

INVENTORY FORM FOR STATE HISTORIC SITES SURVEY

**1 NAME**

HISTORIC

Calvert Cliffs Nuclear Power Plant

AND/OR COMMON

B.G.&E. Power Plant Complex

**2 LOCATION**

STREET & NUMBER

Calvert Cliffs Parkway

CITY, TOWN

Lusby

CONGRESSIONAL DISTRICT

VICINITY OF

STATE

Maryland

COUNTY  
Calvert

**3 CLASSIFICATION**

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
<input type="checkbox"/> DISTRICT	<input type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> MUSEUM
<input type="checkbox"/> BUILDING(S)	<input checked="" type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> COMMERCIAL	<input type="checkbox"/> PARK
<input checked="" type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> EDUCATIONAL	<input type="checkbox"/> PRIVATE RESIDENCE
<input type="checkbox"/> SITE	<b>PUBLIC ACQUISITION</b>	<b>ACCESSIBLE</b>	<input type="checkbox"/> ENTERTAINMENT	<input type="checkbox"/> RELIGIOUS
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> GOVERNMENT	<input type="checkbox"/> SCIENTIFIC
	<input type="checkbox"/> BEING CONSIDERED	<input type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> INDUSTRIAL	<input type="checkbox"/> TRANSPORTATION
		<input type="checkbox"/> NO	<input type="checkbox"/> MILITARY	<input type="checkbox"/> OTHER

**4 OWNER OF PROPERTY**

NAME

Baltimore Gas and Electric

Telephone #:

STREET & NUMBER

CITY, TOWN

VICINITY OF

STATE, zip code

**5 LOCATION OF LEGAL DESCRIPTION**

COURTHOUSE,  
REGISTRY OF DEEDS, ETC.

Liber #:

Folio #:

STREET & NUMBER

CITY, TOWN

STATE

**6 REPRESENTATION IN EXISTING SURVEYS**

TITLE

DATE

FEDERAL  STATE  COUNTY  LOCAL

DEPOSITORY FOR  
SURVEY RECORDS

CITY, TOWN

STATE

**7 DESCRIPTION**

GT-154

**CONDITION**

EXCELLENT  
 GOOD  
 FAIR

DETERIORATED  
 RUINS  
 UNEXPOSED

**CHECK ONE**

UNALTERED  
 ALTERED

**CHECK ONE**

ORIGINAL SITE  
 MOVED      DATE \_\_\_\_\_

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DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

CONTINUE ON SEPARATE SHEET IF NECESSARY

**8 SIGNIFICANCE**

PERIOD		AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION		
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE		
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE		
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN		
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER		
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION		
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)		
		<input type="checkbox"/> INVENTION				

SPECIFIC DATES 1975-77

BUILDER/ARCHITECT Bechtel Power Corporation

STATEMENT OF SIGNIFICANCE

CONTINUE ON SEPARATE SHEET IF NECESSARY

**9 MAJOR BIBLIOGRAPHICAL REFERENCES**

CONTINUE ON SEPARATE SHEET IF NECESSARY

**10 GEOGRAPHICAL DATA**

ACREAGE OF NOMINATED PROPERTY \_\_\_\_\_

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE COUNTY

STATE COUNTY

**11 FORM PREPARED BY**

NAME / TITLE

ORGANIZATION

DATE

STREET & NUMBER

TELEPHONE

CITY OR TOWN

STATE

The Maryland Historic Sites Inventory was officially created by an Act of the Maryland Legislature, to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 Supplement.

The Survey and Inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

RETURN TO: Maryland Historical Trust  
The Shaw House, 21 State Circle  
Annapolis, Maryland 21401  
(301) 267-1438

### Calvert Cliffs Nuclear Power Plant

The most dramatic document of the nuclear age in this county (if not Maryland itself) is the nuclear power plant at Calvert Cliffs. The hard and crisp geometry which has become characteristic of modern architecture reaches a Zenith in this collection of differently sized cubes and cylinders. Being void of decoration and color, these gray monoliths leave no doubt as to their serious intent. The facility is owned by the Baltimore Gas and Electric Company, the oldest utility in the United States.

The power plant occupies the site of an early Eighteenth Century bayside plantation. The ruins of the main house and the later Nineteenth Century barns are dwarfed by the scale of the nuclear reactors and their dependencies. The dramatic change between a relatively simple and self dependent agrarian society, and the complexities of an energy-dependent urban culture is pointed out by the juxtaposition of these buildings.

