



Meeting Agenda

The Provincetown Board of Selectmen will hold a public meeting on Monday, June 13, 2016, at 6:00 p.m., in the Judge Welsh Room, Town Hall, 260 Commercial Street, Provincetown, MA 02657.

Presentation of the Community and Government Service Award to Rachel White.

Consent Agenda – Approval without objection required for the following items:

- A. Parade Permit submitted by Heidi Bolinder & Christine Walker, 16A Burgess Lane, Wellfleet, MA 02667, on behalf of the Provincetown Film Festival, for closing a portion of Commercial Street between Carver & Court Streets for the Provincetown International Film Festival Closing Night Party, to be held on Sunday, June 19, 2016, from 8:00 p.m. to midnight.*
- B. Treasurer's Transfer – Library Gift Fund – pay an invoice from Blackstone Audio, Inc. for audiobook purchases in the amount of \$405.00.*
- C. Treasurer's Transfer – History Project Gift Fund – pay an invoice from W.B. Mason for photo paper for history project in the amount of \$18.98.*
- D. Treasurer's Transfer – Library Gift Fund – pay invoices from Recorded Books, Inc. for audiobook purchases in the amount of \$198.00.*
- E. Treasurer's Transfer – Library Gift Fund – pay an invoice from Ellen Battaglini for transcription services in the amount of \$87.50.*
- F. Treasurer's Transfer – Library Gift Fund – pay invoices from Staples for various printing work in the amount of \$244.98.*
- G. Declare as Surplus the 2007 Ford Taurus Sedan (former police cruiser).*
- H. Accept the Lower Cape Traffic Initiative Grant up to an amount of \$7,500.*

1. Public Hearings - Votes may be taken on the following items: None.
2. Public Statements – Three (3) minutes maximum. Selectmen do not respond to Public Statements.
3. Selectmen's Statements – Initial comments from the Selectmen. Discussion dependent- votes may be taken.
4. Joint meeting / Presentations - Votes may be taken on the following items:
 - A. Presentation by Woodward and Curran, Final Report on the Coastal Zone Management Grant: Increasing Coastal Resiliency and Reducing Infrastructure Vulnerability by Mapping Inundation Pathways.
 - B. Presentation by Alzheimer's Family Support Center Executive Director Molly Perdue to give an overview and update on the free supportive services currently being provided.

5. Appointments - Votes may be taken on the following items: None.
6. Requests - Votes may be taken on the following items:
 - A. Lease Agreement with the Provincetown Center for Coastal Studies for the temporary use of the building located at 3 Jerome Smith Road – President and CEO Richard Delaney.
 - B. Provincetown Television PTV Access Agreement 6 month extension – Executive Director Amy Davies.
 - C. Approval of Kayak Rack locations throughout Provincetown.
7. Town Manager / Assistant Town Manager - Votes may be taken on the following items:
 - A. Discussion on Senate Bill 2311, An Act Promoting Housing and Sustainable Development (Zoning Reform Act).
 - B. Discussion and Board comments of draft FY2017 Town-wide Goals.
 - C. Town Manager's Report – Administrative Updates.
 1. Update on the Harbormaster's approval of seasonal floats for the Provincetown Marina.
 2. Update on the May 26th Commercial Street Paving public meeting.
 3. Provincetown's proposal to the 2016 Creative Economy Initiatives Fund, "Establishing a Strategic Partnership between UMass Dartmouth's Public Policy Center and Provincetown, MA", will be funded \$19,000.
 - D. Others – Other matters that may legally come before the board not reasonably anticipated by the Chair 48 hours before the meeting. Votes may be taken.
8. Minutes – Approve minutes of previous meetings. Votes may be taken.
9. Closing Statements/Administrative Updates - Closing comments from the Selectmen. Discussion dependent; motions may be made; votes may be taken.
 - A. *Thank you letter to Mary Ellen Dwyer who resigned from the Animal Welfare Committee on May 17, 2016.*
 - B. *Thank you letter to Kevin Shea who resigned from the Building Committee effective May 20, 2016.*
 - C. *Thank you letter to Anna Meade who resigned from the Local Comprehensive Planning Committee on May 22, 2016.*
 - D. *Letter to Senator Anne M. Gobi asking for support of Senator Wolf's S.478 regarding vegetation management in rights-of-ways.*
 - E. *Letter to Representative Paul Schmid, III asking for support of Senator Wolf's S.478 regarding vegetation management in rights-of-ways.*



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

00

COMMUNITY & GOVERNMENT SERVICE AWARD
Presentation of Award to Rachel White

Requested by: Board of Selectmen

Action Sought: Approval

Proposed Motion(s)

Discussion dependent.

Additional Information

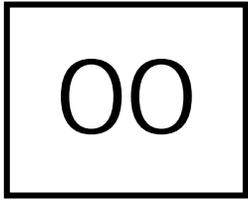
Framed Certificate will be awarded and medal placed on plaque in Judge Welsh room.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016



CONSENT AGENDA

Approval required for the following items:

Requested by: BOS Chair Raphael W. Richter

Action Sought: Approval

Proposed Motion(s)

Move that the Board of Selectmen vote to approve items listed on the consent agenda as submitted.

Consent Agenda – Approval without objection required for the following items:

- A. *Parade Permit submitted by Heidi Bolinder & Christine Walker, 16A Burgess Lane, Wellfleet, MA 02667, on behalf of the Provincetown Film Festival, for closing a portion of Commercial Street between Carver & Court Streets for the Provincetown International Film Festival Closing Night Party, to be held on Sunday, June 19, 2016, from 8:00 p.m. to midnight.*
- B. *Treasurer’s Transfer – Library Gift Fund – pay an invoice from Blackstone Audio, Inc. for audiobook purchases in the amount of \$405.00.*
- C. *Treasurer’s Transfer – History Project Gift Fund – pay an invoice from W.B. Mason for photo paper for history project in the amount of \$18.98.*
- D. *Treasurer’s Transfer – Library Gift Fund – pay invoices from Recorded Books, Inc. for audiobook purchases in the amount of \$198.00.*
- E. *Treasurer’s Transfer – Library Gift Fund – pay an invoice from Ellen Battaglini for transcription services in the amount of \$87.50.*
- F. *Treasurer’s Transfer – Library Gift Fund – pay invoices from Staples for various printing work in the amount of \$244.98.*
- G. *Declare as Surplus the 2007 Ford Taurus Sedan (former police cruiser).*
- H. *Accept the Lower Cape Traffic Initiative Grant up to an amount of \$7,500.*

Additional Information

See attached documents.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



Provincetown Board of Selectmen
AGENDA ACTION REQUEST

Monday, June 13, 2016

00A

PARADE PERMIT REQUEST

Provincetown Cares, Inc.

Requested by: Lynn d'Angona, Executive Director

Action Sought: Approval

Proposed Motion(s)

Move that the Board of Selectmen vote to approve the Parade Application Permit submitted by Heidi Bolinder & Christine Walker, 16A Burgess Lane, Wellfleet, MA 02667, on behalf of the Provincetown Film Festival, 237 Commercial Street, Provincetown, MA 02657, requesting the closing of a portion of Commercial Street between Carver & Court Streets, for the Provincetown International Film Festival Closing Night Party, to be held on Sunday, June 19, 2016 from 8:00 p.m. to midnight.

Additional Information

See attached application.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>

Town of Provincetown

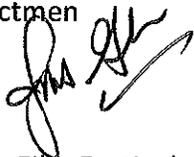
James F. Golden
Chief of Police
jgolden@provincetown-ma.gov



Police Department

26 Shank Painter Road
Provincetown, MA 02657
Phone: (508) 487-1213
Fax: (508) 487-4077
www.provincetown-ma.gov

To: Provincetown Board of Selectmen

From: Police Chief James Golden 

Subject: Parade Permit Provincetown Film Festival with Limited Street Involvement
with Street Closure

Date: May 18, 2016

I have reviewed the attached permit with Street Closure application from Heidi Bolinder on behalf of Event Director Christine Walker with the Provincetown International Film Festival for their closing party to be held on Sunday June 19, 2016.

As of this writing, there have been no applications for special noise or liquor service licenses associated with this event.

The event is scheduled from 8:00pm to Midnight and will involve closing a portion of Commercial Street completely to traffic on Commercial Street between Carver Street and Court Street.

We make the following security observations/recommendations with regard to this request.

- Three (3) dedicated police officers would arrive at 8:00pm to initiate the traffic detour and would remain in place until midnight when the public roadway would immediately be reopened.
- One (1) additional dedicated police officer will monitor the "cross-over" area between the lone licensed establishment (Pied Piper) to ensure that alcoholic beverages are not transported across Commercial Street from one property to another as Spiritus Pizza is not a licensed liquor establishment. This officer would also facilitate emergency vehicle access past the barricades if needed.
- Special duty police services (totaling approximately \$792.00) will be required as this event cannot be supported by the on-duty police shift. Could you please remind them to contact Lisa Cook at the Police Department about 2 weeks before the event to make arrangements for the four (4) needed traffic officers?

Town of Provincetown
Parade Permit Application

RECEIVED
BOS - ~~V...~~

APR 28 2016

CC: BOS/TM/ATM

Note: This form must be submitted to the Board of Selectmen's office at least six weeks prior to the date of your event

Applicant's Name: Provincetown Film Festival
Address: 237 Commercial Street Phone: (508) 487-FILM
City/Town: Provincetown State: MA Zip Code: 02657
Email: info@ptownfilm.org

Applicant is: Private Individual Business Non-Profit Corp

Individual Responsible: Name: Heidi Balmora & Christine Walker
Address: 16A Burgess Lane, Wellfleet, MA 02667
Phone: (508) 274 6864 & (612) 867 6628
Email: heidi@ptownfilm.org & christine@ptownfilm.org

Will charges or fees be collected? Yes No N/A

Name & Purpose of Parade: PIFF Closing Night Party
Date of Parade: 6/19/16 Rain Date (if any): N/A
Schedule: Start Time: 8pm Finish Time: 12AM
Number of Marchers: - Number of Vehicles: -

Events with amplified sound, entertainment, alcohol or food service MUST obtain Licensing Department approvals. Noise bylaw waiver applications required minimum 60 days prior to your scheduled event.

(Please indicate actual or estimated.)

Note: Use the attached map, highlight and provide a written plan of parade route including assembly and disassembly locations, special parade features or events as well as stopping locations if any are requested.

The undersigned applicant agrees that the applicant and parade participants will conform with applicable laws, by-laws, and regulations as well as with special requirements that may be made a condition of the granting of a parade permit pursuant to this application. I/we agree to hold the Town of Provincetown harmless from any and all liability and will defend the Town of Provincetown in connection therewith

Signature of Applicant: Heidi Balmora Date: 4/27/16
Application received by: Christina Walker Date: 4.28.2016
(Secretary to Board of Selectmen)

CONDITIONS and REQUIREMENTS

It is the obligation of applicants, organization(s) and responsible individuals to assure that their parade(s) is (are) orderly. Unless specifically authorized, there will be no parades held during the hours of darkness and no stopping of the parade to advertise or perform.

All parades will be assigned and will follow a police cruiser on the approved route. If the Chief of Police deems it necessary to assign additional officers as part of the parade permit, then the cost of such special duty officers will be borne by the applicant.

Any violation of applicable laws, by-laws, regulations, the above requirements, and/or special requirements made a condition of the granting of a Parade Permit will be grounds for immediate revocation of the Parade Permit, prosecution, and denial of future parade permissions.

PARADE ROUTE. SPECIAL CONDITIONS. REQUIREMENTS. ETC. (Please PRINT or TYPE and allow margin space)

APPROVALS



Chief of Police

Date 05-18-2016

Board of Selectmen

Chairman, Board of Selectmen

Selectman

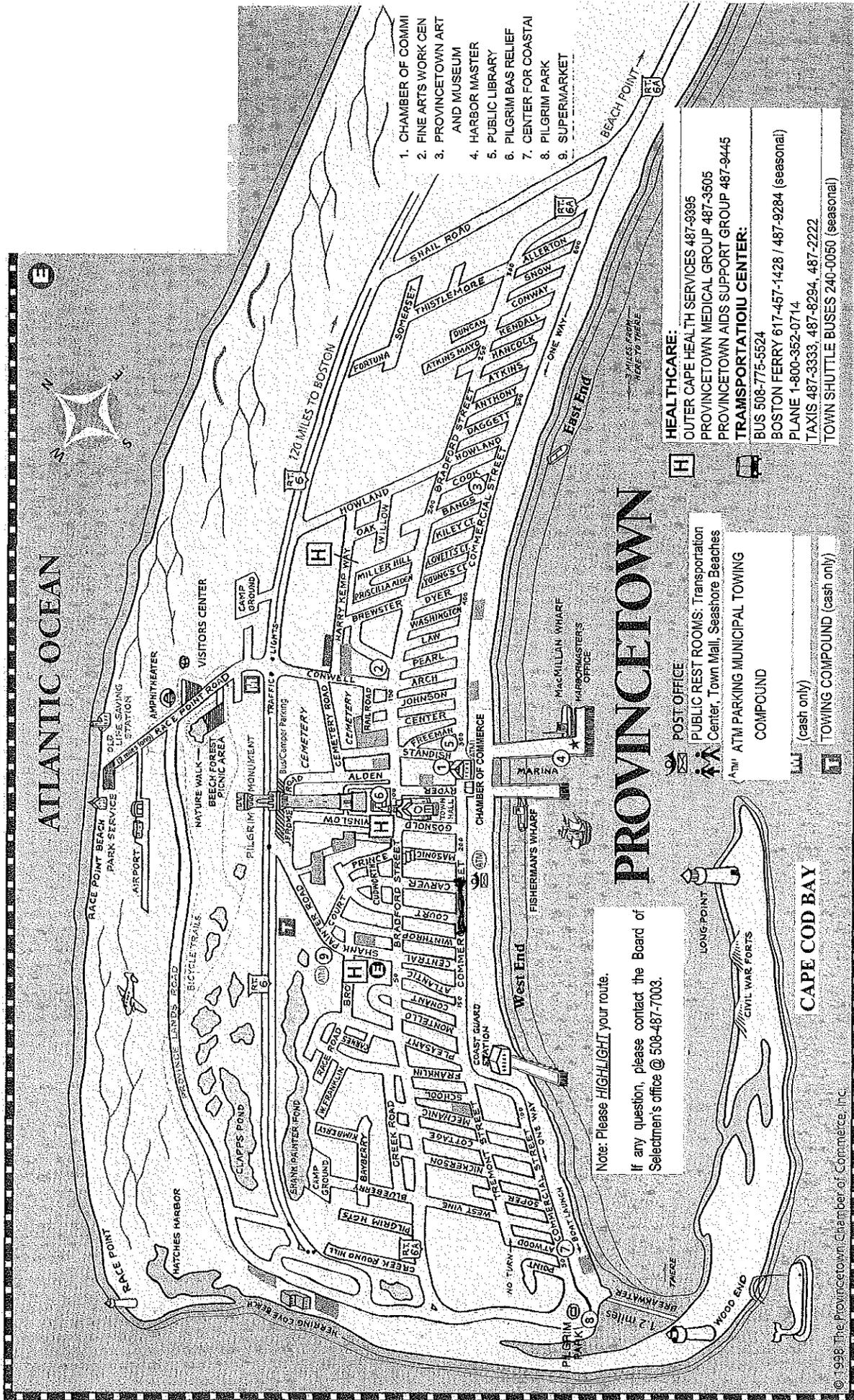
Selectman

Selectman

Selectman

Date: _____

Please highlight your Parade Route on the Map



PROVINCETOWN

1. CHAMBER OF COMMI
2. FINE ARTS WORK CEN
3. PROVINCETOWN ART AND MUSEUM
4. HARBOR MASTER
5. PUBLIC LIBRARY
6. PILGRIM BAS RELIEF
7. CENTER FOR COASTAI
8. PILGRIM PARK
9. SUPERMARKET

HEALTHCARE:
 OUTER CAPE HEALTH SERVICES 487-9395
 PROVINCETOWN MEDICAL GROUP 487-3505
 PROVINCETOWN AIDS SUPPORT GROUP 487-9445
TRANSPORTATION CENTER:
 BUS 508-775-5524
 BOSTON FERRY 617-457-1428 / 487-9284 (seasonal)
 PLANE 1-800-352-0714
 TAXIS 487-3333, 487-8294, 487-2222
 TOWN SHUTTLE BUSES 240-0050 (seasonal)

POST OFFICE
 PUBLIC REST ROOMS: Transportation Center, Town Mall, Seashore Beaches
 ATM: ATM PARKING MUNICIPAL TOWING COMPOUND
 (cash only)
 TOWING COMPOUND (cash only)

Note: Please HIGHLIGHT your route.
 If any question, please contact the Board of Selectmen's office @ 508-487-7003.

*In front of Spiritus Pizza - 190 Commercial Street and
 In front of Fuel Bar & Restaurant - 193 Commercial Street*



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

00B

TREASURER'S TRANSFERS

Library Gift Fund

Requested by: John O'Buck, Treasurer

Action Sought: **Approval**

Proposed Motion(s)

Move that the Board of Selectmen vote, as Commissioners of the Library Gift Fund – (#1107), pursuant to MGL C44 § 53A, to approve the use of the funds in the Library Gift Fund (#1107) to pay \$405.00 the attached invoice from Blackstone Audio, Inc.

Additional Information

This Motion will allow the Town Treasurer to transfer money from the Library Gift Fund – (#1107) to pay for Audiobook purchases on 04/18/2016 and 04/23/2016. The Library Gift Fund will have a balance of \$64,927.34 in the expendable account after this invoice is paid.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



TOWN OF PROVINCETOWN

REQUEST OF TRANSFER OF FUNDS

Date: June 13, 2016
To: Provincetown Treasurer
From: Board of Selectmen

As Commissioners of the Library Gift Fund – (#1107), permission is hereby granted to you, the Treasurer of the Town of Provincetown, to approve the use of the Library Gift Fund (#1107), for the payment of the \$405.00 for audiobook purchases on 04/18/2016 and 04/23/2016.

The Honorable Board of Selectmen:

Raphael Richter, Chair

Erik Yingling, Vice Chair

Cheryl Andrews, Selectman

Tom Donegan, Selectman

Robert Anthony, Selectman



31 Mistletoe Rd. Ashland OR, 97520
P: (800) 729-2665 / F: (541) 482-9294

Page	Customer ID	Invoice ID
1	123607	827386
Ref Date	Invoice Date	Ship Date
	4/18/2016	00/00/00

Ship To ID: 123607



INVOICE

Sold To: Provincetown Public Library
356 Commercial St
Provincetown, MA 02657

Ship To: Provincetown Public Library
356 Commercial St
Provincetown, Massachusetts 02657

Customer PO #	Payment By	Rep	Shipped Via	Terms	Ordered By
			Media Mail-FREE	Net 30 Days	

ProdCode	Title	List Price	Ordered	Shipped	BO	Disc	Net Price	Extension
3781478939252	[SS] Excellent Lombards, The	89.99	1	1		49.99%	45.00	45.00
3781478938996	Last Mile, The	109.99	1	1		59.08%	45.00	45.00
3Pbsom	[BI] Eligible	60.00	1	1		25.00%	45.00	45.00
3Pbsp	[BI] Mathews Men, The	60.00	1	1		25.00%	45.00	45.00
3781483080727	[SS] My Brilliant Friend	100.00	1	1		55.00%	45.00	45.00
3Pbs0m	[BI] Road to Little Dribbling, The	60.00	1	1		25.00%	45.00	45.00
3Pbs0f	[BI] My Name Is Lucy Barton	60.00	1	1		25.00%	45.00	45.00
3781481530941	H Is for Hawk	90.00	1	1		50.00%	45.00	45.00

OK
TR

Product Total	Sales Tax	Shipping	Invoice Total	Pre-Paid	Paid With Order	Balance Due
\$360.00	\$0.00	\$0.00	\$360.00	\$0.00	\$0.00	\$360.00



31 Mistletoe Rd. Ashland OR, 97520
 P: (800) 729-2665 / F: (541) 482-9294

Page	Customer ID	Invoice ID
1	123607	828916
Ref Date	Invoice Date	Ship Date
	4/23/2016	00/00/00

Ship To ID: 123607



VOICE

Sold To: Provincetown Public Library
 356 Commercial St
 Provincetown, MA 02657

Ship To: Provincetown Public Library
 356 Commercial St
 Provincetown, Massachusetts 02657

Customer PO #	Payment By	Rep	Shipped Via	Terms	Ordered By
			Media Mail-FREE	Net 30 Days	

ProdCode	Title	List Price	Ordered	Shipped	BO	Disc	Net Price	Extension
30bt4o	Fool Me Once	99.99	1	1			45.00	45.00

OK
TR

Product Total	Sales Tax	Shipping	Invoice Total	Pre-Paid	Paid With Order	Balance Due
\$45.00	\$0.00	\$0.00	\$45.00	\$0.00	\$0.00	\$45.00



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

00C

TREASURER'S TRANSFERS

History Project Gift Fund

Requested by: John O'Buck, Treasurer

Action Sought: **Approval**

Proposed Motion(s)

Move that the Board of Selectmen vote, as Commissioners of the Town of Provincetown History Project Gift Fund – (#1126), pursuant to MGL C44 § 53A, to approve the use of the funds in the History Project Gift Fund (#1126) to pay \$18.98 for the attached invoice from W.B. Mason.

Additional Information

This Motion will allow the Town Treasurer to transfer money from the History Project Gift Fund – (#1126) to pay for photo paper for the history project . The History Project Gift Fund will have a balance of \$4,783.22 in the expendable account after this invoice is paid.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



TOWN OF PROVINCETOWN

REQUEST OF TRANSFER OF FUNDS

Date: June 13, 2016
To: Provincetown Treasurer
From: Board of Selectmen

As Commissioners of the Town of Provincetown Gift Funds, permission is hereby granted to you, the Treasurer of the Town of Provincetown, to approve the use of the History Project Gift Fund (#1126), for the payment of \$18.98 for the purchase of photo paper for the history project.

The Honorable Board of Selectmen:

Raphael Richter, Chair

Erik Yingling, Vice Chair

Cheryl Andrews, Selectman

Tom Donegan, Selectman

Robert Anthony, Selectman



W.B. MASON CO., INC.
59 Centre St - Brockton, MA 02301
Address Service Requested
888-WB-MASON www.wbmason.com

Delivery Address	Invoice Number:	134750011
Provincetown Accounting	Customer Number:	C1057410
ATTN.: NICK ROBERTSON	Reference Number:	134750011
260 Commercial Street	Invoice Date:	05/20/2016
Provincetown, MA 02657	Due Date:	06/19/2016
	Order Date:	05/19/2016
	Order Number:	S037632222
	Order Method:	WEB

*12J025881*H0*****SCH*3-DIGIT*025
PROVINCETOWN ACCOUNTING
260 COMMERCIAL ST
PROVINCETOWN, MA 02657-2213



W.B. Mason Federal ID #: 04-2455641

Important Messages

Sign up for Paperless Invoicing at wbmason.com/paperless. Your Registration Code: 5637373103

Now you can access and PAY your W.B. Mason Invoices online!
Use the Registration Code above to activate Paperless Invoicing for your account. Sign up today to view your account statement, pay invoices, and reduce clutter of paper invoices piling up on your desk.

-E-mail notifications let you know when new invoices are ready to view

-Access your account's full invoice history and pay invoices with a credit card on wbmason.com

Registration is quick and easy at www.wbmason.com/paperless

ITEM NUMBER	DESCRIPTION	QTY	U/M	UNIT PRICE	EXT PRICE
PFX415215BLU	FOLDER,HANG,LTR,25/BX,BE	1	BX	11.87	11.87
MYP81200	A/P PAPER,MY COPY,8.5X11,20#,98BR,1ITE	10	CT	54.99	549.90
AVE00166	STOCK GLUE STICK,.26 OZ.	3	EA	0.33	0.99
UNV79000	STOCK STAPLE,STD SZ 5M/BX (66000)	5	BX	0.44	2.20
IVR99490	STOCK PAPER,PHOTO,LTR,GLS,100PK HISTORY PROJECT	2	PK	9.49	18.98

1126 0200 - 520000

SUBTOTAL: 583.94
TAX & BOTTLE DEPOSITS TOTAL: 0.00
ORDER TOTAL: 583.94

To ensure proper credit, please detach and return below portion with your payment



W.B. MASON CO., INC.
59 Centre St - Brockton, MA 02301
Address Service Requested
888-WB-MASON

Remittance Section

Customer Number:	C1057410
Invoice Number:	134750011
Reference Number:	134750011
Invoice Date:	05/20/2016
Terms:	Net 30
Total Due:	\$583.94

Amount Enclosed \$ _____

PROVINCETOWN ACCOUNTING
260 COMMERCIAL ST
PROVINCETOWN, MA 02657-2213

W.B. MASON CO., INC.
PO BOX 981101
BOSTON, MA 02298-1101



C1057410I34750011I347500110000000583946



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

OOD

TREASURER'S TRANSFERS

Library Gift Fund

Requested by: John O'Buck, Treasurer

Action Sought: **Approval**

Proposed Motion(s)

Move that the Board of Selectmen vote, as Commissioners of the Library Gift Fund – (#1107), pursuant to MGL C44 § 53A, to approve the use of the funds in the Library Gift Fund (#1107) to pay \$198.00 the attached invoice from Recorded Books, Inc.

Additional Information

This Motion will allow the Town Treasurer to transfer money from the Library Gift Fund – (#1107) to pay for Audiobook purchases on 05/06/2016 and 05/10/2016. The Library Gift Fund will have a balance of \$64,729.34 in the expendable account after this invoice is paid.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



TOWN OF PROVINCETOWN

REQUEST OF TRANSFER OF FUNDS

Date: June 13, 2016
To: Provincetown Treasurer
From: Board of Selectmen

As Commissioners of the Library Gift Fund – (#1107), permission is hereby granted to you, the Treasurer of the Town of Provincetown, to approve the use of the Library Gift Fund (#1107), for the payment of the \$198.00 for audiobook purchases on 05/06/2016 and 05/10/2016.

The Honorable Board of Selectmen:

Raphael Richter, Chair

Erik Yingling, Vice Chair

Cheryl Andrews, Selectman

Tom Donegan, Selectman

Robert Anthony, Selectman

RECORDED BOOKS, INC

270 Skipjack Road
Prince Frederick, MD 20678
1-800-638-1304 TIN: 464533122
www.recordedbooks.com

Invoice

Order # 75307660
Invoice # 75332975
Date 5/6/16

PO #
Ship Via UPS/Ground
Promo Code: CD6H

Bill to:
Account # : 259454
PROVINCETOWN PUBLIC LIBRARY
356 Commercial St
Provincetown MA 02657 2322

Ship to:
Account # : 259454
PROVINCETOWN PUBLIC LIBRARY
356 Commercial St
Provincetown MA 02657 2322

Item #	Title	ISBN	Business Term	Media Type	List Price (Unit)	Your Price (Unit)	Qty	Disc %	Net
C04226	The Crossing	9781501912900	Purchase	CD	\$123.75	\$123.75	1	20.0	\$99.00

email order from Nancy Gilbert

Adult CD6 - HOLD FOR PO

There are remaining items from original order # 75307660 that will be delivered at a later date.

Release of Order No. 75307660

Bill To : 259454

Inv No : 75332975

REMIT PAYMENT ALONG WITH A
COPY OF THIS INVOICE TO:

CORRESPONDENCE &
RETURNS TO:

Recorded Books, INC
PO Box 64900
Baltimore, MD 21264-4900

Recorded Books, INC
270 Skipjack Road
Prince Frederick, MD 20678

Payments terms are Net 30 Days

Subtotal \$99.00
Processing/Marc Fees \$0.00
Postage \$0.00
Tax/GST \$0.00

Invoice Total \$99.00
Payment Received \$0.00

Amount Due \$99.00



Recorded Books also offers the option to receive PDF invoices through email. If you would like to receive your invoices in this manner, please contact us at customerservice@recordedbooks.com or Call 1-877-732-2898.

RECORDED BOOKS, INC

270 Skipjack Road
Prince Frederick, MD 20678
1-800-638-1304 TIN: 464533122
www.recordedbooks.com

Invoice

Order # 75307660
Invoice # 75334086
Date 5/10/16

PO #
Ship Via UPS/Ground
Promo Code: CD6H

Bill to:
Account # : 259454
PROVINCETOWN PUBLIC LIBRARY
356 Commercial St
Provincetown MA 02657 2322

Ship to:
Account # : 259454
PROVINCETOWN PUBLIC LIBRARY
356 Commercial St
Provincetown MA 02657 2322

Item #	Title	ISBN	Business Term	Media Type	List Price (Unit)	Your Price (Unit)	Qty	Disc %	Net
C04307	Diana's Altar	9781501916984	Purchase	CD	\$123.75	\$123.75	1	20.0	\$99.00

email order from Nancy Gilbert

Adult CD6 - HOLD FOR PO

There are remaining items from original order # 75307660 that will be delivered at a later date.

release of Order No 75307660

Bill To : 259454 Inv No : 75334086

REMIT PAYMENT ALONG WITH A COPY OF THIS INVOICE TO:	CORRESPONDENCE & RETURNS TO:
Recorded Books, INC PO Box 64900 Baltimore, MD 21264-4900	Recorded Books, INC 270 Skipjack Road. Prince Frederick, MD 20678

Payments terms are Net 30 Days

Subtotal	\$99.00
Processing/Marc Fees	\$0.00
Postage	\$0.00
Tax/GST	\$0.00
Invoice Total	\$99.00
Payment Received	\$0.00
Amount Due	\$99.00

OK
TR

Recorded Books also offers the option to receive PDF invoices through email. If you would like to receive your invoices in this manner, please contact us at customerservice@recordedbooks.com or Call 1-877-732-2898.



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

OOE

TREASURER'S TRANSFERS

Library Gift Fund

Requested by: John O'Buck, Treasurer

Action Sought: **Approval**

Proposed Motion(s)

Move that the Board of Selectmen vote, as Commissioners of the Library Gift Fund – (#1107), pursuant to MGL C44 § 53A, to approve the use of the funds in the Library Gift Fund (#1107) to pay \$87.50 for the attached invoice from Ellen Battaglini.

Additional Information

This Motion will allow the Town Treasurer to transfer money from the Library Gift Fund – (#1107) to pay for the transcription of Library Board of Trustee Mtg dated 05/18/2016 . The Library Gift Fund will have a balance of \$65,577.32 in the expendable account after this invoice is paid.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



TOWN OF PROVINCETOWN

REQUEST OF TRANSFER OF FUNDS

Date: June 13, 2016
To: Provincetown Treasurer
From: Board of Selectmen

As Commissioners of the Library Gift Fund – (#1107), permission is hereby granted to you, the Treasurer of the Town of Provincetown, to approve the use of the Library Gift Fund (#1107), for the payment of the \$87.50 for the transcription of the Library Board of Trustee Mtg dated 05/18/2016.

The Honorable Board of Selectmen:

Raphael Richter, Chair

Erik Yingling, Vice Chair

Cheryl Andrews, Selectman

Tom Donegan, Selectman

Robert Anthony, Selectman

BOARD OF LIBRARY TRUSTEES INVOICE:

Ellen C. Battaglini

Work: 508.487.7030

Cell: 508.246.0668

Meeting Date: 05/18/16

Meeting time: 1 hour and 10 minutes

\$87.50



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

OOF

TREASURER'S TRANSFERS

Library Gift Fund

Requested by: John O'Buck, Treasurer

Action Sought: **Approval**

Proposed Motion(s)

Move that the Board of Selectmen vote, as Commissioners of the Library Gift Fund – (#1107), pursuant to MGL C44 § 53A, to approve the use of the funds in the Library Gift Fund (#1107) to pay \$244.98 for the attached invoice from Staples Credit Plan.

Additional Information

This Motion will allow the Town Treasurer to transfer money from the Library Gift Fund – (#1107) to pay for the various printing work on 05/15/2016 . The Library Gift Fund will have a balance of \$65,332.34 in the expendable account after this invoice is paid.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



TOWN OF PROVINCETOWN

REQUEST OF TRANSFER OF FUNDS

Date: June 13, 2016
To: Provincetown Treasurer
From: Board of Selectmen

As Commissioners of the Library Gift Fund – (#1107), permission is hereby granted to you, the Treasurer of the Town of Provincetown, to approve the use of the Library Gift Fund (#1107), for the payment of the \$244.98 for various printing work on 05/15/2016.

The Honorable Board of Selectmen:

Raphael Richter, Chair

Erik Yingling, Vice Chair

Cheryl Andrews, Selectman

Tom Donegan, Selectman

Robert Anthony, Selectman

BILL TO:
Acct: 6011 1000 6219 711
PROVINCETOWN LIBRARY

Amount Due:	Trans Date:	DUE DATE:	Invoice #:
\$175.31	03/25/16	05/15/16	66882
PO:		Store: 100011162, ORLEANS	

PRODUCT	SKU #	QUANTITY	UNIT PRICE	TOTAL PRICE
1-50 CLR 28LB PREM	429791	1.0000 EA	\$20.70	\$20.70
CUSTOMER BASED PRICING	429791	1.0000 EA	\$4.14-	\$4.14-
INDOOR POLYPROP. BANNER	678384	42.0000 EA	\$2.99	\$125.58
CUSTOMER BASED PRICING	678384	1.0000 EA	\$25.12-	\$25.12-
1 INST BAN MED INDOOR+GRO	423636	1.0000 EA	\$29.99	\$29.99
CUSTOMER BASED PRICING	423636	1.0000 EA	\$6.00-	\$6.00-
1 INST BAN MED INDOOR+GRO	423636	1.0000 EA	\$29.99	\$29.99
CUSTOMER BASED PRICING	423636	1.0000 EA	\$6.00-	\$6.00-

Gift Fund

SUBTOTAL	\$165.00
TAX	\$10.31
SHIPPING	\$0.00
TOTAL	\$175.31

BILL TO:
Acct: 6011 1000 6219 711
PROVINCETOWN LIBRARY

Amount Due:	Trans Date:	DUE DATE:	Invoice #:
\$43.69	04/03/16	05/15/16	68320
PO:		Store: 100011162, ORLEANS	

PRODUCT	SKU #	QUANTITY	UNIT PRICE	TOTAL PRICE
1-50 CLR 28LB PREM	429791	1.0000 EA	\$27.60	\$27.60
CUSTOMER BASED PRICING	429791	1.0000 EA	\$5.52-	\$5.52-
1-50 CLR LDGR	381556	1.0000 EA	\$23.80	\$23.80
CUSTOMER BASED PRICING	381556	1.0000 EA	\$4.76-	\$4.76-

573200

SUBTOTAL	\$41.12
TAX	\$2.57
SHIPPING	\$0.00
TOTAL	\$43.69

BILL TO:
Acct: 6011 1000 6219 711
PROVINCETOWN LIBRARY

Amount Due:	Trans Date:	DUE DATE:	Invoice #:
\$115.37	04/10/16	05/15/16	69448
PO:		Store: 100011162, ORLEANS	

PRODUCT	SKU #	QUANTITY	UNIT PRICE	TOTAL PRICE
HP564XL564 HY BLK/STD CMY	1989983	1.0000 EA	\$61.99	\$61.99
CUSTOMER BASED PRICING	1989983	1.0000 EA	\$9.30-	\$9.30-
OVERSIZE SEMIGLOSS PHOTO/	643818	8.0000 EA	\$4.99	\$39.92
CUSTOMER BASED PRICING	643818	1.0000 EA	\$7.98-	\$7.98-
OVSZCOLOR STD. HVYWHT/SQF	828335	6.0000 EA	\$4.99	\$29.94
CUSTOMER BASED PRICING	828335	1.0000 EA	\$5.99-	\$5.99-

573200

SUBTOTAL	\$108.58
TAX	\$6.79
SHIPPING	\$0.00
TOTAL	\$115.37

0-2 21267691.1

501776

EQLR402B 1076 5137 CFM064 07 160617 04007713 PAGE 0005 OF 0006





moreACCOUNT

Remit payment and make checks payable to:
STAPLES CREDIT PLAN
DEPT. 11 - 0006219711
PO BOX 9001036
LOUISVILLE, KY 40290-1036

INVOICE DETAIL

BILL TO:
Acct: 6011 1000 6219 711
PROVINCETOWN LIBRARY

SHIP TO:
MATTHEW CLARK
PROVINCETOWN PUBLIC
356 COMMERCIAL STREE
PROVINCETOWN MA 00000000

Amount Due:	Trans Date:	DUE DATE:	Invoice #:
\$79.98	03/23/16	05/15/16	8955325001
PO:		Store: 100088887, WESTBORO	

PRODUCT	SKU #	QUANTITY	UNIT PRICE	TOTAL PRICE
2 BNR STND	335292	1.0000 EA	\$79.98	\$79.98

Purchased by: MATTHEW CLARK

SUBTOTAL	* \$79.98
TAX	\$0.00
SHIPPING	\$0.00
TOTAL	* \$79.98

Gift Fund

0-2
21267691.1

901126

EOLR402B 1076 5137 CFM064 07 160417
PAGE 00006 OF 00006
04007713





Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

O O G

POLICE DEPARTMENT

Surplus Declaration 2007 Ford Taurus Sedan

Requested by: Police Chief James F. Golden

Action Sought: Approval

Proposed Motion(s)

Move that the Board of Selectmen vote to declare as surplus the 2007 Ford Taurus Sedan, a former police cruiser, and to authorize the Chief of Police to dispose of the vehicle by trade-in with Bonnell Motors, Inc., Winchester, MA 01890.

Additional Information

See attached memo and copy of Certificate of Title.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>

Town of Provincetown

James F. Golden
Chief of Police
jgolden@provincetown-ma.gov



Police Department

26 Shank Painter Road
Provincetown, MA 02657
Phone: (508) 487-1213
Fax: (508) 487-4077
www.provincetown-ma.gov

To: Provincetown Board of Selectmen
From: Police Chief James F. Golden 
Subject: Surplus Declaration 2007 Ford Taurus Sedan (former police cruiser)
Date: May 18, 2016

Honorable Board of Selectmen,

The Chief of Police requests that the honorable Board of Selectmen declare as surplus pursuant to Provincetown General By-Laws Chapter 6-4-6, and to authorize the Chief of Police to dispose of the following vehicle by trade-in with Bonnell Motors, Inc., Winchester, MA 01890. The trade-in cash value of the vehicle will be applied to the pending purchase of a replacement fleet vehicle approved in Article 18-2 (FY-2017 CIP) of the 2016 Annual Town Meeting.

The vehicle in question is described as fleet # 6066 (2007 Ford Taurus Sedan former police cruiser VIN # 1FAFP53U07A181788). Said vehicle is in poor condition with 116,942 miles on it. All of its emergency equipment has been removed.

Because of the year and condition of this vehicle, our bid vehicle vendor (BMG) will offer us a fixed trade-in allowance applied we can then apply to the pending purchase of a replacement fleet vehicle.

I request your favorable action on this request.

Please let me know what questions you may have.

CERTIFICATE OF TITLE

THE COMMONWEALTH OF MASSACHUSETTS

TITLE NUMBER BE491249		VEHICLE IDENTIFICATION NUMBER 1FAFP53U07A181788		DATE OF ISSUE 05/25/2007	
MFRS. MODEL YEAR 2007	MAKE FORD	MODEL NAME TAURUS	MODEL NO. P53	BODY STYLE/TYPE SEDAN	NEW/USED NEW
CYL. PASS. DRG. 06 05 4	PURCHASE DATE 04/26/2007	ODOMETER READING 11	PREV. TITLE NO.		PREV. TITLE STATE
ACTUAL MILEAGE			IF PREVIOUS STATE WAS TITLE EXEMPT REGISTRATION NUMBER IS DISPLAYED		

MAILING ADDRESS ONLY
 PROVINCETOWN TOWN OF
 26 SHANKPAINTER RD
 DEPT OF POLICE
 PROVINCETOWN, MA 02657-1342

OWNER(S) NAME AND ADDRESS
 PROVINCETOWN TOWN OF
 DEPT OF POLICE
 26 SHANKPAINTER RD
 PROVINCETOWN, MA 02657-1342

TITLE TYPE AND BRANDS

TITLE TYPE

BRAND
 BRAND
 BRAND
 BRAND

TITLE MESSAGE(S)

FIRST LIENHOLDER:

SECOND LIENHOLDER:

RELEASE OF FIRST LIEN:
 THE FIRST LIENHOLDER'S INTEREST IN THE VEHICLE DESCRIBED IN THIS CERTIFICATE IS HEREBY RELEASED.

NAME:

AUTHORIZED SIGNATURE:
X

DATE RELEASED:

RELEASE OF SECOND LIEN:
 THE SECOND LIENHOLDER'S INTEREST IN THE VEHICLE DESCRIBED IN THIS CERTIFICATE IS HEREBY RELEASED.

NAME:

AUTHORIZED SIGNATURE:
X

DATE RELEASED:

THE REGISTRAR OF MOTOR VEHICLES HEREBY CERTIFIES THAT AN APPLICATION FOR A CERTIFICATE OF TITLE FOR THE MOTOR VEHICLE DESCRIBED HEREIN HAS BEEN DULY FILED, PURSUANT TO THE PROVISIONS OF THE LAWS OF THE COMMONWEALTH OF MASSACHUSETTS, BASED ON THE STATEMENTS OF THE APPLICANT AND THE RECORDS ON FILE WITH THIS AGENCY, THE APPLICANT NAMED IS THE OWNER OF SAID VEHICLE.

THE REGISTRAR OF MOTOR VEHICLES FURTHER CERTIFIES THAT THE VEHICLE IS SUBJECT TO ANY SECURITY INTERESTS SHOWN HEREIN.

Anne L. Collins
Anne L. Collins
 Registrar

CONTROL NO. **F3257278**
 NOT THE TITLE NUMBER

ALTERATION OR ERASURE VOIDS THIS TITLE

KEEP IN SAFE PLACE

VERIFY PRESENCE OF WATERMARK HOLD TO LIGHT TO VIEW

VERIFY PRESENCE OF WATERMARK HOLD TO LIGHT TO VIEW

VERIFY PRESENCE OF WATERMARK HOLD TO LIGHT TO VIEW



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

OOH

LOWER CAPE TRAFFIC INITIATIVE GRANT

Acceptance of Grant Funds

Requested by: Town Manager David B. Panagore

Action Sought: Acceptance

Proposed Motion(s)

MOVE that the Board of Selectmen vote to accept the Lower Cape Traffic Initiative Grant up to an amount of \$7,500.

Additional Information

See attached memo.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>

Town of Provincetown

James F. Golden
Chief of Police
jgolden@provincetown-ma.gov
www.provincetown-ma.gov



Police Department

26 Shankpainter Road
Provincetown, MA 02657
Phone: (508) 487-1212
Fax: (508) 487-4488

To: David B. Panagore, Town Manager
From: James F. Golden, Chief of Police
Subject: Lower Cape Traffic Initiative GRANT
Date: June 08, 2016

A handwritten signature in black ink, which appears to read "James F. Golden". The signature is written in a cursive style and is positioned over the "From:" line of the header.

As you are well aware, since 2014 the Police Chiefs on the Lower Cape have been working with Mass. DOT and other involved stakeholders including the Cape Cod Commission, to address the traffic safety issues on Route 6 specifically targeting the stretch of road from the Orleans rotary to Provincetown. This task force was formed as a result of the recent fatal accidents in Wellfleet, but the concern for safety on Route 6 is a regional problem affecting all of the Lower Cape communities. The group met several times to discuss a comprehensive plan to address our concerns and in addition to several engineering ideas to improve the road surface. One of the ideas the group suggested was initiating a Lower Cape focused, Regional Traffic Education/Enforcement Initiative.

The Police Chiefs jointly asked our State Representative Sarah Peake for her assistance in formulating a funding source to support this regional initiative with a goal of commencing on Memorial Day weekend and continuing through October. The initiative would utilize officers from the four towns of Eastham, Wellfleet, Truro and Provincetown. The Officers would then deploy in teams, working in each Town and focus the education/enforcement effort on aggressive driving, texting, inattentive driving, and Operating under the Influence (OUI).

We believed as primary public safety professionals, the presence of high visibility of officers during this period of increased traffic volume would undoubtedly have considerable impact on the safety of motorists, cyclists and pedestrians who rely on Route 6 during this seasonal period.

Through the work of Senator Wolf and Representative Peake, the grant was approved and awarded to the Town of Eastham last Fall.

The \$30,000 total grant breaks down to \$7,500 per community reimbursable by the Town of Eastham to us for work performed under this project.

All work is performed pursuant to our Outer Cape Mutual Aid Agreement, as Provincetown, Truro, Wellfleet and Eastham are all signatories and all of our Police Officers have concurrent jurisdiction. They have all received documented contextual training with regard to the inter-agency mutual aid policy.

In partnership with the community



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

1

PUBLIC HEARING

None

Requested by: Board of Selectmen

Action Sought: Discussion/Approval

Proposed Motion(s)

None.

Additional Information

Board Action

<i>Motion</i>	<i>Second</i>	<i>In favor</i>	<i>Opposed</i>	<i>Disposition</i>



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

2

PUBLIC STATEMENTS

Requested by: Board of Selectmen

Action Sought: Open

Proposed Motion(s)

Three (3) minutes maximum. Selectmen do not respond during Public Statements.

Additional Information

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

3

SELECTMEN'S STATEMENTS

Requested by: Town Manager David B. Panagore

Action Sought: Discussion

Proposed Motion(s)

Motions may be made and votes may be taken.

Tom Donegan

Cheryl Andrews

Robert Anthony

Erik Yingling

Raphael Richter

Additional Information

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

4A

PRESENTATION

CZM Grant Update – Increasing Coastal Resiliency

Requested by: DPW Director Richard J. Waldo, P.E.

Action Sought: Discussion

Proposed Motions

Discussion dependent. Vote may be taken.

