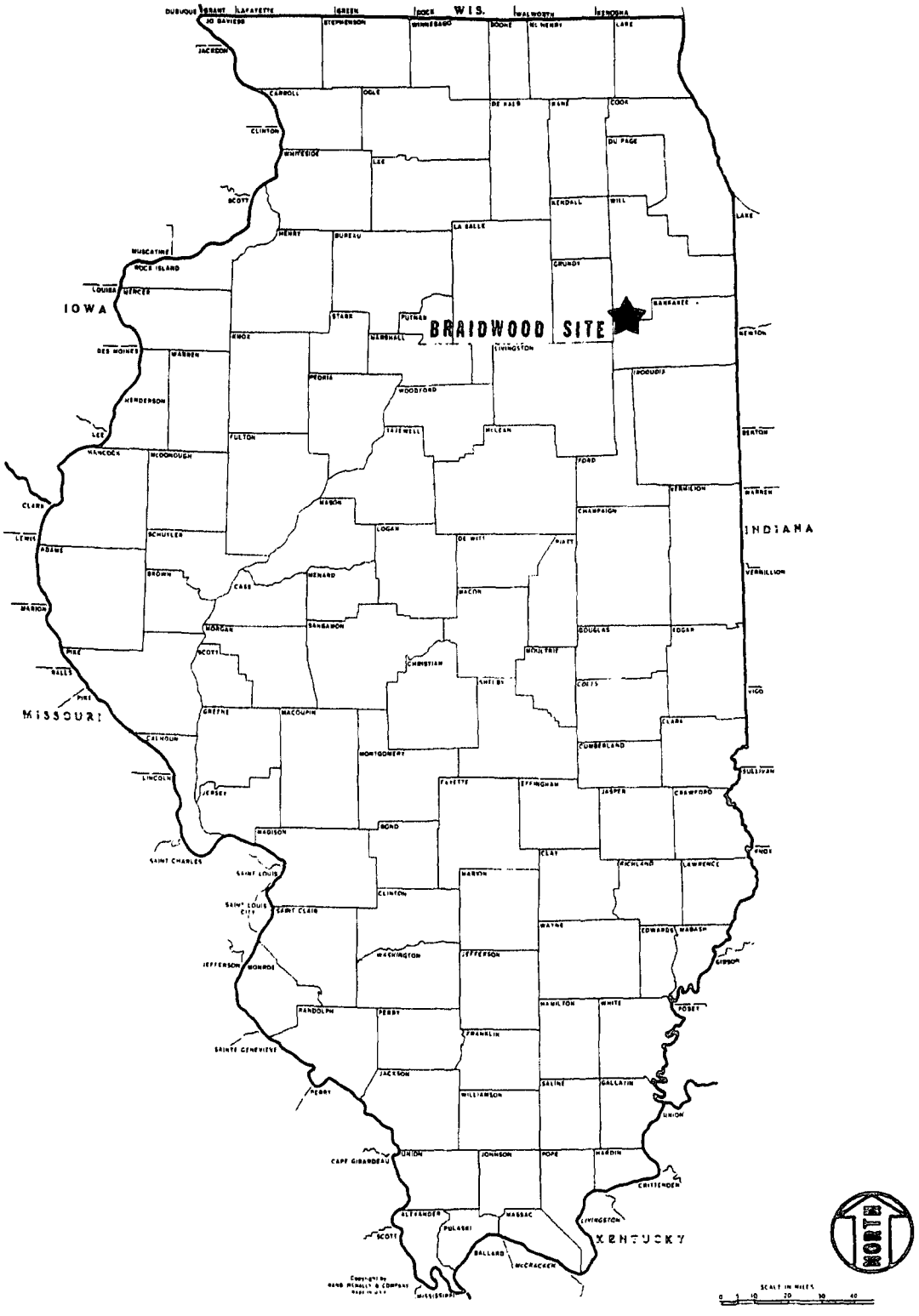
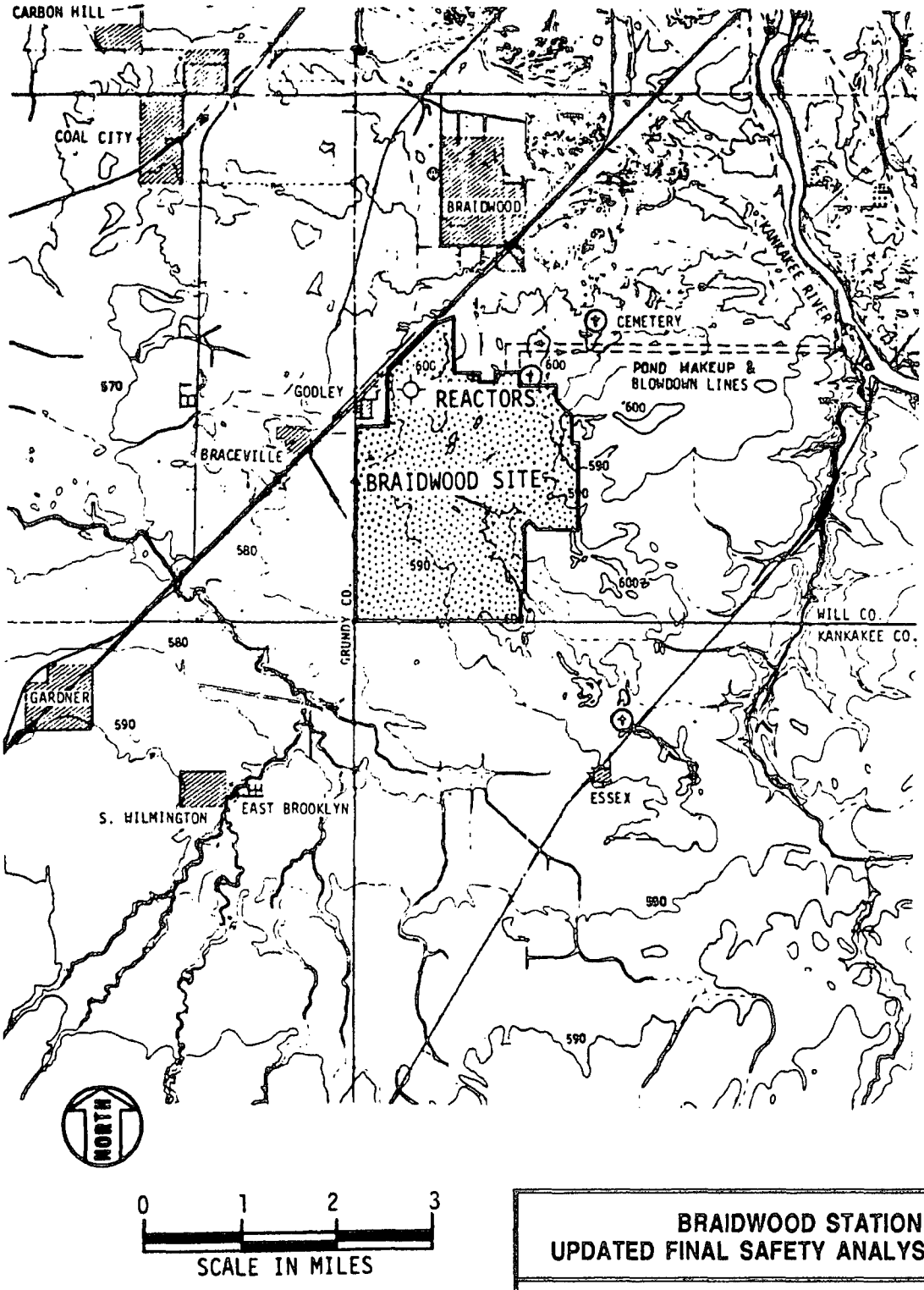


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-1

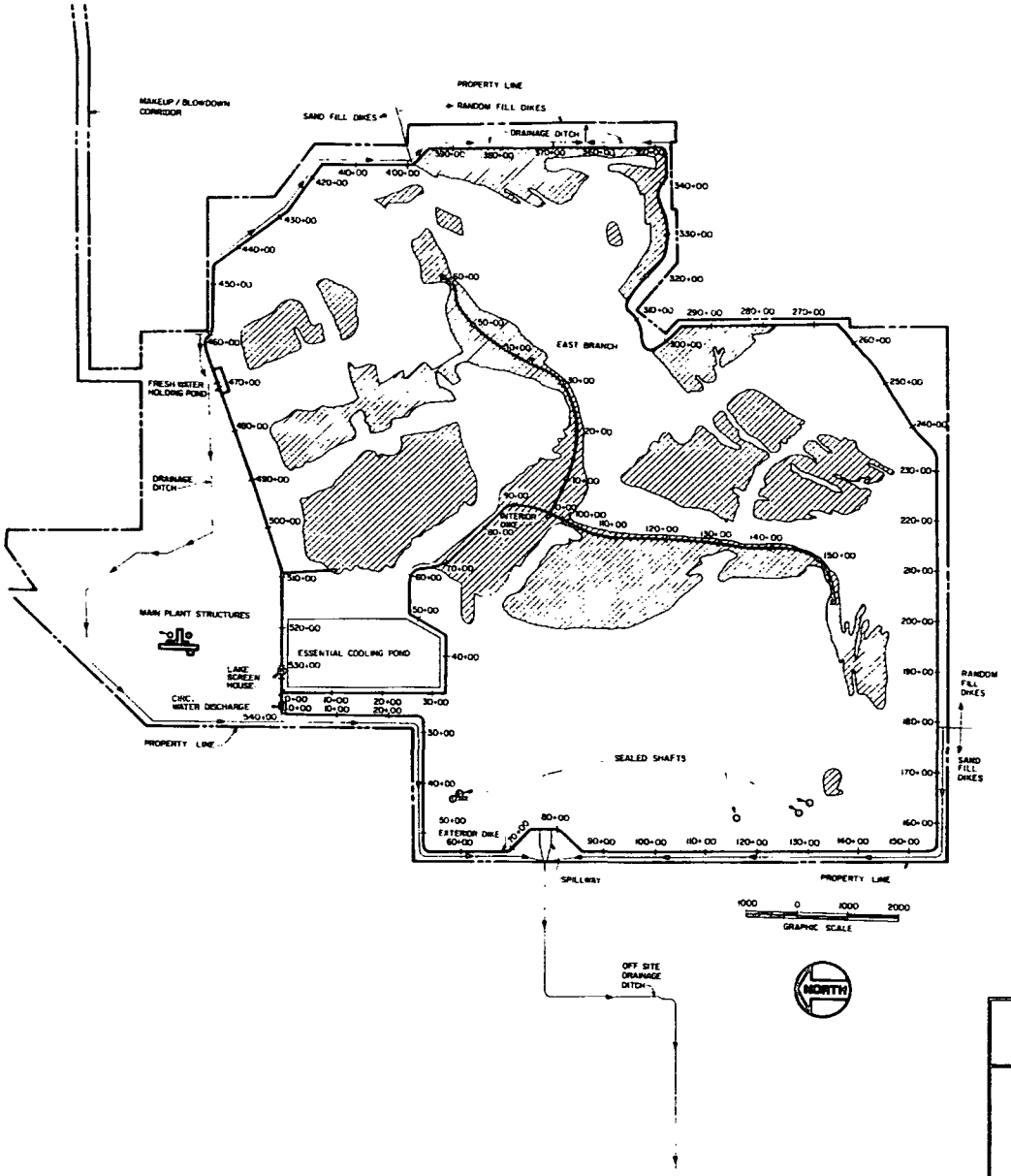
LOCATION OF THE SITE WITHIN THE STATE OF ILLINOIS



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-2

SITE WITH RESPECT TO KANKAKEE RIVER AND COUNTY BOUNDARIES

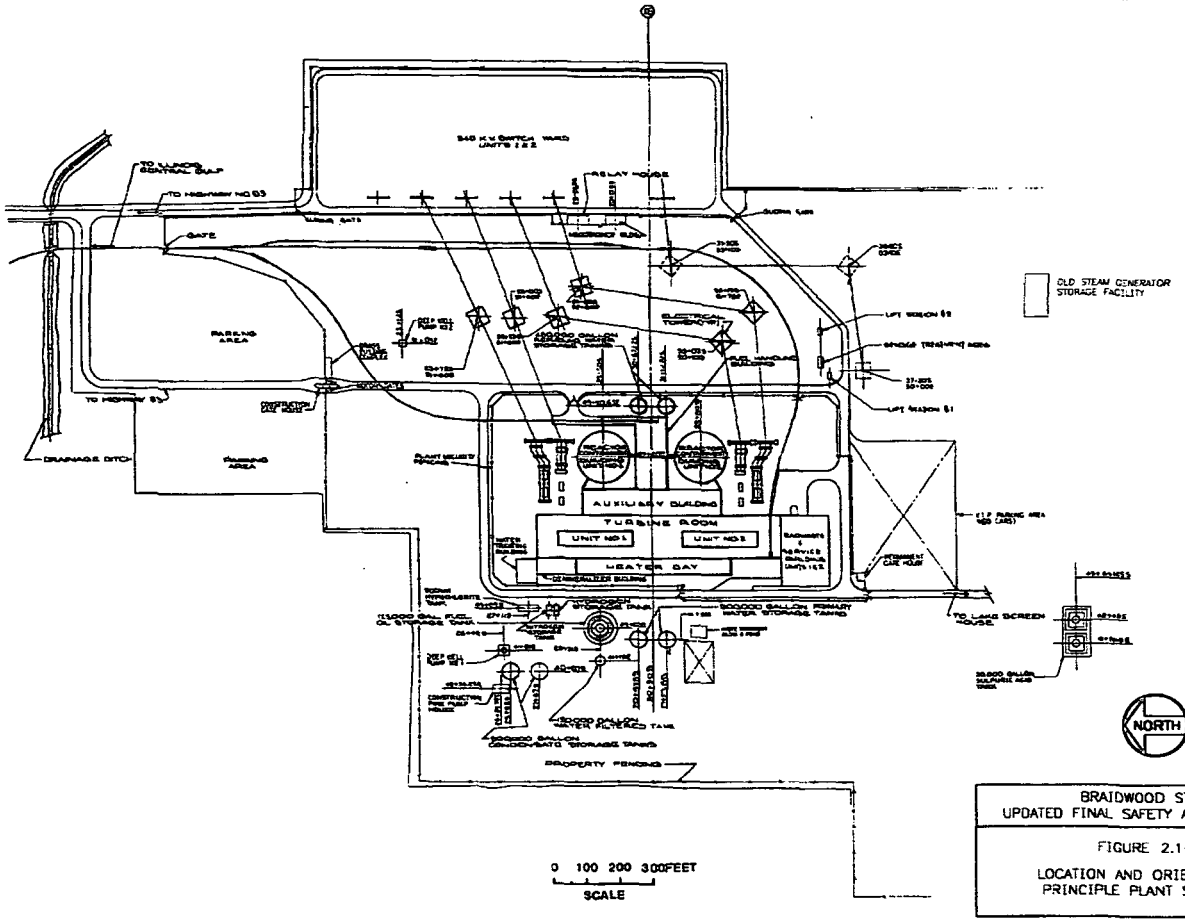


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-3

SITE BOUNDARY AND COOLING LAKE

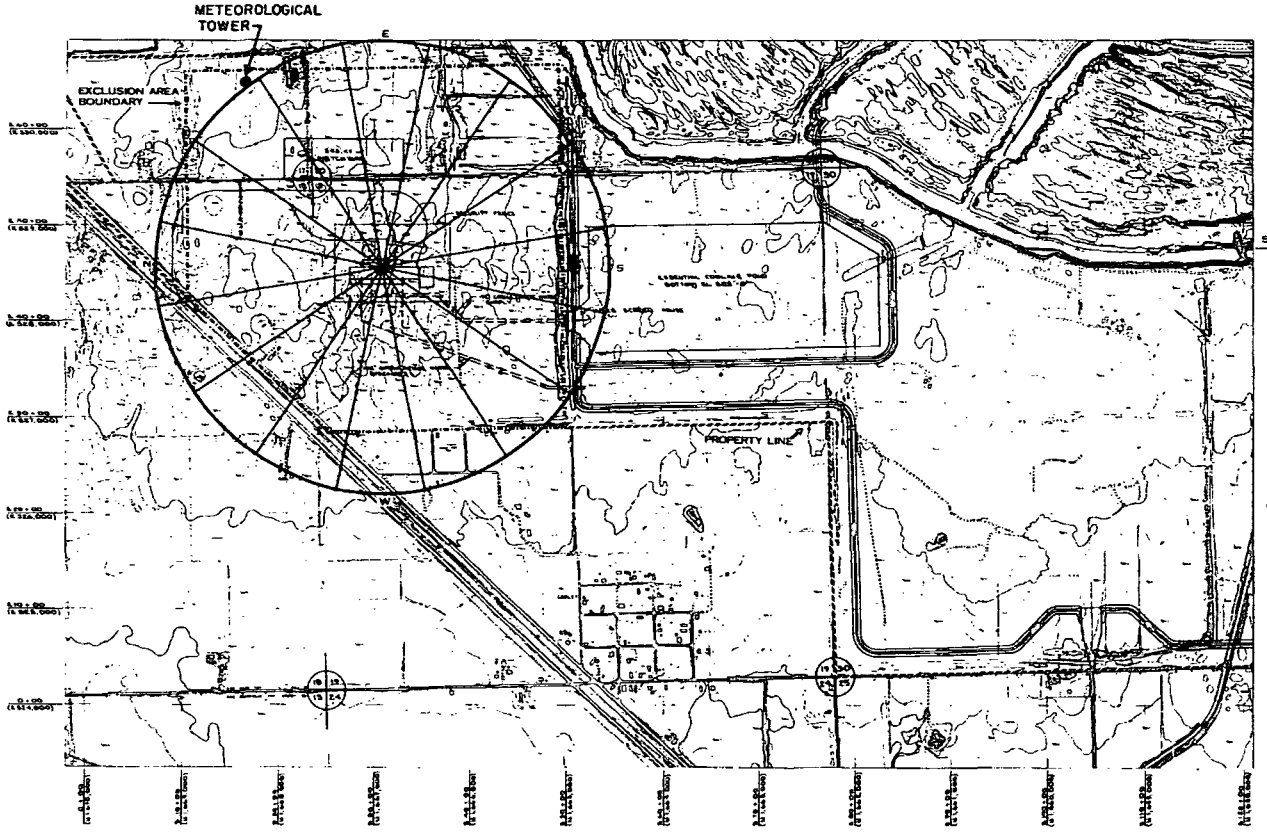
REVISION 7
DECEMBER 1998



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-4

LOCATION AND ORIENTATION OF PRINCIPLE PLANT STRUCTURES



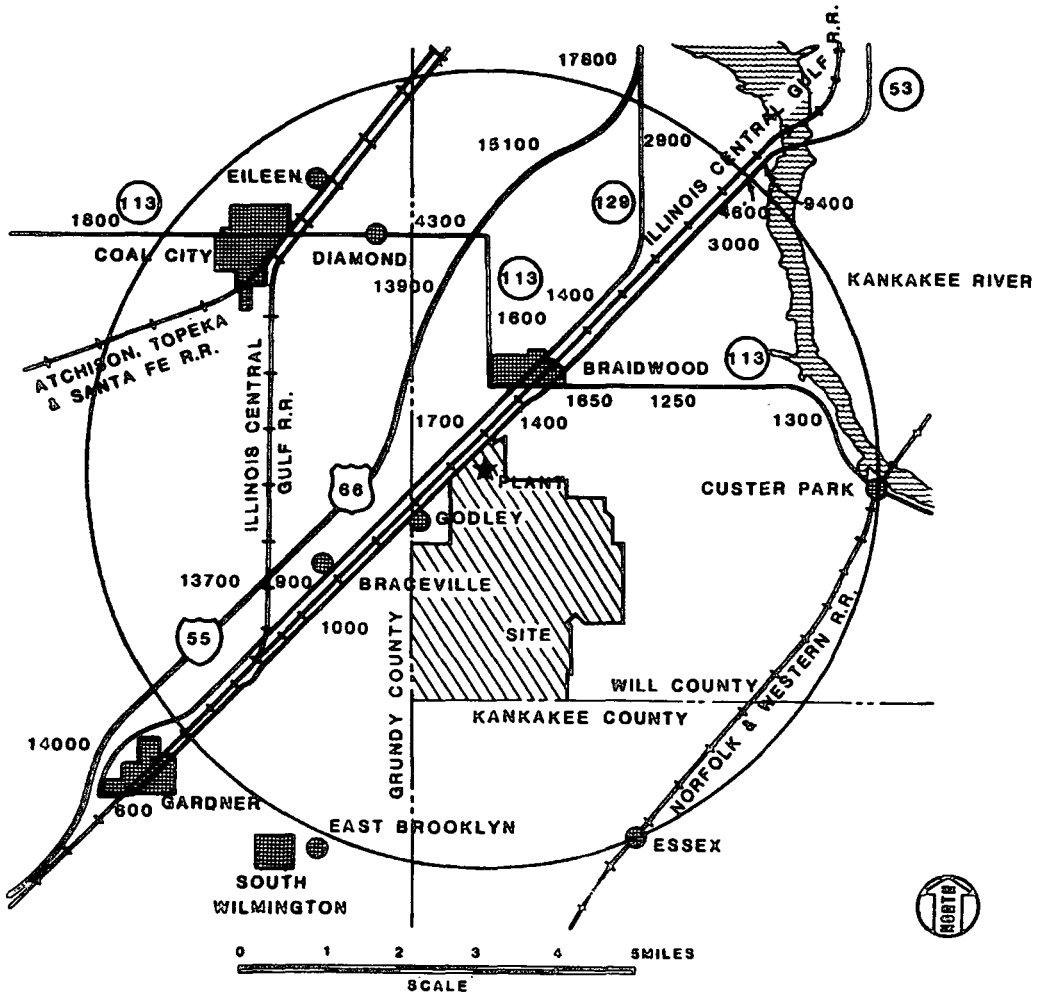
SECTOR	MINIMUM EXCLUSION BOUNDARY DISTANCE (FEET)
N	2000
NNE	2075
NE	2450
ENE	2100
E	2075
ESE	2125
SE	2000
SSE	1900
S	1875
SSW	1925
SW	2050
WSW	1750
W	1700
WNW	1650
NW	1625
NNW	1675