The decision to locate this plant where it<sup>s</sup> is relative to its relationships with the major cities of Washington, D. C. and Baltimore, Maryland, and the Chesapeake Bay. Its first unit (1975) and its second unit (1977) both require the water of the Chesapeake Bay to cool the nuclear reactors. Each unit is capable of generating a capacity of over 8000,000 kilowatts.

In its brochure on atomic energy, the Baltimore Gas and Electric Company uses the Calvert Cliffs plant as its example of a nuclear power plant and admits that it has a "world of tomorrow" flavor. This feeling is derived chiefly from its visual appearance. The contributors to that effect are flat and dome topped cylinders and boxes and cubes of several sizes and shapes. The anonymity sought by such modern architects as Mies Vander Rohe

is severe in this complex because nearly all of the above shapes are windowless, colorless buildings which bear little relationship to their surroundings save for each other. From simply looking at them, it is difficult to know the function of such structures. To say that they speak of the future is not inaccurate, for in fact, they are quite suggestive of the designs of Boule Ledoux and the other French Visionary architects with whom Thomas Jefferson was so impressed. The hard geometry of their designs come to mind as well.

The scale of the complex is suggested by the statistics provided for one of the cylindrical containers. It is "post tensioned" being constructed of reinforced concrete. The cylinder is 182' high and 130' in diameter. Its walls are 3.75' thick and the building rests on a foundation slab which is 10' thick. There are two such containers and they are positioned on the west side of the pumping station. Each houses a "core". The fuel for each core is 207,269 pounds of slightly enriched uranium dioxide. The process which takes place in partion, the rectangular structure is complex.

Heat is created by controlled fission of this nuclear fuel in the reactor. Water, under pressure, provides the necessary coolant. "Control rods" and the addition of boric acid to the water control the amount of heat produced. This heated water produces steam which spins a turbine that turns a generator and produces electricity. Used steam enters a condenser, which is cooled by water that is pumped in from the bay by six pumps per unit at a rate of  $2.4 \times 10^6$  GPM.

There are many kinds of buildings on the shores of the peninsula which is Calvert County and they occupy their sites because they require a close proximity to the water. Many of these such as oyster houses or the wharf-warehouses of the sailing days are commercial structures which others like the summer houses of resort communities have a less serious function. In

at least one other instance, a large bay-side complex was built, the large amusement park at Chesapeake Beach which also required a shore site for its economic success.

The extent of these comparisons are limited, however, for the Nuclear Power Plant must be seen as unique. Never before have the natural resources of this county been used on such a large scale and with such monumental construction. The Power Plant at Chalk Point is the closest example in the region and a new and quite different era is beginning for this region as plans are being made for a functional link between the two plants. It is one in which, if nothing else, the physical scale of our environment will be significantly changed.

BIBLIOGRAPHY

Phamplets provided by Baltimore Gas and Electric  
"Calvert Cliffs Nuclear Power Plant", reprinted from Nuclear  
Engineering International. July, 1975.

"Calvert Cliffs: Nuclear Power for Mid Maryland", Baltimore Gas  
and Electric, November, 1975.

Data sheet "Calvert Cliffs Nuclear Power Station, Units I and II",  
provided by Baltimore Office of Baltimore Gas and Electric.