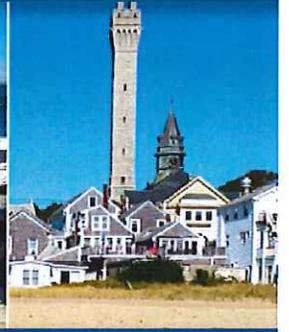
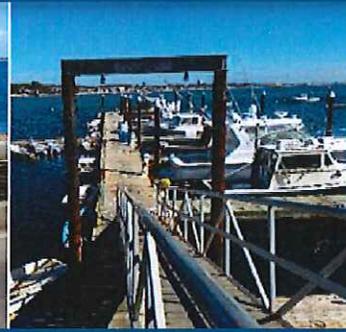
Additional Information

See attached draft report.

Board Action

<i>Motion</i>	<i>Second</i>	<i>In favor</i>	<i>Opposed</i>	<i>Disposition</i>

Town of Provincetown, MA



Increasing Coastal Resiliency and Reducing Infrastructure Vulnerability by Mapping Inundation Pathways

FINAL REPORT

Project funded in part by the
Massachusetts Office of Coastal
Zone Management Coastal
Resilience Grant Program

Contact:

Richard J. Waldo, P.E.
Town of Provincetown
Department of Public Works - Director
2 Mayflower St. - Room 74.
Provincetown MA 02657
Phone 508-487-7060
Email : rwaldo@provincetown-ma.gov

June 2016



TABLE OF CONTENTS

SECTION	PAGE NO.
Executive Summary.....	ES-1
1. Introduction & Background Information.....	1-1
1.1 Community Information	1-1
1.2 Natural Hazards Impacting Provincetown	1-2
1.3 Responding to Climate Change and Sea Level Rise at the Local Level.....	1-4
1.4 Tide Guage installation.....	1-5
1.5 Community Observations.....	1-5
1.6 Critical Facilities & Infrastructure	1-6
2. Storm Tide Pathways – Methods & Results	2-1
2.1 Methods.....	2-1
2.1.1 Desktop Analysis	2-3
2.1.2 Field Work.....	2-4
2.1.3 Data Processing	2-5
3. Risk Assessment.....	3-1
3.1 Methodology.....	3-1
3.1.1 Scope of Assessment and Data Gathering.....	3-1
3.1.2 Consequence of Failure Assessment.....	3-1
3.1.3 Likelihood of Failure Assessment.....	3-3
3.2 Risk Analysis Interpretation & Results	3-5
3.3 Risk Interpretation for Highest Risk Scores or “Critical” to the Community	3-6
3.3.1 Municipal Airport.....	3-7
3.3.2 Police Department	3-7
3.3.3 Town Hall	3-8
3.3.4 Next Steps.....	3-8
4. Recommendations for Adaptive Strategies	4-1
4.1 Massachusetts Climate Change Adaptation Report.....	4-1
4.2 Relevant Action Items from Other Provincetown Planning Projects.....	4-2
4.2.1 Provincetown Hazard Mitigation Plan Update	4-3
4.2.2 Strategic Beach Stabilization Pilot Project	4-4
4.2.3 Provincetown Harbor Plan	4-5
4.3 Adaptive Strategies	4-5
4.3.1 Adaptive Strategies for Highest Risk Critical Facilities & Infrastructure.....	4-7
4.4 Summary.....	4-28

TABLES

Table ES-1: Critical Facilities & Infrastructure to Be Impacted by a Storm Tide Pathway	ES-1
Table 1-1: Potential Impacts to Buildings & Infrastructure from Natural Hazards	1-3
Table 1-2: Site Visit Observations/Themes	1-6
Table 1-3: Provincetown Critical Facilities & Infrastructure	1-6
Table 1-4: Provincetown Critical Facilities & Infrastructure Flood Zone & Storm Tide Pathway Status	1-10
Table 1-5: Provincetown Inventory of Standby Generators (January 2016)	1-12
Table 2-1: Key Water Elevation and Tidal Datum	2-1
Table 3-1: CoF Scoring Matrix	3-2
Table 3-2: LoF Scoring Matrix	3-4
Table 3-3: Asset Criticality Ranking	3-5
Table 4-1: Relevant Action Items from Provincetown Hazard Mitigation Plan (2016)	4-3
Table 4-2: Critical Facilities & Infrastructure to Be Impacted by a Storm Tide Pathway	4-5
Table 4-3: Provincetown Pump Stations	4-9
Table 4-4: Provincetown Adaptation Strategies & Recommendations	4-14

FIGURES

Figure 1-1: Provincetown Environmental Justice Area & Potential Hurricane Flooding	1-2
Figure 1-2: Provincetown Critical Facilities & Infrastructure	1-9
Figure 2-1: Tidal Datum Profiles for Boston and Provincetown	2-2
Figure 2-2: Downtown Provincetown, Draped Aerial Photograph Over LiDAR Surface	2-4
Figure 3-1: FEMA FIRM Map - Town Assets Within Floodplain Zones	3-4
Figure 3-2: Projected Impacts of Sea Level Rise (SLR) With 4-ft. of SLR	3-5
Figure 4-1: Downtown Provincetown Storm Tide Pathway Results	4-8
Figure 4-2: Provincetown Airport	4-11
Figure 4-3: Shank Painter Road Storm Tide Pathways	4-13
Figure 4-4: Coast Guard Station Storm Tide Pathway Results	4-21
Figure 4-5: Route 6 and 6A Storm Tide Pathway Results	4-22
Figure 4-6: Pump Station #8 – West End Storm Tide Pathway Results	4-23
Figure 4-7: Central Vac Station, Stormwater Pumphouse & Provincetown Public Television Storm Tide Pathway Results	4-24
Figure 4-8: Commodore Avenue Pump Station Storm Tide Pathway Results	4-25
Figure 4-9: Fire House # 5 Storm Tide Pathway Results	4-26
Figure 4-10: DPW Garage Storm Tide Pathway Results	4-27

APPENDICES

Appendix A: Center for Coastal Studies Report
Appendix B: Consequence of Failure Assessment & Results
Appendix C: Likelihood of Failure Summary
Appendix D: Risk Results Summary

EXECUTIVE SUMMARY

The Town of Provincetown, Massachusetts (Town or Provincetown) is a coastal community located on a narrow peninsula at the tip of Cape Cod surrounded by Cape Cod Bay and the Atlantic Ocean. With the amount of ocean exposure, the community has significant vulnerabilities that exist for Provincetown due to natural hazards, major storm events and sea level rise. The community has been forward thinking about how it will be impacted and is utilizing resources such as Massachusetts Coastal Zone Management grants and other funding mechanisms, to advance plans and projects focused on helping the community increase its resiliency and mitigate potential impacts from storm events. In 2014, Provincetown was awarded a Coastal Zone Management grant to help identify and prepare mitigation actions for critical facilities and infrastructure in the community for a project called “*Increasing Coastal Resiliency and Reducing Infrastructure Vulnerability by Mapping Inundation Pathways.*” The goal of the project was to identify the most critical facilities and infrastructure, conduct a detailed risk assessment, identify vulnerabilities and help prioritize mitigation projects and adaptation strategies for Provincetown. In addition, the study focused on preparing site-specific GPS surveys and exploring the horizontal extents of documented flood elevations associated with coastal inundation (referred to in this report as Storm Tide Pathways) to help minimize uncertainties associated with sea level rise projections. The project also included the installation of an interactive tide gauge and the production and installation of four 20-foot tide staffs. Each component of the project was designed with the overall intent of better informing public education and outreach efforts associated with the vulnerabilities of the community.

Project Phases

The project was executed in phases that included conducting a risk analysis, identifying storm tide pathways and developing recommendations for adaptive strategies. The risk assessment was prepared collaboratively with key stakeholders in Town to help Provincetown understand which of the Town’s critical facilities and infrastructure are at the highest risk of being impacted by natural hazard events.

Risk assessment is a method for identifying system vulnerabilities, prioritizing mitigation projects, and optimizing mitigation budgets. Risk is the combination of how likely it is an asset could fail, and the resulting impact of failure. These concepts are represented in the risk analysis (**Section 3.0**) by Consequence of Failure (CoF), and Likelihood of Failure (LoF). The risk assessment considered the results of the Storm Tide Pathway assessment as one of the criteria.

Upon completion of the risk analysis work and Storm Tide Pathway identification, adaptive strategies were developed specifically to address some of the unique challenges in the community. Strategies considered FEMA floodplain maps, Storm Tide Pathways, information received from the Town (previous plans and reports), and research of other coastal communities and their adaptation efforts. **Table ES-1** identifies the critical facilities and infrastructure evaluated for this project and indicates which ones may be impacted directly by a Storm Tide Pathway.

Table ES-1: Critical Facilities & Infrastructure to Be Impacted by a Storm Tide Pathway

Mean Level Low Water (MLLW) Range	Critical Facility & Infrastructure to Be Impacted by a Storm Tide Pathway (STP) in this MLLW Range	Storm Tide Pathway(s) Impacting Critical Facilities & Infrastructure	Specific MLLW of the Storm Tide Pathway
< 12 feet	Provinceland Road Culvert	12-01	MLLW - 12.93
	Provincetown Airport	02-02 02-03	MLLW - 11.27 MLLW - 11.39
13.0 – 13.9 feet	Coast Guard Station	12-14 12-15	MLLW - 15.71 MLLW - 15.13

Mean Level Low Water (MLLW) Range	Critical Facility & Infrastructure to Be Impacted by a Storm Tide Pathway (STP) in this MLLW Range	Storm Tide Pathway(s) Impacting Critical Facilities & Infrastructure	Specific MLLW of the Storm Tide Pathway
		12-16	MLLW - 15.59
	Provincetown Town Hall	11-05 11-06	MLLW - 13.59 MLLW - 13.61
	Fire House #3	11-05 11-06	MLLW - 13.59 MLLW - 13.61
	Pump Station #8 - West End	12-05	MLLW - 13.25
14.0 – 14.9 feet	Fire Station #5	17-06	MLLW - 14.97
	Provincetown Public Television	11-07	MLLW - 14.51
		11-08	MLLW - 14.75
		11-12	MLLW - 15.77
		11-11	MLLW - 15.5
	Fire Station #2	11-04	MLLW - 13.98
	Water Transmission Mains from Truro	11-05	MLLW - 13.59
		11-06	MLLW - 13.61
		22-01	MLLW - 14.83
		22-02	MLLW - 14.43
		17-06	MLLW - 14.97
	Pump Station #11 - Ice House Pump Station	17-06	MLLW - 14.97
Pump Station #1 - Kendall Lane	17-06	MLLW - 14.97	
Pump Station #6 - Commodore Avenue	22-01	MLLW - 14.83	
	22-02	MLLW - 14.43	
Route 6A	11-05	MLLW - 13.59	
	11-06	MLLW - 13.61	
	22-01	MLLW - 14.83	
	22-02	MLLW - 14.43	
	17-06	MLLW - 14.97	
Stormwater Pumphouse	11-07	MLLW - 14.51	
	11-08	MLLW - 14.75	
Electrical Transmission Lines	22-01	MLLW - 14.83	
	22-02	MLLW - 14.43	
Route 6 Roadway	22-01	MLLW - 14.83	
	22-02	MLLW - 14.43	
15.0 – 15.9 feet	Central Sewer Vacuum System	11-11	MLLW - 15.5
	Pump Station #7 - Thistlemore Road	16-03	MLLW - 15.43
	Pump Station #5 - Snail Road	16-04	MLLW - 15.02

Mean Level Low Water (MLLW) Range	Critical Facility & Infrastructure to Be Impacted by a Storm Tide Pathway (STP) in this MLLW Range	Storm Tide Pathway(s) Impacting Critical Facilities & Infrastructure	Specific MLLW of the Storm Tide Pathway
17.0 – 17.9 feet	Fire Station	07-04	MLLW - 17.29
	DPW Garage	07-04	MLLW - 17.29
	Pump Station #2 – Pleasant Street	07-04	MLLW - 17.29
	Provincetown Police Station	07-04	MLLW - 17.29
	Stop & Shop	07-04	MLLW - 17.29
	Pump Station #10 - Stop and Shop Pump Station	07-04	MLLW - 17.29
	Pump Station #9 - Shank Painter	07-04	MLLW - 17.29

The following critical facilities and infrastructure evaluated for this project were not found to be impacted by a Storm Tide Pathway, they include:

- Provincetown Public Library
- Telephone Station
- Fire Station #4
- Seashore Point
- Emergency Operations Center – Veterans
- Provincetown High School
- Maushope Senior Housing
- Housing Authority
- Outer Cape Health Services
- Wastewater Treatment Plant
- Winslow Water Tower
- Herring Cove Animal Hospital
- Pump Station #3 - Manor
- Pump Station #4 – Bayberry
- Mt. Gilboa Water Tower
- Power SubStation #1
- Power SubStation #2
- Transfer Station

Risk Results, Adaptive Strategies & Recommendations

The risk results from this project will serve as a tool for Provincetown to use for future planning efforts and capital improvement projects. Adaptive strategies and recommendations were detailed for the highest risk critical facilities and infrastructure which evaluated Consequence of Failure and Likelihood of Failure, they include:

- **Center of Provincetown’s Downtown** – The risk assessment, which included evaluating the presence of Storm Tide Pathways, identified the central downtown area near Commercial Street at Ryder Street as an area with a number of critical facilities and infrastructure. Assets include the Town Hall, Fire House #3 and Bradford Street (sometimes referred to as 6A). Two Storm Tide Pathways were identified to impact this area.

Considerations to eliminate these storm tide pathways and the potential for floodwater damage include using natural feature enhancements or developing a sand bagging plan during storm threats.

- **Wastewater Pump Station Improvement** – Provincetown has 11 pump stations. A number of them received high risk scores due to their location and criticality to the community. Flooding and outages at pump stations could result in interrupted sewer service or sanitary sewer overflows, both of which could have an impact on public health and the environment. Protecting these stations from floodwaters may include solutions such as elevating or relocating equipment, developing standard operating procedures and ensuring generator capacity and availability.
- **Provincetown Municipal Airport** – The airport is an important economic and transportation service to the community and Cape Cod. Should the airport be impacted by a substantial natural hazard event, it could represent a major loss for Provincetown in terms of tourism and the economy. The airport is also in a floodplain and was found to be associated with two Storm Tide Pathways.
- **Shank Painter Road** – This area of Provincetown is of concern because there are several critical facilities and infrastructure located along this street including the police and fire stations. Shank Painter Road is in a floodplain and also associated with a Storm Tide Pathway.

The report includes 24 adaptive strategies and recommendations for Provincetown to consider to help protect existing critical facilities and infrastructure. The strategies range from integrating this project with other town efforts like the Capital Improvement Plan, Hazard Mitigation Plan, Emergency Response Plan and Community Rating System reporting to considering Storm Tide Pathways during project implementation and infrastructure upgrades to natural resource enhancement.

1. INTRODUCTION & BACKGROUND INFORMATION

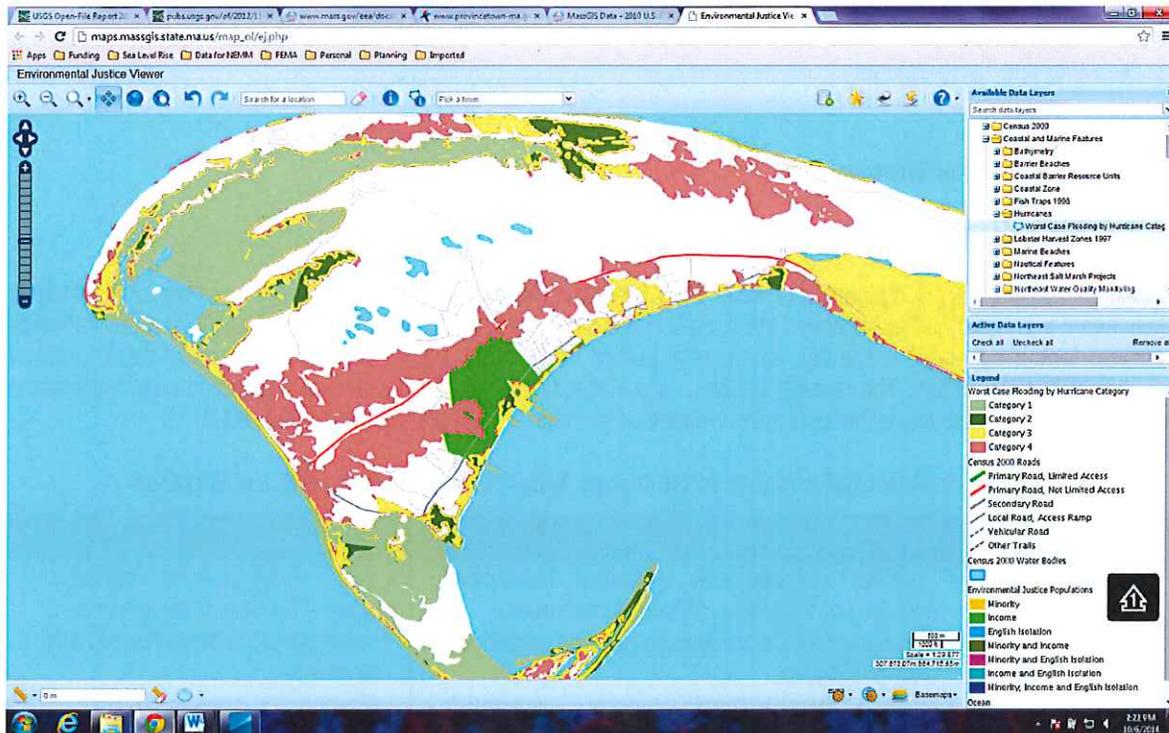
The Town of Provincetown, Massachusetts (the Town or Provincetown) is located on a narrow peninsula at the northern tip of Cape Cod surrounded by Cape Cod Bay to the west and north and the Atlantic Ocean to the east. The degree of ocean exposure presents a significant vulnerability for the Town to natural hazards, major storm events and future sea level rise. Provincetown has been forward thinking about managing these vulnerabilities, and was awarded a Coastal Zone Management (CZM) grant in 2014 to help identify and prepare mitigation actions for Town assets and infrastructure. The goal of the project was to identify the most critical facilities and infrastructure, conduct a detailed risk assessment, identify vulnerabilities and identify and prioritize mitigation projects and adaptation strategies.

The first phase of the project was to conduct a risk analysis, and provide the results to the Town. The risk assessment was performed in partnership between Woodard & Curran and the Provincetown Center for Coastal Studies (Coastal Studies). Coastal Studies contributed an assessment which used detailed survey information as well as aerial elevation data to pinpoint specific locations throughout the Town vulnerable to becoming inundated by a sea level rise which are referred to as Storm Tide Pathways. Coastal Studies surveyed points in a field survey to obtain increased vertical accuracy as compared to LiDAR data. When the water level reaches a Storm Tide Pathway level, it becomes active and water can flow inland and flood or inundate the associated area. The volume of inundation was not considered and the outlines associated with each Storm Tide Pathway are subjective to the length of time it remains active (i.e. the storm duration/length of flooding). Woodard & Curran performed the risk analysis using a combination of Coastal Studies results, Geographic Information Systems (GIS), background information gathered from previous reports and stakeholder interviews.

1.1 COMMUNITY INFORMATION

Provincetown is approximately 8.35 square miles of land area. A large portion of the Town's assessed property value is located in close proximity to Provincetown Harbor (over \$2.9 billion). Over 75 percent of the land area in Provincetown is located within the Cape Cod National Seashore. Provincetown Harbor is home to a key transportation area for Cape Cod Bay and serves as a deep water port for marine traffic, including cruise ships. Within Provincetown Harbor are three piers (MacMillan, Fisherman's Wharf and the Coast Guard Pier) which are used by the commercial fishing and tourism industries producing millions in sales and hundreds of jobs. Provincetown has a designated Environmental Justice Area/Neighborhood based on income (see **Figure 1-1**) and this neighborhood is in an area which is susceptible to flooding from hurricanes (and other storm impacts) and sea level rise.

Figure 1-1: Provincetown Environmental Justice Area & Potential Hurricane Flooding



The entire Town is designated as a Priority Habitat for Rare Species and an Estimated Habitat for Rare Wildlife (according to the Natural Heritage and Endangered Species Program (NHESP)). The drivers for Provincetown to engage in climate action mitigation activities are social, economic, environmental and political.

1.2 NATURAL HAZARDS IMPACTING PROVINCETOWN

In 2015, Provincetown partnered with the Cape Cod Commission to update its local Hazard Mitigation Plan. The purpose of the planning effort was to help the community reduce loss to property and human life from natural hazard events. Provincetown's Hazard Mitigation Plan serves to educate the community about natural hazards and provide a foundation for creating a resilient community. Updating the Hazard Mitigation Plan involved reviewing the full range of natural hazards identified in the 2013 Massachusetts State Hazard Mitigation Plan and identified natural hazards that could impact Provincetown in the future or that have impacted Provincetown in the past. Impacts were evaluated using local expertise Town staff, input from the Barnstable County Regional Emergency Planning Committee, data from the 2013 Massachusetts State Hazard Mitigation Plan and other resources. Natural hazards that have or could impact the Town of Provincetown include the list below. The hazards identified for further risk assessment during the planning process are indicated in bold.

- **Coastal Erosion and Shoreline Change**
- Dam (Culvert) Failure
- Earthquake
- **Fire (Urban and Wildland)**
- Flood
- **Hurricane & Tropical Storms**
- Landslide

- **Nor'easter**
- **High Winds**
- Thunderstorms
- Extreme Temperatures
- Tornadoes
- Drought
- **Severe Winter Weather**
- Tsunami
- **Sea Level Rise**

During the hazard mitigation planning process, Provincetown determined that if the probability of a hazard was highly likely and if the public had experienced the hazard in the past, it was a hazard that most pertained to the community and was further evaluated in the risk assessment portion of the plan. The focus of this risk assessment is critical facilities and infrastructure. The recently updated local Hazard Mitigation Plan specifically identified potential impacts to buildings and infrastructure that could occur based on the type of natural hazard (see **Table 1-1**).

Table 1-1: Potential Impacts to Buildings & Infrastructure from Natural Hazards

Natural Hazard	Infrastructure Impacts	Building Impacts
Coastal Erosion & Shoreline Change	<ul style="list-style-type: none"> • Potential to expose septic systems or sewer pipes and risk contamination of natural resources. • Sand may block stormwater pipes and contribute to drainage issues. • Natural systems in Provincetown are vulnerable to coastal erosion where the natural process of erosion is altered (due to engineered structures to stabilize shorelines). The ability of natural resources to provide protection from storm damage and flooding can be diminished and increase the vulnerability of infrastructure. 	<ul style="list-style-type: none"> • Public safety could be a concern when a building collapses or a water supply is contaminated due to erosion. • Roadway collapse could limit emergency response times.
Hurricane & Tropical Storms	<ul style="list-style-type: none"> • Damage to power lines and extended power outages. • Water/wastewater issues if there is power failure or structural damage. • The Hazard Mitigation Plan specifically noted in storm events where winds are sustained at over 50mph, docks in the harbor fail, boats break free from their moorings and there is the potential for Route 6 to be closed due to blowing sand and Route 6A to be closed due to flooding. 	<ul style="list-style-type: none"> • Wind, rain, flood damage from debris or flying objects, or permanent collapse depending on the level of the storm.
Nor'easter	<ul style="list-style-type: none"> • Downed power lines, power outages and high winds can cause damage to coastal infrastructure. 	<ul style="list-style-type: none"> • There has been damage in the past during a Nor'easter to roofs, windows and buildings including the roof of the Surfside Inn that blew off and damaged houses across the street.

Natural Hazard	Infrastructure Impacts	Building Impacts
Severe Winter Weather	<ul style="list-style-type: none"> • Ice and heavy snowfall can knock out heating, power, and communication services. • Pipes and water mains may break due to extremely cold temperatures. • Large sections of ice can cause damage to floating docks. 	<ul style="list-style-type: none"> • Structural failure of buildings due to heavy snow loads; roof failure; structural damage to buildings because of high wind; damage to fishing vessels, recreational boats and kayaks because of ice floes and coastal flooding (Figure 2.26)
Sea Level Rise	<ul style="list-style-type: none"> • As this occurs, high water elevations will move landward, areas of coastal shorelines will retreat, and low-lying areas will be increasingly exposed to erosion, tidal inundation, and coastal storm flooding. 	<ul style="list-style-type: none"> • Developed parts of the coast are especially vulnerable because of the presence of infrastructure, homes and businesses that can be damaged or destroyed by coastal storms. • Development often impedes the ability of natural coastal systems to buffer inland areas from storm damage.
Flood	<ul style="list-style-type: none"> • Debris or sediment may remain on and around town infrastructure and floods can damage gas lines, utility poles, water infrastructure and the wastewater treatment plant. • Damaged infrastructure can also cause secondary impacts to the local economy if severe enough. 	<ul style="list-style-type: none"> • Buildings can be damaged or destroyed by floodwaters from the foundation level up and/or by floating objects caught in the floodwaters.

1.3 RESPONDING TO CLIMATE CHANGE AND SEA LEVEL RISE AT THE LOCAL LEVEL

Provincetown is forward thinking and proactive with regard to planning and preparing for potential natural hazard events. The Town has a documented history of flooding and erosion as a result of winter storms, hurricanes, and nor'easters. Flooding and coastal erosion are both hazards specifically identified and documented in the 2011 Hazard Mitigation Plan (HMP) as having the most damage potential to life and property and have also been highlighted in the updated HMP. The HMP has several related mitigation actions listed providing support for Provincetown's need to conduct this project and receive funding assistance. The following mitigation actions are related to this project and received the highest priority score rankings out of all of the mitigation projects listed in the plan, they include:

- Conduct an assessment of local infrastructure subject to damage from flooding or storm surge or that is likely to cause damage to surrounding areas should it fail or flood,
- Monitor beach conditions and evaluate all vulnerable shoreline areas for possible future nourishment and beach stabilization projects, and
- Conduct a thorough evaluation of the Town's most at-risk locations identified in the Vulnerability Analysis and evaluate the potential mitigation techniques for protecting each location to the maximum extent possible.

Under a separate Coastal Zone Management grant, Provincetown completed a strategic beach stabilization pilot project/analysis in June 2015. The report acknowledges the Town's proactive efforts towards coastal planning and documents the need for beach nourishment as a strategy for coastal resiliency. The project was a desktop study to identify shoreline areas vulnerable to or resilient to coastal erosion and inform more strategic resiliency planning.

Provincetown's Harbor Plan (recently updated in 2012) also identified increased protection and public access with beach nourishment as a primary tool to address sea level rise. It identified the need for a comprehensive sediment management plan including budgeted and periodic beach nourishment.

1.4 TIDE GAUGE INSTALLATION

As a part of the original grant application for this project, a 'web-accessible, tide gauge' was proposed to be installed near the Provincetown Harbormaster's office. After installation of the tide gauge, Provincetown was to be responsible for the care and maintenance of the tide gauge in perpetuity. Between when the funding for this project was awarded and its completion, Coastal Studies contacted the US Geological Survey's New England Water Science Center in Northborough, MA to explore potential interest in installing a real time tide gauge in Provincetown. After this contact, a meeting was arranged between Coastal Studies, USGS, the National Weather Service, the Massachusetts Office of Coastal Zone Management and the Provincetown Harbormaster to discuss potential tide gauge locations. The tide gauge was installed on December 31, 2014 and Coastal Studies continued to work with USGS staff to calibrate the tide gauge datum to the North American Datum of 1988 (NAVD88). The station is accessible at http://waterdata.usgs.gov/ma/nwis/uv/?site_no=420259070105600&PARAMeter_cd=00065.00060. The USGS will be responsible for all care and maintenance of the tide gauge going forward.

In addition to the tide gauge installation, Coastal Studies oversaw the production and installation of four custom-made 20-foot tide staffs, in lieu of the single tide staff that was originally envisioned. As opposed to traditional flat boards, tide staffs were produced in a half circle shape to increase visibility from multiple vantage points throughout the harbor. A prototype section was produced and used to evaluate potential installation locations. The tide staffs (datum referenced to NAVD88 and mean lower low water - local chart datum) were installed at 4 locations around the harbor as determined by the Provincetown Harbormaster in June 2016.

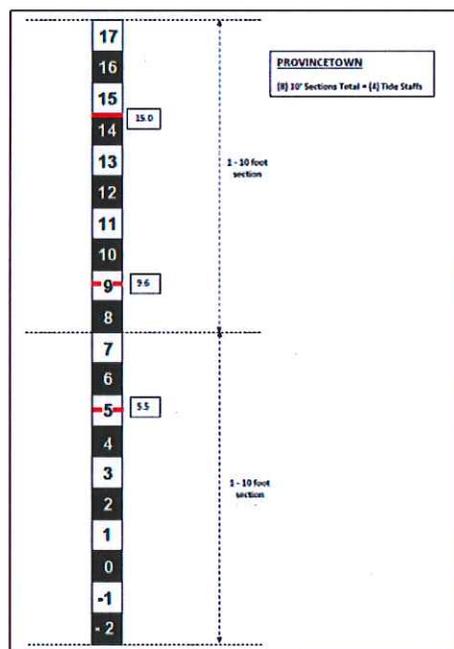


Photo: Custom 20-Foot Tide Staff

1.5 COMMUNITY OBSERVATIONS

The purpose of the critical facility and infrastructure evaluation associated with this planning project conducted in October 2015 was to gather more information from Town officials, which was used to categorize and assess risks to Provincetown's critical facilities and infrastructure being assessed for this project. The main goal was to better understand the role of Provincetown's critical infrastructure, how natural hazards have and may impact them and help the Town prioritize adaptive strategies to increase its resiliency, where possible.

One major component of the site visit was to meet with Richard Waldo, Director of the Department of Public Works to discuss the scoring of Consequence of Failure (CoF) for Provincetown's critical assets (see **Section 3.0**). Information was gathered to make a determination about the health and safety, financial, reputation, and environmental impacts the Town could face as a result of each asset's failure. In addition, a tour of critical infrastructure was conducted by Richard Waldo. Provincetown staff identified by Mr. Waldo were interviewed regarding critical infrastructure in the community and any past impacts from natural hazard events that have occurred. Major themes that resulted from the site visit are listed in **Table 1-2**.

Table 1-2: Site Visit Observations/Themes

Topic	Details
Severe Weather	Due to the geography of Provincetown and its location at the tip of Cape Cod with water on three sides, the community is at risk due to natural hazard events. Impacts can be severe due to high winds and wind exposure, flooding and blowing sand. All south blowing storms are of the greatest concern.
Sand Management	Moving, removing, replacing and managing sand is a big effort for the Department of Public Works and is a unique challenge to Provincetown.
Power/Electric Service	There are power issues in general in Provincetown. The main feed to the community is from the Town of Truro (Truro).
Emergency Shelter	Provincetown has a shelter, but most likely in a serious emergency event, it would not be able to evacuate, resulting in a shelter in place situation. Other communities in the area, like Truro, may also use the shelter.
Flooding	Flooding occurs in Provincetown due to natural hazard events, but also due to drainage issues.
Transmission Mains from Truro – Critical	All water delivered to Provincetown comes from Truro. Water transmission mains, under 6A near Shore Road, could be impacted and if something happens to that roadway or the pipes underneath, Provincetown loses access to water. The water tower would only buy a minimal amount of time. A Category 2 or 3 storm could impact Shore Road.

1.6 CRITICAL FACILITIES & INFRASTRUCTURE

Provincetown has numerous types of important resources, facilities and infrastructure it is responsible for managing and maintaining. For this project, it was necessary to identify and confirm the critical facilities and infrastructure being considered (see **Table 1-3**). The Critical Facilities & Infrastructure list was prepared by cross-referencing critical facilities identified in the 2008 Provincetown Hazard Mitigation Plan and the critical assets identified by the Cape Cod Commission for a project that addresses criticality and vulnerability of transportation assets in all of Barnstable County. The list was presented to the Director of the Department of Public Works who modified and finalized the list of Critical Facilities and Infrastructure for this project. **Table 1-3** lists the Critical Facilities & Infrastructure and **Figure 1-2** represents a map of each asset listed and indicates if the asset is in a flood zone.

Table 1-3: Provincetown Critical Facilities & Infrastructure

Critical Facility/Infrastructure	Address	Listed in 2008 Hazard Mitigation Plan*	Listed by Cape Cod Commission**	Notes
Emergency Operations Center - Veterans Memorial Community Center or VMCC Building	2 Mayflower Lane	X		Noted in the HMP as the Veterans Memorial Elementary School
Provincetown High School	12 Winslow Street	X	X	
Provincetown Town Hall	260 Commercial Street	X	X	

Critical Facility/Infrastructure	Address	Listed in 2008 Hazard Mitigation Plan*	Listed by Cape Cod Commission**	Notes
Seashore Point	100 Alden Street	X		
MacMillan Pier & Harbormaster	MacMillan Wharf	X	X	
Provincetown Police Station	26 Shank Painter Road	X	X	
Fire Station	25 Shank Painter Road	X	X	
Fire House #2	189 Commercial Street			Public restrooms
Fire House #3	254 Commercial Street			Art commission storage area
Fire Station #4	4 Johnson Street	X	X	
Fire Station #5	514 Commercial Street	X	X	
Coast Guard Station	125 Commercial Street	X	X	
Telephone Station	38 Winslow Street	X	X	
Outer Cape Health Services	49 Harry Kemp Way	X	X	
Housing Authority	49 Harry Kemp Way	X	X	
Maushope Senior Housing	49 Harry Kemp Way	X		
Provincetown Public Library	356 Commercial Street	X	X	
DPW Garage	24 Race Point Road	X	X	
Transfer Station	90 Race Point Road			Added by DPW
Wastewater Treatment Plant	244 Route 6	X	X	
Herring Cove Animal Hospital	83 Shank Painter Road	X	X	
Central Sewer Vacuum System	5 Ryder Street	X	X	
Provincetown Airport	Race Point Road	X	X	
Province Land Road Culvert	125 Provinceland Road		X	
Water Transmission Mains - Truro	Route 6A			Added by DPW
Pump Station #1 – Kendall Lane	540-544 Commercial Street			Added by DPW
Pump Station #2 – Pleasant Street	61 Pleasant Street			Added by DPW
Pump Station #3 - Manor	26 Alden Street			Added by DPW
Pump Station #4 - Bayberry	74R Bayberry Avenue			Added by DPW
Pump Station #5 – Snail Road	698 Commercial Street			Added by DPW
Pump Station #6 – Commodore Avenue	50 Commodore Avenue			Added by DPW
Pump Station #7 – Thistlemore Road	324 Bradford Street			Added by DPW
Pump Station #8 – West End	1 Commercial Street			Added by DPW
Pump Station #9 – Shank Painter	25 Shank Painter Road			Added by DPW
Pump Station #10 – Stop and Shop Pump Station	56 Shank Painter Road			Added by DPW
Pump Station #11 – Ice House Pump Station	501 Commercial Street			Added by DPW
Route 6A Roadway	Route 6A			Other

Critical Facility/Infrastructure	Address	Listed in 2008 Hazard Mitigation Plan*	Listed by Cape Cod Commission**	Notes
Electric Transmission Lines	Route 6A			Other
Route 6 Roadway	Route 6			Other
Winslow Water Tower	7 Captain Bertie's Way			Added by DPW
Stormwater Pump House	Rear of 330 Commercial Street			Added by DPW
Mt. Gilboa Water Tower	120 Mt. Gilboa Road			Added by DPW
Provincetown Public Television	330 Commercial Street			Added by DPW
Power Substation #1	80 Shank Painter Road			Added by DPW
Power Substation #2	802 Commercial Street			Added by DPW
Stop & Shop	56 Shank Painter Road			Added by DPW

Note: *HMGP (Hazard Mitigation Plan); ** CCC (Cape Cod Commission) and refers to the work being done by the CCC for Barnstable County

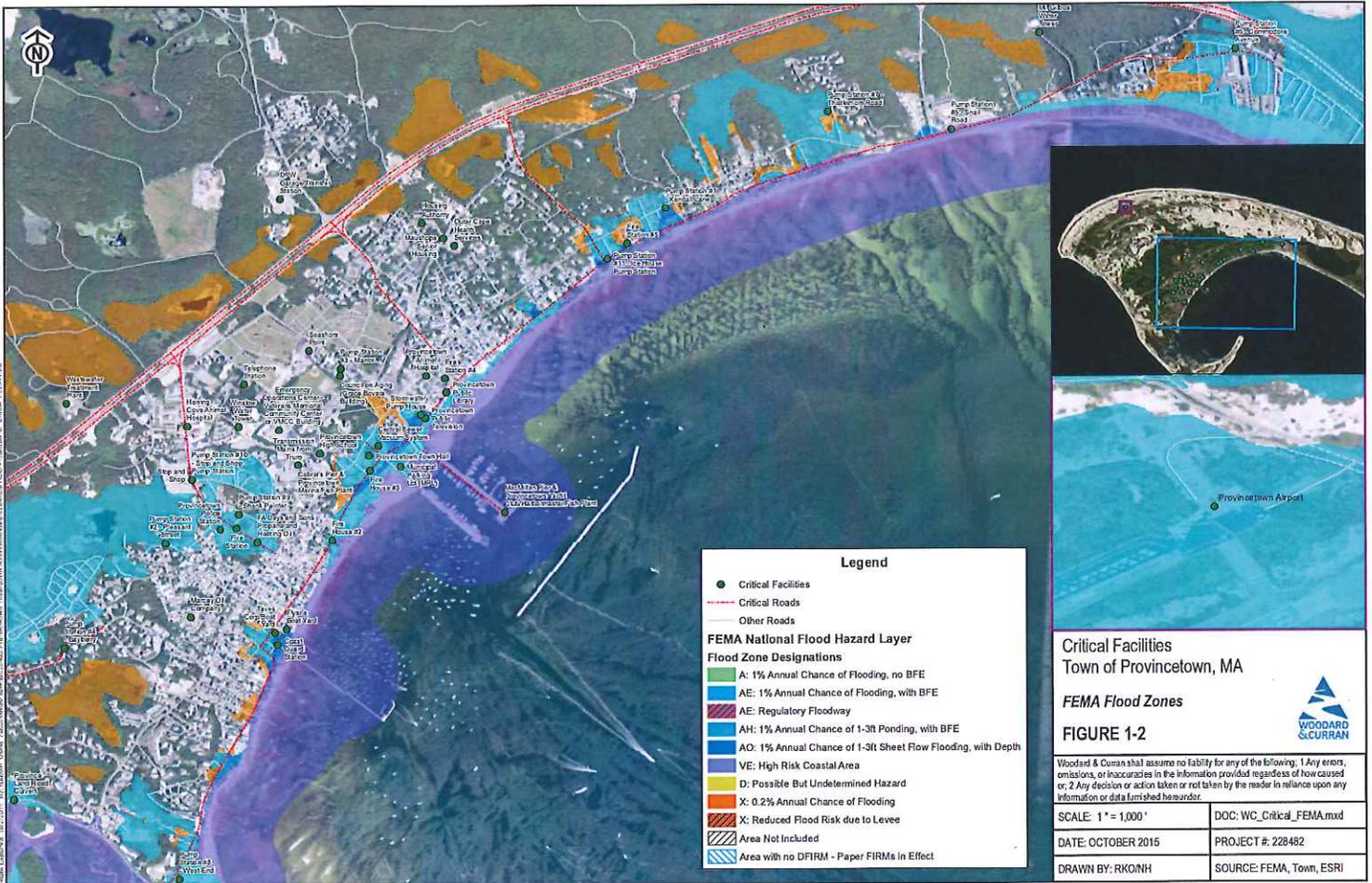


Table 1-4 is a summary list of the Critical Facilities & Infrastructure and it indicates if its respective location is in a flood zone corresponding with Figure 1-2 and if it will be impacted by a Storm Tide Pathway (Section 4.3).

Table 1-4: Provincetown Critical Facilities & Infrastructure Flood Zone & Storm Tide Pathway Status

Critical Facility/Infrastructure	Address	Impacted by a Storm Tide Pathway?	FEMA Flood Zone?	FEMA Zone*
Emergency Operations Center - Veterans Memorial Community Center or VMCC Building	2 Mayflower Lane	No	No	N/A
Provincetown High School	12 Winslow Street	No	No	N/A
Provincetown Town Hall	260 Commercial Street	Yes	Yes	AE
Seashore Point	100 Alden Street	No	No	N/A
MacMillan Pier & Harbormaster	MacMillan Wharf	Yes	Yes	VE
Provincetown Police Station	26 Shank Painter Road	Yes	Yes	AE
Fire Station	25 Shank Painter Road	Yes	Yes	AE
Fire House #2	189 Commercial Street	No	Yes	VE
Fire House #3	254 Commercial Street	Yes	Yes	AE
Fire Station #4	4 Johnson Street	No	No	N/A
Fire Station #5	514 Commercial Street	No	Yes	AO
Coast Guard Station	125 Commercial Street	Yes	Yes	AO
Telephone Station	38 Winslow Street	No	No	N/A
Outer Cape Health Services	49 Harry Kemp Way	No	No	N/A
Housing Authority	49 Harry Kemp Way	No	No	N/A
Maushope Senior Housing	49 Harry Kemp Way	No	No	N/A
Provincetown Public Library	356 Commercial Street	No	No	N/A
DPW Garage	24 Race Point Road	No	No	N/A
Transfer Station	90 Race Point Road	No	No	N/A
Wastewater Treatment Plant	244 Route 6	No	No	N/A
Herring Cove Animal Hospital	83 Shank Painter Road	No	No	N/A
Central Sewer Vacuum System	5 Ryder Street	Yes	Yes	AE
Provincetown Airport	Race Point Road	Yes	Yes	AE
Province Land Road Culvert	125 Provinceland Road	Yes	Yes	AE
Water Transmission Mains – Truro	Route 6A	Yes	Yes	VE
Pump Station #1 – Kendall Lane	540-544 Commercial Street	Yes	Yes	AO
Pump Station #2 – Pleasant Street	61 Pleasant Street	No	No	N/A
Pump Station #3 - Manor	26 Alden Street	No	No	N/A
Pump Station #4 - Bayberry	74R Bayberry Avenue	No	No	N/A
Pump Station #5 – Snail Road	698 Commercial Street	Yes	Yes	VE
Pump Station #6 – Commodore Avenue	50 Commodore Avenue	Yes	Yes	AE

Critical Facility/Infrastructure	Address	Impacted by a Storm Tide Pathway?	FEMA Flood Zone?	FEMA Zone*
Pump Station #7 – Thistlemore Road	324 Bradford Street	Yes	Yes	AE
Pump Station #8 – West End	1 Commercial Street	Yes	Yes	AE
Pump Station #9 – Shank Painter	25 Shank Painter Road	Yes	Yes	AE
Pump Station #10 – Stop and Shop Pump Station	56 Shank Painter Road	Yes	No	N/A
Pump Station #11 – Ice House Pump Station	501 Commercial Street	Yes	Yes	VE
Route 6A Roadway	Route 6A	Yes	Yes	VE
Electric Transmission Lines	Route 6A	Yes	Yes	AE
Route 6 Roadway	Route 6	Yes	Yes	AE
Winslow Water Tower	7 Captain Bertie's Way	No	No	N/A
Stormwater Pump House	Rear of 330 Commercial Street	Yes	Yes	AE
Mt. Gilboa Water Tower	120 Mt. Gilboa Road	No	No	N/A
Provincetown Public Television	330 Commercial Street	Yes	Yes	AO
Power Substation #1	80 Shank Painter Road	No	No	N/A
Power Substation #2	802 Commercial Street	No	No	N/A
Stop & Shop	56 Shank Painter Road	Yes	Yes	AE

*** FEMA Zone Definitions:**

VE – (High Velocity Zone) Areas subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action.

AE - Areas subject to inundation by the 1-percent-annual-chance flood event.

AO - Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet.



Table 1-5 includes a detailed summary of the Standby Generators that Provincetown has available for various critical facilities and infrastructure.

Table 1-5: Provincetown Inventory of Standby Generators (January 2016)

Location	Department	kW	Phase	Voltage	Fuel Type	Year	Manufacturer	Model No.	Serial No.
3 Phase, 480V Generators									
South Hollow	Water	300	3	480/277VAC	Diesel	2004	Caterpillar	SR4B	8ER04151
Wastewater Treatment Plant	Wastewater	265	3	480/277VAC	Diesel	2001	Kohler	250REOZD	
Central Vacuum Station (CVS)	Wastewater	160	3	480/277VAC	Diesel	2001	Kohler	150REOZJB	
North Union Field	Water	115	3	480/277VAC	Propane	2013			
Knowles Crossing (Surplus Generator)	Water	100	3	480/277VAC	Diesel	2009 (?)	Caterpillar	D100P1	OLY00000CN PS01568
Shank Painter Pump Station	Wastewater	80	3	480/277VAC	Propane	2007	Kohler	8DRZG	
Thistlemore Pump Station	Wastewater	44	3	480/277VAC	Propane	2011	Baldor	IGLC45-2GU	
Kendall Lane Pump Station	Wastewater	32	3	480/277VAC	Propane	2011	Baldor	IGLC35-2GU	
3 Phase, 208V Generators									
Town Hall	Town	140	3	208/120VAC	Propane	2010	Cummins	GGLB-2089029	L090079237
VMCC (Elementary School)	Town	130	3	208/120VAC	Diesel	2002	Generac	2894560100	2070907
Fire Station	Town	125	3	208/120VAC	Propane	(?)	Kohler	125R0ZJ81	327068
Freeman Street Pumps	Town	40	3	208/120VAC	Diesel	1990	Kohler	0R0ZJ81	189201-81
Highway Garage	Town	30	3	208/120VAC	Propane	(?)	Kohler	HC144G	04149/04



Location	Department	kW	Phase	Voltage	Fuel Type	Year	Manufacturer	Model No.	Serial No.
Commodore Pump Station	Wastewater	32	3	208/120VAC	Propane	2011	Baldor	IGLC35-2GU	
Snail Pump Station	Wastewater	32	3	208/120VAC	Propane	2011	Baldor	IGLC35-2GU	
1 Phase Generators									
Police Department	Town	40	1	240/120VAC	Propane	2001	Generac	43730	3533193
West End Pump Station	Wastewater	40	1	240/120VAC	Diesel	2001	Katolight	SED40FGJ4 CSA LR32481	
3 Phase, 480V Generators									
South Hollow	Water	300	3	480/277VAC	Diesel	2004	Caterpillar	SR4B	8ER04151
Wastewater Treatment Plant	Wastewater	265	3	480/277VAC	Diesel	2001	Kohler	250REOZD	

In addition to the generators listed in Table 1-5, the Town also has a towable spare Kohler generator (Model No. 150REOZT) that was purchased new in 2015. The generator is trailer mounted, towable and available as an emergency backup generator for all town facilities.