NOTE:
RELEASE POINT FOR GASEOUS EFFLUENTS IS AT CENTER OF CIRCLE

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-5

EXCLUSION AREA GASEOUS RELEASE POINT ORIENTATION AND MINIMUM EXCLUSION BOUNDARY DISTANCE



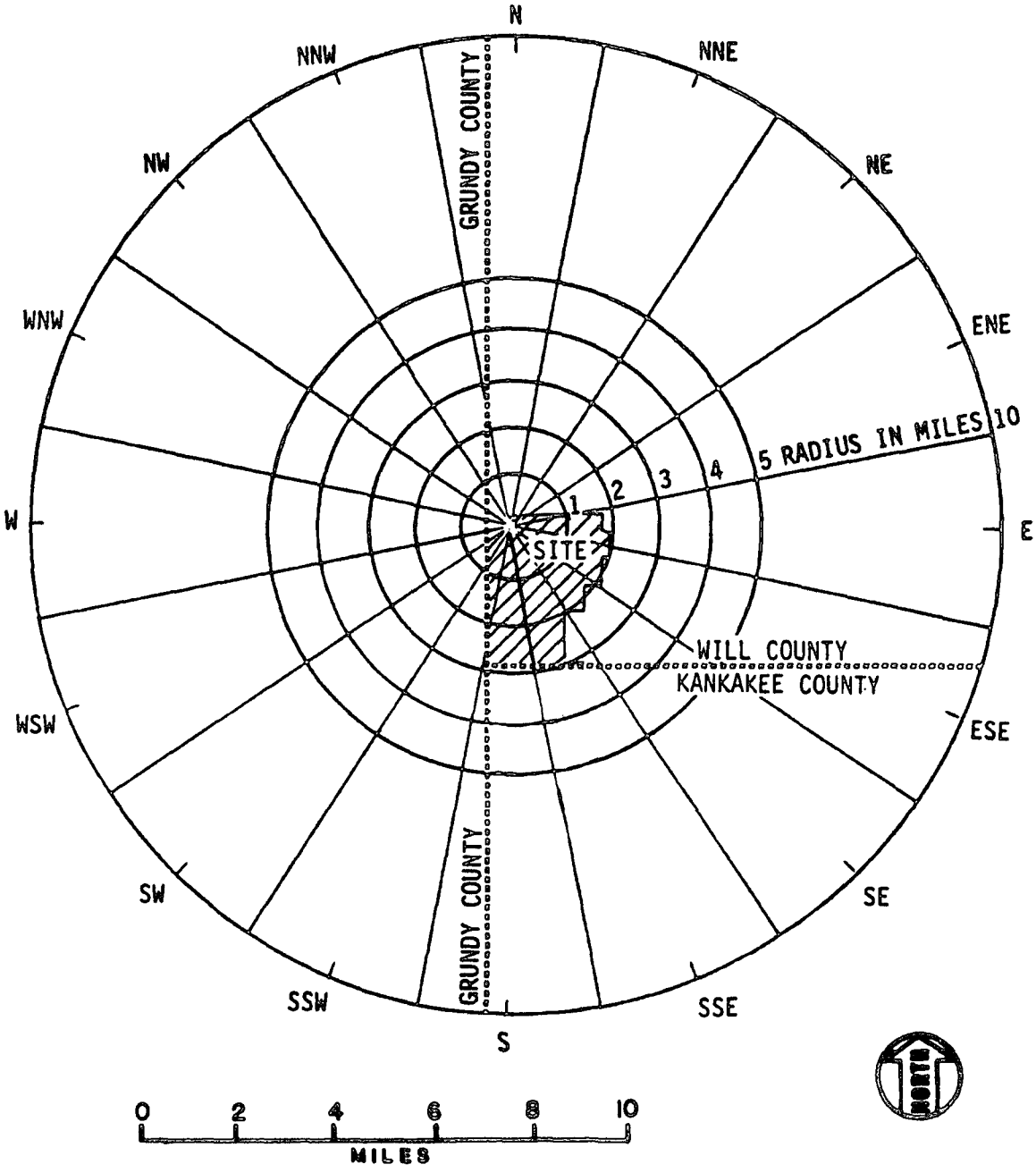
LEGEND:

- RAILROADS
- 55 INTERSTATES
- 66 U.S. HIGHWAYS
- 113 STATE HIGHWAYS
- 1650 1971 AVERAGE DAILY TRAFFIC VOLUME
- CITIES & VILLAGES

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-6

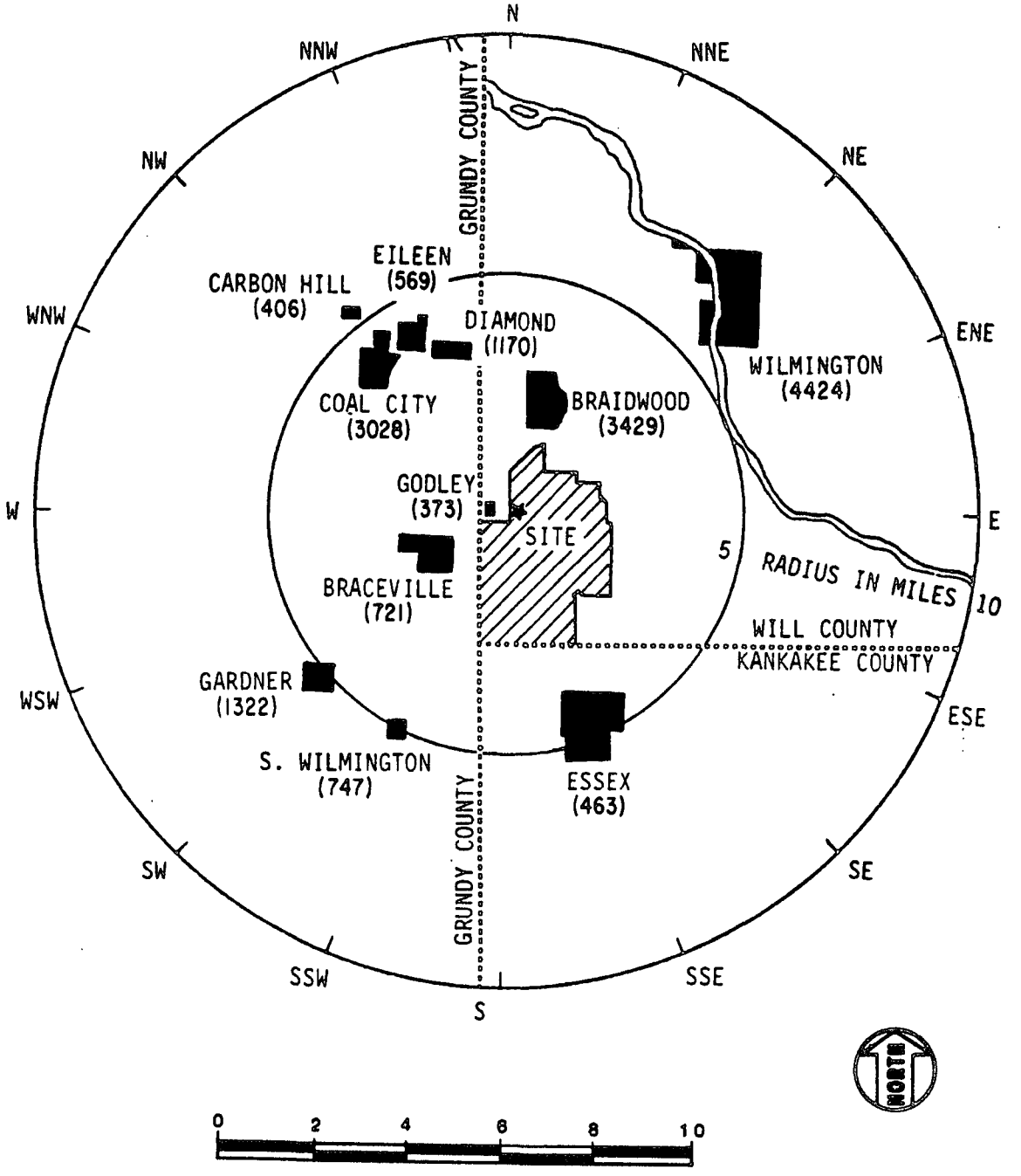
TRANSPORTATION NETWORKS WITHIN 5 MILES OF THE SITE



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-7

SECTOR DESIGNATIONS FROM 0 TO 10 MILES

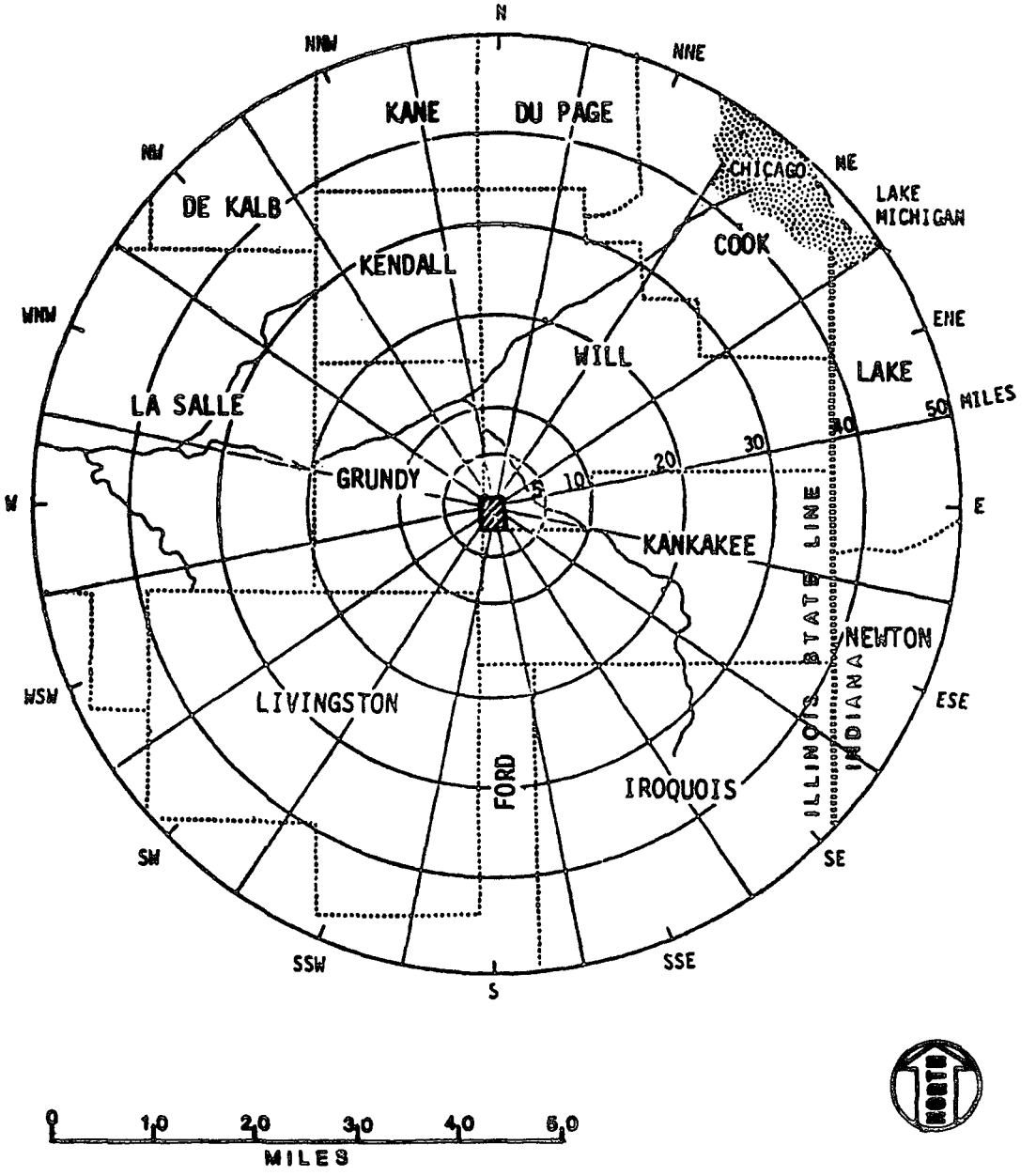


( ) INDICATES 1980 CENSUS POPULATION

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-8

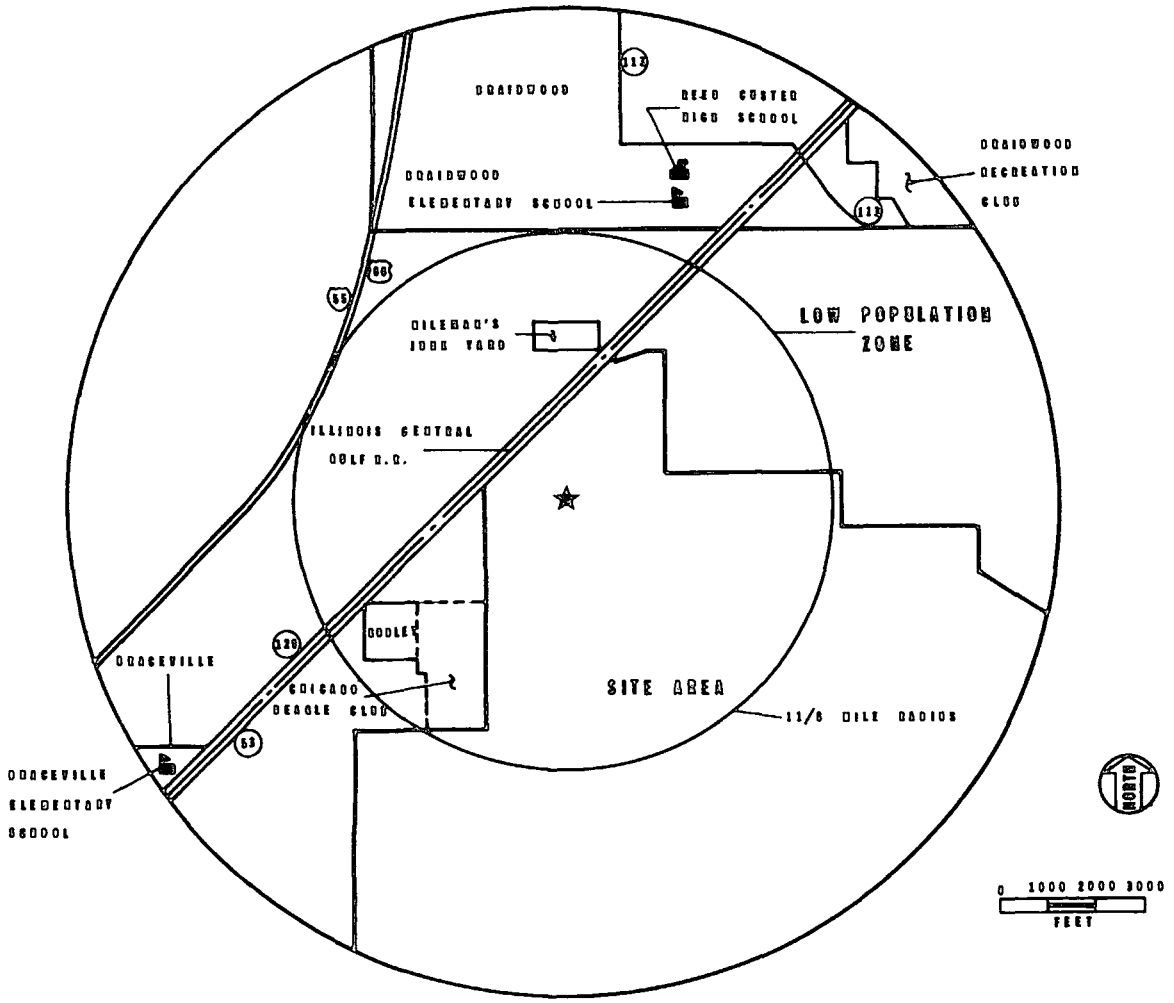
CITIES AND VILLAGES WITHIN
10 MILES OF THE SITE



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-9

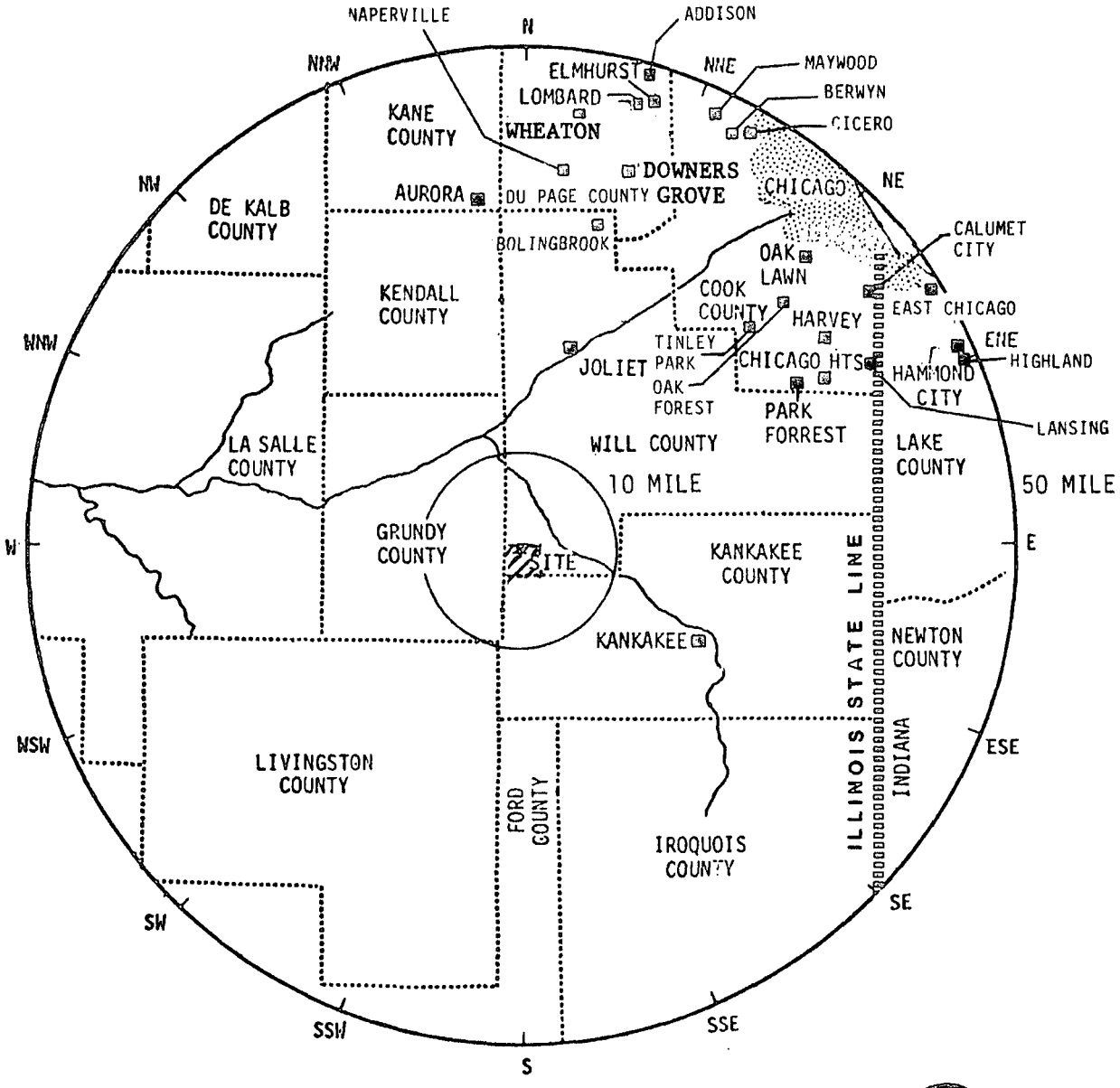
SECTOR DESIGNATIONS WITHIN 50 MILES



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-10

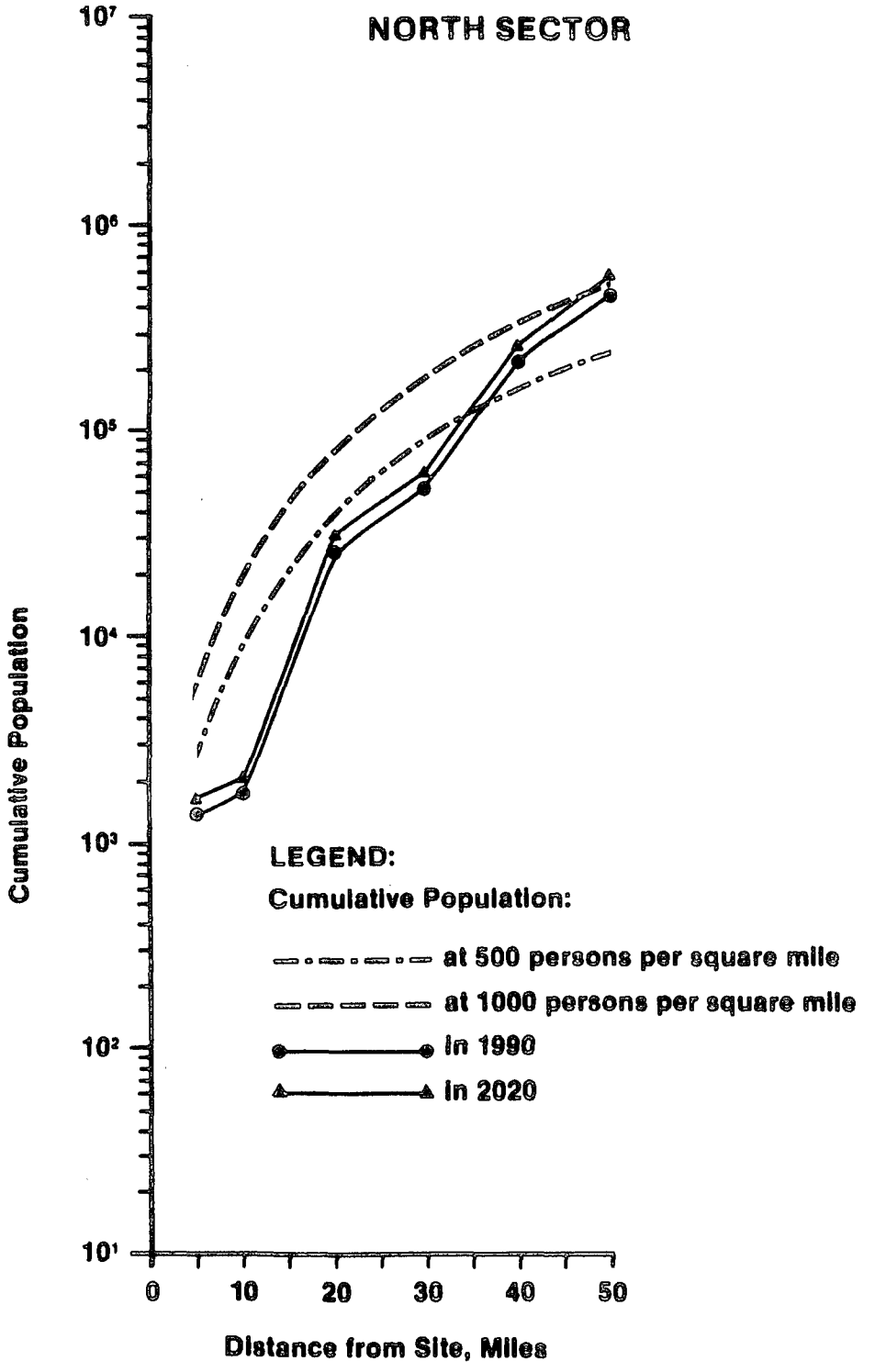
PUBLIC FACILITIES WITHIN THE
LOW POPULATION ZONE