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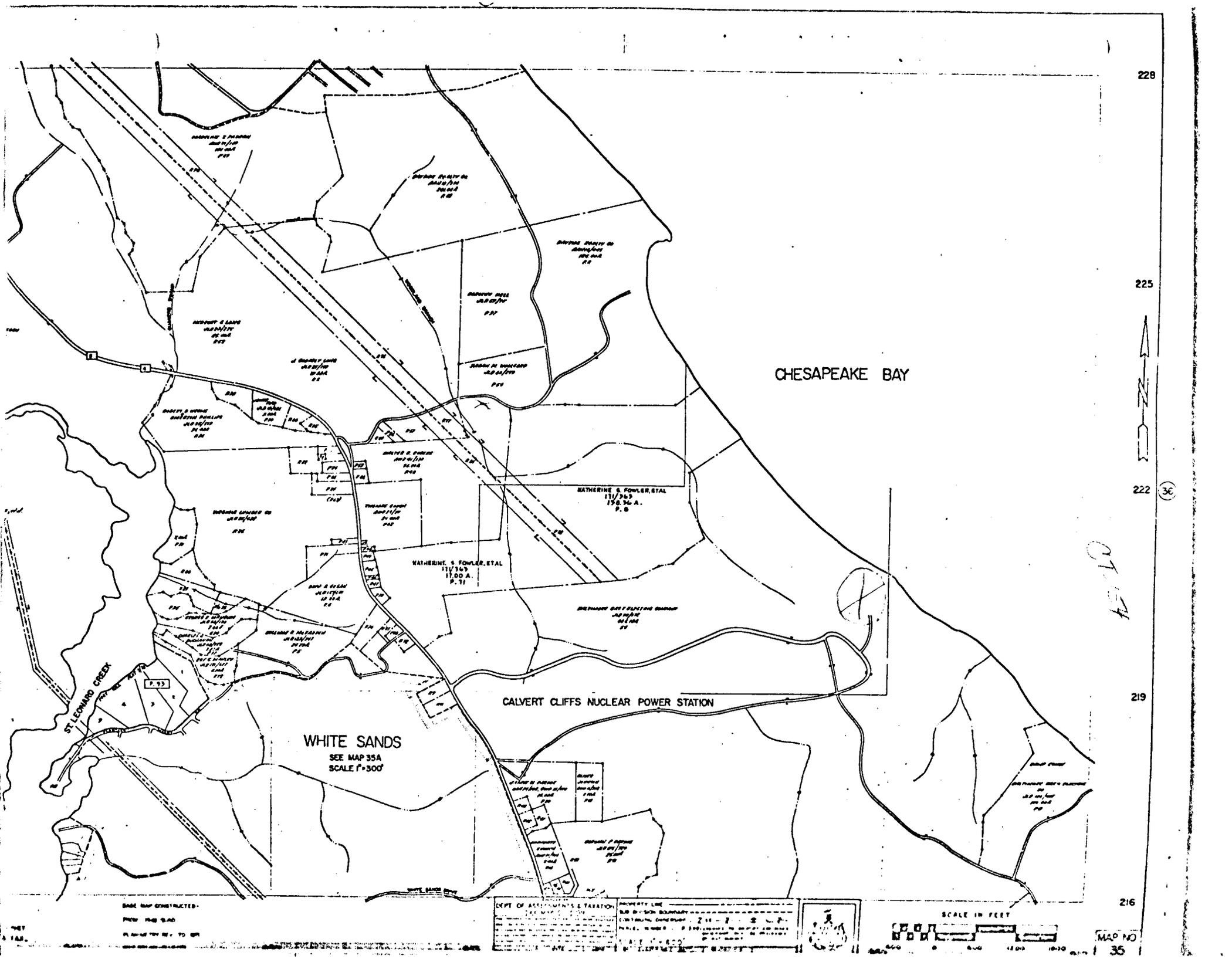
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222 (36)