2. STORM TIDE PATHWAYS – METHODS & RESULTS

The Provincetown Center for Coastal Studies (Coastal Studies) developed and conducted the Storm Tide Pathways process associated with this project. **Section 2.1** includes a general summation of their methodology and results. The full report from Coastal Studies is included in **Appendix A**. For reference, the mean tidal range for Provincetown is 9.3 feet (see **Figure 2-1**) and a summary of key water elevation and tidal datum is shown in **Table 2-1**. A tidal datum is a standard elevation defined by a certain phase of the tide.

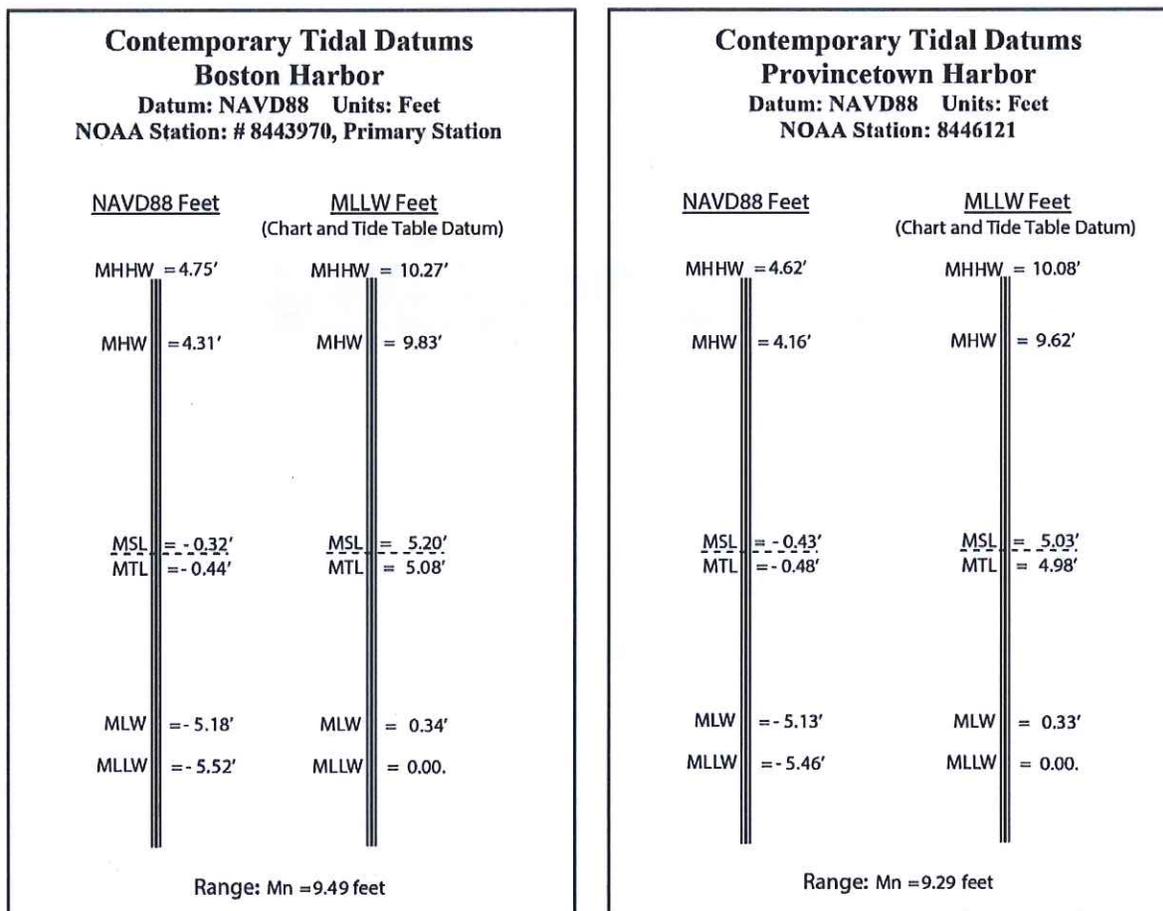
Table 2-1: Key Water Elevation and Tidal Datum

	Still Water Elevation in Feet (MLLW)
100 Year Return Still Water Level	13.95
50 Year Return Still Water Level	13.55
10 Year Return Still Water Level	13.35
High Tide Level	11.57
Mean Higher High Water	9.75
Mean High Water	9.29
NAVD88	4.95
NGVD29	4.10
Mean Low Water	0.00
Mean Lower Low Water	-0.33
Lowest Predicted	-2.43

2.1 METHODS

Identifying existing storm-tide pathways (STP) in a dynamic coastal environment is a multi-step process. First, a datum referenced tidal profile is established for the local area. For Provincetown Harbor, existing benchmarks for NOAA CO-OPS tidal station # 8446121 were recovered, occupied by the Center's Real-Time-Kinematic Global Positioning System (RTK GPS) and referenced vertically to the North American Vertical Datum of 1988 (NAVD88). Tidal station # 8446121 was established in Provincetown Harbor on March 5, 2010 and tidal datum referenced to the station datum, and reported on the NOAA CO-OPS website [tidesandcurrents.noaa.gov], were then converted to NAVD88 for reference throughout the project. **Figure 2-1** shows the contemporary tidal datum for Provincetown Tidal Station # 8446121 referenced to NAVD88 and Mean Lower Low Water (MLLW). As shown in **Figure 2-1**, this tidal profile is extremely similar to Boston Harbor.

Figure 2-1: Tidal Datum Profiles for Boston and Provincetown



Having established a datum referenced tidal profile, historical coastal storms were researched to determine significant storm tide (storm surge + astronomical tide) events occurring since 1921, the beginning of the continuous tidal record for Boston Harbor. Based on a Provincetown Harbor tidal characterization, the STP analysis proceeds with the identification of potential STPs in the lab using a rigorous desktop analysis of existing elevation Light Detection and Ranging (LiDAR) data.

An extensive fieldwork assessment program to locate, identify and verify the presence or absence of an existing STP in locations discovered in the desktop exercise was completed. This fieldwork is critical due to the following:

- LiDAR collected via low flying aerial surveys and the post-processing involved introduces uncertainties that can exaggerate or diminish features in three dimensional data and obscure or conflate the presence and scale of a storm-tide pathway. This has been shown to be particularly evident in cases of 'bare earth' models where elevations tend to be "pulled up" in areas adjacent to where buildings are removed and "pulled down" in areas of bridges or where roads cross streams.
- The use of an RTK-GPS instrument provides the best possible accuracy for acquiring and verifying 3-dimensional positional data. The GPS data can corroborate, or refute the presence of STPs identified from the desktop LiDAR analysis.

- Due to the dynamic nature of coastal geography only through this type of field work can potential STPs be discovered that were not seen in the desktop analysis of the LiDAR data.
- Even the most current LiDAR is rapidly out of date in certain areas. Consequently, GPS fieldwork is critical to identify those STPs that appeared in the LiDAR but no longer exist due to changes in landform.

2.1.1 Desktop Analysis

Potential STPs begins with the desktop analysis of the best available synoptic elevation data for the study area. The latest LiDAR data were downloaded from the NOAA website (<https://coast.noaa.gov/digitalcoast/>). The website has default settings for horizontal and vertical reference datum, spheroid and projection as well as units (metric vs standard). For the purposes of this study, the default download parameters were altered for ease of use within several software packages. Regardless of the spatial parameters, the positional information within the LiDAR are not altered. The final data are reported within the MLLW datum for Provincetown Harbor, to simplify use at the local level.

The data are downloaded in a raster format and brought into ESRI's ArcGIS software where the raster is divided into smaller tiles. The LiDAR tiles are brought into QPS's Fledermaus data visualization software. While acquired by CCS as an integral component of its Seafloor Mapping Program, the Fledermaus software package has proven to be an ideal platform for the initial desktop identification of STPs with the accuracy of the initial analysis limited primarily by the uncertainty and resolution of the LiDAR itself.

The power of Fledermaus lies in its ability to work with very large data files quickly. Individual files can be multiple GBs in size, yet Fledermaus can very rapidly, almost instantly, move through the data for visual inspection, 'fly-throughs' and similar functions. A horizontal plane, representing a specific STP elevation can be added to a Fledermaus project or 'scene' and that plane can be changed to simulate the increase or decrease in water level (**Figure 2-2**).

Figure 2-2: Downtown Provincetown, Draped Aerial Photograph Over LiDAR Surface

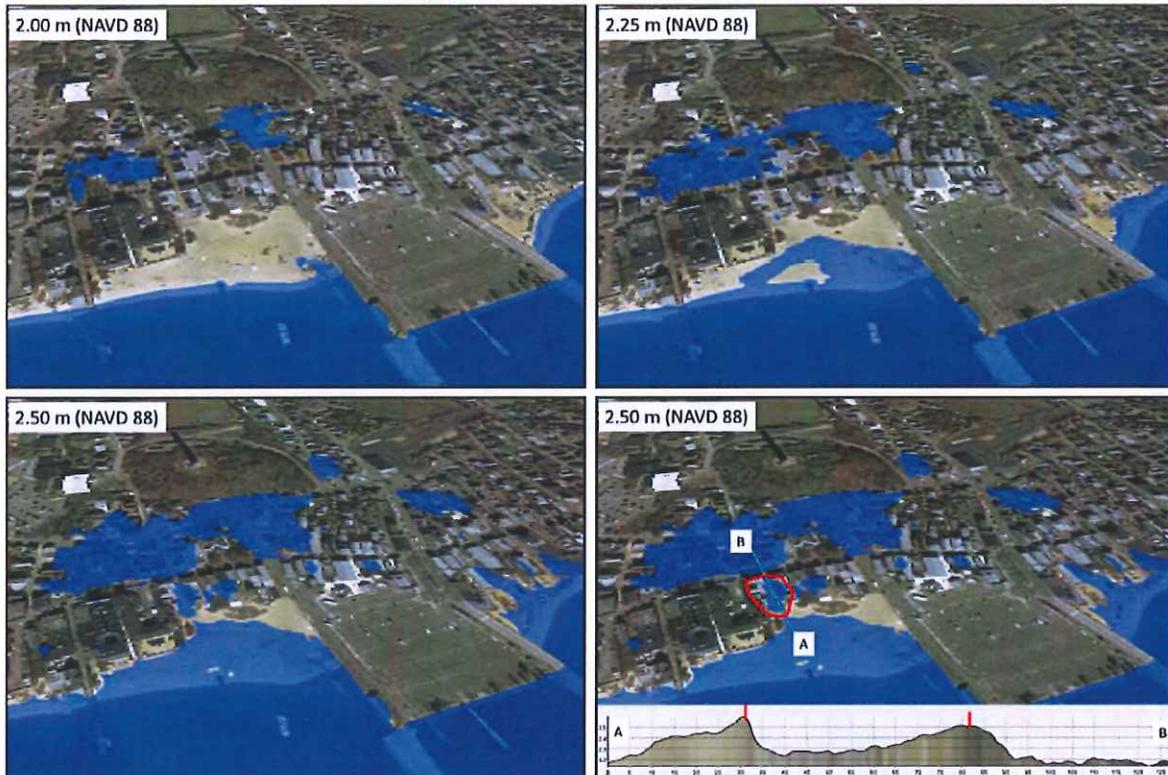


Figure 2-2. Downtown Provincetown, draped aerial photograph over Lidar surface. Blue areas are horizontal plane created in Fledermaus at increasing elevation. Lower left is example of a storm-tide pathway with accompanying profile. These images were generated before field work.

Another invaluable feature of the data visualization software is the ability to drape a two dimensional data, set such a vertical aerial photograph, over a 3D dataset (LiDAR). This allows better documentation of the STP and the ability to gain valuable information as to the substrate the STP is located in and its landscape setting. For example, an STP found on or near a naturally evolving coastal feature such as a beach or dune, would be characterized differently than one atop a concrete wall or other relatively static structure. This is important not only for a final assessment of the most appropriate way to address a STP in a critical area but also serves to closely examine naturally evolving areas and to understand STPs in close proximity to the identified point but not present in the LiDAR.

In the Spring of 2011, the Natural Resource Conservation Services (NRCS) collected terrestrial LiDAR data for Barnstable County. These data were used to provide an accurate synoptic elevation dataset. Metadata for these data indicate horizontal and vertical accuracies of +/- 1.0 m and +/- 0.15 m respectively, previous LiDAR for the area had double the vertical uncertainty.

2.1.2 Field Work

At the completion of the desktop analysis, potential STPs were compiled into a database with x, y, z coordinates and uploaded into the GPS. Field work occurred over several days using the GPS instrument to navigate to the location of a potential STP and determine its presence or absence or if an alternative location is more appropriate. Many coastal sites have very low relief (relatively flat) and determining whether a STP exists and its exact location and direction of

water flow is facilitated with the professional judgment and experience in the principles and practices of land surveying fieldwork as well as a thorough knowledge of coastal processes.

2.1.3 Data Processing

After the field work has been completed, data collected is processed to determine the refined STPs. Points that were determined not be STPs are eliminated and new STPs that were identified and documented in the field are added and labeled with position, elevation, substrate and other pertinent information. This information is included in a comprehensive database that can be brought into the project GIS. Particular attention is focused on those areas when the LiDAR was found to correlate poorly with current conditions or real-world positions as determined by the GPS surveys and professional judgment applied to accurately represent the STP.

With the compilation of the comprehensive STP database, the file is brought into ESRI's ArcGIS to visualize STP locations and provide a working tool to: 1) proactively address STPs prior to storm events; 2) prepare for approaching storms; and 3) to plan for longer-term improvements to mitigate other STPs. Recognizing that accurate field delineation of the extent of inundation for each STP is beyond the scope of the project, the LiDAR data was used in two interactive ways to visualize STP inundation levels. The first depiction is referred to as the Pathway Activation Level (PAL). The PAL is the elevation at which water begins to flow over a STP, the extent of which is delineated as a continuous contour using elevation from the LiDAR. For example, based on the GPS fieldwork, a STP with a PAL of 13.6 MLLW indicates that the moment the water reaches 13.6 MLLW water will begin to flow inland over the STP. Using the data visualization software, a water elevation of 13.6 MLLW was used to demarcate the area that would hypothetically be inundated (assuming storm tide water levels are maintained long enough for the area to become flooded). If a storm tide recedes after reaching the PAL, then the depiction can be viewed as a "best" case scenario for impacts associated with a specific storm tide. If water levels were to continue to rise above the PAL, higher than 13.6, more area would be inundated leading to the need for a second way to visualize STPs.

To increase the utility of the STP data and to make visualizations more user friendly, Inundation Ranges (IRs) were developed for the entire study area rather than creating PALs for every STP and all elevations of potential flooding. Based on a series iterations depicting potential inundation scenarios, including nuisance flooding, it was determined that the lowest value IR range would begin at the highest Spring tide of the year. The elevations were incrementally raised to the elevation of the Storm of Record for the area and three more elevations were added (Storm of Record +1ft; Storm of Record +2ft; and Storm of Record +3ft) to represent future sea level rise.

3. RISK ASSESSMENT

3.1 METHODOLOGY

Improving the resiliency and preparedness of Provincetown for impacts related to natural hazards, begins with understanding which of the Town's assets and infrastructure are at the highest risk. Understanding the risk presented to an asset in the system, allows the Town to make informed decisions about improvements and helps optimize the value of mitigation projects. To conduct the risk assessment, Woodard & Curran worked collaboratively with key stakeholders in Town to perform a risk analysis which identifies the criticality of the Town's assets (buildings, facilities, resources, etc.), and helps prioritize assets for possible risk mitigation projects.

Risk assessment is a method for identifying system vulnerabilities, prioritizing mitigation projects, and optimizing mitigation budgets. Risk is the combination of how likely it is an asset could fail, and the resulting impact of that failure. These concepts are represented in the risk analysis by Consequence of Failure (CoF), and Likelihood of Failure (LoF). This section describes the basis for identifying critical assets throughout the system and the risk assessment process. The results of this analysis were utilized to identify mitigation strategies and will be available during future planning efforts such as the recently updated Provincetown Hazard Mitigation Plan.

3.1.1 Scope of Assessment and Data Gathering

In order to delineate set of assets for the assessment, Woodard & Curran worked collaboratively with the Town to define a "Critical Facilities & Infrastructure" list. The assets included were selected based on a high-level assessment of criticality to the Town. The critical assets include infrastructure, facilities, public services resources, and commercial properties. The process was outlined in **Section 1.6**, and the list is shown in **Table 1-3**.

Woodard & Curran worked closely with Town stakeholders during the preliminary stages of the project to identify the data needed to complete the risk assessment. Woodard & Curran issued a data request to the Town to obtain information during the preliminary stages of the project. The resources used for the assessment included Town GIS and parcel maps, online data viewers, annual reports, and land use/zoning. Additionally, inundation pathway data generated by Coastal Studies was used as a component of the LoF assessment.

3.1.2 Consequence of Failure Assessment

The Consequence of Failure (CoF) assessment focused on how important the assets are to the Town, and the resulting impact in the case the asset was no longer functional. The CoF was evaluated based on the impact if the asset had been damaged to the point it was non-functional.

The CoF for each asset was scored based on the impact its failure could have to the following four categories:

- **Public Health and Safety:** This category focused on the likelihood a failure of each asset could cause injuries or deaths. It was assumed the impacts could be caused directly by the actual failure of the structure, or indirectly by failing to provide critical services (such as nursing homes, medical facilities, etc.).
- **Community Image:** This category concerned how the failure of an asset could affect the reputation of the Town. This includes media coverage, service interruptions, and generally how and asset's failure could affect the ability of the Town to achieve its desired levels of service.
- **Financial:** This category was based on the direct financial replacement value of the asset, using the scale shown in **Table 3-1**. This is a community financial impact and includes private and public cost implications. The costs were based on Town Assessor's data where it was available, and was estimated based on Woodard & Curran's knowledge of infrastructure costs where it was not available. The results from this section are

provided for high level, planning purposes only. Some specific assumptions made for assets during the scoring for this category include:

- For many of the assets, assessors building values were used for the scoring. However, for some examples it was apparent the assessed building value did not include the value of the equipment and vehicles on site. For these assets, an equipment and vehicles value was added to the building value during the scoring.
- Non-point location infrastructure (roadways, sewer system, distribution mains etc.): For these assets, because they span large areas and are not located at one site, it was not assumed failure would result in a total replacement. Instead, the financial impact was assumed to reflect the approximate cost of a major repair or rehabilitation.
- For wastewater pump stations, the financial impact was assumed based on the capacity of the station. Stations with a capacity of greater than 300 gallons per minute (gpm) were given a higher score than those less than 300 gpm.
- For several assets, including the water towers, public television station, and electrical substations, there was not enough information to assume approximate replacement values. For these assets, Woodard & Curran used our best professional judgement to approximate the score.
- **Environmental Damage:** In many cases, the failure of an asset may result in environmental contamination. Environmental damage may have an impact from a regulatory perspective. However, Provincetown is a community whose tourism revenue relies heavily on the attraction of healthy shore land ecosystems such as beaches, natural dunes, wetlands and other geological features.

The assets were scored for each category on a numeric scale of 1-5, where 5 is a major impact, and 1 is a negligible impact. The scoring methodology is illustrated in detail in **Table 3-1**.

Table 3-1: CoF Scoring Matrix

Health & Safety	Community Image	Financial	Environmental Damage
5. Significant risk of injury or death 4. Significant risk of major injury 3. Low risk of major injury 2. Low risk of injury 1. No Risk of Injury	5. Major service interruption, reputation impact and/or national media coverage. 4. Intermittent services, reputation impact and local or regional media attention. 3. Minor service and reputation impacts, no media. 2. No media and reputation impacts, minor intermittent service impacts. 1. No media, reputation or reputation impacts.	5. Greater than \$5 million 4. \$1 million to \$5million 3. \$100k to \$1 million 2. \$10,000 to \$100k 1. Less than \$10,000	5. Significant environmental damages. 4. Localized environmental damage. 3. Possible environmental damage. 2. Possible minor or eventual environmental damage. 1. No environmental damage

Woodard & Curran developed CoF scoring based on our industry knowledge as well as through interviews with key stakeholders. These interviews took place during the site visit, and included discussions designed to further assess the criticality of key assets, identify vulnerabilities and incorporate stakeholder knowledge into the desktop CoF assessment. Using the information gathered during the stakeholders' meetings, the CoF scores for each asset were developed and/or adjusted accordingly. The results of the CoF assessment are included in **Appendix A**.

3.1.3 Likelihood of Failure Assessment

The Likelihood of Failure (LoF) assessment gauges the probability of a failure taking place. The failure modes for this assessment included the most probable hazards for a community highly exposed to open ocean. These include sea level rise, storm surge, and flooding. Failure as a result of these hazards could occur at varying degrees and in this assessment sea level inundation was assumed to be a failure. It was not within the scope of this project to include a determination on the varying degrees to which hazards could affect the condition of individual assets.

The first step in the LoF assessment was to spatially locate the assets on the critical infrastructure list using a GIS database. Each of the scoring categories for this analysis were based on GIS layers, which show the areas in the Town that could be affected by different climatological hazards. Each category is described below:

- **Coastal Studies Inundation Pathways:** As part of the project, Coastal Studies conducted an analysis that used detailed on the ground surveys to accurately represent the most probable pathways storm surge could enter the Town, and the most likely area that could be inundated. The pathways are each designated with an elevation of water above sea level that could result in the inundation pathway becoming active. The resulting flooded areas were represented as a shape file in GIS, and any assets within those areas were scored according to the elevation needed to inundate the specific flood area, using the criteria shown in **Table 3-2**.
- **Hurricane Surge Inundation Zones:** The hurricane surge category is based on the Sea Lake and Overland Surges from Hurricanes (SLOSH) model developed by the National Weather Service for the purposes of estimating storm surge heights resulting from historical, hypothetical, or predicted hurricanes. The model takes into account the atmospheric pressure, size, and forward speed, and tracks data in order to model the wind field, which drives the storm surge. The GIS layers for this model were acquired from the Cape Cod Commission. Similar to the previous category, assets were scored based on whether they fell into a SLOSH surge zone based on the category of hurricane.
- **FEMA FIRM National Flood Hazard Maps:** "FIRM is an official map of a community that displays the floodplains, more explicitly Special Flood Hazard Areas (SFHA) and Coastal High Hazard Areas (CHHA), as delineated by FEMA. Both areas are subject to inundation by 1-percent-annual chance flood."¹ The scoring for this category was based on whether an asset fell into one of these areas. **Figure 3-1** illustrates as an example, the location of several Town assets in the FEMA designated floodplain.

¹ Cape Cod Sea Level Rise Viewer. <http://gis-services.capecodcommission.org/apps/public/SeaLevelRise/SeaLevelRise.html#MoreInfo> Cape Cod Commission 2015. Accessed October 2015.

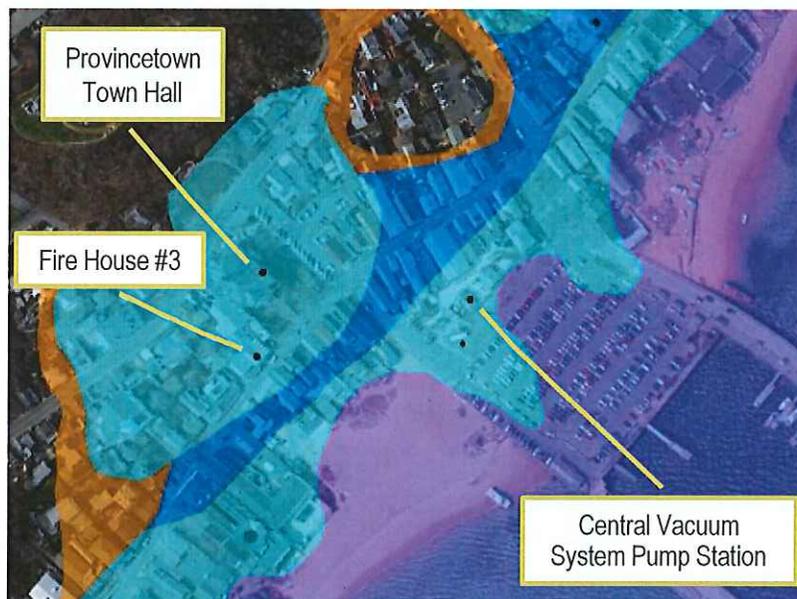
Table 3-2: LoF Scoring Matrix

Coastal Studies Inundation Pathway	Hurricane Surge Inundation Zones	FEMA FIRM National Flood Hazard Maps	Sea Level Rise
5: Inundation within less than 2 meters 4: Inundation between 2 and 3 meters 3: Inundation between 3 and 4 meters 2: <i>Not Used</i> 1: Not within Inundation Area	5: Category 1 Hurricane 4: Category 2 Hurricane 3: Category 3-4 Hurricane 2: <i>Not Used</i> 1: Not within a SLOSH surge area	5: Coastal High Hazard Areas 4: Special Flood Hazard Areas 3: <i>Not Used</i> 2: <i>Not Used</i> 1: Not within a FIRM area	5: Affected by 3-ft. SLR 4: Affected by 4-ft. SLR 3: Affected by 5-ft. SLR 2: Affected by 6-ft. SLR 1: Not affected by 6-ft. SLR

LoF Assessment Assumptions:

- *Central Vacuum System:* For the LoF assessment, the Central Vacuum System was included only as the Central Vacuum Pump Station, and did not include the entire vacuum collection system.
- *MacMillian Pier & Harbormaster:* Storm Tide Pathways data did not extend beyond the coastline to the location of the pier. As a result, the LoF score for this asset was comprised of the Hurricane Surge Index Zones, FEMA FIRM Maps, and Sea Level Rise scores.

Figure 3-1: FEMA FIRM Map - Town Assets Within Floodplain Zones



- VE: High Risk Coastal Area
- A: 1% Annual Chance of Flooding, no BFE
- AO: 1% Annual Chance of 1-3ft Sheet Flow Flooding, with Depth
- X: 0.2% Annual Chance of Flooding

- **Sea Level Rise:** The Sea Level Rise layers were acquired from the Cape Cod Commission's website, and were derived from "classified Digital Elevation Model (DEM) data collected through Light Detection and Ranging (LiDAR) in 2011 by USGS." The impacted areas were based on land elevations relative to the Mean Higher High Water (MHHW) using NOAA software¹. **Figure 3-2** shows the projected impacts of Sea Level Rise on the center of Provincetown with 4 feet of Sea Level Rise.

Figure 3-2: Projected Impacts of Sea Level Rise (SLR) With 4-ft. of SLR



3.2 RISK ANALYSIS INTERPRETATION & RESULTS

Based on the LoF and CoF assessments, the risk scores were determined for each asset as shown in **Table 3-3**. The risk evaluation was completed using the results of the CoF and LoF analyses. Risk is the product of the numerical metrics of LoF and CoF (Risk = CoF x LoF). As a result, the risk scores are on a scale of 1-25.

Table 3-3: Asset Criticality Ranking

ASSET ID	Name	LoF	CoF	RISK
1	Provincetown Airport	4.67	4.00	18.7
2	Provincetown Town Hall	4.17	4.00	16.7
3	MacMillan Pier & Harbormaster*	4.00	4.00	16.0
4	Coast Guard Station	4.34	3.50	15.2
5	Route 6A	3.84	3.75	14.4
6	Electrical Transmission Lines	3.84	3.75	14.4
7	Route 6 Roadway	3.84	3.75	14.4
8	Water Transmission Mains from Truro	3.84	3.50	13.4
9	Pump Station #8 - West End	4.00	3.00	12.0
10	Central Sewer Vacuum System*	3.17	3.75	11.9
11	Province Land Road Culvert	4.50	2.50	11.3
12	Fire Station	3.17	3.50	11.1
13	Provincetown Police Station	3.17	3.50	11.1

ASSET ID	Name	LoF	CoF	RISK
14	Stop and Shop	3.17	3.50	11.1
15	Pump Station #1 - Kendall Lane	3.67	3.00	11.0
16	Pump Station #6 - Commodore Avenue	3.67	3.00	11.0
17	Stormwater Pumphouse	3.67	3.00	11.0
18	Fire Station #5	3.34	3.25	10.8
19	DPW Garage	2.67	4.00	10.7
20	Pump Station #11 - Ice House Pump Station	3.84	2.75	10.6
21	Pump Station #7 - Thistlemore Road	3.50	3.00	10.5
22	Pump Station #9 - Shank Painter	3.17	3.25	10.3
23	Provincetown Public Television	3.34	3.00	10.0
24	Pump Station #5 - Snail Road	3.34	3.00	10.0
25	Fire House #3	4.17	2.00	8.3
26	Pump Station #2 - Pleasant Street	2.67	3.00	8.0
27	Fire House #2	3.34	2.00	6.7
28	Wastewater Treatment Plant	1.17	4.50	5.3
29	Emergency Operations Center - VMCC	1.17	4.25	5.0
30	Outer Cape Health Services	1.17	4.00	4.7
31	Pump Station #10 - Stop and Shop P.S.	2.00	2.25	4.5
32	Seashore Point	1.17	3.75	4.4
33	Transfer Station	1.17	3.75	4.4
34	Provincetown High School	1.17	3.50	4.1
35	Pump Station #4 - Bayberry	1.17	3.50	4.1
36	Provincetown Public Library	1.17	3.25	3.8
37	Fire Station #4	1.17	3.25	3.8
38	Maushope Senior Housing	1.17	3.00	3.5
39	Pump Station #3 - Manor	1.17	3.00	3.5
40	Power SubStation #1	1.00	3.50	3.5
41	Power SubStation #2	1.00	3.50	3.5
42	Winslow Water Tower	1.17	2.75	3.2
43	Mt. Gilboa Water Tower	1.17	2.75	3.2
44	Housing Authority	1.17	2.50	2.9
45	Herring Cove Animal Hospital	1.17	2.50	2.9
46	Telephone Station	1.17	2.25	2.6

*See assumptions listed in Section 3.1.3 above.

The assets' risk scores are an effective tool for prioritizing hazard mitigation projects. However, developing effective projects requires a deeper look at the results from the risk assessment. In addition to risk, it is important to consider the individual LoF and CoF scores when deciding the appropriate response strategy for a high-risk asset.

3.3 RISK INTERPRETATION FOR HIGHEST RISK SCORES OR "CRITICAL" TO THE COMMUNITY

The risk results are a tool for the Town to use for future planning efforts. In the sections below, more detailed assessment results and implications have been provided for several assets having the highest risk scores, or identified as critical to the community for economic, cultural and public safety reasons. This assessment does not include assessing how a natural hazard event would specifically affect each asset and considers a 'failure' when an asset becomes inundated with water from sea level rise, storm surge, flooding, or any combination of those hazards. The assessment does not estimate the actual damage that could be caused by inundation as a separate more detailed engineering analysis for each individual asset would be required.

3.3.1 Municipal Airport

Provincetown Municipal Airport provides an important economic and transportation service to the community. During the high tourism season, there is very high usage of the facility. The CoF score for this asset was driven primarily by the community image and financial impact scores. It could be a major loss for Provincetown if the airport were to be significantly impacted by a natural hazard event.

Coupled with the high CoF score, the Airport is also within a floodplain. Our assessment shows it is currently at risk of inundation from sea level rise, storm surge and flooding. The Town previously installed a dike to protect the airport from flooding, however, the inundation pathways information shows the dike may not provide enough protection, and it could be easily overcome during a certain type of major weather event.

3.3.2 Police Department

Although the Police Department did not score in the top five of the risk assessment, it is discussed in this section because it was recognized by Town stakeholders as critical for ensuring public safety. Due to its current location (in a FEMA floodplain) it has been the subject of numerous recent discussions and planning efforts. The risk assessment resulted in a CoF and LoF score of 3.5 each for the Police Station.

The LoF score for the Police Station is driven by the fact that the location of the station on Shank Painter Road is in a depression and at a low elevation. As a result, the Police Station is at risk for flooding due to precipitation. However, the detailed Storm Tide Pathways analysis shows storm surge and sea level rise are not a great concern for this location. The storm tide pathway from which seawater could reach the Police Station is about a mile away along the eastern shore, making it unlikely that storm surge would reach this location.

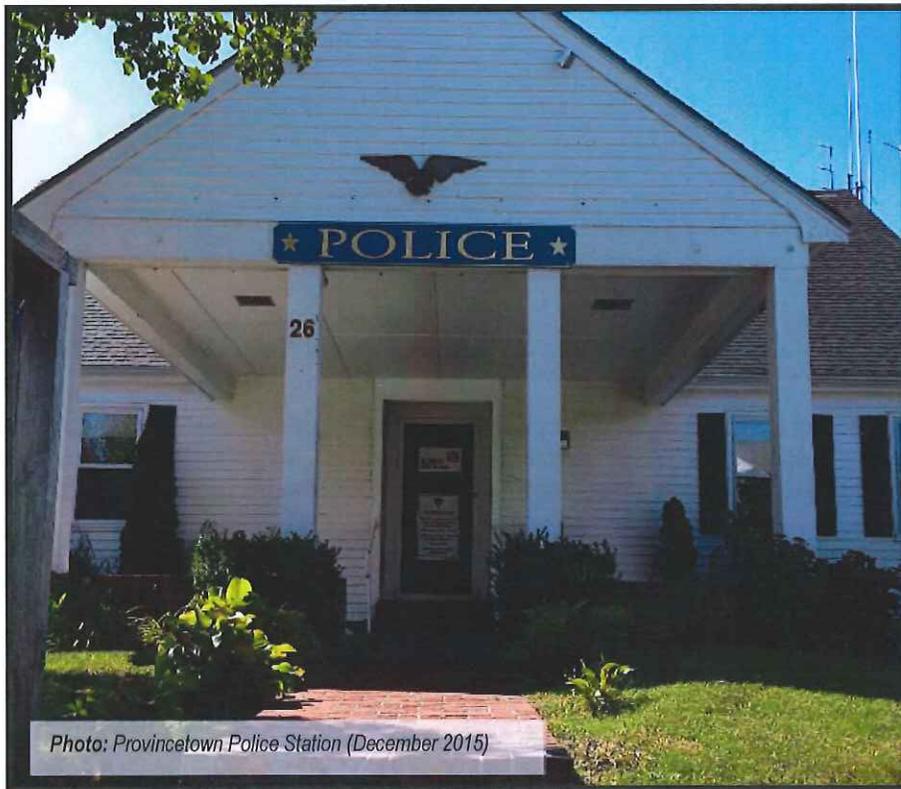


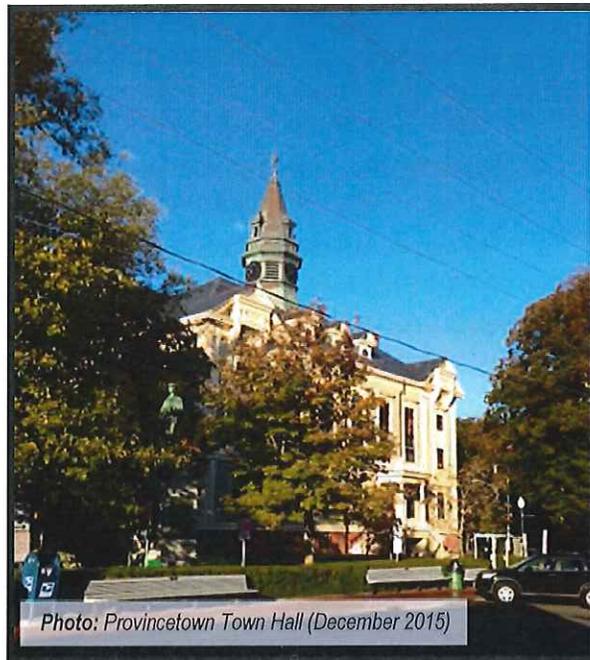
Photo: Provincetown Police Station (December 2015)

3.3.3 Town Hall

Provincetown's Town Hall is one of the most important and critical of the Town's assets, and it received one of the highest CoF scores (4.0) in the risk assessment. It is an important civic and cultural landmark and many of the Town's public services are managed from within the building. Town Hall serves as the central hub for the community and in addition to conducting Town business there; Provincetown uses the building as an entertainment venue and meeting/rental space giving it additional economic value. The Town's active servers are located on the basement floor of the building and could be exposed to potential flood damage.

3.3.4 Next Steps

The results from this risk analysis provide Provincetown with a tool for making informed decisions about how best to prioritize capital projects and mitigation actions. In the following sections, these risk results were used to develop recommendations for adaptive strategies that align well with the recently updated Provincetown Hazard Mitigation Plan.



4. RECOMMENDATIONS FOR ADAPTIVE STRATEGIES

Upon the completion of the risk assessment, recommendations for adaptive strategies for high-risk critical facilities and infrastructure were prepared. The strategies considered the inundation pathways and areas at risk for flooding. The recently updated Provincetown Hazard Mitigation Plan was also referenced due to the relevant recommendations and strategies pertaining to some of the critical facilities evaluated. Recommendations developed considered the following:

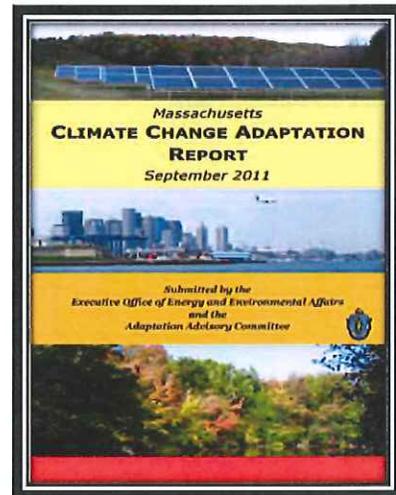
- Statewide policy recommendations applicable to all infrastructure (areas of policy that may be incorporated into future facility planning studies),
- Site-specific recommendations for short and long term physical and operational measures that can be incorporated into the infrastructure systems, and
- Recommendations for long-term physical and operational systems alterations, including possible relocation of components (if applicable).

Initial considerations for adaptation strategies included infrastructure capital upgrades (like relocating and/or upgrading culverts, elevating sensitive equipment, manholes, strengthening/hardening structures, etc.) and soft infrastructure upgrades (such as beach nourishment, increasing buffer zones, etc.).

4.1 MASSACHUSETTS CLIMATE CHANGE ADAPTATION REPORT

The Massachusetts Climate Change Adaptation Report (2011), prepared by the Executive Office of Environmental Affairs, was developed specifically to review strategies to help the state become more resilient and ready to adapt to climate change. The report notes that climate change has the potential to have huge impacts on the state's economy, public health, water resources, infrastructure, coastal resources, energy demand, natural features and recreation. Infrastructure is a specific sector discussed in the report along with and acknowledgement of significant development occurring along the coastline and in floodplains. General adaptation strategies from the report relevant to Provincetown include:

- Strengthen infrastructure resources, where possible, for future climate change impacts through principles of conservation, efficiency and reuse (i.e. drinking water conservation, stormwater management and flood-proofing structures during upgrades or routine maintenance). Ensuring there is capacity to manage and withstand climate change impacts will be critical to minimizing infrastructure damage and failure.
- Consider land use, design, site selection and building standard modifications to include climate change impacts.
- Focus on protecting and enhancing natural systems like wetlands, coastal features and areas that serve as flood storage capacity and provide protection and resilience to infrastructure.
- When considering infrastructure maintenance, replacement and rehabilitation, provide proper lead time so that an adaptation strategy can be included in the overall assessment of the critical facility. The amount of time to repair, improve, permit, or move a facility will vary greatly depending on what it is, so planning early is key.



Transportation - Provincetown has identified Route 6, Route 6A, MacMillan Pier and the Provincetown Airport as critical facilities. The state Climate Change Adaptation Report acknowledges coastal transportation infrastructure is vulnerable to sea level rise and extreme weather. This is specifically relevant to Provincetown because of its local airport, high temperatures or dense air conditions that may result in longer runway requirements. Provincetown is somewhat isolated from a transportation perspective and there are not any alternative modes or routes available to enter or exit the community via vehicle. Transportation strategies from the state report to be considered include:

- Continued maintenance of existing infrastructure to minimize damage from natural hazard events.
- Formulate risk-based methods to evaluate service life of infrastructure assets against adverse climate change.
- Include climate changes impacts with standard maintenance and inspection procedures and increase the frequency of routine inspections of coastal zone and inland drainage structures.
- Initiate comprehensive community asset damage inventories after major storm events.
- The Provincetown Airport should consider how it can use and implement new technology for navigation aids and airfield lighting systems to function better during a natural hazard event.

Water Resources – Provincetown identified a wide range of water resource facilities as critical. Water resources strategies from the state report to be considered include:

- Focus on natural systems to help absorb or redirect inflow from stormwater collection systems into natural systems or those that use LID technology. Keeping stormwater flow contained helps to increase capacity for other systems (wastewater, water) and groundwater recharge.
- Expand water conservation and reuse of drinking water and reduce wastewater discharge and stormwater runoff.
- Educate the community and relevant staff on the vulnerabilities of its assets or individual facility to climate change impacts, where appropriate.

Built Infrastructure & Buildings – Provincetown included a number of buildings and built infrastructure on its critical facilities list. Built Infrastructure & Buildings strategies from the state report to be considered include:

- Use the permitting process to recommend new construction and renovation projects consider potential climate change impacts, where appropriate. Requiring protection of basements and first floor levels or enhancing site work to include natural systems for surface runoff could improve their ability to withstand a natural hazard event.
- Consider climate change impacts and develop design guidelines for new construction and renovation projects.

4.2 RELEVANT ACTION ITEMS FROM OTHER PROVINCETOWN PLANNING PROJECTS

Provincetown has undertaken a number of recent broad ranging planning projects. To acknowledge those efforts and consider relevant information from these projects, including areas where there could be potential integration, this section highlights action items from the following plans and how they are relevant to the identification of adaptive strategies to increase coastal resiliency.

- 2016 - Provincetown Hazard Mitigation Plan Update
- 2012 - Provincetown Harbor Plan
- 2015 - Strategic Beach Stabilization Pilot Project/Analysis (funded by Coastal Zone Management)

4.2.1 Provincetown Hazard Mitigation Plan Update

The Provincetown Hazard Mitigation Plan, was updated by the Cape Cod Commission, and completed in 2016. The Plan notes specific actions the Town can take to reduce or eliminate long term risk from natural hazards. The actions most relevant to the identification of adaptive strategies to increase coastal resiliency are listed in **Table 4-1**.

Table 4-1: Relevant Action Items from Provincetown Hazard Mitigation Plan (2016)

Action	Status
Review and revise the Town's Floodplain District Zoning Bylaw to ensure it incorporates up to date floodplain science, policy, and legislation as well as cumulative substantial damage or improvement requirements.	At Town Meeting in April 2014, voters amended the Provincetown Zoning Bylaw to make it consistent with the newly updated Flood Insurance Rate Maps (FIRMs) for Barnstable County.
Relevance to Adaptation Strategies Project: Some of Provincetown's Critical Facilities and Infrastructure are located in a floodplain. Any recommendations or adaptation strategies should consider and reference the Provincetown Zoning Bylaw for consistency with the regulations.	
Conduct an assessment of local infrastructure subject to damage from flooding or storm surge or that is likely to cause damage to surrounding areas should it fail or flood.	Town Hall Staff, Department of Public Works and the Harbormaster continuously assess infrastructure vulnerable to flooding and storm surge. The Town received funding for two separate projects: one grant was used to assess how shoreline change will impact coastal infrastructure and the other was used to conduct a town-wide vulnerability assessment of Critical Facilities.
Relevance to Adaptation Strategies Project: The Adaptation Strategies project is the second project noted in the status column and serves to conduct the town-wide vulnerability assessment of Critical Facilities.	
Develop, prioritize and seek funding for a list of needed infrastructure improvement projects.	The Town actively seeks funding from state and federal agencies.
Relevance to Adaptation Strategies Project: The Adaptation Strategies project is an example of how the Town of Provincetown sought out, applied for and was awarded grant funding from the Massachusetts Office of Coastal Zone Management.	
Conduct a thorough evaluation of the Town's most at-risk locations identified in the Vulnerability Analysis, and evaluate the potential mitigation techniques for protecting each location to the maximum extent possible.	In 2014, The Department of Public Works received funding from the Massachusetts Office of Coastal Zone Management to identify vulnerable areas and assets in town. Specifically, this project will identify and map low-lying areas that provide a direct pathway for floodwaters to reach inland areas and install a tide gauge to provide real time water level data. The goal of the project is to assess potential flood impacts to critical public infrastructure and recommend short- and long-term strategies for future protection of high-risk assets.

