AN ACCURACY OF THE CLOSED TRAVERSE THAT EXCEEDS THE PRECISION OF 1:15,000.

I CERTIFY THAT THIS SURVEY PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN.

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 1000 PAUL A. DOBBERSTEIN SIGNATURE

PAUL A. DOBBERSTEIN, LLS #1000

11/18/2019
DATE

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 107 AS LOTS 27 & 31.

2) OWNER OF RECORD:
DAGNY TAGGART, LLC
30 PENHALLOW STREET, SUITE 300 EAST
PORTSMOUTH, NH 03801
5990/1701 (LOT 31) & 5990/1703 (LOT 27)
C-7121, C-8101, & D-41408

3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE MAY 17, 2005.

4) EXISTING LOT AREAS:

MAP 107 LOT 27
23,279 S.F.
0.5344 ACRES

MAP 107 LOT 31
8,867 S.F.
0.2036 ACRES

5) ASSESSOR'S MAP 107 LOT 27 IS LOCATED IN THE 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 HISTORIC DISTRICT.

6) DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE EASEMENTS ASSOCIATED WITH A STANDARD BOUNDARY SURVEY OF ASSESSOR'S MAP 107 LOTS 27 & 31 IN THE CITY OF PORTSMOUTH. ALSO SHOWN IS A PROPOSED EASEMENT RESTRICTING BUILDING CONSTRUCTION ON ASSESSOR'S MAP 107 LOTS 27 & 42.

8) ASSESSOR'S MAP 107 LOTS 27 & 42 WILL BE BURDENED BY A POTENTIAL NO BUILD AREA; SUBJECT TO FINAL DESIGN APPROVAL BY THE PORTSMOUTH BUILDING INSPECTOR'S OFFICE FOR ANY BUILDING CONSTRUCTION ON ASSESSOR'S MAP 107 LOT 31. OWNER SHALL REVIEW APPLICABLE IBC CODES RELATIVE TO THE OPENINGS IN THE 30 PENHALLOW STREET BUILDING AND DESIGN ACCORDINGLY TO COMPLY.

NO.	DESCRIPTION	DATE
	REVISIONS	
4	ISSUED WITH 60 PENHALLOW	11/18/19
3	MISCELLANEOUS REVISIONS	10/7/19
2	ADD BUILDING EASEMENT	7/15/19
1	REVISE PER COMMENTS	3/28/19
0	ISSUED FOR COMMENT	3/27/19

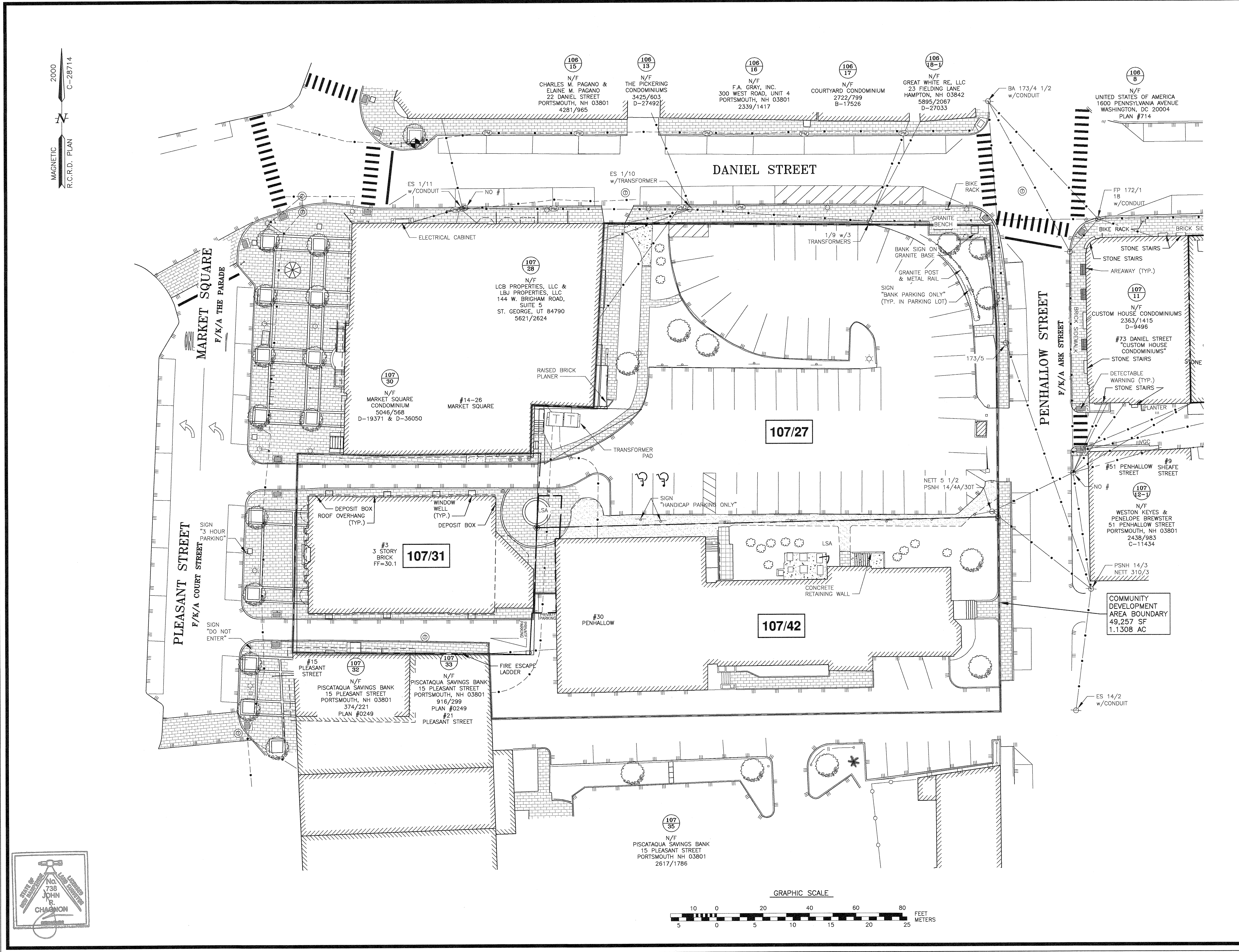
EASEMENT PLAN
TAX MAP 107 – LOTS 27 & 31

LAND OF:
DAGNY TAGGART, LLC

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

SCALE 1"=20' SHEET 2 OF 2 MARCH 2019

FB 402 PG 1 3039



AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 107 AS LOTS 27, 31 & 42.

2) OWNERS OF RECORD:

107/27 & 31
DAGNY TAGGART, LLC
30 PENHALLOW STREET, SUITE 300 EAST
PORTSMOUTH, NH 03801
5990/701 (LOT 31) & 5990/1703 (LOT 27)
C-7121, C-8101, & D-41408

107/42
COVENTRY ASSETS, LTD
30 PENHALLOW STREET, SUITE 300 E
PORTSMOUTH, NH 03801
3067/2440 (LOT 42)
C-28681 & C-28714

3) PARCELS ARE NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE MAY 17, 2005.

4) EXISTING LOT AREAS:

MAP 107 LOT 27
23,279 S.F.
0.5344 ACRES

MAP 107 LOT 31
8,867 S.F.
0.2036 ACRES

MAP 107 LOT 42
17,111 S.F.
0.3928 ACRES

5) ASSESSOR'S MAP 107 LOTS 27 & 42 ARE LOCATED IN THE CHARACTER DISTRICT 4 (CD4) ZONING DISTRICT. ASSESSOR'S MAP 107 LOT 31 IS LOCATED IN THE CHARACTER DISTRICT 5 (CD5) ZONING DISTRICT. PARCELS ARE LOCATED WITHIN THE DOWNTOWN OVERLAY DISTRICT AND THE HISTORIC DISTRICT.

6) DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE

NO.	DESCRIPTION	DATE
2	ISSUED FOR APPROVAL	11/18/19
1	UPDATED FOR 60 PENHALLOW	10/7/19
0	ISSUED FOR COMMENT	7/25/19

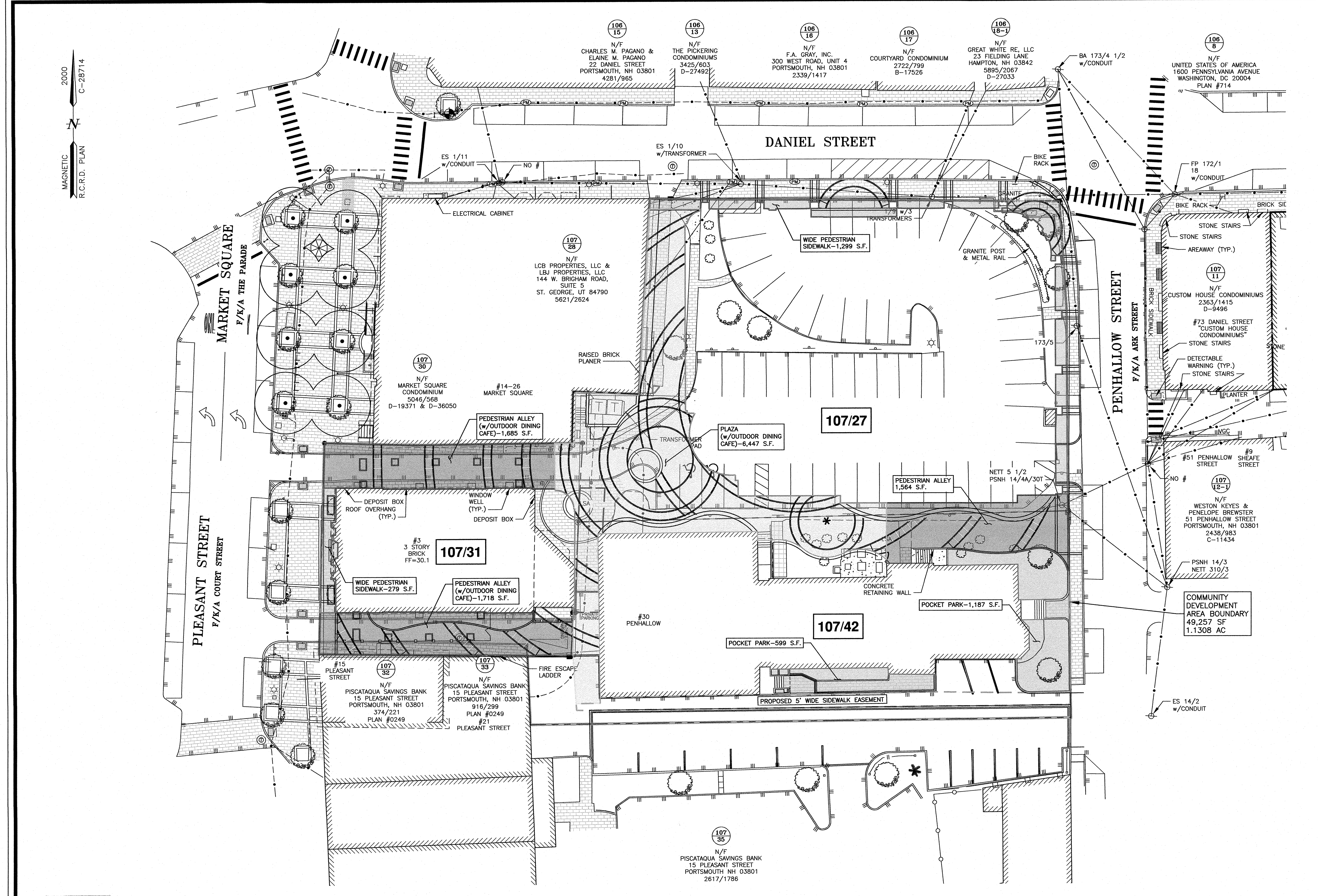
REVISIONS

MASTER PLAN
EXISTING CONDITIONS
TAX MAP 107
LOTS 27, 31 & 42
BRICK MARKET

PROPERTY LOCATED AT:
3 PLEASANT STREET
30 PENHALLOW STREET
60 PENHALLOW STREET
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

SCALE 1"=20' JULY 2019

FB 402 PG 1 3039



6,447 S.F. OF PLAZA
4,967 S.F. OF PEDESTRIAN ALLEYS
1,578 S.F. OF WIDE PEDESTRIAN SIDEWALKS
1,786 S.F. OF POCKET PARKS

14,778 S.F. (30.0%) OF COMMUNITY DEVELOPMENT AREA

STATE OF NEW HAMPSHIRE
JOHN R. CHAGNON
No. 738
LICENSED LAND SURVEYOR

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCELS ARE SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 107 AS LOTS 27, 31 & 42.

2) OWNERS OF RECORD:
DAGNY TAGGART, LLC
30 PENHALLOW STREET, SUITE 300 EAST
PORTSMOUTH, NH 03801
5990/701 (LOT 31) & 5990/1703 (LOT 27)
C-7121, C-8101, & D-41408

COVENTRY ASSETS, LTD
30 PENHALLOW STREET, SUITE 300 E
PORTSMOUTH, NH 03801
3067/2440 (LOT 42)
C-28681 & C-28714

3) PARCELS ARE NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE MAY 17, 2005.

4) EXISTING LOT AREAS:

MAP 107 LOT 27
23,279 S.F.
0.5344 ACRES

MAP 107 LOT 31
8,867 S.F.
0.2036 ACRES

MAP 107 LOT 42
17,111 S.F.
0.3928 ACRES

5) ASSESSOR'S MAP 107 LOTS 27 & 42 ARE LOCATED IN THE CHARACTER DISTRICT 4 (CD4) ZONING DISTRICT. ASSESSOR'S MAP 107 LOT 31 IS LOCATED IN THE CHARACTER DISTRICT 5 (CD5) ZONING DISTRICT. PARCELS ARE LOCATED WITHIN THE DOWNTOWN OVERLAY DISTRICT AND THE HISTORIC DISTRICT.

6) DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE

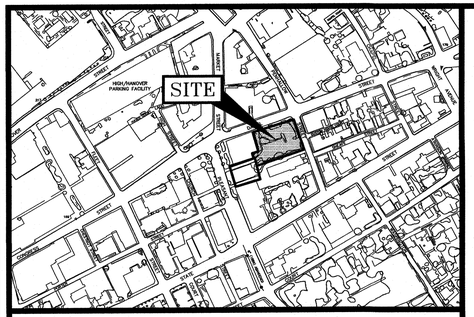
NO.	DESCRIPTION	DATE
5	ISSUED WITH 60 PENHALLOW	11/18/19
4	WALKWAY	10/21/19
3	TRANSFORMER AREA	10/10/19
2	ISSUED FOR 60 PENHALLOW STREET	10/7/19
1	ADD COMMUNITY SPACE AREA	8/28/19
0	ISSUED FOR COMMENT	7/25/19

REVISIONS

BRICK MARKET MASTER PLAN
COMMUNITY SPACE
TAX MAP 107
LOTS 27, 31 & 42
PROPERTY LOCATED AT:
3 PLEASANT STREET
30 PENHALLOW STREET
60 PENHALLOW STREET
CITY OF PORTSMOUTH
COUNTY OF ROCKINGHAM
STATE OF NEW HAMPSHIRE

SCALE 1"=20' JULY 2019

FB 402 PG 1 3039



LOCATION MAP SCALE 1"=300'

2000 C-28714

N

MAGNETIC R.C.R.D. PLAN

LENGTH TABLE

LINE	BEARING	DISTANCE
L1	S89°30'55"E	9.00'
L2	S89°25'37"W	4.33'

DANIEL STREET

12" CI WATER

8" VCP SEWER

ES 1/10 w/TRANSFORMER

1/9 w/3 TRANSFORMERS

BORING LOCATION (TYP.)

BIKE RACK

BANK SIGN ON GRANITE BASE

TRASH RECEPTACLES

SIGN "ONE WAY"

GRANITE POST & METAL RAIL

SIGN "BANK PARKING ONLY" (TYP. IN PARKING LOT)

TBM C SPIKE IN UPOLE EL. 28.69

CB 4363

DMH 5961

SMH 1596

DMH 5961

CB 5964

CB 5965

DMH 5962

CB 4266

CB 5966

CB 4267

DMH 5963

CB 4265

SMH 5518

107/27

EXISTING SINGLE PHASE 240/120V TRANSFORMER TO REMAIN

RAISED BRICK PLANER

TRANSFORMER PAD

PARKING ATTENDANT BOOTH

PARKING BAR GATE

SIGN "HANDICAP PARKING ONLY"

LSA

DRILL HOLE FOUND

CRUSHED STONE WALK

IRON ROD w/LLS 738 ID CAP FOUND, FLUSH

SIGN "3 HOUR PARKING"

NETT 5 1/2 PSNH 14/4A/30T

4" DOGWOOD

18" PE DRAIN

18" PVC SEWER

8" D WATER

PENHALLOW STREET

F/K/A ARK STREET

GRAPHIC SCALE

10 5 0 10 20 30 40 FEET

3 0 5 10 METERS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 107 AS LOT 27.

2) OWNER OF RECORD:
DAGNY TAGGART, LLC
30 PENHALLOW STREET, SUITE 300 EAST
PORTSMOUTH, NH 03801

3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE MAY 17, 2005.

4) LOT AREA:
23,279 S.F.
0.5344 ACRES

5) ASSESSOR'S MAP 107 LOT 27 IS LOCATED IN THE CHARACTER DISTRICT 4 (CD4) ZONING DISTRICT, DOWNTOWN OVERLAY DISTRICT (DOD), AND THE HISTORIC DISTRICT (HDC).

6) DIMENSIONAL REQUIREMENTS:
SEE ZONING ORDINANCE

7) THE PURPOSE OF THIS PLAN IS TO SHOW THE EXISTING CONDITIONS OF ASSESSOR'S MAP 107 LOT 31 IN THE CITY OF PORTSMOUTH.

8) VERTICAL DATUM: MEAN SEA LEVEL NAVD 88
BENCHMARK: NGS
PID OCO 289 (V-31 USGS 1943)
ELEVATION: 29.19

BRICK MARKET
60 PENHALLOW STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	ISSUED FOR APPROVAL	11/18/19
0	ISSUED FOR COMMENT	10/8/19

REVISIONS

STATE OF NEW HAMPSHIRE No. 738 JOHN R. CHAGNON LICENSED LAND SURVEYOR

SCALE: 1'=10' OCTOBER 2019

EXISTING CONDITIONS PLAN

C1

FB 402 PG 1

3039

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

DEMOLITION NOTES

A) THE LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE AND THE LOCATIONS ARE NOT GUARANTEED BY THE OWNER OR THE DESIGNER. IT IS THE CONTRACTORS' RESPONSIBILITY TO LOCATE UTILITIES AND ANTICIPATE CONFLICTS. CONTRACTOR SHALL REPAIR EXISTING UTILITIES DAMAGED BY THEIR WORK AND RELOCATE EXISTING UTILITIES THAT ARE REQUIRED TO BE RELOCATED PRIOR TO COMMENCING ANY WORK IN THE IMPACTED AREA OF THE PROJECT.

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 APPROVALS.

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.

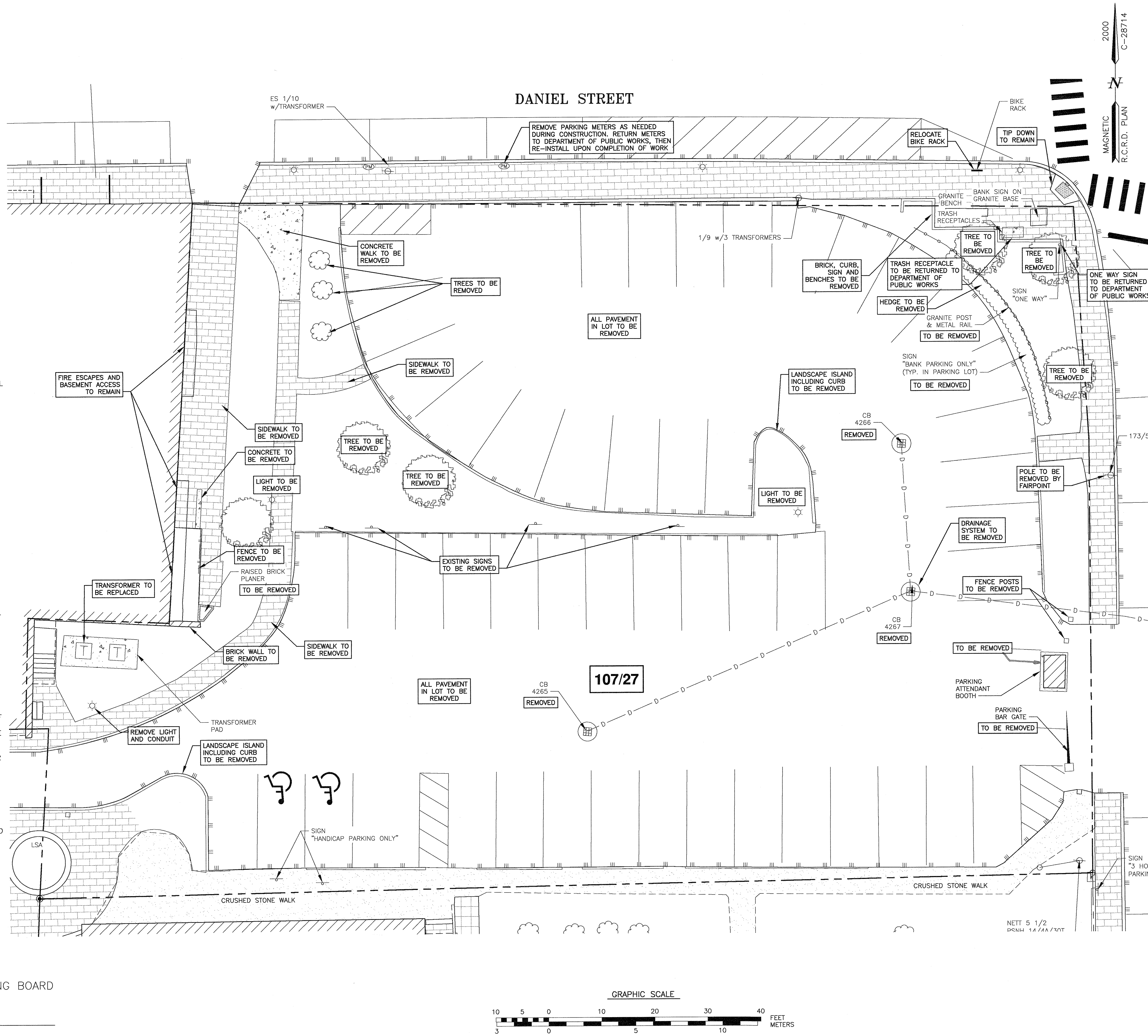
I) ALL WORK WITHIN THE CITY OF PORTSMOUTH RIGHT OF WAY SHALL BE COORDINATED WITH THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS (DPW).

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 THEM.

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 SITE.

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



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN

DATE

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 ENGINEER.

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.

NO.	DESCRIPTION	DATE
1	ISSUED FOR APPROVAL	11/18/19
0	ISSUED FOR COMMENT	10/8/19

REVISIONS

STATE OF NEW HAMPSHIRE
JOHN R. CHAGNON No. 7851
LICENSED PROFESSIONAL ENGINEER

SCALE: 1"=10'   OCTOBER 2019

DEMOLITION PLAN   C2

FB 402 PG 1   3039

ZONING DEVELOPMENT STANDARD

CD4: CHARACTER DISTRICT 4

DOWNTOWN OVERLAY DISTRICT AND HISTORIC DISTRICT

BUILDING PLACEMENT (PRINCIPAL):

	REQUIRED	107/27 (60 PENHALLOW ST) EXISTING NO BUILDING	PROPOSED
MAX. PRINCIPAL FRONT YARD:	10 FEET	N/A	0.5 FEET
MIN. SIDE YARD:	NR	N/A	3.8 FEET
MIN. REAR YARD:	5 FEET*	N/A	14.8 FEET
FRONT LOT LINE BUILDOUT:	50% MIN	N/A	96%

* REAR SETBACK: 5' (REAR LINE) OR 10' (ALLEY CENTERLINE)

BUILDING TYPES:

BUILDING TYPES: OFFICE, FOOD SERVICE

DOWNTOWN OVERLAY DISTRICT DOES NOT PERMIT RESIDENTIAL USES FOR GROUND FLOOR. ENTRY CAN NOT EXCEED 20% OF GROUND FLOOR AREA (N/A).

FACADE TYPE: SHOPFRONT

BUILDING FORM:

	REQUIRED	EXISTING	PROPOSED
MAX STRUCTURE HEIGHT:	40 FEET*	N/A	39'-10"
MAX. FINISHED FLOOR SURFACE OF GROUND FLOOR ABOVE SIDEWALK GRADE:	36 INCHES	N/A	<36 INCHES
MIN. GROUND STORY HEIGHT:	12 FEET	N/A	14'-0"
MIN. SECOND STORY HEIGHT	10 FEET	N/A	10'-0"
FACADE GLAZING (WINDOW/PERIMETER):	70% SHOP 20-50% OTHER	N/A	TO COMPLY

ROOF TYPE: CURVED GABLE

LOT OCCUPATION:

	REQUIRED	EXISTING	PROPOSED
MAX BUILDING BLOCK:	200 FEET	N/A	150 FEET
MAX FACADE MOD. LENGTH:	80 FEET	–	45'-11"
MAX. ENTRANCE SPACING:	50 FEET	–	40'-0"
MAX BUILDING COVERAGE:	90%	0%	73.9%
MAX BUILDING FOOTPRINT:	20,000 SF**	NONE	17,200 SF
MIN. LOT AREA:	NR	23,279 SF	23,279 SF
MIN. LOT AREA/DWELLING (LOT AREA/# OF UNITS):	NR	–	N/A
MIN. OPEN SPACE :	10%	N/A	26%
MAX. GROUND FLOOR GFA PER USE	15,000 SF	N/A	TBD

*50 FOOT WITH COMMUNITY SPACE INCENTIVE
** WITH COMMUNITY SPACE INCENTIVE

PORTSMOUTH APPROVAL CONDITIONS

NOTES:

1) *ALL CONDITIONS ON THIS PLAN SET SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE CITY OF PORTSMOUTH SITE PLAN REVIEW REGULATIONS.*

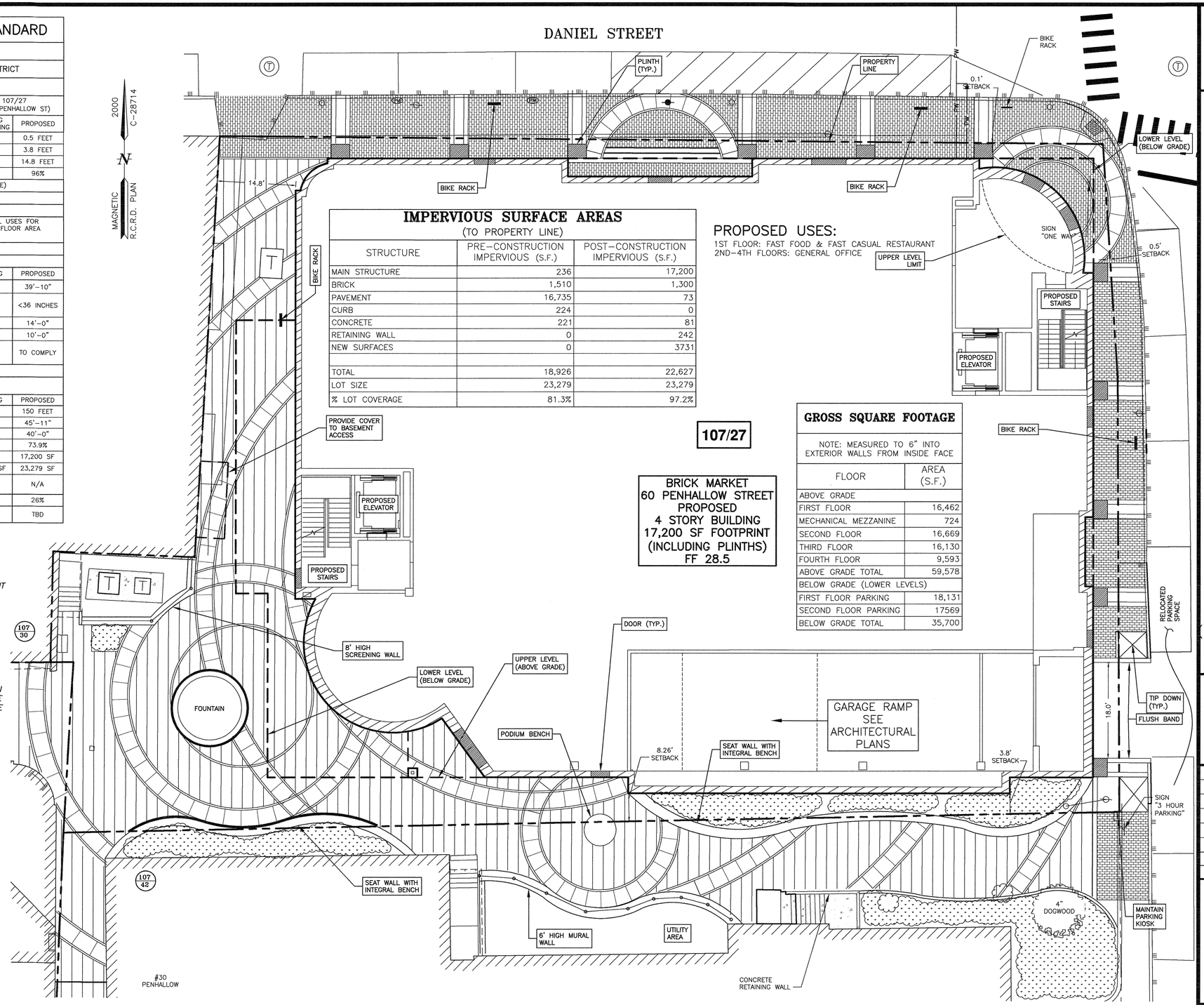
2) *THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS.*

3) *ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AND ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.*

APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

2000 C-28714 N MAGNETIC R.C.R.D. PLAN



IMPERVIOUS SURFACE AREAS
(TO PROPERTY LINE)

STRUCTURE	PRE-CONSTRUCTION IMPERVIOUS (S.F.)	POST-CONSTRUCTION IMPERVIOUS (S.F.)
MAIN STRUCTURE	236	17,200
BRICK	1,510	1,300
PAVEMENT	16,735	73
CURB	224	0
CONCRETE	221	81
RETAINING WALL	0	242
NEW SURFACES	0	3731
TOTAL	18,926	22,627
LOT SIZE	23,279	23,279
% LOT COVERAGE	81.3%	97.2%

PROPOSED USES:
1ST FLOOR: FAST FOOD & FAST CASUAL RESTAURANT
2ND-4TH FLOORS: GENERAL OFFICE

107/27

BRICK MARKET
60 PENHALLOW STREET
PROPOSED
4 STORY BUILDING
17,200 SF FOOTPRINT
(INCLUDING PLINTHS)
FF 28.5

GROSS SQUARE FOOTAGE

NOTE: MEASURED TO 6" INTO EXTERIOR WALLS FROM INSIDE FACE

FLOOR	AREA (S.F.)
ABOVE GRADE	
FIRST FLOOR	16,462
MECHANICAL MEZZANINE	724
SECOND FLOOR	16,669
THIRD FLOOR	16,130
FOURTH FLOOR	9,593
ABOVE GRADE TOTAL	59,578
BELOW GRADE (LOWER LEVELS)	
FIRST FLOOR PARKING	18,131
SECOND FLOOR PARKING	17569
BELOW GRADE TOTAL	35,700

GRAPHIC SCALE
10 5 0 10 20 30 40 FEET
3 0 5 10 METERS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 107 AS LOT 27.

2) OWNER OF RECORD:

DAGNY TAGGART, LLC
30 PENHALLOW STREET, SUITE 300 EAST
PORTSMOUTH, NH 03801

3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE MAY 17, 2005.

4) EXISTING LOT AREA:
23,279 S.F.
0.5344 ACRES

5) ASSESSOR'S MAP 107 LOT 27 IS LOCATED IN THE CHARACTER DISTRICT 4 (CD4) ZONING DISTRICT. PARCEL IS LOCATED WITHIN THE DOWNTOWN OVERLAY DISTRICT (DOD) AND THE HISTORIC DISTRICT (HDC).

6) PARKING SPECIFICATIONS: NO PARKING REQUIRED. SUBSURFACE PARKING PROVIDED.

7) THE PURPOSE OF THIS PLAN IS TO SHOW SITE LAYOUT FOR BUILDING ON ASSESSOR'S MAP 107 LOT 27 IN THE CITY OF PORTSMOUTH.

8) 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.

9) 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 ENGINEER.

10) 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).

11) SEE LANDSCAPE PLANS FOR PROPOSED SURFACE TREATMENTS.

12) SNOW SHALL BE REMOVED FROM THE SITE.

BRICK MARKET
60 PENHALLOW STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	ISSUED FOR APPROVAL	11/18/19
0	ISSUED FOR REVIEW	10/8/19

REVISIONS

JOHN R. CHAGNON No. 1851 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

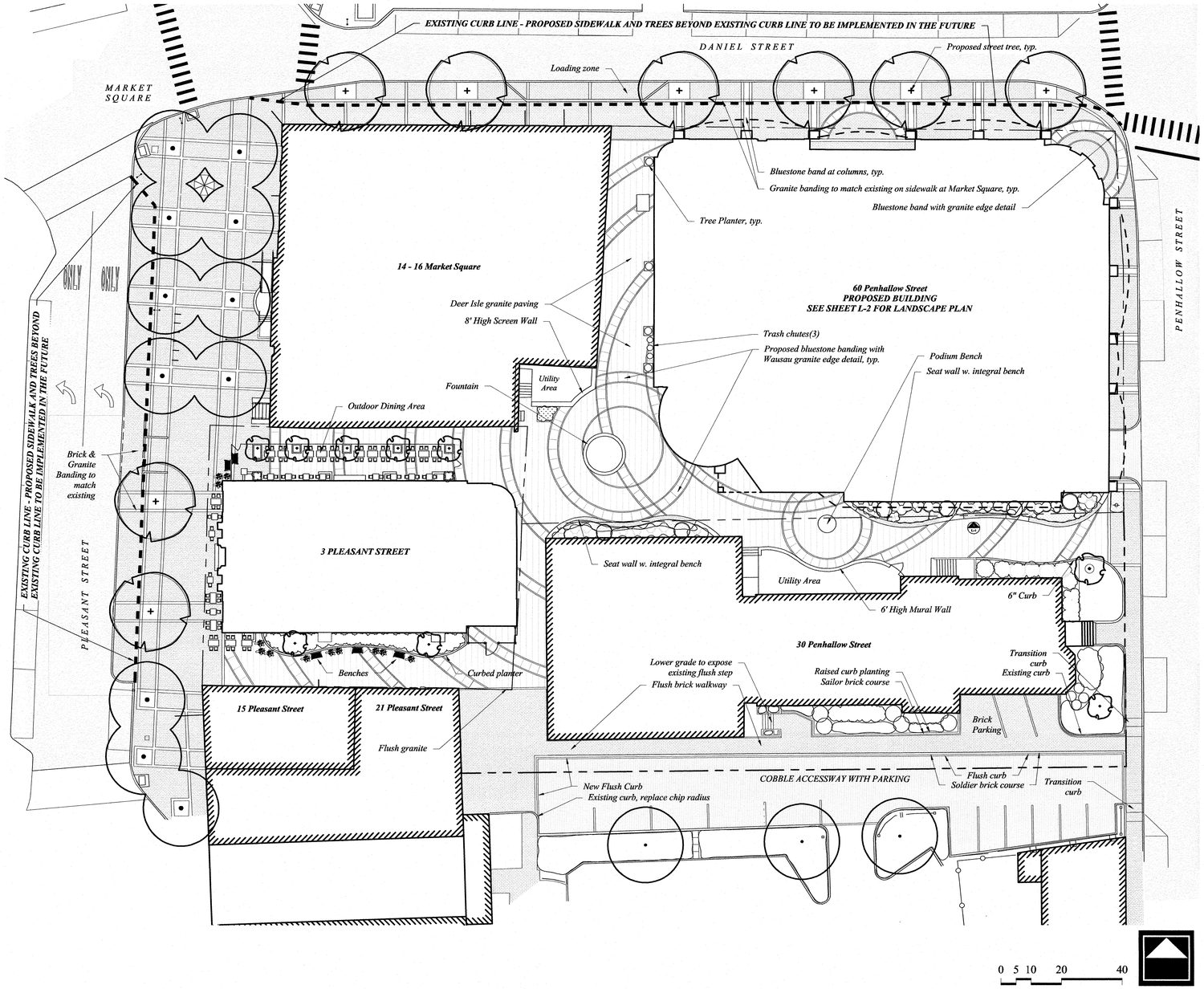
No. 738 JOHN R. CHAGNON STATE OF NEW HAMPSHIRE LAND SURVEYOR

SCALE: 1"=10' OCTOBER 2019

SITE LAYOUT PLAN **C3**

FB 402 PG 1 3039

J:\JOBS3\JN 3000's\JN 3030's\JN 3039\2019 Site Development 60 Penhallow\Plans & Specs\Site\3039 SITE 60 PENHALLOW.dwg, C3 SITE



woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

Brick Market

LANDSCAPE MASTER PLAN

Portsmouth, New Hampshire

Drawn By:	VM
Checked By:	RW
Scale:	1" = 20' - 0"
Date:	September 19, 2019
Revisions:	October 2, 2019 October 7, 2019 October 8, 2019 October 14, 2019 November 18, 2019

L-1

Sheet 1 of 4

Landscape Notes

1. Design is based on drawings by Ambit Engineering dated November 18, 2019 and may require adjustment due to actual field conditions.
2. The contractor shall follow best management practices during construction and shall take all means necessary to stabilize and protect the site from erosion.
3. Erosion Control shall be in place prior to construction.
4. The Contractor shall verify layout and grades and inform the Landscape Architect or Client's Representative of any discrepancies or changes in layout and/or grade relationships prior to construction.
5. It is the contractor's responsibility to verify drawings provided are to the correct scale prior to any bid, estimate or installation. A graphic scale bar has been provided on each sheet for this purpose. If it is determined that the scale of the drawing is incorrect, the landscape architect will provide a set of drawings at the correct scale, at the request of the contractor.
6. Trees to Remain within the construction zone shall be protected from damage for the duration of the project by snow fence or other suitable means of protection to be approved by Landscape Architect or Client's Representative. Snow fence shall be located at the drip line at a minimum and shall include any and all surface roots. Do not fill or mulch on the trunk flare. Do not disturb roots. In order to protect the integrity of the roots, branches, trunk and bark of the tree(s) no vehicles or construction equipment shall drive or park in or on the area within the drip line(s) of the tree(s). Do not store any refuse or construction materials or portalets within the tree protection area.
7. This plan is for review purposes only, NOT for Construction. Construction Documents will be provided upon request.
8. Location, support, protection, and restoration of all existing utilities and appurtenances shall be the responsibility of the Contractor.
9. The Contractor shall verify exact location and elevation of all utilities with the respective utility owners prior to construction. Call DIGSAFE at 1-888-344-7233.
10. The Contractor shall procure any required permits prior to construction.
11. Prior to any landscape construction activities Contractor shall test all existing loam and loam from off-site intended to be used for lawns and plant beds using a thorough sampling throughout the supply. Soil testing shall indicate levels of pH, nitrates, macro and micro nutrients, texture, soluble salts, and organic matter. Contractor shall provide Landscape Architect with test results and recommendations from the testing facility along with soil amendment plans as necessary for the proposed plantings to thrive. All loam to be used on site shall be amended as approved by the Landscape Architect prior to placement.
12. Contractor shall notify landscape architect or owner's representative immediately if at any point during demolition or construction a site condition is discovered which may negatively impact the completed project. This includes, but is not limited to, unforeseen drainage problems, unknown subsurface conditions, and discrepancies between the plan and the site. If a contractor is aware of a potential issue, and does not bring it to the attention of the landscape architect or owner's representative immediately, they may be responsible for the labor and materials associated with correcting the problem.
13. The Contractor shall furnish and plant all plants shown on the drawings and listed thereon. All plants shall be nursery-grown under climatic conditions similar to those in the locality of the project. Plants shall conform to the botanical names and standards of size, culture, and quality for the highest grades and standards as adopted by the American Association of Nurserymen, Inc. in the American Standard of Nursery Stock, American Standards Institute, Inc. 230 Southern Building, Washington, D.C. 20005.
14. A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.
15. All plants shall be legibly tagged with proper botanical name.
16. The Contractor shall guarantee all plants for not less than one year from time of acceptance.
17. Owner or Owner's Representative will inspect plants upon delivery for conformity to Specification requirements. Such approval shall not affect the right of inspection and rejection during or after the progress of the work. The Owner reserves the right to inspect and/or select all trees at the place of growth and reserves the right to approve a representative sample of each type of shrub, herbaceous perennial, annual, and ground cover at the place of growth. Such sample will serve as a minimum standard for all plants of the same species used in this work.
18. No substitutions of plants may be made without prior approval of the Owner or the Owner's Representative for any reason.
19. All landscaping shall be provided with either of the following
    a. An underground sprinkling system
    b. An outside hose attachment within 150 feet
20. If an automatic irrigation system is installed, all irrigation valve boxes shall be located within planting bed areas.
21. The contractor is responsible for all plant material from the time their work commences until final acceptance. This includes but is not limited to maintaining all plants in good condition, the security of the plant material once delivered to the site, and watering of plants. Plants shall be appropriately watered prior to, during and after planting. It is the contractor's responsibility to provide water from off site, should it not be available on site.
22. All disturbed areas will be dressed with 6" of topsoil and planted as noted on the plans or seeded except plant beds. Plant beds shall be prepared to a depth of 12" with 75% loam and 25% compost.
23. Trees, ground cover, and shrub beds shall be mulched to a depth of 2" with one-year-old, well-composted, shredded native bark not longer than 4" in length and ½" in width, free of woodchips and sawdust. Mulch for ferns and herbaceous perennials shall be no longer than 1" in length. Trees in lawn areas shall be mulched in a 5' diameter min. saucer. Color of mulch shall be black.
24. In no case shall mulch touch the stem of a plant nor shall mulch ever be more than 3" thick total (including previously applied mulch) over the root ball of any plant.
25. Secondary lateral branches of deciduous trees overhanging vehicular and pedestrian travel ways shall be pruned up to a height of 6' to allow clear and safe passage of vehicles and pedestrians under tree canopy.
26. Snow shall be removed from the site.
27. Landscape Architect is not responsible for the means and methods of the contractor.

City of Portsmouth Notes

1. The property owner and all future property owners shall be responsible for the maintenance, repair and replacement of all required screening and landscape materials.
2. All required plant materials shall be tended and maintained in a healthy growing condition, replaced when necessary, and kept free of refuse and debris. All required fences and walls shall be maintained in good repair.
3. The property owner shall be responsible to remove and replace dead or diseased plant materials immediately with the same type, size and quantity of plant materials as originally installed, unless alternative plantings are requested, justified and approved by the Planning Board or Planning Director.

Plant List

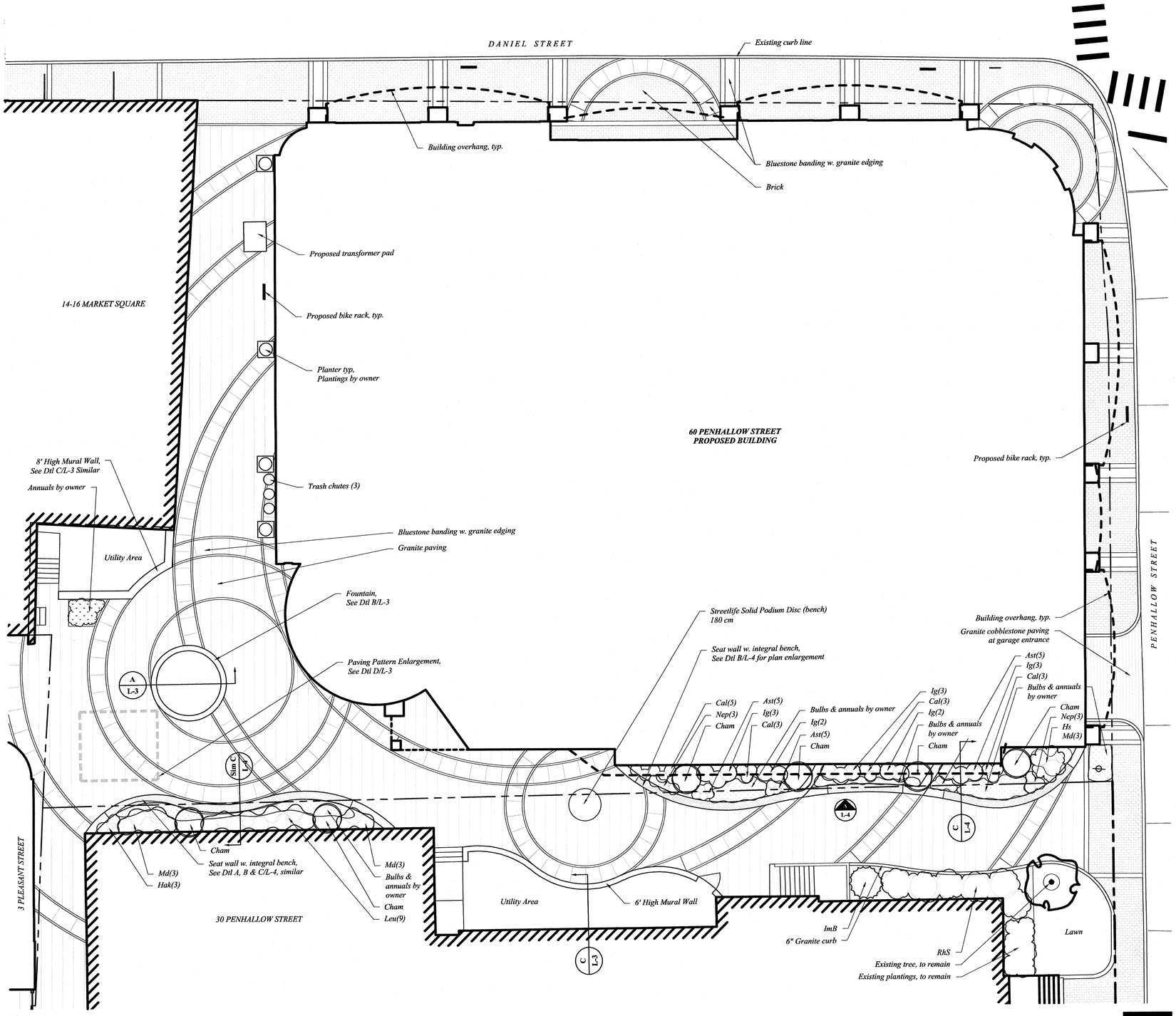
Plant List

SHRUBS

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Cham	*Chamaecyparis obtusa 'Gracilis'*	Gracilis Falsecypress	6	7-8' ht	B&B Matched Specimen
Hs	*Hibiscus syriacus 'Ardens'*	Ardens Rose-of -Sharon	1	6-7' ht	B&B Full
Ig	*Ilex glabra 'Shamrock'*	Shamrock Inkberry	13	5 gal	Full
ImB	*Ilex meserve 'Blue Maid'*	Blue Maid Holly	1	6-7' ht	B&B Full
Leu	*Leucothoe fontanesiana 'Silver Run'*	Silver Run Leucothoe	9	3 gal	
Md	*Microbiota decussata*	Russian Cypress	9	5 gal	
RhS	*Rhododendron 'Scintillation'*	Scintillation Rhododendron	6	2.5-3' ht	B&B

PERENNIALS, GROUNDCOVERS, VINES and ANNUALS

Symbol	Botanical Name	Common Name	Quantity	Size	Comments
Ast	*Astilbe 'Fanal'*	Rubyred Astilbe	15	1 gal	
Cal	*Calamagrostis acutifolia 'Karl Foerster'*	Feather Reed Grass	14	3 gal	
Hak	*Hakonechloa macra 'Aureola'*	Golden Japanese Forest Grass	3	1 gal	
Nep	*Nepeta faassenii x 'Six Hills Giant'*	Lavender blue Catmint	6	1 gal	



PAVING MATERIALS LIST

	MATERIAL	FINISH	DIMENSIONS	NOTES
Bluestone Banding	Select Bluestone	Thermal	3' W x 3'+/- L x 4" thick	Custom radius pieces (see plans). Contractor to provide shop drawings. Select stone for greenish blue color tones, without reeds or spalling.
Granite Paving	Deer Isle Granite	Thermal	2' W x 3' L x 4" thick	
Granite Edging in Plaza	Wausau Granite	Thermal	4" W x 4" L x 4" thick	
Granite Edging in Sidewalk	To match existing	To match existing	Thickness to match brick	Length and width dimensions vary, see plan.
Brick	Clay paving brick			Specification TBD

woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

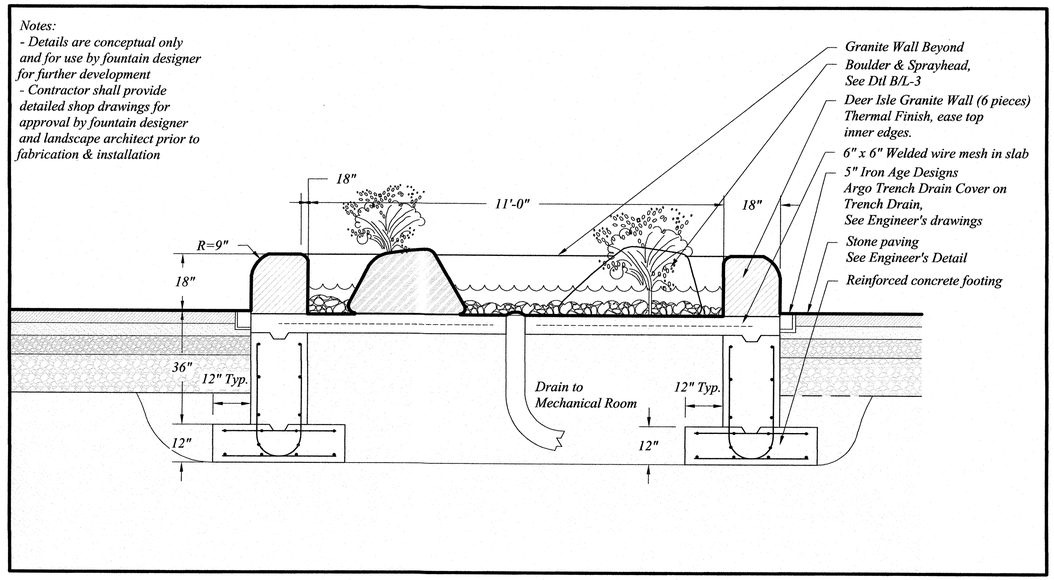
Brick Market

60 PENHALLOW LANDSCAPE PLAN

Portsmouth, New Hampshire

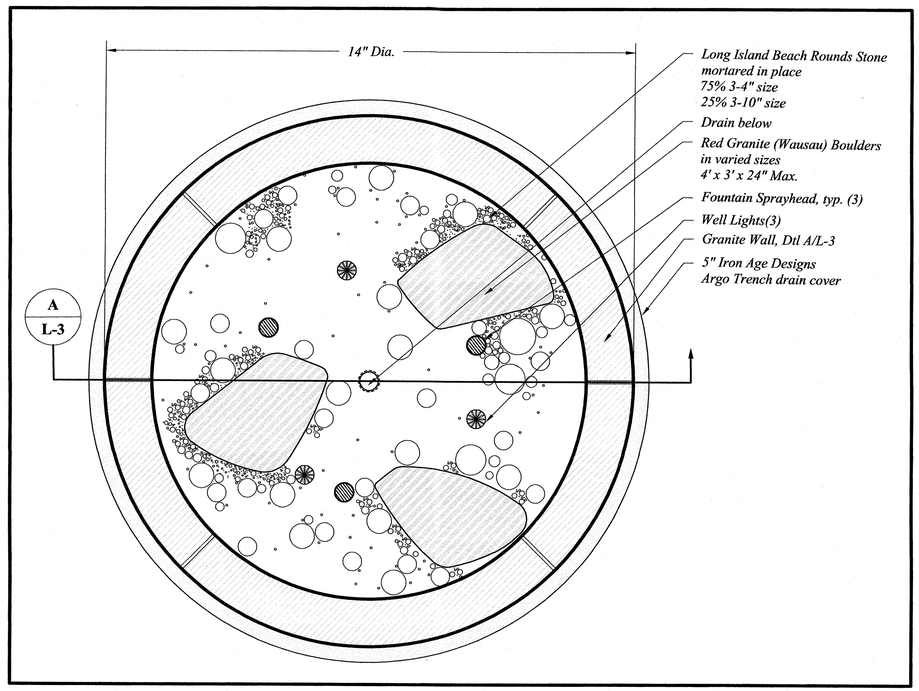
Drawn By:	VM
Checked By:	RW
Scale:	1" = 10' - 0"
Date:	November 18, 2019
Revisions:	

L-2



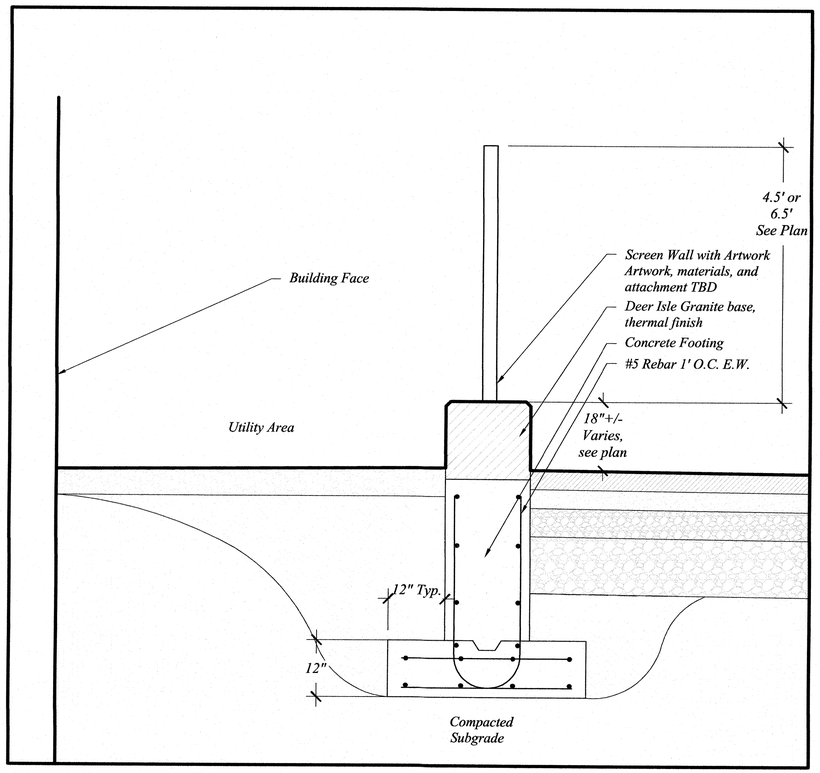
A **Fountain Section**
Scale: ½"=1'-0"

0 1 2 4

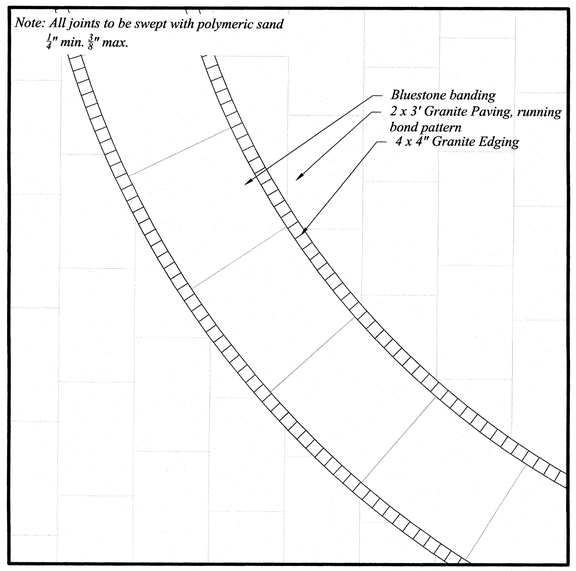


B **Fountain Plan**
Scale: ½"=1'-0"

0 1 2 4



C **Mural Wall Section**
Scale: ¾"=1'-0"



D **Paving Enlargement**
Scale: ½"=1'-0"

0 1 2 4

PAVING MATERIALS LIST

	MATERIAL	FINISH	DIMENSIONS	NOTES
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woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

Brick Market

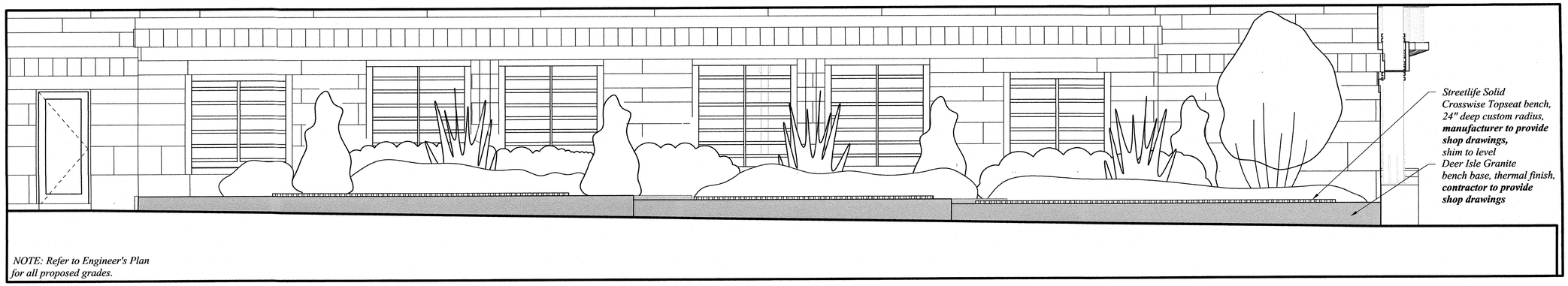
LANDSCAPE DETAILS

Portsmouth, New Hampshire

Drawn By: LF
Checked By: RW
Scale: See details
Date: November 18, 2019
Revisions:

L-3

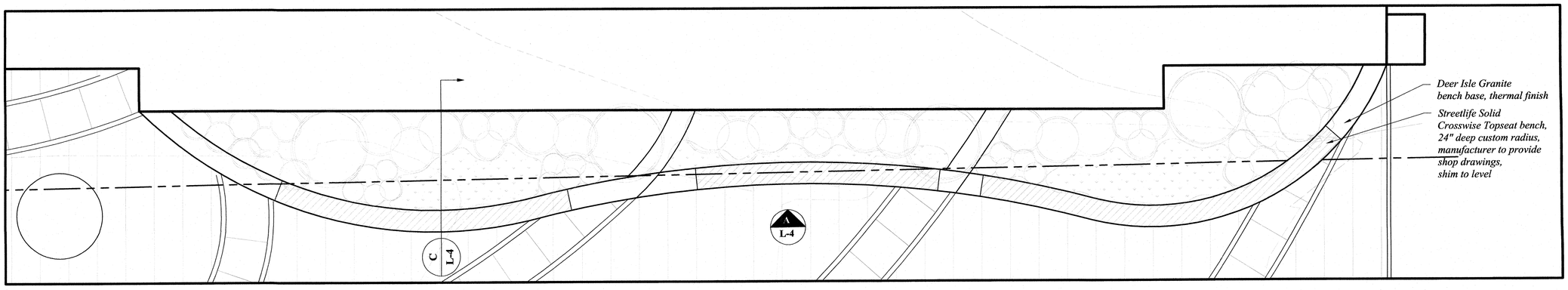
Sheet 3 of 3



NOTE: Refer to Engineer's Plan
for all proposed grades.