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MAP NO 35

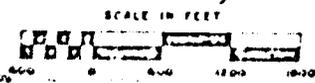


CHESAPEAKE BAY

CALVERT CLIFFS NUCLEAR POWER STATION

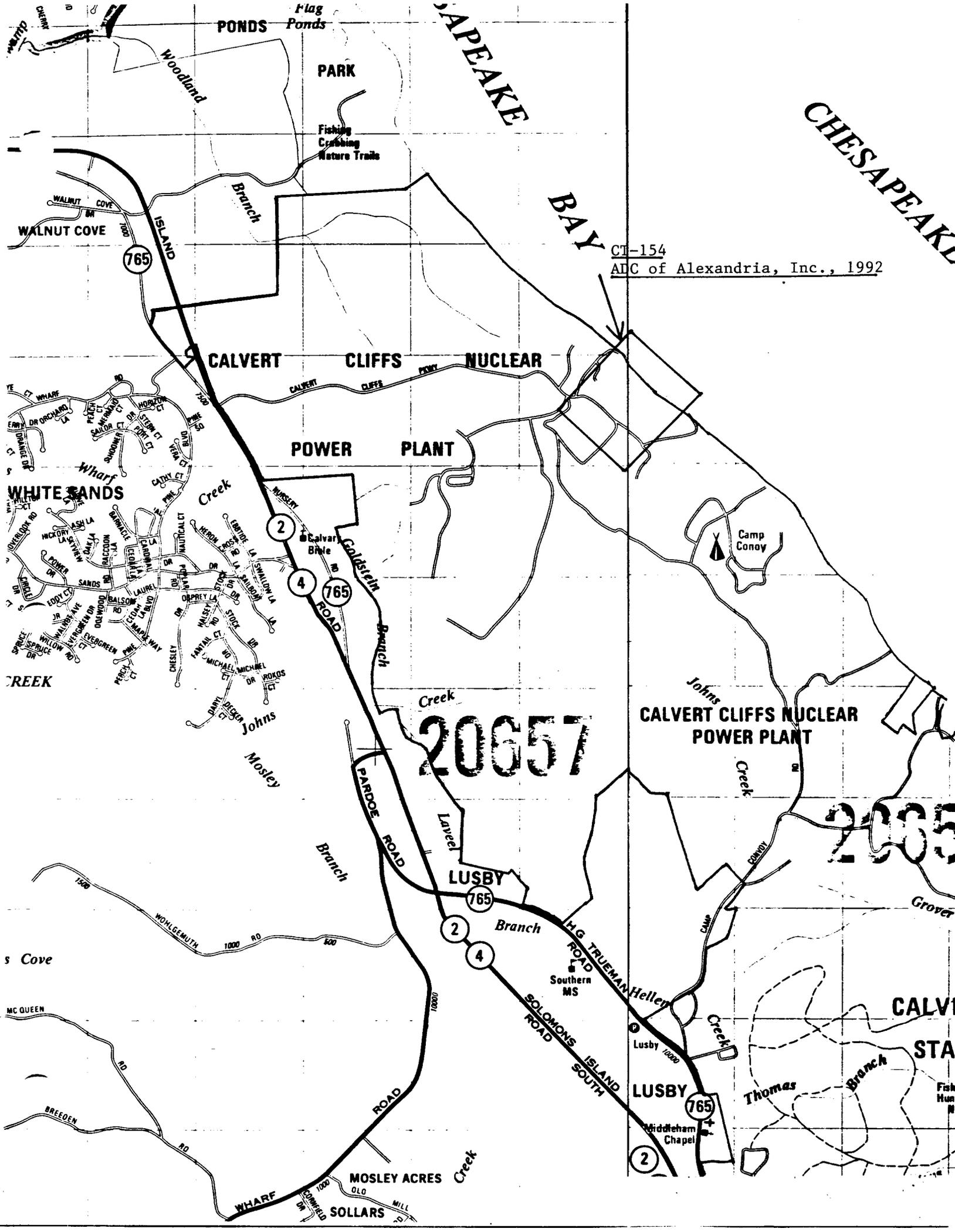
WHITE SANDS  
SEE MAP 35A  
SCALE 1"=300'

DEPT. OF ASSASSINMENT & TAXATION TAX MAP NO. 35 DATE 1-1-60	PROPERTY LINE SUB-DIVISION BOUNDARY CONVEYANCE BOUNDARY PUBLIC RECORD DATE 1-1-60
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BASE MAP CONSTRUCTED BY THE S.A.D. PLANNING DIV. TO BR.