Action	Status
Relevance to Adaptation Strategies Project: The Adaptation Strategies project is the result of the action noted above.	
Flood proofing structures and elevating utilities in town buildings such as Town Hall, Freeman Street Building, and businesses on the south side of Commercial Street from the east end of Town through the west.	Building files and art were moved to the second floor of publicly owned buildings.
Relevance to Adaptation Strategies Project: This action is relevant to some of the recommendations being made for the Adaptive Strategies project, particularly in reference to critical infrastructure such as the Town Hall. Additional modifications such as moving critical paper and electronic files and associated hardware needs to be planned.	
Utilities servicing critical structures require flood proofing and elevating to secure them against storm surge and flooding.	While the Town recognizes the need to elevate structures to secure them from surge and flooding, a more detailed risk assessment needs to be performed so money is allocated to higher priority projects. Currently, the Department of Public Works is working with a private consultant on a risk assessment for critical facilities in Provincetown.
<ul style="list-style-type: none"> • Relevance to Adaptation Strategies Project: The Adaptation Strategies project looked at critical facilities and has prioritized projects based on a risk assessment and analysis. 	

4.2.2 Strategic Beach Stabilization Pilot Project

Under a separate Coastal Zone Management grant, Provincetown completed a strategic beach stabilization pilot project/analysis in June 2015. The report acknowledges the Town's proactive efforts towards coastal planning and documents the need for beach nourishment as a tool for coastal resiliency. The project was a desktop study to identify shoreline areas vulnerable to or resilient to coastal erosion and inform more strategic resiliency planning. The plan acknowledges beach nourishment is a tool key to coastal resiliency in Provincetown. The Beach Stabilization Pilot Project focused on the following goals:

- Complete the sediment budget to identify shoreline areas vulnerable to or resilient to coastal erosion and to inform more strategic resiliency planning.
- Utilize the sediment budget to better understand sediment transport and the amount of material available for beach nourishment at a town-wide scale.
- Conduct community outreach, including workshops, to inform the public of sediment transport processes and to help identify priority areas for restoration/enhancement.
- Select and evaluate a beach nourishment pilot project site and complete design plans, profiles, sections, details and local permitting to demonstrate the benefits of beaches and dunes in providing storm damage protection to the Provincetown coastline; and
- Use scientific analysis of shoreline sediment dynamics to inform a future comprehensive beach management plan.

4.2.3 Provincetown Harbor Plan

The Provincetown Harbor Plan (2012) serves as a planning tool to consider and consolidate the interests and needs of private property owners, and public recreational and commercial uses with regulatory and planning agencies. With a Harbor Plan in place, Provincetown is able to access grant funds for improvements and protection of the harbor, provides guidance to MADEP and support Chapter 91 licensing.

For example, MacMillan Pier was identified in this project as a critical facility due in part to its supporting role for the Provincetown economy and its identity as a recreational and commercial mainstay. The Harbor Plan specifically discusses FEMA high velocity zones (MacMillan Pier is located in one) and the need to understand and undertake measures to reduce storm damage risks and investigate the potential for mitigation.

4.3 ADAPTIVE STRATEGIES

The adaptive strategies identified for Provincetown were developed specifically to address some of the unique challenges in the community. Strategies considered FEMA floodplain maps, Storm Tide Pathways information received from the Town and research of other coastal communities and their adaptation efforts. **Table 4-2** identifies the critical facilities and infrastructure that will be impacted directly by a Storm Tide Pathway at specified water levels.

Table 4-2: Critical Facilities & Infrastructure to Be Impacted by a Storm Tide Pathway

Mean Level Low Water (MLLW) Range	Critical Facility & Infrastructure to Be Impacted by a Storm Tide Pathway (STP) in this MLLW Range	Storm Tide Pathway(s) Impacting Critical Facilities & Infrastructure	Specific MLLW of the Storm Tide Pathway
< 12 feet	Provinceland Road Culvert	12-01	MLLW - 12.93
	Provincetown Airport	02-02 02-03	MLLW - 11.27 MLLW - 11.39
13.0 – 13.9 feet	Coast Guard Station	12-14	MLLW - 15.71
		12-15	MLLW - 15.13
		12-16	MLLW - 15.59
	Provincetown Town Hall	11-05 11-06	MLLW - 13.59 MLLW - 13.61
14.0 – 14.9 feet	Fire House #3	11-05 11-06	MLLW - 13.59 MLLW - 13.61
	Pump Station #8 - West End	12-05	MLLW - 13.25
14.0 – 14.9 feet	Fire Station #5	17-06	MLLW - 14.97
	Provincetown Public Television	11-07	MLLW - 14.51
		11-08	MLLW - 14.75
		11-12	MLLW - 15.77
		11-11	MLLW - 15.5
Fire Station #2	11-04	MLLW - 13.98	

Mean Level Low Water (MLLW) Range	Critical Facility & Infrastructure to Be Impacted by a Storm Tide Pathway (STP) in this MLLW Range	Storm Tide Pathway(s) Impacting Critical Facilities & Infrastructure	Specific MLLW of the Storm Tide Pathway
	Water Transmission Mains from Truro	11-05 11-06 22-01 22-02 17-06	MLLW - 13.59 MLLW - 13.61 MLLW - 14.83 MLLW - 14.43 MLLW - 14.97
	Pump Station #11 - Ice House Pump Station	17-06	MLLW - 14.97
	Pump Station #1 - Kendall Lane	17-06	MLLW - 14.97
14.0 – 14.9 feet (continued)	Pump Station #6 - Commodore Avenue	22-01 22-02	MLLW - 14.83 MLLW - 14.43
	Route 6A	11-05 11-06 22-01 22-02 17-06	MLLW - 13.59 MLLW - 13.61 MLLW - 14.83 MLLW - 14.43 MLLW - 14.97
	Stormwater Pumphouse	11-07 11-08	MLLW - 14.51 MLLW - 14.75
	Electrical Transmission Lines	22-01 22-02	MLLW - 14.83 MLLW - 14.43
	Route 6 Roadway	22-01 22-02	MLLW - 14.83 MLLW - 14.43
15.0 – 15.9 feet	Central Sewer Vacuum System	11-11	MLLW - 15.5
	Pump Station #7 - Thistlemore Road	16-03	MLLW - 15.43
	Pump Station #5 - Snail Road	16-04	MLLW - 15.02
17.0 – 17.9 feet	Fire Station	07-04	MLLW - 17.29
	DPW Garage	07-04	MLLW - 17.29
	Pump Station #2 – Pleasant Street	07-04	MLLW - 17.29
	Provincetown Police Station	07-04	MLLW - 17.29
	Stop & Shop	07-04	MLLW - 17.29
	Pump Station #10 - Stop and Shop Pump Station	07-04	MLLW - 17.29
	Pump Station #9 - Shank Painter	07-04	MLLW - 17.29

The following critical facilities and infrastructure evaluated for this project were not found to be impacted by a Storm Tide Pathway, they include:

- Provincetown Public Library

-
- Telephone Station
 - Fire Station #4
 - Seashore Point
 - Emergency Operations Center – Veterans
 - Provincetown High School
 - Maushope Senior Housing
 - Housing Authority
 - Outer Cape Health Services
 - Wastewater Treatment Plant
 - Winslow Water Tower
 - Herring Cove Animal Hospital
 - Pump Station #3 - Manor
 - Pump Station #4 – Bayberry
 - Mt. Gilboa Water Tower
 - Power SubStation #1
 - Power SubStation #2
 - Transfer Station

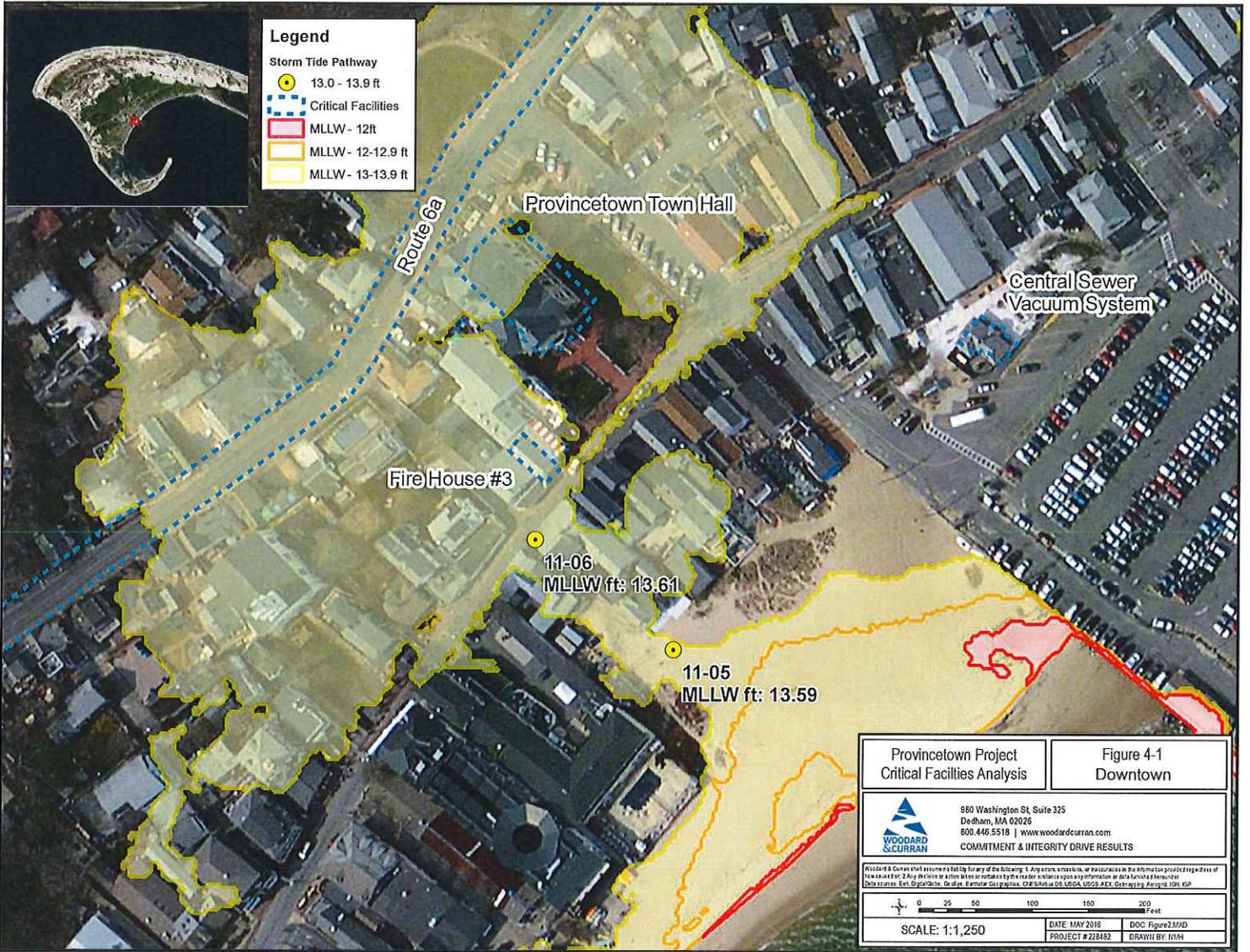
A specific inundation pathway was not identified for the MacMillan Pier & Harbormaster since this area is adjacent to the ocean and would be directly impacted.

4.3.1 Adaptive Strategies for Highest Risk Critical Facilities & Infrastructure

Detailed below are adaptive strategies and recommendations for the highest risk critical facilities and infrastructure.

- **Center of Provincetown's Downtown:** According to the STP results, the central downtown area near Commercial Street at Ryder Street presents a significant risk to the community for flooding hazards during major storm events (see **Figure 4-1**). This area is also confirmed to be a flood zone by the FEMA and SLOSH models. The STP and respective flood contour within this area affect several critical assets including the Town Hall, Fire House #3 and Bradford Street. In addition to the critical facilities, it also affects an important area of town with many commercial businesses driving the Town's economy. Woodard & Curran recommends the Town eliminate the STP which affects this area. The site of the specific STP will need to be investigated to determine the most effective strategy for eliminating the STP. There are a number of ways these pathways could be eliminated, including:
 - Developing a plan to sand bag the STP during storm threats,
 - Inserting a flood gate at a key location,
 - Using natural feature enhancements, such as plantings or beach restoration, to provide more of a natural buffer, and
 - Constructing a structural berm (or temporary berm that could be put in place) to block the STP.

Figure Exposed: 5/20/2016 By: mhughes Using: C:\Users\mhughes\Documents\Project_Temp\Provincetown\Project\Figure2.mxd



- **Wastewater Pump Station Improvements:** A number of the pump stations received high risk scores due to their spatial locations and criticality to the Town. By their nature, pump stations tend to be located at geographic low points and as a result many of the Town's stations are located within higher probability flood areas. It was also noted by Provincetown staff that emergency generators are not available to power all of the Town's wastewater pump stations during an outage. Flooding and outages at stations could result in interrupted sewer services or sanitary sewer overflows (SSO), both of which have a significant public health, and environmental impact. **Table 4-3** summarizes the risk scores for each pump station, as well as additional information collected during the site visit relevant to the recommendations.
 - Four of the Town's wastewater pump stations are located within areas identified to be inundated at a sea water elevation of 15-ft. above MLLW. Additionally, over half of the stations would be affected by 3-ft. of Sea Level Rise. Woodard & Curran recommends the Town incorporates projects to protect these pump stations into their capital plans. The town will need to assess the most cost effective strategy for protecting these stations from flood waters; some possible solutions may include:
 - Adding risers to wet well hatches to prevent flood waters from entering,
 - Relocating sensitive electronic equipment (control panels, generators, etc.), to higher elevations.
 - Building protections such as hurricane proof doors.
 - Wet well hatches, and any sensitive electrical equipment are raised above a high risk elevation.
 - In order to prevent SSO's during storm events, it's important the Town is prepared to provide emergency power to each of the pump stations during an outage. The Town should develop a Standard Operating Procedure (SOP) for providing emergency power to the pump stations using the portable generators, and add it to the Town's Emergency Response Plan.

Table 4-3: Provincetown Pump Stations

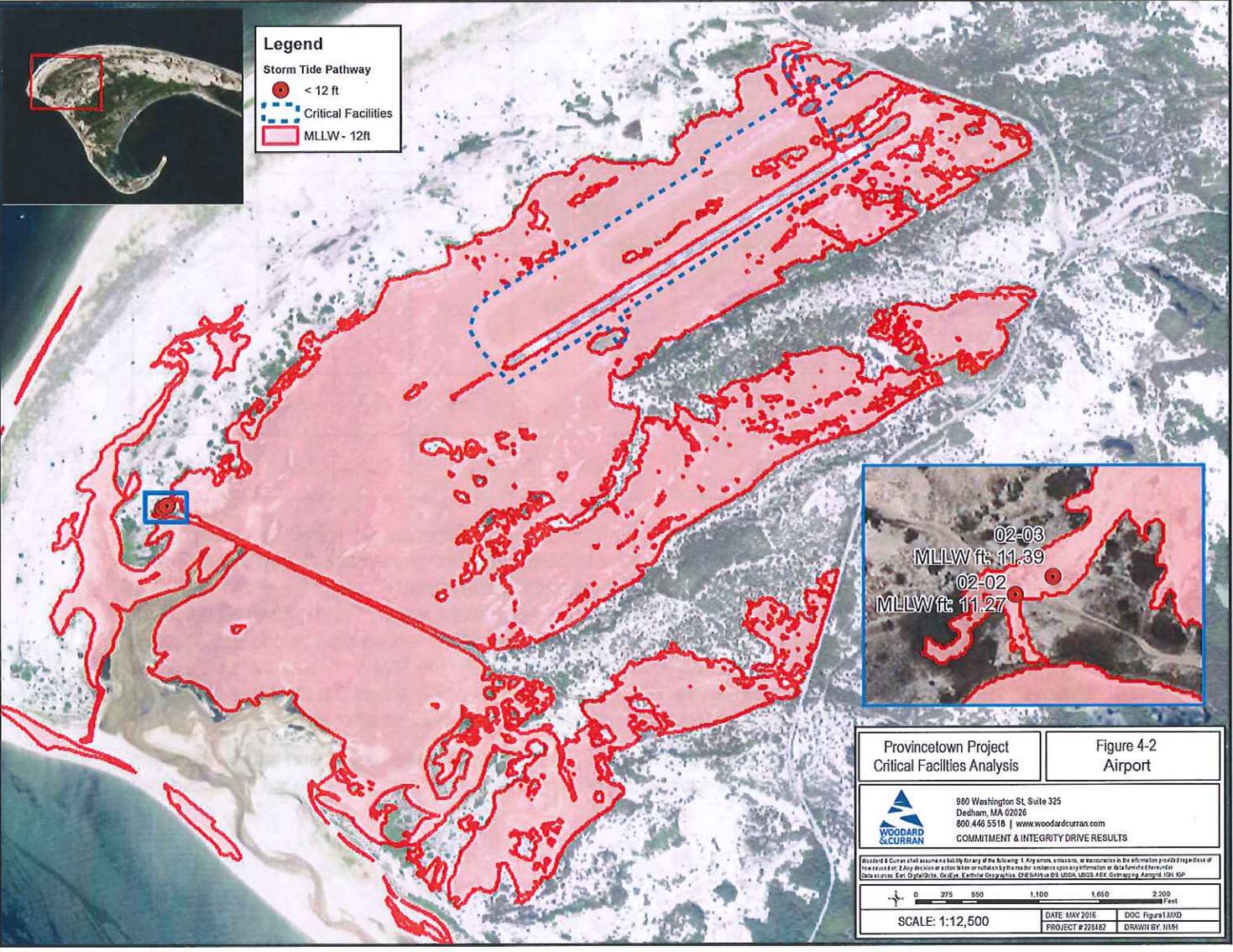
Pump Station	Risk Score	Located in an Inundation Pathway?	Elevation of Inundation Pathway (ft above MLLW)	FEMA Flood Zone	FEMA Zone	SLR Level	Emergency Generator?
Pump Station #8 – West End	11.5	Yes	13.0 - 13.9ft	Yes	AE	4-ft.	yes
Central Sewer Vacuum System Pump Station	11.3	Yes	15.0 - 15.9ft	Yes	AE	3-ft.	yes
Pump Station #1 – Kendall Lane	10.5	Yes	14.0 - 14.9ft	Yes	AO	3-ft.	yes
Pump Station #6 – Commodore Avenue	10.5	Yes	14.0 - 14.9ft	Yes	AE	3-ft.	yes
Pump Station #11 – Ice House Pump Station	10.1	Yes	14.0 - 14.9ft	Yes	VE	3-ft.	no

Pump Station	Risk Score	Located in an Inundation Pathway?	Elevation of Inundation Pathway (ft above MLLW)	FEMA Flood Zone	FEMA Zone	SLR Level	Emergency Generator?
Pump Station #7 – Thistlemore Road	10	Yes	15.0 - 15.9ft	Yes	AE	3-ft.	yes
Pump Station #9 – Shank Painter	9.8	Yes	17.0 - 17.9ft	Yes	AE	N/A	yes
Pump Station #5 – Snail Road	9.5	Yes	15.0 - 15.9ft	Yes	VE	3-ft.	yes
Pump Station #2 – Pleasant Street	7.5	No	N/A	No	N/A	N/A	no
Pump Station #10 – Stop and Shop Pump Station	4.1	Yes	17.0 - 17.9ft	No	N/A	N/A	no
Pump Station #4 – Bayberry	3.5	No	N/A	No	N/A	N/A	no
Pump Station #3 – Manor	3	No	N/A	No	N/A	N/A	no

- Provincetown Airport:** Provincetown Municipal Airport provides an important economic and transportation service to the community. During the high tourism season, there is very high usage of the facility. The CoF score for this asset was driven primarily by the community image and financial impact scores. If the airport were to be significantly impacted by a natural hazard event, it could represent a major loss for Provincetown. Coupled with the high CoF score, the Airport is also within a floodplain and our assessment shows it is currently at risk of inundation from sea level rise, storm surge and flooding (see **Figure 4-2**). The Town previously installed a dike to protect the airport from flooding, however, inundation pathways information shows the dike may not provide enough protection, and could be easily overcome during a certain type of major weather event.

There are several STPs located along the existing dike, which extends between the Airport and the coastline. Provincetown should consider increasing the length and height of the dike in order to eliminate the STPs identified.

Figure Exported: 5/20/2016 By: Hughes, Using: C:\Users\hughes\Documents\Project\Temp\Provincetown\Projects\Figures\Fig041.mxd



Legend

- Storm Tide Pathway < 12 ft
- Critical Facilities
- MLLW - 12ft

02-03
MLLW ft: 11.39

02-02
MLLW ft: 11.27

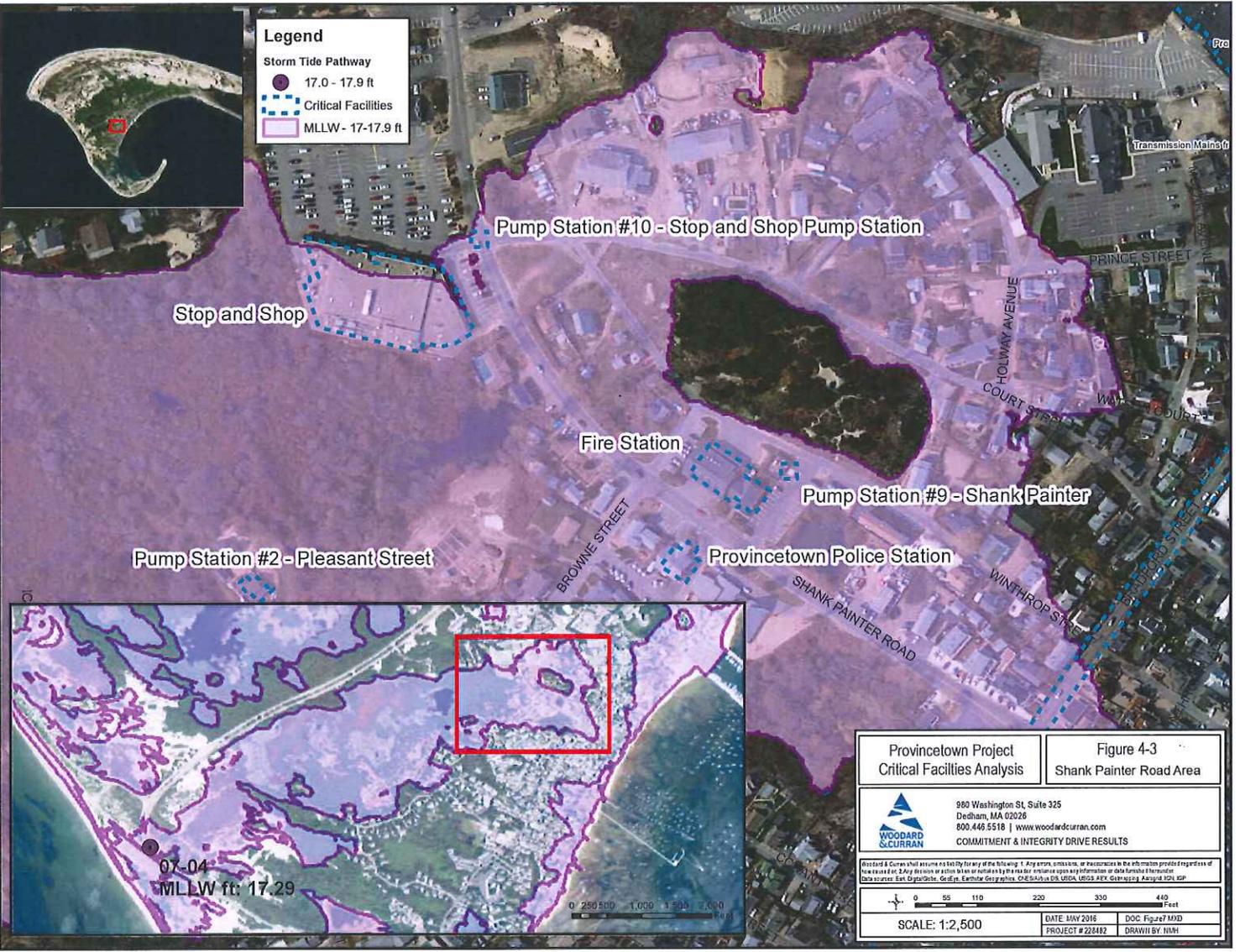
<p>Provincetown Project Critical Facilities Analysis</p>	<p>Figure 4-2 Airport</p>
<p>900 Washington St. Suite 325 Dedham, MA 02028 800.446.5518 www.woodwardcurran.com COMMITMENT & INTEGRITY DRIVE RESULTS</p>	
<p><small>Woodward & Curran shall assume no liability for any of the following: 1. Any errors, omissions, or inaccuracies in the information provided regardless of the cause or source; 2. Any decisions or actions taken or not taken by the reader reliance upon any information or data furnished hereunder; 3. Data sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroVIG, GeoEye, IGN, XP</small></p>	
<p>0 275 550 1,100 1,650 2,200 Feet</p>	
<p>SCALE: 1:12,500</p>	<p>DATE: MAY 2016 PROJECT #: 228462</p>
	<p>DOC: Figure1A00D DRAWN BY: NLMH</p>

-
- **Shank Painter Road:** This area is of interest to town stakeholders because several critical assets, including the police and fire stations, are located along Shank Painter Road. It was mentioned specifically by the Board of Selectmen during the preliminary presentation for this project in December 2015 as an area of concern. Shank Painter Road is indicated to be a flood risk in the FEMA flood maps and inundation pathways. The STP by which flood waters would reach this area of town is more than a mile away at the end of the peninsula, indicating it would be challenging for storm surge flood waters to reach this location. The scope of this project did not encompass analyzing the effects of groundwater surcharge on flooding. Woodard & Curran recommends the Town perform a groundwater analysis in order to gather data which could be joined with the results of this analysis to better understand the flood risk in this area (see **Figure 4-3**).
 - **Capital Improvement and Maintenance Planning:** The risk analysis should be used to inform future capital improvement and maintenance planning efforts. As an example, it would be advisable to focus stormwater pipe improvements, inspections, and cleanings on areas of town that affect critical assets, and are shown to be at high risk for flooding. In this way, the Town will increase the value it receives from CIP and Maintenance budgets.

Table 4-4 includes additional recommendations for Provincetown to consider in terms of adaptive strategies to best protect existing critical facilities and infrastructure.

Other Storm Tide Pathway results for the rest of the top 20 ranked critical facilities and infrastructure identified in **Table 3-3** are presented in **Figure 4-4** to **Figure 4-10**.

Figure Exported: 5/22/2016 8:49:11 AM; User: shughes; Using: C:\Users\shughes\Documents\Project\Temp\Provincetown\Projects\Figure7.mxd



Legend

Storm Tide Pathway

- 17.0 - 17.9 ft
- Critical Facilities
- MLLW - 17-17.9 ft

Provincetown Project Critical Facilities Analysis		Figure 4-3 Shank Painter Road Area	
 980 Washington St, Suite 325 Dedham, MA 02026 800.446.5518 www.woodardcurran.com COMMITMENT & INTEGRITY DRIVE RESULTS			
<small>Woodard & Curran shall assume no liability for any of the following: 1. Any errors, omissions, or inaccuracies in the information provided regardless of how caused or 2. Any decision or action taken or not taken by the user that reliance upon any information or data furnished hereunder. Data sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNR/SUBCOM, USDA, USGS, AeroGRID, IGN, and the GIS User Community</small>			
 0 55 110 220 330 440 Feet		DATE: MAY 2016 DOC: Figure7.MXD PROJECT # 228482 DRAWN BY: MMH	
SCALE: 1:2,500			



Table 4-4: Provincetown Adaptation Strategies & Recommendations

Critical Facility or Infrastructure	Recommendation	Short: 0 to 5 years Medium: 5-10 years Long: 10+ years	Cost Range	Notes
Natural Resource Areas	Conduct a beach nourishment project at Ryder Street Beach to enhance natural storm damage protection and coastal resilience.	Short	\$200,000	The Ryder Street Beach Nourishment Project is a non-structural measure that will help increase natural storm damage protection, flood and erosion control, and community resilience.
Multiple Assets	Integrate the recently updated Hazard Mitigation Plan and completed Critical Facility/Infrastructure Adaptation Study into the Capital Improvement Planning process.	Short	Town Staff	The focus of this recommendation is the implementation of the Hazard Mitigation Plan to coordinate with and support the Capital Improvement Planning process.
Multiple Assets	During the Capital Improvement Planning process, when working on the actual projects, consider Storm Tide Pathways.	Ongoing	Town Staff	When Provincetown is working on CIP projects and there is a storm tide pathway associated with the area or site, being aware of and considering even a small project change, if appropriate, to minimize potential impacts associated with the storm tide pathway.
Multiple Assets	Review this project and associated strategies and recommendations to determine if credit can be given to Provincetown (a participant in the Community Rating System program) and potentially improve the overall CRS score of 9.0.	Short	Town Staff	Provincetown may be able to earn additional credit by providing information about areas (not mapped on the FIRM) predicted to be susceptible to flooding in the future because of climate change or sea level rise.



Critical Facility or Infrastructure	Recommendation	Short: 0 to 5 years Medium: 5-10 years Long: 10+ years	Cost Range	Notes
Emergency Operations Center - Veterans Memorial Community Center or VMCC Building	Replace the existing generator and power feed lines.	Short	Funding is in place for the project and the project is underway.	This building functions as the emergency shelter (for Provincetown and Truro) as well as the DPW Department. The roof was recently replaced with USDA funding and a Town appropriation. Wind exposure remains high in this area of town and during storm events. The generator and the power feed that comes into the facility is not in good condition. There is funding in place to replace the generator.
Emergency Operations Center - Veterans Memorial Community Center or VMCC Building	Install a vegetative buffer along the roadway to limit snow drifting.	Short	\$20,000	In the past, it has been hard to access this location in the winter. This building is also home to the DPW Department. During winter storm events, including high wind, there are huge snow drifts blocking Winslow Street. Road access can be limited. Installing a vegetative buffer along the roadway will help to limit large snow drifts.
Water Transmission Mains – Truro	Add redundant water transmission main lines from Truro.	Medium	\$5M - \$7M	The water transmission main lines that run along Route 6A from Truro to Provincetown are critical to the community. Provincetown receives its water from Truro and the roadway these lines are underneath is inundated by sea water at times. If Provincetown loses Route 6A and the pipes underneath are impacted, the community will quickly be out of water – even after they use the water tower (this might last two days in the summer and one week in the winter). Another issue with Route 6A is it is an evacuation route. Electric power comes in through 6A as well.



Critical Facility or Infrastructure	Recommendation	Short: 0 to 5 years Medium: 5-10 years Long: 10+ years	Cost Range	Notes
Town Hall	Conduct a drainage study for the area around Town Hall.	Short	\$50,000	Town Hall has been flooded in the past and continues to see flooding occurrences due in part to drainage issues in the area. The main servers for Town Hall are located in the basement area and these assets need to be relocated. In 2016, Provincetown approved funding to relocate the servers to the DPW office location.
Multiple Assets	Conduct a drainage study for the area around Shank Painter.	Short	\$40,000	The Police Station and Fire Station, a the Herring Cover Animal Hospital, two pump stations and a power substation are located on Shank Painter Road. The Police Station has flooded in the past and Provincetown is concerned about whether or not they need to prepare for coastal flooding impacts on Shank Painter and/or invest in a new Police Station facility at a different location (this process has been ongoing for several years).
Multiple Assets	Conduct a study to identify an Operations & Maintenance strategy for CCTV work.	Short	\$25,000	The purpose of identifying an Operations & Maintenance strategy for CCTV work is to help understand and assess pipe conditions and be able to fix or clean pipes where needed to ensure they are able to properly move water flow.
Multiple Assets	Update the Emergency Response Plan.	Short	Town Staff	Update the local Emergency Response Plan and educate staff and the community about its contents. Ensure lessons learned from past events are reflected in the document.



Critical Facility or Infrastructure	Recommendation	Short: 0 to 5 years Medium: 5-10 years Long: 10+ years	Cost Range	Notes
Provincetown Airport	Conduct an assessment at the Provincetown Airport to determine the most cost effective solution for mitigating risk.	Medium	\$60,000	The assessment should consider capital projects including making improvements to the existing dike to eliminate the storm tide pathways and/or projects to limit damage if the airport does become inundated during a storm event. The assessment may also consider procedural preventative activities such as sandbagging, planting sea grass or monitoring periodic changes in the dunes to determine how that might impact risk to the Airport. Cape Air flies year round.
Provincetown Airport	The Provincetown Airport should consider how it can use and implement new technology for navigation aids and airfield lighting systems to function better during a natural hazard event.	Short	TBD	This strategy is based on the Massachusetts Climate Change report as a transportation for airports, particularly in vulnerable areas to consider.
MacMillan Pier	The Ryder Street outfall is in close proximity to MacMillan Pier. The DPW Director articulated the desire to remove and relocate the Ryder Street outfall and return the area back to its natural state.	Medium	\$2M	MacMillan Pier and the surrounding area is home to 400 private moorings, 60 recreational boat slips, 220 rental moorings, 60-70 commercial fishing boats and 12 excursion boats/vessels. Approximately 100,000 passengers use the ferries at this location on an annual basis. MacMillan Pier is critical to the local economy and an important piece of infrastructure in the community due to the transportation amenities it provides and the economic impact it has due to job creation and revenue generation.



Critical Facility or Infrastructure	Recommendation	Short: 0 to 5 years Medium: 5-10 years Long: 10+ years	Cost Range	Notes
Pump Stations Elevation	For pump stations that have a wet well below ground, particularly if there is an exposed hatch and if the pump station may be impacted by an inundation pathway, add risers around submersible pump station wet wells to increase elevations out of the floodplain.	Short	\$2,500 - \$5,000 per pump station	All but two of the Town's eleven pump stations are located within STP inundation pathway areas.
Pump Stations	Develop a Standard Operating Procedure to provide emergency power to all wastewater pump stations in Town during power outages. Focus on the highest flow pump stations first which are Bayberry (#4) and Shank Painter (#9).	Short	\$2,500 - \$30,000 depending on what is needed for each pump station.	Ensure the Public Works Department has equipment needed for the SOP. Include emergency SOP in the Town Emergency Response Plan
Pump Stations	Perform an evaluation of pump stations with a high LoF to determine if raising sensitive critical electrical equipment could better protect the stations during a flooding/high water event. For pump stations with above ground electrical equipment, consider raising sensitive electrical and controls information.	Short	TBD	Pump Station #8 West End – LoF 4.0 Pump Station #1 Kendall Lane – LoF 3.67 Pump Station #6 Commodore Avenue – LoF 3.67 Pump Station #11 Ice House Pump Station – LoF 3.84 Pump Station #7 Thistlemore Road – LoF 3.50 Pump Station #9 Shank Painter – LoF 3.17 Pump Station #5 Snail Road – 3.34 Pump Station #2 Pleasant Street – 2.67 Pump Station #10 Stop and Shop – 2.00 Pump Station #4 Bayberry – 1.17 Pump Station #3 Manor – 1.17



Critical Facility or Infrastructure	Recommendation	Short: 0 to 5 years Medium: 5-10 years Long: 10+ years	Cost Range	Notes
Central Vac Station	Secure a backup generator for the Central Vac Station to be utilized when the existing generator does not operate properly.	Short	\$0 - \$60,000 depending on the solution identified.	The Central Vac Station takes on all of the commercial flow in the area. There is a need to secure a backup generator for the existing generator at this facility. In the winter of 2014-2015 there was an issue with the existing generator not performing, so a backup is needed. Table 1-5 highlights all of the generators Provincetown currently has the generator at the Central Vac Station is from 2001.
MacMillan Pier	Wave Attenuator to Replace/Protect Finger Piers or, Install Floating Docks	Medium	\$3M - \$5M	During a south wind there can be pier damage. In addition, public water servicing the pier during storm events is frequently damaged. A tow behind generator was recently replaced and is ready for use when needed.
Provincetown Public Library	Investigate the potential for a generator to be installed at the library	Medium	\$40,000	The public library houses an important art collection and book collection. It also provides internet services for the community and is a place where people gather. Currently, it does not have its own generator.
Multiple Assets	Develop a formal beach management plan.	Short	\$100,000	Sand accretion is a concern for Provincetown, particularly when it blows during storms and makes roads impassable.
DPW Garage	Consider design/facility enhancements to ensure a fully functioning DPW garage during storm events.	Medium	\$60,000	This facility was built in the 1950s and is a critical building for operations and houses equipment and machines. There is high groundwater and wetlands (there is not good drainage) and it is in a FEMA SLOSH zone. Equipment for the harbormaster is stored here and it is a fueling station for public vehicles. If something happened to the building it would have a community impact.



Critical Facility or Infrastructure	Recommendation	Short: 0 to 5 years Medium: 5-10 years Long: 10+ years	Cost Range	Notes
Wastewater Treatment Plant	Conduct a study to evaluate capacity issues and plan for necessary critical upgrades.	Short	\$60,000	Half the town is connected to the wastewater treatment plant for sewer service. The need for additional capacity for Provincetown and potentially serving parts of Truro have been discussed along with taking Title V septage.
Multiple Assets	Site any new (or existing that needs to be relocated) critical facility or infrastructure outside of both a FEMA flood zone and an inundation pathway.	Ongoing	TBD	This recommendation could pertain to a new Police Station or pump station relocation.
Natural Resource Areas	Ensure management plans for existing natural resources include a focus on reducing climate impacts. Focused efforts on natural resource areas will help to lessen the impact of natural hazard events on Provincetown's critical facilities and infrastructure.	Ongoing	TBD	Ways to reduce climate impacts of natural resources may include mapping and developing a plan to control invasive species, details for regular debris management and removal (particularly in flood prone areas) and pursuit of additional land acquisition that would be complementary to the natural resource.

Figure Exported: 5/20/2016 By: Hughes, Using: C:\Users\hughes\Documents\Project\Temp\Provincetown\Projects\Figure3.mxd



Figure_Exported_5/20/2016 By: mhughes Using: C:\Users\mhughes\Documents\Project_Temp\Provincetown\Projects\Figures_4.mxd

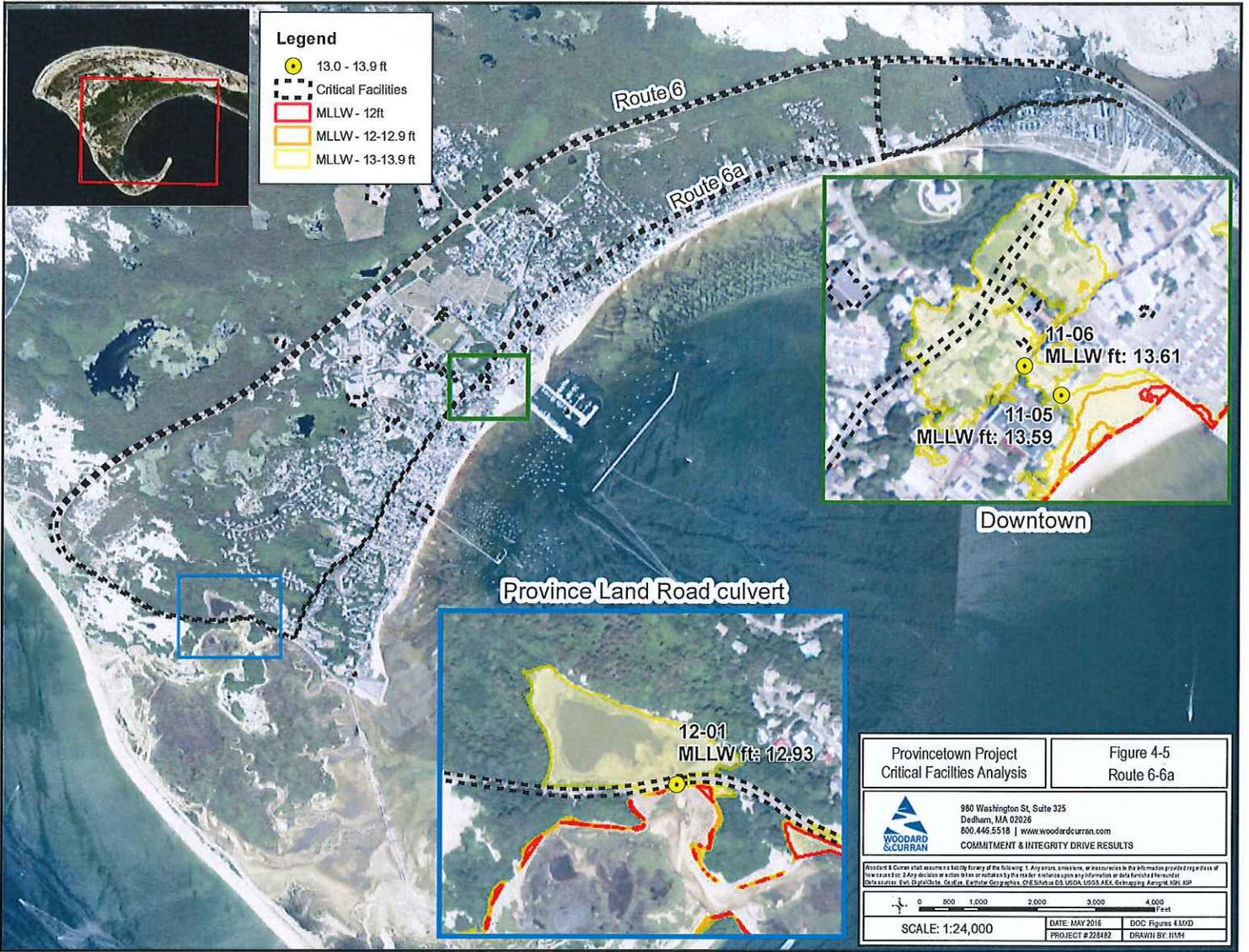
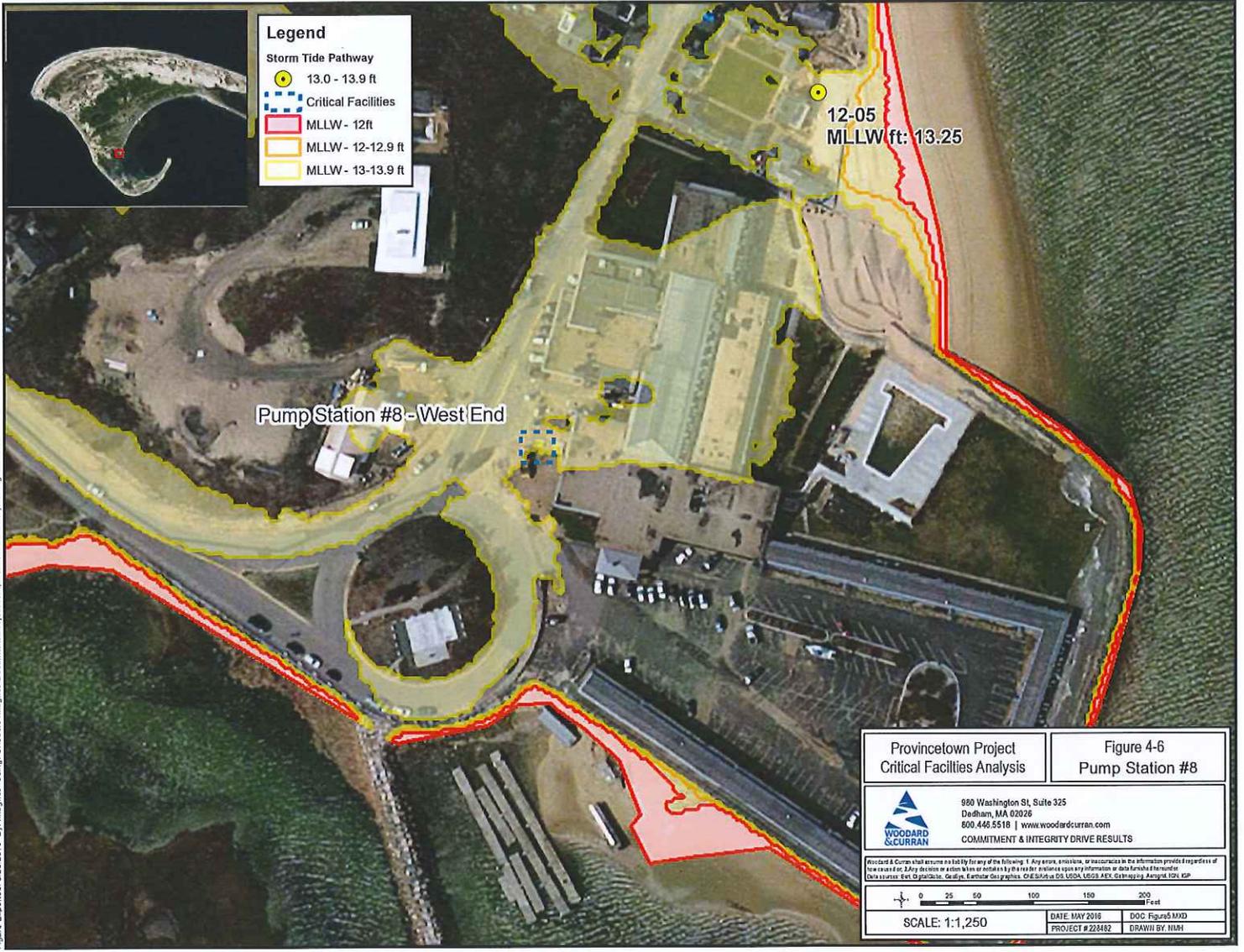


Figure Exported: 5/24/2016 By: Hughes, Using: C:\Users\hughes\Documents\Project Temp\Provincetown\Projects\Figure4-6.mxd





Legend

Storm Tide Pathway

- 14.0 - 14.9 ft
- 15.0 - 15.9 ft

Critical Facilities

- MLLW - 12ft
- MLLW - 12-12.9 ft
- MLLW - 13-13.9 ft
- MLLW - 14-14.9 ft
- MLLW - 15-15.9 ft