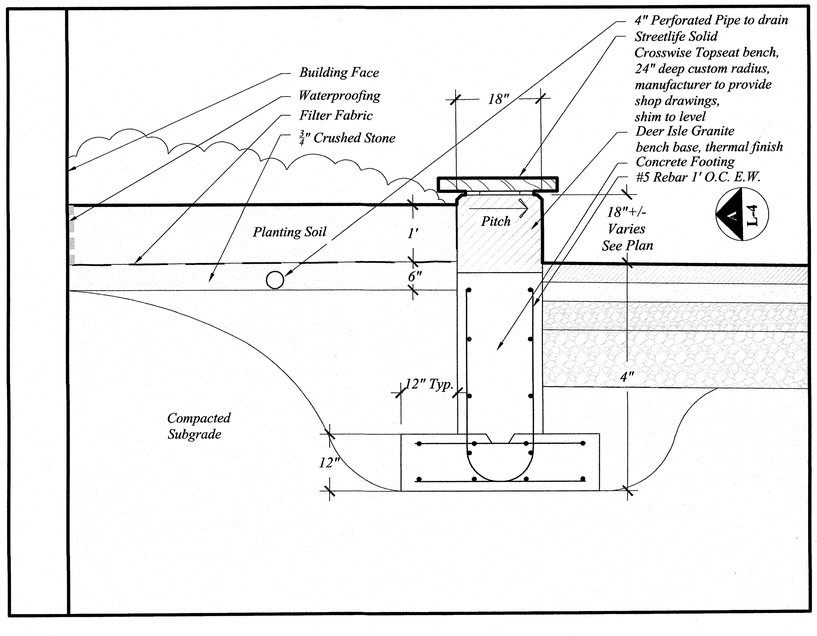
A **Bench Elevation**
Scale: $\frac{1}{4}$"=1'-0"

0 2 4 8



B **Bench Plan**
Scale: $\frac{1}{4}$"=1'-0"

0 2 4 8



C **Bench Section**
Scale: $\frac{1}{4}$"=1'-0"

woodburn & company
LANDSCAPE ARCHITECTURE
103 Kent Place Newmarket, New Hampshire Phone: 603.659.5949

Brick Market

LANDSCAPE DETAILS

Portsmouth, New Hampshire

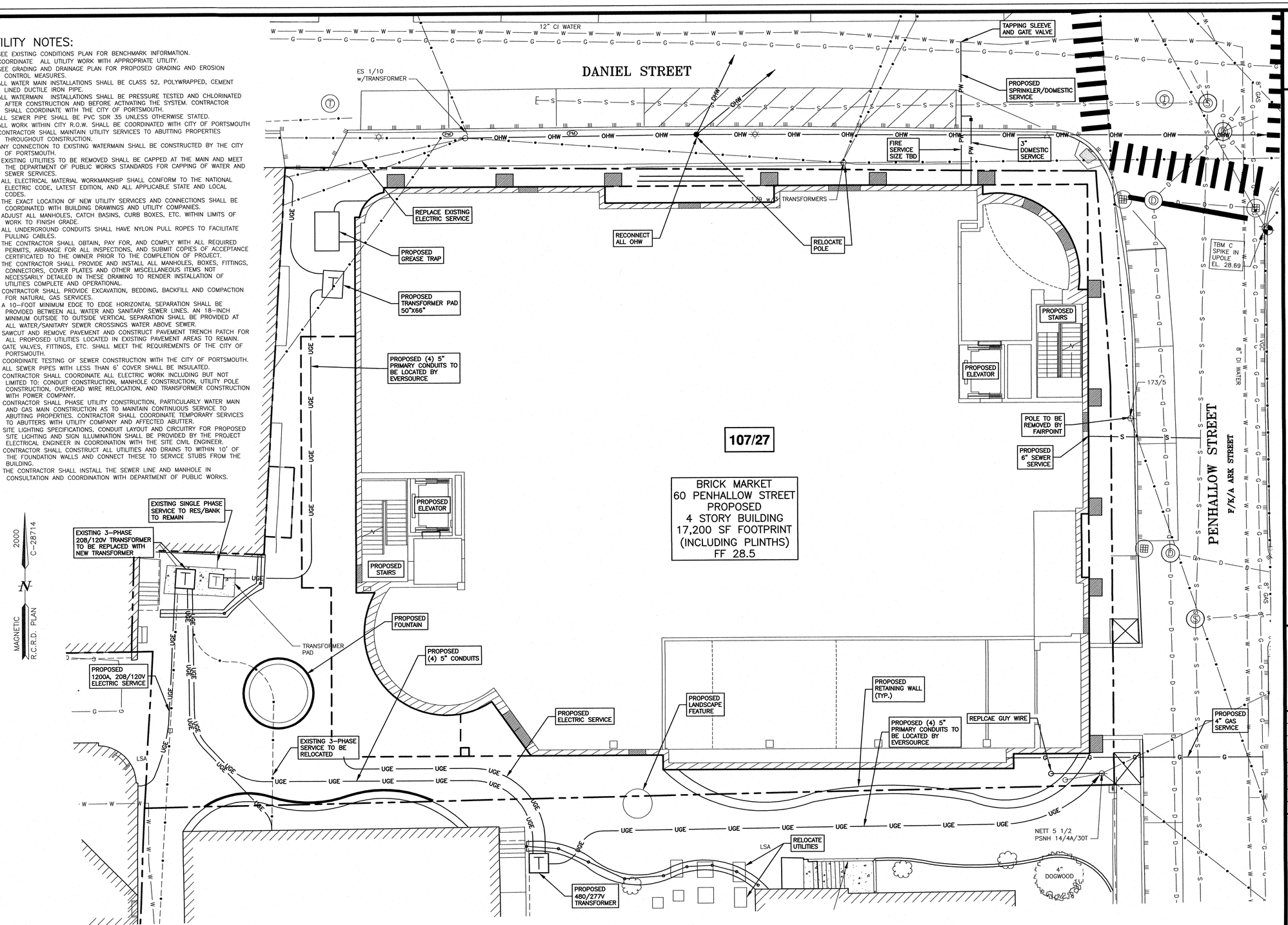
Drawn By:	LF
Checked By:	RW
Scale:	See details
Date:	November 18, 2019
Revisions:	

L-4

Sheet 4 of 4

UTILITY NOTES:

1) SEE EXISTING CONDITIONS PLAN FOR BENCHMARK INFORMATION.
2) COORDINATE ALL UTILITY WORK WITH APPROPRIATE UTILITY.
3) SEE GRADING AND DRAINAGE PLAN FOR PROPOSED GRADING AND EROSION CONTROL MEASURES.
4) ALL WATER MAIN INSTALLATIONS SHALL BE CLASS 52, POLYWRAPPED, CEMENT LINED DUCTILE IRON PIPE.
5) ALL WATERMAIN INSTALLATIONS SHALL BE PRESSURE TESTED AND CHLORINATED AFTER CONSTRUCTION AND BEFORE ACTIVATING THE SYSTEM. CONTRACTOR SHALL COORDINATE WITH THE CITY OF PORTSMOUTH.
6) ALL SEWER PIPE SHALL BE PVC SDR 35 UNLESS OTHERWISE STATED.
7) ALL WORK WITHIN CITY R.O.W. SHALL BE COORDINATED WITH CITY OF PORTSMOUTH
8) CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION.
9) ANY CONNECTION TO EXISTING WATERMAIN SHALL BE CONSTRUCTED BY THE CITY OF PORTSMOUTH.
10) EXISTING UTILITIES TO BE REMOVED SHALL BE CAPPED AT THE MAIN AND MEET THE DEPARTMENT OF PUBLIC WORKS STANDARDS FOR CAPPING OF WATER AND SEWER SERVICES.
11) ALL ELECTRICAL MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE, LATEST EDITION, AND ALL APPLICABLE STATE AND LOCAL CODES.
12) THE EXACT LOCATION OF NEW UTILITY SERVICES AND CONNECTIONS SHALL BE COORDINATED WITH BUILDING DRAWINGS AND UTILITY COMPANIES.
13) ADJUST ALL MANHOLES, CATCH BASINS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISH GRADE.
14) ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLES.
15) THE CONTRACTOR SHALL OBTAIN, PAY FOR, AND COMPLY WITH ALL REQUIRED PERMITS, ARRANGE FOR ALL INSPECTIONS, AND SUBMIT COPIES OF ACCEPTANCE CERTIFICATED TO THE OWNER PRIOR TO THE COMPLETION OF PROJECT.
16) THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL MANHOLES, BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED IN THESE DRAWING TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL.
17) CONTRACTOR SHALL PROVIDE EXCAVATION, BEDDING, BACKFILL AND COMPACTION FOR NATURAL GAS SERVICES.
18) A 10-FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18-INCH MINIMUM OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER/SANITARY SEWER CROSSINGS WATER ABOVE SEWER.
19) SAWCUT AND REMOVE PAVEMENT AND CONSTRUCT PAVEMENT TRENCH PATCH FOR ALL PROPOSED UTILITIES LOCATED IN EXISTING PAVEMENT AREAS TO REMAIN.
20) GATE VALVES, FITTINGS, ETC. SHALL MEET THE REQUIREMENTS OF THE CITY OF PORTSMOUTH.
21) COORDINATE TESTING OF SEWER CONSTRUCTION WITH THE CITY OF PORTSMOUTH.
22) ALL SEWER PIPES WITH LESS THAN 6' COVER SHALL BE INSULATED.
23) CONTRACTOR SHALL COORDINATE ALL ELECTRIC WORK INCLUDING BUT NOT LIMITED TO: CONDUIT CONSTRUCTION, MANHOLE CONSTRUCTION, UTILITY POLE CONSTRUCTION, OVERHEAD WIRE RELOCATION, AND TRANSFORMER CONSTRUCTION WITH POWER COMPANY.
24) CONTRACTOR SHALL PHASE UTILITY CONSTRUCTION, PARTICULARLY WATER MAIN AND GAS MAIN CONSTRUCTION AS TO MAINTAIN CONTINUOUS SERVICE TO ABUTTING PROPERTIES. CONTRACTOR SHALL COORDINATE TEMPORARY SERVICES TO ABUTTERS WITH UTILITY COMPANY AND AFFECTED ABUTTER.
25) SITE LIGHTING SPECIFICATIONS, CONDUIT LAYOUT AND CIRCUITRY FOR PROPOSED SITE LIGHTING AND SIGN ILLUMINATION SHALL BE PROVIDED BY THE PROJECT ELECTRICAL ENGINEER IN COORDINATION WITH THE SITE CIVIL ENGINEER.
26) CONTRACTOR SHALL CONSTRUCT ALL UTILITIES AND DRAINS TO WITHIN 10' OF THE FOUNDATION WALLS AND CONNECT THESE TO SERVICE STUBS FROM THE BUILDING.
27) THE CONTRACTOR SHALL INSTALL THE SEWER LINE AND MANHOLE IN CONSULTATION AND COORDINATION WITH DEPARTMENT OF PUBLIC WORKS.



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

GRAPHIC SCALE

10 5 0 10 20 30 40 FEET
3 0 5 10 METERS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

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 ENGINEER.

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).

4) INSTALL CATCH BASIN INLET PROTECTION ON ALL EXISTING AND PROPOSED CATCH BASINS IN THE PROJECT VICINITY UNTIL CONSTRUCTION IS COMPLETED AND THE SITE IS STABILIZED.

5) ALL WATER MAIN AND SANITARY SEWER WORK SHALL MEET THE STANDARDS OF THE NEW HAMPSHIRE STATE PLUMBING CODE AND CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS.

6) UTILITY AS-BUILTS SHALL BE SUBMITTED TO THE CITY OF PORTSMOUTH DEPARTMENT OF PUBLIC WORKS UPON COMPLETION OF THE PROJECT.

7) EVERSOURCE WORK ORDER #3107781

8) PROPOSED SEWER FLOW:
1ST FLOOR RESTAURANT: 3,600 GPD
OFFICE SPACE:
141,526 SF/(2.5 GPD X 100 SF) = 1,038 GPD
TOTAL PROPOSED FLOW = 4,638 GPD

9) THE APPLICANT SHALL HAVE A COMMUNICATIONS SITE SURVEY CONDUCTED BY A MOTOROLA COMMUNICATIONS CARRIER APPROVED BY THE PORTSMOUTH'S COMMUNICATIONS DIVISION. THE RADIO COMMUNICATIONS CARRIER MUST BE FAMILIAR AND CONVERSANT WITH THE PORTSMOUTH POLICE AND FIRE RADIO SYSTEMS CONFIGURATION. IF THE SITE SURVEY INDICATES THAT IT IS NECESSARY TO INSTALL A SIGNAL REPEATER EITHER ON OR NEAR THE PROPOSED PROJECT, THOSE COSTS SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE PROPERTY OWNER WILL BE REQUIRED TO MAINTAIN ANY INSTALLED EQUIPMENT. THE PROPERTY OWNER SHALL BE RESPONSIBLE TO PAY FOR THE SITE SURVEY WHETHER OR NOT THE SURVEY INDICATES THAT EQUIPMENT IS NECESSARY. THE OWNER SHALL COORDINATE WITH THE SUPERVISOR OF RADIO COMMUNICATIONS FOR PORTSMOUTH. THE SURVEY SHALL BE COMPLETED AND ANY REQUIRED EQUIPMENT INSTALLED, TESTED, AND ACCEPTED PRIOR TO THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

BRICK MARKET
60 PENHALLOW STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	ISSUED FOR APPROVAL	11/18/19
0	ISSUED FOR COMMENT	10/8/19

REVISIONS

JOHN R. CHAGNON No. 7851 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

SCALE: 1"=10" MAY 2019

UTILITY PLAN

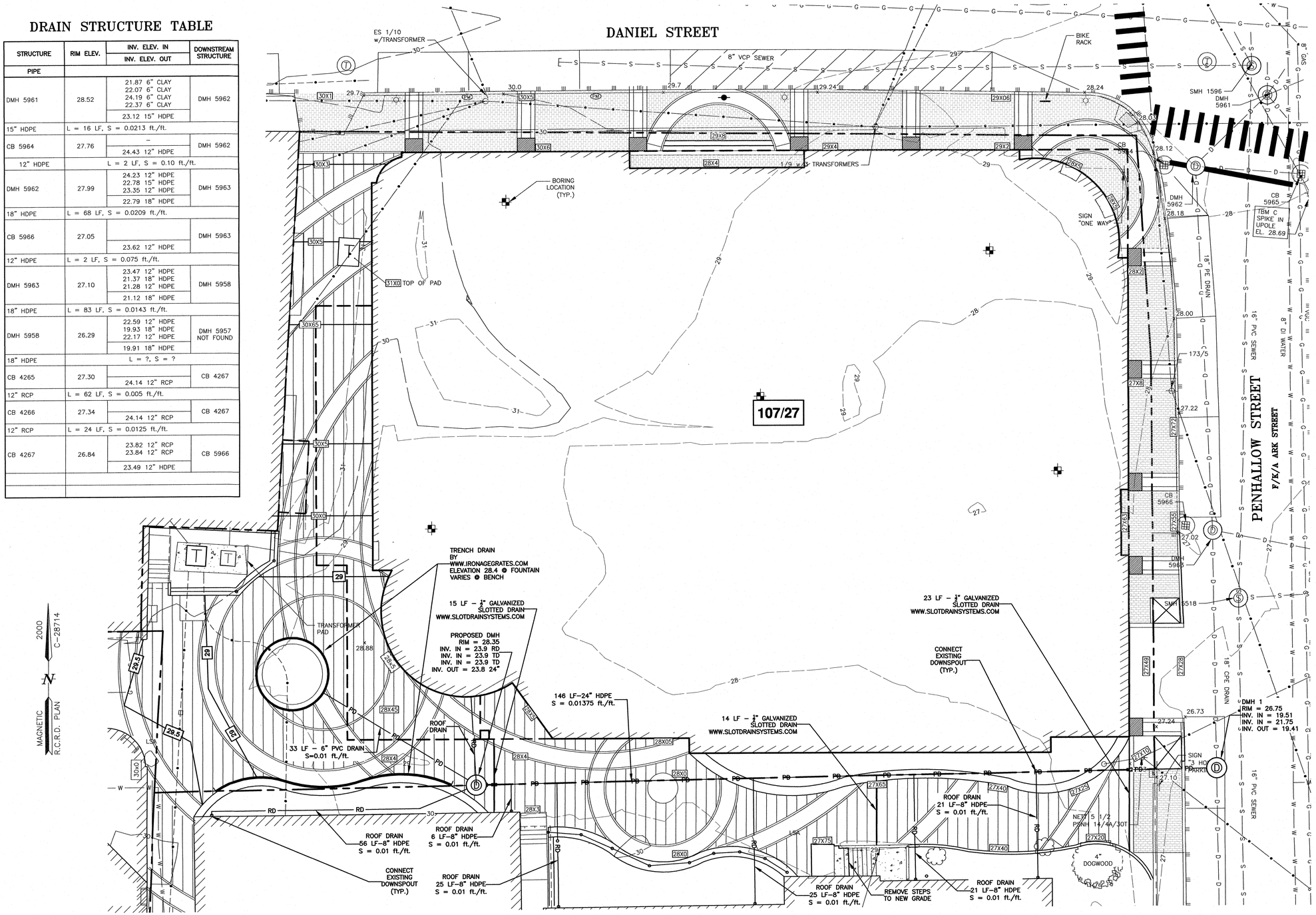
C4

FB 402 PG 1

3039

DRAIN STRUCTURE TABLE

STRUCTURE	RIM ELEV.	INV. ELEV. IN / INV. ELEV. OUT	DOWNSTREAM STRUCTURE
PIPE			
DMH 5961	28.52	21.87 6" CLAY 22.07 6" CLAY 24.19 6" CLAY 22.37 6" CLAY	DMH 5962
		23.12 15" HDPE	
15" HDPE	L = 16 LF, S = 0.0213 ft./ft.		
CB 5964	27.76	–	DMH 5962
		24.43 12" HDPE	
12" HDPE	L = 2 LF, S = 0.10 ft./ft.		
DMH 5962	27.99	24.23 12" HDPE 22.78 15" HDPE 23.35 12" HDPE	DMH 5963
		22.79 18" HDPE	
18" HDPE	L = 68 LF, S = 0.0209 ft./ft.		
CB 5966	27.05		DMH 5963
		23.62 12" HDPE	
12" HDPE	L = 2 LF, S = 0.075 ft./ft.		
DMH 5963	27.10	23.47 12" HDPE 21.37 18" HDPE 21.28 12" HDPE	DMH 5958
		21.12 18" HDPE	
18" HDPE	L = 83 LF, S = 0.0143 ft./ft.		
DMH 5958	26.29	22.59 12" HDPE 19.93 18" HDPE 22.17 12" HDPE	DMH 5957 NOT FOUND
		19.91 18" HDPE	
18" HDPE	L = ?, S = ?		
CB 4265	27.30		CB 4267
		24.14 12" RCP	
12" RCP	L = 62 LF, S = 0.005 ft./ft.		
CB 4266	27.34		CB 4267
		24.14 12" RCP	
12" RCP	L = 24 LF, S = 0.0125 ft./ft.		
CB 4267	26.84	23.82 12" RCP 23.84 12" RCP	CB 5966
		23.49 12" HDPE	



APPROVED BY THE PORTSMOUTH PLANNING BOARD

CHAIRMAN _____ DATE _____

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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).

4) CITY SHALL BE NOTIFIED IF THERE ARE ANY CONFLICTS WITH PROPOSED DRAINAGE PIPES UNCOVERED DURING CONSTRUCTION. REVIEW AND APPROVAL OF REMEDIES, BY THE CITY, REQUIRED.

BRICK MARKET
60 PENHALLOW STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	ISSUED FOR APPROVAL	11/18/19
0	ISSUED FOR COMMENT	10/8/19

REVISIONS

JOHN R. CHAGNON No. 7851 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

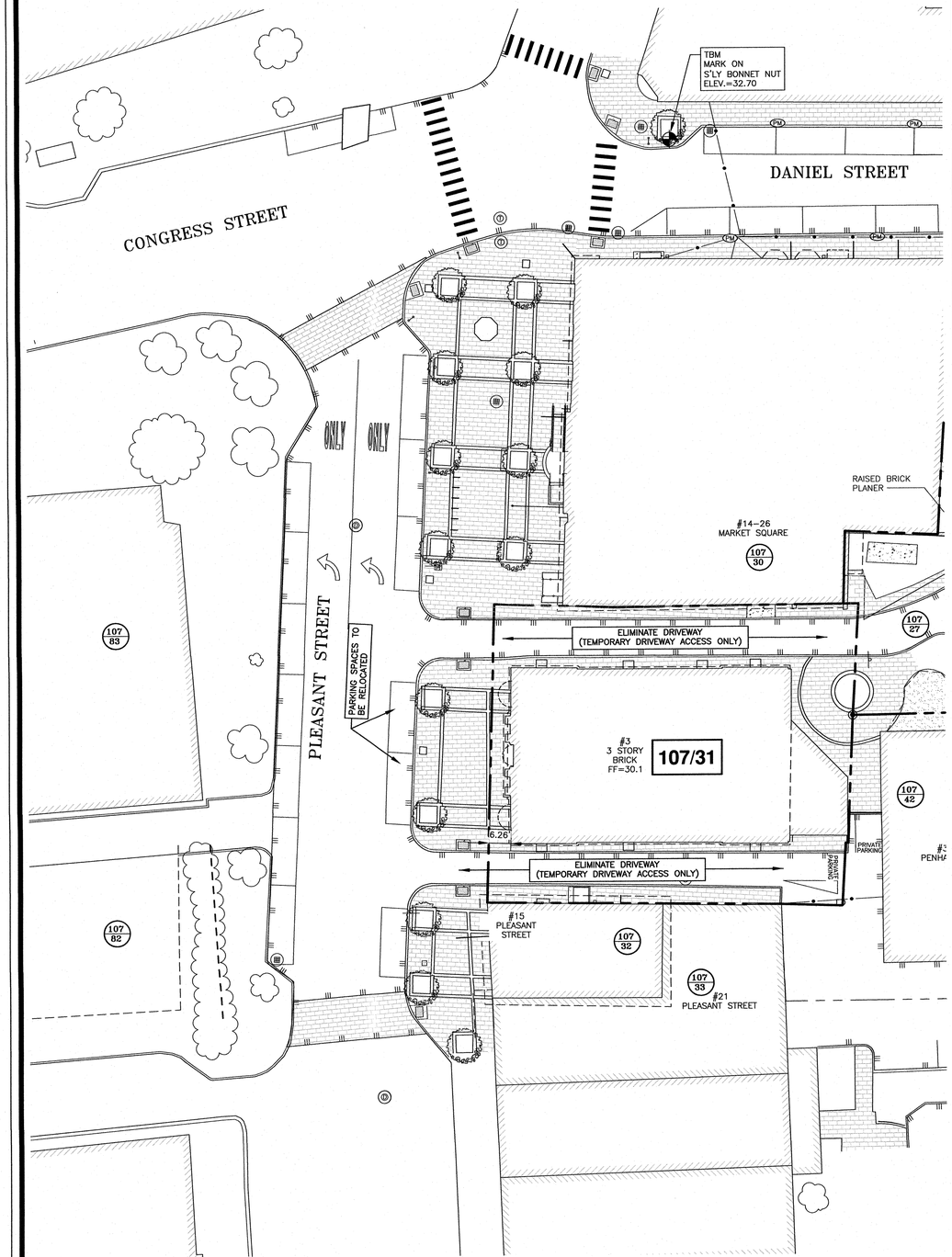
SCALE: 1"=10' MAY 2019

GRADING AND DRAINAGE PLAN

C5

FB 402 PG 1

3039



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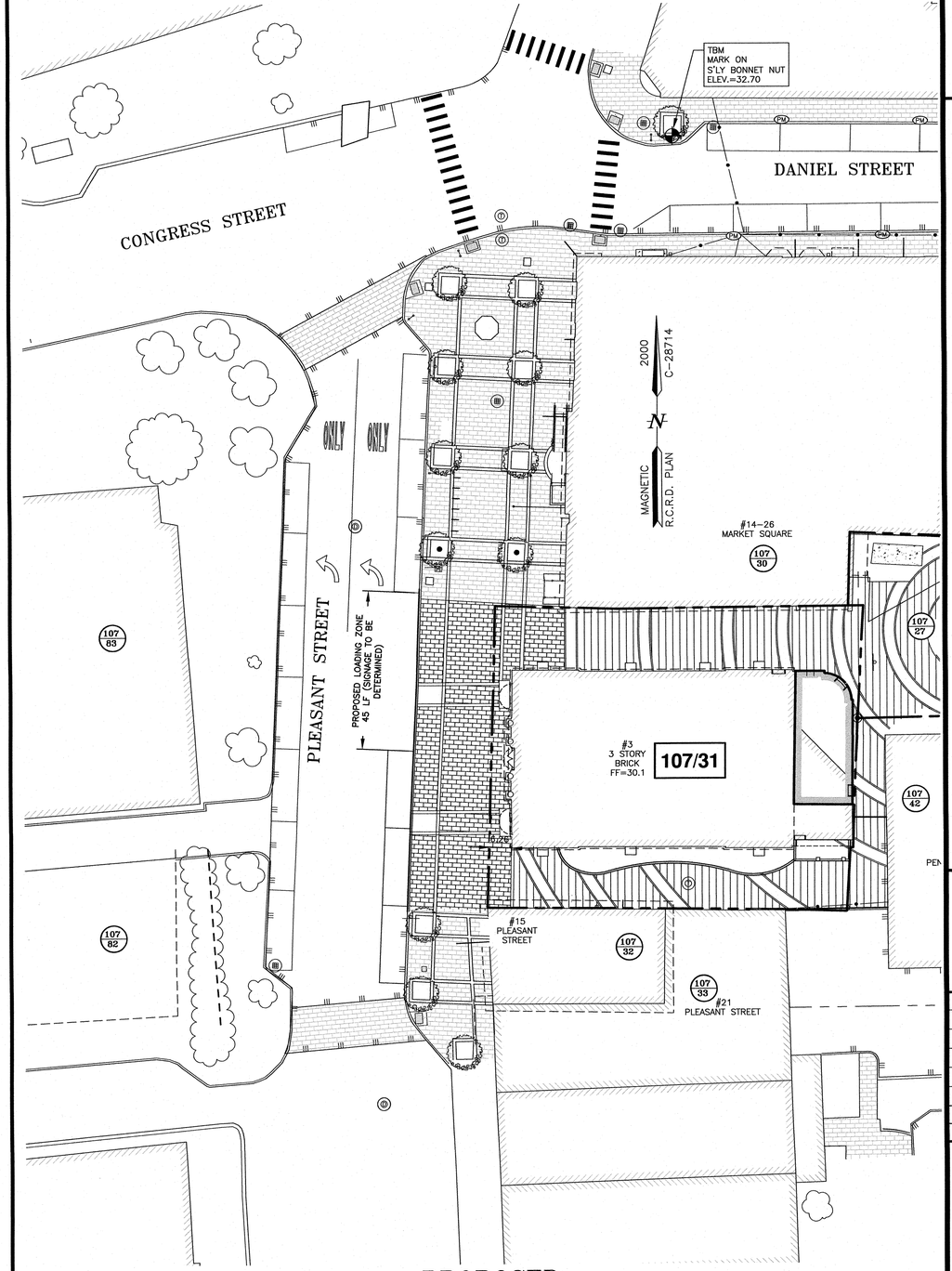

PROPOSED

GRAPHIC SCALE

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5 0 5 10 15 20 25 METERS

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Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 107 AS LOT 31.

2) OWNER OF RECORD:

DAGNY TAGGART
30 PENHALLOW STREET, SUITE 300 EAST
PORTSMOUTH, NH 03801

3) PARCEL IS NOT IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON FIRM PANEL 33015C0259E. EFFECTIVE DATE MAY 17, 2005.

4) EXISTING LOT AREA:
8,867 S.F.
0.2036 ACRES

5) ASSESSOR'S MAP 107 LOT 31 IS LOCATED IN THE CHARACTER DISTRICT 5 (CD5) ZONING DISTRICT. PARCEL IS LOCATED WITHIN THE DOWNTOWN OVERLAY DISTRICT (DOD) AND THE HISTORIC DISTRICT (HDC).

6) THE PURPOSE OF THIS PLAN IS TO SHOW PROPOSED IMPROVEMENTS IN THE PLEASANT STREET RIGHT-OF-WAY. THIS PLAN WAS APPROVED AS PART OF THE 3 PLEASANT STREET SITE PLAN APPROVAL.

BRICK MARKET
60 PENHALLOW STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
3	ISSUED WITH 60 PENHALLOW	11/18/19
2	BIKE RACKS	9/20/19
1	PROPOSED LAYOUT	9/10/19
0	ISSUED FOR COMMENT	8/27/19

REVISIONS

STATE OF NEW HAMPSHIRE LICENSED LAND SURVEYOR No. 738 JOHN R. CHAGNON

JOHN R. CHAGNON No. 7801 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

SCALE: 1"=20' AUGUST 2019

OFFSITE IMPROVEMENT PLAN 3 PLEASANT STREET

C6

FB 402 PG 1

3039

EROSION CONTROL NOTES

CONSTRUCTION SEQUENCE

DO NOT BEGIN CONSTRUCTION UNTIL ALL LOCAL, STATE AND FEDERAL PERMITS HAVE BEEN APPLIED FOR AND RECEIVED.

THE CONTRACTOR SHALL OBTAIN AN **NPDES** PHASE II STORMWATER PERMIT AND SUBMIT A NOTICE OF INTENT (N.O.I) BEFORE BEGINNING CONSTRUCTION AND SHALL HAVE ON SITE A STORMWATER POLLUTION PREVENTION PLAN (**S.W.P.P.P.**) AVAILABLE FOR INSPECTION BY THE PERMITTING AUTHORITY DURING THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT THE **S.W.P.P.P.** AND INSPECTING AND MAINTAINING ALL BMP'S CALLED FOR BY THE PLAN. THE CONTRACTOR SHALL SUBMIT A NOTICE OF TERMINATION (**N.O.T.**) FORM TO THE REGIONAL EPA OFFICE WITHIN 30 DAYS OF FINAL STABILIZATION OF THE ENTIRE SITE OR TURNING OVER CONTROL OF THE SITE TO ANOTHER OPERATOR.

INSTALL PERIMETER CONTROLS, i.e., SILTSOXX, FODS AND CATCH BASIN PROTECTION AROUND THE LIMITS OF DISTURBANCE BEFORE ANY CONSTRUCTION. THE USE OF HAYBALES IS NOT ALLOWED.

REMOVE DEBRIS AND RUBBISH AS REQUIRED. DEMOLISH BUILDINGS AND OTHER IMPROVEMENTS AS SHOWN ON THE PLANS.

CUT AND CAP IMPACTED UTILITIES AS DIRECTED BY UTILITY PROVIDERS.

CONSTRUCT OFF SITE UTILITY IMPROVEMENTS NECESSARY TO CONSTRUCT BUILDING.

CONSTRUCT FOUNDATION

LAYOUT AND INSTALL ALL BURIED UTILITIES AND SERVICES UP TO THE PROPOSED BUILDING FOUNDATION. CAP AND MARK TERMINATIONS OR LOG SWING TIES.

BEGIN BUILDING CONSTRUCTION.

CONNECT UTILITIES AS NEEDED.

PLACE BASE MATERIALS IN WALKWAYS AND PROTECT.

CONTINUE BUILDING CONSTRUCTION.

PLANT LANDSCAPING IN AREAS OUT OF WAY OF BUILDING CONSTRUCTION. CONSTRUCT OTHER SITE IMPROVEMENTS.

AFTER BUILDINGS ARE COMPLETED, FINISH ALL REMAINING WORK.

REMOVE TRAPPED SEDIMENTS FROM COLLECTION DEVICES AS APPROPRIATE, AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES UPON COMPLETION OF FINAL STABILIZATION OF THE SITE.

GENERAL CONSTRUCTION NOTES

THE EROSION CONTROL PROCEDURES SHALL CONFORM TO SECTION 645 OF THE "STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION" OF THE NHDOT, AND "STORM WATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL HANDBOOK FOR URBAN AND DEVELOPING AREAS IN NEW HAMPSHIRE". THE PROJECT IS TO BE MANAGED IN A MANNER THAT MEETS THE REQUIREMENTS AND INTENT OF RSA 430:53 AND CHAPTER AGR 3800 RELATIVE TO INVASIVE SPECIES.

DURING CONSTRUCTION AND THEREAFTER, EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. THE SMALLEST PRACTICAL AREA OF LAND SHOULD BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED FOR MORE THAN 45 DAYS.

ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION.

DUST CONTROL: IF TEMPORARY STABILIZATION PRACTICES, SUCH AS TEMPORARY VEGETATION AND MULCHING, DO NOT ADEQUATELY REDUCE DUST GENERATION, APPLICATION OF WATER OR CALCIUM CHLORIDE SHALL BE APPLIED IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES.

SILT FENCES AND SILTSOXX SHALL BE PERIODICALLY INSPECTED DURING THE LIFE OF THE PROJECT AND AFTER EACH STORM. ALL DAMAGED SILT FENCES AND SILTSOXX SHALL BE REPAIRED. SEDIMENT DEPOSITS SHALL PERIODICALLY BE REMOVED AND DISPOSED IN A SECURED LOCATION.

AVOID THE USE OF FUTURE OPEN SPACES (LOAM AND SEED AREAS) WHEREVER POSSIBLE DURING CONSTRUCTION. CONSTRUCTION TRAFFIC SHALL USE THE ROADBEDS OF FUTURE ACCESS DRIVES AND PARKING AREAS.

ADDITIONAL TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED IN AMOUNTS NECESSARY TO COMPLETE FINISHED GRADING OF ALL EXPOSED AREAS---CONSTRUCT SILT FENCE OR SILTSOXX AROUND TOPSOIL STOCKPILE.

AREAS TO BE FILLED SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS OR OTHER OBJECTIONABLE MATERIAL. STUMPS SHALL BE DISPOSED OF IN AN APPROVED FACILITY.

ALL FILLS SHALL BE PLACED AND COMPACTED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS.

ALL NON-STRUCTURAL, SITE-FILL SHALL BE PLACED AND COMPACTED TO 90% MODIFIED PROCTOR DENSITY IN LAYERS NOT EXCEEDING 18 INCHES IN THICKNESS UNLESS OTHERWISE NOTED.

FROZEN MATERIAL OR SOFT, MUCKY OR HIGHLY COMPRESSIBLE MATERIAL, TRASH, WOODY DEBRIS, LEAVES, BRUSH OR ANY DELETERIOUS MATTER SHALL NOT BE INCORPORATED INTO FILLS.

FILL MATERIAL SHALL NOT BE PLACED ON FROZEN FOUNDATION SUBGRADE.

DURING CONSTRUCTION AND UNTIL ALL DEVELOPED AREAS ARE FULLY STABILIZED, ALL EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH ONE HALF INCH OF RAINFALL.

THE CONTRACTOR SHALL MODIFY OR ADD EROSION CONTROL MEASURES AS NECESSARY TO ACCOMMODATE PROJECT CONSTRUCTION.

ALL ROADWAYS AND PARKING AREAS SHALL BE STABILIZED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE. ALL CUT AND FILL SLOPES SHALL BE SEEDED/LOAMED WITHIN 72 HOURS OF ACHIEVING FINISHED GRADE.

AN AREA SHALL BE CONSIDERED STABLE IF ONE OF THE FOLLOWING HAS OCCURRED:
- BASE COURSE GRAVELS HAVE BEEN INSTALLED ON AREAS TO BE PAVED
- A MINIMUM OF 85% VEGETATED GROWTH HAS BEEN ESTABLISHED
- A MINIMUM OF 3 INCHES OF NON-EROSIVE MATERIAL SUCH AS STONE OR RIPRAP HAS BEEN INSTALLED
- EROSION CONTROL BLANKETS HAVE BEEN INSTALLED

VEGETATIVE PRACTICE

FOR PERMANENT MEASURES AND PLANTINGS:

LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE LOAM LAYER AT A RATE OF 2 TONS PER ACRE.

FERTILIZER SHALL BE SPREAD ON THE TOP LAYER OF LOAM AND WORKED INTO THE SURFACE. FERTILIZER APPLICATION RATE SHALL BE 500 POUNDS PER ACRE OF 10-20-20 FERTILIZER.

SEED SHALL BE SOWN AT THE RATES SHOWN IN THE TABLE BELOW. IMMEDIATELY BEFORE SEEDING, THE SOIL SHALL BE LIGHTLY RAKED. ONE HALF THE SEED SHALL BE SOWN IN ONE DIRECTION AND THE OTHER HALF AT RIGHT ANGLES TO THE ORIGINAL DIRECTION. IT SHALL BE LIGHTLY RAKED INTO THE SOIL TO A DEPTH NOT OVER 1/4 INCH AND ROLLED WITH A HAND ROLLER WEIGHING NOT OVER 100 POUNDS PER LINEAR FOOT OF WIDTH. HAY MULCH SHALL BE APPLIED IMMEDIATELY AFTER SEEDING AT A RATE OF 1.5 TO 2 TONS PER ACRE, AND SHALL BE HELD IN PLACE USING APPROPRIATE TECHNIQUES FROM THE EROSION AND SEDIMENT CONTROL HANDBOOK.

THE SURFACE SHALL BE WATERED AND KEPT MOIST WITH A FINE SPRAY AS REQUIRED, WITHOUT WASHING AWAY THE SOIL, UNTIL THE GRASS IS WELL ESTABLISHED. ANY AREAS WHICH ARE NOT SATISFACTORILY COVERED SHALL BE RESEEDED, AND ALL NOXIOUS WEEDS REMOVED.

A GRASS SEED MIXTURE CONTAINING THE FOLLOWING SEED REQUIREMENTS SHALL BE:

GENERAL COVER	PROPORTION	SEEDING RATE
CREEPING RED FESCUE	50%	100 LBS/ACRE
KENTUCKY BLUEGRASS	50%	

SLOPE SEED (USED ON ALL SLOPES GREATER THAN OR EQUAL TO 3:1)

CREEPING RED FESCUE	42%	
TALL FESCUE	42%	48 LBS/ACRE
BIRDSFOOT TREFOIL	16%	

IN NO CASE SHALL THE WEED CONTENT EXCEED ONE PERCENT BY WEIGHT. ALL SEED SHALL COMPLY WITH APPLICABLE STATE AND FEDERAL SEED LAWS.

FOR TEMPORARY PROTECTION OF DISTURBED AREAS:
MULCHING AND SEEDING SHALL BE APPLIED AT THE FOLLOWING RATES:
PERENNIAL RYE: 0.7 LBS/1,000 S.F.
MULCH: 1.5 TONS/ACRE

MAINTENANCE AND PROTECTION

THE CONTRACTOR SHALL MAINTAIN ALL LOAM & SEED AREAS UNTIL FINAL ACCEPTANCE AT THE COMPLETION OF THE CONTRACT. MAINTENANCE SHALL INCLUDE WATERING, WEEDING, REMOVAL OF STONES AND OTHER FOREIGN OBJECTS OVER 1/2 INCHES IN DIAMETER WHICH MAY APPEAR AND THE FIRST TWO (2) CUTTINGS OF GRASS NO CLOSER THEN TEN (10) DAYS APART. THE FIRST CUTTING SHALL BE ACCOMPLISHED WHEN THE GRASS IS FROM 2 1/2 TO 3 INCHES HIGH. ALL BARE AND DEAD SPOTS WHICH BECOME APPARENT SHALL BE PROPERLY PREPARED, LIMED AND FERTILIZED, AND RESEEDED BY THE CONTRACTOR AT HIS EXPENSE AS MANY TIMES AS NECESSARY TO SECURE GOOD GROWTH. THE ENTIRE AREA SHALL BE MAINTAINED, WATERED AND CUT UNTIL ACCEPTANCE OF THE LAWN BY THE OWNER'S REPRESENTATIVE.

THE CONTRACTOR SHALL TAKE WHATEVER MEASURES ARE NECESSARY TO PROTECT THE GRASS WHILE IT IS DEVELOPING.

TO BE ACCEPTABLE, SEEDED AREAS SHALL CONSIST OF A UNIFORM STAND OF AT LEAST 90 PERCENT ESTABLISHED PERMANENT GRASS SPECIES, WITH UNIFORM COUNT OF AT LEAST 100 PLANTS PER SQUARE FOOT.

SEEDED AREAS WILL BE FERTILIZED AND RESEEDED AS NECESSARY TO INSURE VEGETATIVE ESTABLISHMENT.

THE SWALES WILL BE CHECKED WEEKLY AND REPAIRED WHEN NECESSARY UNTIL ADEQUATE VEGETATION IS ESTABLISHED.

THE SILT FENCE OR SILTSOXX BARRIER SHALL BE CHECKED AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

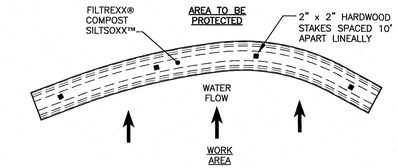
SILT FENCING AND SILTSOXX SHALL BE REMOVED ONCE VEGETATION IS ESTABLISHED, AND DISTURBED AREAS RESULTING FROM SILT FENCE AND SILTSOXX REMOVAL SHALL BE PERMANENTLY SEEDED.

WINTER NOTES

ALL PROPOSED VEGETATED AREAS WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED BY SEEDING AND INSTALLING EROSION CONTROL BLANKETS ON SLOPES GREATER THAN 3:1, AND SEEDING AND PLACING 3 TO 4 TONS OF MULCH PER ACRE, SECURED WITH ANCHORED NETTING, ELSEWHERE. THE INSTALLATION OF EROSION CONTROL BLANKETS OR MULCH AND NETTING SHALL NOT OCCUR OVER ACCUMULATED SNOW OR ON FROZEN GROUND AND SHALL BE COMPLETED IN ADVANCE OF THAW OR SPRING MELT EVENTS.

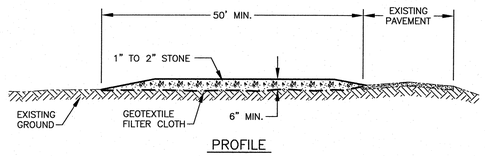
ALL DITCHES OR SWALES WHICH DO NOT EXHIBIT A MINIMUM OF 85% VEGETATIVE GROWTH BY OCTOBER 15TH, OR WHICH ARE DISTURBED AFTER OCTOBER 15TH, SHALL BE STABILIZED TEMPORARILY WITH STONE OR EROSION CONTROL BLANKETS APPROPRIATE FOR THE DESIGN FLOW CONDITIONS.

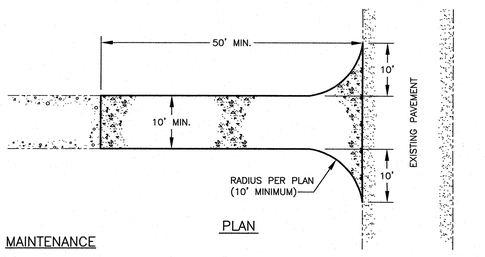
AFTER NOVEMBER 15TH, INCOMPLETE ROAD OR PARKING SURFACES, WHERE WORK HAS STOPPED FOR THE WINTER SEASON, SHALL BE PROTECTED WITH A MINIMUM OF 3 INCHES OF CRUSHED GRAVEL PER NHDOT ITEM 304.3.



NOTES:
1. ALL MATERIAL TO MEET FILTREXX SPECIFICATIONS.
2. FILLTREXX SYSTEM SHALL BE INSTALLED BY A CERTIFIED FILTREXX INSTALLER.
3. THE CONTRACTOR SHALL MAINTAIN THE COMPOST FILTRATION SYSTEM IN A FUNCTIONAL CONDITION AT ALL TIMES. IT WILL BE ROUTINELY INSPECTED AND REPAIRED WHEN REQUIRED.
4. SILTSOXX DEPICTED IS FOR MINIMUM SLOPES, GREATER SLOPES MAY REQUIRE ADDITIONAL PLACEMENTS.
5. THE COMPOST FILTER MATERIAL WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED, AS DETERMINED BY THE ENGINEER.

A — FILTREXX® SILTSOXX™ FILTRATION SYSTEM (IF NEEDED) NTS





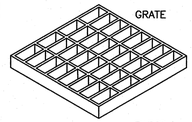
MAINTENANCE

1) MUD AND SOIL PARTICLES WILL EVENTUALLY CLOG THE VOIDS IN THE GRAVEL AND THE EFFECTIVENESS OF THE GRAVEL PAD WILL NOT BE SATISFACTORY. WHEN THIS OCCURS, THE PAD SHOULD BE TOP DRESSED WITH NEW STONE. COMPLETE REPLACEMENT OF THE PAD MAY BE NECESSARY WHEN THE PAD BECOMES COMPLETELY CLOGGED.
2) IF WASHING FACILITIES ARE USED, THE SEDIMENT TRAPS SHOULD BE CLEANED OUT AS OFTEN AS NECESSARY TO ASSURE THAT ADEQUATE TRAPPING EFFICIENCY AND STORAGE VOLUME IS AVAILABLE. VEGETATIVE FILTER STRIPS SHOULD BE MAINTAINED TO INSURE A VIGOROUS STAND OF VEGETATION AT ALL TIMES.

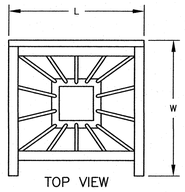
CONSTRUCTION SPECIFICATIONS

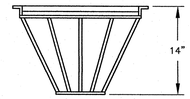
1) STONE FOR A STABILIZED CONSTRUCTION ENTRANCE SHALL BE 1 TO 2 INCH STONE.
2) THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3) THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4) THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICHEVER IS GREATER.
5) GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENCE LOT.
6) ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7) THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.
8) WHEELS SHALL BE CLEANED TO REMOVE MUD PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY, WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

B / C5 — STABILIZED CONSTRUCTION ENTRANCE
FODS TRACKOUT CONTROL MAT SYSTEM MAY BE SUBSTITUTED NTS



LENGTH (L) & WIDTH (W) AS REQUIRED TO FIT NHDOT TYPE GRATE & FRAME.





1) INLET BASKETS SHALL BE INSTALLED IMMEDIATELY AFTER CATCH BASIN CONSTRUCTION IS COMPLETE AND SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL PAVEMENT BINDER COURSE IS COMPLETE.

2) FILTER FABRIC SHALL BE PUSHED DOWN AND FORMED TO THE SHAPE OF THE BASKET. THE SHEET OF FABRIC SHALL BE LARGE ENOUGH TO BE SUPPORTED BY THE BASKET FRAME WHEN HOLDING SEDIMENT AND, SHALL EXTEND AT LEAST 6" PAST THE FRAME. THE INLET GRATE SHALL BE PLACED OVER THE BASKET/FRAME AND WILL SERVE AS THE FABRIC ANCHOR.

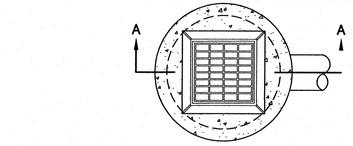
3) THE FILTER FABRIC SHALL BE A GEOTEXTILE FABRIC; POLYESTER, POLYPROPYLENE, STABILIZED NYLON, POLYETHYLENE, OR POLYVINYLIDENE CHLORIDE MEETING THE FOLLOWING SPECIFICATIONS:
- -RAB STRENGTH: 45 LB. MIN. IN ANY PRINCIPAL DIRECTION (ASTM D1682)
- -MULLEN BURST STRENGTH: MIN. 60 psi (ASTM D774)

4) THE FABRIC SHALL HAVE AN OPENING NO GREATER THAN A NUMBER 20 U.S. STANDARD SIEVE AND A MINIMUM PERMEABILITY OF 120 gpm/s.f. (MULTIPLY THE PERMITTIVITY IN SEC.-1 FROM ASTM 54491-85 CONSTANT HEAD TEST USING THE CONVERSION FACTOR OF 74.)

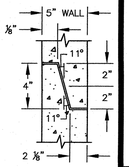
5) THE INLET BASKET SHALL BE INSPECTED WITHIN 24 HOURS AFTER EACH RAINFALL OR DAILY DURING EXTENDED PERIODS OF PRECIPITATION. REPAIRS SHALL BE MADE IMMEDIATELY, AS NECESSARY, TO PREVENT PARTICLES FROM REACHING THE DRAINAGE SYSTEM AND/OR CAUSING SURFACE FLOODING.

6) SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT, OR MORE OFTEN IF THE FABRIC BECOMES CLOGGED.

C / C5 — CATCH BASIN INLET BASKET
NTS



NOTES:
1) CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS.
2) CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS & SHALL BE PLACED IN THE CENTER THIRD OF WALL.
3) THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FT.
4) EACH CASTING TO HAVE LIFTING HOLES CAST IN.
5) OUTLET HOOD SHALL BE A "SNOUT" BY BEST MANAGEMENT PRODUCTS, INC. OR APPROVED EQUAL. SIZING AND INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS.



DETAIL OF SHIPLAP JOINT

D / — — CATCH BASIN w/ OIL-DEBRIS HOOD
(IF NEEDED) NTS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

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 ENGINEER.

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.

NO.	DESCRIPTION	DATE
1	ISSUED FOR APPROVAL	11/18/19
0	ISSUED FOR COMMENT	10/8/19

REVISIONS

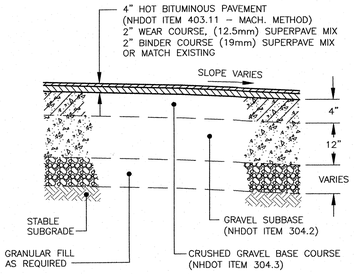
JOHN R. CHAGNON No. 7821 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

SCALE: AS SHOWN OCTOBER 2019

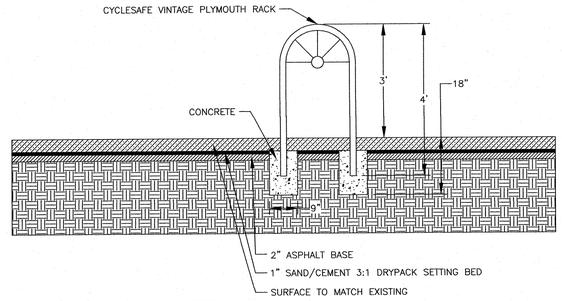
DETAILS D1

FB 402 PG 1

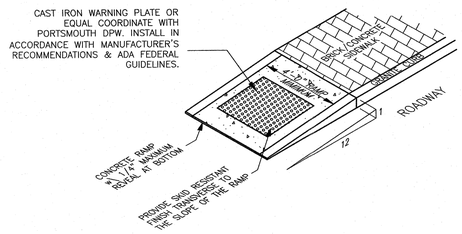
3039

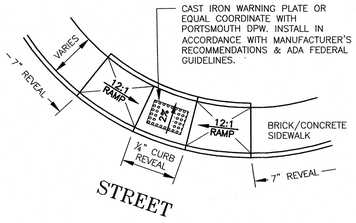


E – TYPICAL PAVEMENT CROSS–SECTION
OFF SITE REPAIR AS NEEDED
NTS

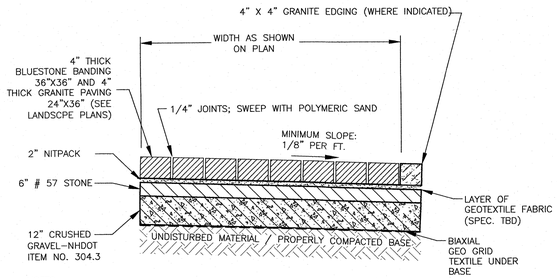


H / C3 – BIKE RACK
NTS





F / C3 – TYPICAL SIDEWALK TIP DOWNS
NTS



NOTES:
1) ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY ORDINANCES & SPECIFICATIONS.

G / C3 – BLUESTONE DETAIL (DRIVEABLE)
NTS

BRICK PAVEMENT NOTES

SCOPE OF WORK:

1) THE WORK SHALL CONSIST OF CONSTRUCTING/RECONSTRUCTING THE SUB–BASE AND CONSTRUCTING A NEW BRICK SIDEWALK AS DIRECTED IN THE FIELD BY THE ENGINEER AND COORDINATED WITH PORTSMOUTH DPW.
2) REVEAL SHALL BE COORDINATED WITH PORTSMOUTH DPW.

METHODS OF CONSTRUCTION:

A) ALL LABOR AND MATERIALS SHALL CONFORM TO THE STATE OF NEW HAMPSHIRE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 608, AND CITY OF PORTSMOUTH SPECIFICATIONS FOR NEW BRICK SIDEWALK, SECTION 6.

B) ALL BRICKS SHALL CONFORM TO THE REQUIREMENTS OF ASTM STANDARD SPECIFICATIONS FOR BUILDING BRICKS: CLASS SX, TYPE 1, APPLICATION PX. THE BRICKS SHALL BE NO. 1, WIRE CUT TYPE FOR PAVING, WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 6,000 POUNDS PER SQUARE INCH. THE BRICKS SHALL NOT BE CORED OR HAVE FROGS AND SHALL BE OF A STANDARD SIZE (2.25" X 4 X 8").

C) EXCAVATION FOR SIDEWALKS SHALL BE AT A DEPTH OF 10 INCHES BELOW FINISH GRADE. IN AREAS NOT BUTTING CURBING OR BUILDINGS, THE EXCAVATION SHALL BE 6 INCHES WIDER THAN THE FINISHED SIDEWALK WIDTH. AT ALL DRIVE CROSSINGS, THE DEPTH OF EXCAVATION SHALL BE INCREASED ACCORDINGLY. THE CONTRACTOR SHALL PROVIDE NEAT AND SQUARE CUTTING OF EXISTING ASPHALT ROAD SURFACE AS NEEDED. ALL UNSUITABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF–SITE AT THE CONTRACTOR'S OWN EXPENSE.

D) THE BASE MATERIAL SHALL CONSIST OF A MIXTURE OF STONES OR ROCK FRAGMENTS AND PARTICLES WITH 100% PASSING THE 3 INCH SIEVE, 95% TO 100% PASSING THE 2 INCH SIEVE, 55% TO 85% PASSING THE 1 INCH SIEVE, AND 27% TO 52% PASSING THE NO. 4 SIEVE. AT LEAST 50% OF THE MATERIALS RETAINED ON THE 1 INCH SIEVE SHALL HAVE A FRACTURED FACE. THE BASE MATERIAL SHALL BE THOROUGHLY COMPACTED TO THE DEPTH SPECIFIED OR DIRECTED. IN THE WAY OF ALL DRIVE CROSSINGS THE BASE WILL BE INCREASED TO A COMPACTED DEPTH OF 12 INCHES. GRAVEL REQUIREMENTS FOR RECONSTRUCTION WILL BE AS DIRECTED, BASED ON SITE CONDITIONS. THE WORK INCLUDES BACKING UP ANY AND ALL CURB BEING INSTALLED BY OTHERS ON BOTH SIDES.

E) THE CLAY BRICK PAVERS SHALL BE LAID IN A 1 INCH BED OF A SAND MIXTURE COMPRISED OF: 3 PARTS SAND MIXED WITH 1 PART PORTLAND CEMENT.

F) THE CONTRACTOR SHALL LAY THE BRICKS SO THAT APPROXIMATELY 4.5 BRICKS SHALL COVER ONE SQUARE FOOT.

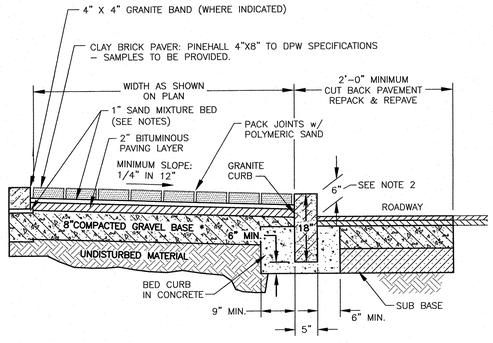
G) THE SIDEWALK SHALL PITCH TOWARDS THE STREET AS SHOWN ON THE GRADING PLAN.

H) IN AREAS WHERE THE FRONT OF THE BRICK SIDEWALK IS NOT ADJACENT TO GRANITE CURBING, THE CONTRACTOR SHALL INSTALL EDGING TO HOLD THE BRICKS IN PLACE. SUCH EDGING SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

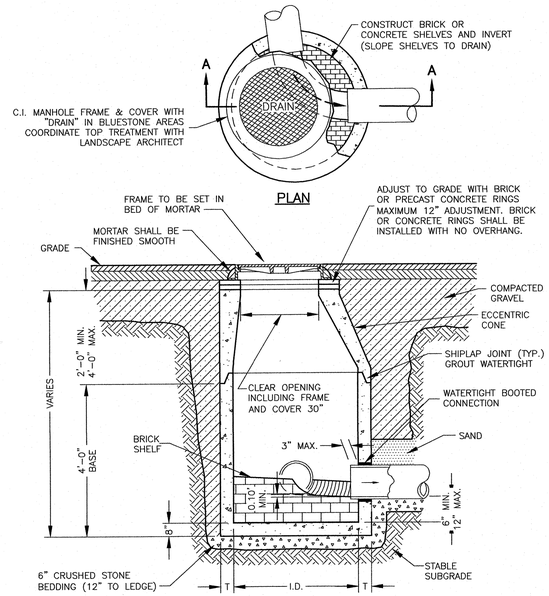
I) THE CONTRACTOR SHALL SUBMIT A SAMPLE OF THE BRICKS FOR APPROVAL BY THE CITY BEFORE BRICKS ARE INSTALLED.