MAP NO 35



PONDS Ponds

CHESAPEAKE BAY

CHESAPEAKE BAY

CT-154

AIC of Alexandria, Inc., 1992

CALVERT

CLIFFS

NUCLEAR

POWER PLANT

WHITE SANDS

20657

20657

CALVERT CLIFFS NUCLEAR POWER PLANT

LUSBY

LUSBY

CALVERT CLIFFS NUCLEAR POWER PLANT

MOSLEY ACRES

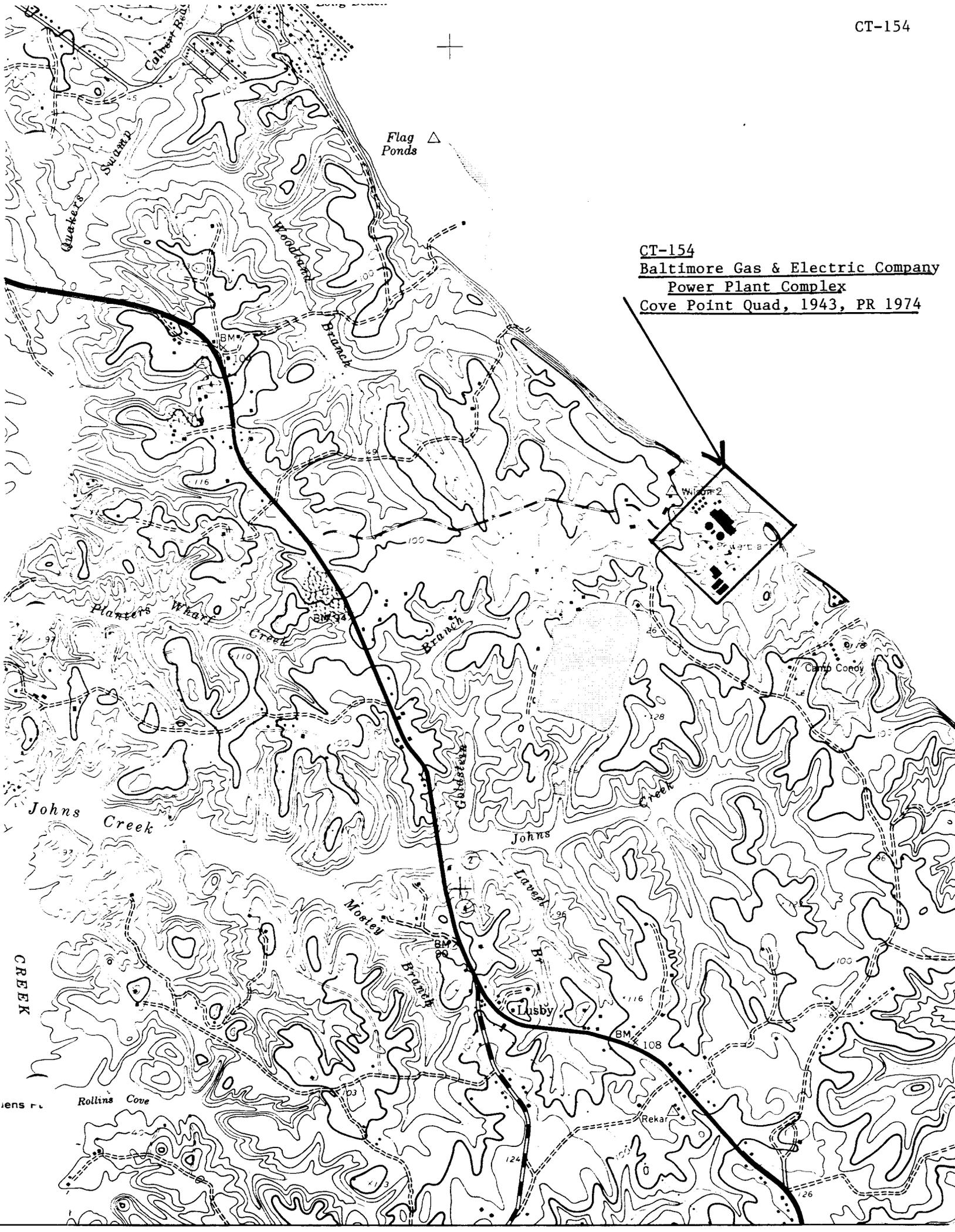
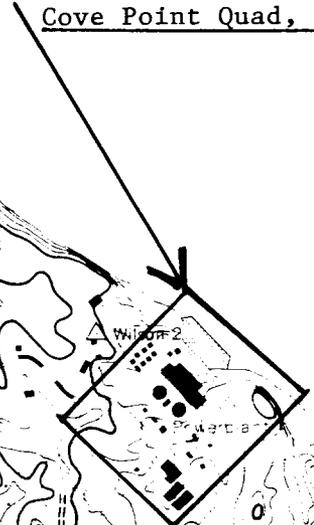
SOLLARS

STATION



Flag Ponds 

CT-154  
Baltimore Gas & Electric Company  
Power Plant Complex  
Cove Point Quad, 1943, PR 1974



