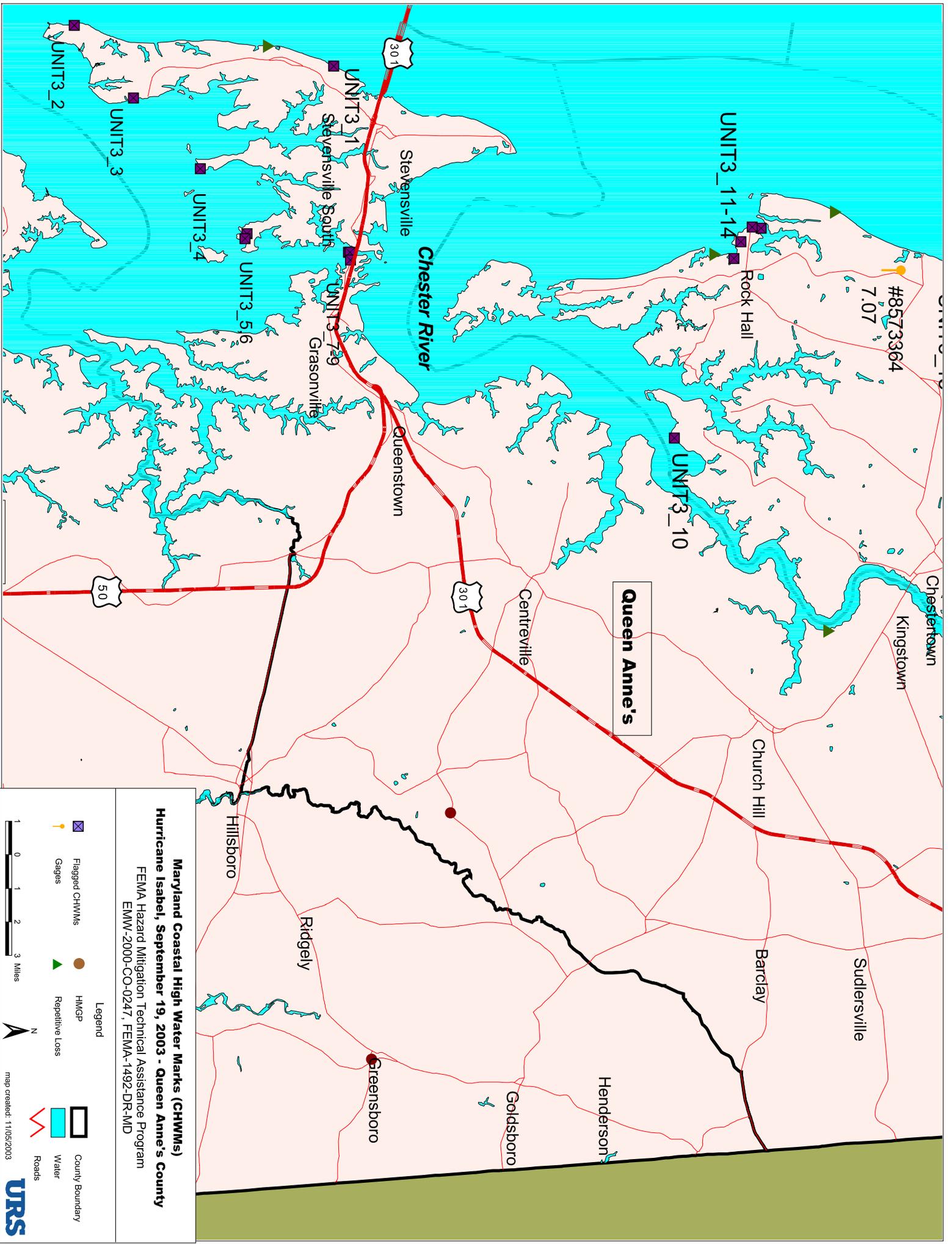


**Appendices**

**Appendix J: Survey Sheets from Queen Anne's County**



**Maryland Coastal High Water Marks (CHWMs)**  
**Hurricane Isabel, September 19, 2003 - Queen Anne's County**  
 FEMA Hazard Mitigation Technical Assistance Program  
 EMW-2000-CO-0247, FEMA-1492-DR-MD

**Legend**

- Flagged CHWMs
- Gages
- HMGP
- Repetitive Loss
- County Boundary
- Water
- Roads

1 0 1 2 3 Miles

map created: 11/05/2003



**PROJECT** FEMA-1492-DR-MD High Water Mark Survey Project  
**COMM. NO.** 240054  
**TYPE** High Water Mark Survey **PREL.** 10/05/2003 **FINAL** 11/20/2003 **SHEET** J- 1  
**CONTENTS** Individual Historical High Water Mark Survey Report

**Historical Mark:** UNIT3\_1 **Mark Type:** Coastal  
**Flood Event:** Hurricane Isabel **Date of Flood:** 09/19/2003  
**Flooding Source:** Chesapeake Bay **Quality of Mark:** Fair  
**Flood Elevation:** **See comments** **Location:** Above bulkhead slope  
**Flooding Type:** Surge  
**Mark Address:** Intersection of Bayside Drive and Chesapeake Drive  
**Description of Mark:** N/A

**Type of Line:** Debris line

**Description of Physical Structure:** N/A

**Closest City:** Kent Island **County:** Queen Anne's **State:** Maryland

**Flaggers:** Usher **Company/Agency:** Dewberry

**Flagging Date:** 9/25/2003

**Surveyors:** **Company/Agency:**

**Survey Date:** **Survey Type:** N/A

**Projection:** Maryland **Vertical Datum:** NAVD 88 **Horizontal Datum:** NAD 83

**Latitude:** 38.9612 **Easting:** 1,497,161

**Longitude:** -76.3509 **Northing:** 471,674

**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A

**Approx. Distance to Shoreline:** 30 FT

**Comments:**

Location not accessible to survey crew.



DSCN0003.jpg

*Survey Certification: Coastal High Water Mark location survey is certified to 0.25 feet vertically and 10 feet horizontally with a 95% accuracy level.*



**PROJECT** FEMA-1492-DR-MD High Water Mark Survey Project  
**COMM. NO.** 240054  
**TYPE** High Water Mark Survey **PREL.** 10/05/2003 **FINAL** 11/20/2003 **SHEET** J- 2  
**CONTENTS** Individual Historical High Water Mark Survey Report

**Historical Mark:** UNIT3\_2 **Mark Type:** Coastal  
**Flood Event:** Hurricane Isabel **Date of Flood:** 09/19/2003  
**Flooding Source:** Chesapeake Bay **Quality of Mark:** Fair  
**Flood Elevation:** **10.06 FT** **Location:** Debris Line  
**Flooding Type:** Wave height  
**Mark Address:** Southern end of Lighthouse View Drive  
**Description of Mark:** N/A

**Type of Line:** Debris line  
**Description of Physical Structure:** N/A

**Closest City:** Kent Island **County:** Queen Anne's **State:** Maryland

**Flaggers:** Usher **Company/Agency:** Dewberry  
**Flagging Date:** 9/25/2003

**Surveyors:** Pavlis, Ireton **Company/Agency:** URS  
**Survey Date:** 10/5/2003 **Survey Type:** N/A

**Projection:** Maryland **Vertical Datum:** NAVD 88 **Horizontal Datum:** NAD 83  
**Latitude:** 38.8495 **Easting:** 1,491,776  
**Longitude:** -76.3746 **Northing:** 427,931

**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A

**Approx. Distance to Shoreline:** 220 FT

**Comments:**

Dedbris line of poor quality, may actually be wave action.



DSCN0008.jpg

*Survey Certification: Coastal High Water Mark location survey is certified to 0.25 feet vertically and 10 feet horizontally with a 95% accuracy level.*



**PROJECT** FEMA-1492-DR-MD High Water Mark Survey Project  
**COMM. NO.** 240054  
**TYPE** High Water Mark Survey **PREL.** 10/05/2003 **FINAL** 11/20/2003 **SHEET** J- 3  
**CONTENTS** Individual Historical High Water Mark Survey Report

**Historical Mark:** UNIT3\_3 **Mark Type:** Coastal  
**Flood Event:** Hurricane Isabel **Date of Flood:** 09/19/2003  
**Flooding Source:** Chesapeake Bay **Quality of Mark:** Good  
**Flood Elevation:** **5.58 FT** **Location:** Hexagonal jungle gym  
**Flooding Type:** Surge  
**Mark Address:** Intersection of Alleghany Road and Chesapeake Avenue  
**Description of Mark:** 36 inches from above bare earth underneath hexagonal jungle gym

**Type of Line:** Debris line

**Description of Physical Structure:** N/A

**Closest City:** Romancoke **County:** Queen Anne's **State:** Maryland

**Flaggers:** Usher **Company/Agency:** Dewberry

**Flagging Date:** 9/25/2003

**Surveyors:** Pavlis, Ireton **Company/Agency:** URS

**Survey Date:** 10/5/2003 **Survey Type:** N/A

**Projection:** Maryland **Vertical Datum:** NAVD 88 **Horizontal Datum:** NAD 83

**Latitude:** 38.8747 **Easting:** 1,503,089

**Longitude:** -76.3342 **Northing:** 438,938

**Approx. First Floor Elevation (Based on Measurement from Mark):** 2.58 FT

**Approx. Distance to Shoreline:** 260 FT

**Comments:**

"NO PICTURE AVAILABLE FROM FLAGGER"

*Survey Certification: Coastal High Water Mark location survey is certified to 0.25 feet vertically and 10 feet horizontally with a 95% accuracy level.*

DSCN0004.jpg



**PROJECT** FEMA-1492-DR-MD High Water Mark Survey Project  
**COMM. NO.** 240054  
**TYPE** High Water Mark Survey **PREL.** 10/05/2003 **FINAL** 11/20/2003 **SHEET** J- 4  
**CONTENTS** Individual Historical High Water Mark Survey Report

**Historical Mark:** UNIT3\_4 **Mark Type:** Coastal  
**Flood Event:** Hurricane Isabel **Date of Flood:** 09/19/2003  
**Flooding Source:** Chesapeake Bay **Quality of Mark:** Good  
**Flood Elevation:** **5.1 FT** **Location:** Outside building wall  
**Flooding Type:** Surge  
**Mark Address:** 2900 Block of Cox Neck Road (Southern limit)  
**Description of Mark:** HWM located 9.75 inches above slate floor of gazebo

**Type of Line:** Mud line

**Description of Physical Structure:** concrete gazebo

**Closest City:** Kent Island **County:** Queen Anne's **State:** Maryland

**Flaggers:** Usher **Company/Agency:** Dewberry

**Flagging Date:** 9/27/2003

**Surveyors:** Pavlis, Ireton **Company/Agency:** URS

**Survey Date:** 10/5/2003 **Survey Type:** N/A

**Projection:** Maryland **Vertical Datum:** NAVD 88 **Horizontal Datum:** NAD 83

**Latitude:** 38.9034 **Easting:** 1,514,392

**Longitude:** -76.2949 **Northing:** 449,949

**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.29 FT

**Approx. Distance to Shoreline:** 150 FT

**Comments:**



DSCN0009.jpg

*Survey Certification: Coastal High Water Mark location survey is certified to 0.25 feet vertically and 10 feet horizontally with a 95% accuracy level.*



**PROJECT** FEMA-1492-DR-MD High Water Mark Survey Project  
**COMM. NO.** 240054  
**TYPE** High Water Mark Survey **PREL.** 10/05/2003 **FINAL** 11/20/2003 **SHEET** J- 5  
**CONTENTS** Individual Historical High Water Mark Survey Report

**Historical Mark:** UNIT3\_5 **Mark Type:** Coastal  
**Flood Event:** Hurricane Isabel **Date of Flood:** 09/19/2003  
**Flooding Source:** Chesapeake Bay **Quality of Mark:** Fair  
**Flood Elevation:** **1.65 FT** **Location:** debris line along edge of embayment  
**Flooding Type:** Surge  
**Mark Address:** 1600 block of Calvert Road, south of the intersection of Calvert Road and Chester Road  
**Description of Mark:** N/A

**Type of Line:** Debris line

**Description of Physical Structure:** N/A

**Closest City:** Kent Island **County:** Queen Anne's **State:** Maryland

**Flaggers:** Usher **Company/Agency:** Dewberry

**Flagging Date:** 9/27/2003

**Surveyors:** Pavlis, Ireton **Company/Agency:** URS

**Survey Date:** 10/5/2003 **Survey Type:** N/A

**Projection:** Maryland **Vertical Datum:** NAVD 88 **Horizontal Datum:** NAD 83

**Latitude:** 38.9232 **Easting:** 1,525,715

**Longitude:** -76.2588 **Northing:** 457,324

**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A

**Approx. Distance to Shoreline:** 180 FT

**Comments:**

Debris line may have been affected by weather or cleanup action, resulting in lower than average elevation.



DSCN0012.jpg

*Survey Certification: Coastal High Water Mark location survey is certified to 0.25 feet vertically and 10 feet horizontally with a 95% accuracy level.*



**PROJECT** FEMA-1492-DR-MD High Water Mark Survey Project  
**COMM. NO.** 240054  
**TYPE** High Water Mark Survey **PREL.** 10/05/2003 **FINAL** 11/20/2003 **SHEET** J- 6  
**CONTENTS** Individual Historical High Water Mark Survey Report

**Historical Mark:** UNIT3\_6 **Mark Type:** Coastal  
**Flood Event:** Hurricane Isabel **Date of Flood:** 09/19/2003  
**Flooding Source:** Chesapeake Bay **Quality of Mark:** Fair  
**Flood Elevation:** **5.61 FT** **Location:** debris line along edge of road  
**Flooding Type:** Surge  
**Mark Address:** Southern limit of Chester Road, near fishing wharf  
**Description of Mark:** N/A

**Type of Line:** Debris line

**Description of Physical Structure:** N/A

**Closest City:** Kent Island **County:** Queen Anne's **State:** Maryland

**Flaggers:** Usher **Company/Agency:** Dewberry

**Flagging Date:** 9/27/2003

**Surveyors:** Pavlis, Ireton **Company/Agency:** URS

**Survey Date:** 10/5/2003 **Survey Type:** N/A

**Projection:** Maryland **Vertical Datum:** NAVD 88 **Horizontal Datum:** NAD 83

**Latitude:** 38.9224 **Easting:** 1,525,715

**Longitude:** -76.2560 **Northing:** 457,324

**Approx. First Floor Elevation (Based on Measurement from Mark):** N/A

**Approx. Distance to Shoreline:** 190 FT

**Comments:**



*Survey Certification: Coastal High Water Mark location survey is certified to 0.25 feet vertically and 10 feet horizontally with a 95% accuracy level.*

DSCN0013.jpg



**PROJECT** FEMA-1492-DR-MD High Water Mark Survey Project  
**COMM. NO.** 240054  
**TYPE** High Water Mark Survey **PREL.** 10/05/2003 **FINAL** 11/20/2003 **SHEET** J- 7  
**CONTENTS** Individual Historical High Water Mark Survey Report

**Historical Mark:** UNIT3\_7 **Mark Type:** Coastal  
**Flood Event:** Hurricane Isabel **Date of Flood:** 09/19/2003  
**Flooding Source:** Chesapeake Bay **Quality of Mark:** Good  
**Flood Elevation:** **8.19 FT** **Location:** Inside mark transferred to outside building wall  
**Flooding Type:** Wave runoff  
**Mark Address:** South end of Wharf Drive/Kent Island Yacht Club  
**Description of Mark:** 16.5 inches above concrete slab at base of structure

**Type of Line:** Mud line

**Description of Physical Structure:** wood building

**Closest City:** Chester **County:** Queen Anne's **State:** Maryland

**Flaggers:** Usher **Company/Agency:** Dewberry

**Flagging Date:** 9/27/2003

**Surveyors:** Pavlis, Ireton **Company/Agency:** URS

**Survey Date:** 10/7/2003 **Survey Type:** N/A

**Projection:** Maryland **Vertical Datum:** NAVD 88 **Horizontal Datum:** NAD 83

**Latitude:** 38.9670 **Easting:** 1,528,439

**Longitude:** -76.2479 **Northing:** 471,915

**Approx. First Floor Elevation (Based on Measurement from Mark):** 6.81 FT

**Approx. Distance to Shoreline:** 160 FT

**Comments:**

Tape mark located on northeast corner of southernmost portion of bar building, below Verizon payphone.



DSCN0014.jpg

*Survey Certification: Coastal High Water Mark location survey is certified to 0.25 feet vertically and 10 feet horizontally with a 95% accuracy level.*



**PROJECT** FEMA-1492-DR-MD High Water Mark Survey Project  
**COMM. NO.** 240054  
**TYPE** High Water Mark Survey **PREL.** 10/05/2003 **FINAL** 11/20/2003 **SHEET** J- 8  
**CONTENTS** Individual Historical High Water Mark Survey Report

**Historical Mark:** UNIT3\_8 **Mark Type:** Coastal  
**Flood Event:** Hurricane Isabel **Date of Flood:** 09/19/2003  
**Flooding Source:** Chesapeake Bay **Quality of Mark:** Good  
**Flood Elevation:** **4.3 FT** **Location:** Inside mark transferred to outside of building  
**Flooding Type:** Surge  
**Mark Address:** South end of Wharf Drive/Kent Island Yacht Club  
**Description of Mark:** 49 inches above crushed stone atop ground at base of structure