CONSTRUCTION NOTE:

EXISTING GRANITE CURB DISTURBED BY CONSTRUCTION SHALL BE REUSED AND ANY MISSING CURB SHALL BE REPLACED WITH NEW CURB MATCHING EXISTING CURB SIZE. NO CURB LESS THAN 3' IN LENGTH WILL BE ALLOWED.



I / C3 – BRICK SIDEWALK w/ VERTICAL GRANITE CURB
(STONE DUST BEDDING OVER BITUMINOUS PAVING)
NTS



NOTES:
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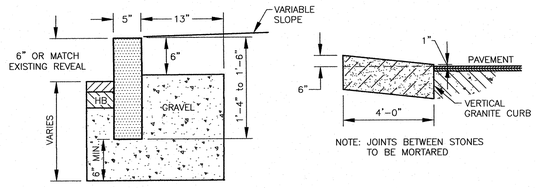
3. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ. IN. PER LINEAR FOOT.
4. EACH CASTING TO HAVE LIFTING HOLES CAST IN.
5. ALL MANHOLES SHALL BE 48" I.D. UNLESS SPECIFIED OTHERWISE ON THE PLANS.
6. MANHOLE SHALL BE DESIGNED AND CONSTRUCTED TO WITHSTAND H–20 LOADING.

J / C5 – DRAIN MANHOLE WITH BOOT DETAIL
NTS

MIN. LENGTH OF CURB STONES 3FT.
MAX. LENGTH OF CURB STONES 10FT.
MAX. LENGTH OF STRAIGHT CURB STONES LAID ON CURVES SEE CHART

NOTE: ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATE LENGTH.

Radius	Max. length
21'	3'
22' – 28'	4'
29' – 35'	5'
36' – 42'	6'
43' – 49'	7'
50' – 56'	8'
57' – 60'	9'
over 60'	10'



VERTICAL GRANITE CURB

GRANITE CURB END

K / C3 – GRANITE CURBING DETAILS
NTS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801–7114
Tel (603) 430–9282
Fax (603) 436–2315

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BRICK MARKET
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REVISIONS

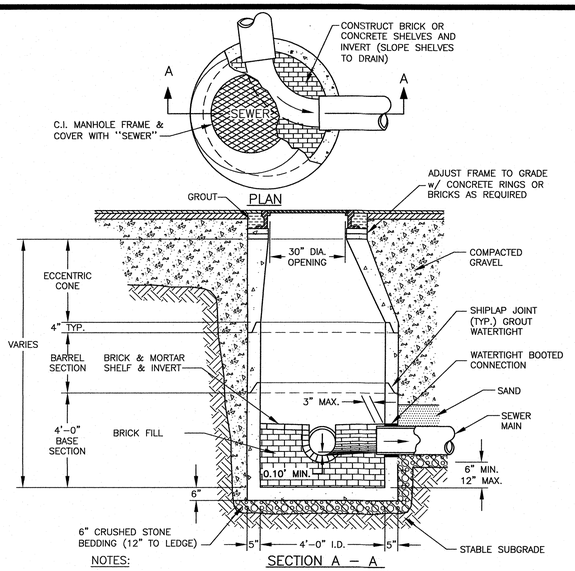
SCALE: AS SHOWN
OCTOBER 2019

DETAILS

D2

FB 402 PG 1

3039



NOTES:

SECTION A – A

1) CONCRETE SHALL BE 4,000 P.S.I. AFTER 28 DAYS.
2) CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ. IN. PER LINEAR FT. IN ALL SECTIONS AND SHALL BE PLACED IN THE CENTER THIRD OF THE WALL.
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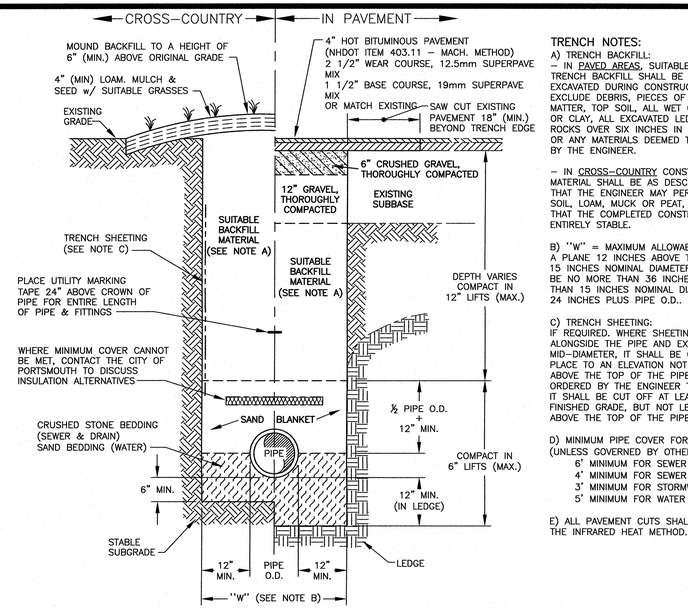
4) EACH PRECAST SECTION TO HAVE LIFTING HOLES CAST IN.
5) SEWER MANHOLE SHALL CONFORM TO NHDES AND CITY OF PORTSMOUTH STANDARDS.

L – SEWER MANHOLE NTS



N – TYPICAL PIPE TRENCH NTS

TRENCH NOTES:

A) TRENCH BACKFILL:
– IN PAVED AREAS, SUITABLE MATERIAL FOR TRENCH BACKFILL SHALL BE THE NATURAL MATERIAL EXCAVATED DURING CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOP SOIL, ALL WET OR SOFT MUCK, PEAT OR CLAY, ALL EXCAVATED LEDGE MATERIAL, AND ALL ROCKS OVER SIX INCHES IN LARGEST DIMENSION, OR ANY MATERIALS DEEMED TO BE UNACCEPTABLE BY THE ENGINEER.

– IN CROSS–COUNTRY CONSTRUCTION, SUITABLE MATERIAL SHALL BE AS DESCRIBED ABOVE, EXCEPT THAT THE ENGINEER MAY PERMIT THE USE OF TOP SOIL, LOAM, MUCK OR PEAT, IF HE IS SATISFIED THAT THE COMPLETED CONSTRUCTION WILL BE ENTIRELY STABLE.

B) "W" = MAXIMUM ALLOWABLE TRENCH WIDTH TO A PLANE 12 INCHES ABOVE THE PIPE. FOR PIPES 15 INCHES NOMINAL DIAMETER OR LESS, W SHALL BE NO MORE THAN 36 INCHES. FOR PIPES GREATER THAN 15 INCHES NOMINAL DIAMETER, W SHALL BE 24 INCHES PLUS PIPE O.D..

C) TRENCH SHEETING:
IF REQUIRED. WHERE SHEETING IS PLACED ALONGSIDE THE PIPE AND EXTENDS BELOW MID–DIAMETER, IT SHALL BE CUT OFF AND LEFT IN PLACE TO AN ELEVATION NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE. WHERE SHEETING IS ORDERED BY THE ENGINEER TO BE LEFT IN PLACE, IT SHALL BE CUT OFF AT LEAST 3 FEET BELOW FINISHED GRADE, BUT NOT LESS THAN 1 FOOT ABOVE THE TOP OF THE PIPE.

D) MINIMUM PIPE COVER FOR UTILITY MAINS (UNLESS GOVERNED BY OTHER CODES):
- 6' MINIMUM FOR SEWER (IN PAVEMENT)
- 4' MINIMUM FOR SEWER (CROSS COUNTRY)
- 3' MINIMUM FOR STORMWATER DRAINS
- 5' MINIMUM FOR WATER MAINS

E) ALL PAVEMENT CUTS SHALL BE REPAIRED BY THE INFRARED HEAT METHOD.

SEWER UTILITY GENERAL NOTES:

1) MINIMUM PIPE SIZE FOR COMMERCIAL SERVICE SHALL BE SIX INCHES.

2) PIPE AND JOINT MATERIALS:
A. PLASTIC SEWER PIPE

1. PIPE AND FITTINGS SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:

ASTM STANDARDS	GENERIC PIPE MATERIAL	SIZES APPROVED
D3034	*PVC (SOLID WALL)	8" THROUGH 15" (SDR 35)
F679	PVC (SOLID WALL)	18" THROUGH 27" (T–1 & T–2)
F789	PVC (SOLID WALL)	4" THROUGH 18" (T–1 To T–3)
F794	PVC (RIBBED WALL)	8" THROUGH 36"
AWWA C900	PVC (SOLID WALL)	8" THROUGH 18"

*PVC: POLYVINYL CHLORIDE

2. JOINT SEALS FOR PVC PIPE SHALL BE OIL RESISTANT COMPRESSION RINGS OF ELASTOMERIC MATERIAL CONFORMING TO ASTM D–3212 AND SHALL BE PUSH–ON BELL AND SPIGOT TYPE.

B. DUCTILE IRON PIPE, FITTINGS AND JOINTS.

1. DUCTILE IRON PIPE AND FITTINGS FOR SEWERS SHALL CONFORM TO THE FOLLOWING STANDARDS OF THE UNITED STATES OF AMERICA STANDARDS INSTITUTE:

A21.50 THICKNESS DESIGN OF DUCTILE IRON PIPE AND WITH ASTM A–536 DUCTILE IRON CASTINGS.

A21.51 DUCTILE IRON PIPE, CENTRIFUGALLY CAST IN METAL MOULDS OR SAND LINED MOULDS FOR SEWER APPLICATIONS.

2. JOINTS SHALL BE OF THE MECHANICAL OR PUSH ON TYPE. JOINTS AND GASKETS SHALL CONFORM TO:

A21.11 RUBBER GASKET JOINTS FOR CAST IRON PRESSURE PIPE & FITTINGS.

3) DAMAGED PIPE SHALL BE REJECTED AND REMOVED FROM THE JOB SITE.

4) JOINTS SHALL BE DEPENDENT UPON A NEOPRENE OR ELASTOMERIC GASKET FOR WATER TIGHTNESS. ALL JOINTS SHALL BE PROPERLY MATCHED WITH THE PIPE MATERIALS USED. WHERE DIFFERING MATERIALS ARE TO BE CONNECTED, AS AT THE STREET SEWER WYE OR AT THE FOUNDATION WALL, APPROPRIATE MANUFACTURED ADAPTERS SHALL BE USED.

5) TEES AND WYES: WHERE A TEE OR WYE IS NOT AVAILABLE IN THE EXISTING STREET SEWER, AN APPROPRIATE CONNECTION SHALL BE MADE DEPENDING ON THE PIPE ENCOUNTERED, FOR PVC PIPE, USE PVC SADDLES OR INSERT–A–TEE, OR CUT IN A SANITARY TEE. FOR CLAY PIPE, USE INSERT–A–TEE OR CUT IN A SANITARY TEE. ALL WORK TO BE APPROVED BY GOVERNING BODY.

6) HOUSE SEWER INSTALLATION: THE PIPE SHALL BE HANDLED, PLACED AND JOINTED IN ACCORDANCE WITH INSTALLATION GUIDES OF THE APPROPRIATE MANUFACTURER. IT SHALL BE CAREFULLY BEDDED ON A 4 INCH LAYER OF CRUSHED STONE AND/OR GRAVEL AS SPECIFIED IN NOTE 10. BEDDING AND REFILL FOR DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE SHALL BE CAREFULLY AND THOROUGHLY TAMPED BY HAND OR WITH APPROPRIATE MECHANICAL DEVICES.

THE PIPE SHALL BE LAID AT A CONTINUOUS AND CONSTANT GRADE FROM THE STREET SEWER CONNECTION TO THE FOUNDATION AT A GRADE OF NOT LESS THAN 1/4 INCH PER FOOT. PIPE JOINTS MUST BE MADE UNDER DRY CONDITIONS. IF WATER IS PRESENT, ALL NECESSARY STEPS SHALL BE TAKEN TO DEWATER THE TRENCH.

7) TESTING: WHEN REQUIRED BY THE GOVERNING AUTHORITY, TESTING SHALL CONFORM TO ENV–WQ 704.07.

8) ILLEGAL CONNECTIONS: NOTHING BUT SANITARY WASTE FLOW FROM DWELLING TOILETS, SINKS, LAUNDRY ETC. SHALL BE PERMITTED. ROOF LEADERS, FOOTING DRAINS, SUMP PUMPS OR OTHER SIMILAR CONNECTIONS CARRYING RAIN WATER, DRAINAGE OR GROUND WATER SHALL NOT BE PERMITTED.

9) WATER SERVICE SHALL NOT BE LAID IN SAME TRENCH AS SEWER SERVICE, UNLESS IT IS ON A SHELF 12" HIGHER, AND 18" APART.

10) BEDDING: SCREENED GRAVEL AND/OR CRUSHED STONE, FREE FROM CLAY, LOAM, ORGANIC MATTER AND MEETING ASTM C33 STONE SIZE NO. 67.

100% PASSING	1 INCH SCREEN
90%–100% PASSING	3/4 INCH SCREEN
20%– 55% PASSING	3/8 INCH SCREEN
0%– 10% PASSING	#4 SIEVE
0%– 5% PASSING	#8 SIEVE

WHERE ORDERED BY THE ENGINEER TO STABILIZE THE TRENCH BASE, GRADED SCREENED GRAVEL OR CRUSHED STONE 1/2 INCH TO 1–1/2 INCH SHALL BE USED.

11) LOCATION: THE LOCATION OF THE TEE OR WYE SHALL BE RECORDED AND FILED IN THE MUNICIPAL RECORDS. IN ADDITION, A FERROUS METAL ROD OR PIPE SHALL BE PLACED OVER THE TEE OR WYE AS DESCRIBED IN THE TYPICAL "CHIMNEY" DETAIL, TO AID IN LOCATING THE BURIED PIPE WITH A DIP NEEDLE OR PIPE FINDER.

12) CAST–IN–PLACE CONCRETE: SHALL CONFORM TO THE REQUIREMENTS FOR CLASS A (3000 PSI) CONCRETE OF THE NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AS FOLLOWS:

CEMENT: 6.0 BAGS PER CUBIC YARD
WATER: 5.75 GALLONS PER BAG OF CEMENT
MAXIMUM AGGREGATE SIZE: 3/4 INCH

13) CHIMNEYS: IF VERTICAL DROP INTO SEWER IS GREATER THAN 4 FEET, A CHIMNEY SHALL BE CONSTRUCTED FOR THE HOUSE CONNECTION. CHIMNEY INSTALLATION AS RECOMMENDED BY THE PIPE MANUFACTURER MAY BE USED IF APPROVED BY THE ENGINEER.

14) BACKFILL UP TO SUBBASE GRAVEL SHALL BE WITH EXCAVATED SOIL FROM TRENCHING OPERATIONS. COMPACT IN 8" LIFTS WITH VIBRATORY PLATE COMPACTORS TO 90% OF MODIFIED PROCTOR DENSITY. IF FINE–GRAINED, COMPACT WITH POGO STICKS OR SHEEPSFOOT ROLLERS. PLACE NO LARGE ROCKS WITHIN 24" OF PIPE. TRENCHES THAT ARE NOT ADEQUATELY COMPACTED SHALL BE RE–EXCAVATED AND BACKFILLED UNDER THE SUPERVISION OF THE DESIGN ENGINEER OR GOVERNING BODY. UNSUITABLE BACKFILL MATERIAL INCLUDES CHUNKS OF PAVEMENT, TOPSOIL, ROCKS OVER 6" IN SIZE, MUCK, PEAT OR PIECES OF PAVEMENT.

15) THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB–SITE SAFETY AND COMPLIANCE WITH GOVERNING REGULATIONS.

16) ORDERED EXCAVATION OF UNSUITABLE MATERIAL BELOW GRADE. REFILL WITH BEDDING MATERIAL. FOR TRENCH WIDTH SEE TRENCH DETAIL.

17) SAND BLANKET: CLEAN SAND, FREE FROM ORGANIC MATTER, SO GRADED THAT 90% – 100% PASSES A 1/2 INCH SIEVE AND NOT MORE THAN 15% WILL PASS A #200 SIEVE. BLANKET MAY BE OMITTED FOR DUCTILE IRON AND REINFORCED CONCRETE PIPE PROVIDED THAT NO STONE LARGER THAN 2 INCHES IS IN CONTACT WITH THE PIPE.

18) BASE COURSE GRAVEL, IF ORDERED BY THE ENGINEER, SHALL MEET THE REQUIREMENTS OF DIVISION 300 OF THE LATEST EDITION OF THE:
"STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF NEW HAMPSHIRE, DEPARTMENT OF TRANSPORTATION".

19) FOR CROSS COUNTRY CONSTRUCTION, BACKFILL OR FILL SHALL BE MOUNDED TO A HEIGHT OF 6 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

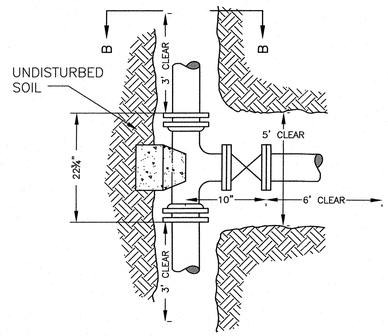
20) IF FULL ENCASEMENT IS UTILIZED, DEPTH OF CONCRETE BELOW PIPE SHALL BE 1/4 I.D. (4" MIN.) BLOCK SUPPORT SHALL BE SOLID CONCRETE BLOCKS.

21) 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).

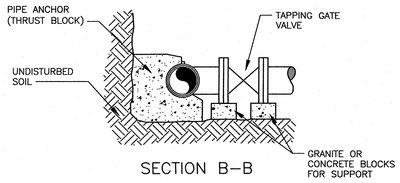
22) THE CONTRACTOR SHALL NOTIFY DIG SAFE AT 1–888–DIG–SAFE (1–888–344–7233) AT LEAST 72 HOURS PRIOR TO COMMENCING ANY EXCAVATION.

23) THE PURPOSE OF THIS PLAN IS TO SHOW STANDARDS FOR SEWER CONSTRUCTION.

24) ALL WORK SHALL BE IN COMPLIANCE WITH NHDES CODE OF ADMINISTRATIVE RULES PART ENV–WQ 704 DESIGN OF SEWERS.



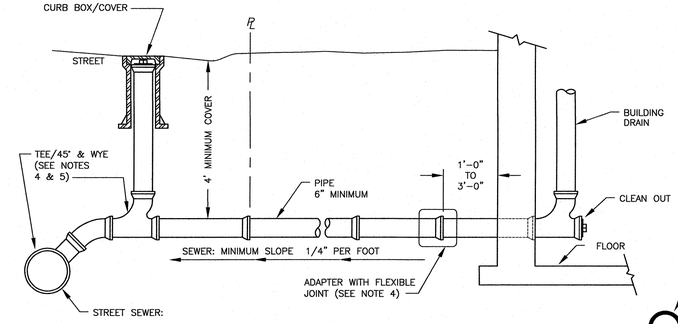
PLAN



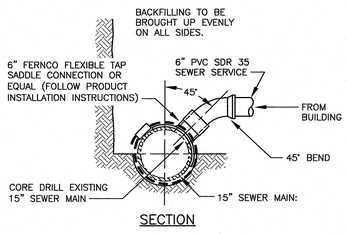
SECTION B–B

NOTES:
1) ALL MATERIALS SHALL BE APPROVED BY THE PORTSMOUTH WATER DEPARTMENT PRIOR TO INSTALLATION AND USE.
2) ALL JOINTS SHALL BE MECHANICAL.
3) "CLEAR" DIMENSIONS SHOWN ATE REQUIRED FOR WORKSPACE. NO JOINTS ON PIPE BEING TAPPED WITHIN "CLEAR" AREA.
4) FORD TYPE STAINLESS STEEL TAPPING SADDLES OR APPROVED EQUAL ARE ALSO ACCEPTABLE.

M / C4 – TAPPING SLEEVE AND GATE
INSTALL PER PORTSMOUTH REQUIREMENTS NTS



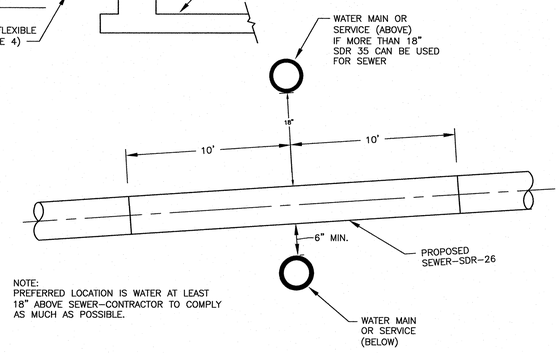
SEWER SERVICE



SECTION

SEWER SERVICE CONNECTION

P / C4 – SEWER SERVICE DETAILS
INSTALL PER PORTSMOUTH REQUIREMENTS NTS



NOTE:
PREFERRED LOCATION IS WATER AT LEAST 18" ABOVE SEWER–CONTRACTOR TO COMPLY AS MUCH AS POSSIBLE.

WATER CROSSING

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801–7114
Tel (603) 430–9282
Fax (603) 436–2315

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 ENGINEER.

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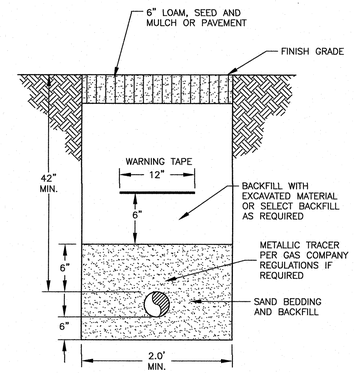


0 / C4 – GAS SERVICE TRENCH NTS

BRICK MARKET
60 PENHALLOW STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
1	ISSUED FOR APPROVAL	11/18/19
0	ISSUED FOR COMMENT	10/8/19

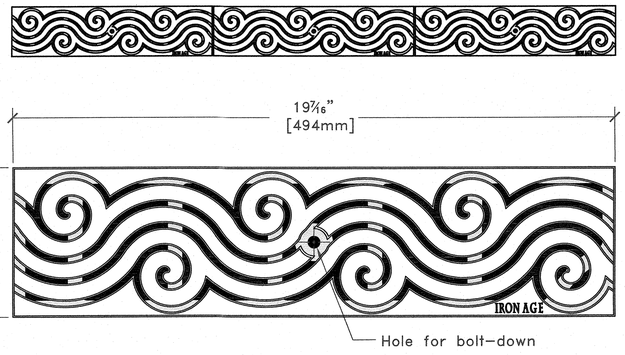
REVISIONS

JOHN R. CHAGNON NH 7391 LICENSED PROFESSIONAL ENGINEER STATE OF NEW HAMPSHIRE

SCALE: AS SHOWN OCTOBER 2019

DETAILS D3

3 GRATES ARRAYED



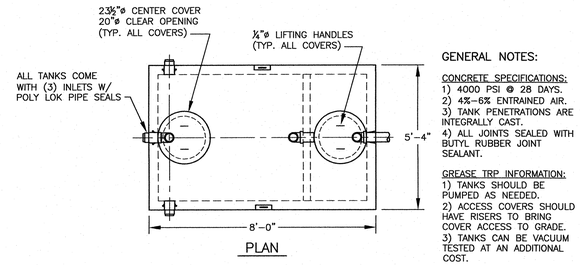
NOTES:
1. Material: cast iron
2. Natural finish
3. Total thickness: $1\frac{3}{16}$"
4. Fits drain channels manufactured by:
   ABT® PolyDrain®,
   ACO™ KlassikDrain-K100/K100S
   MEADRAIN® 1000 Series
5. No openings greater than $\frac{1}{4}$"
6. Due to casting inconsistencies, all dimensions are nominal.
7. Weight: 11 lbs. per casting

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

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

Registration Number: VA 2-007-074

Q / C3 IRON AGE GRATE DETAIL
WWW.IRONAGEGRATES.COM
(877)418-3568
ARGO 5" X 20' HEEL PROOF TRENCH GRATE NTS

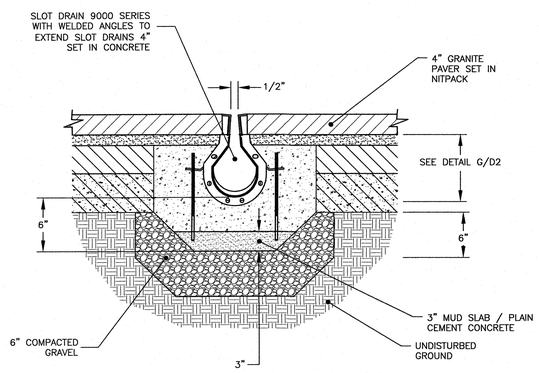


GENERAL NOTES:

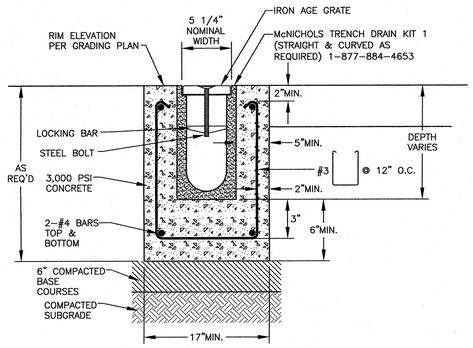
CONCRETE SPECIFICATIONS:
1) 4000 PSI @ 28 DAYS.
2) 4%-6% ENTRAINED AIR.
3) TANK PENETRATIONS ARE INTEGRALLY CAST.
4) ALL JOINTS SEALED WITH BUTYL RUBBER JOINT SEALANT.

GREASE TRP INFORMATION:
1) TANKS SHOULD BE PUMPED AS NEEDED.
2) ACCESS COVERS SHOULD HAVE RISERS TO BRING COVER ACCESS TO GRADE.
3) TANKS CAN BE VACUUM TESTED AT AN ADDITIONAL COST.

T / C4 AMERICAN CONCRETE INDUSTRIES
1000 GALLON 2 COMP. GREASE TRAP NTS
9,200 Lbs ITEM # 8827



R / C5 SLOT DRAIN DETAIL
WWW.SLOTDRAINSYSTEMS.COM
(855)497-7508
NTS



S / C5 TRENCH DRAIN DETAIL
AT FOUNTAIN AND BENCH NTS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road - Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

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60 PENHALLOW STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
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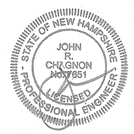
0	ISSUED FOR COMMENT	10/8/19

REVISIONS



SCALE: AS SHOWN OCTOBER 2019

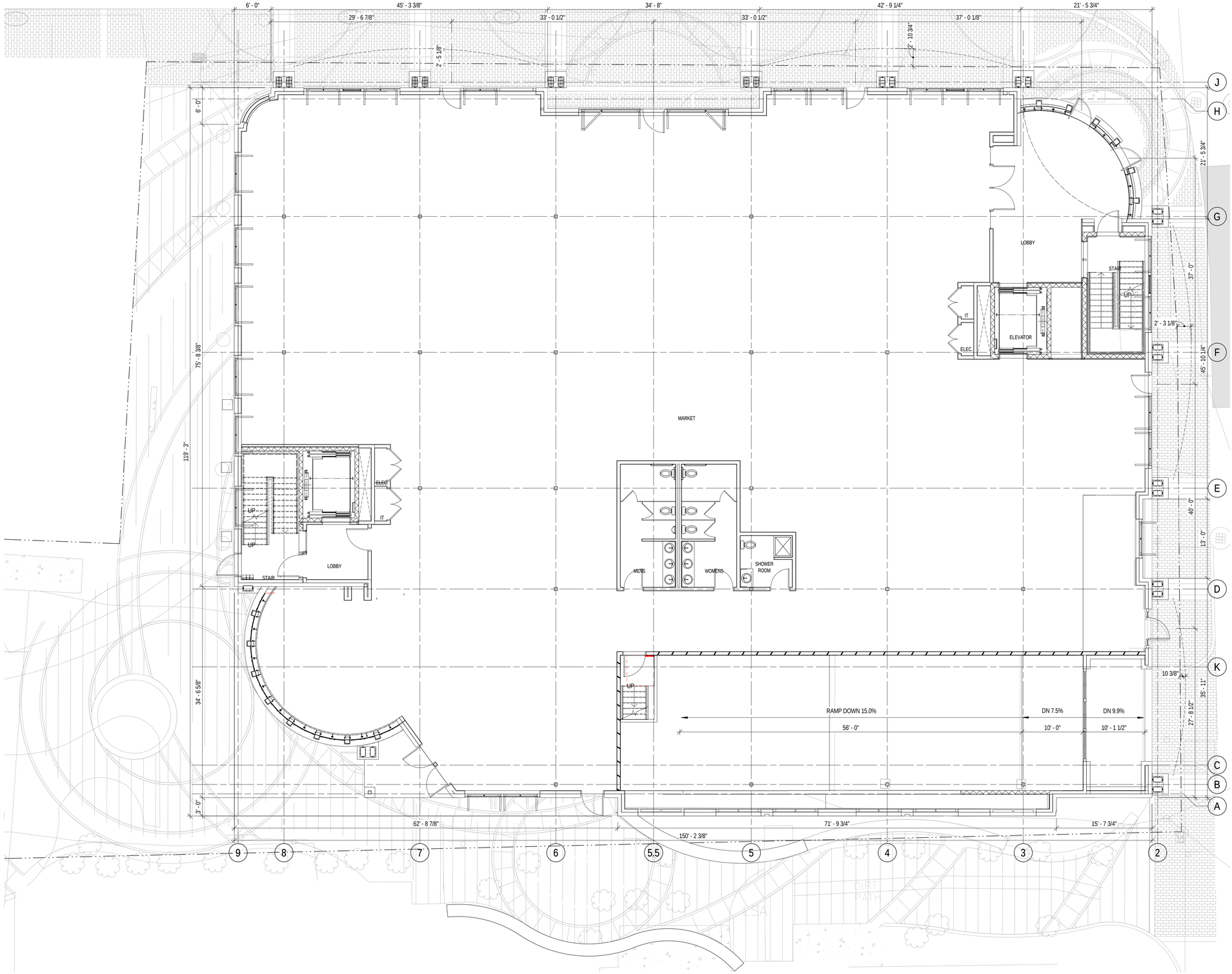
DETAILS

D4

FB 402 PG 1

3039

J:\3065's\JN 3000's\JN 3030's\JN 3039\2019 Site Development 60 Penhallow\Plans & Specs\Site\3039 DETAILS 60 PENHALLOW.dwg, DETAILS D4



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

GROSS SQUARE FOOTAGE	
NOTE: MEASURED TO 6" INTO EXTERIOR WALLS FROM INSIDE FACE	
ABOVE GRADE	
FIRST FLOOR	16,462
MECHANICAL MEZZANINE	724
SECOND FLOOR	16,669
THIRD FLOOR	16,130
FOURTH FLOOR	9,593
TOTAL	59,578
BELOW GRADE	
FIRST FLOOR	18,131
SECOND FLOOR	17,569
TOTAL	35,700
GRAND TOTAL (ABOVE AND BELOW TOTALS)	95,278

FOOTPRINT	
NOTE: MEASURED TO OUTSIDE FACE OF EXTERIOR WALLS	
FIRST FLOOR	17,197

GRAPHIC SCALE: 1/8" = 1'-0"
0' 4' 8' 16'

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

DAGNY TAGGART LLC
McNABB PROPERTIES

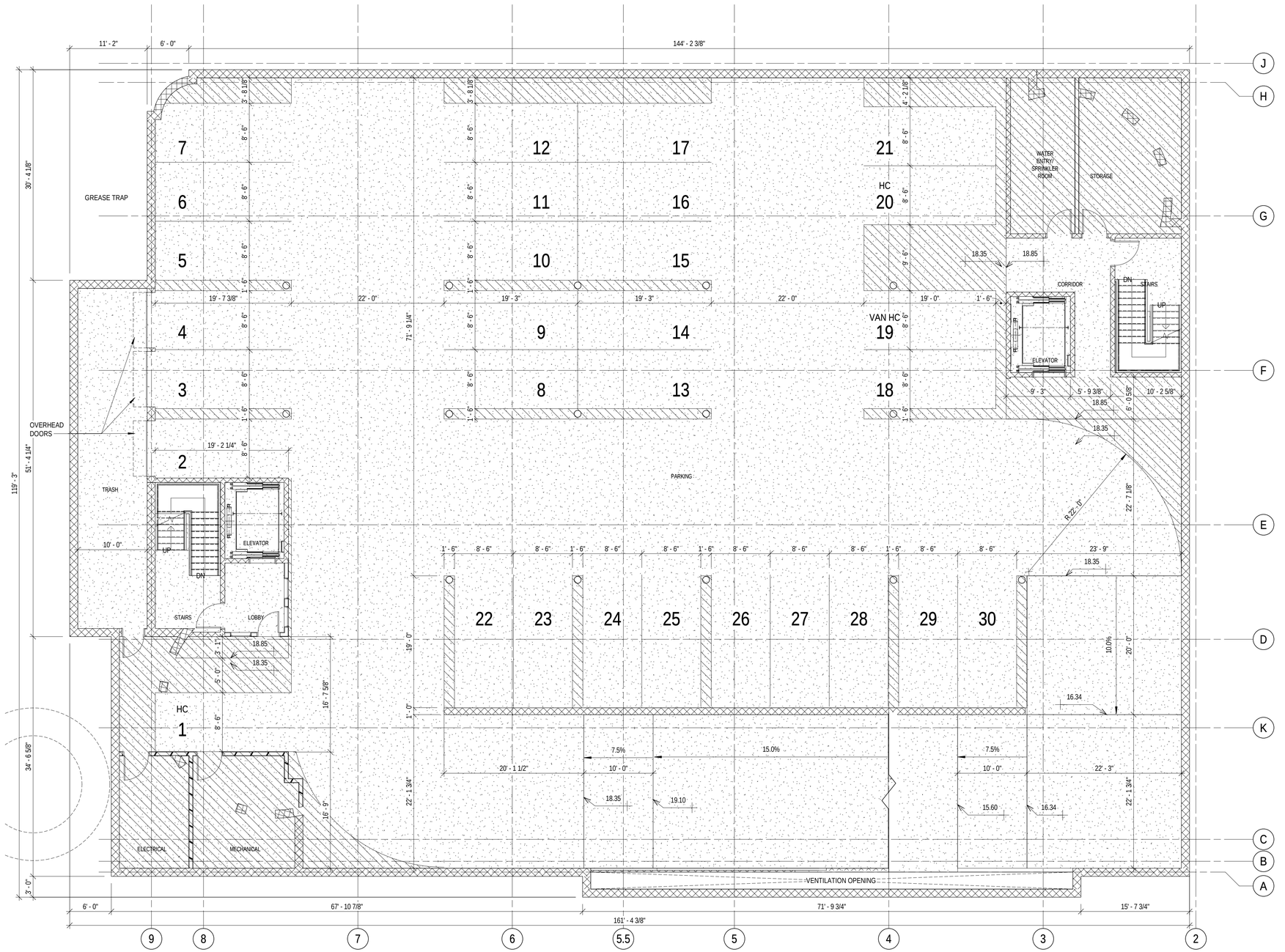
Scale: 1/8" = 1'-0"
Date: 11/18/2019
Project Number: P19081.02

REVISIONS		
NO.	DESCRIPTION	DATE

TAC SUBMISSION

FIRST FLOOR PLAN

A0.01



1 PARKING LEVEL 1 PLAN
1/8" = 1'-0"

GRAPHIC SCALE: 1/8" = 1'-0"
0' 4' 8' 16'

GROSS SQUARE FOOTAGE	
NOTE: MEASURED TO 6" INTO EXTERIOR WALLS FROM INSIDE FACE	
ABOVE GRADE	
FIRST FLOOR	16,462
MECHANICAL MEZZANINE	724
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McNABB PROPERTIES

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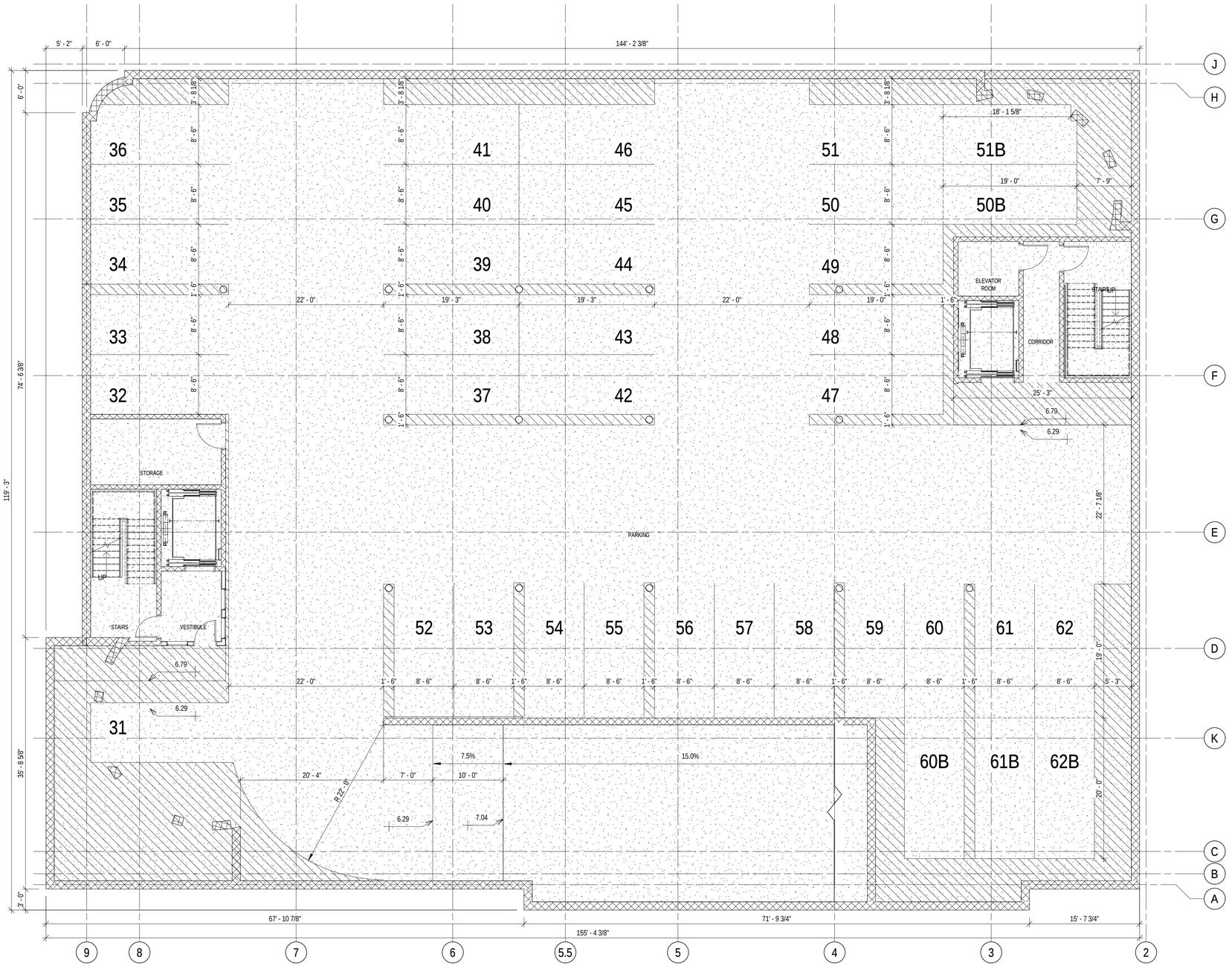
REVISIONS		
NO.	DESCRIPTION	DATE

TAC SUBMISSION

PARKING LEVEL
1 PLAN

A0.01A



1 PARKING LEVEL 2 PLAN
1/8" = 1'-0"

GRAPHIC SCALE: 1/8" = 1'-0"
0' 4' 8' 16'

GROSS SQUARE FOOTAGE	
NOTE: MEASURED TO 6" INTO EXTERIOR WALLS FROM INSIDE FACE	
ABOVE GRADE	
FIRST FLOOR	16,462
MECHANICAL MEZZANINE	724
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NOTE: MEASURED TO OUTSIDE FACE OF EXTERIOR WALLS	
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60 PENHALLOW STREET
at BRICK MARKET

Penhallow Street
Portsmouth, NH

DAGNY TAGGART LLC
McNABB PROPERTIES

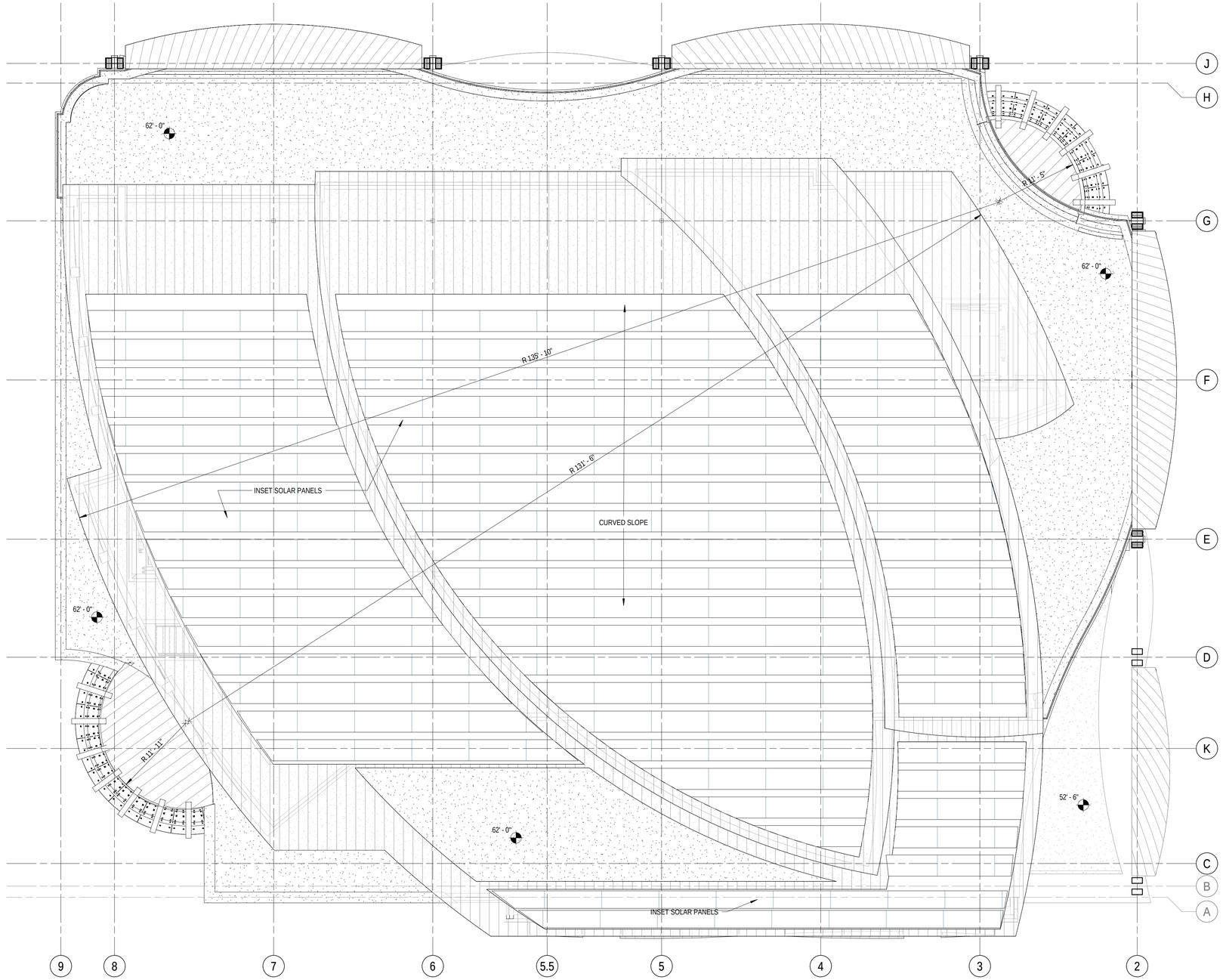
Scale:	1/8" = 1'-0"
Date:	11/18/2019
Project Number:	P19081.02

REVISIONS		
NO.	DESCRIPTION	DATE

TAC SUBMISSION

PARKING LEVEL
2 PLAN

A0.01B



1 ROOF OVERALL PLAN
1/8" = 1'-0"

GRAPHIC SCALE: 1/8" = 1'-0"
0' 4' 8' 16'

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DAGNY TAGGART LLC
McNABB PROPERTIES

Scale:	1/8" = 1'-0"
Date:	11/18/2019
Project Number:	P19081.02

REVISIONS		
NO.	DESCRIPTION	DATE

TAC SUBMISSION

ROOF PLAN

A0.02

1 NORTH ELEVATION - DANIEL STREET
1/8" = 1'-0"

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

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Penhallow Street
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McNABB PROPERTIES

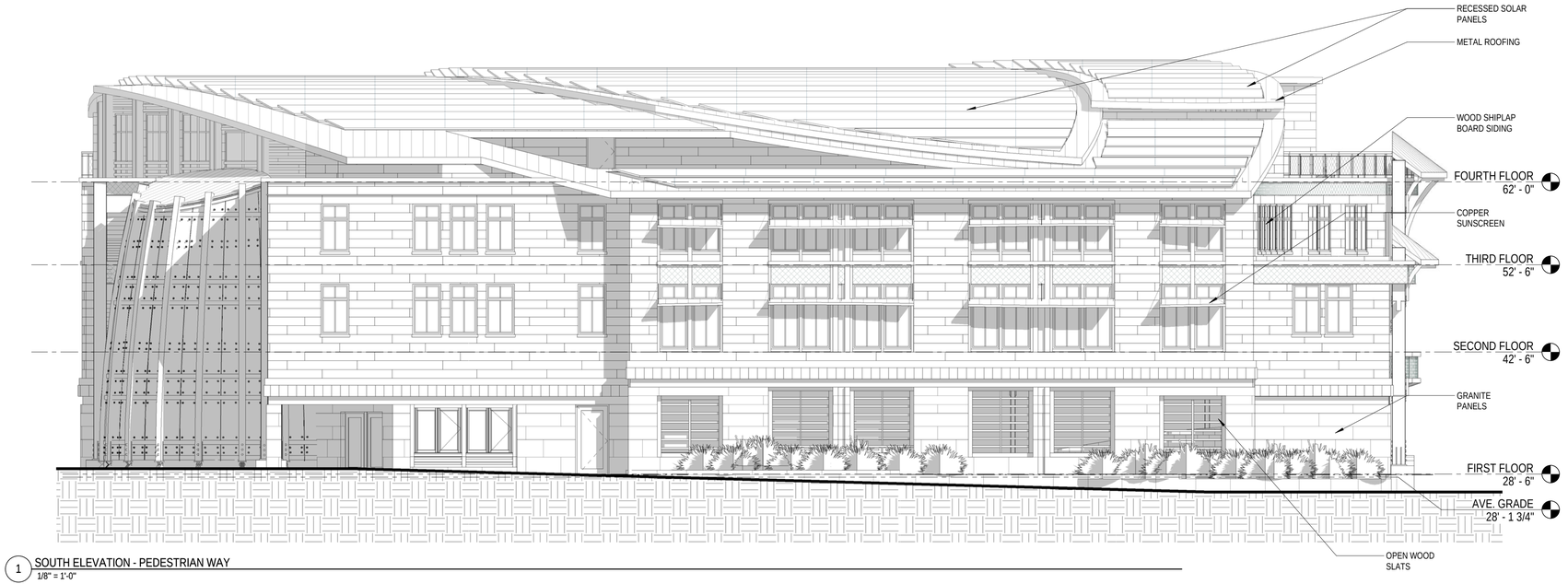
Scale:	1/8" = 1'-0"
Date:	11/18/2019
Project Number:	P19081.02

REVISIONS		
NO.	DESCRIPTION	DATE

TAC SUBMISSION

EXTERIOR ELEVATIONS

A0.03



1 SOUTH ELEVATION - PEDESTRIAN WAY
1/8" = 1'-0"

2 WEST ELEVATION - PEDESTRIAN WAY
1/8" = 1'-0"

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Scale:	1/8" = 1'-0"
Date:	11/18/2019
Project Number:	P19081.02

REVISIONS		
NO.	DESCRIPTION	DATE

TAC SUBMISSION

EXTERIOR ELEVATIONS

A0.04

NORTHEAST VIEW

NORTHWEST VIEW

SOUTHWEST VIEW

SOUTHEAST VIEW

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Portsmouth, NH

DAGNY TAGGART LLC
McNABB PROPERTIES

Scale:
Date: 11/18/2019
Project Number: P19081.02

REVISIONS		
NO.	DESCRIPTION	DATE

TAC SUBMISSION

TANGRAM
RENDERINGS

A0.05

JSA
ARCHITECTS
INTERIORS
PLANNERS

0 Daniel Street (60 Penhallow Street)

Site Plan Review 11-18-2019

Green Building Statement

WATER

- Protect water quality – Eliminate surface parking lot.
- Conserve Water -- Target 30% reduction in fixtures water use over building code, meeting EPACT 2005.

ENERGY

- Conserve Energy -- Target 50% Energy Use Index (EUI) Reduction over code compliance (IECC2015) in each building. Use early energy modeling to analyze effective scenarios. Provide high performance thermal envelope. Achieve Energy Star certification and associated rebates. Use Heat Recovery for ventilation. Commission energy using systems. LED lighting throughout.
- Renewable Energy – Rooftop Solar Photovoltaic system for portion of building's energy needs.
- Building Performance -- Use industry tools to annually monitor and benchmark buildings. Train staff on proper building operation with comprehensive Facilities Staff Training and Systems Manuals.
- Reduce Low level ozone (smog) -- Provide safe and secure bicycle storage. Use only low-VOC products for construction and operation.

MATERIALS & RESOURCES

- Minimize waste (during construction and operation)
- Use regional, renewable, low carbon footprint materials

INDOOR ENVIRONMENTAL QUALITY

- Thermal comfort -- Meet ASHRAE 55 Thermal Comfort Code. Address thermal envelope per above. Provide multiple zones of heating and cooling in each apartment.
- Indoor air quality (before and during occupancy) -- MEET ASHRAE 62 Ventilation Code in all occupied spaces. MEET LEED IEQ credit requirements.
- Views / connection to outdoors -- Provide views to outdoors for every regularly occupied space.
- Daylighting -- Achieve Daylight Factor of 2% minimum for every regularly occupied space.
- Individual controls (light, heat etc...) -- Provide individual controls for temperature and lighting.

November 18, 2019

MAX-2019184.00

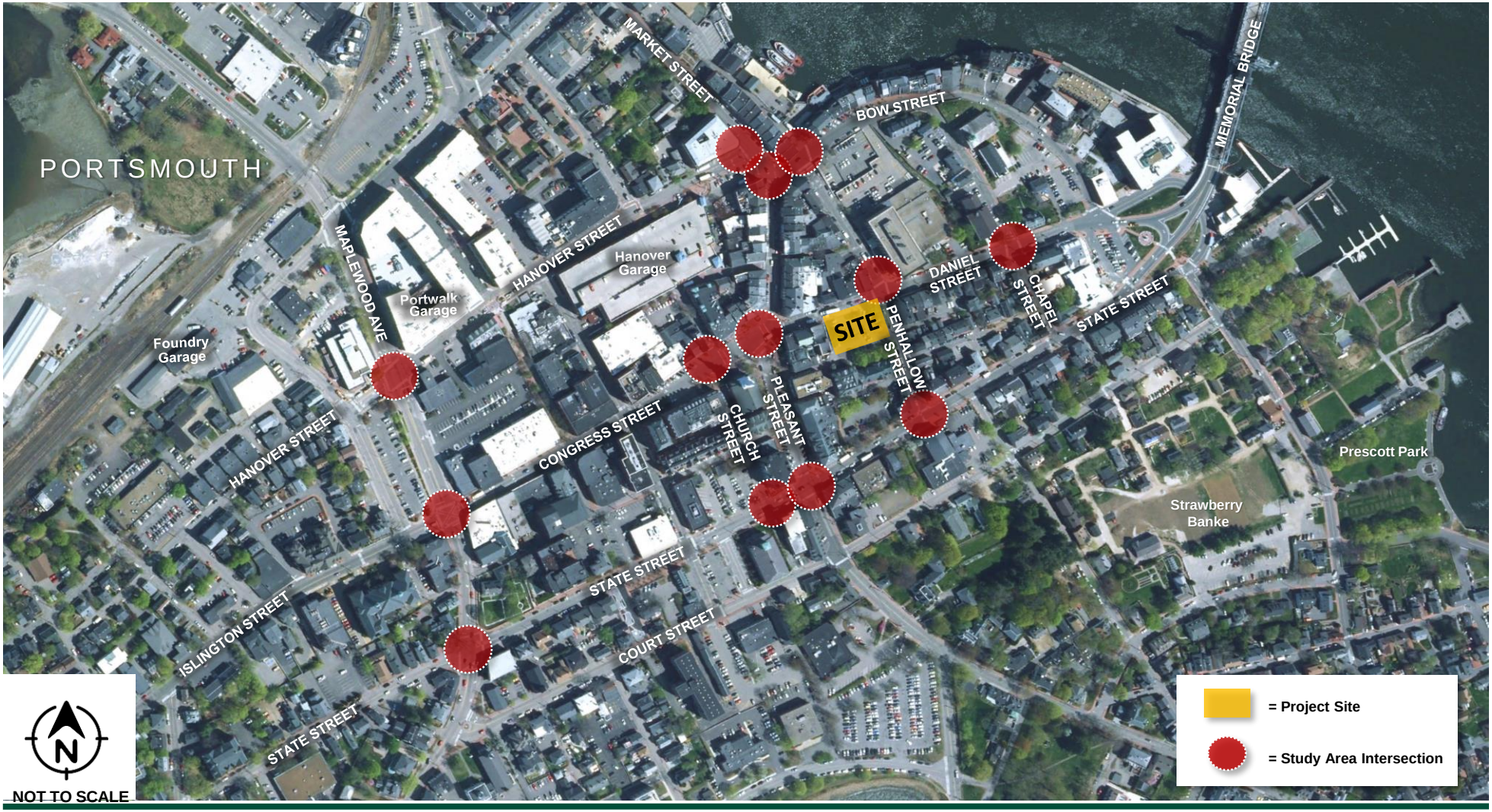
Mr. Eric B. Eby, P.E.
Department of Public Works
City of Portsmouth
680 Peverly Hill Road
Portsmouth, New Hampshire 03801

SUBJECT: Trip Generation Summary Letter
#60 Penhallow Street – Portsmouth, NH

Dear Mr. Eby:

Greenman-Pedersen, Inc. (GPI) is in the process of preparing a *Traffic Impact and Access Study (TIAS)* for a proposed mixed-use development, referred to as Brick Market, to located at #60 Penhallow Street in Portsmouth, New Hampshire. The existing site is currently a public 50-space parking lot with a single full-access / egress curb cut on Penhallow Street. The project consists of constructing a mixed-use development with a ±16,800 square foot (SF) of fast-food and fast-casual restaurant space on the first floor and ±41,600 SF of general office space on the second through fourth floors. The existing driveway will remain at Penhallow Street but be modified to provide garage access below street level. The site location in relation to the surrounding roadways is shown on the Project Location Map in Figure 1.

GPI and the Applicant met with representatives of the City of Portsmouth Planning Department on October 28, 2019 to review the scope of the TIAS. During this meeting, the Planning Department requested that the trip generation and distribution assumptions of the Project be provided to the City's Parking and Transportation Engineer for review prior to finalizing the TIAS. This letter is intended to provide a summary of the project-generated trips, mode split, and the corresponding trip distribution for review. A more comprehensive TIAS will be provided once the trip generation and distribution assumptions have been approved.



NOT TO SCALE

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Figure 1
Site Location Map

TRIP GENERATION

The Project is proposed to consist of the construction of approximately 41,600 SF of office space and 16,800 SF of restaurant space. The restaurant space will be a food-court style restaurant, similar to Faneuil Hall in Boston, with a mix of fast-food and fast-casual dining options with shared seating. To estimate the volume of traffic to be generated by the proposed redevelopment, trip-generation rates published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual* [1] were utilized for Land Use Code (LUC) 710 (General Office), LUC 930 (Fast Casual Restaurant), and LUC 933 (Fast-Food Restaurant without Drive-Through Window). Approximately half of the restaurant space was assumed to be fast-food style and half was assumed to be fast-casual style. The detailed trip generation calculations are provided as an Attachment and are summarized in Table 1.

Multi-Use Trips

Internal Capture

Studies have shown that for developments of mixed-use or multi-use sites, it is realistic to assume that there will be some multi-use trips within the site itself. For example, someone working in the office spaces may dine at one of the restaurants on-site. Therefore, a reduction in the overall trips experienced at the site driveway can be anticipated as a result of multi-use trips that include stops at more than one use on the site. Based on information published in ITE's *Trip Generation Handbook* [2], it is estimated that multi-use trips account for 2 to 10 percent of the trips generated by the site. The Multi-Use Development Trip Generation and Internal Capture Worksheets are provided in the Attachments.

External Capture

The proposed development is located within the downtown central business district of Portsmouth, in close proximity to numerous other retail, restaurant, office, residential, entertainment, hotel, and commercial uses. While many of the office trips generated by the project will be new to the area, a large portion of the restaurant trips will be shared with other retail, office, residential, and other uses within the downtown area. It is anticipated that patrons will park at a single location either within one of the public parking garages or within on-street parking spaces and visit multiple uses within the downtown, stopping at one of the restaurants as part of their trip. In addition, employees of surrounding area businesses, residents of downtown, or patrons of area hotels may choose to dine at one of the on-site restaurants. These patrons would likely walk to the site from other locations and would not be new to the area. GPI utilized the Multi-Use Development Trip Generation and Internal Capture worksheets contained within ITE's *Trip Generation Handbook* to estimate the potential number of trips that could be shared between the proposed restaurants and the surround area businesses, hotels, and residences. Based on this information, 45 to 75 percent of restaurant trips are anticipated to be shared with other downtown uses.

Pass-by Trips

Studies have shown that for restaurant developments, a substantial portion of the site-generated vehicle trips are already present in the adjacent passing stream of traffic or are diverted from another route to the proposed site. For example, some vehicles which are already on the roadways may decide to visit the site on their way to another destination. Based on information published in the ITE *Trip Generation Handbook*, the average *pass-by* trip percentage is 43 to 50 percent for fast-food and high-turnover sit-down restaurants. Due to the location of the proposed restaurants in the downtown business district, it is likely that pass-by trips will arrive to the site

1 *Trip Generation, 10th Edition*. Institute of Transportation Engineers; Washington, DC; 2017.

2 *Trip Generation Handbook, 3rd Edition.* Institute of Transportation Engineers; Washington, DC; September, 2017.

in the form of walking trips from patrons parking at another location downtown and visiting multiple stops before returning to their vehicle. For example, an area employee may stop at the restaurants to purchase dinner before leaving the downtown in their vehicle, or a person shopping in the downtown area may stop at the restaurant to grab lunch while shopping. Therefore, any pass-by trips generated by the proposed restaurant have been accounted for within the *external capture multi-use trips* described above.

