KELLY ENGINEERING GROUP, INC.
0 Campanelli Drive-Braintree-MA 02184 Phone 781 843 4333

Attachment 8- Hanover Crossing Commercial Renderings, Materials, and Building Elevations

NEW ENGLAND INSPIRED

- GEORGIAN
- FEDERAL
- GREEK REVIVAL
- SHINGLE
- COLONIAL REVIVAL

SOCIAL SPACES

- MAIN STREET APPEAL
- ATMOSPHERE
- GATHERING
- PATIO DINING
- WIDE SIDEWALKS
- SCALED FOR HUMAN

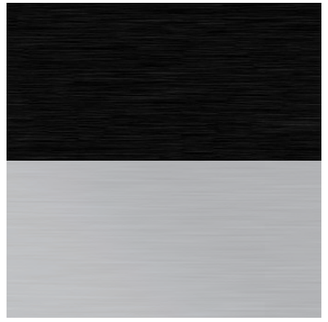
GREEN SPACE

MATERIALS

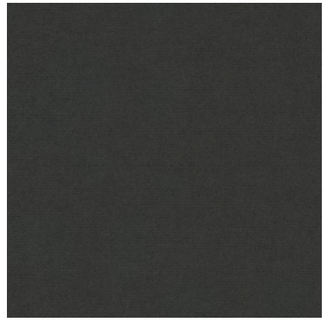
STONE
- ELDORADO STONE
- MOUNTAIN LEDGE
- SIERRA

CAST STONE
- ARRISCRAFT

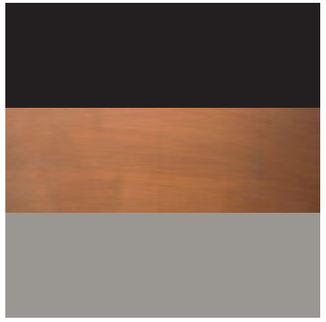
MASONRY
- QUIK BRIK
- HERITAGE BLEND



METAL WINDOW FRAMES
- BLACK OR CLEAR ANODIZED ALUMINIUM



FABRIC CANOPY
- FIRESIST
- BLACK 82008-0000



METAL CANOPY AND COPING
- BLACK, COPPER, OR GRAY

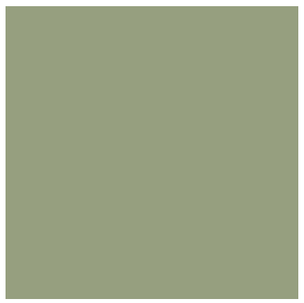
COLOR PALATTE

SHOJI WHITE
-SW7042

RIVER ROUGE
-SW6026

ROYCROFT BRONZE GREEN
-SW2846

DOWNING SLATE
-SW2819



ROOKWOOD JADE
-SW2812

AURORA BROWN
-SW2837

PEWTER CAST
-SW7673

COTTON WHITE
-SW7104

CINEMA 12
ICE CREAM
STYLE
ENTERTAINMENT
BEAUT
macy's

RESTAURANT
RESTAURANT
CINEMA 14
CAFE
ENTERTAINMENT
FOOD
CRAFTS

SHOHO JAPAN
WHEAT & RYE
JT Jewelers
OYSTER BAR

CAFE
ENTERTAINMENT
BAR
RETAIL
STYLE
macy's

macy's
macy's

macy's

GRILL
RESTAURANT
furniture

furniture
RESTAURANT

HANOVER CROSSING
WHEAT & RYE

RANT
BOWL!
LANES
LOUNGE
SPORTS
TAVERN

RESTAURANT
RETAIL

HANOVER
CROSSING

PLANNING COMMISSION

5/17/2019

SHEET LIST

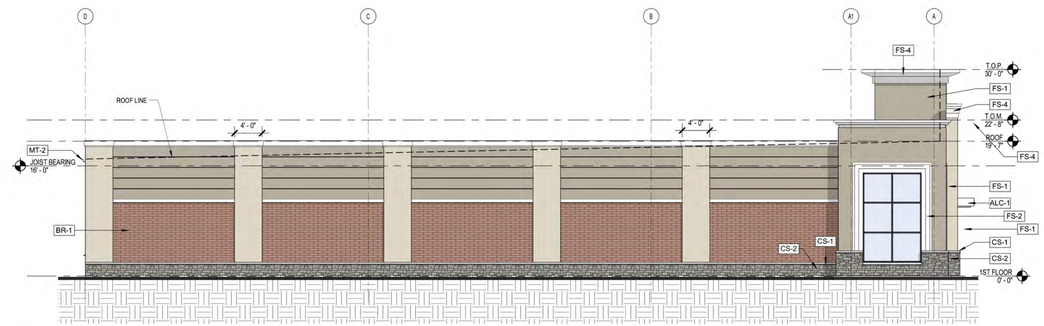
A-1	|	BUILDING 1
A-2	|	BUILDING 2
A-3	|	BUILDING 3
A-4	|	BUILDING 5
A-5	|	BUILDING 6
A-6	|	BUILDING 7
A-7	|	BUILDING 8
A-8	|	BUILDING 5/6 AND THEATER

ENGINEERS · ARCHITECTS · CONSTRUCTION MANAGERS

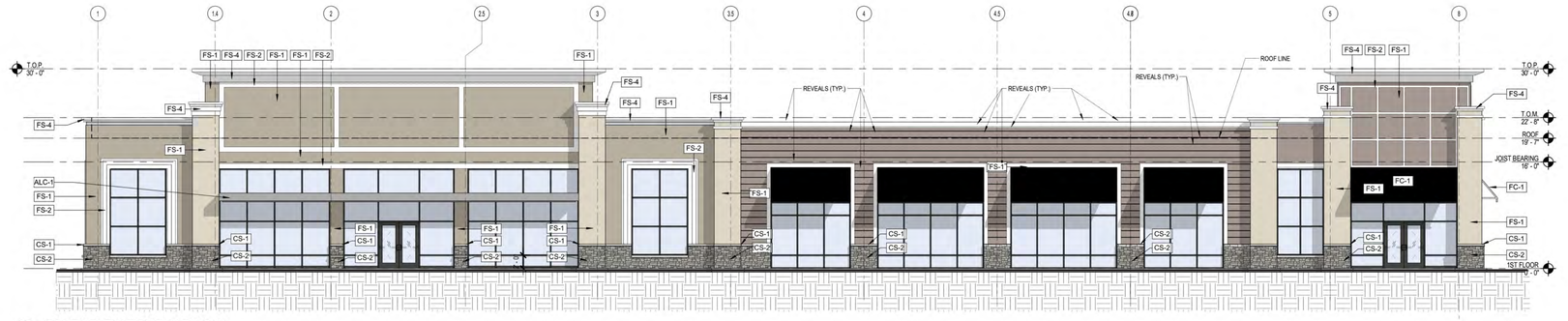
BOWEN
RICHARD L. BOWEN + ASSOCIATES INC.

PREP PROPERTY GROUP

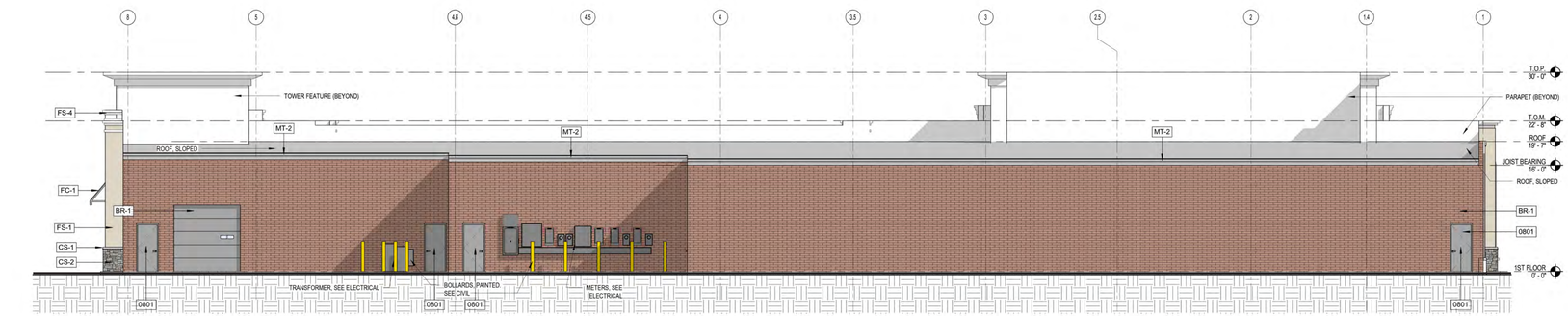
4 A3.1 EAST ELEVATION BUILDING #1
SCALE: 1/8" = 1'-0"



3 A3.1 WEST ELEVATION BUILDING #1
SCALE: 1/8" = 1'-0"



2 A3.1 SOUTH ELEVATION BUILDING #1
SCALE: 1/8" = 1'-0"

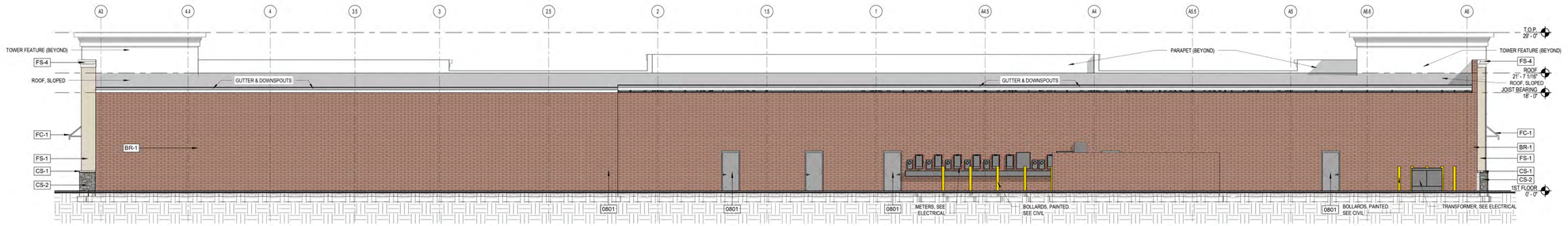


1 A3.1 NORTH ELEVATION BUILDING #1
SCALE: 1/8" = 1'-0"

BOWEN
RICHARD L. BOWEN + ASSOCIATES INC.

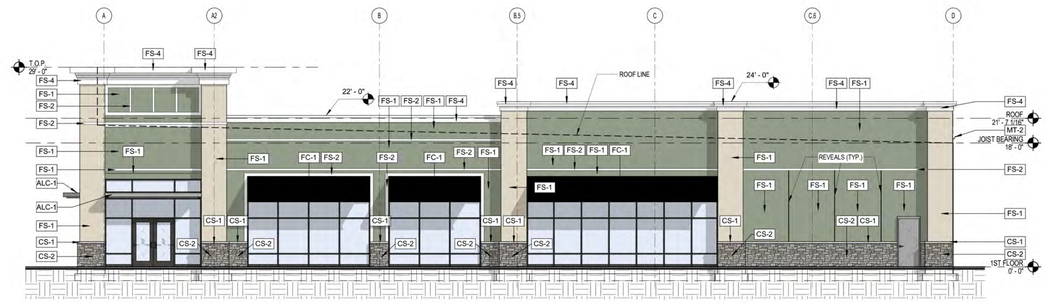
PREP PROPERTY GROUP

REGISTERED ARCHITECT
ALAN RENZI
No. 951397
CLEVELAND, OH
COMMONWEALTH OF MASSACHUSETTS



4 A3.2 NORTH ELEVATION BUILDING #2
SCALE: 1/8" = 1'-0"

3 A3.2 SOUTH ELEVATION BUILDING #2
SCALE: 1/8" = 1'-0"



2 A3.2 EAST ELEVATION BUILDING #2
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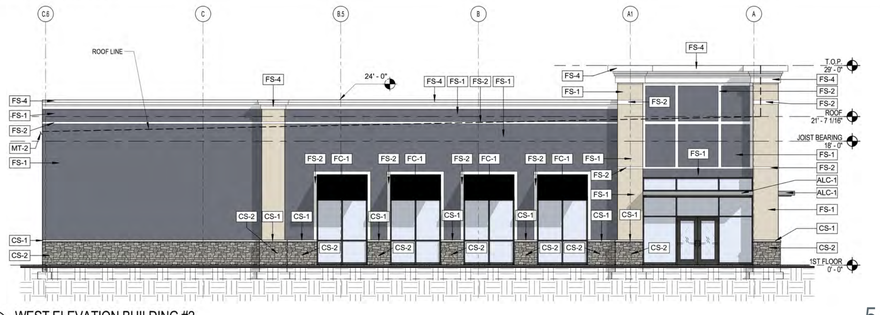
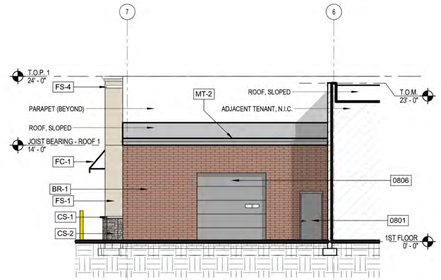


1 A3.2 WEST ELEVATION BUILDING #2
SCALE: 1/8" = 1'-0"

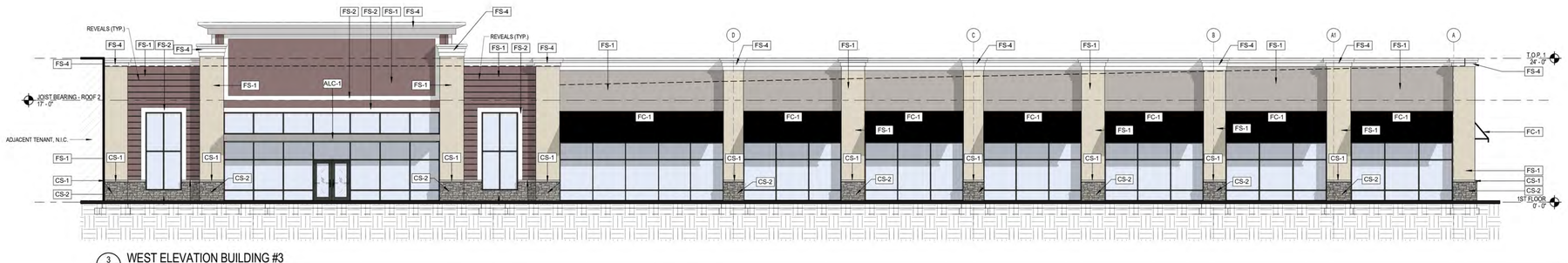
BOWEN
RICHARD L. BOWEN + ASSOCIATES INC.

PREP PROPERTY GROUP

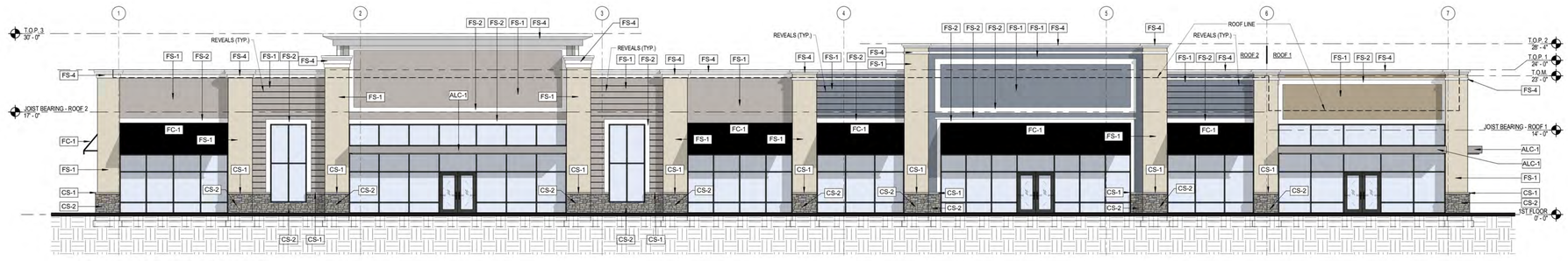
REGISTERED ARCHITECT
ALAN RENZ
No. 951397
CLEVELAND, OH
COMMONWEALTH OF MASSACHUSETTS



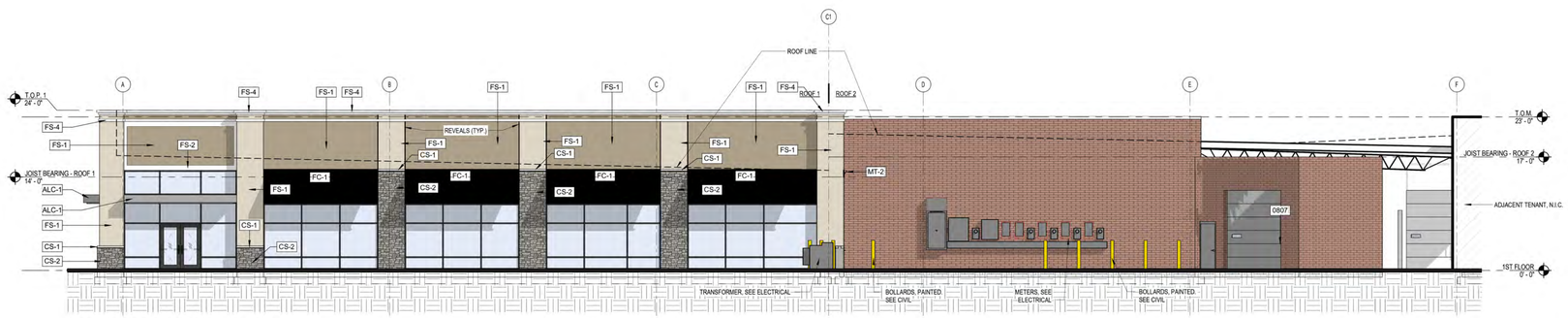
4 A3.3 NORTH ELEVATION BUILDING #3
SCALE: 1/8" = 1'-0"



3 A3.3 WEST ELEVATION BUILDING #3
SCALE: 1/8" = 1'-0"



2 A3.3 SOUTH ELEVATION BUILDING #3
SCALE: 1/8" = 1'-0"



1 A3.3 EAST ELEVATION BUILDING #3
SCALE: 1/8" = 1'-0"

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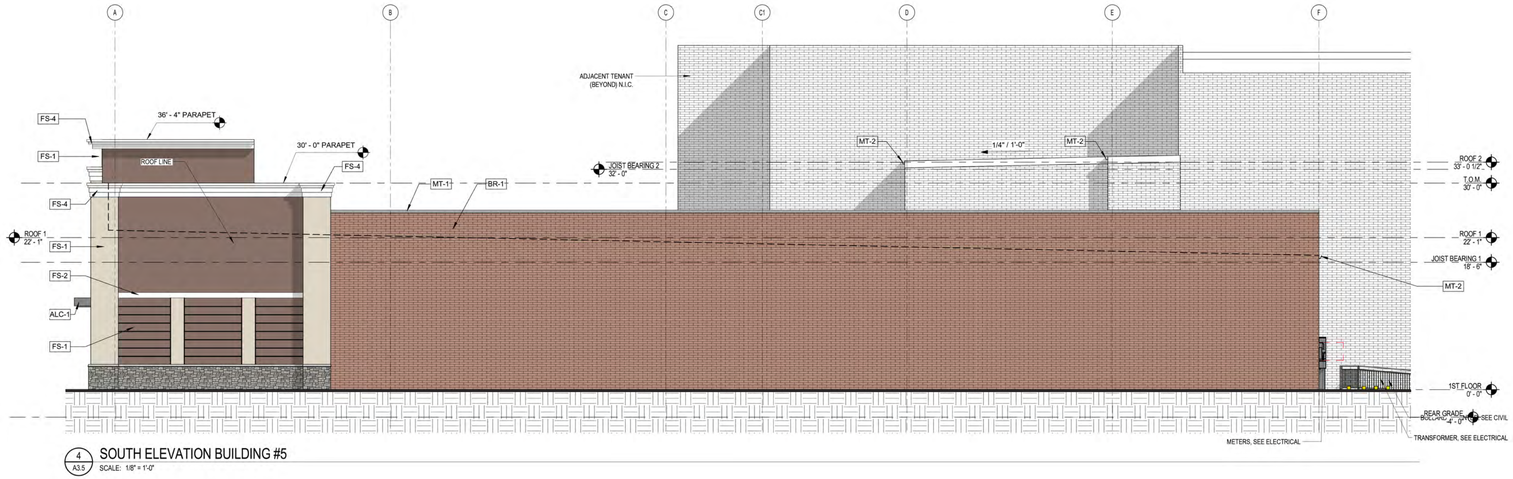
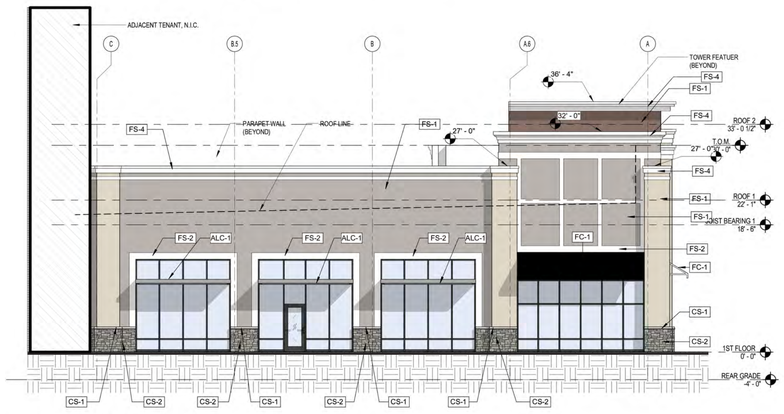
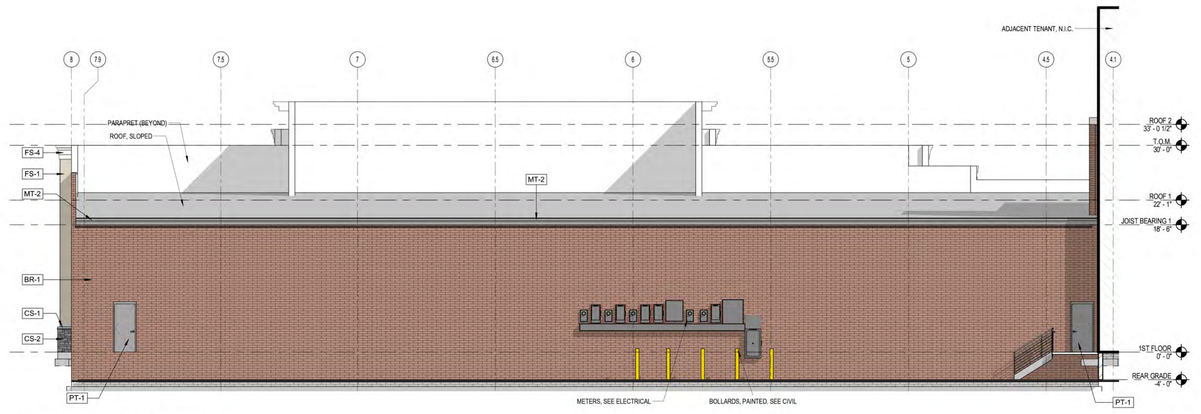


4 A3.5 SOUTH ELEVATION BUILDING #5
SCALE: 1/8" = 1'-0"



3 A3.5 NORTH ELEVATION BUILDING #5
SCALE: 1/8" = 1'-0"



2 A3.5 EAST ELEVATION BUILDING #5
SCALE: 1/8" = 1'-0"

1 A3.5 WEST ELEVATION BUILDING #5
SCALE: 1/8" = 1'-0"

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PREP PROPERTY GROUP

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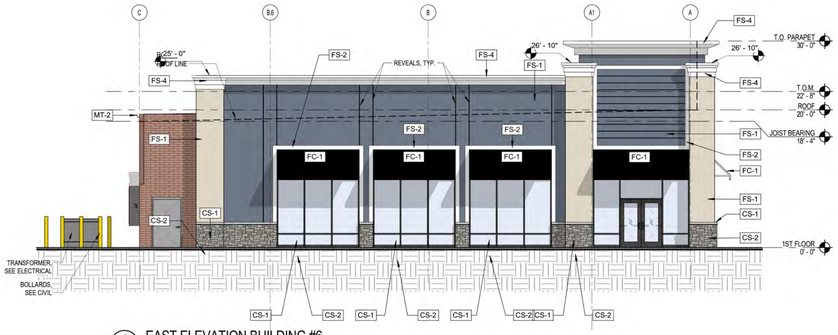
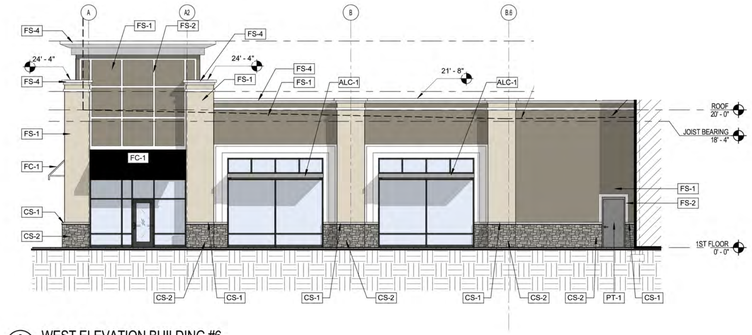
CLEVELAND, OH
COMMONWEALTH OF MASSACHUSETTS

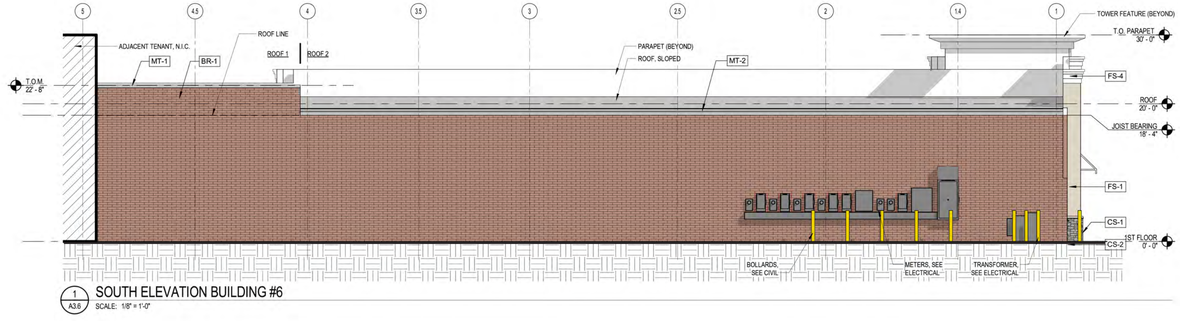


4 A3.6 EAST ELEVATION BUILDING #6
SCALE: 1/8" = 1'-0"



3 A3.6 WEST ELEVATION BUILDING #6
SCALE: 1/8" = 1'-0"

2 A3.6 NORTH ELEVATION BUILDING #6
SCALE: 1/8" = 1'-0"



1 A3.6 SOUTH ELEVATION BUILDING #6
SCALE: 1/8" = 1'-0"

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PREP PROPERTY GROUP

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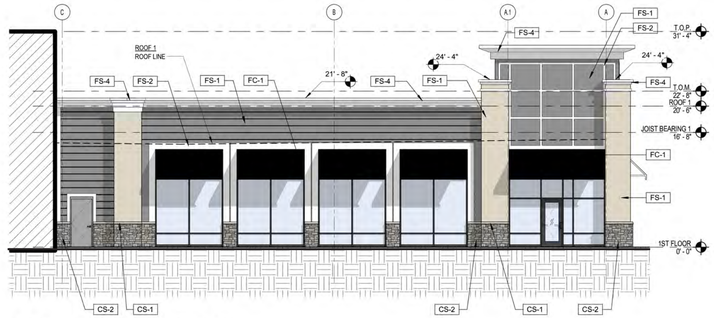
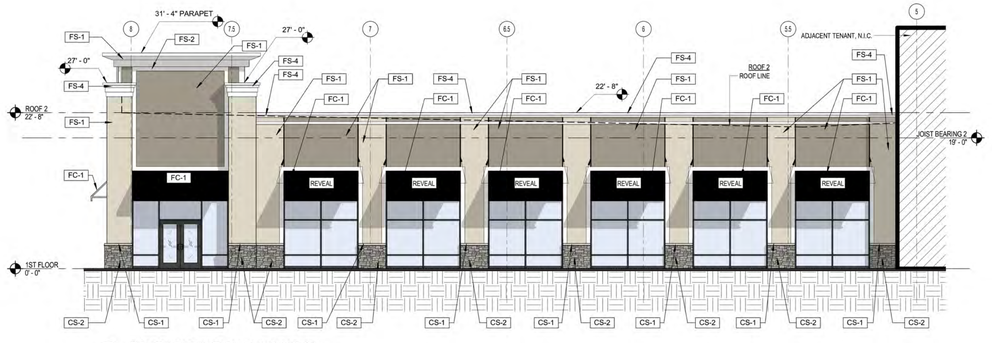
CLEVELAND, OH
COMMONWEALTH OF MASSACHUSETTS



4 / A3.7 EAST ELEVATION BUILDING #7
SCALE: 1/8" = 1'-0"

3 / A3.7 NORTH ELEVATION BUILDING #7
SCALE: 1/8" = 1'-0"

2 / A3.7 WEST ELEVATION BUILDING #7
SCALE: 1/8" = 1'-0"

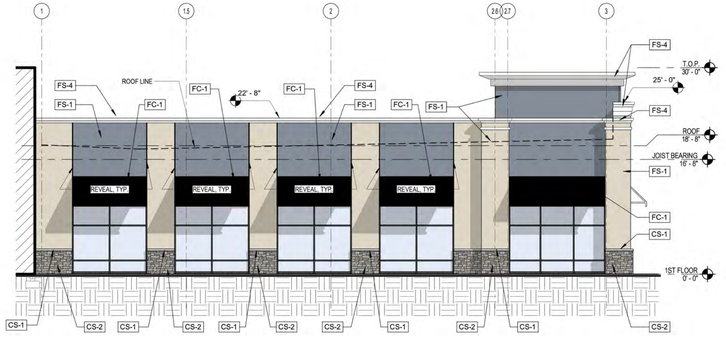


1 / A3.7 SOUTH ELEVATION BUILDING #7
SCALE: 1/8" = 1'-0"

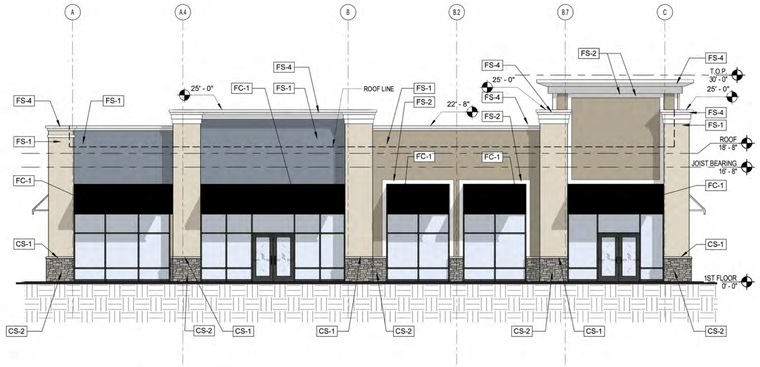
BOWEN
RICHARD L. BOWEN + ASSOCIATES INC.

PREP PROPERTY GROUP

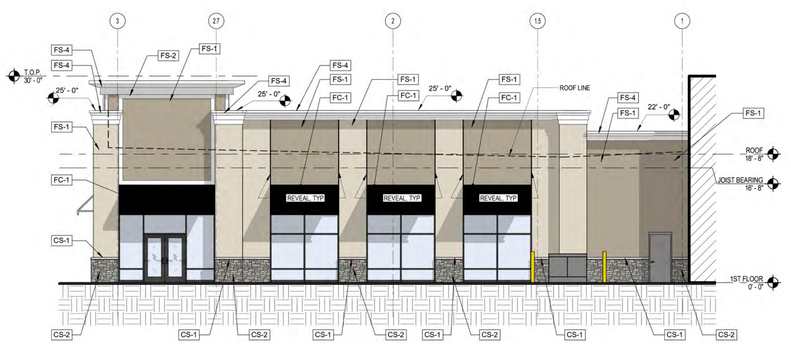
REGISTERED ARCHITECT
ALAN REED
No. 951397
CLEVELAND, OH
COMMONWEALTH OF MASSACHUSETTS



3 / A3.8 NORTH ELEVATION BUILDING #8
SCALE: 1/8" = 1'-0"



2 / A3.8 WEST ELEVATION BUILDING #8
SCALE: 1/8" = 1'-0"

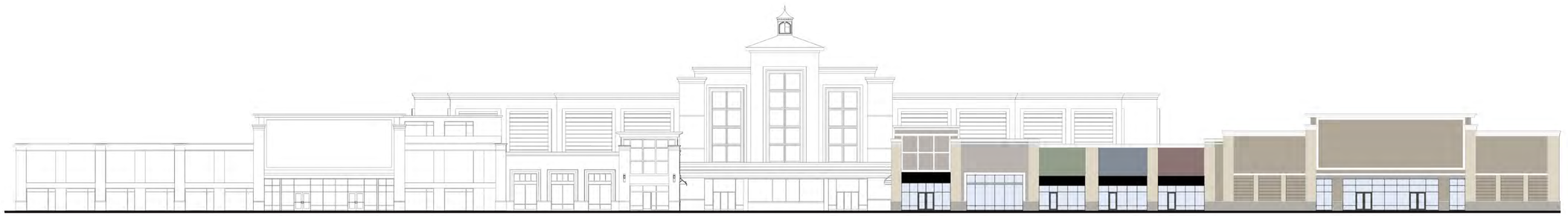


1 / A3.8 SOUTH ELEVATION BUILDING #8
SCALE: 1/8" = 1'-0"

BOWEN
RICHARD L. BOWEN + ASSOCIATES INC.

PREP PROPERTY GROUP

REGISTERED ARCHITECT
ALAN RENDA
No. 951397
CLEVELAND, OH
COMMONWEALTH OF MASSACHUSETTS



BOWEN
RICHARD L. BOWEN + ASSOCIATES INC.

PREP PROPERTY GROUP

REGISTERED ARCHITECT
ALLAN RENZ
No. 951397
CLEVELAND, OH
COMMONWEALTH OF MASSACHUSETTS

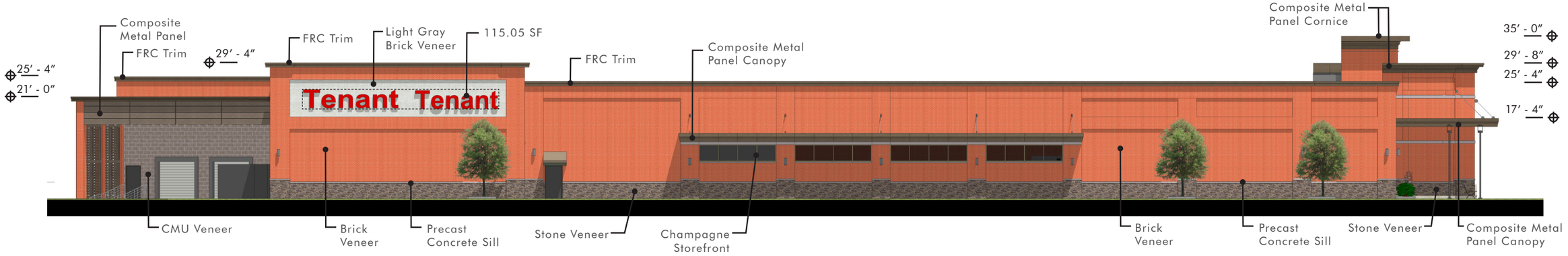
PCA

RETAIL BUILDING

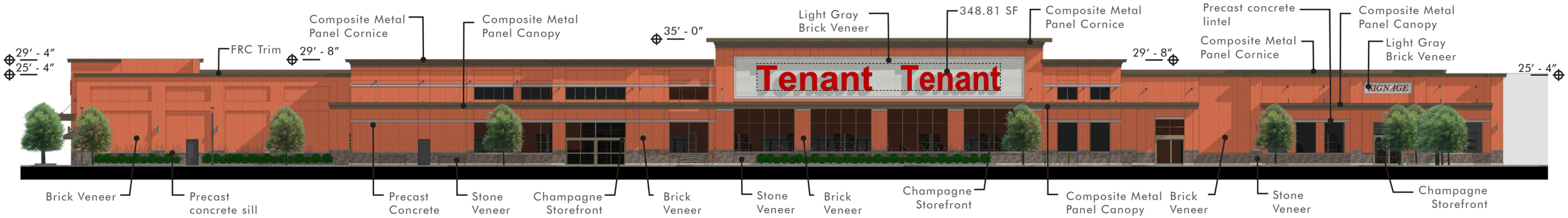
HANOVER, MA

DESIGN CONCEPT

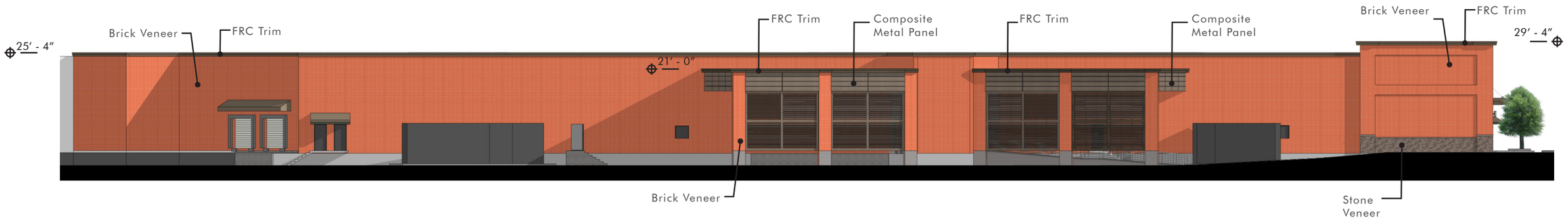
05|21|19



NORTH ELEVATION



WEST ELEVATION



EAST ELEVATION

PCA

MARKET BASKET - HANOVER, MA

DSM REALTY

DESIGN CONCEPT

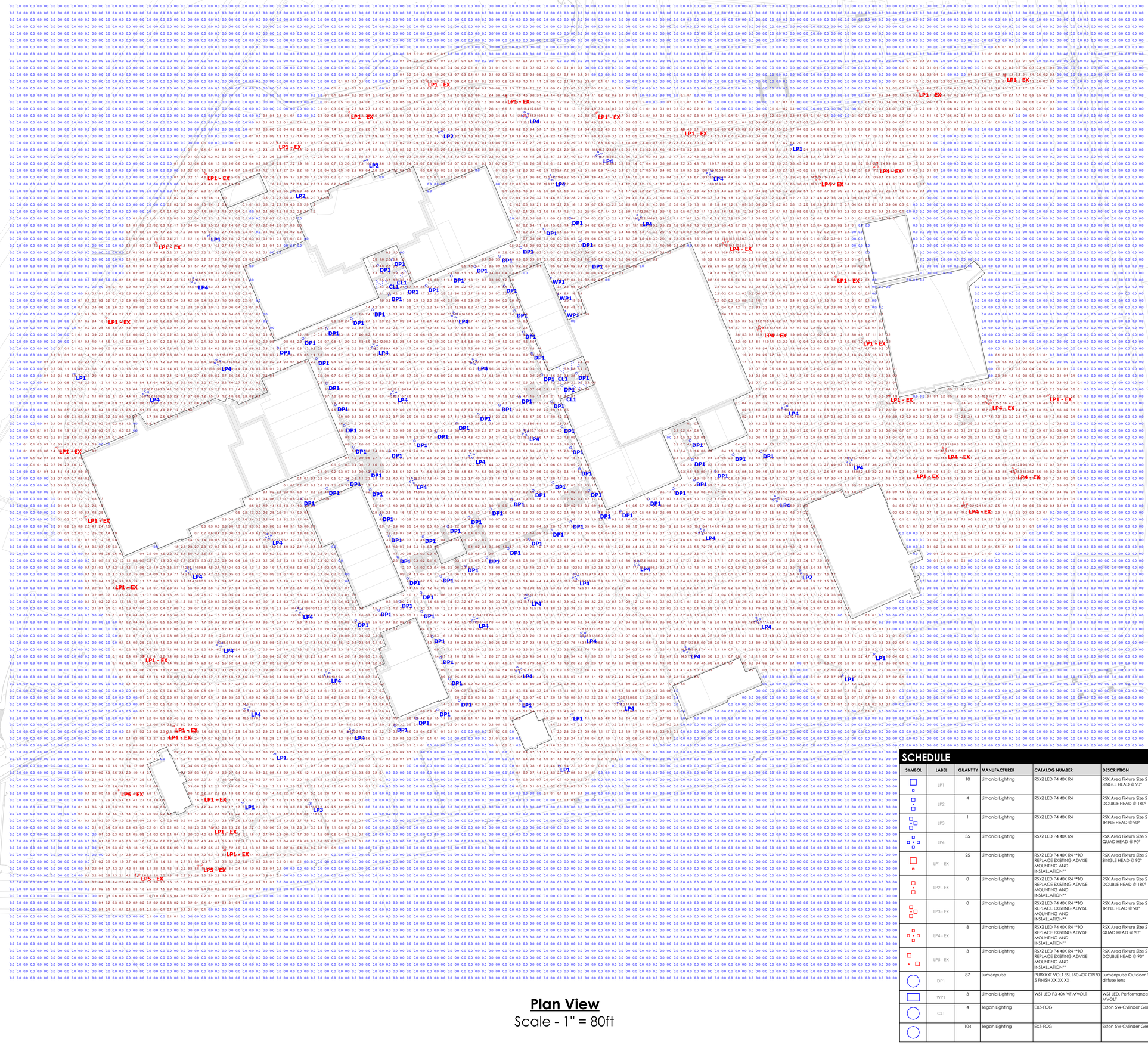
05|13|19

SIGNAGE
Market Basket

MARKET BASKET

KELLY ENGINEERING GROUP, INC.
0 Campanelli Drive-Braintree-MA 02184 Phone 781 843 4333

Attachment 9- Hanover Crossing Commercial Photometric Plan



Plan View
Scale - 1" = 80ft

NOTES:

-REFLECTANCES ASSUMED:
SURFACE: 50

- MOUNTING HEIGHTS:
ALL OTHER POLES @ 25'-0" ABOVE GRADE
DP1 @ 14'-0" ABOVE GRADE
CL1 @ 10'-0" ABOVE GRADE
WP1 @ 15'-0" ABOVE GRADE

- TASK HEIGHT: AT GRADE

- CALCULATION POINT SPACING: 20'X20' OC

- EXTERIOR CALCULATION

DISCLAIMER:

-THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION. VALUES REPRESENTED ARE AN APPROXIMATION GENERATED FROM MANUFACTURERS PHOTOMETRIC IN-HOUSE OR INDEPENDANT LAB TEST WITH DATA SUPPLIED BY LAMP MANUFACTURERS.