CREEK

Rollins Cove

Rollins Cove

Johns Creek

Planters Wharf



Water

Camp Conroy

Johns

Lusby

BM 108

BM 108

Reka

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BM 110

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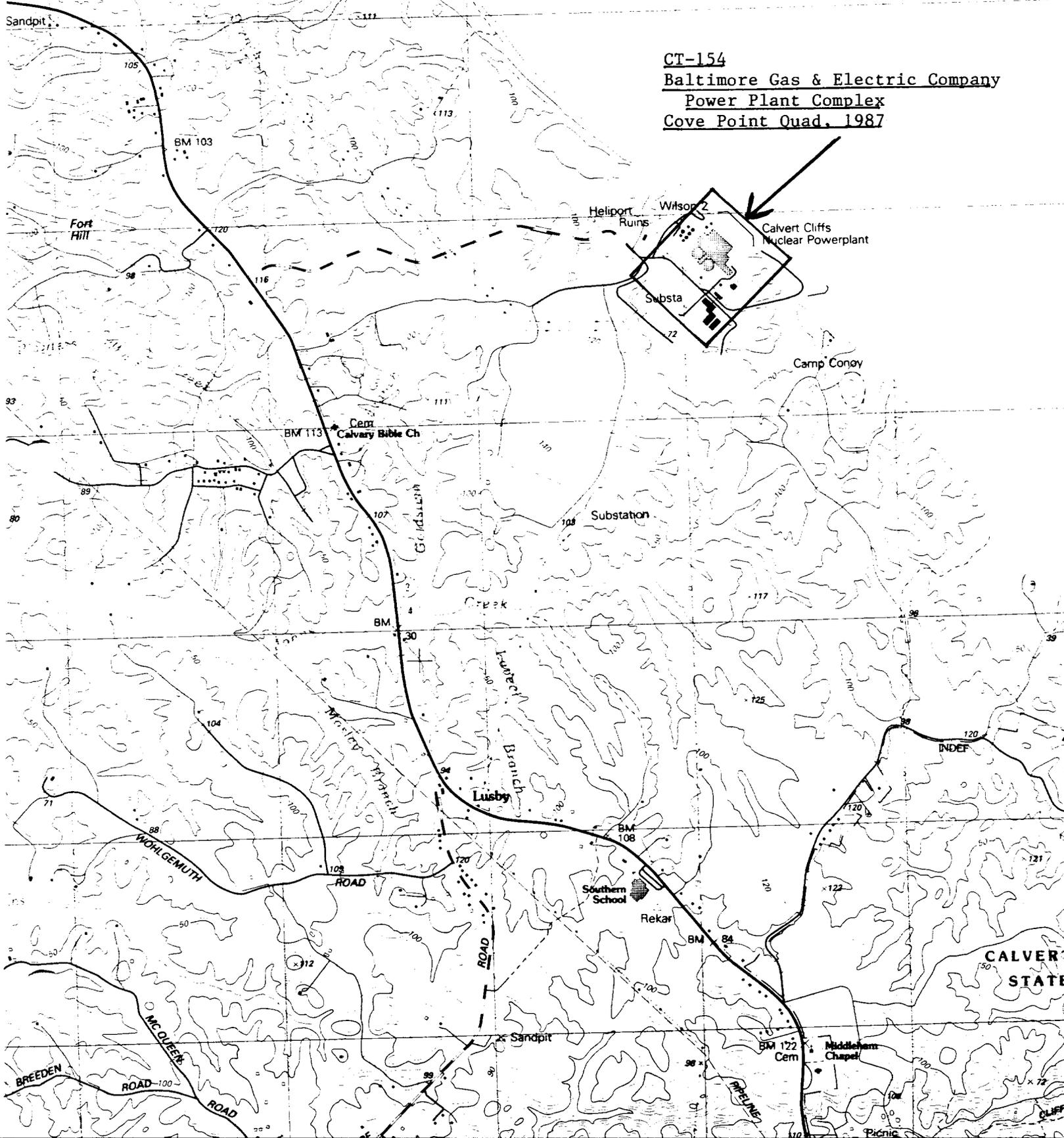
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CT-154  
Baltimore Gas & Electric Company  
Power Plant Complex  
Cove Point Quad, 1987



announced its intentions to construct two nuclear powered electric generating units at its Calvert Cliffs site in southern Maryland. This nuclear power plant is the first in the State of Maryland and represents the largest single investment of private capital ever committed in the State.