Walking and Bicycling Trips

As previously noted, the proposed development is located within downtown Portsmouth in close proximity to multiple retail, restaurant, office, and commercial developments. In addition, a strong sidewalk network on the surrounding area roadways provides pedestrian connections between the site and these establishments. The City of Portsmouth has also made concerted efforts to provide bicycle accommodations throughout the downtown including dedicated bicycle lanes, shared lanes, and bicycle parking. As described in the *Multi-Use Trips – External Capture* section of this letter, approximately 45 to 75 percent of the restaurant trips are anticipated to be shared with surrounding area businesses and residences, and will travel to the site via walking or bicycling. In addition, based on U.S. Census Bureau information on means of travel for residence of Portsmouth, approximately 7.7 percent of Portsmouth residents travel to work via walking or biking. To provide a conservative (worse case) analysis scenario, 5 percent of the office trips were assumed to travel to/from the site via walking or bicycle.

Transit Trips

The Cooperative Alliance for Seacoast Transportation (COAST) and the University of New Hampshire (UNH) Wildcat Transit provide bus service along Congress Street / Daniel Street, Hanover Street, and Maplewood Avenue in the vicinity of the site. Based on U.S. Census Bureau data for residence of Portsmouth, approximately 1.4 percent of Portsmouth residents utilize public transit services to travel to/from work. It should be noted that this percentage includes also Portsmouth residents traveling to all places of employment, most of which may be located outside of the City. The percentage of residents using public transit to travel to places of employment within the City is likely to be much higher. To provide a conservative (worse case) analysis condition, no credit was applied for trips traveling to the site via public transportation.

The detailed trip generation and mode split calculations are provided in the Attachments. Table 1 provides a summary of the resulting site-generated trips.

Table 1
TRIP-GENERATION SUMMARY

Time Period / Direction	External Trips		Walking / Biking Trips		New Primary Trips		
	Office Trips [a]	Restaurant Trips [b]	Office Trips [c]	Restaurant Trips [d]	Office Trips [e]	Restaurant Trips [f]	Total Trips [g]
Weekday Daily	377	5,479	19	3,534	358	1,945	2,303
Weekday AM Peak Hour							
In	49	132	2	131	47	1	48
Out	3	82	0	40	3	42	45
Total	52	214	2	171	50	43	93
Weekday PM Peak Hour							
In	6	182	0	96	6	86	92
Out	39	171	2	131	37	40	77
Total	45	353	2	227	43	126	169
Saturday Daily	80	8,510	4	4,846	76	3,664	3,740
Saturday Midday Peak Hour							
In	7	380	0	204	7	176	183
Out	8	358	0	130	8	228	236
Total	15	738	0	334	15	404	419

[a] Based on ITE LUC 710 (General Office) for ±41,600 SF.
[b] Based on sum of ITE LUC 930 (Fast Casual Restaurant) for ±8,400 SF and ITE LUC 933 (Fast-Food Restaurant without Drive-Through) for ±8,400 SF.
[c] Five percent of office trips based on U.S. Census data.
[d] Trips based on mixed-use percentages to retail, residential, hotel, and entertainment uses.
[e] General office external trips minus walking / biking trips.
[f] Restaurant external trips minus walking / biking trips.
[g] New Primary Office Trips plus New Primary Restaurant Trips.

TRIP DISTRIBUTION

Having estimated project-generated vehicle trips, the next step is to determine the distribution of project traffic and assign these trips to the local roadway network.

Office Trips

The distribution of site-generated office trips was based on a Journey-to-Work model using U.S. Census Data for the place of residency of employees of Portsmouth, which was prepared as part of the Traffic Impact Study for the proposed McIntyre Building Federal property redevelopment project by Tighe & Bond. As part of the #60 Penhallow Street project, 77 parking spaces will be provided on-site within an underground garage to accommodate the proposed office use. Therefore, the trip distribution prepared as part of the McIntyre Building study was slightly modified to account for vehicles traveling directly to/from the on-site parking garage. The resulting trip distribution is graphically depicted in Figure 2 and summarized in Table 2 below.

Restaurant Trips

Similarly, the McIntyre Building redevelopment includes a residential component and is located in close proximity to the #60 Penhallow Street site. Therefore, the trip distribution assumptions used for the McIntyre project were utilized to distribute restaurant trips for the #60 Penhallow Street project. As previously noted in the *Trip Generation* section of this letter, the majority of restaurant trips are likely to be shared with other uses in the downtown area and will travel to/from the site via walking. However, the portion of *new primary* trips traveling to the proposed restaurants will likely park in nearby parking garages and walk to the site. The Hanover Garage and Portwalk Garage provide a large amount of parking at relatively low costs and are in close proximity to the site. Therefore, all of the *new primary* restaurant trips were assumed to travel to one of these two garages on Hanover Street. The resulting trip distribution is graphically depicted in Figure 3 and summarized in Table 2 below.

Table 2
TRIP DISTRIBUTION SUMMARY

Direction	Office Distribution (%)	Restaurant Distribution (%)
Middle Street to/from South	5	25
Market Street to/from North	20	15
Maplewood Avenue to/from North	60	30
Memorial Bridge to/from East	10	20
Islington Street to/from West	5	10
Total	100	100

The site-generated trips were distributed to the study area intersections based on the percentages in Table 2 above. The resulting site-generated trips are illustrated in Figures 4A, 4B, and 4C for the weekday AM, weekday PM, and Saturday midday peak hours, respectfully.

SUMMARY

GPI has estimated the site-generated vehicle trips associated with the proposed redevelopment of #60 Penhallow Street as described in this letter. This information will be utilized in the preparation of a comprehensive Traffic Impact and Access Study and will determine the extents of the study area. Therefore, we respectfully request your review and approval of the assumptions and resulting trip generation and distribution prior to moving forward with completion of the traffic study.

Should you have any questions, or require additional information, please contact me at (978) 570-2946.

Sincerely,

GREENMAN-PEDERSEN, INC.

Rebecca L. Brown, P.E., PTOE
Senior Project Manager

Enclosures:
Site-Generated Vehicle Trip Traffic-Volume Networks
Trip Generation Calculations
Mode Split Calculations
Trip Distribution Calculations

cc: Mark McNabb – Dagny Taggart, LLC (via email)
John Chagnon, P.E., LLS – Ambit Engineering (via email)

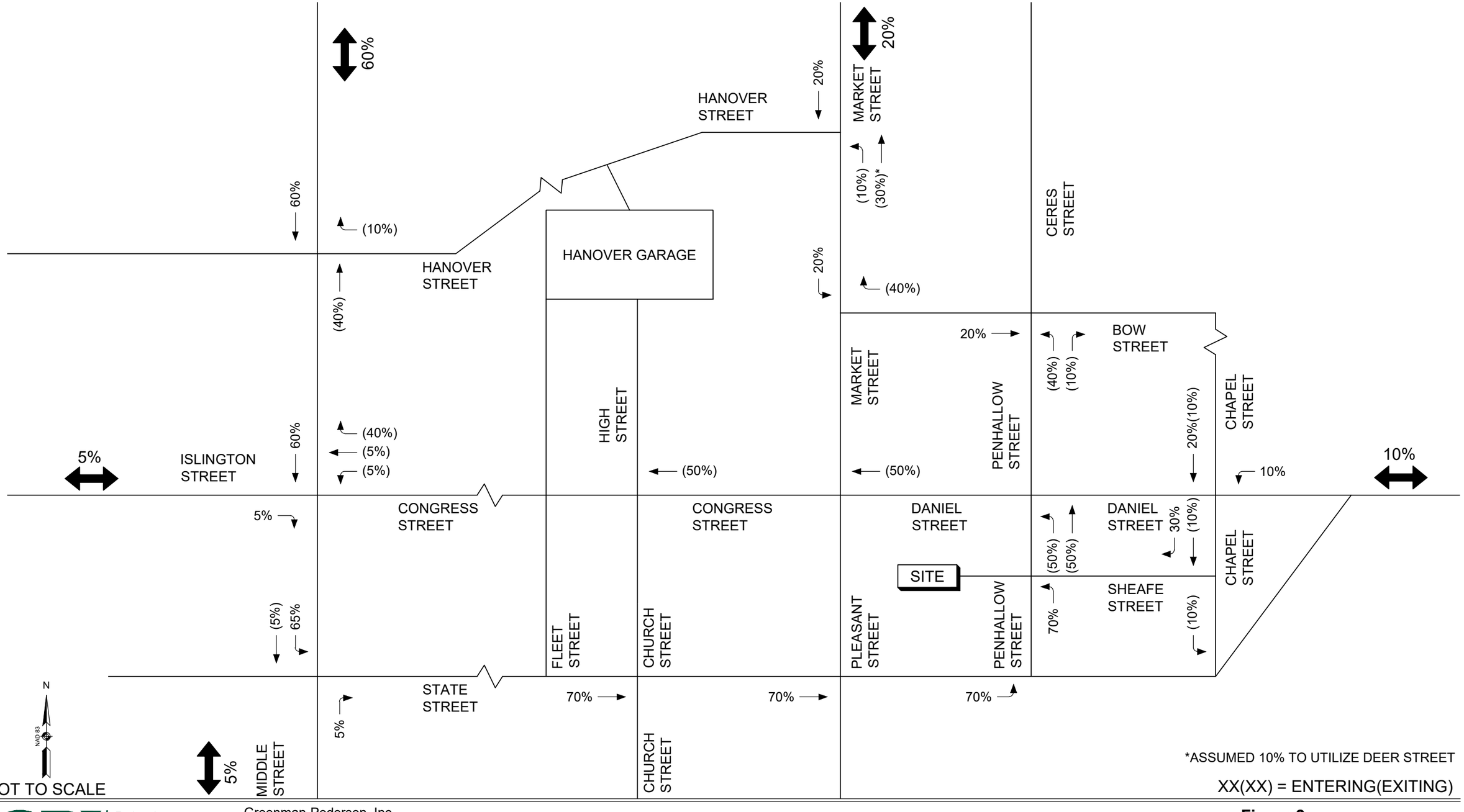

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Figure 2

Office Vehicle Trip Distribution

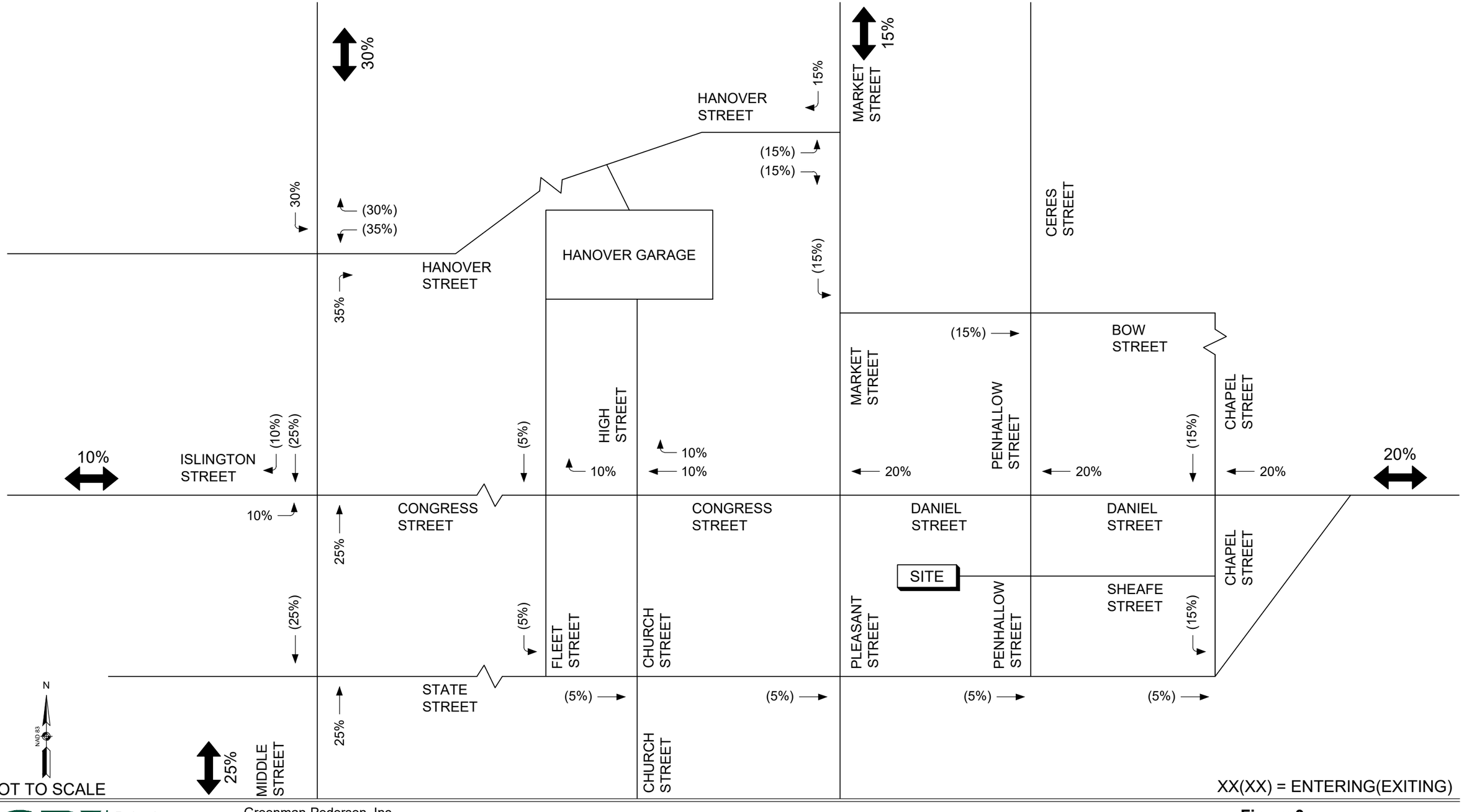

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Figure 3

Restaurant Vehicle Trip Distribution

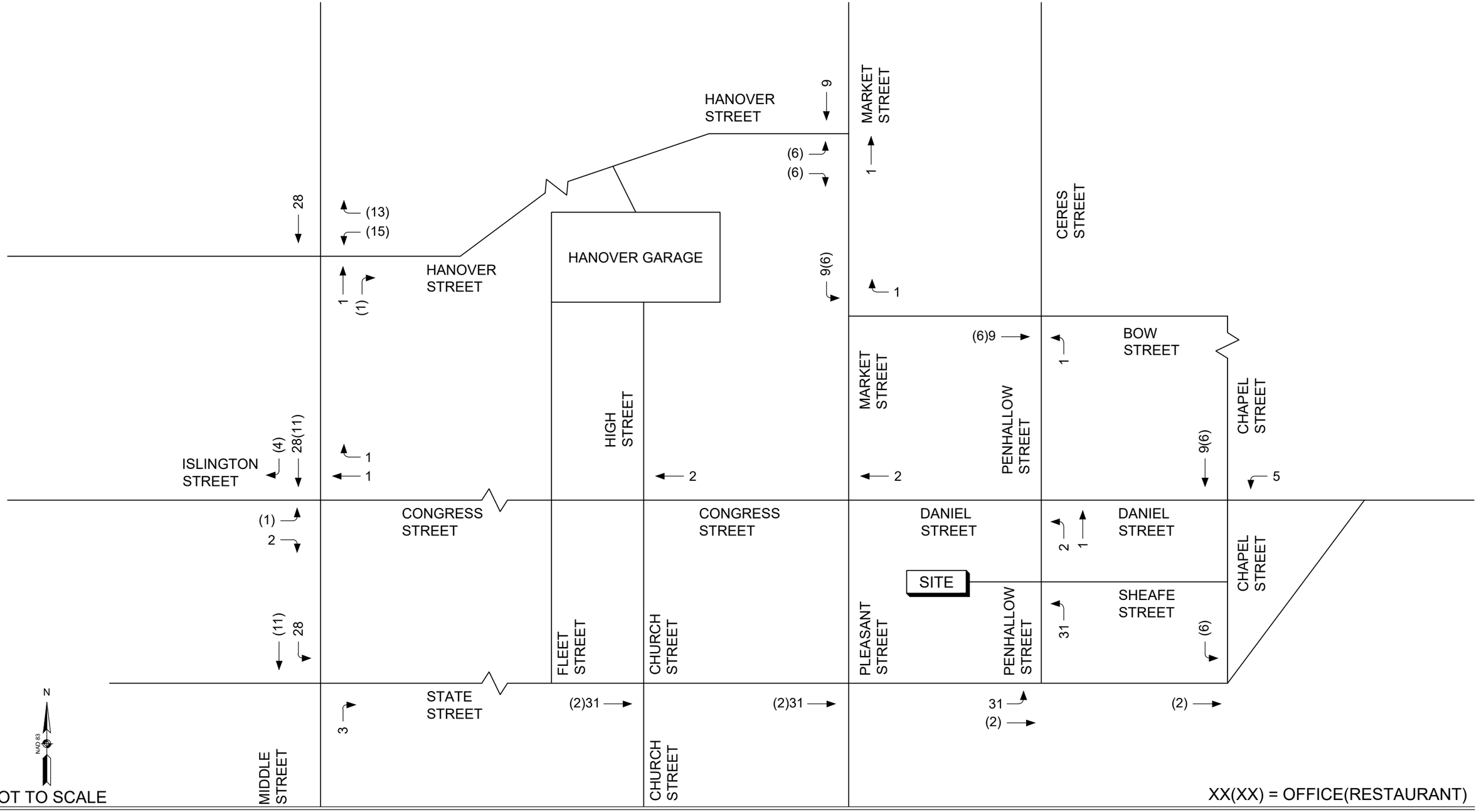

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Figure 4A

Site-Generated Trips
Weekday AM

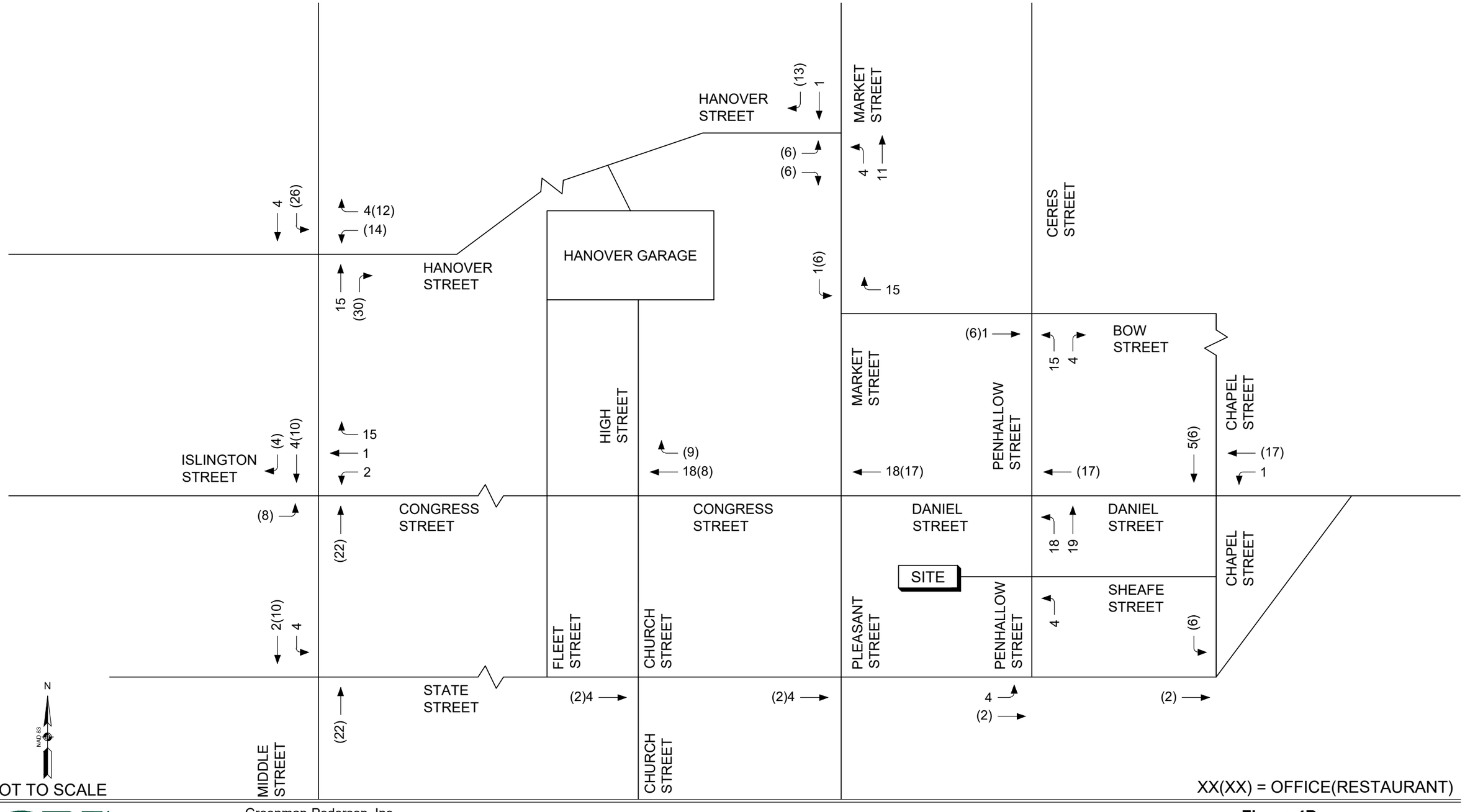

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Figure 4B

Site-Generated Trips
Weekday PM

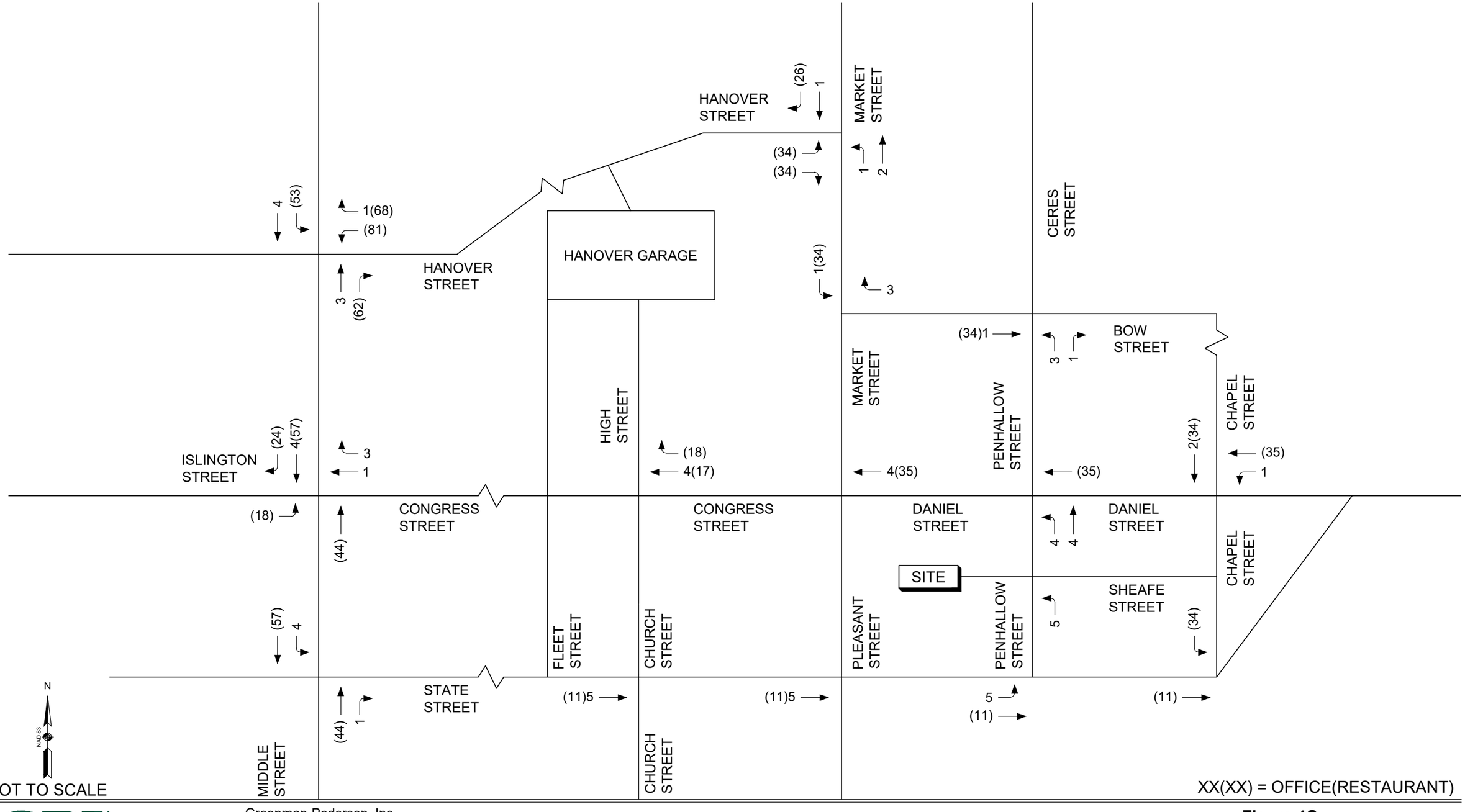

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Figure 4C

Site-Generated Trips
Saturday Midday

Size	Units	Land Use
41,600	SF	LUC 710
8,400	SF	LUC 933
8,400	SF	LUC 930

Walk/Bike Credit: 5%

		Total Trips				External Trips				Walking / Biking Trips				New Primary Trips			
		LUC 710	LUC 933	LUC 930	TOTAL	LUC 710	LUC 933	LUC 930	TOTAL	LUC 710	LUC 933	LUC 930	TOTAL	LUC 710	LUC 933	LUC 930	TOTAL
Weekday Daily	Entering	227	1,454	1,324	3,005	159	2,769		2,928	8	1,464		1,472	151	1,305		1,456
	Exiting	227	1,454	1,324	3,005	218	2,710		2,928	11	2,070		2,081	207	640		847
	Total	454	2,908	2,648	6,010	377	5,479		5,856	19	3,534		3,553	358	1,945		2,303
Weekday AM Peak Hour	Entering	57	127	11	195	49	132		181	2	131		133	47	1		48
	Exiting	9	84	6	99	3	82		85	0	40		40	3	42		45
	Total	66	211	17	294	52	214		266	2	171		173	50	43		93
Weekday PM Peak Hour	Entering	8	119	65	192	6	182		188	0	96		96	6	86		92
	Exiting	41	119	54	214	39	171		210	2	131		133	37	40		77
	Total	49	238	119	406	45	353		398	2	227		229	43	126		169
Saturday Daily	Entering	46	2,923	1,338	4,307	36	4,259		4,295	2	2,683		2,685	34	1,576		1,610
	Exiting	46	2,923	1,338	4,307	44	4,251		4,295	2	2,163		2,165	42	2,088		2,130
	Total	92	5,846	2,676	8,614	80	8,510		8,590	4	4,846		4,850	76	3,664		3,740
Saturday Midday Peak Hour	Entering	12	225	157	394	7	380		387	0	204		204	7	176		183
	Exiting	10	234	129	373	8	358		366	0	130		130	8	228		236
	Total	22	459	286	767	15	738		753	0	334		334	15	404		419

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 710 - General Office Building

General Urban/Suburban

Average Vehicle Trips Ends vs: 1000 Sq. Feet Gross Floor Area
Independent Variable (X): 41.600

AVERAGE WEEKDAY DAILY

Ln(T) = 0.97 Ln (X) + 2.50
Ln(T) = 0.97 Ln (41.600) + 2.50
Ln(T) = 6.12
T = 453.17
T = 454 vehicle trips
with 50% (227 vpd) entering and 50% (227 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 0.94 * (X) + 26.49
T = 0.94 * 41.600 + 26.49
T = 65.59
T = 66 vehicle trips
with 86% (57 vph) entering and 14% (9 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

Ln(T) = 0.95 Ln (X) + 0.36
Ln(T) = 0.95 Ln (41.600) + 0.36
Ln(T) = 3.90
T = 49.49
T = 49 vehicle trips
with 16% (8 vph) entering and 84% (41 vph) exiting.

SATURDAY DAILY

T = 2.21 * (X)
T = 2.21 * 41.600
T = 91.94
T = 92 vehicle trips
with 50% (46 vph) entering and 50% (46 vph) exiting.

SATURDAY PEAK HOUR OF GENERATOR

T = 0.53 * (X)
T = 0.53 * 41.600
T = 22.05
T = 22 vehicle trips
with 54% (12 vph) entering and 46% (10 vph) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 933 - Fast-Food Restaurant without Drive-Through Window

General Urban/Suburban

Average Vehicle Trips Ends vs: 1,000 Sq. Ft. Gross Floor Area
Independent Variable (X): 8.400

AVERAGE WEEKDAY DAILY

T = 346.23 * (X)
T = 346.23 * 8.400
T = 2908.33
T = 2,908 vehicle trips
with 50% (1,454 vpd) entering and 50% (1,454 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 25.10 * (X)
T = 25.1 * 8.400
T = 210.84
T = 211 vehicle trips
with 60% (127 vph) entering and 40% (84 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 28.34 * (X)
T = 28.34 * 8.400
T = 238.06
T = 238 vehicle trips
with 50% (119 vph) entering and 50% (119 vph) exiting.

SATURDAY DAILY

T = 696.00 * (X)
T = 696.00 * 8.400
T = 5846.40
T = 5,846 vehicle trips
with 50% (2,923 vpd) entering and 50% (2,923 vpd) exiting.

SATURDAY PEAK HOUR OF GENERATOR

T = 54.60 * (X)
T = 54.60 * 8.400
T = 458.64
T = 459 vehicle trips
with 49% (225 vph) entering and 51% (234 vph) exiting.

Institute of Transportation Engineers (ITE)

Land Use Code (LUC) 930 - Fast Casual Restaurant

General Urban/Suburban

Average Vehicle Trips Ends vs: 1,000 Sq. Ft. Gross Floor Area
Independent Variable (X): 8.400

AVERAGE WEEKDAY DAILY

T = 315.17 * (X)
T = 315.17 * 8.400
T = 2647.43
T = 2,648 vehicle trips
with 50% (1,324 vpd) entering and 50% (1,324 vpd) exiting.

WEEKDAY MORNING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 2.07 * (X)
T = 2.07 * 8.400
T = 17.39
T = 17 vehicle trips
with 67% (11 vph) entering and 33% (6 vph) exiting.

WEEKDAY EVENING PEAK HOUR OF ADJACENT STREET TRAFFIC

T = 14.13 * (X)
T = 14.13 * 8.400
T = 118.69
T = 119 vehicle trips
with 55% (65 vph) entering and 45% (54 vph) exiting.

SATURDAY DAILY

T = 318.62 * (X)
T = 318.62 * 8.400
T = 2676.41
T = 2,676 vehicle trips
with 50% (1,338 vpd) entering and 50% (1,338 vpd) exiting.

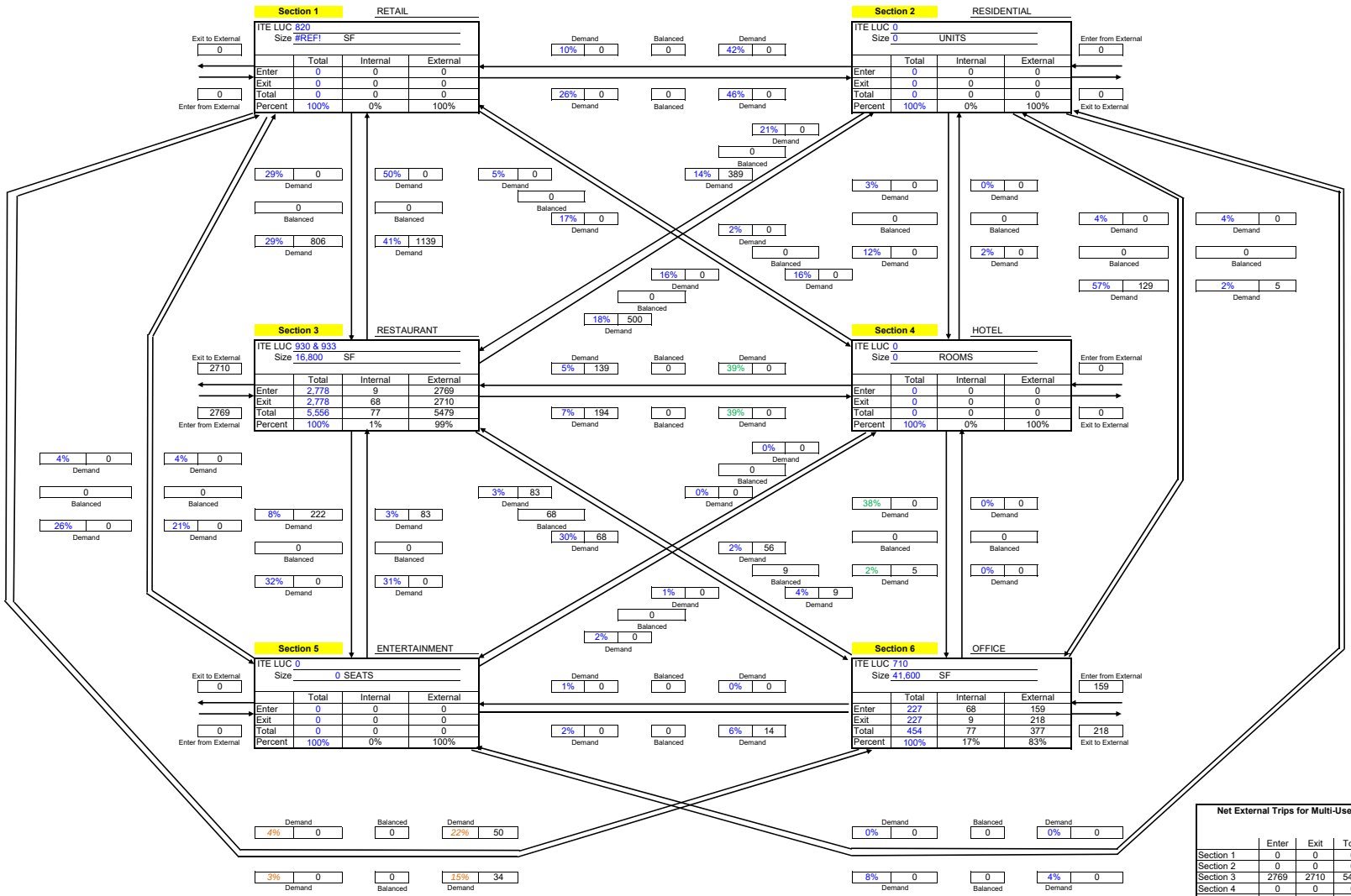
SATURDAY PEAK HOUR OF GENERATOR

T = 34.02 * (X)
T = 34.02 * 8.400
T = 285.77
T = 286 vehicle trips
with 55% (157 vph) entering and 45% (129 vph) exiting.

Analyst: Douglas S. Halpert, P.E.
Date: October 24, 2019

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt: 60 Penhallow Street
Time Period: Weekday Daily



Net External Trips for Multi-Use Development

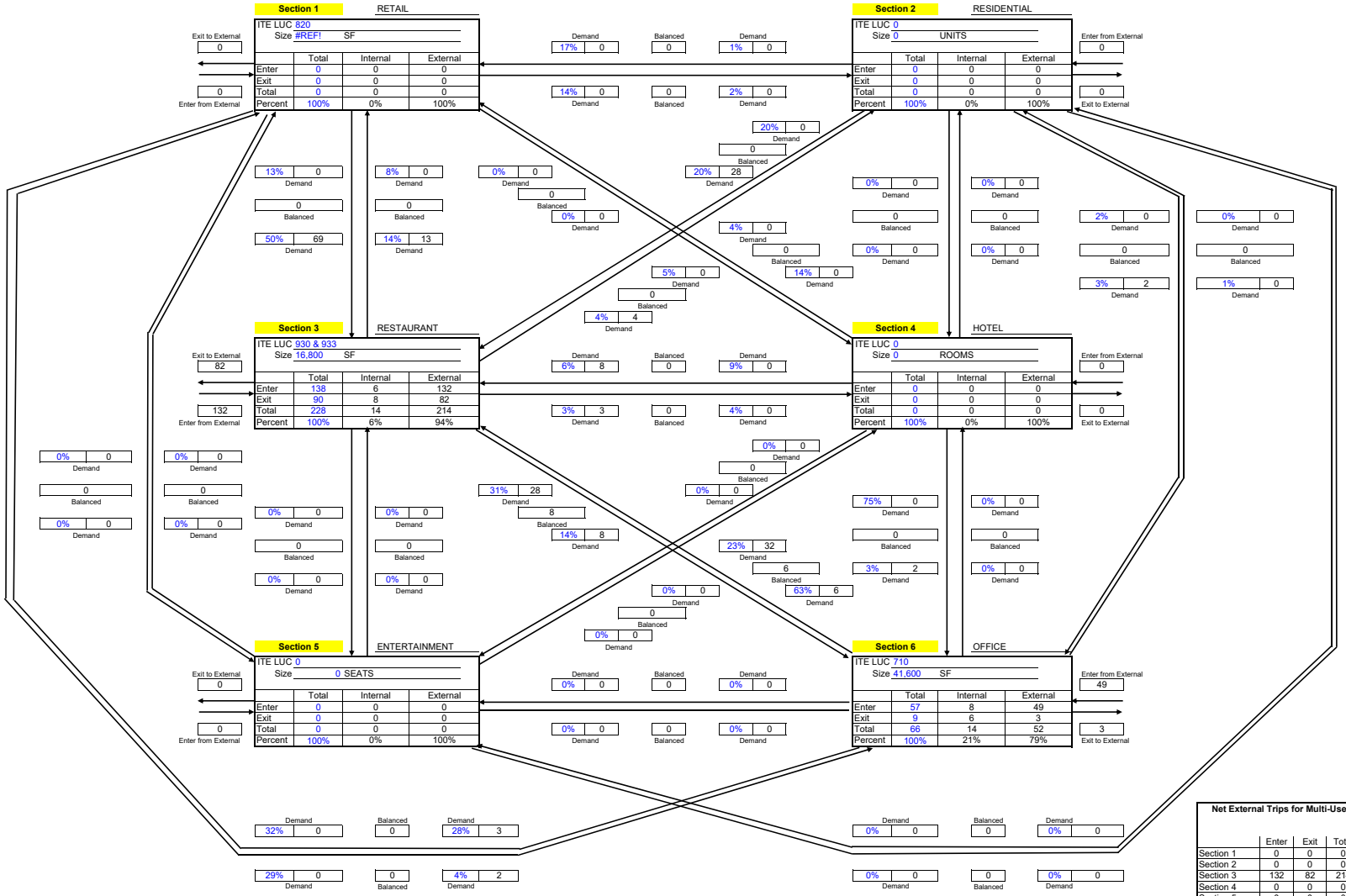
	Enter	Exit	Total	Single-Use Trip Gen Est.	
Section 1	0	0	0	0	
Section 2	0	0	0	0	
Section 3	2769	2710	5479	5556	
Section 4	0	0	0	0	
Section 5	0	0	0	0	
Section 6	159	218	377	454	*Internal Capture*
TOTAL	2928	2928	5856	6010	**3%**

Based on Weekday PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on an average of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.

Analyst: Douglas S. Halpert, P.E.
Date: October 24, 2019

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt: 60 Penhallow Street
Time Period: Weekday AM



Net External Trips for Multi-Use Development

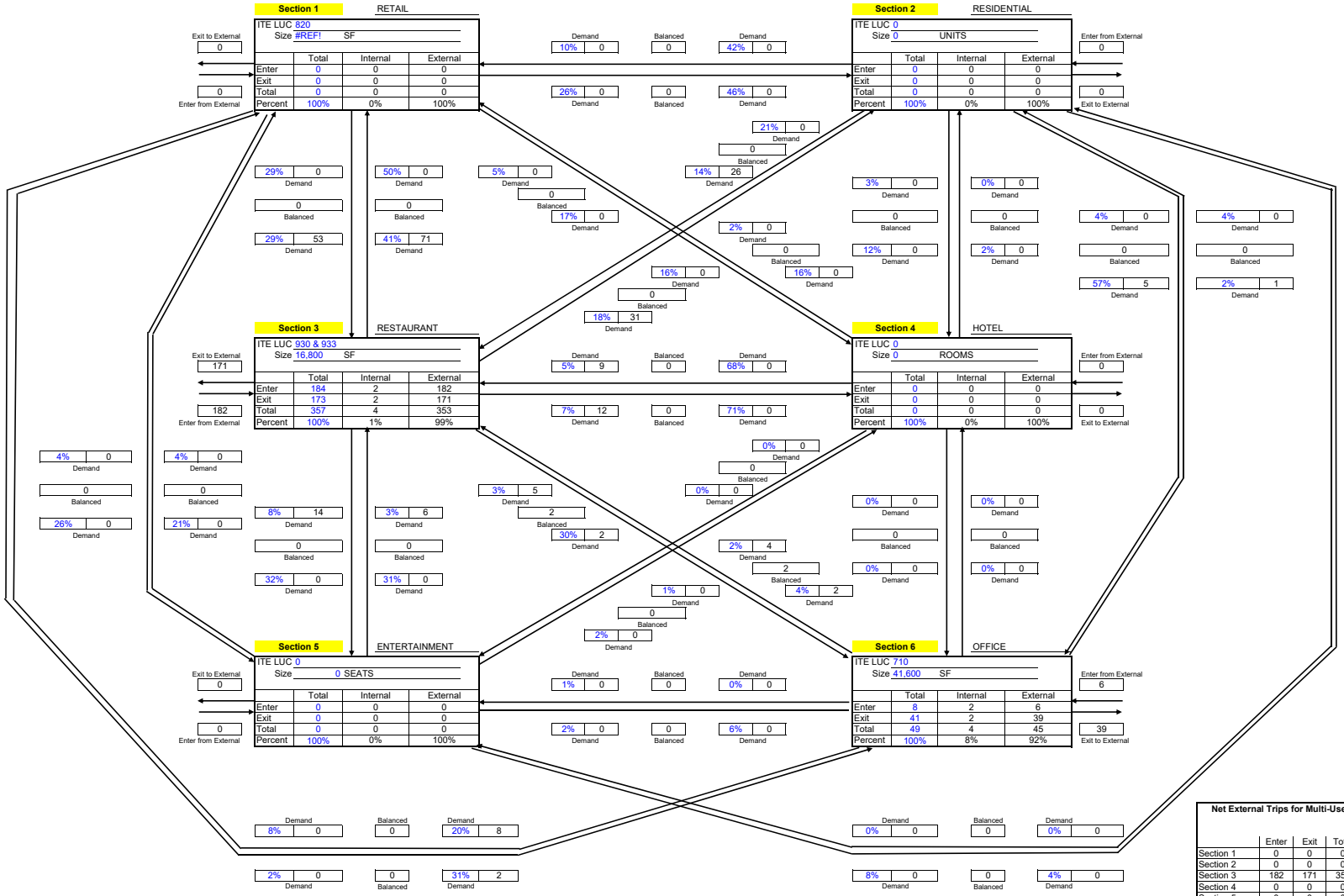
	Enter	Exit	Total	Single-Use Trip Gen Est.	
Section 1	0	0	0	0	
Section 2	0	0	0	0	
Section 3	132	82	214	228	
Section 4	0	0	0	0	
Section 5	0	0	0	0	
Section 6	49	3	52	66	*Internal Capture*
TOTAL	181	85	266	294	**10%**

Based on ITE Trip Generation Handbook, 3rd Edition, August 2014.

Analyst: Douglas S. Halpert, P.E.
Date: October 24, 2019

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt: 60 Penhallow Street
Time Period: Weekday PM



Net External Trips for Multi-Use Development

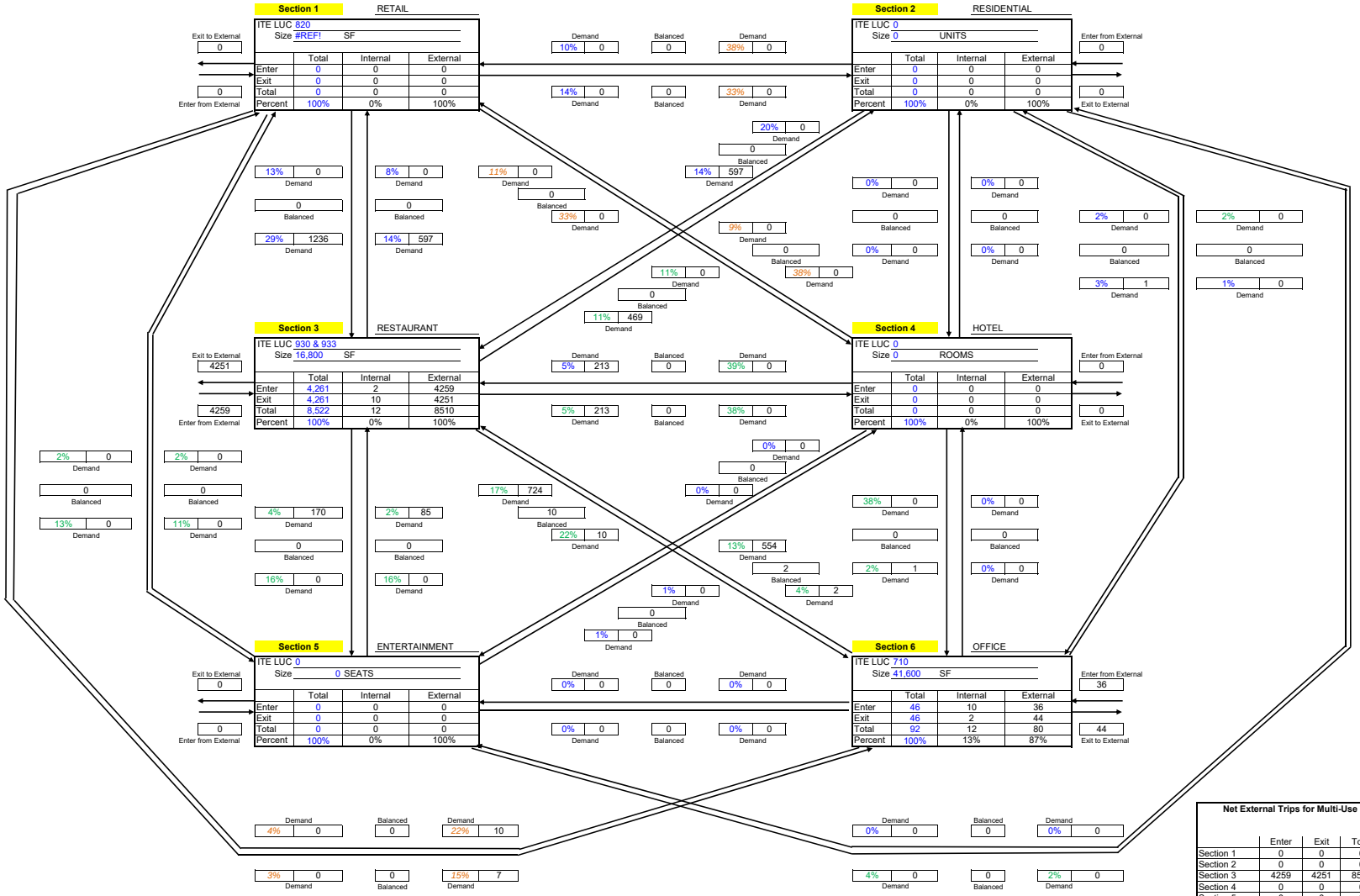
	Enter	Exit	Total	Single-Use Trip Gen Est.	
Section 1	0	0	0	0	
Section 2	0	0	0	0	
Section 3	182	171	353	357	
Section 4	0	0	0	0	
Section 5	0	0	0	0	
Section 6	6	39	45	49	*Internal Capture*
TOTAL	188	210	398	406	**2%**

Based on ITE Trip Generation Handbook, 3rd Edition, August 2014.

Analyst: Douglas S. Halpert, P.E.
Date: October 24, 2019

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt: 60 Penhallow Street
Time Period: Saturday Daily



Net External Trips for Multi-Use Development

	Enter	Exit	Total	Single-Use Trip Gen Est.
Section 1	0	0	0	0
Section 2	0	0	0	0
Section 3	4259	4251	8510	8522
Section 4	0	0	0	0
Section 5	0	0	0	0
Section 6	36	44	80	92
TOTAL	4295	4295	8590	8614

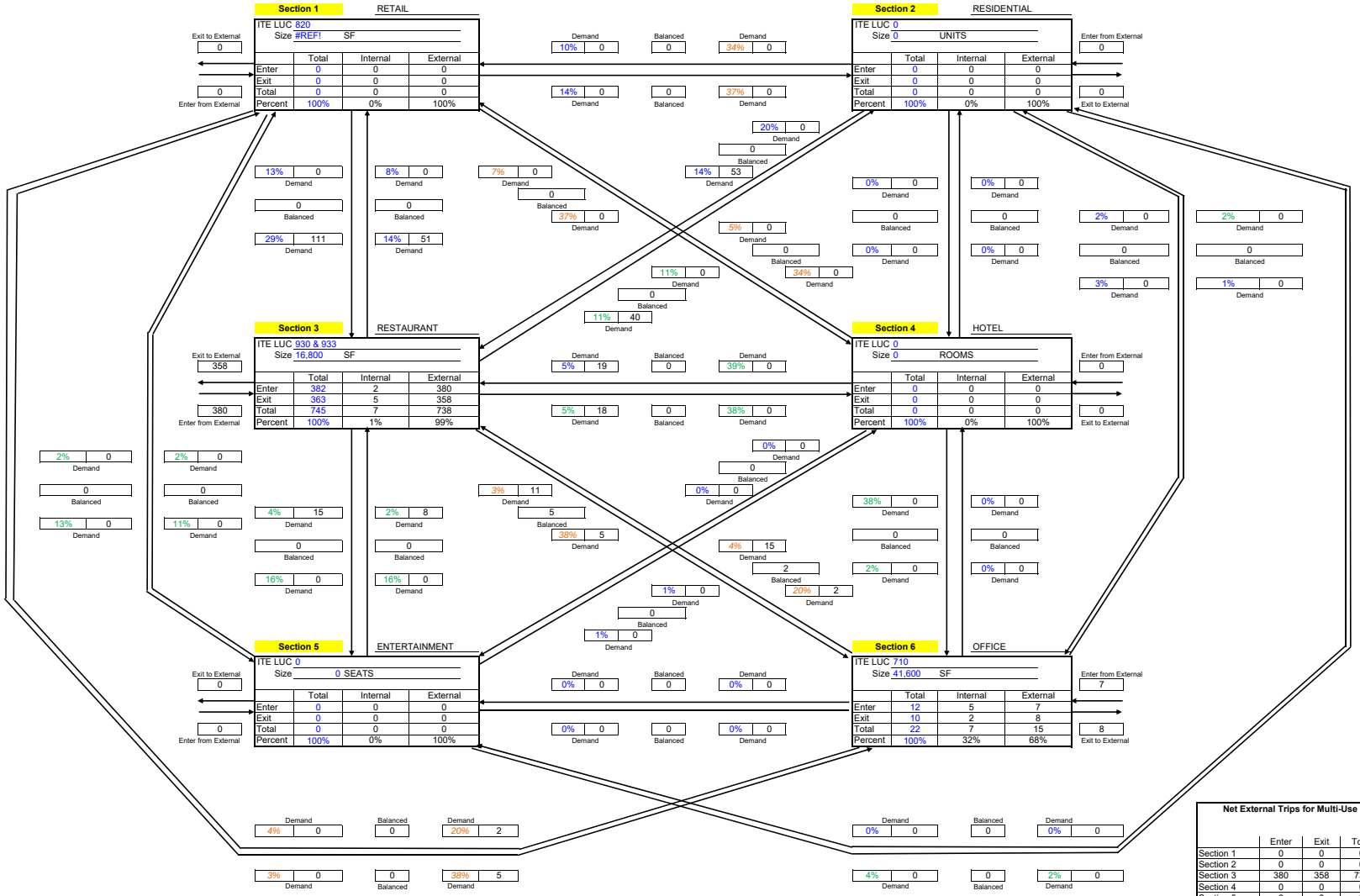
Internal Capture **0%**

Based on most conservative of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on an average of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on ITE Trip Generation Handbook, 2nd Edition, June 2004.

Analyst: Douglas S. Halpert, P.E.
Date: October 24, 2019

MULTI-USE DEVELOPMENT
TRIP GENERATION
AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt: 60 Penhallow Street
Time Period: Saturday Midday



Section 1	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
Percent	100%	0%	100%

Section 2	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
Percent	100%	0%	100%

Section 3	Total	Internal	External
Enter	382	2	380
Exit	363	5	358
Total	745	7	738
Percent	100%	1%	99%

Section 4	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
Percent	100%	0%	100%

Section 5	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
Percent	100%	0%	100%

Section 6	Total	Internal	External
Enter	12	5	7
Exit	10	2	8
Total	22	7	15
Percent	100%	32%	68%

Net External Trips for Multi-Use Development

	Enter	Exit	Total	Single-Use Trip Gen Est.
Section 1	0	0	0	0
Section 2	0	0	0	0
Section 3	380	358	738	745
Section 4	0	0	0	0
Section 5	0	0	0	0
Section 6	7	8	15	22
TOTAL	387	366	753	767

Internal Capture **2%**

Based on most conservative of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on an average of Weekday AM or PM from ITE Trip Generation Handbook, 3rd Edition, August 2014.
Based on ITE Trip Generation Handbook, 2nd Edition, June 2004.

B08101

MEANS OF TRANSPORTATION TO WORK BY AGE

Universe: Workers 16 years and over
2013-2017 American Community Survey 5-Year Estimates

Supporting documentation on code lists, subject definitions, data accuracy, and statistical testing can be found on the American Community Survey website in the Technical Documentation section.

Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

	Portsmouth city, New Hampshire	
	Estimate	Margin of Error
Total:	12,584	+/-398
16 to 19 years	381	+/-161
20 to 24 years	1,265	+/-251
25 to 44 years	6,084	+/-431
45 to 54 years	2,327	+/-249
55 to 59 years	1,096	+/-198
60 to 64 years	714	+/-168
65 years and over	717	+/-141
Car, truck, or van - drove alone:	9,564	+/-465
16 to 19 years	145	+/-68
20 to 24 years	981	+/-267
25 to 44 years	4,631	+/-414
45 to 54 years	1,859	+/-245
55 to 59 years	838	+/-187
60 to 64 years	512	+/-120
65 years and over	598	+/-131
Car, truck, or van - carpooled:	896	+/-235
16 to 19 years	132	+/-106
20 to 24 years	54	+/-37
25 to 44 years	475	+/-173
45 to 54 years	97	+/-63
55 to 59 years	84	+/-58
60 to 64 years	54	+/-44
65 years and over	0	+/-21
Public transportation (excluding taxicab):	180	+/-79
16 to 19 years	0	+/-21
20 to 24 years	57	+/-47
25 to 44 years	71	+/-58
45 to 54 years	21	+/-24
55 to 59 years	15	+/-15
60 to 64 years	16	+/-17
65 years and over	0	+/-21
Walked:	761	+/-240
16 to 19 years	79	+/-86

	Portsmouth city, New Hampshire	
	Estimate	Margin of Error
20 to 24 years	131	+/-88
25 to 44 years	376	+/-154
45 to 54 years	70	+/-60
55 to 59 years	27	+/-22
60 to 64 years	57	+/-58
65 years and over	21	+/-24
Taxicab, motorcycle, bicycle, or other means:	210	+/-90
16 to 19 years	6	+/-11
20 to 24 years	0	+/-21
25 to 44 years	134	+/-74
45 to 54 years	55	+/-39
55 to 59 years	0	+/-21
60 to 64 years	15	+/-16
65 years and over	0	+/-21
Worked at home:	973	+/-225
16 to 19 years	19	+/-45
20 to 24 years	42	+/-58
25 to 44 years	397	+/-115
45 to 54 years	225	+/-70
55 to 59 years	132	+/-63
60 to 64 years	60	+/-46
65 years and over	98	+/-64

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see Accuracy of the Data). The effect of nonsampling error is not represented in these tables.

Workers include members of the Armed Forces and civilians who were at work last week.

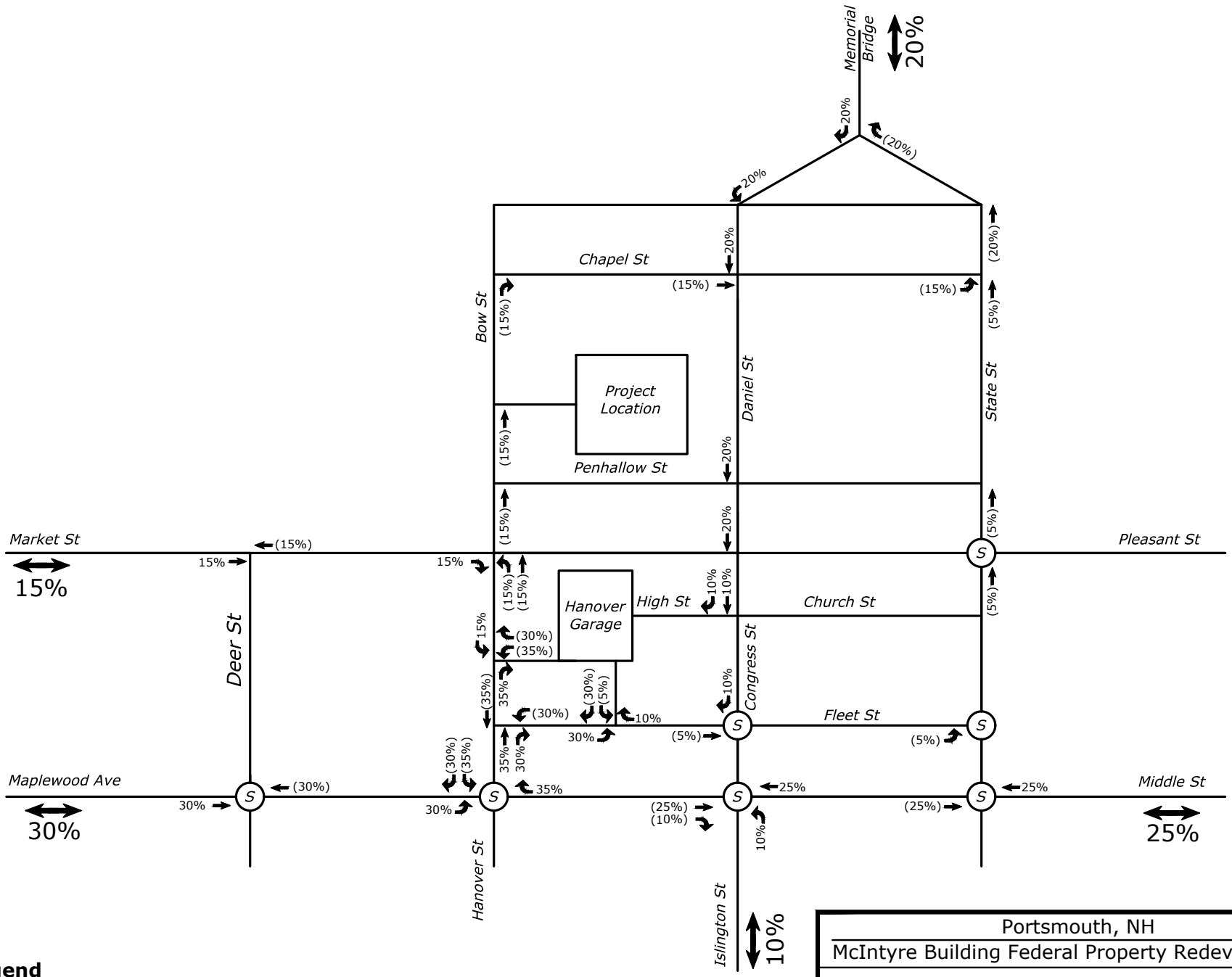
While the 2013-2017 American Community Survey (ACS) data generally reflect the February 2013 Office of Management and Budget (OMB) definitions of metropolitan and micropolitan statistical areas; in certain instances the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB definitions due to differences in the effective dates of the geographic entities.