STATISTICS

DESCRIPTION	SYMBOL	AVG.	MAX	MIN.	MAX/MIN	AVG/MIN
Calc Zone #1	+	1.1 fc	20.6 fc	0.0 fc	N/A	N/A

SCHEDULE

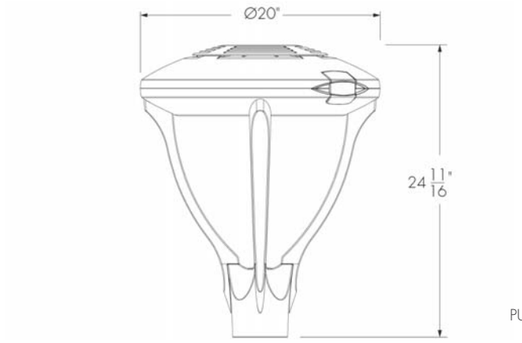
SYMBOL	LABEL	QUANTITY	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	LAMP	# OF LAMPS	LUMENS PER LAMP	LLF	WATTAGE
	LP1	10	Lithonia Lighting	RSX2 LED P4 40K R4	RSX Area Fixture Size 2 P4 Lumen Package 4000K CCT Type R4 Distribution - SINGLE HEAD @ 90°		1	25328	0.9	189.54
	LP2	4	Lithonia Lighting	RSX2 LED P4 40K R4	RSX Area Fixture Size 2 P4 Lumen Package 4000K CCT Type R4 Distribution - DOUBLE HEAD @ 180°		1	25328	0.9	379.08
	LP3	1	Lithonia Lighting	RSX2 LED P4 40K R4	RSX Area Fixture Size 2 P4 Lumen Package 4000K CCT Type R4 Distribution - TRIPLE HEAD @ 90°		1	25328	0.9	568.62
	LP4	35	Lithonia Lighting	RSX2 LED P4 40K R4	RSX Area Fixture Size 2 P4 Lumen Package 4000K CCT Type R4 Distribution - QUAD HEAD @ 90°		1	25328	0.9	758.16
	LP1 - EX	25	Lithonia Lighting	RSX2 LED P4 40K R4 **TO REPLACE EXISTING ADVISE MOUNTING AND INSTALLATION**	RSX Area Fixture Size 2 P4 Lumen Package 4000K CCT Type R4 Distribution - SINGLE HEAD @ 90°		1	25328	0.9	189.54
	LP2 - EX	0	Lithonia Lighting	RSX2 LED P4 40K R4 **TO REPLACE EXISTING ADVISE MOUNTING AND INSTALLATION**	RSX Area Fixture Size 2 P4 Lumen Package 4000K CCT Type R4 Distribution - DOUBLE HEAD @ 180°		1	25328	0.9	379.08
	LP3 - EX	0	Lithonia Lighting	RSX2 LED P4 40K R4 **TO REPLACE EXISTING ADVISE MOUNTING AND INSTALLATION**	RSX Area Fixture Size 2 P4 Lumen Package 4000K CCT Type R4 Distribution - TRIPLE HEAD @ 90°		1	25328	0.9	568.62
	LP4 - EX	8	Lithonia Lighting	RSX2 LED P4 40K R4 **TO REPLACE EXISTING ADVISE MOUNTING AND INSTALLATION**	RSX Area Fixture Size 2 P4 Lumen Package 4000K CCT Type R4 Distribution - QUAD HEAD @ 90°		1	25328	0.9	758.16
	LP5 - EX	3	Lithonia Lighting	RSX2 LED P4 40K R4 **TO REPLACE EXISTING ADVISE MOUNTING AND INSTALLATION**	RSX Area Fixture Size 2 P4 Lumen Package 4000K CCT Type R4 Distribution - DOUBLE HEAD @ 90°		1	25328	0.9	379.08
	DP1	87	Lumenpulse	PURXXXT VOLT SSL L50 40K CRI70 5 FINISH XX XX XX	Lumenpulse Outdoor Pure T architectrual pedestrian area light with softsite diffuse lens	LED	1	5007	0.9	97
	WP1	3	Lithonia Lighting	WST LED P3 40K VF MVOLT	WST LED, Performance package 3, 4000 K, visual comfort forward throw, MVOLT	LED	1	6609	0.9	50
	CL1	4	Tegan Lighting	EXS-FCG	Exton SW-Cylinder Gem	LED	1	246	0.9	5.29
		104	Tegan Lighting	EXS-FCG	Exton SW-Cylinder Gem	LED	1	246	0.9	5.29

Hanove Crossing
05-17-2019

Designer
Robert J. Lindstrom
Date
5/23/2019
Scale
Not to Scale
Drawing No.

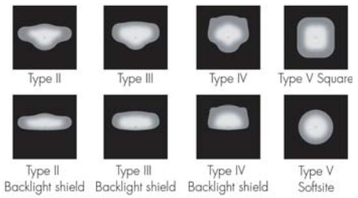
Summary

PUR100T housing shown



Front view
PUR100T housing shown

Distributions



Housing options

Certifications

Description

Energy efficient and designed to limit up-light, the Pure T is a versatile solution for a range of urban lighting applications, creating unique outdoor environments, while also protecting the night sky.

Physical

Lens	Clearsite lens, Softsite lens
Spun cupola finish	Painted copper
Housing Material	Die cast low copper 360 aluminum alloy
Weight	Up to 40 lbs
EPA	Up to 1.33 sq ft

Performance

Output	Minimum 3000lm / Maximum 20000lm
Color Rendering	3 SDCM at CRI 70+ and 2 SDCM at CRI 80+
Lumen Maintenance	TM-21 L70 527,000 hrs (projected, Ta 77 °F), 36,000 hrs (reported, Ta 77 °F)

Features

Color and Color Temperature	2200K, 2700K, 3000K, 3500K, 4000K, 5700K
Distributions	Type II, Type III or Type IV (with or without backlight shield), Type 5 square and Type V Softsite
Options	Surge protector, 5 pins receptacle, 5 pins receptacle with shorting cap
Warranty	5-year limited warranty

Electrical and control

Voltage	120 volts, 240 volts, 277 volts, 347 volts, 480 volts
Control	On/Off control, 0-10V dimming

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Configured Specification Sheet

pure
Pure T

Environmental

Environment	Dry / damp / wet location
Operating Temperature	-40 °F to 104 °F
Ingress Protection Rating	IP66 (light engine)

Decorative arms (order separately, consult related specification sheets for details)

Compatible decorative arms	DT1, MC1, MC2, MC3, MC4 decorative arms

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How to order

Submitted on _____ for ☐ Information ☐ Approval

Other(s)

Project: _____

Distribution: _____

Your order #: _____

Representative: _____

Our order #: for lumenpulse use

IMPORTANT NOTICE Lumenpulse assumes no responsability for problems that may occur when combining third-party products.

1	2	3	4	5	6	7	8
PUR100T							

9	10	11
	DIM	

1 . Housing [1]

PUR100T	Pure 100T
PUR212T	Pure 212T
PUR213T	Pure 213T
PUR312T	Pure 312T
PUR313T	Pure 313T
PUR322T	Pure 322T
PUR323T	Pure 323T
PUR500T	Pure 500T

[1] Consult Related Products section on webpage for a selection of compatible decorative arms, decorative poles (sold separately).

2 . Voltage Unselected

120	120 volts
240	240 volts
277	277 volts
347	347 volts
480	480 volts

3 . Lens Unselected

CSL	Clearsite lens [1] [2]
SSL	Softsite lens [3] [4]

[1] Available with S40, S60, M80, M110, M150, L170 and L200 output options only.

[2] Available with 2, 2BLS, 3, 3BLS, 4, 4BLS and 5S distribution options only.

[3] Available with L30, L50 and L70 output options only.

[4] Available with 5 distribution option only.

4 . Output Unselected

S40	4000lm [1]
S60	6000lm
M80	8000lm
M110	11 000lm
M150	15 000lm
L170	17 000lm
L200	20 000lm
L30	3000lm Softsite [2]
L50	5000lm Softsite [2]
L70	7000lm Softsite [2]

[1] Available up to 277V.

[2] Available with 5 distribution option only.

5 . Color and Color Temperature [1] Unselected

22K	2200K [2]
27K	2700K [2]
30K	3000K
35K	3500K
40K	4000K
57K	5700K

[1] Consult factory for more color temperature options.

[2] Available for CRI 80 only.

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Configured Specification Sheet

pure
Pure T

6 . Color Rendering Unselected

CRI 70	CRI 70+ [1]
CRI 80	CRI 80+ [2]

[1] Binning within a 3 step McAdam ellipse, with the exception of 2200K and 5700K.

[2] Binning within a 2 step MacAdam ellipse, with the exception of 5700K.

7 . Distributions Unselected

2	Type II
2BLS	Type II backlight Shield
3	Type III
3BLS	Type III backlight shield
4	Type IV
4BLS	Type IV backlight shield
5S	Type V square
5	Type V Softsite [1]

[1] Available with L30, L50 and L70 output options only.

8 . Finish Unselected

BK	Black Sandtex®
BRZ	Bronze Sandtex®
SI	Silver Sandtex®
BKTX	Textured black
BRZTX	Textured bronze non-metallic
GRATX	Textured medium gray
GRNTX	Textured green
WHTX	Textured white
CC	Custom color and finish (please specify RAL color) [1] [2]

[1] For custom RAL colors, specify RAL number followed by "TX" for textured finish (ex: RAL9007TX). A textured finish is recommended for ease of maintenance of all products. Please consult factory for other RAL textures and glosses, or to match alternate color charts. Final color matching results may vary.

[2] Longer lead times can be expected for custom RAL color finishes.

9 . Spun cupola finish [1]

CF	Painted copper

[1] Spun cupola finish option available only when housing with spun cupola is selected (PUR212T, PUR213T, PUR312T, PUR313T, PUR322T, PUR323T). Spun cupola finish match fixture housing colour when nothing selected.

10 . Control

DIM	0-10V dimming [1]

[1] DIM control can be used as NO control if no data is required.

11 . Options

SP	Surge protector
SPR5	5 pins receptacle [1]
SPR5 SC	5 pins receptacle with shorting cap [1]

[1] Available with PUR100T housing only.

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MS - R6

RSX2 LED
Area Luminaire

Catalog Number

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

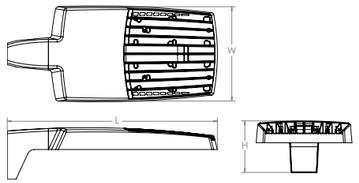
EPA (ft²@0°): 0.69 ft² (0.06 m²)

Length: 29.3" (74.4 cm) (SPA mount)

Width: 13.4" (34.0 cm)

Height: 3.0" (7.6 cm) Main Body 7.2" (18.3 cm) Arm

Weight (max): 33.0 lbs (15.0 kg)



Introduction

The new RSX LED Area family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSX2 delivers 11,000 to 31,000 lumens allowing it to replace 250W to 1000W HID luminaires.

The RSX features an integral universal mounting mechanism that allows the luminaire to be mounted on most existing drill hole patterns. This "no-drill" solution provides significant labor savings. An easy-access door on the bottom of mounting arm allows for wiring without opening the electrical compartment. A mast arm adaptor and an adjustable integral slip-fitter are also available.

Ordering Information

EXAMPLE: RSX2 LED P6 40K R3 MVOLT SPA DDBXD

RSX2 LED									
Series	**Performance Package**	**Color Temperature**		**Distribution**		**Voltage**		**Mounting**	
RSX2 LED	P1	30K	3000K	R3	Type 3 Wide	MVOLT	(120V-277V) [1]	SPA	Square pole mounting (Min. 3.0"SQ for 1 at 90°, Min. 3.5"SQ for 2, 3, 4 at 90°)
	P2	40K	4000K	R4	Type 4 Wide	HVOLT	(347V-480V) [2]	RPA	Round pole mounting (3.2" min pole dia. for 1,2,3 or 4 at 90°)
	P3	50K	5000K	R5	Type 5 Wide	**(use specific voltage for options as noted)**		MA	Mast arm adaptor (fits 2-3/8"OD horizontal tenon)
	P4			R5S	Type 5 Short	120 [3]	277 [3]	IS	Adjustable slipfitter (fits 2-3/8"OD tenon) [4]
	P5			AFR	Automotive Front Row	208 [3]	347 [3]	WBA	Wall bracket
	P6					240 [3]	480 [3]		

Options		Finish	
Shipped Installed		DDBXD	Dark Bronze
HS	House-side shield	DBLXD	Black
PE	Photocontrol, button style [5,7]	DNAXD	Natural Aluminum
PEX	Photocontrol external threaded, adjustable [6,7]	DWHXD	White
PER7	Seven-wire twist-lock receptacle only (no controls) [7,8,9]	DDBTXD	Textured Dark Bronze
DS [10]	Dual switching	DBLBXD	Textured Black
CE34	Conduit entry 3/4"NPT (Qty 2)	DNATXD	Textured Natural Aluminum
SF	Single fuse (120, 277, 347) [3]	DWHGXD	Textured White
DF	Double fuse (208, 240, 480) [3]		
SPD20KV	20KV Surge pack (10KV standard)		
FAO	Field adjustable output		
DMG	0-10V lead wires extended (no controls)		
Shipped Separately (requires some field assembly)			
EGS	External glare shield		
EGFV	External glare full visor (360° around light aperture)		
BS	Bird spikes [13]		
Shipped Installed			
***Standalone Sensors Controls (factory default settings, see table page 5)**			
PIRS	Motion/ambient sensor for 8-20' mounting heights [7,15,16]		
PIRHS	Motion/ambient sensor for 20-40' mounting heights [7,15,16]		
***Networked Sensors/Controls**			
NLTAIR2	nLight AIR generation 2 [11,16]		
PIRHN	Networked, Bi-Level motion/ambient sensor (for use with NLTAIR2) [7,12,15,16]		
*Note: Sensor coverage pattern is affected when luminaire is tilted.			

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Ordering Information

Accessories
Ordered and shipped separately.

RSX2HS	RSX2 House side shield (includes 2 shields)
RSX2EGS U	External glares hield (specify finish)
RSX2EGFV U	External glare full visor (specify finish)
RSXRPA U	RSX Universal round pole adaptor plate (specify finish)
RCPIRS	Remote control PIRS/PIRHS field programmer
DLL127F 1.5 JU	Photocell -SSL twist-lock (120-277V) [14]
DLL347F 1.5 CUL JU	Photocell -SSL twist-lock (347V) [14]
DLL480F 1.5 CUL JU	Photocell -SSL twist-lock (480V) [14]
DSHORT SBK U	Shorting cap [14]

NOTES
1 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
2 HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
3 Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
4 IS maximum tilt is 90° above horizontal.
5 Requires MOVLT or 347V.
6 Requires 120V, 208V, 240V, 277V or 347V.
7 Not available in combination with other light sensing control options (following options cannot be combined: PE, PEX, PER7, PIRS, PIRHS, PIRHN).
8 Twistlock photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included. Dimming leads capped for future use.
9 For units with option PER7, the mounting must be restricted to +/- 45° from horizontal aim per ANSI C136.10-2010.
10 Requires (2) separately switched circuits. See Outdoor Control Technical Guide for details. Provides 50/50 fixture operation via (2) independent drivers. Not available with PE, PEX, PER7, PIRS, PIRSH or PIRHN.
11 Must be ordered with PIRHN.
12 Must be ordered with NLTAIR2. For additional information on PIRHN visit here.
13 Must be ordered with fixture for factory pre-drilling.
14 Requires luminaire to be specified with PER7 option. Ordered and shipped as a separate line item from Acuity Brands Controls.
15 Two or more of the following options cannot be combined including DMG, PER7, FAO, PIRS, PIRHS and PIRHN.
16 Requires MVOLT or HVOLT.

External Shields

House Side Shield

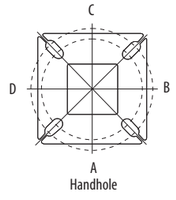
External Glare Shield

External 360 Full Visor

Pole/Mounting Informatiion

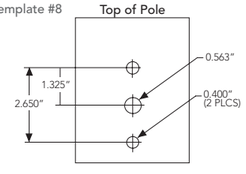
Accessories including bullhorns, cross arms and other adpaters are available under the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit Accessories.

HANDHOLE ORIENTATION

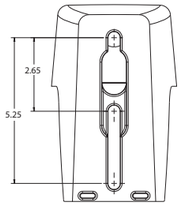


RSX POLE DRILLING

Template #8



RSX STANDARD ARM



Tenon Adapters

Tenon O.D.	Single Unit	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2-3/8"	AST20-190	AST20-280	AST20-290	AST20-320	AST20-390	AST20-490
2-7/8"	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Pole Drilling Nomenclature

Number of heads at degree from handhole (default side A)					
DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS
1 @ 90°	2 @ 280°	2 @ 90°	3 @ 120°	3 @ 90°	4 @ 90°
Side B	Side B & D	Side B & C	Round pole only	Side B, C, & D	Sides A, B, C, D
Note: Review luminaire spec sheet for specific nomenclature					

RSX2 - Luminaire EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration		Single	2 @ 90	2 @ 180	3 @ 90	3 @ 120	4 @ 90	2 Side by Side	3 Side by Side	4 Side by Side
Mounting Type	**Tilt**									
SPA - Square Pole Adaptor	0 °	0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
RPA - Round Pole Adaptor		0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
MA - Mast Arm Adaptor		0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
IS - Integral Slipfitter	0 °	0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
	10°	0.53	1.06	1.05	1.58	1.37	2.08	1.06	1.59	2.12
	20°	0.52	1.02	1.03	1.52	1.33	2.02	1.03	1.55	2.07
	30°	0.64	1.11	1.18	1.63	1.45	2.21	1.27	1.91	2.54
	40°	0.81	1.21	1.35	1.74	1.65	2.39	1.62	2.43	3.23
	45°	0.91	1.25	1.5	1.81	1.75	2.48	1.82	2.73	3.64
	50°	1.34	1.83	2.17	2.61	2.56	3.62	2.68	4.02	5.36
	60°	2.2	2.97	3.57	4.24	4.17	5.89	4.41	6.61	8.82
	70°	2.86	4.13	4.7	5.89	5.71	8.21	5.71	8.57	11.42
	80°	3.4	5.13	5.67	7.34	7.09	10.21	6.79	10.19	13.59
	90°	3.85	5.96	6.55	8.58	8.31	11.88	7.7	11.56	15.41

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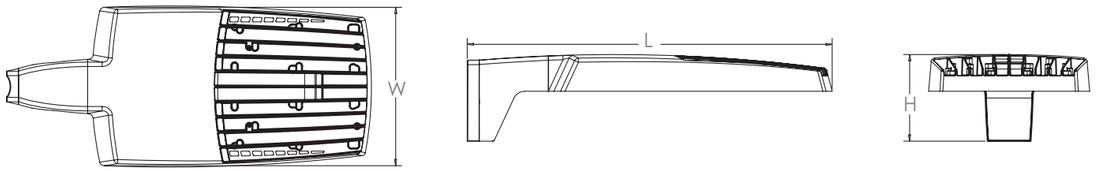
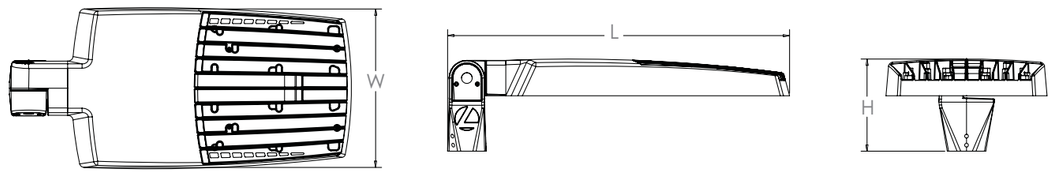
Dimensions

RSX2 with Round Pole Adapter (RPA)



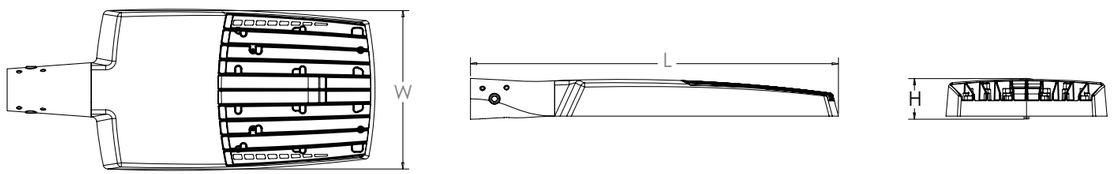
Length: 30.3" (77.0 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.2" (18.3 cm) Arm

RSX2 with Adjustable Slipfitter (IS)



Length: 28.3" (71.9 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.6" (19.3 cm) Arm

RSX2 with Mast Arm Adapter (MA)



Length: 30.6" (77.7 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
3.5" (8.9 cm) Arm

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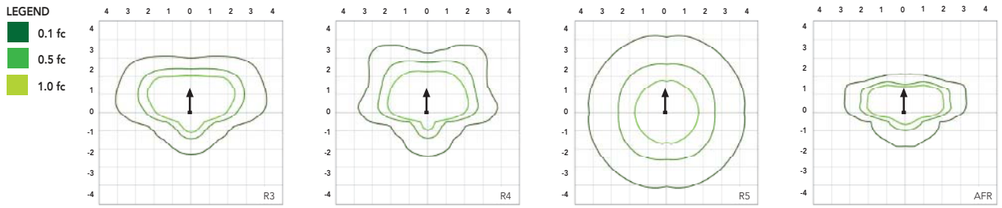
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's RSX Area homepage.

Isofootcandle plots for the RSX2 LED P6 40K. Distances are in units of mounting height (30').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-50°C (32-122°F).

Ambient	Ambient	Lumen Multiplier
0°C	32°F	1.05
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97
45°C	113°F	0.96
50°C	122°F	0.95

Electrical Load

		Current (A)					
Performance Package	System Watts (W)	120V	208V	240V	277V	347V	480V
P1	71W	0.59	0.34	0.30	0.26	0.20	0.15
P2	111W	0.93	0.53	0.46	0.40	0.32	0.23
P3	147W	1.23	0.70	0.61	0.53	0.42	0.31
P4	187W	1.55	0.90	0.78	0.68	0.53	0.38
P5	210W	1.75	1.01	0.87	0.76	0.60	0.44
P6	244W	2.03	1.17	1.01	0.88	0.70	0.51

Projected LED Lumen Maintenance

Operating Hours	50,000	75,000	100,000
Lumen Maintenance Factor	>0.97	>0.95	>0.92

Values calculated according to IESNA TM-21-11 methodology and valid up to 40°C.

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Distribution Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	71W	R3	10,005	2	0	2	141	10,992	2	0	2	155	10,992	2	0	2	155
		R4	10,136	2	0	2	143	11,136	2	0	2	157	11,136	2	0	2	157
		R5	10,271	4	0	2	145	11,285	4	0	2	159	11,285	4	0	2	159
		R5S	10,544	3	0	1	149	11,585	3	0	2	163	11,585	3	0	2	163
		AFR	10,026	2	0	1	141	11,016	2	0	1	155	11,016	2	0	1	155
P2	111W	R3	15,657	2	0	3	141	17,202	3	0	3	155	17,202	3	0	3	155
		R4	15,862	2	0	3	143	17,427	2	0	3	157	17,427	2	0	3	157
		R5	16,075	4	0	2	145	17,661	5	0	3	159	17,661	5	0	3	159
		R5S	16,502	4	0	2	149	18,130	4	0	2	163	18,130	4	0	2	163
		AFR	15,691	2	0	2	141	17,240	2	0	2	155	17,240	2	0	2	155
P3	147W	R3	19,785	3	0	3	135	21,737	3	0	4	148	21,737	3	0	4	148
		R4	20,044	3	0	3	136	22,022	3	0	4	150	22,022	3	0	4	150
		R5	20,313	5	0	3	138	22,317	5	0	3	152	22,317	5	0	3	152
		R5S	20,852	4	0	2	142	22,910	4	0	2	156	22,910	4	0	2	156
		AFR	19,828	3	0	2	135	21,785	3	0	2	148	21,785	3	0	2	148
P4	187W	R3	22,756	3	0	4	122	25,002	3	0	4	134	25,002	3	0	4	134
		R4	23,054	3	0	4	123	25,329	3	0	4	135	25,329	3	0	4	135
		R5	23,363	5	0	3	125	25,669	5	0	4	137	25,669	5	0	4	137
		R5S	23,983	4	0	2	128	26,350	4	0	2	141	26,350	4	0	2	141
		AFR	22,806	3	0	2	122	25,056	3	0	2	134	25,056	3	0	2	134
P5	210W	R3	26,049	3	0	4	124	28,620	3	0	4	136	28,620	3	0	4	136
		R4	26,390	3	0	4	126	28,994	3	0	4	138	28,994	3	0	4	138
		R5	26,744	5	0	4	127	29,383	5	0	4	140	29,383	5	0	4	140
		R5S	27,454	4	0	2	131	30,163	4	0	2	144	30,163	4	0	2	144
		AFR	26,106	3	0	2	124	28,682	3	0	2	137	28,682	3	0	2	137
P6	244W	R3	27,549	3	0	4	113	30,267	3	0	4	124	30,267	3	0	4	124
		R4	27,909	3	0	4	114	30,663	3	0	4	126	30,663	3	0	4	126
		R5	28,284	5	0	4	116	31,075	5	0	4	127	31,075	5	0	4	127
		R5S	29,035	4	0	2	119	31,900	5	0	3	131	31,900	5	0	3	131
		AFR	27,609	3	0	2	113	30,334	3	0	2	124	30,334	3	0	2	124

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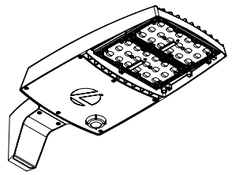
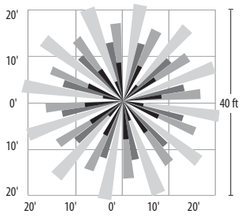
Sensor Coverage

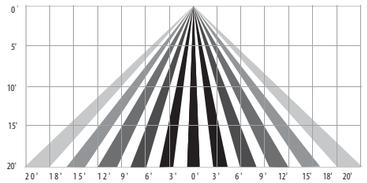
Motion Sensor Default Settings (PIRS and PIRHS only)						
Option	Dimmed State	High Level (when triggered)	Photocell Operation	Dwell Time	Ramp-up Time	Ramp-down Time
PIRS or PIRHS	Approx. 37% Output	100% Output	Enabled @ 5FC	5 minutes	3 seconds	20 seconds

PIRS Coverage Patterns



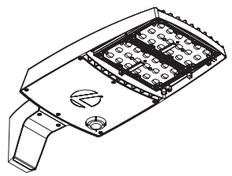


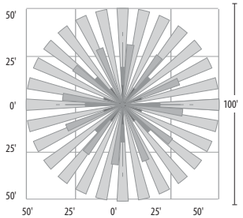
Top



Side

PIRHS Coverage Pattern





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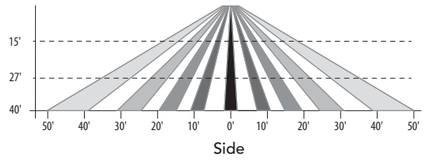
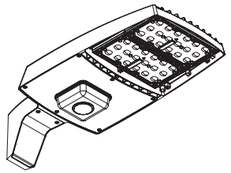
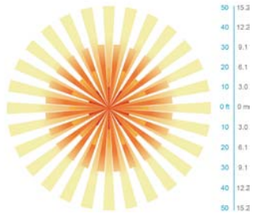


Side

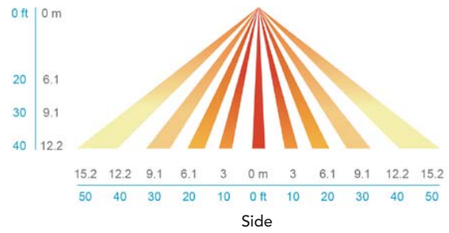
PIRHN nLight Sensor Coverage Pattern

nLight PIRHN





Top



Side

FEATURES & SPECIFICATIONS

INTENDED USE
The RSX LED area family is designed to provide a long-lasting, energy-efficient solution for the one-for-one replacement of existing metal halide or high pressure sodium lighting. The RSX2 delivers 11,000 to 31,000 lumens and is ideal for replacing 250W to 1000W HID pole-mounted luminaires in parking lots and other area lighting applications..

CONSTRUCTION AND DESIGN
The RSX LED area luminaire features a rugged die-cast aluminum main body that uses heat-dissipating fins and flow-through venting to provide optimal thermal management that both enhances LED performance and extends component life. Integral "no drill" mounting arm allows the luminaire to be mounted on existing pole drillings, greatly reducing installation labor. The light engines and housing are sealed against moisture and environmental contaminants to IP66. The low-profile design results in a low EPA, allowing pole optimization. All mountings are rated for a 1.5 G vibration load per ANSI C136.31.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures superior adhesion as well as a minimum finish thickness of 3 mils. The result is a high-quality finish that is warrantied not to crack or peel.

OPTICS
Precision acrylic refractive lenses are engineered for superior application efficiency, distributing the light to where it is needed most. Available in short and wide pattern distributions including Type 3, Type 4, Type 5, Type 5S and AFR (Automotive Front Row).

ELECTRICAL
Light engine(s) configurations consist of high-efficacy LEDs mounted on metal-core circuit boards and aluminum heat sinks to maximize heat dissipation. Light engines are IP66 rated. LED lumen maintenance is >L92/100,000 hours. CCT's of 3000K, 4000K and 5000K (minimum 70 CRI) are available. Class 1 electronic drivers ensure system power factor >90% and THD <20%. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The RSX LED area luminaire has a wide assortment of control options. Dusk to dawn controls include MVOLT and 347V button-type photocells and NEMA twist-lock photocell receptacles. Integrated motion sensors with on-board photocells feature remote control sensor programing and are suitable for mounting heights up to 40 feet.

nLIGHT AIR CONTROLS
The RSX LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing and photocontrol functionality and is suitable for mounting heights up to 40 feet. Once commissioned using a smartphone and the easy-to-use CLAIRITY app, nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Integral "no-drill" mounting arm allows for fast, easy mounting using existing pole drillings. Select the "SPA" option for square poles and the "RPA" option to mount to round poles. Select the "MA" option to attach the luminaire to a 2 3/8" horizontal mast arm or the "IS" option for an adjustable slipfitter that mounts on a 2 3/8" OD tenon. The adjustable slip fitter has an integral junction box and offers easy installation. IS adjustable slipfitter is not rated for tilting above 90° or mounting within 4 feet of ground. Can be tilted up to 90° above horizontal.

LISTINGS
CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

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KELLY ENGINEERING GROUP, INC.
0 Campanelli Drive-Braintree-MA 02184 Phone 781 843 4333

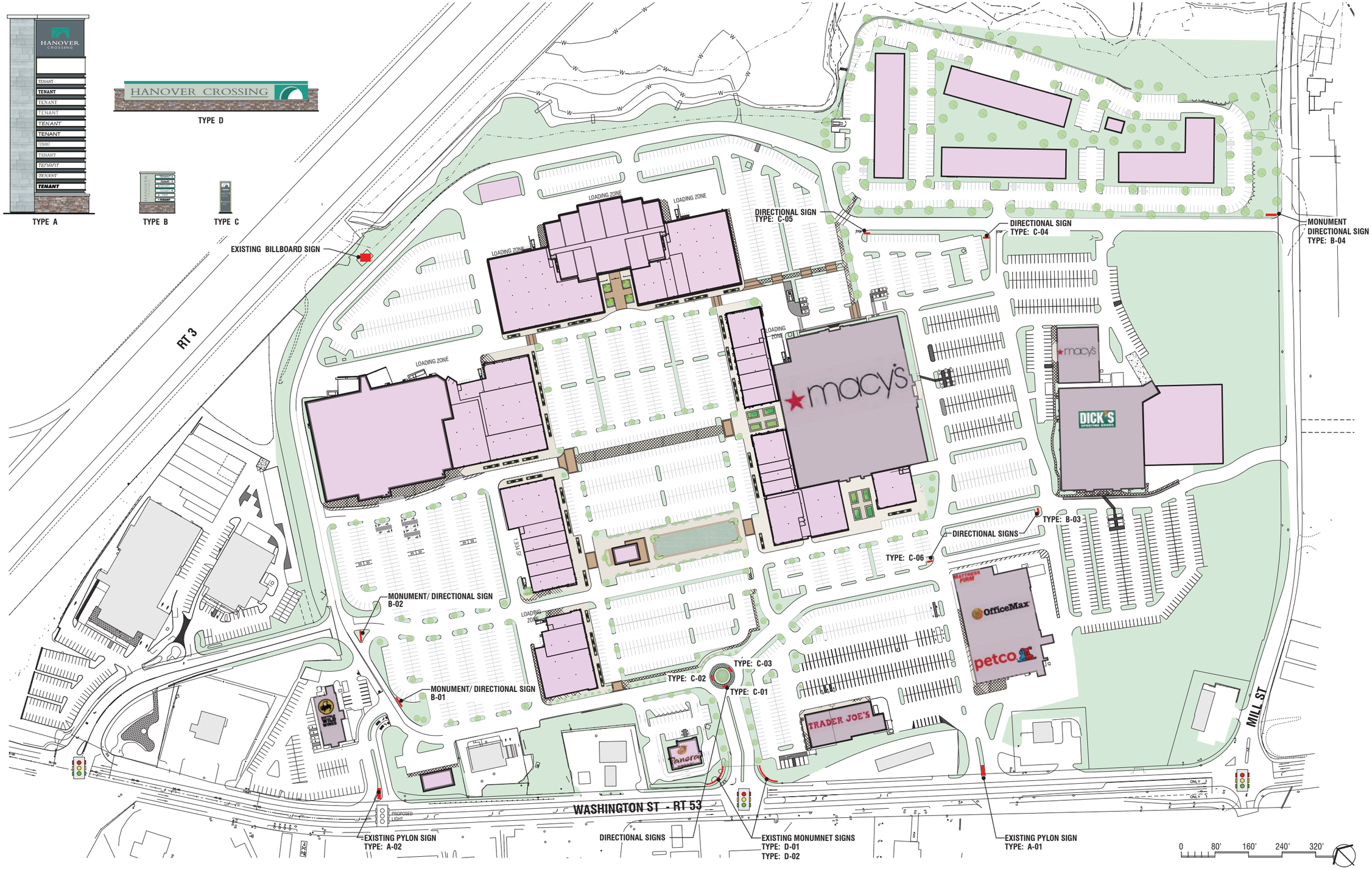
Attachment 10- Hanover Crossing Commercial Proposed Signage

TYPE A

TYPE D

TYPE B

TYPE C



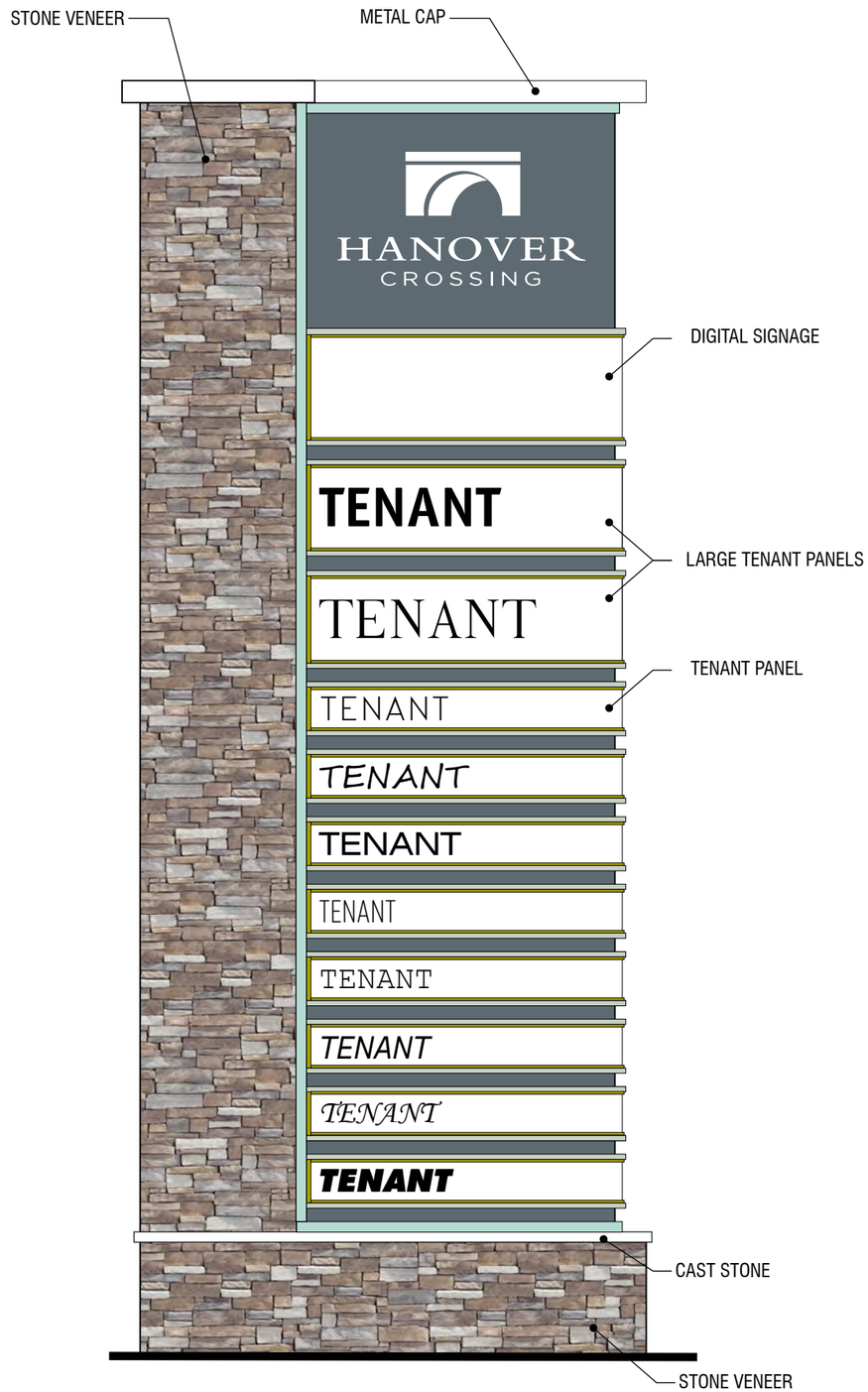
HANOVER CROSSING

10.12.2018

BOWEN
RICHARD L. BOWEN + ASSOCIATES INC.
RLBA 8838

PREP
PECO REAL ESTATE PARTNERS

NOTE: THIS SITE PLAN IS CONCEPTUAL IN NATURE AND IS REPRESENTATIVE OF LANDLORD'S CURRENT DEVELOPMENT PLANS, ALL WHICH ARE SUBJECT TO CHANGE WITHOUT NOTICE. LANDLORD EXPRESSLY RESERVES THE RIGHT TO MAKE MODIFICATIONS IN ITS SOLE DISCRETION. NO GUARANTEE IS MADE THAT THE FEATURES OR FACILITIES DEPICTED ON HTE SITE WILL BE BUILT, OR IF BUILT WILL BE OF THE SAME TYPE, SIZE OR NATURE. IN ADDITION, ANY NAMED TENANTS DEPICTED ON THE SITE PLAN ARE FOR ILLUSTRATIVE PURPOSES ONLY AND REFLECT EXISTING TENANTS AS WELL AS LANDLORD'S CURRENT MARKETING AND LEASING EFFORTS, AND LANDLORD MAKES NO GUARANTEE, WARRANTY OR REPRESENTATION AS TO WHETHER SUCH TENANTS ARE OR WILL BE ACTUAL TENANTS AT THE SHOPPING CENTER. DIMENSIONS AND SQUARE FOOTAGES DEPICTED ON THE SITE PLAN MAY NOT BE TO SCALE AND ARE APPROXIMATE AND MAY VARY WITH ACTUAL CONSTRUCTION. TENANT MAY NOT RELY ON THIS SITE PLAN FOR ITS ACCURACY OR COMPLETENESS. NOTHING IN THIS DISCLAIMER SHALL AMEND OR MODIFY ANY REPRESENTATIONS OR LANDLORD COMMITMENTS SPECIFICALLY STATED IN THE BODY OF TENANT'S LEASE.