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-11

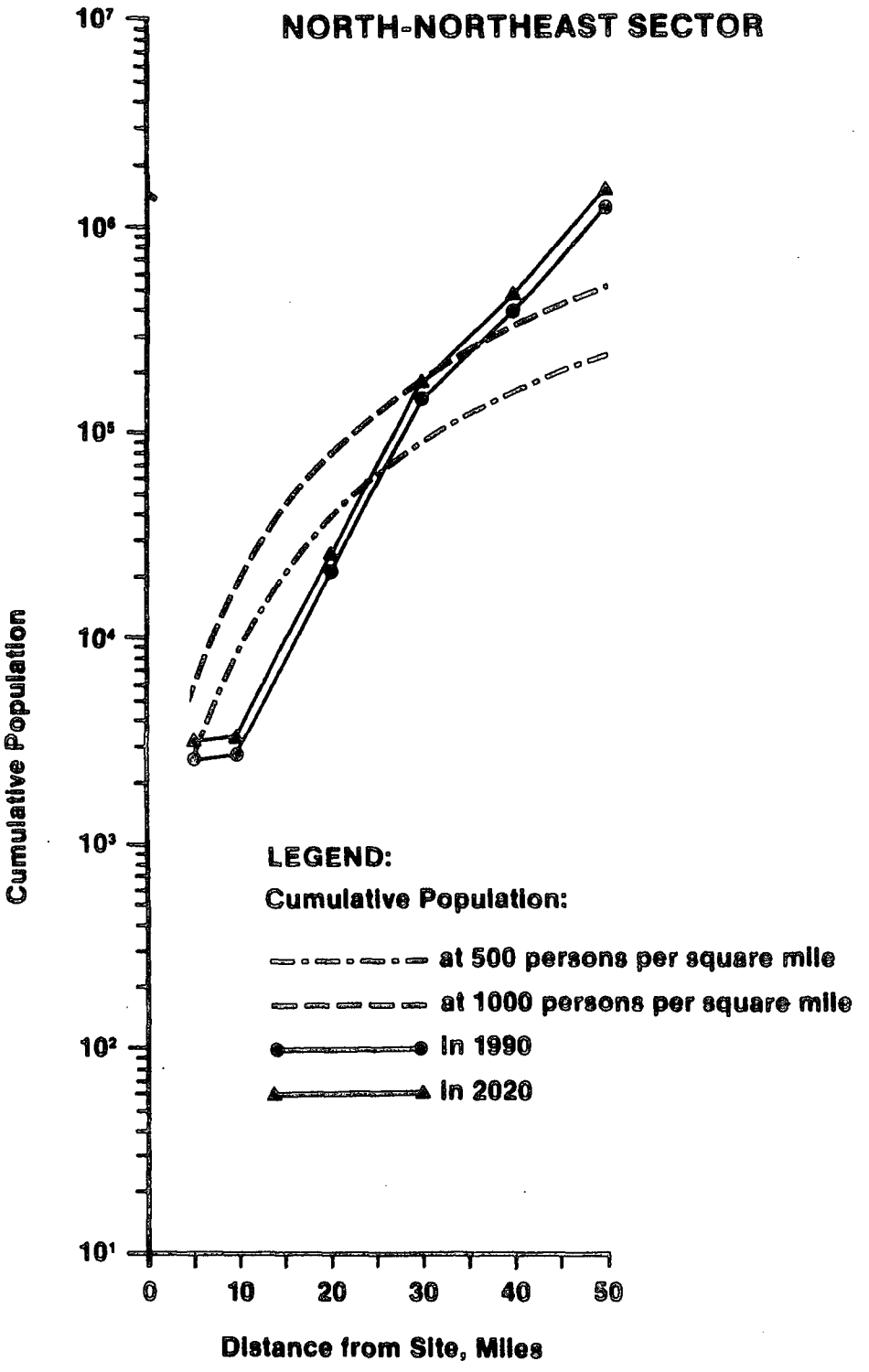
POPULATION CENTERS WITHIN
50 MILES OF THE SITE



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

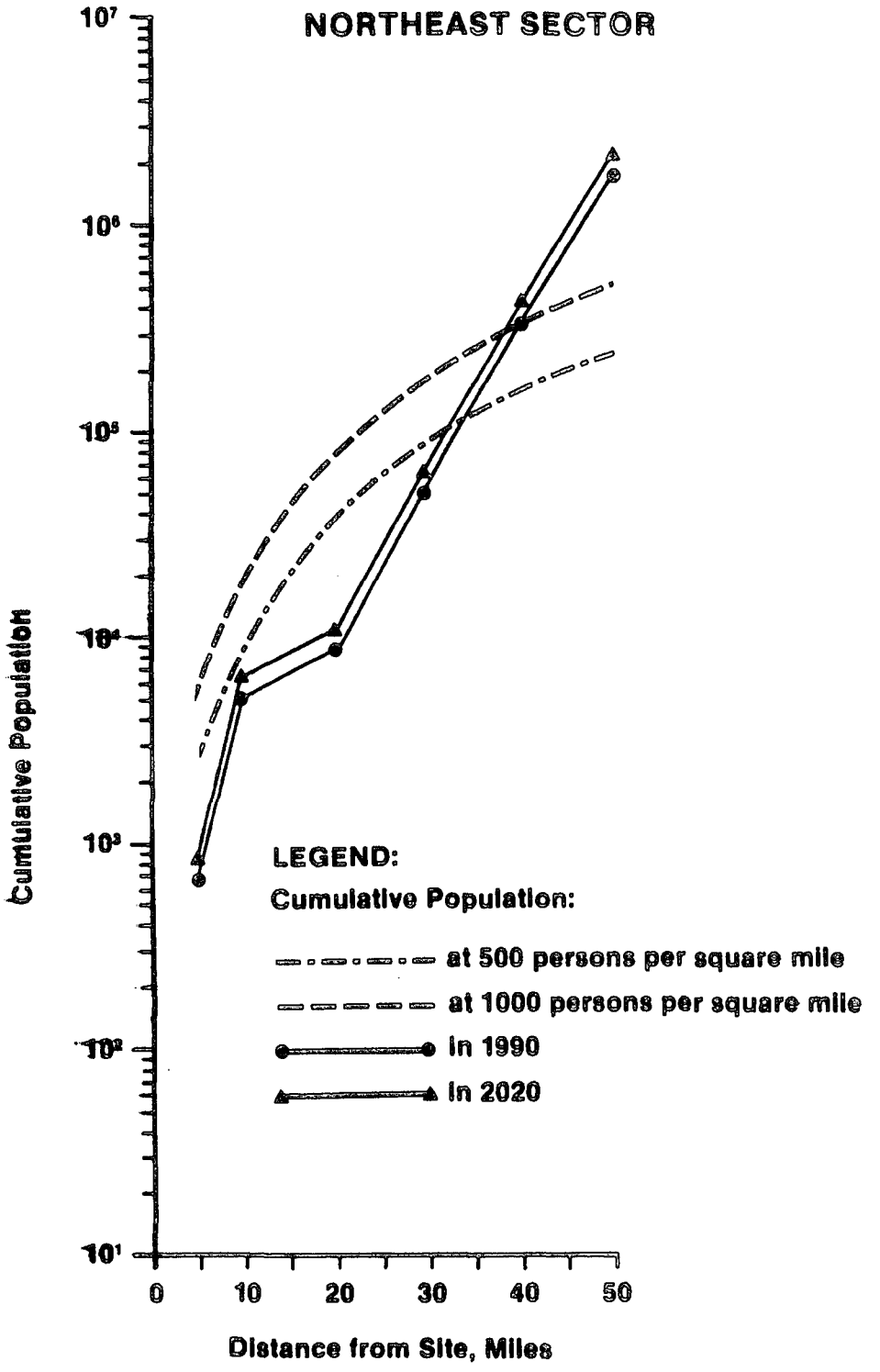
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 1 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

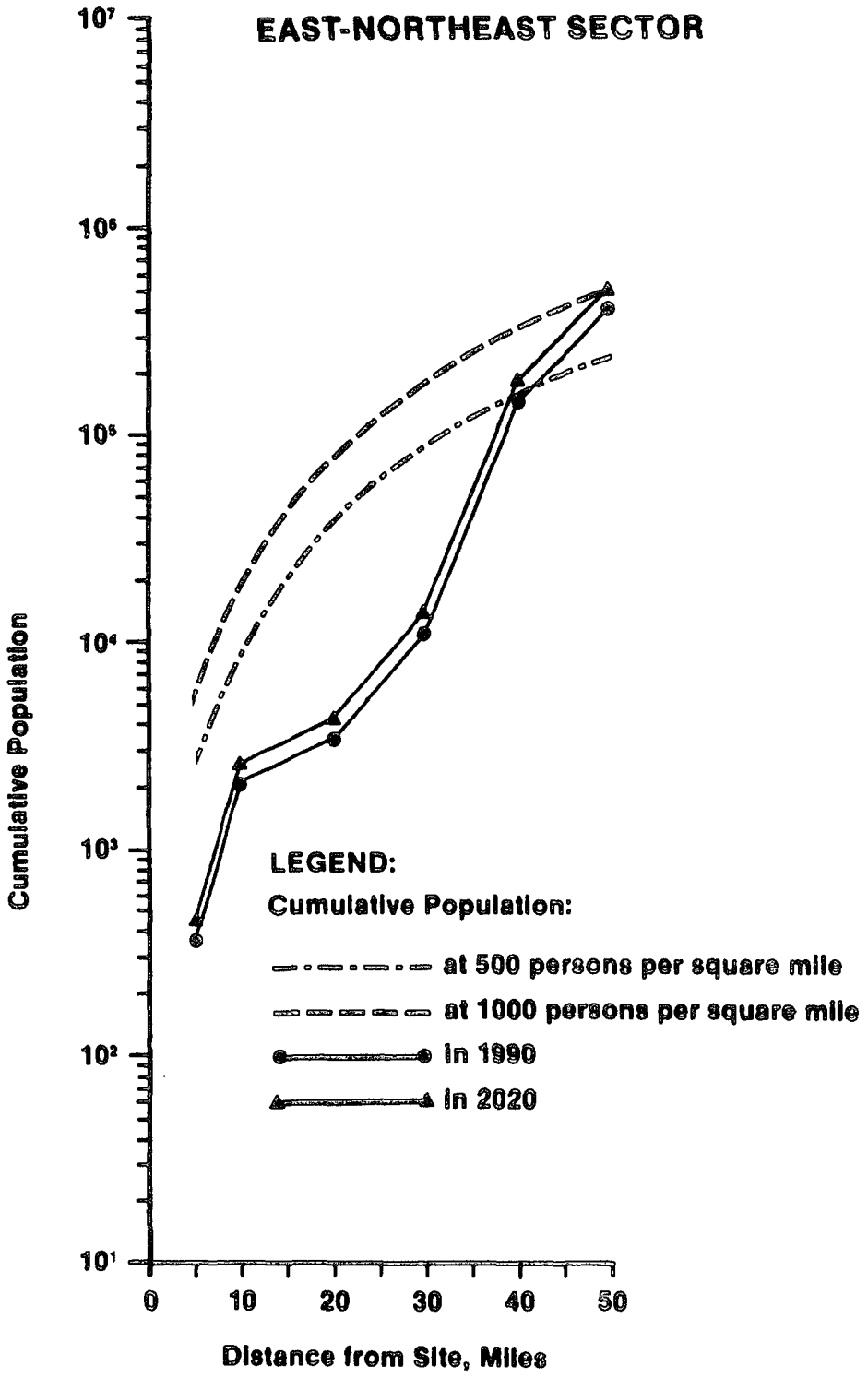
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 2 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

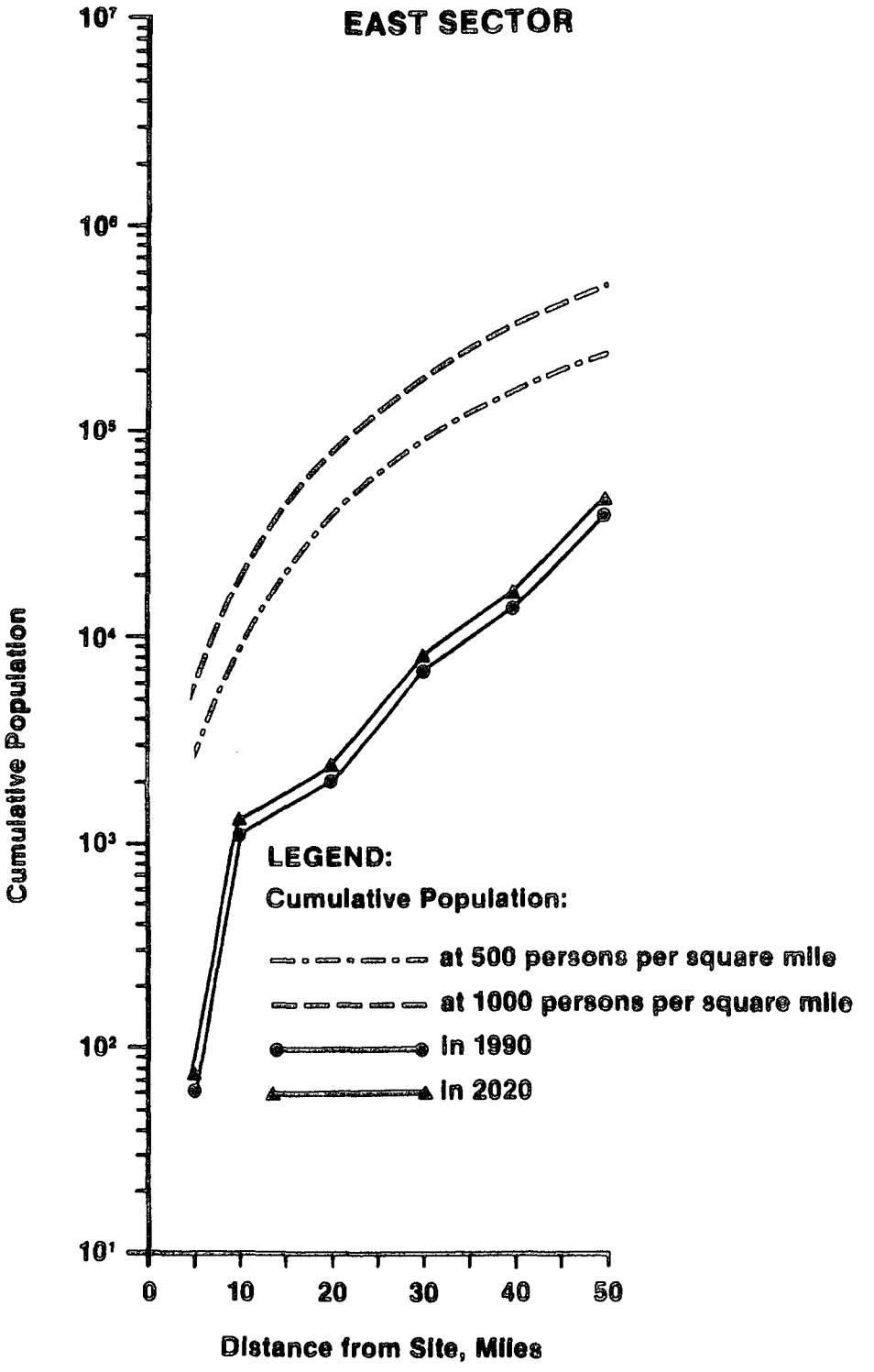
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 3 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

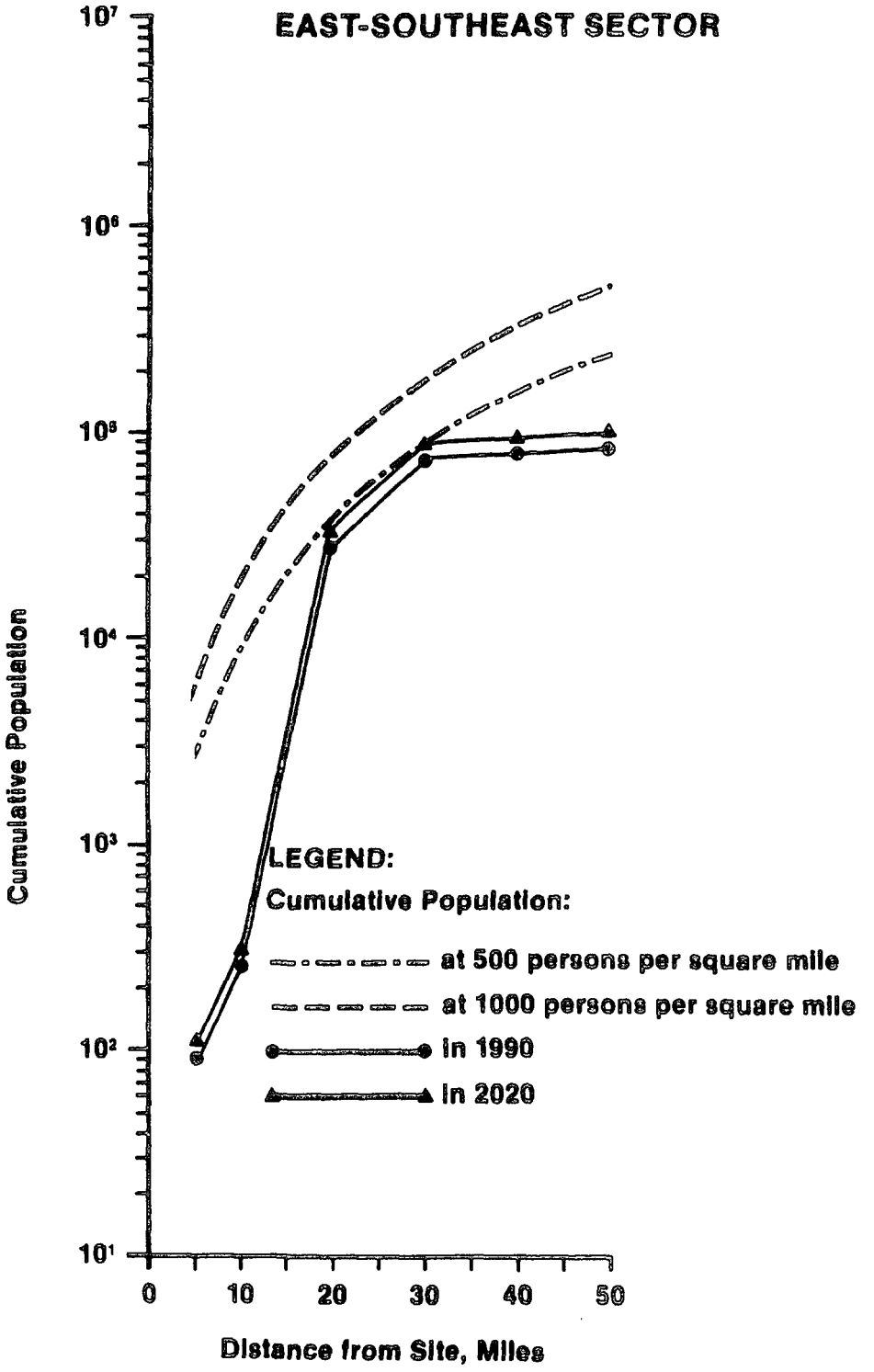
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 4 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

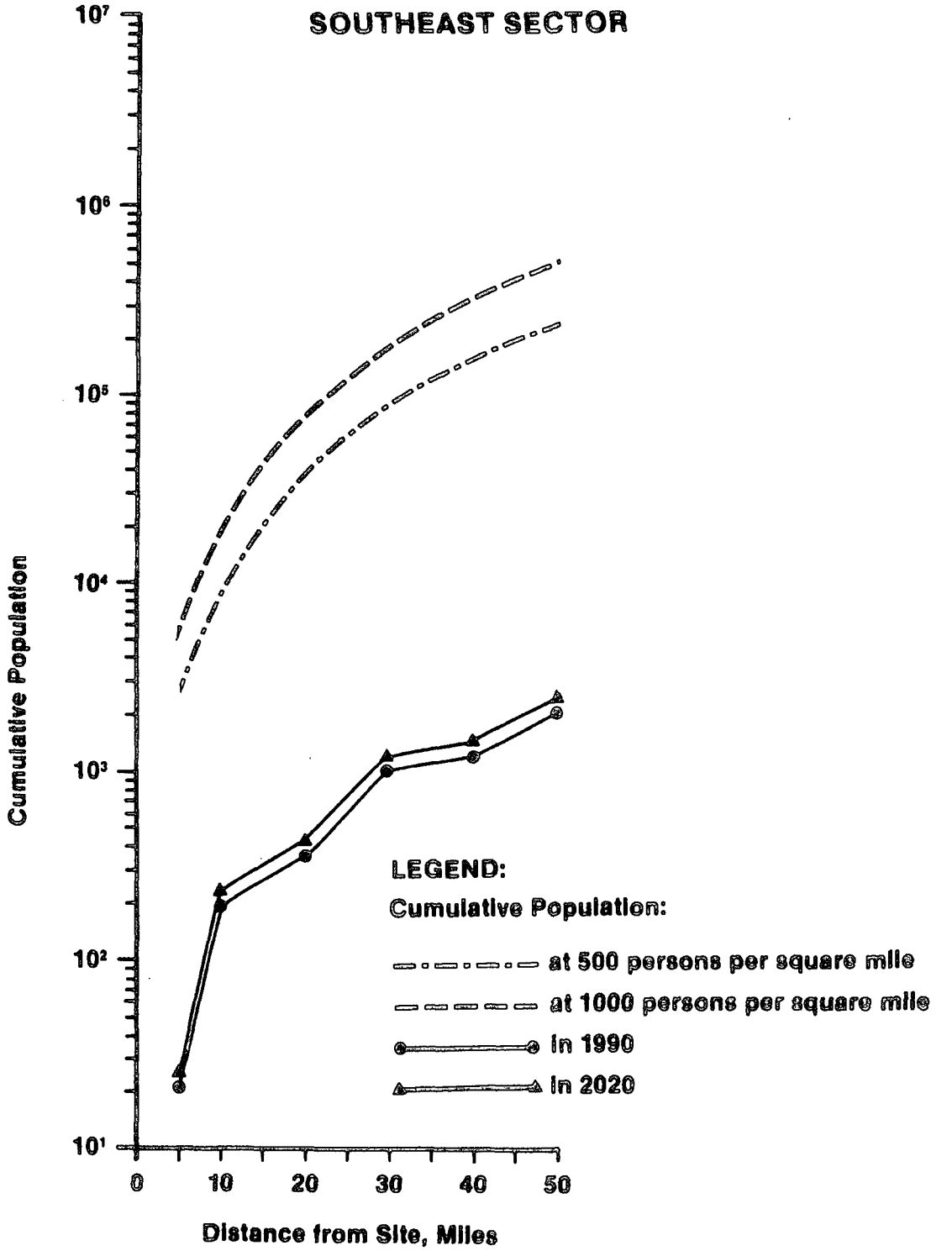
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 5 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

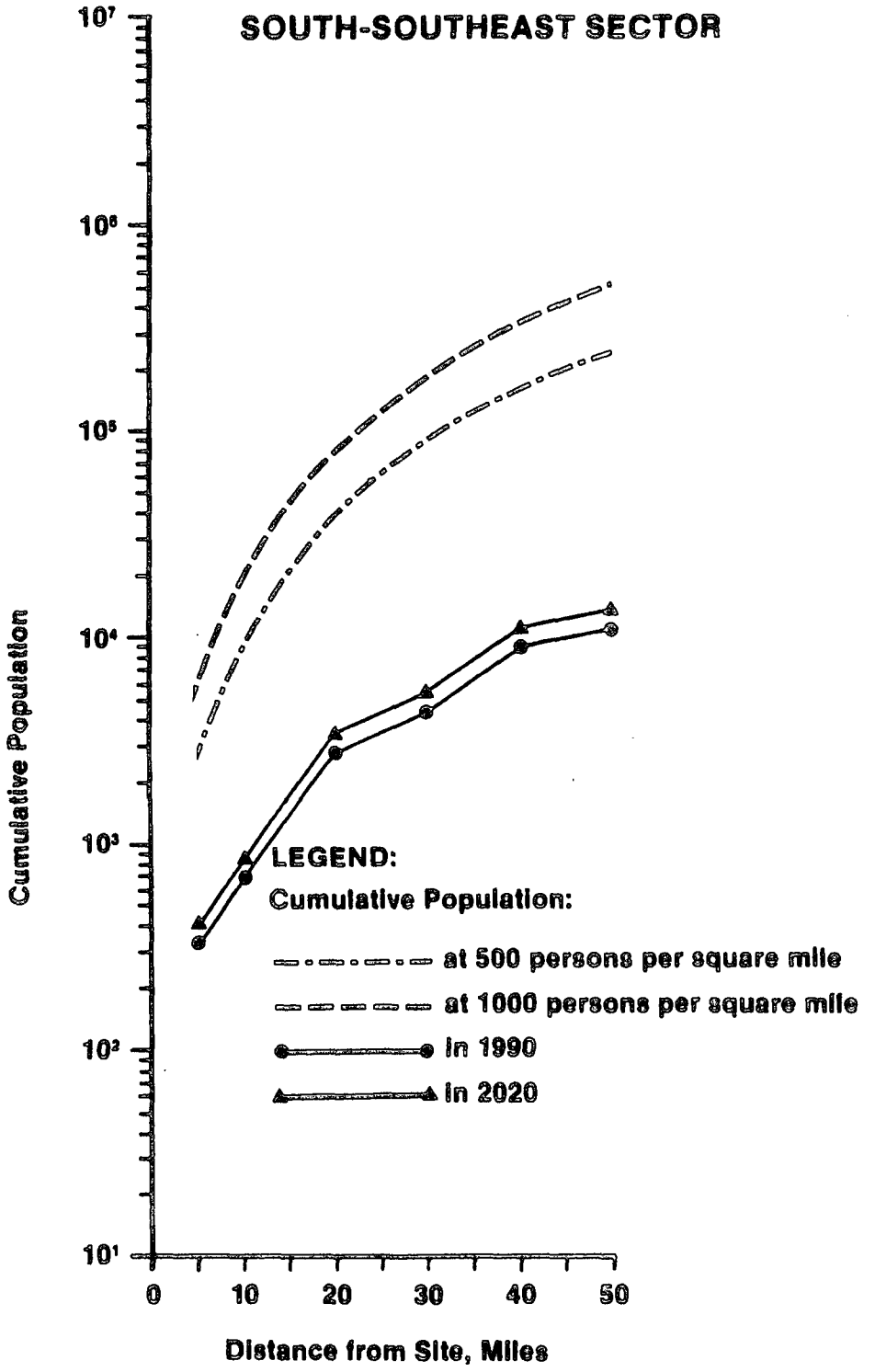
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 6 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

