

Sea Level Rise Projection

based on 2010 LiDAR elevation data & accounting for MHHW

Aquinnah, MA

Pre-Disaster Mitigation Plan

Sea Level Rise Scenarios: 1.5ft and 5ft
Mean High High Water Present Average
Offset from NAVD88 Datum = +1.0ft

- Affected Structures
- Critical Facilities
- Affected
- Not Affected
- Sea Level Rise
- plus Mean High High Water Offset
- <= 2.5ft
- >2.5ft to 6.0ft
- Roads
- Primary Road
- Secondary Road
- Tertiary Road
- Critical Road Segment

A datum is a reference from which measurements are made. The datum indicates where zero is. For example, the top of a tree may be 30ft high from the ground but that same treetop is only 10ft high from the top of the neighboring rooftop.

NOTES:
This map was produced by the Martha's Vineyard Commission for the Pre-Disaster Mitigation Project of June 2013. Funding for the Pre-Disaster Mitigation Planning Grant was provided by the Massachusetts Emergency Management Agency.

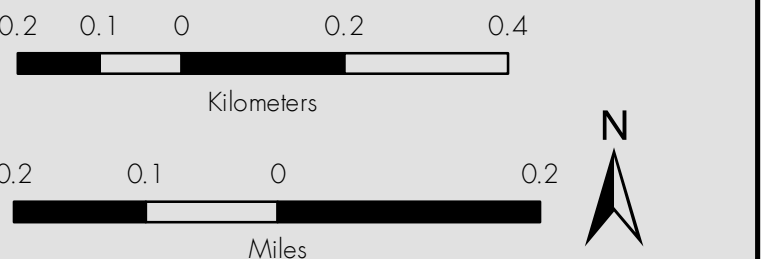
In 2010, LiDAR (Light Detection and Ranging) terrain data was collected along the coast of Martha's Vineyard and the Elizabeth Islands on behalf of FEMA. The data was processed by MassGIS into digital elevation models in geoTiff format. The elevation points, collected at 3ft spacing and two decimal point precision have a vertical accuracy of 0.47ft. The data exceed the required 1.19ft accuracy for 2ft contour generation.