HANOVER CROSSING

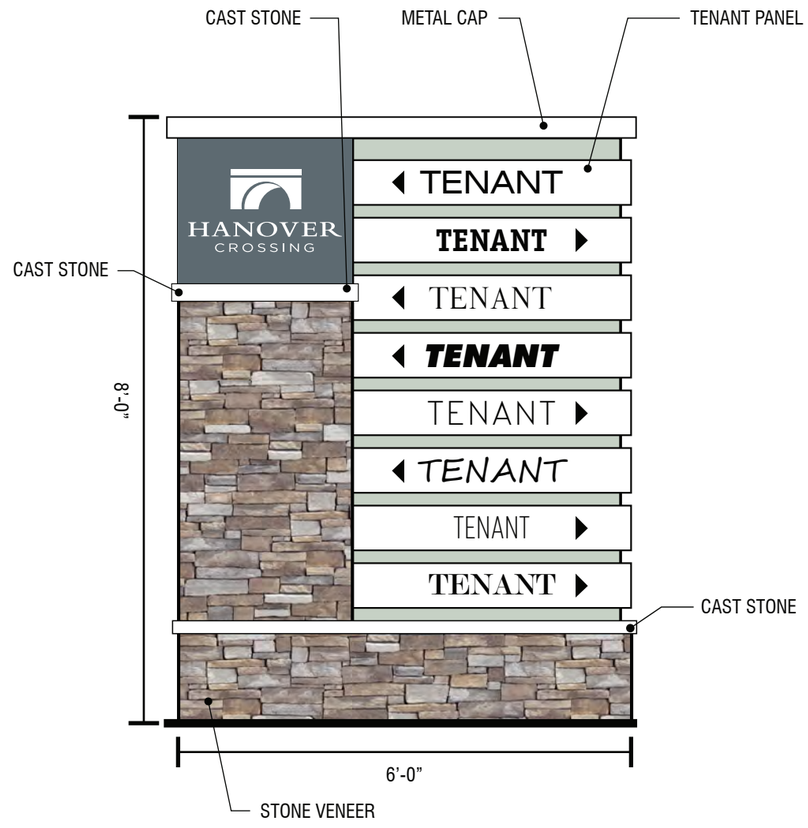
10.26.2018

PYLON SIGN DESIGN - TYPE A

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

BOWEN
RICHARD L. BOWEN + ASSOCIATES INC.
RLBA 8838.09

PREP
PECO REAL ESTATE PARTNERS



HANOVER CROSSING

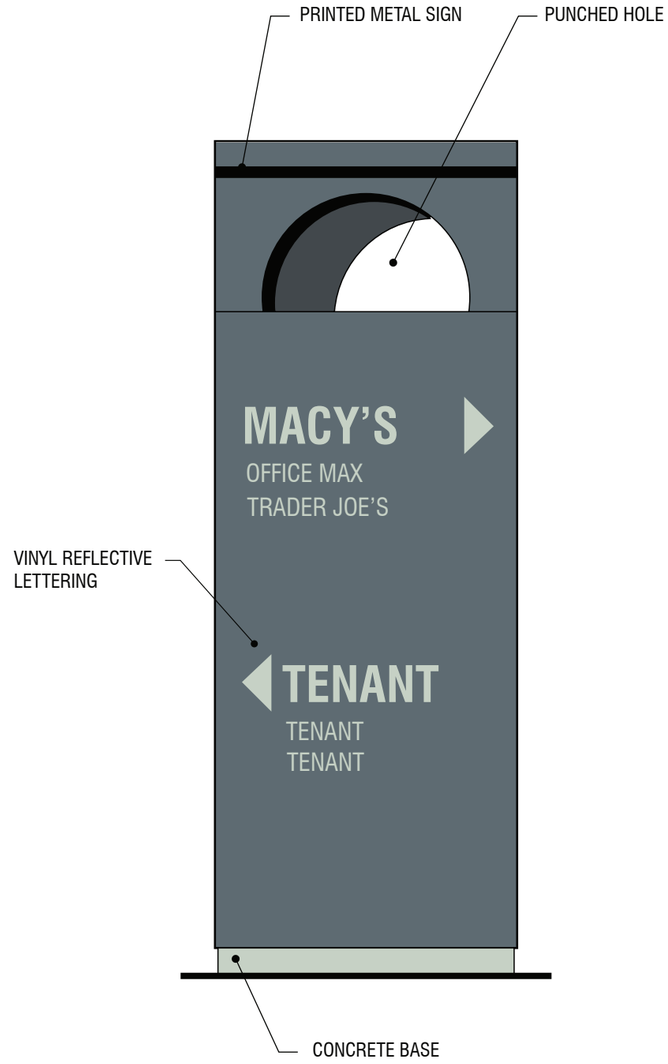
10.26.2018

MONUMENT / DIRECTIONAL SIGN DESIGN - TYPE B

SCALE: 1/2" = 1'-0"

BOWEN
RICHARD L. BOWEN + ASSOCIATES INC.
RLBA 8838.09

PREP
PECO REAL ESTATE PARTNERS



HANOVER CROSSING

10.26.2018

DIRECTIONAL SIGN DESIGN - TYPE C

SCALE: 1" = 1'-0"

BOWEN
RICHARD L. BOWEN + ASSOCIATES INC.
RLBA 8838.09

PREP
PECO REAL ESTATE PARTNERS

HANOVER CROSSING

10.19.2018

CURVED MAIN ENTRY MONUMENT SIGN DESIGN - TYPE D

NOT TO SCALE

BOWEN
RICHARD L. BOWEN + ASSOCIATES INC.
RLBA 8838.09

PREP
PECO REAL ESTATE PARTNERS

KELLY ENGINEERING GROUP, INC.
0 Campanelli Drive-Braintree-MA 02184 Phone 781 843 4333

Attachment 11- Hanover Crossing Residential Site Development Plans

HANOVER CROSSING RESIDENTIAL, HANOVER,MA
SITE DEVELOPMENT PLANS

100 Nickerson Road
Marlborough, MA 01752
Phone: 508-786-2200 Fax: 508-786-2201
www.tetratech.com

TETRA TECH

AERIAL MAP

0 50' 100' 200'
SCALE: 1" = 100'

CIVIL ENGINEERING:
TETRA TECH
100 Nickerson Road
Marlborough, MA 01752

TETRA TECH

HANOVER CROSSING

LEGEND

EXISTING		PROPOSED
210X23	SPOT GRADE	211X50
210	CONTOUR	210
	WETLAND LINE	
WF 20	WETLAND FLAG	
CB	CONCRETE BOUND	
SB	STONE BOUND	
DH	DRILL HOLE	
LP	LIGHT POLE	
UP	UTILITY POLE	
WV	WATER VALVE	
50 50	DRAIN LINE	SD
SS SS	SEWER LINE	SS
FM	SEWER FORCE MAIN	
GAS GAS	GAS LINE	G
UE	UNDERGROUND ELECTRIC	UE
UT	UNDERGROUND TELEPHONE	UT
	UNDERGROUND ELECTRIC/TELEPHONE/DATA	E/T/D
W W	WATER LINE	W
OHE OHE	OVERHEAD WIRES	OE
	COMPOST FILER SOCK	
	CONSTRUCTION FENCE	xx xx xx
CB	CATCH BASIN	CB
DCB	DOUBLE CATCH BASIN	DCB
	FLARED END OUTLET	
DMH	DRAIN MANHOLE	DMH
SMH	SEWER MANHOLE	SMH
	ELECTRIC MANHOLE	EMH
	TELEPHONE MANHOLE	TMH
	HYDRANT	
	GAS GATE	
	BOLLARD	
BCC	BITUMINOUS CONCRETE CURB	BCC
VCC	CONCRETE CURB	CC
	VERTICAL GRANITE CURB	VGC
	SLOPED GRANITE CURB	SGC
	SIGN	
	TRANSFORMER	

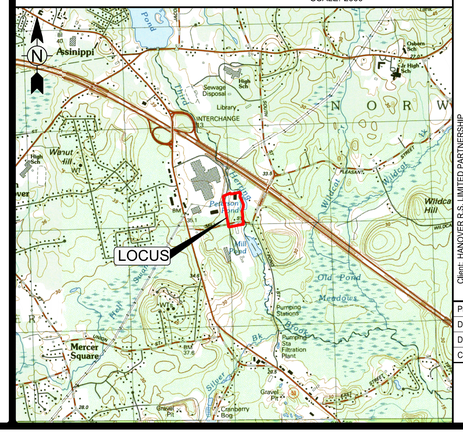
ISSUED:

MAY 17, 2019 SPECIAL PERMIT FILING

COMMONWEALTH OF MASSACHUSETTS
NATHAN CHEAL
No. 49824
REGISTERED PROFESSIONAL ENGINEER
5/17/19

USGS MAP:

0 1000' 2000' 4000'
SCALE: 2000'



DRAWING LIST

CIVIL

C-1	COVER SHEET
C-2	EXISTING CONDITIONS PLAN
C-3	SITE LAYOUT PLAN
C-4	GRADING AND DRAINAGE PLAN
C-5	UTILITY PLAN
C-6	EROSION & SEDIMENT CONTROL PLAN
C-7	DETAIL SHEET
C-8	DETAIL SHEET
C-9	DETAIL SHEET

LANDSCAPE

L1.01	HARDSCAPE SITE PLAN
L2.01	SNOW STORAGE SITE PLAN
L3.01	LANDSCAPE LIGHTING PLAN
L4.01	DETAILS TRASH COMPACTOR AND MISC.
L4.02	DETAILS MISC.
L4.03	DETAILS SIGNAGE
L6.01	PLANTING SITE PLAN

ARCHITECTURAL

A1.1.01	OVERALL SITE PLAN
A3.1.00	TYPICAL UNIT PLANS
A4.1.00	BUILDING TYPE 1 - BUILDING PLANS
A4.1.10	BUILDING TYPE 1 - BUILDING ELEVATIONS
A4.2.00	BUILDING TYPE 2 - BUILDING PLANS
A4.2.10	BUILDING TYPE 2 - BUILDING ELEVATIONS
A4.3.00	BUILDING TYPE 3 - BUILDING PLANS
A4.3.01	BUILDING TYPE 3 - BUILDING PLANS
A4.3.02	BUILDING TYPE 3 - BUILDING PLANS
A4.3.10	BUILDING TYPE 3 - BUILDING ELEVATIONS
A6.2.02	MAIL & MAINTENANCE - PLAN & ELEVATIONS
AG1.1.01	DETACHED GARAGE - PLANS & ELEVATIONS

NOTES:

1. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED ON THE DRAWINGS AND EACH DRAWING HAS BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION."

2. EXISTING CONDITIONS PROVIDED BY KELLY ENGINEERING. ELECTRONIC FILE "2016-075-EX00 3-26-19.DWG" PROVIDED TO TETRA TECH VIA EMAIL ON MARCH 26, 2019. EXISTING LIMIT OF DISTURBANCE SUBSEQUENTLY UPDATED BY KELLY ENGINEERING VIA EMAIL ON APRIL 16, 2019.

Client: HANOVER R.S. LIMITED PARTNERSHIP
Proj. Loc: Hanover Crossing Residential, Hanover, MA

Site Development Plans
Hanover Crossing Residential, Hanover, MA

Cover Sheet

Project No.:	143-26700-18001
Designed By:	N.C.
Drawn By:	T.A.B.
Checked By:	N.C.

C-1

5/23/2019 9:47:28 AM - P:\26700\143-26700-18001\CADSHEETFILES\C-1 COVER SHEET.DWG - CHEAL, NATE

N/F COMMONWEALTH OF MASSACHUSETTS

TOWN LINE

THIRD HERRING BROOK

NORWELL

HANOVER

B.V.W

FEMA 100 YEAR FLOOD ELEVATION CALCULATED BY KELLY ENGINEERING

EXISTING BUILDING

PATRIOT CINEMA

FFE=89.2

RIPRAP

1.5' DIAMETER WELL -TILE

MH OPEN

MH UP

HANOVER MALL DRIVE

(PRIVATE WAY)

MILL STREET

DETENTION AREA

BORDERING VEGETATED WETLAND

I,V,W

35' WETLAND BUFFER

100' WETLAND BUFFER

100' INNER RIVERFRONT AREA

200' OUTER RIVERFRONT AREA

RIVERFRONT AREA

FEMA 100 YEAR FLOOD

35' WETLAND BUFFER

100' WETLAND BUFFER

RIVERFRONT AREA

APPROXIMATE LIMIT OF PREVIOUSLY DEVELOPED / DISTURBED AREA

APPROXIMATE LIMIT OF PROPOSED DEVELOPED / DISTURBED AREA

0 15' 30' 60'

SCALE: 1" = 30'

TETRA TECH

www.tetratech.com

100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

HANOVER CROSSING

MARK	DATE	DESCRIPTION	BY
1	5-17-19	SPECIAL PERMIT FILING	

Client: HANOVER R.S. LIMITED PARTNERSHIP
Proj. Loc.: HANOVER CROSSING, HANOVER, MA

Site Development Plans
Hanover Crossing Residential Hanover, MA

Existing Conditions Plan

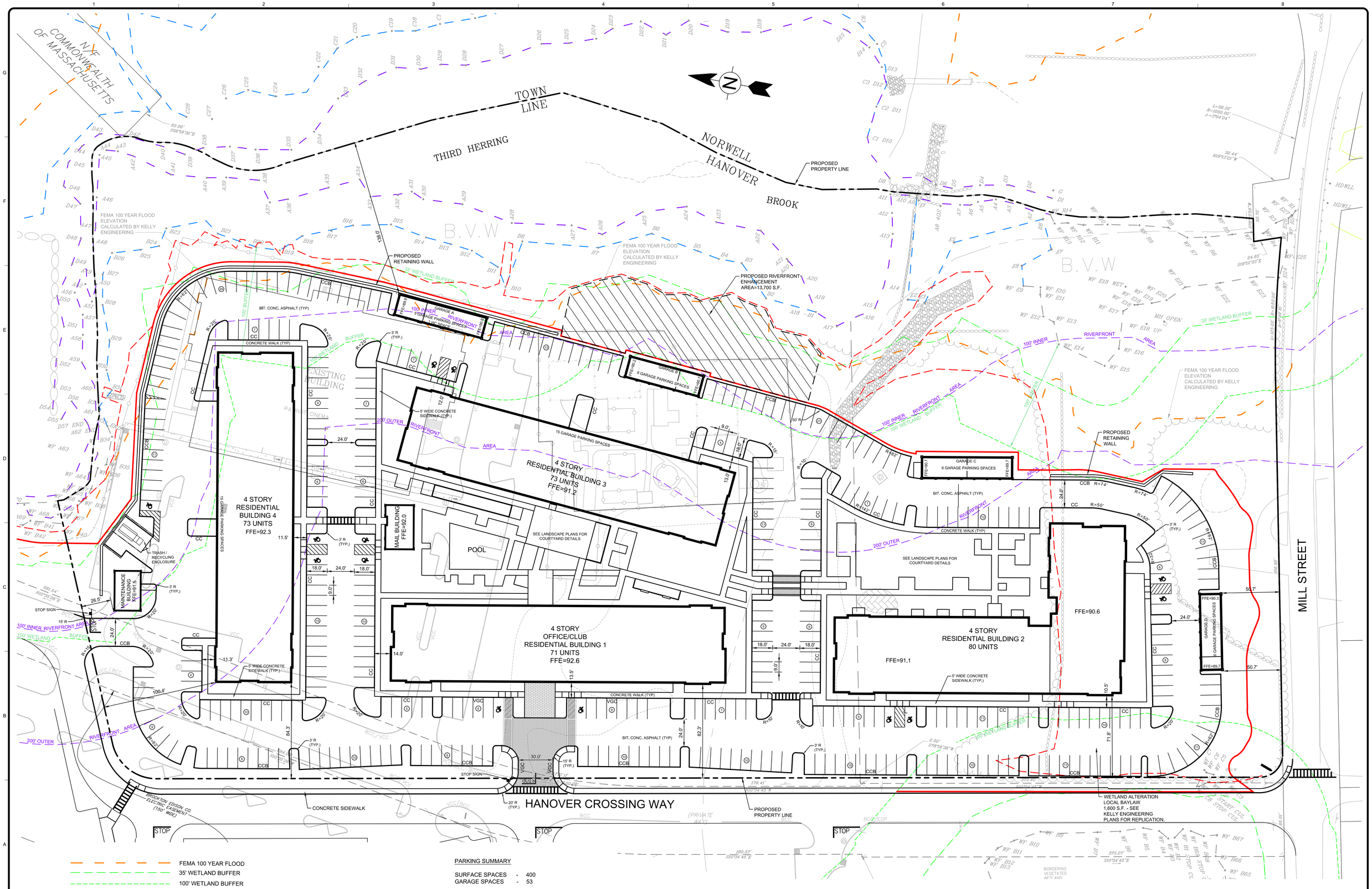
Project No.:	143-26700-18001
Designed By:	N.C.
Drawn By:	T.A.B.
Checked By:	N.C.

C-2

Bar Measures 1 inch

Copyright: Tetra Tech

5/23/2019 10:23:38 AM - P:\26700\143-26700-18001\CAD\SHEETFILES\C-2 EXISTING CONDITIONS PLAN.DWG - CHEAL, NATE



FEMA 100 YEAR FLOOD
35' WETLAND BUFFER
100' WETLAND BUFFER
RIVERFRONT AREA
APPROXIMATE LIMIT OF PREVIOUSLY DEVELOPED / DISTURBED AREA
APPROXIMATE LIMIT OF PROPOSED DEVELOPED / DISTURBED AREA

PARKING SUMMARY

SURFACE SPACES	-	400
GARAGE SPACES	-	53
TOTAL	-	453

ACCESSIBLE SPACES REQUIRED - 9
ACCESSIBLE SPACES PROVIDED - 13

0 15' 30' 60'
SCALE: 1" = 30'

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS NATHAN H. CHEAL No. 46053 CIVIL REGISTERED PROFESSIONAL ENGINEER 5/17/19

HANOVER CROSSING

MARK	DATE	DESCRIPTION	BY
1	5-17-19	SPECIAL PERMIT FILING	

Client: HANOVER R.S. LIMITED PARTNERSHIP
Proj. Loc.: HANOVER CROSSING, HANOVER, MA

Site Development Plans
Hanover Crossing Residential Hanover, MA

Layout Plan

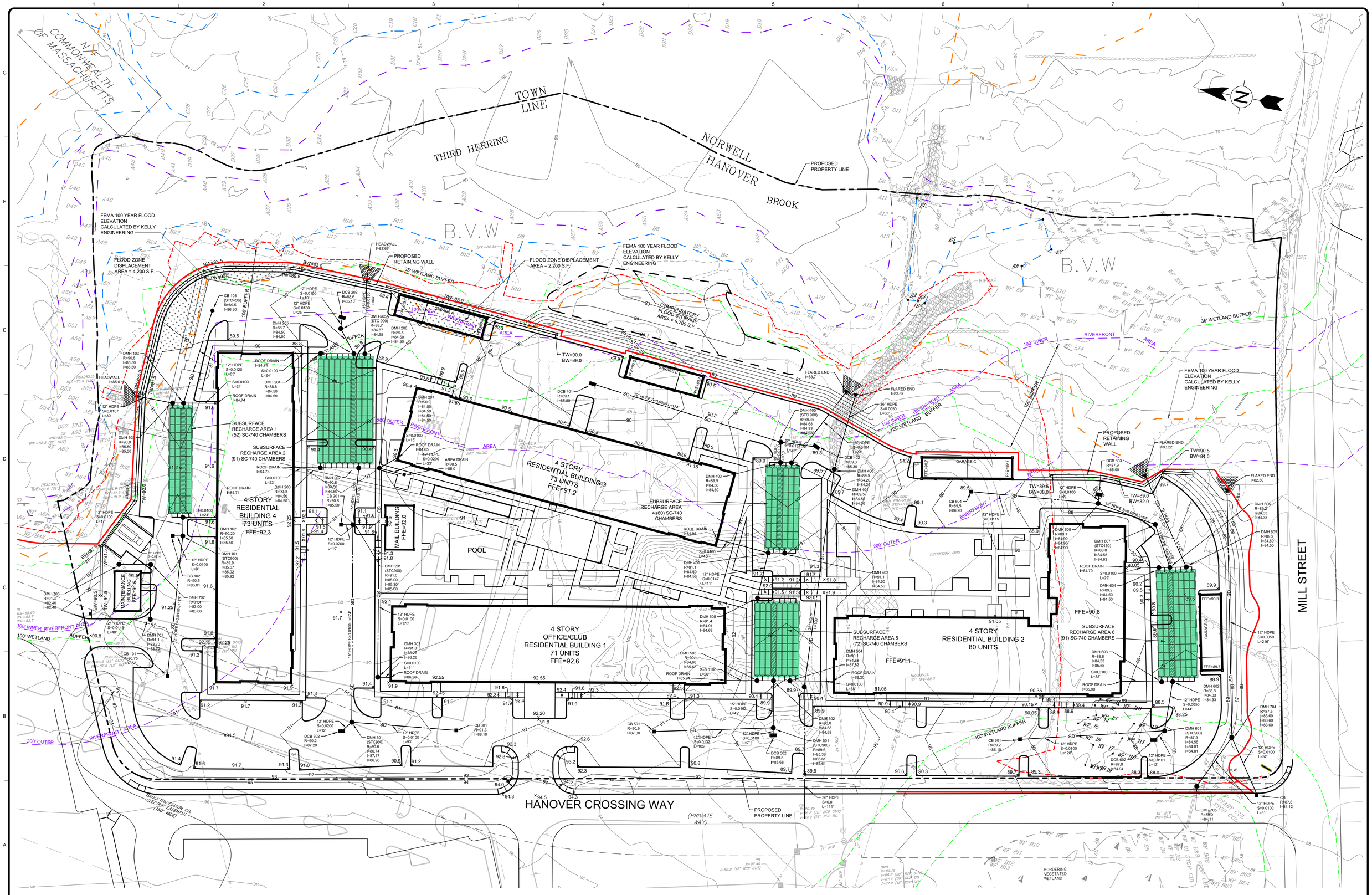
Project No.:	143-26700-18001
Designed By:	N.C.
Drawn By:	T.A.B.
Checked By:	N.C.

C-3

Copyright: Tetra Tech

Bar Measures 1 inch

5/23/2019 10:34:17 AM - P:\26700\143-26700-18001\CAD\SHEETFILES\C-3 LAYOUT PLAN.DWG - CHEAL, NATE



FEMA 100 YEAR FLOOD
35' WETLAND BUFFER
100' WETLAND BUFFER
RIVERFRONT AREA
APPROXIMATE LIMIT OF PREVIOUSLY DEVELOPED / DISTURBED AREA
APPROXIMATE LIMIT OF PROPOSED DEVELOPED / DISTURBED AREA

0 15' 30' 60'
SCALE: 1" = 30'

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
No. 44054
CIVIL
REGISTERED PROFESSIONAL ENGINEER
5/17/19

HANOVER CROSSING

MARK	DATE	DESCRIPTION	BY
1	5-17-19	SPECIAL PERMIT FILING	

Client: HANOVER R.S. LIMITED PARTNERSHIP
Proj. Loc.: HANOVER CROSSING, HANOVER, MA

Site Development Plans
Hanover Crossing Residential Hanover, MA

Grading and Drainage Plan

Project No.:	143-26700-18001
Designed By:	N.C.
Drawn By:	T.A.B.
Checked By:	N.C.

C-4

Copyright: Tetra Tech

Bar Measures 1 inch

5/23/2019 10:37:54 AM - P:\26700\143-26700-18001\CAD\SHEETFILES\C-4 GRADING AND DRAINAGE PLAN.DWG - CHEAL, NATE

N/F COMMONWEALTH OF MASSACHUSETTS

TOWN LINE

THIRD HERRING BROOK

NORWELL

HANOVER

PROPOSED PROPERTY LINE

FEMA 100 YEAR FLOOD ELEVATION CALCULATED BY KELLY ENGINEERING

B.V.W

PROPOSED RETAINING WALL

35' WETLAND BUFFER

100' BUFFER

100' INNER RIVERFRONT AREA

RIVERFRONT AREA

200' OUTER RIVERFRONT AREA

COMPENSATORY FLOOD STORAGE AREA = 9,700 S.F.

EXISTING BUILDING

MOVIE CINEMA

4 STORY RESIDENTIAL BUILDING 4 73 UNITS FFE=92.3

4 STORY RESIDENTIAL BUILDING 3 73 UNITS FFE=91.2

MAIL BUILDING FFE=92.0

POOL

4 STORY OFFICE/CLUB RESIDENTIAL BUILDING 1 71 UNITS FFE=92.6

4 STORY RESIDENTIAL BUILDING 2 80 UNITS

FFE=91.1

FFE=90.6

MAINTENANCE BUILDING FFE=91.5

GARAGE A FFE=90.5

GARAGE B FFE=90.3

GARAGE C FFE=90.1

GARAGE D FFE=90.3 FFE=89.7

SMH 1 R=90.20 I=87.72 I=87.82

SEWER I=87.87

8" PVC S=0.0100 L=15'

8" PVC S=0.0050 L=146'

SMH 2 R=91.70 I=86.89 I=86.99 I=86.99

SEWER I=87.14

8" PVC S=0.0100 L=15'

8" PVC S=0.0050 L=68'

SMH 3 R=91.40 I=86.45 I=86.55

SMH 3A R=90.40 I=86.02 I=86.12

8" PVC S=0.0050 L=18'

SEPTIC TANK 1 25,000 GAL. I=85.68 I=85.93 I=85.93

NEW GAS LINE TO CONNECT AT THIS LOCATION

EXISTING GAS LINE TO BE CAPPED AND REMOVED

CONNECT TO STUB FROM COMMERCIAL DEVELOPMENT

SMH 4 R=89.80 I=85.99 I=86.09

SEWER I=86.57

8" PVC S=0.0100 L=10'

SMH 5 R=92.45 I=86.37 I=86.47 I=86.47

8" PVC S=0.0050 L=12'

SMH 6 R=92.30 I=86.16 I=86.26

SEWER I=86.36

8" PVC S=0.0100 L=10'

SMH 9 R=91.50 I=85.21 I=85.31

8" PVC S=0.0050 L=154'

SMH R=90.50 I=86.60 I=86.70

SEWER I=86.80

8" PVC S=0.0100 L=10'

8" PVC S=0.0050 L=130'

SMH R=91.10 I=85.85 I=85.95 I=85.95

SEWER I=86.05

8" PVC S=0.0100 L=10'

8" PVC S=0.0050 L=108'

SMH R=92.00 I=84.30 I=84.40 I=84.40

NEW GAS LINE TO CONNECT AT THIS LOCATION

I=84.50

8" PVC S=0.0050 L=256'

PROPOSED PROPERTY LINE

SMH 10 R=90.00 I=84.34 I=84.34

8" PVC S=0.0050 L=110'

SEPTIC TANK 2 25,000 GAL. I=83.54 I=83.79 I=83.83

8" PVC S=0.0050 L=8'

8" PVC S=0.0050 L=72'

SMH 11 R=89.90 I=83.88 I=83.98

SEWER I=84.54

8" PVC S=0.0100 L=10'

8" PVC S=0.0050 L=112'

SMH 12 R=90.80 I=84.34 I=84.44 I=84.44

8" PVC S=0.0050 L=46'

SEWER I=85.20

8" PVC S=0.0100 L=10'

SMH 13 R=89.40 I=85.00 I=85.10

SMH R=89.90 I=83.20 I=83.40 I=83.31

EXISTING SEWER LINE TO BE REMOVED

NEW GAS LINE TO CONNECT AT THIS LOCATION

BORDERING VEGETATED WETLAND

MILL STREET

1.5' DIAMETER WELL TILE

MH OPEN

MH UP

FIRE SERVICE

DOMESTIC SERVICE

GAS SERVICE

E/T/D SERVICE

E/T/D

FIRE HYDRANT (TYP)

NEW UTILITY POLE

BROCKTON EDISON CO. ELECTRIC EASEMENT (150' WIDE)

HANOVER CROSSING WAY

FEMA 100 YEAR FLOOD

35' WETLAND BUFFER

100' WETLAND BUFFER

RIVERFRONT AREA

NOTE:
TRANSFORMER LOCATIONS SUBJECT TO ELECTRIC COMPANY DESIGN AND APPROVAL

EXISTING UTILITY LEGEND

- STORM DRAIN
- OVER HEAD ELECTRIC
- GAS SERVICE
- WATER SERVICE
- SEWER SERVICE

PROPOSED UTILITY LEGEND

- ELECTRIC / TEL. DATA SERVICE
- GAS SERVICE
- WATER SERVICE
- SEWER SERVICE

SCALE: 1" = 30'

Bar Measures 1 inch

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

NATHAN H. CHEAL — COMMONWEALTH OF MASSACHUSETTS — 52400 — REGISTERED PROFESSIONAL ENGINEER — 5/17/19

HANOVER CROSSING

MARK	DATE	DESCRIPTION	BY
1	5-17-19	SPECIAL PERMIT FILING	

Client: HANOVER R.S. LIMITED PARTNERSHIP
Proj. Loc.: HANOVER CROSSING, HANOVER, MA

Site Development Plans
Hanover Crossing Residential Hanover, MA

Utility Plan

Project No.:	143-26700-18001
Designed By:	N.C.
Drawn By:	T.A.B.
Checked By:	N.C.

C-5

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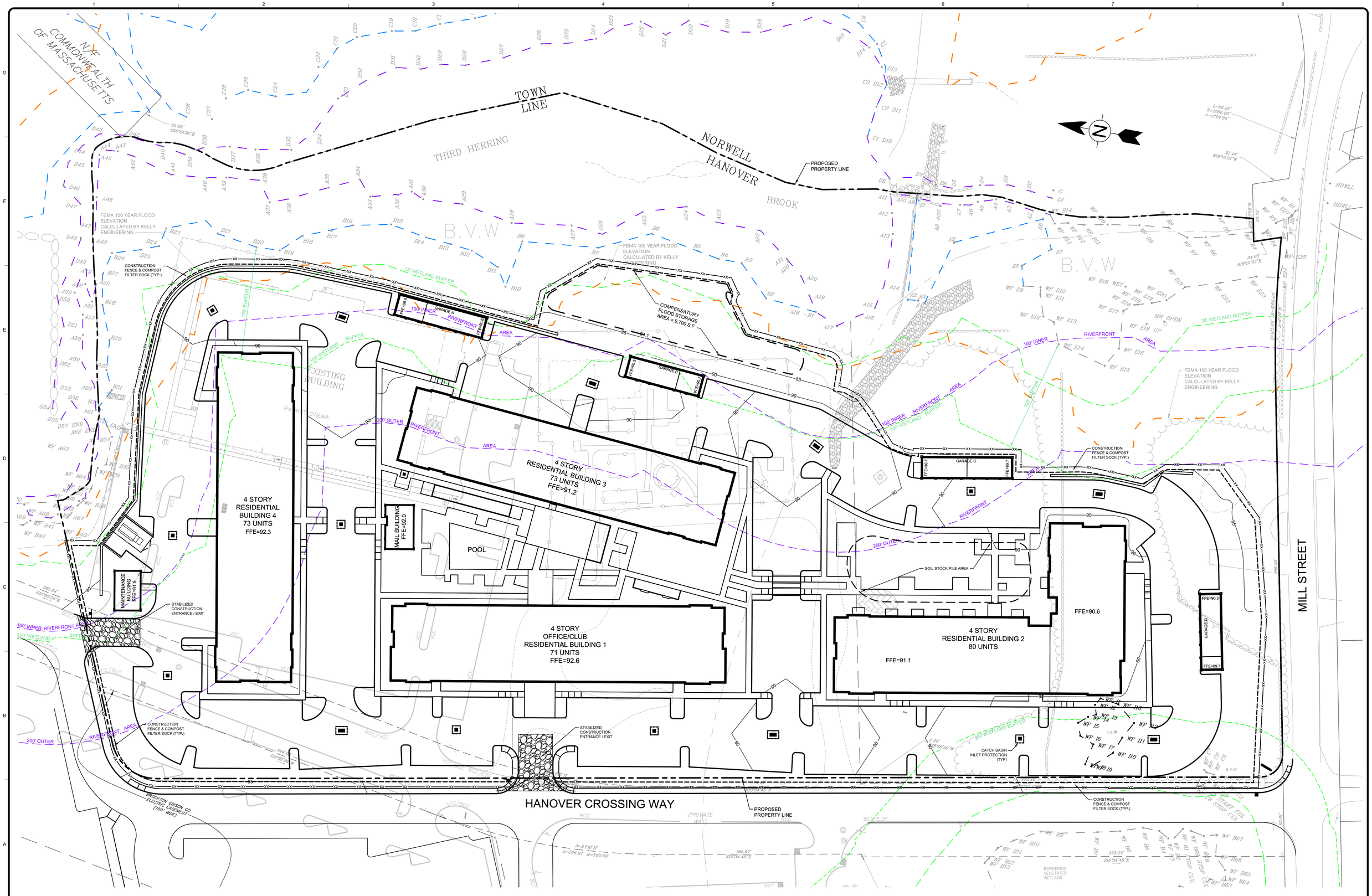
5/23/2019 10:40:56 AM - P:\26700\143-26700-18001\CAD\SHEETFILES\C-5 UTILITY PLAN.DWG - CHEAL, NATE



FEMA 100 YEAR FLOOD
35' WETLAND BUFFER
100' WETLAND BUFFER
RIVERFRONT AREA
COMPOST FILER SOCK
CONSTRUCTION FENCE

0 15' 30' 60'
SCALE: 1" = 30'

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS NATHAN H. CHEAL No. 46063 CIVIL REGISTERED PROFESSIONAL ENGINEER
5/17/19

HANOVER CROSSING

MARK	DATE	DESCRIPTION	BY
1	5-17-19	SPECIAL PERMIT FILING	

Client: HANOVER R.S. LIMITED PARTNERSHIP
Proj. Loc.: HANOVER CROSSING, HANOVER, MA

Site Development Plans
Hanover Crossing Residential Hanover, MA

Erosion & Sediment Control Plan

Project No.:	143-26700-18001
Designed By:	N.C.
Drawn By:	T.A.B.
Checked By:	N.C.

C-6

Copyright: Tetra Tech

Bar Measures 1 inch

5/23/2019 10:48:59 AM - P:\26700\143-26700-18001\CAD\SHEETFILES\C-6 EROSION & SEDIMENT CONTROL PLAN.DWG - CHEAL, NATE

GENERAL CONSTRUCTION NOTES

1) THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED ON THE DRAWINGS AND EACH DRAWING HAS BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION."

2) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN RULES AND REGULATIONS UNLESS OTHERWISE NOTED.

3) VERTICAL CONTROL IS BASED ON NAVD88.

4) ALL UTILITY PROVIDERS MUST BE NOTIFIED BY THE CONTRACTOR AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.

5) WHILE WORKING IN THE VICINITY OF AN EXISTING UTILITY, REFER TO THE FOLLOWING: ALL UNDERGROUND UTILITIES SHOWN WERE COMPILED ACCORDING TO AVAILABLE RECORD PLANS FROM THE VARIOUS UTILITY COMPANIES AND PUBLIC AGENCIES AND ARE APPROXIMATE ONLY. SEE CHAPTER 370, ACTS OF 1963, MASSACHUSETTS GENERAL LAWS. WE ASSUME NO RESPONSIBILITY FOR DAMAGES INCURRED AS A RESULT OF UTILITIES OMITTED OR INACCURATELY SHOWN. BEFORE PLANNING FUTURE CONNECTIONS, THE APPROPRIATE PUBLIC ENGINEERING DEPARTMENT SHALL BE CONTACTED AND THE PROPOSED UTILITY WORK SHALL BE COORDINATED. DIG SAFE NUMBER; 1-888-344-7233.

6) THE CONTRACTOR SHALL GIVE TIMELY NOTICE TO PERTINENT TOWN DEPARTMENTS BEFORE COMMENCING ANY WORK.

7) ALL AREAS DISTURBED BY THE CONTRACTOR SHALL BE RESTORED TO EQUAL OR BETTER CONDITION.

8) ALL FINISHED SURFACES SHALL BE GRADED SMOOTHLY AND EVENLY.

9) AT THE COMPLETION OF THE CONTRACTOR'S OPERATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING ALL ON SITE DRAINAGE STRUCTURES (NEW AND/OR EXISTING) OF DEBRIS.

10) DO NOT SCALE PLANS. DUE TO REPROGRAPHIC STRETCH, PRINTS MAY NOT SCALE ACCURATELY. NUMERIC DIMENSIONING IS CORRECT. CONTACT DESIGN ENGINEER TO CLARIFY.

11) FILL CONTAINING HAZARDOUS MATERIALS SHALL NOT BE USED.

12) LIMITS OF WORK SHALL BE MARKED IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

13) ALL CONSTRUCTION WHICH INCLUDES HAULING OF EARTH TO OR FROM THE SITE SHALL BE RESTRICTED BETWEEN THE HOURS OF 7:00 AM AND 6:00 PM ON WEEKDAYS.

14) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE RECORDS OF LOCATION AND ELEVATION OF ALL WORK INSTALLED.

15) IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN THE ELECTRONIC FILE FROM TETRA TECH FOR PROPER COORDINATION OF SURVEY LAYOUT.

16) PRESERVATION OF ON SITE VEGETATION SHALL BE REVIEWED AND APPROVED BY OWNERS REPRESENTATIVE PRIOR TO THE START OF CONSTRUCTION.

DRAINAGE

1) PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM DESIGNATION C478. CONCRETE REQUIREMENTS SHALL BE 4000 PSI.

2) STANDARD CATCHBASIN SHALL CONSIST OF PRECAST REINFORCED RISER SECTIONS, CONE SECTION, AND A BASE SECTION CONFORMING TO THE TYPICAL CATCHBASIN DETAIL. ALL CATCHBASINS SHALL HAVE A MINIMUM 4-FOOT SUMP.

3) INSTALL STEPS IN ACCORDANCE WITH ASTM C-478, 12" O.C. IN ALL CATCHBASINS AND DRAIN MANHOLES DEEPER THAN 4 FEET.

4) MANHOLE AND PIPE JOINT/CONNECTION SHALL BE NON-SHRINK GROUT OR APPROVED EQUAL.

5) PIPE MATERIAL SHALL BE SMOOTH WALL HIGH DENSITY POLYETHYLENE PIPE AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC, OR APPROVED EQUAL.

6) INSTALLATION AND MATERIALS FOR ALL PIPES WITHIN 10-FEET OF A BUILDING ARE SUBJECT TO CONFORMANCE WITH 248 CMR (MASSACHUSETTS STATE PLUMBING CODE.)

WATER

1) DUCTILE IRON PIPE SHALL BE CEMENT LINED, COAL TAR ENAMEL, DOUBLE COATED, PUSH-ON TYPE JOINT, AND SHALL CONFORM TO A21.51 (AWWA C151) CLASS 52 FOR SIZES 4 INCH THROUGH 12 INCH.

2) DUCTILE IRON FITTINGS SHALL CONFORM TO ANSI/AWWA C153/A21.53-84 (DUCTILE IRON COMPACT FITTINGS) PRESSURE RATING 350 PSI.

3) GATE VALVES AND TAPPING SLEEVE VALVES SHALL BE RESILIENT SEATED VALVES CONFORMING TO THE REQUIREMENTS OF AWWA STANDARD C509. THE VALVE SHALL OPEN LEFT AND BE PRESSURE RATED FOR 250 PSI WORKING PRESSURE.

4) VALVE BOXES SHALL BE THE 2 PIECE SLIP TYPE, 5 1/4 INCH I.D., FLANGE LOCATED AT THE TOP OF THE BOX, COVER MARKED "WATER" EQUAL TO TYPE CURRENTLY BEING USED BY THE TOWN.

5) WATER PRESSURE REQUIREMENTS AND THE ACTUAL WATER PRESSURE TO BE PROVIDED AT THE BUILDING SHALL BE DETERMINED BY OTHERS.

6) WATER LINES MUST BE A MINIMUM OF (18) INCHES ABOVE SEWER LINES. IN ADDITION, ONE FULL LENGTH OF WATER MAIN MUST BE CENTERED ON ONE FULL LENGTH OF SEWER LINE SO THAT ALL JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE.

7) WATER SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, PHS (PUBLIC HEALTH SERVICE) MANUAL OF INDIVIDUAL WATER SYSTEMS, PHS PUBLICATION NO. 24, REVISED 1962, WASHINGTON, GPO (GOVERNMENT PRINTING OFFICE), 1963 AND ANY APPLICABLE CURRENT STATE AND FEDERAL REGULATIONS.

8) CHLORINATION SHALL BE IN ACCORDANCE WITH THE AWWA STANDARD C601 DISINFECTING WATER MAINS.

9) ALL PIPELINES SHALL BE GIVEN COMBINED PRESSURE AND LEAKAGE TESTS AT THE DIRECTION OF THE TOWN WATER DEPARTMENT. HYDROSTATIC AND LEAKAGE TEST SHALL BE MADE IN ACCORDANCE WITH AWWA STANDARD C600 SECTION 4. HYDROSTATIC TESTS SHALL BE MADE AT 1.5 TIMES THE WORKING PRESSURE, BUT NOT LESS THAN 150 PSI FOR A PERIOD OF NOT LESS THAN 2 HOURS IN ACCORDANCE WITH THE ABOVE AWWA STANDARD.

10) INSTALLATION OF WATER UTILITIES TO BE IN CONFORMANCE WITH THE WATER DISTRICT STANDARDS.

11) WHENEVER POSSIBLE WATER MAINS CROSSING SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER.

12) SHOULD LOCAL CONDITIONS PREVENT AN 18" SEPARATION, BOTH THE WATER MAIN AND THE SEWER SHALL BE ENCASED IN CONCRETE ON EITHER SIDE OF THE CROSSING (SEE DETAIL).

ELECTRIC

1) SPECIFICATIONS: ALL WORK SHALL BE IN ACCORDANCE WITH THE ELECTRIC COMPANY'S STANDARDS. THE NATIONAL ELECTRICAL SAFETY CODE, AND STATE AND LOCAL CODE REQUIREMENTS.

2) APPROVAL: CONTRACTOR SHALL OBTAIN APPROVAL OF PLAN BY THE WIRE INSPECTOR AND THE ELECTRIC COMPANY. PLANS SHALL SHOW THE LOCATION OF CONDUITS AND THEIR TYPE, SIZE, AND NUMBER.

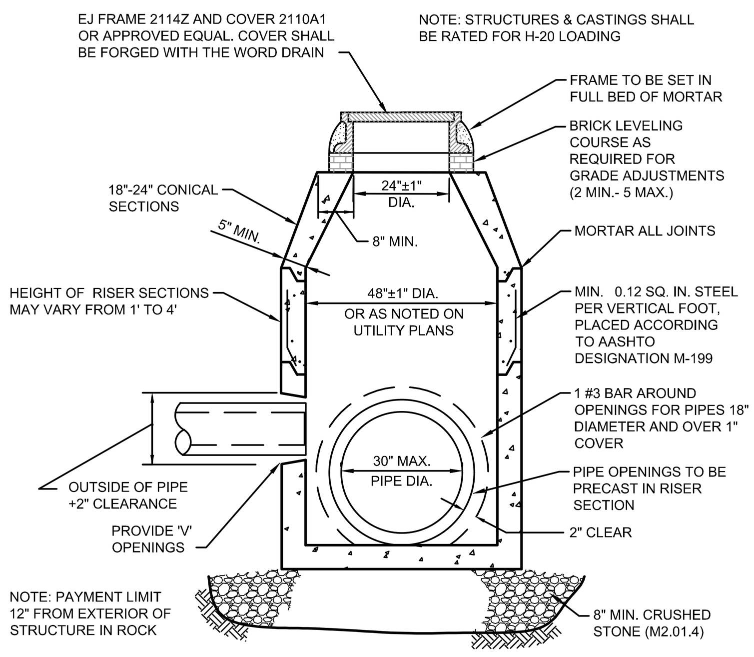
3) PROVIDE ALL EXCAVATION AND BACK FILLING WORK REQUIRED FOR THE INSTALLATION OF ALL ELECTRIC FACILITIES. THIS SHALL INCLUDE EXCAVATING FOR CONDUITS, MANHOLES, AND/OR JUNCTION ENCLOSURES, AND PADS.