Provincetown Project Critical Facilities Analysis		Figure 4-7 Central Vacuum	
 800 Washington St. Suite 325 Dedham, MA 02026 800.446.5518 www.woodardcurran.com COMMITMENT & INTEGRITY DRIVE RESULTS		<small>Woodard & Curran shall assume no liability for any of the following: 1. Any errors, omissions, or inaccuracies in the information provided regardless of the source or cause. 2. Any actions or omissions taken by the reader or reliance upon any information or data provided hereon. 3. Data sources: Esri, Garmin, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroX, GeoEye, IGN, KP</small>	
SCALE: 1:1,250		DATE: MAY 2016 PROJECT # 226482 DOC: Figure8.MXD DRAWN BY: NHM	

Figure Exported: 5/20/2016, By: Hughes, Luan; C:\Users\lhuughes\Documents\Project Temp\Provincetown\Projects\Figure8.mxd



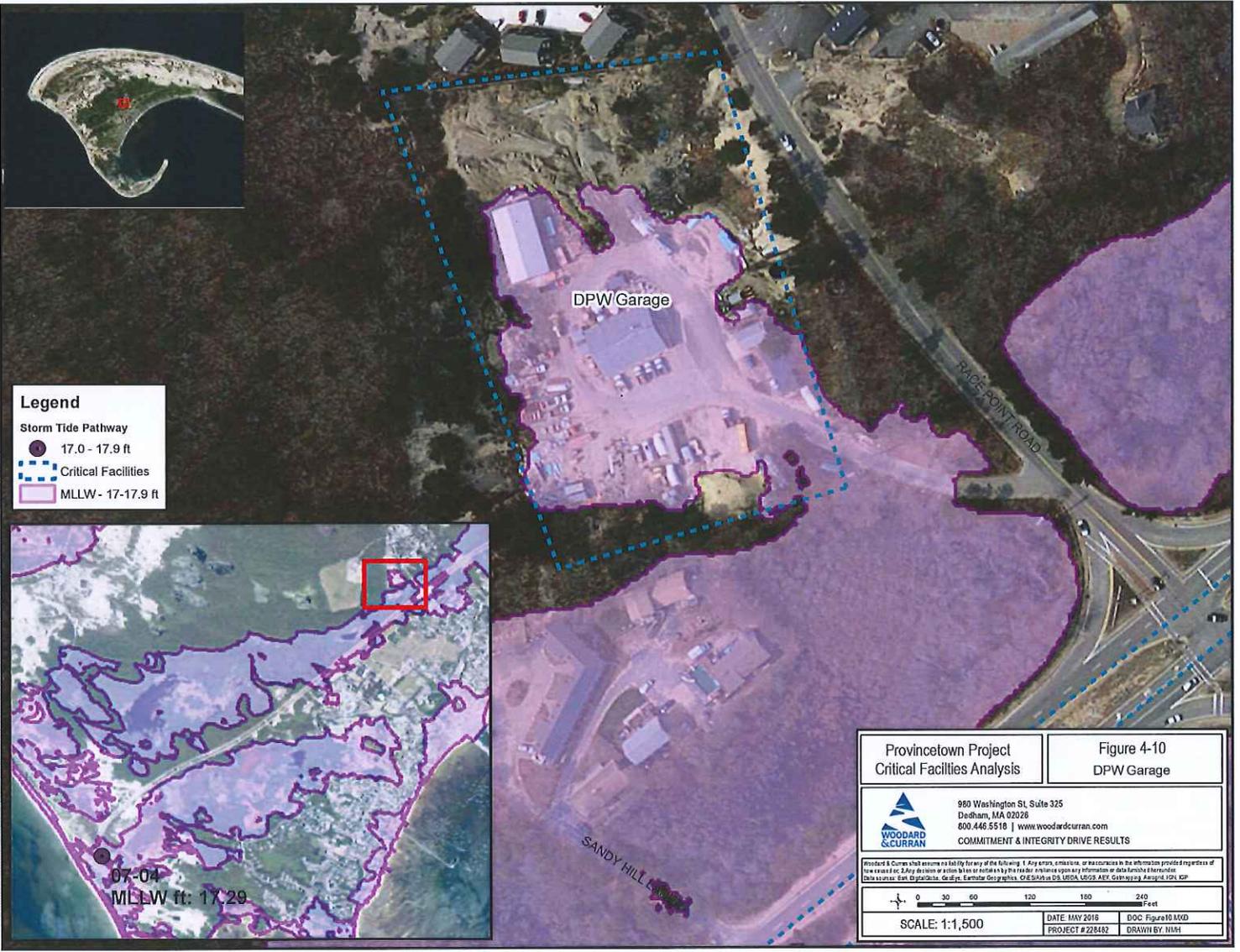
Figure Examined: 20202016 By: Hughes, Using: C:\Users\hughes\Documents\Project Temp\Provincetown\Projects\Figure8.mxd

Legend	
	Storm Tide Pathway
	14.0 - 14.9 ft
	Critical Facilities
	MLLW - 12ft
	MLLW - 12-12.9 ft
	MLLW - 13-13.9 ft
	MLLW - 14-14.9 ft

Provincetown Project Critical Facilities Analysis		Figure 4-8 PS #6 Commodore Ave	
990 Washington St, Suite 325 Dedham, MA 02026 600.446.5518 www.woodardcurran.com COMMITMENT & INTEGRITY DRIVE RESULTS			
<small>Woodard & Curran shall assume no liability for any of the following: 1. Any errors, omissions, or inaccuracies in the information provided regardless of the source; 2. Any reliance on such data or information by third parties; 3. Any reliance on such data or information by third parties; 4. Any reliance on such data or information by third parties; 5. Any reliance on such data or information by third parties; 6. Any reliance on such data or information by third parties; 7. Any reliance on such data or information by third parties; 8. Any reliance on such data or information by third parties; 9. Any reliance on such data or information by third parties; 10. Any reliance on such data or information by third parties.</small>			
SCALE: 1:2,500		DATE: MAY 2016 PROJECT #: 220482 DOC: Figure8.MXD DRAWN BY: HJM	



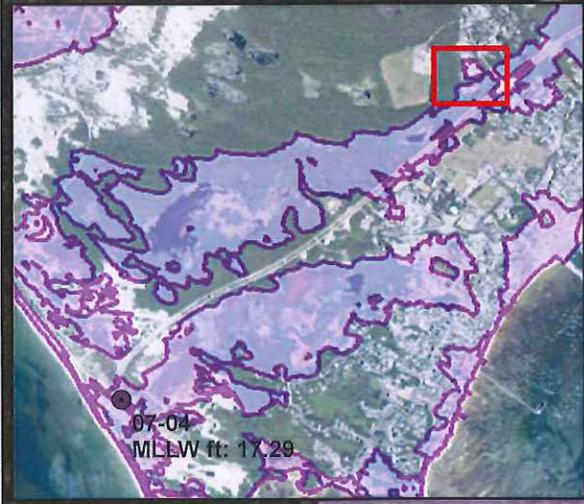
File: Exported: 5/20/2016 10:48:30 AM By: rhaughes Using: C:\Users\rhaughes\Documents\Projects\Provincetown\Projects\Figure9.mxd



Legend

Storm Tide Pathway

- 17.0 - 17.9 ft
- Critical Facilities
- MLLW - 17-17.9 ft



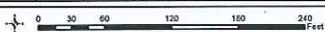
Provincetown Project Critical Facilities Analysis		Figure 4-10 DPW Garage	
 950 Washington St, Suite 325 Duxbury, MA 02028 800.446.5518 www.woodwardcurran.com COMMITMENT & INTEGRITY DRIVE RESULTS			
<small>Woodward & Curran shall assume no liability for any of the following: 1. Any errors, omissions, or inaccuracies in the information provided regardless of how caused; or 2. Any decision or action taken or not taken by the reader in reliance upon any information or data furnished hereunder. Data sources: Esri, DeLorme, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroVISTA, IGN, GXP</small>			
		DATE: MAY 2016 PROJECT # 228482	
SCALE: 1:1,500		DOC: Figure10.MXD DRAWN BY: NHM	

Figure Exported: 5/20/2016 8:49:11 AM; User: C:\Users\mhuughes\Documents\Projects\Temp\Previews\Projects\Figure10.mxd

4.4 SUMMARY

The Town of Provincetown, by conducting a vulnerability assessment and risk analysis and determining key inundation pathways, has developed critical information for the community, to continue to be progressive in managing risk and damage from natural hazard events. The methodology for this work allows the Town to prepare specific mitigation actions that Provincetown can implement in the future. Due to competing needs for funding in the community, this plan will serve as a tool so that prioritization of actions and projects can be conducted.

This project is an example of a successful partnership that has resulted in real, community specific information that will serve to inform future decisions by Provincetown during Capital Improvement Planning, stormwater mitigation measures, emergency management planning, regulatory changes and other activities. Completing this project also continues Provincetown along its progression of having a strong understanding of climate change impacts to the community such that it can transition to the implementation of mitigation actions.

APPENDIX A: CENTER FOR COASTAL STUDIES REPORT

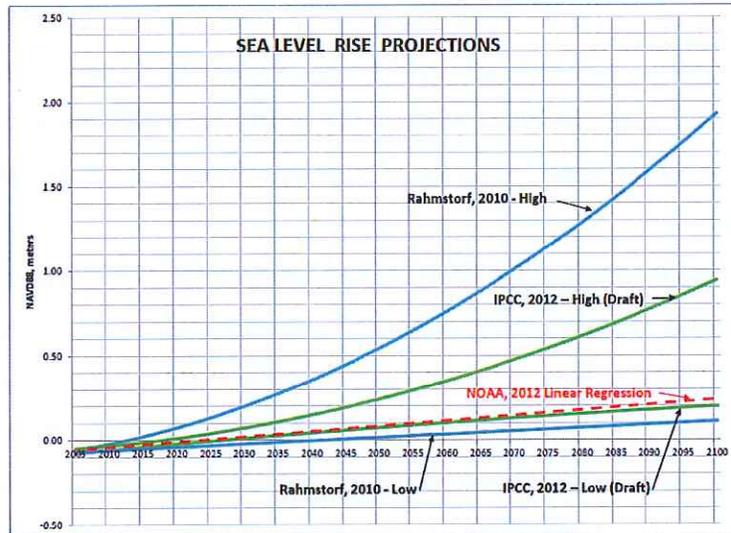
1 **PROJECT BACKGROUND AND OVERVIEW**

2
3 The impacts of coastal inundation have historically confronted coastal managers dealing with
4 vulnerabilities to existing infrastructure and planning for future infrastructure improvements.
5 Occurring on multiple temporal and spatial scales, impacts range from the chronic encroachment
6 of tides to the more episodic destruction associated with coastal storms and flooding. As
7 evidenced by recent storms such as Katrina and Sandy, management challenges are becoming
8 more acute as current climate conditions appear to be producing higher intensity storms
9 accompanied by large storm surges, resulting in more significant coastal flooding events.

10
11 Within this context, much attention has been focused on the subjects of climate change and sea
12 level rise. With regard to the latter, many scientists have concluded that sea levels are not only
13 rising, but at an increasing rate. As shown in Figure 1, projections vary from a low of 0.15
14 meters (0.5 feet) to a high of 2 meters (>6 feet) by the end of this century. Such a broad range
15 creates significant issues for coastal managers faced with identifying potential hazards to, and
16 vulnerabilities of property and infrastructure, prioritizing response actions, and demonstrating to
17 local governments the need to undertake actions in spite of the unavoidable uncertainties
18 inherent in century-scale sea level rise projection scenarios. Traditionally (and necessarily)
19 shorter planning horizons are not easily defined within the context of sea level rise discussions
20 and effective response actions, implementable at the local level are difficult to identify.

21
22 In addition to the issue of defining a suitable planning horizon, the ability of coastal managers to
23 effectively and efficiently recognize potential vulnerabilities and to educate residents and
24 community leaders about the threats associated with storm tides and flooding has been severely
25 limited by the lack of regional-scale, accurate elevation data. For example, Flood Insurance Rate
26 Maps (FIRMS), produced by the Federal Emergency Management Agency (FEMA), have long
27 been standard resources for coastal communities, however, these maps were intended to facilitate
28 the determination of flood insurance rates and lack the topographic detail necessary for focused
29 planning efforts. Until recently the accuracy of relatively low cost elevation data has been
30 appropriate only for general planning at regional scales and not appropriate for identifying storm
31 tide and flooding impacts over timeframes that meet the needs and budgets of most

32 municipalities. Numerical modeling of storm surge, sea level rise, waves, or sediment transport
33 (coastal erosion) can be effective for regional efforts to understand coastal evolution, but can
34 also be cost prohibitive. Furthermore, these models are typically too coarsely-scaled to inform
35 local decisions, appropriately-scaled studies are critical for coastal managers and municipalities.
36



37
38 Figure 1. Projection of global sea level rise.

39 Based on the long range projections of sea level rise and the catastrophic damages associated
40 with recent coastal storms such as Sandy and Katrina much attention has been placed on long
41 term strategies to reverse current climate trends and slow or reverse the rate of sea level rise.
42 Strategies to reduce Green House Gas (GHG) emissions, promote green energy, and deal with
43 rising temperatures, glacial ice melt, and thermal expansion of sea water over the next hundreds
44 of years are being discussed and debated at the international, national, and state levels. Clearly
45 the planning and costs to confront these issues are long term, and capital intensive. Lost in these
46 discussions are viable hazard planning strategies that can be adopted and implemented at the
47 local level within the shorter planning horizons and financial means of local municipalities.

48

49 Reflective of the limited financial and technical resources of coastal communities and their
50 unique geography, local responses and strategies to sea level rise and climate change will be
51 more successful particularly in the context of short-term planning horizons and frequently
52 changing leadership. Specifically, the short term planning should identify actions or responses
53 that are:

- 54 1) Achievable within an appropriate time frame (e.g., 30 years)
- 55 2) Implementable with current technology
- 56 3) Financially feasible
- 57 4) Politically viable (i.e., not extreme – e.g., wholesale retreat)
- 58 5) Adaptable to future scenarios
- 59 6) Focused on both infrastructure and natural resources

60

61 While sea level rise projections are clearly relevant for planning considerations, particularly for
62 large scale efforts, actual storm tide elevations may provide a more effective means of
63 characterizing coastal hazard vulnerability for local planning actions. Figure 2 depicts estimates
64 of various historical storm tide elevations for the Boston area (an easterly facing shore) from
65 various sources for the 17th - 21st centuries. The current projections for the highest sea level rise
66 scenario and the NOAA regression rate scenario based on current tide gauge data obtained from
67 the Boston tide gauge are shown through the year 2100.

68

69 Not surprisingly, the graph illustrates that in recent history the storm of record for Boston and
70 areas to the north of Cape Cod was the “Blizzard of ‘78”. Significantly, this plot indicates that
71 the storm tides and associated flooding for Boston reached an elevation of approximately 1 meter
72 (~3 feet) above that of the highest sea level rise projection for the year 2100. The plot further
73 reveals that earlier estimates of storm tide heights have probably equaled or exceeded the 1978
74 maximum numerous times since the 17th century.

75

76 Using historical data to identify accurately the potential height of storm tides, the extent of
77 coastal flooding, and areas of potential vulnerability provides important, high certainty planning
78 information to local communities with several benefits. First, using historical storm tides to
79 identify coastal hazard vulnerabilities removes sea level rise and the disparity of projections
80 (Figure 1) from the discussion of the most appropriate sea level rise elevation to use to develop
81 short term planning responses. Sea level rise notwithstanding, storm tides of these magnitudes

82

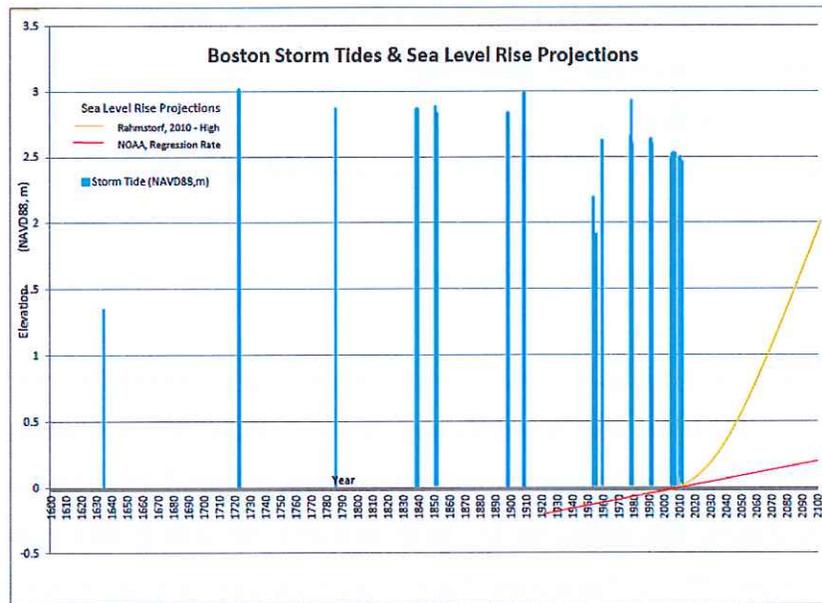


Figure 2. Historical Storm tides and sea level rise.

83
84
85

86 have been experienced and are likely to be experienced again in the future. Second,
87 storms of record provide an accurate, actual (i.e., indisputable) reference elevation that towns can
88 plan for when history repeats itself. Finally, as discussed below, using emerging data gathering
89 technologies to identify storm tide impacts, will yield valuable information that can be used by
90 coastal communities to plan and implement ground level strategy in response to sea level rise.

91

92 **Accurate Elevation Data, Record Storm Tides and Potential Pathways**

93

94 Over the past ten years, light detection and ranging (lidar) surveys have emerged as a cost-
95 effective source of coastal elevation data. Covering broad geographic areas with horizontal
96 accuracies on the order of 3 meters (~10 feet) and vertical accuracies on the order of 15-30 cm
97 (0.5-1.0 feet), this relatively high resolution topographic information can be used by coastal
98 managers as the initial basis for developing inundation scenarios which can be used to begin to
99 communicate threats associated with coastal storms. Despite improvements in vertical accuracy,
100 the use of lidar alone to map areas of storm vulnerability and to develop community response
101 strategies remains limited. Recognizing these limitations, current guidelines for inundation
102 modeling using lidar elevation data sets with vertical accuracies of 15 cm (0.5 feet) recommend
103 analyses be performed at increments of 58.8 cm (~2.0 feet), a resolution clearly too coarse for the

104 development of local action items. This base level information, however, when supplemented
105 with area-specific high resolution elevation data, can be used to accurately identify and prioritize
106 potential coastal hazards at the local level in a cost effective manner.

107

108 In 2011, the Natural Resource Conservation Service, United States Department of Agriculture
109 (NRCS) completed terrestrial lidar surveys of Barnstable County, Massachusetts. The horizontal
110 and vertical accuracies of this free contemporary elevation data provide a reliable base map and
111 can be used as the foundation for local action planning.

112

113 This study maps the precise locations through which inundation of seawater flows into and
114 through Provincetown Massachusetts. These locations are referred to herein as ‘storm tide’
115 pathways. The term ‘storm tide’ refers to the rise in water level experienced during a storm event
116 resulting from the combination of storm surge and the astronomical (predicted) tide level. Storm
117 tides are referenced to datums, either to geodetic datums (e.g., NAVD88 or NGVD29) or to local
118 tidal datums (e.g., mean lower low water (MLLW)). Storm surge refers to the increase in water
119 level associated with the presence of a coastal storm. As the difference between the actual level
120 of the storm tide and the predicted tide height, storm surges are not referenced to a datum.

121

122 Generally, storm tide pathways, by virtue of their elevation relative to the elevation of the storm
123 tide, provide a direct hydraulic connection between coastal waters and low lying inland areas.
124 Examples of pathways that may serve as direct hydraulic connections include: low spots in built
125 environment (e.g., roads, walkways, dikes, seawalls, etc.); low lying infrastructure that can serve
126 as unintended conduits (e.g., storm water system, sanitary sewers, electrical/utility conduits); and
127 low spots in natural topography (e.g. low lying earthen berms, barrier beaches, and dune systems
128 susceptible to erosion and breaching).

129

130 As discussed above, to minimize the uncertainties associated with sea level rise projections and
131 to provide information that is reliable within a 30 year planning horizon, the study used recorded
132 flood elevations associated with actual coastal storm tides. As discussed below, research of
133 available records and studies indicates that, as for Boston, the best approximation of the storm of
134 record for Provincetown would appear to be storm tide elevation of the Blizzard of ’78. This

135 storm tide was recorded by Dr. Graham S. Giese of the Center for Coastal Studies in
136 Provincetown at 9.36 feet (2.85 meters) NAVD88. This elevation represents an actual storm tide
137 elevation that is approximately 5 feet above contemporary mean higher high water (MHHW) and
138 approximately 11 feet above contemporary mean sea level (MSL).

139

140 **METHODS**

141

142 **Datums: Definition and Uses**

143

144 A datum is a reference point, line, or plane from which linear measurements are made.
145 Horizontal datums (*e.g.*, the North American Datum of 1983 (NAD83)) provide a common
146 reference system in the x,y-dimension from which a point's position on the earth's surface can be
147 reported (*e.g.*, latitude and longitude). Similarly, vertical datums provide a common reference
148 system in the z-direction from which heights (elevation) and depths (soundings) can be
149 measured. For many marine and coastal applications, the vertical datum is the height of a
150 specified sea or water surface, mathematically defined by averaging the observed values of a
151 particular stage or phase of the tide, and is known as a tidal datum (Hicks, 1985).¹ It is important
152 to note that as local phenomena, the heights of tidal datums can vary significantly from one area
153 to another in response to local topographic and hydrographic characteristics such as the geometry
154 of the landmass, the depth of nearshore waters, and the distance of a location from the open
155 ocean (Cole, 1997).²

156

157 As almost every coastal resident knows, tides are a daily occurrence along the Massachusetts
158 coast. Produced largely in response to the gravitational attraction between the earth, moon and
159 sun, the tides of Massachusetts are semi-diurnal - *i.e.*, two high tides and two low tides each tidal

¹ The definition of a tidal datum, a method definition, generally specifies the mean of a particular tidal phase(s) calculated from a series of tide readings observed over a specified length of time (Hicks, 1985). Tidal phase or stage refers to those recurring aspects of the tide (a periodic phenomenon) such as high and low water.

² For example, the relative elevation of MHW in Massachusetts Bay is on the order of 2.8 feet higher than that encountered on Nantucket Sound and 3.75 feet higher than that of Buzzards Bay.

160 day.³ Although comparable in height, generally one daily tide is slightly higher than the other
161 hand, correspondingly, one low tide is lower than the other. Tidal heights vary throughout the
162 month with the phases of the moon with the highest and lowest tides (referred to as spring tides)
163 occurring at the new and full moons. Neap tides occur approximately halfway between the times
164 of the new and full moons exhibiting tidal ranges 10 to 30 percent less than the mean tidal range
165 (NOAA, 2000a.)

166

167 Tidal heights also vary over longer periods of time due to the non-coincident orbital paths of the
168 earth and moon about the sun. This variation in the path of the moon about the sun introduces
169 significant variation into the amplitude of the annual mean tide range and has a period of
170 approximately 18.6 years (a Metonic cycle), which forms the basis for the definition of a tidal
171 epoch (NOAA, 2000a). In addition to the long-term astronomical effects related to the Metonic
172 cycle, the heights of tides also vary in response to relatively short-term seasonal and
173 meteorological effects. To account for both meteorological and astronomical effects and to
174 provide closure on a calendar year, tidal datums are typically computed by taking the average of
175 the height of a specific tidal phase over a 19-year period referred to as a National Tidal Datum
176 Epoch (NTDE) (Marmer, 1951). The present NTDE, published in April 2003, is for the period
177 1983-2001 superseding previous NTDEs for the years 1960-1978, 1941-1959, 1924-1942 and
178 1960-1978 (NOAA, 2000a).

179

³ A tidal day is the time of rotation of the earth with respect to the moon, and is approximately equal to 24.84 hours (NOAA, 2000a). Consequently, the times of high and low tides increase by approximately 50 minutes from calendar day to calendar day.

Tidal Datum	Abbreviation	Definition
Mean Higher High Water	MHHW	Average of the highest high water (or single high water) of each tidal day observed at a specific location over the NTDE*
Mean High Water	MHW	Average of all high water heights observed at a specific location over the NTDE*
Mean Sea Level	MSL	Arithmetic mean of hourly tidal heights for a specific location observed over the NTDE*
Mean Tide Level	MTL	Arithmetic mean of mean high and mean low water calculated for a specific location
Mean Low Water	MLW	Average of all low water heights observed at a specific location over the NTDE*
Mean Lower Low Water	MLLW	Average of the lowest low water (or single low water) of each tidal day observed at a specific location over the NTDE*

Table 1. Common Tidal Datums (Source: NOAA, 2000b).

180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195

Identifying existing storm-tide pathways (STP) in a dynamic coastal environment is a multi-step process. First, a datum referenced tidal profile is established for the local area. For Provincetown Harbor, existing benchmarks for NOAA CO-OPS tidal station # 8446121 were recovered, occupied by the Center’s Real-Time-Kinematic Global Positioning System (RTK GPS) and referenced vertically to the North American Vertical Datum of 1988 (NAVD88). Tidal station # 8446121 was established in Provincetown Harbor on March 5, 2010 and tidal datums referenced to the station datum, and reported on the NOAA CO-OPS website [tidesandcurrents.noaa.gov], were then converted to NAVD88 for reference throughout the project. Figure 3 shows the contemporary tidal datums for Provincetown Tidal Station # 8446121 referenced to NAVD88 and Mean Lower Low Water (MLLW). As shown in Figure 3, this tidal profile is extremely similar to that for Boston Harbor.

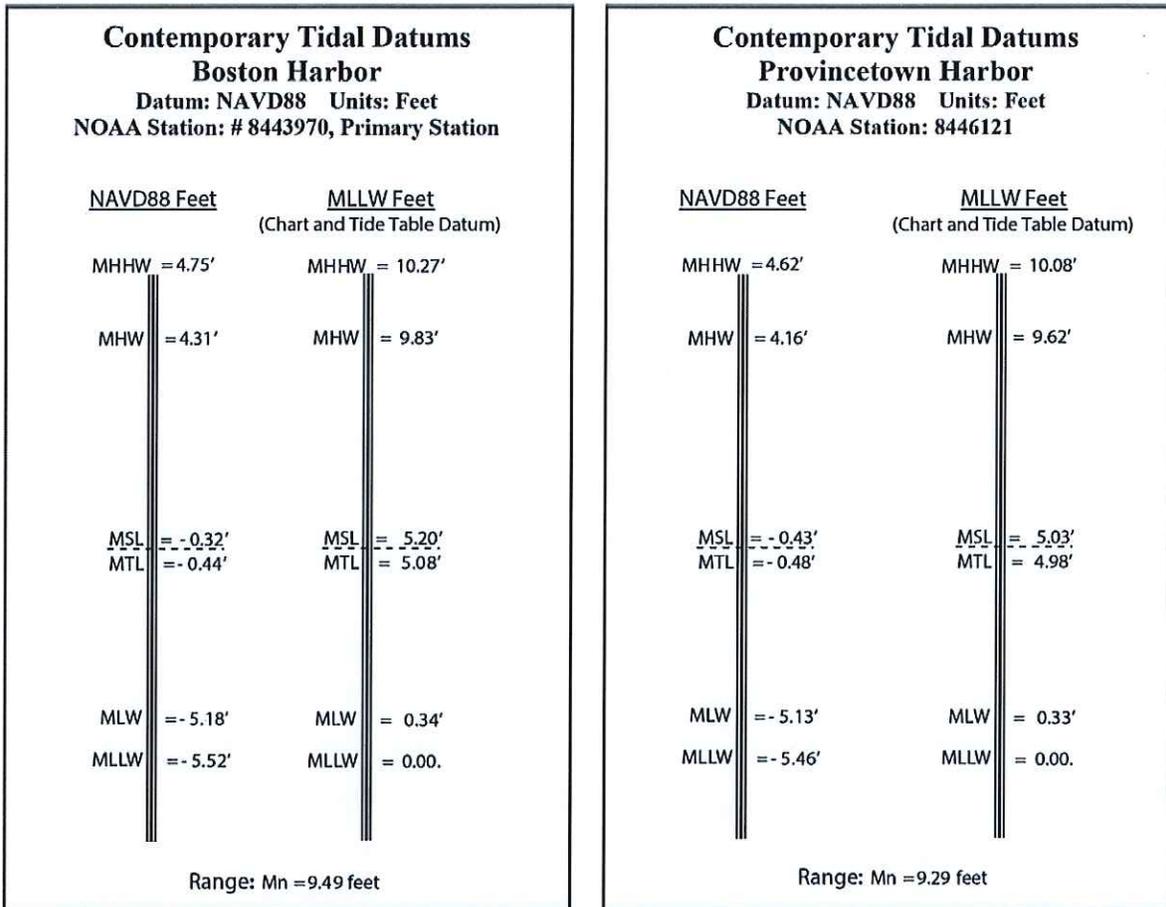


Figure 3. Tidal datum profiles for Boston and Provincetown.

196

197

198

199 Having established a datum referenced tidal profile, historical coastal storms were then
 200 researched to determine significant storm tide (storm surge + astronomical tide) events that have
 201 occurred since 1921, the beginning of the continuous tidal record for Boston Harbor.

202

203 In addition to the major inundation that often accompanies coastal storms, many coastal
 204 communities are also beginning to experience occasional minor flooding during spring tides as
 205 relative sea level continues to rise. Often referred to as nuisance flooding since it is rarely
 206 associated with dramatic building and property damage, this type of minor flooding is becoming
 207 more common with chronic impacts that include overwhelmed drainage systems, frequent road
 208 closures, and the general deterioration of infrastructure not designed to withstand saltwater
 209 immersion (NOAA, 2014).

210

211 **Spatial Analysis**

212 Based on a Provincetown Harbor tidal characterization discussed below the STP analysis
213 proceeds with the identification of potential STPs in the lab using a rigorous desktop analysis of
214 existing elevation (lidar) data. This is then followed up by an extensive fieldwork assessment
215 program to locate, identify and verify the presence or absence of an existing STP in locations
216 discovered in the desktop exercise. This fieldwork is a critical step for several reasons. First,
217 lidar collected via low flying aerial surveys and the post-processing involved introduce
218 uncertainties that can exaggerate or diminish features in three dimensional data that could
219 obscure or conflate the presence and scale of a storm-tide pathway. This has been shown to be
220 particularly evident in cases of ‘bare earth’ models where elevations tend to be “pulled up” in
221 areas adjacent to where buildings are removed and “pulled down” in areas of bridges or where
222 roads cross streams. Second, the use of an RTK-GPS instrument provides the best possible
223 accuracy for acquiring and verifying 3-dimensional positional data. Thus the GPS data can
224 corroborate, or refute the presence of STPs identified from the desktop lidar analysis. Further,
225 due to the dynamic nature of coastal geography only through this type of field work can potential
226 STPs be discovered that were not seen in the desktop analysis of the lidar data. Lastly, and also
227 related to the ephemeral characteristics of the areas proximate to the shoreline, even the most
228 current lidar is rapidly out of date in certain areas. Consequently, GPS fieldwork is critical to
229 identify those STPs that appeared in the lidar but no longer exist due to changes in landform.

230

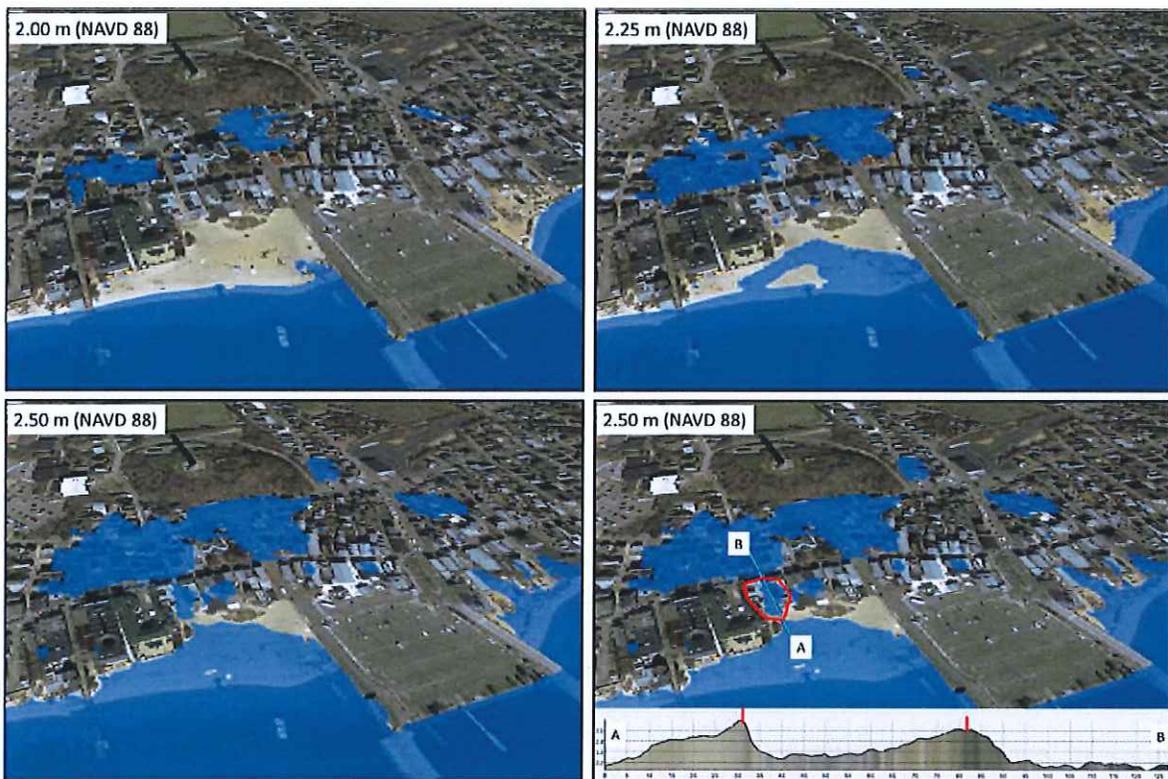
231 A list of potential STPs begins with the desktop analysis of the best available synoptic elevation
232 data for the study area. The latest lidar data were downloaded from the NOAA website
233 (<https://coast.noaa.gov/digitalcoast/>). The website has default settings for horizontal and vertical
234 reference datums, spheroid and projection as well as units (metric vs standard). For the purposes
235 of this study Center staff alters the default download parameters for ease of use within several
236 software packages. Regardless of the spatial parameters, the positional information within the
237 lidar are not altered. The final data products at the conclusion of the project, will be reported
238 within the MLLW datum for Provincetown Harbor, to simplify use at the local level. The data
239 are downloaded in a raster format and brought into ESRI’s ArcGIS software where the raster is
240 divided into smaller tiles. These lidar tiles are then brought into QPS’s Fledermaus data

241 visualization software. While acquired by CCS as an integral component of its Seafloor Mapping
242 Program, the Fledermaus software package has proven to be an ideal platform for the initial
243 desktop identification of STPs with the accuracy of the initial analysis limited primarily by the
244 uncertainty and resolution of the lidar itself.

245

246 The power of Fledermaus lies in its ability to work with very large data files quickly. Individual
247 files can be multiple GBs in size, yet Fledermaus can very rapidly, almost instantly, move
248 through the data for visual inspection, ‘fly-throughs’ and similar functions. A horizontal plane,
249 representing a specific STP elevation can be added to a Fledermaus project or ‘scene’ and that
250 plane can be changed to simulate the increase or decrease in water level (Figure 4).

251



252
253
254
255
256

Figure 4. Downtown Provincetown, draped aerial photograph over Lidar surface. Blue areas are horizontal plane created in Fledermaus at increasing elevation. Lower left is example of a storm-tide pathway with accompanying profile. These images were generated before field work.

257
258

Another invaluable feature of the data visualization software is the ability to drape a 2 dimensional data set such a vertical aerial photograph over a 3D dataset (lidar). This allows the

259 analyst to better document the STP and also to gain valuable information as to the substrate the
260 STP is located in and its landscape setting. For example, an STP found on or near a naturally
261 evolving coastal feature such as a beach or dune would be characterized differently than one atop
262 a concrete wall or other relatively static structure. This is important not only for a final
263 assessment of the most appropriate way to address an STP in a critical area but also serves to
264 inform the field team to more closely examine areas that are naturally evolving and to be vigilant
265 for other to potential STPs in close proximity to the identified point but not present in the lidar.

266

267 In the Spring of 2011, the Natural Resource Conservation Services (NRCS) collected terrestrial
268 lidar data for Barnstable County. These data were used in phase one and provide an accurate
269 synoptic elevation dataset. Metadata for these data indicate horizontal and vertical accuracies of
270 +/- 1.0 m and +/- 0.15 m respectively, previous lidar for the area had double the vertical
271 uncertainty.

272

273 **Field Work**

274 At the completion of the desktop analysis, all potential STPs are compiled into a database with x,
275 y, z coordinates and uploaded into the Center's GPS. Each potential STP location was inspected
276 by a 3-person team. The field team incorporated the lidar data via a laptop in the field in real-
277 time while RTK-GPS data were collected at each location. This served three purposes, the first
278 was to map the real-world location of the STP that was found during the analysis of the lidar data
279 and the second was to increase the positional accuracy of the STP itself and lastly it served as a
280 check on the positional accuracy of the lidar data.

281

282 The field crew used the GPS instrument to navigate to the location of a potential STP and
283 determine its presence or absence and with further investigation if an alternative location is more
284 appropriate. Many coastal sites have very low relief (relatively flat) and determining whether an
285 STP exists, its exact location and direction of water flow is facilitated with the professional
286 judgment and experience in the principles and practices of land surveying fieldwork as well as a
287 thorough knowledge of coastal processes.

288

289 A Trimble® R8 GNSS receiver utilizing Real-Time-Kinematic GPS (RTK-GPS) is used for
290 positioning and tide correction. The Center subscribes to a proprietary Virtual Reference Station
291 (VRS) network (KeyNetGPS) that provides virtual base stations via cellphone from Southern
292 Maine to Virginia. This allows the Center to collect RTK-GPS without the need to setup a
293 terrestrial base station or post-process the GPS data in any way, reducing mobilization and
294 demobilization costs, streamlining the field effort, and maximizing vessel-based survey time.

295

296 The Center undertook a rigorous analysis of this system to quantify the accuracy of this network
297 (Mague and Borrelli, in prep). Over 25 National Geodetic Survey (NGS) and Massachusetts
298 Department of Transportation (DOT) survey control points, with published state plane coordinate
299 values relating to the Massachusetts Coordinate System, Mainland Zone (horizontal: NAD83;
300 vertical NAVD88), were occupied. Control points were distributed over a wide geographic area
301 up to 50 km away from the Center.

302

303 Multiple observation sessions, or occupations, were conducted at each control point with
304 occupations of 1 second, 90 seconds, and 15 minutes. To minimize potential initialization error,
305 the unit was shut down at the end of each session and re-initialized prior to the beginning of the
306 next session. The results of each session (i.e., 1 second, 90 second, and 15 minute occupations)
307 were averaged to obtain final x, y, and z values to further evaluate the accuracy of short-term
308 occupation. Survey results from each station for each respective time period were then compared
309 with published NGS and DOT values and the differences (error) used to assess and quantify
310 uncertainty. Significantly, there was little difference between the error obtained for the 1 second,
311 90 second, and 15 minute occupations. The overall uncertainty analysis for these data yielded an
312 average error of 0.008 m in the horizontal (H) and 0.006 m in the vertical (V). An RMSE of
313 0.0280 m (H) and 0.0247 m (V) and a National Standard for Spatial Data Accuracy (95%) of
314 0.0484 m (H) and 0.0483 m (V).

315

316 After the field work has been completed the team returns to the lab and culls points that were
317 determined not be STPs, adds new STPs that were identified and documented in the field and
318 labels all STPs with regards to position, elevation, substrate and other pertinent information for
319 inclusion into a comprehensive database that can be brought into the project GIS. Particular

320 attention must be focused on those areas when the lidar was found to correlate poorly with
321 current conditions or real-world positions as determined by the GPS surveys and professional
322 judgment applied to accurately represent the STP.

323

324 With the compilation of the comprehensive STP database, the file is brought into ESRI's ArcGIS
325 to visualize STP locations and provide a working tool for local managers to: 1) proactively
326 address STPs prior to storm events; 2) prepare for approaching storms; and 3) to plan for longer-
327 term improvements to mitigate other STPs. Recognizing that accurate field delineation of the
328 extent of inundation for each STP is beyond the scope of the project, the lidar data was used in 2
329 interactive ways to visualize STP inundation levels. The first depiction is referred to as the
330 Pathway Activation Level (PAL). The PAL is the elevation at which water begins to flow over
331 an STP the extent of which is delineated as a continuous contour using elevation from the lidar.
332 For example, based on the GPS fieldwork, an STP with a PAL of 13.6 MLLW indicates that the
333 moment the water reaches 13.6 MLLW water will begin to flow inland over the STP. Using the
334 data visualization software, a water elevation of 13.6 MLLW is then used to demarcate the area
335 that would hypothetically be inundated (assuming storm tide water levels are maintained long
336 enough for the entire area to become flooded). If a storm tide recedes after reaching the PAL
337 then this depiction can be viewed perhaps as a "best" case scenario for impacts associated with a
338 specific storm tide. If water levels were to continue to rise above the PAL, higher than 13.6,
339 however, obviously more area would be inundated leading to the need for a second way to
340 visualize STPs.

341

342 To increase the utility of the STP data and to make visualizations more user friendly for local
343 managers, Inundation Ranges (IRs) were developed for the entire study area rather than creating
344 PALs for every STP and all elevations of potential flooding. Based on a series iterations
345 depicting potential inundation scenarios, including nuisance flooding, it was decided that the
346 lowest value IR range would begin at the highest Spring tide of the year. The elevations were
347 then incrementally raised in 1 foot intervals to the elevation of the Storm of Record for the area.
348 After which we add three more elevations: Storm of Record +1ft; Storm of Record +2ft; and
349 Storm of Record +3ft. We believe this is a useful representation of future sea level rise with
350 practical implications for local managers.

351

352 **RESULTS AND DISCUSSION**

353

354 **Provincetown Harbor Tidal Profile**

355 As noted in the Methods section, in order to document STPs the development of an elevation
356 profile for the community of interest that characterizes both storm tides and nuisance flooding is
357 needed. In addition to the more common tidal datums of mean high water springs (MHWS),
358 mean higher high water (MHHW), mean high water (MHW), and mean sea level (MSL) this
359 tidal profile should include datum referenced storm tides of the past, including the elevation of
360 the maximum storm tide experienced (i.e., the storm of record), and an estimate of potential
361 future storm tides by adding three feet to the storm of record.

362

363 The storm of record for the Boston Tide Gauge (#8443970) occurred on February 7, 1978 with a
364 maximum storm tide elevation of 9.59' NAVD88. Occurring at approximately the time of the
365 predicted or astronomical high tide, the storm surge was approximately 3.5 feet. By comparison,
366 the maximum storm tide elevation experienced during the blizzard of January 27, 2015 was 8.16'
367 NAVD88. Occurring shortly after the astronomical high tide, this elevation resulted from the
368 combination of an astronomical tide height of 4.79' NAVD88 and a storm surge of 3.37 feet.
369 Significantly the maximum storm surge for this event was observed to be 4.5 feet, however,
370 because it occurred close to the time of the astronomical low water the corresponding storm tide
371 elevation was only -1.1' NAVD88. Had the maximum storm surge occurred approximately 6
372 hours earlier at the time of the astronomical high tide, the resulting storm tide elevation would
373 have been 9.2' NAVD88, approximately 5 inches below the elevation of the storm of record.
374 Recognizing the significance of not only the magnitude of the predicted storm but the time it will
375 occur relative to the stage of the tide, the National Weather Service in Boston, MA maintains an
376 informative website that estimates storm surge and total water level at various stations
377 (<http://www.weather.gov/box/coastal>) as coastal storms approach New England.

378

379 The affects of storm tides on coastal communities are dependent on many factors. These include
380 coastal orientation (e.g., east facing v. south facing shores); the elevations of astronomical tides
381 (e.g., the elevation of mean high water in Boston Harbor is 4.31 feet NAVD88 v. the elevation of

382 mean high water for Woods Hole is 0.56' NAVD88); general characteristics of astronomical
383 tides (e.g., the average range – MHW minus MLW – of Boston tides is 9.49 feet while that of
384 Woods Hole tides is only 1.79 feet); topography (e.g., the elevation of the land relative to the
385 community tidal profile); nearshore bathymetry (e.g., the deeper the water relative to shore, the
386 greater the potential wave energy); topographic relief (i.e., a measure of the flatness or steepness
387 of the land with flatter areas more sensitive to small changes in water levels); the nature of
388 coastal landforms (e.g., the rock shorelines of the North shore v. the dynamic sandy shorelines of
389 Cape Cod); and the vertical relationship between historical community development and
390 adjacent water levels (e.g., development in Boston began in the early 17th century with the water
391 levels at that time influencing the elevation of not only pile supported structures but large scale
392 landmaking – filling – efforts). With such variation in physical characteristics, the initial step in
393 the identification of storm tide pathways for a community is the development of a datum-
394 referenced tidal profile.

395

396 On December 31, 2014, the U.S. Geological Survey (USGS) Water Resources installed a datum-
397 referenced (NAVD88, feet) station in Provincetown Harbor. This station now provides a real-
398 time source of 15-minute water level observations for north Cape Cod Bay. The gage is
399 accessible at the following website:

400 http://waterdata.usgs.gov/ma/nwis/uv/?site_no=420259070105600&PARAMeter_cd=00065,000
401 [60](#).