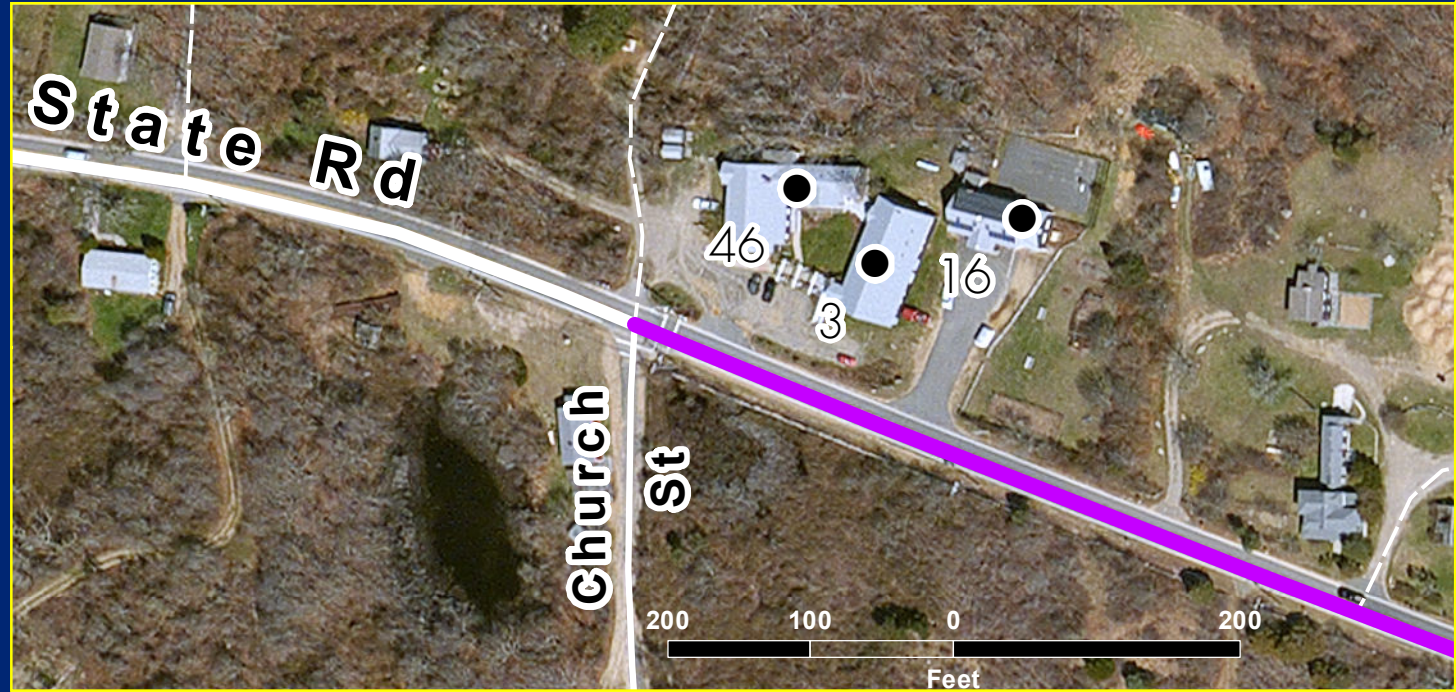
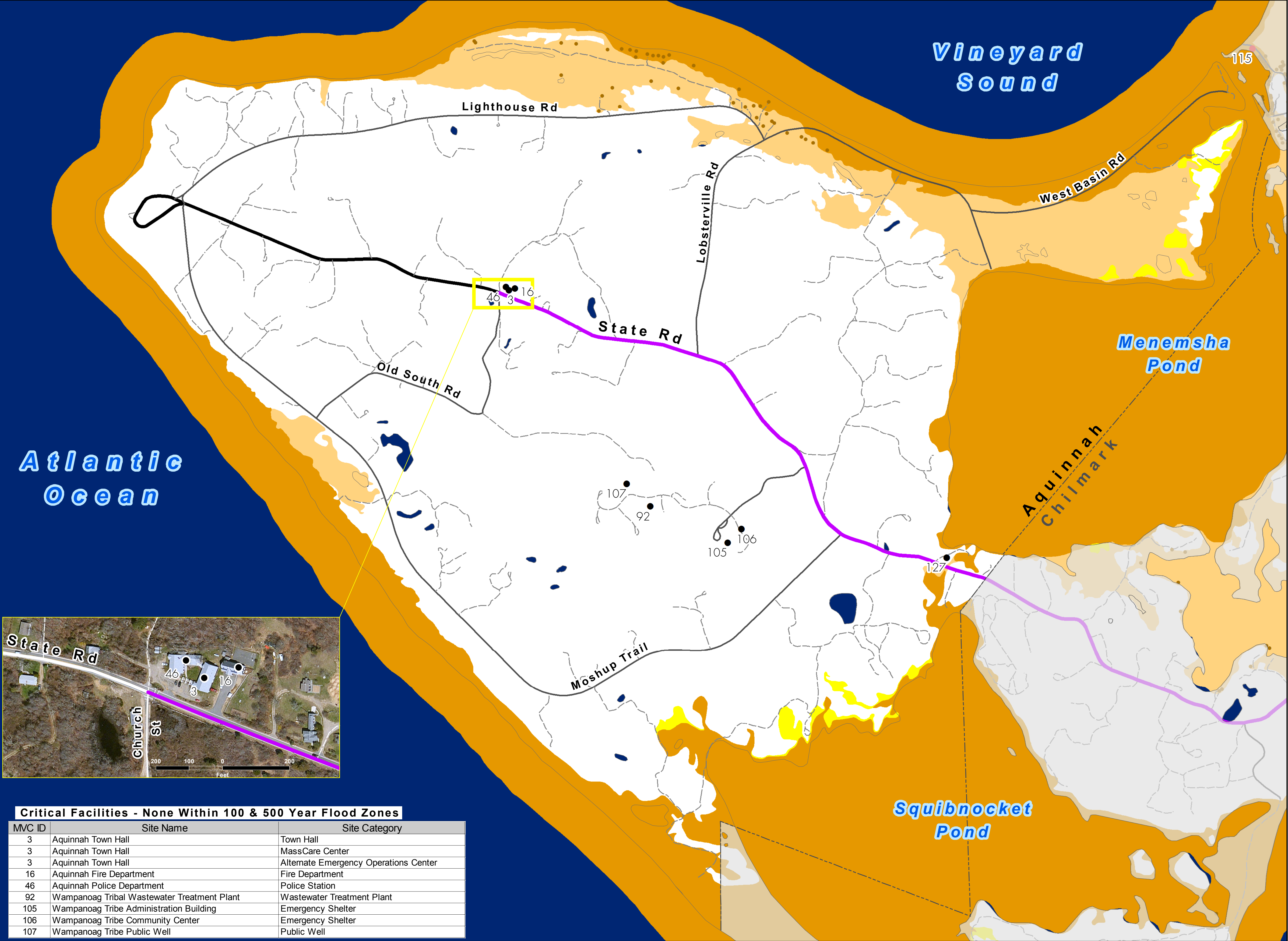
The average offset between the MHHW tidal datum and the NAVD88 datum was calculated for the Island by the MVC. Values were reported by NOAA [online at their Tides & Currents page] for three Island tidal benchmarks: Menemsha, Vineyard Haven Harbor, and Edgartown Harbor. Based on those three sites, on average, MHHW is 1.06ft greater than NAVD88.