4) INSTALL ALL GROUNDING MATERIALS (IE. WIRE, GROUND, RODS, CONNECTORS, ETC.) AS SPECIFIED BY ELECTRIC COMPANY.

PRIVATE UTILITY NOTES

1) THIS PLAN HAS BEEN PREPARED AS A SCHEMATIC REPRESENTATION OF THE PROPOSED ELECTRIC, TELEPHONE, FIRE ALARM, AND NATURAL GAS SYSTEMS. IT IS NOT THE INTENTION OF THIS DRAWING THAT EVERY DETAIL, DEVICE, ITEM OR PIECE OF EQUIPMENT BE SHOWN. FINAL DESIGN AND APPROVAL MUST BE OBTAINED FROM THE RESPECTIVE UTILITY COMPANIES FOR LOCATION OF TRANSFORMERS, CONDUITS, AND CONNECTIONS TO BUILDINGS.

2) ELECTRIC, TELEPHONE, AND GAS UTILITY SIZES, AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWN OF NANTUCKET AND REVIEWED AND APPROVED BY THE APPROPRIATE UTILITY COMPANIES.

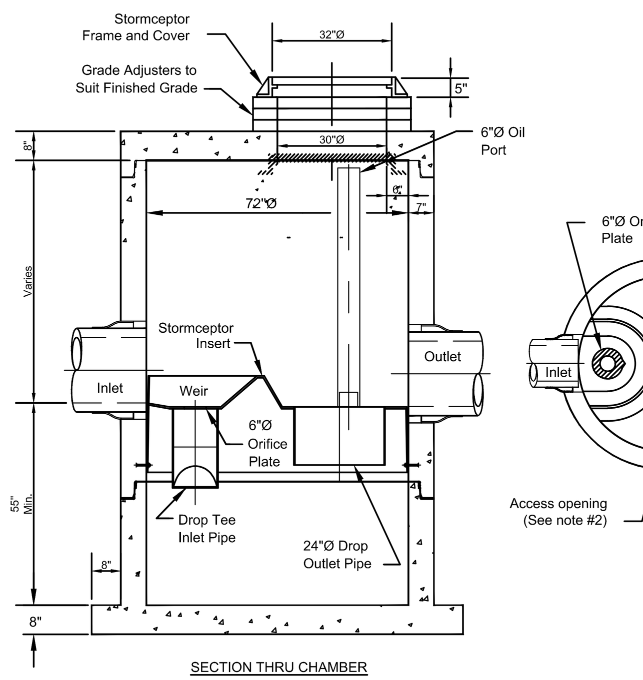


NOTES:
1. MANHOLE DIAMETER TO BE INCREASED AS REQUIRED TO ACCOMMODATE NUMBER OF PIPES ENTERING OR DISCHARGING FROM MANHOLE.
2. STRUCTURE OPENING VOIDS, AFTER PIPE INSTALLATION, SHALL BE FILLED WITH NON-SHRINK WATERPROOF GROUT. GROUT TO BE COMPLETELY AROUND THE PIPE. GROUT SHALL BE SMOOTH AND PARALLEL TO INTERIOR AND EXTERIOR WALLS.

NOTES:
1. CONCRETE = 4000 PSI MINIMUM, CEMENT PER ASTM C-478
2. MANHOLE TO CONFORM TO LATEST ASTM C-478 SPECIFICATIONS FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS"
3. STEEL REINFORCEMENT TO MEET OR EXCEED H20 LOADING.
4. MANHOLE STEPS - POLYPROPYLENE COATED GRADE 60 REINFORCING BAR, PER ASTM C-478 & OSHA (STD 1-1.9)

PRECAST CONCRETE DRAIN MANHOLE

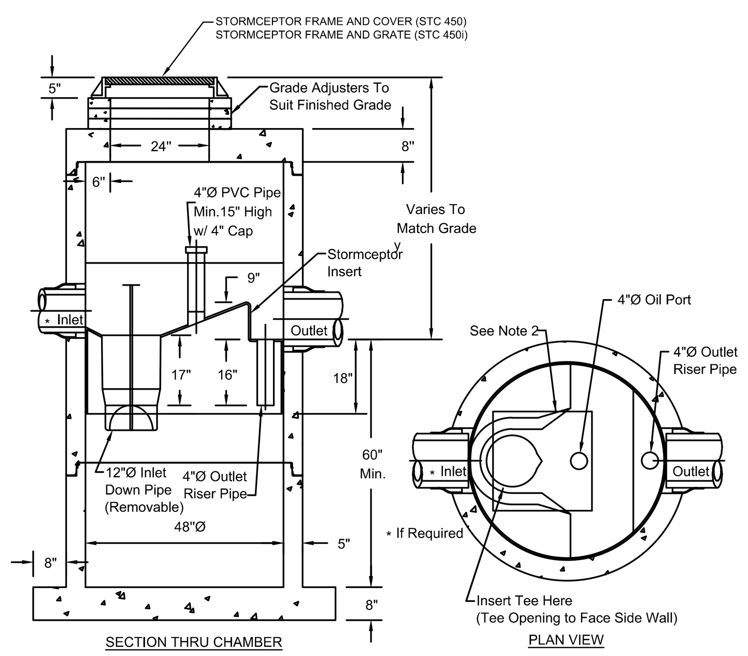
9 FEET OR LESS IN DEPTH
NOT TO SCALE



NOTES:
1. THE USE OF FLEXIBLE CONNECTION IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. THE COVER SHOULD BE POSITIONED OVER THE OUTLET DROP PIPE AND THE OIL PORT.
3. THE STORMCEPTOR SYSTEM IS PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
4. CONTACT A CONCRETE PIPE DIVISION REPRESENTATIVE FOR FURTHER DETAILS NOT LISTED ON THIS DRAWING.
5. FOR USE WITH STC-6.2.

STC 900 PRECAST CONCRETE STORMCEPTOR

(900 US Gallon Capacity)
NOT TO SCALE



NOTES:
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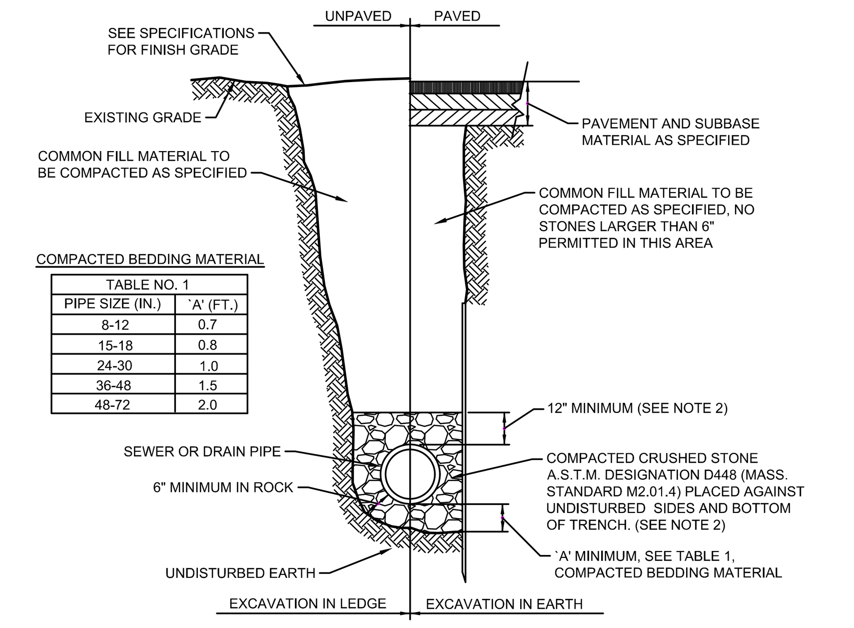
4. CONTACT A CONCRETE PIPE DIVISION REPRESENTATIVE FOR FURTHER DETAILS NOT LISTED ON THIS DRAWING.

STC 450/450i PRECAST CONCRETE STORMCEPTOR

(450 US GALLON CAPACITY)
NOT TO SCALE



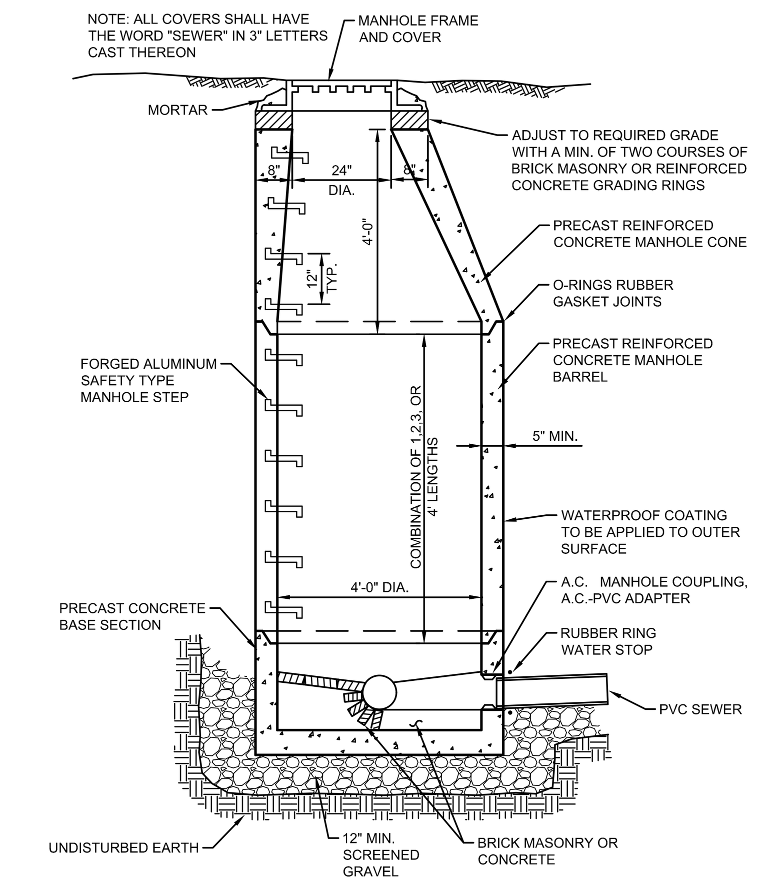
COMPACTED BEDDING MATERIAL

TABLE NO. 1	
PIPE SIZE (IN.)	`A' (FT.)
8-12	0.7
15-18	0.8
24-30	1.0
36-48	1.5
48-72	2.0

NOTES:
1. SHEETING, WHEN REQUIRED, TO BE CUT OFF AT LEAST 5 FEET BELOW STREET AND A MINIMUM OF 1 FOOT ABOVE TOP OF PIPE. WOOD SHEETING DRIVEN BELOW MID-DIAMETER OF THE PIPE SHALL BE LEFT IN PLACE. STEEL SHEETING DRIVEN BELOW MID-DIAMETER MAY BE WITHDRAWN IF APPROVED IN WRITING BY THE ENGINEER. FOR PVC PIPE ALL SHEETING DRIVEN BELOW MID-DIAMETER SHALL BE LEFT IN PLACE.
2. WHEN APPROVED BY THE ENGINEER FOR PIPES OTHER THAN PVC SELECTED GRAVEL FILL MATERIAL MAY BE USED FROM MID-DIAMETER OF PIPE TO 12" ABOVE TOP OF PIPE. NO STONES LARGER THAN 2 INCHES IN ANY DIMENSION WILL BE PERMITTED IN THIS AREA - MASSACHUSETTS STATE MATERIAL STANDARD M1.03.0 TYPE C.
3. TRENCHES LOCATED ON THE ROAD SHOULDER SHALL BE TREATED THE SAME EXCEPT FOR PAVING.
4. PROVIDE AT LEAST ONE IMPERVIOUS DAM IN GRAVEL BEDDING BETWEEN EACH MANHOLE WHERE DIRECTED, OR EVERY 300 FEET, WHICHEVER IS LESS.
5. BEDDING MATERIAL FOR PVC PIPE SHALL MEET THE REQUIREMENTS OF ASTM D2321 CLASS I OR CLASS II EMBEDMENT MATERIALS.

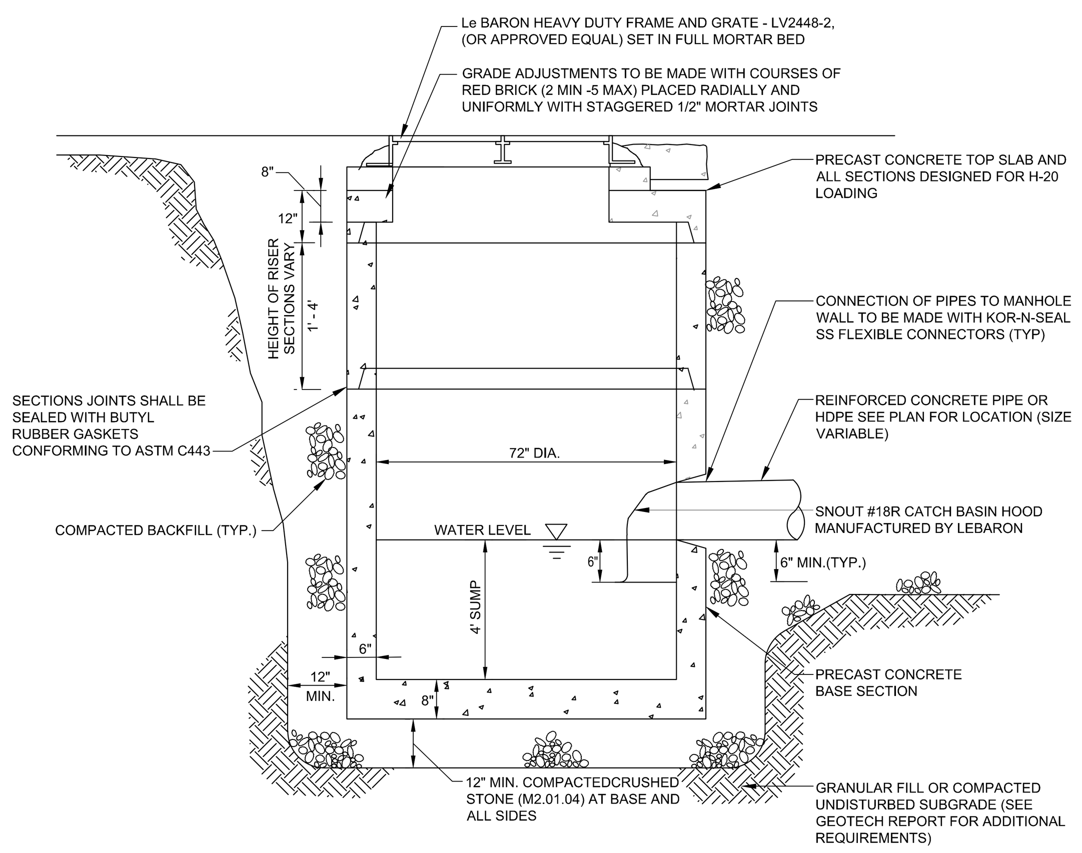
SEWER AND DRAIN TRENCH (PVC OR RCP)

NOT TO SCALE



SEWER MANHOLE

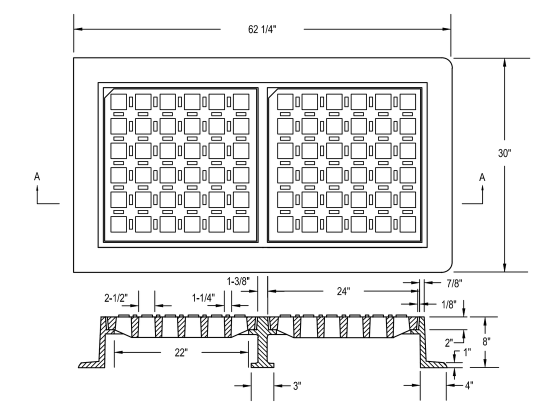
NOT TO SCALE



NOTES:
1. CATCH BASIN SHALL BE PRECAST CEMENT CONCRETE MANUFACTURED IN ACCORDANCE WITH ASTM C-478 DESIGNED FOR H-20 LOADING.
2. DRAIN PIPE FOR LATERAL CONNECTIONS SHALL BE INSTALLED AND TEMPORARILY PLUGGED AS REQUIRED OR DIRECTED.
3. SEE GENERAL PLANS FOR PIPE SIZE, LINE AND GRADE.
4. INSTALL FRAME & GRATE WITH 24" SIDE ALONG CURB INLET.

PRECAST CONCRETE 72" DIAMETER DOUBLE CATCH BASIN DETAIL (DCB)

N.T.S.

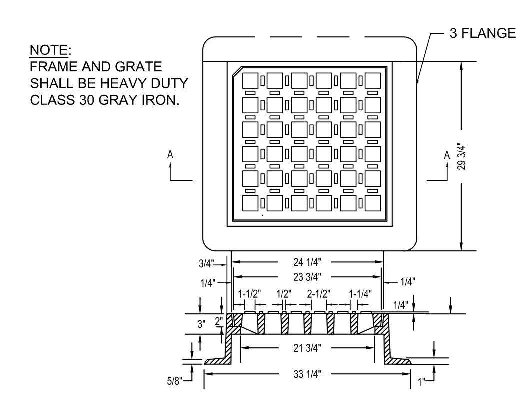


NOTE: FRAME AND GRATE SHALL BE HEAVY DUTY CLASS 30 GRAY IRON.

DOUBLE CATCH BASIN FRAME AND GRATE

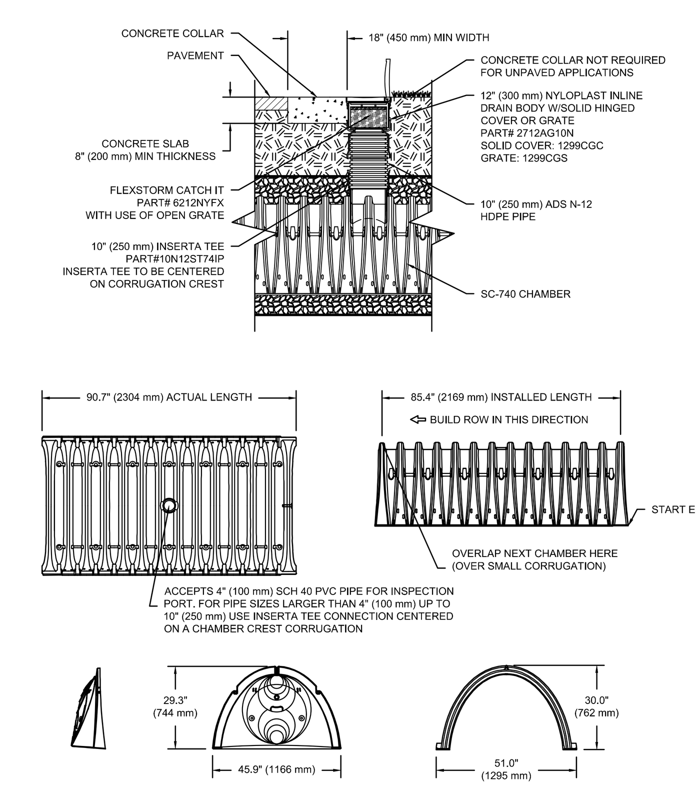
N.T.S.

NOTE:
FRAME AND GRATE SHALL BE HEAVY DUTY CLASS 30 GRAY IRON.



CATCH BASIN FRAME AND GRATE DETAIL

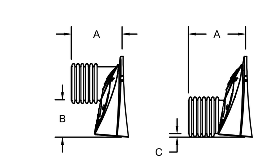
N.T.S.



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

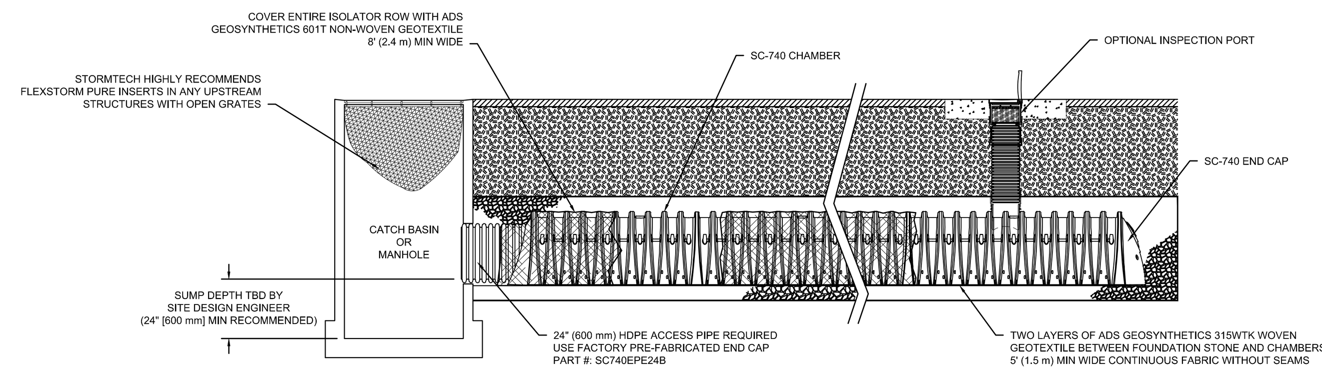
ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

SC-740 TECHNICAL DETAIL

NOT TO SCALE



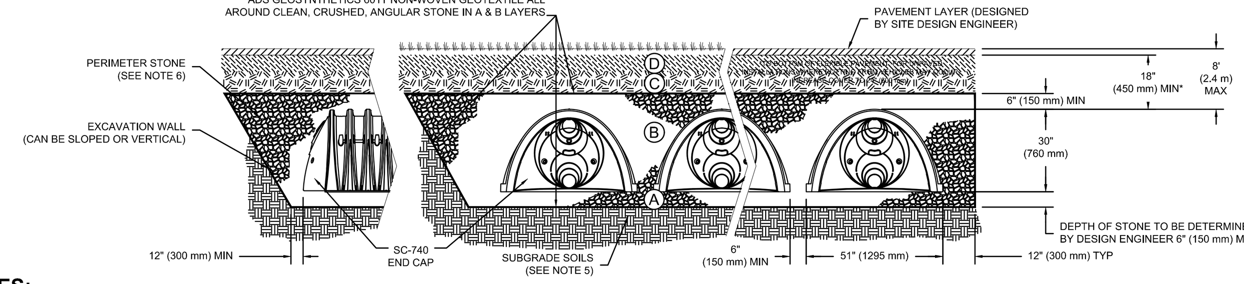
SC-740 ISOLATOR ROW DETAIL

NOT TO SCALE

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145¹ A-1, A-2-4, A-3 OR AASHTO M43¹ 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43¹ 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43¹ 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ² ³

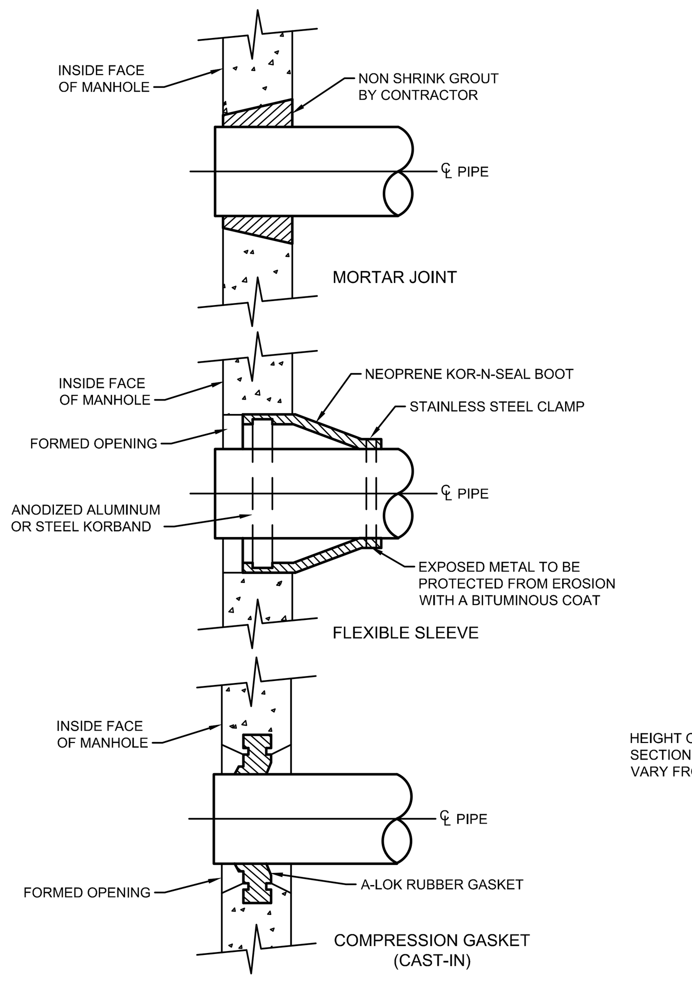
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:
1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
6. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
7. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

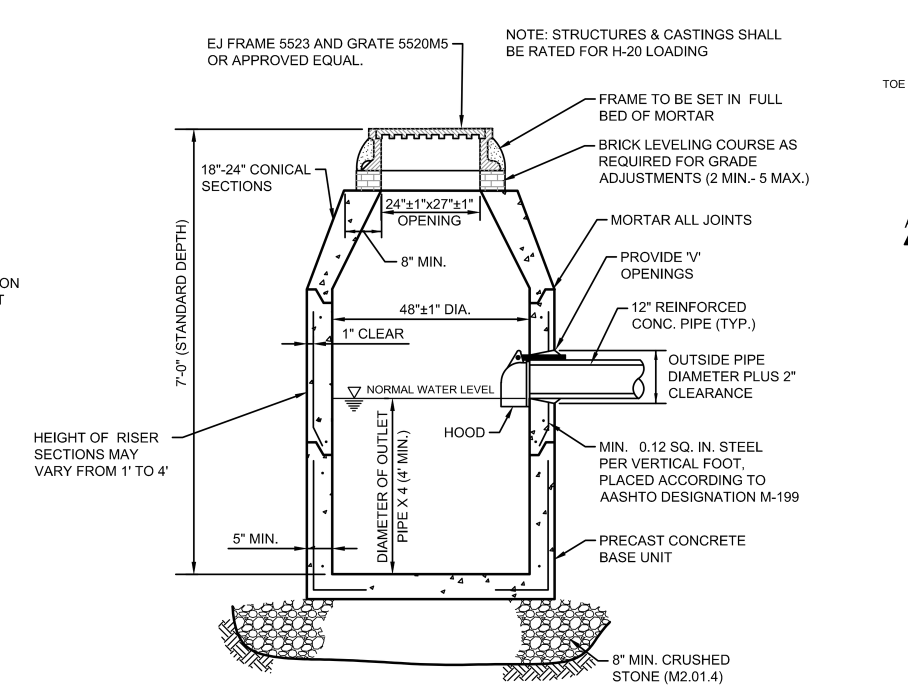
SC-740 TYPICAL CROSS SECTION (IFB-2 & IFB-3)

NOT TO SCALE



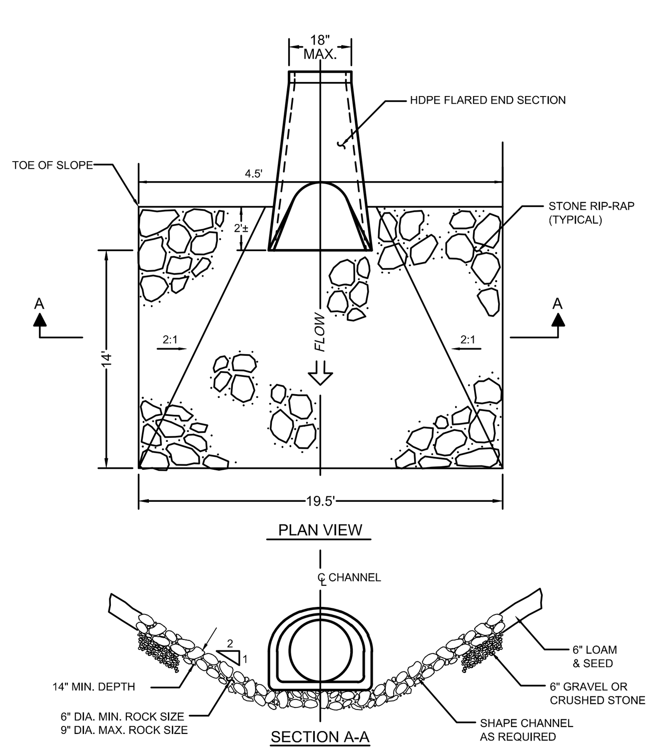
PIPE TO MANHOLE CONNECTIONS

NOT TO SCALE



PRECAST CONCRETE CATCH BASIN

NOT TO SCALE



OUTLET EROSION PROTECTION

NOT TO SCALE

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS NATHAN H. CHEAL CIVIL NO. 46052 REGISTERED PROFESSIONAL ENGINEER 5/17/19

HANOVER CROSSING

MARK	DATE	DESCRIPTION	BY
1	5-17-19	SPECIAL PERMIT FILING	

Client: HANOVER R.S. LIMITED PARTNERSHIP
Proj. Loc.: HANOVER CROSSING, HANOVER, MA

Site Development Plans
Hanover Crossing Residential Hanover, MA

Detail Sheet

Project No.:	143-26700-18001
Designed By:	N.C.
Drawn By:	T.A.B.
Checked By:	N.C.

C-7

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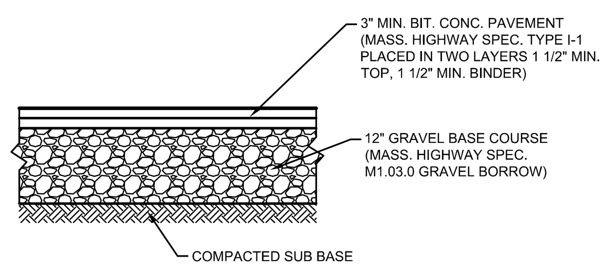
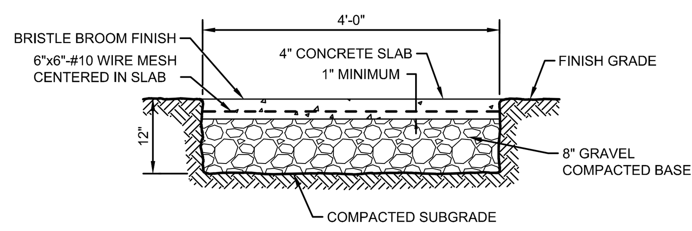
Bar Measures 1 inch

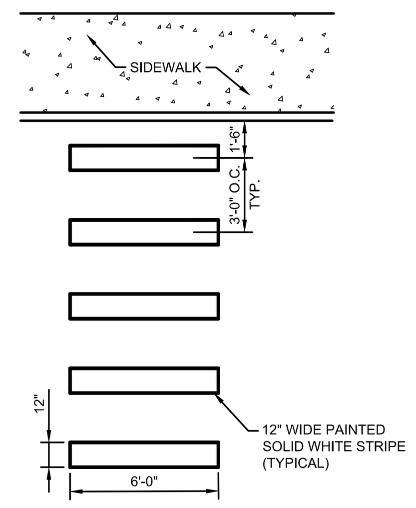


PAVEMENT SECTION
NOT TO SCALE

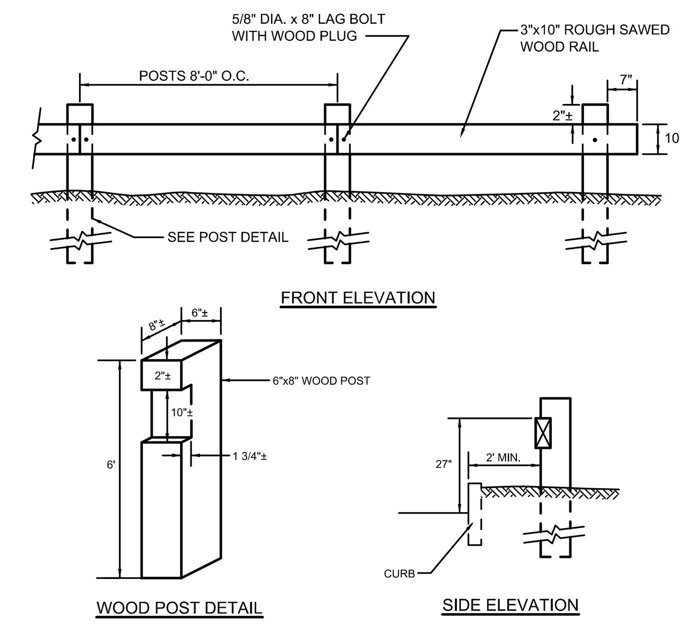
NOTE:
IN AREAS THAT SIDEWALK ABUTS ROAD OR PARKING LOT CURBING SIDEWALK CROSS SLOPE TO BE DIRECTED TO CURB LINE. 1.5% MAXIMUM UNLESS SHOWN OTHERWISE.



CEMENT CONCRETE WALK
NOT TO SCALE

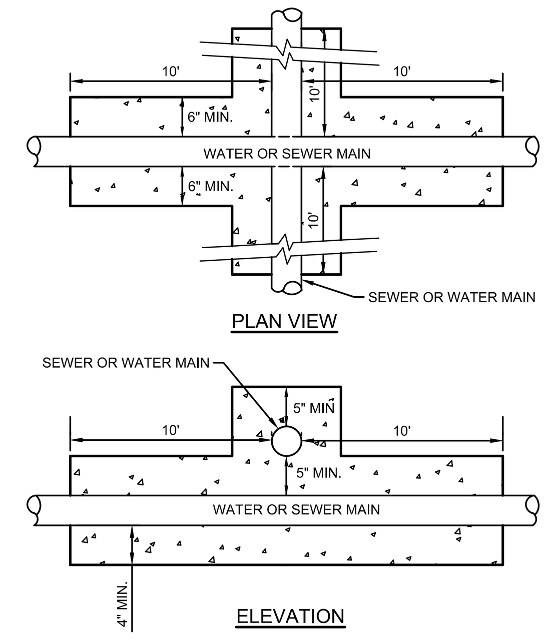


PAINTED CROSSWALK
NOT TO SCALE



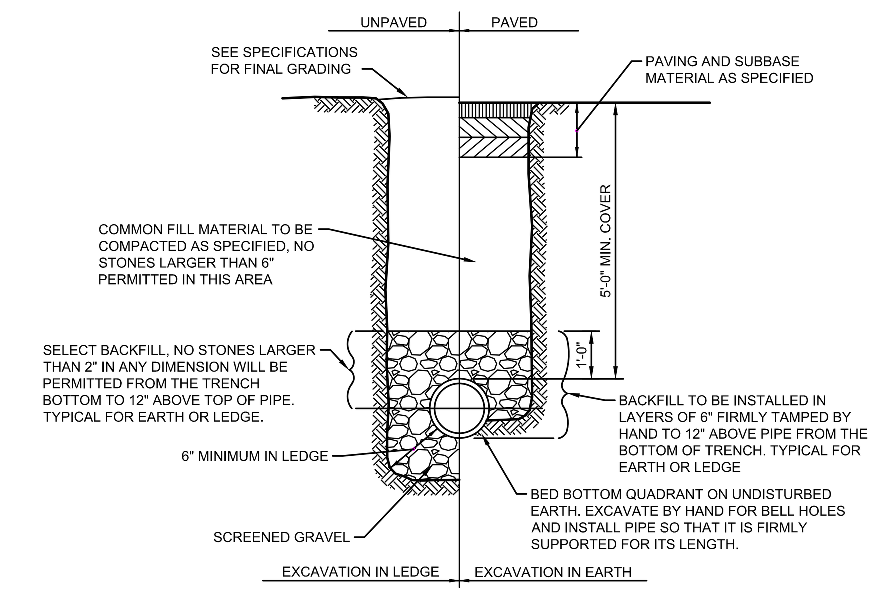
NOTES:
1. ALL TIMBER TO BE PRESSURE TREATED.
2. POSTS TO BE SPACED CLOSER THAN 8'-0" ON CENTER AS REQUIRED TO MAINTAIN LOCATION OF GUARD RAIL ALONG EDGE OF DRIVE

WOOD GUARD RAIL
NOT TO SCALE

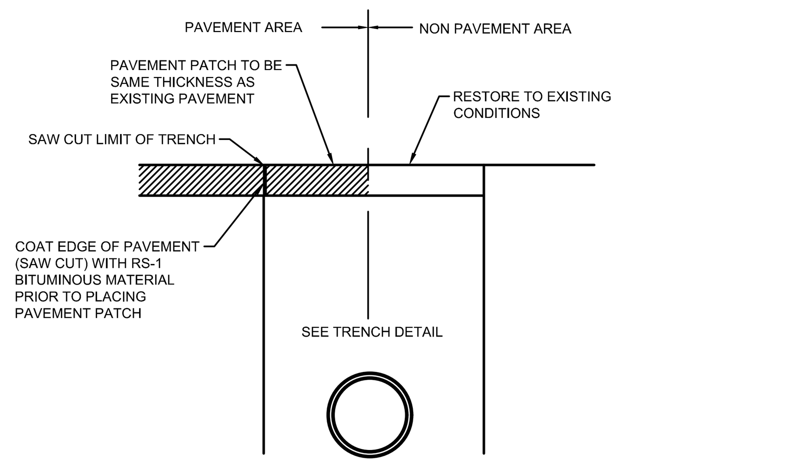


NOTES:
1. WHENEVER POSSIBLE WATER MAINS CROSSING SEWERS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18" BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF THE SEWER.
2. SHOULD LOCAL CONDITIONS PREVENT AN 18" SEPARATION, BOTH THE WATER MAIN AND THE SEWER SHALL BE ENCASED IN CONCRETE ON EITHER SIDE OF THE CROSSING (SEE DETAIL).
3. WHEREVER THE WATER MAIN SHALL BE LAID ABOVE THE SEWER.

CONCRETE ENCASED SEWER AND WATER MAIN CROSSING
NOT TO SCALE

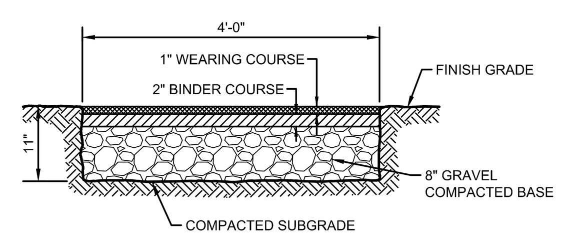


CEMENT LINED DUCTILE IRON (CLDI) PIPE TRENCH
NOT TO SCALE

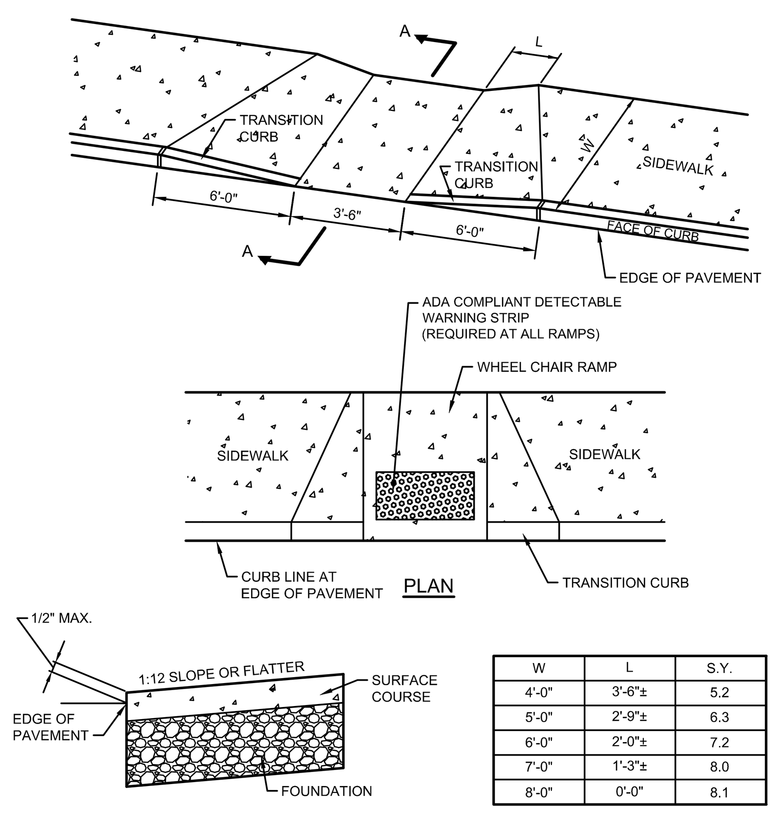


PAVEMENT PATCH
NOT TO SCALE

NOTE:
IN AREAS THAT SIDEWALK ABUTS ROAD OR PARKING LOT CURBING SIDEWALK CROSS SLOPE TO BE DIRECTED TO CURB LINE. 1.5% MAXIMUM UNLESS SHOWN OTHERWISE.