402

403 Prior to 2015, tidal and water level information for Provincetown Harbor was established based
404 on a secondary NOAA tide station (#8446121) established within the Harbor on March 5, 2010
405 and water level observations recorded for a period of four months from April to July, 2010. The
406 gage was referenced to a station datum memorialized with four benchmarks established around
407 the harbor. Tide station #8443970, the primary tide station for Boston Harbor and the longest
408 continuously operating station in Massachusetts (since 1921) was used as the control station to
409 publish local tidal datum elevations. These datums represent mean tidal elevations for the 1983
410 to 2001 National Tidal Datum Epoch (NTDE). Information on the NOAA tide station #8446121
411 can be found at <http://tidesandcurrents.noaa.gov/datums.html?id=8446121>.

412

413 Recognizing that tidal heights vary with location, the published tidal datums were converted to
414 NAVD88 for reference throughout the project area and for direct comparison with the tidal
415 profiles of other areas. To accurately convert elevations from the Station Datum to NAVD88, the
416 four benchmarks for tidal station # 8446121 were recovered and occupied by the Center's RTK
417 GPS for 15 minutes to obtain benchmark elevations referenced vertically to NAVD88. Since
418 each benchmark is also referenced to the station datum the published tidal information for #
419 8446121 can be converted to NAVD88. Figure 3 depicts contemporary tidal datums for
420 Provincetown Harbor referenced to NAVD88 and mean lower low water (MLLW), the local
421 tidal or chart datum.

422

423 As noted above, NOAA tide station #8443970 located in Boston Harbor is a primary tide station
424 and has been used historically as the control station for published tide information in Cape Cod
425 Bay. Figure 3 depicts the tidal profile for Boston Harbor referenced to NAVD88 and MLLW.
426 Referencing tidal heights to NAVD88 allows for Provincetown and Boston Harbors to be
427 compared directly and as shown in Figure 3 the tidal profiles for the two harbors is very close.

428

429 The Provincetown tidal profile was completed with historical research of significant coastal
430 storms to determine, where possible, the elevation of the associated storm tide (astronomical tide
431 + storm surge). APPENDIX A includes a list of references summarizing major coastal storm
432 events and associated storm tide elevations.

433

434 With similar tidal profiles, Boston Harbor was used as a proxy for Provincetown Harbor. Table
435 1 summarizes the highest water levels for Boston Harbor since May 3, 1921 when tidal station
436 #8443970 was installed. Since this time, the maximum water level for Boston Harbor was
437 observed to be 9.59' NAVD88 on February 7, 1978 during the "Blizzard of '78".

438

439 While no tide station was available at this time in Provincetown Harbor, Dr. Graham S. Giese,
440 co-founder of the Center for Coastal Studies, was on scene at MacMillan Wharf to record
441 observations of water height during the Blizzard. Significantly, Dr. Giese referenced the water
442 readings to a 1933 NOAA tidal benchmark, which was recovered as part of this project and
443 occupied with the Center's RTK GPS instrument to convert water level readings to NAVD88.

444 Based on this work, the elevation of the Blizzard of '78 storm tide for Provincetown Harbor was
 445 determined to be 9.36' NAVD88. Interestingly, this was found to be 0.71 feet above the
 446 maximum water level of 8.65' NAVD88 measured by CCS during the January 27, 2015 blizzard.
 447

Boston Harbor (Station #8443970) Highest Recorded Water Levels			
Rank	Date	NAVD88 (Ft.)	MLLW (Ft.)
1	2/7/1978	9.59	15.11
2	1/2/1987	8.69	14.21
3	10/30/1991	8.66	14.18
4	1/25/1979	8.53	14.05
5	12/12/1992	8.52	14.04
6	12/29/1959	8.49	14.01
7	4/18/2007	8.29	13.81
8	5/25/2005	8.27	13.79
9	2/19/1972	8.19	13.71
10	12/27/2010	8.19	13.71
11	5/26/2005	8.16	13.68
12	1/27/2015	8.13	13.65
13	5/26/1967	8.11	13.63
14	6/5/2012	8.07	13.59
15	3/4/1931	7.97	13.49
16	11/30/1944	7.87	13.39
17	1/20/1961	7.85	13.37
18	4/21/1940	7.83	13.35

448
 449 Table 2. Historical storm-tides recorded at the Bostin Harbor water levelsStation. Modified after Mague and Foster
 450 (2008).
 451

452 Table 3 represents the resulting tidal profile constructed for Provincetown Harbor for use in
 453 screening potential STPs. As shown by the table, the maximum storm tide elevation considered
 454 in this analysis was the storm tide of record plus 3 feet (12.36' NAVD88). To evaluate potential
 455 nuisance flooding associated with more frequent non-storm tidal events, the lowest elevation
 456 considered in the STP analysis was that of the maximum predicted high tide for 2015 (6.44'
 457 NAVD88). A review of the NOAA tide charts for Provincetown Harbor indicated that the
 458 maximum astronomical high water predicted for 2015 was 6.44' NAVD88.
 459

Provincetown Harbor Tidal Profile Station: 8446121			
	NAVD88 (FT)	MLLW (FT)	Comments
Storm of Record plus 3 Feet	12.36	17.82	Upper Limit of Storm Tide Pathway Analysis
Blizzard of '15 if max storm surge occurred at Max Predicted High For Year	10.74	16.20	Max. Storm Surge = 4.30' occurred at approx. low tide
Blizzard of 1978 Maximum Storm Tide	9.36	14.82	Storm of Record Based on CCS Observations
Blizzard of '15 if max storm surge had occurred at Predicted High	9.19	14.65	Max. Storm Surge = 4.30' occurred at approx. low tide
Blizzard of 2015 Maximum Storm Tide	8.65	14.11	Based on CCS Observations Storm Surge = 3.65', Predicted High Tide El. = 5.00' NAVD88 at 0430 hrs
Maximum 2015 Predicted High	6.44	11.90	From 2015 NOAA Tide Predictions
MHWS	5.54	11.00	NOAA Tide Station #8446121
MHHW	4.62	10.08	NOAA Tide Station #8446121
MHW	4.16	9.62	NOAA Tide Station #8446121
MSL	-0.43	5.03	NOAA Tide Station #8446121
MTL	-0.48	4.98	NOAA Tide Station #8446121
MLW	-5.13	0.33	NOAA Tide Station #8446121
MLLW	-5.46	0.00	NOAA Tide Station #8446121

Table 3. The Provincetown Tidal Profile

460
461
462
463
464
465
466
467
468
469
470
471
472
473

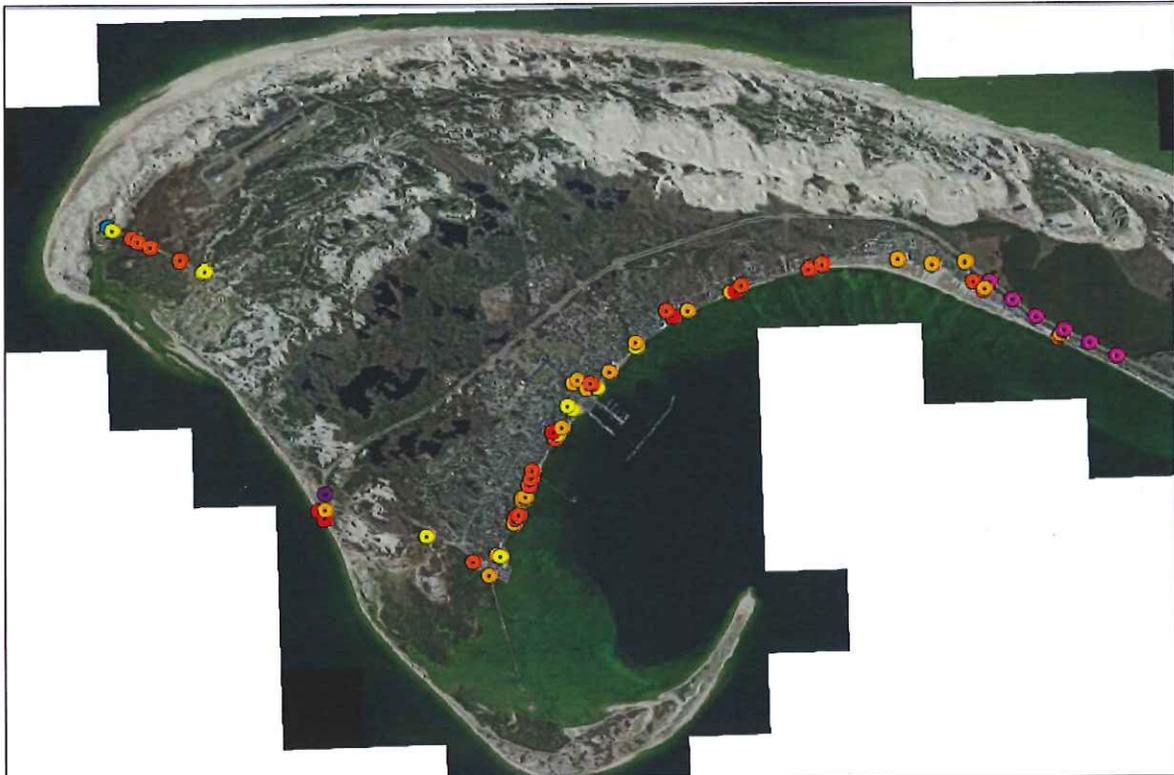
STORM TIDE PATHWAYS

Analysis of the lidar data in phase one yielded 81 potential STPs throughout the study area. Each location was inspected by the 3-person field team. The team incorporated the lidar data via a laptop in the field in real-time while RTK-GPS data were collected at each location. Many times in the field the STP was moved when the team determined the 2011 lidar was not representative of the real-world terrain in 2015.

474 map the real-world location of the STP that was found during the analysis of the lidar data and
 475 increase the positional accuracy of the STP itself and lastly it
 476 served as a check on the positional accuracy of the lidar data.

477

478 The final dataset contains 72 storm-tide pathways. There are several types of STPs included in



479 Figure 5. Color-coded Storm Tide Pathways (n = 72) ranging from <12ft -18 ft (MLLW).
 480

481

482 this dataset: the standard Storm Tide Pathway (STP) as discussed above, the ‘spillway’ (STP-S);
 483 the ‘roadway’ (STP-R); and the unverified (STP-U) (Table 4). The sub-types were developed to
 484 reflect different on-the-ground morphologies and techniques needed to identify and/or address
 485 potential inundation at these locations.

486

487

Table 4. Breakdown of Storm Tide Pathways

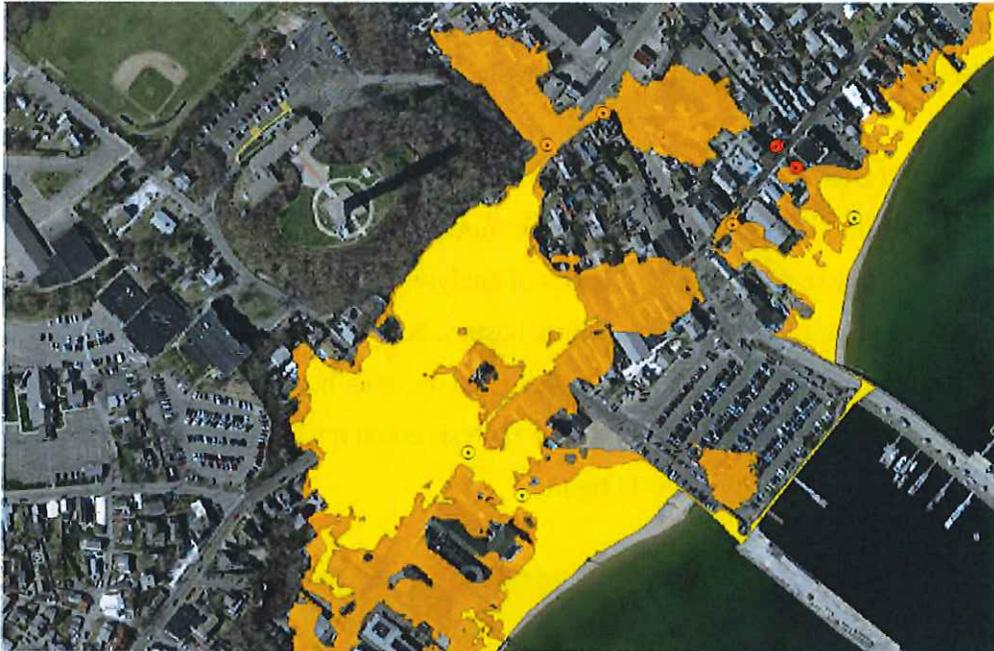
Pathways	Standard (STP)	Spillway (STP-S)	Roadway (STP-R)	Unverified (STP-U)
72	43	15	9	5

488

489

490

491 The 'standard' pathway was a relatively narrow low-lying area where flowing water would be
492 directed to by the natural topography (Figure 6).
493



494
495 Figure 6. Examples of STPs and potential extent of flooding. The points are STPs over which water will flow when
496 it reaches the elevation of the STP.
497

498 The term 'spillway' was intended to reflect the low relief (little change in elevation) of the area.
499 The STP-S are situated in very flat areas that will require a broad space to be considered in order
500 to prevent flooding during future events. While difficult to visualize these areas may be of great
501 concern precisely because of the characteristic that makes them a spillway, a broad flat area of
502 inundation with no clear, narrow pathway for flood waters to enter.

503
504 The roadway STP (STP-R) was delineated as it provides a pathway for water flowage that only
505 effects a roadway and no other resource that would necessarily need protection from inundation.
506 All nine STP-Rs found in the study were located along Route 6, near East Harbor (Pilgrim Lake).
507 These STP-Rs are relatively low lying (12.2 – 14.2 ft), but the path water would need to take
508 would be circuitous and would likely only happen if storm surge and winds prevented water
509 from draining over many tidal cycles. As mentioned above this study does not quantify the
510 probability of flooding events, but only the location of inundation and area effected. These STP-

511 Rs would see water flowing from Cape Cod Bay, flooding the gully directly south of Route 6 and
512 then flowing over the road and into East Harbor. This gully is deep but could fill during certain
513 types of storms. The only hazard for these STP-Rs is water flowing over the road, if the water
514 continued into an area where resources was flooded then it would not be a STP-R, but simply an
515 STP. Therefore, an STP could flood a road, but an STP-R 'only' floods a road.

516

517 An unverified STP (STP-U) are STPs that were found during the lidar analysis, but were unable
518 to be occupied by the field team. The lidar used for this study is a 'bare earth' lidar data set,
519 which is the industry standard for these kinds of analyses (REF). Simply put, during the
520 processing of these data the vegetation, (tress, bushes, beach grass, salt marsh, etc.) and
521 structures (houses, buildings, etc.) are removed from the data, hence the 'bare earth' name.
522 Therefore, certain low spots found in the lidar analysis could not be accessed or were otherwise
523 inaccessible (private property) (STP-U figure).

524



525 Figure 7. Example of an STP-U. This was an unverified STP as the field team could not lawfully gain access to the
526 exact location of the STP.

527
528

529 The 5 STP-Us found in this study are in low areas that will experience water flowage but the
530 precise location of the STP is unknown. With further analysis the precise location of the STP
531 may be ascertained, but remains beyond the scope of this study.

532 This study is deterministic rather than probabilistic, the focus was on creating a high-resolution
533 map of *where* inundation would occur and *when*, or at what water level, inundation would begin.
534 The uncertainties associated with quantifying the *how and why* of coastal flooding, the modelling
535 of storm surge, sea level rise, waves, etc. are prohibitive when dealing with inundation events at
536 the local level by coastal managers. These uncertainties and others are largely removed by the
537 ‘where and when’ of mapping storm tide pathways.

APPENDIX B: CONSEQUENCE OF FAILURE ASSESSMENT & RESULTS



Provincetown Risk Assessment

Provincetown CoF Worksheet

Category	Consequence of Failure Score			
	Health & Safety	Community Image	Financial	Environmental Damage
	3. Significant Risk of Injury or Death 4. Significant risk of major injury 3. Low risk of major injury 2. Low risk of injury 1. No Risk of injury	5. Major service interruption, reputation impact and/or national media coverage 4. Intermittent services, reputation impact and local or regional media attention 3. Minor service and reputation impacts, no media 2. No Media and reputation impacts, minor intermittent service impacts 1. No media, reputation or reputation impacts	5. Greater than \$5 million 4. \$1 million to \$5 million 3. \$100k to \$1 million 2. \$10,000 to \$100k 1. Less than \$10,000 * Used Assessors information where applicable, industry knowledge of infrastructure/vehicle/equipment costs	5. Significant environmental damages 4. Localized environmental damage 3. Possible environmental damage 2. Possible minor or eventual environmental damage 1. No environmental damage

Name of Critical Asset*	Comments	Health and Safety Score	Community Image	Financial Score	Environmental Damage Score	Max Value	Average Value
Emergency Operations -VMCC	Houses the DPW offices, also the shelter, and suppose here is high, existing generator outdated, funding is in place for a new one.	5 Emergency Operations run out of this building as well as the community center. This makes the risk of HAS impacts significant.	5	5 Both schools were included on the same assessors summary report and were valued as a total at approximately \$19M. We have assumed that both structures individually would have \$5M or greater replacement costs.	2	5	4.25
Provincetown High School	A nonresidential building, there is no generator and it is not a shelter. It is a big financial asset and currently serves as the elementary school.	3	4	5 Both schools were included on the same assessors summary report and were valued as a total at approximately \$19M. We have assumed that both structures individually would have \$5M or greater replacement costs.	2 Chemistry Lab/dissolving chemicals, Athena, etc.	5	3.5
Provincetown Town Hall	Historic building and center of the community, servers stored here.	4	5 Eliminates loan services, puts records and servers at risk. Holds the main servers, the central hub for town.	5 The Town Hall is the center of the Town's civic function. It is a historical building and has a high value to the community.	2	5	4
Seashore Point	Retirement Community	5 Due to the high quantity of senior citizens, this could be a serious HAS Risk.	3	5 Includes a number of individually assessed condos for people aged 55+. Collectively this is a major financial asset.	2	5	3.75
MacMillan Pier & Harbormaster	Harbor master office, dock space for large vessels, local fishing boats.	4	5 Yacht Club, Harbor Master, and fish plant services would be suspended in the case of failure.	4 The Pier is a very important economic asset for the City for tourism, ferry travel, and commercial fishing.	3	5	4
Provincetown Police Station	Emergency services	4	4 Police services are critical during emergencies. The loss of this facility could have a major impact.	4 Also takes into consideration vehicles and equipment that might be stationed there.	2	4	3.5
Fire Station	Emergency services	4 This asset would very likely be in use in case of a major weather event.	4 Fire services are critical during emergencies. The loss of this facility could have a major impact.	4 Also takes into consideration vehicles and equipment that might be stationed there.	2	4	3.5
Fire House #2	This station is no longer used for fire services, and are used for some basic city services such as storage and for public restrooms.	2	2	3	1	3	2
Fire House #3	These streets are no longer used for fire services, and are used for some basic city services such as storage and for public restrooms.	2	2	3	1	3	2
Fire Station #4	Satellite Fire Station in use.	3	4 Fire services are critical during emergencies. The loss of this facility could have a major impact.	4 Also takes into consideration vehicles and equipment that might be stationed there.	2	4	3.25
Fire Station #5	Satellite Fire Station in use.	3	4 Fire services are critical during emergencies. The loss of this facility could have a major impact.	4 Also takes into consideration vehicles and equipment that might be stationed there.	2	4	3.25



Provincetown Risk Assessment

Category	Consequence of Failure Score				Max Value	Average Value	
	Health & Safety	Community Image	Financial	Environmental Damage			
	5. Significant Risk of Injury or Death 4. Significant risk of major injury 3. Low risk of major injury 2. Low risk of injury 1. No Risk of Injury	5. Major service interruption, reputation impact and/or national media coverage 4. Intermittent services, reputation impact and local or regional media attention 3. Minor service and reputation impacts, no media 2. No media and reputation impacts, minor intermittent service impacts 1. No media, reputation or reputation impacts	5. Greater than \$5 million 4. \$1 million to \$5 million 3. \$100k to \$1 million 2. \$10,000 to \$100k 1. Less than \$10,000 * Used Assessors information where applicable, industry knowledge of infrastructural vehicle/equipment costs	5. Significant environmental damage 4. Localized environmental damage 3. Possible environmental damage 2. Possible Minor or eventual environmental damage 1. No environmental damage			
Name of Critical Asset*	Comments	Health and Safety Score	Community Image	Financial Score	Environmental Damage Score		
Coast Guard Station	Very active community partner. Important regional base	3 <i>This asset would very likely be evacuated, and area members prepared in the case of a major weather event.</i>	4 <i>Coast Guard Services could provide significant value during an emergency.</i>	4	3 <i>There may be fuel, ammunition, chemicals, etc. Stored at these bases which could provide environmental damage.</i>	4	3.5
Telephone Station		2 <i>This asset would very likely be evacuated in the case of a major weather event.</i>	2 <i>Telephone service interruptions.</i>	3	2	3	2.25
Outer Cape Health Services	The primary he althcare facility in the area. Medical supplies and expertise are located to this facility.	5 <i>Only healthcare provider in the town.</i>	4	4	3	5	4
Housing Authority		2	3	4 <i>Located within the same building as Outer Cape Health Services, assumed same assessed value.</i>	1	4	2.5
Marshope Senior Housing	We have assumed that there are senior citizens living at this facility.	4 <i>Due to the high quantity of senior citizens, this could be a serious H&S Risk.</i>	3 <i>Depending on the severity, this could range from a minor impact to a large impact.</i>	4 <i>Located within the same building as Outer Cape Health Services, assumed same assessed value.</i>	1	4	3
Provincetown Public Library	Historic building with valuable architecture collections. There is no generator.	2 <i>This asset would very likely be evacuated in the case of a major weather event.</i>	4 <i>Loss of library services, media impact.</i>	5 <i>Takes into consideration artwork collection and other assets.</i>	2	5	3.25
DPW Garage		3	5 <i>Provides services critical for managing emergencies such as plowing, disposal, sewer maint, etc.</i>	4 <i>Also takes into consideration vehicles and equipment that might be stored there.</i>	4 <i>Hydrocarbons from fueling station.</i>	5	4
Wastewater Treatment Plant		4 <i>Environmental contamination and lack of sewer services could provide a direct threat to public health.</i>	4 <i>If the WWTF was shut down, it would be a major service impact and would draw media attention due to compliance violations.</i>	5	5 <i>A WWTF failure would result in major environmental contamination.</i>	5	4.5
Provincetown Animal Hospital		2	3	3	2	3	2.5
Central Sewer Vacuum System	Sewer system for the downtown which services the most densely populated and financially critical area of the City.	3	4 <i>Lack of sewer service for heavily populated area in the Town.</i>	3 <i>Assuming that a failure would not be a total loss, and that the financial impact would include major rehabilitation work.</i>	5 <i>Would likely result in a major SSO.</i>	5	3.75
Provincetown Airport	Big asset to the town and local economy.	3	5 <i>This would be a major service and reputation impact.</i>	4 <i>Includes assessed value of structures as well as runway, parking, etc.</i>	4 <i>Assuming potential fuel storage leaks.</i>	5	4
Provincetown Land Road Culvert	Failure would result in significant environmental damage to an important marsh.	2	2	2	4	4	2.5
Water Transmission Mains from Town	Only source of water for Provincetown. They do have a water tower, but any issue with these transmission mains is a major emergency.	4 <i>Lack of potable water could be a major health risk.</i>	5 <i>Water service could be interrupted.</i>	3 <i>Assuming that a failure would not be a total loss, and that the financial impact would include major rehabilitation work.</i>	2 <i>Possible issues with water tower and other systems if there is no power. (Not all Pump stations have emergency power.)</i>	5	3.5
Pump Station #1 - Kendall Lane (540-544 Commercial Street)	Has a generator.	3	3 <i>Would result in SSO, possible sewer backups, etc.</i>	3	3 <i>Would likely result in a significant SSO.</i>	3	3



Provincetown Risk Assessment

Category		Consequence of Failure Score				Max Value	Average Value
		Health & Safety	Community Image	Financial	Environmental Damage		
		5. Significant Risk of Injury or Death 4. Significant risk of major injury 3. Low risk of major injury 2. Low risk of injury 1. No Risk of injury	5. Major service interruption, reputation impact and/or national media coverage 4. Interim/intermittent services, reputation impact and local or regional media attention 3. Minor service and reputation impacts, no media 2. No Media and reputation impacts, minor intermittent service impacts 1. No media, reputation or reputation impacts	5. Greater than \$5 million 4. \$1 million to \$5 million 3. \$100k to \$1 million 2. \$10,000 to \$100k 1. Less than \$10,000 * Used Assessors information where applicable, industry knowledge of infrastructure/vehicle/equipment costs	5. Significant environmental damages 4. Localized environmental damage 3. Possible environmental damage 2. Possible Minor or eventual environmental damage 1. No environmental damage		
Name of Critical Asset*	Comments	Health and Safety Score	Community Image	Financial Score	Environmental Damage Score	Max Value	Average Value
Pump Station #2 – Pleasant Street (61 Pleasant Street)	Has a generator.	3	3 Would result in SSO, possible sewer backups, etc.	3 Could be expensive repair depending on extent of damage	3 Would likely result in a significant SSO	3	3
Pump Station #3 – Manor (26 Alden Street)	Has a generator.	3	3 Would result in SSO, possible sewer backups, etc.	3 Could be expensive repair depending on extent of damage	3 Would likely result in a significant SSO	3	3
Pump Station #4 – Bayberry (74R Bayberry Ave)	Has a generator.	3	4 Would result in SSO, possible sewer backups, etc. Over 300gpm	3 Could be expensive repair depending on extent of damage	4 Would likely result in a significant SSO Over 300gpm	4	3.5
Pump Station #5 – Snail Road (688 Commercial Street)	Has a generator.	3	3 Would result in SSO, possible sewer backups, etc.	3 Could be expensive repair depending on extent of damage	3 Would likely result in a significant SSO	3	3
Pump Station #6 – Commodore Avenue (50 Commodore Avenue)	Has a generator.	3	3 Would result in SSO, possible sewer backups, etc.	3 Could be expensive repair depending on extent of damage	3 Would likely result in a significant SSO	3	3
Pump Station #7 – Thistlemore Road (324 Bedford Street)	Has a generator.	3	3 Would result in SSO, possible sewer backups, etc.	3 Could be expensive repair depending on extent of damage	3 Would likely result in a significant SSO	3	3
Pump Station #8 – West End (1 Commercial Street)	Has a generator.	3	3 Would result in SSO, possible sewer backups, etc.	3 Could be expensive repair depending on extent of damage	3 Would likely result in a significant SSO	3	3
Pump Station #9 – Shank Painter (25 Shank Painter Road)	Has a generator.	3	4 Would result in SSO, possible sewer backups, etc.	2 Could be expensive repair depending on extent of damage	4 Would likely result in a significant SSO Over 300gpm	4	3.25
Pump Station #10 – Stop and Shop Pump Station (58 Shank Painter Road)	Has a generator.	2	3 Would result in SSO, possible sewer backups, etc.	2 Could be expensive repair depending on extent of damage	2 Very small station	3	2.25
Pump Station #11 – Ice House Pump Station (591 Commercial Street)		3	3 Would result in SSO, possible sewer backups, etc.	2 Could be expensive repair depending on extent of damage	3 Would likely result in a significant SSO	3	2.75
Route 6A Roadway	This is an evacuation route	4 This could flood drivers on the road, people attempting to cross flood waters, preventing people from leaving, etc.	5 One of the two means of egress from the town	4 Cost of rehabilitating or replacing a major road would be high	2	5	3.75
Winstow Water Tower		2	4 Water service may be interrupted	3 Assumption of rehabilitation cost	2	4	2.75
Mt. Gileboa Water Tower		2 Very Low risk of injury	4 Water service may be interrupted	3 Assumption of rehabilitation cost	2	4	2.75
Provincetown Public Television		3	4 Local Television service would be interrupted	4 Building and contents are valuable	1	4	3
Stop & Shop	Primary food source in town	4 Primary food source in town	4	4	2	4	3.5
Power SubStation #2	Required to maintain electrical Service in town.	3 Outage could result in injuries or health issues	4 Eliminating electrical services	4 Assumption of rehabilitation cost	3 Would force wastewater treatment plant and pump stations to rely on generators	4	3.5
Power SubStation #2	Required to maintain electrical Service in Town	3 Outage could result in injuries or health issues	4 Eliminating electrical services	4 Assumption of rehabilitation cost	3 Would force wastewater treatment plant and pump stations to rely on generators	4	3.5



Provincetown Risk Assessment

Category	Consequence of Failure Score				Max Value	Average Value	
	Health & Safety	Community Image	Financial	Environmental Damage			
	5 Significant Risk of Injury or Death 4 Significant risk of major injury 3 Low risk of major injury 2 Low risk of injury 1 No Risk of injury	5 Major service interruption, reputation impact and/or national media coverage 4 Intermittent services, reputation impact and local or regional media attention 3 Minor service and reputation impacts, no media 2 No Media and reputation impacts, minor intermittent service impacts 1 No media, reputation or reputation impacts	5 Greater than \$5 million 4 \$1 million to \$5 million 3 \$100k to \$1 million 2 \$10,000 to \$100k 1 Less than \$10,000 * Used Assessors information where applicable, industry knowledge of infrastructural/vehicle/equipment costs	5 Significant environmental damages 4 Localized environmental damage 3 Possible environmental damage 2 Possible minor or eventual environmental damage 1 No environmental damage			
Name of Critical Asset*	Comments	Health and Safety Score	Community Image	Financial Score	Environmental Damage Score	Max Value	Average Value
Stormwater Pumphouse	Could help mitigate flooding in downtown	3	3 <i>Would likely worsen flooding issues. Although in a flooding scenario, this station would likely be overwhelmed anyway.</i>	3	3	3	3
Transfer Station	99 Race Point Road, Solar Array on Site	3	4 <i>Solar array on site</i>	4 <i>Also takes into consideration vehicles and equipment that might be stationed there. Solar Array on Site</i>	4 <i>Hydrocarbons from fueling station</i>	4	3.75
		4	5	3 <i>Assuming that a failure would not be a total loss, and that the financial impact would include major rehabilitation work</i>	3 <i>Issues with wastewater treatment facility, and other waste disposal services</i>	5	3.75
Electrical Transmission Lines	Only source of electricity to Provincetown	4 <i>Would result in health issues at senior homes, health services, etc.</i>	5 <i>Only source of electricity to Provincetown</i>	3 <i>Assuming that a failure would not be a total loss, and that the financial impact would include major rehabilitation work</i>	3 <i>Issues with wastewater treatment facility, and other waste disposal services</i>	5	3.75
Route 6 Roadway	This is an evacuation route	4 <i>This could affect drivers on the road, people attempting to cross flood waters, preventing people from leaving, etc.</i>	5 <i>One of the two means of egress from the town.</i>	4 <i>Cost of rehabilitating or replacing a major road would be high</i>	2	5	3.75

*Woodard & Curran comments based on data gathering, interviews with key stakeholders and the October 2015 site visit are noted in Italics.

APPENDIX C: LIKELIHOOD OF FAILURE SUMMARY



Provincetown Risk Assessment

Likelihood of Failure Scoring Criteria

Likelihood of Failure Scoring Criteria		Weight	Scoring				
			5	4	3	2	1
Coastal Studies Inundation Pathway	Coastal Studies, as a component of this project developed a detailed review of the most likely flood water inundation pathways in Provincetown. Values are feet above Mean Lower Low Water (MLLW), which is the average height of the lowest tide recorded for a tidal station.	50%	<12ft	12-14ft	14-16ft	16-18ft	Not within an inundation contour
Hurricane Surge Inundation Zones	Information gathered from the Cape Cod Commission's GIS Viewer. *The SLOSH model is a computerized numerical model developed by the National Weather Service (NWS) to estimate storm surge heights resulting from historical, hypothetical, or predicted hurricanes by taking into account the atmospheric pressure, size, forward speed, and track data. These parameters are used to create a model of the wind field which drives the storm surge. * -From Cape Cod Commission	16.7%	Category 1	Category 2	Categories 3-4	---	Not Within Surge Zone
FEMA FIRM National Flood Hazard Maps	Information gathered from the Cape Cod Commission's GIS Viewer. * FIRM is an official map of a community that displays the floodplains, more explicitly Special Flood Hazard Areas (SFHA) and Coastal High Hazard Areas (CHHA), as delineated by FEMA. Both areas are subject to inundation by 1-percent-annual chance flood.* -From Cape Cod Commission.	16.7%	VE	AE or AO	---	---	Not within FIRM Layers
Sea Level Rise	Information gathered from the Cape Cod Commission's GIS Viewer. *The Sea Level Rise data was derived from classified Digital Elevation Model (DEM) data collected through Light Detection and Ranging (LIDAR) in 2011 by the USGS. The Sea Level Rise is shown as a simple representation of a change in elevation, commonly referred to as a "Bathtub" model. * - From Cape Cod Commission	16.7%	<3ft	3-4ft	4-5ft	5-6ft	Not inundated within 6-ft

**Actual Scoring of Assets for LoF was completed in GIS. The results are shown in the Risk Results pdf.

APPENDIX D: RISK RESULTS SUMMARY



Provincetown Risk Assessment

Name	LoF	CoF	RISK	Risk Rank
Provincetown Airport	4.67	4.00	18.7	1
Provincetown Town Hall	4.17	4.00	16.7	2
MacMillan Pier & Harbormaster	4.00	4.00	16.0	3
Coast Guard Station	4.34	3.50	15.2	4
Route 6A	3.84	3.75	14.4	5
Electrical Transmission Lines	3.84	3.75	14.4	5
Route 6 Roadway	3.84	3.75	14.4	5
Water Transmission Mains from Truro	3.84	3.50	13.4	8
Pump Station #8 - West End	4.00	3.00	12.0	9
Central Sewer Vacuum System	3.17	3.75	11.9	10
Province Land Road Culvert	4.50	2.50	11.3	11
Fire Station	3.17	3.50	11.1	12
Provincetown Police Station	3.17	3.50	11.1	12
Stop and Shop	3.17	3.50	11.1	12
Pump Station #1 - Kendall Lane	3.67	3.00	11.0	15
Pump Station #6 - Commodore Avenue	3.67	3.00	11.0	15
Stormwater Pumphouse	3.67	3.00	11.0	15
Fire Station #5	3.34	3.25	10.8	18
DPW Garage	2.67	4.00	10.7	19
Pump Station #11 - Ice House Pump Station	3.84	2.75	10.6	20
Pump Station #7 - Thistlemore Road	3.50	3.00	10.5	21
Pump Station #9 - Shank Painter	3.17	3.25	10.3	22
Provincetown Public Television	3.34	3.00	10.0	23
Pump Station #5 - Snail Road	3.34	3.00	10.0	23
Fire House #3	4.17	2.00	8.3	25
Pump Station #2 - Pleasant Street	2.67	3.00	8.0	26
Fire House #2	3.34	2.00	6.7	27
Wastewater Treatment Plant	1.17	4.50	5.3	28
Emergency Operations Center - VMCC	1.17	4.25	5.0	29
Outer Cape Health Services	1.17	4.00	4.7	30
Pump Station #10 - Stop and Shop P.S.	2.00	2.25	4.5	31
Seashore Point	1.17	3.75	4.4	32
Transfer Station	1.17	3.75	4.4	32
Provincetown High School	1.17	3.50	4.1	34
Pump Station #4 - Bayberry	1.17	3.50	4.1	34
Provincetown Public Library	1.17	3.25	3.8	36
Fire Station #4	1.17	3.25	3.8	36
Maushope Senior Housing	1.17	3.00	3.5	38
Pump Station #3 - Manor	1.17	3.00	3.5	38
Power SubStation #1	1.00	3.50	3.5	40
Power SubStation #2	1.00	3.50	3.5	40
Winslow Water Tower	1.17	2.75	3.2	42
Mt. Gilboa Water Tower	1.17	2.75	3.2	42
Housing Authority	1.17	2.50	2.9	44
Herring Cove Animal Hospital	1.17	2.50	2.9	44
Telephone Station	1.17	2.25	2.6	46



woodardcurran.com
COMMITMENT & INTEGRITY DRIVE RESULTS



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

4B

PRESENTATION

Alzheimer's Family Support Center

Requested by: AFSC Executive Director Molly Perdue

Action Sought: Discussion

Proposed Motions

Discussion dependent. Vote may be taken.

Additional Information

Brochures will be handed out at the meeting.

Board Action

<i>Motion</i>	<i>Second</i>	<i>In favor</i>	<i>Opposed</i>	<i>Disposition</i>



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

5

BOARD OF SELECTMEN APPOINTMENT

Requested by: Town Clerk Doug Johnstone

Action Sought: **Approval**

Proposed Motion(s)

None.

Additional Information

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

6A

PROVINCETOWN CENTER FOR COASTAL STUDIES Lease Agreement for use of 3 Jerome Smith Road

Requested by: Town Manager David B. Panagore

Action Sought: Update/Approval

Proposed Motion(s)

Move that the Board of Selectmen vote to approve the terms of the lease agreement for the temporary use of the 3 Jerome Smith Road property for the sum of \$1 per month plus reimbursement for all expenses considered to be essential prior to occupancy, and to authorize the Chair of the Board of the Selectmen and the Town Manager to finalize the terms of the agreement.

Additional Information

See attached draft lease agreement between the Town of Provincetown and the Provincetown Center for Coastal Studies for the temporary use of the former VFW building located at 3 Jerome Smith Road. The PCCS is currently rehabilitating their headquarters at 5 Holway Avenue and will occupy the building between July 1, 2016 and December 31, 2016.

Board Action

<i>Motion</i>	<i>Second</i>	<i>In favor</i>	<i>Opposed</i>	<i>Disposition</i>

LEASE

SECTION 1: SUMMARY

1.1 **Key Terms**

Date of Lease: _____, 2016

Commencement Date: July 1, 2016

Landlord: Town of Provincetown

Landlord's Address: Provincetown Town Hall
260 Commercial Street
Provincetown, MA 02657

Tenant: Center for Coastal Studies, Inc., a Massachusetts
nonprofit corporation

Tenant's Address: 5 Holway Avenue, Provincetown, MA 02657

Property: The parcel of land located at 3 Jerome Smith Road,
Provincetown, MA 02657, shown on Assessors
Map 8-1 as Parcel 6, and described more
particularly in Certificate of Title No. 12377 filed
with the Barnstable Registry District of the Land
Court.

Premises: The Property, as identified on Attachment A, with
the building and other improvements thereon,
including all walkways, parking areas and access
ways.

Permitted Uses: General office use.

SECTION 2: PREMISES

2.1 **Premises, Condition.** Landlord does hereby demise and lease unto Tenant the Premises, as described in Section 1.1 above. The Premises are delivered to Tenant and Tenant accepts the Premises in their present condition, "AS IS," it being agreed that Tenant has had an opportunity to examine and inspect the Premises in all respects, that Landlord has made no representations or warranties of any kind with respect thereto, and that Landlord shall have no obligation to do any work on the premise other than those items identified and agreed to on the

List of Essential Repairs included in Attachment B, or make any improvements to the Premises or the condition thereof.

2.2 Permitted Uses. Tenant shall use the Premises solely for the purposes described in Section 1.1.

SECTION 3: TERM OF LEASE

This Lease shall commence on the Commencement Date and shall terminate on December 31, 2016 (the "*Term*").

SECTION 4: RENT

4.1 Payment of Rent. During the Term of this Lease, and so long as Tenant and/or Tenant's property remains on the Property, Tenant shall pay Landlord, without notice or demand therefor and without any deduction or set-off whatsoever, the sum of One Dollar (\$ 1.00) a month (the "*Rent*"), in advance on the first day of each month and sent to Landlord at the address set forth in Section 1.1, prorated for any partial month. If Rent is not paid by the fifth day of the month, Tenant shall pay interest of any unpaid sum at the rate set forth below.

4.2 Additional Compensation. During the Term of this Lease, Tenant shall also reimburse the Town for all expenses associated with the agreed upon List of Essential Repairs (Attachment B). Said list of repairs are determined to be required prior to occupancy. Said reimbursements shall be paid in full within 90 days of the Commencement Date, or in regular monthly payments as otherwise agreed by both parties.

4.3 Interest. Any payment of Rent or other sums due under this Lease if not paid when due shall bear interest at rate of ten percent (10%) from the due date until paid in full.

SECTION 5: UTILITIES

5.1 Utilities. Tenant shall pay promptly, as and when the same become due and payable, all charges for water, sewer, electricity, gas, heat, steam, water, air conditioning, ventilating, lighting systems, and other utilities supplied to the Premises (whether prior or during the Term, or subsequent thereto if relating to Tenant's use of the Premises). If Tenant fails to pay for the utilities furnished to the Premises, Landlord shall have the right, but not the obligation, to pay the same, and Tenant shall reimburse Landlord within ten (10) days upon demand for all costs, expenses and other sums of money in connection therewith, as Additional Rent. To the extent possible, Tenant shall make such payments directly to the utility or service provider.

5.2 Additional Utilities. In the event Tenant requires additional utilities or equipment, all costs incurred in connection therewith, including installation, maintenance and repairs of the same, shall be Tenant's sole obligation, provided that such installation shall be subject to the prior written consent of Landlord and shall be installed in conformity with plans

and specifications provided by Tenant and approved by Landlord, said consent not to be unreasonably withheld.

5.3 Tenant Not to Exceed Capacity of Feeders or Wiring. Tenant covenants and agrees that at all times its use of electric current shall never exceed the capacity of the feeders to the Premises or the wiring installations therein.

SECTION 6: USE OF PREMISES

6.1 Compliance with Laws, Regulations, and Codes. Tenant acknowledges that no trade or occupation shall be conducted in the Premises or use made thereof which will be unlawful, improper, offensive, or contrary to any federal, state or local law, regulations, codes and bylaws, including, but not limited to, those that relate to health and safety and those of the Board of Fire Insurance Underwriters.

6.2 Hazardous Substances. Tenant shall not bring onto, store, release, dispose or threaten the release from the Premises or elsewhere on the Premises any hazardous, toxic, inflammable, combustible or explosive fluid, material, chemical, or substance, including without limitation any item defined as hazardous pursuant Chapter 21E of the Massachusetts General Laws and federal and other state laws ("*Hazardous Substances*"). Tenant shall defend, indemnify and hold harmless Landlord, and those claiming by, through and under Landlord, from and against any and all liability, loss, damage, costs, expenses (including, without limitation, reasonable attorneys' fees and expenses), causes of action, suits, claims, demands or judgments of any nature in any way suffered, incurred, or paid as a result of any release or threatened release of Hazardous Substances on or from the Premises which is caused or exacerbated by, Tenant, its agents, employees, contractors, representatives, invitees and/or others acting by or through and/or under Tenant (with Tenant, the "*Tenant Parties*"). Landlord shall not be responsible to Tenant or the other Tenant Parties for the presence of Hazardous Substances on the Premises or be required to abate or remediate the same. The provisions of this Section shall survive the expiration or earlier termination of the Lease.

6.3 Assignment and Subleasing. Tenant shall not assign, sublet, underlet, mortgage, pledge or encumber (collectively referred to as "*Transfer*") this Lease.

SECTION 7: MAINTENANCE; ALTERATIONS

7.1 Tenant's Maintenance Obligations. Tenant shall be responsible, at its sole expense, for the general maintenance of the Premises, as set forth herein. Tenant shall keep the Premises, including, without limitation, the electrical fixtures, windows, halls, stairwells and lavatories in good order and safe condition, free of dirt, rubbish and unlawful obstructions. Tenant shall maintain the Premises, including the exterior thereof, and all landscaping and sidewalks, in a clean and orderly condition, and not permit the Premises to be overloaded, damaged, stripped, or defaced, nor suffer any waste. Tenant shall be responsible for removing trash from the Premises, and the collection and disposal thereof, and shall not allow rubbish or trash to accumulate on or about the Premises; further, Tenant shall be responsible for removing snow and ice from the Premises. Tenant agrees to keep, operate, use and maintain every part of

the Premises in conformity with all requirements of the law and applicable fire underwriting and related regulations, and to do all other work necessary to comply with the foregoing covenants.

7.2 Tenant's Failure to Maintain. If the Tenant shall fail to keep the Premises in the condition required herein, within fourteen (14) days after notice by the Landlord (or without notice in any emergency, immediately threatening life or property), the Landlord shall have the right (but shall not be obligated) to perform maintenance work, and charge the reasonable cost thereof to the Tenant, with interest.

7.3 Landlord's Maintenance Obligations. Landlord shall maintain all structural portions of the building, including the building exterior, the roof, framing, floor slabs, and foundation of the Premises, and the heating and ventilation system serving the Premises in the same condition they are in as of the Commencement Date, reasonable wear and tear and damage by fire or other casualty excepted. If Tenant reasonably determines that repairs are necessary, Tenant shall inform Landlord of the same in writing, and Landlord shall make such repairs within a reasonable time, consistent with the Landlord's budgetary, appropriation and borrowing requirements and with the Landlord's obligation to comply with legal requirements relating to public building projects and public procurement.

7.4 Alterations. Tenant may make such non-structural changes and improvements to the Premises as is reasonably necessary or convenient to enable Tenant to use the Premises for the Permitted Uses, provided that Tenant provides Landlord written notice thereof, which shall specify the work to be undertaken, the improvements to be made, and Tenant's construction schedule, and obtain Landlord's prior written consent, which shall not be unreasonably withheld. All such allowed alterations shall be at Tenant's expense. Tenant shall not permit any mechanic's liens or similar liens to remain upon the Premises for labor and materials furnished to Tenant in connection with work of any character performed at the direction of Tenant and shall cause any such lien to be released of record without cost to Landlord. Tenant shall procure all necessary permits before undertaking any work on the Premises, including without limitation any structural alterations, and shall cause all such work to be performed in a good and workmanlike manner and in accordance with all local state regulations.