To account for this MHHW to NAVD88 offset, the MVC added an additional 1 foot to the sea level rise scenarios.

DISCLAIMER:
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Compiled By: Martha's Vineyard Commission, CL Seidel, 11/25/13, ph. 508-693-3453, www.mvcommission.org
Data: Town Boundary - MassGIS 2002; Roads - MHD/MassGIS 2005; Critical Facilities & Infrastructure - MEMA 2006 & MVC 2013; LiDAR Elevation Data - FEMA 2010 & MassGIS 2012; Aerial Photo - 2011 DigitalGlobe All Rights Reserved; Structures - MassGIS 2013 release from 2011 aerial photos
Projection: Stateplane, MA Mainland, NAD83, Meters
File: cls_pdm; Aqu_SeaLevel_MHHW_2013.mxd - Original in color





Critical Facilities - None Within 100 & 500 Year Flood Zones

MVC ID	Site Name	Site Category
3	Aquinnah Town Hall	Town Hall
3	Aquinnah Town Hall	MassCare Center
3	Aquinnah Town Hall	Alternate Emergency Operations Center
16	Aquinnah Fire Department	Fire Department
46	Aquinnah Police Department	Police Station
92	Wampanoag Tribal Wastewater Treatment Plant	Wastewater Treatment Plant
105	Wampanoag Tribe Administration Building	Emergency Shelter
106	Wampanoag Tribe Community Center	Emergency Shelter
107	Wampanoag Tribe Public Well	Public Well

100 & 500 Year
Flood Map

Aquinnah, MA

Pre-Disaster Mitigation Plan

- Affected Structures
- Critical Facilities
 - Affected
 - Not Affected
- Flood Zones*
 - 100 Year (VE Zone)
 - 100 Year (AE Zone)
 - 500 Year Zone
- Roads
 - Primary Road
 - Secondary Road
 - Tertiary Road
 - Critical Road Segment