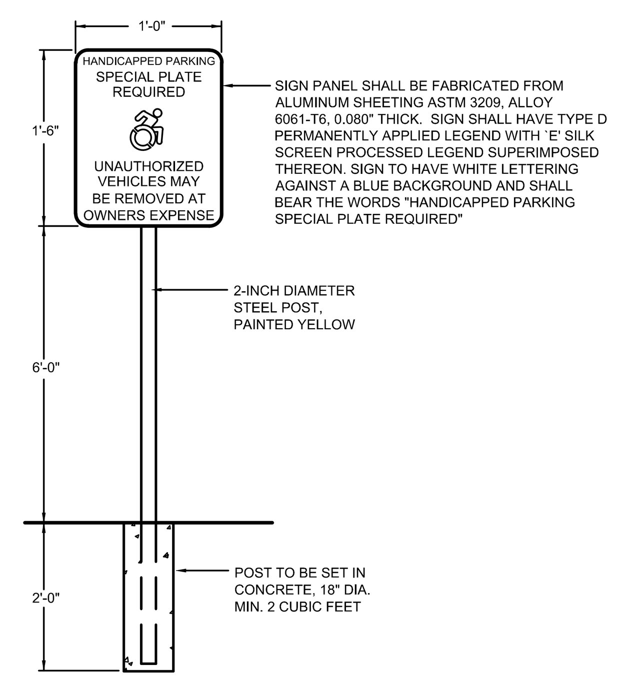


BITUMINOUS CONCRETE WALK
NOT TO SCALE

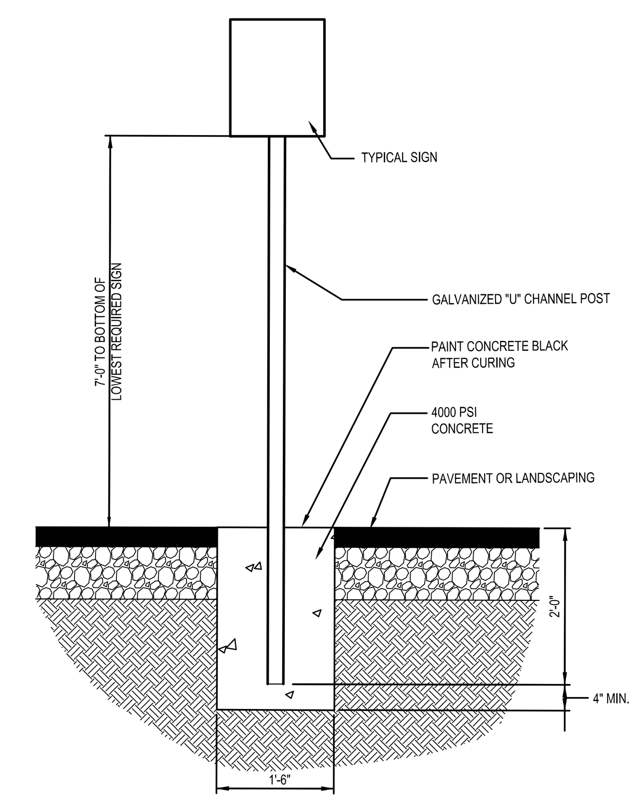


W	L	S.Y.
4'-0"	3'-6"±	5.2
5'-0"	2'-9"±	6.3
6'-0"	2'-0"±	7.2
7'-0"	1'-3"±	8.0
8'-0"	0'-0"	8.1

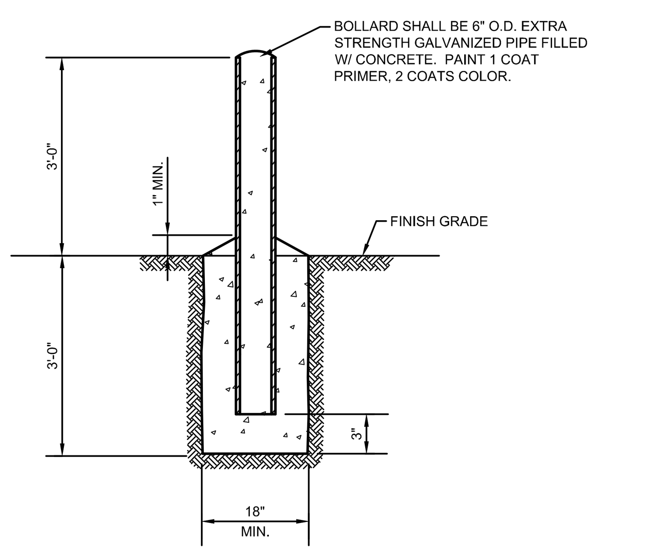
WHEEL CHAIR RAMP
FOR SIDEWALKS UP TO 8' WIDE
NOT TO SCALE



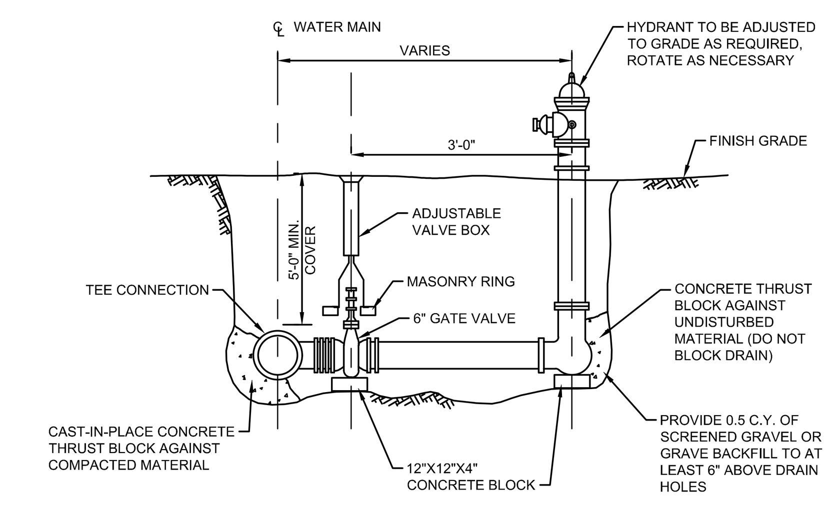
HANDICAP PARKING SIGN
NOT TO SCALE



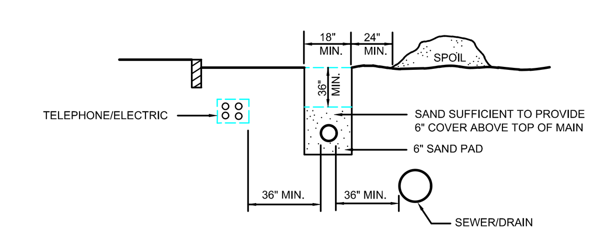
SIGN POST DETAIL
NOT TO SCALE



BOLLARD
NOT TO SCALE



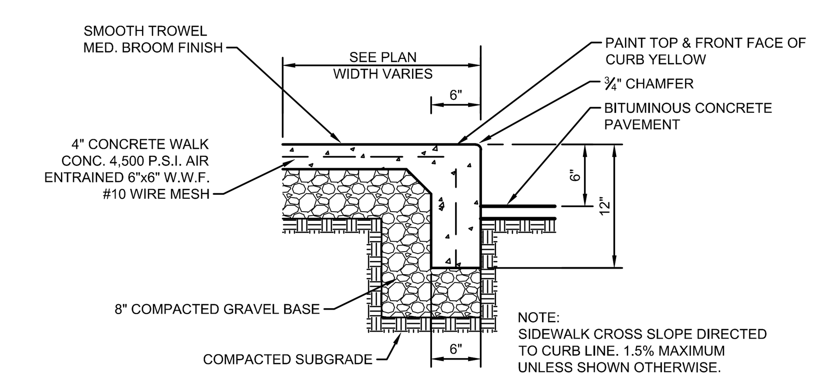
TYPICAL HYDRANT AND VALVE
NOT TO SCALE



NOTE:
MINIMUM COVER FOR SERVICE LINES IS 24".
CALL DIG SAFE 1-800-322-4844 72 HOURS BEFORE EXCAVATION.

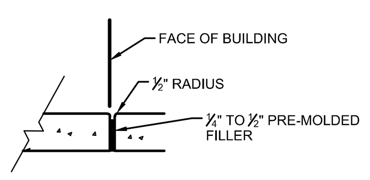
GAS COMPANY TO PROVIDE AND INSTALL GAS MAIN. GENERAL CONTRACTOR SHALL PROVIDE EXCAVATION, SAND BEDDING AND BACKFILL IN ACCORDANCE WITH GAS COMPANY REQUIREMENTS. FINAL LOCATION OF GAS METERS TO BE COORDINATED WITH ARCHITECT AND GAS COMPANY.

GAS MAIN TRENCH
NOT TO SCALE

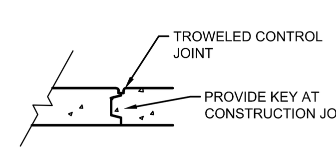


NOTE:
SIDEWALK CROSS SLOPE DIRECTED TO CURB LINE. 1.5% MAXIMUM UNLESS SHOWN OTHERWISE.

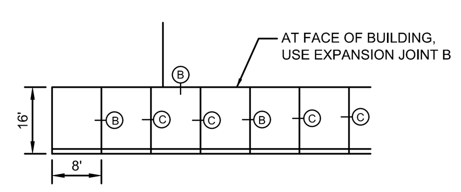
SECTION



EXPANSION JOINT B

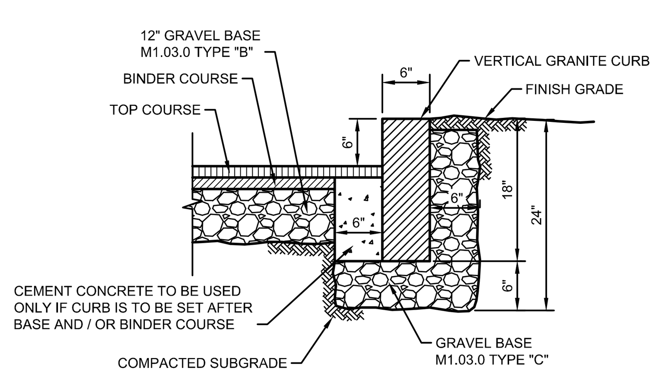


CONSTRUCTION CONTROL JOINT C



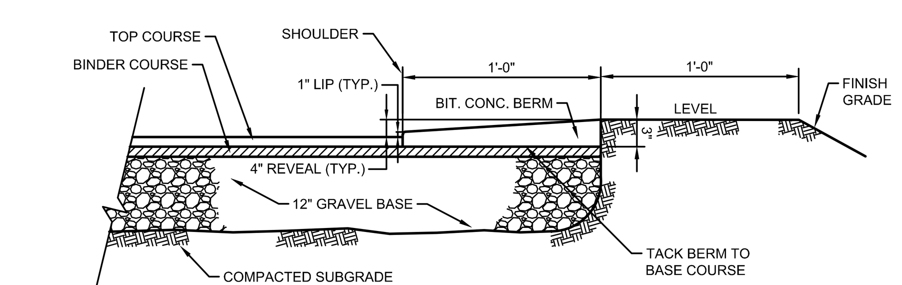
PLAN

CONCRETE WALKWAY WITH CONCRETE CURB
NOT TO SCALE

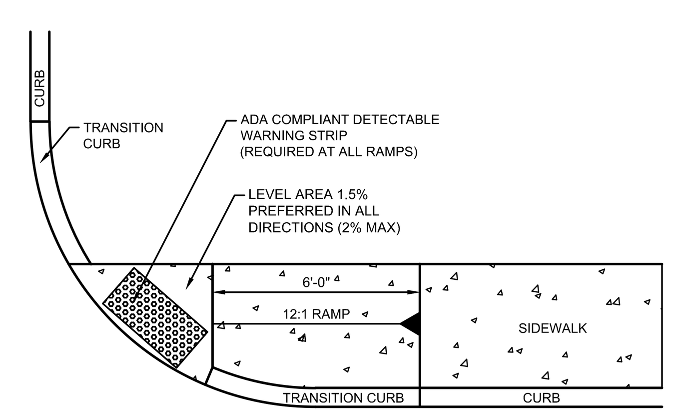


NOTE:
CEMENT CONCRETE BACKING TO BE PROVIDED AT ALL JOINTS AND AT CURB MID SECTION FOR SPANS GREATER THAN 3 FEET. CONCRETE BACKING TO BE PLACED FROM BASE TO WITHIN 9 INCHES OF GRADE AND SPAN 1 FOOT AT JOINTS AND 1.5 FEET AT MID SECTION.

VERTICAL GRANITE CURB
NOT TO SCALE



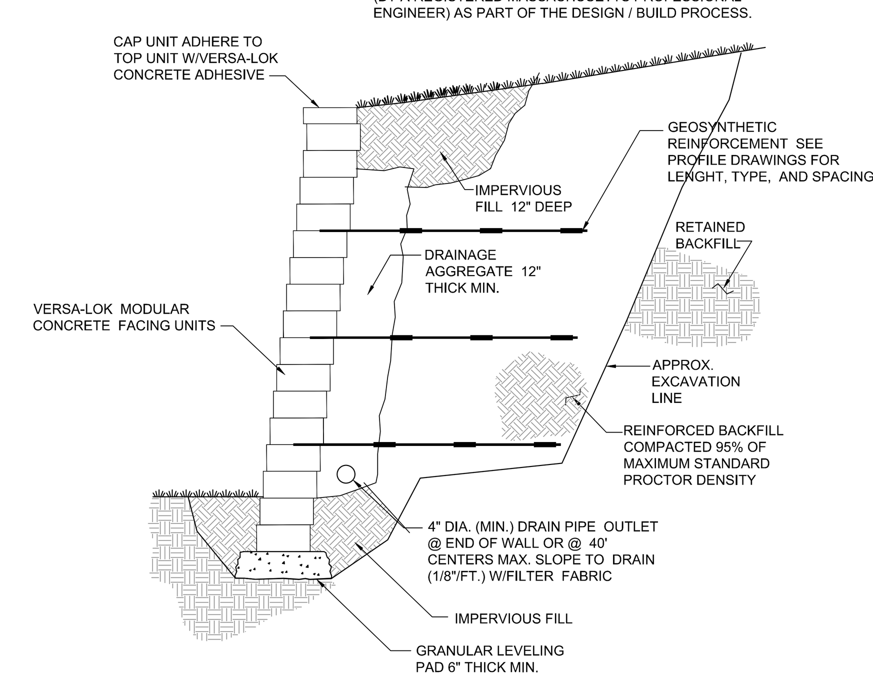
CAPE COD BERM
NOT TO SCALE



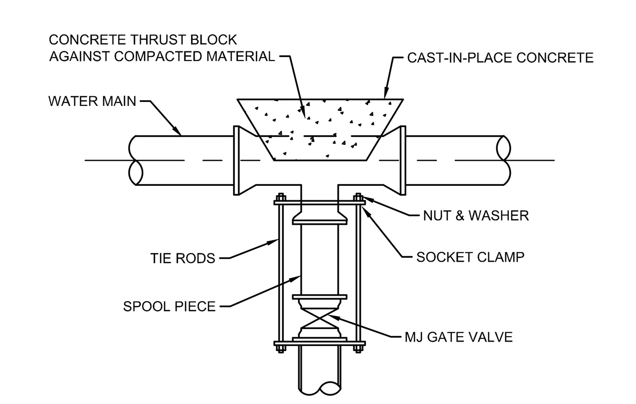
NOTES:
1.) THE DETECTABLE WARNING SHALL BE A CAST-IN-PLACE COMPOSITE PANEL PAVER SYSTEM AS MANUFACTURED BY ADA SOLUTIONS, INC. COLOR SHALL BE BRICK RED.
2.) TRANSITIONS FROM CURB CUTS TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH.
3.) IF TRANSITION EXCEEDS .075FT/FT, THE TRANSITION MUST BE 0"-6" OVER 15' (MAX.) FOR CURB RUN.

WHEEL CHAIR RAMP AT DRIVE
NOT TO SCALE

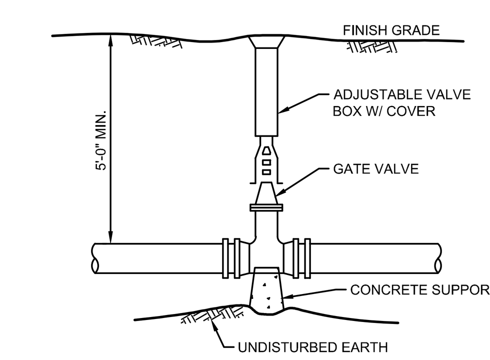
NOTE:
ACTUAL RETAINING WALL AND RETAINING WALL DESIGN PROVIDED BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE RETAINING WALL DESIGN (BY A REGISTERED MASSACHUSETTS PROFESSIONAL ENGINEER) AS PART OF THE DESIGN / BUILD PROCESS.



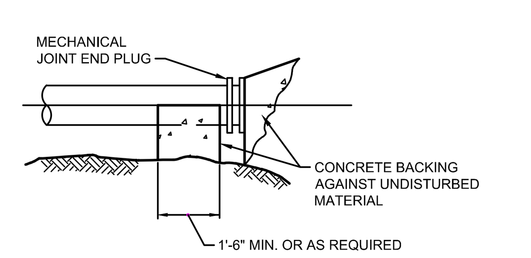
TYPICAL SECTION-REINFORCED RETAINING WALL
NOT TO SCALE



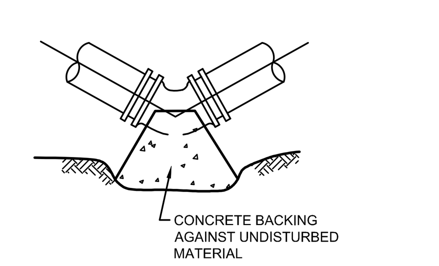
TYPICAL VALVE CONNECTION RESTRAINED JOINT TEE
NOT TO SCALE



TYPICAL GATE VALVE
NOT TO SCALE



TYPICAL PLUG

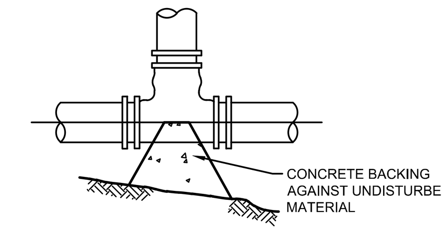


TYPICAL BEND

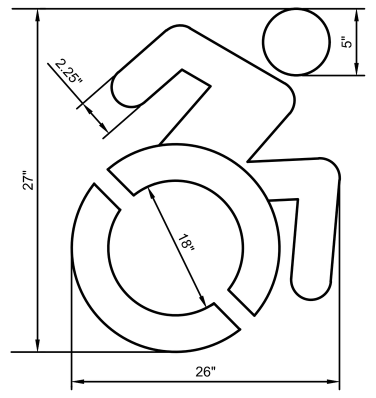
TABLE OF BEARING AREAS IN SQUARE FEET AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS

SIZE OF MAIN (IN.)	45° BEND	TEES & PLUGS	22 1/2° BEND
8" & LESS	4	5	2
10"	6	8	3
12"	9	12	5
16"	12	16	7

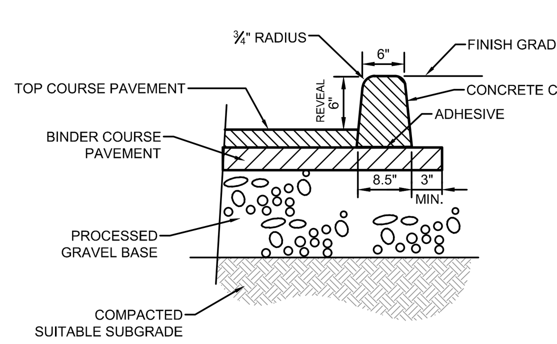
CONCRETE THRUST BLOCKS
NOT TO SCALE



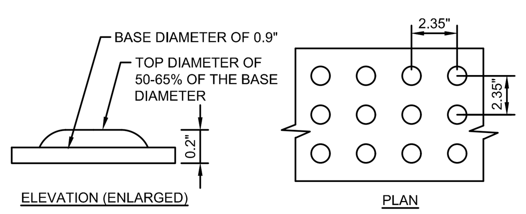
TYPICAL TEE



HANDICAP PARKING PAVEMENT MARKING
NOT TO SCALE



EXTRUDED CONCRETE CURB
NOT TO SCALE



DETECTABLE WARNING - TRUNCATED DOMES
NOT TO SCALE

1. THE MAXIMUM ALLOWABLE ROUTE (SIDEWALK) AND CURB RAMP CROSS SLOPES SHALL BE 2.0% MAX.
2. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL NOT EXCEED 1:12
3. A MINIMUM OF 3 FEET CLEAR SHALL BE MAINTAINED AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS, UTILITY POLES, TREE WELLS, SIGNS, ETC..
4. BASE OF RAMP SHALL BE GRADED TO PREVENT PONDING.
5. SEE TYPICAL SIDEWALK SECTION FOR RAMP CONSTRUCTION.
6. ALL SLOPING SURFACES AT WHEEL CHAIR RAMPS FOR SIDEWALKS SHALL HAVE DETECTABLE WARNING-TRUNCATED DOMES AND COLOR CONCRETE
7. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF NOMINAL 0.9 IN (23 MM), A HEIGHT OF NOMINAL 0.2 IN (5 MM) AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35 IN (60 MM) AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHOULD CONTRAST BY AT LEAST 70%. CONTRAST IN PERCENT IS DETERMINED BY: CONTRAST = [(B1 - B2)/B1] X 100WHERE B1 = LIGHT REFLECTANCE VALUE (LRV) OF THE LIGHTER AREA AND B2 = LIGHT REFLECTANCE VALUE (LRV) OF THE DARKER AREA. B1 SHALL NEVER EQUAL 100 AND B2 SHALL ALWAYS BE GREATER THAN 0.
8. ALL PROPOSED WHEELCHAIR RAMPS SHALL HAVE A PEDESTRIAN WARNING SURFACE MEETING THE REQUIREMENTS OF THE ADA GUIDELINES. (SEE SPECIFICATIONS). ALL WHEELCHAIR RAMPS SHALL BE CONSTRUCTED WITH COLOR TINTED CONCRETE MEETING THE ADA GUIDELINES FOR CONTRASTING COLOR. FINAL COLOR TO BE DETERMINED BY THE ARCHITECT. ALL CONCRETE SHALL BE 4000 PSI PER ASTM C-260 AND THE PROJECT SPECIFICATIONS.
9. AT NO TIME IS ANY PART OF THE WHEELCHAIR RAMP TO BE LOCATED OUTSIDE OF THE CROSSWALK AND IT IS TO BE CENTERED WHENEVER POSSIBLE.
10. THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE WITHIN 1/2" WITH THE ROADWAY.

ACCESSIBLE CURB RAMP / ROUTE NOTES

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS NATHAN H. CHEAL CIVIL NO. 46052 REGISTERED PROFESSIONAL ENGINEER 5/17/19

HANOVER CROSSING

MARK	DATE	DESCRIPTION	BY
1	5-17-19	SPECIAL PERMIT FILING	

Client: HANOVER R.S. LIMITED PARTNERSHIP
Proj. Loc.: HANOVER CROSSING, HANOVER, MA

Site Development Plans
Hanover Crossing Residential Hanover, MA

Detail Sheet

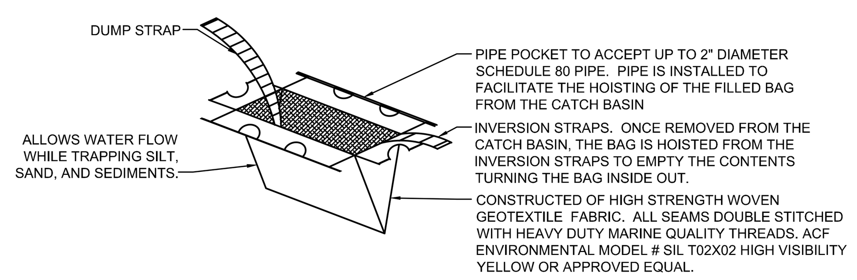
Project No.:	143-26700-18001
Designed By:	N.C.
Drawn By:	T.A.B.
Checked By:	N.C.

C-8

Copyright: Tetra Tech

Bar Measures 1 inch

5/23/2019 10:53:18 AM - P:\26700\143-26700-18001\CAD\SHEETFILES\DETAIL SHEETS.DWG - CHEAL, NATE



NOTES:

PRACTICE CATCH BASIN INLET PROTECTION:

INLET PROTECTION MEASURES REMOVE SEDIMENT FROM THE DISCHARGE PRIOR TO ENTRY INTO CATCH BASIN INLETS. EXAMPLES OF INLET PROTECTION MEASURES INCLUDE EXCAVATIONS AROUND THE PERIMETER OF THE DROP INLET, FABRIC BARRIERS AROUND INLET ENTRANCE, BLOCK AND GRAVEL PROTECTION, AND STONE-FILLED BAG BERMS. THE VARIOUS TYPES ARE SPECIFIC TO THE GROUND COVER OF THE CONTRIBUTING AREA AS OUTLINED BELOW. INLET PROTECTION PRACTICES TYPICALLY FUNCTION BY SLOWING AND DETAINING SEDIMENT-LADEN RUNOFF AND ALLOWING SEDIMENT TO SETTLE OUT OF SUSPENSION. INLET PROTECTION MUST BE INSTALLED IN NEW CATCH BASINS INLETS IMMEDIATELY UPON INSTALLATION, AND INSTALLED IN EXISTING CATCH BASIN INLETS BEFORE ADJACENT AREAS ARE DISTURBED. SPECIFIC TYPES OF INLET PROTECTION FOR PAVED AND UNPAVED AREAS ARE AS FOLLOWS:

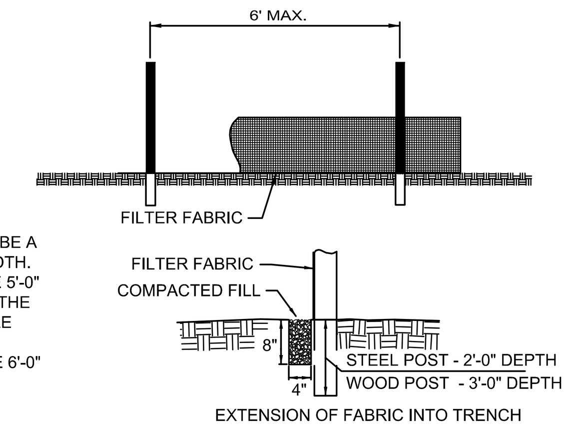
- GEOTEXTILE BARRIERS: POROUS WOVEN FABRIC PLACED INSIDE A CATCH BASIN INLET TO CREATE A SHIELD AGAINST SEDIMENT WHILE ALLOWING WATER TO FLOW INTO THE DRAIN. THIS METHOD INCLUDES SILT SACKS, FILTER FABRIC, A RING OF SILT FENCE, ETC.
- EXCAVATIONS: A SMALL EXCAVATION AROUND THE PERIMETER OF THE CATCH BASIN INLET CREATES A SMALL POOL THAT ALLOWS SEDIMENT TO SETTLE OUT OF SUSPENSION. **THIS MAY BE USED IN NON-PAVED AREAS.**
- GRAVEL/STONE BARRIERS: GRAVEL/STONE CAN BE USED TO SLOWING AND DETAINING SEDIMENT-LADEN RUNOFF AND ALLOW SEDIMENT TO SETTLE OUT OF SUSPENSION. IT IS IMPORTANT TO USE CLEAN, WASHED STONE AND PREVENT IT FROM BEING WASHED INTO THE STORM WATER MANAGEMENT CONVEYANCE SYSTEM.

INSTALLATION REQUIREMENTS: THE CONTRACTOR MUST PROVIDE INLET PROTECTION FOR DISCHARGES TO ANY CATCH BASIN INLET THAT CARRIES STORMWATER FLOW FROM THE SITE DIRECTLY TO A SURFACE WATER OR MS4 (AND IT IS NOT FIRST DIRECTED TO A SEDIMENT BASIN, SEDIMENT TRAP, OR SIMILARLY EFFECTIVE CONTROL). THE CONTRACTOR MUST NOT ALLOW ACCUMULATED SEDIMENT TO BLOCK STORM DRAIN INLETS, THIS MAY CAUSE STORM WATER RUNOFF TO BYPASS THE STORM WATER CONVEYANCE SYSTEM AND CREATE PROBLEMS DOWN-SLOPE INCLUDING ADDITIONAL EROSION OR FLOODING.

MAINTENANCE REQUIREMENTS: CLEAN, OR REMOVE AND REPLACE, THE PROTECTION MEASURES AS SEDIMENT ACCUMULATES, THE FILTER BECOMES CLOGGED, AND/OR PERFORMANCE IS COMPROMISED. WHERE THERE IS EVIDENCE OF SEDIMENT ACCUMULATION ADJACENT TO THE INLET PROTECTION MEASURE, THE DEPOSITED SEDIMENT MUST BE REMOVED BY THE END OF THE SAME WORK DAY IN WHICH IT WAS FOUND OR BY THE END OF THE FOLLOWING WORK DAY IF REMOVAL BY THE SAME WORK DAY IS NOT FEASIBLE.

GEOTEXTILE CATCH BASIN INLET PROTECTION

NOT TO SCALE



NOTES:
1. FILTER FABRIC SHALL BE A MINIMUM OF 36" IN WIDTH.
2. STEEL POST SHALL BE 5'-0" IN HEIGHT AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
3. WOOD POST SHALL BE 6'-0" IN HEIGHT AND 3" IN DIAMETER.

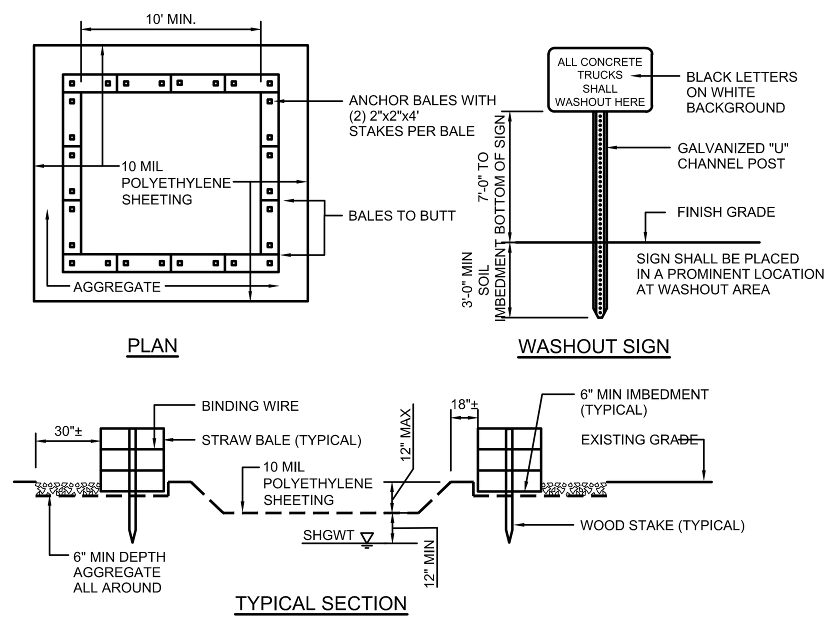
PRACTICE: SILT FENCE: SILT FENCE IS A SEDIMENT CONTROL MEASURE CONSISTING OF A LENGTH OF GEOTEXTILE FABRIC STRETCHED BETWEEN ANCHORING POSTS SPACED AT REGULAR INTERVALS. THE FENCE IS USED TO INTERCEPT FLOWS, SLOW SHEET FLOW RUNOFF AND ALLOW PONDING OF FLOW AND SEDIMENT TO SETTLE OUT. THE FILTER FABRIC SHOULD BE ENTRENCHED IN THE GROUND BETWEEN THE SUPPORT POSTS. SILT FENCE WILL BE INSTALLED AS PERIMETER PROTECTION AND WILL ALSO BE USED FOR STOCKPILE CONTROL AND ALONG SLOPE BOUNDARIES THAT WILL RECEIVE STORMWATER FLOW FROM DISTURBED AREAS.

INSTALLATION: THE GEOTEXTILE FABRIC MUST BE ENTRENCHED IN THE GROUND BETWEEN THE SUPPORT POSTS. SILT FENCE IS EFFECTIVE IN TREATING LOW VELOCITY SHEET FLOW AND IS NOT INTENDED FOR USE IN AREAS OF CONCENTRATED OR CHANNELIZED FLOW. THE STAKES USED TO ANCHOR THE FILTER FABRIC SHOULD BE WOOD OR METAL. ERECT SILT FENCE IN A CONTINUOUS FASHION FROM A SINGLE ROLL OF FABRIC TO ELIMINATE GAPS IN THE FENCE. IF A CONTINUOUS ROLL OF FABRIC IS NOT AVAILABLE, OVERLAP THE FABRIC FROM BOTH DIRECTIONS ONLY AT STAKES OR POSTS; OVERLAP AT LEAST 6 INCHES. EXCAVATE A TRENCH TO BURY THE BOTTOM OF THE FABRIC FENCE AT LEAST 6 INCHES BELOW THE GROUND SURFACE TO PREVENT GAPS FROM FORMING AT THE GROUND SURFACE.

MAINTENANCE: SILT FENCE MUST BE INSPECTED FOR RIPS, TEARS, AND GAPS BETWEEN THE FENCE AND THE GROUND. ACCUMULATED SEDIMENT MUST BE REMOVED FROM THE SILT FENCE WHEN IT REACHES ½ OF THE EXPOSED HEIGHT OF THE FABRIC. AN ADEQUATE RESERVE OF SILT FENCE MUST BE KEPT ON SITE AT ALL TIMES FOR EMERGENCY AND/OR ROUTINE REPLACEMENT. IF GAPS OR TEARS ARE DISCOVERED, REPAIR OR REPLACE THE FABRIC IMMEDIATELY. SILT FENCE SHALL BE REMOVED ONLY AFTER EXPOSED SOILS IN THE CONTRIBUTING DRAINAGE AREA ACHIEVE FINAL STABILIZATION.

SILT FENCE

NOT TO SCALE



NOTES:

1. CONTAINMENT MUST BE STRUCTURALLY SOUND AND LEAK FREE AND CONTAIN ALL LIQUID WASTES.
2. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTES GENERATED.
3. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
4. ONE OR MORE AREAS MAY BE INSTALLED ON THE CONSTRUCTION SITE AND MAY BE RELOCATED AS CONSTRUCTION PROGRESSES.

PRACTICE CONCRETE WASHOUT AREAS: CONCRETE WASHOUT AREAS CONSIST OF A PREFABRICATED OR SITE-BUILT IMPERMEABLE CONTAINMENT AREA SIZED TO HOLD CONCRETE WASTES AND WASH WATER. CONCRETE WASHOUTS WILL BE USED TO CONTAIN CONCRETE AND LIQUIDS WHEN THE CHUTES OF CONCRETE MIXERS AND HOPPERS OF CONCRETE PUMPS ARE RINSED OUT AFTER DELIVERY. THE WASHOUT FACILITIES CONSOLIDATE SOLIDS FOR EASIER DISPOSAL AND PREVENT RUNOFF OF LIQUIDS.

INSTALLATION REQUIREMENTS: THE CONCRETE WASHOUT AREA MUST BE CONSTRUCTED PRIOR TO PLACEMENT OF CONCRETE ON-SITE. THE CONCRETE WASHOUT AREA MUST BE LOCATED IN AN AREA WHERE ITS LIKELIHOOD OF CONTRIBUTING TO STORM WATER DISCHARGES IS NEGLIGIBLE. WASHOUTS SHALL BE LOCATED A MINIMUM OF FIFTY FEET (50') FROM ANY STORM DRAIN INLETS, STORM WATER CONVEYANCE, SURFACE WATER OR WETLAND. THESE SPECIALLY DESIGNATED AREAS SHOULD BE PROPERLY SIGNED AND ONSITE PERSONNEL MUST INFORM THE CONCRETE VENDORS OF THE LOCATION.

MAINTENANCE REQUIREMENTS: THE HARDENED RESIDUE FROM THE CONCRETE WASHOUT AREA WILL BE DISPOSED OF IN THE SAME MANNER AS OTHER NON-HAZARDOUS CONSTRUCTION WASTE MATERIALS OR MAY BE BROKEN UP AND USED ONSITE AS APPROPRIATE. IT IS ALSO ACCEPTABLE FOR WASTE CONCRETE TO BE POURED INTO FORMS TO MAKE RIPRAP OR OTHER USEFUL CONCRETE PRODUCTS. CHECK ALL CONCRETE WASHOUT FACILITIES DAILY TO DETERMINE IF THEY HAVE BEEN FILLED TO 75 PERCENT CAPACITY, WHICH IS WHEN MATERIALS MUST BE REMOVED. BOTH ABOVE- AND BELOW- GROUND SELF-INSTALLED WASHOUTS SHOULD BE INSPECTED DAILY TO ENSURE THAT PLASTIC LININGS ARE INTACT AND SIDEWALLS HAVE NOT BEEN DAMAGED BY CONSTRUCTION ACTIVITIES.

MATERIAL REMOVAL: CONCRETE WASHOUTS ARE DESIGNED TO PROMOTE EVAPORATION WHERE FEASIBLE. HOWEVER, IF STORED LIQUIDS HAVE NOT EVAPORATED AND THE WASHOUT IS NEARING CAPACITY, VACUUM AND DISPOSE OF THEM IN AN APPROVED MANNER - CHECK WITH THE LOCAL SANITARY SEWER AUTHORITY TO DETERMINE IF THERE ARE SPECIAL DISPOSAL REQUIREMENTS FOR CONCRETE WASH WATER. REMOVE LIQUIDS OR COVER THE STRUCTURES BEFORE PREDICTED RAINSTORMS TO PREVENT OVERFLOWS. PREFABRICATED AND WATERTIGHT WASHOUT CONTAINER PROVIDERS GENERALLY OFFER A VACUUM SERVICE TO REMOVE THE LIQUID MATERIAL.

CONCRETE WASHOUT AREA

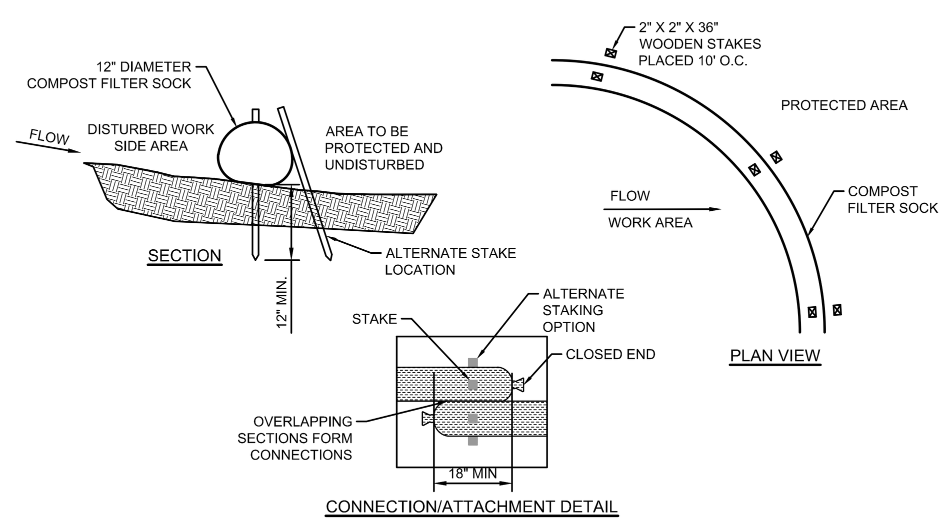
NOT TO SCALE

SEEDING RATES LBS/1000 S.F. & LBS/ACRES			
SPECIES	LBS/1000 SQUARE FOOT	LBS/ACRES	RECOMMENDED SEEDING DATES
ANNUAL RYEGRASS	1	40	APRIL 1 TO JUNE 1 AUG. 1 TO SEPT. 15
FOXTAIL MILLET	0.7	30	MAY 1 TO JUNE 30
OATS	2	80	APRIL 1 TO JULY 1 AUG. 15 TO SEPT. 15
WINTER RYE	3	120	AUG. 15 TO OCT. 15

MULCHING: MULCHING IS AN EROSION CONTROL PRACTICE THAT INVOLVES USING MATERIALS SUCH AS HAY, STRAW, WOOD CHIPS/FIBERS, ETC. TO PROTECT EXPOSED SOILS. MULCH MUST BE APPLIED AT THE APPROPRIATE RATE AND PROPERLY ANCHORED (USING NETTING, TACKIFIERS OR AN ANCHORING TOOL). MULCHING IS HIGHLY EFFECTIVE, AND WHEN INSTALLED CORRECTLY PROVIDES A LEVEL OF PROTECTION COMPARABLE TO DENSE VEGETATIVE COVER. THE HAY OR STRAW MULCH SHALL BE AIR-DRIED, FREE OF UNDESIRABLE SEEDS AND COARSE MATERIALS. APPLICATION RATE MUST BE 2 BALES (70-90 LBS) PER 1,000 SQUARE FEET OR 1.5 TO 2 TONS PER ACRE. NO BARE SPOTS SHOWING AND SHALL ONLY BE APPLIED TO SLOPES 3:1 OR FLATTER. ANCHORING METHODS INCLUDING NETTING WITH JUTE, WOOD FIBER OR PLASTIC; OR APPLY MULCH AND TRACK SURFACE UP AND DOWN THE SLOPE SO CLEAT MARKS ARE PARALLEL TO THE CONTOURS. FOR OVERWINTER APPLICATION, THE RATE SHALL BE 150 LBS PER 1,000 SQUARE FEET OR 3 TONS/ACRE. MULCH SHALL NOT BE SPREAD ON TOP OF SNOW; SNOW MUST BE REMOVED DOWN TO A ONE-INCH DEPTH OR LESS PRIOR TO APPLICATION.

TEMPORARY SEEDING: TEMPORARY SEEDING IS AN EROSION CONTROL PRACTICE THAT CONSISTS OF USING SELECT VARIETIES OF GRASSES TO ESTABLISH VEGETATIVE COVER. TEMPORARY SEEDING UTILIZES ANNUAL SPECIES THAT ESTABLISH QUICKLY, ARE NOT PERSISTENT OR INVASIVE, BUT PROVIDE LONG TERM TEMPORARY COVER. TEMPORARY SEEDING CAN BE USED ON DISTURBED AREAS REQUIRING TEMPORARY PROTECTION UNTIL PERMANENT VEGETATION IS ESTABLISHED OR ON AREAS WHICH MAY BE RE-DISTURBED FOLLOWING A PERIOD OF INACTIVITY (7 DAYS OR MORE). TEMPORARY SEEDING RATES AND SPECIFICATIONS ARE PROVIDED BELOW.

SEEDING FOR TEMPORARY COVER



NOTES:

1. PREFABRICATED COMPOST TUBE SHALL BE FILTREXX SOXX OR APPROVED EQUAL.
2. MATERIAL FOR SOCKS SHALL CONSIST OF SANITIZED MATURE COMPOST, FREE OF VIABLE WEED SEEDS AND FOREIGN DEBRIS SUCH AS GLASS AND PLASTIC. COMPOST SHALL BE IN SHREDDED OR GRANULAR FORM AND FREE FROM HARD LUMPS. IN ADDITION, NO KILN-DRIED WOOD OR CONSTRUCTION DEBRIS SHALL BE ALLOWED.
3. TUBES SHALL CONSIST OF JUTE MESH OR OTHER APPROVED BIODEGRADABLE MATERIAL.