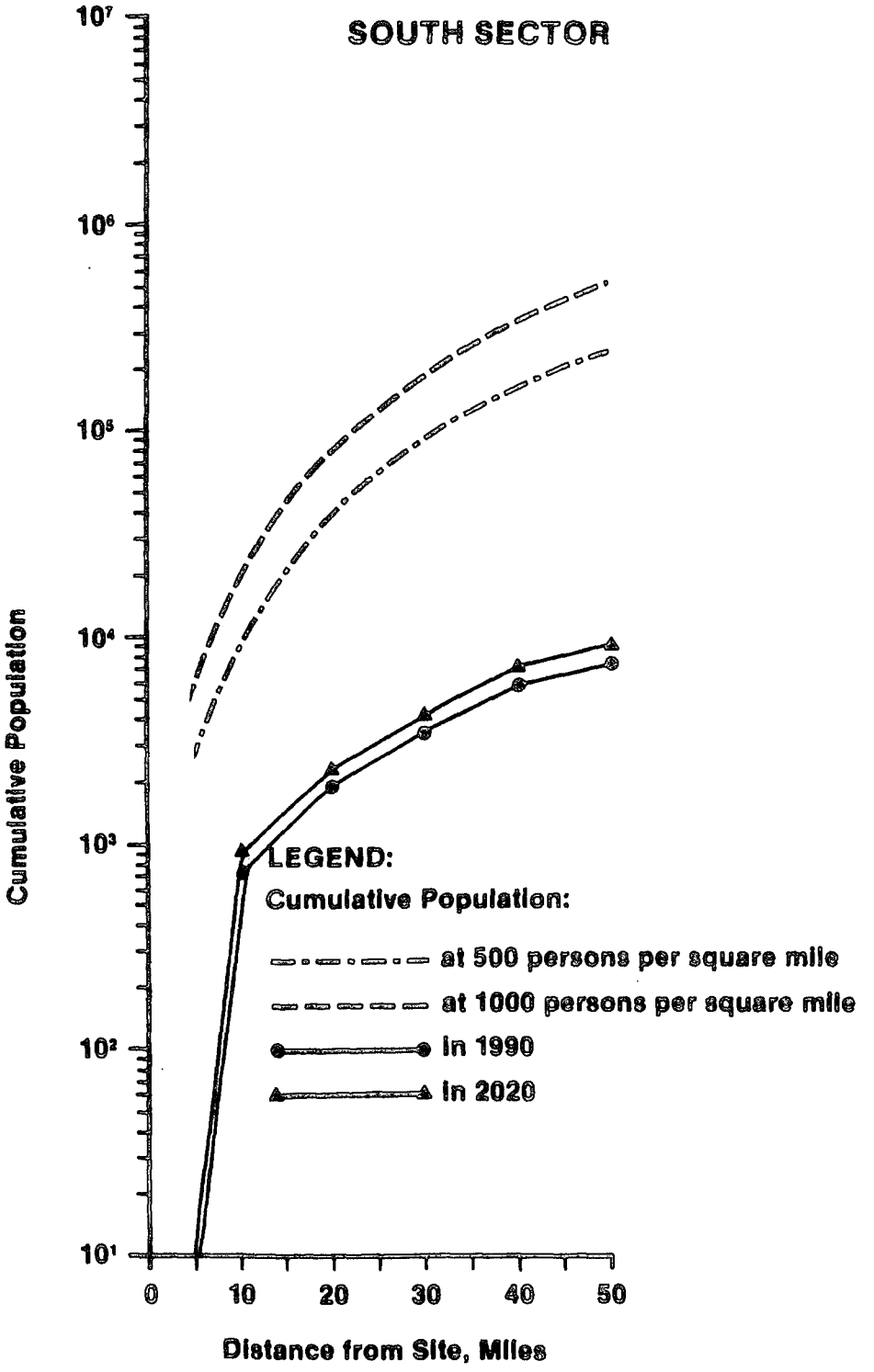
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 7 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

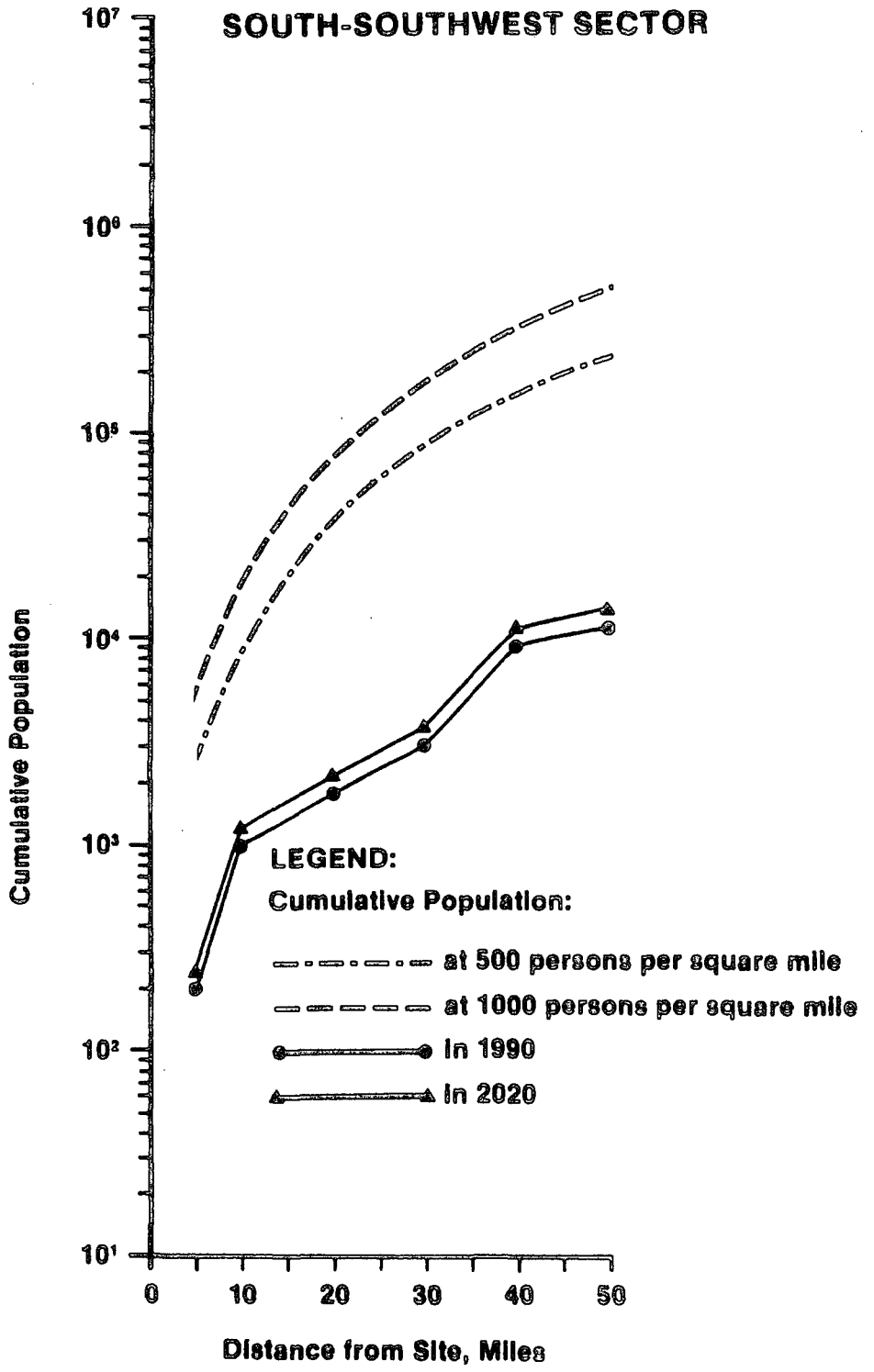
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 8 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

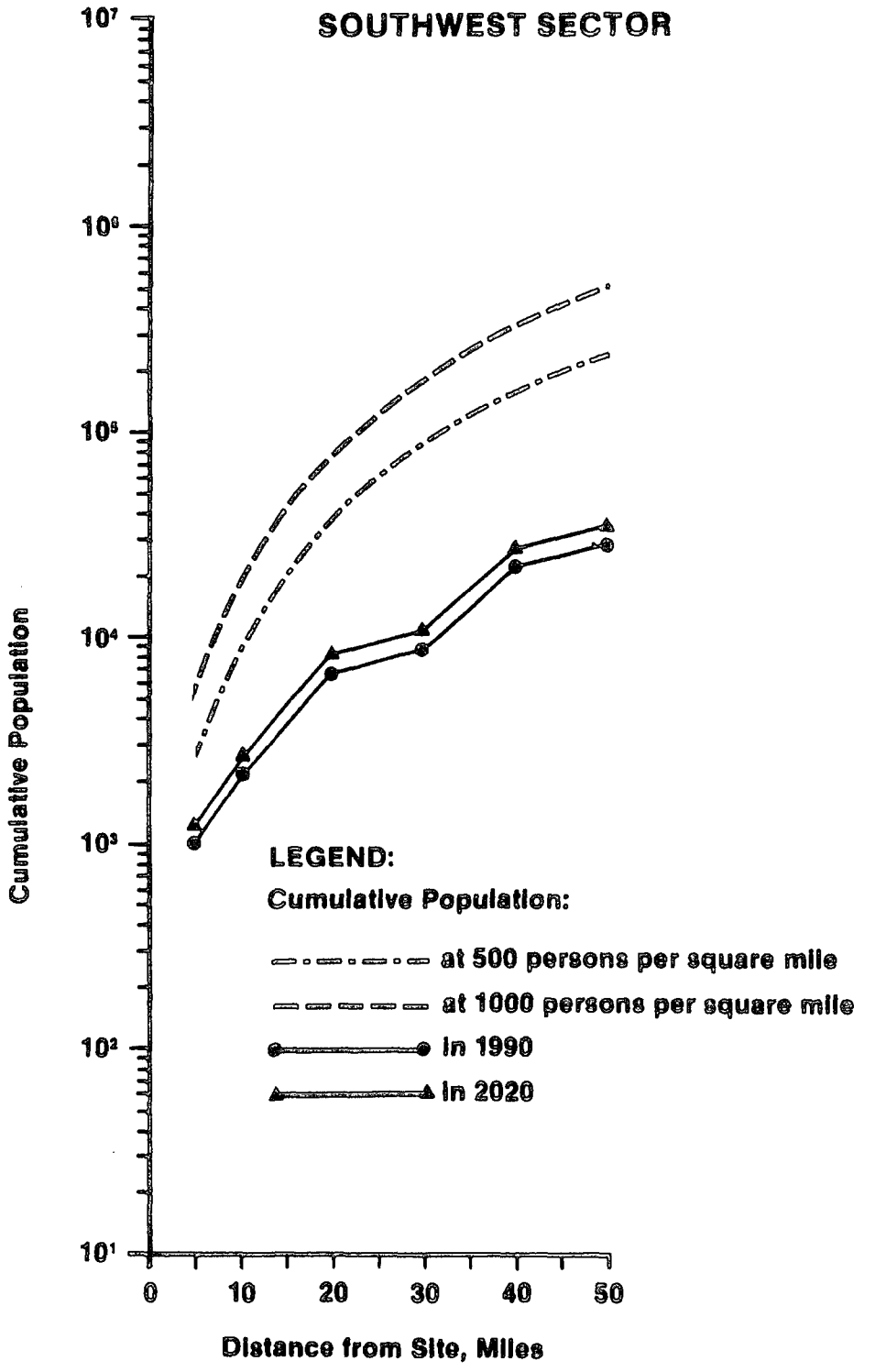
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 9 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

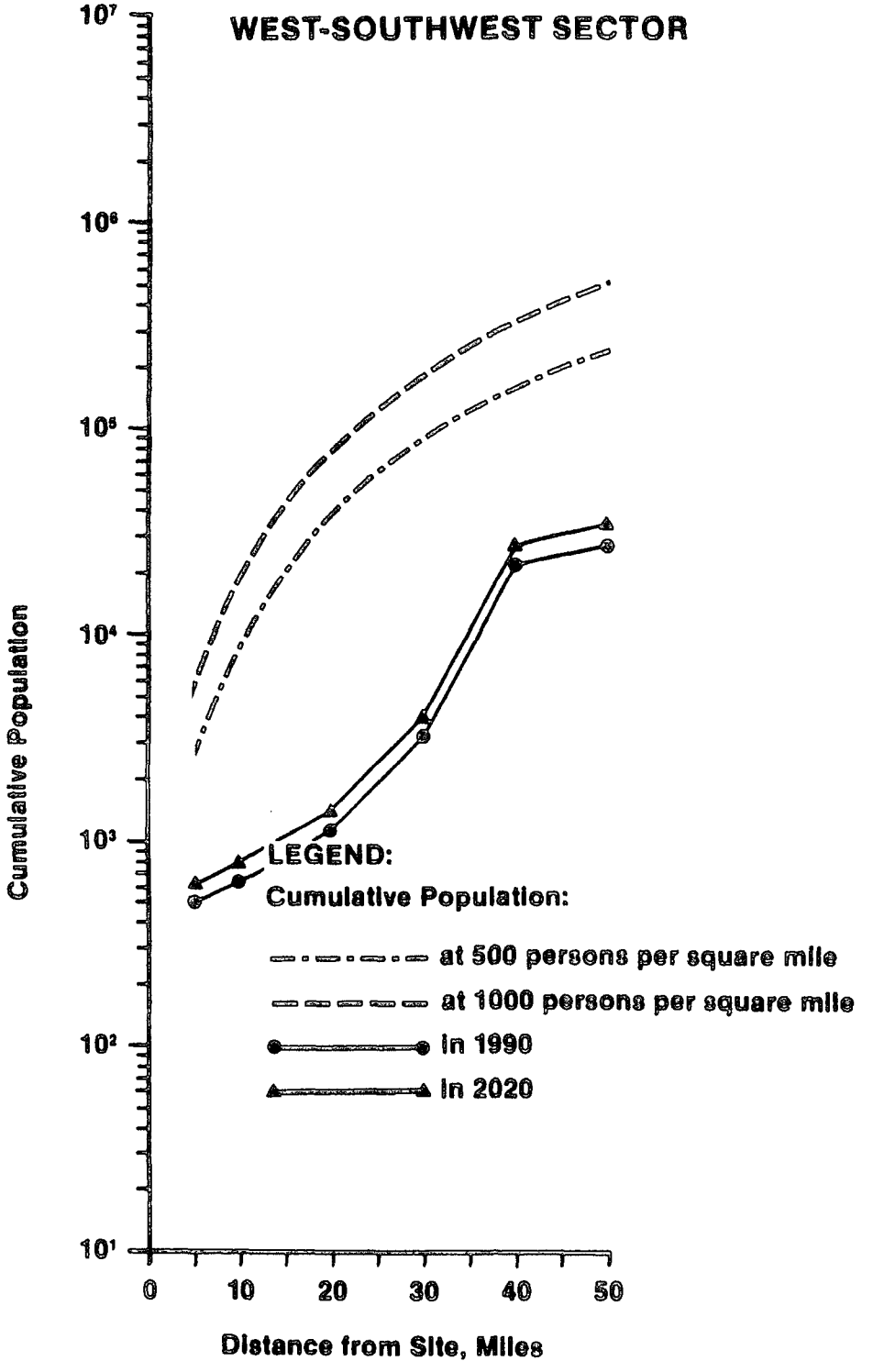
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 10 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

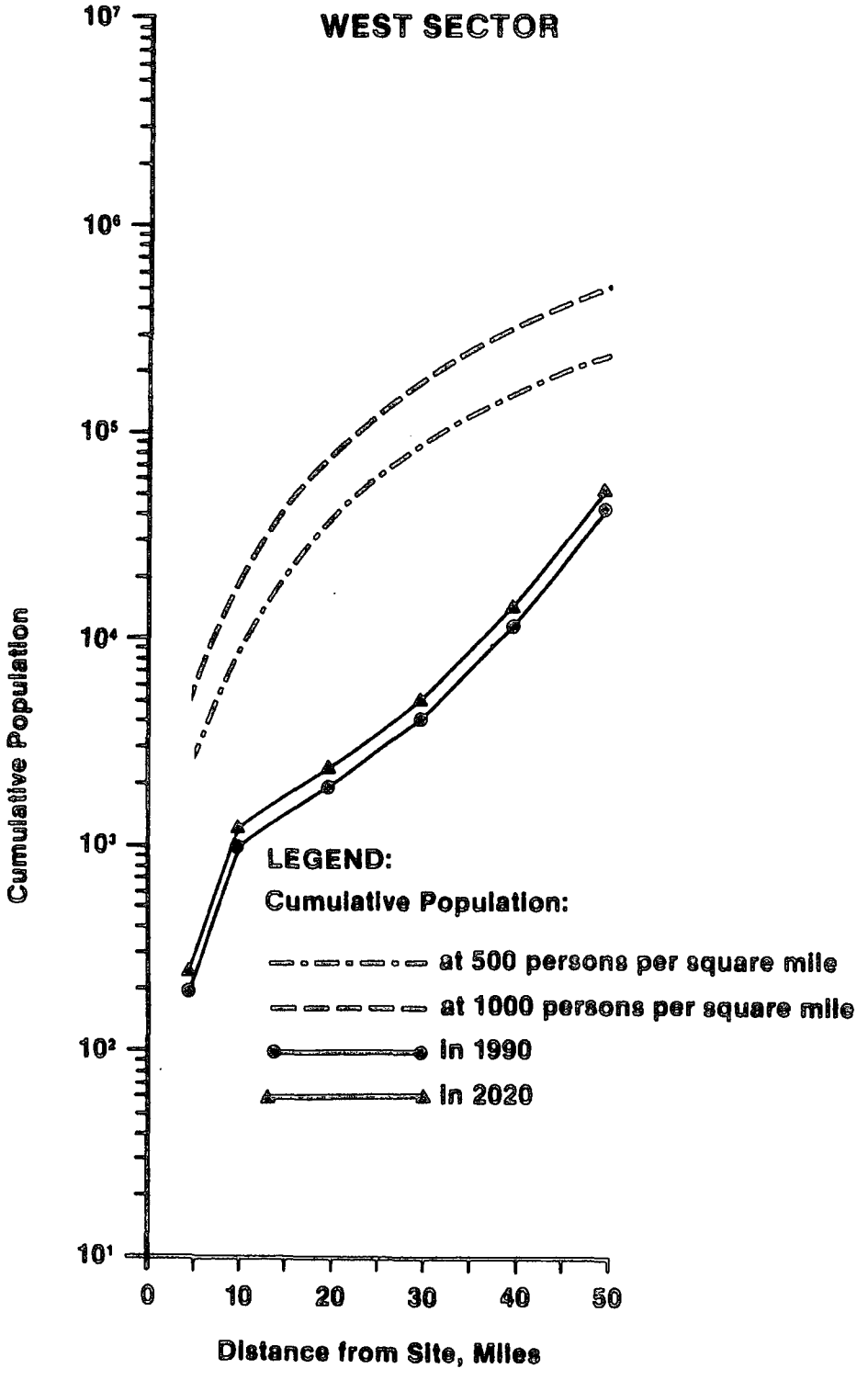
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 11 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

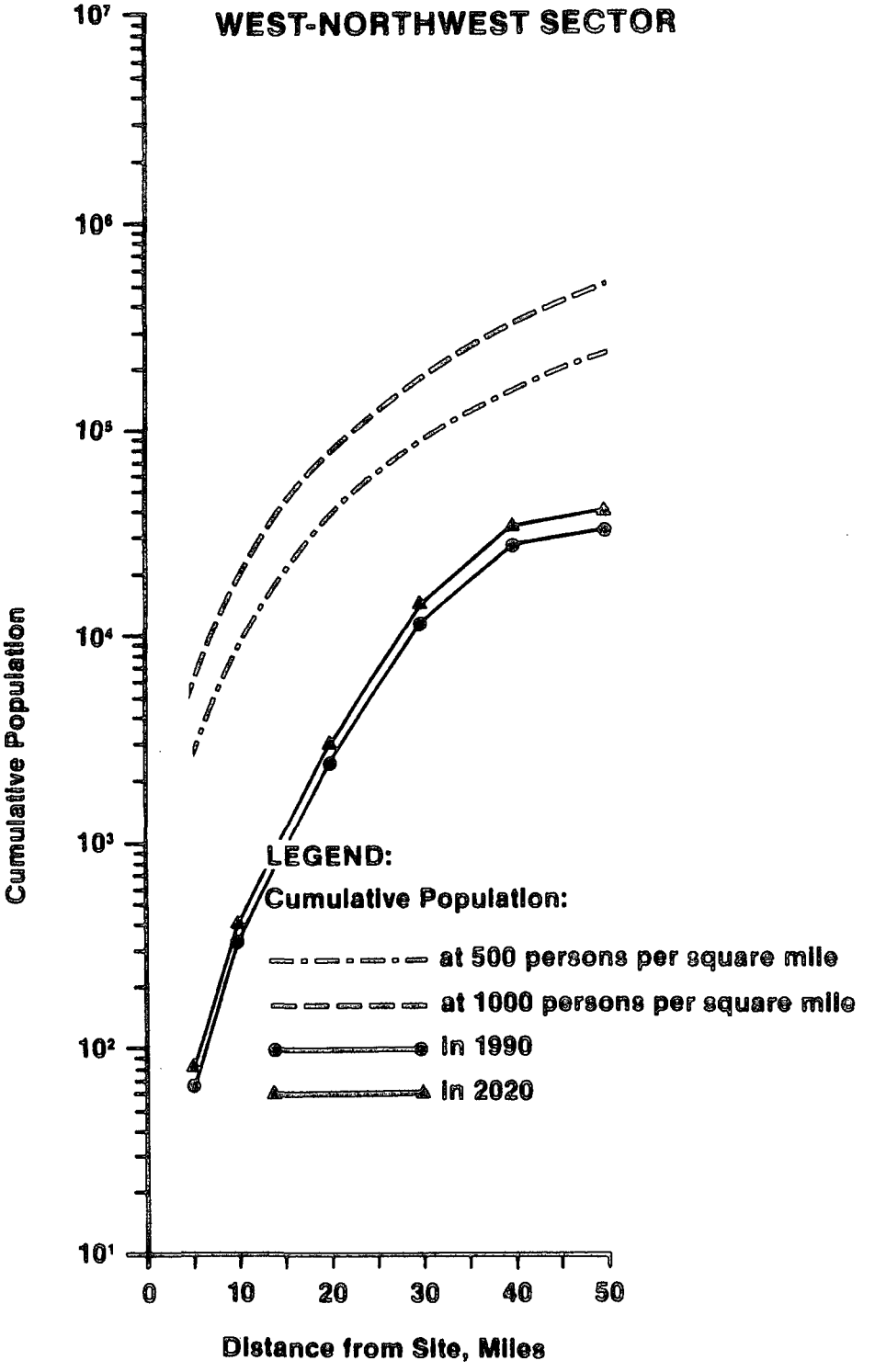
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 12 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