7.5 Insurance Carried by Contractors. During the construction of any alterations, Tenant shall also require the construction manager and/or general contractor for the Initial Improvements to maintain (i) for the benefit of Tenant and Landlord, as additional insured, commercial general liability insurance, including products and completed operations coverage, against any claims for personal injury, death and property damage occurring upon, in or about the Premises and on, in and about the adjoining sidewalks and passageways during the construction of the Initial Improvements for at least \$3,000,000 combined single limit; (ii) worker's compensation in amounts required by statute; (iii) employer's liability insurance with limits of not less than Five Hundred Thousand (\$500,000); and (iv) automobile liability insurance, including the ownership, maintenance and operation of any automotive equipment, owned, hired or nonowned, in an amount not less than One Million Dollars (\$1,000,000) combined single limit.

7.6 Ownership of Improvements. All repairs and/or structural alterations and additions made to the Premises by Tenant, if any, shall be the exclusive property of the Landlord upon completion.

SECTION 8: INDEMNIFICATION; RELEASE

8.1 Indemnification. Tenant shall defend, indemnify and save harmless Landlord from and against all claims, expenses, actions, demands, damages, and/or liabilities of whatever kind and nature arising from or related to (a) Tenant's failure to comply with any of its obligations under this Lease, and/or (b) any accident, death, injury or damage whatsoever, however caused, to any person, or to the property of any person in or about the Premises, or arising from any accident occurring outside the Premises but within the general area of the Premises, where such accident, death, injury or damage results or is claimed to have resulted from any act, omission or negligence on the part of Tenant or any of the other Tenant Parties. The foregoing indemnity and hold harmless agreement shall include indemnity against all costs, expenses and liabilities incurred in or in connection with any such claim or proceeding brought thereon, including attorneys' fees, and the defense thereof with counsel acceptable to Landlord or counsel selected by an insurance company which has accepted liability for any such claim.

8.2 Release. To the maximum extent this Lease may be made effective according to law, Tenant agrees to use and occupy the Premises at Tenant's own risk, and Landlord shall have no responsibility or liability for any loss or damage to fixtures or other personal property of Tenant or any person claiming by, through or under Tenant. Without limitation, Tenant agrees that Landlord shall not be responsible or liable to Tenant, or those claiming by, through or under Tenant, for any loss or damage resulting to Tenant or those claiming by, through or under Tenant, its or their property from the breaking, bursting, stopping or leaking of electric cables and wires, and water, gas or steam pipes.

8.3 Survival. The provisions of this Section shall survive any termination of this Lease.

SECTION 9: INSURANCE

9.1 Tenant's Insurance. Tenant shall obtain and keep in force at its own expense so long as this Lease remains in effect and thereafter so long as Tenant, or anyone claiming by, through or under Tenant, uses or occupies the Premises or any property of Tenant remains on the Premises or any portion thereof, policies of insurance for the benefit of such parties, and in the manner and form, and of the types and amounts, set forth in this Section. Tenant shall furnish certificates evidencing each such insurance coverage to Landlord prior to the execution of this Lease and require the insurer to give Landlord written notice at least thirty (30) days in advance of any termination, expiration or any material reduction in the amount of the coverage. Tenant agrees that the stipulation herein of the kinds and minimum amounts of insurance coverage, or the acceptance by Landlord of certificates of Insurance indicating the kinds and limits of coverage shall in no way limit the liability of Tenant to any such kinds and amounts of insurance coverage.

(a) Comprehensive general liability insurance in the amount of \$1,000,000.00/occurrence, \$2,000,000.00/aggregate with property damage liability insurance in limits of \$1,000,000.00/occurrence, \$2,000,000.00/aggregate; and

(b) Tenant shall provide Workers' Compensation Insurance required by law and the Employer's Liability insurance for at least the amounts of liability for bodily injury by accident of \$500,000.00 each accident and bodily injury by disease policy limit of \$500,000.00, or such greater amount as may be required from time to time by the laws of the Commonwealth of Massachusetts.

Landlord shall have the same rights and remedies for the non-payment by Tenant to Landlord of amounts due on account of insurance premiums as Landlord has under this Lease for the failure of Tenant to pay the Rent.

9.2 Personal Property. Landlord shall have no responsibility or liability for any loss or damage or injury to from any cause whatsoever, including theft or otherwise, of fixtures, improvements and/or other personal property of Tenant. Tenant agrees that it shall continuously keep its fixtures, equipment and other personal property from time to time located in, on or about the Premises, and all leasehold improvements to the Premises constructed or installed by Tenant insured by reputable, duly licensed insurance companies against loss or damage by fire with the usual extended coverage endorsements. Within ten (10) days of entering the Premises, Tenant shall furnish to Landlord evidence of such continuous insurance coverage satisfactory to Landlord. It is understood and agreed that Tenant assumes all risk of damage to its own property arising from any cause whatsoever, including, without limitation, fire or other casualty.

9.3 General Requirements. Landlord shall be named as an additional insured on all insurance policies. All required insurance shall be written with such companies qualified to do business in Massachusetts and having a Best's rating of A or better. Without limiting Landlord's other rights under any other provisions of this Lease, if Tenant shall fail to keep the Premises insured as provided herein, and if such failure shall continue to a period of ten (10) days following written notice by Landlord to Tenant thereof, then Landlord, without further notice to Tenant, may take out and pay for such insurance, and the amount of such payment shall become due and payable as Additional Rent on demand. Tenant hereby waives any and all rights of recovery which it might otherwise have against Landlord, its agents, employees and other persons for whom Landlord may be responsible for any loss or damage to Tenant's property or improvements in the Premises which are either required to be insured under the terms of this Lease or which Tenant, in the absence of any such requirement, elects to insure.

SECTION 10: CASUALTY; EMINENT DOMAIN

If the Premises or any portion thereof shall be destroyed or damaged by fire or other casualty, or taken by any public or quasi-public agency or authority other than Landlord by right of eminent domain, and Tenant is unable to use the Premises for the Permitted Uses in a manner comparable to such use prior to such casualty/condemnation or if Landlord chooses not to repair the damage or rebuild, this Lease shall terminate at the election of either Landlord or Tenant. Any such termination shall be effective thirty (30) days after the date of notice thereof.

SECTION 11: TERMINATION; DEFAULT

11.1 Default. In the event that:

(a) Tenant shall default in the payment of Rent or any other sum herein specified or shall fail to carry and/or maintain the insurance required hereunder and such default shall continue for ten (10) days after written notice thereof; or

(b) Tenant shall default in the observance or performance of any other of Tenant's covenants, agreements, or obligations hereunder and such default shall not be corrected within thirty (30) days after written notice (or any shorter period, if specified herein); or

(c) the occurrence of any of the following events: (i) the making by Tenant of any general arrangement or assignment for the benefit of creditors; (ii) Tenant's becoming a "debtor" as defined in 11 U.S.C. §101 or any successor statute thereto (unless, in the case of a petition filed against Tenant, the same is dismissed within 60 days); (iii) the appointment of a trustee or receiver to take possession of substantially all of Tenant's assets located at the Premises or of Tenant's interest in this Lease, where possession is not restored to Tenant within 30 days; or (iv) the attachment, execution or other judicial seizure of substantially all of Tenant's assets located at the Premises or of Tenant's interest in this Lease, where such seizure is not discharged within thirty (30) days; provided, however, in the event that any provision of this paragraph (c) is contrary to any applicable law, such provision shall be of no force, and not affect the validity of the remaining provisions.

then Landlord shall have the right thereafter, while such default continues, to re-enter and take complete possession of the Premises, to declare the Term of this Lease ended, and remove Tenant's effects, without prejudice to any other remedy which may be available to Landlord.

11.2 Landlord's Cure Rights, Reimbursement. If Tenant shall default after reasonable notice thereof, in the observance or performance of any conditions or covenants on Tenant's part to be performed or observed by virtue of any of the provisions of any section of this Lease, Landlord, without being under any obligation to do so and without thereby waiving such default, may remedy such default for the account and at the expense of Tenant. If Landlord makes any expenditures or incurs any obligations for the payment of money in connection with Tenant's default, including but not limited to, reasonable attorneys' fees in instituting, prosecuting or defending any action or proceeding, such sums paid or obligations incurred shall be paid to Landlord by Tenant as Additional Rent.

Without limiting any of Landlord's rights and remedies hereunder, and in addition to all other amounts Tenant is otherwise obligated to pay, it is expressly agreed that Landlord shall be entitled to recover from Tenant all costs and expenses, including reasonable attorneys' fees, incurred by Landlord in enforcing this Lease from and after Tenant's default.

SECTION 12: MISCELLANEOUS

12.1 Changes in Lease. None of the covenants, agreements, provisions, terms and conditions of this Lease shall in any manner be changed, altered, waived or abandoned except by a written instrument signed, sealed and mutually agreed upon by all the parties hereto, and approved as required by law. Such instrument shall not be void for want of consideration.

12.2 Quiet Enjoyment. Landlord hereby warrants and covenants that Tenant shall have peaceful and quiet use and possession of the Premises without hindrance or interruption on the part of Landlord, or by any other person(s) for whose actions Landlord is legally responsible, or by any person claiming by, through or under Landlord, except as herein provided.

12.3 Landlord's Entry. Landlord or its agents may, at reasonable times and without interfering with Tenant's business operations, enter the Premises from time to time to make repairs or to inspect the Premises. Landlord shall give Tenant a minimum of twenty-four (24) hours notice for such visits, provided however that Landlord may enter the Premises at any hour and without prior notice in the case of an emergency affecting the Premises.

12.4 Yield Up at Termination of Lease. Tenant shall at the expiration or other termination of this Lease remove all Tenant's effects from the Premises. Tenant shall deliver the Premises to Landlord in the condition in which Tenant is required to maintain the same as set forth in this Lease, reasonable wear and tear excepted and fire and other casualty excepted.

12.5 Holding Over. If Tenant or anyone claiming under Tenant shall remain in possession of the Premises or any part thereof after the expiration of the term hereof, without any agreement in writing between Landlord and Tenant with respect thereto, the person remaining in possession shall be deemed a tenant at sufferance.

12.6 Severability. If any provision of this Lease is declared to be illegal, unenforceable, or void, then both parties shall be relieved of all obligations under that provision provided, however, that the remainder of the Lease shall be enforced to the fullest extent permitted by law.

12.7 Binding Agreement; Covenants and Agreements; Governing Law; Personal Liability. This Lease shall bind and inure to the benefit of the parties hereto and their respective representatives, successors and assigns. All covenants, agreements, terms and conditions of this Lease shall be construed as covenants running with the land. This Lease contains the entire agreement of the parties and may not be changed or modified except by a written instrument in accordance with the provisions herein. This Lease shall be governed by the laws of the Commonwealth of Massachusetts. The provisions of those laws shall not be deemed waived by any provision of this Lease.

12.8 No Waiver. The failure of either party to seek redress for violation or to insist upon the strict performance of any covenant or condition of this Lease shall not prevent a subsequent act, which would have originally constituted a violation, from having all the force

and effect of a violation. No provision of this Lease shall be deemed to have been waived by either party unless such waiver is in writing and signed by the party to be bound thereby.

12.9 Remedies Not Exclusive. No mention in this Lease of any specific right or remedy shall preclude Landlord or Tenant from exercising any other right, or from having any other remedy, or from maintaining any action to which it may otherwise be entitled either in law or in equity.

12.10 Personal Liability. No employee, member, commission, board and/or person acting by, through or under the Town of Provincetown shall be personally liable to Tenant or any partner thereof, or any successor in interest or person claiming through or under Tenant or any such partner, in the event of any default or breach, or for or on account of any amount which may be or become due, or on any claim, cause or obligation whatsoever under the terms of this Lease or any amendment or extension entered into pursuant hereto.

12.8 Notice. Any notice relating to the Premises or to the occupancy thereof shall be in writing and shall be deemed duly served when sent by recognized overnight courier or mailed by registered or certified mail, postage prepaid, addressed to the other party at the addresses listed in Section 1, or at such other addresses as the parties may from time to time designate by written notice to the other party.

555007/PROV/0001

[Signature Page Follows]

Executed by the parties on this _____ day of _____, 2016.

LANDLORD:

TOWN OF PROVINCETOWN,
By its Board of Selectmen

TENANT:

CENTER FOR COSTAL STUDIES, INC.

By: _____
Name:
Title:

By: _____
Name:
Title:

55507/PROV/0001



ATTACHMENT A.



PROVINCETOWN DEPARTMENT OF PUBLIC WORKS

Memo

To: David Gardner

From: Eric L. Larsen

Cc: Richard J. Waldo

Date: June 7, 2016

Re: **Former VFW Building Assessment – List of Essential Repairs**

After performing a comprehensive investigation of the former VFW building in anticipation of delivering an operational structure for the Provincetown Center for Coastal Studies; a number of deficiencies were noted while bringing the building online. The following items summarize my findings and estimates have been provided to perform these essential repairs in order to move forward with bringing this structure online for public use:

Electrical:

All main lighting systems are mainly functional. There are some fixtures and transformers that are in need of replacement in the lower level for proper lighting. There are a few emergency lights that will need replacement batteries in order to function properly as this is required by the Building Code. Anticipated costs for parts and labor from the Town Electrician are estimated to be **\$300 - \$400**.

Fire Suppression:

The fire suppression system was able to be fully charged and purged of air. There are some sprinkler heads that are leaking that will be tightened. Some of these may need to be replaced if the leaking will not stop and there are areas where heads were removed during decommissioning that will need to be replaced. In addition to this, the main check valve will need to be rebuilt as sediment in the pipes has fouled the valve assembly over the past few years of being drained. Terry at Mass Fire Protection anticipates repair costs to be **\$1500 - \$1700**.

ATTACHMENT B

Water:

One major water leak was encountered from a burst pipe in the exterior wall of the building in the first floor restroom. We needed to cut a hole in a wall and ceiling in order to cap off the leaking pipe and test the remainder of the system. I would recommend abandoning the lower level bathrooms to save on repair costs to the fixtures and repairs to the ceiling. Patching the wall, removing the pipe from the exterior wall and abandoning the urinal that was removed to access the pipe will be **\$200-\$300** if DPW staff does a majority of the work and only has the Town plumber do work that is absolutely necessary.

Boiler:

All piping passed pressure tests; however, the installation is not currently up to code without a backflow prevention device being installed. There are also a number of valves that will need to be replaced before operating the boiler. Initial costs from the Town plumber are approximately **\$750** to charge the system and an additional **\$300** to have the boiler serviced. I have no knowledge whether or not the hot water tank is functional as legally we cannot charge the system without the backflow prevention device.

HVAC System:

As a whole, the HVAC system appears to be functioning properly. There is some work required to tighten up the motors and belts and do general maintenance. It is uncertain as to how well this functions as a whole once the other components are brought online. Currently, it only appears that we will need to purchase some air filters and possibly additional belts. I do not foresee these items costing more than **\$50**.

Alarm Systems:

The septic pump overflow alarm appears to be functioning and operational. Once the plumbing issues are resolved, we can verify that the ejector pump is functioning. The fire alarm systems power up and the backup batteries are up to date. A phone line will need to be established for this system to be effective. I do not foresee any incurred costs at this time.

Summary:

Estimated costs based on the building evaluation and testing is **\$3,100 - \$3,500**. All efforts were made to be as thorough as possible to determine all potential issues and estimate project costs; however, there are unknowns that may arise during start up procedures. Any issues that may have unforeseen costs not specifically noted in the aforementioned memo will be brought to your attention as well as Provincetown Center for Coastal Studies for evaluation and reconciliation.



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

6B

PROVINCETOWN TELEVISION (PTV) Access Agreement Extension

Requested by: Finance Director Dan Hoot

Action Sought: Update

Proposed Motion(s)

Move that the Board of Selectmen vote to approve a Limited Extension of Access Corporation Agreement between Provincetown Community Television (“PTV”) and Town of Provincetown, Mass.

Additional Information

The current agreement was approved on June 10, 2013 and expires on June 30, 2016. A six month extension is being sought to allow both the Board of Selectmen and the PTV Board of Directors time to negotiate a new contract agreement.

Board Action

<i>Motion</i>	<i>Second</i>	<i>In favor</i>	<i>Opposed</i>	<i>Disposition</i>

**LIMITED EXTENSION OF ACCESS CORPORATION AGREEMENT
BETWEEN
PROVINCETOWN COMMUNITY TELEVISION
("PTV")
AND
TOWN OF PROVINCETOWN, MASS.**

WHEREAS, on June 10, 2013 the Town of Provincetown, which is a municipal corporation organized under the laws of the Commonwealth of Massachusetts ("PROVINCETOWN"), acting by and through its respective Board of Selectmen, entered into an Access Corporation Agreement, the "AGREEMENT," with Provincetown Community Television ("PTV"), a duly registered non-profit corporation designated by PROVINCETOWN to serve as PROVINCETOWN'S Access Corporation for the purposes of carrying out the provision of PEG Access Services to residents of Provincetown as more fully provided for by the terms of the AGREEMENT, and

WHEREAS, it is the mutual intent of PROVINCETOWN and PTV to extend the AGREEMENT for a limited duration to enable both parties to consider, confer, and negotiate new terms for a potential future agreement, and

WHEREAS, Article VI of the AGREEMENT explicitly provides for extension of the AGREEMENT at PROVINCETOWN's sole discretion and for any length of time which PROVINCETOWN in their sole discretion may decide.

NOW THEREFORE, in consideration of the mutual covenants herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Town of Provincetown, acting by and through its Board of Selectmen, and PTV, acting by and through its Board of Directors, agree as follows:

1. The AGREEMENT is extended for a period of 6 months, expiring one minute before midnight on the day before the end of the sixth month following the effective date of this extension, with an option to renew for an additional 3 month period or any other duration not to exceed 6 months as determined by PROVINCETOWN, in its sole discretion, to be reasonably necessary to ensure provision of PEG Access services to the residents of Provincetown; any such extension to be in writing and signed by the Board of Selectmen to be effective.
2. Pursuant to Article IX of the AGREEMENT, PTV shall be funded by periodic grant payments, such funding not to exceed, in total, 50% of the annual estimated grant funds for the 6 month duration of this extension, and not to exceed in total a pro-rated share representing the fraction of estimated annual funds for any such further extensions as provided for by paragraph 1 above.
3. All terms of the AGREEMENT shall continue to be in full effect unless amended or terminated by its terms or by expiration of this extension or subsequent extensions or renewals.

IN WITNESS WHEREOF, the parties have caused this instrument to be signed by their individual representatives, whose signatures are hereto affixed.

TOWN OF PROVINCETOWN, MASSACHUSETTS,

By its Board of Selectmen,

Raphael Richter, Chair

Cheryl Andrews

Robert Anthony

Thomas N. Donegan

Erik P. Yingling

Dated: _____

PROVINCETOWN COMMUNITY TELEVISION

By its President,

By: _____
President

Dated: _____

ACCESS CORPORATION AGREEMENT

BETWEEN

PROVINCETOWN COMMUNITY TELEVISION
("PTV")

AND

TOWN OF PROVINCETOWN, MASS.

Article I – PREAMBLE

WHEREAS, the Town of Provincetown, which is a municipal corporation organized under the laws of the Commonwealth of Massachusetts (“PROVINCETOWN”), acting by and through its respective Board of Selectmen, has issued a Cable Television Renewal License (“Renewal License”) to Comcast of Massachusetts I, Inc. (“Comcast”) for the provision of cable television services within its municipal boundaries, and

WHEREAS, the Cable License provides for Comcast to make to PROVINCETOWN certain annual and periodic grants of money called “PEG Access Support” and

WHEREAS, it is the intent of PROVINCETOWN that such annual grants should be used for the support and furtherance of the so-called PEG Access (Public Educational and Governmental Access) Channels, and

WHEREAS, Provincetown Community Television (“PTV”) has been incorporated to carry out the programming reasonably anticipated to fulfill the mission of the PEG Access Channels provided by the LICENSEE to PROVINCETOWN, and

WHEREAS, it is the intent of the Town of Provincetown to participate in the provision of PEG Access Services to the residents of Provincetown as more fully provided by the terms of this Agreement, and by the terms of the Cable License issued by the Provincetown Selectmen to Comcast, and

NOW THEREFORE, it is agreed by and between the Town of Provincetown, acting by and through its Board of Selectmen, and PTV, acting by and through its Board of Directors, as follows:

Article II – DEFINITIONS

For the purpose of this agreement the following words, terms, phrases and their derivations shall have the meaning given herein. When not inconsistent with the context, words used in the plural number include the singular number, and words used in the singular number include the plural

number. The word “shall” is always mandatory and not merely directory.

1. Access Agreement, or Agreement: the Access Corporation Agreement between the Provincetown Community Television (“PTV”), and the Town of Provincetown
2. Access Channel: A video channel which the Licensee(s) shall make available without charge for the purpose of transmitting programming by members of the public, Town departments, and agencies, public schools, educational, institutional and similar organizations.
3. Access Corporation: Provincetown Community Television (“PTV”), the ACCESS CORPORATION, designated by the Board of Selectmen of the Town of Provincetown pursuant to Article III of this Agreement, and to the relevant sections of the Cable License for the Town of Provincetown.
4. Access Facility: the location from which the Access Corporation operates the public, educational and municipal access functions at a studio located in the Town of Provincetown, Massachusetts.
5. Access Programming: programs on the designated Access Channels which must be non-commercial within the standards for underwriting applicable to the Public Broadcasting Service (PBS), or the standards necessary for PTV to maintain its tax exempt status within the applicable regulations of the Internal Revenue Service, and such programming excludes political advertising.
6. “PTV”: The non-profit corporation known as Provincetown Community Television, designated by the Board of Selectmen to manage and operate public, educational and municipal access in the Town of Provincetown in accordance with this Agreement and 47 U.S.C. §531.
7. Cable Advisory Committee: the Provincetown Cable Advisory Committee as appointed by the Board of Selectmen.
8. Cable Licenses, or Renewal Licenses: the license agreements between Provincetown and Comcast (“LICENSEE”), authorizing LICENSEE to own, operate and maintain the Cable Television Systems in Provincetown.
9. Commercial Program: programming from which revenue is derived, by any party, and programming the purpose of which is to conduct trade or

commerce. It shall not include programming supported by underwriting grants or contributions of any kind.

10. Downstream Channel: a channel over which signals travel from the system headend to an authorized location within the system.
11. Educational Access: any channel or time thereon which has been allocated for educational use in accordance with this Agreement, the License Agreements, and 47 U.S.C. §531.
12. Issuing Authority: the Board of Selectmen of the Town of Provincetown, who is party to this Agreement.
13. Licensee: Comcast or its authorized transferees or successors.
14. Governmental Access: any channel or time thereon which has been allocated by Provincetown, the Issuing Authority, or municipal agencies in accordance with this Agreement and 47 U.S.C. §531.
15. Public Access: the availability for use by any resident of, or any organization based in or serving Provincetown, of designated public access facilities, equipment, training and/or channels of the Cable Television System, as provided in the Cable Licenses with Provincetown and in accordance with 47 U.S.C. §531.
16. Provincetown (or "Town"): the Town of Provincetown, Massachusetts.
17. Upstream Channels: means a channel over which signals travel from an authorized location to the cable system headend.

Article III – DESIGNATION

Pursuant to the respective Articles and provisions in the currently-effective Cable License, the Board of Selectmen, as Issuing Authority, hereby Designates Provincetown Community Television ("PTV") as its designee and ACCESS CORPORATION within the meaning of that term as employed in the Cable License for the Town of Provincetown. This Designation hereby authorizes PTV to receive certain PEG Access grants, as more fully set forth in the Cable License for the Town of Provincetown, and further authorizes PTV to

operate for Provincetown the PEG Access channels and services described in the relevant terms of the Cable License.

Article IV – TERM OF DESIGNATION

Unless otherwise revoked for good cause shown as provided elsewhere within this Access Agreement, the term of this Designation shall become effective when executed by all parties hereto, and this Access Agreement shall continue for three (3) calendar years from that date, expiring one minute before midnight on the five-year anniversary of such effective date, with an option to renew for one (1) additional five (5) year term, which option may only be refused by the Issuing authority for good cause shown.

Article V – OBLIGATIONS OF ACCESS CORPORATION

Section 1: Public Access Use: Operating Rules and Procedures

PTV shall be solely responsible for the management and operation of Public Access Programming on the cable system in Provincetown, including training, quality of originated signals, scheduling the Public Access Channel(s) and managing the Access Facilities and equipment. PTV shall promulgate and maintain a set of access operating rules and procedures which ensure that training, equipment, facilities and Access Channel time shall be available to residents of any organizations serving Provincetown. These rules shall ensure the right to use Access Channels, facilities and equipment on a non-discriminatory, first-come, first-served basis subject to the terms of this Access Agreement and subject also to PTV's goal of establishing regularly scheduled programming. Access user compliance with such rules shall be monitored by PTV and periodically reviewed by the Issuing Authority of Provincetown.

Section 2: Programming on the Public Access Channel

Editorial discretion, the content of programming and the liability for programming placed on those Access Channel(s) which are operated by PTV shall solely reside in and be the sole responsibility of the access producers and PTV and not Provincetown nor its LICENSEE. Notwithstanding the foregoing, PTV programming shall be designed to achieve the purposes set forth in PTV's Articles of Incorporation and By-Laws and shall consist of Access Programming as defined in the Cable License and by law. To these ends:

(a) PTV shall not sell to a third party any proprietary interest that PTV may have in any Access Programming without first offering LICENSEE the right to purchase such interest by matching the best good-faith offer tendered in writing by the third party;

(b) All liability, license and copyright fees associated with the programming produced by PTV or placed on the access channels serving Provincetown shall be the sole responsibility of PTV.

Section 3: Coverage of Local Meetings

PTV shall be solely responsible for providing coverage of all regularly scheduled Board of Selectmen, Board of Health, Finance Committee, Historic District Commission, Licensing Board, Planning Board, Provincetown Public Pier Corporation, School Committee, Zoning Board of Appeals and Annual and Special Town meetings for Provincetown, to the fullest extent practicable and possible. In addition to the foregoing, PTV shall provide live coverage of one additional public meeting, per quarter, if so requested by Provincetown, upon thirty (30) days written notice, to the fullest extent practicable and possible.

Section 4: Cooperation with School Department

PTV shall cooperate fully with the Provincetown School Department in the coverage of important or significant school events, providing request is made in writing at least thirty (30) days prior to such event, and further provided that sufficient PTV resources are available for the requested coverage.

Section 5: Cooperation with Municipal Government

PTV shall cooperate with the Issuing Authority of Provincetown in the coverage of governmental meetings and in developing programming about the functions of municipal government departments.

Section 6: Logs

PTV shall keep a log of all Access Programming transmitted on the Access Channel(s) and the names and addresses of all access producers. The logs will be available for public inspection and retained for not less than two years.

Section 7: Insurance

(a) At all times during the term of this Access Agreement, PTV shall obtain, pay premiums for, and keep current the following policies of insurance:

(1) A General Commercial liability policy with a minimum liability coverage of One Million Dollars (\$1,000,000.00) for injury or death to any one person in any one occurrence and Two Million Dollars (\$2,000,000.00) for injury to two (2) or more persons in any one occurrence of any PTV activity arising under this Access Agreement;

(2) Property damage insurance policy for any and all claims of property damage occasioned or alleged to be occasioned by any PTV activity under this Access Agreement, including but not limited to the construction, installation, maintenance or operation of a cable television access studio under this Access Agreement, with a minimum liability coverage of One Million Dollars (\$1,000,000.00) for damage to the property of any one person in any one occurrence and Two Million Dollars (\$2,000,000.00) for damage to the property

of two (2) or more persons in any one occurrence;

(3) Automobile liability insurance for owned, leased or borrowed by PTV automobiles, non-owned automobiles and/or rented automobiles undertaking PTV business in the amount of:

(A) One Million Dollars (\$1,000,000.00) for bodily injury and consequent death per occurrence;

(B) One Million Dollars (\$1,000,000.00) for bodily injury and consequent death to any one person; and

(C) Five Hundred Thousand Dollars (\$500,000.00) for property damage per occurrence.

(4) Worker's Compensation in the minimum amount of the statutory limit for all PTV employees.

(5) Producers' Liability Insurance in the amount of One Million Dollars (\$1,000,000) to cover slander, libel, copyright infringement, infliction of emotional distress, and invasion of privacy or publicity rights.

(b) For all insurance policies required by this Access Agreement, the following conditions shall apply:

(1) Such Insurance shall commence no later than thirty (30) days following the establishment of the Access Corporation, or the date of the execution of this Agreement, whichever shall occur last;

(2) Such Insurance shall be primary with respect to any insurance maintained by Provincetown and shall not call upon Provincetown insurance for contribution;

(3) Such Insurance shall be obtained from brokers or carriers licensed to transact business in the Commonwealth of Massachusetts;

(4) Evidence of compliance in the form of certificates of Insurance shall be submitted to Provincetown periodically during the term or terms of this Access Agreement.

Section 8. Indemnification

(a) Indemnification by Access Corporation of Provincetown:

PTV shall defend, indemnify and hold harmless Provincetown, its officials, boards, commissions, agents and/or employees and LICENSEE, and its officers, employees, servants and agents, from and against any claim, without limitation, arising from PTV's activities under this Access Agreement, whether expressly authorized by such Agreement or otherwise, including but not limited to claims in the nature of libel, slander, copyright infringement, infliction of emotional distress, and invasion of privacy or publicity rights, non-compliance with applicable laws, license fees and reasonable attorneys fees. In addition, PTV shall, in its rules for public access, require every access user to indemnify LICENSEE, PTV and Provincetown, and to defend, indemnify and hold them harmless against any claims arising out of any program or program material produced and/or cablecast by it, including but not limited to claims in the nature of libel, slander, invasion of privacy or publicity rights, non-compliance with applicable laws, non-payment of license fees, unauthorized use of copyrighted material, and infliction of emotional distress including reasonable attorneys fees.

(b) Indemnification by PTV of Employees:

PTV shall, at its sole cost and expense, defend, indemnify and hold harmless its officers, employees, boards, commissions, agents and/or members from and against all claims for damage due to the actions of PTV, its officers, employees, boards, commissions, agents and/or members, when acting in official capacity or on behalf of PTV, where such claims arise out of the operation of PTV or Access Facility, or the provision of Access Programming which is the subject matter of this Access Agreement. Indemnified costs shall include, without limitation, all out-of-pocket expenses, including reasonable attorney's fees and the reasonable value of any services rendered by Town Counsel.

Section 9: Annual Report and Audit

PTV shall provide an annual report, including an audit or financial review of its finances and operations, as may be required by the regulations of the Attorney General, to its members, if any, to the Provincetown Board of Selectmen, and to LICENSEE, ninety (90) days subsequent to the close of

PTV's fiscal year, or at such other time as may be agreed upon between the parties.

Provincetown, its Issuing Authority, or its designee(s), may conduct an annual review of PTV's performance, each year upon receipt of the annual report or audit. At any such performance review all PTV officers, directors or employees so requested by the Provincetown or its Issuing Authority or designees shall be in attendance.

Section 10: Editorial Discretion

PTV shall not sell to a third party any proprietary interest that PTV may have in any programming without first offering LICENSEE the right to purchase such interest by matching the best good-faith offer tendered in writing by the third party;

All liability or license copyright fees associated with the programming produced by PTV or placed on the access channel shall be the sole responsibility of PTV.

Section 11: Status As Non-Profit 501(c)(3) Corporation

PTV shall, throughout the term of this Access Agreement, maintain its status as a non-profit 501(c)(3) corporation, securing and maintaining all requisite legal designations, and filing all appropriate periodic statements, forms or reports as may be required from time to time by law or regulation. PTV shall otherwise maintain compliance with all applicable laws, rules and regulations of Provincetown, Commonwealth of Massachusetts, and the United States of America as shall be enacted from time to time.

Section 12: No Amendments To By-Laws Without Notice To Provincetown

PTV shall not make any substantive material amendment to its By-Laws without first presenting the same to the Provincetown Board of Selectmen for review and comment, together with an explanation of the desired amendment and the reasons therefor. A thirty (30) day notice period shall be observed by PTV prior to effecting any such amendments.

Section 13: Maintenance of Records, Equipment and Property; Equipment Inventory

PTV shall maintain accurate books, records and logs of its financial and programming activities, and it shall maintain the facilities and equipment provided to it in good repair and safekeeping. Annually, at the time of filing the Annual Report and Audit, PTV shall provide to the Issuing Authority an inventory of said equipment and facilities together with a statement of its condition and corrective action, if any needed, taken or recommended to be taken to maintain all items in satisfactory condition.

Section 14: Access to Records

PTV shall allow the Issuing Authority, and/or its authorized designees(s) access to the books, records, accounts, and facilities of PTV at such reasonable times and in such reasonable places as the same may require to ensure compliance with this Access Agreement.

\Section 15: Political Activities Prohibited

No funds nor facilities nor equipment provided hereunder shall be used for any partisan political activity or to further the election or defeat of any particular candidate for public office, or political cause. Such prohibition shall not apply to public interest forums, public presentations or the like where the facilities are available for the expression of all points of view for informational purposes.

Section 16: Reversion of Property Upon Termination

Upon termination of this ACCESS AGREEMENT, title to all property, equipment, facilities, and undisbursed funds and all other assets of PTV shall be transferred to the Town of Provincetown, or to its Issuing Authority, or to their designees and PTV shall cooperate fully with Provincetown and its Issuing Authority or designees in effecting a smooth and prompt transfer.

Section 17: Periodic Meeting Required

The PTV Directors shall have at least four (4) periodic meetings scheduled throughout each year, which may include the Annual Review provided by Article V, Section 9.

Section 18: Compliance With Massachusetts Open Meeting Laws and Public Record Laws

In conducting its corporate business, PTV shall comply with all relevant provisions of the Massachusetts Open Meeting Law, M.G.L. c.39, §§23A et seq., and with all relevant provisions of the Massachusetts Public Records Law, M.G.L. c.66, §§1 et seq., as both may from time to time be amended.

Article VI – RENEWAL – ADDITIONAL TERMS

The Term of this Access Agreement may be extended from time to time by Provincetown or its Issuing Authority at its sole discretion. Such additional terms may be for two years, or for any length of time which Provincetown or its Issuing Authority in their sole discretion may decide.

Article VII – TERMINATION

This Access Agreement, and/or any subsequent Designation or extension thereof made under authority of this Access Agreement, shall terminate upon the occurrence of any of the following events:

- (A) The filing of bankruptcy of PTV;
- (B) The expiration of, or revocation of, or any amendment to, the material provisions of the Cable License of Provincetown affecting the right of any party to this Access Agreement;
- (C) The expiration of the then-current Term, or any extension of the Term, of this Access Agreement in the event that Provincetown, in its sole discretion, has failed or has elected not to re-designate PTV as its Access Provider within the meaning of that term as employed in its Cable License; or
- (D) The withdrawal of Designation by Provincetown arising from any breach of this Access Agreement by PTV which remains outstanding and uncured in whole or in part following notice and opportunity to cure as more fully provided in Article VIII of this Access Agreement.

Article VIII – BREACH AND SANCTIONS

Section 1: Determination of Breach

Upon determining that a possible actionable breach of this Access Agreement may have occurred, Provincetown shall serve written notice of such possible breach upon PTV. Upon receipt of such written notice of possible breach, PTV shall have sixty (60) days to respond in one of the following ways: (1) cure such breach and report cure of same to Provincetown; (2) provide Provincetown with proof that such breach did not occur; (3) if the breach was due to fault on the part of PTV, but for reasons beyond its control, such breach cannot be cured within sixty (60) days, provide proof of same to Provincetown, and a detailed timetable for correction and cure; or (4) if the breach was not due

to fault on the part of PTV and cannot be cured within sixty (60) days, provide proof of same to Provincetown and a reasonable timetable for cure, to be submitted for approval by Provincetown.

If, after notification and opportunity to cure as provided in this section, Provincetown determines that a breach of this Access Agreement did occur, and that such breach was not cured or otherwise excused within the time duly specified by the procedures set forth in this section, Provincetown may elect one or more of the following remedies: (1) withdraw its Designation of PTV granted under Article III of this Access Agreement, and thereby terminate this Access Agreement; (2) impose any other sanction as may be determined to be reasonable under the circumstances; or (3) excuse the breach for good cause shown.

Article IX – FUNDING/ANNUAL SUPPORT/FUND RAISING

PTV shall be funded by annual and/or periodic grant payments, or by a combination of the two, made to it by Provincetown from PEG Access support funding received from Comcast pursuant to the relevant provisions of the Cable License.

After providing written notice to the Issuing Authority, PTV may also undertake its own non-profit fund raising campaigns or drives.

Article X –CABLE ADVISORY COMMITTEE

At the discretion of the Issuing Authority, the Provincetown Cable Advisory Committee may be vested with such power and authority as may lawfully and from time to time be delegated by them.

Article XI – ACCESS CORPORATION ORGANIZATION

Section 1: Board of Directors

The Access Corporation shall have a Board of Directors composed as provided by Article III of the Corporations By-Laws as they currently exist or as

they may from time to time be amended.

The Board of Directors shall have all of the usual overall policy setting and oversight powers customary for a corporate Board of Directors provided by law and by its By-Laws.

Section 2: Access Corporation Officers

The selection, duties and terms of the corporate Officers shall be as provided by the By-Laws.

Section 3: Access Corporation Members

The Board of Directors may establish membership in the Access Corporation under such terms and conditions as it may deem necessary or desirable to promote public participation in, and funding of, the Corporation, and consistent always with the provisions of Article II of the corporate By-Laws as they currently exist or as they may from time to time be amended.

Section 4: Access Corporation By-Laws

The Access Corporation By-Laws, as duly adopted by the corporation and as may be amended from time to time, shall serve as the effective By-Laws of the Corporation. They may be amended from time to time always consistent with the procedures set forth by Article VI of the By-Laws.

Article XII – MISCELLANEOUS

Section 1: Assignment and Successors Bound

This Access Agreement shall inure to the benefit of Provincetown and to its successors and assigns. No assignment of any legal right may be made by PTV without the express written consent of Provincetown.

Section 2: Waiver and Amendment

Nothing in this Access Agreement shall prevent all parties from agreeing to waive any provisions of this Agreement by mutual consent. Any such waiver must be confirmed by all parties in writing. No amendment shall be made to this

Access Agreement unless executed in full in the same form as the original Agreement. No waivers or amendments agreed, in writing, upon pursuant to this section shall prejudice any remaining provisions of this Access Agreement and all such remaining provisions shall at all times remain in full force and effect.

Section 3: Construction

The headings herein are for reference and convenience only and shall not be a factor in the interpretation of this ACCESS AGREEMENT. This ACCESS AGREEMENT shall be construed under and governed by the laws of the Commonwealth of Massachusetts.

Section 4: Severability

If any section, sentence, paragraph, term or provision of this ACCESS AGREEMENT is determined to be illegal or unenforceable by any court, such determination shall have no effect upon the validity of all remaining sections of the Agreement which shall remain in full force and effect for the full term of this Agreement.

Section 5: Force Majeure

If by any reason of Force Majeure any party is unable in whole or in part to carry out its obligations under this ACCESS AGREEMENT, that party shall not be deemed to be in breach or default during the pendency of such inability. The term "Force Majeure", as used in this ACCESS AGREEMENT shall have the following meanings: Act of God; act of public enemy; orders of any kind of the government of the United States of America or of any of its departments, subdivisions, officials, or of any civil or military authorities; insurrections; riot; epidemic; landslide; lightning; earthquake; fires; hurricanes, volcanic activity; storms; floods; wash outs; droughts; civil disturbances; explosions; strikes; acts of terrorism; and unavailability of essential equipment, services, or material beyond the control of any party.

Section 6: Entire Agreement

This Access Agreement contains the entire agreement between the parties, supersedes all prior agreements or proposals except as specifically

incorporated herein, and cannot be changed orally but only by an instrument in writing executed by the parties and in the same form as this Agreement.

Section 7: Notice

Any notice delivered hereunder shall be valid if hand delivered or mailed, postage pre-paid first class to:

Town of Provincetown:	Chairman, Board of Selectmen Provincetown Town Hall 260 Commercial Street Provincetown, MA 02657
-----------------------	-----------------------------------------------------------------------------------------------------------

Provincetown Community Television: President, Provincetown Community
Television
Provincetown Town Hall
260 Commercial Street
Provincetown, MA 02657

Article XIII – EXECUTION

TOWN OF PROVINCETOWN, MASSACHUSETTS,
By its Board of Selectmen,

Austin Knight, Chair

Elaine Anderson

Tom Donegan

David McChesney

Erik Yingling

Dated:

PROVINCETOWN COMMUNITY TELEVISION
By its President,

By: _____

Dated:

President



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

6C

KAYAK RACKS

Approval of Kayak Rack Locations

Requested by: Board of Selectmen

Action Sought: Discussion/Approval

Proposed Motion(s)

Move that the Board of Selectmen vote to approve the locations of Kayak Racks throughout Provincetown, [as presented] [as revised].

Additional Information

See attached kayak rack locations.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>

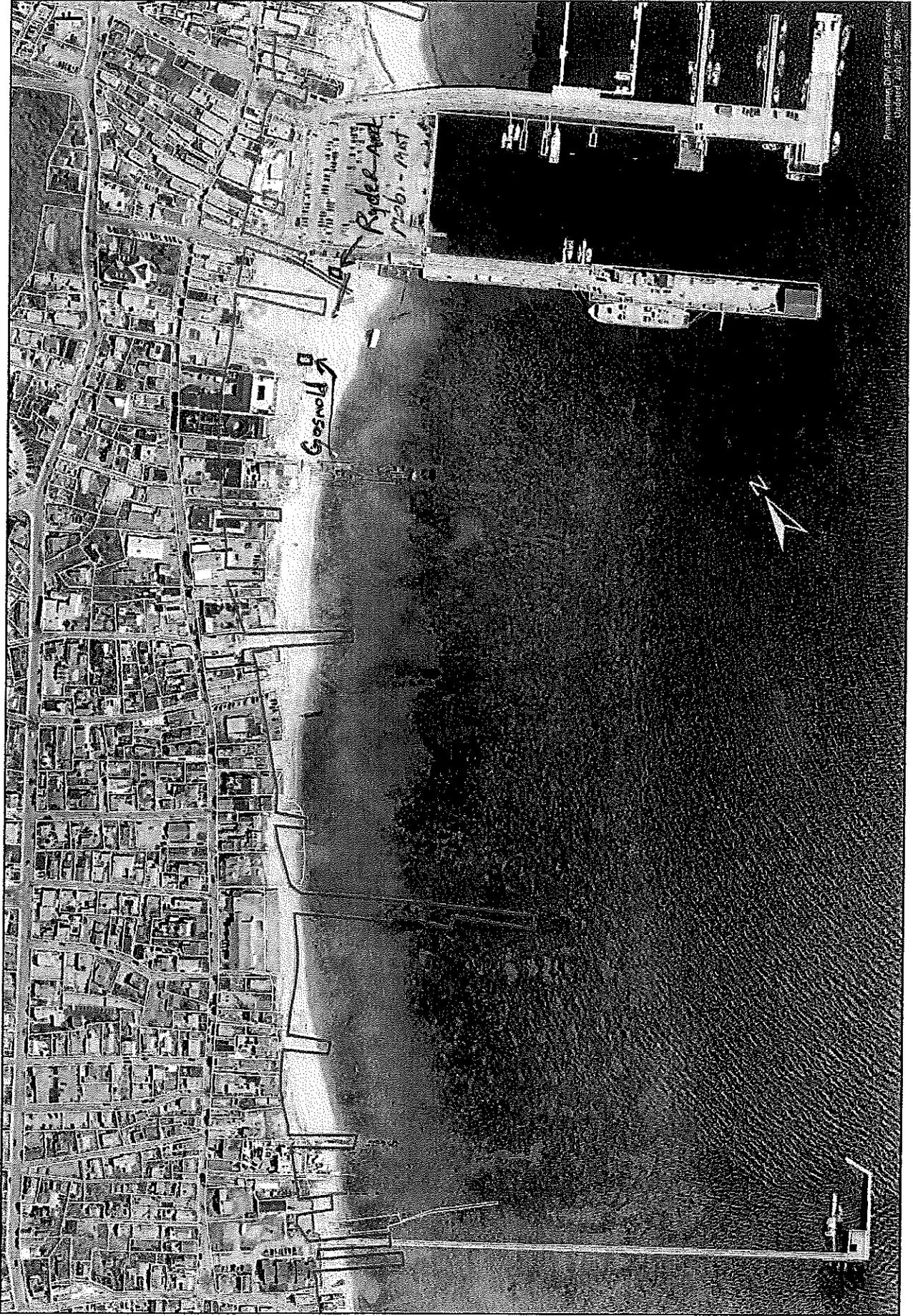
Plan of Provincetown Showing Historic Mean High Water Line

SHEET 1



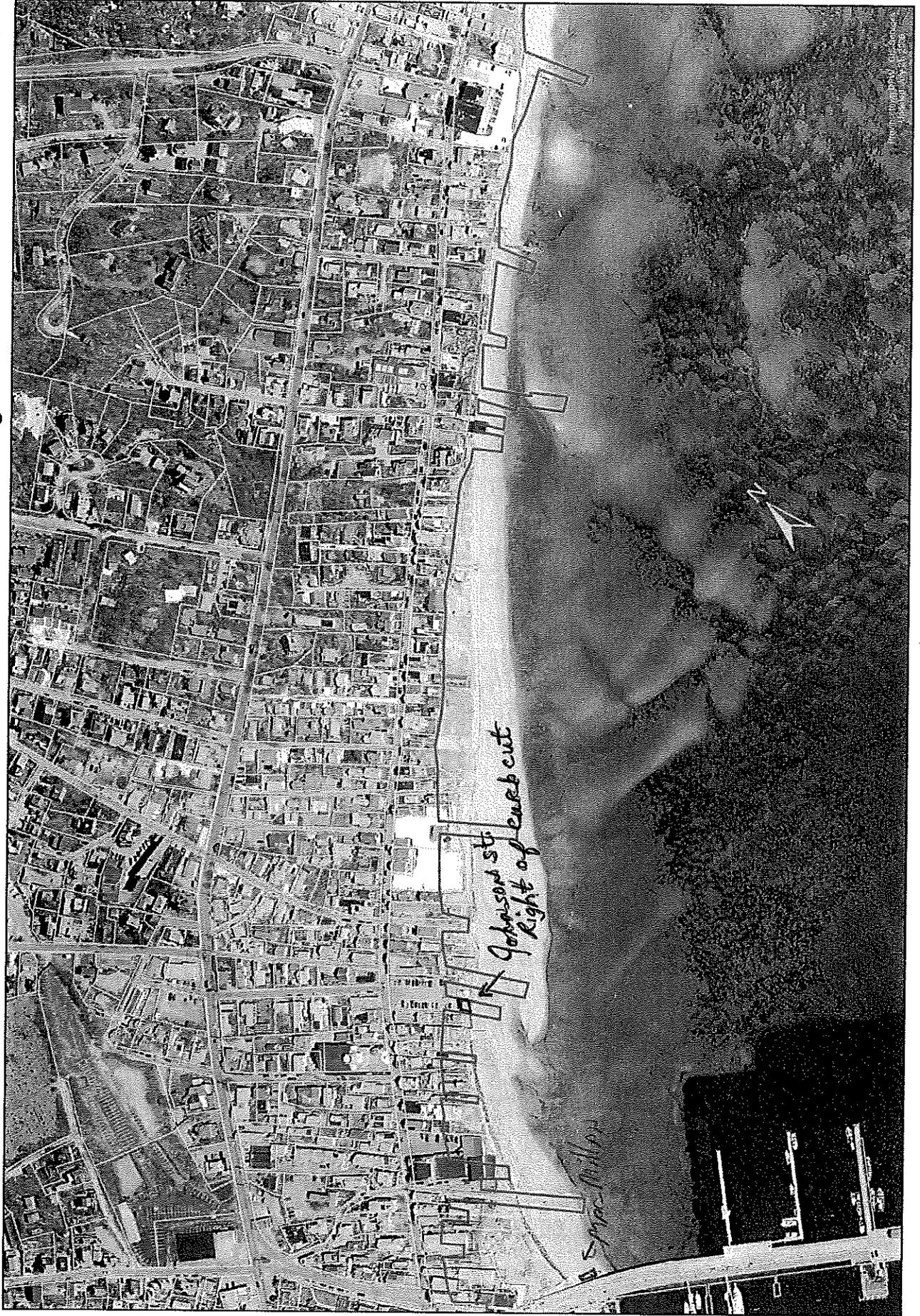
Plan of Provincetown Showing Historic Mean High Water Line

SHEET 2



Plan of Provincetown Showing Historic Mean High Water Line

SHEET 3





Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

7A

SENATE BILL 2311

An Act Promoting Housing and Sustainable Development

Requested by: Town Manager David B. Panagore

Action Sought: Discussion

Proposed Motion(s)

Discussion Dependent – votes may be taken.