PRACTICE PERIMETER CONTROLS: PERIMETER STORMWATER SEDIMENT CONTROLS FOR THIS PROJECT WILL CONSIST OF A ROW OF SILT FENCE AND/OR FIBER ROLLS WHICH MUST BE INSTALLED PRIOR TO COMMENCING EARTH DISTURBING ACTIVITIES. AT A MINIMUM, THE SEDIMENT CONTROLS MUST BE INSTALLED IN THE LOCATIONS SHOWN ON THE PLAN. CONTROLS MUST BE PLACED ALONG THE CONTOUR IN THE FLATTEST AREA POSSIBLE AT A DISTANCE FROM THE TOE OF SLOPE AND THE ENDS PLACED UP SLOPE FROM THE REST OF THE CONTROL. PERIMETER CONTROL MEASURES MUST BE USED AROUND SOIL STOCKPILES AS A SEDIMENT CONTROL MEASURE.

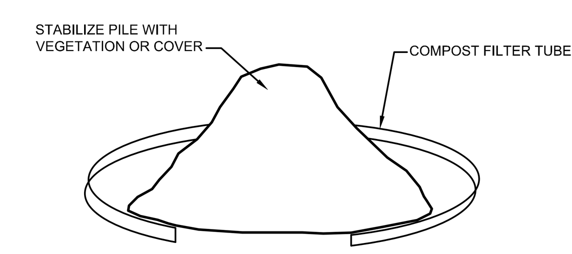
COMPOST FILTER TUBE: A COMPOST FILTER TUBE IS A TYPE OF CONTAINED COMPOST FILTER BERM CONSISTING OF A MESH TUBE FILLED WITH COMPOSTED MATERIAL THAT IS PLACED PERPENDICULAR TO SHEET-FLOW RUNOFF TO CONTROL EROSION AND RETAIN SEDIMENT IN DISTURBED AREAS. THE COMPOST FILTER TUBE ACTS AS A FILTER TO RETAIN SEDIMENT AND OTHER POLLUTANTS (E.G., SUSPENDED SOLIDS, NUTRIENTS) WHILE ALLOWING THE WATER TO FLOW THROUGH.IT. TUBES ARE ASSEMBLED BY TYING A KNOT IN ONE END OF THE MESH TUBE, FILLING THE TUBE WITH THE COMPOSTED MATERIAL (USUALLY USING A PNEUMATIC BLOWER), THEN KNOTTING THE OTHER END ONCE THE DESIRED LENGTH IS REACHED.

INSTALLATION REQUIREMENTS: NO TRENCHING IS REQUIRED; THEREFORE, SOIL IS NOT DISTURBED UPON INSTALLATION. ONCE THE FILTER TUBE IS FILLED AND PUT IN PLACE, IT SHOULD BE ANCHORED TO THE SLOPE BY STAKES THROUGH THE CENTER OF THE TUBE AT REGULAR INTERVALS; ALTERNATIVELY, STAKES CAN BE PLACED ON THE DOWNSTREAM SIDE OF THE TUBE. THE ENDS OF THE FILTER TUBE SHOULD BE DIRECTED UPSLOPE, TO PREVENT STORMWATER FROM RUNNING AROUND THE END OF THE TUBE.

MAINTENANCE REQUIREMENTS: . IF THERE IS EXCESSIVE PONDING BEHIND THE FILTER TUBE OR ACCUMULATED SEDIMENT REACHES THE TOP OF THE TUBE, AN ADDITIONAL TUBE SHOULD BE ADDED ON TOP OR IN FRONT OF THE EXISTING FILTER TUBE IN THESE AREAS. RIPPED OR TORN SECTIONS MUST BE REPLACED.

COMPOST FILTER TUBE

NOT TO SCALE



NOTE:

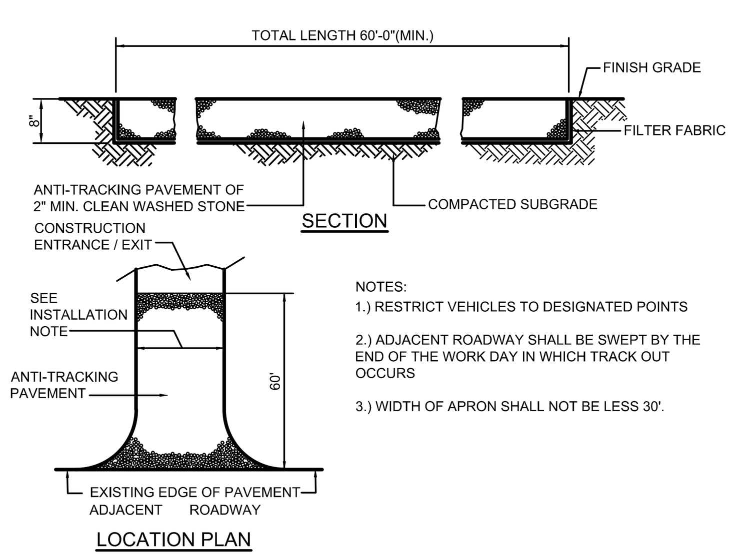
STOCKPILES MUST BE LOCATED OUTSIDE OF BUFFER AREAS AND PHYSICALLY SEPARATED FROM OTHER STORMWATER CONTROLS.

PRACTICE: CONTROL DISCHARGES FROM SEDIMENT OR SOIL STOCKPILES. FOR ANY STOCKPILED OR LAND CLEARING DEBRIS COMPOSED, IN WHOLE OR IN PART, OF SEDIMENT OR SOIL, THE FOLLOWING MEASURES MUST BE FOLLOWED:

- LOCATE THE PILES OUTSIDE OF ANY NATURAL BUFFERS AND PHYSICALLY SEPARATE FROM OTHER STORMWATER CONTROLS IMPLEMENTED;
- PROTECT FROM CONTACT WITH STORMWATER (INCLUDING RUN-ON) USING A TEMPORARY PERIMETER SEDIMENT BARRIER (SILT FENCE OR FIBER ROLL);
- PROVIDE COVER OR APPROPRIATE TEMPORARY STABILIZATION TO AVOID DIRECT CONTACT WITH PRECIPITATION OR TO MINIMIZE SEDIMENT DISCHARGE;
- DO NOT HOSE DOWN OR SWEEP SOIL OR SEDIMENT ACCUMULATED ON PAVEMENT OR OTHER IMPERVIOUS SURFACES INTO ANY STORMWATER CONVEYANCE (UNLESS CONNECTED TO A SEDIMENT BASIN, SEDIMENT TRAP, OR SIMILARLY EFFECTIVE CONTROL), STORM DRAIN INLET, OR SURFACE WATER; AND
- UNLESS INFEASIBLE, CONTAIN AND SECURELY PROTECT FROM WIND.

SOIL STOCKPILE CONTROL

NOT TO SCALE



NOTES:
1.) RESTRICT VEHICLES TO DESIGNATED POINTS
2.) ADJACENT ROADWAY SHALL BE SWEPT BY THE END OF THE WORK DAY IN WHICH TRACK OUT OCCURS
3.) WIDTH OF APRON SHALL NOT BE LESS 30'.

PRACTICE: STABILIZED CONSTRUCTION EXIT POINTS: IN ORDER TO ELIMINATE TRACK OUT FROM VEHICLES, STABILIZED CONSTRUCTION EXITS MUST BE INSTALLED AT THE LOCATIONS WHERE VEHICLES WILL EXIT THE SITE. THE CONTRACTOR MUST RESTRICT VEHICLE USE TO THE DESIGNATED EXIT LOCATIONS. PRIOR TO VEHICLE EXIT, IF THE STABILIZED EXIT IS NOT EFFECTIVELY REMOVING SEDIMENT FROM THE TIRES AND IT IS BEING TRACKED OUT OF THE WORK ZONE, VEHICLE TIRES MUST BE WASHED OR SIMILAR METHOD PROVIDED TO EFFECTIVELY REMOVE SEDIMENT FROM WHEELS AND PREVENTING TRACK-OUT (E.G. THROUGH THE USE OF RUMBLE STRIPS OR AGGREGATE STONE EITHER ALONE OR IN COMBINATION WITH OTHER PRACTICES). NO VISIBLE SIGNS OF SOIL TRACKING FROM VEHICLES SHOULD BE PRESENT ON PUBLIC ROADWAYS EXITING THE SITE.

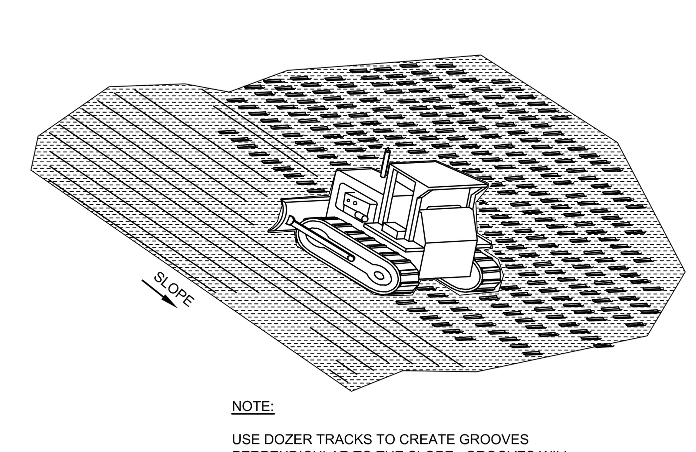
INSTALLATION: THE STABILIZED CONSTRUCTION EXITS WILL CONSIST OF AN 8 INCH LAYER OF 2" (MIN.) STONE, PLACED OVER A LAYER OF GEOTEXTILE FABRIC IN ORDER TO PROVIDE SEPARATION FROM THE UNDERLYING SOIL AND PREVENT THE STONE FROM BEING GROUND DOWN INTO THE SOIL. THE STABILIZED CONSTRUCTION EXITS MUST BE WIDE ENOUGH TO COVER THE ENTIRE WIDTH OF THE EXIT AND FLARED WHERE IT MEETS THE ROADWAY TO ACCOMMODATE LONGER CONSTRUCTION VEHICLES. THE STABILIZED CONSTRUCTION EXIT MUST BE LONG ENOUGH TO ALLOW MUD AND SEDIMENT TO BECOME DISLODGED FROM VEHICLE TIRES, AND/OR A MINIMUM OF SIXTY FEET (60') IN LENGTH.

MAINTENANCE: DURING THE COURSE OF CONSTRUCTION THE STABILIZED CONSTRUCTION EXIT WILL BECOME FILLED WITH ACCUMULATED SEDIMENT AND/OR THE STONE WILL BECOME COMPACTED. THE CONTRACTOR MUST REPAIR THE EXIT AS NECESSARY BY REMOVING ACCUMULATED SEDIMENT, REPLACING THE STONE OR BACK-BLADING THE STONE TO REFRESH IT. IF TRACKING OF SEDIMENT OCCURS, THE CONTRACTOR MUST REMOVE DEPOSITED SEDIMENT BY COMPLYING WITH THE FOLLOWING REQUIREMENTS:

- WHERE TRACK-OUT OF SEDIMENT OCCURS FROM THE SITE ONTO OFF-SITE STREETS, SIDEWALKS, AND OTHER PAVED AREAS, DEPOSITS MUST BE SWEPT, SHOVELED, OR VACUUMED TO REMOVE TRACK-OUT MATERIAL OR OTHER SEDIMENT DEPOSITS BY THE END OF THE SAME WORK DAY IN WHICH THE TRACK OUT IS DISCOVERED.
- HOSING OR SWEEPING TRACKED-OUT SEDIMENT INTO ANY STORMWATER CONVEYANCE, (UNLESS IT IS CONNECTED TO A SEDIMENT BASIN, SEDIMENT TRAP, OR SIMILARLY EFFECTIVE CONTROL), STORM DRAIN INLET, OR SURFACE WATER IS PROHIBITED.

STABILIZED CONSTRUCTION ENTRANCE / EXIT

NOT TO SCALE

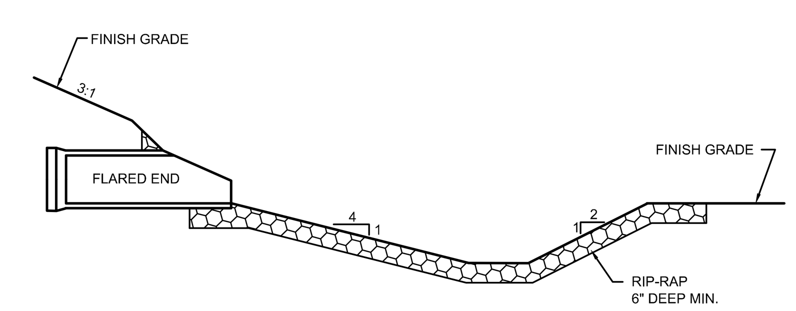


NOTE:

USE DOZER TRACKS TO CREATE GROOVES PERPENDICULAR TO THE SLOPE. GROOVES WILL CATCH SEED, FERTILIZER, MULCH, RAINFALL AND DECREASE SEDIMENT IN RUNOFF.

TRACKING DETAIL

NOT TO SCALE



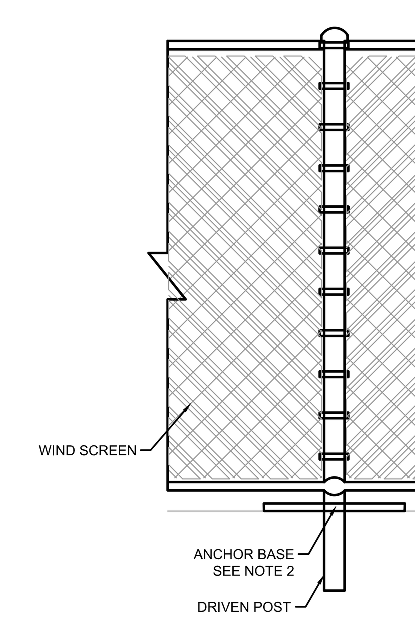
PRACTICE: OUTLET STABILIZATION AND VELOCITY DISSIPATION. OUTLET STABILIZATION AND VELOCITY DISSIPATION MEASURES WILL BE INSTALLED AT THE OUTLETS OF DRAINAGE CHANNELS, CONVEYANCES, SWALES, OR DIVERSIONS, AND BASIN OUTLETS, WHERE THE VELOCITY OF THE DISCHARGE MAY RESULT IN EROSION AT THE OUTLET OR RECEIVING CHANNEL OR DEVELOPMENT OF A PLUNGE POOL. OUTLET STABILIZATION/VELOCITY DISSIPATION MEASURES WILL INCLUDE THE PLACEMENT OF RIPRAP OR CONSTRUCTION OF A CONCRETE DISSIPATION STRUCTURE AT THE DISCHARGE LOCATION.

INSTALLATION REQUIREMENTS: DURABLE ANGULAR ROCK SHALL BE UNDERLAIN FILTER FABRIC AND ALIGNED WITH THE RECEIVING WATER OR BASIN.

MAINTENANCE REQUIREMENTS: INSPECT THE APRON FOR DISPLACEMENT OF RIPRAP AND ANY DAMAGE TO UNDERLYING FABRIC. REPAIR FABRIC AND REPLACE RIP RAP THAT HAS WASHED AWAY. IF RIPRAP CONTINUES TO WASH AWAY, REPLACE WITH LARGER DIAMETER ROCK. INSPECT FOR SCOUR BENEATH THE RIP RAP AND AROUND THE OUTLET AND REPAIR DAMAGE TO SLOPE.

OUTLET STABILIZATION

NOT TO SCALE



NOTES:
1. THE CONTRACTOR SHALL PROVIDE A 6' HIGH TEMPORARY CONSTRUCTION FENCE WITH DUST SCREEN THAT IS NON-TRANSPARENT AND TIGHTLY FASTENED TO THE FENCE. DUST SCREEN LOCATIONS SHALL BE COORDINATED WITH OWNER.
2. THE FENCE SHALL BE POST DRIVEN OR ANCHOR BASE AND CAPABLE OF WITHSTANDING HIGH WINDS WITHOUT MOVEMENT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR TO EXISTING CONDITIONS RESULTING PROPERTY DAMAGE FROM THE FENCE INSTALLATION.

PRACTICE: CONSTRUCTION FENCE WITH WINDSCREEN
ATTACH WINDSCREEN SECURELY TO FENCE; REATTACH AS NECESSARY TO MAINTAIN FABRIC AGAINST FENCE; DO NO LEAVE GAPS IN SCREENING. REPLACE WINDSCREEN FABRIC IF IT APPEARS RIPPED OR TORN.

CONSTRUCTION FENCE WITH WIND SCREEN

NOT TO SCALE

TETRA TECH
www.tetratech.com
100 Nickerson Road
Marlborough, MA 01752
PHONE: (508) 786-2200 FAX: (508) 786-2201

COMMONWEALTH OF MASSACHUSETTS
NATHAN H. CHEAL
CIVIL
NO. 46052
REGISTERED PROFESSIONAL ENGINEER
5/17/19

HANOVER CROSSING

MARK	DATE	DESCRIPTION	BY
1	5-17-19	SPECIAL PERMIT FILING	

Client: HANOVER R.S. LIMITED PARTNERSHIP
Proj. Loc.: HANOVER CROSSING, HANOVER, MA

Site Development Plans
Hanover Crossing Residential Hanover, MA

Detail Sheet

Project No.:	143-26700-18001
Designed By:	N.C.
Drawn By:	T.A.B.
Checked By:	N.C.

C-9

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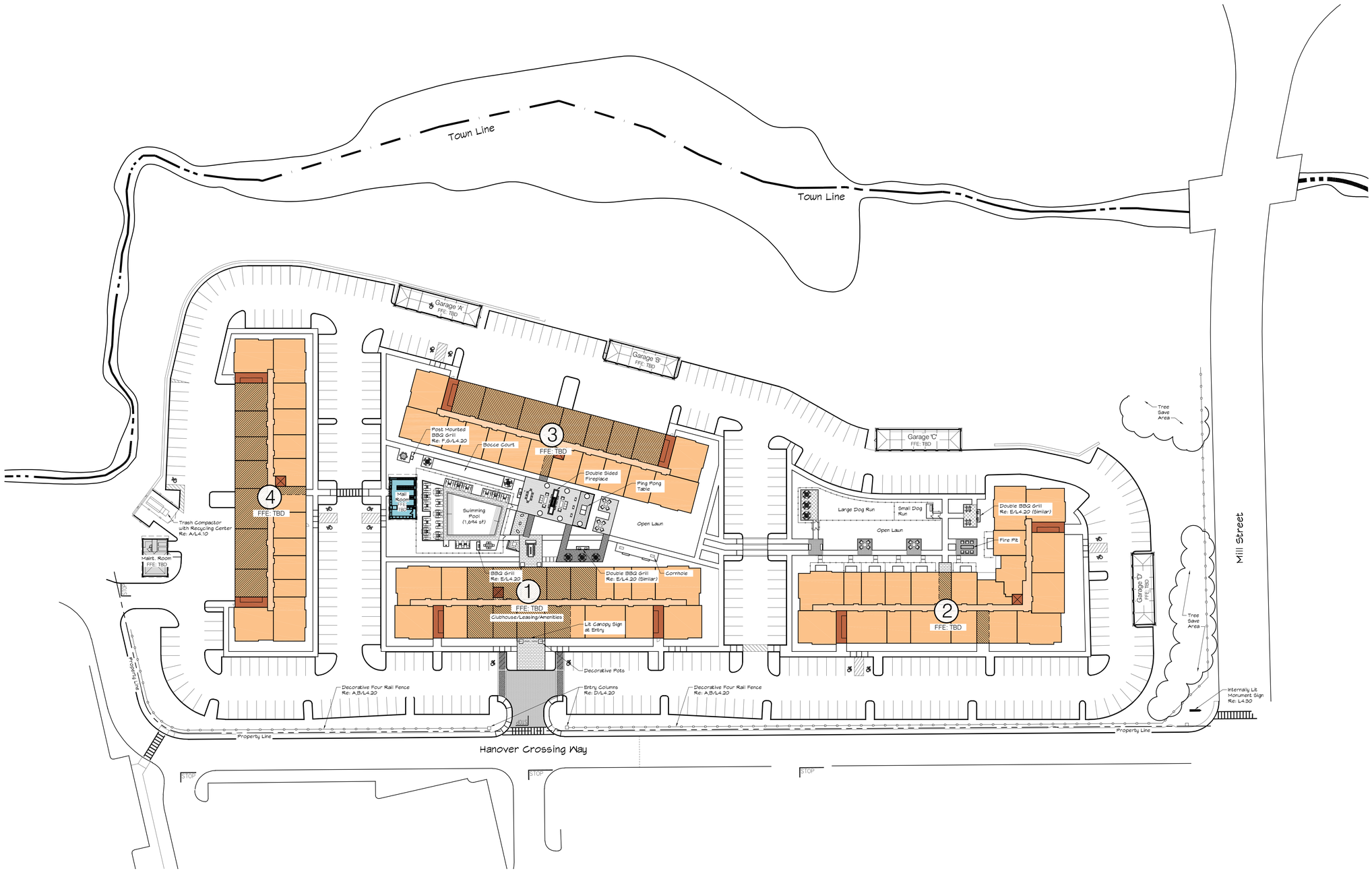
Bar Measures 1 inch

5/23/2019 10:55:28 AM - P:\26700\143-26700-18001\CAD\SHEETFILES\DETAIL SHEETS.DWG - CHEAL, NATE

KELLY ENGINEERING GROUP, INC.
0 Campanelli Drive-Braintree-MA 02184 Phone 781 843 4333

Attachment 12- Hanover Crossing Residential Landscape Plans



HARDSCAPE
SITE PLAN

HANOVER CROSSING

Washington St.
Hanover, MA 02339

05-17-19 Special Permit
ISSUES:

GWH
LANDSCAPE ARCHITECTS

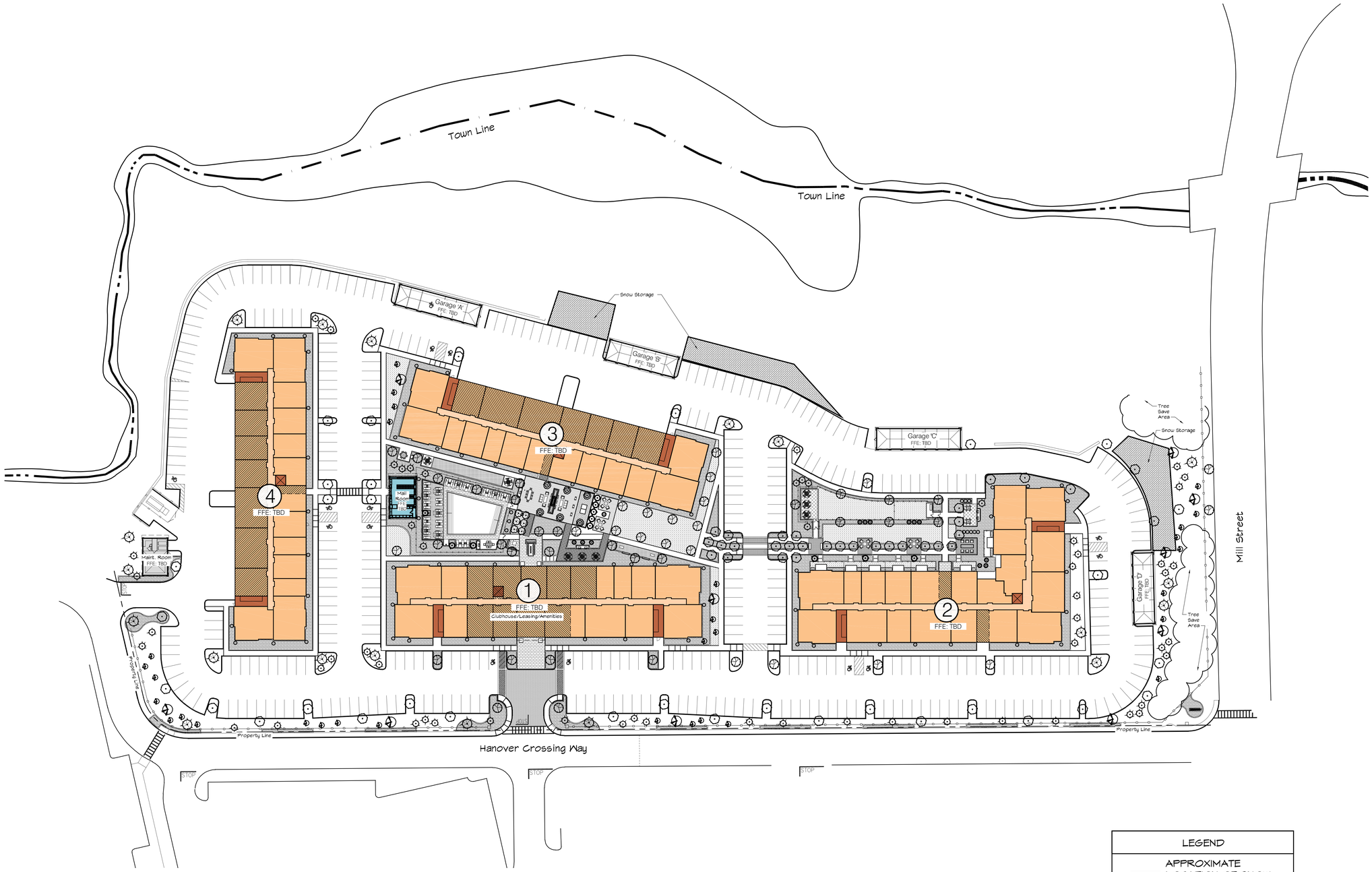
an affiliate of
THE HANOVER COMPANY
5847 SAN FELIPE SUITE 3600
HOUSTON TEXAS 77057

MASSACHUSETTS
WARREN BRET MONTAGUE
No. 1676
REGISTERED LANDSCAPE ARCHITECT

PLAN SITE PLAN
SCALE: 1"=40'-0"

DRAWN:	WBM / GCG / DPM
PROJECT:	535
PLOT DATE:	05-17-19
SHEET NUMBER:	L1.01

SNOW STORAGE
SITE PLAN



LEGEND

APPROXIMATE LOCATION OF SNOW STORAGE AREA
(Size and location will vary to minimize impact on existing trees)

PLAN SNOW STORAGE
SCALE: 1"=40'-0"

HANOVER CROSSING
Washington St.
Hanover, MA 02339

05-17-19 Special Permit
ISSUES:

GWH
LANDSCAPE ARCHITECTS

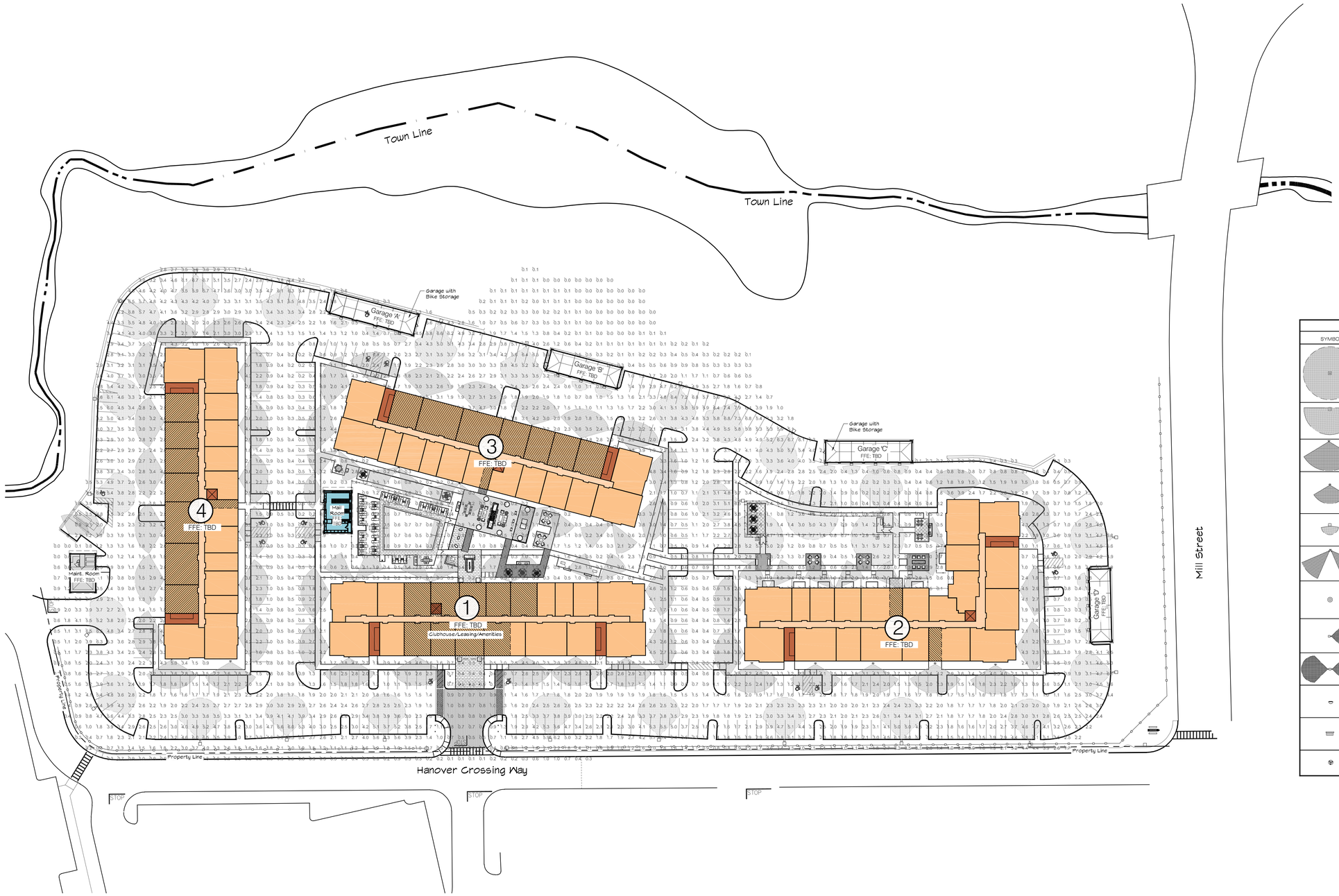
an affiliate of
THE HANOVER COMPANY
5847 SAN FELIPE SUITE 3600
HOUSTON TEXAS 77057

MASSACHUSETTS
WARREN BRET MONTAGUE
No. 16226
REGISTERED LANDSCAPE ARCHITECT

DRAWN:	WBM / GCG / DPM
PROJECT:	535
PLOT DATE:	05-17-19
SHEET NUMBER:	L2.01

LANDSCAPE LIGHTING

SITE PLAN



SITE LIGHTING LEGEND			
SYMBOL	LABEL	TOTAL QTY.	DESCRIPTION & SPECIFICATION
	LA	3	DECORATIVE POLE LIGHTING GLP GC5022-60WLED-T5-120-SB WITH GP214-10-SB Deco Pole with Type 5 Distribution Lamping: 60W LED
	LB	-	DECORATIVE POLE LIGHTING GLP GC5022-60WLED-T3-120-SB WITH GP214-10-SB Deco Pole with Type 3 Distribution Lamping: 60W LED
	LW	47	BUILDING WALLPACK - Type 1 RAYON T630-LEDB-40K Lamping: 34W LED
	LD	4	BUILDING WALLPACK - Type 2 (At Trash Compactor and Mail Room) Texas Fluorcents TXF MJ7L14W750L50KBZ Lamping: 14W LED
	LE	13	SCONCE (At Garages Only) MAXIM 992836WTBZ
	LF	13	COURTYARD MOONLIGHT (Mount Between Building Level 3 and 4) Kim (2)EL700F3-9L4KUV/DB WITH Dual Mount Wallplate
	LG	-	Inground Tree Up Light (Spot Light) Kim LTV83FF-SP-12L-4K-UV Mounted Flush with Grade
	LH	24	PARKING LOT LIGHT PHILLIPS ECF-S-48L-1A-NW-G2-3 ATOP 20 SSP POLE
	LI	-	DOUBLE SIDED PARKING LOT LIGHT PHILLIPS (2)ECF-S-48L-1A-NW-G2-3 ATOP 20 SSP POLE
	LJ	-	NICHE LIGHT FC Lighting FC FCSL105-120-LED4K-BRZ
	LK	2	SIGN WALL UPLIGHTS Kim Lighting Kim 4336-P70-24L-4K-UV-DB-FH36 Lamping: 56W LED
	PS	-	OUTDOOR SPEAKER TIC Industries, Inc. Green Outdoor Rated Speakers Model: TIC GS-5P

HANOVER CROSSING

Washington St.
Hanover, MA 02339

05-17-19 Special Permit

ISSUES:

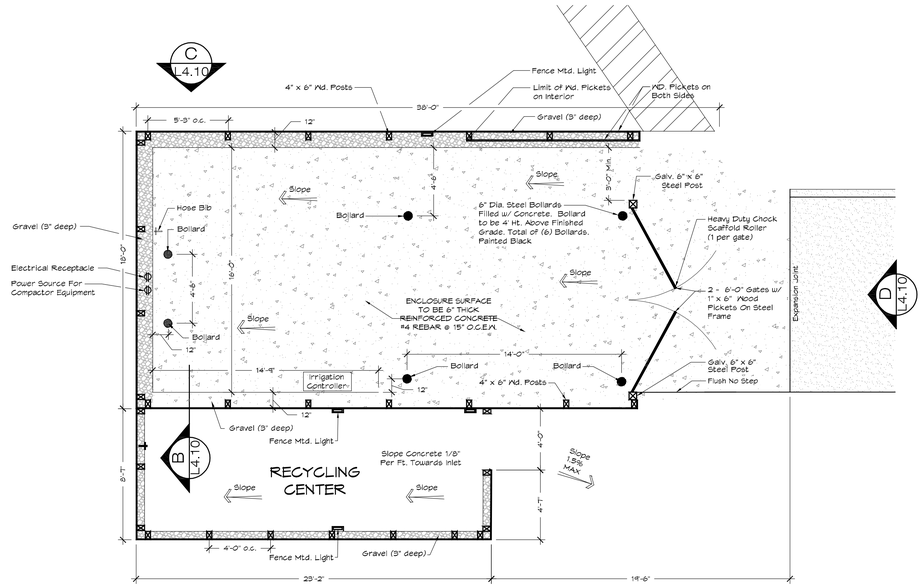
GWH
LANDSCAPE ARCHITECTS

an affiliate of
THE HANOVER COMPANY
5847 SAN FELIPE SUITE 3600
HOUSTON TEXAS 77057

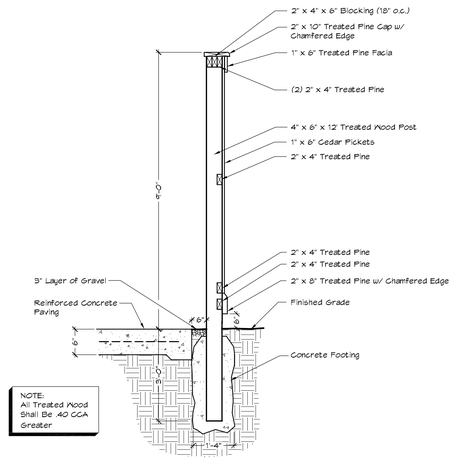
MASSACHUSETTS
WARREN BRET MONTAGUE
No. 16076
REGISTERED LANDSCAPE ARCHITECT

PLAN LANDSCAPE LIGHTING
SCALE: 1"=40'-0"

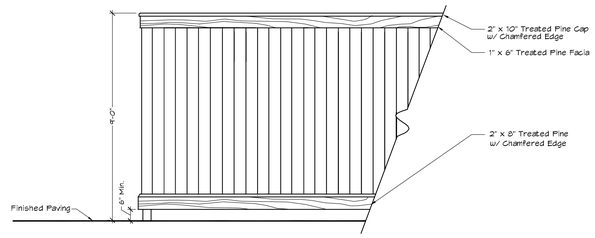
DRAWN:	WBM / GCG / DPM
PROJECT:	535
PLOT DATE:	05-17-19
SHEET NUMBER:	L3.01



A PLAN — COMPACTOR ENCLOSURE W/ RECYCLING CENTER
SCALE: 1/4" = 1'-0"

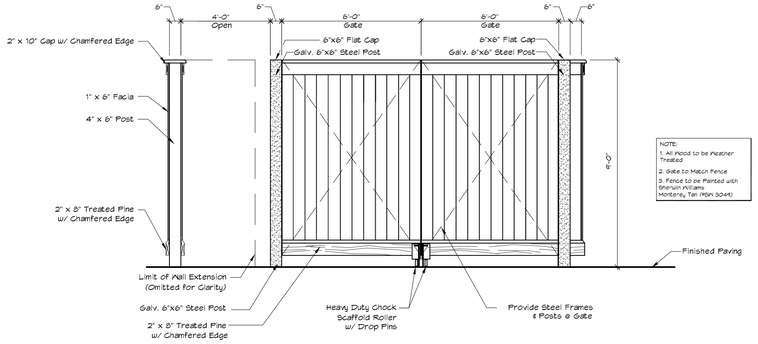


B SECTION — COMPACTOR ENCLOSURE & FOOTING
SCALE: 1/2" = 1'-0"

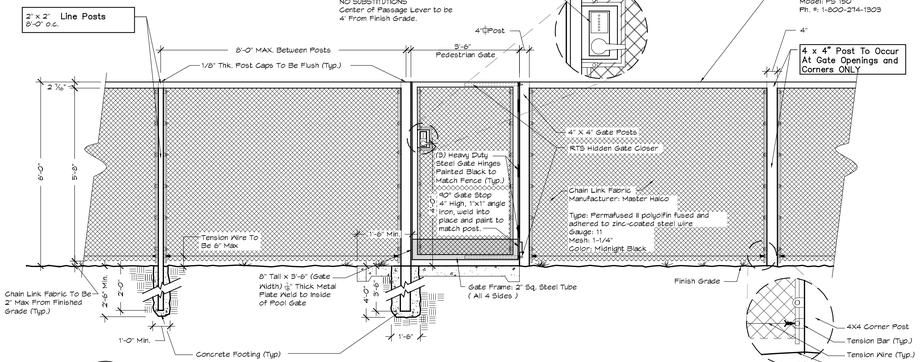


C SIDE ELEVATION — COMPACTOR ENCLOSURE
SCALE: 3/8" = 1'-0"

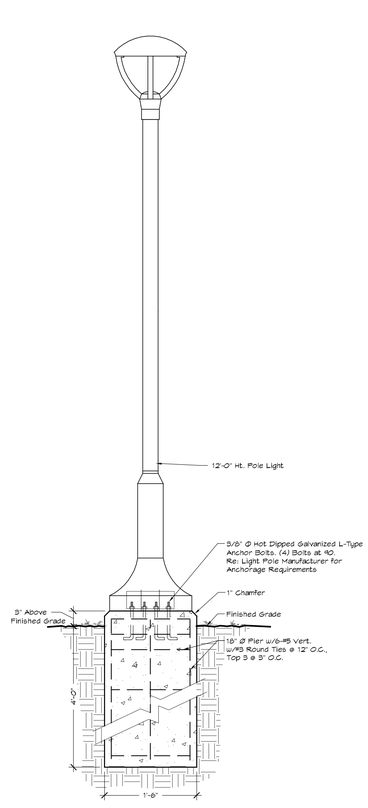
DETAILS
TRASH COMPACTOR AND MISC



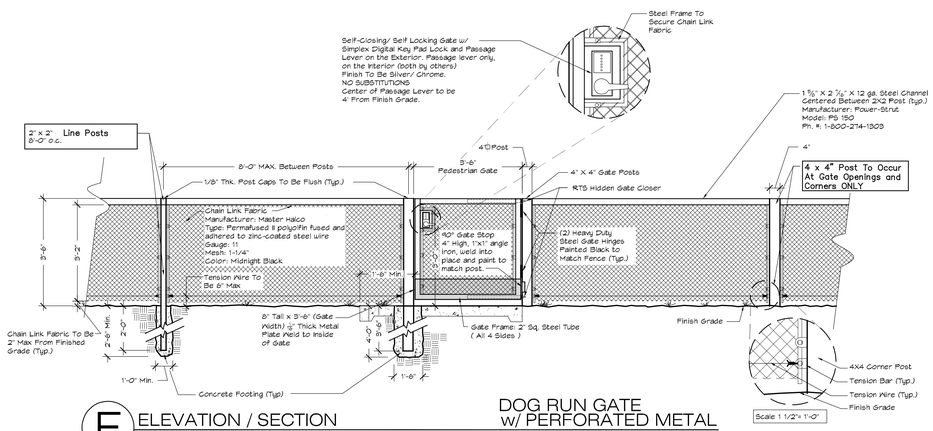
D ELEVATION — COMPACTOR ENCLOSURE-FRONT
SCALE: 3/8" = 1'-0"



E ELEVATION / SECTION — POOL ENCLOSURE GATE
SCALE: 1/2" = 1'-0"



G SECTION — 12' HT. POLE LIGHT
SCALE: 1" = 1'-0"



F ELEVATION / SECTION — DOG RUN GATE w/ PERFORATED METAL
SCALE: 1/2" = 1'-0"

HANOVER CROSSING
Washington St.
Hanover, MA 02339

05-17-19 Special Permit
ISSUES:

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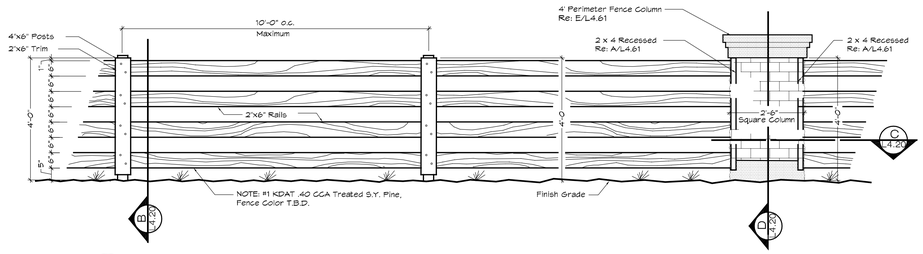
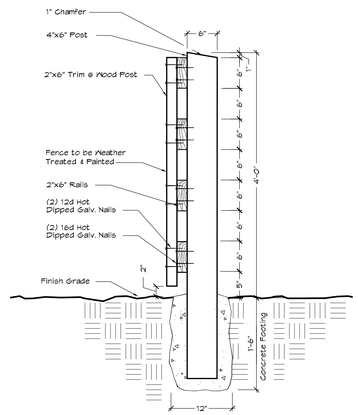
on affiliate of THE HANOVER COMPANY
5847 SAN FELIPE SUITE 3600
HOUSTON TEXAS 77057

MASSACHUSETTS — No. 1695 — REGISTERED LANDSCAPE ARCHITECT

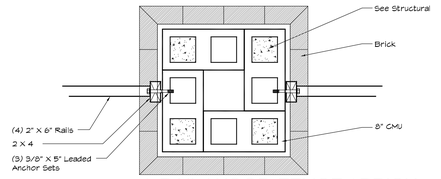
DRAWN:	WBM / GCG / DPM
PROJECT:	535
PLOT DATE:	05-17-19
SHEET NUMBER:	L4.10



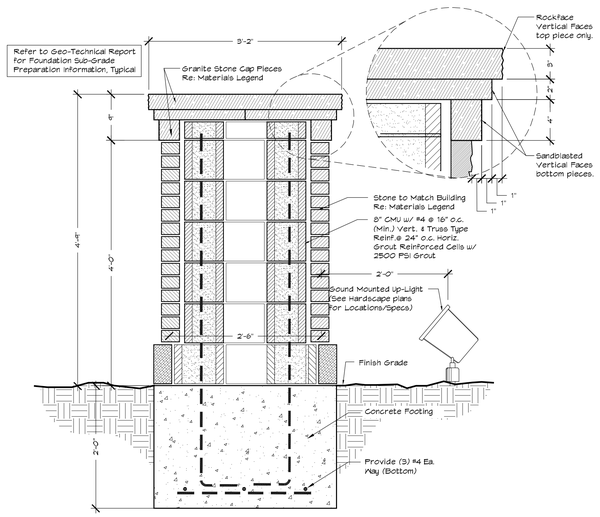
A ELEVATION 4 RAIL WOOD FENCE W/ STONE COLUMN
SCALE: 1/2" = 1'-0"



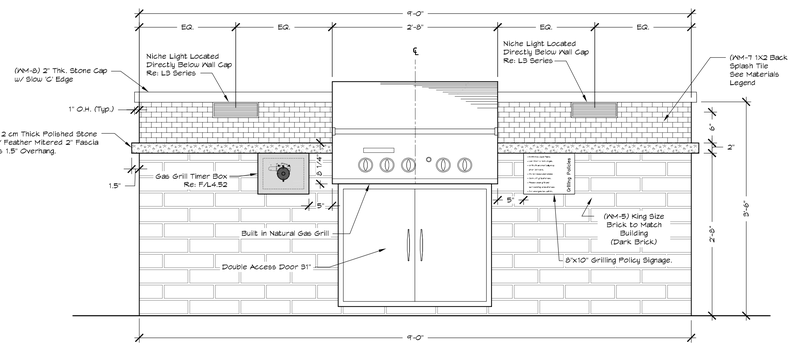
B SECTION 4 RAIL WOOD FENCE
SCALE: 1" = 1'-0"



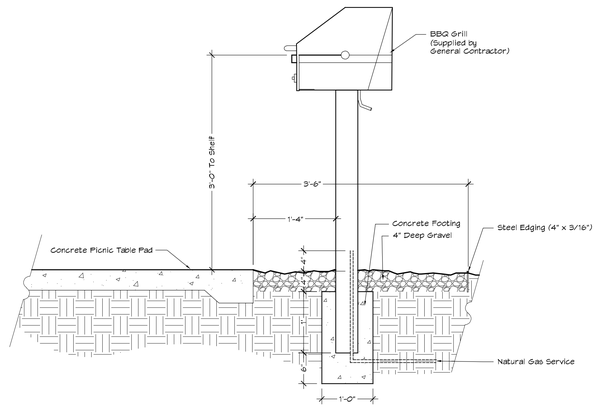
C SECTION 4-RAIL WOOD FENCE / BRICK COLUMN CONNECTION
SCALE: 1" = 1'-0"



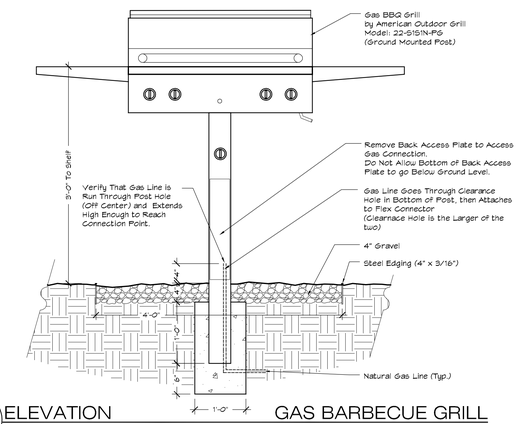
D SECTION 4-RAIL WOOD FENCE BRICK COLUMN
SCALE: 1" = 1'-0"



E ELEVATION GAS BBQ GRILL
SCALE: 1" = 1'-0"



F SECTION GAS BARBECUE GRILL
SCALE: 1" = 1'-0"



G ELEVATION GAS BARBECUE GRILL
SCALE: 1" = 1'-0"

DETAILS
MISC.