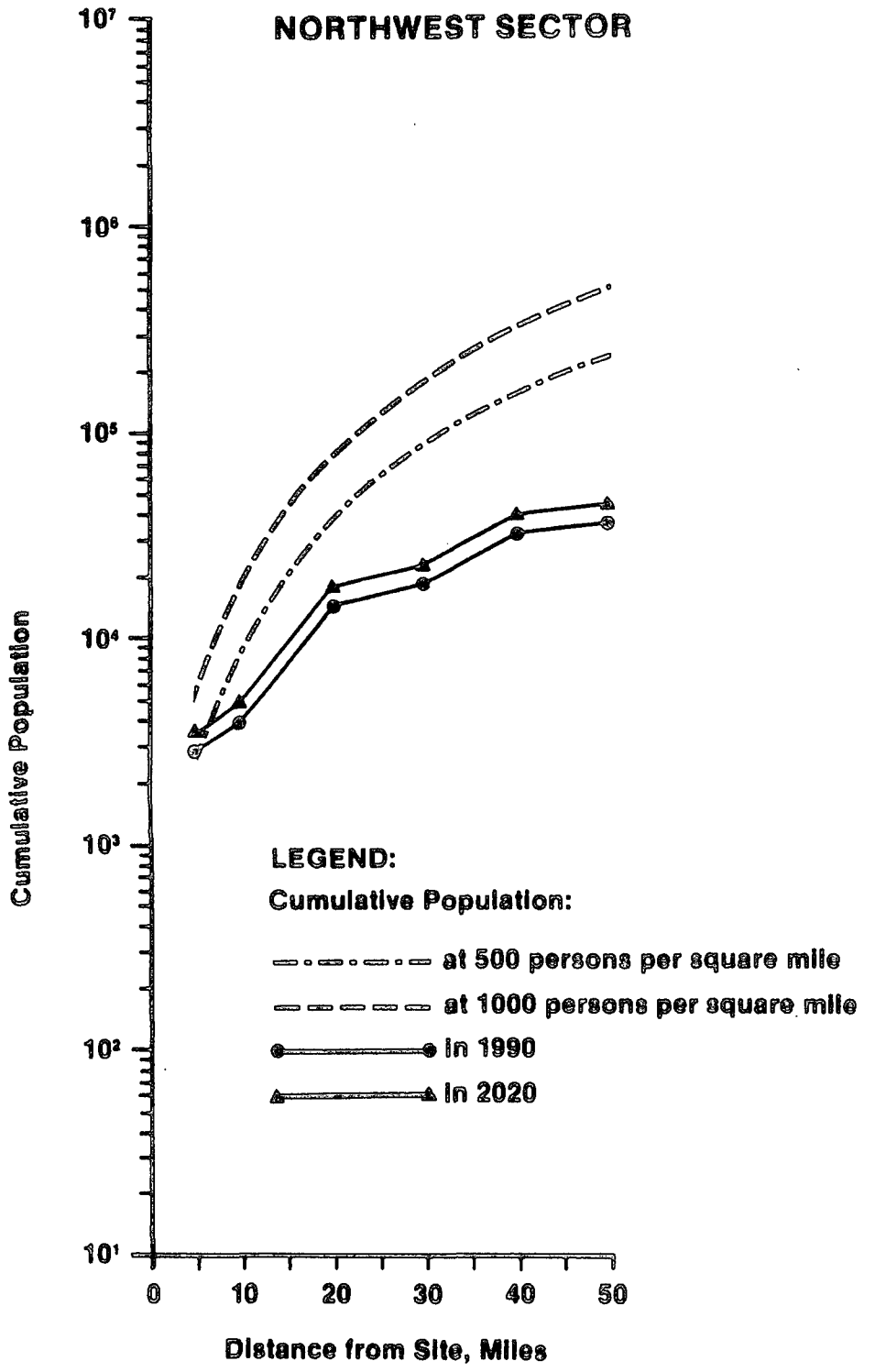
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 13 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

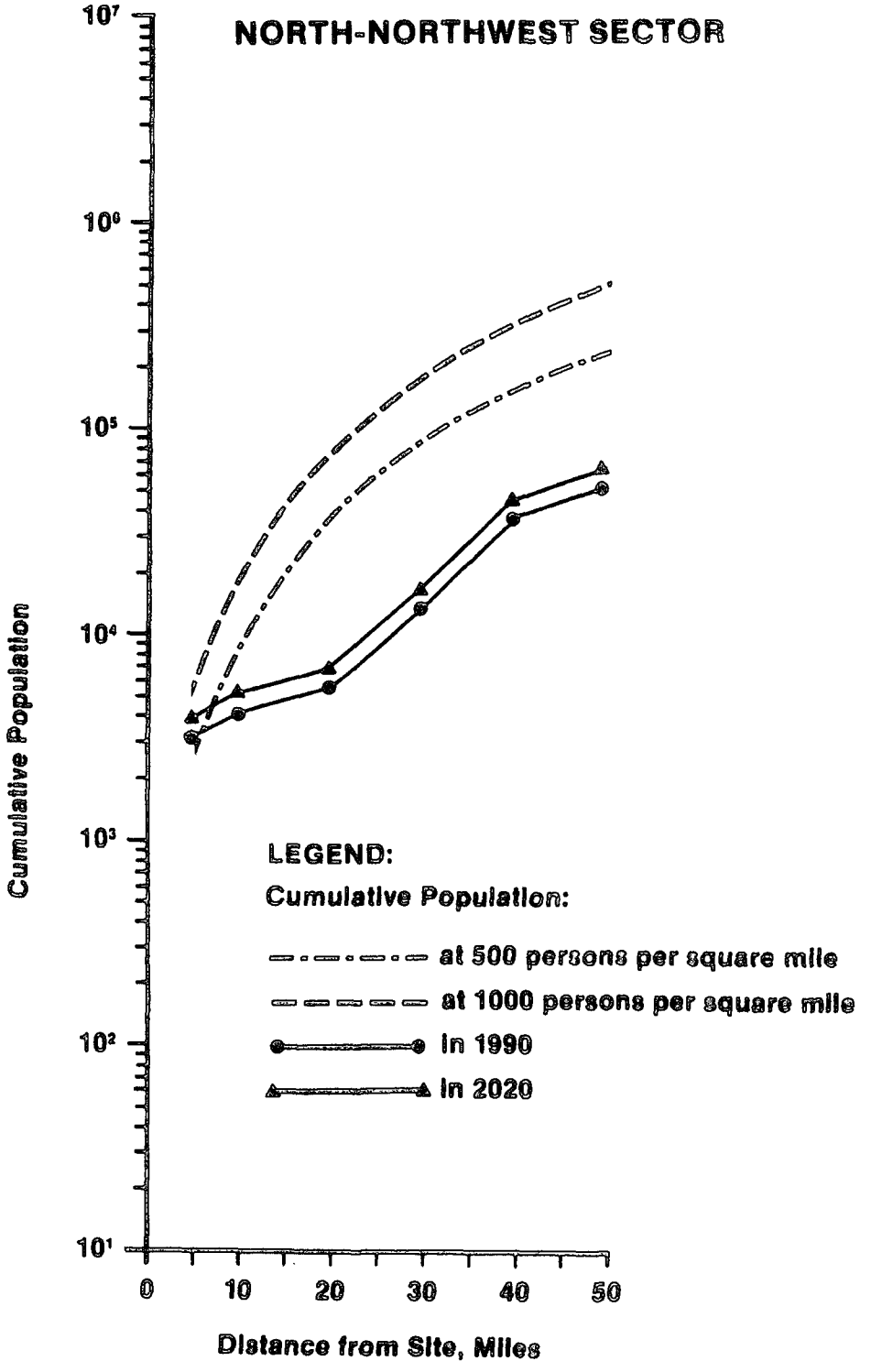
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 14 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

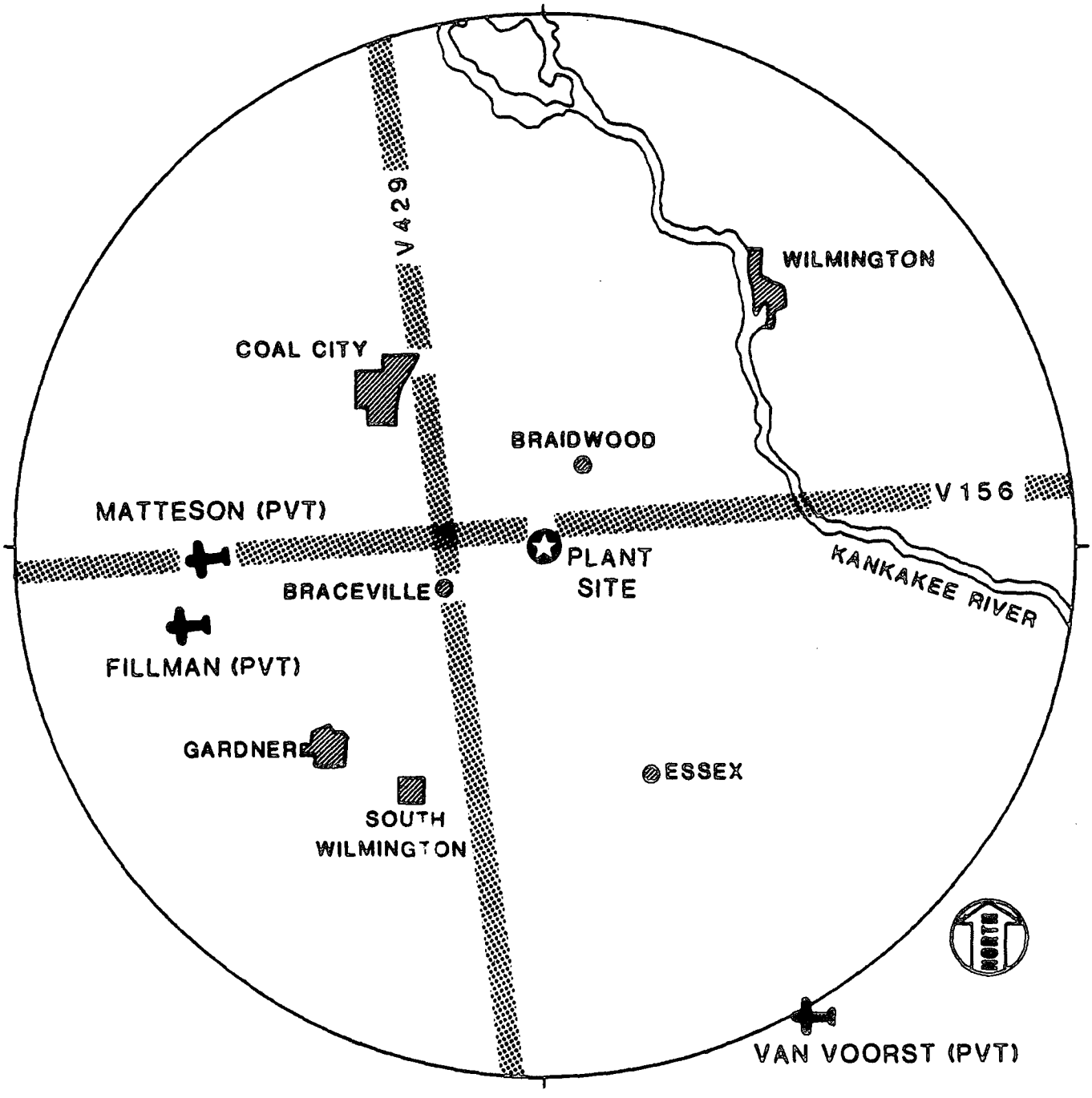
1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 15 OF 16)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.1-12

1990 AND 2020 POPULATION DENSITY
WITHIN 50 MILES OF THE SITE
(SHEET 16 OF 16)



LEGEND

CITIES & VILLAGES

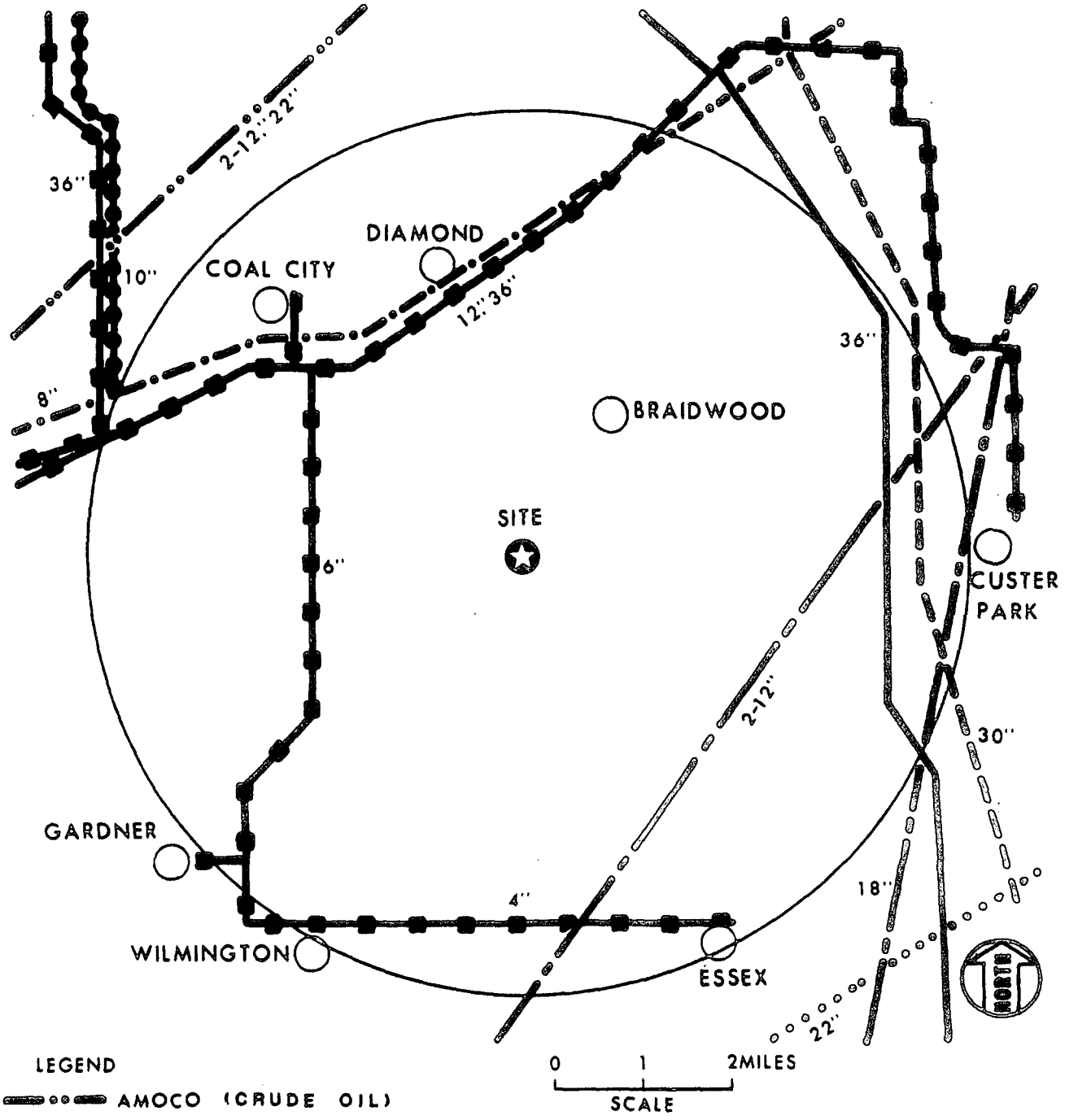
AIRPORT

AIRWAY

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.2-1

AIRPORTS AND LOW ALTITUDE FEDERAL AIRWAYS WITHIN 10 MILES OF THE SITE



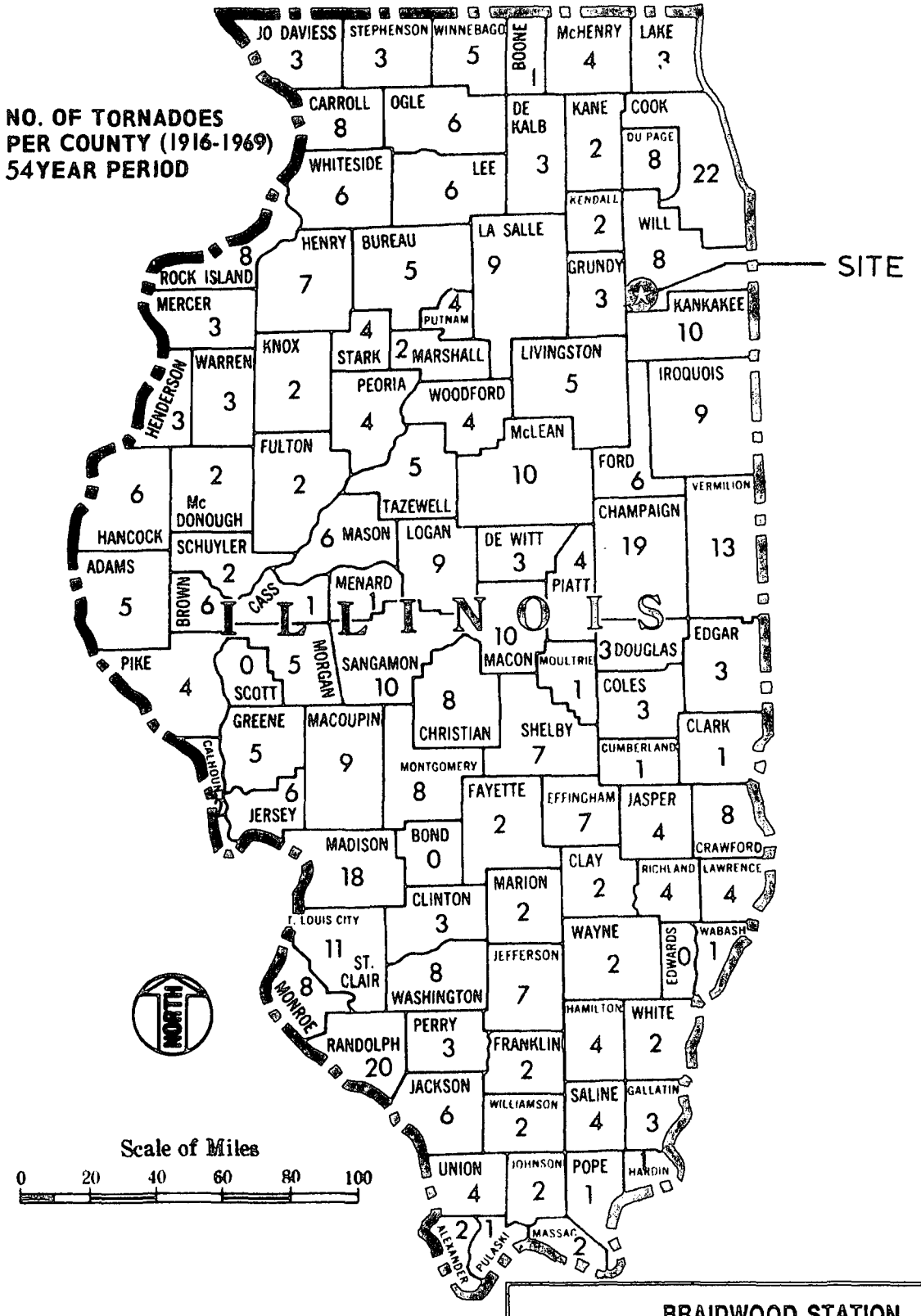
LEGEND

- AMOCO (CRUDE OIL)
- ARCO (CRUDE OIL)
- ARCO (REFINED PRODUCTS)
- MIDWESTERN GAS TRANSMISSION CO. (NATURAL GAS)
- NATURAL GAS PIPELINE CO. OF AMERICA (NATURAL GAS)
- NORTHERN ILLINOIS GAS CO. (NATURAL GAS)
- NORTHERN ILLINOIS GAS CO. (REFINED PRODUCTS)
- TEXACO-CITIES SERVICE PIPELINE CO. (CRUDE OIL)