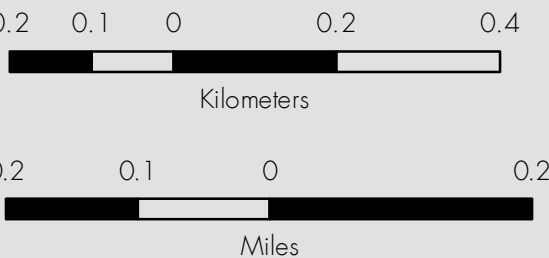
*Data provided by FEMA - Preliminary DFIRM, June 2013

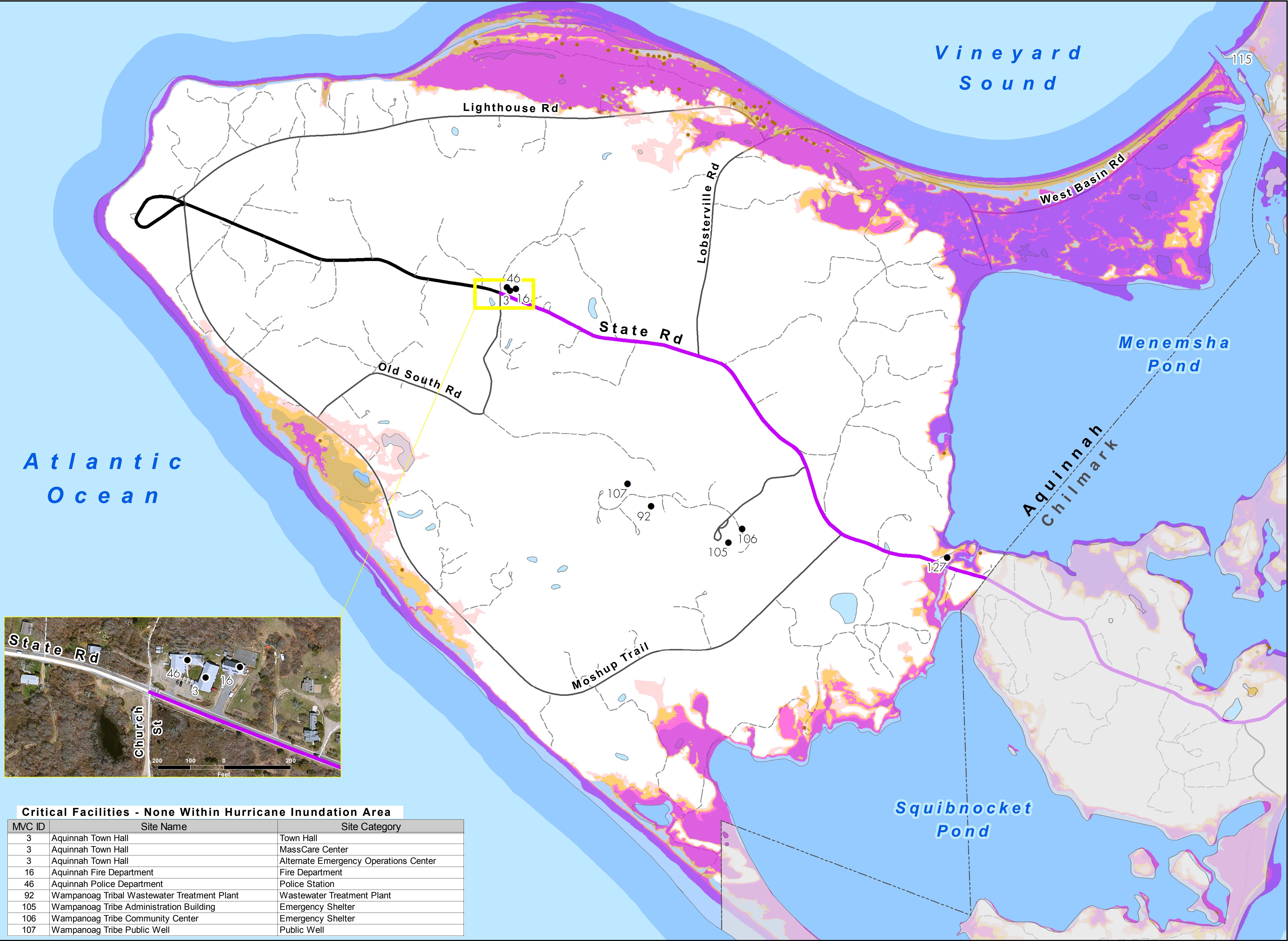
NOTES:
This map was produced by the Martha's Vineyard Commission for the Pre-Disaster Mitigation Project of 2013. Funding for the Pre-Disaster Mitigation Planning Grant was provided by the Massachusetts Emergency Management Agency.