HANOVER CROSSING
Washington St.
Hanover, MA 02339

05-17-19 Special Permit
ISSUES:

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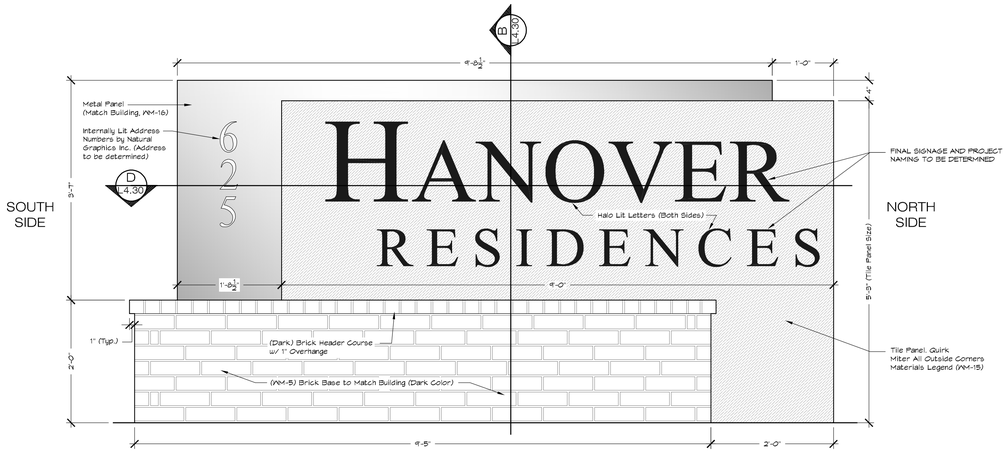
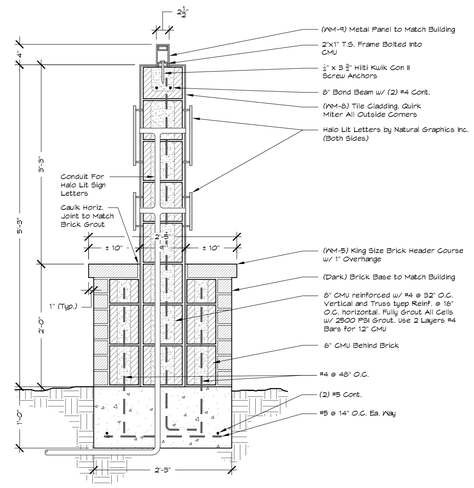
5847 SAN FELIPE SUITE 3600
HOUSTON TEXAS 77057

MASSACHUSETTS
WARREN BRET MONTAGUE
No. 1626
REGISTERED LANDSCAPE ARCHITECT

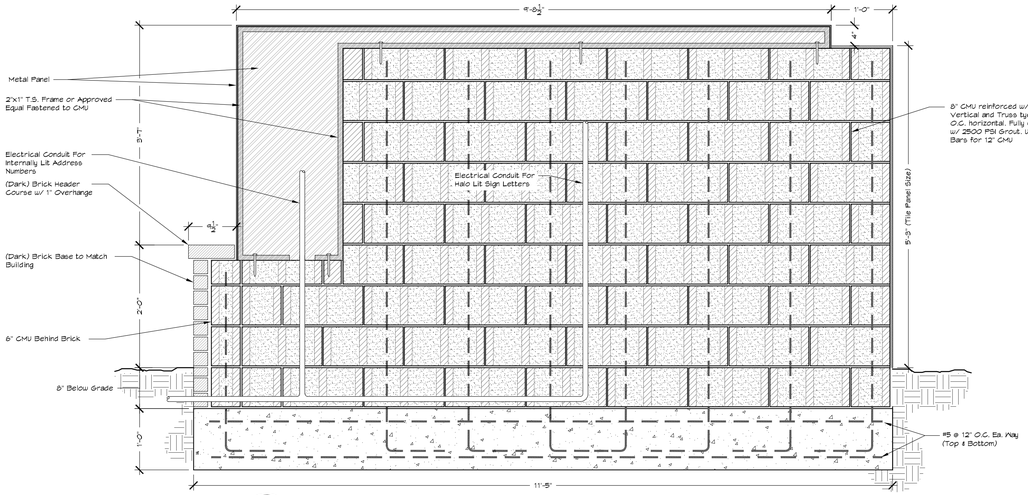
DRAWN:	WBM / GCG / DPM
PROJECT:	535
PLOT DATE:	05-17-19
SHEET NUMBER:	L4.20



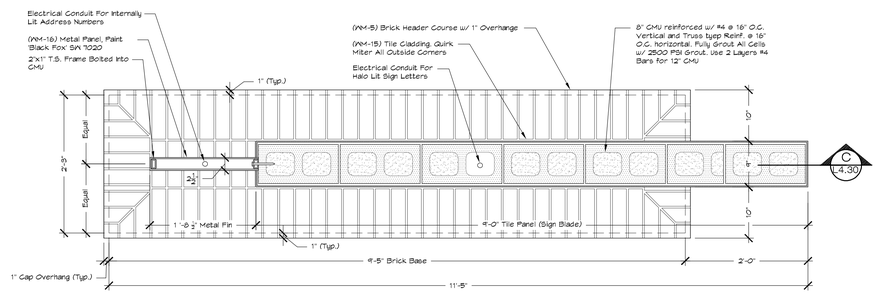
A ELEVATION ENTRY MONUMENT SIGN
SCALE: 1" = 1'-0"



B SECTION ENTRY MONUMENT SIGN
SCALE: 1" = 1'-0"



C SECTION ENTRY MONUMENT SIGN
SCALE: 1" = 1'-0"



D SECTION ENTRY MONUMENT SIGN
SCALE: 1" = 1'-0"

DETAILS
SIGNAGE

HANOVER CROSSING
Washington St.
Hanover, MA 02339

05-17-19 Special Permit
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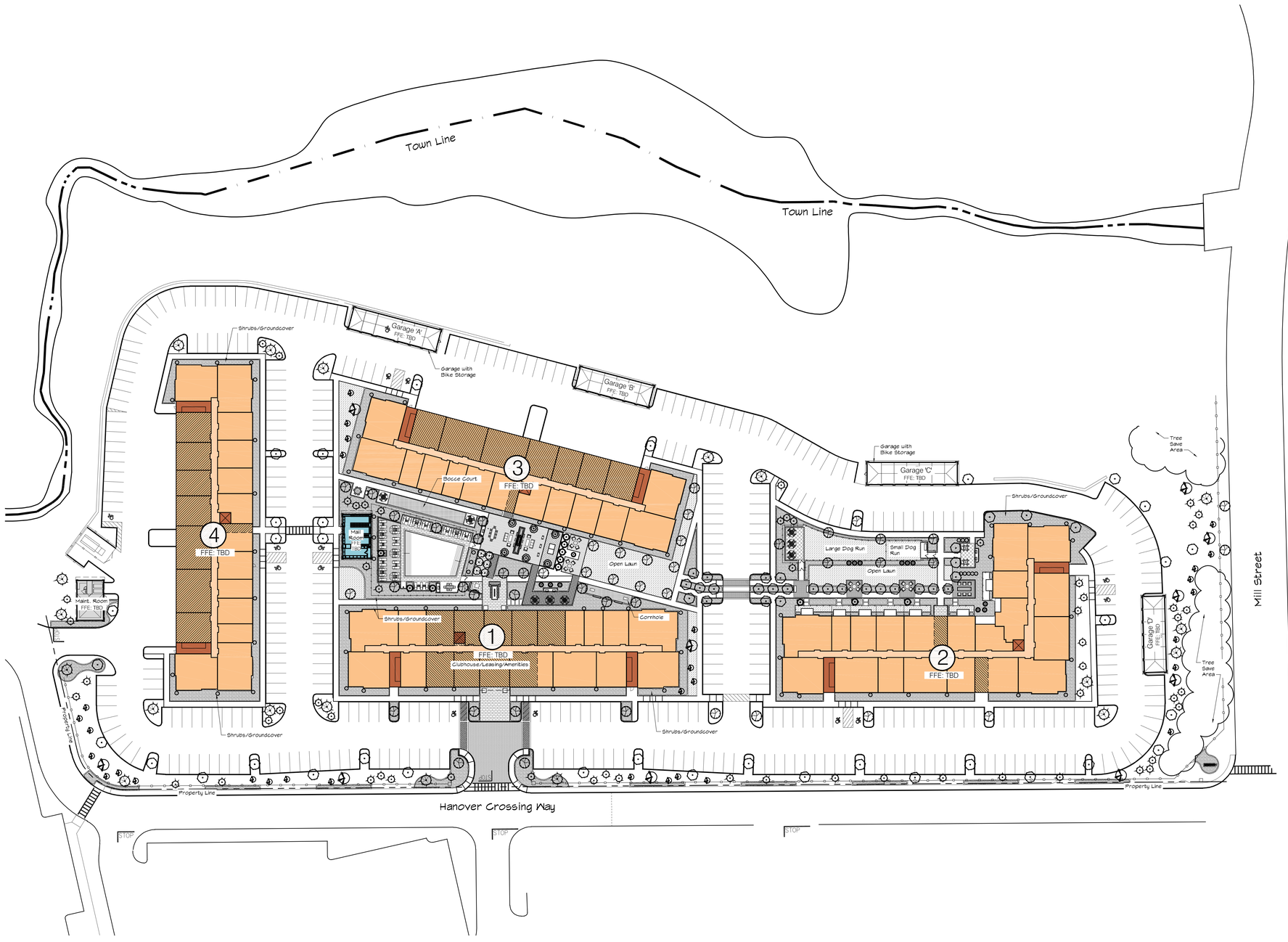
HOUSTON TEXAS 77057

MASSACHUSETTS
WARREN BRET MONTAGUE
No. 1605
REGISTERED LANDSCAPE ARCHITECT

DRAWN:	WBM / GCG / DPM
PROJECT:	535
PLOT DATE:	05-17-19
SHEET NUMBER:	L4.30

PLANTING
SITE PLAN



PLANT LEGEND

SYMBOL	TYPE
	Deciduous Trees (See Proposed Plant List for Species / Variety)
	Evergreen Trees (See Proposed Plant List for Species / Variety)
	Shrubs and Groundcovers (See Proposed Plant List for Species / Variety)
	Sod / Seed

PLANTING NOTES

1. All planting areas not containing shrubs, groundcovers, or existing trees are to receive sod or hydro-seed.
2. Planting areas to be irrigated with automatic irrigation system.
3. All trees, shrubs, and groundcover plants to be planted in mulch bed.

Proposed Plant List

BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
Trees			
Quercus borealis rubra	Northern Red Oak	3 1/2"-4" Cal.	Specimen, 14'-16" Ht., 6'-10' Sprd., Full branching, Straight trunk, to be approved by Land. Arch. prior to planting
Tilia tomentosa 'Green Mountain'	Green Mountain Silver Linden	3 1/2"-4" Cal.	Specimen, Full, 12'-14' Sprd., Full branching, Straight trunk, to be approved by Land. Arch. prior to planting
Acer X freemani 'Autumn Blaze'	Autumn Blaze Red Maple	3 1/2"-4" Cal.	Specimen, 14'-16" Ht., 6'-10' Sprd., Full branching, Straight trunk, to be approved by Land. Arch. prior to planting
Acer X freemani 'Autumn Blaze'	Autumn Blaze Red Maple	2" Cal.	Specimen, Full, Full branching, Straight trunk, to be approved by Land. Arch. prior to planting
Pinus strobus	White Pine	12' - 14' Ht.	Specimen, Full, 7'-9' Sprd., to be approved by Land. Arch. prior to planting
Pinus strobus	White Pine	8' - 9' Ht.	Full branching, 3' - 4' Sprd., to be approved by Land. Arch. prior to planting
Picea pungens	Colorado Spruce	12' - 14' Ht.	Specimen, Full, 6'-8' Sprd., to be approved by Land. Arch. prior to planting
Picea pungens	Colorado Spruce	8' - 9' Ht.	Full 2 1/2' - 3' Sprd. to be approved by Land. Arch. prior to planting
Picea glauca	White Spruce	14' - 16' Ht.	Specimen, Full, 6'-8' Sprd., to be approved by Land. Arch. prior to planting
Picea glauca	White Spruce	8' - 9' Ht.	Full 2 1/2' - 3' Sprd. to be approved by Land. Arch. prior to planting
Betula nigra	River Birch	12' - 14' Ht.	Specimen, Full, 3-5 stems, 7'-9' Sprd., Full, to be approved by Land. Arch. prior to planting
Juniperus chinensis 'Mount Batten'	Mount Batten Juniper	10' - 12 Ht.	Full, 3' - 3 1/2' Sprd. to be approved by Land. Arch. prior to planting
Prunus x yedoensis	Yoshino Cherry	12'-14' Ht.	6-7 Sprd., Full, Straight Trunk
Prunus x yedoensis	Yoshino Cherry	8-10 Ht.	4-5 Sprd., Full, Straight Trunk
Acer Palmatum var. atropurpureum 'Bloodgood'	Bloodgood Japanese Maple	6' - 8' Ht.	SPECIMEN, 6-8' Ht., Full, Multi-trunk, 3-5 canes min, Full branching, 4-5' Spread, to be approved by Land. Arch. prior to planting
Magnolia x soulangiana	Saucer Magnolia	8' - 10' Ht.	8-10' Ht, Full, Multi-trunk, 3-5 canes min. 1" per cane min., Full branching, 6-8' Spread.
Juniperus chinensis 'Iowa'	Iowa Upright Juniper	6' - 8' Ht.	6-8' Ht., 2-3 spread., Full, Straight Trunk
Thuja occidentalis 'Emerald Green'	Emerald Green Arborvitae	9' - 10' Ht.	Full, 3' - 3 1/2' Sprd. to be approved by Land. Arch. prior to planting
Shrubs & Groundcovers			
Chamaecyparis obtusa 'Gracilis Compacta'	Compact Hinoki Falsecypress	4 1/2' - 5' Ht.	Full branching, 3' - 4' Sprd., To be matching specimens tagged by Land. Arch.
Miscanthus sinensis 'Yaku Jima'	Dwarf Miscanthus	24"-30" Ht., 15"-18" Sprd.	Full
Taxus media 'Hicksii'	Hicks Yew	24"-30" Ht., 15"-18" Sprd.	Full
Rhododendron x catawbiense	Catawba Rhododendron	24"-30" Ht. & Sprd.	Full, variety to be approved by the Land. Arch.
Rhododendron P.M.	P.M. Rhododendron	24"-30" Ht. & Sprd.	Full
Juniperus chinensis 'Sea Green'	Sea Green Juniper	20"-22" Ht. 18"-24" Sprd.	Full
Viburnum x juddii	Judd V.burnum	30"-36" Ht. & Sprd.	Full
Hydrangea quercifolia 'Alice'	Oakleaf Hydrangea	30"-36" Ht. & Sprd.	Full
Cornus sericea 'Arctic Fire'	Red Twig Dogwood	30"-36" Ht. & Sprd.	Full
Prunus depressa	Sand Cherry	24"-30" Ht. 15"-18" Sprd.	Full
Buxus mic ophylla 'Green Mountain'	Green Mtn. Box wood	24" Ht. & Sprd.	Perfect Sphere. To be approved by the Land.Arch.
Taxus media 'Densiformis'	Denise Yew	15"-18" Ht. & Sprd.	Full
Mic robiota tes essera	Russian Arborvitae	15"-18" Ht. & Sprd.	Full
Buxus mic ophylla 'Green Mountain'	Green Mountain Box wood	15"-20" Ht. 12"-14" Sprd.	Full
Juniperus virginiana 'Grey Owl'	Grey Owl Juniper	15"-18" Ht. & Sprd.	Full
Juniperus horizontalis 'Plumosa Com pacta'	'Andorra' Juniper	10"-12" Ht. 15"-18" Ht.	Full
Pachy sandra terminalis	Pachy sandra	4" pot / 1 Gallon	6"-9" Ht. & Sprd.
Hosta 'Big Mama'	Big Mama' Hosta	14"-16" Sprd. 12" Ht.	Full, Well Rooted
Seasonal Color	Varies	4" pot / 8" O.C.	To be approved by Land. Arch. prior to planting

PLAN — PLANTING
SCALE: 1"=40'-0"

HANOVER CROSSING

Washington St.
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05-17-19 Special Permit
ISSUES:

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LANDSCAPE ARCHITECTS
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5847 SAN FELIPE SUITE 3600
HOUSTON TEXAS 77057

COMMONWEALTH OF MASSACHUSETTS
No. 16705
REGISTERED LANDSCAPE ARCHITECT

DRAWN: WBM / GCG / DPM
PROJECT: 535
PLOT DATE: 05-17-19
SHEET NUMBER: L6.01

KELLY ENGINEERING GROUP, INC.
0 Campanelli Drive-Braintree-MA 02184 Phone 781 843 4333

Attachment 13- Hanover Crossing Residential Architectural Plans

Gross Building Areas

Building Type	Gross Building Area	Quantity On Site	Total Area per Bldg Type
Building T01	73,800 SF	1	73,800 SF
Building T02	68,273 SF	2	136,546 SF
Building T03	94,984 SF	1	94,984 SF
		Total Gross Construction Area	**333,871 SF**

Project Density

Land Area	8.10	Acres
Unit Density	36.67	Units Per Acre

Project Parking

Required Parking Per City Code

Unit Type	Parking Ratio Req'd	Number of Units	Req'd Parking
Efficiency	1.000	30	30
1 Bedroom	1.000	158	158
2 Bedroom	1.000	97	97
3 Bedroom	1.000	12	12
Total Spaces Required			**297 Spaces**

Provided Parking Spaces	
Surface (Uncovered)	400
Surface (Covered)	0
Tuck Under Garages	30
Garage Tandem	30
Detached Garages	23
Visitor Parking	0
Total Spaces Provided	**483 Spaces**
Parking Ratio - Spaces / Unit	**1.63 Spaces/Unit**
Parking Ratio - Spaces / Bedroom	**1.16 Spaces/Br**
Total Spaces Provided (Less Tandem Spaces)	**453 Spaces**
Parking Ratio - Spaces / Unit	**1.53 Spaces/Unit**
Parking Ratio - Spaces / Bedroom	**1.08 Spaces/Br**

Hanover Crossing

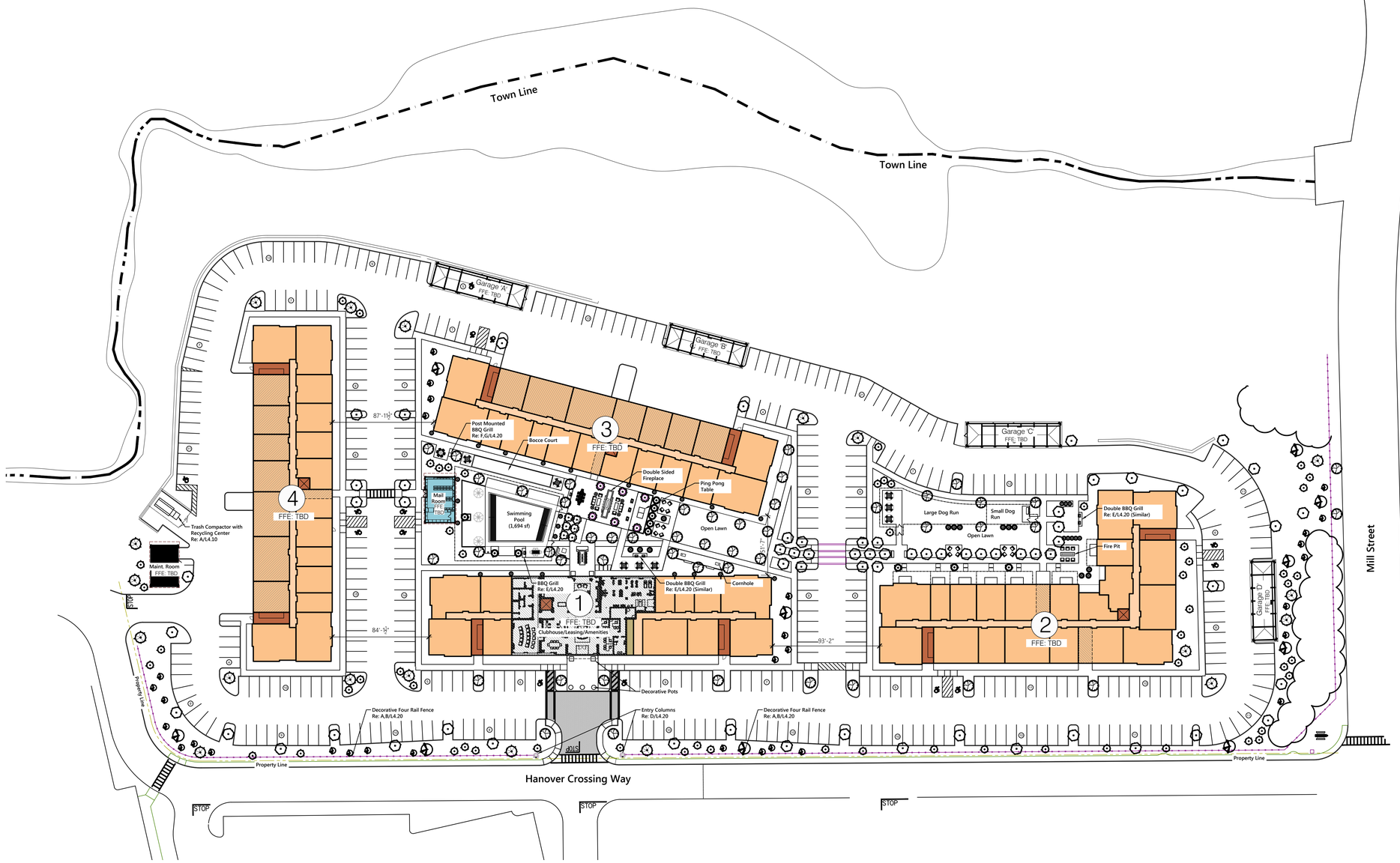
WPI Project 18-41 — **4 Story Surface Parked** — **Version 05 - 05/17/2019**

Unit Areas

Type	Description	No.	Unit Areas Net	Unit Areas Balc.	Unit Areas Gross	Total Areas Net	Total Areas Gross
A0	Studio, One Bedroom, One Bath	30	535	0	535	16,050	16,050
A1	One Bedroom, One Bath	4	683	130	813	2,732	3,252
A2	One Bedroom, One Bath	11	732	0	732	8,052	8,052
A3	One Bedroom, One Bath	48	725	0	725	34,800	34,800
A4	One Bedroom, One Bath	62	789	0	789	48,918	48,918
A5	One Bedroom, One Bath	29	852	0	852	24,708	24,708
A5-G2	One Bedroom, One Bath	0	852	0	852	0	0
A6	One Bedroom, One Bath	3	925	63	988	2,775	2,964
A6.1	One Bedroom, One Bath	1	854	63	917	854	917
B1	Two Bedroom, Two Bath	12	1192	0	1,192	14,304	14,304
B2	Two Bedroom, Two Bath	20	1217	0	1,217	24,340	24,340
B3	Two Bedroom, Two Bath	41	1233	0	1,233	50,553	50,553
B3-G2	Two Bedroom, Two Bath	0	1233	0	1,233	0	0
B4	Two Bedroom, Two Bath	4	1303	0	1,303	5,212	5,212
B5	Two Bedroom, Two Bath	20	1327	0	1,327	26,540	26,540
C1	Three Bedroom, Two Bath	12	1468	0	1,468	17,616	17,616
C1-G2	Three Bedroom, Two Bath	0	1468	0	1,468	0	0
	Total Units:	297					
	Rentable Area at Units:					277,454	278,226
	Avg. Net Unit Size:				934		**Avg. Net Unit Size /Type**
	Avg. Gross Unit Size:				937		
	Total Studio Units:				30	10.1%	535
	Total One Bedroom Units:				158	53.2%	1543
	Total Two Bedroom Units:				97	32.7%	1247
	Total Three Bedroom Units				12	4.0%	1468
	Total Bedrooms:				418		

Leasing, Amenity and Misc. Areas

Leasing & Amenity Area	7,694 SF
Garages (Tuck-Under)	12,966 SF
Garages (Detached)	5,978 SF
Mail/Maint.	1,903 SF
Total Miscellaneous Area	**28,541 SF**



1 **Overall Site Plan**

SCALE: 1" = 40'-0"

These drawings have been prepared for Town of Hanover Review and are Not for Construction.

W PARTNERSHIP
Wallace · Wilson · Architects
4550 Post Oak Place Dr. Suite 100 · Houston, Texas · 77027 · 713.993.0439
www.wpartnership.com

No.	Date:	Revision Description:

Hanover Crossing

Washington St.
Hanover, MA 02339

THE HANOVER COMPANY

SPECIAL PERMIT FILING - ISSUED 05/17/2019

5/17/2019

REGISTERED ARCHITECT — FRED T. WILSON — 30812 — 2012 — HOUSTON, TX — COMMONWEALTH OF MASSACHUSETTS

Architect of Record: **Fred T. Wilson**

Registration Number: **30812**

Issued:

PROJECT NO: **18-41**

SHEET CONTENTS: Overall Site Plan

SHEET NO: **A1.1.01**

Date Plotted: May 23, 2019 10:49am
T:\Hanover\18-41\E-Cad\Sheets\A1_Site\A1.1.01 Overall Site Plan.dwg

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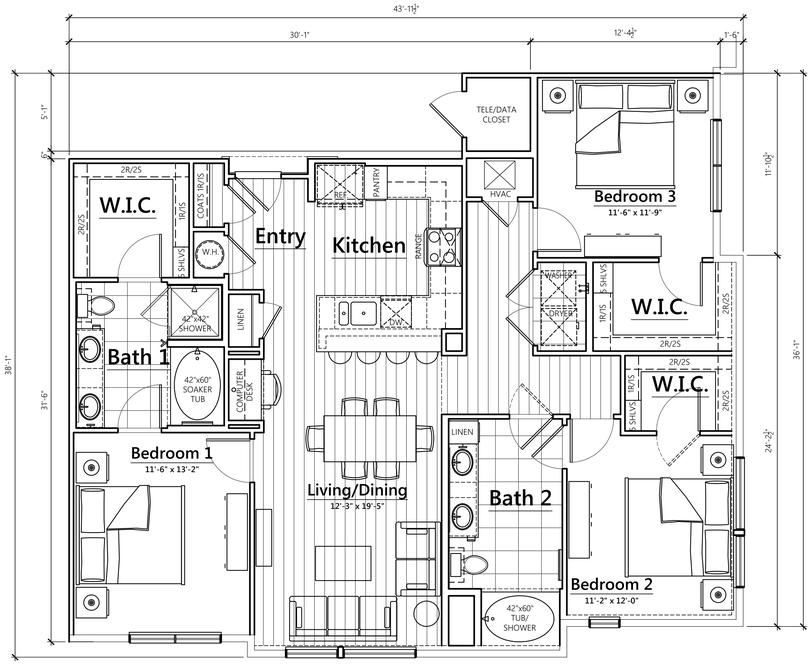
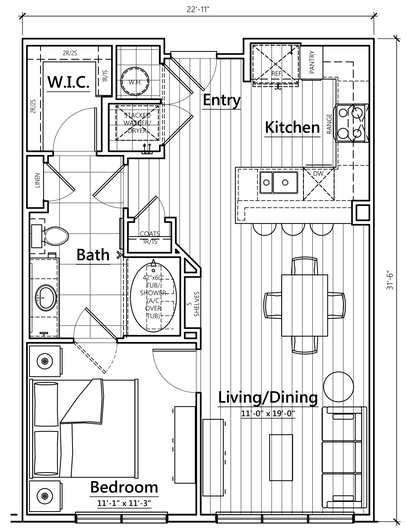


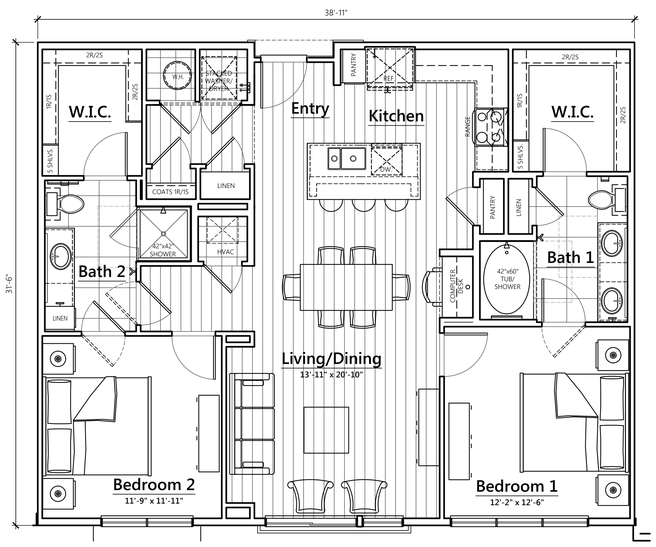
Unit C1 - Typical
Three Bedroom, Two Bath

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



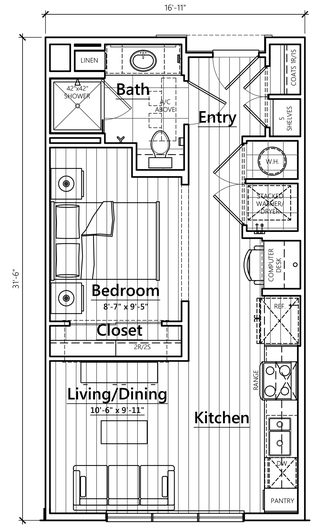
Unit A3 - Typical
One Bedroom, One Bath

2 SCALE: 1/4" = 1'-0"



Unit B3 - Typical
Two Bedroom, Two Bath

3 SCALE: 1/4" = 1'-0"



Unit A0 - Typical
Studio One Bedroom, One Bath

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

4' 0 4'

(IN FEET)
1/4 inch = 1 foot

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THE HANOVER COMPANY

SPECIAL PERMIT FILING - ISSUED 05/17/2019

5/17/2019

Architect of Record: **Fred T. Wilson**
Registration Number: **30812**

Issued:

PROJECT NO: **18-41**

SHEET CONTENTS:
Typical Unit Plans

SHEET NO:
A3.1.00

Date Plotted: May 23, 2019 10:43am
T:\Hanover\18-41\Z-Cad\Sheets\A3_Units\A3.1.00 Typical Unit Plans.dwg

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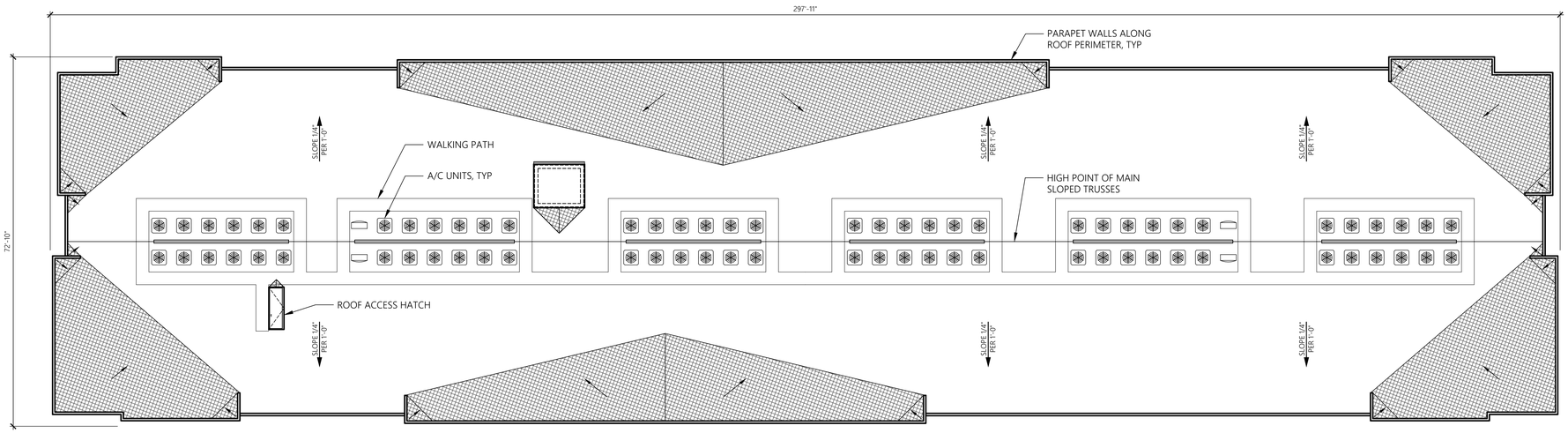
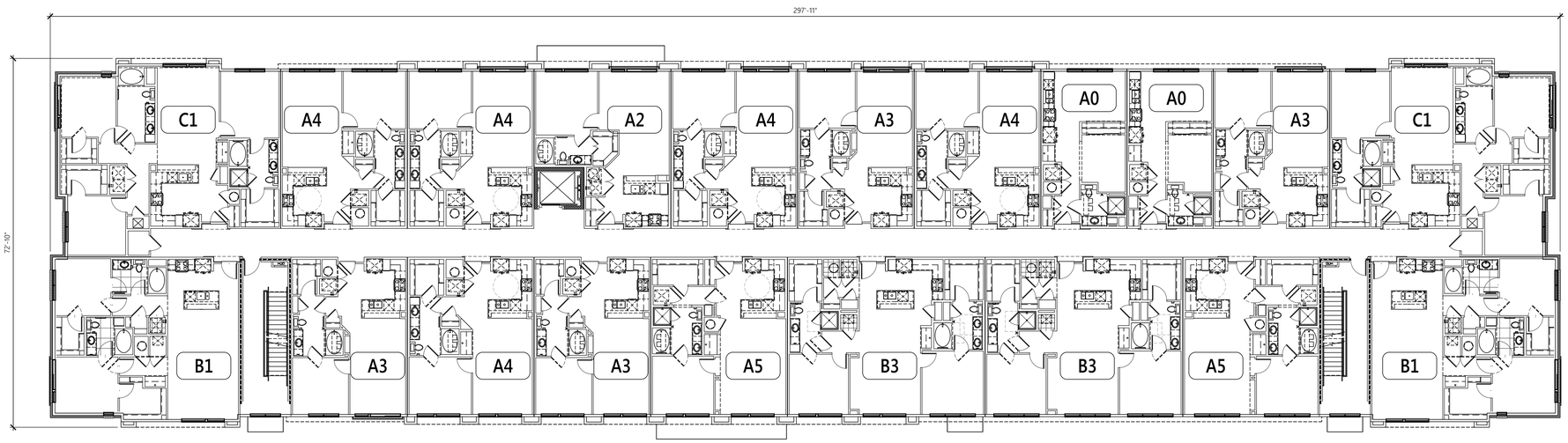


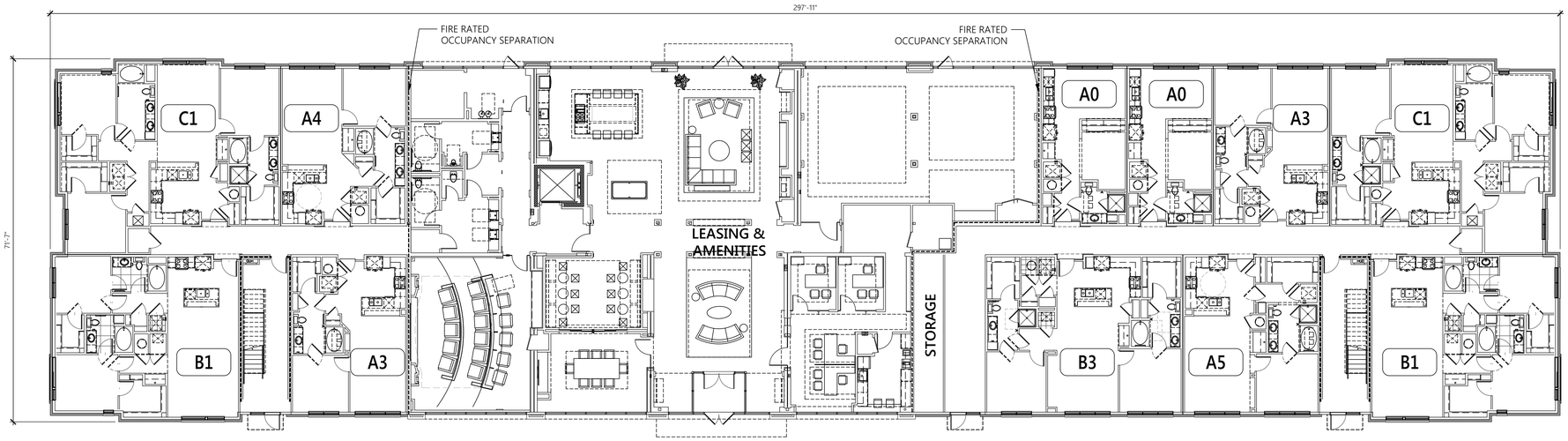
3 BUILDING TYPE 1 - ROOF PLAN

SCALE: 3/32" = 1'-0"



2 BUILDING TYPE 1 - TYPICAL PLAN - LEVELS 2-4

SCALE: 3/32" = 1'-0"



1 BUILDING TYPE 1 - FLOOR PLAN - LEVEL 1

SCALE: 3/32" = 1'-0"

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5/17/2019

Architect of Record: **Fred T. Wilson**
Registration Number: **30812**

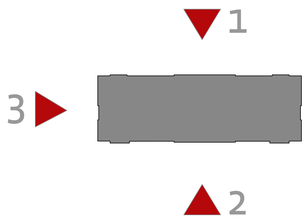
Issued:

PROJECT NO: **18-41**

SHEET CONTENTS:
Building Type 1 - Building Plans

SHEET NO.
A4.1.00

Date Plotted: May 23, 2019 10:49am
T:\Hanover\18-41\E-Cad\Sheets\A4_Bldgs\A4.1.00 Building Type 1 - Overall Building Plans.dwg



EXTERIOR ELEVATIONS LEGEND:

1	BRICK 1 **(GLEN GARY DARK GRAY S77)**
2	BRICK 2 **(GLEN GARY COOLSPRING)**
3	FIBER CEMENT LAP SIDING 6 1/4" WIDE & 5" EXPOSURE (P2 - SW 7031 MEGA GREIGE)
4	FIBER CEMENT PANEL BOARD W/ EASY TRIM JOINTS (P3 = SW 7042 SHOJI WHITE)
5	FIBER CEMENT PANEL BOARD W/ EASY TRIM JOINTS (P2 = SW 7031 MEGA GREIGE)
6	VINYL WINDOWS **(DESERT SAND)**
7	VINYL SLIDING GLASS DOORS **(DESERT SAND)**
8	ALUMINUM STOREFRONT SYSTEMS **(DARK BRONZE)**
9	ALUMINUM JULIET GUARDRAILS **(P1 - SW 7020 BLACK FOX)**
10	METAL CANOPY **(P1 - SW 7020 BLACK FOX)**
11	UP/DOWN ARCHITECTURAL LIGHT FIXTURES
12	WALL SCONCES
13	ALUMINUM GARAGE DOORS **(P2 - SW 7031 MEGA GREIGE)**
14	COMPOSITION SHINGLES
15	LIT CANOPY SIGNAGE
16	PAINTED METAL DOORS **(P1 - SW 7020 BLACK FOX)**
17	FIBER CEMENT TRIM FRAMED CANOPY/EYEBROW (P1 - SW 7020 BLACK FOX)

These drawings have been prepared for Town of Hanover Review and are Not for Construction.