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.2-2

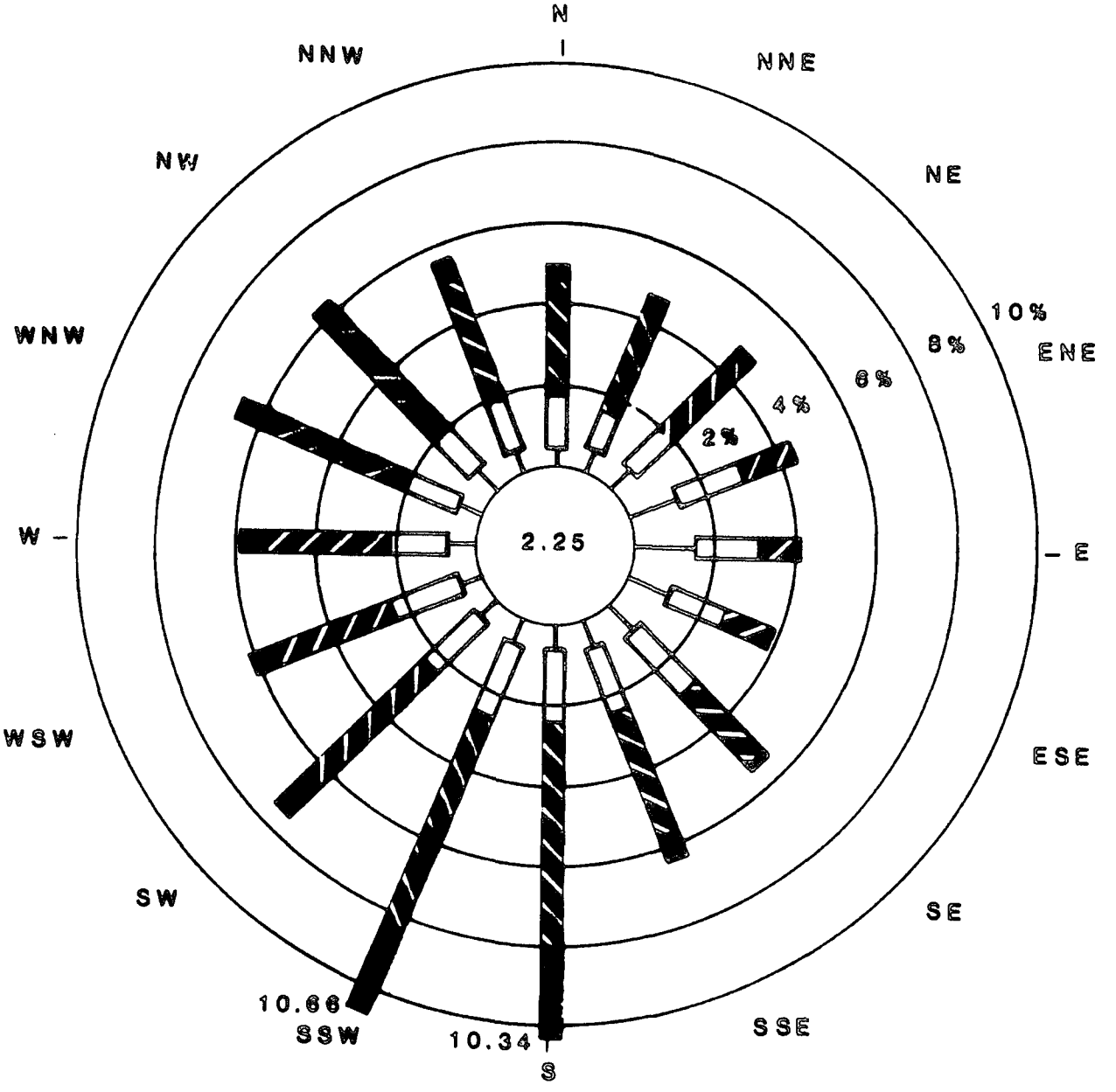
PIPELINES WITHIN 5 MILES OF THE SITE

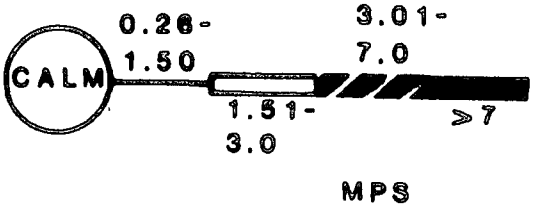


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-1

NUMBER OF TORNADOES ORIGINATING IN EACH COUNTY IN THE STATE OF ILLINOIS, 1916-1969

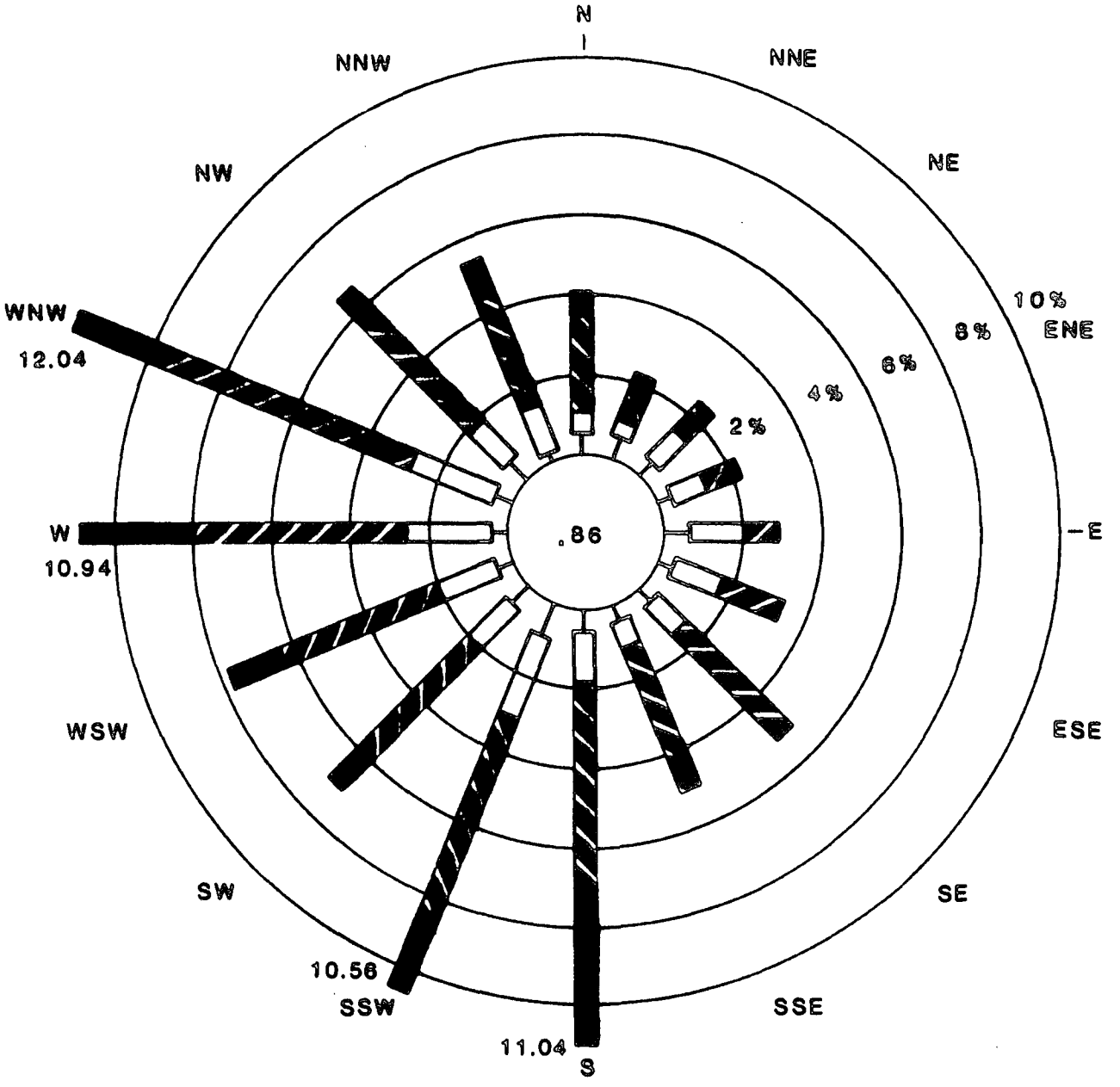


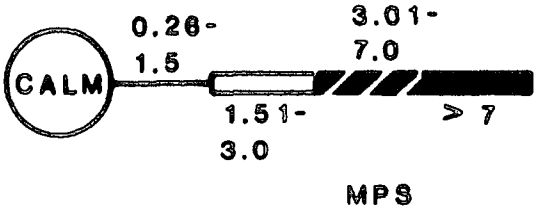


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-2

ANNUAL WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

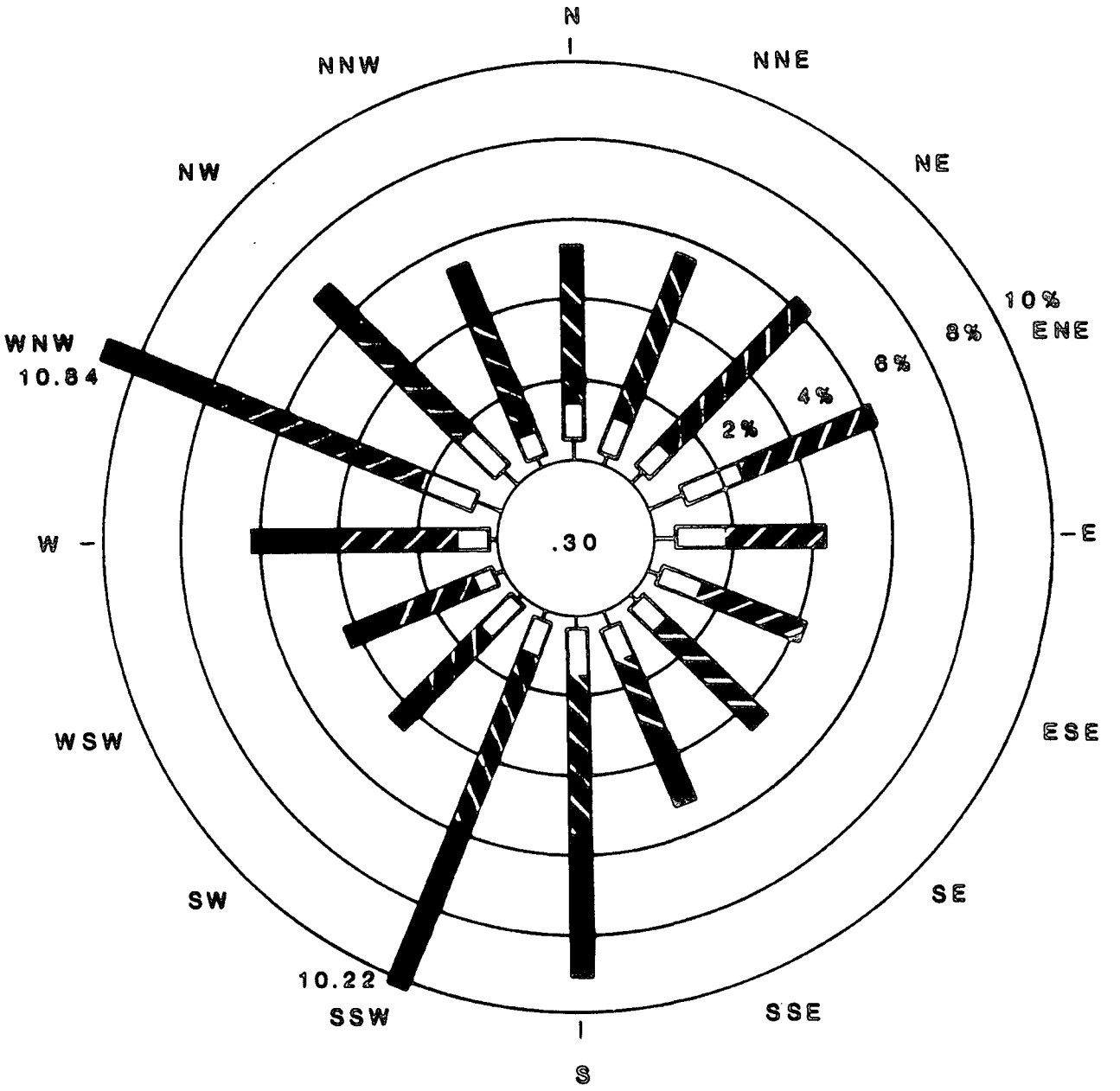


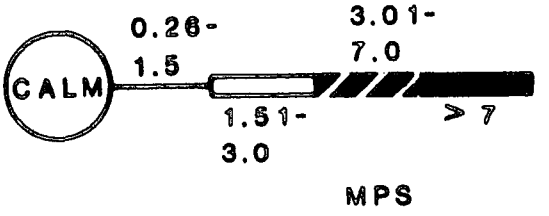


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-3

JANUARY WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

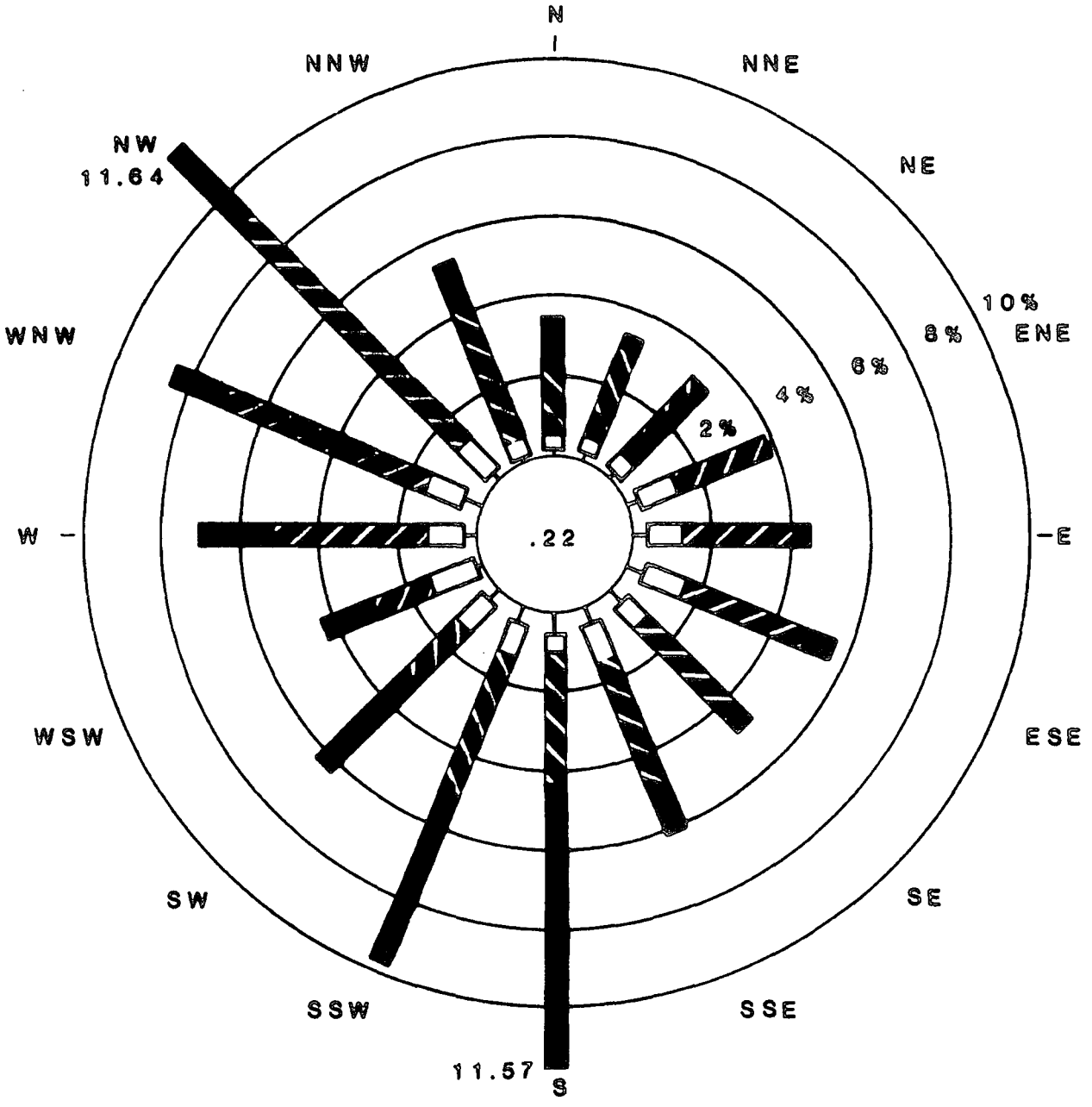


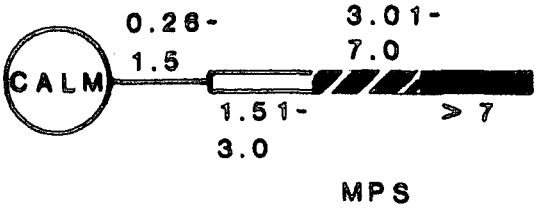


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-4

FEBRUARY WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

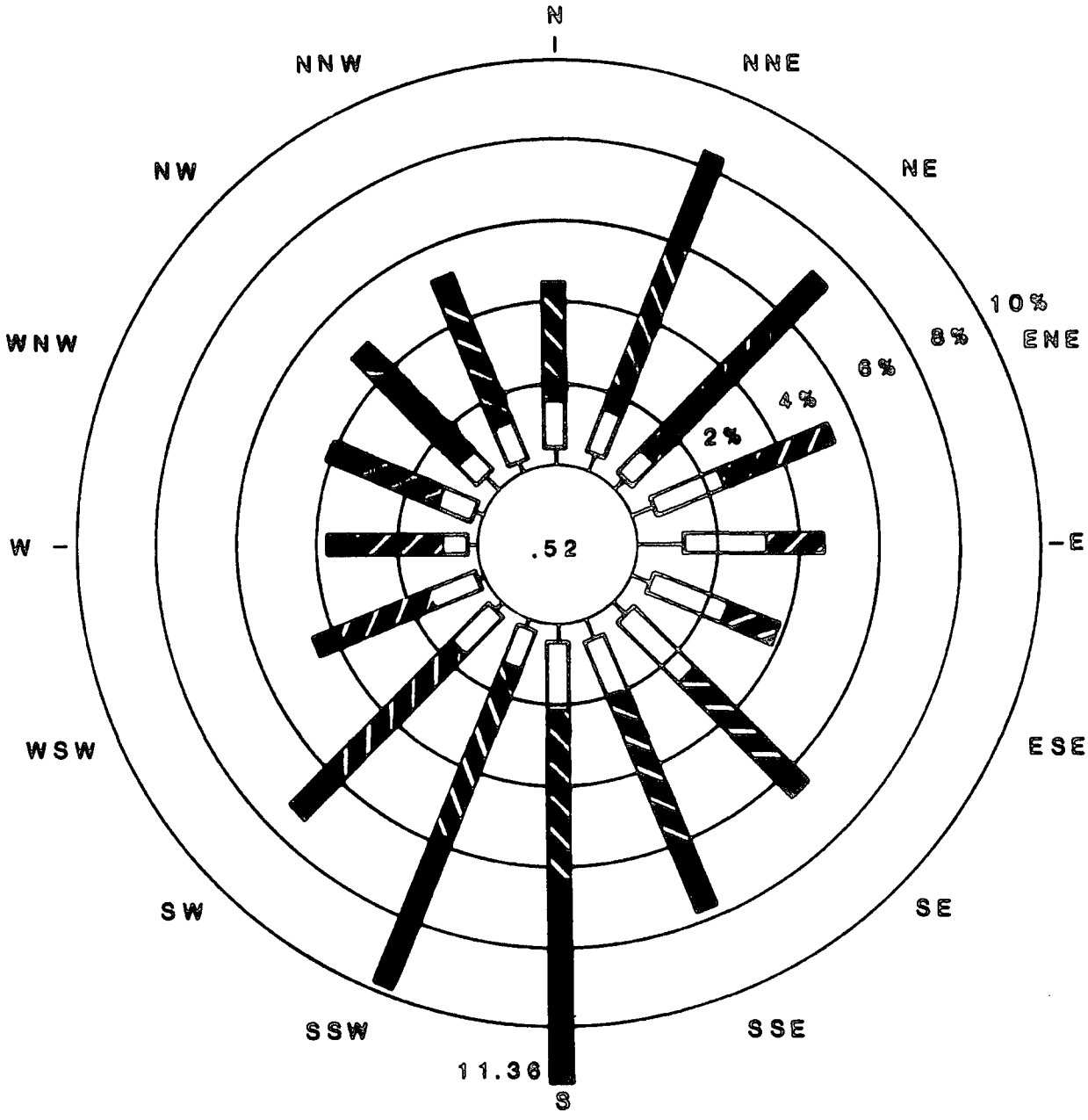


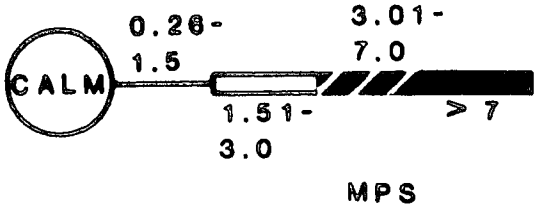


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-5

MARCH WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

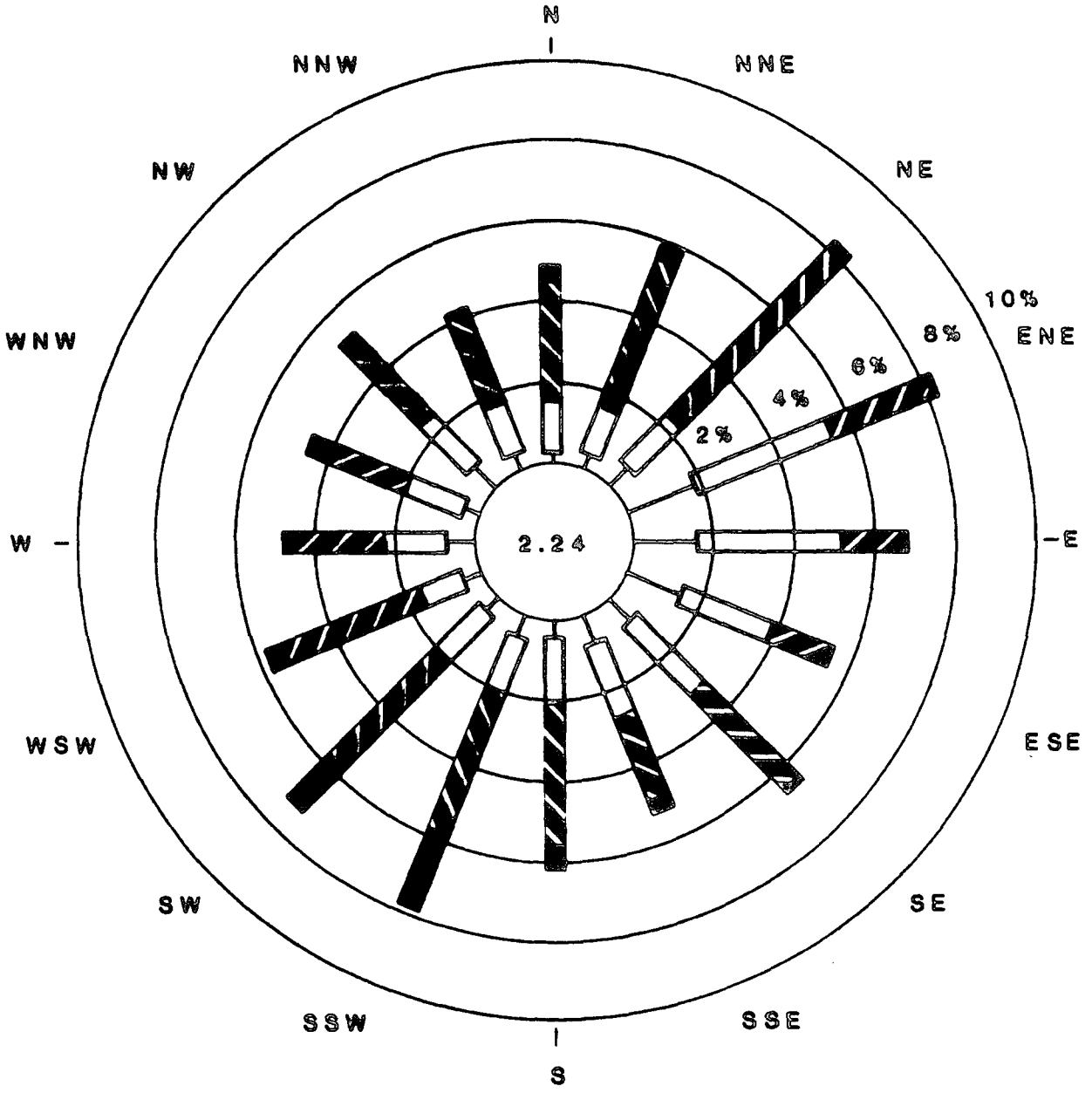