The 100 year & 500 year flood areas represent a subset of the data available on the paper Flood Insurance Rate Maps (FIRM) as provided by the Federal Emergency Management Agency (FEMA). These data were developed by FEMA to support floodplain management and planning activities but do not replace the official paper FIRMs. These data are not suitable for engineering applications or site work nor can the data be used to determine absolute delineations of flood boundaries. Instead the data should be used to portray zones of uncertainty and possible risks associated with flooding. These data do not replace the paper FIRMs which remain the official documents.

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Compiled By: Martha's Vineyard Commission, CL Seidel, 8/27/13, ph. 508-693-3453, www.mvcommission.org
Data: Town Boundary - MassGIS 2002; Roads - MHD/MassGIS 2005; Critical Facilities & Infrastructure - MEMA 2006 & MVC 2013; Flood Data - Preliminary dFIRM FEMA June 2013; Aerial Photo - 2011 DigitalGlobe All Rights Reserved; Structures - MassGIS 2013 release from 2011 aerial photos
Projection: Stateplane, MA Mainland, NAD83, Meters
File: cls_pdm; Aqu_dFIRM_prelim_2013.mxd - Original in color





Critical Facilities - None Within Hurricane Inundation Area		
MVC ID	Site Name	Site Category
3	Aquinnah Town Hall	Town Hall
3	Aquinnah Town Hall	MassCare Center
3	Aquinnah Town Hall	Alternate Emergency Operations Center
16	Aquinnah Fire Department	Fire Department
46	Aquinnah Police Department	Police Station
92	Wampanoag Tribal Wastewater Treatment Plant	Wastewater Treatment Plant
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Hurricane Surge Inundation and Hurricane Tracks

Aquinnah, MA

Pre-Disaster Mitigation Plan

- Affected Structures
- Critical Facilities
 - Affected
 - Not Affected
- FEMA 100 Year Flood Zone*
- Hurricane Surge Inundation (Flooding)
 - Worst Case Scenario
 - Category 1
 - Category 2
 - Category 3
 - Category 4
- Roads
 - Primary Road
 - Secondary Road
 - Tertiary Road
 - Critical Road Segment

*Data provided by FEMA - Preliminary DFIRM June 2013

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Per USACE:
*Hurricane surge elevations were determined by the National Hurricane Center using the PV2 SLOSH model basin, and assumed peak hurricane surge arriving at mean high water.

The hurricane surge inundation areas shown on this map depict the inundation that can be expected to result from a worst case combination of hurricane landfall location, forward speed, and direction for each hurricane category.*

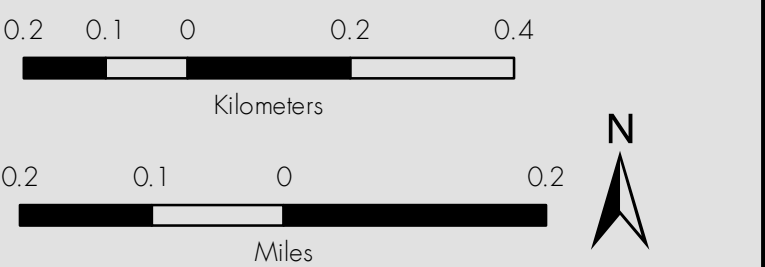
*The primary elevation data source was LIDAR data collected from Nov 2009 to Feb 2010 by Camp Dresser and McKee. This data was supplemented with MassGIS Digital Terrain Model (DTM) files which were made available in April 2003."