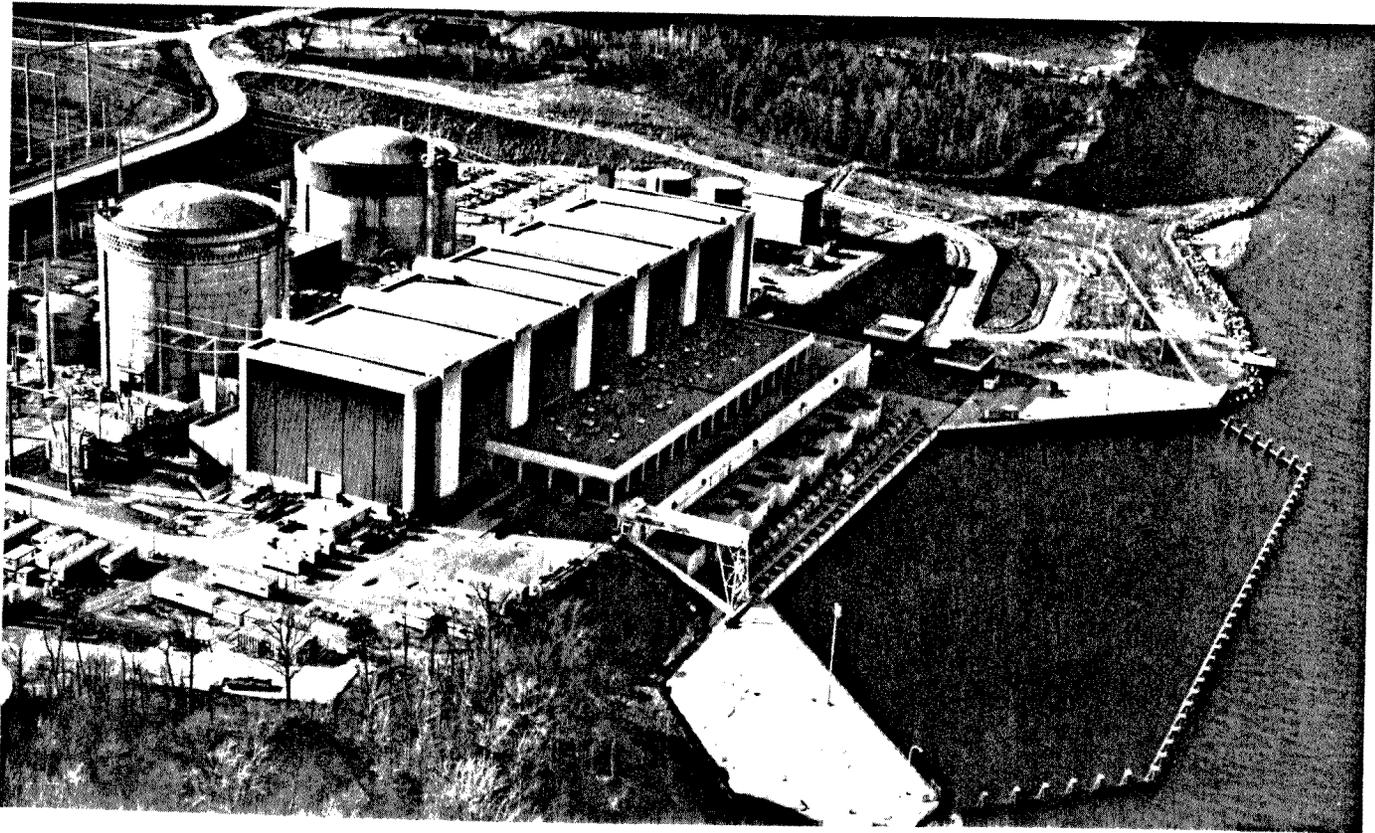
At the time of the announcement, the total net electrical capacity of the two Calvert Cliffs units was about equal to the then total capacity of B. G. and E.'s system. The major portion of this expansion program was to provide the capability to meet the expected increase in electrical demand for the majority of the 1970s. With additional expansion of the system since 1967, the 1690 MW(e) capacity of Calvert Cliffs Units 1 and 2 will be about one-third of the total system capacity of

the Maryland Academy of Sciences to conduct a paleontological study during the first two years of site work.