Additional Information

Senate leaders released major legislation to make sweeping changes in the state's housing and zoning laws; a proposal that would significantly impact development and zoning in every community. S. 2311, An Act Promoting Housing and Sustainable Development, was voted on by the full Senate on Thursday, June 9th.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>

David Gardner

From: Ilana Quirk <IQirk@k-plaw.com>
Sent: Monday, June 06, 2016 1:42 PM
To: David Panagore
Cc: David Gardner; Gloria McPherson; John Giorgio
Subject: Senate to Vote on Major Housing and Zoning Bill

MEMORANDUM

TO: All Interested Parties
FROM: Jay Wickersham, Noble & Wickersham LLP, and Robert Ritchie, Massachusetts Municipal Lawyers Association, for the Massachusetts Smart Growth Alliance and Zoning Reform Working Group
DATE: July 8, 2015
RE: Summary of zoning reform bill: S. 122, as filed by Senator Daniel Wolf and Representative Stephen Kulik

Provisions of the zoning reform bill

Chapters 40A, 40X, and 41: Reforms applicable to all communities:

1) Allowable Zoning Techniques. The bill adds or expands definitions and authorizations for many useful zoning techniques, including cluster development, transfer of development rights, inclusionary zoning, natural resource protection zoning, and form-based codes. [Bill sections 1, 2 and 3]

2) Special Permits. Three significant changes are proposed, all of which would reduce the burden on local boards and applicants. The required vote is reduced from a super-majority to a simple majority (with local option to increase); the duration of a special permit is extended from a maximum of two years to a minimum of three years; and a process for extending a permit is established. [Bill sections 13, 14, 15, 16, 17, and 18]

3) Site Plan Review. Many communities already employ a form of site plan review (SPR), but because there are no explicit standards in the Zoning Act, uncertainties have plagued the SPR process. The bill adds a new section that standardizes SPR as follows: (1) decisions must be made within 95 days, with a public hearing optional; (2) when SPR overlaps with a special permit, the reviews must coincide; (3) approval is by simple majority; (4) approvals may be subject to conditions, including off-site mitigation in limited circumstances only; (5) duration shall be a minimum of two years; and (6) appeals shall be based on the existing record, not new evidence. [Bill section 19]

4) Variances. Variances offer a “relief valve” from zoning, since no local code can anticipate difficulties with every piece of land or personal circumstance. Variances are particularly helpful for small-scale residential projects involving renovations, additions, or infill development. But the current Zoning Act is overly restrictive for landowners and towns. As a result, some zoning boards approve almost no variances, while others grant them liberally but illegally. This section entirely rewrites the current variance provisions; it sets reasonable

procedures and criteria while still maintaining a community's discretion to condition or deny a variance, including on grounds of "self-created" hardship. The time within which a variance must be used is extended from one to two years, with one-year extensions allowed. [Bill section 23]

5) Vested Rights. It is appropriate and fair that when zoning changes, the law should protect development projects already in the pipeline, where a substantial investment of time and money has been made. In the Zoning Act, however, some of these protections are excessively protective, while others are unreasonably limited. The vesting loopholes for subdivisions and Approval Not Required (ANR) plans undermine thoughtful local planning and zoning modifications. Meanwhile, the vesting periods for projects seeking a building permit or special permit are difficult to obtain and unrealistically short. This section has been rewritten, based on extensive research into vested rights statutes in use around the country and American Planning Association model laws, to provide reasonable and standardized protections for development projects requiring building permits, special permits, and subdivision plans. The bill eliminates two vesting loopholes and modifies the third. The vesting periods for building permits and special permits are appropriately extended. [Bill sections 6, 7, 8, 9, 10, 11, and 12]

- Subdivision Plan Freeze: Only the proposed project is protected against zoning changes, rather than the land (as under current law). An applicant must apply for a definitive subdivision plan before the first published notice of public hearing on a proposed zoning change, and must ultimately obtain approval. But the overall length of the subdivision freeze has been maintained at eight years, unless a community seeks "opt-in" status under the new Chapter 40Y.
- ANR Plan Freeze: Under current law, the endorsement of a simple ANR plan for lots fronting on a public way – even a perimeter plan or a plan showing only a slight line change to an existing parcel – freezes any zoning use change for three years. This device was recently considered in the City of Northampton to preserve rights to build a porn store. It is eliminated.
- Three Lots in Common Ownership Dimensional Freeze: Up to three pre-existing adjoining lots under common ownership are protected against any zoning dimensional changes for five years after any zoning change. Reportedly, this was added by a legislator in the 1970s at the request of a constituent, to protect the constituent's land! It has vexed cities and towns for over 35 years. It is eliminated.
- Obtainable, Extended Freezes for Special Permits and Building Permits. All developments require building permits and most large projects require special permits – yet under current law, both the duration of such permits and the ability to protect against zoning changes, is unrealistically limited. The bill liberalizes access to zoning freeze protection; an applicant must apply for a building or special permit before the first published notice of a public hearing on a proposed zoning change. The duration and vesting period for building permits is increased from six months to two years, and for special permits from two to three years.

6) Development Impact Fees. Rationally-based impact fees are predictable for developers and can reduce local opposition to some development projects, because there is confidence that projects will bear their fair share of impacts on public facilities. This allows more types of development to be permitted as-of-right instead of undergoing the lengthy and costly special permit process. Despite being a commonly-used regulatory tool across the country, impact fees are rarely used in Massachusetts due to troublesome case law and no mention in statute. This new section in the Zoning Act authorizes development impact fees, based on in-state models (Medford and Cape Cod Commission), prevailing national practice, and federal case law. The bill clearly lists the public capital facilities for which impact fees may be assessed. Affordable housing projects and agriculture are exempted from impact fees. Fees must be paid into a dedicated trust fund and used within 10 years. [Bill section 20]

7) Inclusionary Zoning. Inclusionary housing programs that require the creation of affordable housing in development projects can increase diversity in local housing opportunities and help to meet local requirements under Chapter 40B. Although it is used by communities around the state, this essential smart growth tool is not

currently formalized in the Zoning Act. This new section is based on best current practices. Off-site units, land dedication, or funds may also be provided in lieu of on-site dwelling units. The upper limit of affordability is households earning up to 120% of the Area Median Income (AMI). Inclusionary zoning may require some or all of the affordable units to be eligible under Chapter 40B (i.e., units limited to households with incomes up to 80% of AMI). Affordable units must be price-restricted for no less than 30 years. [Bill section 21]

8) Master Planning.

- Contents of Master Plans. The section is rewritten to accomplish the following objectives: (1) plan elements reflect the language of the state's Sustainable Development Principles, including public health considerations; (2) all communities must complete five required elements (goals and objectives, housing, natural resources and energy management, land use and zoning, and implementation), but are free to choose among the other seven optional elements; (3) superfluous data collection is discouraged; (4) all elements must be assessed against a regional plan, if any; (5) a public hearing is required before adoption; and (6) the plan must be adopted by the local planning board and the local legislative body. [Bill section 27]
- Legal Effect of Master Plans. Current Massachusetts law does not require zoning to be consistent with a local master plan. As a result, many municipalities have not created or updated their plans. The bill makes master plans an option for municipalities. But to incentivize thoughtful local planning, the bill also states that if local zoning is challenged in a lawsuit, and the court finds that the challenged provision is not inconsistent with a local master plan that has been certified by the applicable regional planning agency, then the provision shall be deemed to serve a public purpose. [Bill section 43]

9) Notice to Boards of Health. Although local boards of health receive notices of public hearing for subdivision projects, under the current Zoning Act they do not receive notices of projects seeking zoning approvals. This has been changed, so that boards of health will receive notice and be able to comment on variances, site plan reviews, special permits, and other approvals. [Bill section 24]

10) Other Procedural Reforms.

- Land Use Dispute Avoidance. Although informal dispute resolution processes may occur now, there is no set process laid out in the Zoning Act, and no relief from either legal "discovery" or the open meeting law. This new section in the Zoning Act offers an off-line avenue for applicants, municipal officials, and the public to work with a neutral facilitator to try to resolve difficulties in a prospective development project, so that the formal approval process may later be successful for all. [Bill section 22]
- Appeals. Resolving appeals under current law is often expensive and slow, undermining the predictability and authority of the local process for officials, developers, and residents alike. The bill streamlines the appeals language for site plan review, special permits, and subdivisions; provides for a record-based decision (rather than a decision based on new evidence) by the court evaluating a local decision; and expands the jurisdiction of the Land Court permit session to include residential, commercial, industrial, and mixed-use projects. [Bill sections 19, 39, 41, 42, and 44]
- Zoning Amendments. The current super-majority requirement (two-thirds) to adopt or amend local zoning is an undue burden for Massachusetts cities and towns, one that is unique in the U.S. The bill would allow communities to lower the vote from the super-majority default anywhere down to a simple majority. And the lower threshold would be used for zoning amendments that the planning board finds to be consistent with a master plan, if any, and that are not subject to a landowner protest. Once reduced, the vote majority may subsequently be raised or lowered by the majority then in place. Any changes do not become effective until six months have passed. [Bill sections 4 and 5]

11) Consolidated Permitting. Development proposals often need multiple local permits from multiple local boards, each with its own substantive and procedural requirements. The new Chapter 40X would allow applicants for larger, more complex projects (at least 25,000 square feet or 25 dwelling units) to employ a consolidated permitting process. This would ensure that local boards receive common information about the project and that they have the opportunity to bring all decision-making bodies together at the beginning of a project review at a consolidated hearing. More efficient reviews could result, benefitting all parties to the development review process. At the same time, each board would retain the authority to make an independent decision in accordance with its own standards. [Bill sections 25 and 40]

12) Minor Subdivisions and Approval Not Required (ANR) Projects. Current Massachusetts law prevents communities from effectively planning or regulating the development of roadside land, through the uniquely permissive ANR process. No other state law allows unregulated roadside development in this fashion. At the same time, small residential subdivisions with a new road must undergo the same process as those with 50 or 100 lots. The bill permits a community to eliminate the ANR loophole if it creates a less onerous minor subdivision review process for projects with six or fewer lots. A separate procedure has been developed to address minor lot line changes. [Bill sections 28, 29, 30, 31, 34, 36, 37, and 38]

- ANR Reform. Communities wishing to retain ANR may do nothing and continue, but those desiring more control of these land divisions may now regulate them as minor subdivisions. However, until a planning board adopts rules and regulations for minor subdivision review, the old ANR process remains in effect.
- Minor Subdivisions. Minor subdivisions must be defined under local regulations to include up to six new lots (a community can raise the threshold). The time limit for review is either 65 or 95 days, compared with 135 days for a full subdivision. A public hearing is optional. Standards may not exceed those for regular subdivisions, and requirements for roadway width may typically not exceed 22 feet.
- Lot Line Changes. Because the ANR device is routinely used to make small changes to property lines, a suitable replacement mechanism was needed. A new section permits the recording of plans for minor lot line changes, subject to specific conditions.

13) Subdivisions. The bill makes two other changes to the Subdivision Control Law:

- Subdivision Roadway Standards. Many local subdivision regulations require unjustifiably excessive roadway standards. These may adversely affect aesthetics, increase stormwater runoff, and inflate housing costs by imposing undue costs on the developer. The bill establishes a rebuttable presumption that roadway standards exceeding those applicable to the construction or “reconstruction” of publicly-financed roadways are excessive, while defining a “safe harbor” for roadway widths up to 24 feet. [Bill section 32]
- Neighborhood Parks. The Subdivision Control Law is modified so that local subdivision regulations may require a dedication of up to 5% of a subdivision for park use benefitting the lots within the subdivision. This provision is not intended and can’t be interpreted to require transfer of ownership of such park areas to a governmental unit. [Bill sections 33 and 35]

Chapter 40Y, Planning Ahead for Growth Act: Specific smart –growth tools applicable on a voluntary basis to opt-in communities only:

15) Planning Ahead for Growth Act [opt-in]. Current zoning codes are not resulting in smart-growth development that creates adequate new housing and jobs across the Commonwealth, while protecting environmental resources and community character. The “town and country” landscape of Massachusetts is being lost to sprawl development patterns. The new chapter 40Y provides strong incentives for communities to allow prompt and predictable by-right housing and commercial development permitting, focused in appropriate smart-growth locations, coupled with environmental and open space protections. Participating municipalities

will get access to additional regulatory and fiscal resources and tools to realize their plans for sustainable development. To obtain "opt-in" status under Chapter 40Y, a community (or group of communities) must take the following actions, and demonstrate to the regional planning agency (RPA) that it has met the requirements of this section. Oversight, implementing regulations, and resolution of disputes would be through the Secretary of the Executive Office of Housing and Economic Development. [Bill section 26]

- Establishing a housing development district(s) in a smart-growth location(s) that can accommodate, through by-right development, a 5% increase the community's total number of existing housing units. Minimum densities are set for single-family, duplex-triplex, or multi-family housing.
- Establishing an economic development district in a smart-growth location(s) that permits prompt and predictable permitting of commercial / industrial development.
- Mandatory use of open space residential design (OSRD) for developments of 5 units or more on land zoned for a minimum lot-size of 40,000 square feet or greater per unit.
- Mandatory use of low impact development (LID) techniques for developments that disturb over one acre of land.

The following regulatory and financial tools would be authorized and available for a community's use after it has opted in:

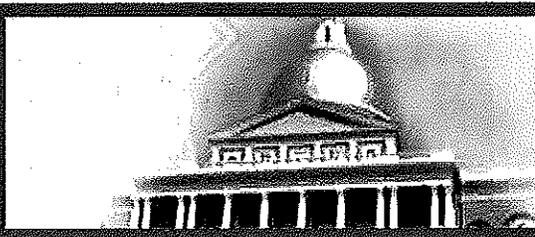
- Enhanced use of impact fees to support public schools, libraries, municipal offices, affordable housing, and public safety facilities.
- Authorization to enter into development agreements.
- Reduction of the vested rights period for subdivisions from 8 to 5 years.
- Adoption of rate of development measures (annual caps on building permit issuance) in areas inside and outside of housing development districts.
- Adoption of natural resource protection zoning (NRPZ) at area densities of five acres or more per dwelling unit to protect identified lands of high natural or cultural resource value.
- Preference for state discretionary funds and grants; priority for state infrastructure investments, such as water and sewer infrastructure, school building funds, and biking and walking facilities; and requirements that the state take into consideration regional plans and local master plans in its capital spending.

Ilana M. Quirk, Esq.
KOPELMAN AND PAIGE, P.C.
101 Arch Street, 12th Floor
Boston, MA 02110
O: (617) 556 0007
F: (617) 654 1735
iquirk@k-plaw.com
www.k-plaw.com

This message and the documents attached to it, if any, are intended only for the use of the addressee and may contain information that is PRIVILEGED and CONFIDENTIAL and/or may contain ATTORNEY WORK PRODUCT. If you are not the intended recipient, you are hereby notified that any dissemination of this communication is strictly prohibited. If you have received this communication in error, please delete all electronic copies of this message and attachments thereto, if any, and destroy any hard copies you may have created and notify me immediately.

From: Massachusetts Municipal Association <alerts@mma.org>
Date: June 2, 2016 at 4:39:25 PM EDT
To: Erik Yingling <eyingling@provincetown-ma.gov>
Subject: Senate to Vote on Major Housing and Zoning Bill
Reply-To: "vcalaban@mma.org" <vcalaban@mma.org>

Having trouble viewing this email? [Click here](#) for web version.



Act Now

Massachusetts Municipal Association

The Voice of Cities and Towns

www.mma.org

Thursday, June 2, 2016

SENATE LEADERS ADVANCE BILL TO MAKE MAJOR CHANGES IN HOUSING AND ZONING LAWS

SENATORS TO VOTE ON THE BILL ON THURSDAY, JUNE 9

S. 2311 WOULD GRANT DEVELOPERS “BY-RIGHT” BUILDING RIGHTS WITH REDUCED LOCAL REVIEW, ADD HOUSING MANDATES ON COMMUNITIES, AND MAKE SWEEPING CHANGES IN ZONING LAWS

ASK YOUR SENATORS TO EXPLAIN HOW S. 2311 WOULD IMPACT YOUR COMMUNITY BEFORE THEY VOTE!

Earlier today, Senate leaders released major legislation to make sweeping changes in the state’s housing and zoning laws, a proposal that would significantly impact development and zoning in every community.

S. 2311, An Act Promoting Housing and Sustainable Development, will be voted on by the full Senate on Thursday, June 9.

Senate leaders have taken previous legislation to update the state’s zoning and planning laws, and greatly expanded it by adding provisions that would override local authority in several areas, primarily on housing matters. Communities would be required to adopt “by-right” multi-family housing districts and allow accessory apartments “by-right” in residential districts, for example.

[Please click here to download a copy of S. 2311](#)

Please call your Senators today to let them know that this issue is important to your community, and ask them to tell you what is in the legislation **BEFORE** they vote.

They need to understand and explain how the bill would the impact your community.

As we noted in an earlier Action Alert, the MMA supports efforts to give cities and towns real

tools to improve local planning and development, and real authority to meet local affordable housing needs and goals. But the for-profit development industry has been pushing hard to preempt local decision-making authority, calling for provisions to override local zoning by mandating "as-of-right" authority for developers, even though this proposed preemption of local zoning would not address the cost of housing, or be linked to the development of more affordable housing.

KEY PROVISIONS OF S. 2311 INCLUDE:

Mandated "By-Right" Multi-Family Housing Districts – S. 2311 would mandate every city and town to establish "by-right" zoning districts for multi-family housing, removing any special permit or local approval process except normal site plan review, with NO provisions that these housing units meet the affordability needs of the community, and prohibiting communities from setting density provisions less than 8 units per acre in rural communities and 15 units per acre in all other communities. The MMA is greatly concerned that this will **increase** the cost of housing in cities and towns and make it harder to meet affordable housing targets, because developers will almost always pursue projects for luxury and high-end developments that yield the highest profits.

Mandated "By-Right" Accessory Apartments – S. 2311 would mandate every city and town to approve accessory apartments in all residential districts, granting homeowners "by-right" ability to add additions, separate buildings or property renovations, as long as the accessory apartment is no larger than half of the entire structure or 900 square feet, and meets building code standards, although cities and towns could cap accessory apartments to no more than 5 percent of the total non-seasonal housing units in the community.

Mandated "Open Space Residential Developments" – Every city and town would be required to approve "by-right" residential development projects with greater density, if those projects are designed to preserve open space in or adjacent to the development. These are "compact" or "cluster" developments that are designed to allow for a portion of the land to remain undeveloped.

Watered-Down Inclusionary Zoning – The MMA has been a champion of legislation to clearly authorize cities and towns to adopt inclusionary zoning bylaws and ordinances to require developers to include affordable housing as an important component of large projects. This is the only clear way that cities and towns can ensure that new developments help to expand the stock of affordable housing. S. 2311 does contain an inclusionary zoning provision, but developers have succeeded in watering down the legislation by adding language that would only allow inclusionary zoning in exchange for municipal concessions, such as allowing greater density, even if those concessions are not economically necessary for the project to advance. Communities that have already implemented inclusionary zoning ordinances would be forced to weaken their local policies to conform with S. 2311, so that these localities could only use inclusionary zoning when they make additional concessions to developers. Further, inclusionary zoning could NOT be applied to any developments that are submitted under the "by-right" multi-family districts mandated in the bill. The MMA will be asking Senators to remove any conditions or concessions on inclusionary zoning.

There are a Number of Proposals in S. 2311 that are Intended to Help Improve the Zoning Process – The MMA and local officials have been working on zoning legislation for several

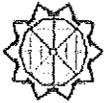
years to address several problems at the local level, and S. 2311 includes several of these, including:

- Communities could charge development impact fees, to be used only for studies to review the specific project or for infrastructure improvements, but not for personnel-related costs, and all unspent money, plus interest, would need to be returned to the developer within 6 years;
- In order to better connect planning and zoning, communities would be required to develop a comprehensive master plan, and communities would be given the option to reduce the 2/3 majority legislative vote required to make zoning changes down to a simple majority or a percentage in between;
- Site plan review would be codified in statute, with a statutory deadline of 120 days for local review;
- The bill would address concerns over the "approval not required" issue by authorizing communities to adopt a minor subdivision zoning bylaw to provide for local review of subdivisions of 6 units or less. Permitting of minor subdivisions on existing rights-of-way would be required within 65 days, and approval of minor subdivisions on new rights-of-way would be required within 95 days.

The MMA is continuing to review the 46-page bill. If you have any questions about S. 2311, please contact MMA Legislative Analyst David Lakeman at 617-426-7272 or dlakeman@mma.org.

Please call your Senators today and ask that they consult with you BEFORE this far-reaching legislation is debated on Beacon Hill.

Thank You!



Massachusetts Municipal Association
One Winthrop Square, Boston, MA 02110
(617) 426-7272
All contents copyright 2015, Massachusetts Municipal Association

[Unsubscribe](#) from MMA Legislative Alerts.

David Gardner

From: Ilana Quirk <IQuirk@k-plaw.com>
Sent: Wednesday, June 08, 2016 1:54 PM
To: David Panagore
Cc: David Gardner; Gloria McPherson; John Giorgio
Subject: Zoning Reform Debate

From: State House News Service [<mailto:news@statehousenews.com>]
Sent: Wednesday, June 08, 2016 1:41 PM
To: news@statehousenews.com
Subject: SENATOR SEES LACK OF CONSENSUS ON BILL TACKLING ZONING, HOUSING

STATE HOUSE NEWS SERVICE

SENATOR SEES LACK OF CONSENSUS ON BILL TACKLING ZONING, HOUSING

By Colin A. Young and Matt Murphy
STATE HOUSE NEWS SERVICE

STATE HOUSE, BOSTON, JUNE 8, 2016....Proponents and opponents alike can agree: zoning reform is far from the sexiest issue to be debated on Beacon Hill and is not a subject that excites very many people.

But don't mistake those sentiments for ambivalence.

Supporters and detractors of the Senate's comprehensive zoning reform bill also agree that after more than 40 years, Massachusetts needs to freshen up its zoning laws. The question, however, is exactly how to bring zoning into the 21st century.

"The main issue around the bill right now is a lack of consensus about it. I think we've all been hearing different opinions from across the state from different stakeholders," Senate Minority Leader Bruce Tarr told the News Service. "I think there is a general agreement that there needs to be an updating of the zoning laws, but it seems to me there is still a significant difference of opinion on how to move forward on that."

Senators have filed 63 amendments ahead of Thursday's planned debate on the bill (S 2144), which attempts to rein in restrictive local zoning regulations and incentivize communities to plan for sustainable growth. Additionally, the Ways and Means Committee has offered a re-drafted version of the bill (S 2311) as an amendment.

The Massachusetts Municipal Association, a powerful lobbying entity on Beacon Hill, also came out on Wednesday to express its "serious reservations" with the bill, including provisions that would mandate approval "by-right" of accessory apartments, high-density residential developments with an open space preservation component and multi-family housing districts.

"[The bill] would mandate every city and town to establish "by-right" zoning districts for multi-family housing, removing any special permit or local approval process except normal site plan review, with NO provisions that these housing units meet the affordability needs of the community, and prohibiting communities from setting density provisions less than 8 units per acre in rural communities and 15 units per acre in all other communities," the MMA wrote in a letter to senators.

The MMA called the Senate leadership bill a "sweeping departure" from previous zoning reform proposals and a "top-down weakening of local decision-making authority."

Tarr leads the Senate with 16 amendments filed, including one that would allow communities to create special zoning districts for affordable housing to help reach the requirements of the state's affordable housing law, known as Chapter 40B.

"This says a community could set aside an area for affordable housing and if it agrees to grant permits in a timely way and allows a density bonus and is trying to reach the 40B requirement of 10 percent affordable housing, that any unit created would count as 1.75 units towards the 40B requirement," Tarr said, noting that the amendment mirrors a bill he has filed for several years. "If a community wants to be proactive and create an affordable housing zone and expedite permitting, they would get extra credit towards Chapter 40B."

At least five amendments deal with a provision of the bill that would allow owners of single-family houses to build accessory apartments on their property without having to obtain special permits. Supporters have argued that the provision could generate thousands of new housing units without requiring state money.

Sen. Eileen Donoghue has put forward two amendments on the topic. One would increase the minimum lot size required to build an accessory unit from 5,000 to 7,500 square feet, and the other would stipulate that only the property owner or a member of the owner's family could reside in an accessory unit.

Sen. Patrick O'Connor filed an amendment to strike the section of the bill that deals with accessory units entirely.

The Massachusetts Smart Growth Alliance, which has banded together with the Massachusetts Association of Planning Directors, the Massachusetts Municipal Lawyers Association and others to support to bill, said it is closely watching about a half-dozen amendments that it said could further strengthen the bill.

Among those is a Sen. Sonia Chang-Diaz amendment that the Smart Growth Alliance said would add inclusionary zoning practices -- which require a certain share of new housing construction to be affordable housing -- to the state's civil right laws, making it illegal to engage in exclusionary zoning.

A Tarr amendment, though, would remove inclusionary zoning requirements from the bill entirely.

"I'm not necessarily opposed to the concept, but I want to see greater guidance and more information about what kinds of concessions would be granted in terms of density and whatnot," he said.

Similarly, Tarr filed an amendment to strike the section of the bill that would allow for the use of development impact fees, though he said he is not outright opposed to the idea.

"I could be convinced to support them if there are greater boundaries and a methodology put into the statute," he said.

The Massachusetts Municipal Association said it appreciated the inclusion of four main provisions, including development impact fees, but called the inclusionary zoning section "watered down" by a requirement that municipalities make concessions, including an allowance for greater density.

Massachusetts has an array of affordable housing laws and programs, but home ownership and affordable housing still remains beyond the reach of many despite the state's higher median income levels, compared to other states. Zoning is largely controlled at the local level in Massachusetts, which means different rules for housing development in each of the state's 351 cities and towns.

Housing and zoning issues are major priorities for some members of the Legislature, but comprehensive proposals over the years have failed to gain traction with legislative leaders.

Senate President Stanley Rosenberg on Monday called zoning reform "a key element in helping solve our housing shortage here in the commonwealth," but House Speaker Robert DeLeo was non-committal when asked if the House plans to take the issue up before formal legislative sessions end next month.

"I'd have to take a look at it," DeLeo said Monday. "I can tell you that with the word getting out that this bill was going to be taken up I heard from a number of folks, developers, builders and what not, that they'd like to talk to me and the members of the committee and other members of the House about the bill, so at this time I don't know."



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

7B

FY2017 TOWN-WIDE GOAL SETTING PROCESS
Review of Draft Goals

Requested by: Town Manager David B. Panagore

Action Sought: Discussion

Proposed Motion(s)

Discussion Dependent – votes may be taken.

Additional Information

Please see attached draft goals presented by the Chair.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>

Draft - FY2017 Town-wide Policy Goals

The Provincetown Board of Selectmen seeks to encourage a healthy, happy, diverse, and safe community for everyone. We seek to promote policies that create a better place to live, work, and play.

COMMUNITY HOUSING

Definition: *Community housing is housing for everyone – year-round residents and families, elderly and disabled individuals, and seasonal workforce employees across all low to moderate income levels from 30%-180% AML.*

Continue to promote policies that encourage the availability of community housing, especially year-round community rental housing

Implement the “Year-Round Rental Housing Trust” promptly upon final legislative approval

Continue to support the development of zoning initiatives and the creation of tools, zoning or otherwise, to create year-round housing and preserve the availability of year-round and seasonal workforce housing; whenever possible identify and deploy tools to create or stem the loss of year round housing in the existing market

Encourage staff, businesses, and the community at large to consider the impact on housing when creating any development or other relevant decision

Complete the first edition of a “Housing Playbook”, which will serve as a roadmap to guide the community in the creation of housing, to be ratified at the April 2017 annual town meeting

Award an RFP for development of the VFW and former Community Center site for community purposes including housing and/or economic development

Discuss the possibilities for creation of workforce housing at the North Truro Air Force Base in conjunction with our congressional delegation, the CCNS, and the Town of Truro

GOVERNMENT & ADMINISTRATION

Advocate for the passage and prepare for the anticipated implementation of expanded rooms tax to cover all rental properties in Spring 2017

Identify and reform unnecessary regulatory and administrative burdens to new and existing businesses, and support the Town Manager in efforts to improve operations

Undertake a review of all Town fees and adopt any change deemed appropriate

Successfully renegotiate a lease for the Provincetown Municipal Airport

Continue to evaluate the feasibility and potential locations for a new or renovated police facility

Successfully negotiate collective bargaining agreements with Town employees (AFSCME Local 1462) and with Police (PBA Locals 67 & 68)

Continue to work with CCNS to ensure minimal interruption to Herring Cove Beach through and until the new north parking lot is completed

Promote sustainable energy policies and bylaws

Partner with the State on implementing the Community Compact, which addresses housing, economic development, and broadband

Pursue and fully implement approved technology upgrades

ECONOMIC DEVELOPMENT

Work with the Economic Development Committee and staff to complete and adopt an economic development plan focused on business development and job retention and creation

Pursue public/private and public/public development opportunities whenever possible

Undertake a comprehensive review of growth management and related by-laws, its historical impact, operation in light of current goals and recommend appropriate changes if any

Foster and support initiatives that encourage a year-round economy

Pursue the feasibility of citing of a higher education institution and/or a private/charter high school in Provincetown

Continue to support the efforts of the 2020 celebration

Encourage further development of facilities for the boating community and the harbor, in partnership with private enterprises whenever possible

Investigate zoning changes to allow food trucks in certain locations and/or at certain times

FISCAL

Continue to support the strong financial policies and internal controls in place and implement any recommended changes to best practice as a result of the annual audit and/or other adopted reports

Continue the practice of thoroughly reviewing 10-year budget and CIP projections, in advance of the annual budget process

LOCAL COMPREHENSIVE PLAN (LCP)

Continue to encourage the update of an implementable LCP, keeping it on track for final ratification at the April 2018 town meeting

PUBLIC WORKS

Ensure the successful completion of Phase 3 Commercial St repaving for an on time completion in Spring 2017

Encourage the creation of the bicycle connection to Provincetown from the current end of the Cape Cod Rail Trail in Wellfleet, with further connections to the Province Lands; review the success of various bicycle safety initiatives

Continue to evaluate traffic, bicycle and pedestrian traffic on the roads and recommend changes when identified in the Cape Cod Commission 2015 study and as otherwise necessary

Reduce unaccounted for water (UAC) by one half, and work towards an eventual goal of achieving 10% or less UAC

Continue to seek and implement solutions to the Ryder St outfall pipe

CIVIC ENGAGEMENT

Re-assess the overall approach to Town Meeting and recommend changes to the process if necessary to encourage outreach and increase attendance



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

7C

TOWN MANAGER'S REPORT

Administrative Updates

Requested by: Town Manager David B. Panagore

Action Sought: Discussion

Proposed Motion(s)

Discussion Dependent – votes may be taken.

Additional Information

1. Update on the Harbormaster's approval of seasonal floats for the Provincetown Marina (no attachment).
2. Update on the May 26th Commercial Street Paving public meeting (no attachment).
3. Provincetown's proposal to the 2016 Creative Economy Initiatives Fund, "Establishing a Strategic Partnership between UMass Dartmouth's Public Policy Center and Provincetown, MA", will be funded \$19,000 (see attached letter from UMass.)

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



June 3, 2016

Professor Michael T. Goodman
Public Policy Center
University of Massachusetts Dartmouth
Dartmouth, MA 02747

Dear Professor Goodman,

I am pleased to inform you that your proposal to the 2016 Creative Economy Initiatives Fund, *"Establishing a Strategic Partnership between UMass Dartmouth's Public Policy Center and Provincetown, Ma."* will be funded in the amount of \$19,000. Please give my best wishes to your local partner, Provincetown Town Manager David Panagore.

As you know, the Creative Economy Initiatives Fund was established in 2007 to support faculty initiatives in the arts, humanities and social sciences that benefit the State's economy and improve its quality of life. Your plan to design and develop the initial phase of what is envisioned as an ongoing formal technical and strategic partnership between your Center and the Town of Provincetown will support the Town's recently launched effort to update its Local Comprehensive Plan and likely lead to future applied research and technical assistance services. This project will also extend the "reach" of the Public Policy Center to a wider audience and clientele. I also recognize that the funding awarded may be somewhat less than you had requested. Unfortunately, the University's budget situation has necessitated such reductions in many, many areas of the University. I wish you and David Panagore good luck in this important endeavor.

I have asked Professor Edmund Beard, Senior Advisor to Senior Vice President Marcellette Williams, to serve as liaison to your project. Ed can be reached at (781) 848-7681 or at "ebeard@umassp.edu". Please keep Ed informed on a regular basis of your progress. You are also expected to submit a brief interim report in December 2016 and a twelve month report in June 2017.

In closing, let me congratulate you again and thank you for your leadership on behalf of the University in this important initiative. We are proud to be able to support our faculty in their pursuit of creative, community-oriented projects such as this.

Sincerely,

A handwritten signature in black ink, appearing to read 'M.T. Meehan', written in a cursive style.

Martin T. Meehan
President

cc: Peyton R. Helm
Mohammad Karim
Tesfay Meressi
Mary Hensel
Marcellette G. Williams
Edmund Beard



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

7D

OTHER

Requested by: Town Manager David B. Panagore

Action Sought: Discussion

Proposed Motion(s)

Discussion Dependent – votes may be taken.

Additional Information

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

8

MINUTES OF BOARD OF SELECTMEN'S MEETINGS

Requested by: Board of Selectmen Secretary

Action Sought: Approval

Proposed Motion(s)

None.

Additional Information

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



Provincetown Board of Selectmen
AGENDA ACTION REQUEST
Monday, June 13, 2016

9

CLOSING SELECTMEN'S STATEMENTS

Administrative Updates

Requested by: Town Manager David B. Panagore

Action Sought: Discussion

Proposed Motion(s)

Motions may be made and votes may be taken.

- Tom Donegan**
- Cheryl Andrews**
- Robert Anthony**
- Erik Yingling**
- Raphael Richter**

Additional Information

- A. Thank you letter to Mary Ellen Dwyer who resigned from the Animal Welfare Committee on May 17, 2016.
- B. Thank you letter to Kevin Shea who resigned from the Building Committee effective May 20, 2016.
- C. Thank you letter to Anna Meade who resigned from the Local Comprehensive Planning Committee on May 22, 2016.
- D. Letter to Senator Anne M. Gobi asking for support of Senator Wolf's bill (S.478) regarding vegetation management in rights-of-ways.
- E. Letter to Representative Paul Schmid, III asking for support of Senator Wolf's bill (S.478) regarding vegetation management in rights-of-ways.

Board Action

<i>Motion</i>	<i>Second</i>	<i>Yea</i>	<i>Nay</i>	<i>Abstain</i>	<i>Disposition</i>



Board of Selectmen
Town Hall, 260 Commercial Street
Provincetown, Massachusetts 02657
Telephone (508) 487-7003
Facsimile (508) 487-9560

May 31, 2016

Ms. Mary Ellen Dwyer
P.O. Box 863
Provincetown, MA 02657

Dear Ms. Dwyer;

The Board of Selectmen has received notice of your resignation from the Animal Welfare Committee effective May 17, 2016. We want to extend our thanks to you for your dedicated service and expertise during the time that you have served on the Animal Welfare Committee.

We wish you the very best in your future endeavors, and would not be disappointed should time and circumstances permit you to once again serve on any of our town boards or committees, in the future.

On behalf of the Board of Selectmen,

Raphael W. Richter, Chairman
Provincetown Board of Selectmen

*Thank you so much
for your service!*

RWR:ld

Doug Johnstone

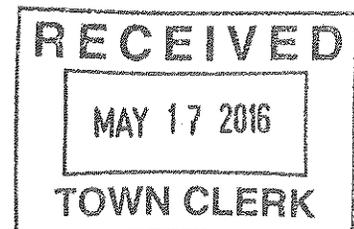
From: Mary Ellen Dwyer <deepwellsmeg@yahoo.com>
Sent: Tuesday, May 17, 2016 8:25 AM
To: Doug Johnstone
Cc: Sherry
Subject: AWC resignation

Hi Doug,

I am writing to resign from the Animal Welfare Committee. I work during the day so I cannot attend meetings. I will continue to support the AWC as able.

Thank you,
Mary Ellen Dwyer

Sent from my iPhone





Board of Selectmen
Town Hall, 260 Commercial Street
Provincetown, Massachusetts 02657
Telephone (508) 487-7003
Facsimile (508) 487-9560

May 31, 2016

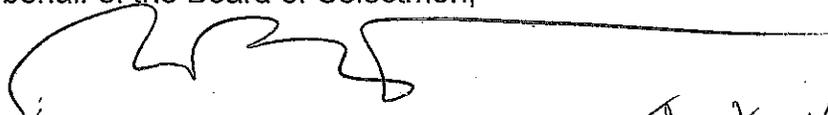
Mr. Kevin Shea
47 Studio Road
Provincetown, MA 02657

Dear Mr. Shea;

The Board of Selectmen has received notice of your resignation from the Building Committee effective May 20, 2016. We want to extend our thanks to you for your dedicated service and expertise during the time that you have served on the Building Committee.

We wish you the very best in your future endeavors, and would not be disappointed should time and circumstances permit you to once again serve on any of our town boards or committees, in the future.

On behalf of the Board of Selectmen,


Raphael W. Richter, Chairman
Provincetown Board of Selectmen

Thank you Kevin!

RWR:ld

Doug Johnstone

To: Loretta Dougherty
Subject: RE: Building Committee Resignation

From: Loretta Dougherty
Sent: Friday, May 20, 2016 10:43 AM
To: Doug Johnstone
Subject: FW: Building Committee Resignation

Doug,

FYI.

Loretta Dougherty
-----Original Message-----
From: Kevin Shea [<mailto:kevin5536@verizon.net>]
Sent: Friday, May 20, 2016 10:26 AM
To: Loretta Dougherty
Cc: tomcoen@verizon.net; kevin5536@verizon.net
Subject: Building Committee Resignation

631 Commercial Street
Provincetown, MA 02657

May 20, 2016

Tom Donegan, Chair
Board of Selectmen260
Commercial Street
Provincetown, MA 02657

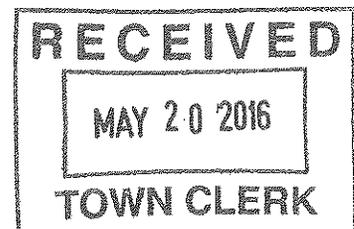
RE: Building Committee Resignation

Dear Tom:

For personal reasons I have had to change my voter registration and thus must resign from the Building Committee. It has been my pleasure to serve with all of the members of the Building Committee under the leadership of Tom Coen, who is an exceptional voluntary public servant.

I hope that the Town will find the will and resources to move ahead with this desperately needed facility for the Police Department.

Sincerely,
Kevin Shea



K



Board of Selectmen
Town Hall, 260 Commercial Street
Provincetown, Massachusetts 02657
Telephone (508) 487-7003
Facsimile (508) 487-9560

May 31, 2016

Ms. Anna Meade
242 Bradford Street
Provincetown, MA 02657

Dear Ms. Meade;

The Board of Selectmen has received notice of your resignation from the Local Comprehensive Planning Committee effective May 22, 2016. We want to extend our thanks to you for your dedicated service and expertise during the time that you have served on the Local Comprehensive Planning Committee.

We wish you the very best in your future endeavors, and would not be disappointed should time and circumstances permit you to once again serve on any of our town boards or committees, in the future.

On behalf of the Board of Selectmen,

Raphael W. Richter, Chairman
Provincetown Board of Selectmen

Thank you!

RWR:ld

Doug Johnstone

From: Anna Meade <polewriter@gmail.com>
Sent: Sunday, May 22, 2016 11:52 PM
To: Doug Johnstone
Cc: Gloria McPherson
Subject: LCPC

Hi Doug,

Unfortunately, my new work commitments preclude me from continuing to participate on the LCPC. I must tender my resignation.

Thank you,
Anna

RECEIVED
BOS - ~~May 22~~ 20
MAY 23 2016
CC: BOS/TM/ATM

RECEIVED
MAY 23 2016
TOWN CLERK

6



Board of Selectmen
Town Hall, 260 Commercial Street
Provincetown, Massachusetts 02657
Telephone (508) 487-7003
Facsimile (508) 487-9560

May 26, 2016

Senator Anne M. Gobi
Massachusetts State House
Room 513
Boston, MA 02133

Dear ENRA Committee Chairperson Senator Gobi:

The Town of Provincetown Board of Selectmen, write to respectfully ask that the ENRA committee move forward promptly and favorably report out Senator Dan Wolf's bill S.478 regarding vegetation management in rights-of-ways.

The intent of this bill as we understand it is to give individual towns such as ours the right to negotiate a no pesticide spraying agreement with Eversource Energy Corp., thereby providing the citizens of Provincetown with an alternative method of maintaining rights-of-way without the use of toxic pesticides.

Inasmuch as no additional cost would accrue to Eversource from the passage of this bill, and the citizens of Provincetown so strongly support alternatives to the spraying of toxins, we again ask that your committee move the bill forward so that it may be enacted – or at least decided on – this legislative session.

Respectfully,

Raphael Richter
Chair
Board of Selectmen

cc: State Senator Daniel Wolf
State Rep. Sarah Peake
State Rep. Timothy Whalen
State Rep. Brian Mannel
State Rep. Timothy Madden
State Rep. Randy Hunt
Governor Charles Baker
POCCA Cape Cod



Board of Selectmen
Town Hall, 260 Commercial Street
Provincetown, Massachusetts 02657
Telephone (508) 487-7003
Facsimile (508) 487-9560

May 26, 2016

Representative Paul A. Schmid, III
Massachusetts State House
Room 473F
Boston, MA 02133

Dear ENRA Committee Chairperson Representative Schmid:

The Town of Provincetown Board of Selectmen, write to respectfully ask that the ENRA committee move forward promptly and favorably report out Senator Dan Wolf's bill S.478 regarding vegetation management in rights-of-ways.

The intent of this bill as we understand it is to give individual towns such as ours the right to negotiate a no pesticide spraying agreement with Eversource Energy Corp., thereby providing the citizens of Provincetown with an alternative method of maintaining rights-of-way without the use of toxic pesticides.

Inasmuch as no additional cost would accrue to Eversource from the passage of this bill, and the citizens of Provincetown so strongly support alternatives to the spraying of toxins, we again ask that your committee move the bill forward so that it may be enacted – or at least decided on – this legislative session.

Respectfully,

Raphael Richter
Chair
Board of Selectmen

cc: State Senator Daniel Wolf
State Rep. Sarah Peake
State Rep. Timothy Whalen
State Rep. Brian Mannal
State Rep. Timothy Madden
State Rep. Randy Hunt
Governor Charles Baker
POCCA Cape Cod

Copy: