Figure 2.4-18 — {Johns Creek Watershed}

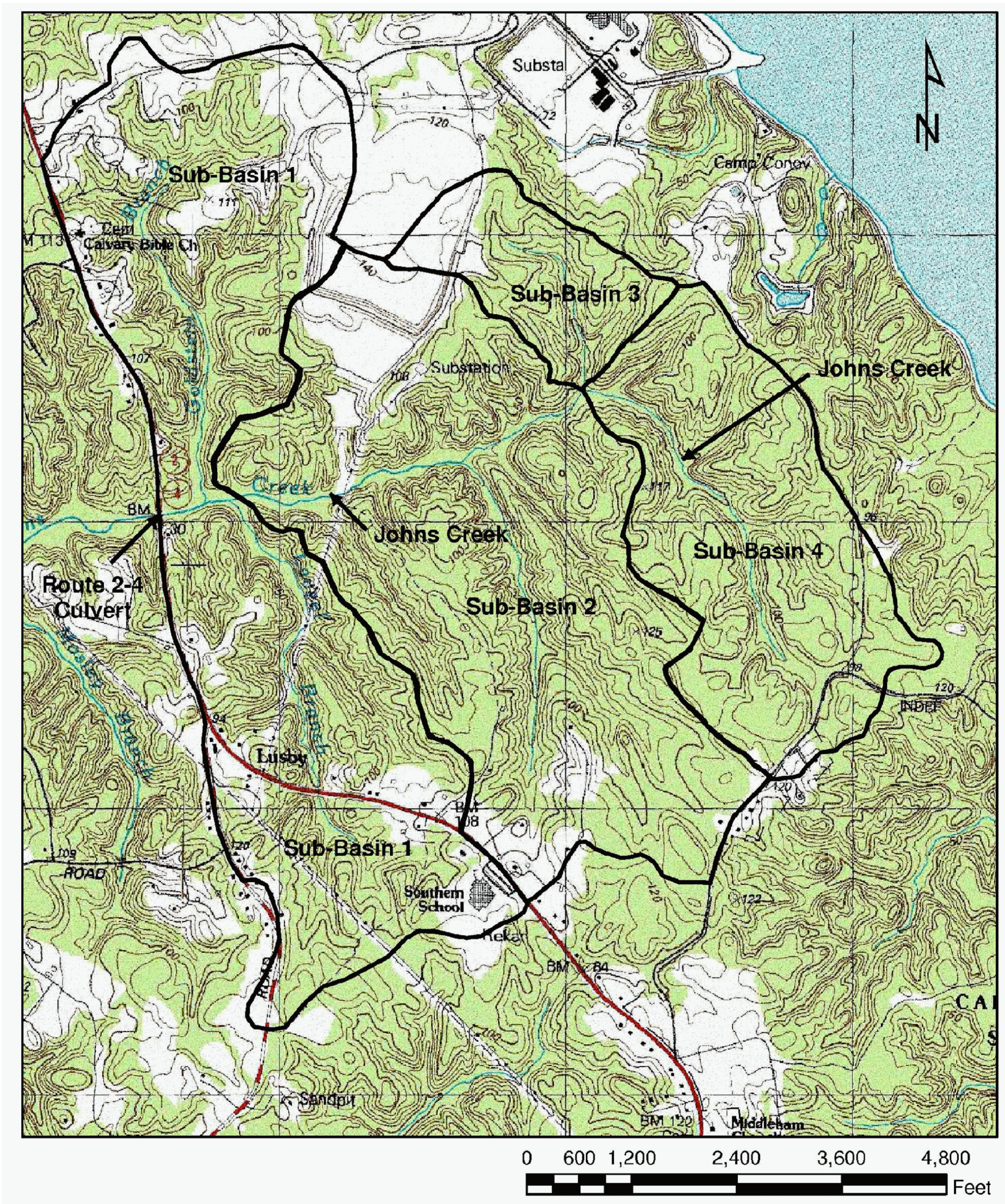

Figure 2.4-19 — {HEC-HMS Watershed Schematic}

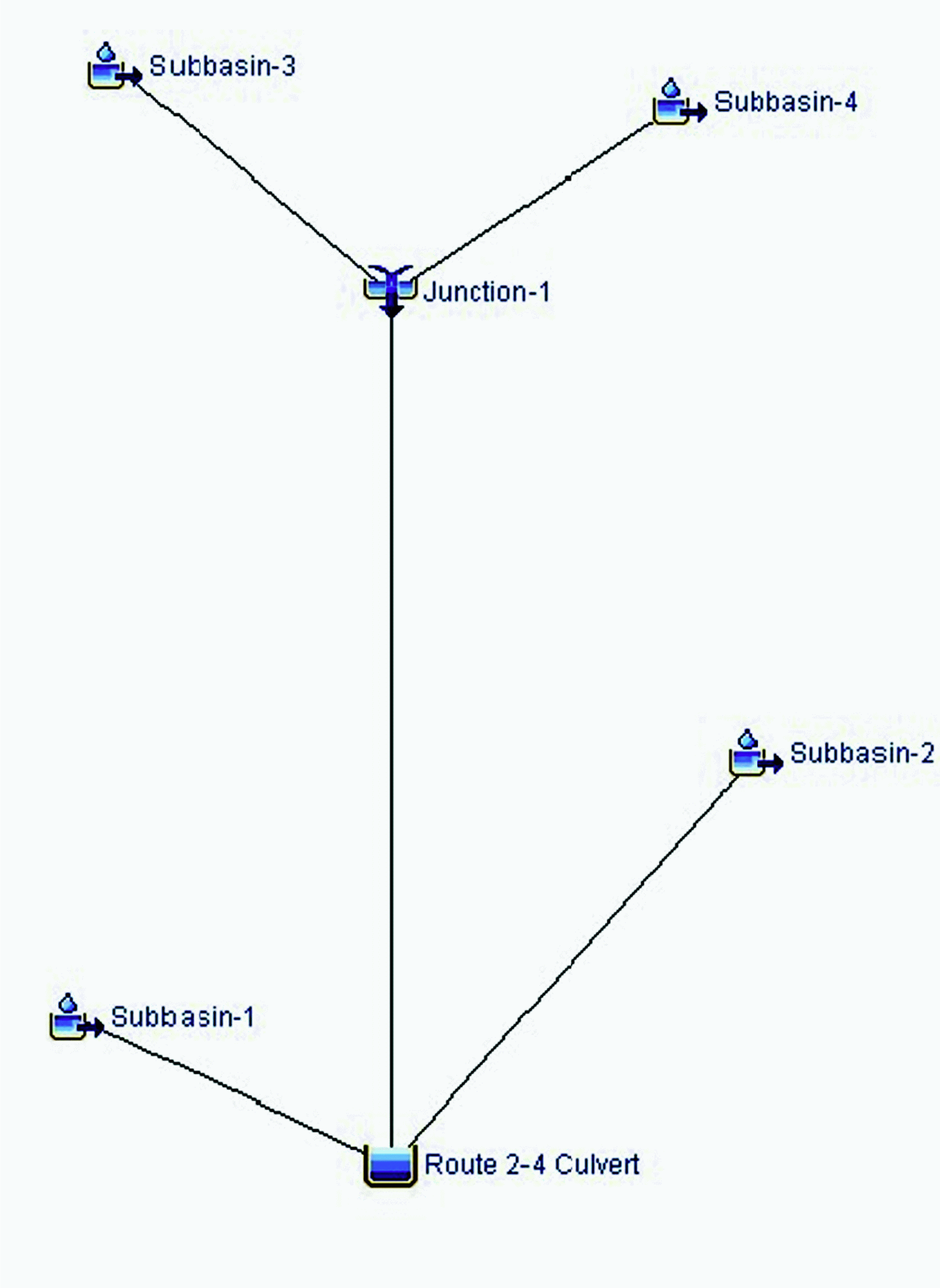

Figure 2.4-20 — {Storage And Inflow & Outflow Hydrographs at Maryland Route 2-4 Culvert}

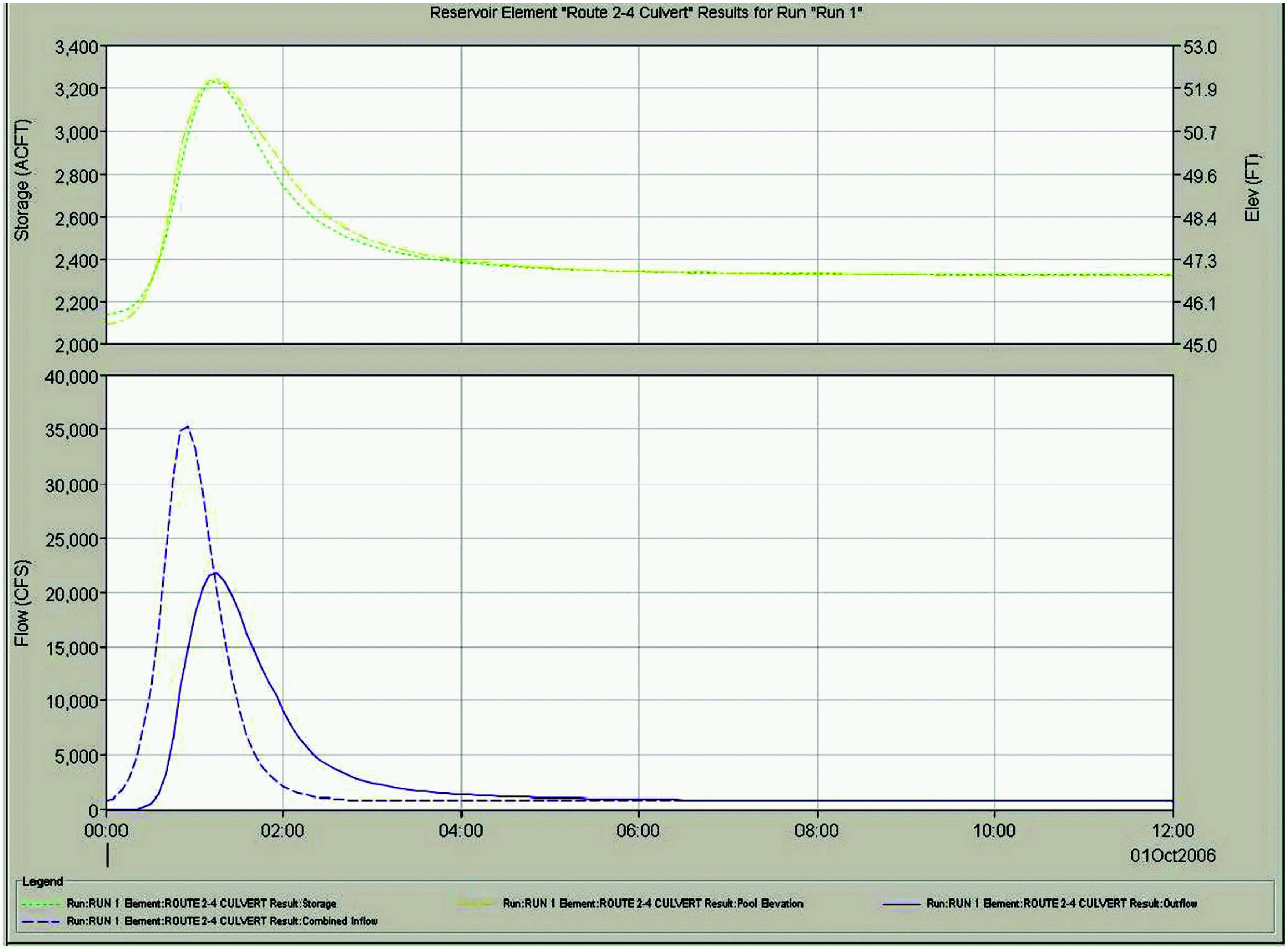

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Figure 2.4-21 — {Sub-Basin 1 Hydrograph}

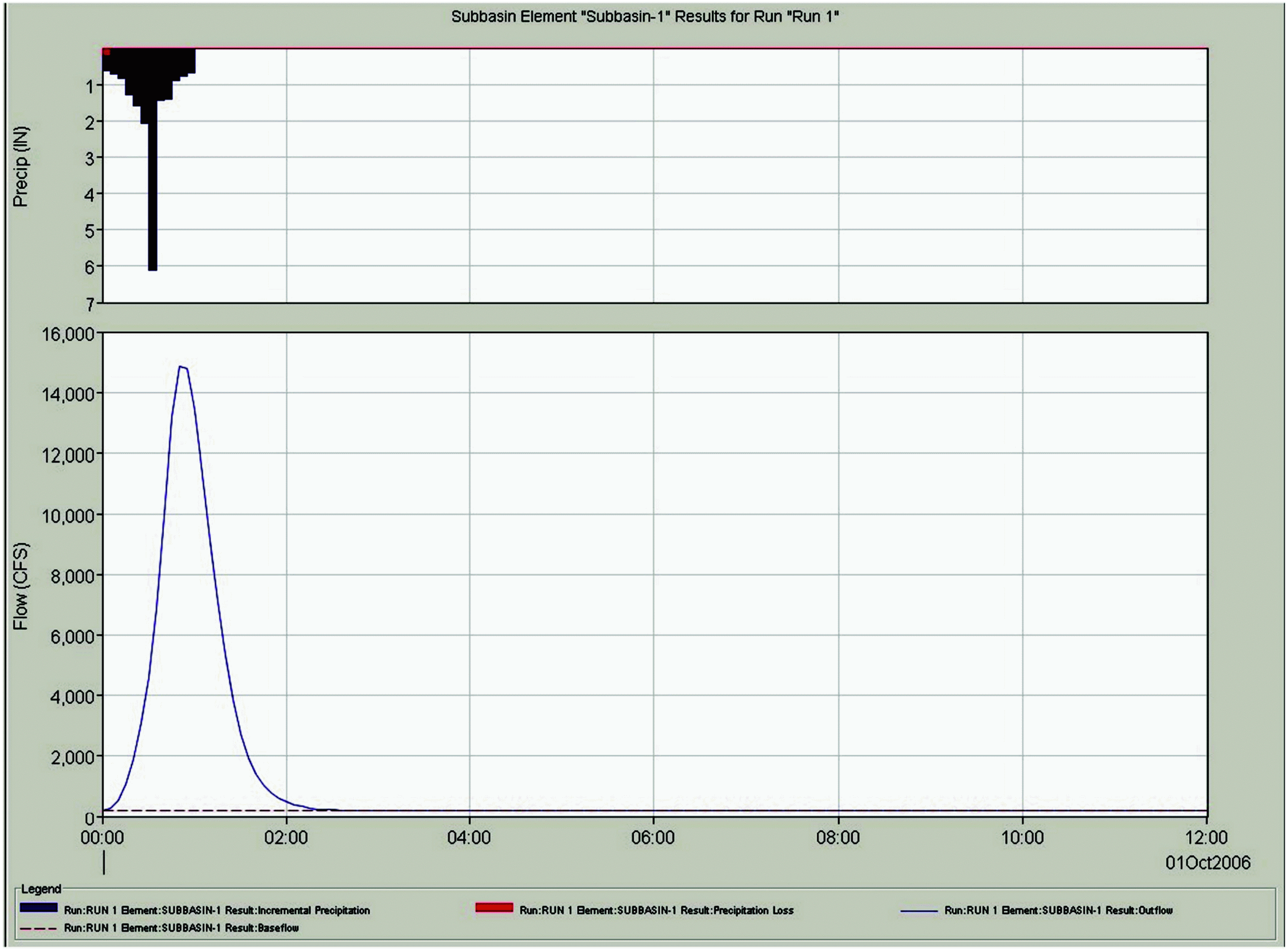

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Figure 2.4-22 — {Sub-Basin 2 Hydrograph}

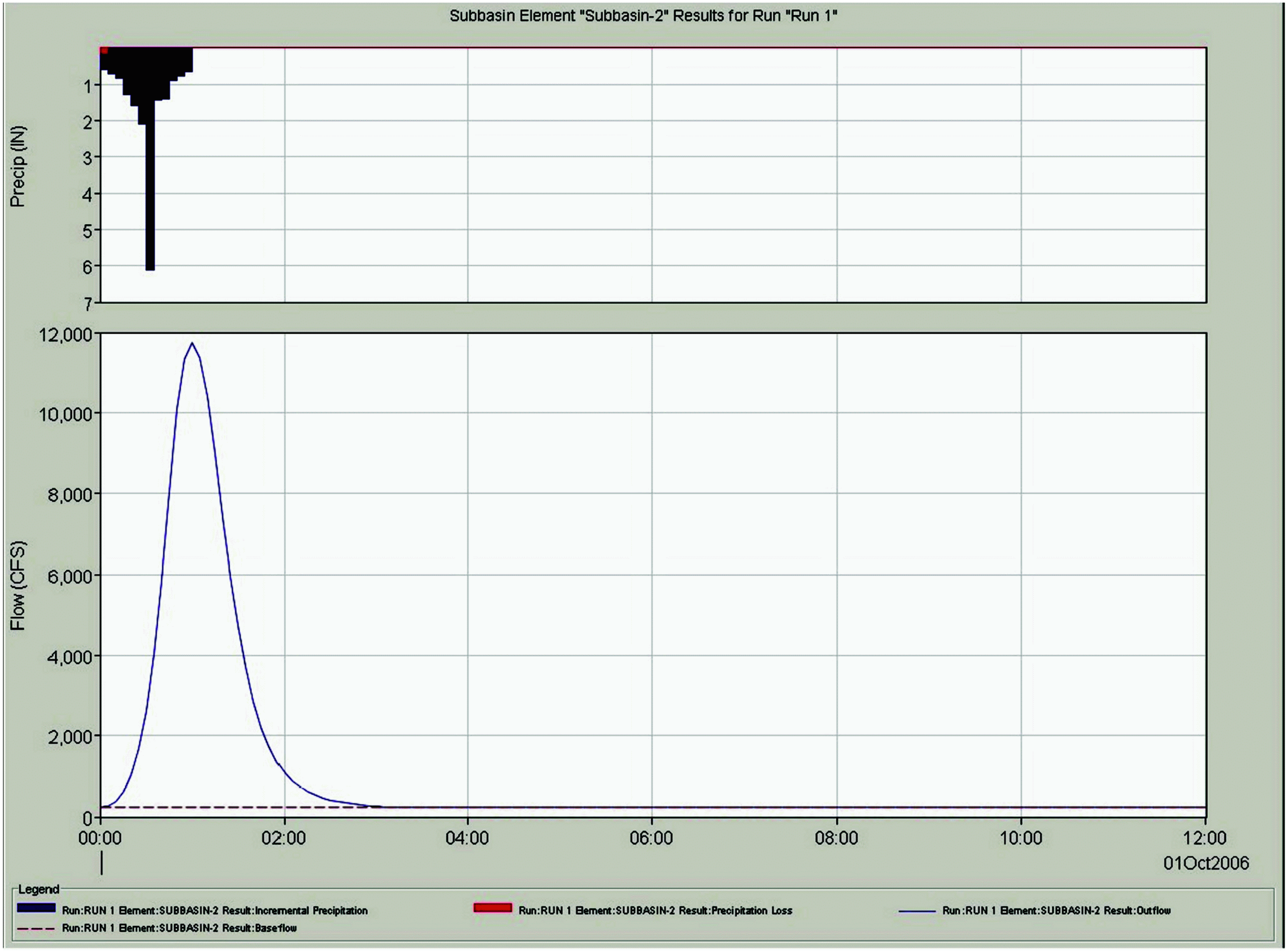

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Figure 2.4-23 — {Sub-Basin 3 Hydrograph}

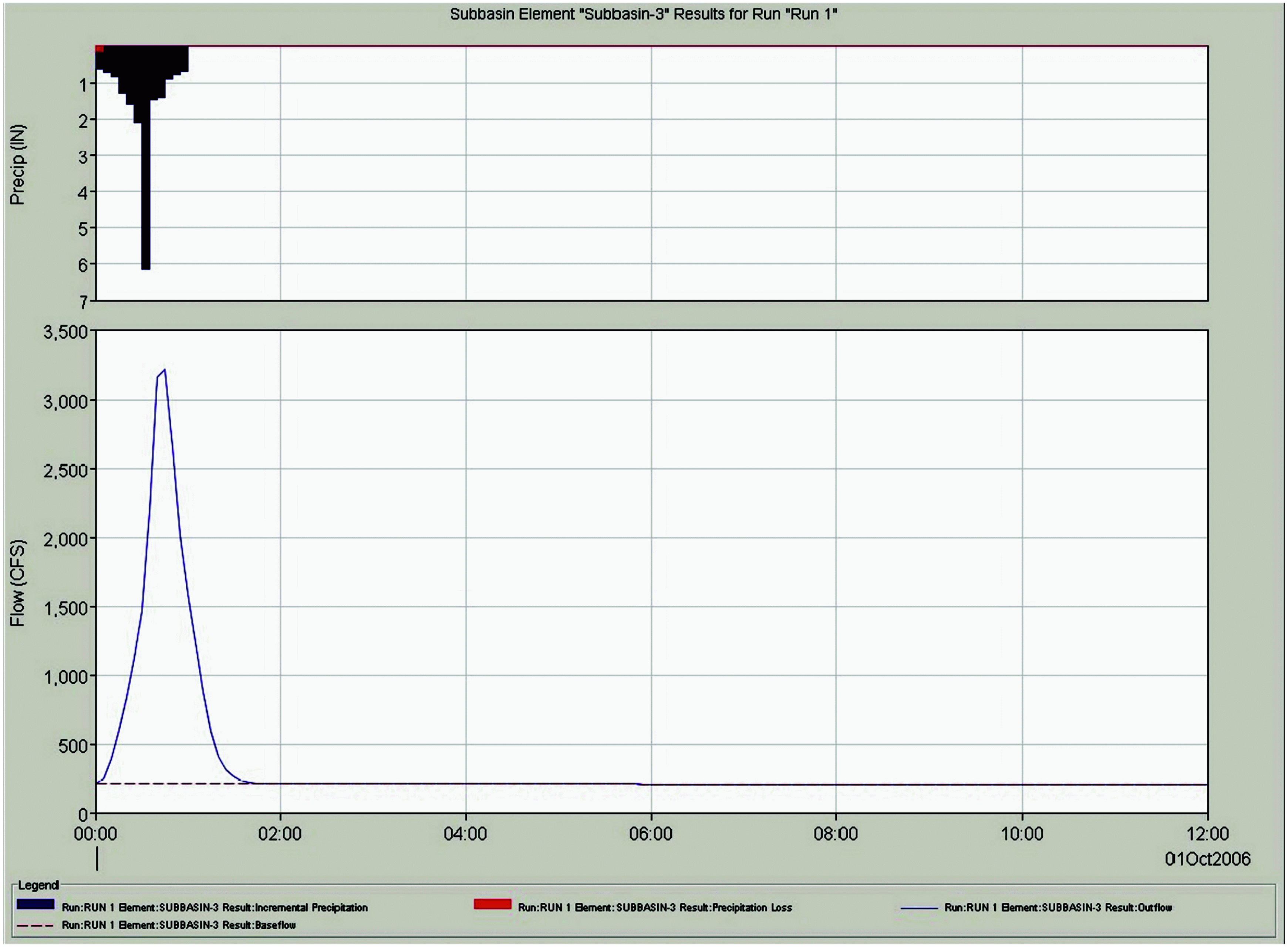

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Figure 2.4-24 — {Sub-Basin 4 Hydrograph}

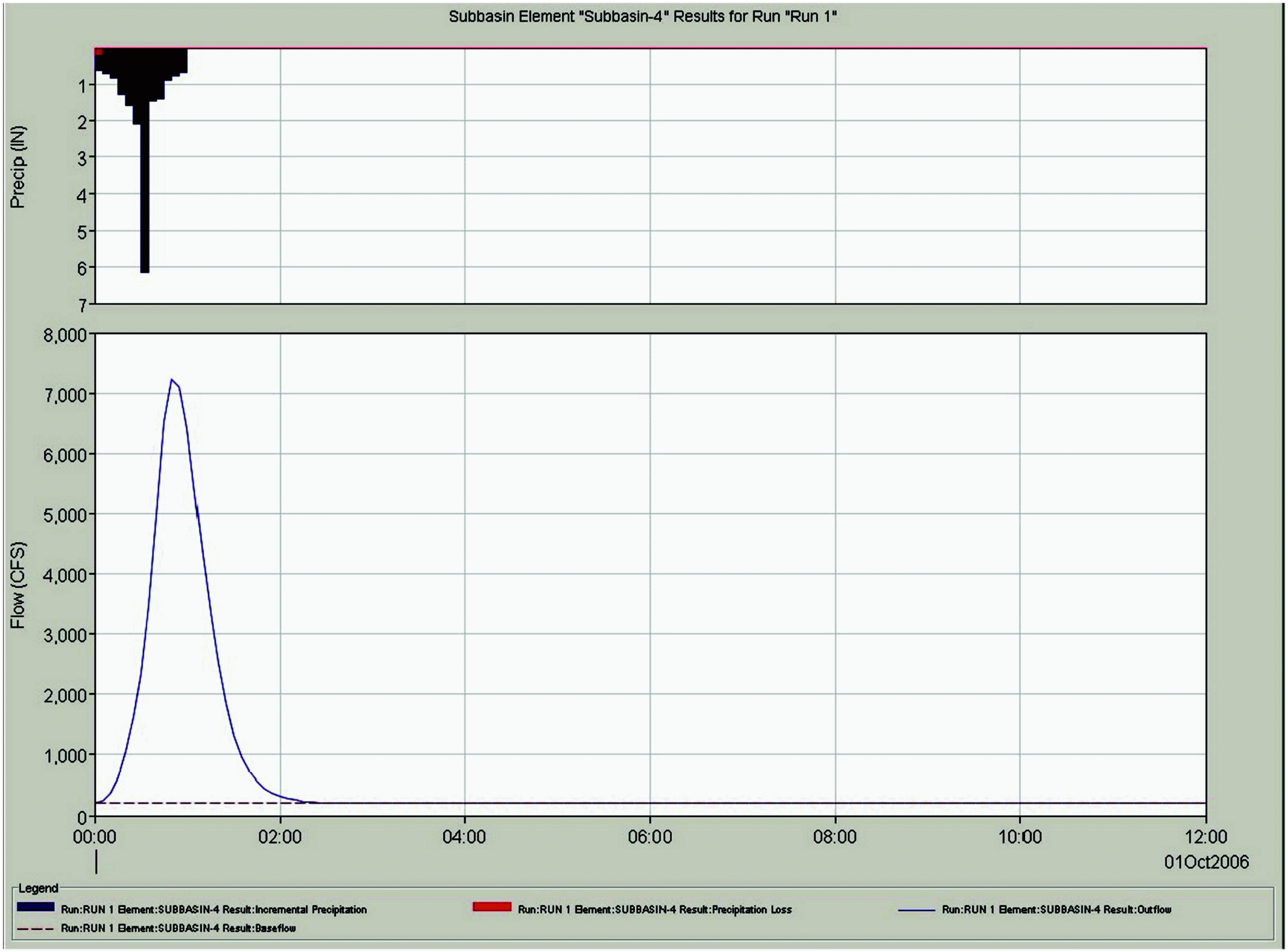

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Figure 2.4-25 — {HEC-RAS Cross Section Locations}

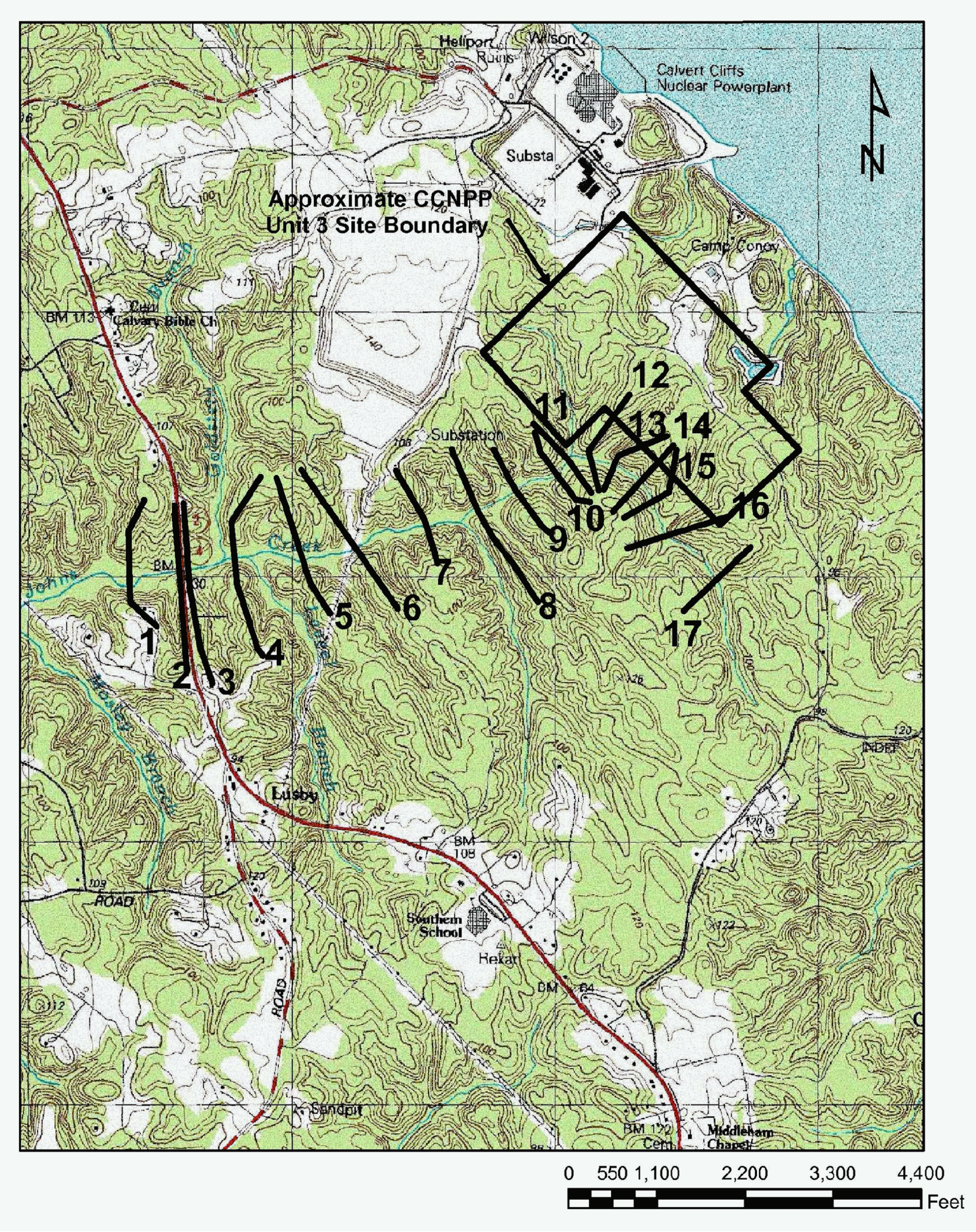

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Figure 2.4-26 — {Johns Creek PMF Water Surface Profiles}

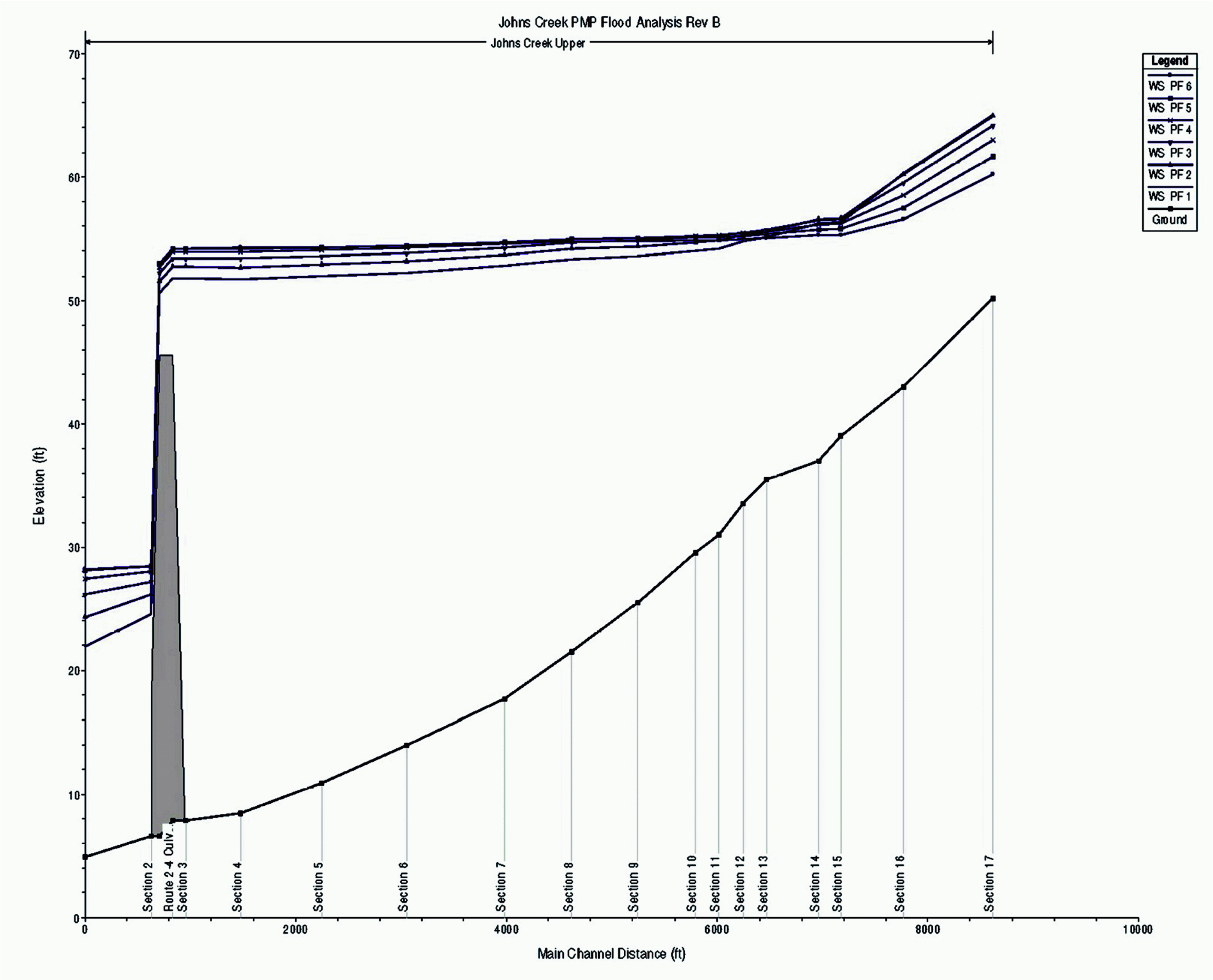

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Figure 2.4-27 — {Patuxent River Watershed And Dam Locations}

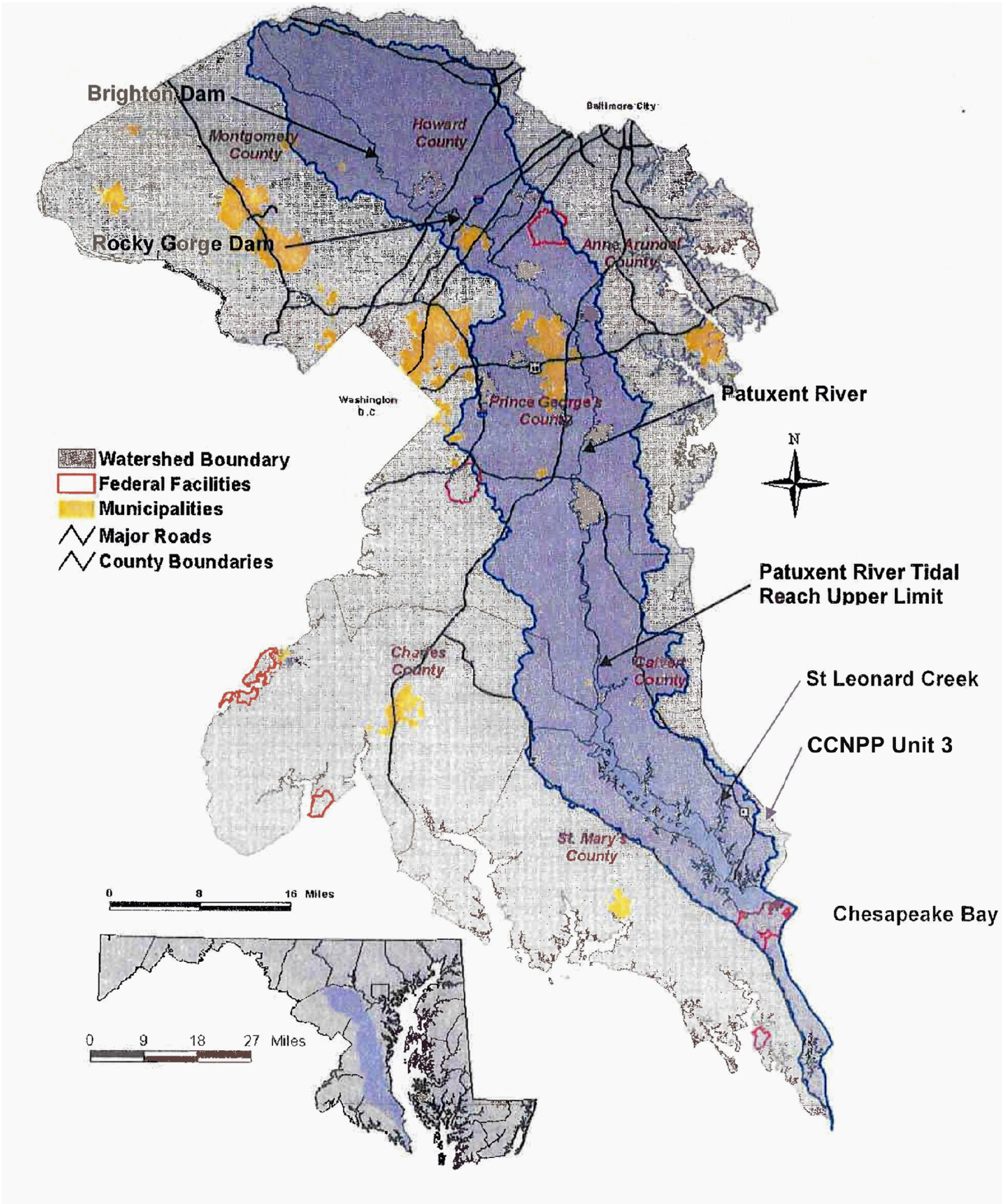

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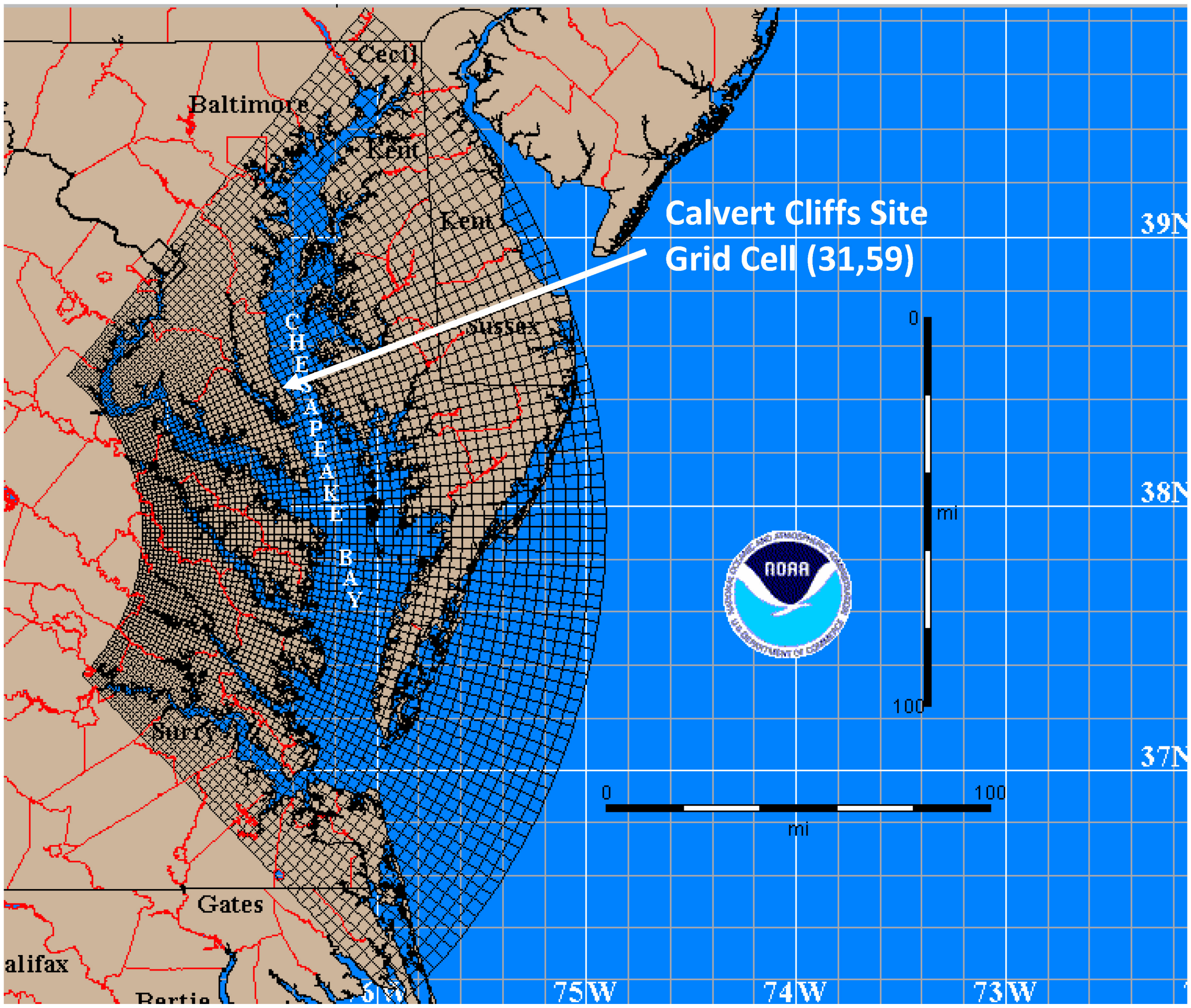
Figure 2.4-28 — {SLOSH Chesapeake Bay Model Grid (SLOSH Basin cp2) and the Location of CCNPP Unit 3}



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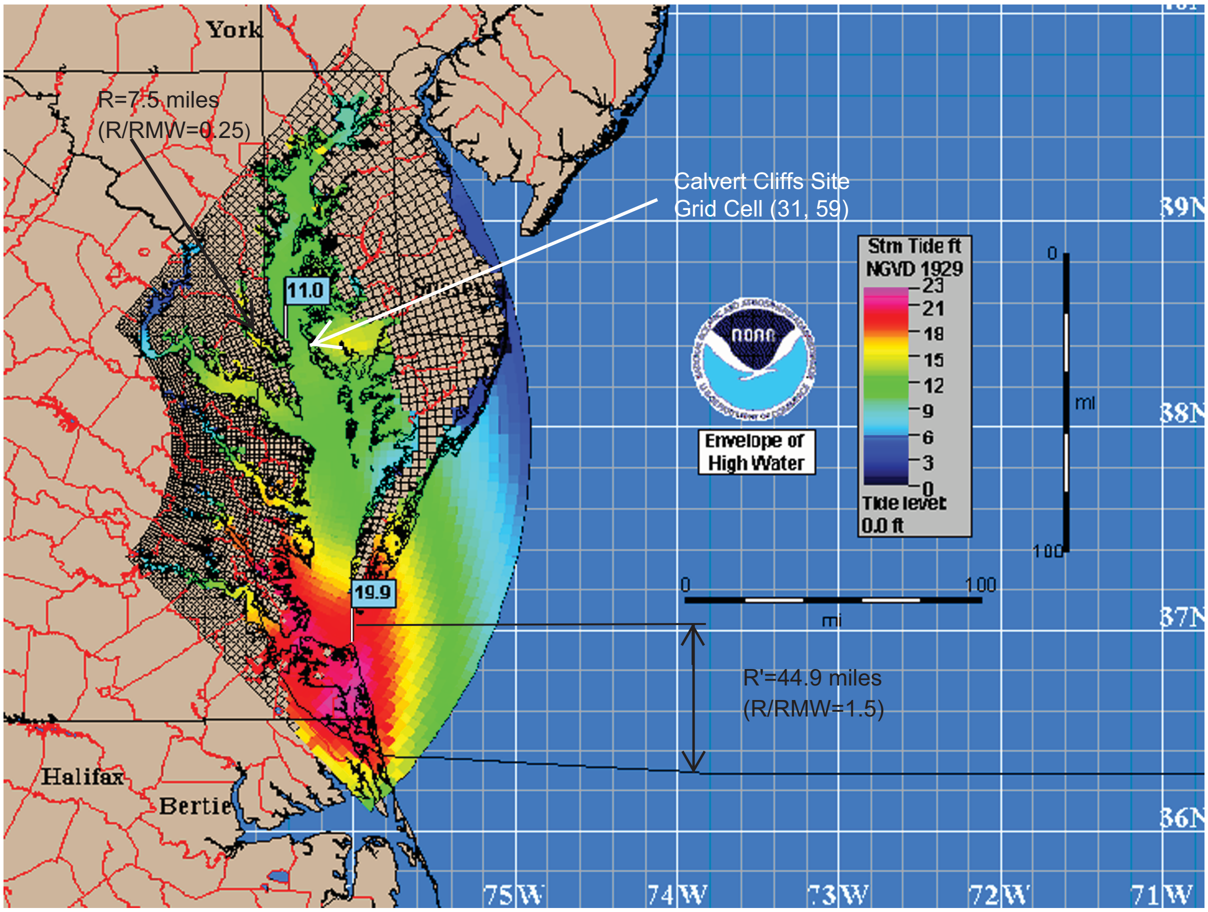
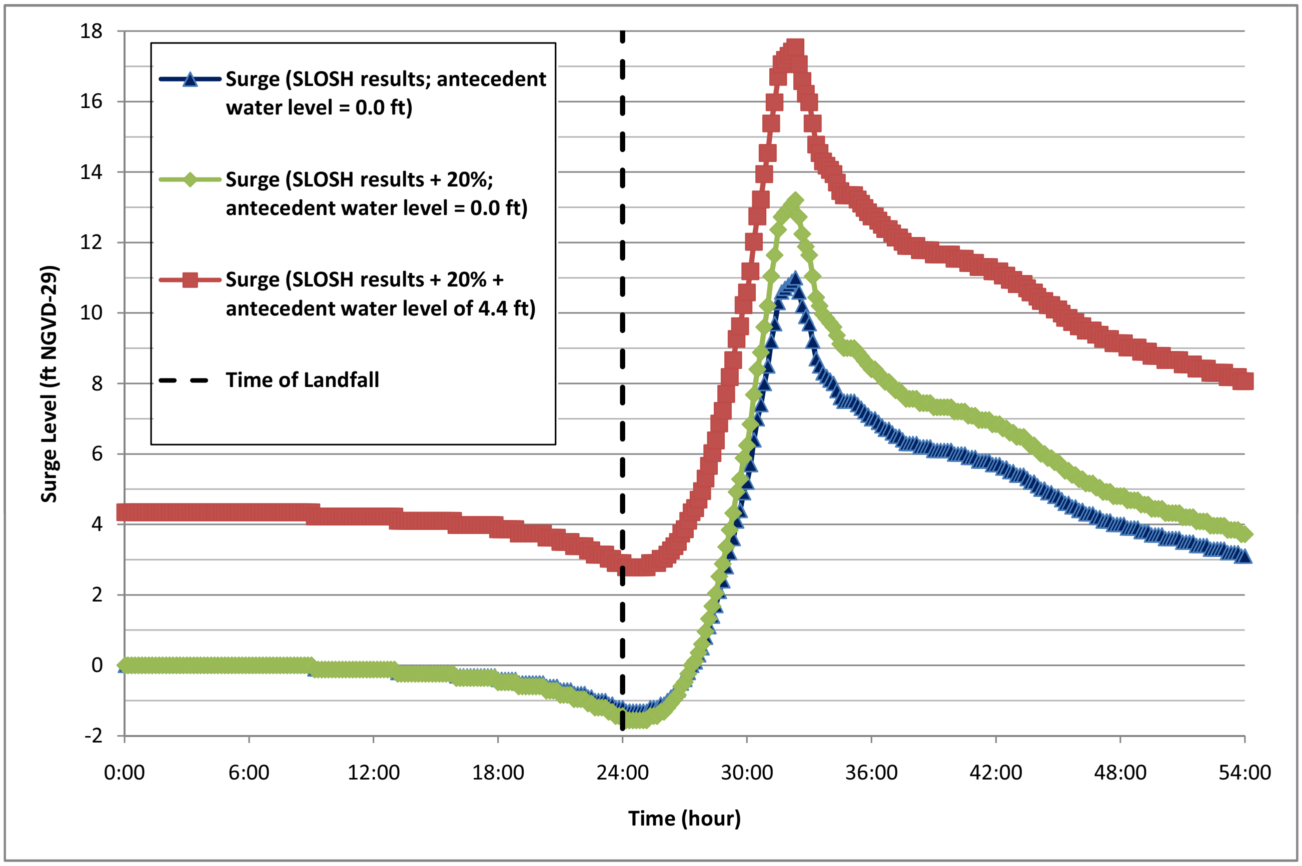
CC3-10-0269 **Figure 2.4-29 — {Selected Storm Track and the Envelop of Resulting Surge Elevation in the SLOSH Chesapeake Bay Basin for the PMH}**



Note: R is the distance from the Site; R' is the distance from the Chesapeake Bay entrance; RMW is the PMH upper bound radius of maximum wind.

Colors and the flags show the maximum surge elevations at the grid locations.

Figure 2.4-30 — {SLOSH Model Simulated Time History of Surge Elevation at the Site (Grid Cell 31, 59) for the Selected PMH Conditions}



CC3-12-0269

Figure 2.4-31 — {SLOSH Model Simulated Time History of Wind Speed at the Site (grid cell 31, 59) for the Selected PMH Conditions}

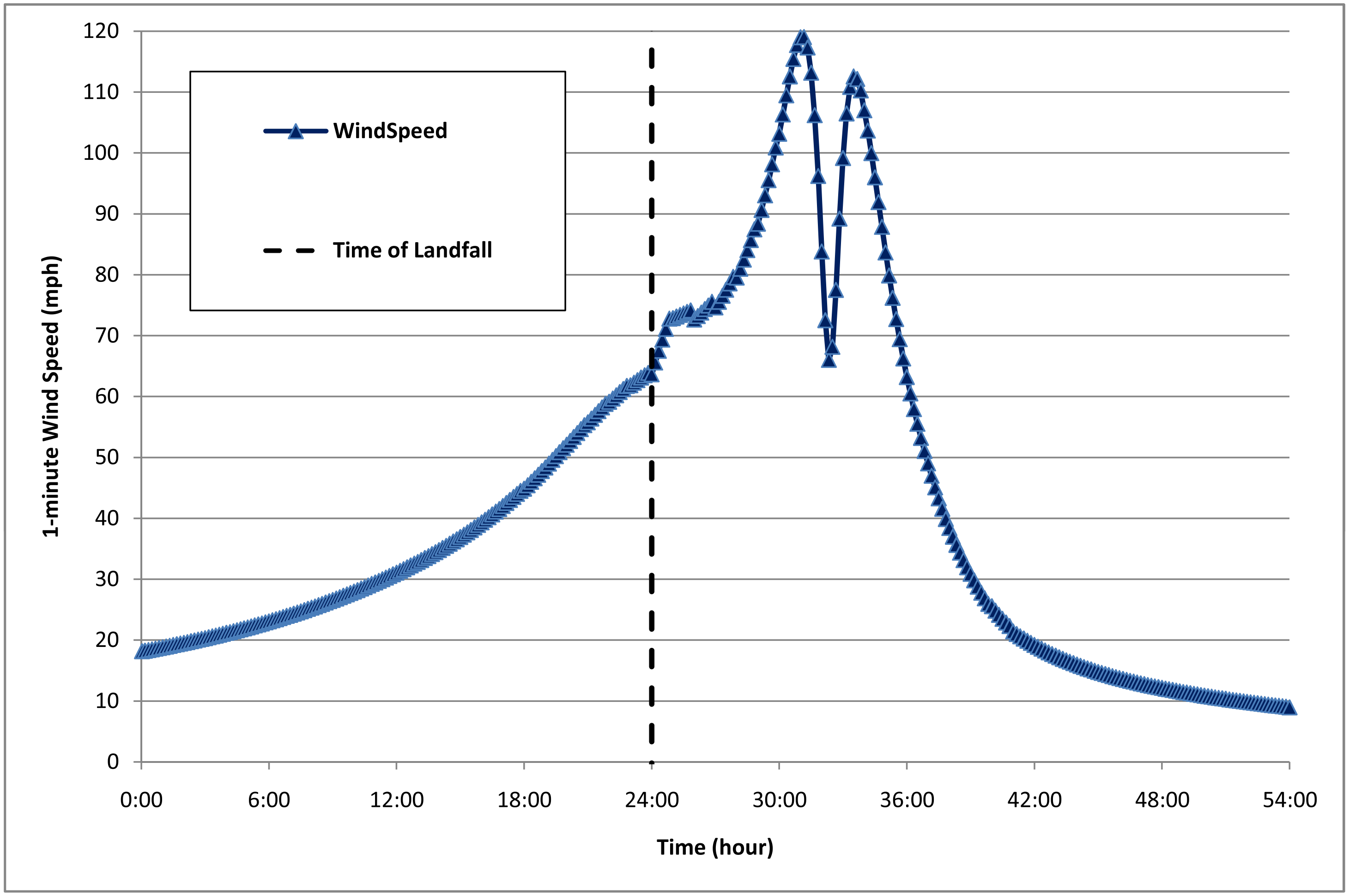


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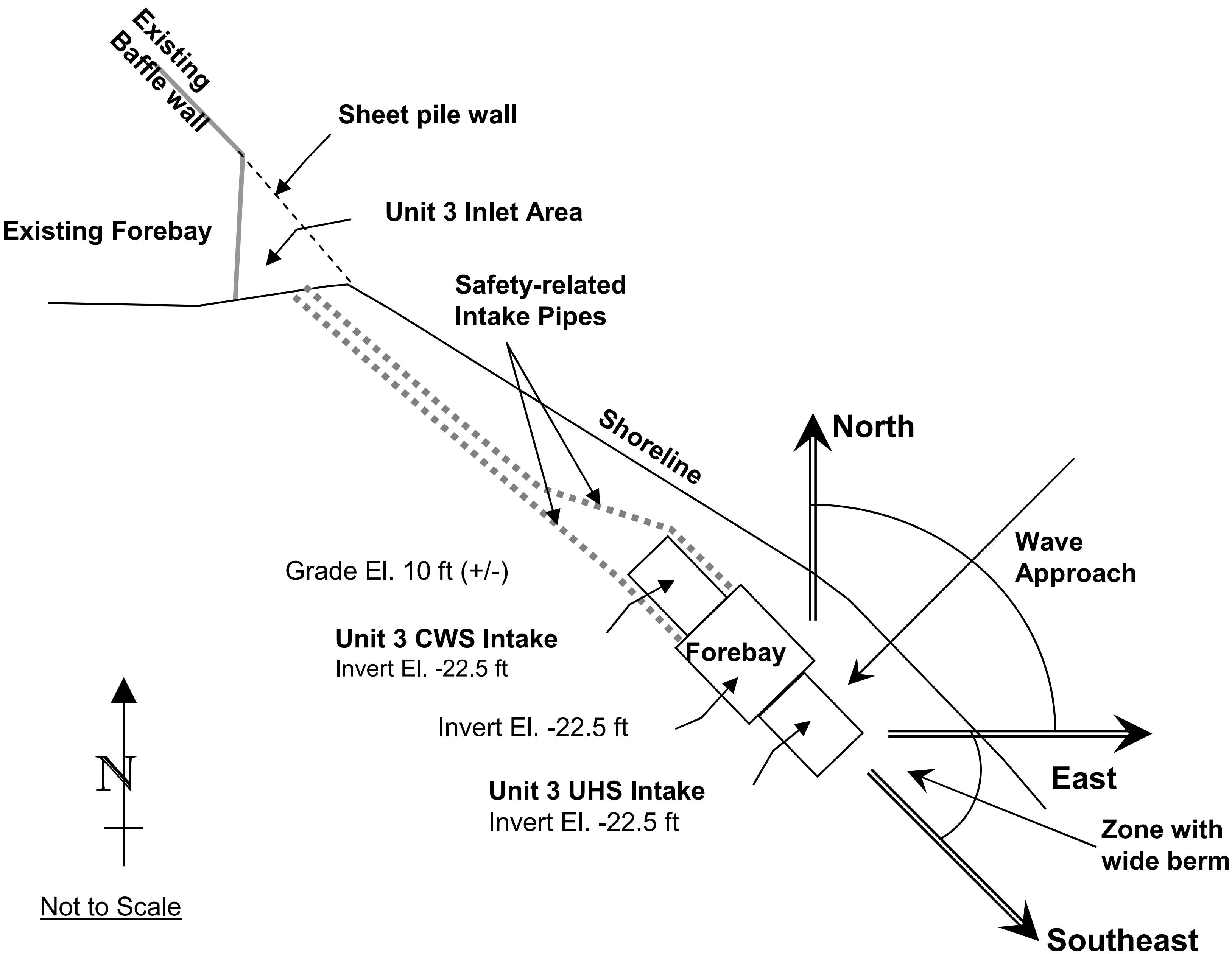
Figure 2.4-32 — {Schematic Description of UHS Makeup Water Intake Location and Exposure for Wind Wave Estimation}



CC3-10-0302

Figure 2.4-33 — {Schematic Diagram Wave Runup on the UHS Makeup Water Intake Structure (MWIS)}

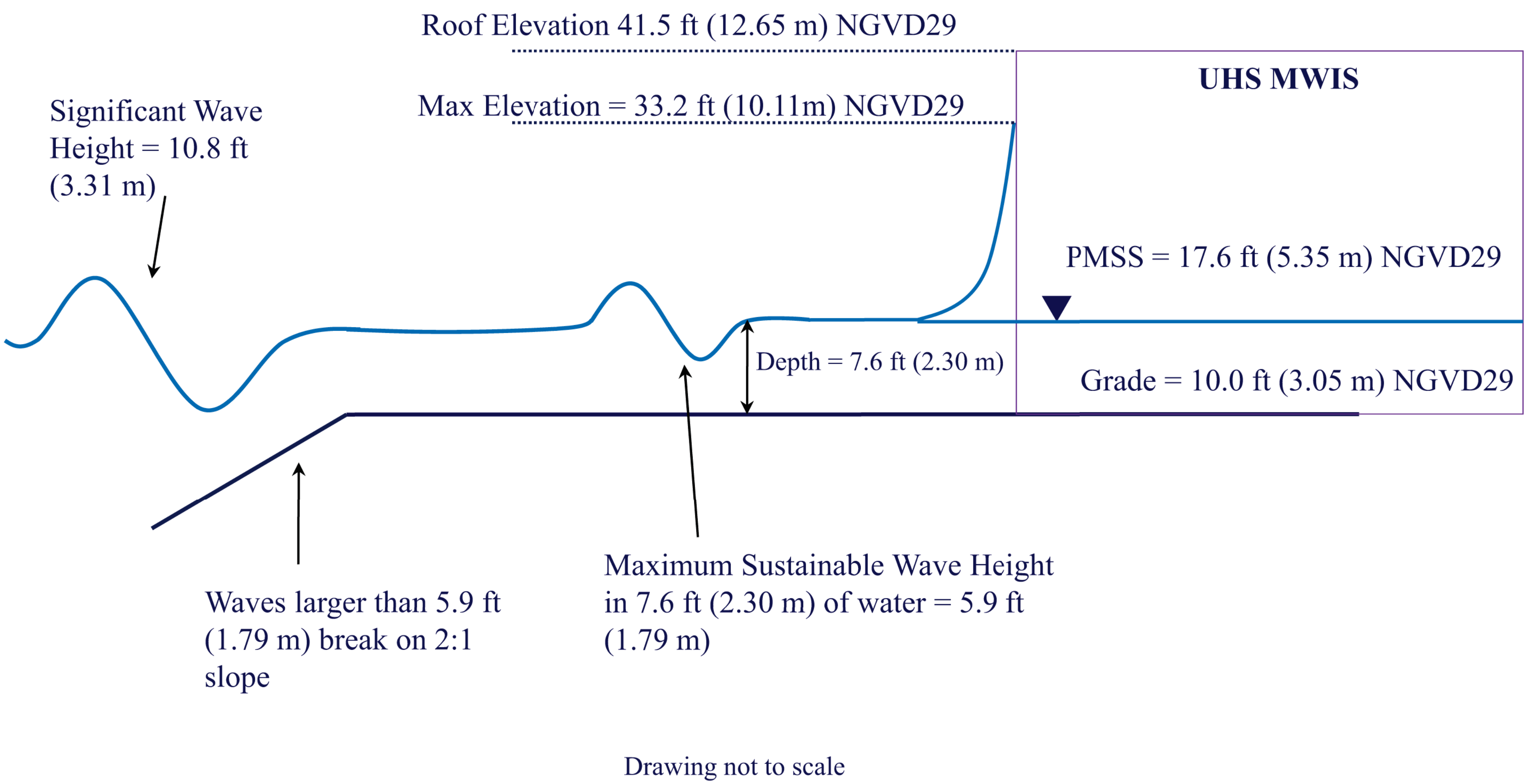


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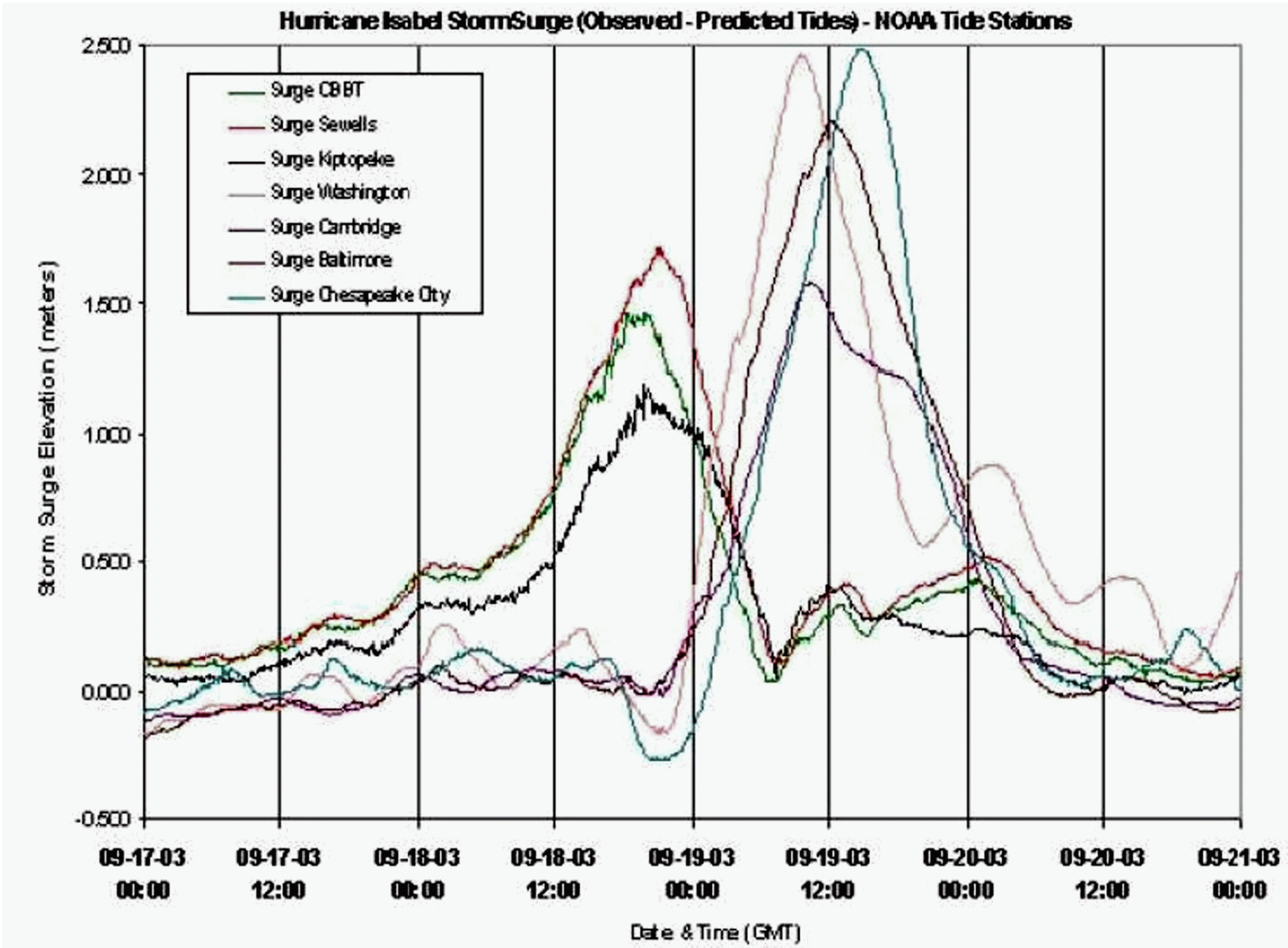
Figure 2.4-34 — {Storm Surge Heights at Different Locations in the Chesapeake Bay During Hurricane Isabel 2003}



* CBBT stands for Chesapeake Bay Bridge Tunnel

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Figure 2.4-35 — {Map Of Tsunami Source Generators}

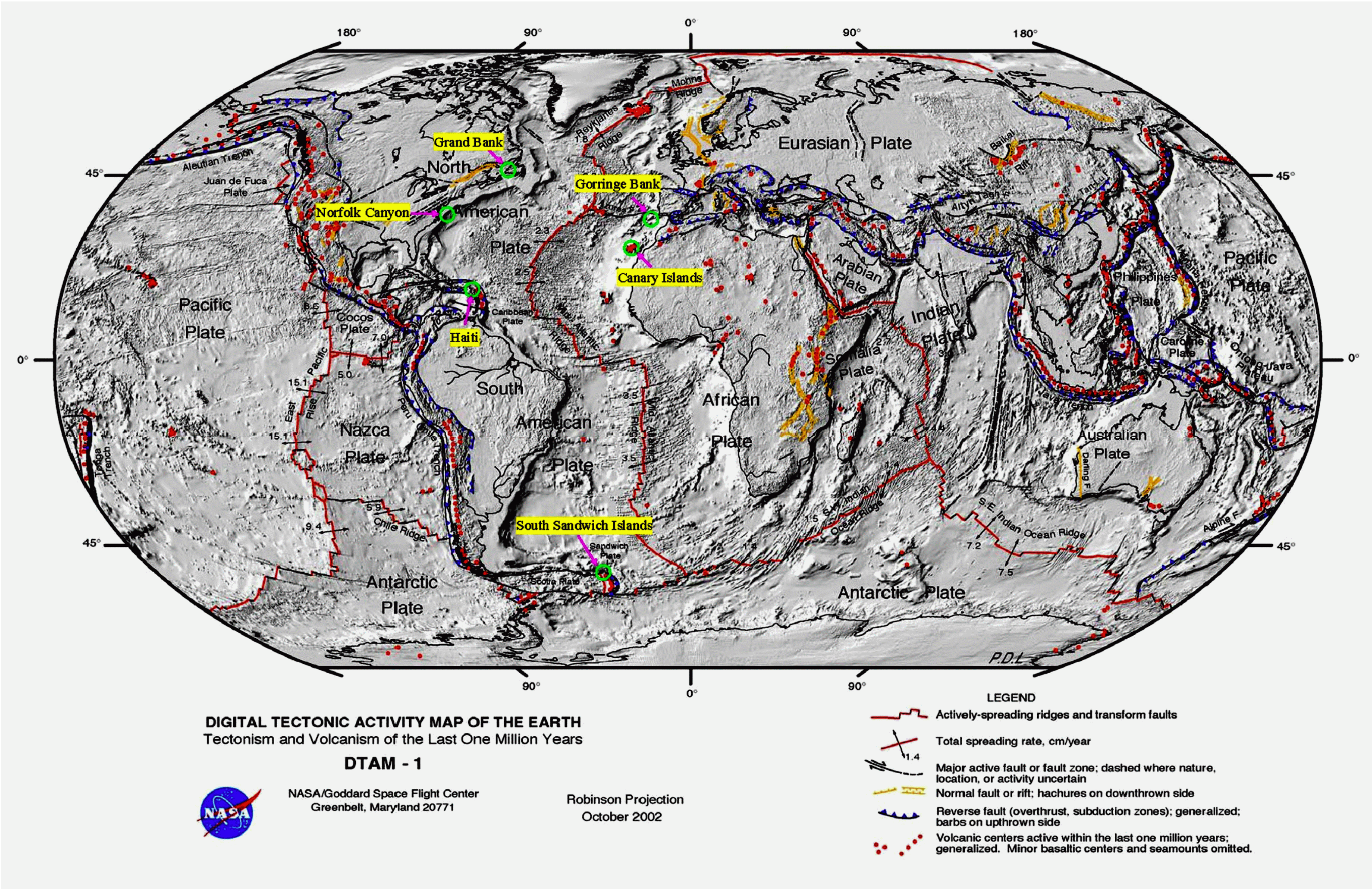

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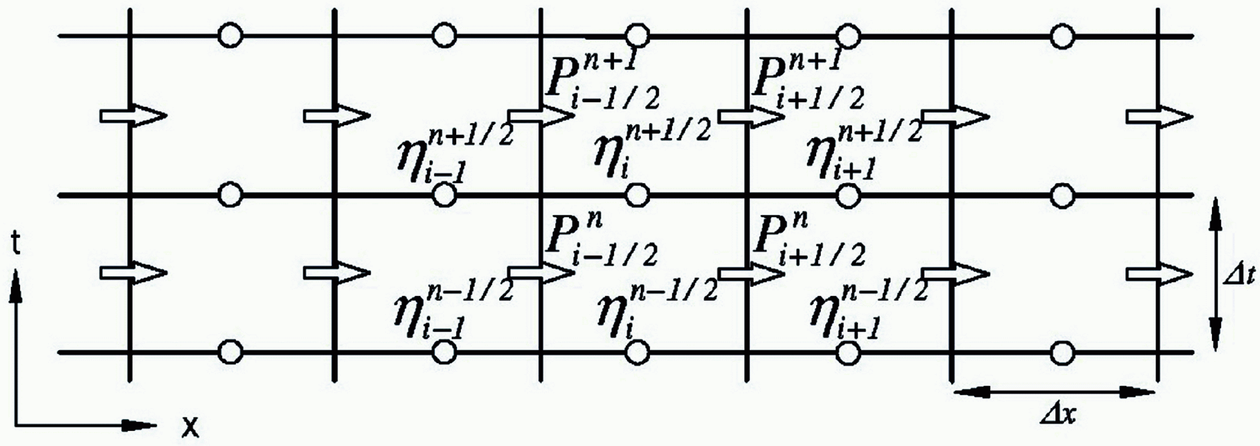
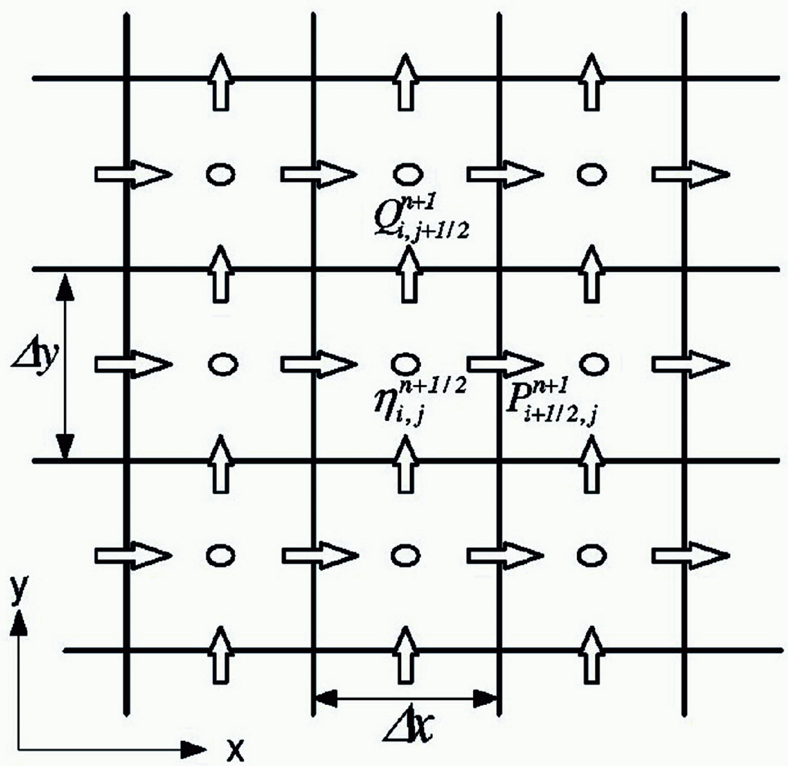
Figure 2.4-36 — {Staggered Grid for Leap-Frog Scheme}



(a) Time Domain



(b) Space Domain

Figure 2.4-37 — {Time Grid Scheme for Assignment of Variables}

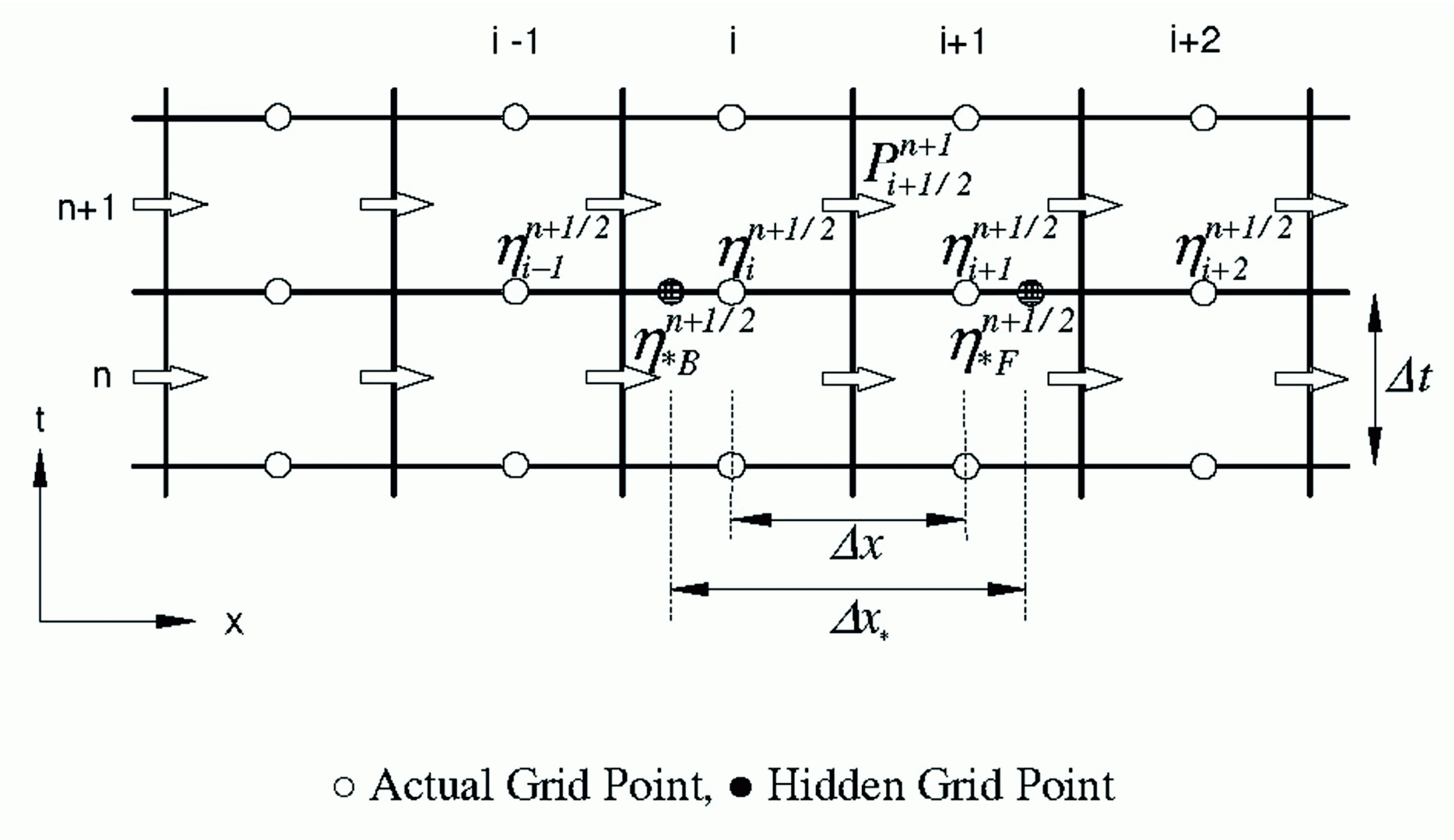


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Figure 2.4-38 — {Spatial Grid Scheme for Assignment of Variables}

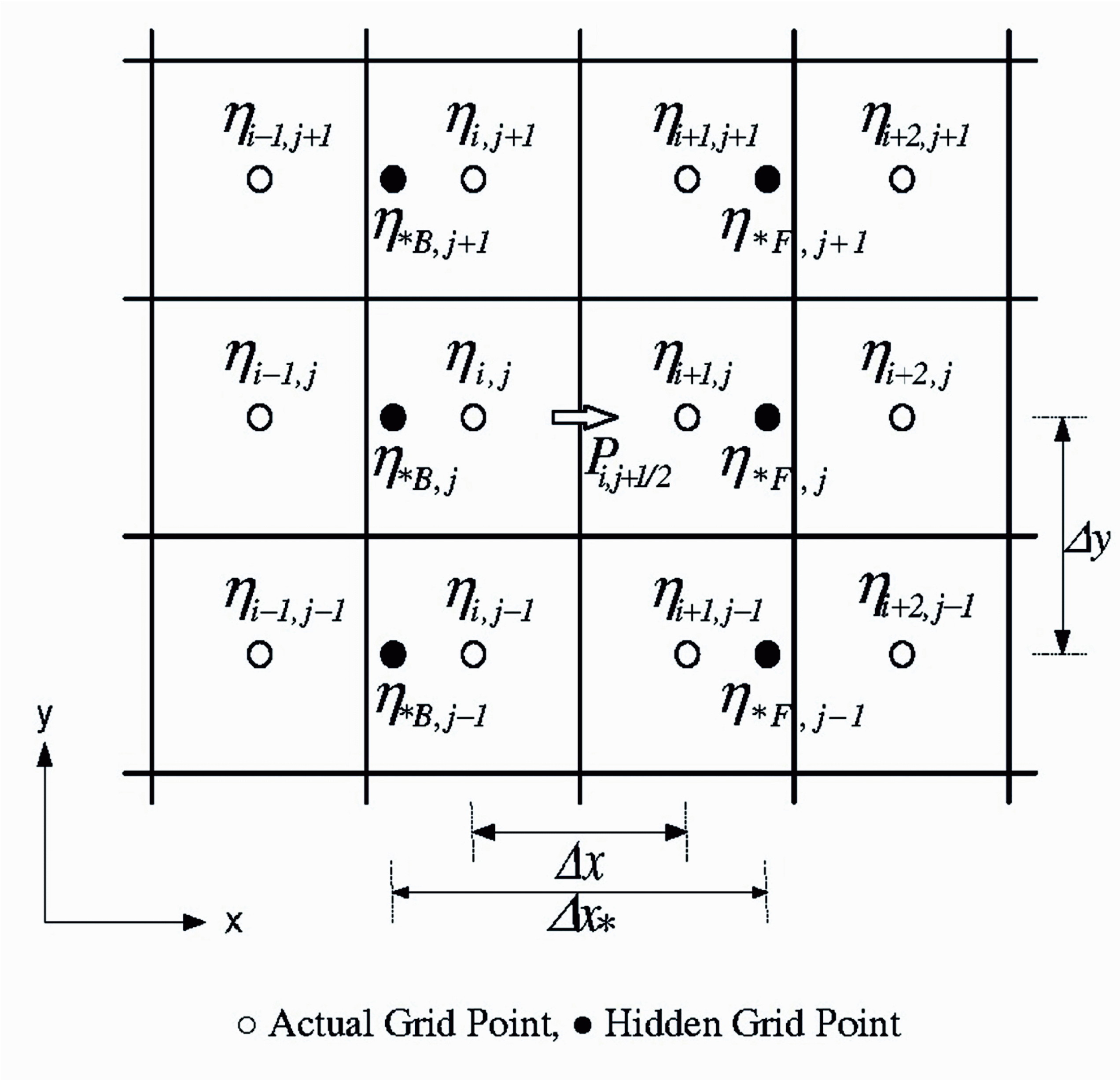

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Figure 2.4-39 — {Computational Domain and Model Bathymetry for Tsunami Simulation in Chesapeake Bay}

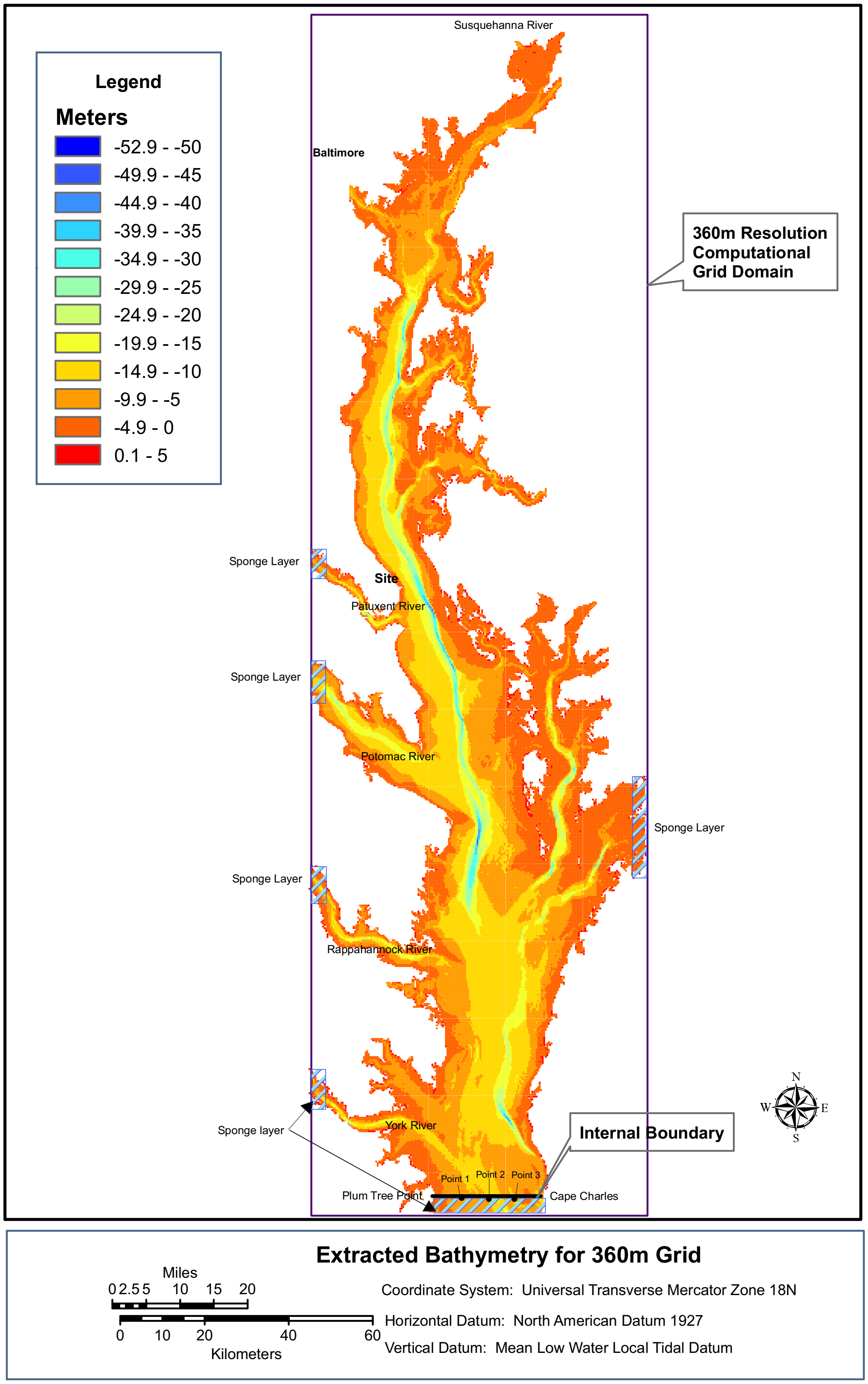

Figure 2.4-40 — {Water Levels Along Internal Boundary for Case 1, Nonlinear Model}

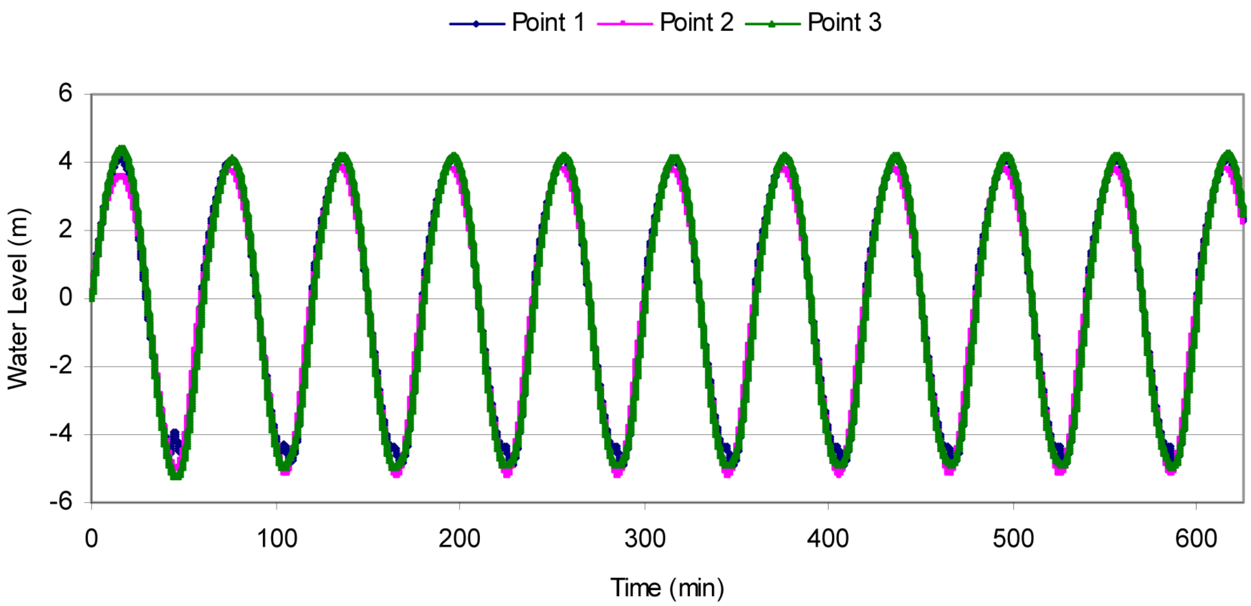

Figure 2.4-41 — {Water Levels Along Internal Boundary Case 2, Nonlinear Model}

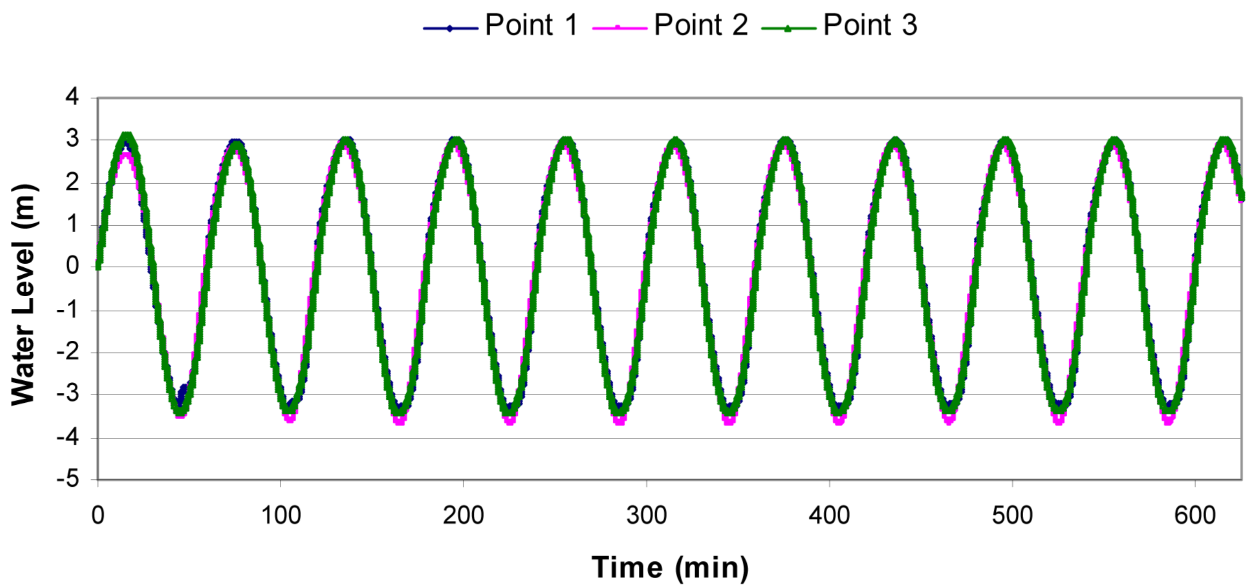

Figure 2.4-42 — {Water Levels Along Internal Boundary for Case 3, Nonlinear Model}

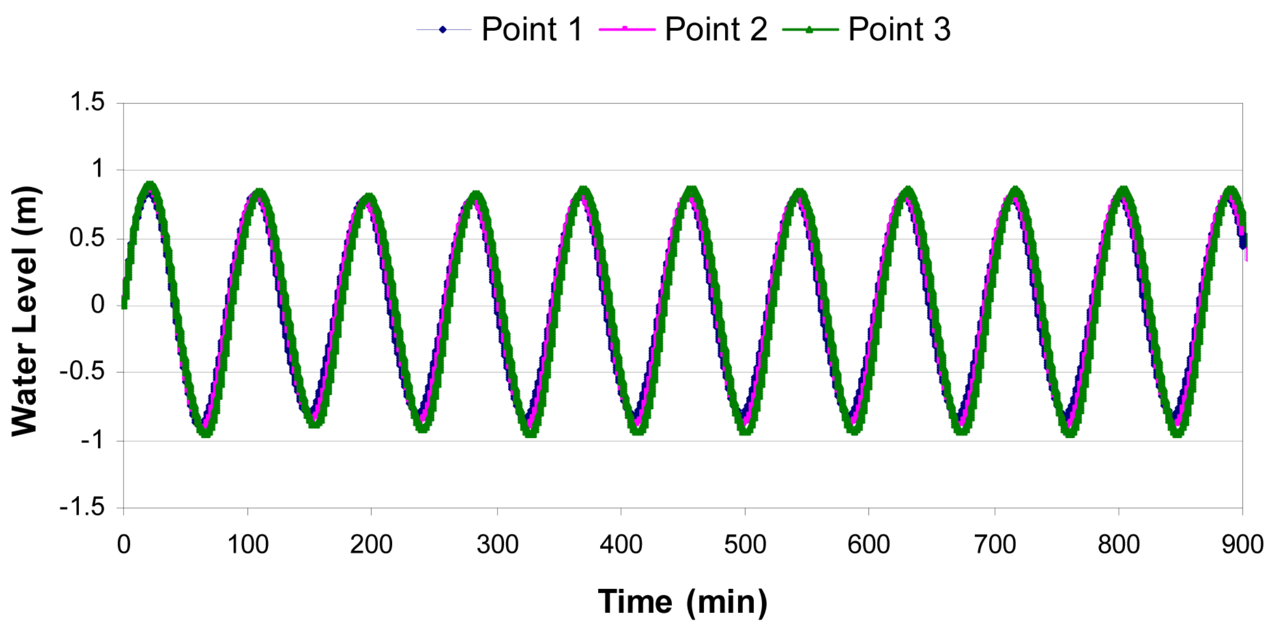

Figure 2.4-43 — {Water Levels Along Internal Boundary for Case 3, Linear Model}

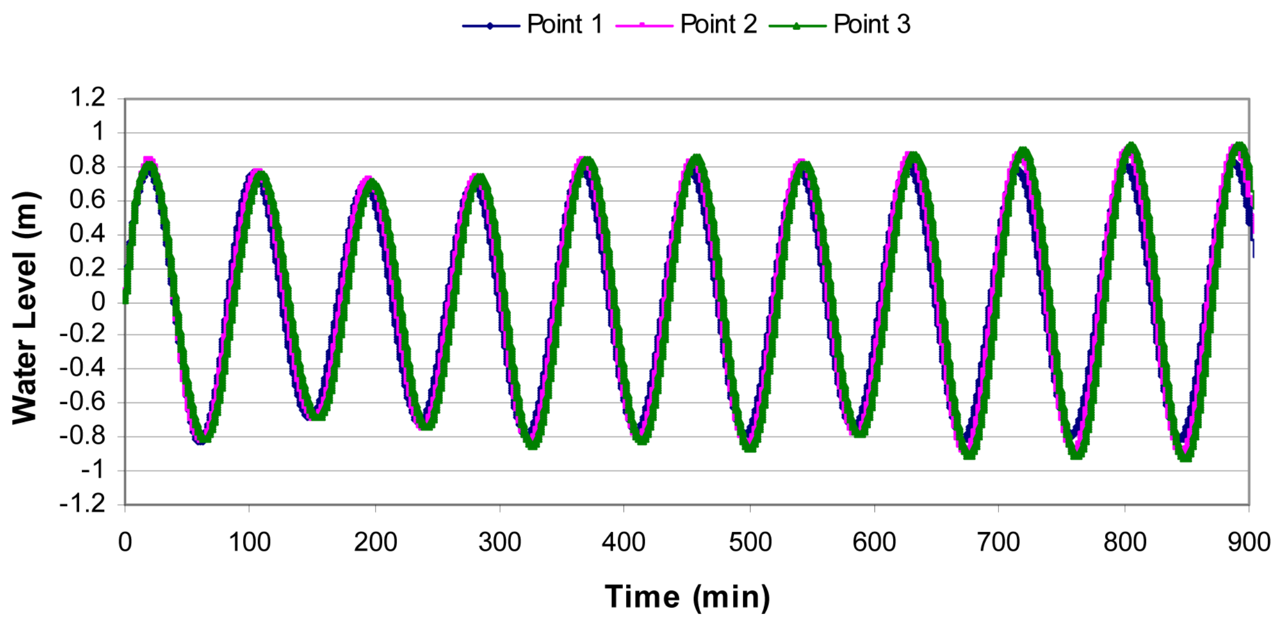

Figure 2.4-44 — {Time History Of Tsunami Water Levels Case 1 through 3, Nonlinear Model}

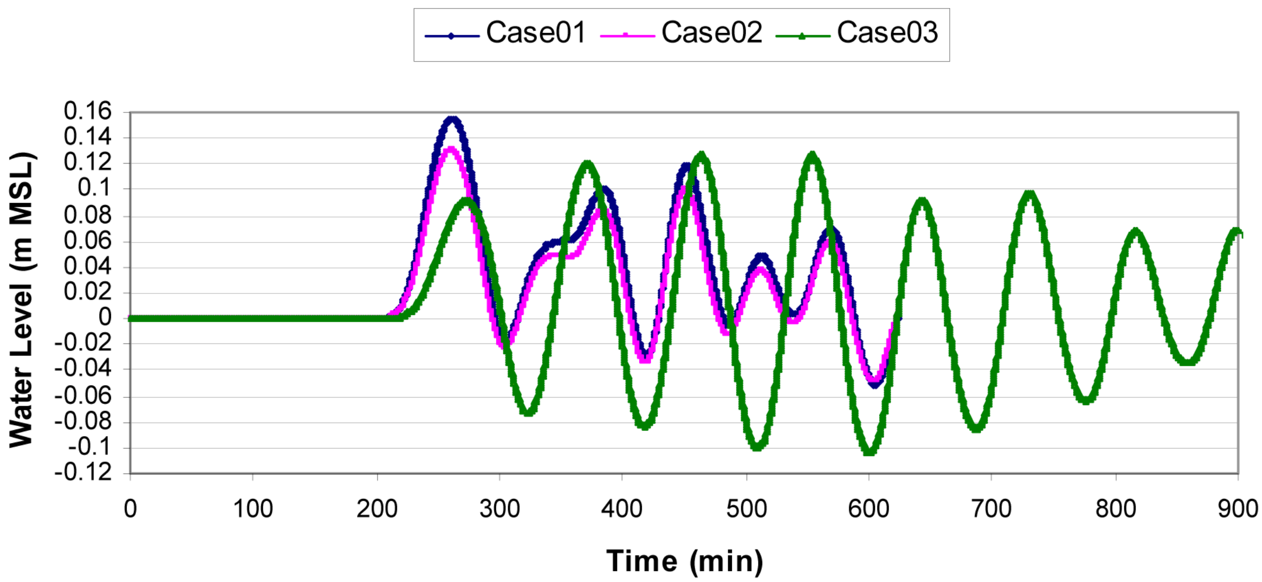

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Figure 2.4-45 — {Time History Of Tsunami Water Levels Case 1 through 3 Linear Model}

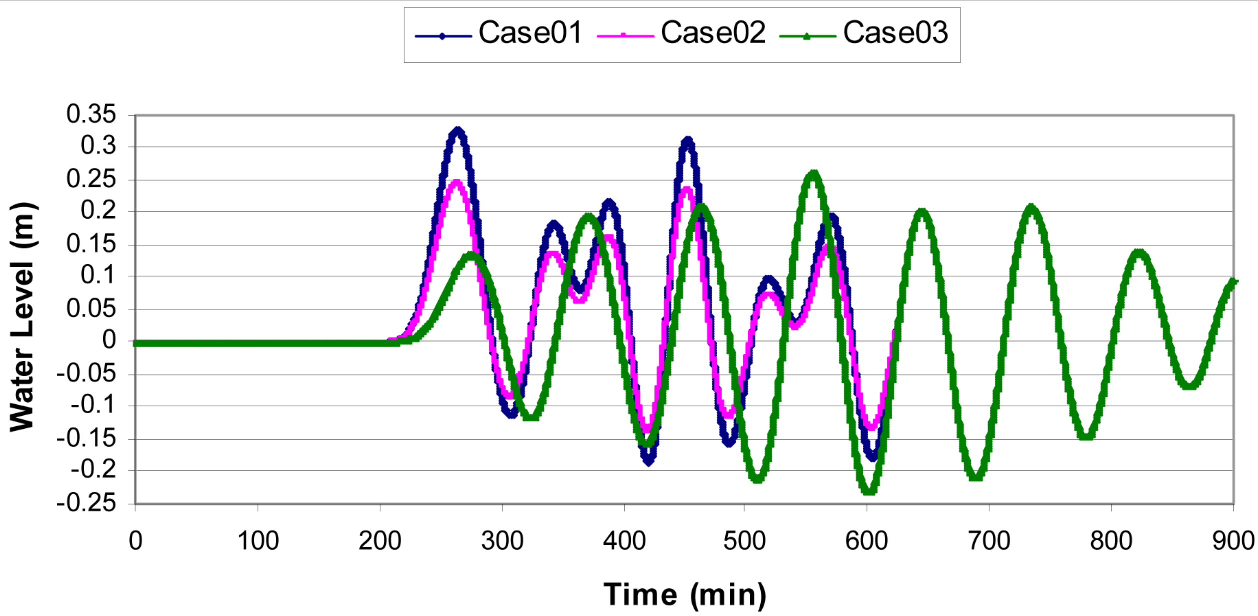

Figure 2.4-46 — {General Site Region}

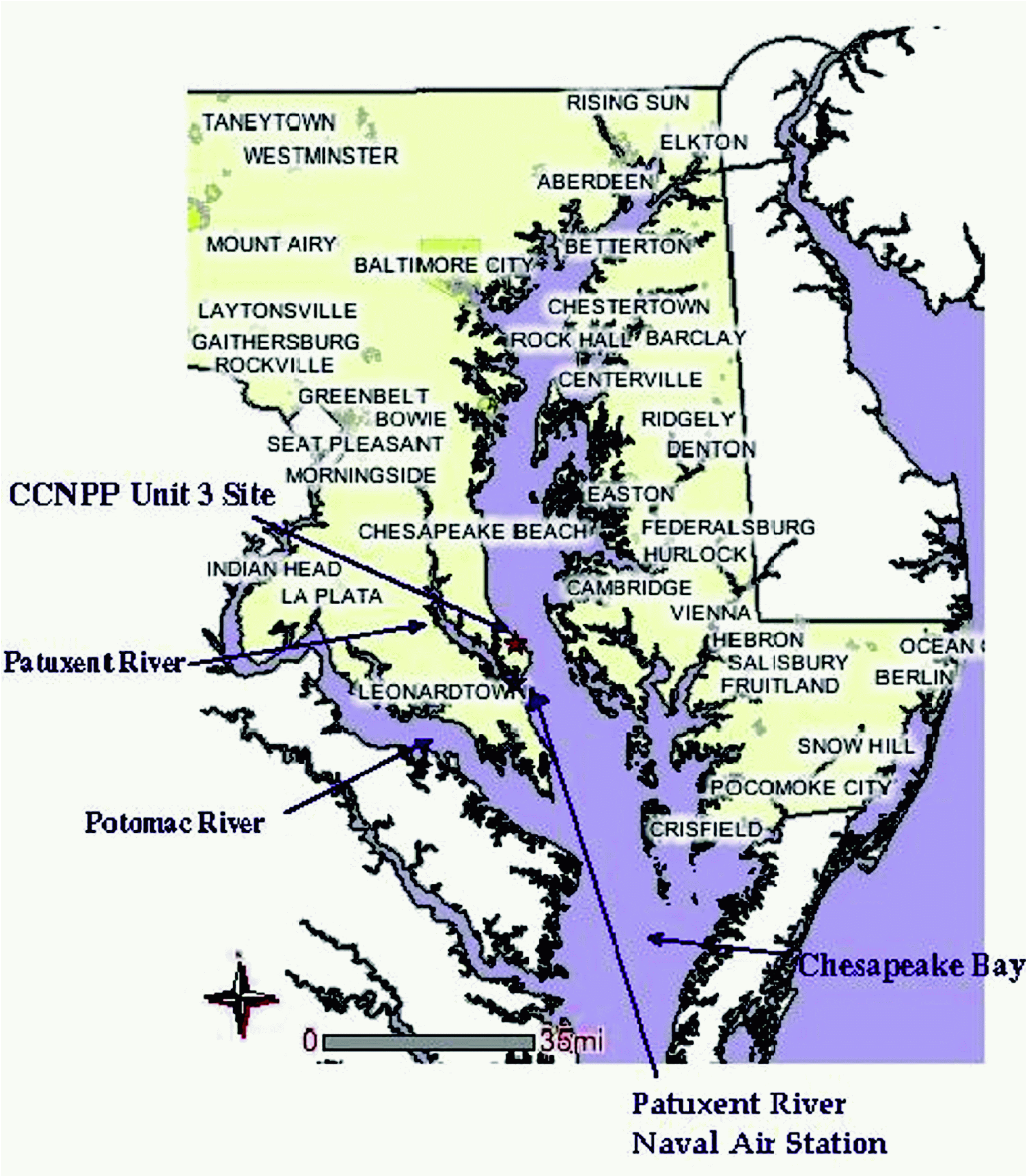

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Figure 2.4-47 — {South Chesapeake Bay Ice Analysis- January 28, 2000}

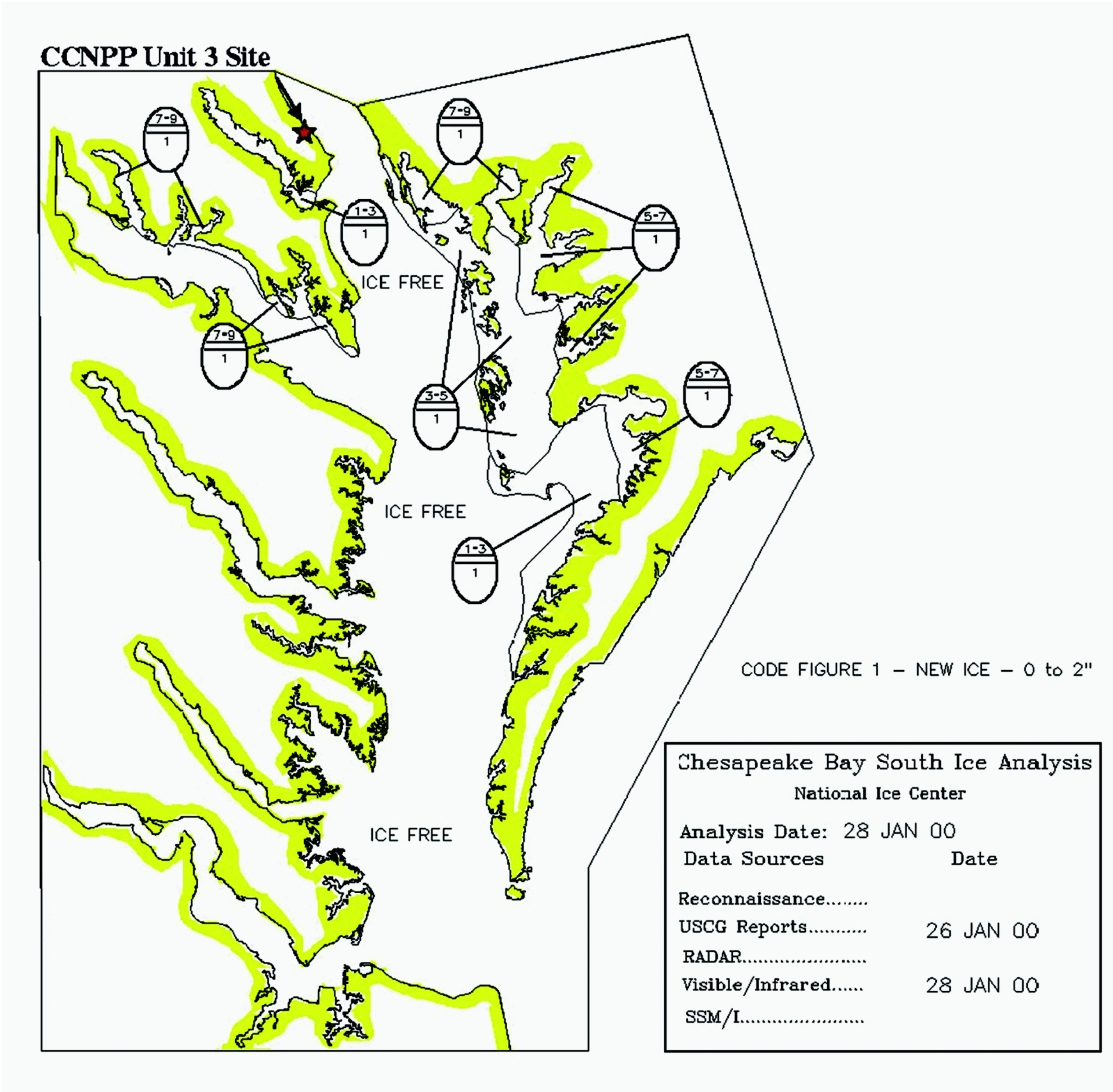

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Figure 2.4-48 — {South Chesapeake Bay Ice Analysis- February 01, 2004}

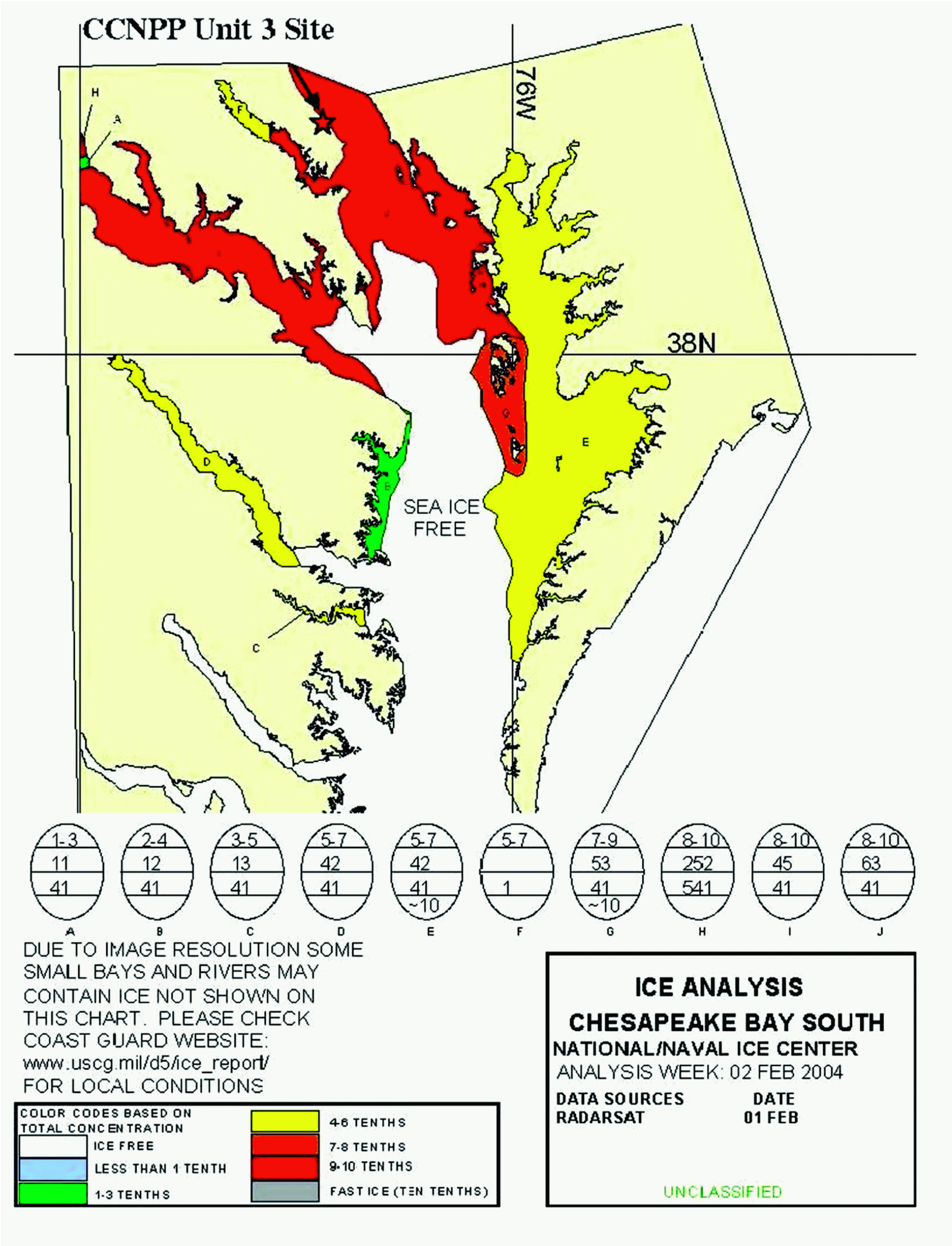

Figure 2.4-49 — {South Chesapeake Bay Ice Analysis- January 24, 2005}

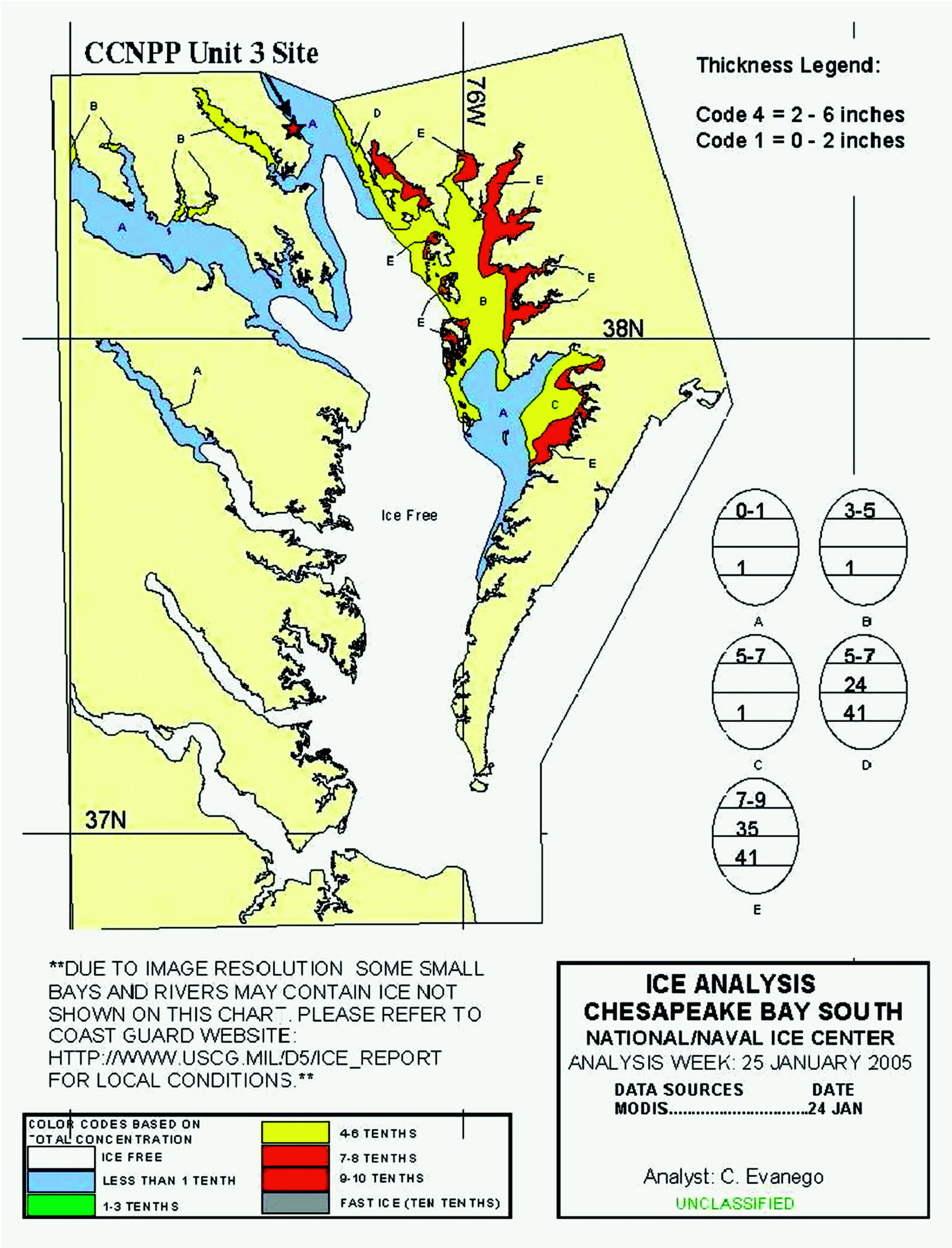

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Figure 2.4-50 — {South Chesapeake Bay Ice Analysis- January 26, 2005}

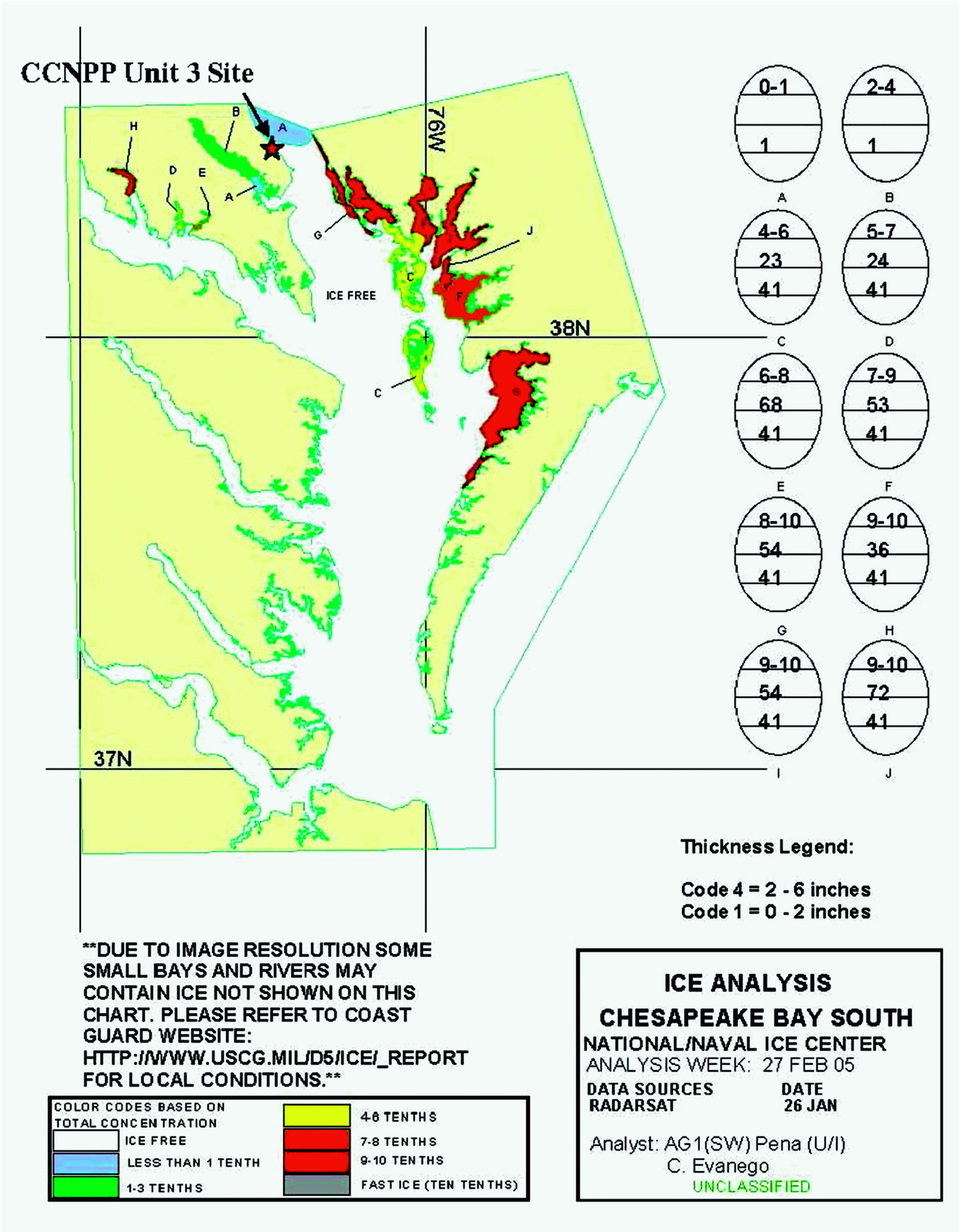
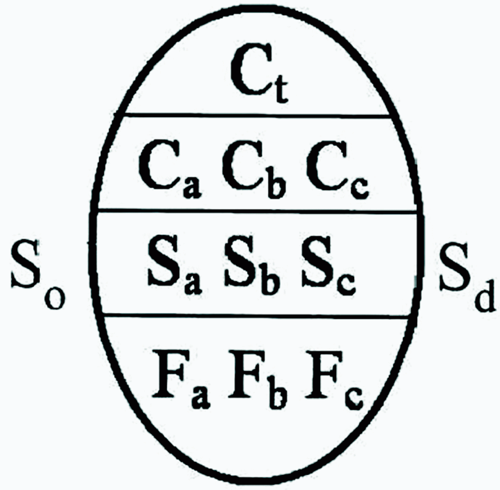


Figure 2.4-51 — {EGG Code}

National Ice Center
Naval Ice Center

The World Meteorology Organization (WMO) system for sea ice symbology is more frequently referred to as the "Egg Code" due to the oval shape of the symbol. Click on portions of the egg for additional information.



C_t - Total concentration of ice in area, reported in tenths.
Concentration may be expressed as a single number or as a range, not to exceed two tenths (3-5, 5-7 etc.)

C_a C_b C_c - Partial concentration (C_a, C_b, C_c) are reported in tenths, but must be reported as a single digit. These are reported in order of decreasing thickness. C_a is the concentration of the thickest ice and C_c is the concentration of the thinnest ice.

S_a S_b S_c - Stages of development (S_a, S_b, S_c) are listed using the following code in decreasing order of thickness. (NOTE: If there is a dot (.), all stage of development codes to the left of the dot (.) are assumed to carry the dot (.)) These codes are directly correlated with the partial concentrations above. C_a is the concentration of stage S_a, C_b is the concentration of stage S_b, and C_c is the concentration of S_c. (**Table 1**)

F_a F_b F_c - Predominant form of ice (floe size) corresponding to S_a, S_b and S_c respectively. (**Table 2**)

S_o S_d - Development stage (age) of remaining ice types. So if reported is a trace of ice type thicker/older than S_a. S_d is a thinner ice type which is reported when there are four or more ice thickness types.

Figure 2.4-52 — {EGG Code: Stages Of Ice Development}

The following codes are used to denote forms of sea ice:		*The following codes are used to denote forms of sea ice for fresh water ice:*	
Forms of Sea Ice	**Code Figure**	**Forms of Sea Ice**	**Code Figure**
New Ice (0 cm - 10 cm)	X	Fast Ice	8
Pancake Ice (30 cm - 3 m)	0	Belts and Strips symbol followed by the concentration of ice	~F
Brash Ice (less than 2 m)	1		
Ice Cake (3 m - 20 m)	2		
Small Ice Floe (20 m - 100 m)	3		
Medium Ice Floe (100 m - 500 m)	4		
Big Ice Floe (500 m - 2 km)	5		
Vast Ice Floe (2 km - 10 km)	6		
Giant Ice Floe (greater than 10 km)	7		
Fast Ice	8		
Ice of Land Origin	9		
Undetermined or Unknown (Iceberg, Growlers, Bergy Bits) (Used for Fa, Fb, Fc, only)	/		

Figure 2.4-53 — {EGG Code: Predominant Forms Of Ice}

The following codes are used to denote stages of development for sea ice.		*The following codes are used to denote stages of development for fresh water ice:*	
Stage of Development	**Code Figure**	**Stage of Development**	**Code Figure**
New Ice-Frazil, Grease, Slush, Shuga (0-10 cm)	1	New Ice (0 cm - 5 cm)	1
Nilas, Ice Rind (0 - 10 cm)	2	Thin Ice (5 cm - 15 cm)	4
Young (10 - 30 cm)	3	Medium Ice (15 cm - 30 cm)	5
Gray (10 - 15 cm)	4	Thick Ice (30 cm - 70 cm)	7
Gray - White (15 - 30 cm)	5	First Stage Thick Ice (30 cm - 50 cm)	8
First Year (30 - 200 cm)	6	Second Stage Thick Ice (50 cm - 70 cm)	9
First Year Thin (30 - 70 cm)	7	Very Thick Ice (70 cm - 120 cm)	1.
First Year Thin- First Stage (30 - 70 cm)	8		
First Year Thin- Second Stage (30 - 70 cm)	9		
Med First Year (70 - 120 cm)	1.		
Thick First Year (>120 cm)	4.		
Old-Survived at least one seasons melt (>2 m)	7.		
Second Year (>2 m)	8.		
Multi-Year (>2 m)	9.		
Ice of Land Origin	▲●		

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Figure 2.4-54 — {Change In The Chesapeake Bay Shoreline Position Near The CCNPP Unit 3 Site Between 1848, 1942 and 1993}

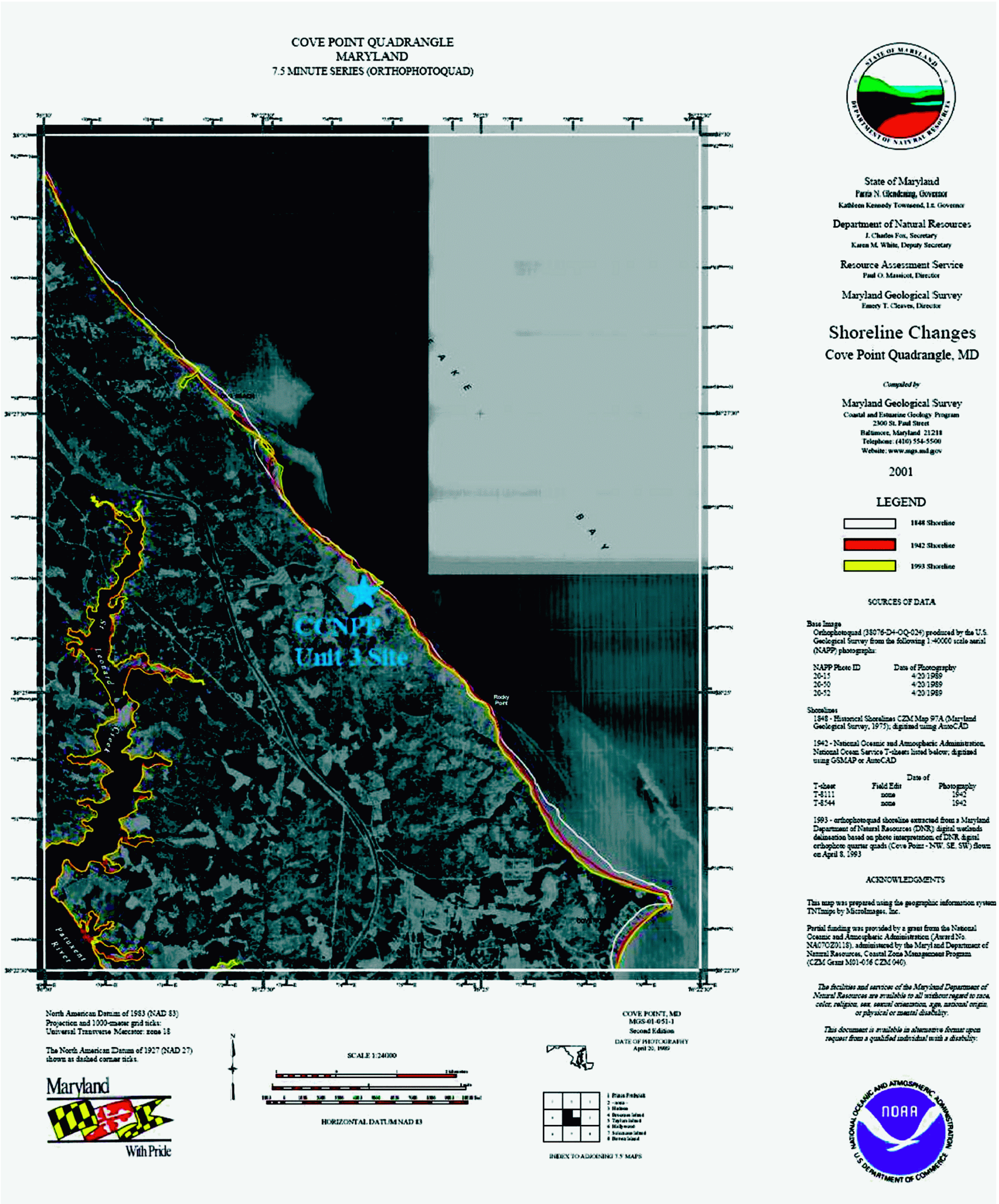

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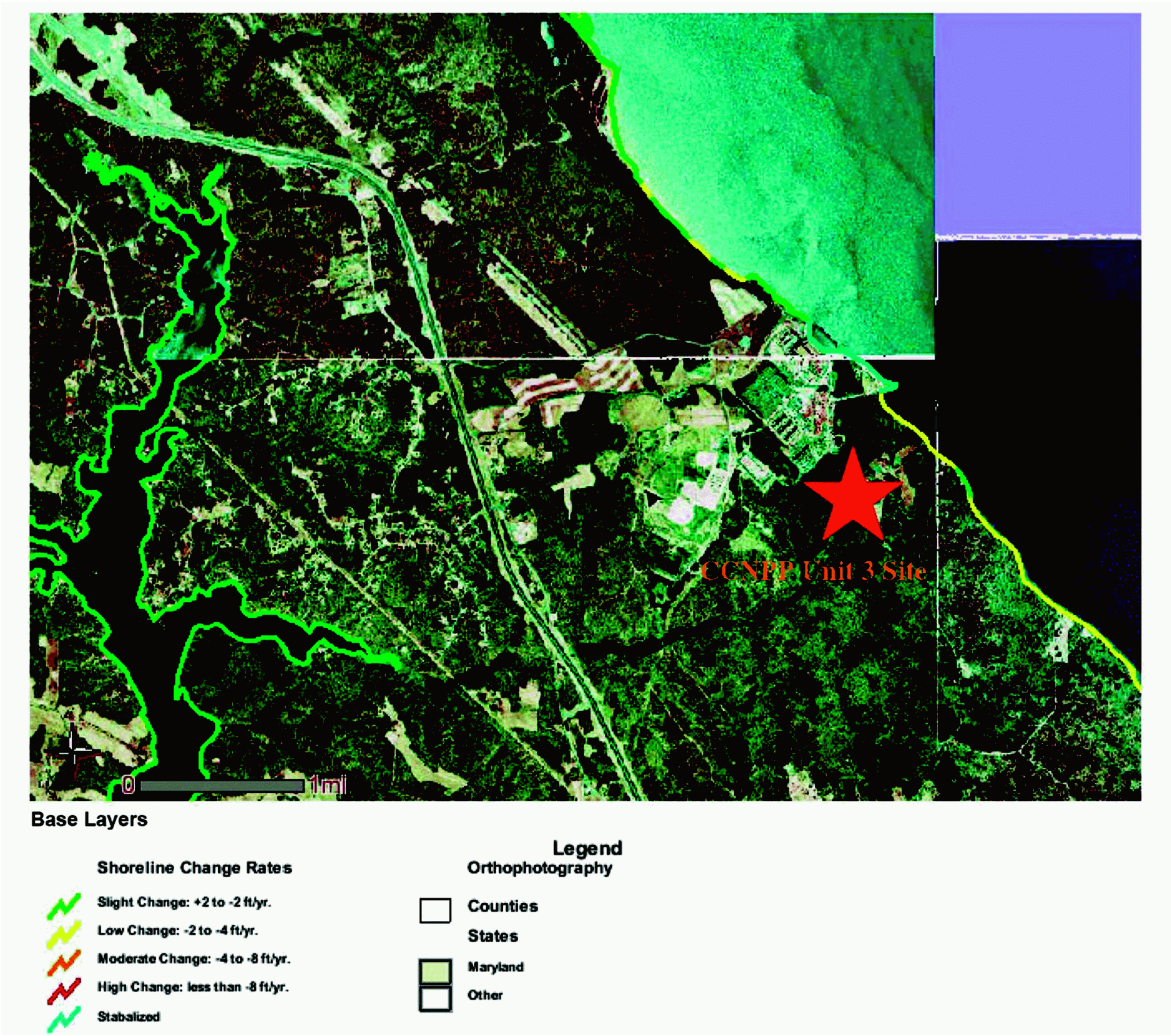
Figure 2.4-55 — {Chesapeake Bay Shoreline Erosion Rates Near The CCNPP Unit 3 Site Estimated By Maryland Department Of Natural Resources}



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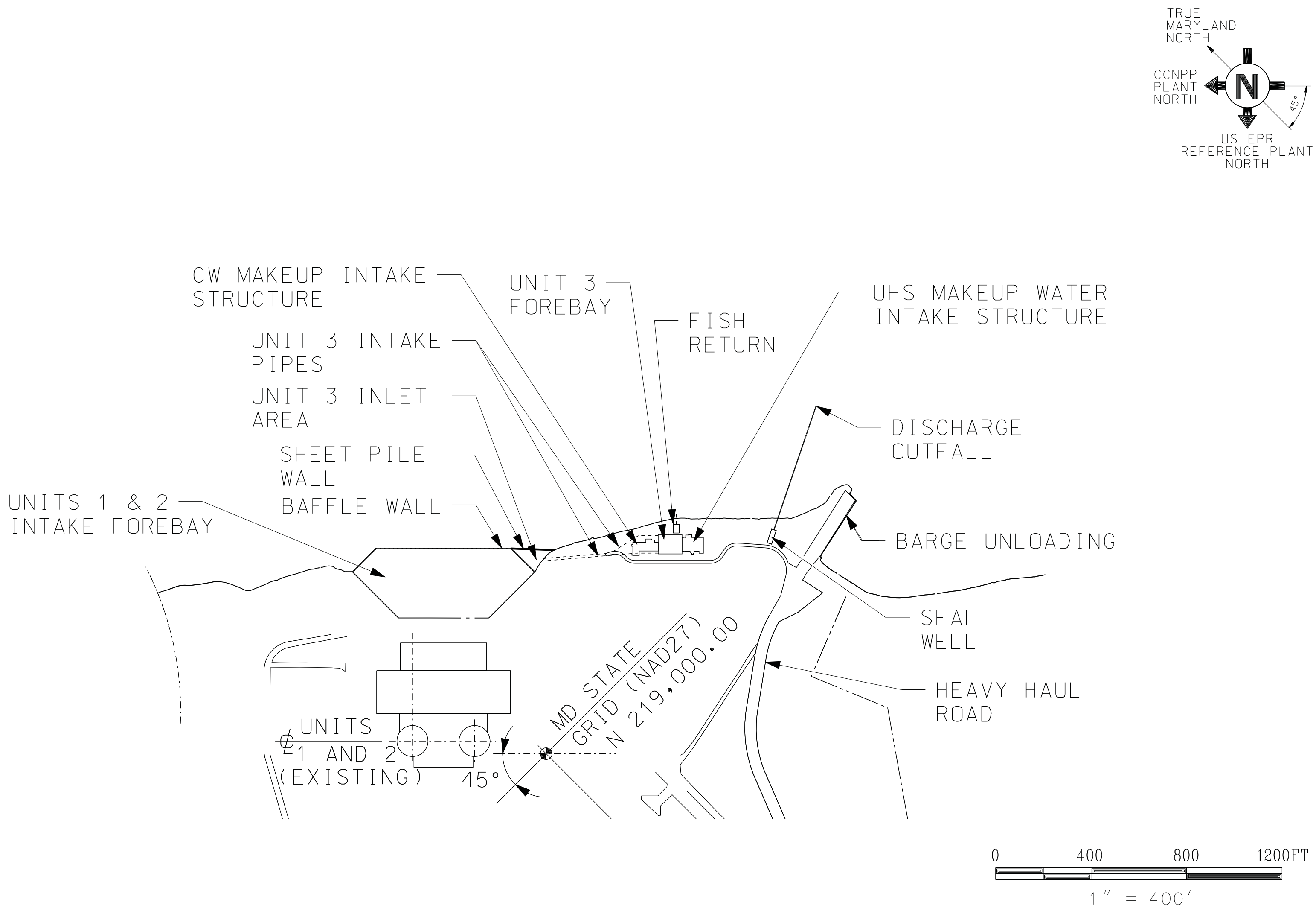
CC3-10-0302

Figure 2.4-56 — {UHS Make-Up Intake Structure}



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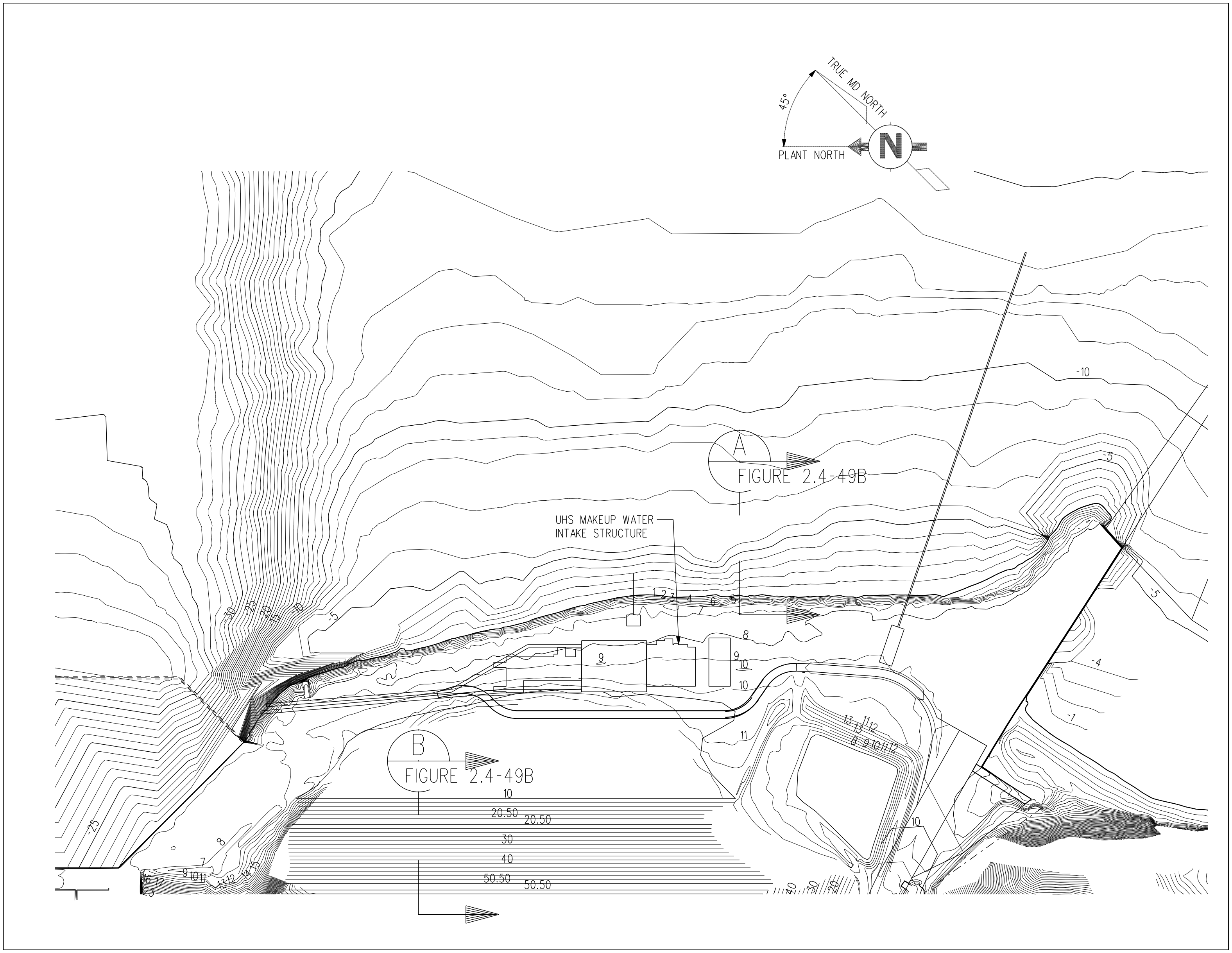
CC3-12-0328

Figure 2.4-57 — {Shoreline Area and Bathymetry}



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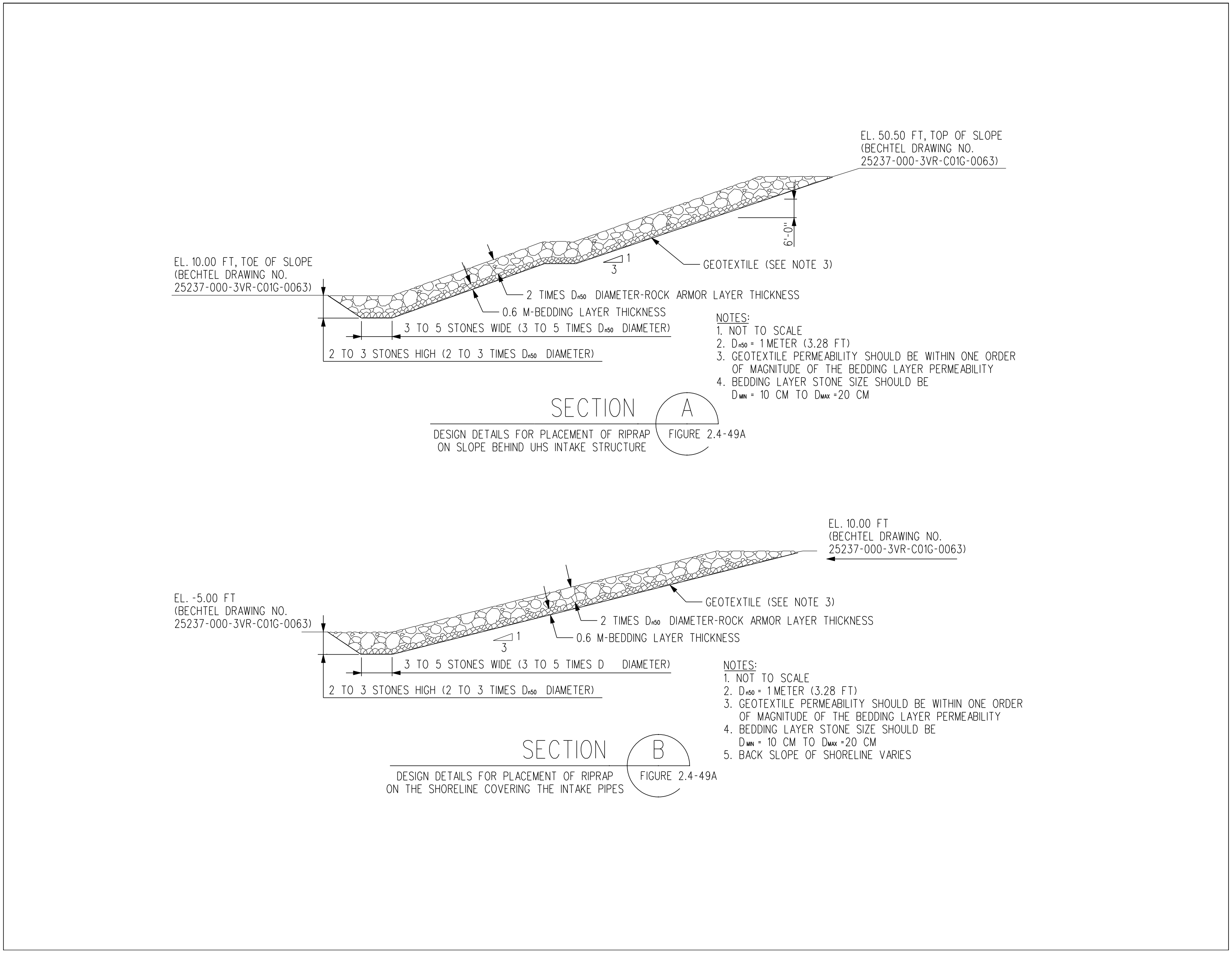
CC3-12-0328

Figure 2.4-58 — {Riprap Protection}



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CC3-12-0328

Figure 2.4-59 — {Unit 3 Forebay Cover}

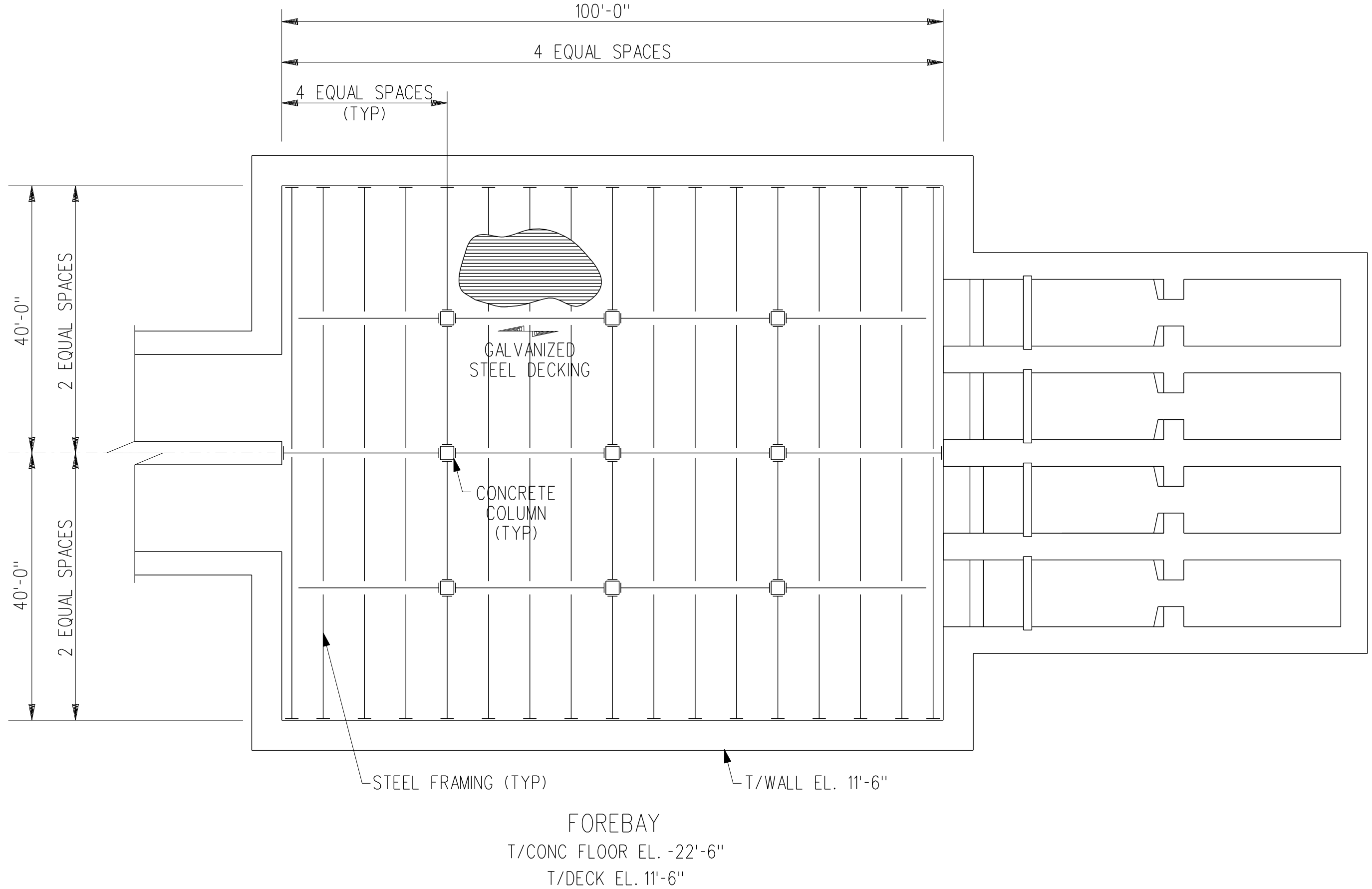

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Figure 2.4-60 — {Track Of The Probable Maximum Hurricane}

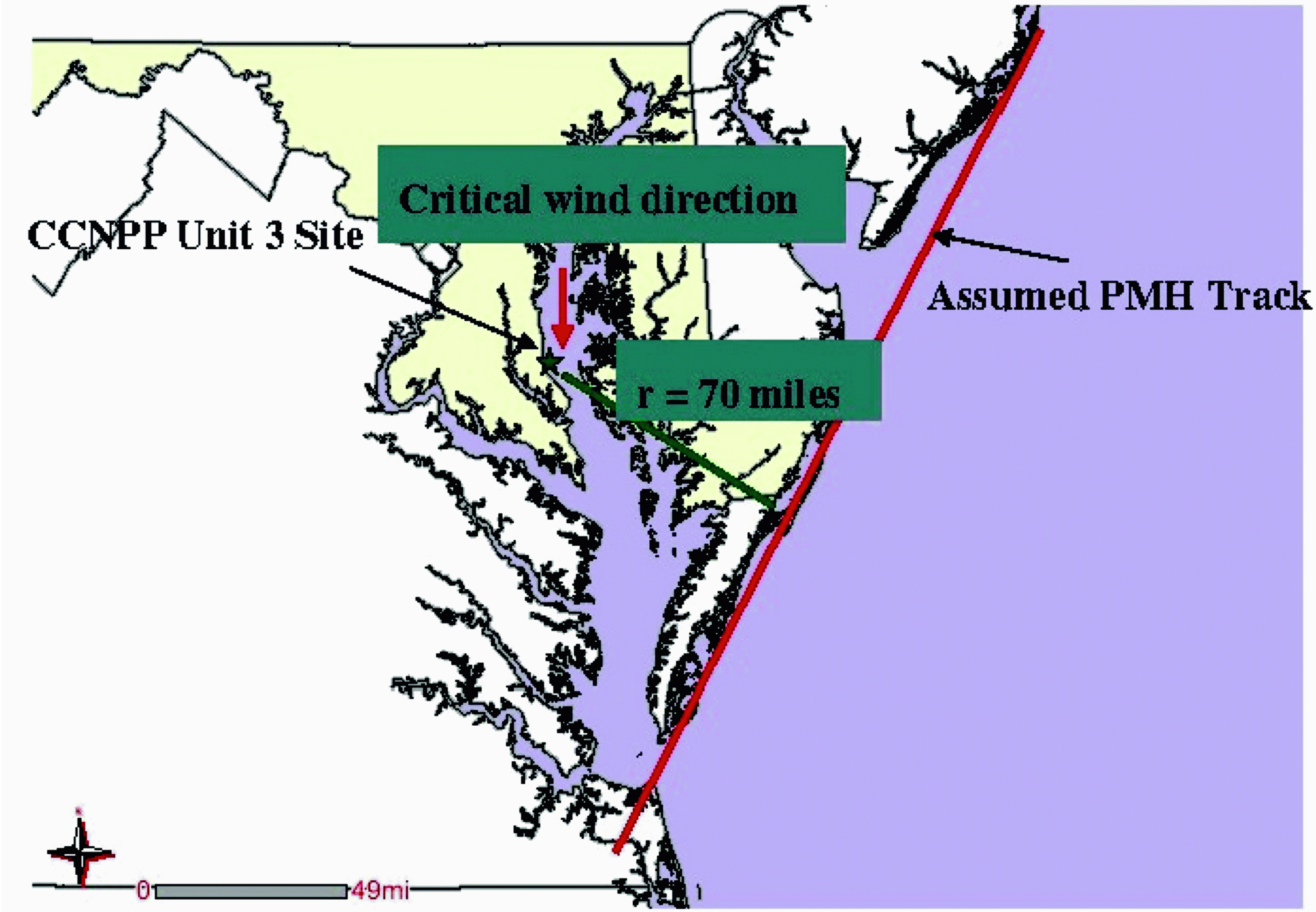

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Figure 2.4-61 — {CCNPP Unit 3 Site Location}

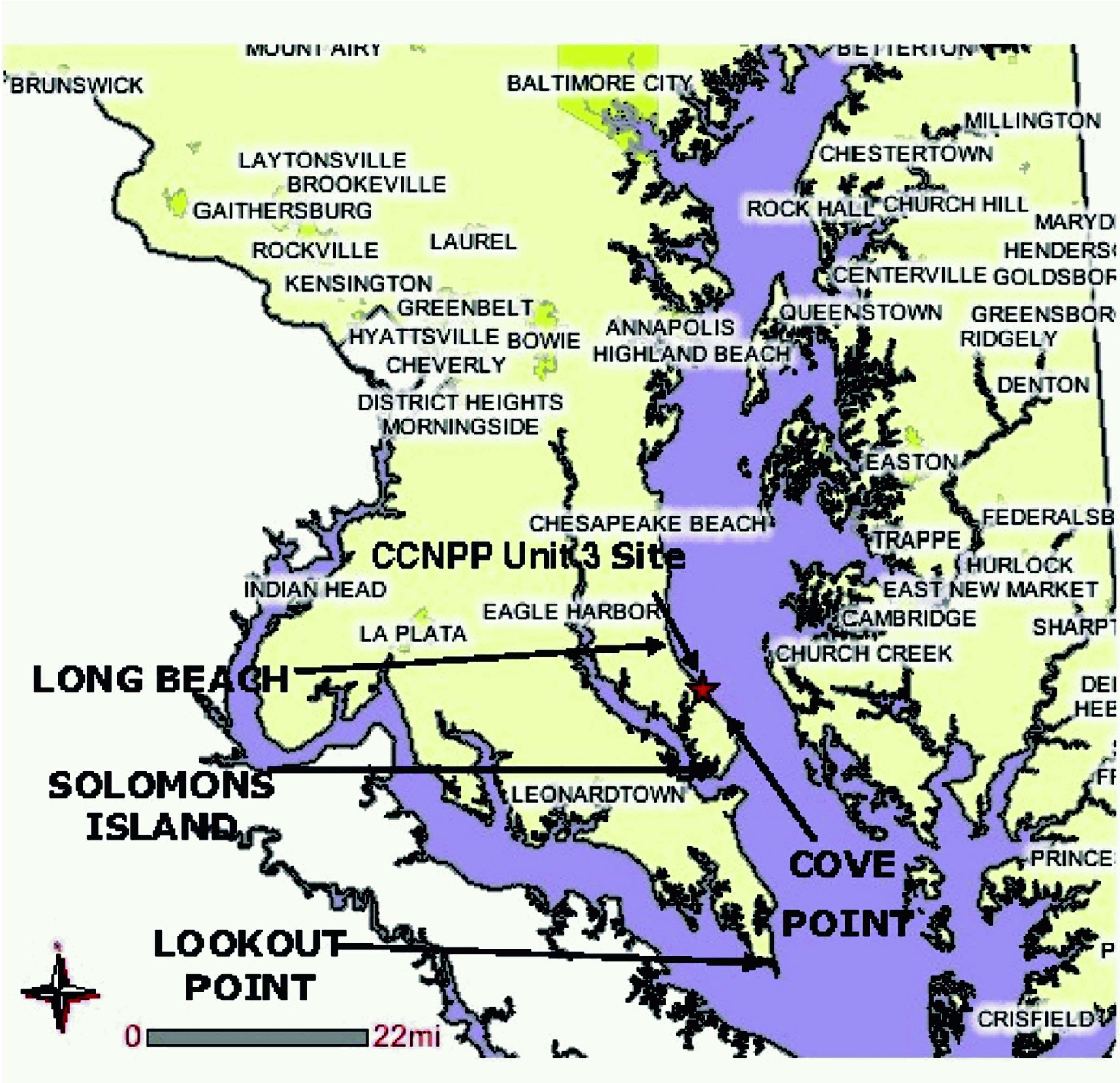

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Figure 2.4-62 — {Low Water Level Data Of Annapolis Station And The Curve Fitted By Visual Inspection}

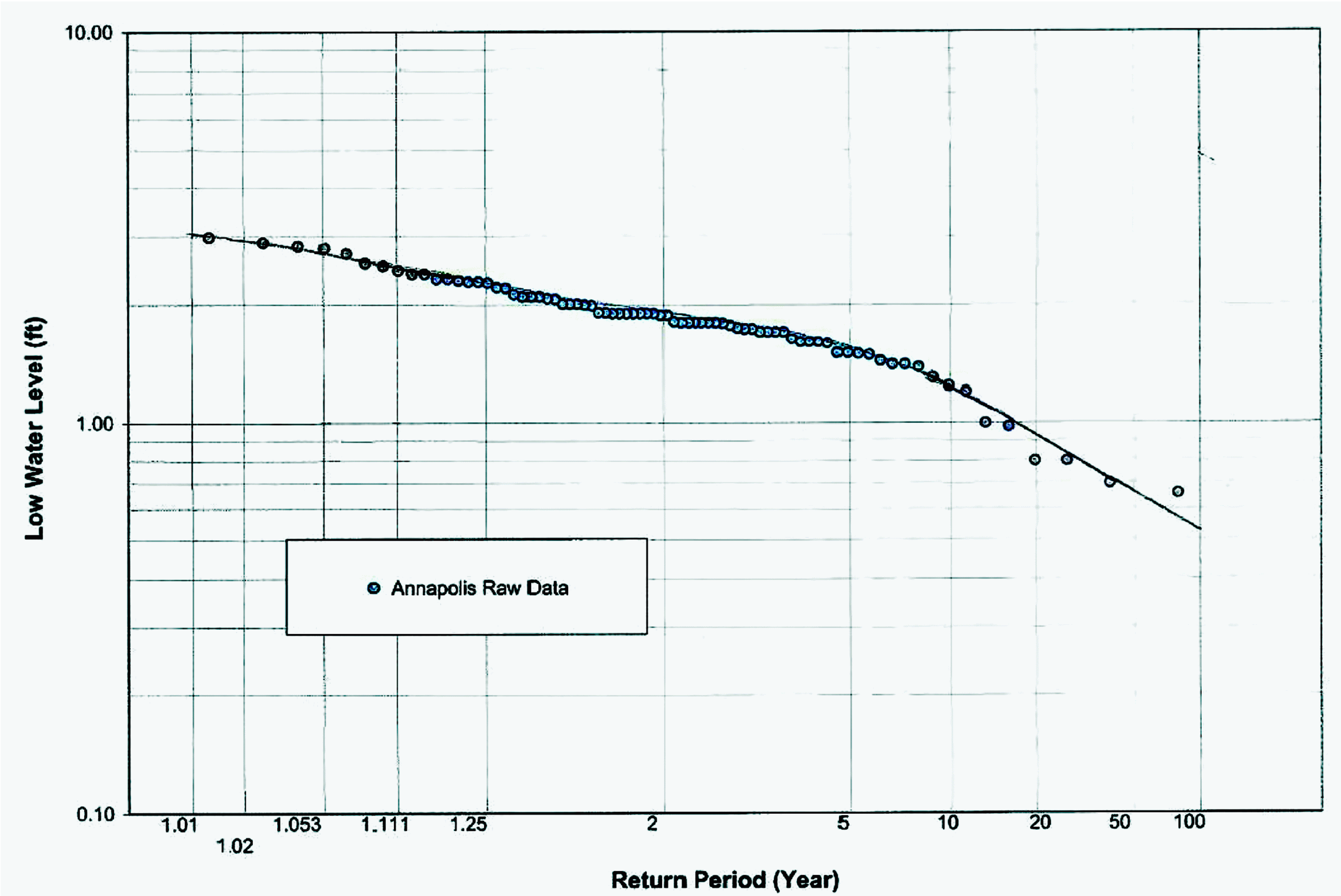

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Figure 2.4-63 — {Location of CCNPP 200-Mile (320-Km) Radius From the Plant Site}

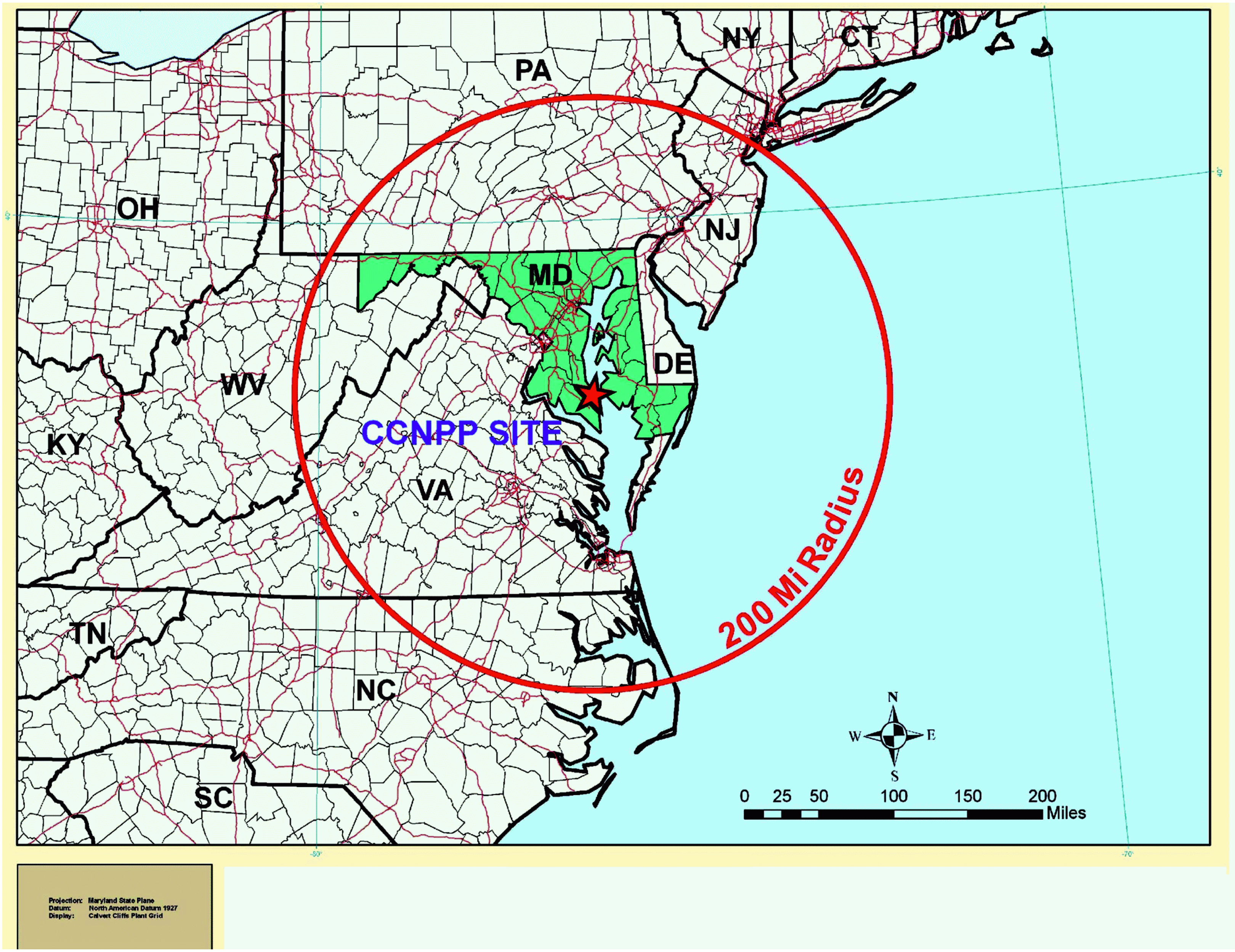

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Figure 2.4-64 — {Mid-Atlantic Regional Physiographic Provinces and Hydrostratigraphic Units}

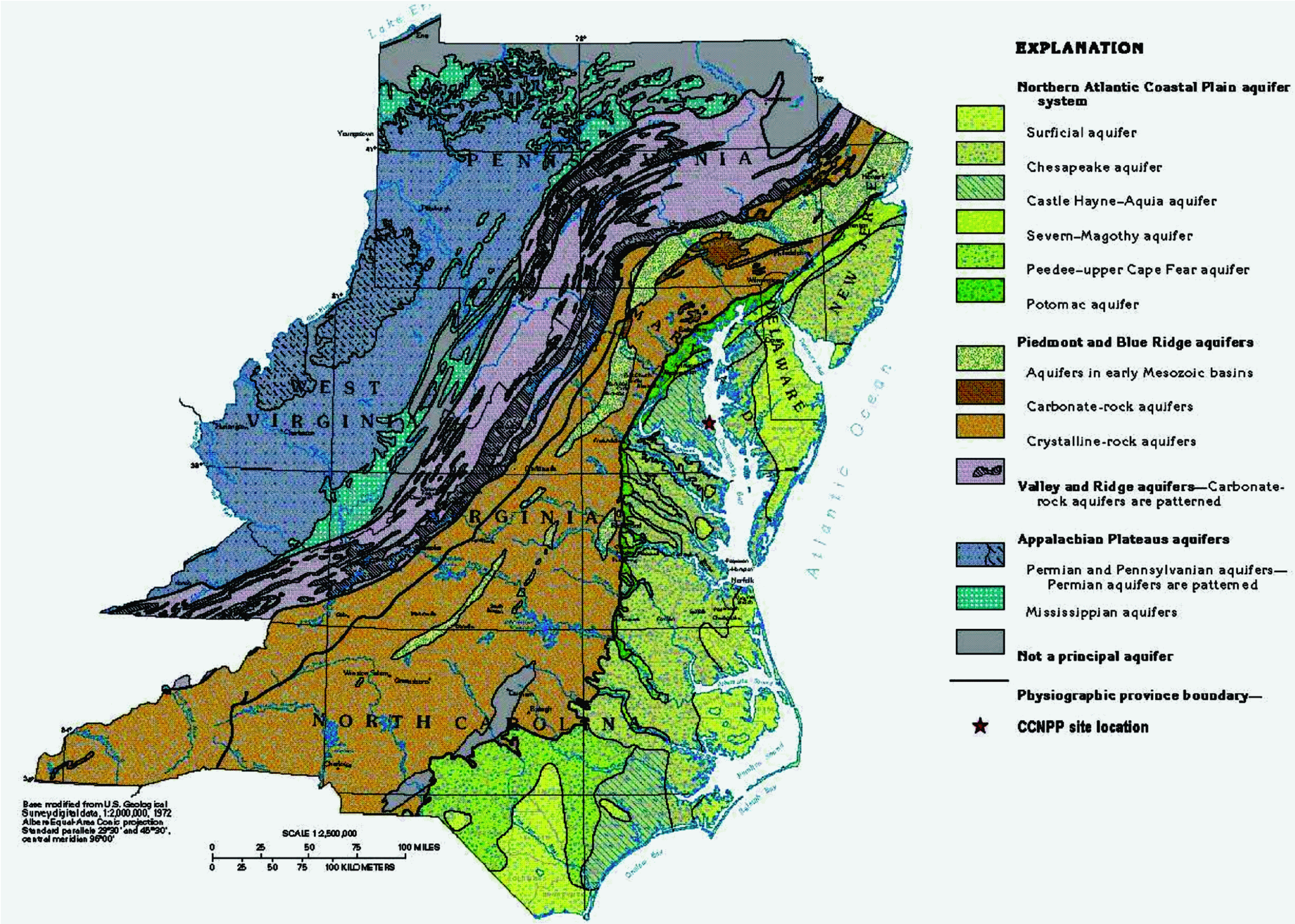

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Figure 2.4-65 — {Schematic Geologic Cross Section Through the Mid-Atlantic Region}

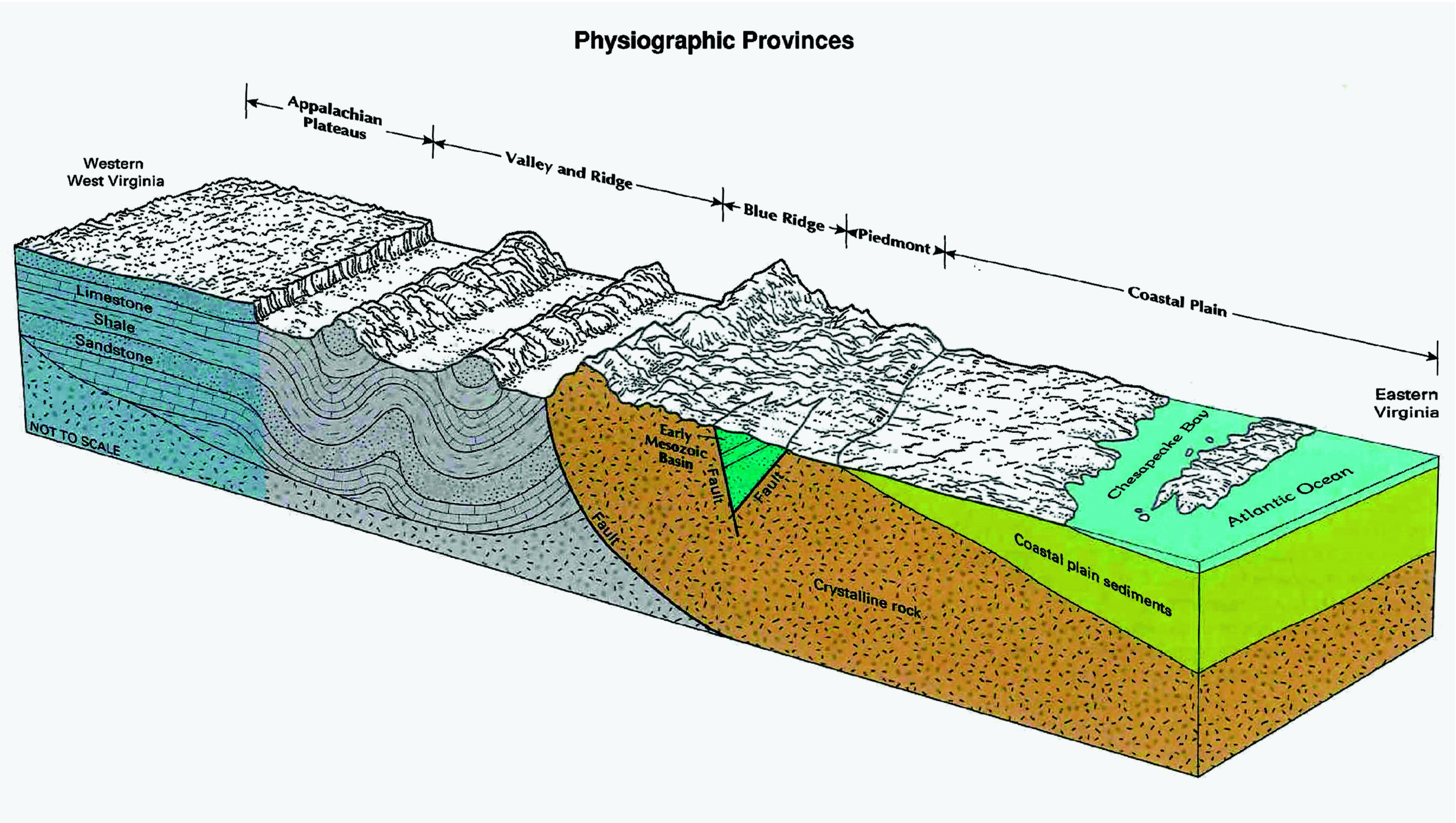

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Figure 2.4-66 — {Southern Maryland Schematic Hydrostratigraphic Section}

ERATHEM	SYSTEM	SERIES	FORMATION	THICKNESS (feet)	LITHOLOGY	HYDROSTRATIGRAPHIC UNIT
CENOZOIC	QUATERNARY	Holocene & Pleistocene	Lowland deposits	0-150	Sand, gravel, sandy clay, and clay.	SURFICIAL AQUIFER
	NEOGENE	Pliocene	Upland deposits	0-85	Irregularly stratified cobbles, gravel, sand, and clay lenses.	
			Chesapeake Group: St. Mary's Fm.	0-335	Sand, clayey sand, and sandy clay; fossiliferous and diatomaceous.	CHESAPEAKE CONFINING UNIT
		Miocene	Chesapeake Group: Choptank Fm.			
			Chesapeake Group: Calvert Fm.			
	PALEOGENE	Oligocene	Chesapeake Group: Unnamed Oligocene Beds	0-5	Patchy distribution; clayey, glauconitic sand.	PINEY POINT-NANJEMOY AQUIFER
		Eocene	Pamunkey Group: Piney Point Fm.	0-90	Sand, slightly glauconitic, with intercalated indurated layers; fossiliferous.	
			Pamunkey Group: Nanjemoy Fm.	0-240	Glauconitic sand with clayey layers.	
		Paleocene	Pamunkey Group: Marlboro Clay	0-30	Pink and gray clay.	NANJEMOY CONFINING UNIT
			Pamunkey Group: Aquia Fm.	30-205	Glauconitic, greenish to brown sand with indurated layers; fossiliferous.	AQUIA AQUIFER
			Pamunkey Group: Brightseat Fm.	0-40	Gray to dark-gray micaceous silty and sandy clay.	BRIGHTSEAT CONFINING UNIT
MESOZOIC	CRETACEOUS	Upper	Monmouth Group / Matawan Group: Formations undifferentiated	20-105	Sandy clay and sand, dark gray to black, with minor glauconitic; fossiliferous.	
			Magothy Fm.	0-230	Light gray to white sand and fine gravel with interbedded clay layers; contains pyrite and lignite. Includes two sand units in southern Anne Arundel County where the formation is the thickest.	MAGOTHY AQUIFER
		Lower	Potomac Group: Patapsco Fm.	0-1,200	Interbedded sand, clay, and sandy clay; color variegated, but chiefly hues of red, brown and gray; consists of several sandy intervals that function as separate aquifers.	Patapsco aquifer system: UPPER PATAPSCO CONFINING UNIT UPPER PATAPSCO AQUIFER MIDDLE PATAPSCO CONFINING UNIT LOWER PATAPSCO AQUIFER
			Potomac Group: Arundel Fm.	0-400	Red, brown, and gray clay; in places contains ironstone nodules, carbonaceous remains, and lignite.	ARUNDEL CONFINING UNIT
			Potomac Group: Patuxent Fm.	100-600	Interbedded gray and yellow sand and clay; kaolinized feldspar and lignite common. Locally clay layers predominate.	PATUXENT AQUIFER
PALEOZOIC PRECAMBRIAN	Undifferentiated pre-Cretaceous consolidated-rock basement			Unknown	Igneous and metamorphic rocks; sandstone and shale.	NOT RECOGNIZED

Figure 2.4-67 — {Schematic Cross-Section of Southern Maryland Hydrostratigraphic Units}

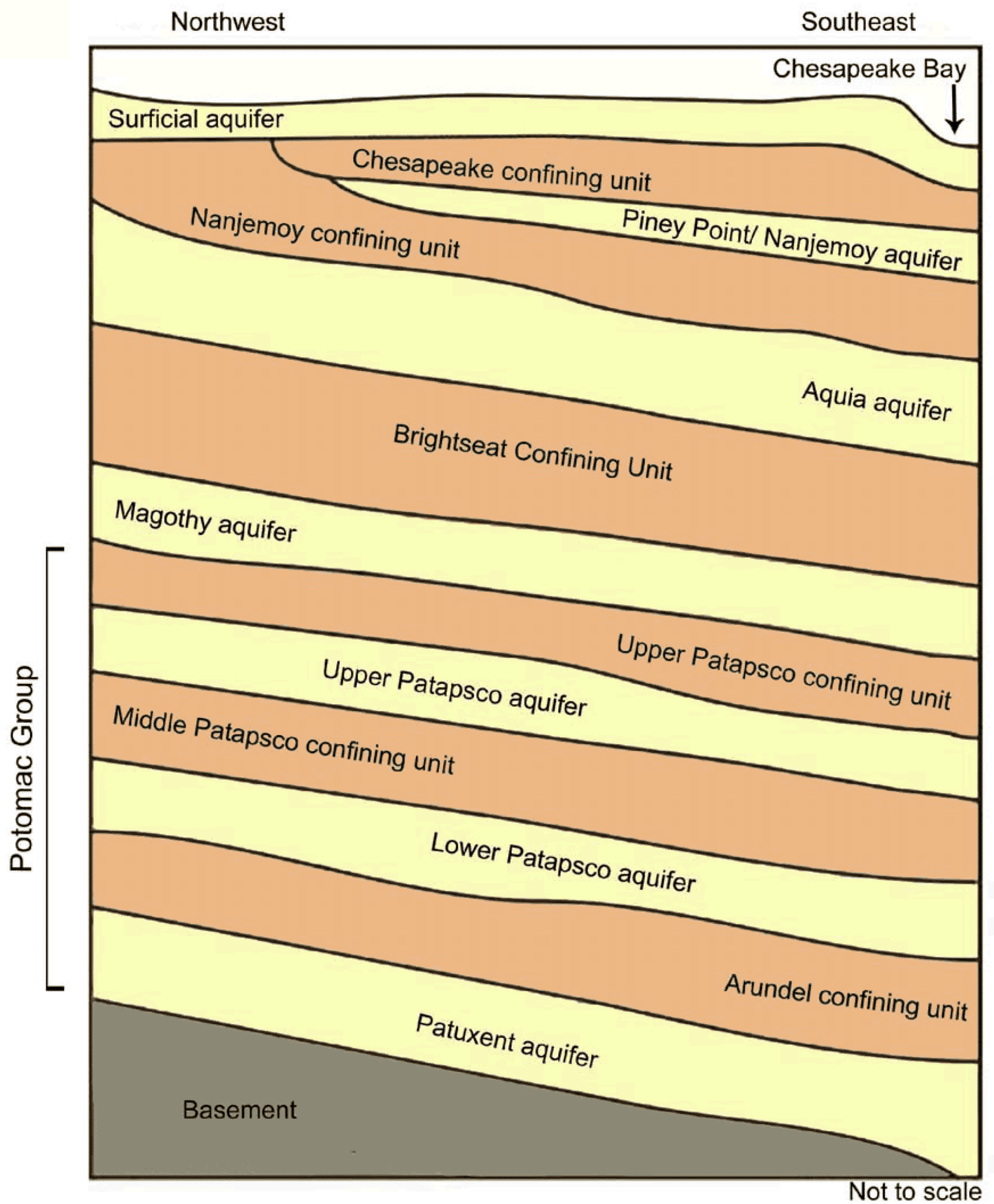

Figure 2.4-68 — {Potentiometric Surface of the Aquia Aquifer in Southern MD, September 2003}

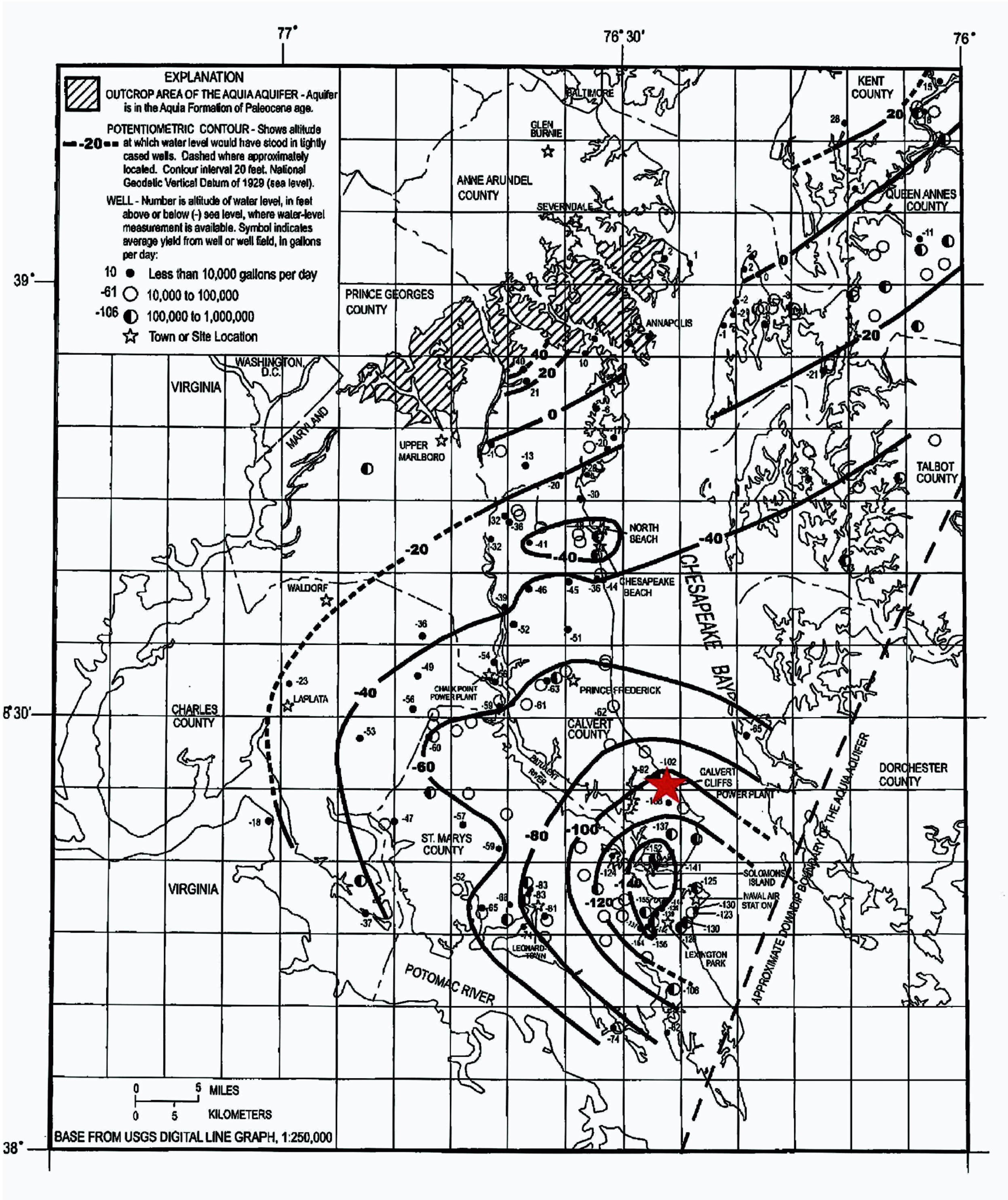

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Figure 2.4-69 — {Potentiometric Surface of the Magothy Aquifer in Southern MD, September 2003

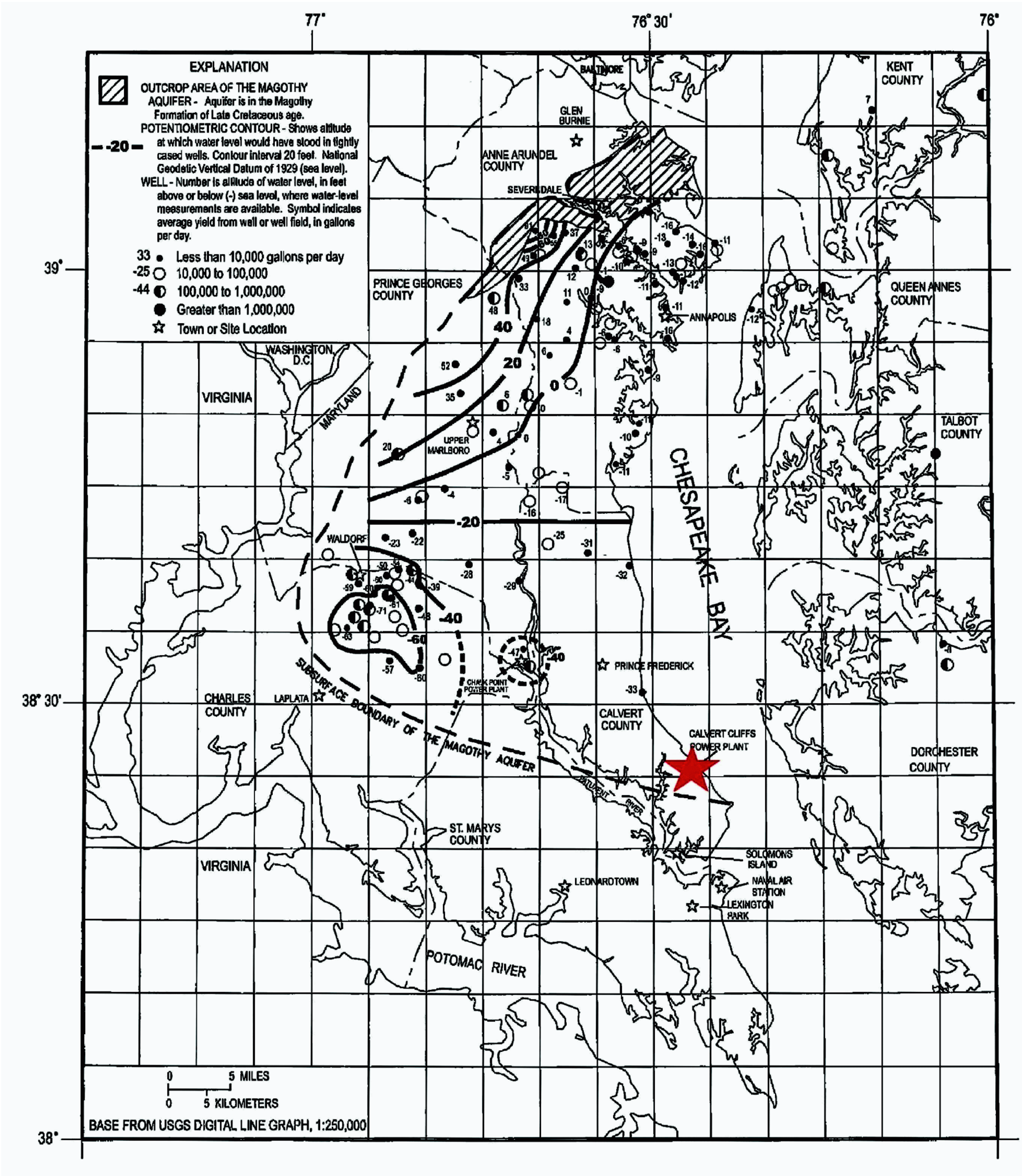

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Figure 2.4-70 — {Potentiometric Surface of the Upper Patapsco Aquifer in Southern MD, September 2003}

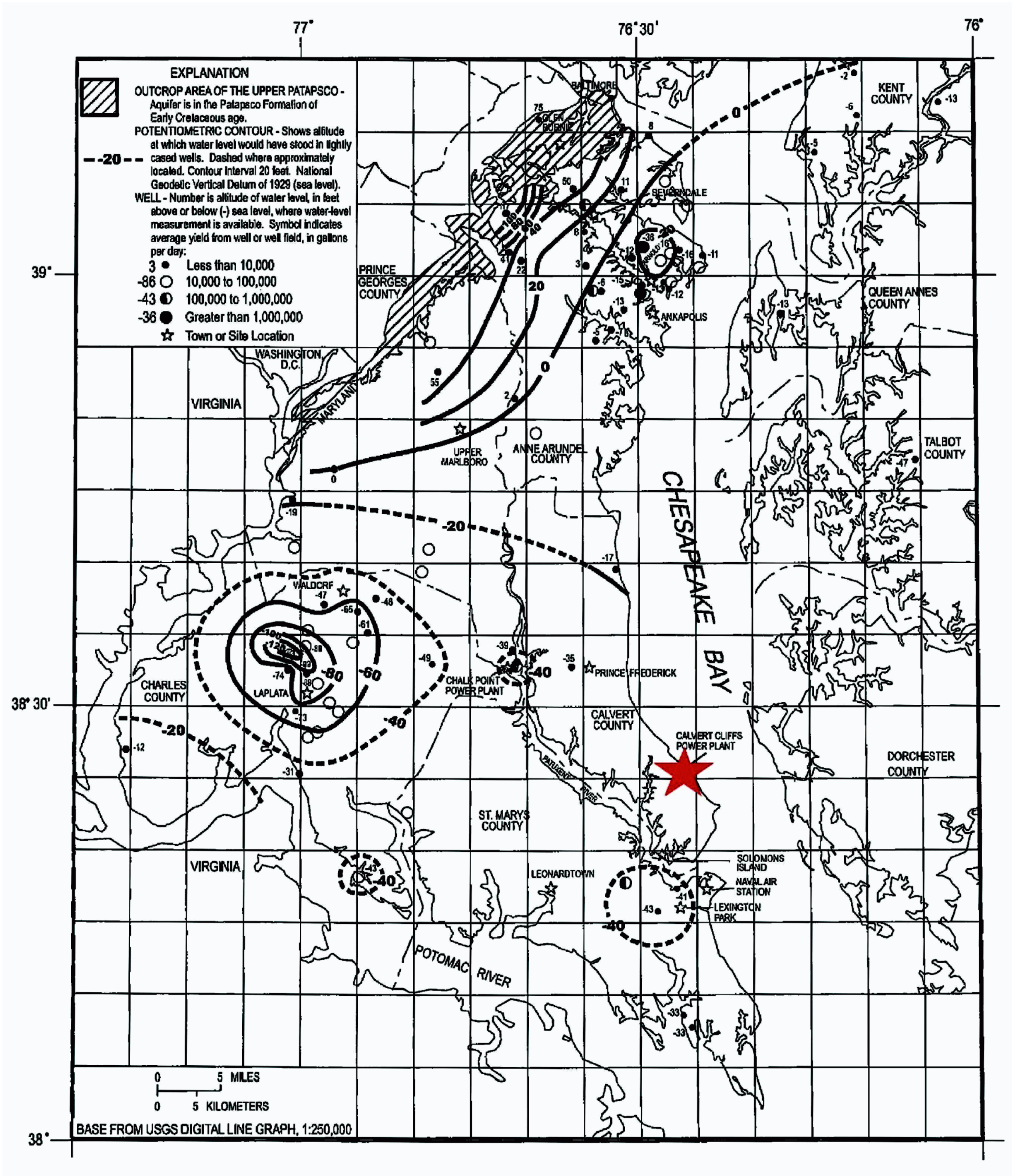

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Figure 2.4-71 — {Potentiometric Surface of the Lower Patapsco Aquifer in Southern MD, September 2003}

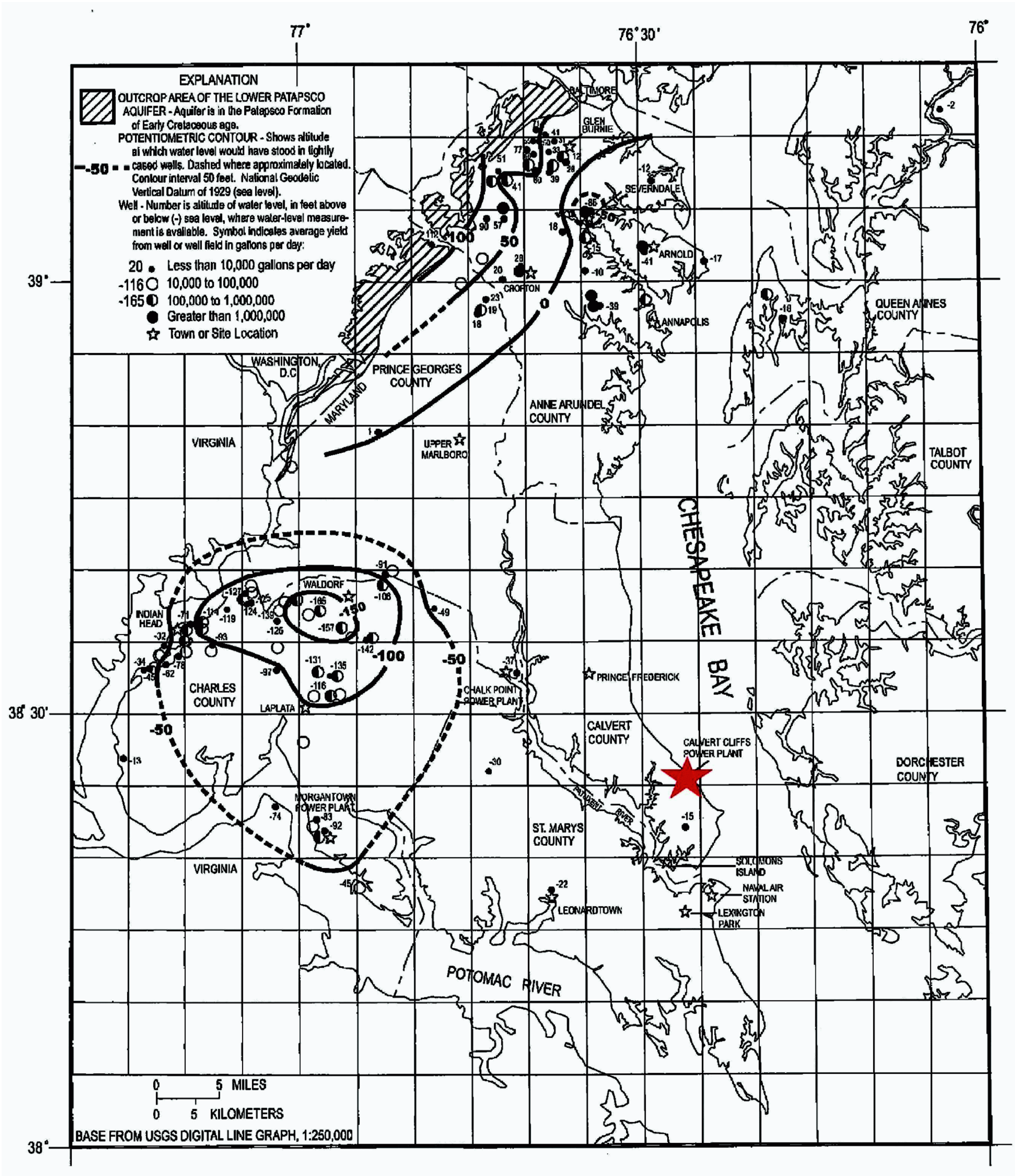

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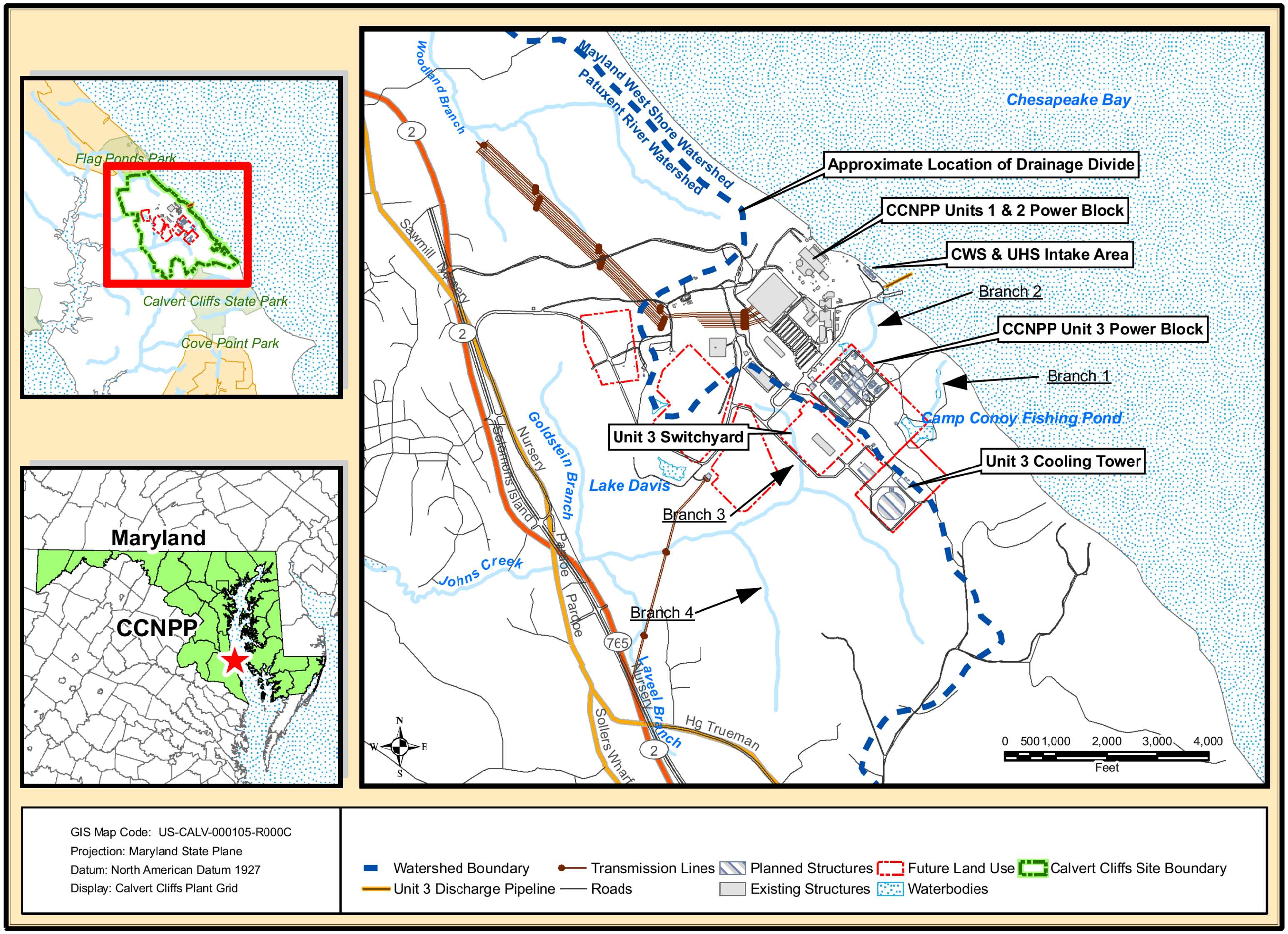
Figure 2.4-72 — {CCNPP Site Area Topography and Drainage}



See Figure 1.1-3 and Figure 1.2-1 for Site and Powerblock layout

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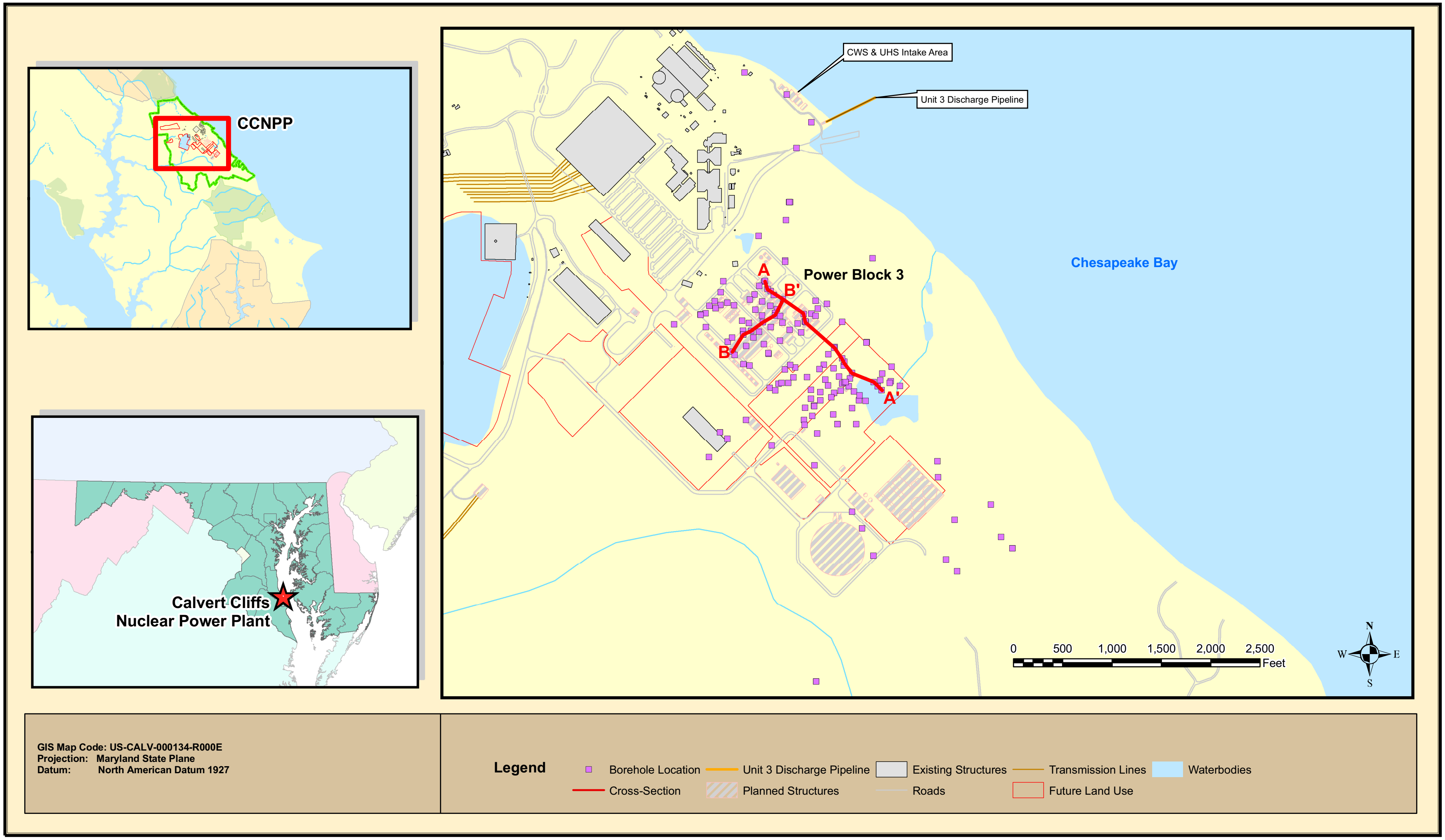
Figure 2.4-73 — {Cross-Section and Soil Boring Locations in the Vicinity of CCNPP Unit 3}



See Figure 1.1-3 and Figure 1.2-1 for Site and Powerblock layout

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Figure 2.4-74 — {Cross-Section A-A' Through Proposed Unit 3 Power Block Area}

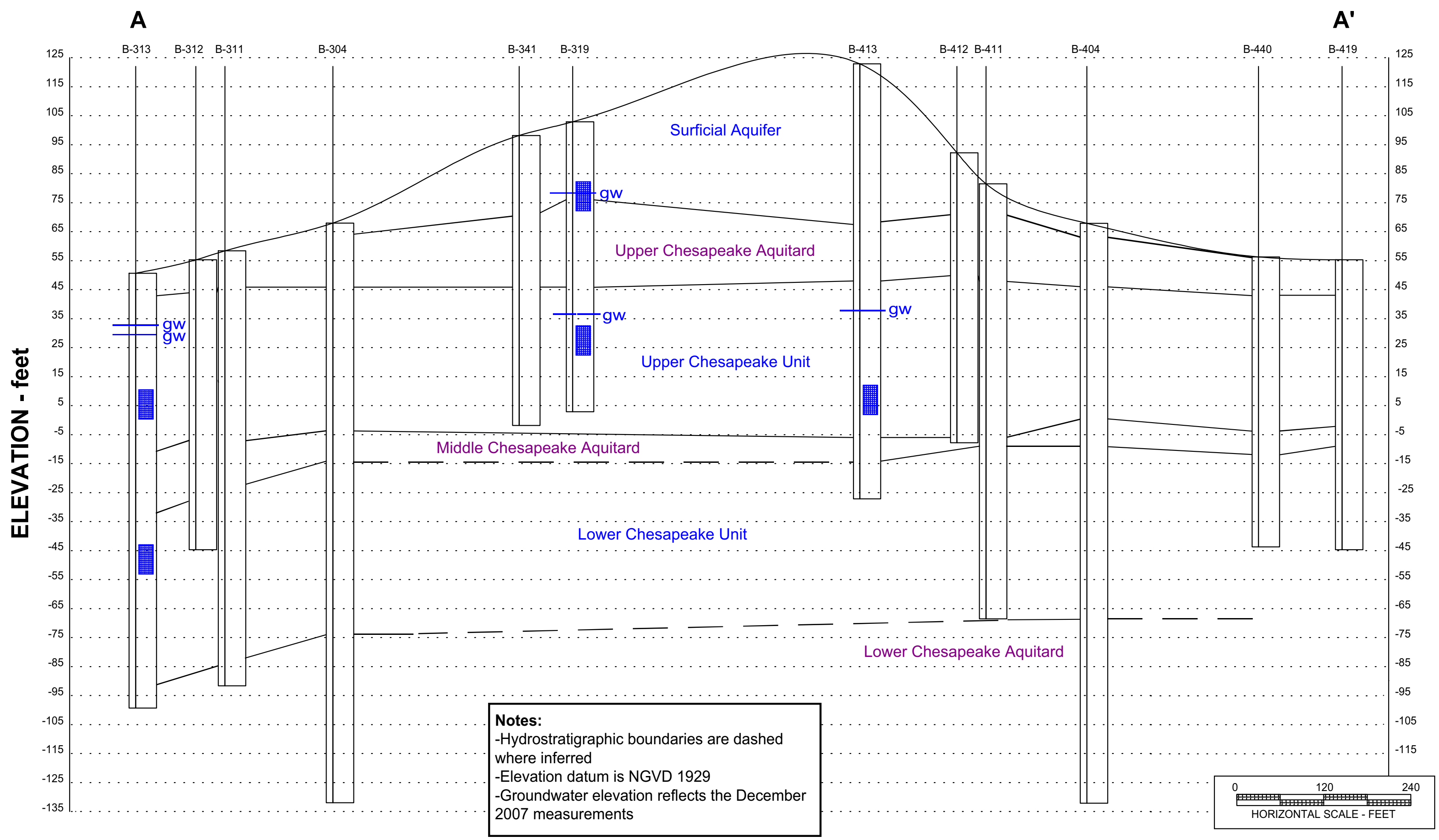

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Figure 2.4-75 — {Cross-Section B-B' Through Proposed Unit 3 Power Block Area}

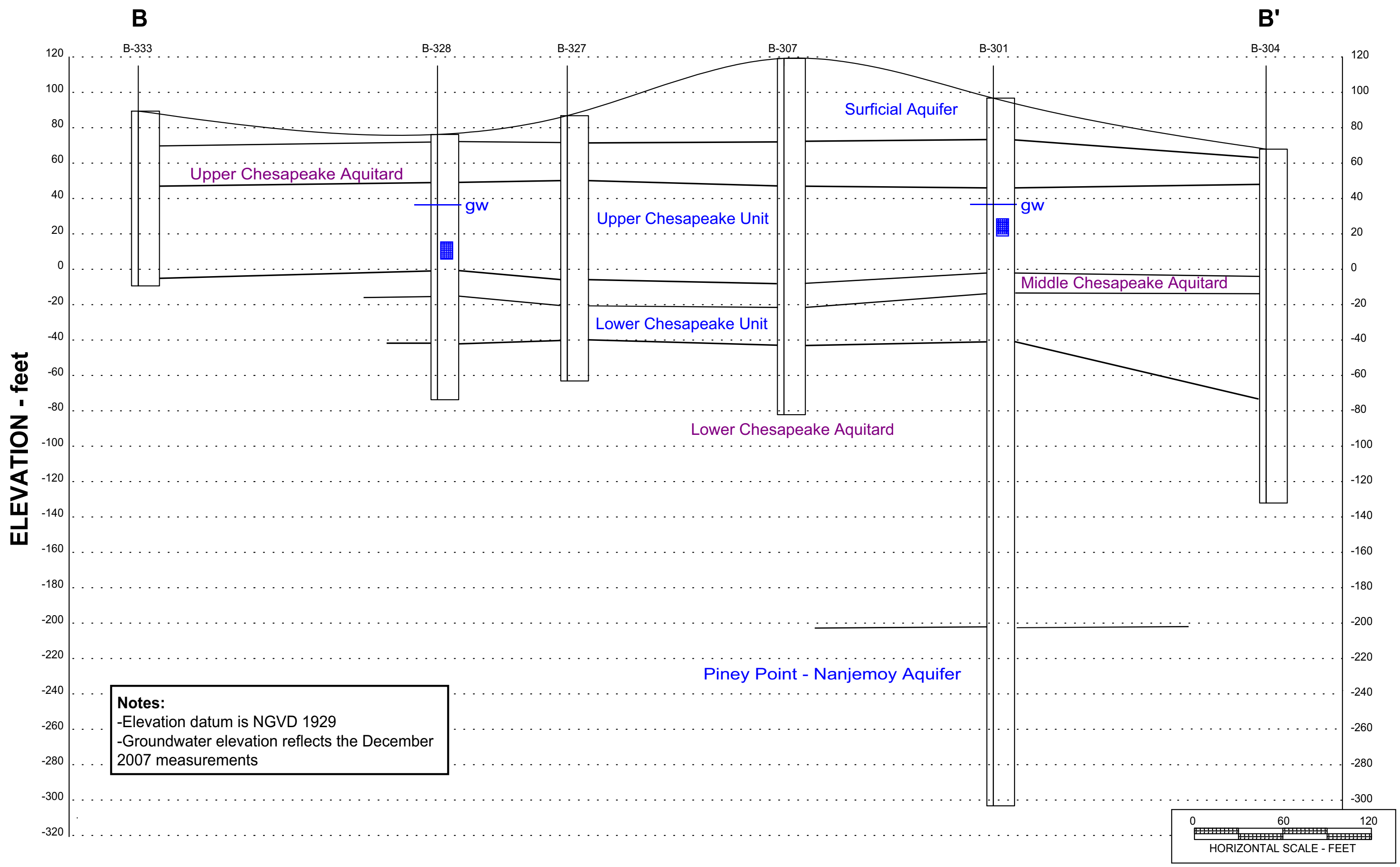

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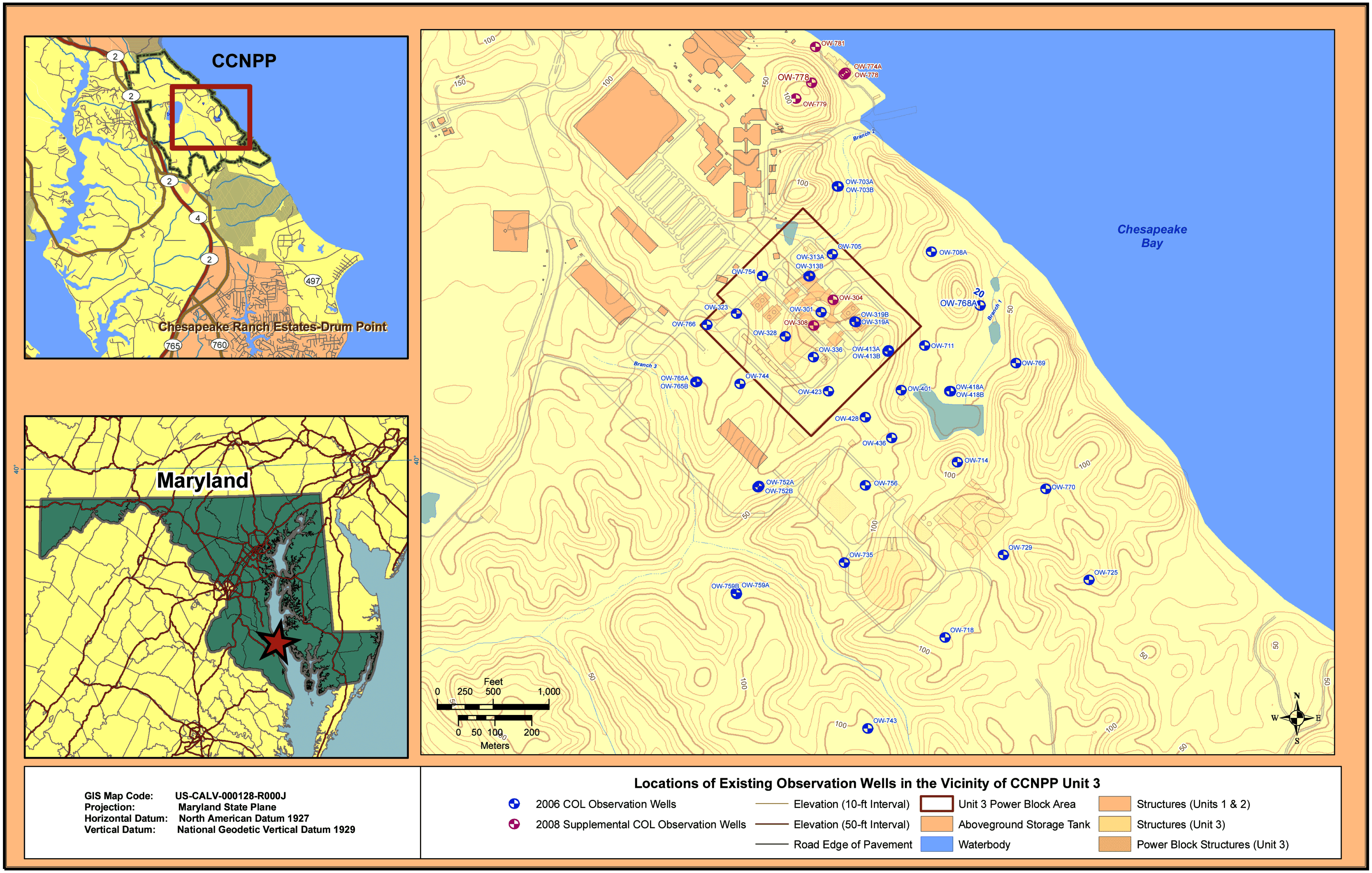
Figure 2.4-76 — {Groundwater Observation Wells and Cross-Section Locations in the Vicinity of CCNPP Unit 3}



See Figure 1.1-3 and Figure 1.2-1 for Site and Powerblock layout

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Figure 2.4-77 — {Ground Water Elevations for the Surficial Aquifer, July 2006 Through October 2009}

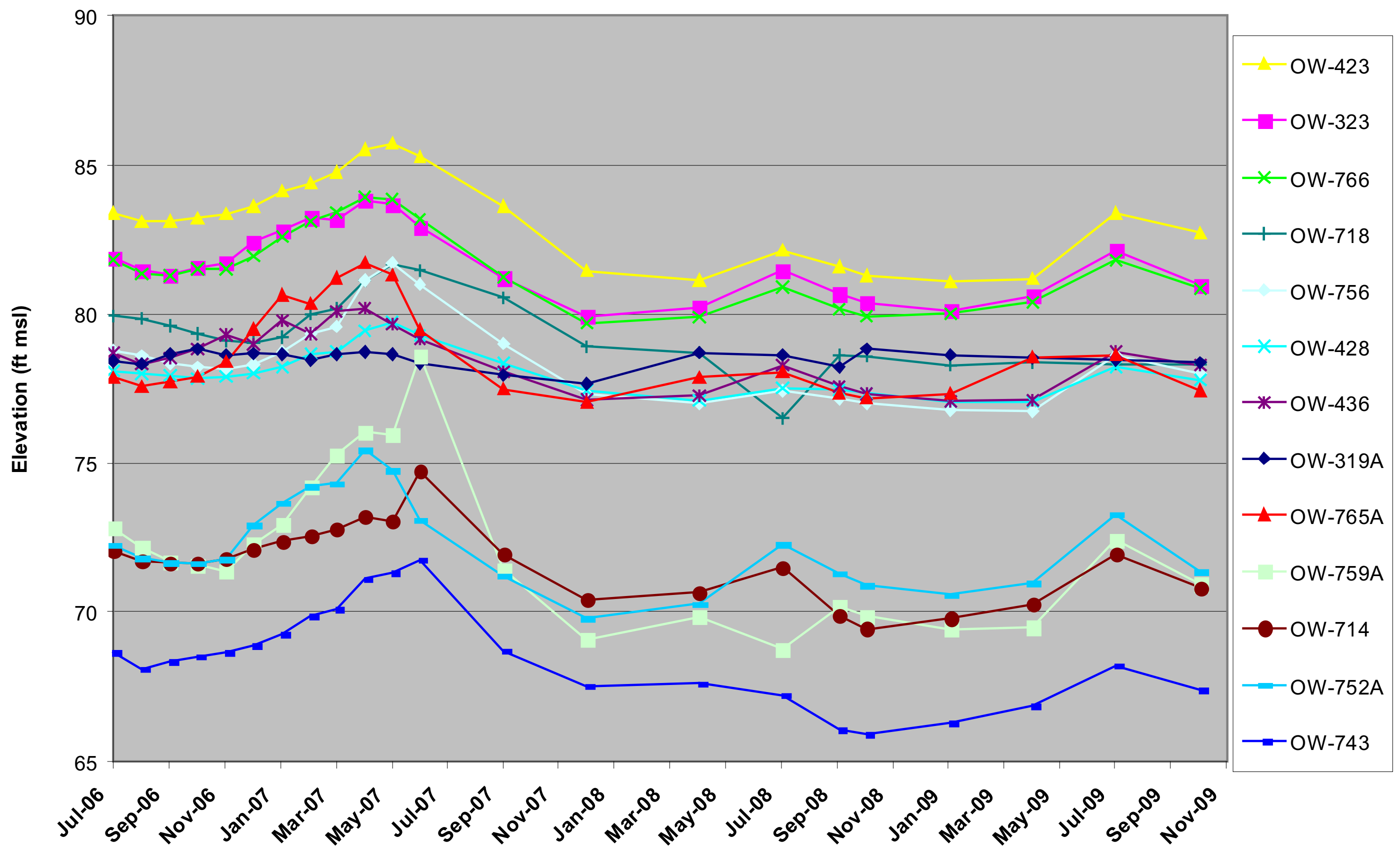

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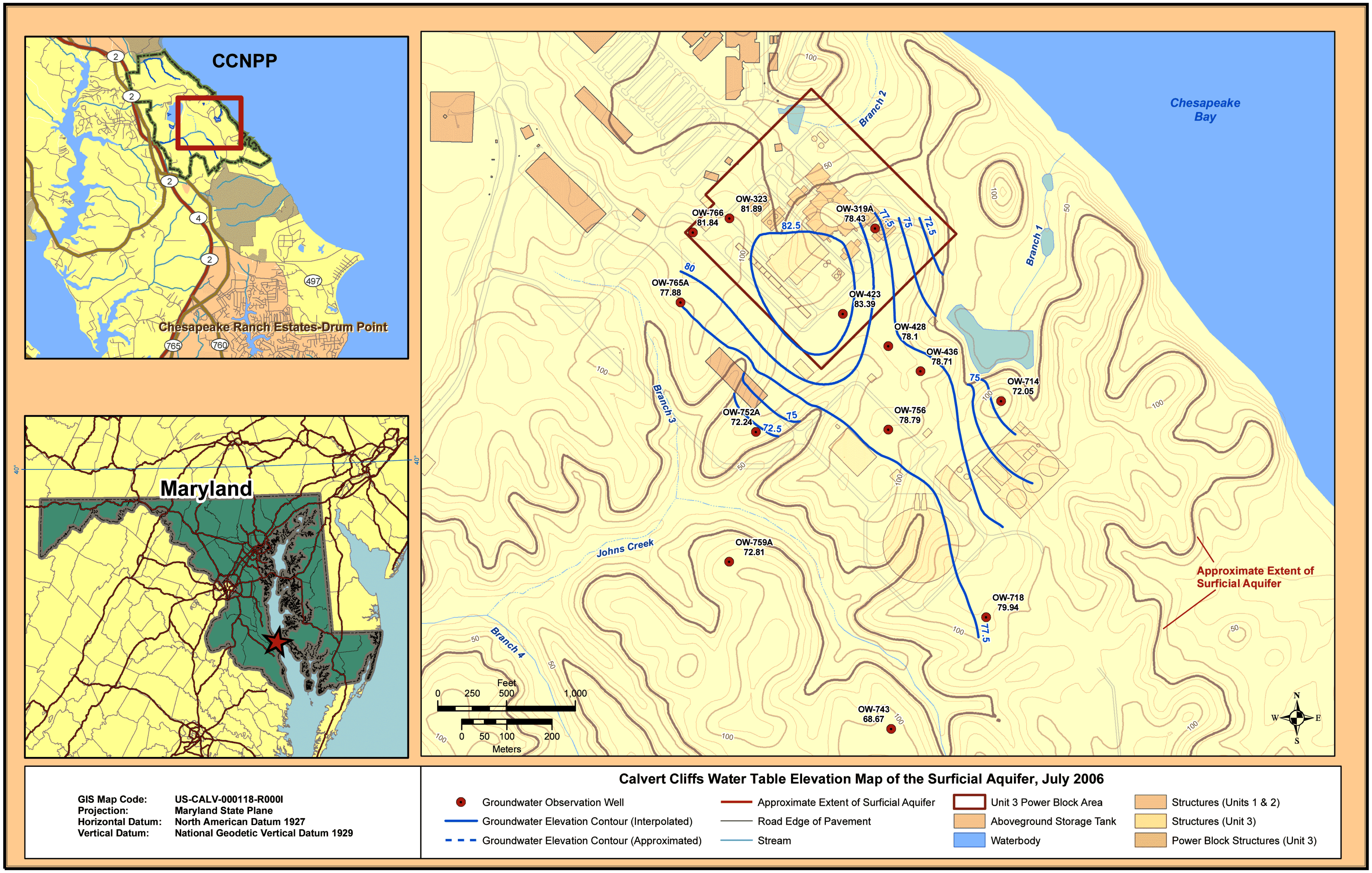
Figure 2.4-78 — {Water Table Elevation Map and Groundwater Flow Direction for the Surficial Aquifer, July 2006}



See Figure 1.1-3 and Figure 1.2-1 for Site and Powerblock layout

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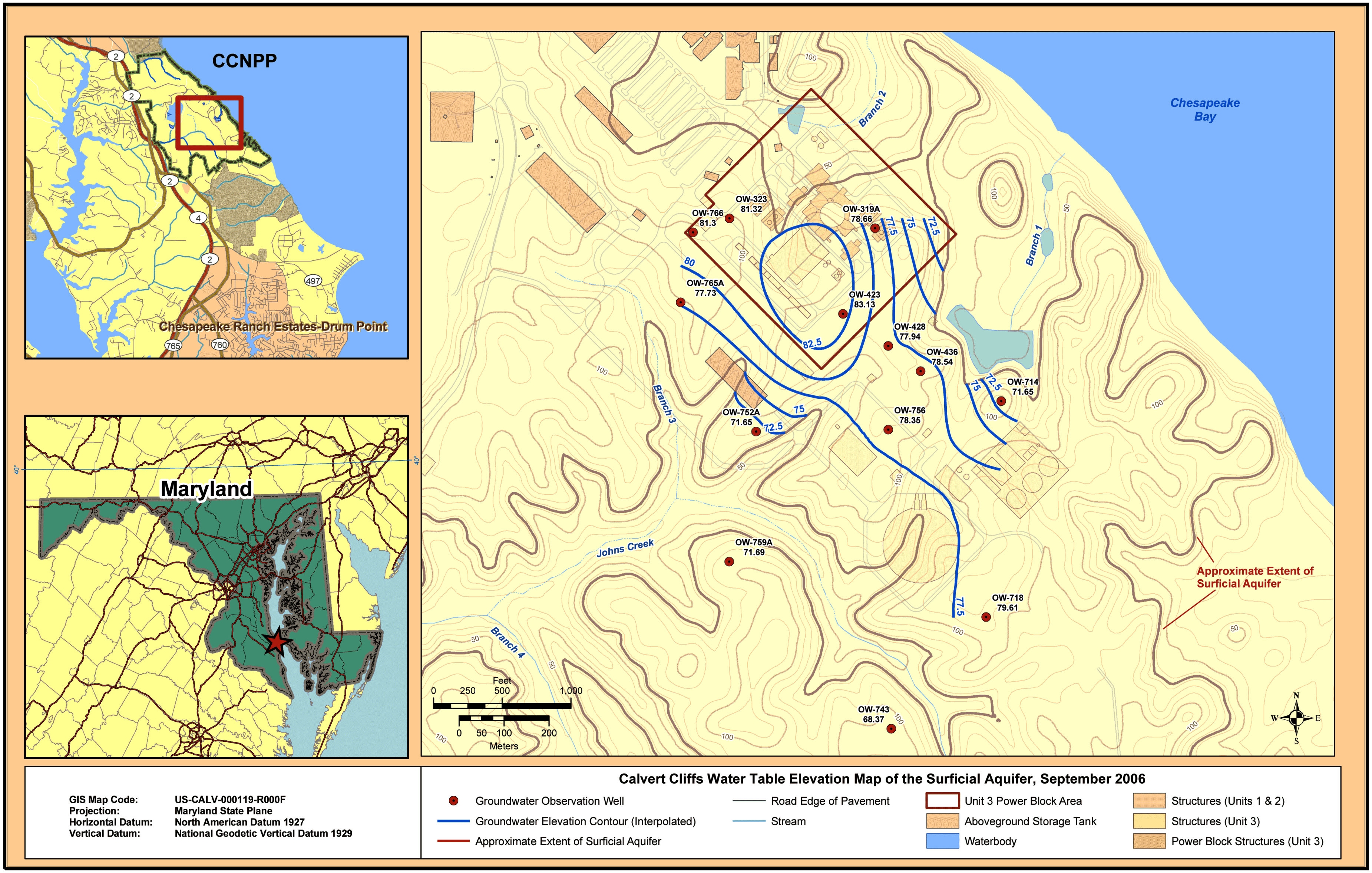
Figure 2.4-79 — {Water Table Elevation Map and Groundwater Flow Direction for the Surficial Aquifer, September 2006}



See Figure 1.1-3 and Figure 1.2-1 for Site and Powerblock layout

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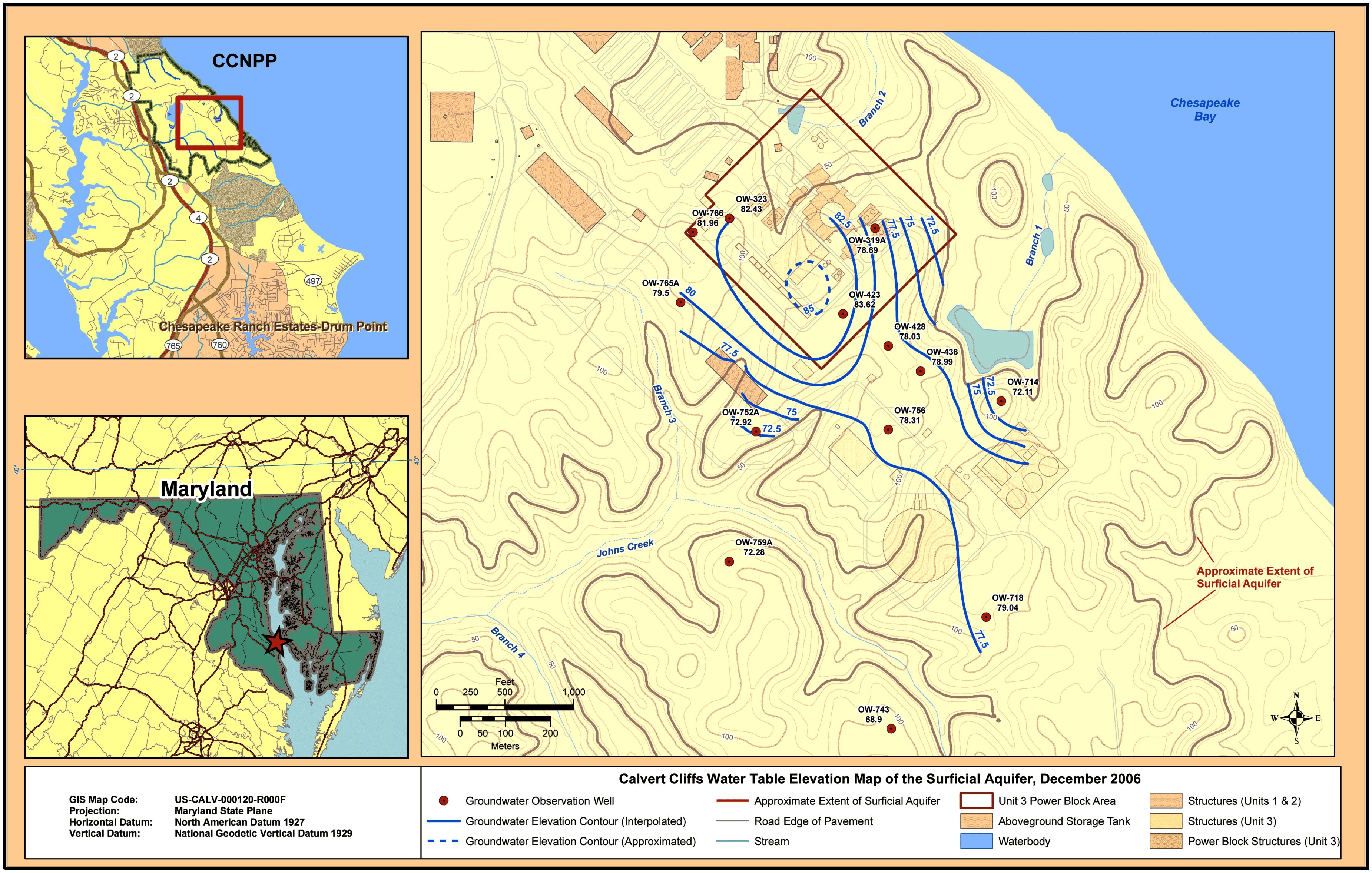
Figure 2.4-80 — {Water Table Elevation Map and Groundwater Flow Direction for the Surficial Aquifer, December 2006}



See Figure 1.1-3 and Figure 1.2-1 for Site and Powerblock layout

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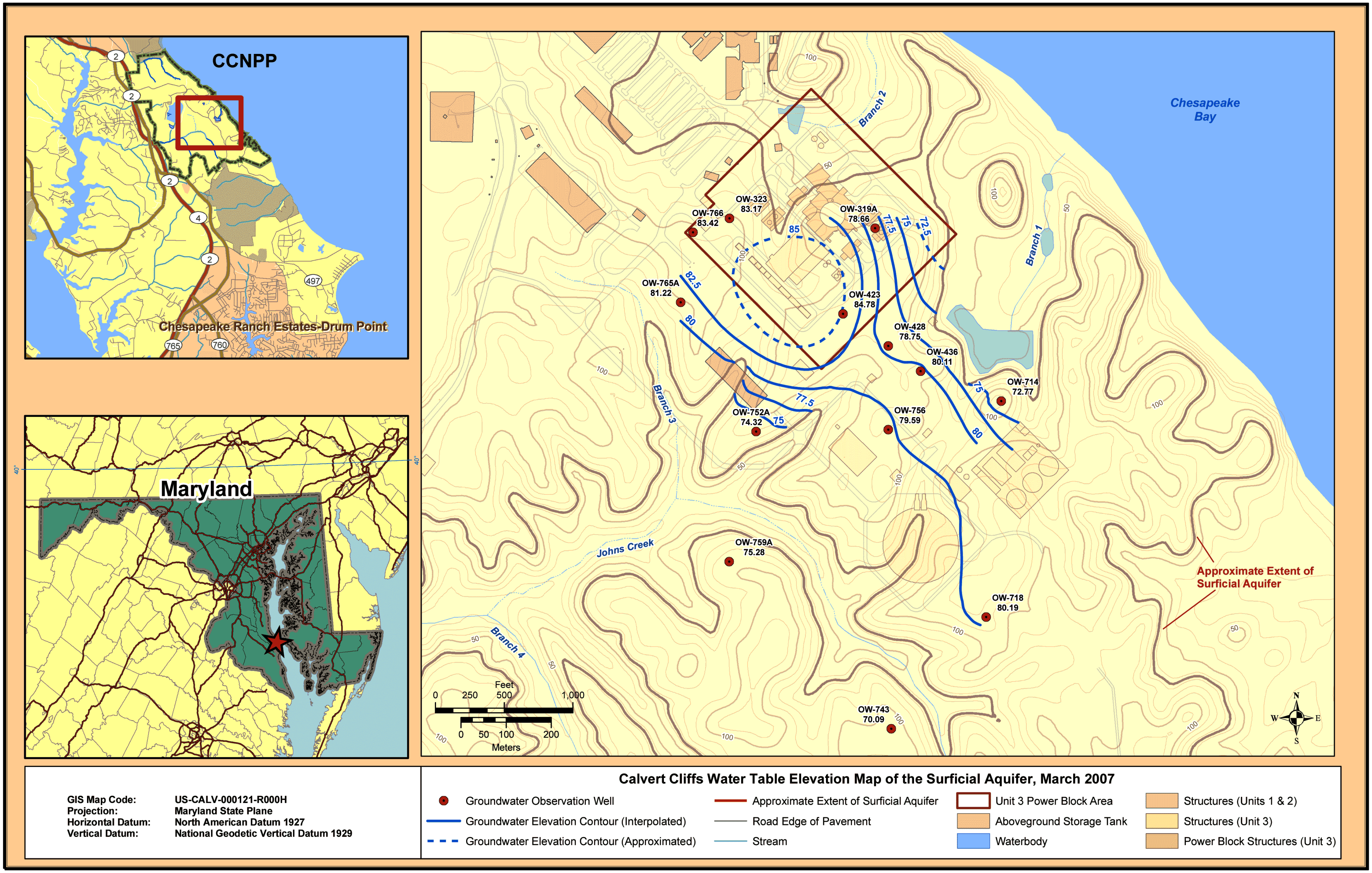
Figure 2.4-81 — {Water Table Elevation Map and Groundwater Flow Direction for the Surficial Aquifer, March 2007}



See Figure 1.1-3 and Figure 1.2-1 for Site and Powerblock layout

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Figure 2.4-82 — {Groundwater Elevations for the Upper Chesapeake Unit, July 2006 Through October 2009}
(Page 1 of 2)

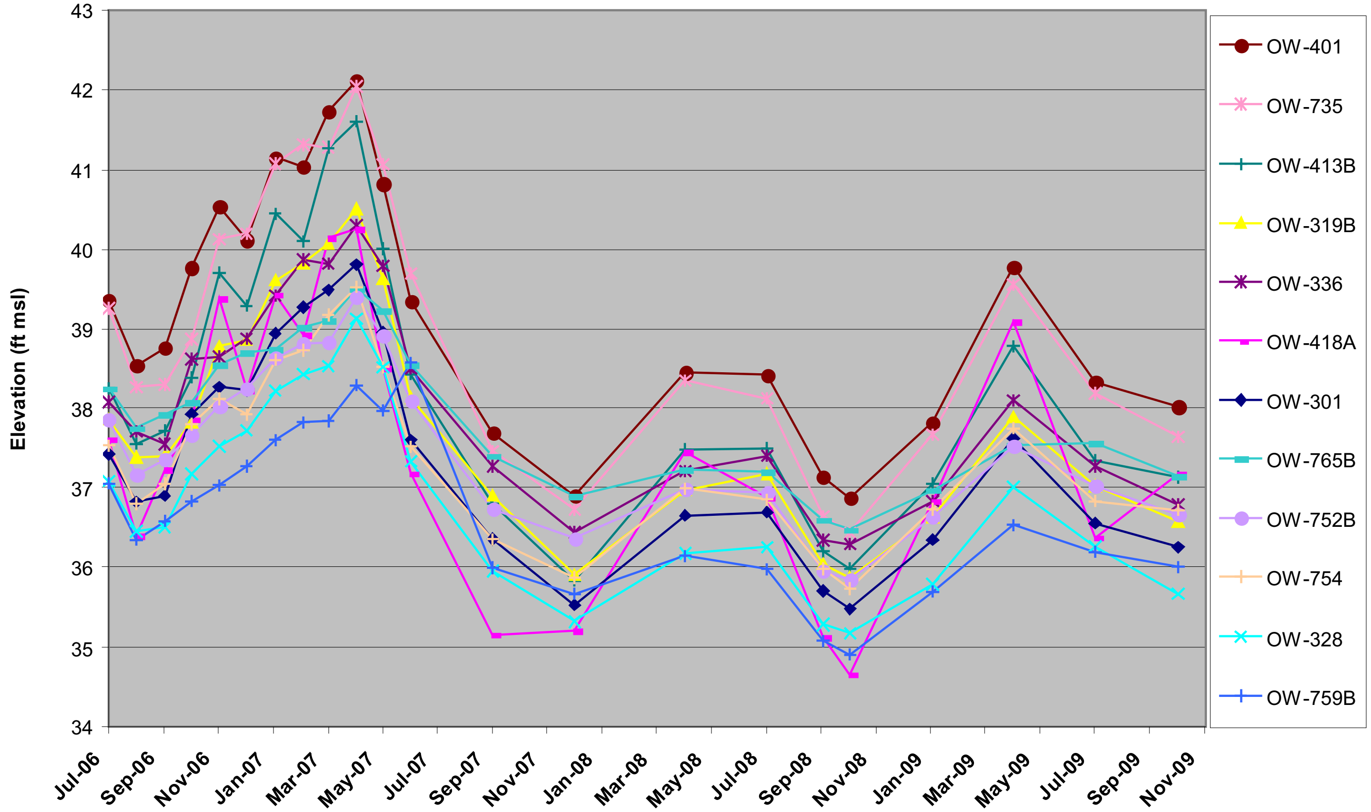

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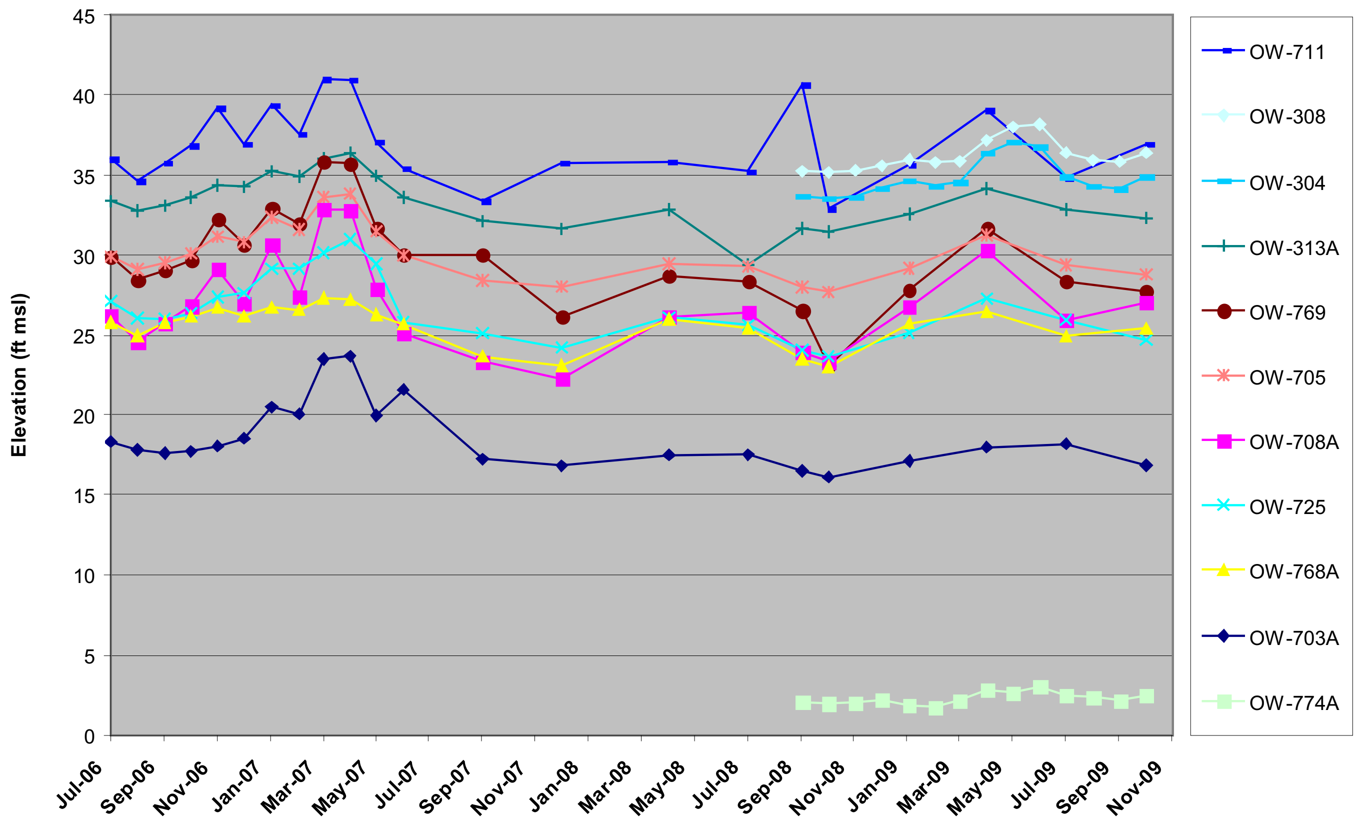
Figure 2.4-82 — {Groundwater Elevations for the Upper Chesapeake Unit, July 2006 Through October 2009}
(Page 2 of 2)



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