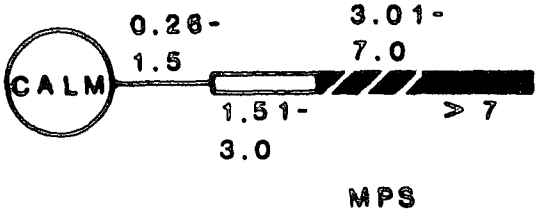


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-6

APRIL WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

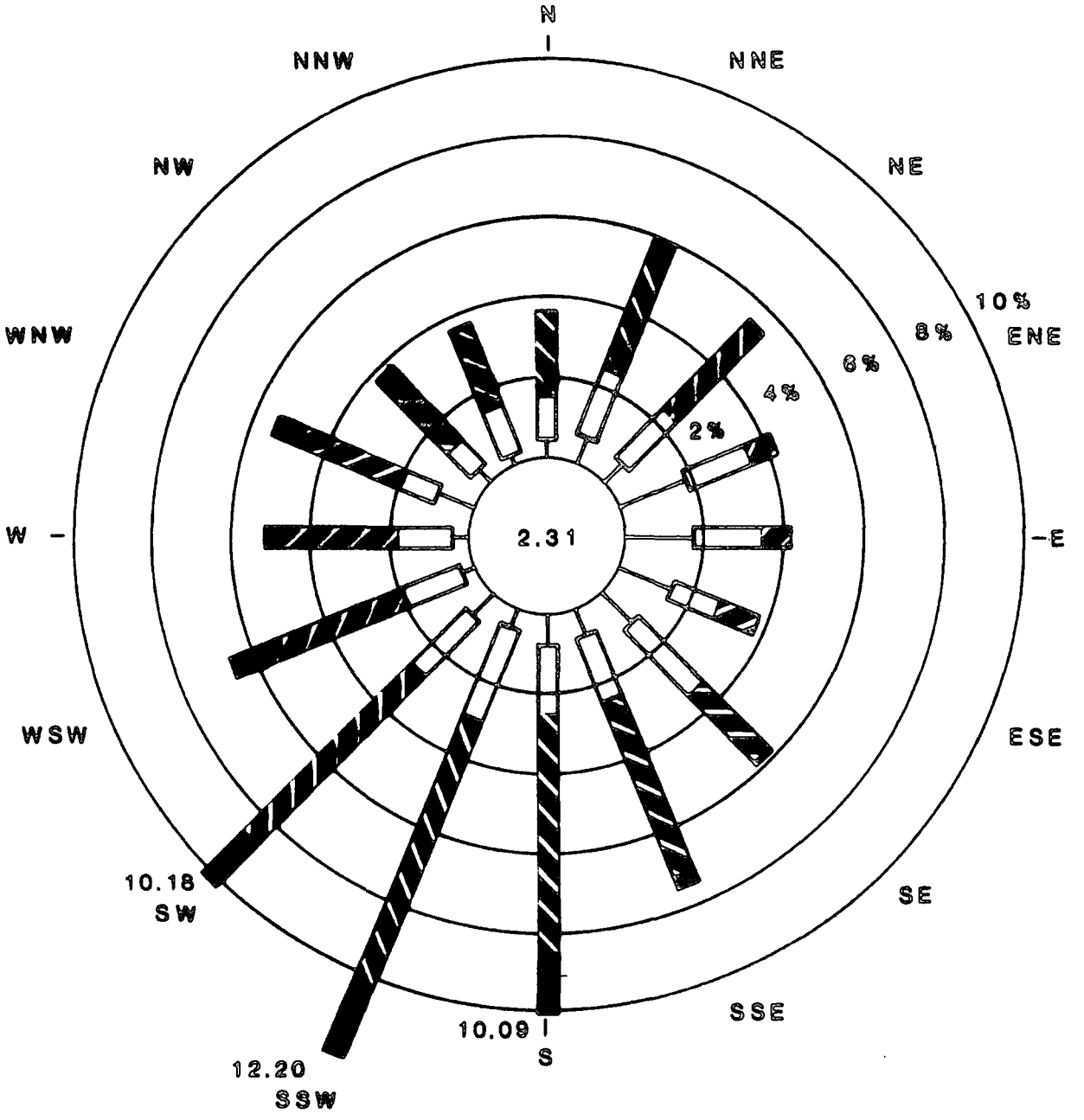


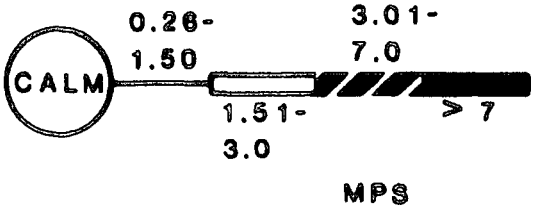


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-7

MAY WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

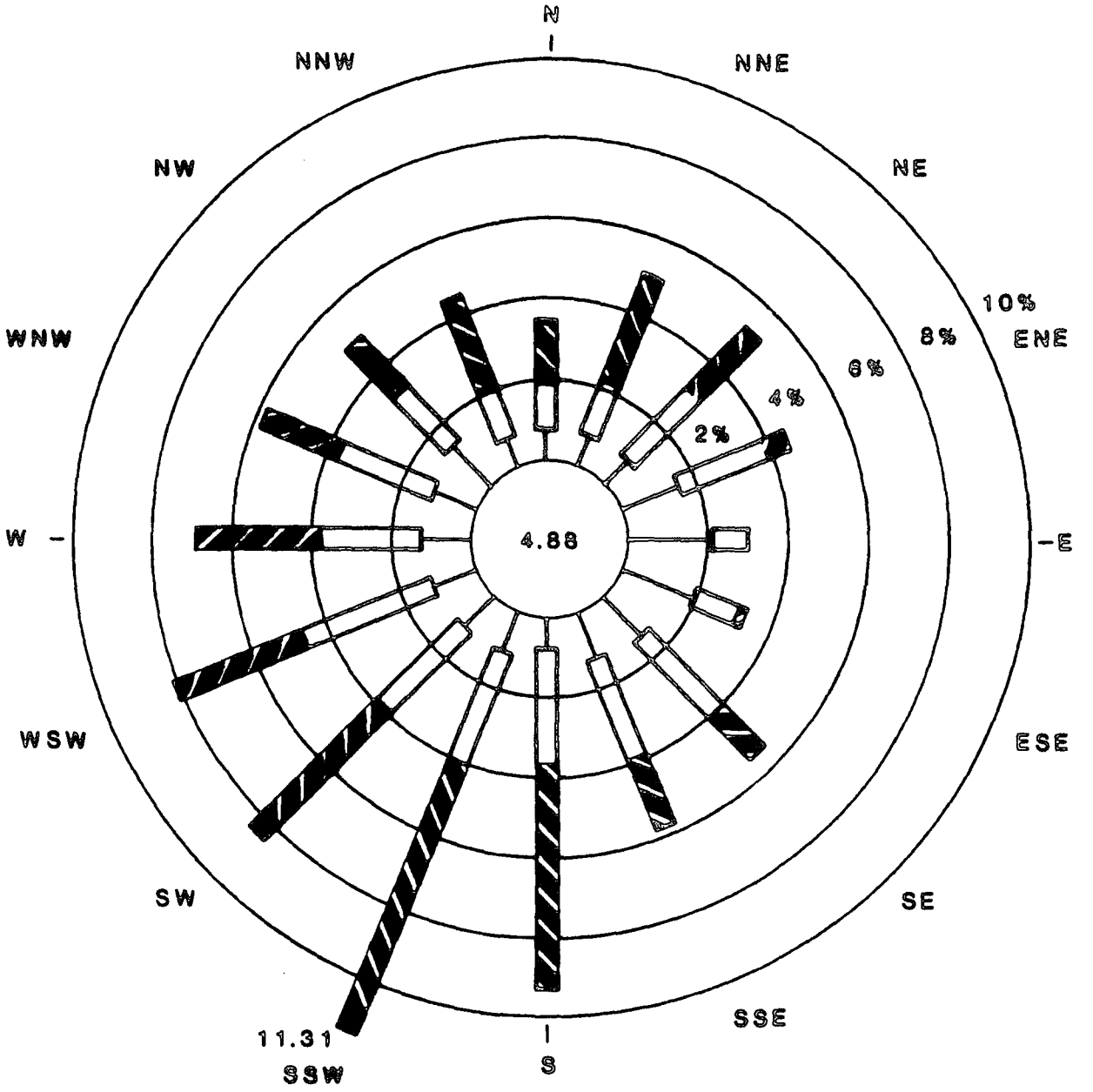


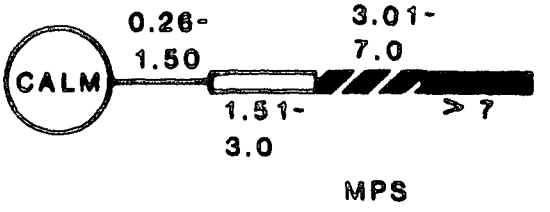


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-8

JUNE WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

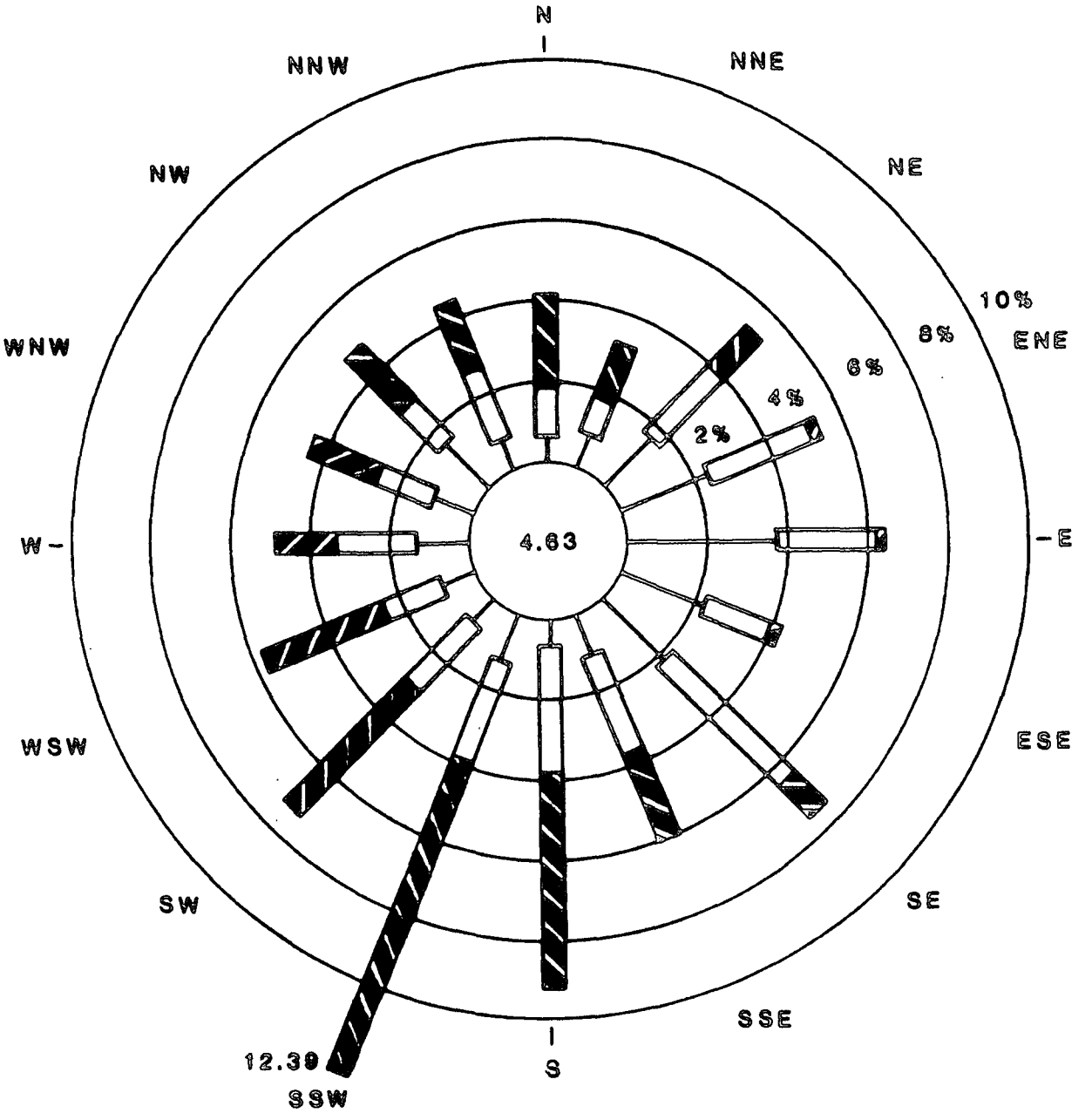


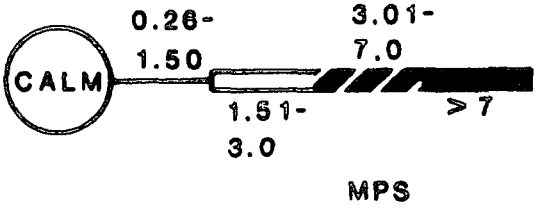


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-9

JULY WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

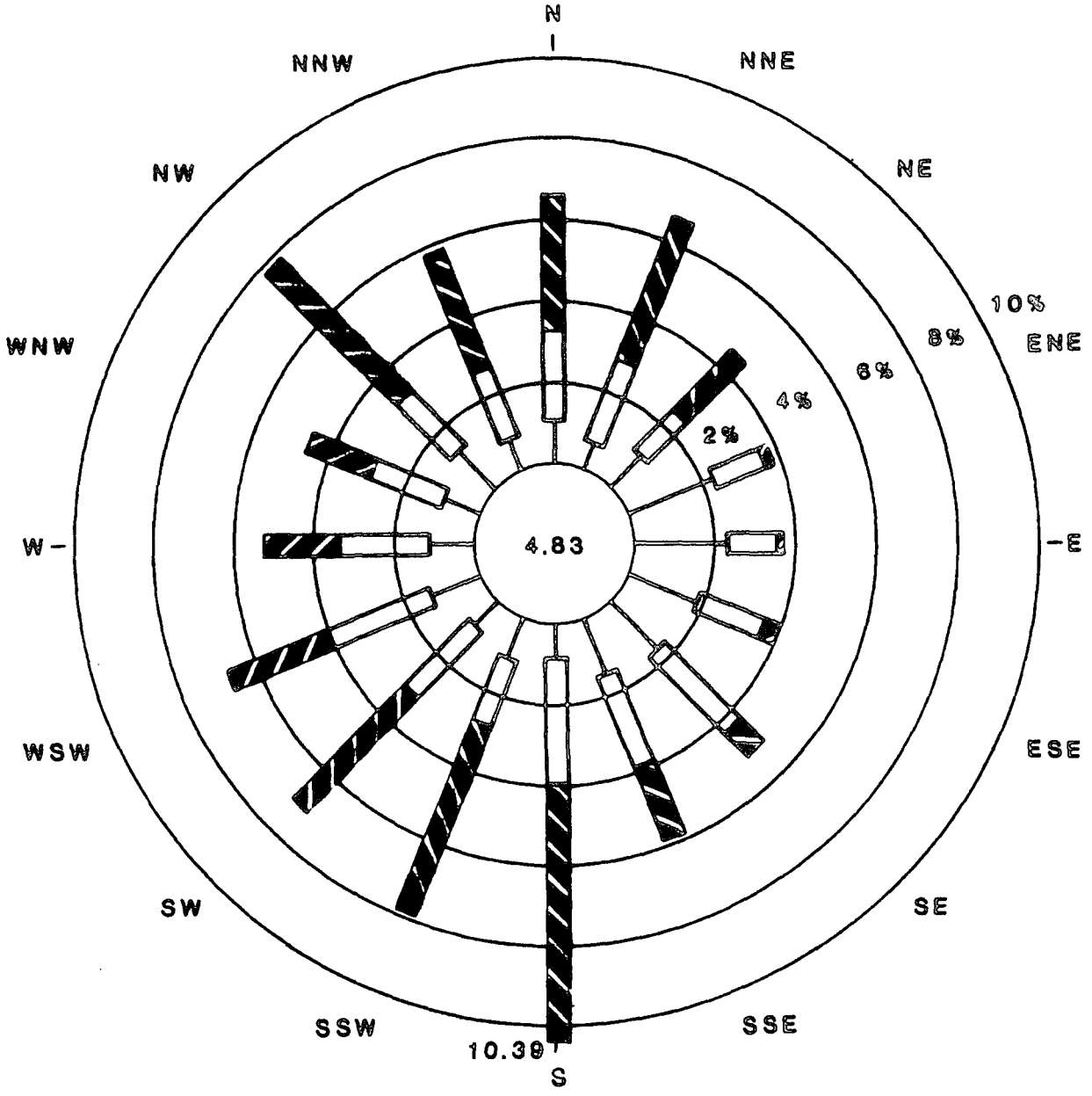


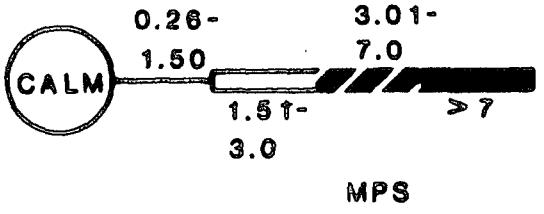


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-10

AUGUST WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

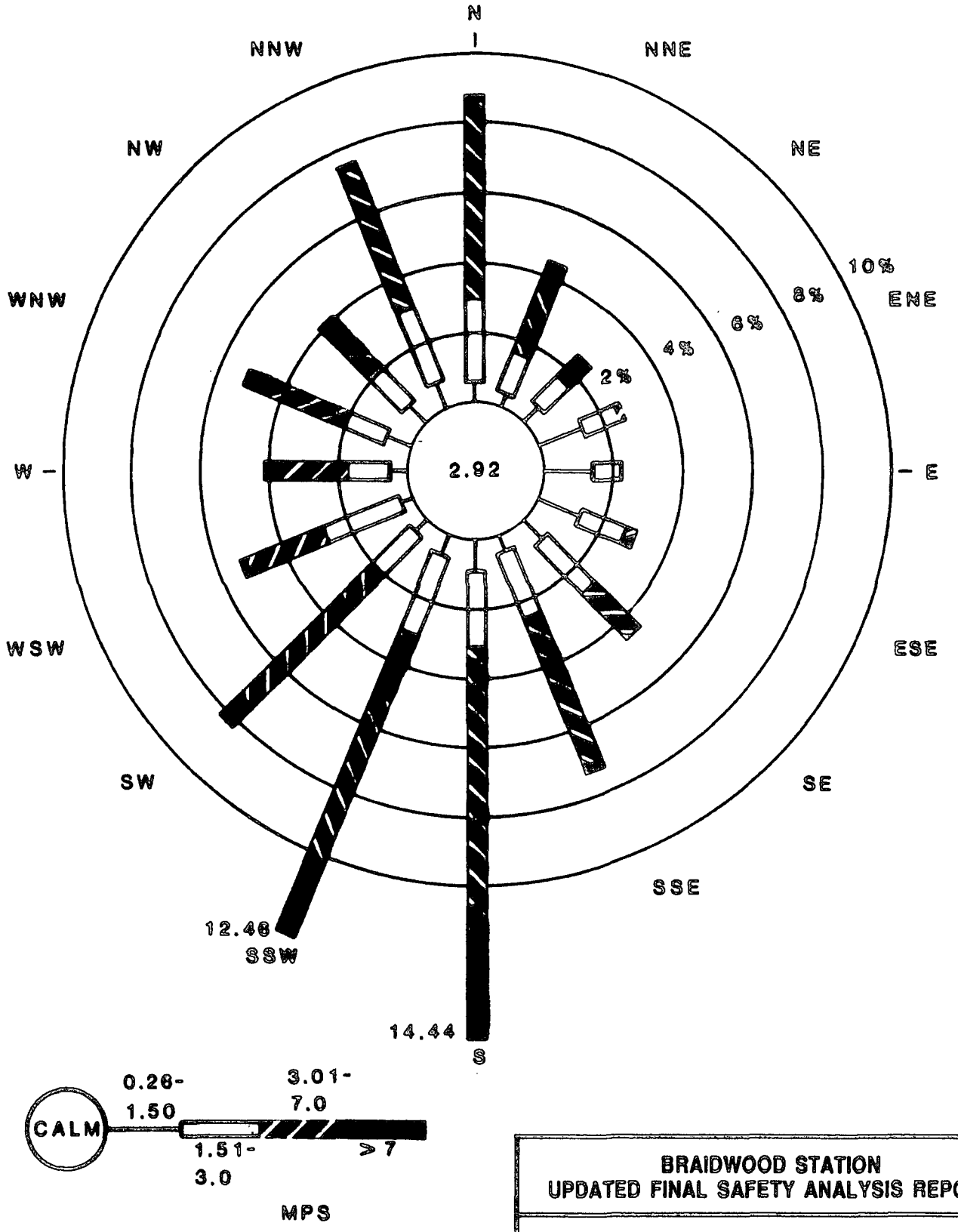




BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-11

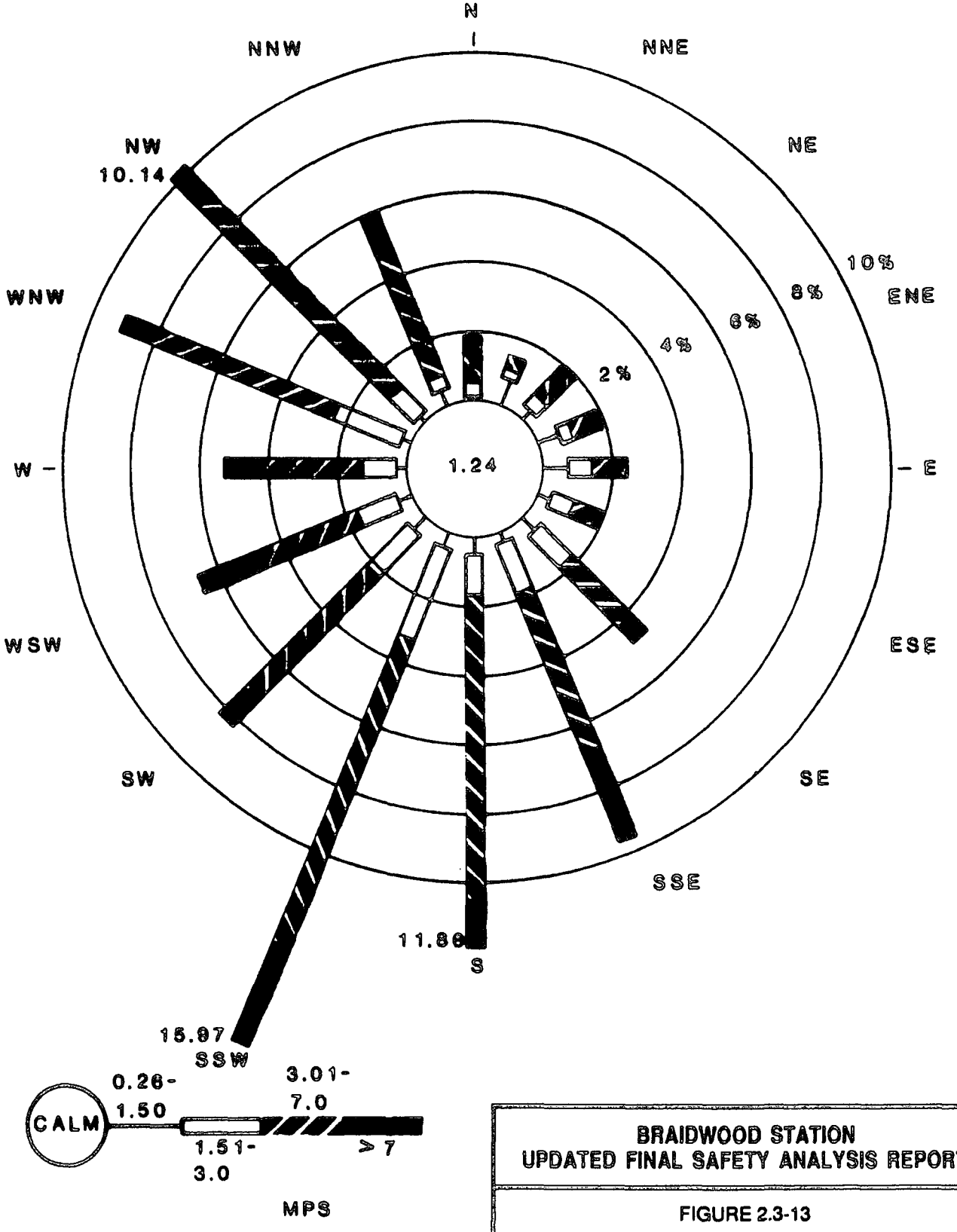
SEPTEMBER WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-12