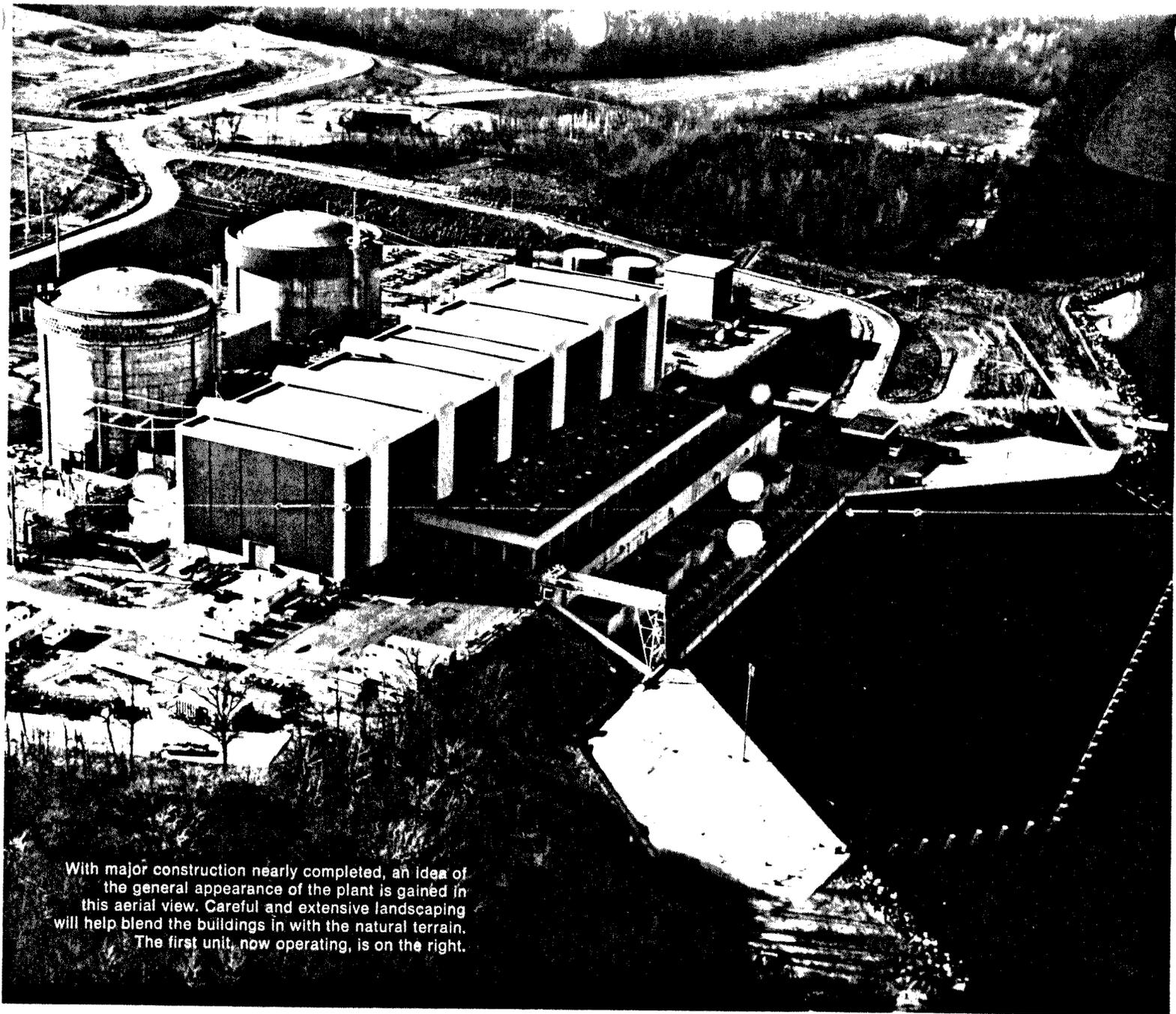
Following the public announcement of the plant, Combustion Engineering, Inc. was selected through competitive bidding to supply the two nuclear steam supply systems. Bechtel Power Corporation was chosen to be the engineer-constructor. The order for the Unit 1 turbine-generator was awarded to General Electric, and Westinghouse received the order for the Unit 2 turbine-generator. The twin pressurized water reactors have an initial licensed power level of 2570 MW(th) (845 MW(e) net) with a maximum expected capacity of 2700 MW(th) (875 MW(e) net). The core of each unit will contain about 83 metric tons of slightly enriched uranium. From an

circulating water pumps (six per unit) will pump  $2.4 \times 10^6$  GPM. Power from the plant will be transmitted via two 500 kv transmission lines to B. G. and E.'s Waugh Chapel substation, about 48 miles north of the plant where it will be integrated into the rest of the transmission system.

Detailed investigative environmental studies started in the spring of 1968 and will continue until well after both units are operating at full power. Fuel was loaded in Unit 1 in August, 1974, and the unit was placed in commercial operation on May 8, 1975. Unit 2 is scheduled to load fuel in September, 1976, with commercial operation early in 1977.



CF-154



With major construction nearly completed, an idea of the general appearance of the plant is gained in this aerial view. Careful and extensive landscaping will help blend the buildings in with the natural terrain. The first unit, now operating, is on the right.