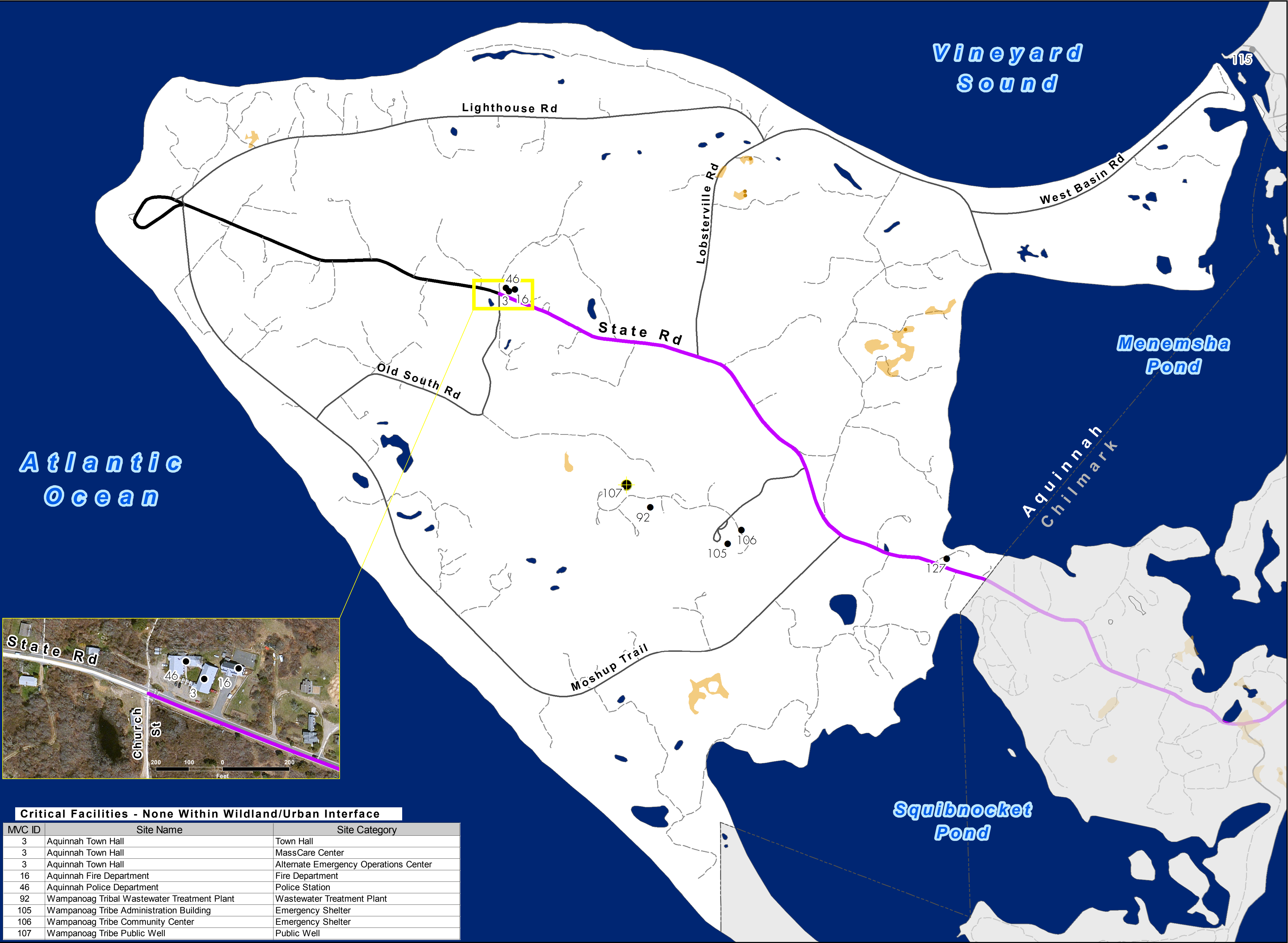
ACCURACY:
SLOSH Model Elevation Data: +/-20 percent
LIDAR Elevation Data: +/-0.5ft vertical; +/-1ft horizontal
Shoreline Data: Less accurate than LIDAR; Hence, discrepancies will be visibly noticeable when displayed together.