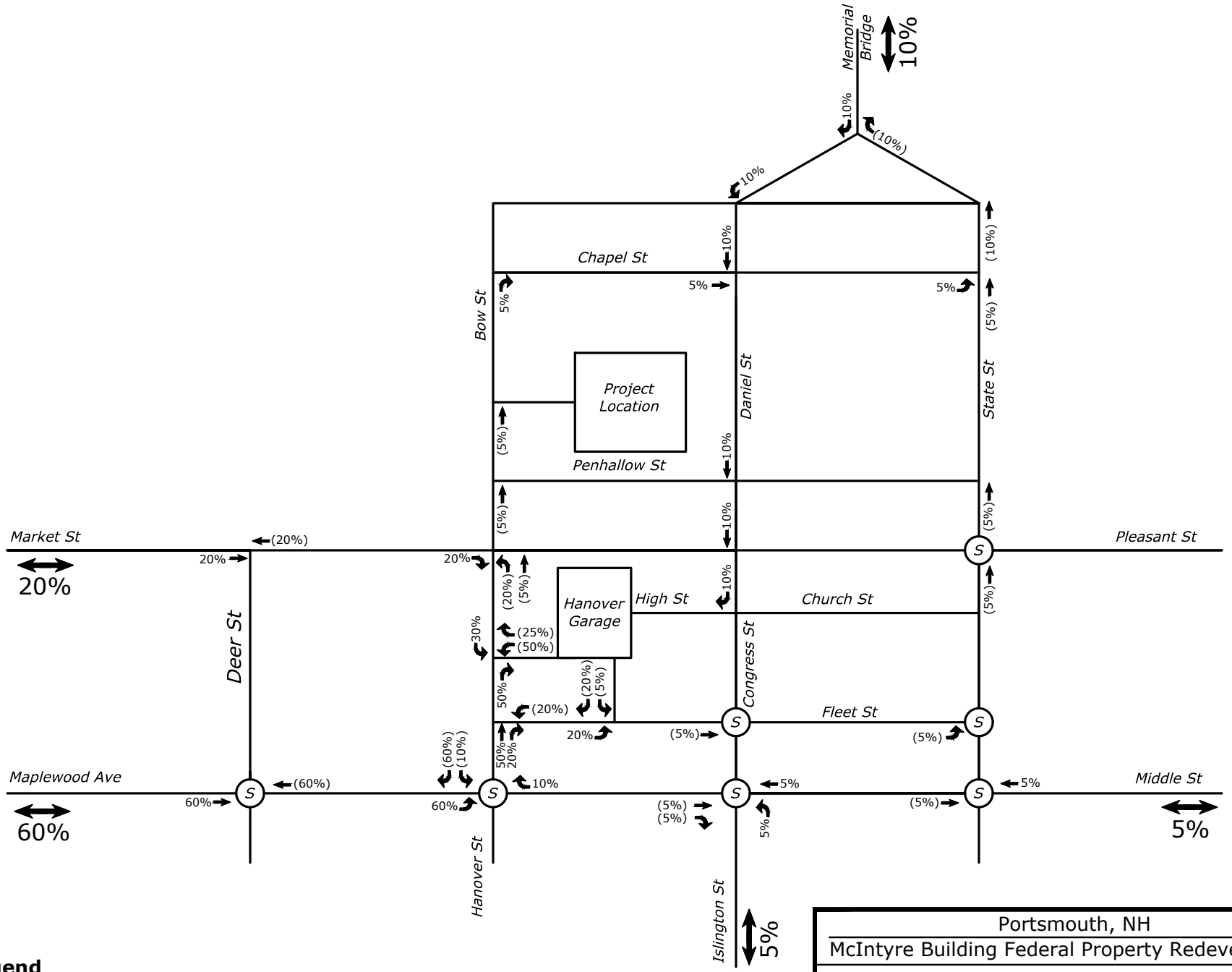
Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Source: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates

Explanation of Symbols:

1. An '**' entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
2. An '-' entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution.
3. An '-' following a median estimate means the median falls in the lowest interval of an open-ended distribution.
4. An '+' following a median estimate means the median falls in the upper interval of an open-ended distribution.
5. An '***' entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
6. An '*****' entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
7. An 'N' entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
8. An '(X)' means that the estimate is not applicable or not available.





Legend

(S) Traffic Signal
XX Entering Traffic
(XX) Exiting Traffic

Portsmouth, NH
McIntyre Building Federal Property Redevelopment

Office Trip Distribution

DATE 10/17/2019
FIGURE 5

Tighe&Bond
www.tighebond.com

(/en)

Swing o Mat

The underground system with a foldable walkway platform

The walkway platform of our Swing o Mat underground container system is 90° foldable. Thus, no emptying hook is visible, and the waste can be collected with either a steel container or big bag.

Product Specifications

- Volume: 3.0 – 5.0 m³
- Modular System
- Steel Container or Big Bag
- Throw-in column: different models available
- Emptying Hooks : Mushroom, 1 Hook

Suitable to collect

- Mixed Waste
- Paper + Cardboard
- Plastic + Plastic Bottles
- Glass
- Aluminium
- Recycables

Options

Fill Level Sensor

Electronic Access Control

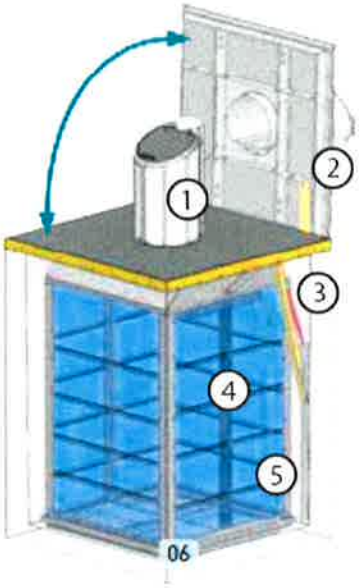
/en/products/options/fuellstandsensor /en/products/options/zutrittsystem

Weighing Systems

Service + Maintenance

/en/products/options/verwiegungssysteme /en/services/service-maintenance

TRASH CHUTES



Product Description

1. Throw-in Column
2. Tiltable Walkway Platform
3. Cylinder
4. Steel Contaner or Big Bag
5. Concrete Element

Get in touch with us

BAMBOO

Design by Antoni Arola & Enric Rodríguez.

Reference

4812.

Application

Outdoor

Installation type

Recessed

Description

Bamboo is a recessed outdoor lamp with three arms. Available in two finishes – khaki, and oxide – that make it possible to camouflage and integrate it into the landscape, with the added surprise that it produces light. Designed by Antoni Arola & Enric Rodríguez.

Diffuser

Acrylic diffuser

Materials

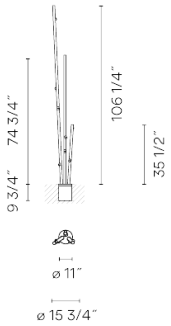
Body: Resin + fiberglass
Diffuser: Acrylic

Finishes

4812-07 Khaki (RAL 7006)

4812-54 Oxide (RAL 8017)

Sketch



Electrical characteristics

9 x LED 2.1W 700mA

Total 18.9 W

A++

Light source: 2700K CRI >80 1794 lm 95 lm/W
Fixture: 420 lm 22 lm/W
Driver included: CC - Constant Current 700 mA 120-277V 50/60Hz

Electronic dimming: NO DIMMING

Installation and assembly

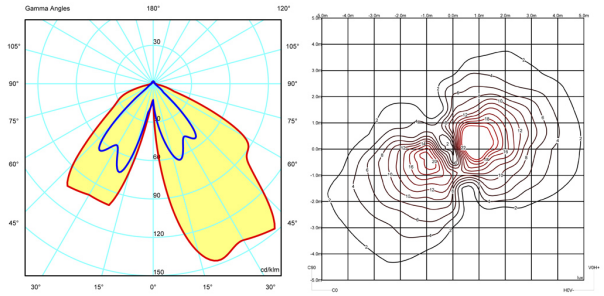
Please see the installation manual

Light distribution

Ground lighting

Outdoor lighting

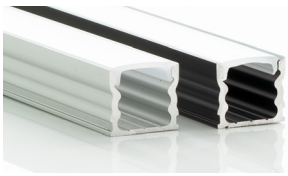
Photometric data



Certificates

IP66 WET LOCATION LED

VIBIA, INC.272 Fernwood Ave. Edison, NJ 08837 USA. Phone 732 417 1700 Fax 732 417 1701.
sales@vibialight.com www.vibia.com



TORQ

EXTRUSIONS - ALUMINUM

Model: iQA

c UL us LISTED | RoHS COMPLIANT | NEC 410.2 and 410.16

PRODUCT	FINISH	MOUNTING	LENS	TYPE	FINISHED FIXTURE LENGTH (IN)
TORQ	ST BK BZ	SST	CL/60 CL/70 FR PR DF ENC/CL ENC/TL	S1 S2 S3 S4 — Single (Closed exit) P1 P2 P3 P4 — Pass through NI — Not installed (Strip not installed in factory)	1" increments from 1" - 98.43" Tolerance +0.0"/-0.5"

NOTES:
- UL Listed when assembled with STRIP LEDs at Q-Tran
- NRTL Listed for install in Storage Areas with Clothing, NEC Field 410.2 and 410.16 when assembled as a fixture, with 4.0 w/ft or less, at Q-Tran facility (Not applicable for encapsulation)
- Field modifications must comply with Q-Tran's installation methods otherwise warranty is null and void

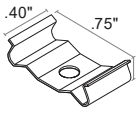
FINISH

ST	BK	BZ
Satin	Black	Bronze

MOUNTING

NOTE: 2 clips provided for 4' or less; 4 clips provided for greater than 4'

TORQ-SST



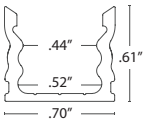
Stainless Steel

QTY: ☐

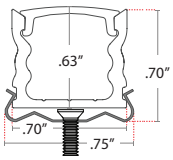
LENS with LED visibility

CL	FR	PR	DF	ENC/CL	ENC/TL
Clear	Frosted	Polar	Diffused	Encapsulated in Clear	Encapsulated in Translucent

DIMENSIONS



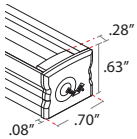
Profile



Profile with Stainless Steel Mounting Clip

END CAPS

QTY: ☐



Endcap

TYPE

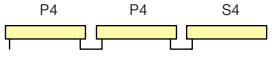
SINGLE (Input only)

S1	S2	S3	S4
In	In	In	In

PASS THROUGH (Input/Output)

P1	P2	P3	P4
Out / In	Out / In	Out / In	Out / In

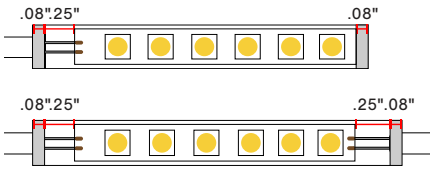
ORDER EXAMPLE

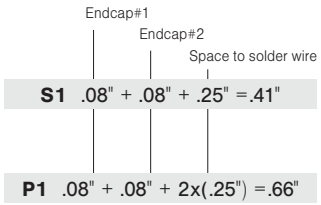


CUT OFF

CL/60	CL/70
60°	70°
Clear 60°	Clear 70°

LENGTH (IN) : Add to nominal LED length for fixture length





PROJECT NAME	DATE	COMPANY	TYPE	NOTE

 | 155 Hill St. Milford, CT 06460 | 203-367-8777 | sales@q-tran.com | www.q-tran.com | Specification subject to change | Rev-11-01-19

WURM-SW
FIXTURES - FLEXIBLE (Q-CAP)

c UL us LISTED RoHS COMPLIANT

PRODUCT	MOUNTING	RATED	CCT	OUTPUT	LENS	TYPE	CONNECTOR/ WIRE IN	CONNECTOR/ WIRE OUT	END CAPS (NO FEED)	LENGTH (IN)
WURM-SW	WSCS MCS	DRY WET	24 - 2400K 27 - 2700K 30 - 3000K 35 - 3500K 40 - 4000K	SO HO VHO	ENC/CL ENC/TL	Single (Closed exit): S1 Pass through: P1	[1]BW BRL	N/A	WH	1" increments from 1"-191"

Voltage: 24 VDC
Wattage: see table

Tolerance +0.0"/-cutpoint for installed product"

ENCAPSULATED PRODUCTS ARE NOT FIELD CUTTABLE

NOTES:
- Field modifications are not covered under Q-Tran warranty
- Data subject to change, all data has +/- 5% tolerance

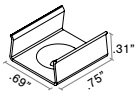
1 • BW comes in standard 24"- request custom length (Max 120") by writing it in inches next to "BW" in the order code box (ex. BW48)
• Connector/Wire In or Out not needed to specify product. Standard configuration is Type S1, Connector/Wire In: BW & Connector/Wire Out: N/A with White Endcap (WH)

OUTPUT Tested for WURM-SW-WSCS-DRY [L70 = 40000 HRS]

	SO Standard Output 1.5 W/ft				HO High Output 3.0 W/ft				VHO Very High Output 5.0 W/ft			
	ENC/CL		ENC/TL		ENC/CL		ENC/TL		ENC/CL		ENC/TL	
CCT	LM	CRI	LM	CRI	LM	CRI	LM	CRI	LM	CRI	LM	CRI
2400K	127	94	107	94	231	93	189	93	329	94	274	94
2700K	127	97	103	97	227	98	197	98	329	98	273	98
3000K	135	99	110	98	242	98	202	98	337	98	267	97
3500K	144	96	115	96	242	96	201	97	359	97	304	97
4000K	151	96	126	96	262	96	218	96	370	97	316	97

MOUNTING NOTE: 2 clips provided per first 12", 1 clip provided per additional 12"

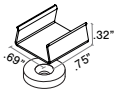
WSCS



White Snug Clip Small

QTY: ____

MCS

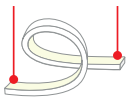


Magnetic Clip Small
(Cove use only)

QTY: ____

FLEXIBILITY

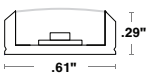
Light Source



Up/Down & Helical*

*Max recommended rotation of 1 rotation per 16"

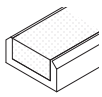
DIMENSIONS



Profile
(Standard)

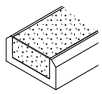
LENS with LED visibility

ENC/CL



Encapsulated in Clear

ENC/TL



Encapsulated in Translucent

CONNECTOR/WIRE IN

[1]BW

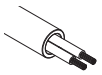
Bare Wire 24"

BRL

Male Barrel 6"

CONNECTOR/WIRE OUT

[1]BW



Bare Wire 24"

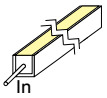
BRL

Female Barrel 6"

TYPE

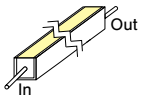
SINGLE (Input only)

S1

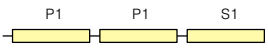


PASS THROUGH (Input/Output)

P1

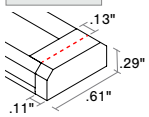


ORDER EXAMPLE



END CAPS (NO FEED)

WH

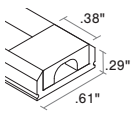


WHITE ENDCAPS
.11" added at end

.24" dim spot

END CAPS (WITH FEED)

End Feed
S1, P1



WHITE ENDCAPS
.0" added at end

.38" dim spot

PROJECT NAME	DATE	COMPANY	TYPE	NOTE

 | 155 Hill St. Milford, CT 06460 | 203-367-8777 | sales@q-tran.com | www.q-tran.com | Specification subject to change | Rev-10-21-19

The Brightest Idea is Emergency Lighting

GENERAL DESCRIPTION

Operating in emergency mode or optional normal- on, this fixture is designed to mount directly on structural mullion beams used in typical glass-fronted entrances, with vertical surface as small as 2". This fixture has full 90° cut-off and will provide efficient emergency lighting in front of egress doorways, or along extended pathways.

CONSTRUCTION

- Rugged extruded aluminum housing with stainless hardware is corrosion proof.
- Wet location listed UL 924. Certified IP66.
- Uniform, high brightness lighting over the path of egress.
- Full 90° cut- off.
- Three versions are available:

RE= Central Battery System Series CBS or other qualified source 12V- 24 VDC.
BB= Battery backup from Remote Battery Supply Series RPS.
AC= 120/ 277 VAC supply.

ELECTRONICS

- Dual operation from either a battery or optional normally on power source.
- Lamps are connected in parallel-series strings, as required to meet requirements of NEC and Life Safety Codes. Lighting continues even after failure of One lamp or circuit.
- LED color temperature standard 5300K; available color temperatures from 2900K, 3200K, to 3800K.

ENERGY EFFICIENT OPERATION

- Dual function operation for optional normally on night or security lighting as well as emergency lighting.
- Very low power consumption in optional night/ security mode. The security lighting circuit is independent of emergency lighting and may be switched manually, by an exterior photocell, or other automatic means.
- Over 50,000 hour lamp life in normal use.
- IES photometric data available for all models.

CODES

- Manufactured and tested to UL Standard 924 and NFPA Life Safety Code 101.

WARRANTY

- 5 year total customer satisfaction warranty. For Details see product catalog technical data section.

DESIGNED & MADE IN THE USA

C ETL LISTED US
Intertek
CONFORMS TO
UL 924/ CSA 22.2 #141

FIXTURE SCHEDULE

MODEL	CATALOG NO
APPROVAL	JOB INFORMATION

Signtex Inc
LIGHTING
SPECIFIED EMERGENCY LIGHTING

Moonlite LED®
LED Outdoor Egress Emergency with Night Lighting Option

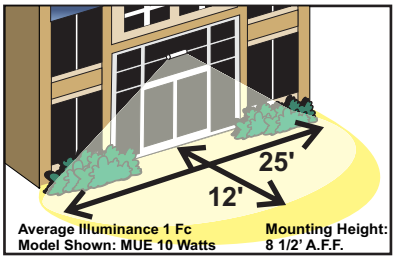
Mullion Mount Emergency Light
Series MUE

MUE.5.18.15

SUGGESTED SPECIFICATIONS:

Supply and install the MOONLITE LED Series MUE Mullion Mount emergency lighting fixture manufactured by Signtex Lighting Inc. The MUE assembly shall be listed for installation in wet locations in compliance with UL 924 and IP66 standards and shall be capable of operating from Signtex remote power supply Series RPS, the Signtex central battery system Series CBS, or from other remote power sources supplying 12-24 VDC or VAC. Upon loss of AC building power, emergency models shall operate for a minimum of 90 minutes in compliance with UL Standard 924 and NFPA LSC 101.

SPACING GUIDE

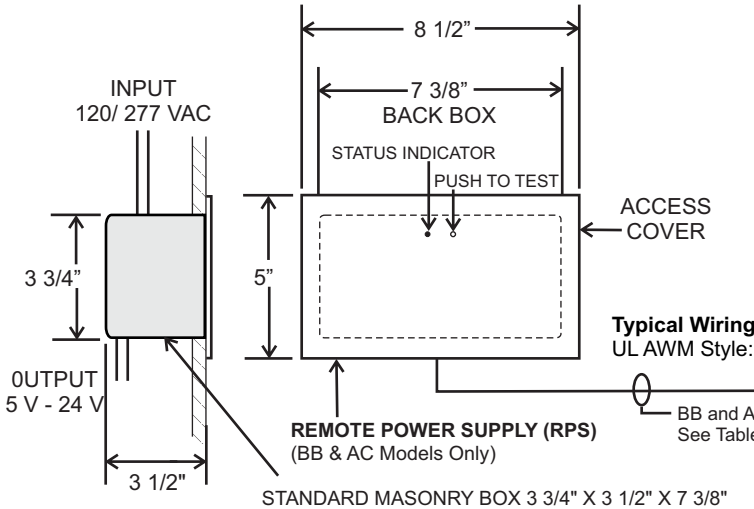


NOTE: FOR REFERENCE ONLY. STANDARD REFLECTANCES 80/50/20. SIGNTEX IS NOT RESPONSIBLE FOR SPECIFIC CONDITIONS THAT MAY ALTER THE RESULTS.

CONTACT SIGNTEX FOR LAYOUT ASSISTANCE

Code Compliant Emergency lighting layouts provided free of charge!

MOUNTING DATA & DIMENSIONS:



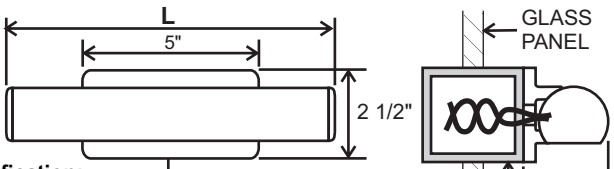
Typical Wiring Specification:
UL AWM Style: Control Cable
#20 AWG 300V

BB and AC Models: 4 Conductors
See Table 1

STANDARD MASONRY BOX 3 3/4" X 3 1/2" X 7 3/8"
(SUPPLIED BY OTHERS)

TYPICAL STOCK MODELS:
CROUSE HINDS #TP693
RACO # 698

WALL MOUNT



TOP MOUNT

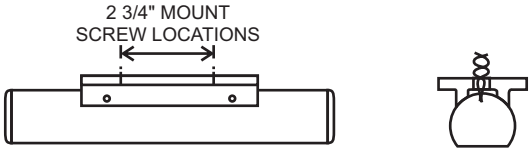


TABLE 1

MAXIMUM WIRING LENGTH FROM RPS TO FIXTURE

WIRING SIZE AWG	LENGTH (FT) MUEBB
#18	25
#16	50
#14	75
#12	125

LENGTH TABLE

POWER	L
10 Watts	10"
20 Watts*	19"

*RE & AC Models Only

SECURITY LIGHTING CONTROL

RE Models: Requires SEC Option 'S' with CBL

BB Models: Requires Option '-SB120' for connection to 120 VAC
Requires Option '-SD277' for connection to 277 VAC

BB-DG Models: Requires Option '-SD' for connection to 120/ 277 VAC

RPS SELF- TEST DIAGNOSTIC FUNCTIONS

BB MODELS WITH DG FUNCTION

STATUS	LED DISPLAY
NORMAL FULL CHARGE	GREEN ON
NORMAL FAST CHARGE	ORANGE ON
FAILED BATTERY	RED FLASH FAST
FAILED LAMP	GREEN FLASH
FAILED TRANSFER	ORANGE FLASH
FAILED CHARGER	RED FLASH SLOW

FIXTURE ORDERING INFORMATION: *EXAMPLE:* MUEBB10AW-DG

MUE BB 10 A W -DG

MODEL SERIES	OPERATION	POWER	HOUSING COLOR	MOUNT	OPTIONS
MUE	RE= Central Battery or other 12- 24 VDC Remote Source BB= Battery Backup (Includes RPS) AC= No Battery (Includes RPS)	10= 10 Watts Emergency & Normal On Power 20= 20 Watts Emergency & Normal On power (RE & AC Models Only)	W= Satin White A= Aluminum B= Dark Bronze X= Custom	T= Top W= Wall	DG= Self- Test Diagnostics (BB Models Only) SB120= Security Lighting with Control Switch for Standard BB Operation (120V) SD277= Security Lighting with Control Switch for Standard BB Operation (277V) SD= Security Lighting with Control Switch for BB Operation with DG option (120/ 277V) CW1= Custom Window Filter- 3800K CW2=Custom Window Filter- 3200K CW3=Custom Window Filter- 2900K DAC= Dual AC Input 2HT= 2" Canopy Height 5HT= 5" Canopy Height

SUITABLE FOR WET LOCATIONS

AMBIENT TEMPERATURE LIMITS:

-40° C to +50° C

Signtex Inc
LIGHTING
220 VFW Avenue, Grasonville, MD 21638
TEL:(410)827-8300 Fax:(410)827-8866
sales@signtexinc.com www.signtexinc.com

DISTRIBUTOR:

Specifications and Dimensions subject to change without notice.

Tumbler

Specification Sheet

Project Name: _____ Job Location: _____

Fixture Type: _____ Fixture Quantity: _____

Source	LED
Input Voltage	120V-277V
Frequency	50/60 Hz
EPA	0.84 ft^2
Weight	14.5 lbs (luminaire only)

The Tumbler luminaire is aluminum extrusion with a natural aluminum powdercoat finish offered by Santa & Cole Urbidermis with a clear or opal / diffused tempered glass.

Pole & Wall Mount Luminaire

_____	**Product**	TML						
_____	**LED Configuration**	16	24	C (CoB) *				
_____	**Drive Current**	A (350 mA)	B (500 mA)					
_____	**Color Temperature**	1 (3000K)	2 (4000K)					
_____	**Distribution**	WF (Wide Flood)	F (Flood)	M (Medium)	S (Spot Flood)	TII (Type II)	TIII (Type III)	TIV (Type IV)
_____	**Lens**	*Null* (Clear)	O (Opal / Diffused)					
_____	**Color**	AS (Aluminum Silver)	BK (Black)					

* CoB provides a Wide Flood distribution only.

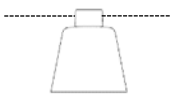
EXAMPLE: TML – 16 – B – 1 – WF – O – AS

Catenary Luminaire

_____	**Product**	TML		
_____	**LED Configuration**	16	24	C (CoB) *
_____	**Drive Current**	A (350 mA)	B (500 mA)	
_____	**Color Temperature**	1 (3000K)	2 (4000K)	
_____	**Distribution**	WF (Wide Flood)	TII+II (Quad Oval)	TV (Type V)
_____	**Lens**	*Null* (Clear)	O (Opal / Diffused)	
_____	**Bracket**	C (Catenary)		
_____	**Color**	AS (Aluminum Silver)	BK (Black)	

* CoB provides a Wide Flood distribution only.

EXAMPLE: TML – 16 – B – 1 – TV – O – C – BK

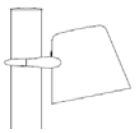


Catenary

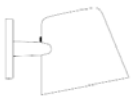
Landscape Forms, Inc. | 800.521.2546 | F 269.381.3455 | 7800 E. Michigan Ave., Kalamazoo, MI 49048

Mounting Accessories				
_____	**Product**	TML		
_____	**Bracket**	01 (Single Column)	02 (Wall)	04 (Double Column)
_____	**Color**	AS (Aluminum Silver)	BK (Black)	

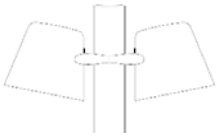
EXAMPLE: TML – 01 – DK



Single Column



Wall



Double Column

Tumbler Aluminum Pole

Height	*Pole #*	*Mounting*	*Diameter*	*Wall*	*Weight*
3.4m (11.2 ft)	TMF11P	(1) Single Column Bracket	Straight 4.5”	0.13”	41 lbs
	TMF11P	(1) Double Column Bracket	Straight 4.5”	0.13”	41 lbs
4.2m (13.8 ft)	TMF21P	(1) Single Column Bracket	Straight 4.5”	0.13”	45 lbs
	TMF22P	(2) Single Column Brackets, Staggered Heights, 180° Orientation	Straight 4.5”	0.13”	45 lbs
	TMF21P	(1) Double Column Bracket	Straight 4.5”	0.13”	45 lbs
5.0m (16.4 ft)	TMF31P	(1) Single Column Bracket	Straight 4.5”	0.13”	51 lbs
	TMF32P	(2) Single Column Brackets, Staggered Heights, 180° Orientation	Straight 4.5”	0.13”	51 lbs
	TMF31P	(1) Double Column Bracket	Straight 4.5”	0.13”	51 lbs
6.6m (21.7 ft)	TMF41P	(3) Single Column Brackets, Spiral Configuration, 120° Orientation	Stepped 6”/4.5”	0.19”/0.13”	97 lbs

* Landscape Forms can provide poles for your catenary project. Contact the factory for more information.

Pole Options								
_____	**Twist Lock**	Null (None)	T (Twist Lock Receptacle)					
_____	**Color**	BLK (Black)	DSK (Dusk)	MBK (Matte Black)	MER (Mercury) *	SIL (Silver)	SCL (Storm Cloud)	TNM (Titanium)

* Mercury from Landscape Forms is our recommended color match for aluminum silver from Santa & Cole.

EXAMPLE: TMF41P – T – MER

Modifications

Don't see what you are looking for? Our goal is to partner with you as the designer to manufacture solutions needed for the space you are creating. We offer the option to modify our standard product to meet certain design specifications or needs. Common modifications can include GCFI outlets, custom RAL colors, banner arm(s) mounting, and custom pole heights. Contact your local Landscape Forms representative to learn more about these offerings.

Notes

_____

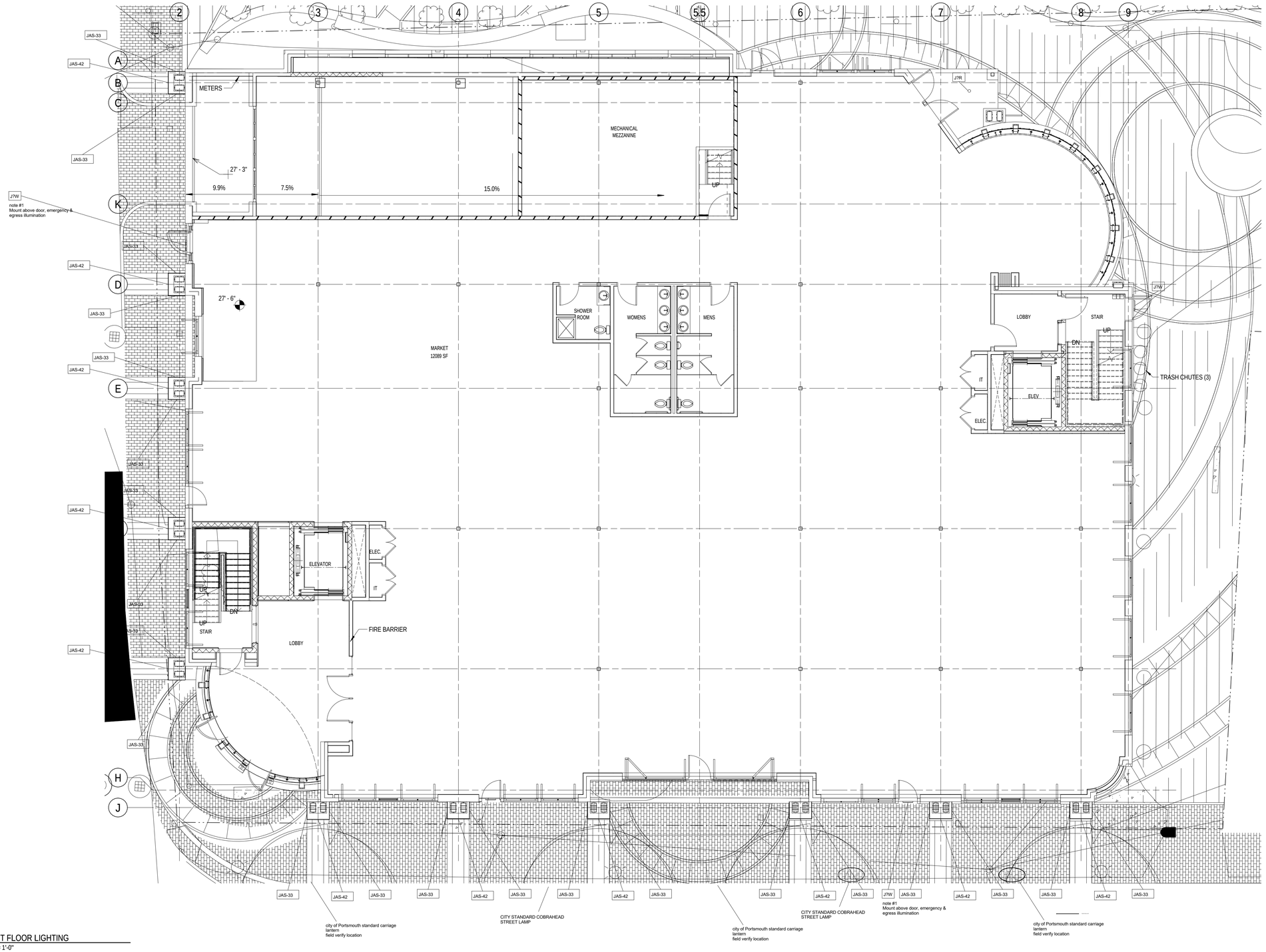
_____

_____

_____

Please send completed forms to your Landscape Forms representative or contact us at (800) 430-6209 with any questions.

Landscape Forms, Inc. | 800.521.2546 | F 269.381.3455 | 7800 E. Michigan Ave., Kalamazoo, MI 49048



1 FIRST FLOOR LIGHTING
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

DAGNY TAGGART LLC
McNABB PROPERTIES

Scale: 1/8" = 1'-0"
Date: 11/18/2019
Project Number: P19081.02

REVISIONS		
NO.	DESCRIPTION	DATE

TAC SUBMISSION

LIGHTING PLAN

A0.06

[LOT 31]

EASEMENT FOR PUBLIC ACCESS AND USE OF COMMUNITY SPACE

THIS EASEMENT HEREIN IS GRANTED this _____ day of _____, 2019 by Dagny Taggart, LLC, a New Hampshire limited liability company having an address of 30 Penhallow Street, Suite 300 East, City of Portsmouth, County of Rockingham, State of New Hampshire 03801, ("Grantor") unto the City of Portsmouth, New Hampshire ("Grantee") for public access to and use of certain pocket parks, use of community space and sidewalks as set forth herein.

WITNESSETH

WHEREAS, Grantor acquired a tract of land located at 3 Pleasant Street, City of Portsmouth, County of Rockingham, State of New Hampshire described in Exhibit A attached hereto and made a part hereof (the "Property"); and

WHEREAS, reference is made to a plan entitled "Brick Market, Master Plan, Community Space, Tax Map 107, Lots 27, 31 & 42, Owners: Dagny Taggart, LLC & Coventry Assets, Ltd. Property Located At: 3 Pleasant Street, 30 & 60 Penhallow Street, City of Portsmouth, County of Rockingham, State of New Hampshire," prepared by Ambit Engineering, Inc., dated July 25, 2019, as revised and recorded herewith at the Rockingham County Registry of Deeds (the "Community Space Plan"); and

WHEREAS, the Grantor, as provided herein, wishes to dedicate a certain portion of the Property as Community Space, as defined by the Portsmouth Zoning Ordinance further, to convey an easement for public access to, and use of community space and sidewalks, all as shown on the Community Space Plan;

NOW THEREFORE, in consideration of the sum of One Dollar ($1.00), to be paid by the City, and other good and valuable consideration, the receipt of which is hereby acknowledged by the Grantor, Grantor conveys the easement as follows:

1. **Grant of Easements.** Grantor hereby grants, transfers and conveys to Grantee, for the benefit of the public, with only pedestrian access thereto, a nonexclusive permanent right to use and enjoy those portions of the Property depicted on the Community Space Plan consisting of an area of 3,952 square feet on the Property, to be used concurrently with similar Community Space on Tax Map 107, Lot 31 and Tax Map 107 Lot 42, with an aggregate Community Space with all three lots of 11,962 square feet, all as shown on the Community Space Plan (the "Community Space Easement").

2. **Restrictions.** The Community Space Easement shall be used by the public pursuant to this instrument only during the hours of 8:00 a.m. through 10:00 p.m. Notwithstanding any provision of this instrument to the contrary, the Grantor reserves the right, in its sole discretion, to change the hours during which the Community Space Easement is available for use by the public and to impose reasonable restrictions on the use of the Community Space Easement to enable Grantor to maintain and repair the Property and improvements thereon, provided that such restrictions do not substantially and permanently impair or diminish the rights of the public provided herein. Subject to the terms of this instrument**,** the public use of the Community Space Easement shall be governed by the City Ordinances of the City of Portsmouth, including without limitation, Chapter 3, Public Health, Article IV Noise Control, Section 3.401 et seq. ("City Ordinance"), so long as the City Ordnance does not conflict with any existing easements affecting the Property or conflict with the existing use of the Property by the Grantor.

3. **Reserved Rights**. Grantor reserves the rights to conduct all legally permitted activities within the Community Space Easement, and to alter and improve the Community Space Easement, provided that such activities, alterations and/or improvements do not substantially interfere with the rights granted hereby. Not by way of limitation of the foregoing, Grantor shall have the right to use the Community Space Easement as collateral for subsequent borrowings, provided that any mortgage or lien arising from such borrowing shall be subordinated to this Community Space Easement. Grantor may, from time to time, relocate one or more portions of the Community Space Easement to another location on the Property, subject to approval by the Grantee, which approval shall not be unreasonably withheld, conditioned or delayed.

4. **Nonexclusive Easement**. The Community Space Easement is nonexclusive. Grantor retains the right to make any use of the Community Space Easement, including, but not limited to, the right to utilize the Community Space Easement for outside activities including, the placement of tables, umbrellas and chairs for customer dinning from restaurants during seasonal weather when patrons desire to sit outside, the creation of staging and audience areas for artists, musical performances and other entertainment purposes provided such uses do not unreasonably interfere with the Grantee's and the public's use and enjoyment of the Community Space Easement. Grantor also retains the right to grant concurrent and additional easements on, over or under the Community Space Easement to third parties for such uses as the location of underground improvements, the location of utilities and drainage or otherwise, provided such use or uses to not unreasonably interfere with Grantee's and the public's use and enjoyment of the Community Space Easement. Nothing contained in this Community Space Easement shall be construed an exclusive right to the Grantee, or the general public, and/or as affording the

public a right of access to any portion of the Property other than access which is consistent with this Community Space Easement.

5. **Maintenance and Repair**. The maintenance of the Community Space Easement shall be the sole responsibility of the Grantor, and its successors and assigns.

6. **Encroachments.** The Community Space Easement is subject to all existing encroachments of utilities and improvements on, over and under the Community Space Easement, and to all future encroachments of utilities and improvements constructed or installed on or around the Community Space Easement (subject, however, to the terms of the preceding paragraphs).

7. **Costs and Liabilities.** Grantor agrees to bear all costs and liabilities of any kind related to the operation, upkeep, and maintenance of the Property, and to defend, indemnify, hold harmless, and release the City of Portsmouth, from and against any and all actions, claims, damages, liabilities, or expenses that may be asserted by any person or entity, including Grantor, relating thereto. Without limiting the foregoing, the City of Portsmouth shall not be liable to Grantor or any other person or entity in connection with any entry upon the Property pursuant to this Community Space Easement, or on account of any claim, liability, damage, or expense suffered or incurred by or threatened against Grantor or any other person or entity, except as such claim, liability, damage, or expense is the result of the City of Portsmouth's, its agents or employee's negligence or willful misconduct.

8. **Acts Beyond Grantor's Control.** Nothing contained in this Community Space Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury to or change in the Community Space Easement resulting from causes beyond Grantor's control, including, without limitation, natural processes, by force majeure, without limitation, fire, flood, storm, and earth movement, or from any prudent action taken by Grantor under emergency conditions to prevent, abate, or mitigate significant injury to the Community Space Easement or the remainder of the Property resulting from such causes.

9. **Covenants Run with the Land**. The Community Space Easement granted herein shall be perpetual in nature, shall run with the land and shall benefit and be binding upon the Grantor, its successors and assigns. This Community Space Easement shall be recorded in the Rockingham County Registry of Deeds.

10. **City Ordinance Application**. The use, public or private, of the Community Space Easement shall be subject to and comply with the City Ordinances of the City of Portsmouth.

11. **Notices**. Any notice, demand, request, or other communication that either party desires or is required to give to the other under this Community Space Easement shall be in writing and either served personally or sent by United States mail, postage prepaid, certified, return receipt requested, and shall be mailed to the parties at the following addresses:

To Grantor:

Dagny Taggart, LLC,
30 Penhallow Street, Suite 300 East
Portsmouth, NH 03801

To City:

City of Portsmouth, New Hampshire
1 Junkins Avenue
Portsmouth, NH 03801

12. **Amendment**. Grantor, or its successors and/or assigns, and City may mutually agree to amend or modify this Community Space Easement, provided that any such amendment or modification is in writing and signed by both parties, and is consistent with the purpose of this Community Space Easement. No amendment or modification of this Community Space Easement shall take effect unless and until it is recorded in the Rockingham County Registry of Deeds.

13. **Applicable Law.** This Community Space Easement shall be construed and interpreted according to the substantive law of the State of New Hampshire.

Meaning and intending to convey an easement over a portion of the Property conveyed to the Grantor by Warranty Deed of Jarbel Realty, LLC, dated April 5, 2019 and recorded at the Rockingham County Registry of Deeds at Book 5990, Page 1701.

This is an exempt transfer pursuant to RSA 78-B:2(I).

IN WITNESS WHEREOF, Grantor and City have executed this Community Space Easement as set forth, below.

Grantor: Dagny Taggart, LLC,

By: _____
Mark A. McNabb, Manager

Grantee: City of Portsmouth, New Hampshire

By: _____
John P. Bohenko, City Manager

ACKNOWLEDGEMENTS

STATE OF NEW HAMPSHIRE
COUNTY OF ROCKINGHAM

On this ____ day of _____, 2019, before me, the undersigned notary public, personally appeared Mark A. McNabb, Manager of Dagny Taggart, LLC, a New Hampshire limited liability company, proved to me through satisfactory evidence of identification, which was a valid driver's license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily for its stated purpose.

_____
Notary Public:
My Commission Expires:

STATE OF NEW HAMPSHIRE
COUNTY OF ROCKINGHAM

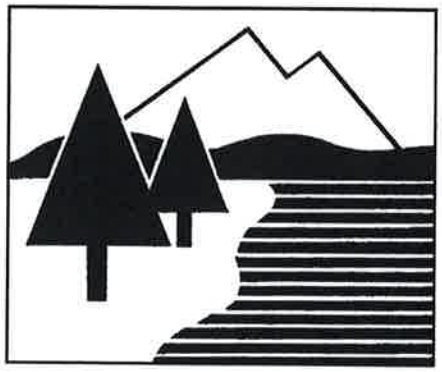
On this ____ day of _____, 2019, before: me, the undersigned notary public, personally appeared John P. Bohenko, Manager of the City of Portsmouth New Hampshire, proved to me through satisfactory evidence of identification, which was a valid driver's license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it in his capacity as stated therein and voluntarily for its stated purpose.

_____
Notary Public:
My Commission Expires:

DRAINAGE ANALYSIS

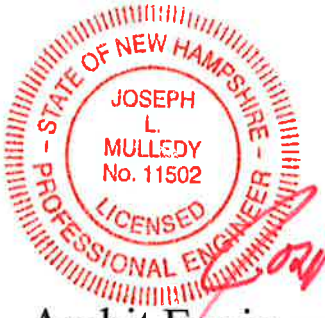
SITE REDEVELOPMENT

60 PENHALLOW STREET
PORTSMOUTH, NH



October 8, 2019

Revised: November 18, 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: jlm@ambitengineering.com
(Ambit Job Number 3039)

TABLE OF CONTENTS

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.

Table 1: Pre-Development Watershed Basin Summary

Watershed Basin ID	Basin Area (SF)	Tc (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

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	94	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. In the existing condition, parking is on the surface and surfaces treated with asphalt and used for vehicles are known to be high pollutant load areas. In the proposed condition this parking is located underground and since runoff from the site in the proposed condition 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.

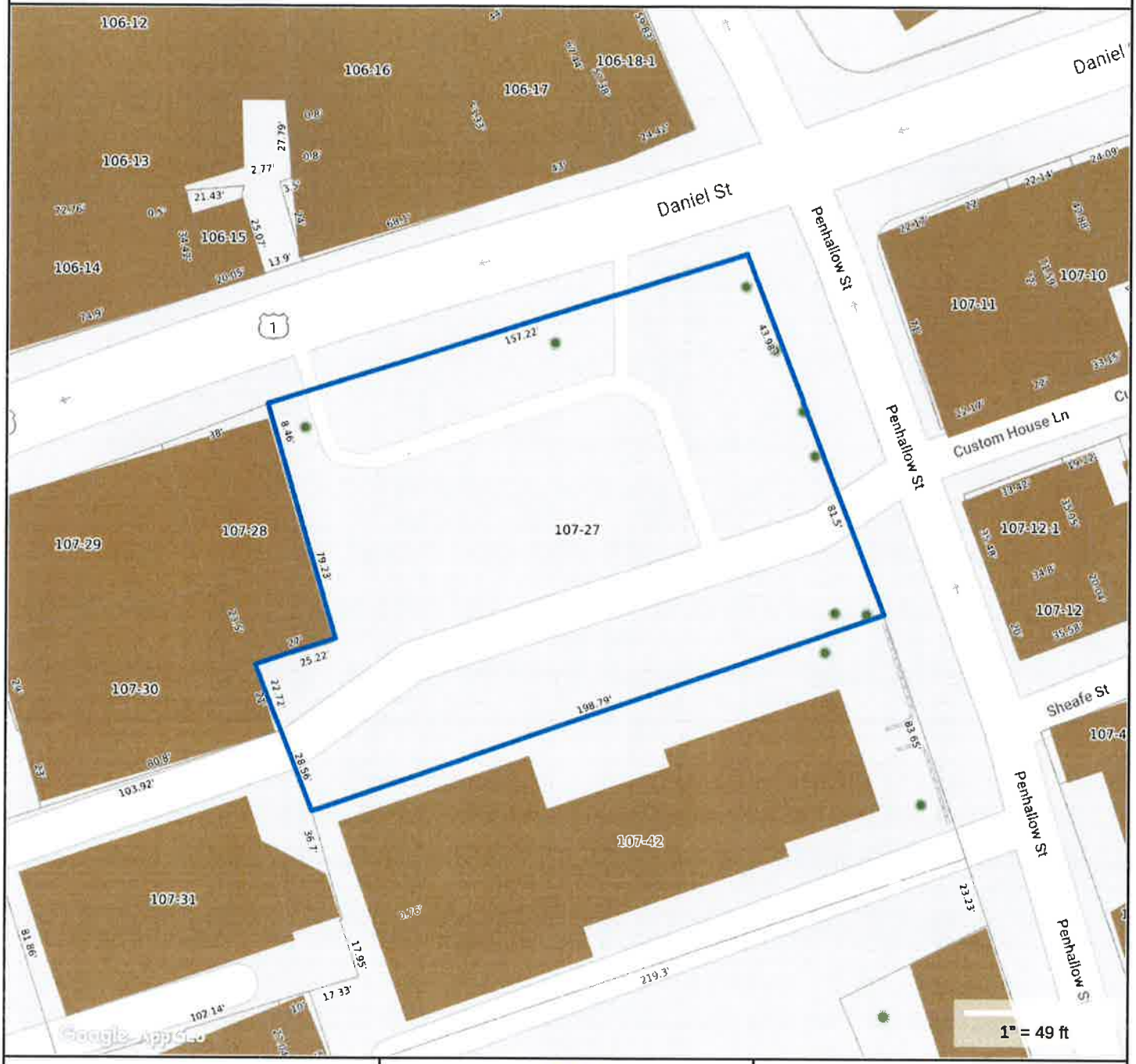
4. HydroCAD Software Solution, LLC. *HydroCAD Stormwater Modeling System Version 10.0* copyright 2013. HydroCAD Software Solution, LLC. *HydroCAD Stormwater Modeling System Version 10.0* copyright 2013.

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.

APPENDIX A

VICINITY (TAX) MAP

60 Penhallow Street



Property Information

Property ID 0107-0027-0000
Location DANIEL ST
Owner DAGNY TAGGART LLC

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

City of Portsmouth, NH makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 4/1/2019
Data updated 7/17/2019

APPENDIX B

TABLES, CHARTS, ETC.

Extreme Precipitation Tables

Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	70.756 degrees West
Latitude	43.077 degrees North
Elevation	0 feet
Date/Time	Mon, 30 Sep 2019 15:36:40 -0400

Q2 = 3.20 X 1.15 = 3.68

Q10 = 4.86 X 1.15 = 5.59

Q25 = 6.16 X 1.15 = 7.08

Q50 = 7.37 X 1.15 = 8.48

Q100 = 8.83 X 1.15 = 10.15

Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.50	0.65	0.81	1.04	**1yr**	0.70	0.98	1.21	1.56	2.03	2.65	2.92	**1yr**	2.35	2.81	3.22	3.94	4.54	**1yr**
2yr	0.32	0.50	0.62	0.81	1.02	1.30	**2yr**	0.88	1.18	1.52	1.94	2.48	3.20	3.57	**2yr**	2.84	3.43	3.93	4.67	5.32	**2yr**
5yr	0.37	0.58	0.73	0.97	1.25	1.61	**5yr**	1.08	1.47	1.89	2.43	3.14	4.06	4.57	**5yr**	3.59	4.40	5.03	5.93	6.69	**5yr**
10yr	0.41	0.65	0.82	1.11	1.45	1.89	**10yr**	1.25	1.73	2.23	2.89	3.74	4.86	5.52	**10yr**	4.30	5.31	6.07	7.09	7.96	**10yr**
25yr	0.48	0.76	0.97	1.34	1.77	2.34	**25yr**	1.53	2.14	2.78	3.63	4.73	6.16	7.09	**25yr**	5.45	6.81	7.79	9.00	10.03	**25yr**
50yr	0.54	0.86	1.10	1.54	2.07	2.76	**50yr**	1.79	2.53	3.29	4.32	5.65	7.37	8.57	**50yr**	6.52	8.24	9.40	10.79	11.95	**50yr**
100yr	0.60	0.97	1.25	1.77	2.42	3.26	**100yr**	2.09	2.98	3.90	5.15	6.76	8.83	10.36	**100yr**	7.81	9.96	11.35	12.93	14.24	**100yr**
200yr	0.67	1.10	1.43	2.05	2.82	3.83	**200yr**	2.44	3.51	4.61	6.12	8.07	10.58	12.52	**200yr**	9.36	12.04	13.72	15.50	16.97	**200yr**
500yr	0.80	1.31	1.71	2.48	3.48	4.76	**500yr**	3.00	4.38	5.76	7.70	10.20	13.44	16.10	**500yr**	11.90	15.48	17.62	19.72	21.43	**500yr**

Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.23	0.36	0.44	0.59	0.73	0.88	**1yr**	0.63	0.86	0.93	1.33	1.68	2.23	2.47	**1yr**	1.98	2.38	2.86	3.19	3.89	**1yr**
2yr	0.31	0.49	0.60	0.81	1.00	1.19	**2yr**	0.86	1.16	1.37	1.82	2.34	3.05	3.44	**2yr**	2.70	3.31	3.82	4.54	5.08	**2yr**
5yr	0.35	0.54	0.67	0.92	1.17	1.40	**5yr**	1.01	1.37	1.61	2.12	2.73	3.78	4.17	**5yr**	3.34	4.01	4.71	5.52	6.22	**5yr**
10yr	0.38	0.59	0.73	1.02	1.32	1.60	**10yr**	1.14	1.56	1.80	2.39	3.06	4.36	4.84	**10yr**	3.86	4.65	5.42	6.39	7.17	**10yr**

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
25yr	0.44	0.67	0.83	1.18	1.56	1.90	**25yr**	1.35	1.86	2.10	2.75	3.53	4.71	5.86	**25yr**	4.17	5.63	6.61	7.75	8.64	**25yr**
50yr	0.48	0.73	0.91	1.31	1.76	2.16	**50yr**	1.52	2.12	2.34	3.07	3.92	5.32	6.75	**50yr**	4.71	6.50	7.67	8.99	9.97	**50yr**
100yr	0.53	0.81	1.01	1.46	2.00	2.47	**100yr**	1.73	2.41	2.62	3.41	4.34	5.98	7.79	**100yr**	5.30	7.49	8.89	10.43	11.50	**100yr**
200yr	0.59	0.89	1.12	1.63	2.27	2.81	**200yr**	1.96	2.75	2.93	3.78	4.78	6.71	8.97	**200yr**	5.93	8.63	10.30	12.13	13.29	**200yr**
500yr	0.68	1.01	1.31	1.90	2.70	3.36	**500yr**	2.33	3.28	3.41	4.31	5.43	7.80	10.82	**500yr**	6.90	10.41	12.52	14.82	16.09	**500yr**

Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.28	0.44	0.54	0.72	0.89	1.08	**1yr**	0.77	1.06	1.26	1.74	2.20	2.98	3.16	**1yr**	2.63	3.04	3.57	4.37	5.03	**1yr**
2yr	0.34	0.52	0.64	0.86	1.07	1.27	**2yr**	0.92	1.24	1.48	1.96	2.52	3.42	3.70	**2yr**	3.02	3.56	4.09	4.84	5.62	**2yr**
5yr	0.40	0.62	0.76	1.05	1.34	1.62	**5yr**	1.15	1.58	1.88	2.54	3.25	4.33	4.96	**5yr**	3.84	4.77	5.37	6.37	7.15	**5yr**
10yr	0.47	0.72	0.89	1.24	1.61	1.98	**10yr**	1.39	1.93	2.28	3.11	3.96	5.33	6.21	**10yr**	4.72	5.97	6.83	7.84	8.75	**10yr**
25yr	0.58	0.88	1.09	1.56	2.05	2.57	**25yr**	1.77	2.51	2.96	4.07	5.16	7.76	8.35	**25yr**	6.87	8.03	9.17	10.34	11.41	**25yr**
50yr	0.67	1.02	1.27	1.83	2.46	3.13	**50yr**	2.12	3.06	3.60	5.00	6.33	9.71	10.48	**50yr**	8.60	10.08	11.48	12.73	13.97	**50yr**
100yr	0.79	1.19	1.50	2.16	2.96	3.81	**100yr**	2.56	3.73	4.38	6.16	7.78	12.15	13.14	**100yr**	10.75	12.64	14.37	15.71	17.10	**100yr**
200yr	0.92	1.39	1.76	2.55	3.56	4.65	**200yr**	3.07	4.55	5.34	7.59	9.56	15.24	16.50	**200yr**	13.49	15.86	18.02	19.37	20.93	**200yr**
500yr	1.15	1.71	2.20	3.19	4.54	6.04	**500yr**	3.92	5.90	6.94	10.03	12.60	20.59	22.29	**500yr**	18.23	21.44	24.31	25.55	27.36	**500yr**

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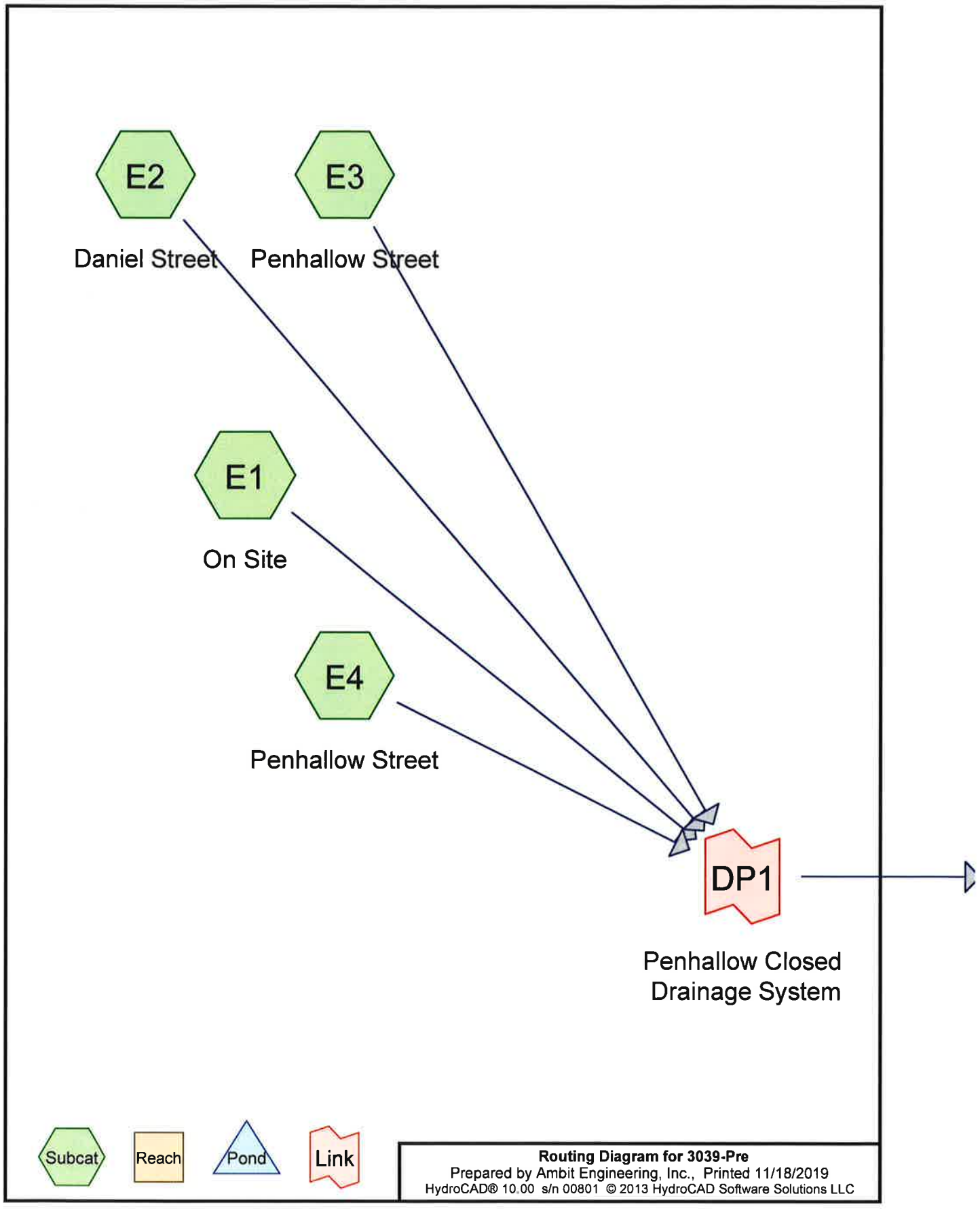
Northeast Regional Climate Center