**Type of Line:** Mud line

**Description of Physical Structure:** brick building

**Closest City:** Chester **County:** Queen Anne's **State:** Maryland

**Flaggers:** Usher **Company/Agency:** Dewberry

**Flagging Date:** 9/27/2003

**Surveyors:** Pavlis, Ireton **Company/Agency:** URS

**Survey Date:** 10/7/2003 **Survey Type:** N/A

**Projection:** Maryland **Vertical Datum:** NAVD 88 **Horizontal Datum:** NAD 83

**Latitude:** 38.9676 **Easting:** 1,528,439

**Longitude:** -76.2480 **Northing:** 471,915

**Approx. First Floor Elevation (Based on Measurement from Mark):** 0.21 FT

**Approx. Distance to Shoreline:** 200 FT

**Comments:**

Water line may have been affected by weather or cleanup action, resulting in lower than average elevation.



DSCN0016.jpg

*Survey Certification: Coastal High Water Mark location survey is certified to 0.25 feet vertically and 10 feet horizontally with a 95% accuracy level.*



**PROJECT** FEMA-1492-DR-MD High Water Mark Survey Project  
**COMM. NO.** 240054  
**TYPE** High Water Mark Survey **PREL.** 10/05/2003 **FINAL** 11/20/2003 **SHEET** J- 9  
**CONTENTS** Individual Historical High Water Mark Survey Report

**Historical Mark:** UNIT3\_9 **Mark Type:** Coastal  
**Flood Event:** Hurricane Isabel **Date of Flood:** 09/19/2003  
**Flooding Source:** Chesapeake Bay **Quality of Mark:** Good  
**Flood Elevation:** **5.83 FT** **Location:** Inside mark transferred to exterior  
**Flooding Type:** Surge  
**Mark Address:** Fisherman's Crab Deck, 3116 Main Street, Grasonville, Maryland 21638  
**Description of Mark:** Just above base of sign.

**Type of Line:** Mud line

**Description of Physical Structure:** wood building

**Closest City:** Grasonville **County:** Queen Anne's **State:** Maryland

**Flaggers:** Usher **Company/Agency:** Dewberry

**Flagging Date:** 9/27/2003

**Surveyors:** Pavlis, Ireton **Company/Agency:** URS

**Survey Date:** 10/7/2003 **Survey Type:** N/A

**Projection:** Maryland **Vertical Datum:** NAVD 88 **Horizontal Datum:** NAD 83

**Latitude:** 38.9677 **Easting:** 1,528,439

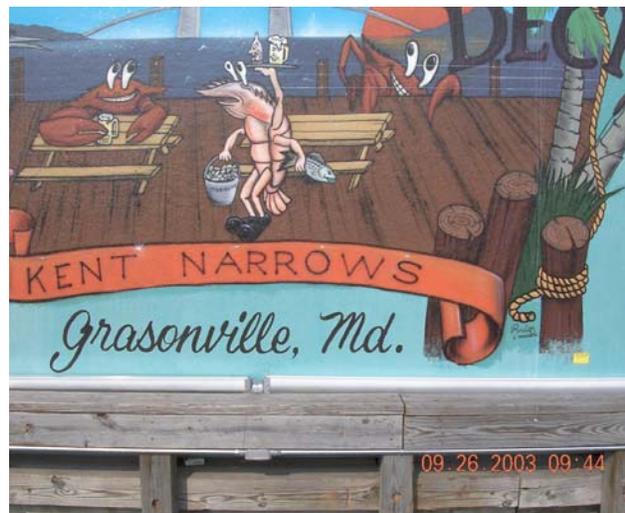
**Longitude:** -76.2437 **Northing:** 471,915

**Approx. First Floor Elevation (Based on Measurement from Mark):** 4.46 FT

**Approx. Distance to Shoreline:** 130 FT

**Comments:**

Surge slightly lower at this location than across the narrows at Kent Island Yacht Club (main building). This is likely because of lesser exposure of Crab Deck to extended southeast fetch.



DSCN0017.jpg

*Survey Certification: Coastal High Water Mark location survey is certified to 0.25 feet vertically and 10 feet horizontally with a 95% accuracy level.*