DISCLAIMER:
Data provided are for planning purposes only. The data are not adequate for boundary determination or regulatory interpretation. Nor should these data be considered an absolute representation indicating which areas can expect to be flooded by hurricane storm surge for a particular category. The MVC cannot be responsible for how these data are used or interpreted by the end user.

Compiled By: Martha's Vineyard Commission, CL Seidel, 8/27/13, ph. 508-693-3453, www.mvcommission.org

Data: Town Boundary - MassGIS 2002; Roads - MHD/MassGIS 2005; Critical Facilities & Infrastructure - MEMA 2006 and MVC 2013; Inundation Areas - USACE 2013; Hurricane Track - NOAA; Flood Zone - FEMA Preliminary June 2013
Projection: Stateplane, MA Mainland, NAD83, Meters
File: cls_pdm; Aqu_HurSLOSH_2013_v2.mxd *Original in color





Wildland
Urban
Interface
Aquinnah, MA

Pre-Disaster Mitigation Plan

Contiguous Woodlands
area >=50 acres
1000ft Buffer Area

Vegetation
Pitch Pine or Shrub Oak
Affected Structures
Bridges
Critical Road Segment

Critical Facilities
Affected
Affected Public Well
Not Affected
Not Affected Public Well

Roads
Primary Road
Secondary Road
Tertiary Road
Town Boundary

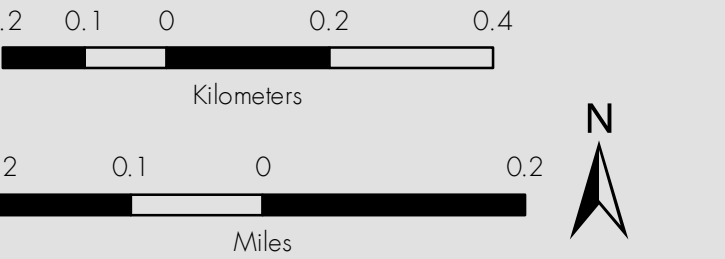
NOTES:
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Woodlands habitat was identified from the 2005 land use data from MassGIS. Non-forest land uses were buffered 250ft and the forest area that did not overlap the non-forest plus 250ft was retained. Those contiguous forest areas of 50 acres or more are represented in this data layer.

A structure is considered within the wildlife threat area if it is within a contiguous 50 acre woodland area or within its 1000ft buffer area or within the existing pitch pine/shrub oak area.

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Compiled By: Martha's Vineyard Commission, CL Seidel, 8/28/13, ph. 508-693-3453, www.mvcommission.org
Data: Town Boundary - MassGIS 2002; Roads - MHD/MassGIS 2005; Critical Facilities & Infrastructure - MEMA 2006 & MVC 2013; Woodlands - MassGIS 2005 & MVC 2013; Vegetation - TNC 2005; Structures - MassGIS 2011 (released 2013) & MVC 2013; Fire Lane - MVC 2005
Projection: Stateplane, MA Mainland, NAD83, Meters
File: cls_pdm; Aqu_WildFire_2013.mxd - Original in color



Critical Facilities - None Within Wildland/Urban Interface		
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