APPENDIX C

HYDROCAD DRAINAGE

ANALYSIS CALCULATIONS


E2
E3
Daniel Street
Penhallow Street
E1
On Site
E4
Penhallow Street
DP1
Penhallow Closed
Drainage System
Subcat
Reach
Pond
Link
Routing Diagram for 3039-Pre
Prepared by Ambit Engineering, Inc., Printed 11/18/2019
HydroCAD® 10.00 s/n 00801 © 2013 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.129	61	>75% Grass cover, Good, HSG B (E1)
0.032	85	Gravel roads, HSG B (E1)
0.459	98	Paved parking, HSG B (E1)
0.157	98	Paved roads w/curbs & sewers, HSG B (E2, E3, E4)
0.078	98	Unconnected roofs, HSG B (E1)
0.856	**92**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.856	HSG B	E1, E2, E3, E4
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.856		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.129	0.000	0.000	0.000	0.129	>75% Grass cover, Good	E1
0.000	0.032	0.000	0.000	0.000	0.032	Gravel roads	E1
0.000	0.459	0.000	0.000	0.000	0.459	Paved parking	E1
0.000	0.157	0.000	0.000	0.000	0.157	Paved roads w/curbs & sewers	E2, E3, E4
0.000	0.078	0.000	0.000	0.000	0.078	Unconnected roofs	E1
0.000	**0.856**	**0.000**	**0.000**	**0.000**	**0.856**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	E1	0.00	0.00	62.0	0.0050	0.013	12.0	0.0	0.0
2	E1	0.00	0.00	42.0	0.0031	0.013	12.0	0.0	0.0

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E1: On Site Runoff Area=30,432 sf 76.89% Impervious Runoff Depth=2.71"
Flow Length=227' Tc=5.0 min CN=91 Runoff=2.25 cfs 0.158 af

Subcatchment E2: Daniel Street Runoff Area=4,330 sf 100.00% Impervious Runoff Depth=3.45"
Tc=5.0 min CN=98 Runoff=0.37 cfs 0.029 af

Subcatchment E3: Penhallow Street Runoff Area=1,701 sf 100.00% Impervious Runoff Depth=3.45"
Tc=5.0 min CN=98 Runoff=0.14 cfs 0.011 af

Subcatchment E4: Penhallow Street Runoff Area=803 sf 100.00% Impervious Runoff Depth=3.45"
Tc=5.0 min CN=98 Runoff=0.07 cfs 0.005 af

Link DP1: Penhallow Closed Drainage System Inflow=2.83 cfs 0.203 af
Primary=2.83 cfs 0.203 af

Total Runoff Area = 0.856 ac Runoff Volume = 0.203 af Average Runoff Depth = 2.85"
18.87% Pervious = 0.161 ac 81.13% Impervious = 0.694 ac

Summary for Subcatchment E1: On Site

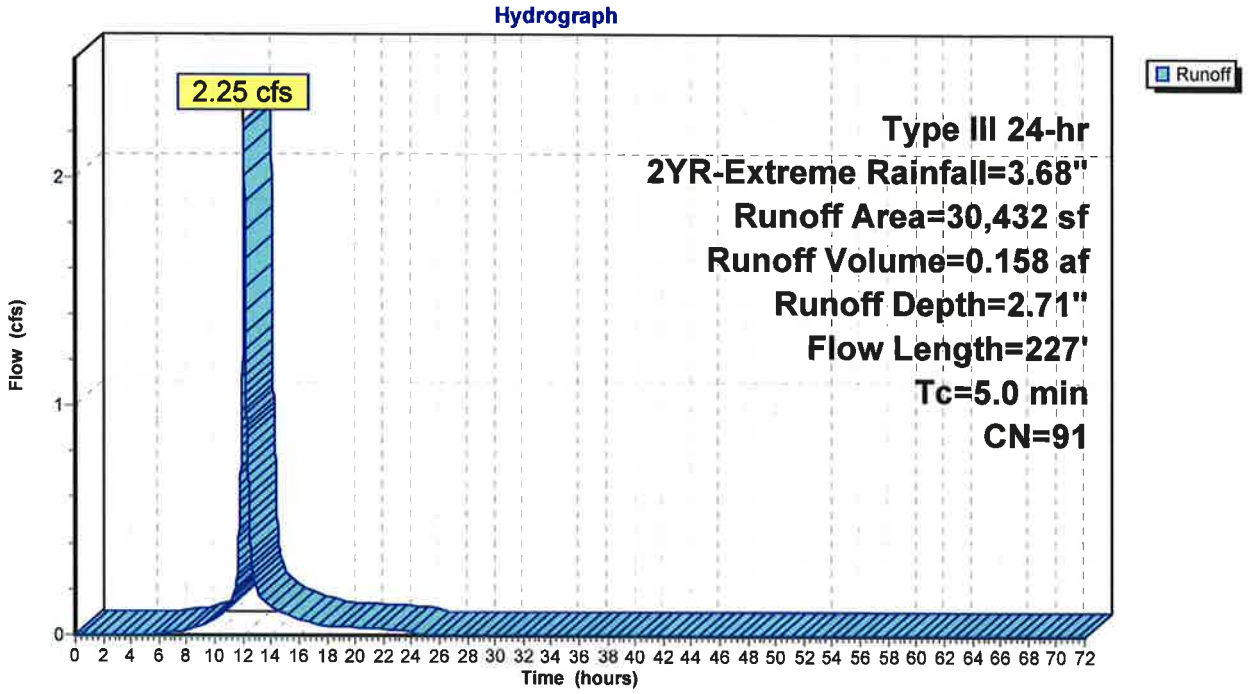
Runoff = 2.25 cfs @ 12.07 hrs, Volume= 0.158 af, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2YR-Extreme Rainfall=3.68"

Area (sf)	CN	Description
3,398	98	Unconnected roofs, HSG B
20,002	98	Paved parking, HSG B
5,633	61	>75% Grass cover, Good, HSG B
1,399	85	Gravel roads, HSG B
30,432	91	Weighted Average
7,032		23.11% Pervious Area
23,400		76.89% Impervious Area
3,398		14.52% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	80	0.0179	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.26"
0.2	43	0.0306	3.55		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	62	0.0050	3.21	2.52	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.3	42	0.0031	2.53	1.98	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
1.8	227	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E1: On Site



Summary for Subcatchment E2: Daniel Street

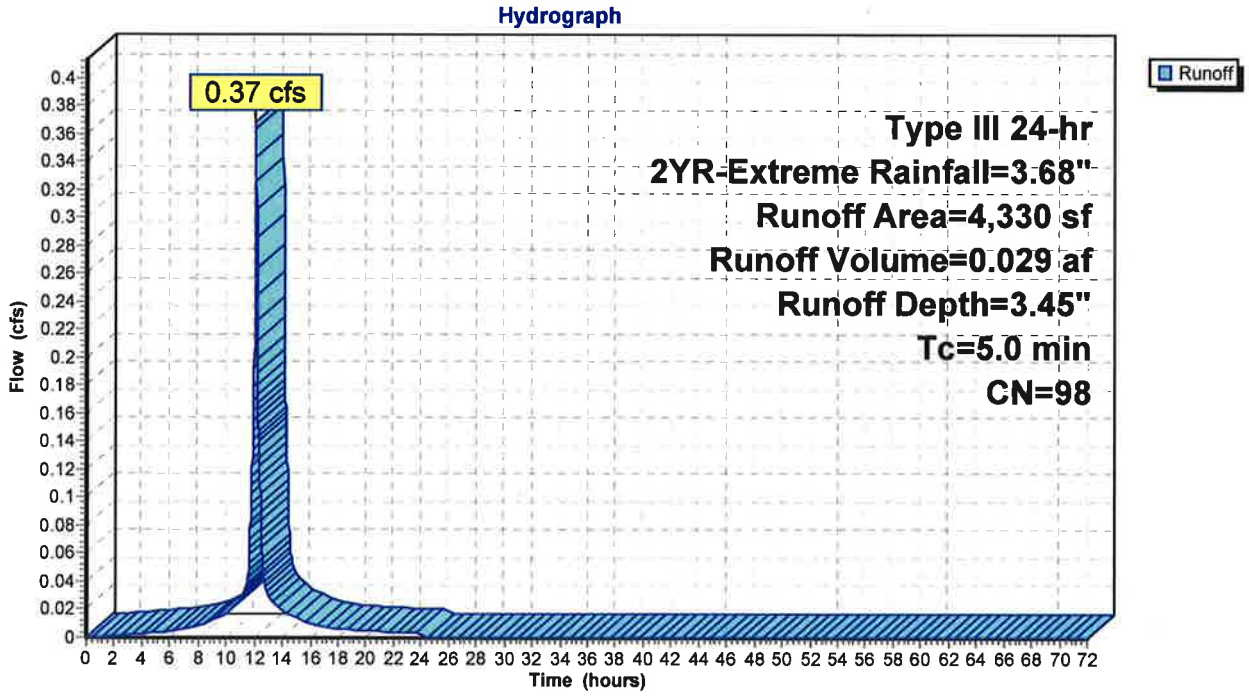
Runoff = 0.37 cfs @ 12.07 hrs, Volume= 0.029 af, Depth= 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2YR-Extreme Rainfall=3.68"

Area (sf)	CN	Description
4,330	98	Paved roads w/curbs & sewers, HSG B
4,330		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E2: Daniel Street



Summary for Subcatchment E3: Penhallow Street

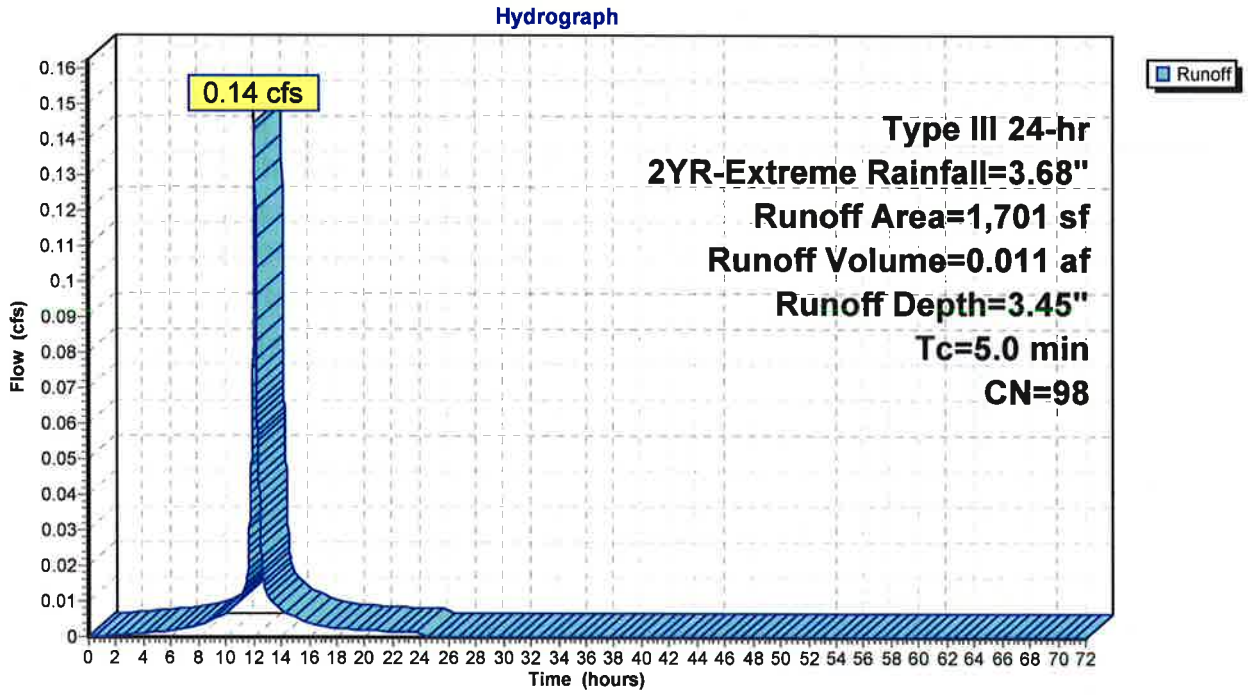
Runoff = 0.14 cfs @ 12.07 hrs, Volume= 0.011 af, Depth= 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2YR-Extreme Rainfall=3.68"

Area (sf)	CN	Description
1,701	98	Paved roads w/curbs & sewers, HSG B
1,701		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E3: Penhallow Street



Summary for Subcatchment E4: Penhallow Street

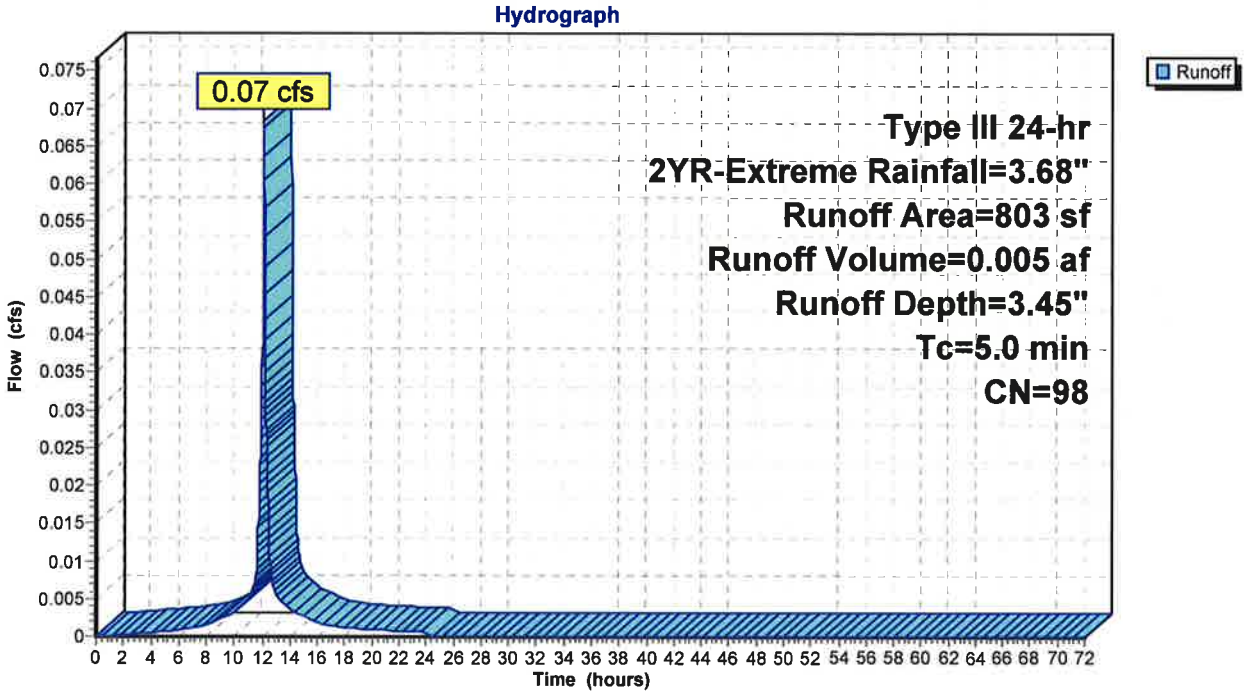
Runoff = 0.07 cfs @ 12.07 hrs, Volume= 0.005 af, Depth= 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2YR-Extreme Rainfall=3.68"

Area (sf)	CN	Description
803	98	Paved roads w/curbs & sewers, HSG B
803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E4: Penhallow Street

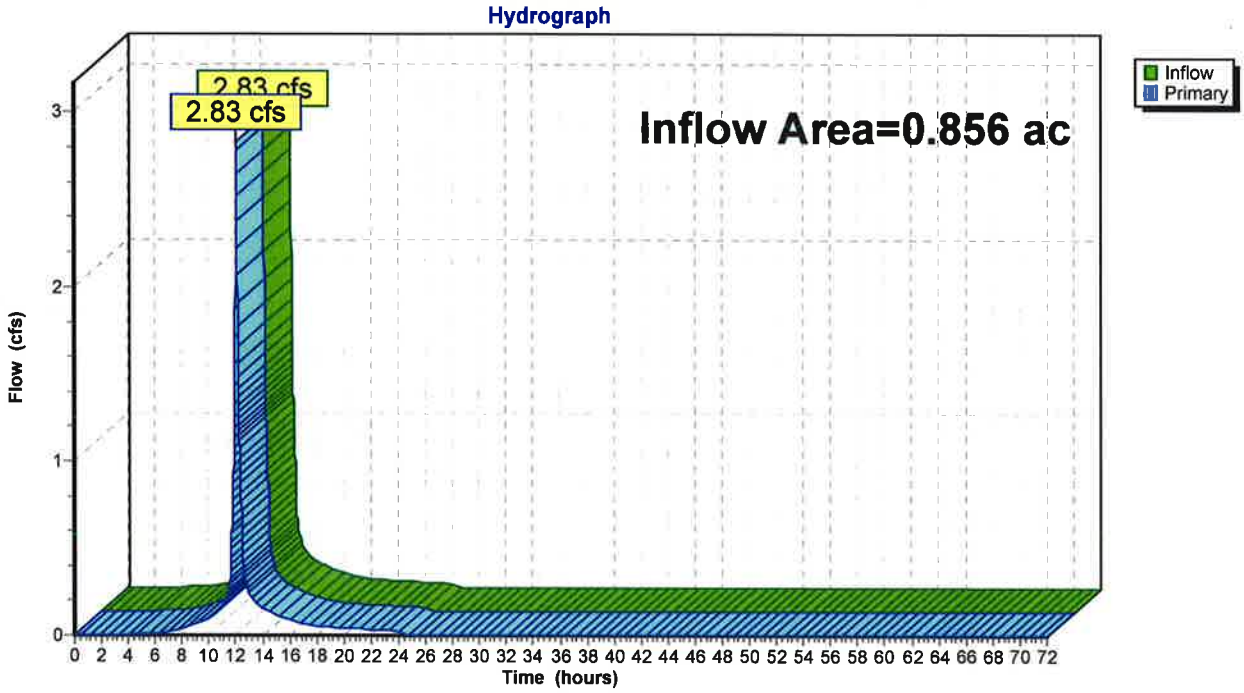


Summary for Link DP1: Penhallow Closed Drainage System

Inflow Area = 0.856 ac, 81.13% Impervious, Inflow Depth = 2.85" for 2YR-Extreme event
Inflow = 2.83 cfs @ 12.07 hrs, Volume= 0.203 af
Primary = 2.83 cfs @ 12.07 hrs, Volume= 0.203 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link DP1: Penhallow Closed Drainage System



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E1: On Site Runoff Area=30,432 sf 76.89% Impervious Runoff Depth=4.56"
Flow Length=227' Tc=5.0 min CN=91 Runoff=3.67 cfs 0.265 af

Subcatchment E2: Daniel Street Runoff Area=4,330 sf 100.00% Impervious Runoff Depth=5.35"
Tc=5.0 min CN=98 Runoff=0.56 cfs 0.044 af

Subcatchment E3: Penhallow Street Runoff Area=1,701 sf 100.00% Impervious Runoff Depth=5.35"
Tc=5.0 min CN=98 Runoff=0.22 cfs 0.017 af

Subcatchment E4: Penhallow Street Runoff Area=803 sf 100.00% Impervious Runoff Depth=5.35"
Tc=5.0 min CN=98 Runoff=0.10 cfs 0.008 af

Link DP1: Penhallow Closed Drainage System Inflow=4.56 cfs 0.335 af
Primary=4.56 cfs 0.335 af

Total Runoff Area = 0.856 ac Runoff Volume = 0.335 af Average Runoff Depth = 4.70"
18.87% Pervious = 0.161 ac 81.13% Impervious = 0.694 ac

Summary for Subcatchment E1: On Site

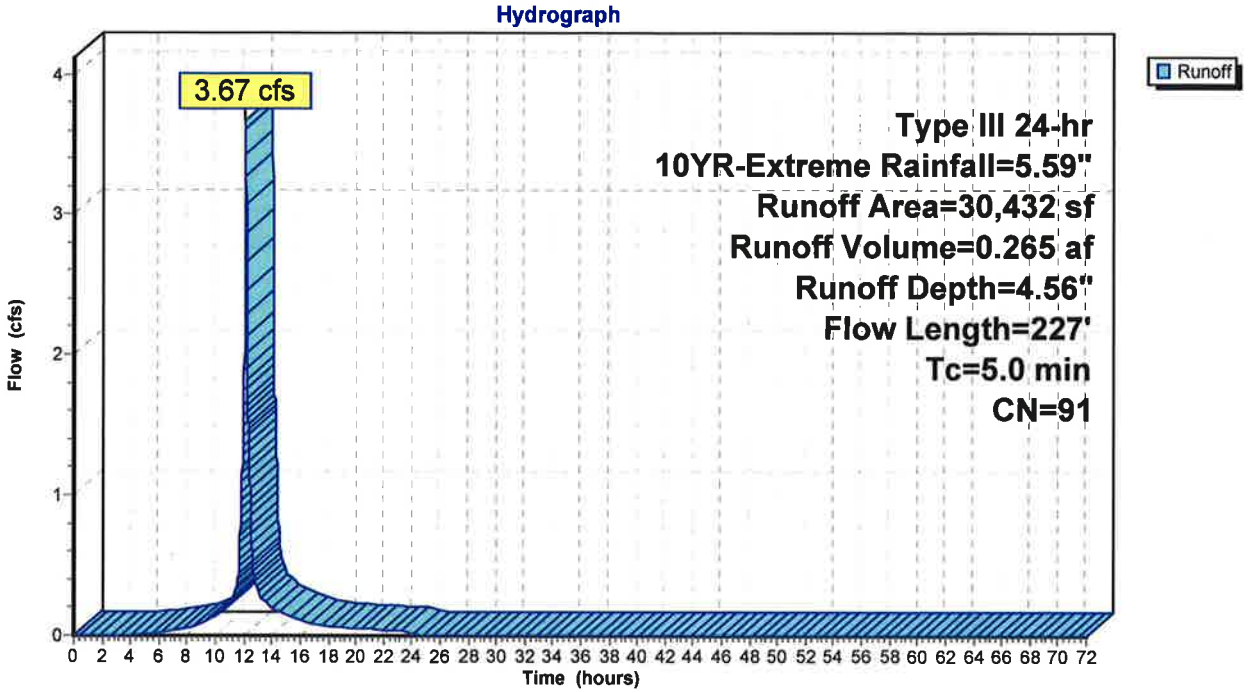
Runoff = 3.67 cfs @ 12.07 hrs, Volume= 0.265 af, Depth= 4.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YR-Extreme Rainfall=5.59"

Area (sf)	CN	Description
3,398	98	Unconnected roofs, HSG B
20,002	98	Paved parking, HSG B
5,633	61	>75% Grass cover, Good, HSG B
1,399	85	Gravel roads, HSG B
30,432	91	Weighted Average
7,032		23.11% Pervious Area
23,400		76.89% Impervious Area
3,398		14.52% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	80	0.0179	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.26"
0.2	43	0.0306	3.55		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	62	0.0050	3.21	2.52	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.3	42	0.0031	2.53	1.98	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
1.8	227	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E1: On Site



Summary for Subcatchment E2: Daniel Street

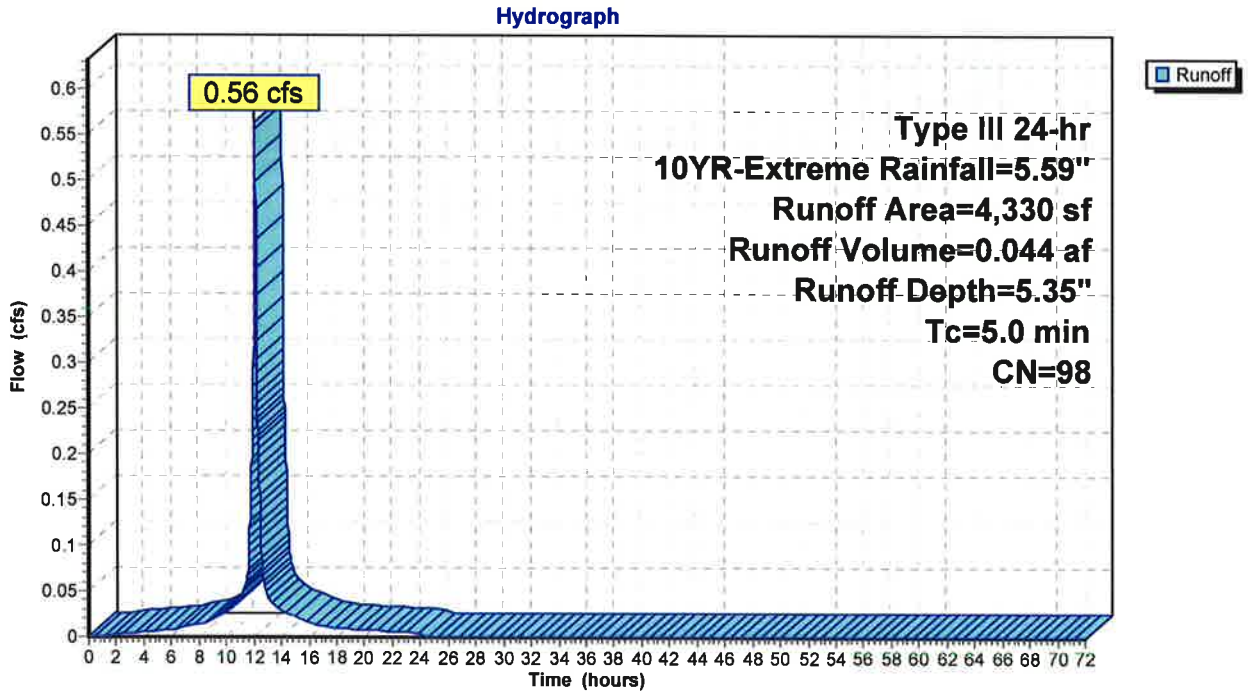
Runoff = 0.56 cfs @ 12.07 hrs, Volume= 0.044 af, Depth= 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YR-Extreme Rainfall=5.59"

Area (sf)	CN	Description
4,330	98	Paved roads w/curbs & sewers, HSG B
4,330		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E2: Daniel Street



Summary for Subcatchment E3: Penhallow Street

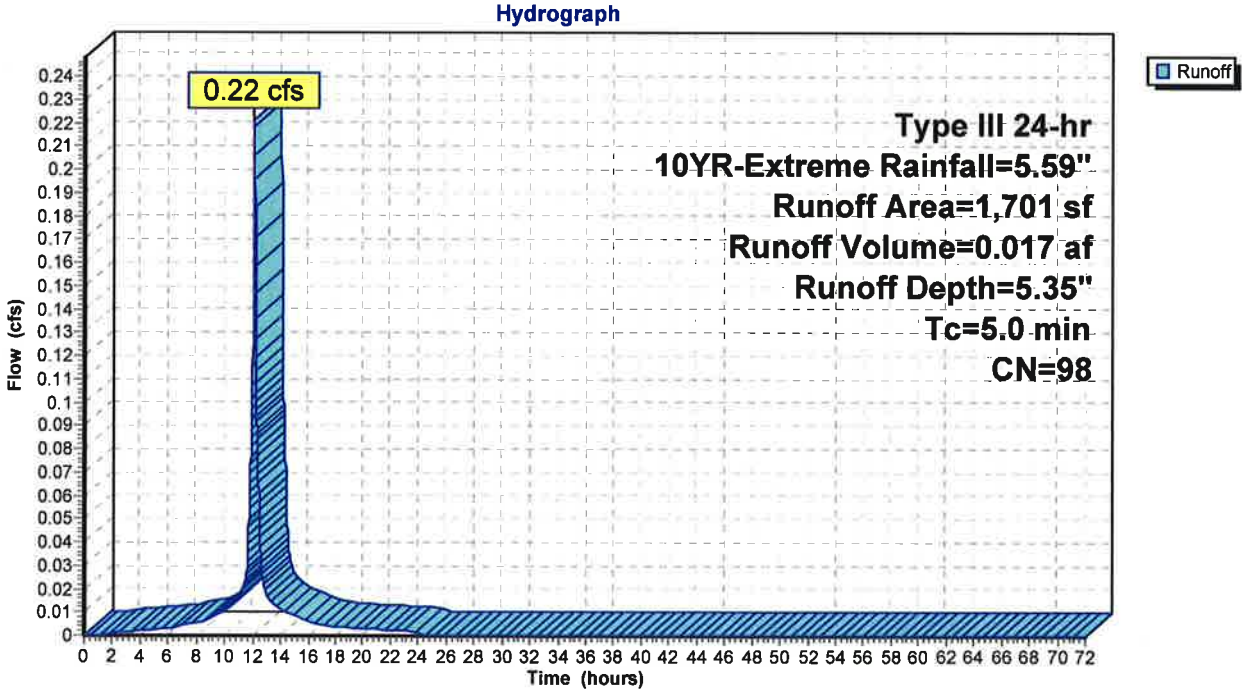
Runoff = 0.22 cfs @ 12.07 hrs, Volume= 0.017 af, Depth= 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YR-Extreme Rainfall=5.59"

Area (sf)	CN	Description
1,701	98	Paved roads w/curbs & sewers, HSG B
1,701		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E3: Penhallow Street



Summary for Subcatchment E4: Penhallow Street

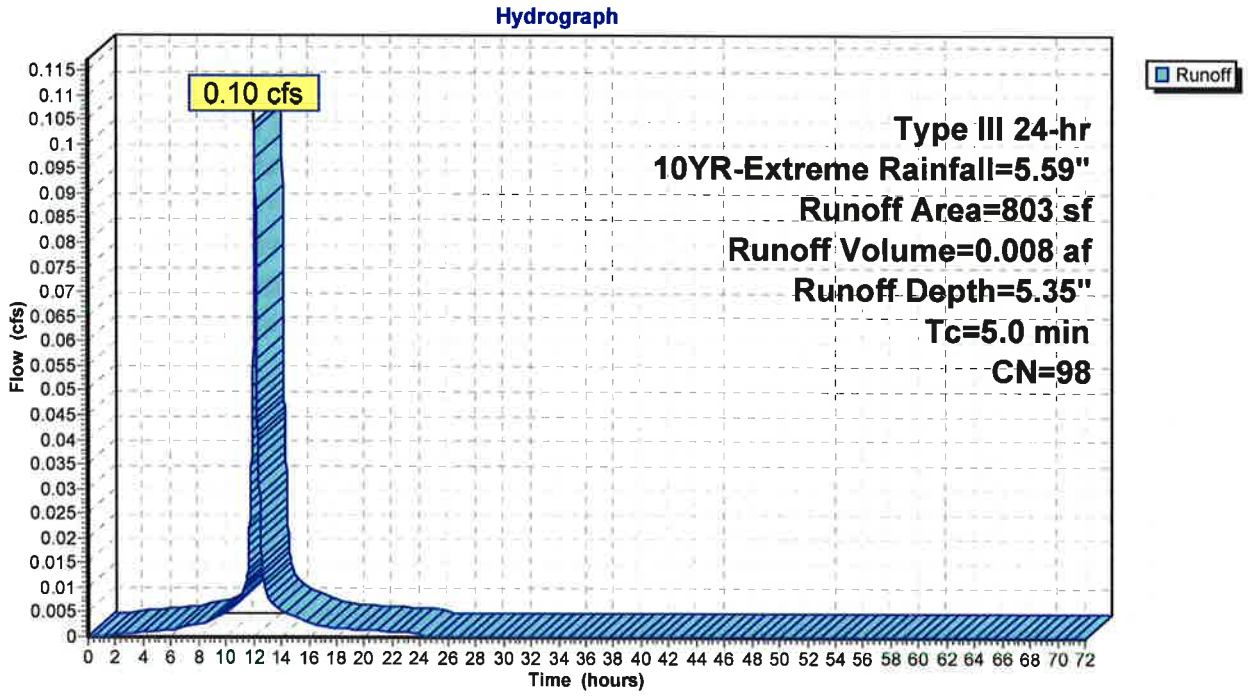
Runoff = 0.10 cfs @ 12.07 hrs, Volume= 0.008 af, Depth= 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YR-Extreme Rainfall=5.59"

Area (sf)	CN	Description
803	98	Paved roads w/curbs & sewers, HSG B
803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E4: Penhallow Street

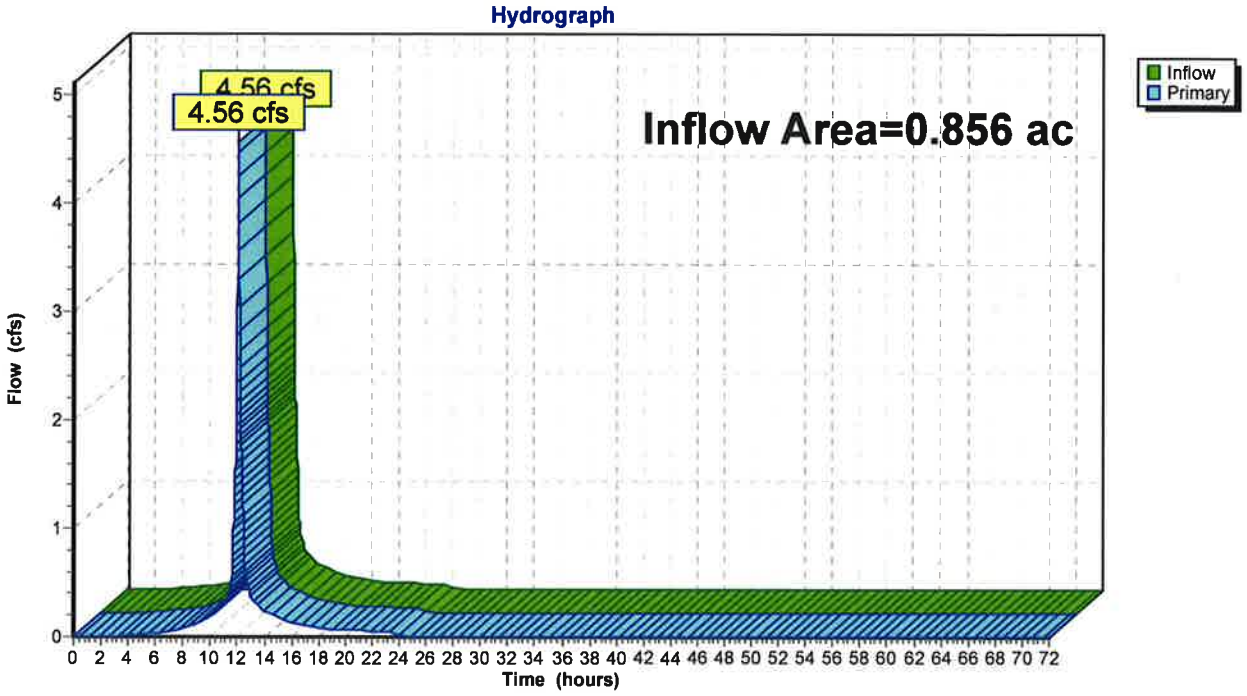


Summary for Link DP1: Penhallow Closed Drainage System

Inflow Area = 0.856 ac, 81.13% Impervious, Inflow Depth = 4.70" for 10YR-Extreme event
Inflow = 4.56 cfs @ 12.07 hrs, Volume= 0.335 af
Primary = 4.56 cfs @ 12.07 hrs, Volume= 0.335 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link DP1: Penhallow Closed Drainage System



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E1: On Site Runoff Area=30,432 sf 76.89% Impervious Runoff Depth=6.02"
Flow Length=227' Tc=5.0 min CN=91 Runoff=4.78 cfs 0.350 af

Subcatchment E2: Daniel Street Runoff Area=4,330 sf 100.00% Impervious Runoff Depth=6.84"
Tc=5.0 min CN=98 Runoff=0.72 cfs 0.057 af

Subcatchment E3: Penhallow Street Runoff Area=1,701 sf 100.00% Impervious Runoff Depth=6.84"
Tc=5.0 min CN=98 Runoff=0.28 cfs 0.022 af

Subcatchment E4: Penhallow Street Runoff Area=803 sf 100.00% Impervious Runoff Depth=6.84"
Tc=5.0 min CN=98 Runoff=0.13 cfs 0.011 af

Link DP1: Penhallow Closed Drainage System Inflow=5.90 cfs 0.440 af
Primary=5.90 cfs 0.440 af

Total Runoff Area = 0.856 ac Runoff Volume = 0.440 af Average Runoff Depth = 6.17"
18.87% Pervious = 0.161 ac 81.13% Impervious = 0.694 ac

Summary for Subcatchment E1: On Site

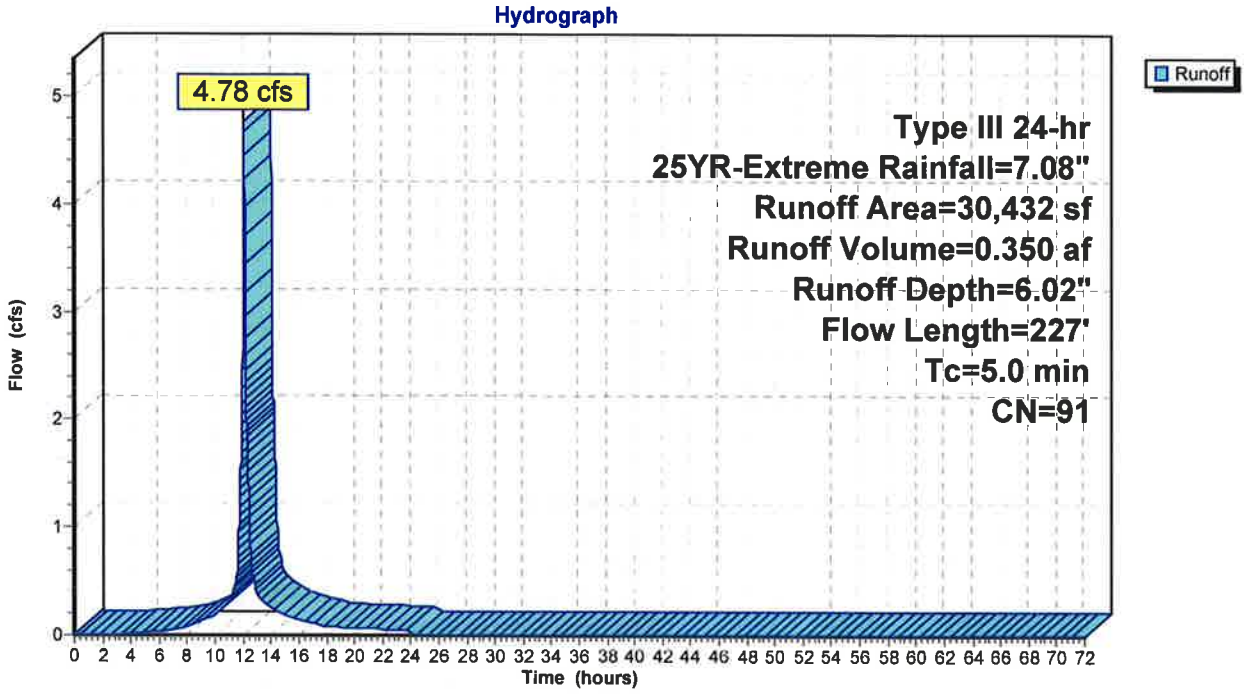
Runoff = 4.78 cfs @ 12.07 hrs, Volume= 0.350 af, Depth= 6.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR-Extreme Rainfall=7.08"

Area (sf)	CN	Description
3,398	98	Unconnected roofs, HSG B
20,002	98	Paved parking, HSG B
5,633	61	>75% Grass cover, Good, HSG B
1,399	85	Gravel roads, HSG B
30,432	91	Weighted Average
7,032		23.11% Pervious Area
23,400		76.89% Impervious Area
3,398		14.52% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	80	0.0179	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.26"
0.2	43	0.0306	3.55		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	62	0.0050	3.21	2.52	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.3	42	0.0031	2.53	1.98	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
1.8	227	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E1: On Site



Summary for Subcatchment E2: Daniel Street

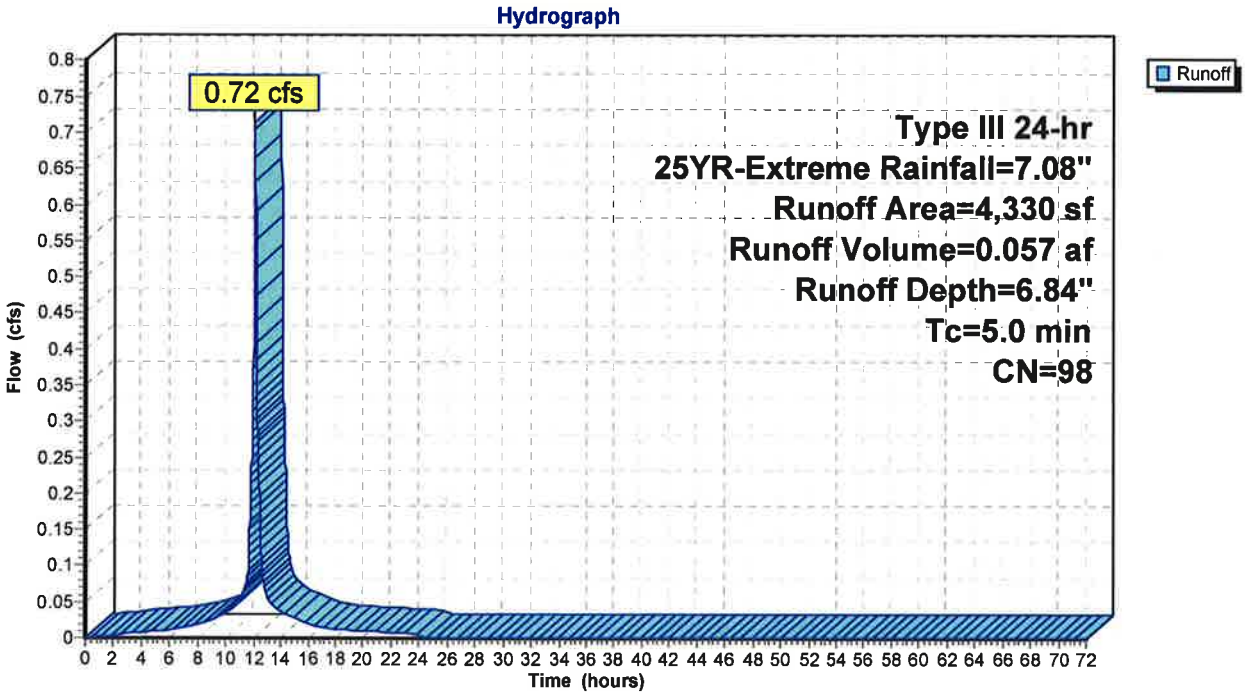
Runoff = 0.72 cfs @ 12.07 hrs, Volume= 0.057 af, Depth= 6.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR-Extreme Rainfall=7.08"

Area (sf)	CN	Description
4,330	98	Paved roads w/curbs & sewers, HSG B
4,330		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E2: Daniel Street



Summary for Subcatchment E3: Penhallow Street

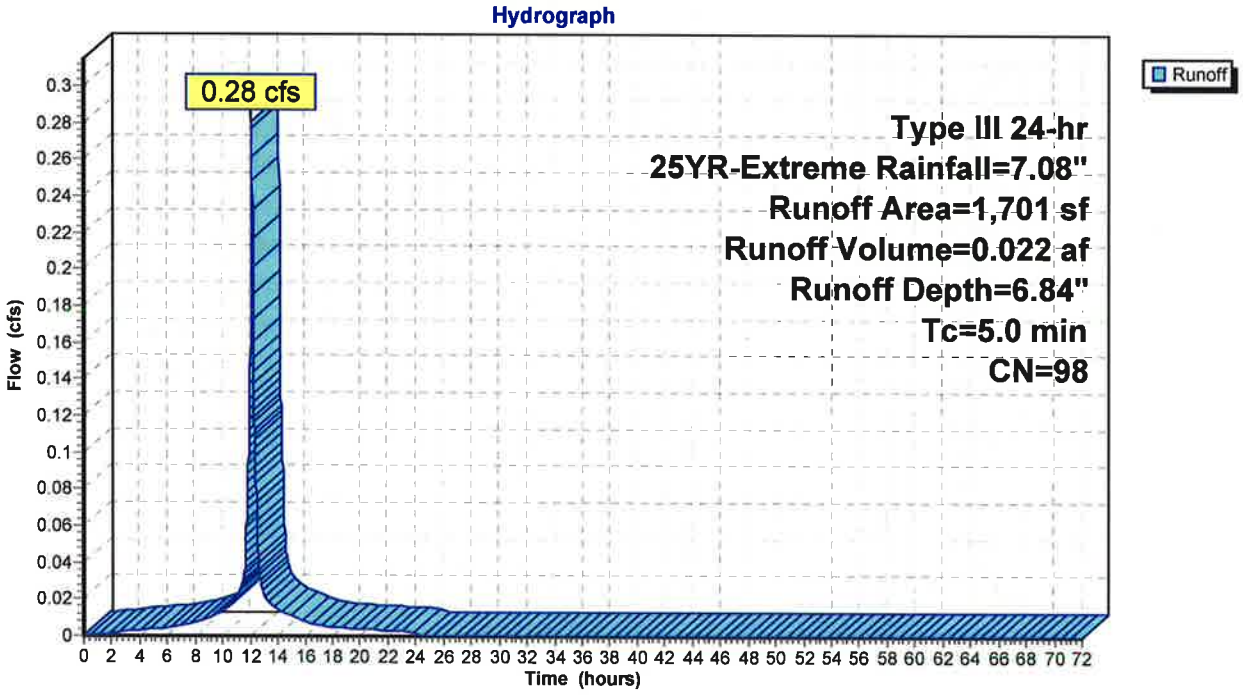
Runoff = 0.28 cfs @ 12.07 hrs, Volume= 0.022 af, Depth= 6.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR-Extreme Rainfall=7.08"

Area (sf)	CN	Description
1,701	98	Paved roads w/curbs & sewers, HSG B
1,701		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E3: Penhallow Street



Summary for Subcatchment E4: Penhallow Street

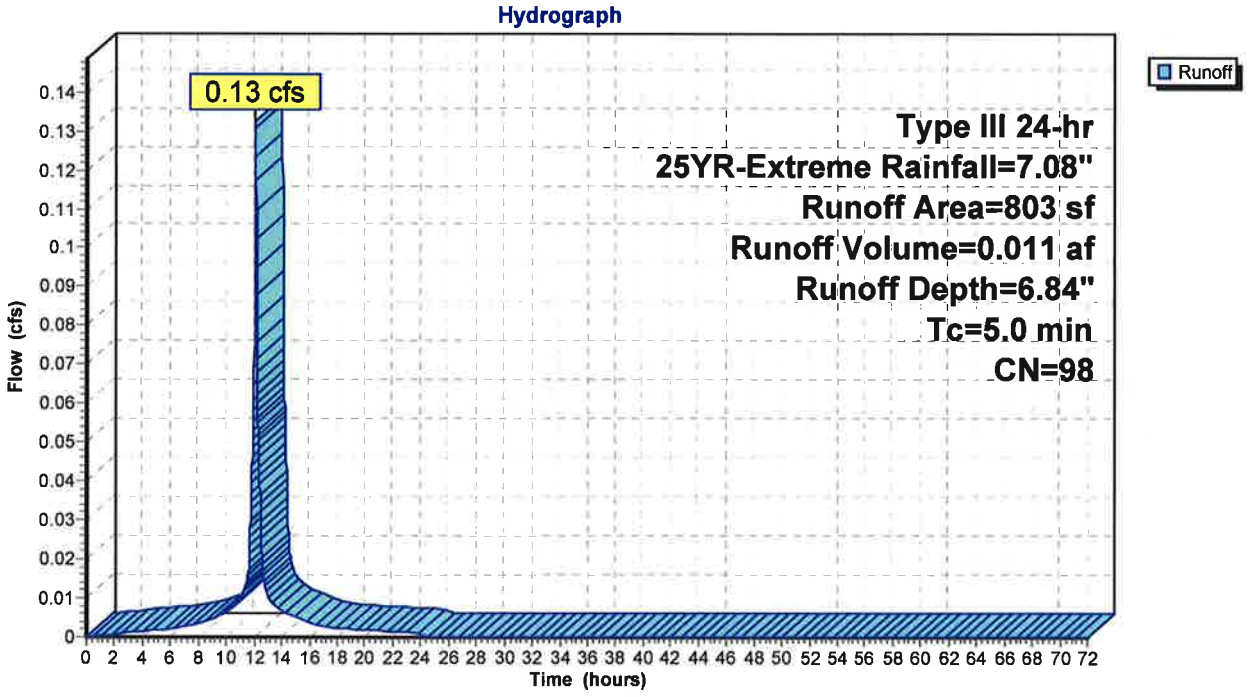
Runoff = 0.13 cfs @ 12.07 hrs, Volume= 0.011 af, Depth= 6.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR-Extreme Rainfall=7.08"

Area (sf)	CN	Description
803	98	Paved roads w/curbs & sewers, HSG B
803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E4: Penhallow Street

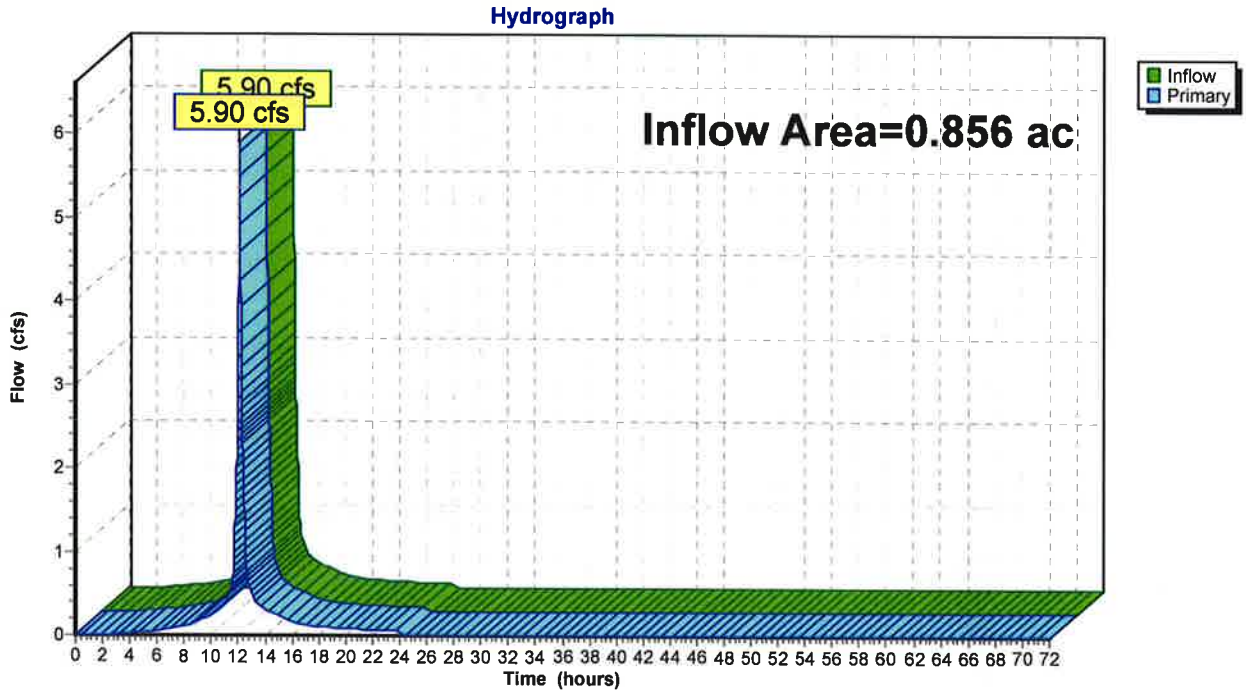


Summary for Link DP1: Penhallow Closed Drainage System

Inflow Area = 0.856 ac, 81.13% Impervious, Inflow Depth = 6.17" for 25YR-Extreme event
Inflow = 5.90 cfs @ 12.07 hrs, Volume= 0.440 af
Primary = 5.90 cfs @ 12.07 hrs, Volume= 0.440 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link DP1: Penhallow Closed Drainage System



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment E1: On Site Runoff Area=30,432 sf 76.89% Impervious Runoff Depth=7.40"
Flow Length=227' Tc=5.0 min CN=91 Runoff=5.80 cfs 0.431 af

Subcatchment E2: Daniel Street Runoff Area=4,330 sf 100.00% Impervious Runoff Depth=8.24"
Tc=5.0 min CN=98 Runoff=0.86 cfs 0.068 af

Subcatchment E3: Penhallow Street Runoff Area=1,701 sf 100.00% Impervious Runoff Depth=8.24"
Tc=5.0 min CN=98 Runoff=0.34 cfs 0.027 af

Subcatchment E4: Penhallow Street Runoff Area=803 sf 100.00% Impervious Runoff Depth=8.24"
Tc=5.0 min CN=98 Runoff=0.16 cfs 0.013 af

Link DP1: Penhallow Closed Drainage System Inflow=7.16 cfs 0.538 af
Primary=7.16 cfs 0.538 af

Total Runoff Area = 0.856 ac Runoff Volume = 0.538 af Average Runoff Depth = 7.55"
18.87% Pervious = 0.161 ac 81.13% Impervious = 0.694 ac

Summary for Subcatchment E1: On Site

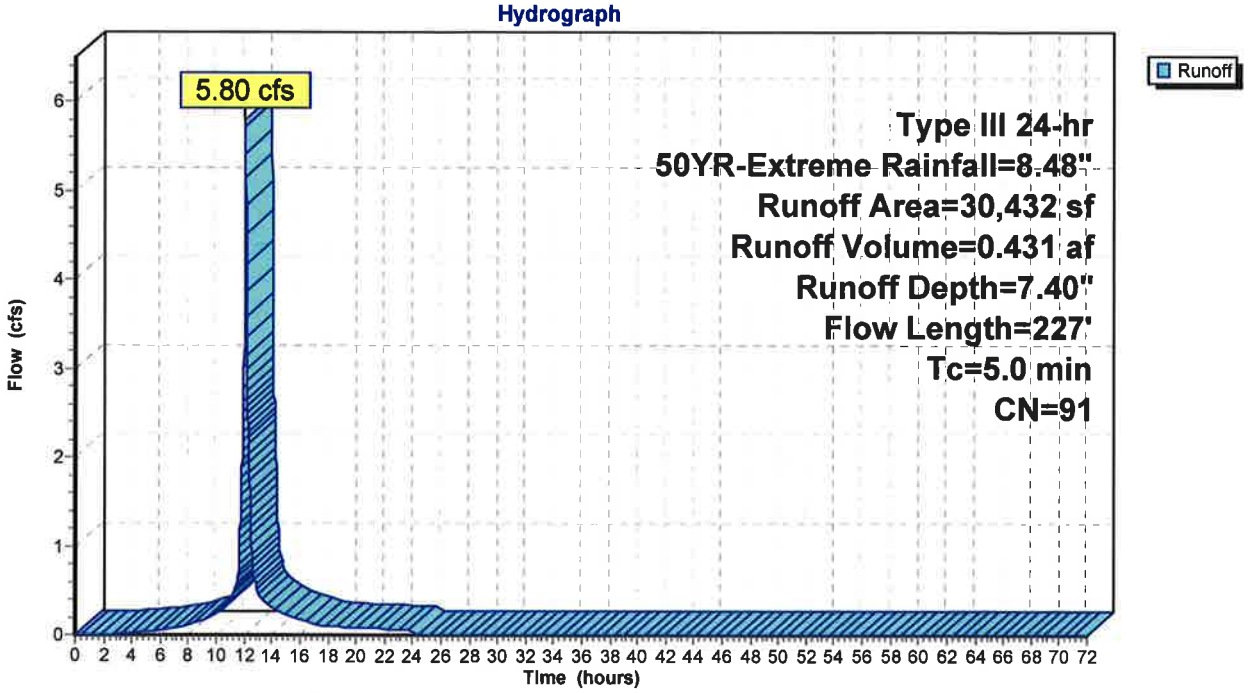
Runoff = 5.80 cfs @ 12.07 hrs, Volume= 0.431 af, Depth= 7.40"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50YR-Extreme Rainfall=8.48"

Area (sf)	CN	Description
3,398	98	Unconnected roofs, HSG B
20,002	98	Paved parking, HSG B
5,633	61	>75% Grass cover, Good, HSG B
1,399	85	Gravel roads, HSG B
30,432	91	Weighted Average
7,032		23.11% Pervious Area
23,400		76.89% Impervious Area
3,398		14.52% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.0	80	0.0179	1.27		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.26"
0.2	43	0.0306	3.55		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.3	62	0.0050	3.21	2.52	**Pipe Channel, RCP_Round 12"** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
0.3	42	0.0031	2.53	1.98	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.013 Corrugated PE, smooth interior
1.8	227	Total, Increased to minimum Tc = 5.0 min			

Subcatchment E1: On Site



Summary for Subcatchment E2: Daniel Street

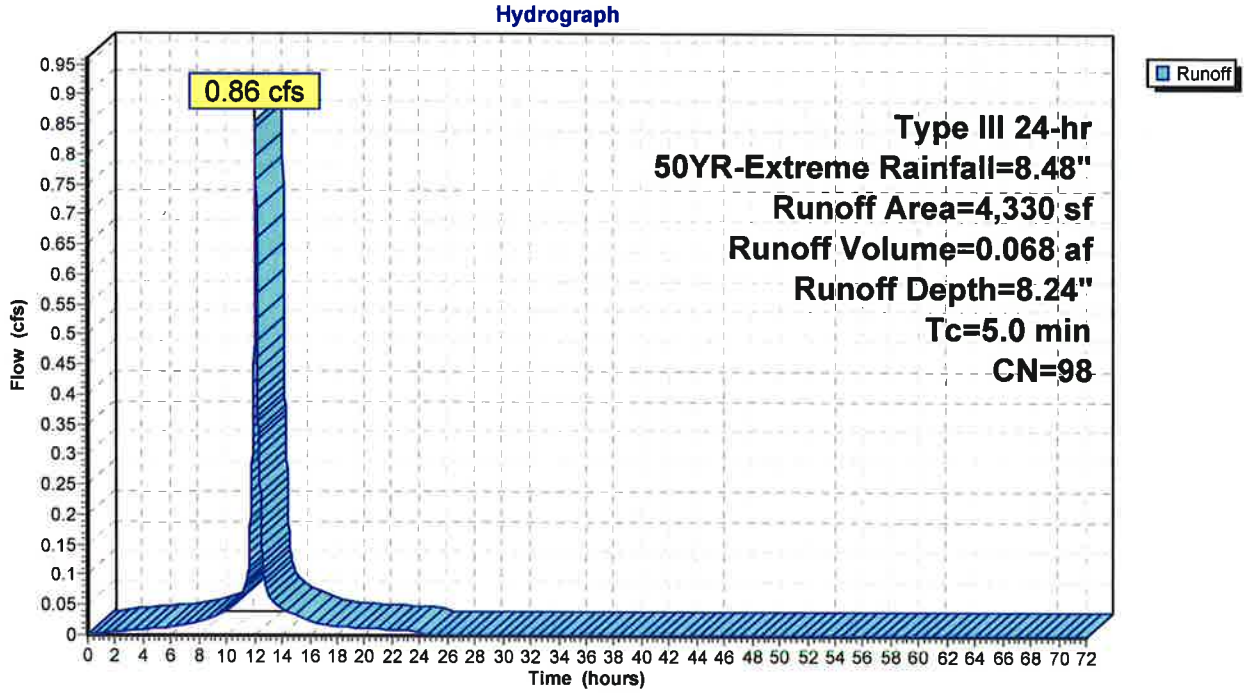
Runoff = 0.86 cfs @ 12.07 hrs, Volume= 0.068 af, Depth= 8.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50YR-Extreme Rainfall=8.48"