3 BUILDING ELEVATIONS 03

SCALE: 3/32" = 1'-0"

2 BUILDING ELEVATIONS 02

SCALE: 3/32" = 1'-0"

1 BUILDING ELEVATIONS 01

SCALE: 3/32" = 1'-0"

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5/17/2019

REGISTERED ARCHITECT FRED T. WILSON 30812 HOUSTON TX COMMONWEALTH OF MASSACHUSETTS

Architect of Record: **Fred T. Wilson**
Registration Number: **30812**

Issued:

PROJECT NO: **18-41**

SHEET CONTENTS:
Building Type 1 - Building Elevations

SHEET NO:
A4.1.10

Date Plotted: May 23, 2019 10:49am
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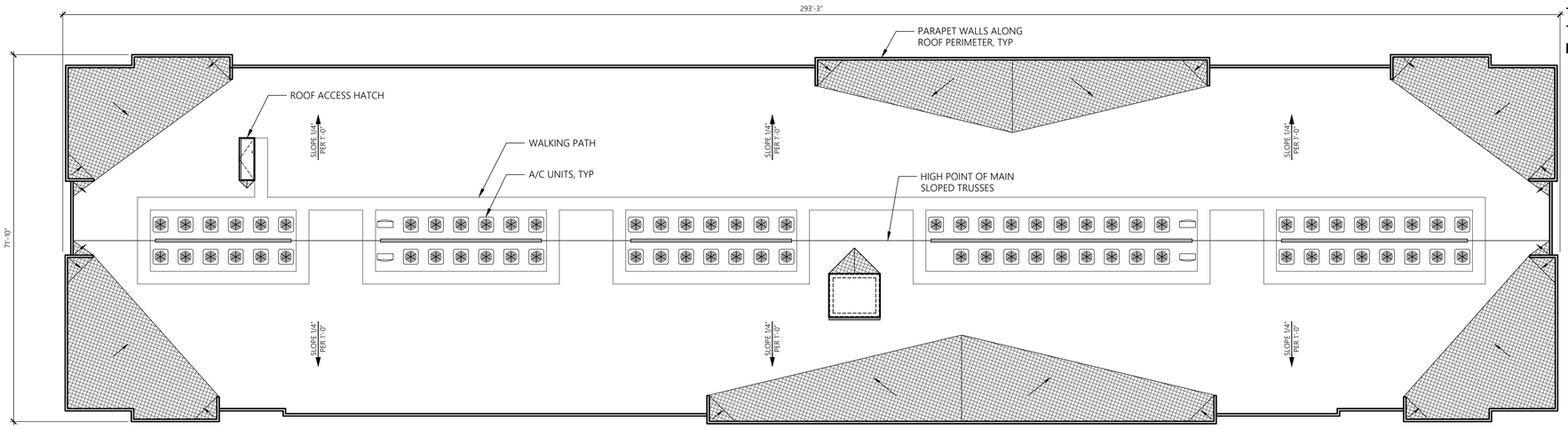
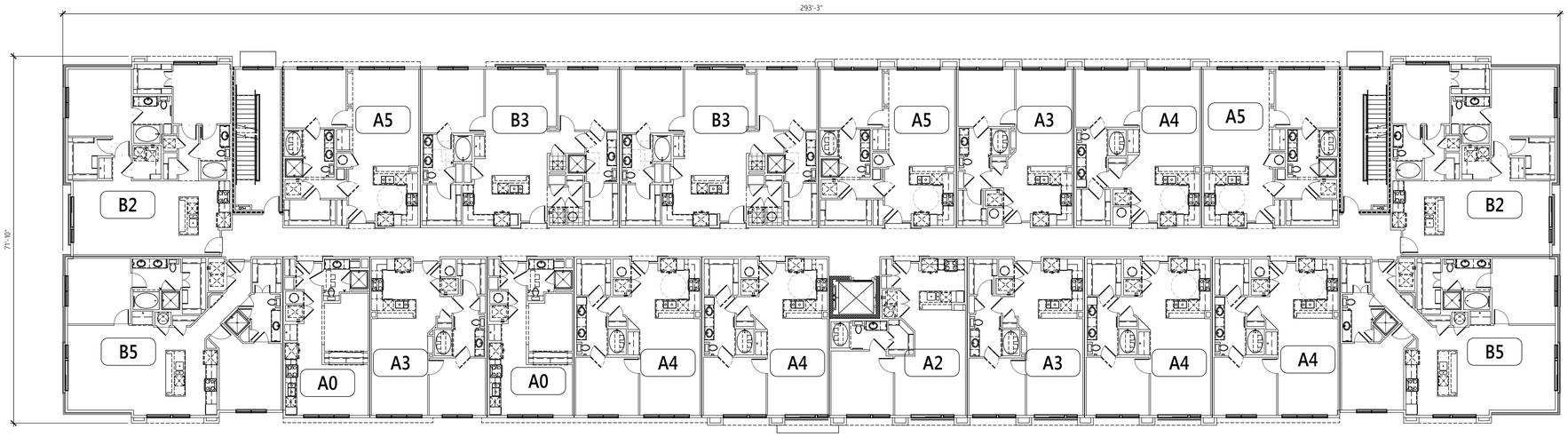


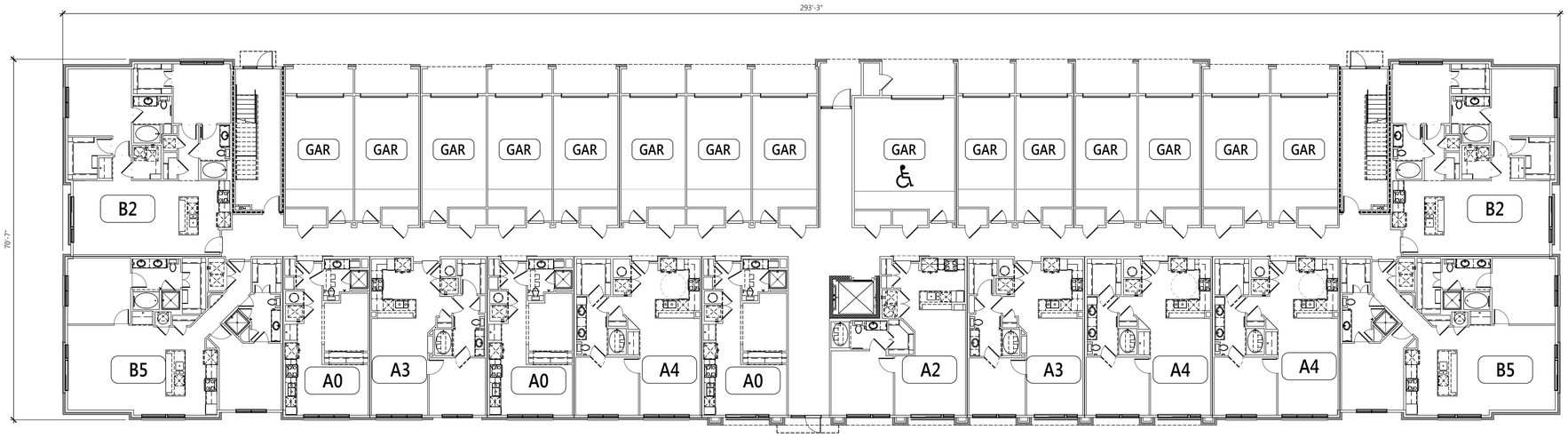
3 BUILDING TYPE 2 - ROOF PLAN

SCALE: 3/32" = 1'-0"



2 BUILDING TYPE 2 - TYPICAL PLAN - LEVELS 2-4

SCALE: 3/32" = 1'-0"



1 BUILDING TYPE 2 - FLOOR PLAN - LEVEL 1

SCALE: 3/32" = 1'-0"

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REGISTERED ARCHITECT — FRED T. WILSON — 30812 — HOUSTON TX — COMMONWEALTH OF MASSACHUSETTS

Architect of Record: **Fred T. Wilson**
Registration Number: **30812**

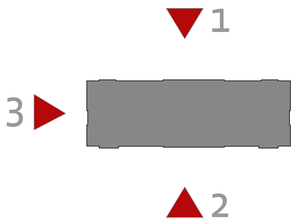
Issued:

PROJECT NO: 18-41

SHEET CONTENTS:
Building Type 2 - Building Plans

SHEET NO.
A4.2.00

Date Plotted: May 23, 2019 10:49am
T:\Hanover\18-41\E-Cad\Sheets\A4_Bldgs\A4.2.00 Building Type 2 - Building Plans.dwg



EXTERIOR ELEVATIONS LEGEND:

1	BRICK 1 **(GLEN GARY DARK GRAY S77)**
2	BRICK 2 **(GLEN GARY COOLSPRING)**
3	FIBER CEMENT LAP SIDING 6 1/4" WIDE & 5" EXPOSURE (P2 - SW 7031 MEGA GREIGE)
4	FIBER CEMENT PANEL BOARD W/ EASY TRIM JOINTS (P3 = SW 7042 SHOJI WHITE)
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9	ALUMINUM JULIET GUARDRAILS **(P1 - SW 7020 BLACK FOX)**
10	METAL CANOPY **(P1 - SW 7020 BLACK FOX)**
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13	ALUMINUM GARAGE DOORS **(P2 - SW 7031 MEGA GREIGE)**
14	COMPOSITION SHINGLES
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16	PAINTED METAL DOORS **(P1 - SW 7020 BLACK FOX)**
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These drawings have been prepared for Town of Hanover Review and are Not for Construction.

3 BUILDING ELEVATIONS 03

SCALE: 3/32" = 1'-0"

2 BUILDING ELEVATIONS 02

SCALE: 3/32" = 1'-0"

1 BUILDING ELEVATIONS 01

SCALE: 3/32" = 1'-0"

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REGISTERED ARCHITECT FRED T. WILSON 30812 HOUSTON TX COMMONWEALTH OF MASSACHUSETTS

Architect of Record: **Fred T. Wilson**
Registration Number: **30812**

Issued:

PROJECT NO: **18-41**

SHEET CONTENTS:
Building Type 2 - Building Elevations

SHEET NO.
A4.2.10

Date Plotted: May 23, 2019 10:49am
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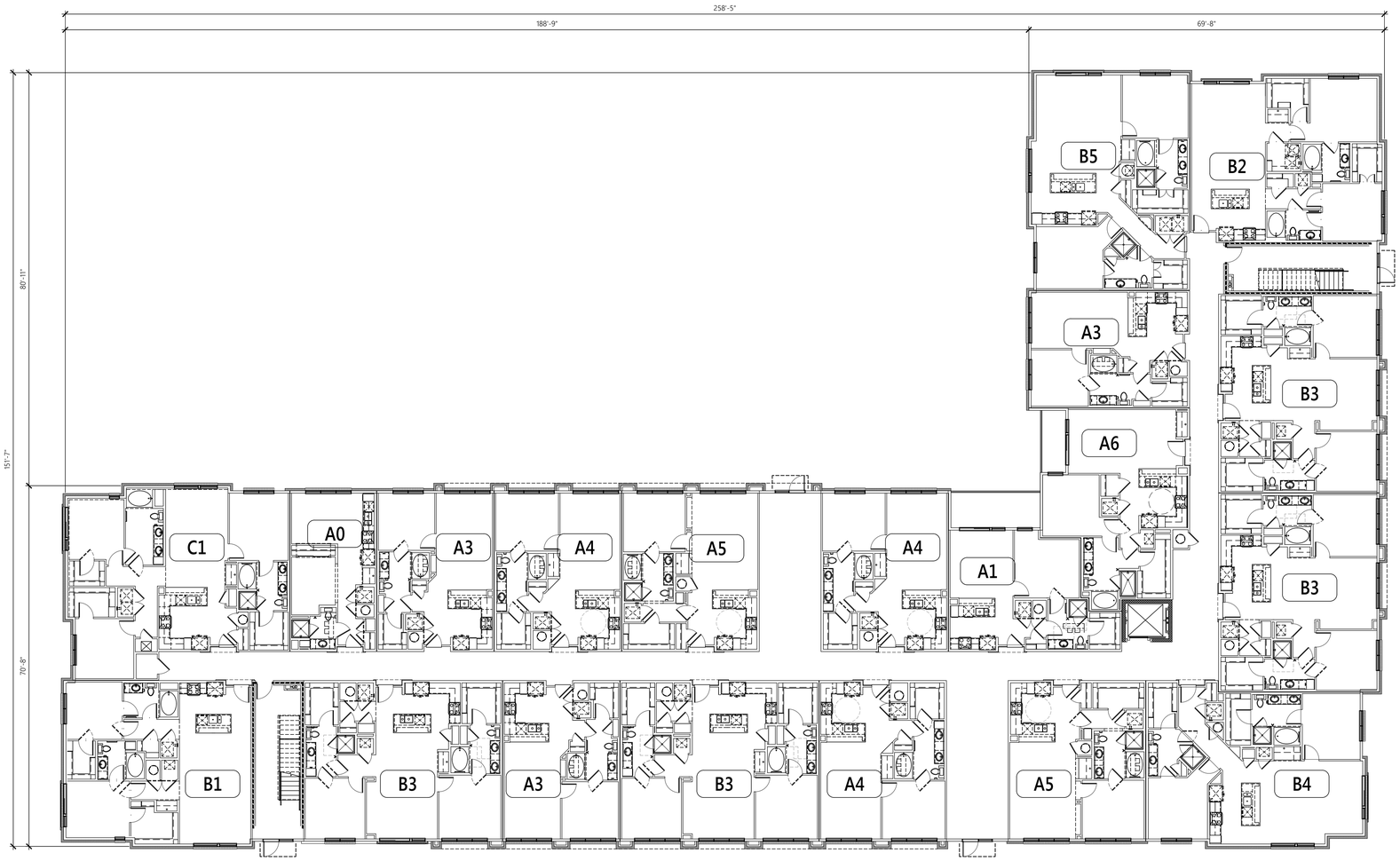

1 BUILDING TYPE 3 - FLOOR PLAN - LEVEL 1

SCALE: 3/32" = 1'-0"

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REGISTERED ARCHITECT
FRED T. WILSON
NO. 30812
HOUSTON TX
COMMONWEALTH OF MASSACHUSETTS

Architect of Record: Fred T. Wilson
Registration Number: 30812

Issued:

PROJECT NO: 18-41

SHEET CONTENTS:
Building Type 3 - Building Plans

SHEET NO.
A4.3.00

Date Plotted: May 23, 2019 10:50am
T:\Hanover\18-41\E-Cad\Sheets\A4_Bldgs\A4.3.00 Building Type 3 - Building Plans.dwg

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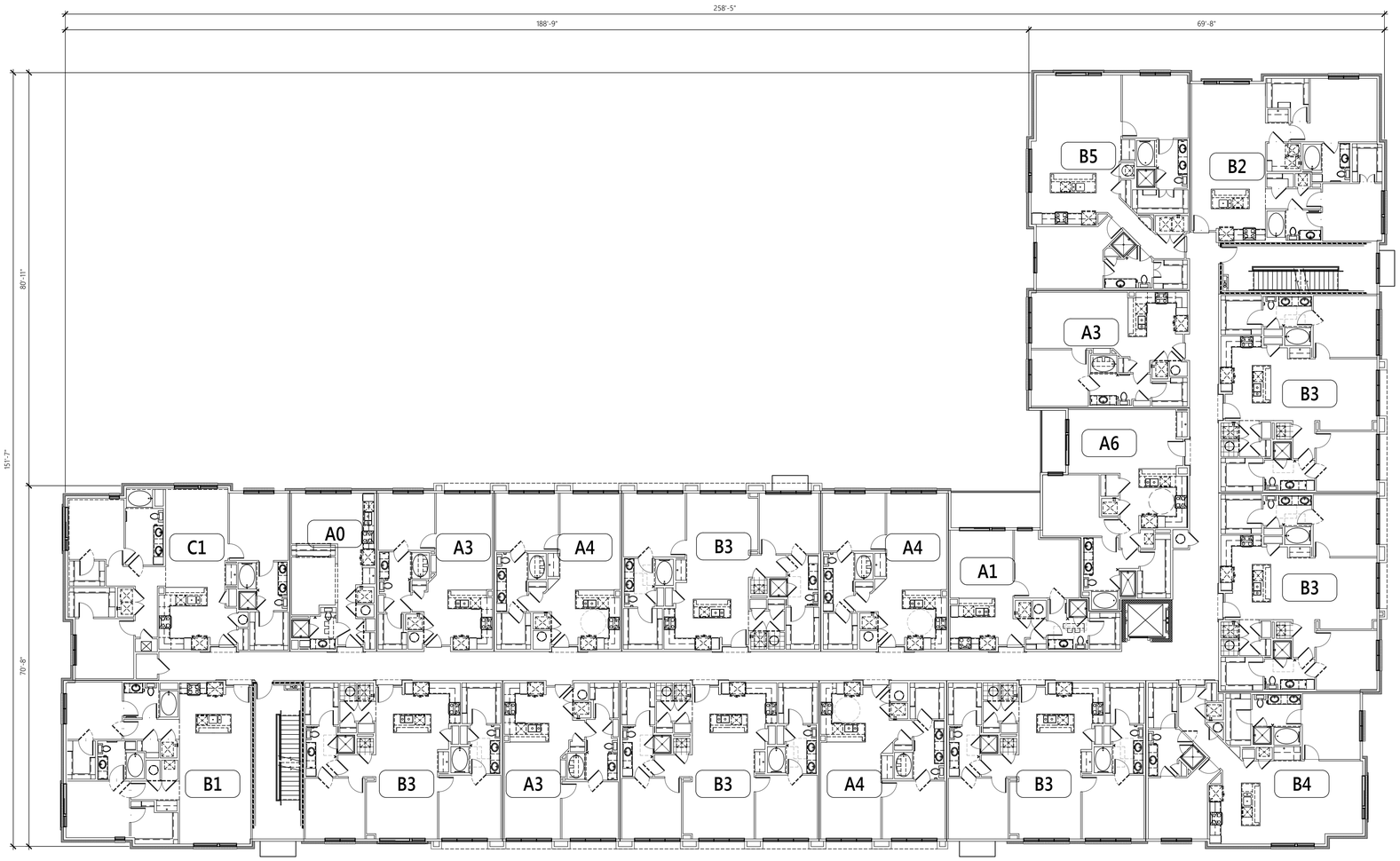

1 BUILDING TYPE 3 - TYPICAL PLAN - LEVELS 2-4

SCALE: 3/32" = 1'-0"

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REGISTERED ARCHITECT
FRED T. WILSON
No. 30812
HOUSTON TX
COMMONWEALTH OF MASSACHUSETTS

Architect of Record: Fred T. Wilson
Registration Number: 30812

Issued:

PROJECT NO: 18-41

SHEET CONTENTS:
Building Type 3 - Building Plans

SHEET NO.
A4.3.01

Date Plotted: May 23, 2019 10:50am
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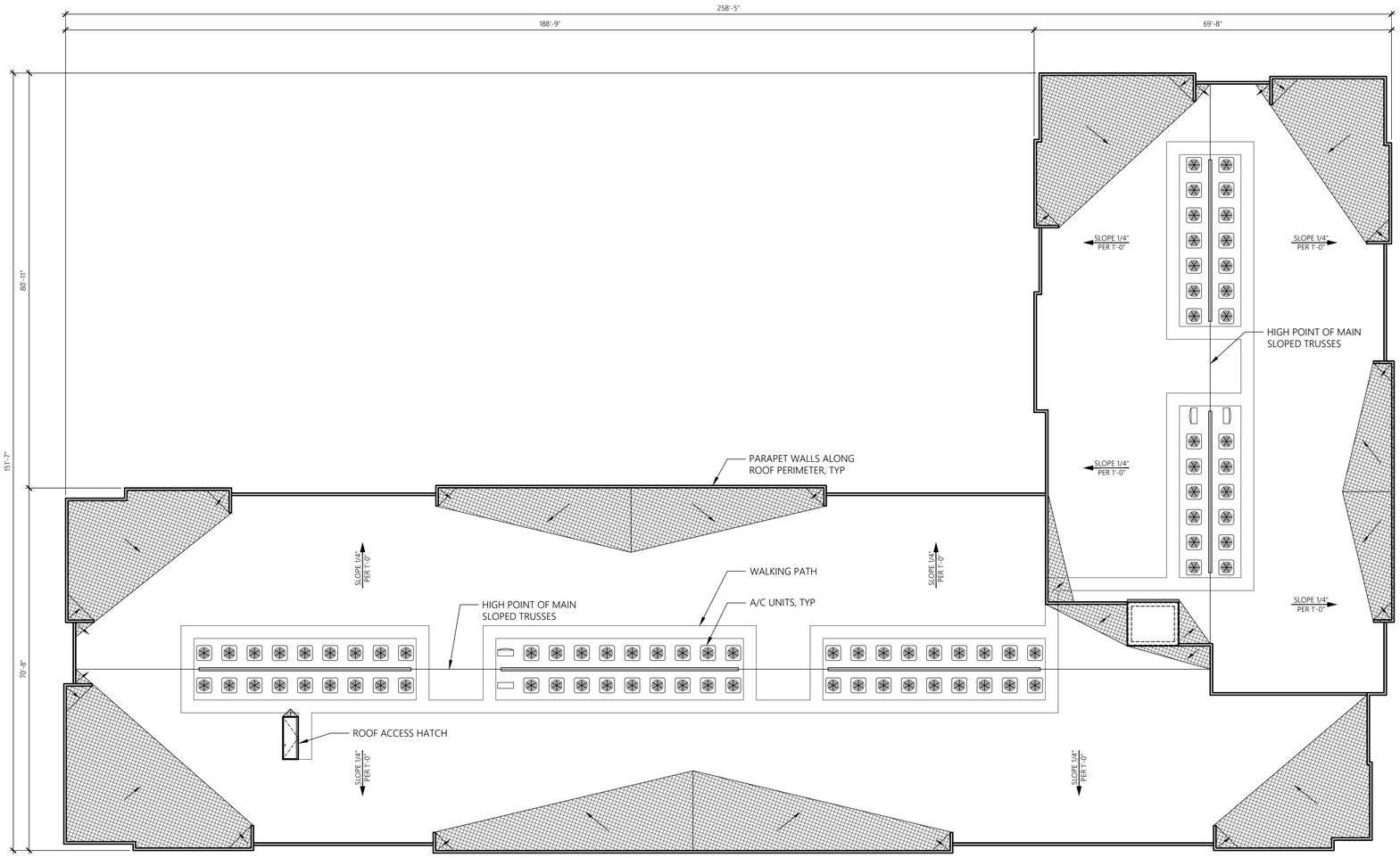

1 BUILDING TYPE 3 - ROOF PLAN

SCALE: 3/32" = 1'-0"

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5/17/2019

REGISTERED ARCHITECT FRED T. WILSON 30812 HOUSTON TX COMMONWEALTH OF MASSACHUSETTS

Architect of Record: **Fred T. Wilson**
Registration Number: **30812**

Issued:

PROJECT NO: **18-41**

SHEET CONTENTS:
Building Type 3 - Building Plans

SHEET NO:
A4.3.02

Date Plotted: May 23, 2019 10:50am
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4 **BUILDING ELEVATIONS 04**
SCALE: 3/32" = 1'-0"

3 **BUILDING ELEVATIONS 03**
SCALE: 3/32" = 1'-0"

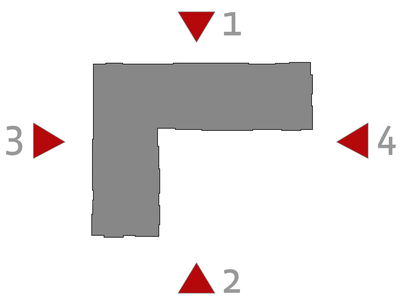
2 **BUILDING ELEVATIONS 02**
SCALE: 3/32" = 1'-0"

1 **BUILDING ELEVATIONS 01**
SCALE: 3/32" = 1'-0"

These drawings have been prepared for Town of Hanover Review and are Not for Construction.

EXTERIOR ELEVATIONS LEGEND:

1. BRICK 1 **(GLEN GARY DARK GRAY S77)**
2. BRICK 2 **(GLEN GARY COOLSPRING)**
3. FIBER CEMENT LAP SIDING 6 1/4" WIDE & 5" EXPOSURE (P2 - SW 7031 MEGA GREIGE)
4. FIBER CEMENT PANEL BOARD W/ EASY TRIM JOINTS (P3 = SW 7042 SHOJI WHITE)
5. FIBER CEMENT PANEL BOARD W/ EASY TRIM JOINTS (P2 = SW 7031 MEGA GREIGE)
6. VINYL WINDOWS **(DESERT SAND)**
7. VINYL SLIDING GLASS DOORS **(DESERT SAND)**
8. ALUMINUM STOREFRONT SYSTEMS **(DARK BRONZE)**
9. ALUMINUM JULIET GUARDRAILS **(P1 - SW 7020 BLACK FOX)**
10. METAL CANOPY **(P1 - SW 7020 BLACK FOX)**
11. UP/DOWN ARCHITECTURAL LIGHT FIXTURES
12. WALL SCONCES
13. ALUMINUM GARAGE DOORS **(P2 - SW 7031 MEGA GREIGE)**
14. COMPOSITION SHINGLES
15. LIT CANOPY SIGNAGE
16. PAINTED METAL DOORS **(P1 - SW 7020 BLACK FOX)**
17. FIBER CEMENT TRIM FRAMED CANOPY/EYEBROW (P1 - SW 7020 BLACK FOX)



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5/17/2019

REGISTERED ARCHITECT FRED T. WILSON 30812 HOUSTON TX COMMONWEALTH OF MASSACHUSETTS

Architect of Record: **Fred T. Wilson**
Registration Number: **30812**

Issued:

PROJECT NO: **18-41**

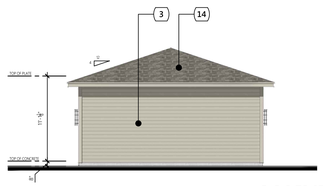
SHEET CONTENTS:
Building Type 3 - Building Elevations

SHEET NO.
A4.3.10

Date Plotted: May 23, 2019 10:50am
T:\Hanover\18-41\E-Cad\Sheets\A4_Bldgs\A4.2.30 Building Type 3 - Building Elevations.dwg

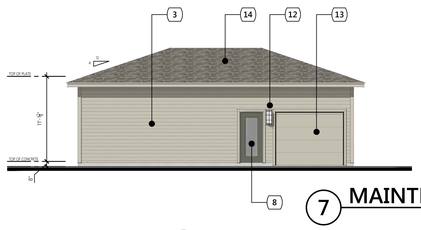
EXTERIOR ELEVATIONS LEGEND:

1. BRICK 1 **(GLEN GARY DARK GRAY S77)**
2. BRICK 2 **(GLEN GARY COOLSPRING)**
3. FIBER CEMENT LAP SIDING 6 1/4" WIDE & 5" EXPOSURE (P2 - SW 7031 MEGA GREIGE)
4. FIBER CEMENT PANEL BOARD W/ EASY TRIM JOINTS (P3 = SW 7042 SHOJI WHITE)
5. FIBER CEMENT PANEL BOARD W/ EASY TRIM JOINTS (P2 = SW 7031 MEGA GREIGE)
6. VINYL WINDOWS **(DESERT SAND)**
7. VINYL SLIDING GLASS DOORS **(DESERT SAND)**
8. ALUMINUM STOREFRONT SYSTEMS **(DARK BRONZE)**
9. ALUMINUM JULIET GUARDRAILS **(P1 - SW 7020 BLACK FOX)**
10. METAL CANOPY **(P1 - SW 7020 BLACK FOX)**
11. UP/DOWN ARCHITECTURAL LIGHT FIXTURES
12. WALL SCONCES
13. ALUMINUM GARAGE DOORS **(P2 - SW 7031 MEGA GREIGE)**
14. COMPOSITION SHINGLES
15. LIT CANOPY SIGNAGE
16. PAINTED METAL DOORS **(P1 - SW 7020 BLACK FOX)**
17. FIBER CEMENT TRIM FRAMED CANOPY/EYEBROW (P1 - SW 7020 BLACK FOX)



9 MAINTENANCE BLDG. ELEVATION 9
SCALE: 1/8" = 1'-0"

8 MAINTENANCE BLDG. ELEVATION 8
SCALE: 1/8" = 1'-0"



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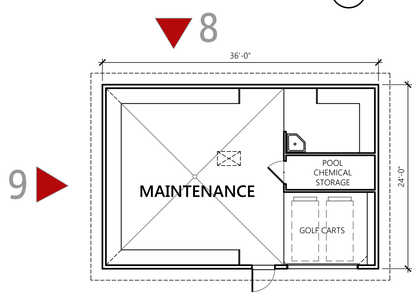
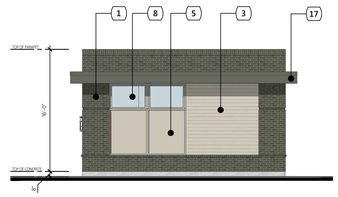
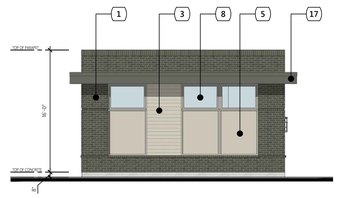
SCALE: 1/8" = 1'-0"



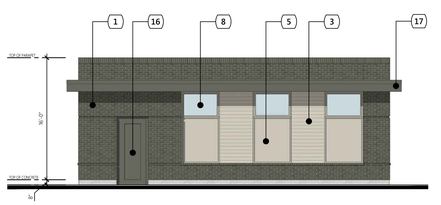
2 MAINTENANCE BUILDING PLAN
SCALE: 1/8" = 1'-0"



6 MAIL BLDG. ELEVATION 6
SCALE: 1/8" = 1'-0"



5 MAIL BLDG. ELEVATION 5
SCALE: 1/8" = 1'-0"



4 MAIL BLDG. ELEVATION 4
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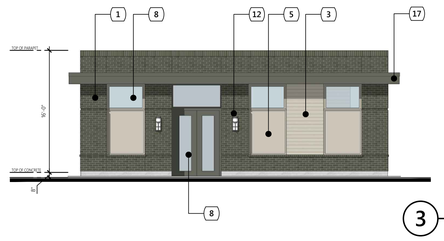
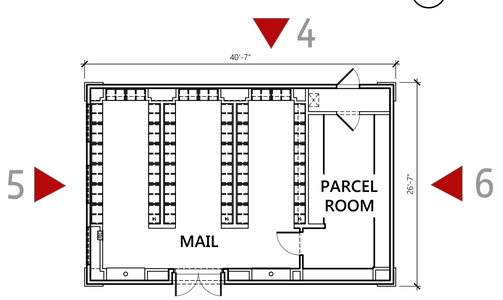


3 MAIL BLDG. ELEVATION 3
SCALE: 1/8" = 1'-0"



1 MAIL BUILDING PLAN
SCALE: 1/8" = 1'-0"

These drawings have been prepared for Town of Hanover Review and are Not for Construction.

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No.	Date:	Revision Description:

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Washington St.
Hanover, MA 02339

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5/17/2019

REGISTERED ARCHITECT — FRED T. WILSON — 30812 — HOUSTON TX — COMMONWEALTH OF MASSACHUSETTS

Architect of Record: **Fred T. Wilson**
Registration Number: **30812**

Issued:

PROJECT NO: **18-41**

SHEET CONTENTS:
Mail & Maintenance - Plans & Elevations

SHEET NO.
A6.2.01

Date Plotted: May 23, 2019 10:50am
T:\Hanover\18-41\E-Cad\Sheets\A6_OtherAreas\A6.2.01 Mail & Maintenance - Plans & Elevations.dwg

These drawings have been prepared for Town of Hanover Review and are Not for Construction.

EXTERIOR ELEVATIONS LEGEND:

1. BRICK 1 **(GLEN GARY DARK GRAY S77)**
2. BRICK 2 **(GLEN GARY COOLSPRING)**
3. FIBER CEMENT LAP SIDING 6 1/4" WIDE & 5" EXPOSURE (P2 - SW 7031 MEGA GREIGE)
4. FIBER CEMENT PANEL BOARD W/ EASY TRIM JOINTS (P3 = SW 7042 SHOJI WHITE)
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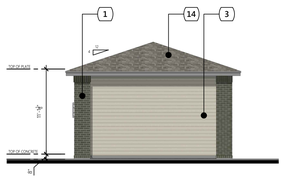
17. FIBER CEMENT TRIM FRAMED CANOPY/EYEBROW (P1 - SW 7020 BLACK FOX)



14 5 CAR HC W/ BIKE STORAGE DET. GAR. ELEVATION 14
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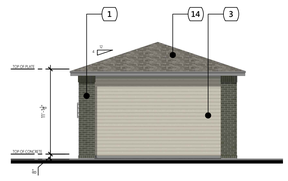

10 6 CAR W/ BIKE STORAGE DET. GARAGE ELEVATION 10
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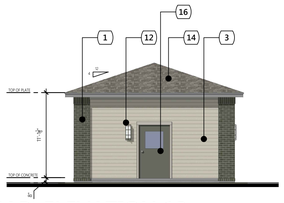

13 5 CAR HC W/ BIKE STORAGE DET. GAR. ELEVATION 13
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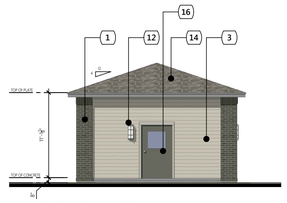

9 6 CAR W/ BIKE STORAGE DET. GARAGE ELEVATION 9
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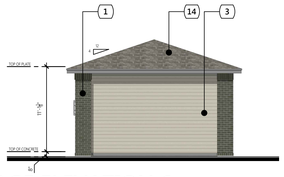

6 6 CAR DETACHED GARAGE ELEVATION 6
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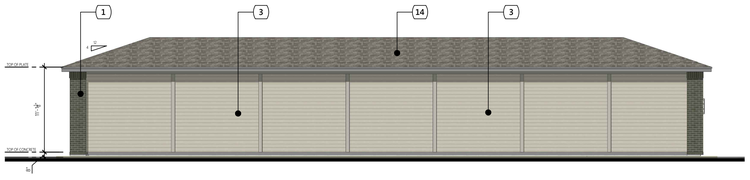

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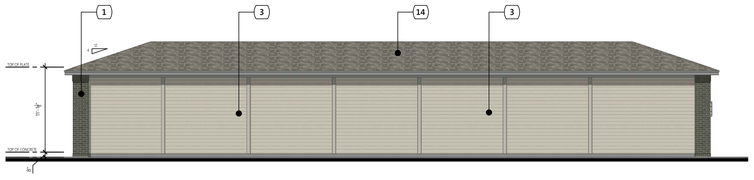

8 6 CAR W/ BIKE STORAGE DET. GARAGE ELEVATION 8
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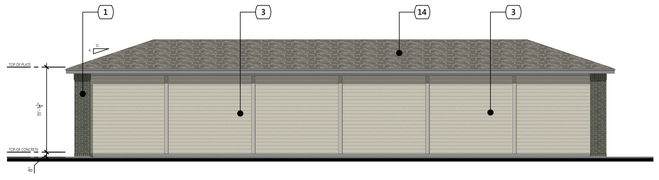

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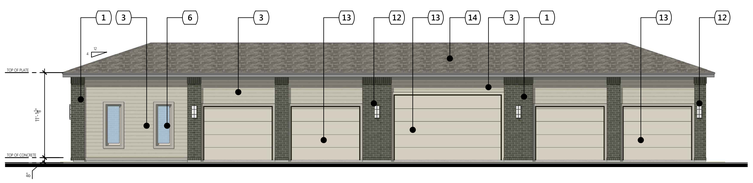

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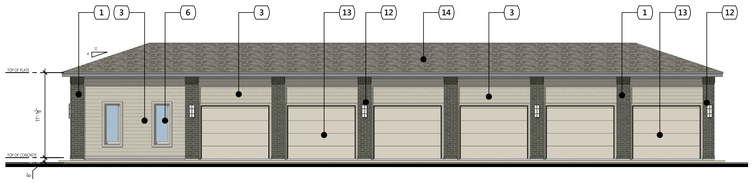

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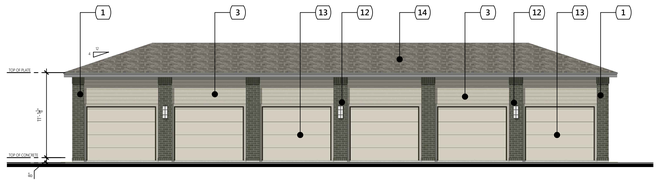

4 6 CAR DETACHED GARAGE ELEVATION 4
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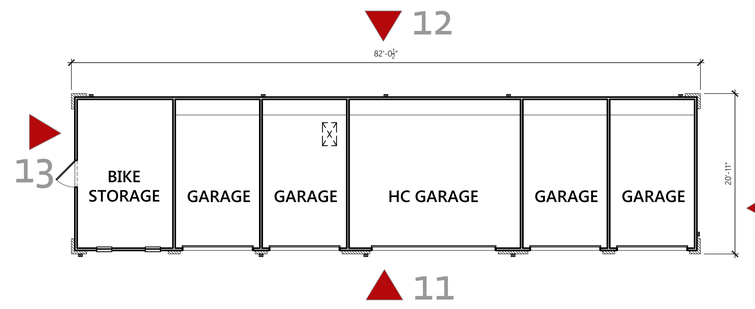
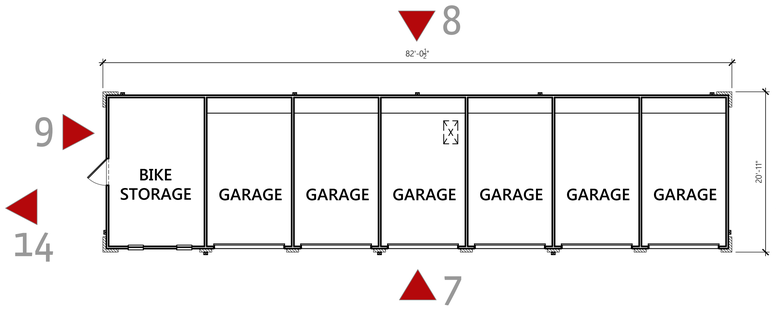
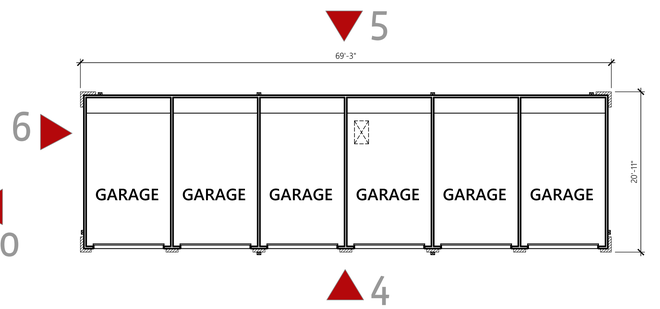


3 5 CAR HC W/ BIKE STORAGE DETACHED GARAGE PLAN
SCALE: 1/8" = 1'-0"



2 6 CAR W/ BIKE STORAGE DETACHED GARAGE PLAN
SCALE: 1/8" = 1'-0"



1 6 CAR DETACHED GARAGE PLAN
SCALE: 1/8" = 1'-0"

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REGISTERED ARCHITECT · FRED T. WILSON · 30812 · HOUSTON TX · COMMONWEALTH OF MASSACHUSETTS

Architect of Record: **Fred T. Wilson**
Registration Number: **30812**

Issued:

PROJECT NO: **18-41**

SHEET CONTENTS:
Detached Garage - Plans & Elevations

SHEET NO.
AG1.1.01

Date Plotted: May 23, 2019 10:50am
T:\Hanover\18-41\E-Cad\Sheets\AG_Garage\AG1.1.01 Detached Garage - Plans & Elevations.dwg

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