Area (sf)	CN	Description
4,330	98	Paved roads w/curbs & sewers, HSG B
4,330		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E2: Daniel Street



Summary for Subcatchment E3: Penhallow Street

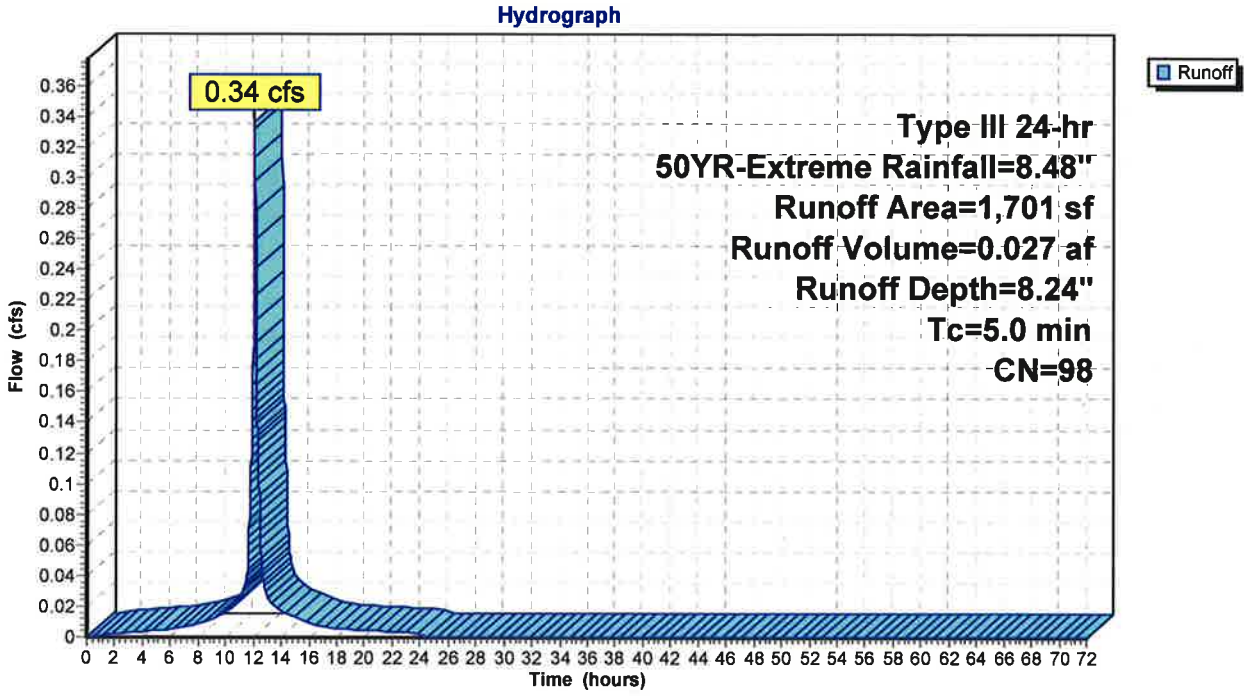
Runoff = 0.34 cfs @ 12.07 hrs, Volume= 0.027 af, Depth= 8.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50YR-Extreme Rainfall=8.48"

Area (sf)	CN	Description
1,701	98	Paved roads w/curbs & sewers, HSG B
1,701		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E3: Penhallow Street



Summary for Subcatchment E4: Penhallow Street

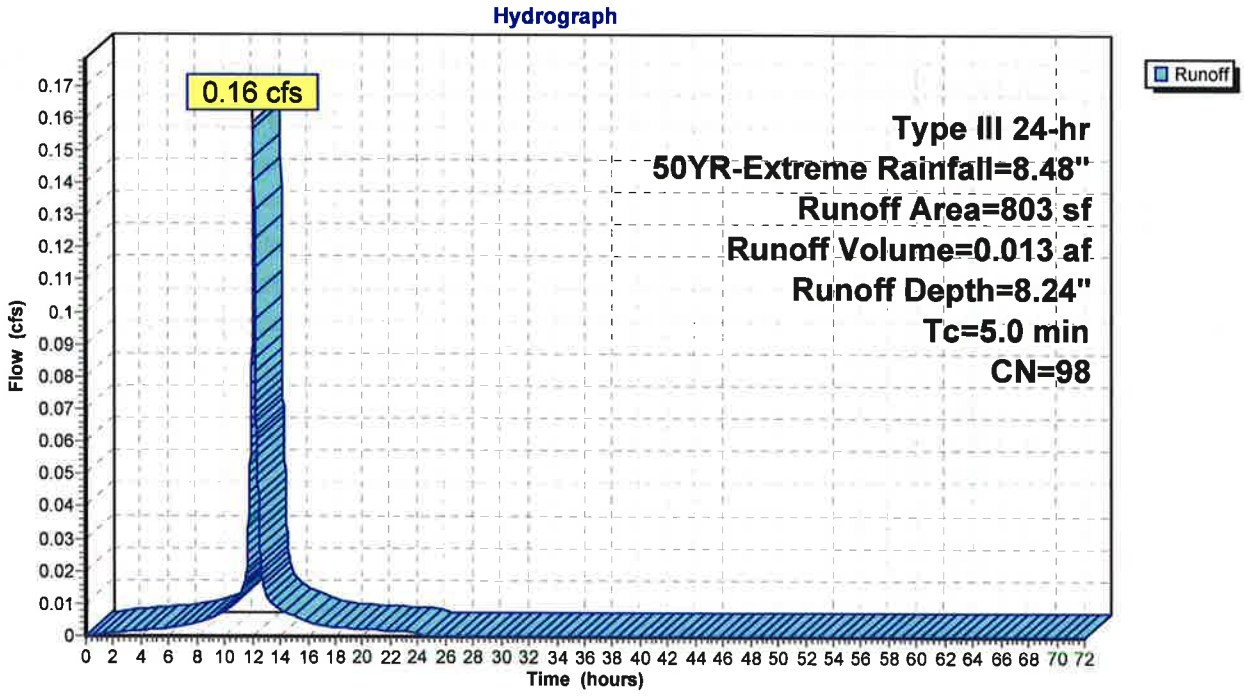
Runoff = 0.16 cfs @ 12.07 hrs, Volume= 0.013 af, Depth= 8.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50YR-Extreme Rainfall=8.48"

Area (sf)	CN	Description
803	98	Paved roads w/curbs & sewers, HSG B
803		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment E4: Penhallow Street

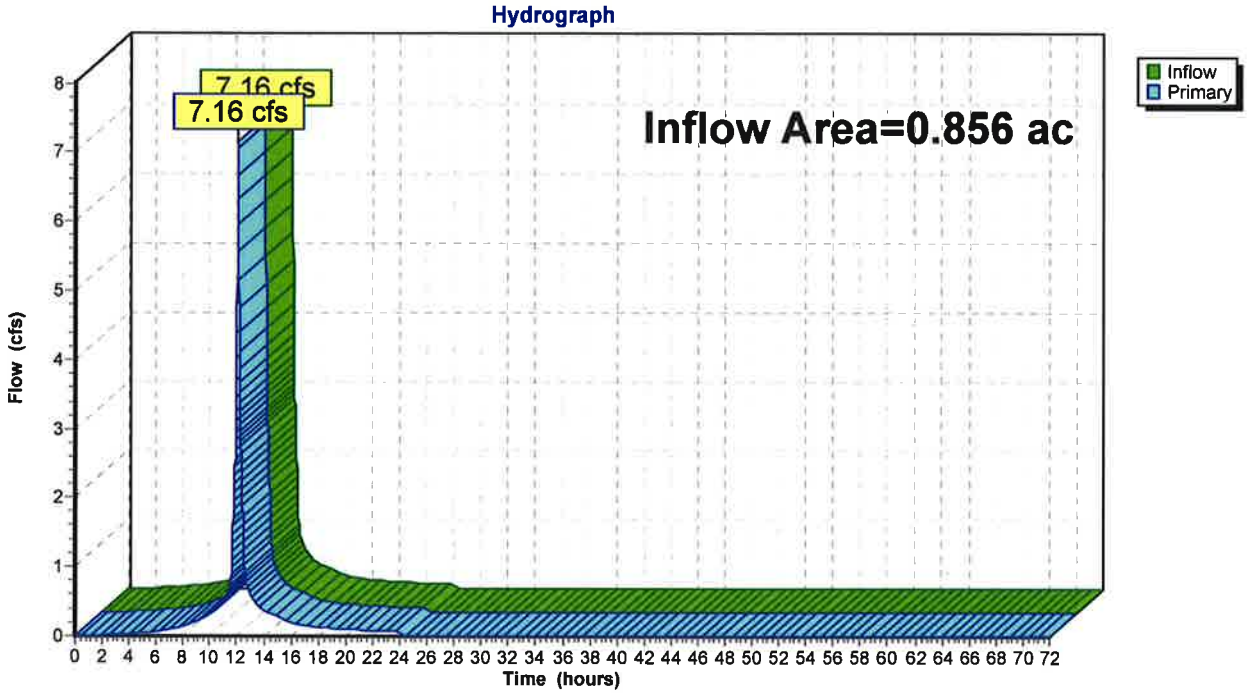


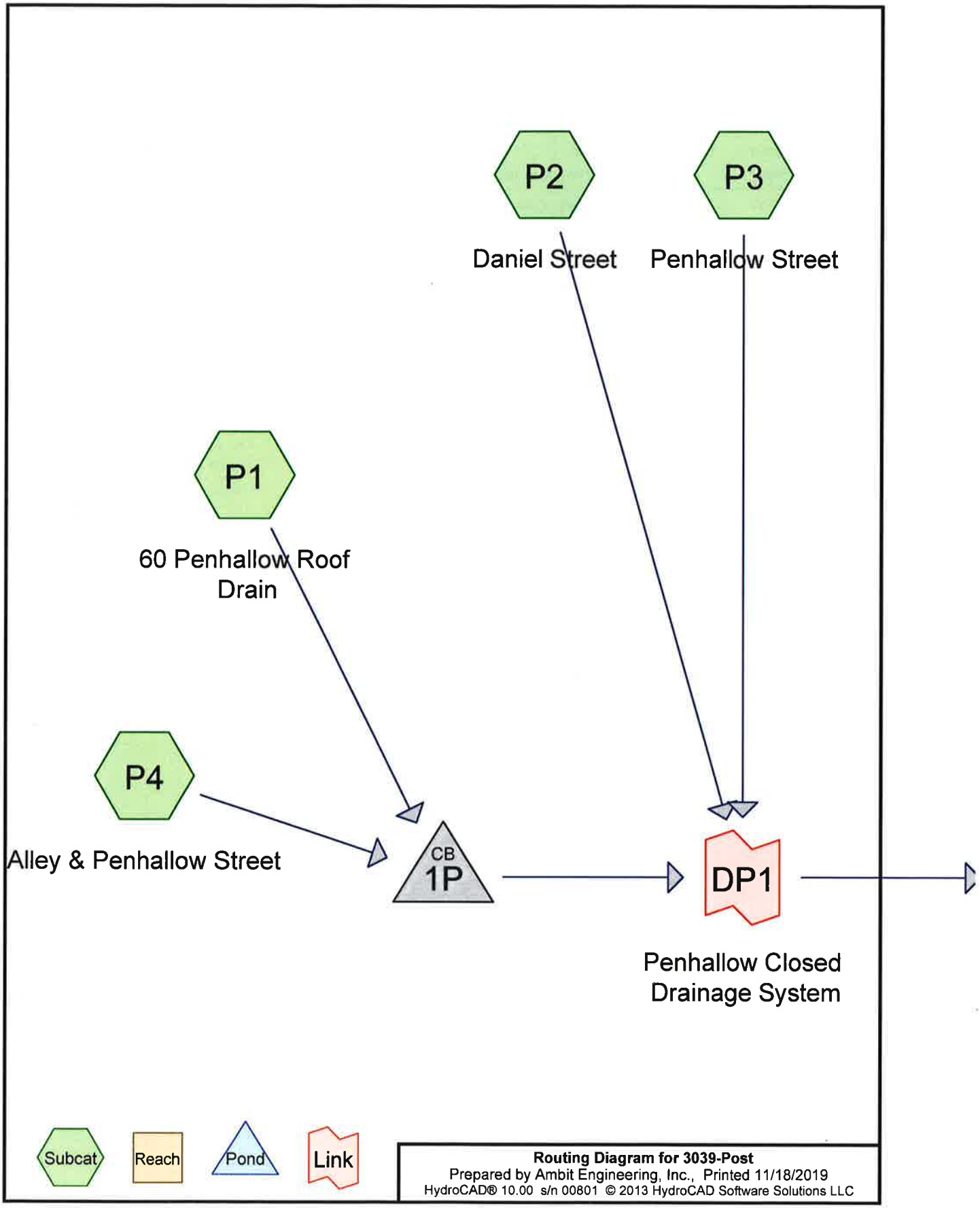
Summary for Link DP1: Penhallow Closed Drainage System

Inflow Area = 0.856 ac, 81.13% Impervious, Inflow Depth = 7.55" for 50YR-Extreme event
Inflow = 7.16 cfs @ 12.07 hrs, Volume= 0.538 af
Primary = 7.16 cfs @ 12.07 hrs, Volume= 0.538 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link DP1: Penhallow Closed Drainage System




P2
P3
Daniel Street
Penhallow Street
P1
60 Penhallow Roof Drain
P4
Alley & Penhallow Street
CB 1P
DP1
Penhallow Closed Drainage System
Subcat
Reach
Pond
Link
Routing Diagram for 3039-Post
Prepared by Ambit Engineering, Inc., Printed 11/18/2019
HydroCAD® 10.00 s/n 00801 © 2013 HydroCAD Software Solutions LLC

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.035	61	>75% Grass cover, Good, HSG B (P4)
0.350	98	Paved roads w/curbs & sewers, HSG B (P2, P3, P4)
0.471	98	Roofs, HSG B (P1, P4)
0.855	**96**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.855	HSG B	P1, P2, P3, P4
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.855		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.035	0.000	0.000	0.000	0.035	>75% Grass cover, Good	P4
0.000	0.350	0.000	0.000	0.000	0.350	Paved roads w/curbs & sewers	P2, P3, P4
0.000	0.471	0.000	0.000	0.000	0.471	Roofs	P1, P4
0.000	**0.855**	**0.000**	**0.000**	**0.000**	**0.855**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	1P	23.80	21.75	150.0	0.0137	0.013	24.0	0.0	0.0

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P1: 60 Penhallow Roof Runoff Area=17,104 sf 100.00% Impervious Runoff Depth=3.45"
Tc=5.0 min CN=98 Runoff=1.46 cfs 0.113 af

Subcatchment P2: Daniel Street Runoff Area=5,601 sf 100.00% Impervious Runoff Depth=3.45"
Tc=5.0 min CN=98 Runoff=0.48 cfs 0.037 af

Subcatchment P3: Penhallow Street Runoff Area=1,995 sf 100.00% Impervious Runoff Depth=3.45"
Tc=5.0 min CN=98 Runoff=0.17 cfs 0.013 af

Subcatchment P4: Alley & Penhallow Street Runoff Area=12,558 sf 87.97% Impervious Runoff Depth=3.01"
Tc=5.0 min CN=94 Runoff=1.00 cfs 0.072 af

Pond 1P: Peak Elev=24.54' Inflow=2.46 cfs 0.185 af
24.0" Round Culvert n=0.013 L=150.0' S=0.0137 '/' Outflow=2.46 cfs 0.185 af

Link DP1: Penhallow Closed Drainage System Inflow=3.11 cfs 0.235 af
Primary=3.11 cfs 0.235 af

Total Runoff Area = 0.855 ac Runoff Volume = 0.235 af Average Runoff Depth = 3.30"
4.06% Pervious = 0.035 ac 95.94% Impervious = 0.821 ac

Summary for Subcatchment P1: 60 Penhallow Roof Drain

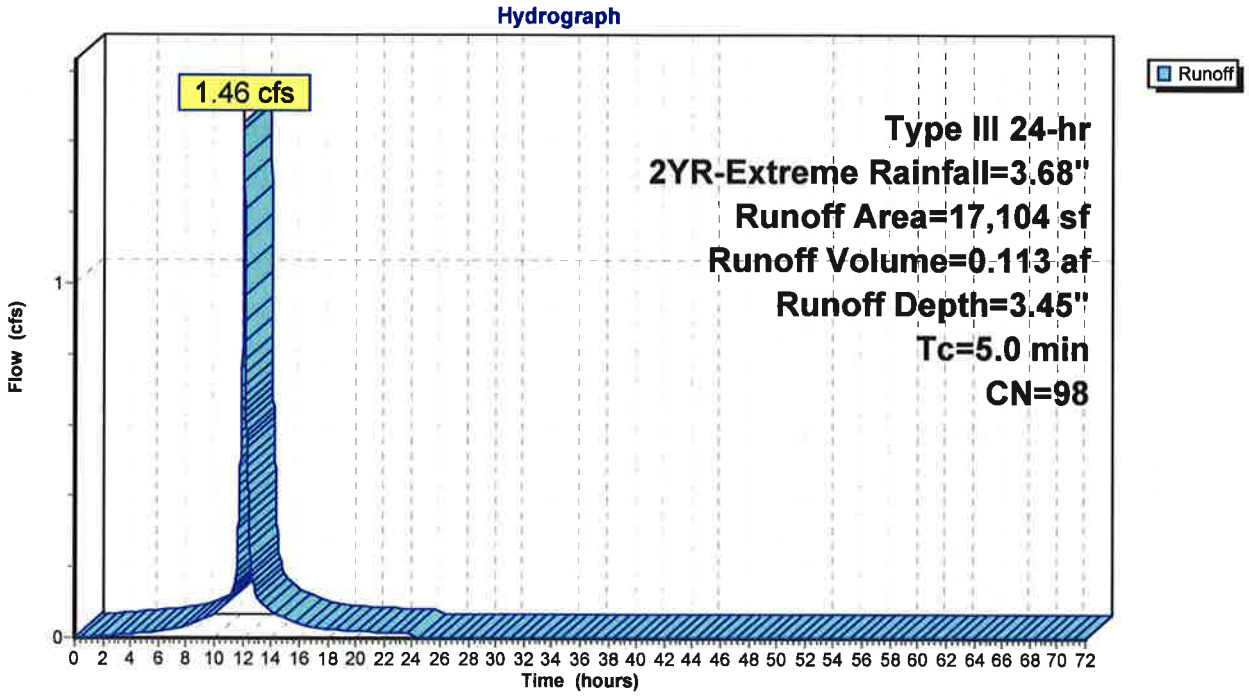
Runoff = 1.46 cfs @ 12.07 hrs, Volume= 0.113 af, Depth= 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2YR-Extreme Rainfall=3.68"

Area (sf)	CN	Description
17,104	98	Roofs, HSG B
17,104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P1: 60 Penhallow Roof Drain



Summary for Subcatchment P2: Daniel Street

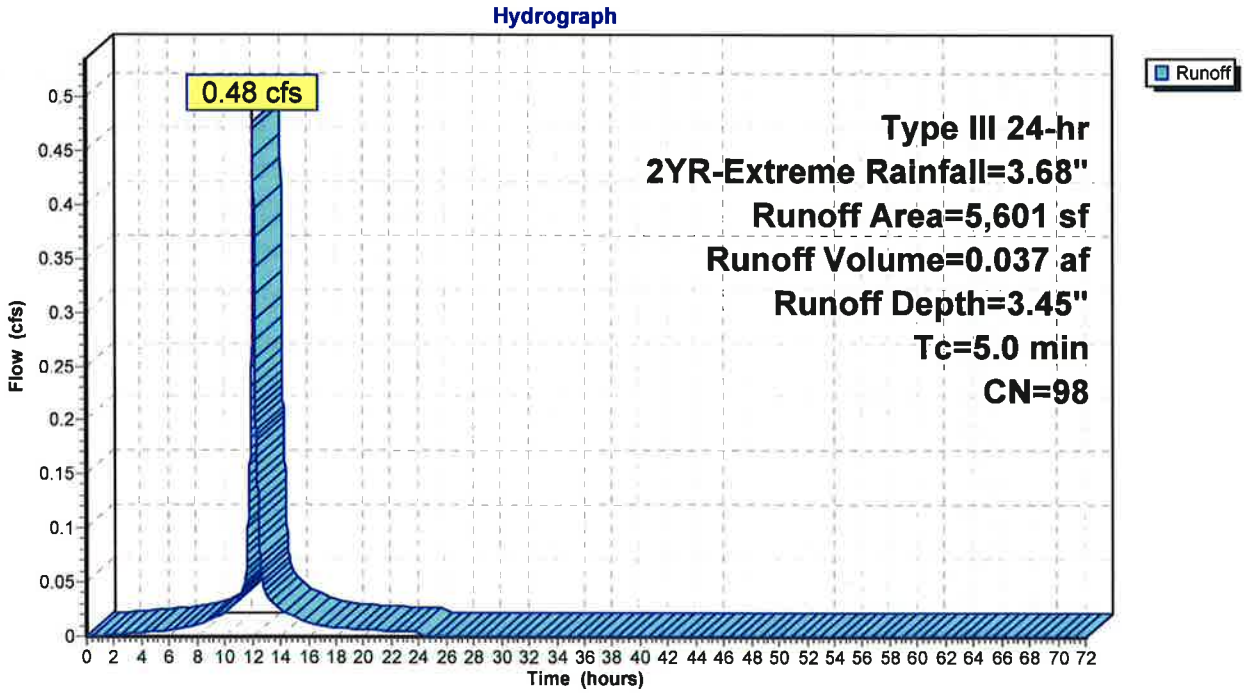
Runoff = 0.48 cfs @ 12.07 hrs, Volume= 0.037 af, Depth= 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2YR-Extreme Rainfall=3.68"

Area (sf)	CN	Description
5,601	98	Paved roads w/curbs & sewers, HSG B
5,601		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Daniel Street



Summary for Subcatchment P3: Penhallow Street

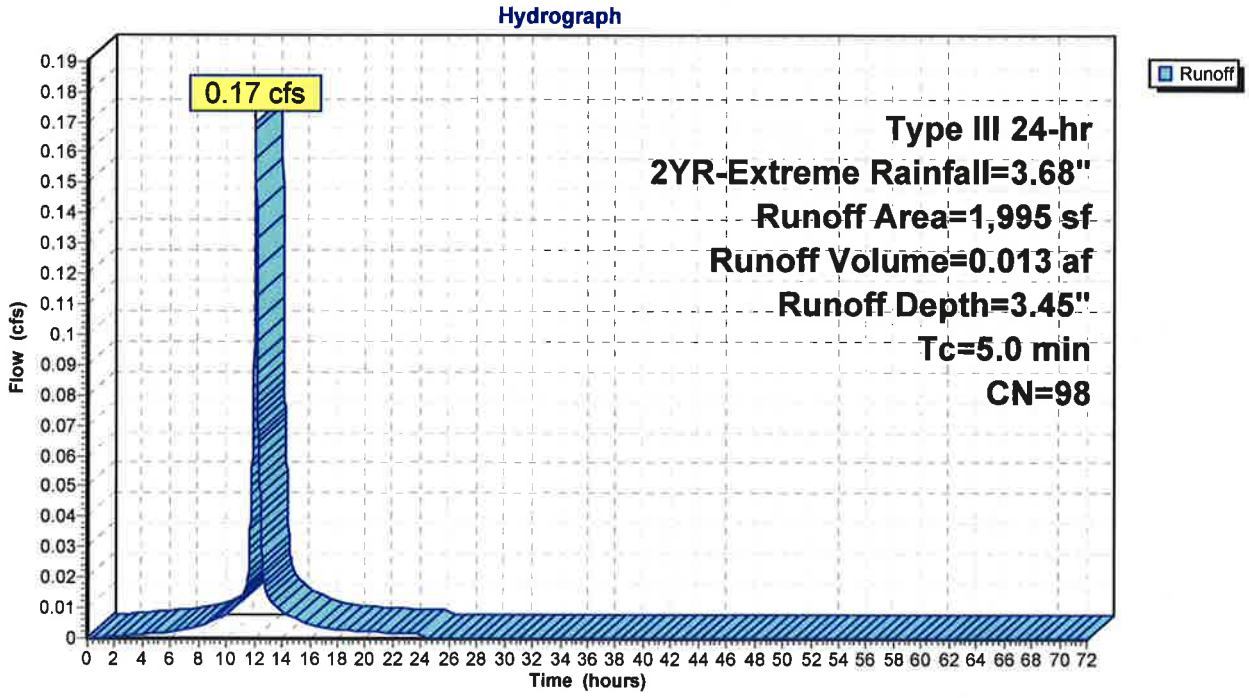
Runoff = 0.17 cfs @ 12.07 hrs, Volume= 0.013 af, Depth= 3.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2YR-Extreme Rainfall=3.68"

Area (sf)	CN	Description
1,995	98	Paved roads w/curbs & sewers, HSG B
1,995		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P3: Penhallow Street



Summary for Subcatchment P4: Alley & Penhallow Street

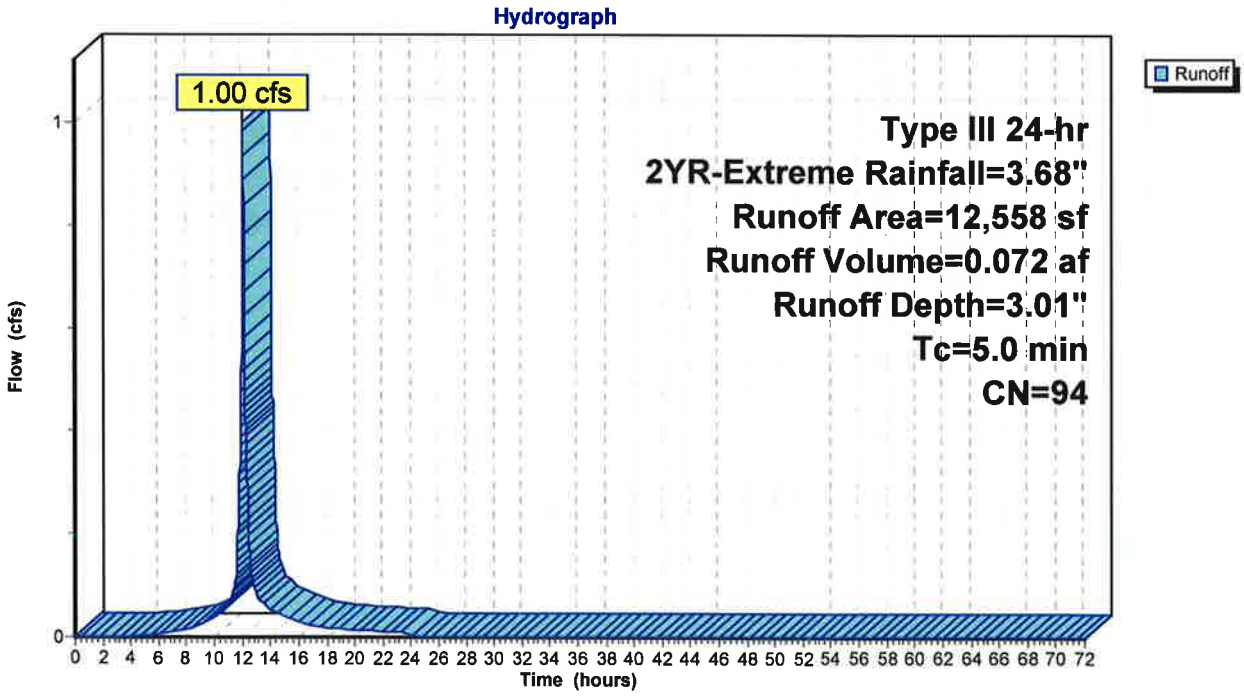
Runoff = 1.00 cfs @ 12.07 hrs, Volume= 0.072 af, Depth= 3.01"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 2YR-Extreme Rainfall=3.68"

Area (sf)	CN	Description
7,649	98	Paved roads w/curbs & sewers, HSG B
1,511	61	>75% Grass cover, Good, HSG B
3,398	98	Roofs, HSG B
12,558	94	Weighted Average
1,511		12.03% Pervious Area
11,047		87.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P4: Alley & Penhallow Street



Summary for Pond 1P:

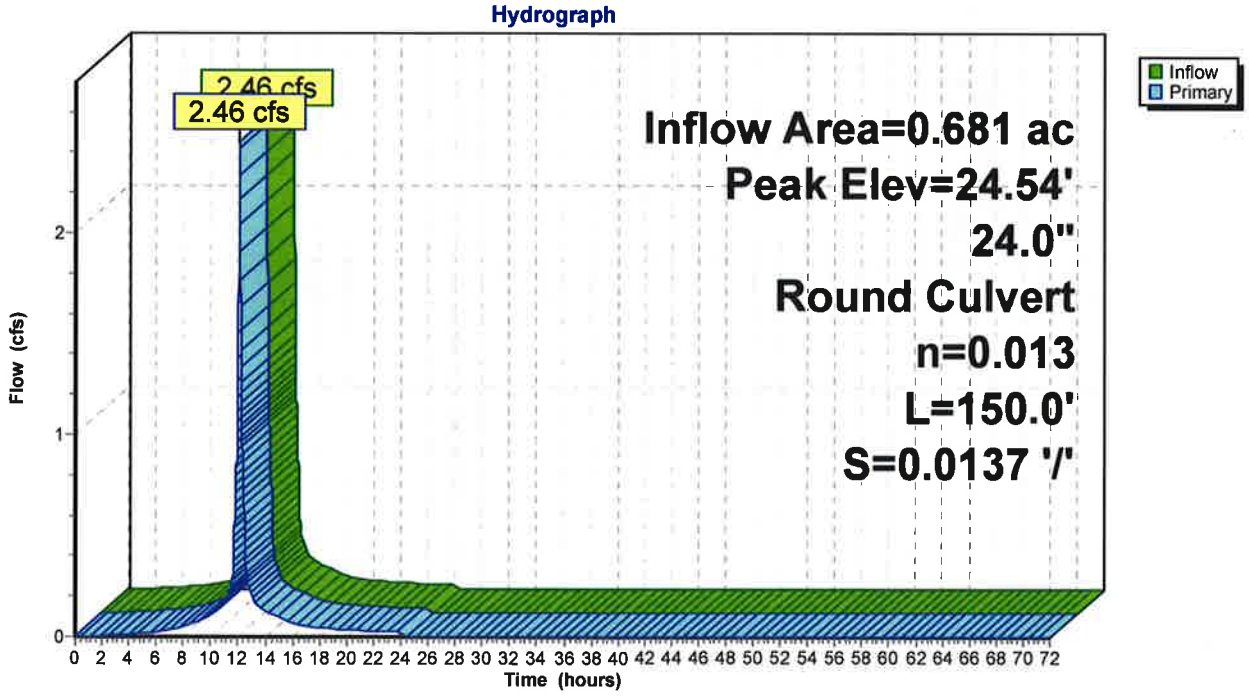
Inflow Area = 0.681 ac, 94.91% Impervious, Inflow Depth = 3.26" for 2YR-Extreme event
Inflow = 2.46 cfs @ 12.07 hrs, Volume= 0.185 af
Outflow = 2.46 cfs @ 12.07 hrs, Volume= 0.185 af, Atten= 0%, Lag= 0.0 min
Primary = 2.46 cfs @ 12.07 hrs, Volume= 0.185 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 24.54' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	23.80'	**24.0" Round Culvert** L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 23.80' / 21.75' S= 0.0137 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=2.46 cfs @ 12.07 hrs HW=24.54' TW=0.00' (Dynamic Tailwater)
↑**1=Culvert** (Inlet Controls 2.46 cfs @ 2.32 fps)

Pond 1P:

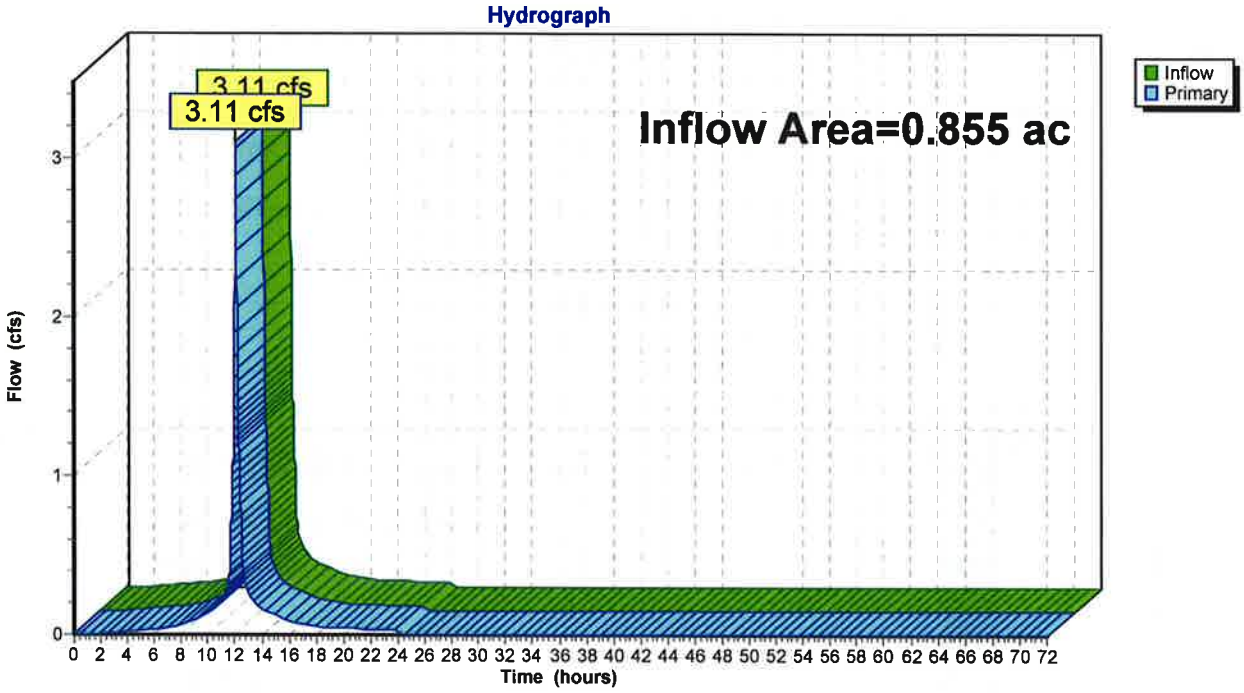


Summary for Link DP1: Penhallow Closed Drainage System

Inflow Area = 0.855 ac, 95.94% Impervious, Inflow Depth = 3.30" for 2YR-Extreme event
Inflow = 3.11 cfs @ 12.07 hrs, Volume= 0.235 af
Primary = 3.11 cfs @ 12.07 hrs, Volume= 0.235 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link DP1: Penhallow Closed Drainage System



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P1: 60 Penhallow Roof Runoff Area=17,104 sf 100.00% Impervious Runoff Depth=5.35"
Tc=5.0 min CN=98 Runoff=2.23 cfs 0.175 af

Subcatchment P2: Daniel Street Runoff Area=5,601 sf 100.00% Impervious Runoff Depth=5.35"
Tc=5.0 min CN=98 Runoff=0.73 cfs 0.057 af

Subcatchment P3: Penhallow Street Runoff Area=1,995 sf 100.00% Impervious Runoff Depth=5.35"
Tc=5.0 min CN=98 Runoff=0.26 cfs 0.020 af

Subcatchment P4: Alley & Penhallow Street Runoff Area=12,558 sf 87.97% Impervious Runoff Depth=4.89"
Tc=5.0 min CN=94 Runoff=1.58 cfs 0.117 af

Pond 1P: Peak Elev=24.74' Inflow=3.81 cfs 0.293 af
24.0" Round Culvert n=0.013 L=150.0' S=0.0137 '/' Outflow=3.81 cfs 0.293 af

Link DP1: Penhallow Closed Drainage System Inflow=4.80 cfs 0.370 af
Primary=4.80 cfs 0.370 af

Total Runoff Area = 0.855 ac Runoff Volume = 0.370 af Average Runoff Depth = 5.20"
4.06% Pervious = 0.035 ac 95.94% Impervious = 0.821 ac

Summary for Subcatchment P1: 60 Penhallow Roof Drain

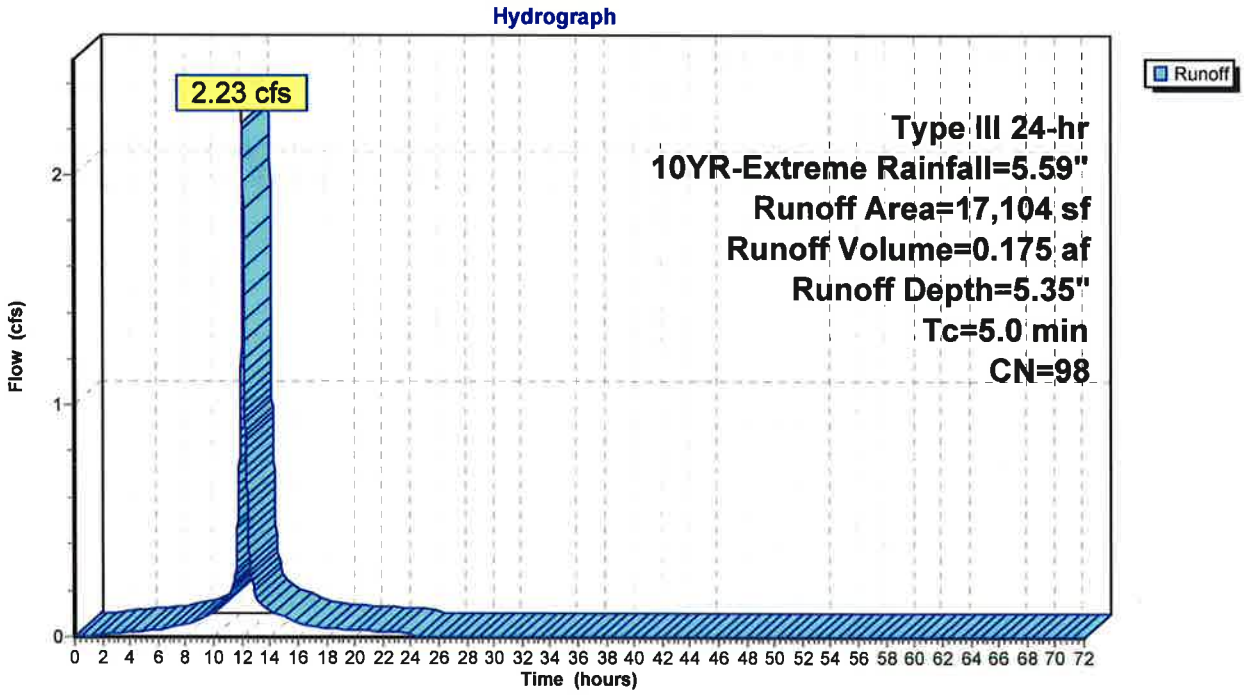
Runoff = 2.23 cfs @ 12.07 hrs, Volume= 0.175 af, Depth= 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YR-Extreme Rainfall=5.59"

Area (sf)	CN	Description
17,104	98	Roofs, HSG B
17,104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P1: 60 Penhallow Roof Drain



Summary for Subcatchment P2: Daniel Street

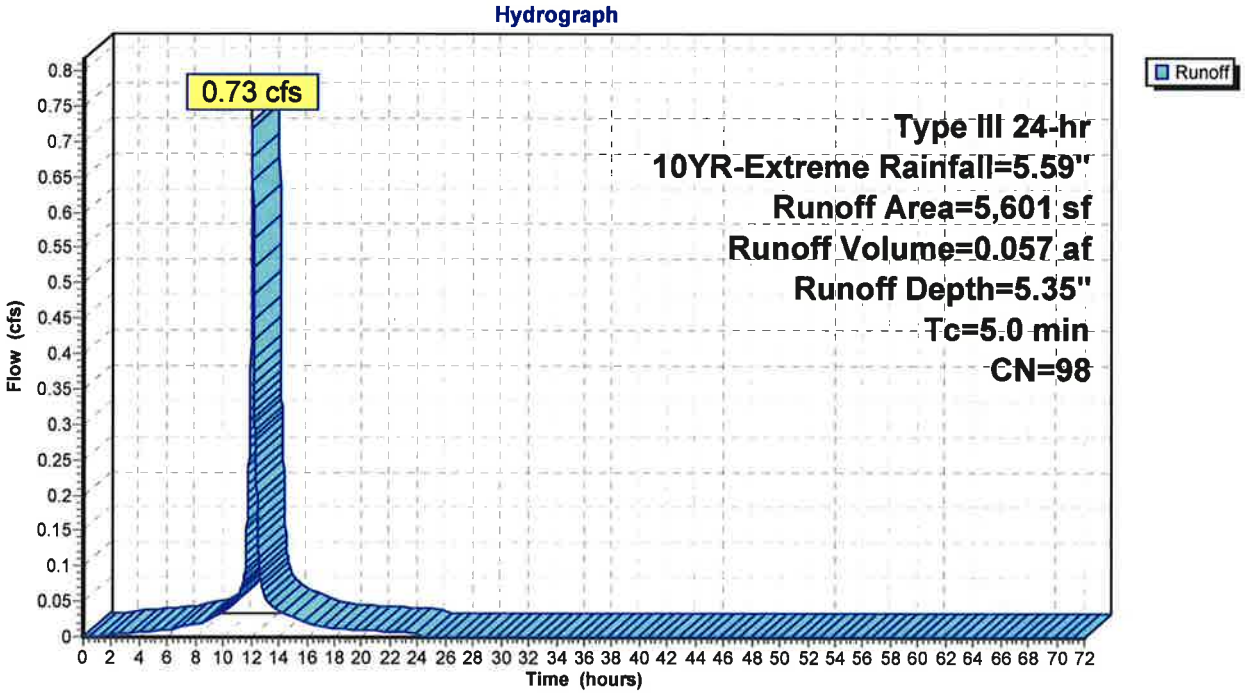
Runoff = 0.73 cfs @ 12.07 hrs, Volume= 0.057 af, Depth= 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YR-Extreme Rainfall=5.59"

Area (sf)	CN	Description
5,601	98	Paved roads w/curbs & sewers, HSG B
5,601		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Daniel Street



Summary for Subcatchment P3: Penhallow Street

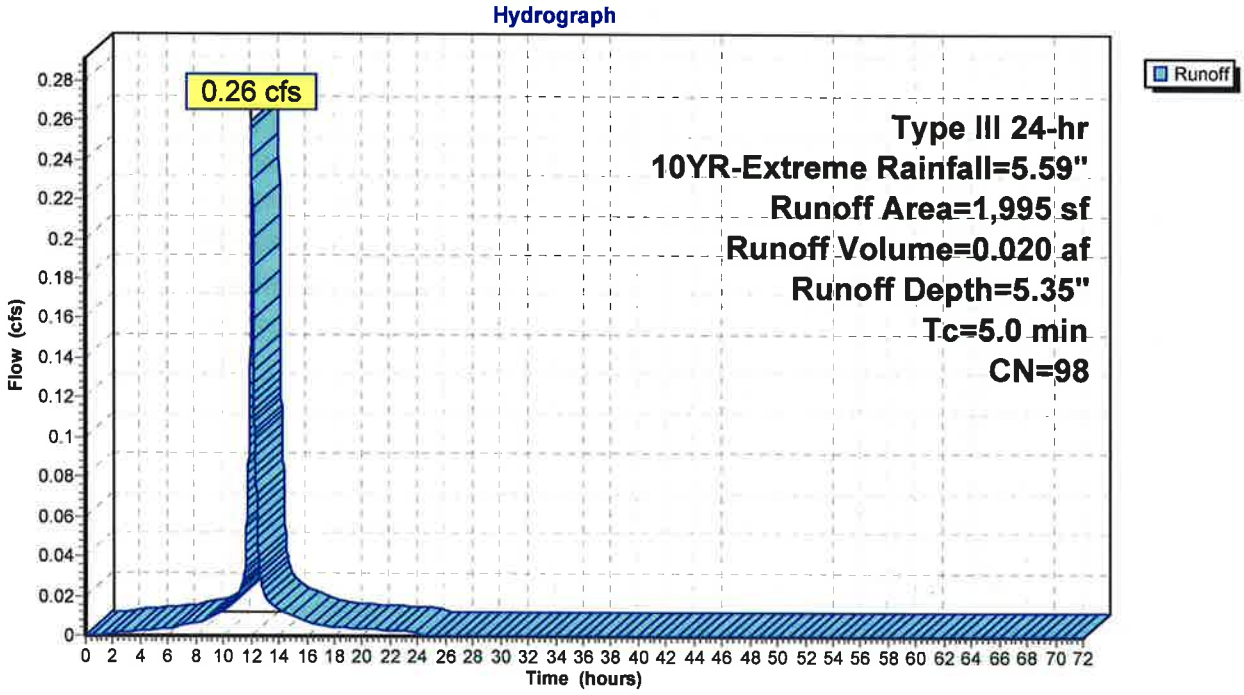
Runoff = 0.26 cfs @ 12.07 hrs, Volume= 0.020 af, Depth= 5.35"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YR-Extreme Rainfall=5.59"

Area (sf)	CN	Description
1,995	98	Paved roads w/curbs & sewers, HSG B
1,995		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P3: Penhallow Street



Summary for Subcatchment P4: Alley & Penhallow Street

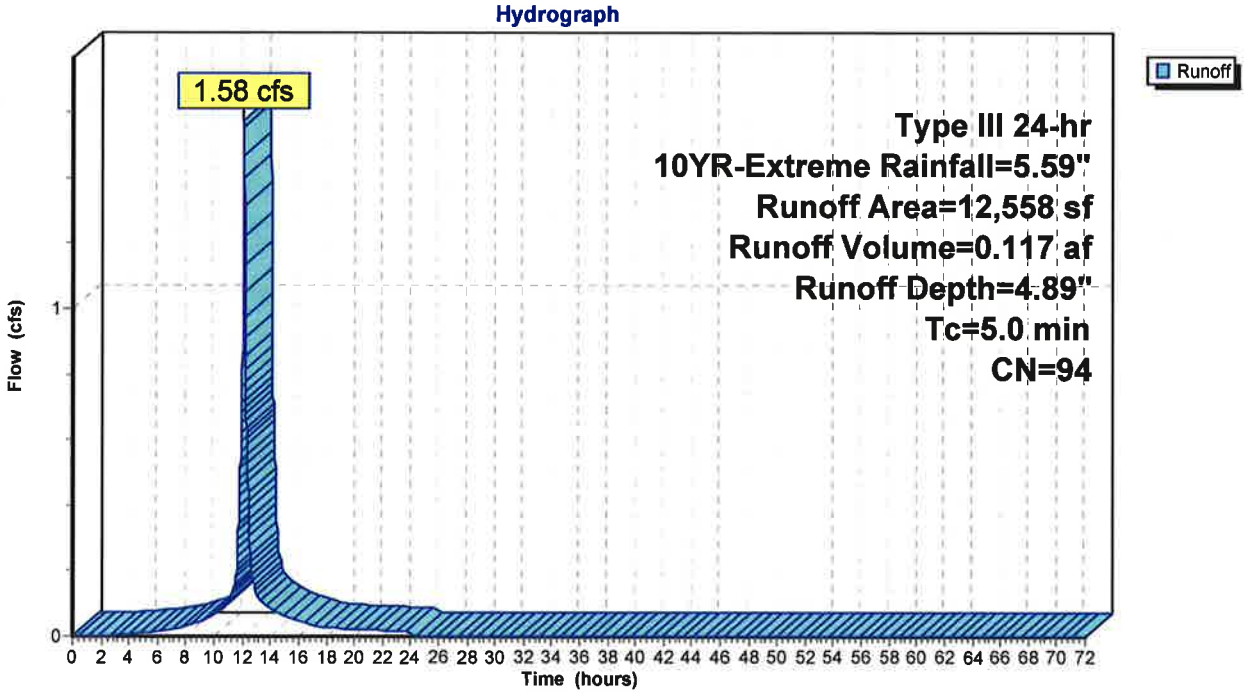
Runoff = 1.58 cfs @ 12.07 hrs, Volume= 0.117 af, Depth= 4.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 10YR-Extreme Rainfall=5.59"

Area (sf)	CN	Description
7,649	98	Paved roads w/curbs & sewers, HSG B
1,511	61	>75% Grass cover, Good, HSG B
3,398	98	Roofs, HSG B
12,558	94	Weighted Average
1,511		12.03% Pervious Area
11,047		87.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P4: Alley & Penhallow Street



Summary for Pond 1P:

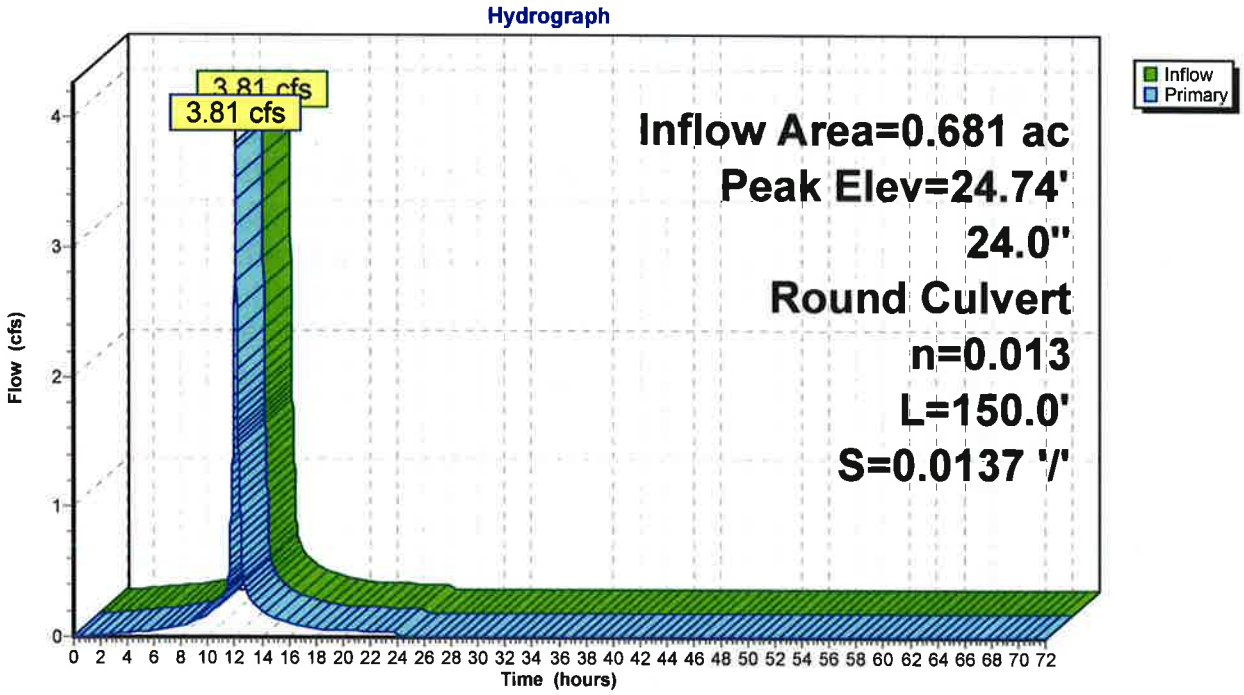
Inflow Area = 0.681 ac, 94.91% Impervious, Inflow Depth = 5.16" for 10YR-Extreme event
Inflow = 3.81 cfs @ 12.07 hrs, Volume= 0.293 af
Outflow = 3.81 cfs @ 12.07 hrs, Volume= 0.293 af, Atten= 0%, Lag= 0.0 min
Primary = 3.81 cfs @ 12.07 hrs, Volume= 0.293 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 24.74' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	23.80'	**24.0" Round Culvert** L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 23.80' / 21.75' S= 0.0137 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=3.81 cfs @ 12.07 hrs HW=24.74' TW=0.00' (Dynamic Tailwater)
↳**1=Culvert** (Inlet Controls 3.81 cfs @ 2.61 fps)

Pond 1P:

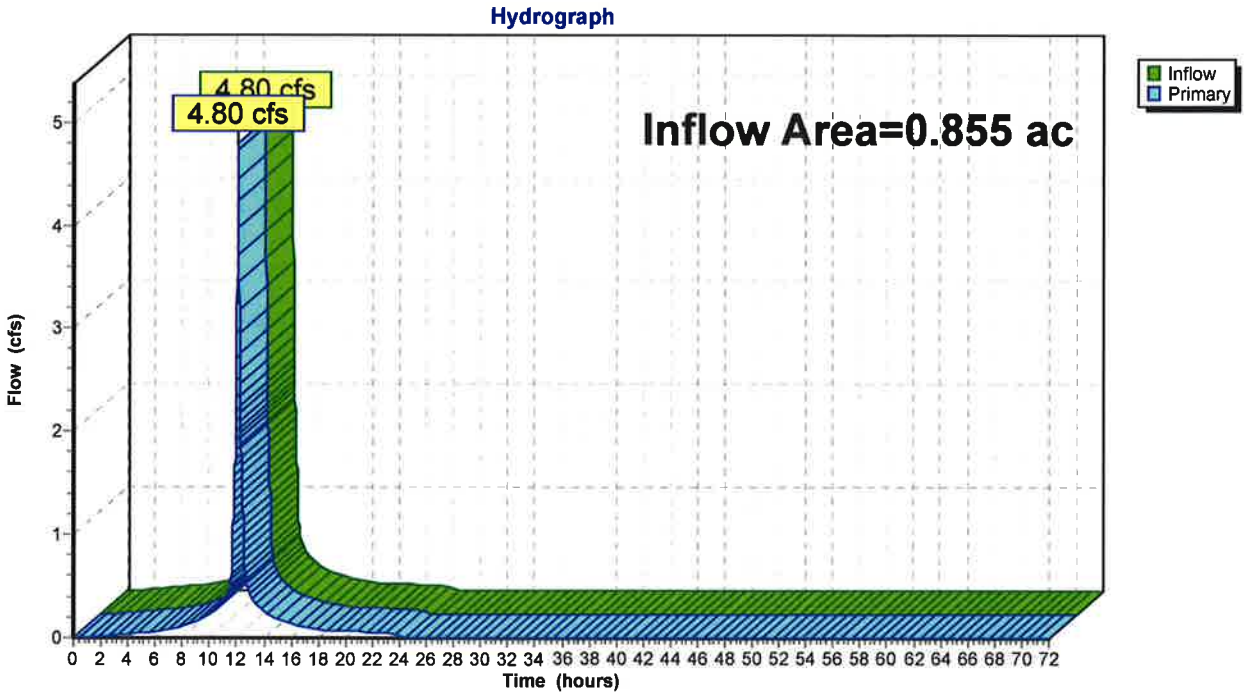


Summary for Link DP1: Penhallow Closed Drainage System

Inflow Area = 0.855 ac, 95.94% Impervious, Inflow Depth = 5.20" for 10YR-Extreme event
Inflow = 4.80 cfs @ 12.07 hrs, Volume= 0.370 af
Primary = 4.80 cfs @ 12.07 hrs, Volume= 0.370 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link DP1: Penhallow Closed Drainage System



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P1: 60 Penhallow Roof Runoff Area=17,104 sf 100.00% Impervious Runoff Depth=6.84"
Tc=5.0 min CN=98 Runoff=2.83 cfs 0.224 af

Subcatchment P2: Daniel Street Runoff Area=5,601 sf 100.00% Impervious Runoff Depth=6.84"
Tc=5.0 min CN=98 Runoff=0.93 cfs 0.073 af

Subcatchment P3: Penhallow Street Runoff Area=1,995 sf 100.00% Impervious Runoff Depth=6.84"
Tc=5.0 min CN=98 Runoff=0.33 cfs 0.026 af

Subcatchment P4: Alley & Penhallow Street Runoff Area=12,558 sf 87.97% Impervious Runoff Depth=6.37"
Tc=5.0 min CN=94 Runoff=2.03 cfs 0.153 af

Pond 1P: Peak Elev=24.88' Inflow=4.85 cfs 0.377 af
24.0" Round Culvert n=0.013 L=150.0' S=0.0137 '/' Outflow=4.85 cfs 0.377 af

Link DP1: Penhallow Closed Drainage System Inflow=6.11 cfs 0.476 af
Primary=6.11 cfs 0.476 af

Total Runoff Area = 0.855 ac Runoff Volume = 0.476 af Average Runoff Depth = 6.68"
4.06% Pervious = 0.035 ac 95.94% Impervious = 0.821 ac

Summary for Subcatchment P1: 60 Penhallow Roof Drain

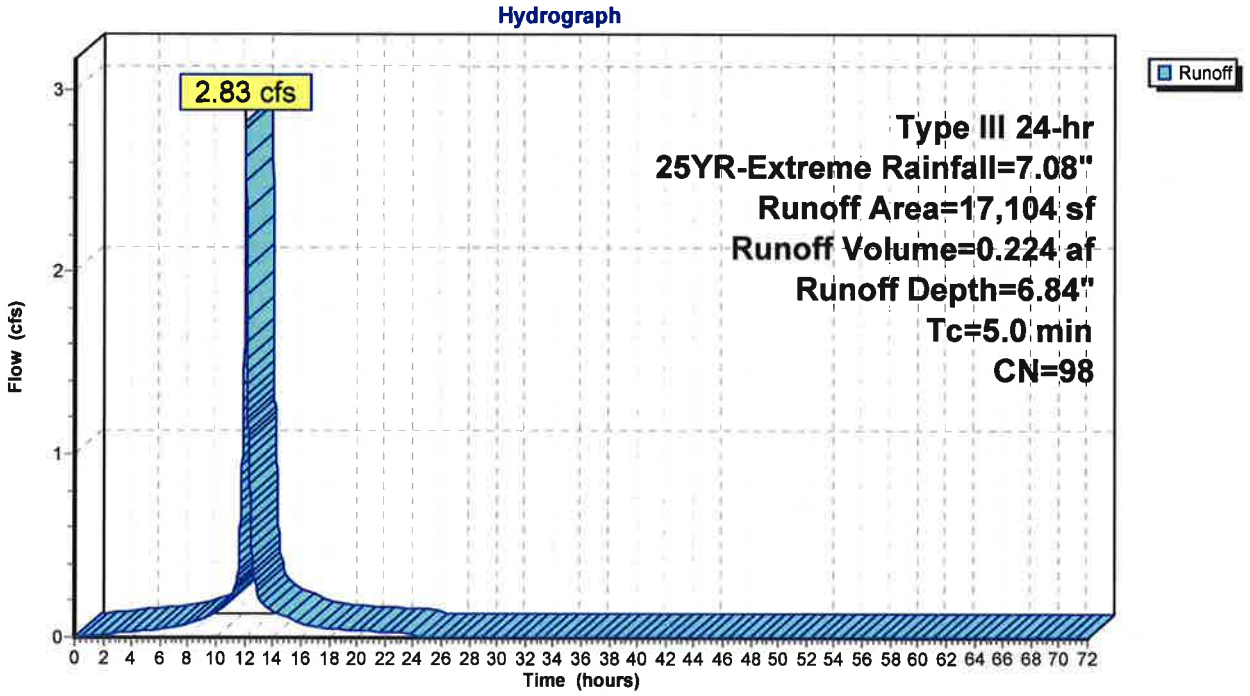
Runoff = 2.83 cfs @ 12.07 hrs, Volume= 0.224 af, Depth= 6.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR-Extreme Rainfall=7.08"

Area (sf)	CN	Description
17,104	98	Roofs, HSG B
17,104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P1: 60 Penhallow Roof Drain



Summary for Subcatchment P2: Daniel Street

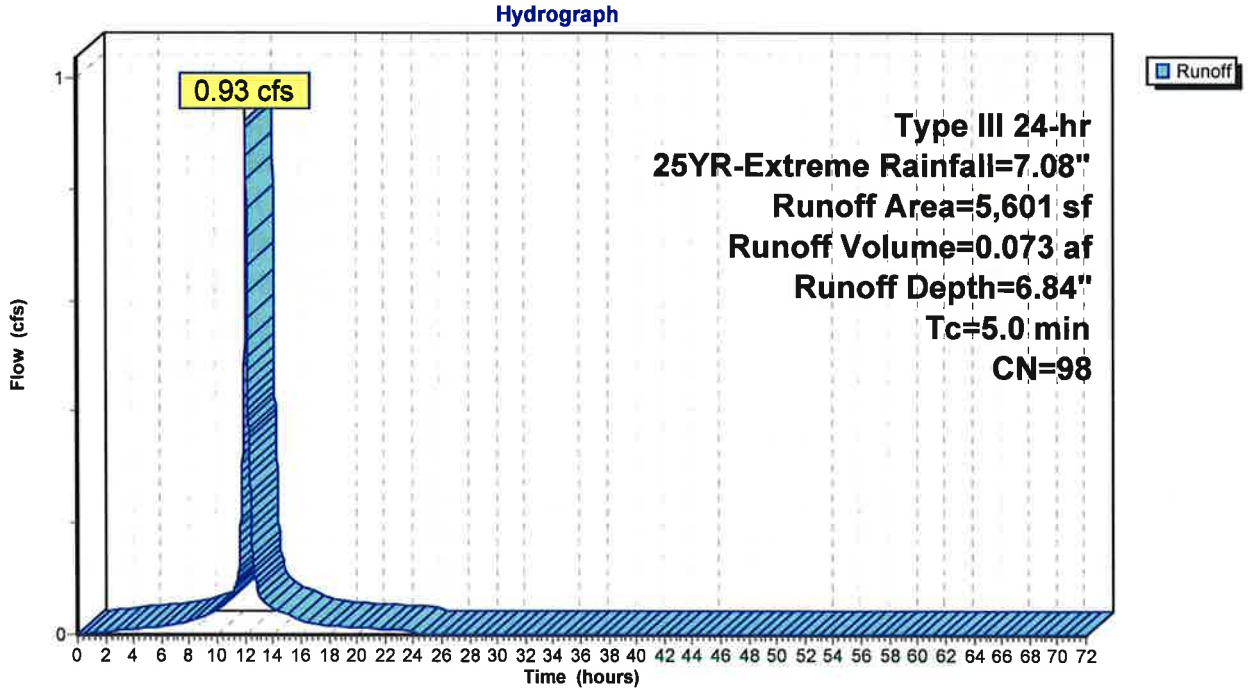
Runoff = 0.93 cfs @ 12.07 hrs, Volume= 0.073 af, Depth= 6.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR-Extreme Rainfall=7.08"

Area (sf)	CN	Description
5,601	98	Paved roads w/curbs & sewers, HSG B
5,601		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Daniel Street



Summary for Subcatchment P3: Penhallow Street

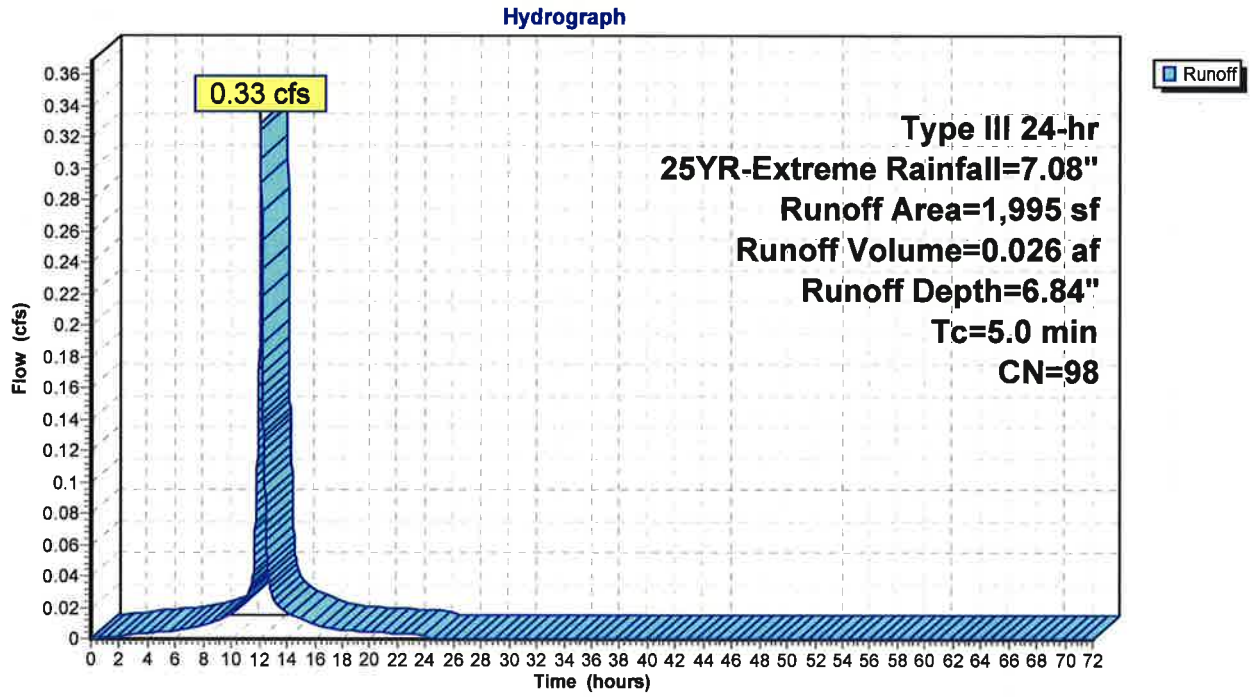
Runoff = 0.33 cfs @ 12.07 hrs, Volume= 0.026 af, Depth= 6.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR-Extreme Rainfall=7.08"

Area (sf)	CN	Description
1,995	98	Paved roads w/curbs & sewers, HSG B
1,995		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P3: Penhallow Street



Summary for Subcatchment P4: Alley & Penhallow Street

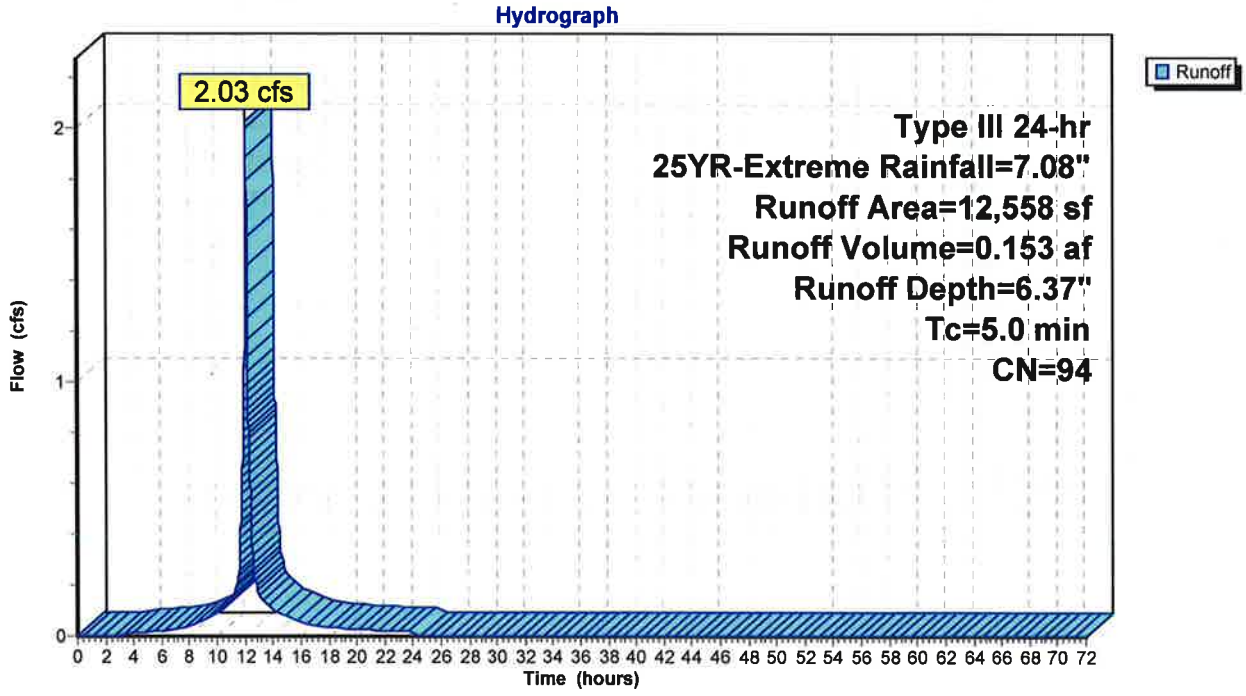
Runoff = 2.03 cfs @ 12.07 hrs, Volume= 0.153 af, Depth= 6.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 25YR-Extreme Rainfall=7.08"

Area (sf)	CN	Description
7,649	98	Paved roads w/curbs & sewers, HSG B
1,511	61	>75% Grass cover, Good, HSG B
3,398	98	Roofs, HSG B
12,558	94	Weighted Average
1,511		12.03% Pervious Area
11,047		87.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P4: Alley & Penhallow Street



Summary for Pond 1P:

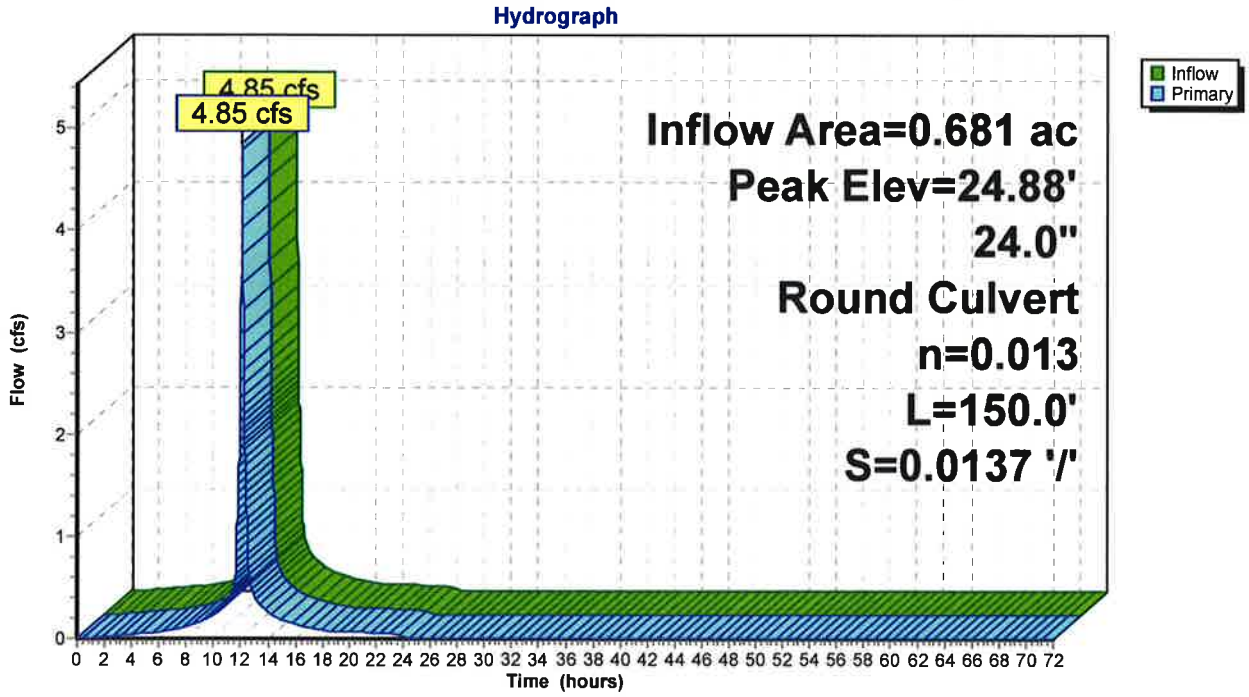
Inflow Area = 0.681 ac, 94.91% Impervious, Inflow Depth = 6.64" for 25YR-Extreme event
Inflow = 4.85 cfs @ 12.07 hrs, Volume= 0.377 af
Outflow = 4.85 cfs @ 12.07 hrs, Volume= 0.377 af, Atten= 0%, Lag= 0.0 min
Primary = 4.85 cfs @ 12.07 hrs, Volume= 0.377 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 24.88' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	23.80'	**24.0" Round Culvert** L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 23.80' / 21.75' S= 0.0137 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=4.85 cfs @ 12.07 hrs HW=24.88' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 4.85 cfs @ 2.80 fps)

Pond 1P:

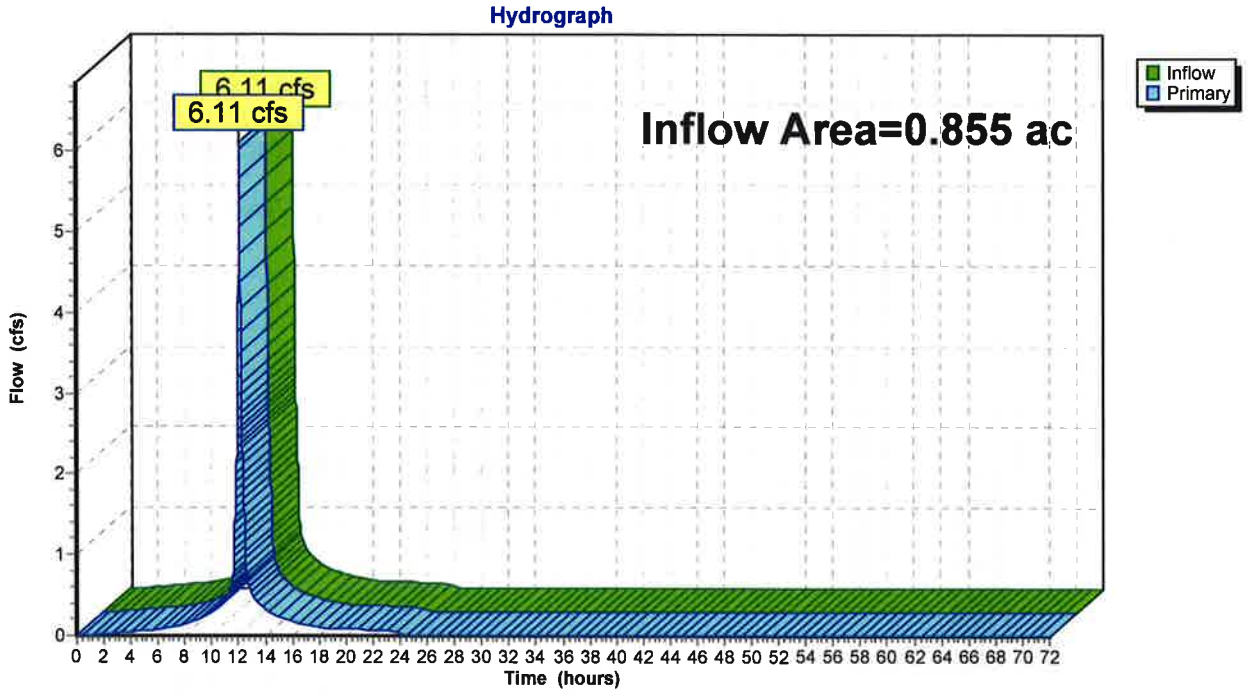


Summary for Link DP1: Penhallow Closed Drainage System

Inflow Area = 0.855 ac, 95.94% Impervious, Inflow Depth = 6.68" for 25YR-Extreme event
Inflow = 6.11 cfs @ 12.07 hrs, Volume= 0.476 af
Primary = 6.11 cfs @ 12.07 hrs, Volume= 0.476 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link DP1: Penhallow Closed Drainage System



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points x 2
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment P1: 60 Penhallow Roof Runoff Area=17,104 sf 100.00% Impervious Runoff Depth=8.24"
Tc=5.0 min CN=98 Runoff=3.39 cfs 0.270 af

Subcatchment P2: Daniel Street Runoff Area=5,601 sf 100.00% Impervious Runoff Depth=8.24"
Tc=5.0 min CN=98 Runoff=1.11 cfs 0.088 af

Subcatchment P3: Penhallow Street Runoff Area=1,995 sf 100.00% Impervious Runoff Depth=8.24"
Tc=5.0 min CN=98 Runoff=0.40 cfs 0.031 af

Subcatchment P4: Alley & Penhallow Street Runoff Area=12,558 sf 87.97% Impervious Runoff Depth=7.76"
Tc=5.0 min CN=94 Runoff=2.45 cfs 0.186 af

Pond 1P: Peak Elev=25.00' Inflow=5.83 cfs 0.456 af
24.0" Round Culvert n=0.013 L=150.0' S=0.0137 '/' Outflow=5.83 cfs 0.456 af

Link DP1: Penhallow Closed Drainage System Inflow=7.34 cfs 0.576 af
Primary=7.34 cfs 0.576 af

Total Runoff Area = 0.855 ac Runoff Volume = 0.576 af Average Runoff Depth = 8.08"
4.06% Pervious = 0.035 ac 95.94% Impervious = 0.821 ac

Summary for Subcatchment P1: 60 Penhallow Roof Drain

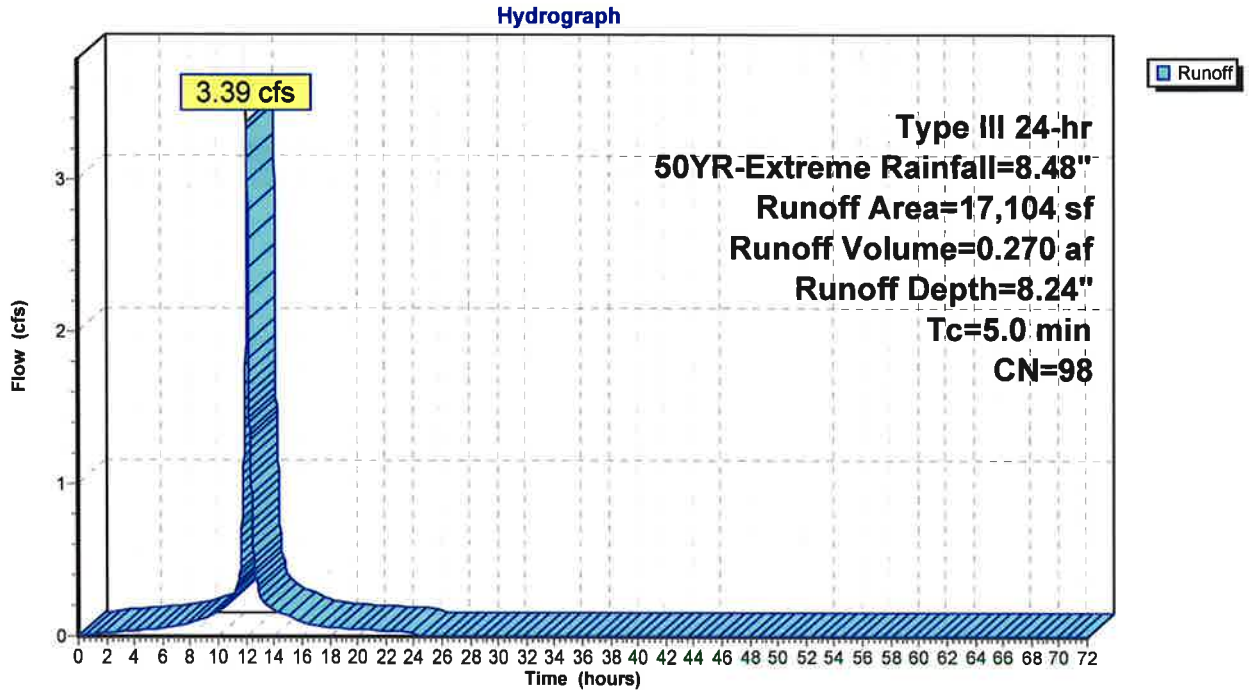
Runoff = 3.39 cfs @ 12.07 hrs, Volume= 0.270 af, Depth= 8.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50YR-Extreme Rainfall=8.48"

Area (sf)	CN	Description
17,104	98	Roofs, HSG B
17,104		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P1: 60 Penhallow Roof Drain



Summary for Subcatchment P2: Daniel Street

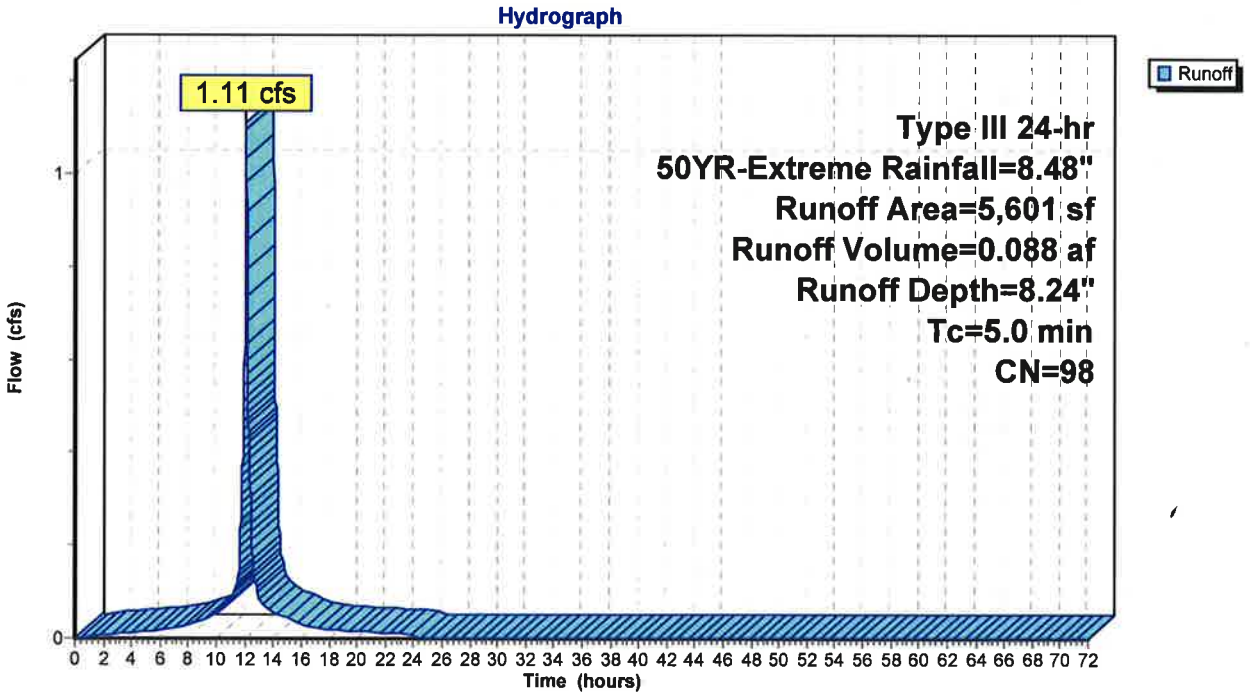
Runoff = 1.11 cfs @ 12.07 hrs, Volume= 0.088 af, Depth= 8.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50YR-Extreme Rainfall=8.48"

Area (sf)	CN	Description
5,601	98	Paved roads w/curbs & sewers, HSG B
5,601		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P2: Daniel Street



Summary for Subcatchment P3: Penhallow Street

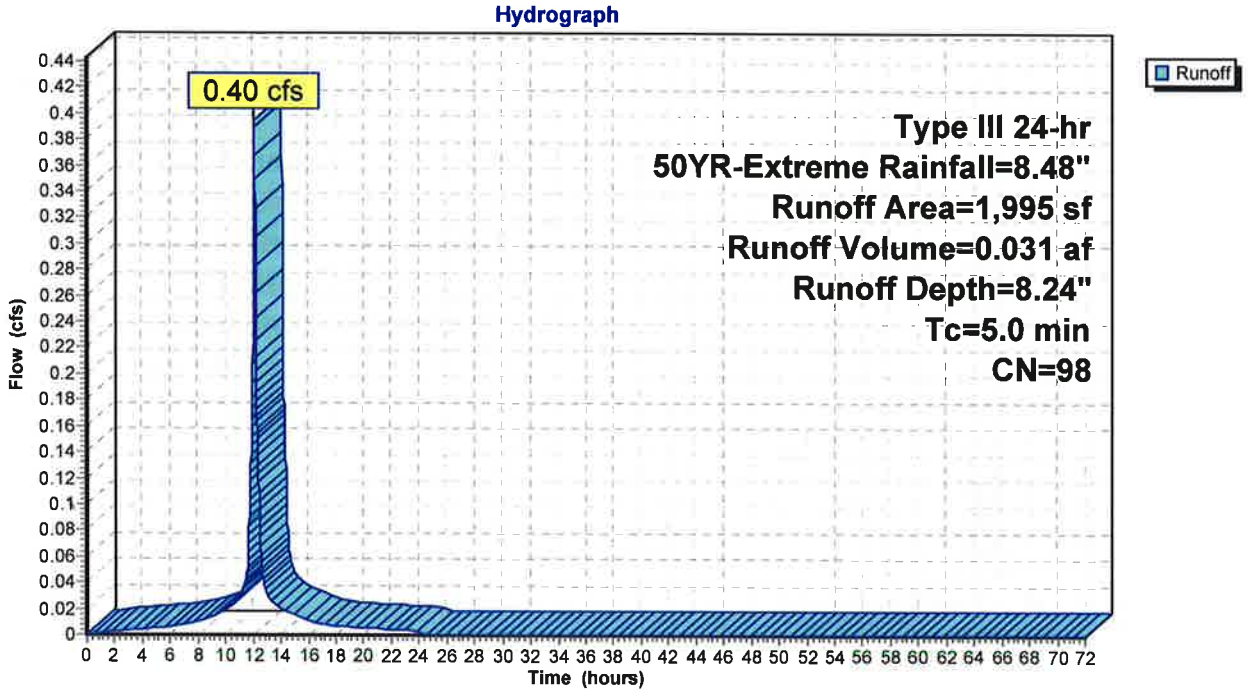
Runoff = 0.40 cfs @ 12.07 hrs, Volume= 0.031 af, Depth= 8.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50YR-Extreme Rainfall=8.48"

Area (sf)	CN	Description
1,995	98	Paved roads w/curbs & sewers, HSG B
1,995		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P3: Penhallow Street



Summary for Subcatchment P4: Alley & Penhallow Street

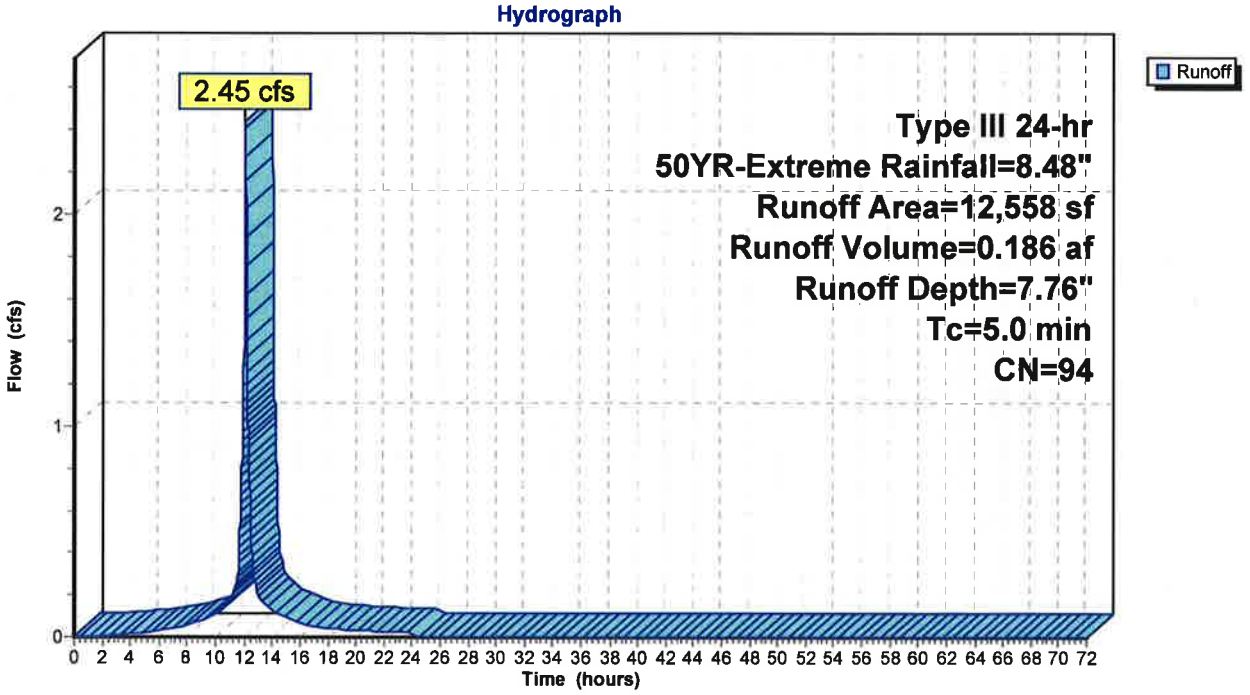
Runoff = 2.45 cfs @ 12.07 hrs, Volume= 0.186 af, Depth= 7.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Type III 24-hr 50YR-Extreme Rainfall=8.48"

Area (sf)	CN	Description
7,649	98	Paved roads w/curbs & sewers, HSG B
1,511	61	>75% Grass cover, Good, HSG B
3,398	98	Roofs, HSG B
12,558	94	Weighted Average
1,511		12.03% Pervious Area
11,047		87.97% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment P4: Alley & Penhallow Street



Summary for Pond 1P:

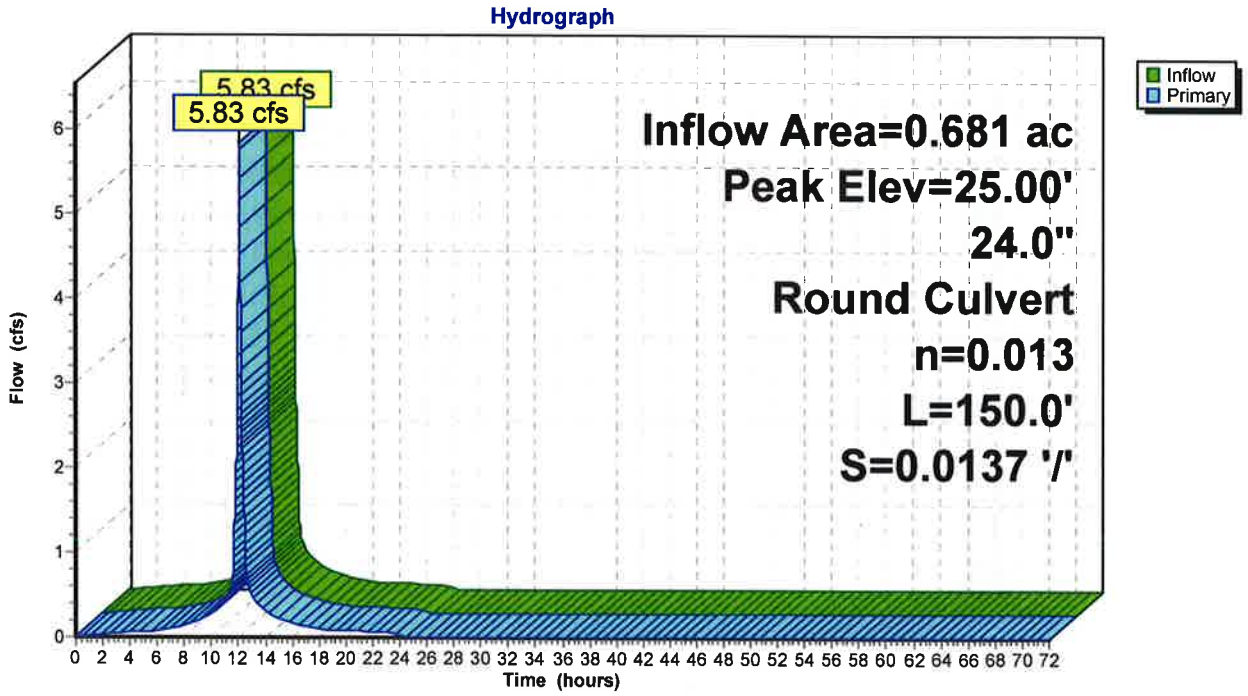
Inflow Area = 0.681 ac, 94.91% Impervious, Inflow Depth = 8.04" for 50YR-Extreme event
Inflow = 5.83 cfs @ 12.07 hrs, Volume= 0.456 af
Outflow = 5.83 cfs @ 12.07 hrs, Volume= 0.456 af, Atten= 0%, Lag= 0.0 min
Primary = 5.83 cfs @ 12.07 hrs, Volume= 0.456 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 25.00' @ 12.07 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	23.80'	**24.0" Round Culvert** L= 150.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 23.80' / 21.75' S= 0.0137 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 3.14 sf

Primary OutFlow Max=5.83 cfs @ 12.07 hrs HW=25.00' TW=0.00' (Dynamic Tailwater)
↑—**1=Culvert** (Inlet Controls 5.83 cfs @ 2.95 fps)

Pond 1P:

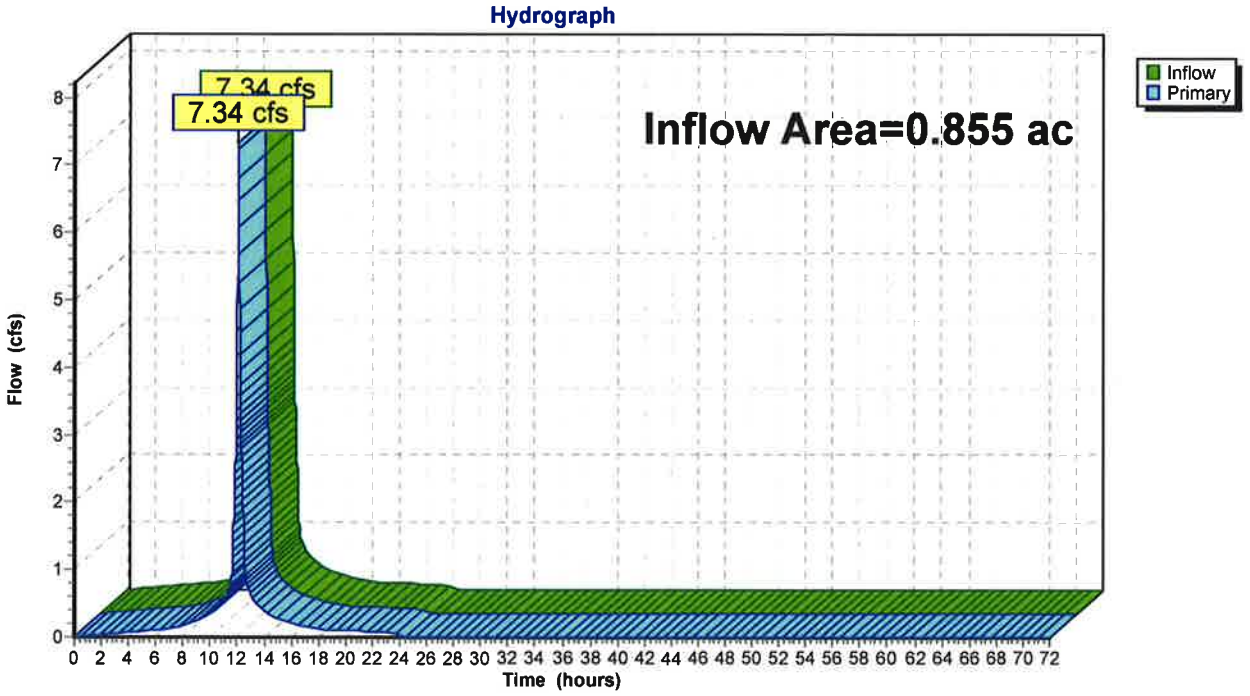


Summary for Link DP1: Penhallow Closed Drainage System

Inflow Area = 0.855 ac, 95.94% Impervious, Inflow Depth = 8.08" for 50YR-Extreme event
Inflow = 7.34 cfs @ 12.07 hrs, Volume= 0.576 af
Primary = 7.34 cfs @ 12.07 hrs, Volume= 0.576 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

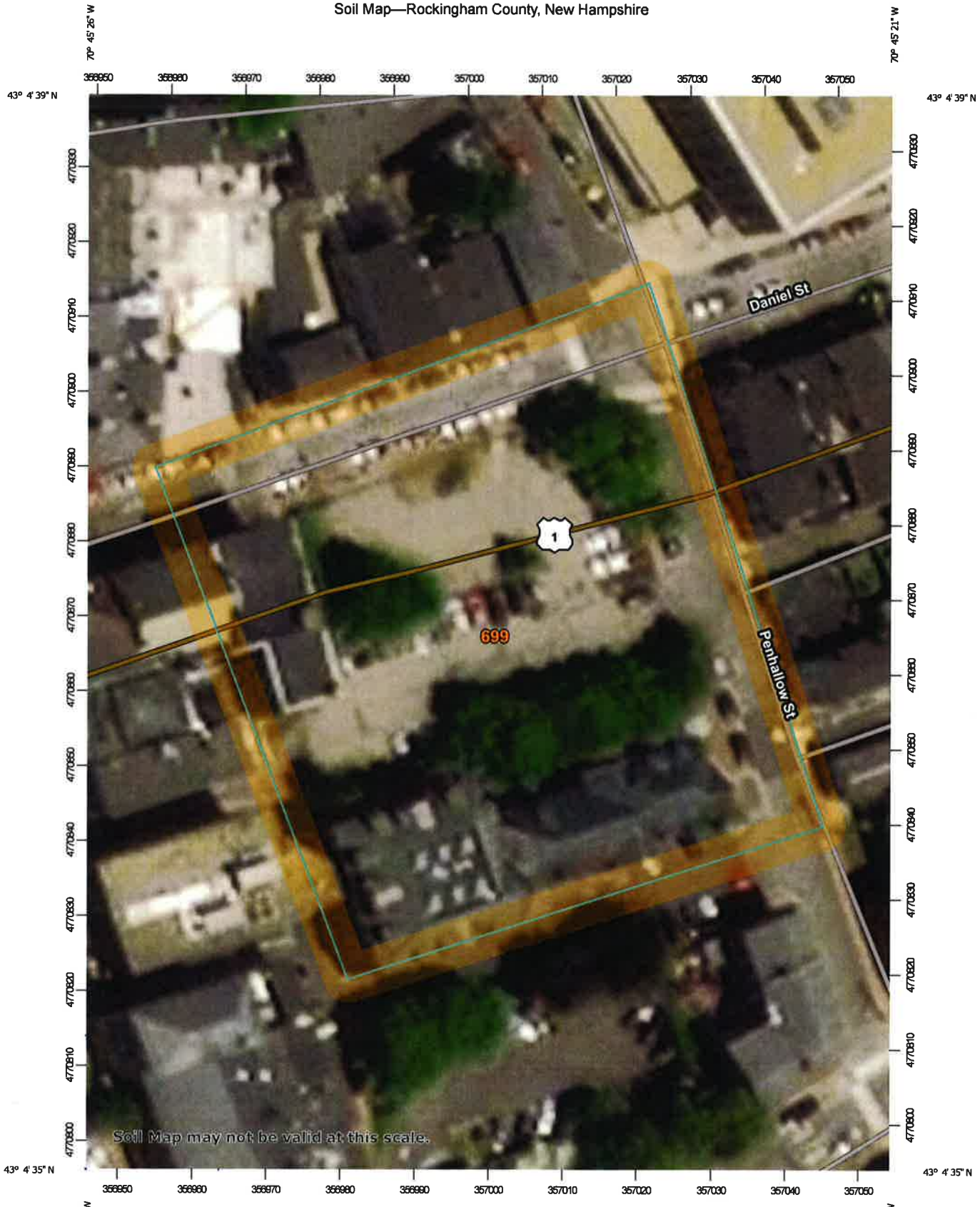
Link DP1: Penhallow Closed Drainage System



APPENDIX D

SOIL SURVEY INFORMATION

Soil Map—Rockingham County, New Hampshire



Map Scale: 1:699 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 30 60 120 180

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

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

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

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

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

Soil Survey Area: Rockingham County, New Hampshire
Survey Area Data: Version 21, Sep 16, 2019

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

Date(s) aerial images were photographed: Dec 31, 2009—Sep 9, 2017

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
699	Urban land	1.3	100.0%
Totals for Area of Interest		**1.3**	**100.0%**

APPENDIX E

INSPECTION & MAINTENANCE PLAN

INSPECTION & MAINTENANCE PLAN

FOR

60 Penhallow Street

Portsmouth, NH

Introduction

The intent of this plan is to provide 60 Penhallow Street (herein referred to as "owner") with a list of procedures that document the inspection and maintenance requirements of the stormwater management system for this development. Specifically, the filtration system and associated structures on the project site (collectively referred to as the "Stormwater Management System").

The following inspection and maintenance program is necessary to keep the stormwater management system functioning properly. These measures will also help minimize potential environmental impacts. By following the enclosed procedures, the owner will be able to maintain the functional design of the stormwater management system and maximize its ability to remove sediment and other contaminants from site generated stormwater runoff.

Annual Report

The owner shall prepare an annual Inspection & Maintenance Report. The report shall include a summary of the system's maintenance and repair by transmission of the Inspection & Maintenance Log and other information as required. A copy of the report shall be delivered annually to the City of Portsmouth Code Enforcement Officer.

Inspection & Maintenance Checklist/Log

The following pages contain a Stormwater Management System Inspection & Maintenance Checklist and a blank copy of the Stormwater Management System Inspection & Maintenance Log. These forms are provided to the owner as a guideline for performing the inspection and maintenance of the Stormwater Management System. This is a guideline and should be periodically reviewed for conformance with current practice and standards.

STORMWATER MANAGEMENT SYSTEM COMPONENTS

The Stormwater Management System is designed to mitigate both the quantity and quality of site-generated stormwater runoff. As a result, the design includes the following elements:

Non-Structural BMP's

Non-Structural best management practices (BMP's) include temporary and permanent measures that typically require less labor and capital inputs and are intended to provide protection against erosion of soils. Examples of non-structural BMP's on this project include but are not limited to: temporary and permanent mulching, temporary and permanent grass cover, trees, shrubs and ground covers, miscellaneous landscape plantings, dust control, tree protection, topsoiling, sediment barriers, and a stabilized construction entrance.

Structural BMP's

Structural BMP's are more labor and capital-intensive structures or installations that require more specialized personnel to install. Examples on this project include but are not limited to: storm drain catch basins, slot drains and pipes.

Inspection and Maintenance Requirements

The following summarizes the inspection and maintenance requirements for the various BMP's that may be found on this project.

1. **Grassed areas:** After each rain event of 0.5" or more during a 24-hour period, inspect grassed areas for signs of disturbance, such as erosion. If damaged areas are discovered, immediately repair the damage. Repairs may include adding new topsoil, lime, seed, fertilizer and mulch.
2. **Plantings**: Planting and landscaping (trees, shrubs) shall be monitored bi-monthly during the first year to insure viability and vigorous growth. Replace dead or dying vegetation with new stock and adjust the conditions that caused the dead or dying vegetation. During dryer times of the year, provide weekly watering or irrigation during the establishment period of the first year. Make the necessary adjustments to ensure long-term health of the vegetated covers, i.e. provide more permanent mulch or compost or other means of protection.
3. **Storm Drain Catch Basins, Slot Drains and Pipes:** Monitor drain inlets and outlets where visible. Monitor slot drains for clogging and follow manufacturers recommendations for maintenance. Monitor sediment levels in catch basin sumps and remove as necessary.

Invasive Species

Monitor Stormwater Management System for signs of invasive species growth. If caught earlier enough, their eradication is much easier. The most likely places where invasions start is in wetter, disturbed soils or detention ponds. Species such as phragmites and purple loose-strife are common invaders in these wetter areas. If they are found, then the owner shall contact a wetlands scientist with

experience in invasive species control to implement a plan of action to eradicate the invaders. Measures that do not require the application of chemical herbicides should be the first line of defense.

Stormwater Management System

Inspection & Maintenance Checklist for Post Construction Condition—for 60 Penhallow Street, Portsmouth, NH

BMP/System Component	Minimum Inspection Frequency	Minimum Inspection Requirements	Maintenance/Cleanout Threshold
Closed Drainage System			
Drainage Pipes	Yearly	*Check for sediment clogging, or soiled runoff.*	Clean entire drainage system and remove all sediments if discovered in piping.
Slot Drains	Bi-Annually	*Check for sediment clogging, or soiled runoff.*	Clean per manufacturers recommendations
Catch Basins	Bi-Annually	*Check for excessive accumulation of sediment in sump*	Remove sediment as necessary
Annual Report	Yearly	*Prepare Annual Report, including all Inspection & Maintenance Logs. Provide to City (if required).*	N/A

Stormwater Management System Maintenance Summary

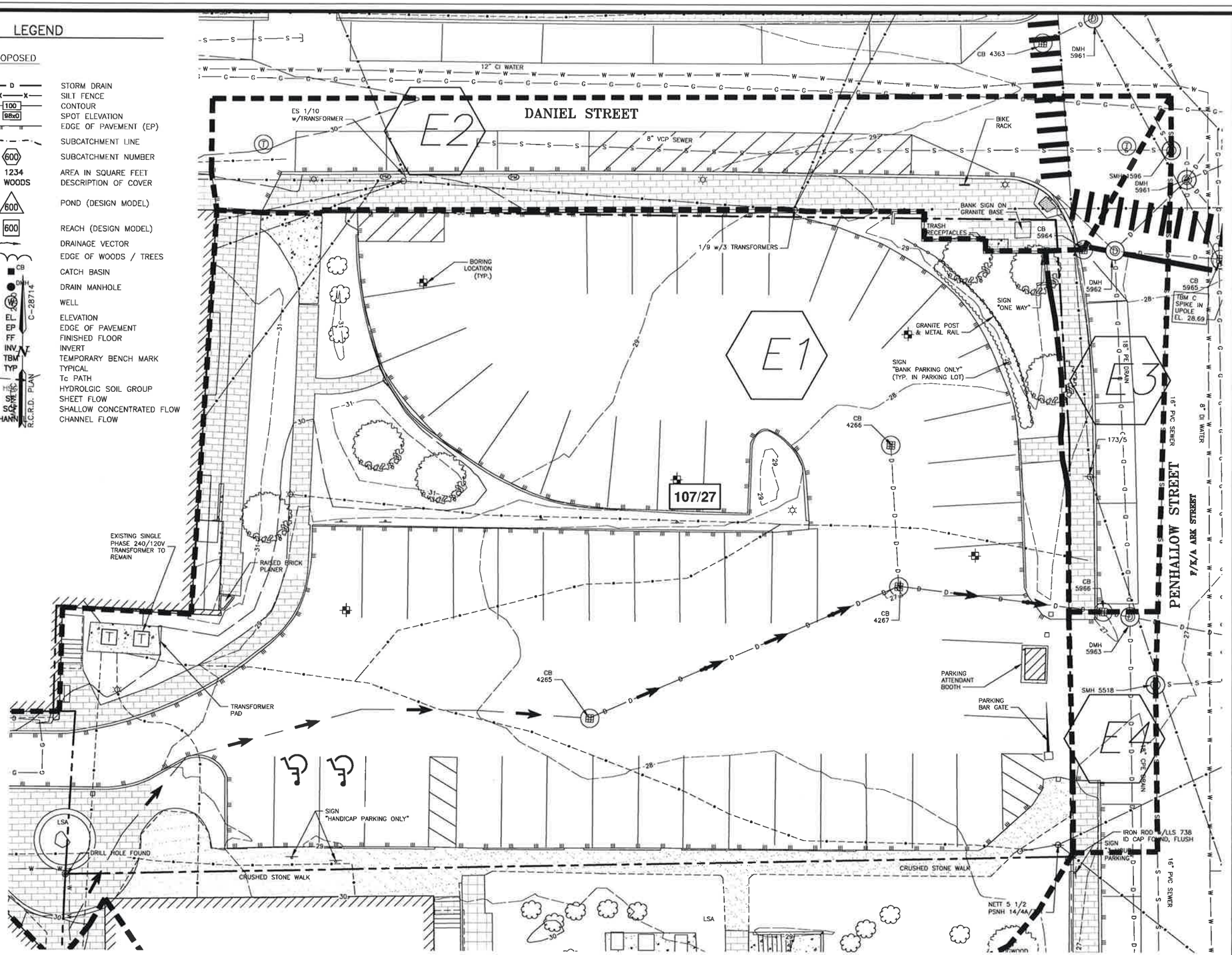
Inspection & Maintenance Log—for 60 Penhallow Street, Portsmouth, NH

BMP/System Component	Date Inspected	Inspector	Problems Noted, Required Maintenance *(List Items/Comments)*	Date of Maintenance	Performed By

Data Sheets

LEGEND

EXISTING	PROPOSED	
D	D	STORM DRAIN
X X	X X	SILT FENCE
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		EDGE OF PAVEMENT (EP)
		SUBCATCHMENT LINE
6	600	SUBCATCHMENT NUMBER
1234 WOODS	1234 WOODS	AREA IN SQUARE FEET DESCRIPTION OF COVER
6	600	POND (DESIGN MODEL)
6	600	REACH (DESIGN MODEL)
		DRAINAGE VECTOR
		EDGE OF WOODS / TREES
CB	CB	CATCH BASIN
DMH	DMH	DRAIN MANHOLE
W	W	WELL
EL.	EL.	ELEVATION
EP	EP	EDGE OF PAVEMENT
FF	FF	FINISHED FLOOR
INV	INV	INVERT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL
	C=.28714	Tc PATH
HSG	HSG	HYDROLGIC SOIL GROUP
SF	SF	SHEET FLOW
SCF	SCF	SHALLOW CONCENTRATED FLOW
CHANNEL	CHANNEL	CHANNEL FLOW
	R.C.R.D. PLAN	



GRAPHIC SCALE

10 5 0 10 20 30 40 FEET

3 0 5 10 METERS

AMBIT ENGINEERING, INC.
Civil Engineers & Land Surveyors
200 Griffin Road – Unit 3
Portsmouth, N.H. 03801-7114
Tel (603) 430-9282
Fax (603) 436-2315

NOTES:

1) PARCEL IS SHOWN ON THE CITY OF PORTSMOUTH ASSESSOR'S MAP 107 AS LOT 27.

2) OWNER OF RECORD:
DAGNY TAGGART, LLC
30 PENHALLOW STREET, SUITE 300 EAST
PORTSMOUTH, NH 03801

NOTES:

1) THIS PLAN IS INTENDED FOR RUNOFF ANALYSIS ONLY AND SHALL NOT BE USED FOR CONSTRUCTION.

2) 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.

3) 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 ENGINEER.

4) 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.

NO.	DESCRIPTION	DATE
0	ISSUED FOR APPROVAL	11/18/19

REVISIONS

STATE OF NEW HAMPSHIRE – JOSEPH L. MULLEDY No. 11502 LICENSED PROFESSIONAL ENGINEER 11/18/19

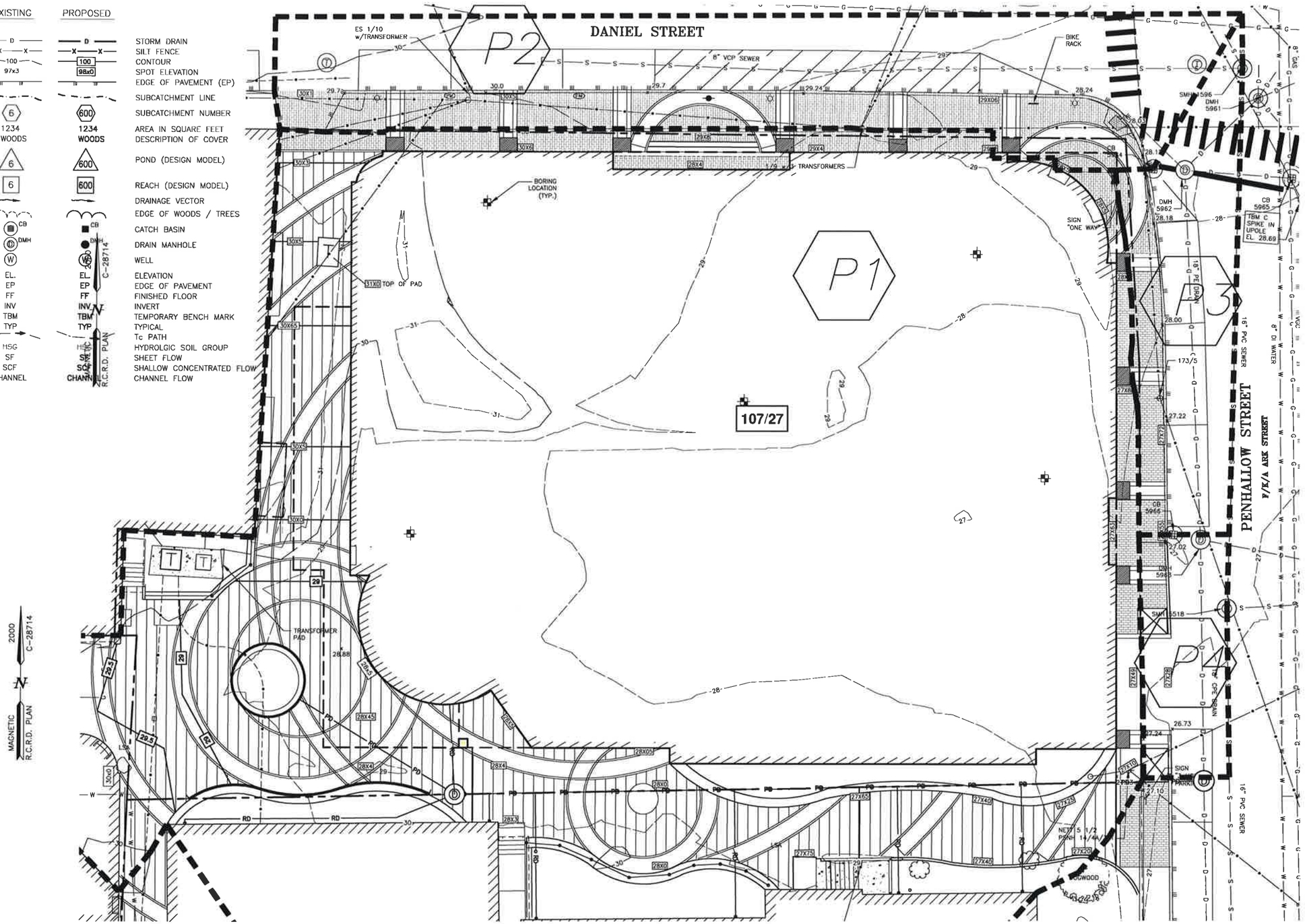
SCALE: 1" = 10'

PLAN OF EXISTING SUBCATCHMENTS

W1

LEGEND

EXISTING	PROPOSED	
D	D	STORM DRAIN
X X	X X	SILT FENCE
100	100	CONTOUR
97x3	98x0	SPOT ELEVATION
		EDGE OF PAVEMENT (EP)
6	600	SUBCATCHMENT LINE
1234 WOODS	1234 WOODS	SUBCATCHMENT NUMBER AREA IN SQUARE FEET DESCRIPTION OF COVER
6	600	POND (DESIGN MODEL)
6	600	REACH (DESIGN MODEL)
		DRAINAGE VECTOR
		EDGE OF WOODS / TREES
CB	CB	CATCH BASIN
DMH	DMH	DRAIN MANHOLE
W	W	WELL
EL.	EL.	ELEVATION
EP	EP	EDGE OF PAVEMENT
FF	FF	FINISHED FLOOR
INV	INV	INVERT
TBM	TBM	TEMPORARY BENCH MARK
TYP	TYP	TYPICAL
		Tc PATH
HSG	HSG	HYDROLGIC SOIL GROUP
SF	SF	SHEET FLOW
SCF	SCF	SHALLOW CONCENTRATED FLOW
CHANNEL	CHANNEL	CHANNEL FLOW



GRAPHIC SCALE

10 5 0 10 20 30 40 FEET

3 0 5 10 METERS

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BRICK MARKET
60 PENHALLOW STREET
PORTSMOUTH, N.H.

NO.	DESCRIPTION	DATE
	REVISIONS	
0	ISSUED FOR APPROVAL	11/18/19

STATE OF NEW HAMPSHIRE – JOSEPH L. MULLEDY No. 11502 LICENSED PROFESSIONAL ENGINEER 11/18/19

SCALE: 1" = 10'

PLAN OF PROPOSED SUBCATCHMENTS

W2