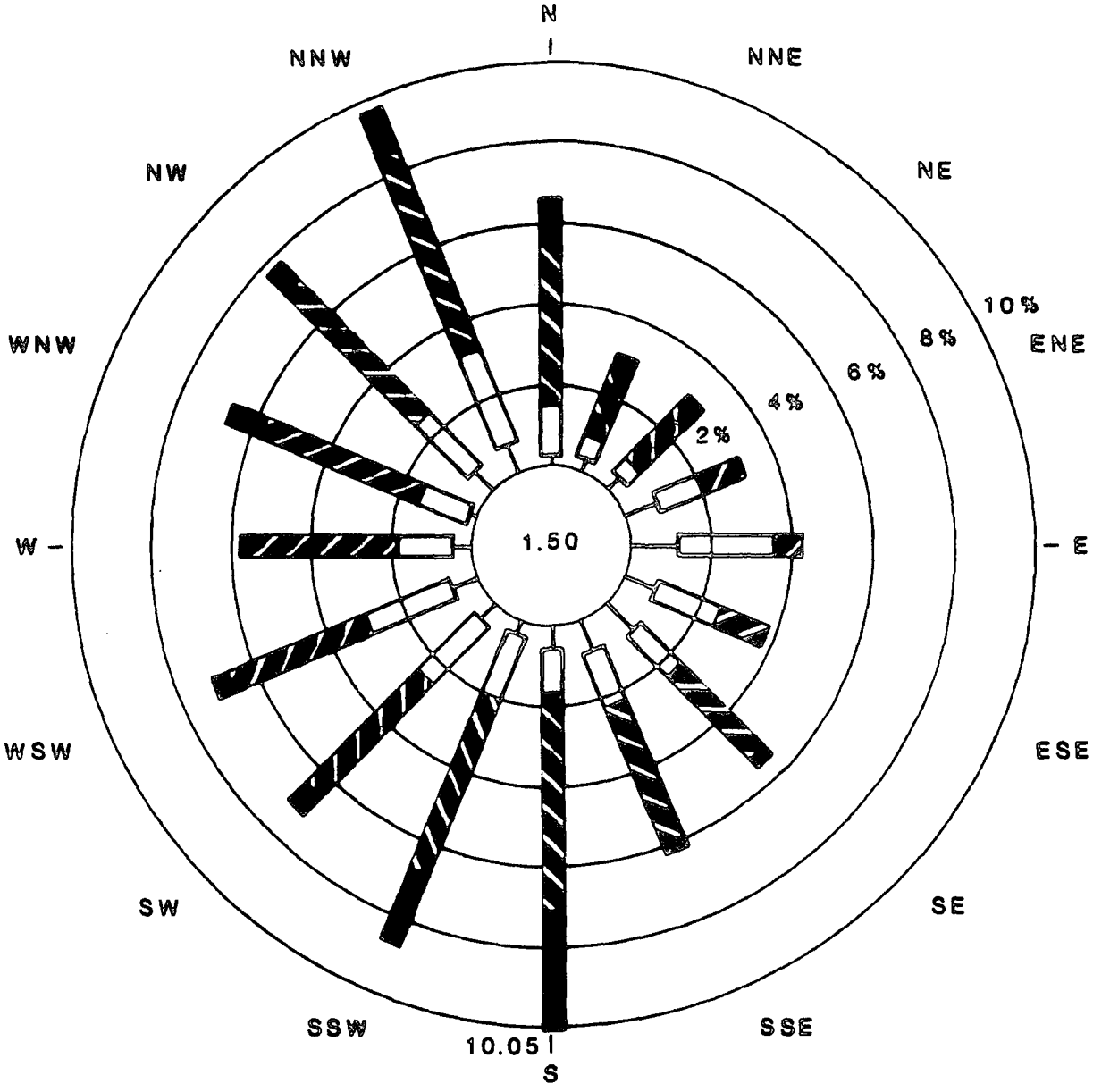
OCTOBER WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

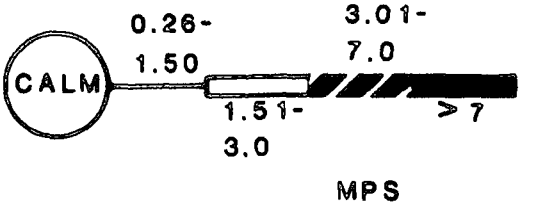


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-13

NOVEMBER WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

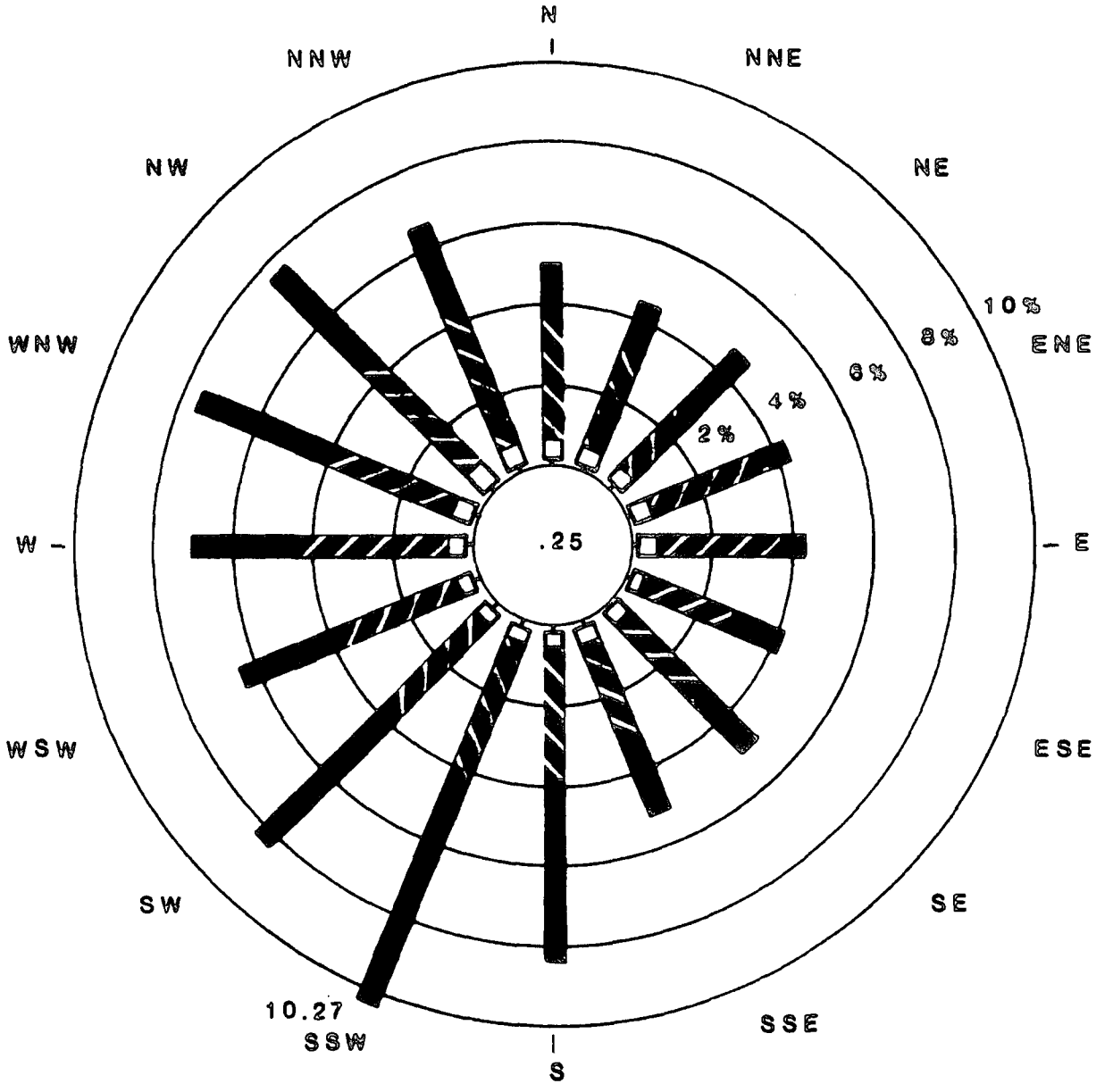


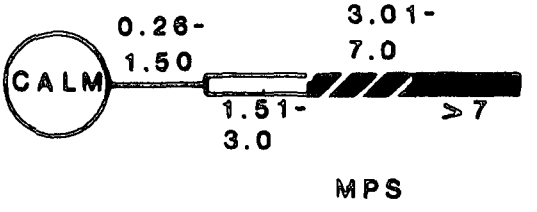


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-14

DECEMBER WIND ROSE 30-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)

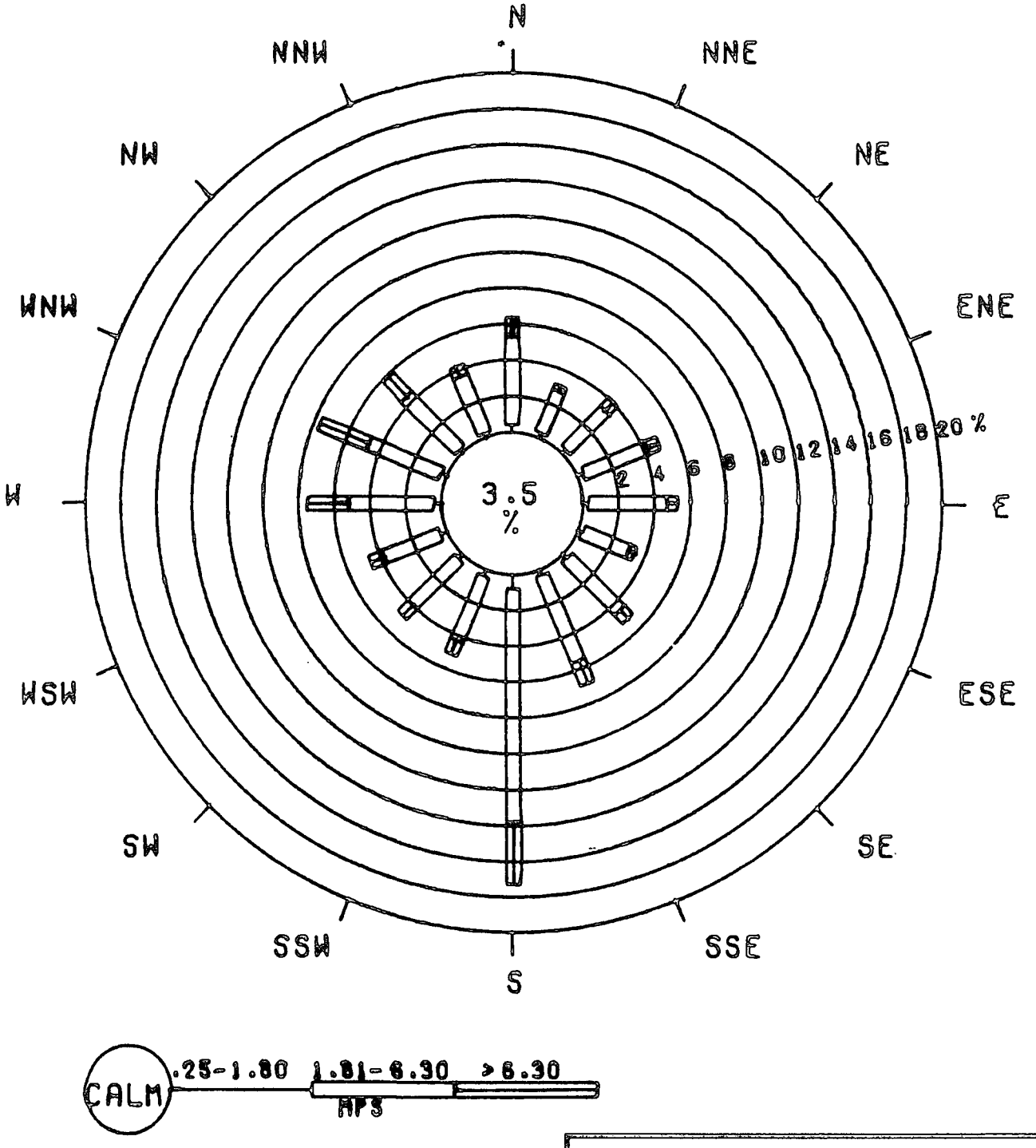




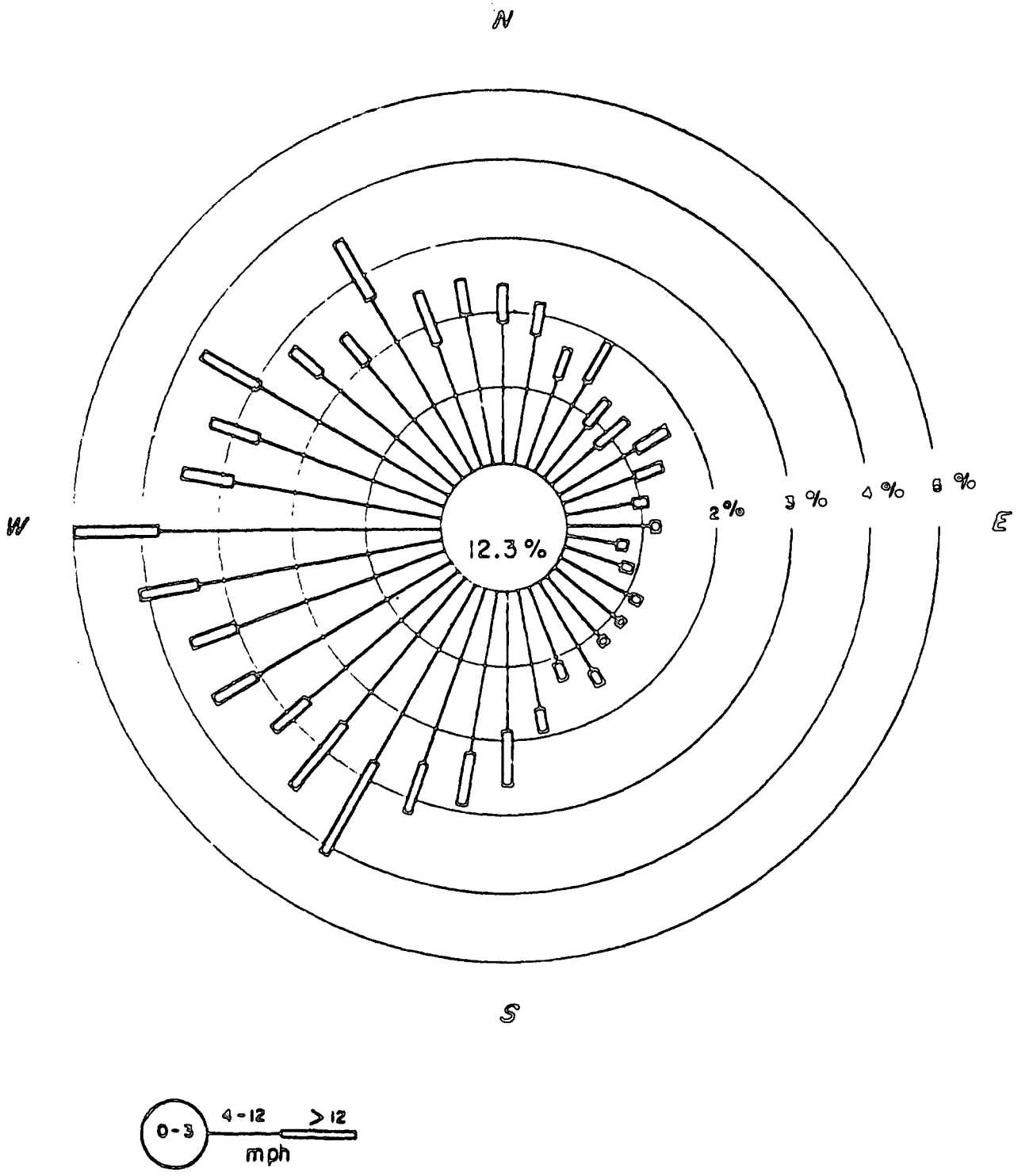
BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-15

ANNUAL WIND ROSE 199-FOOT LEVEL
BRAIDWOOD SITE
(1974-1976)



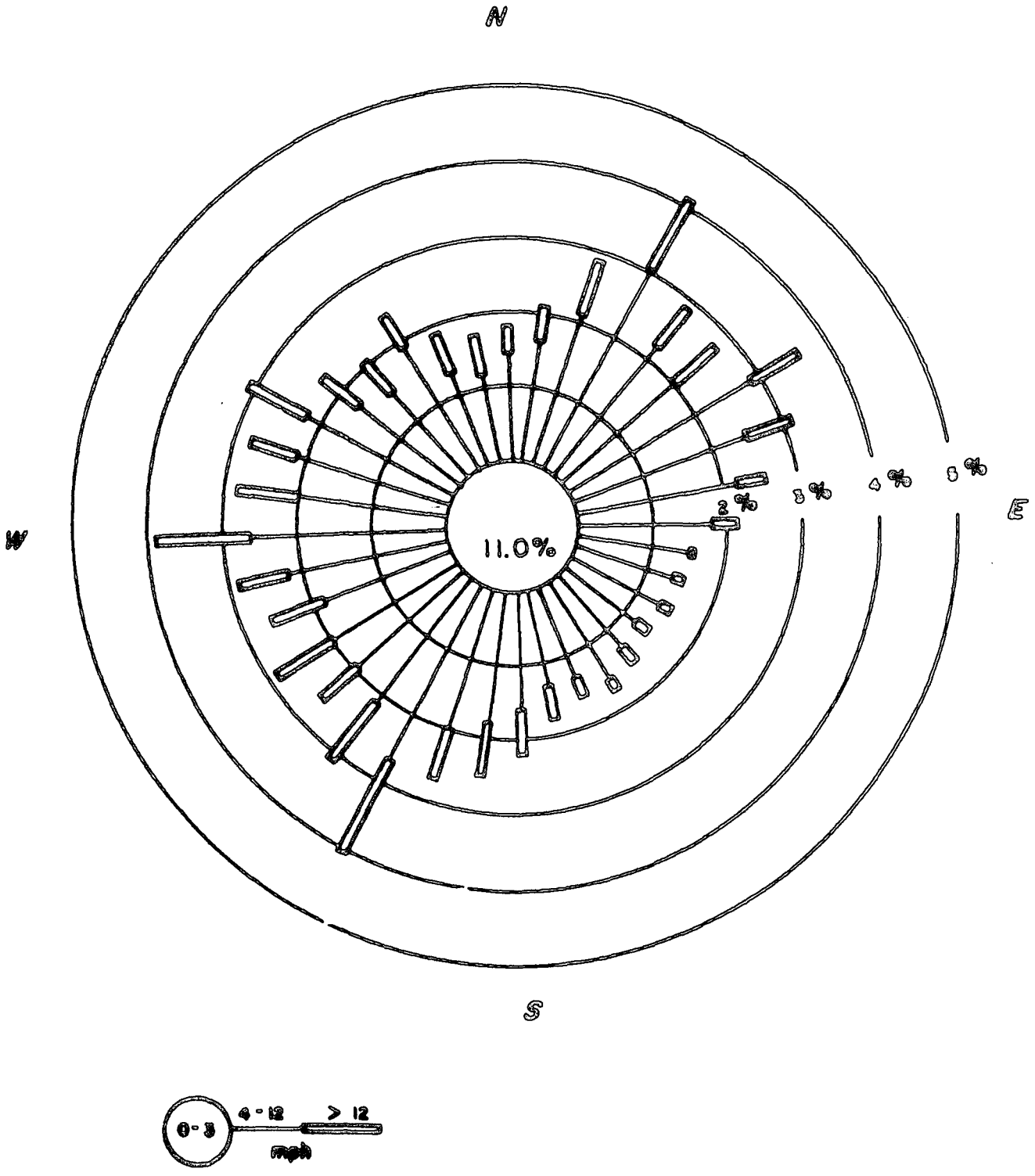
BRAIDWOOD STATION UPDATED FINAL SAFETY ANALYSIS REPORT
FIGURE 2.3-16 ANNUAL WIND ROSE 20-FOOT LEVEL PEORIA, ILLINOIS (1966-1975)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-17

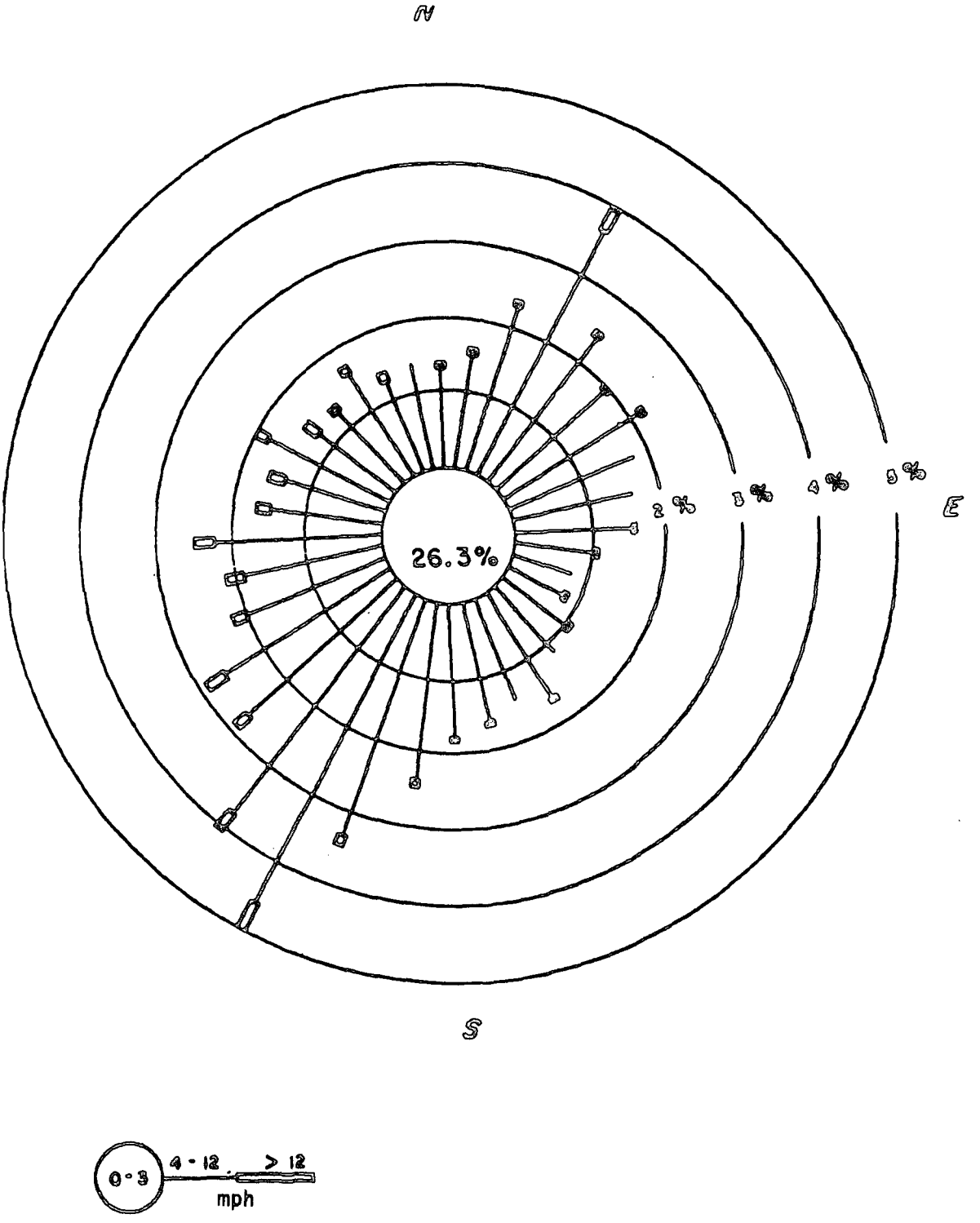
WINTER WIND ROSE 19-FOOT LEVEL
ARGONNE, ILLINOIS
(1950-1964)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-18

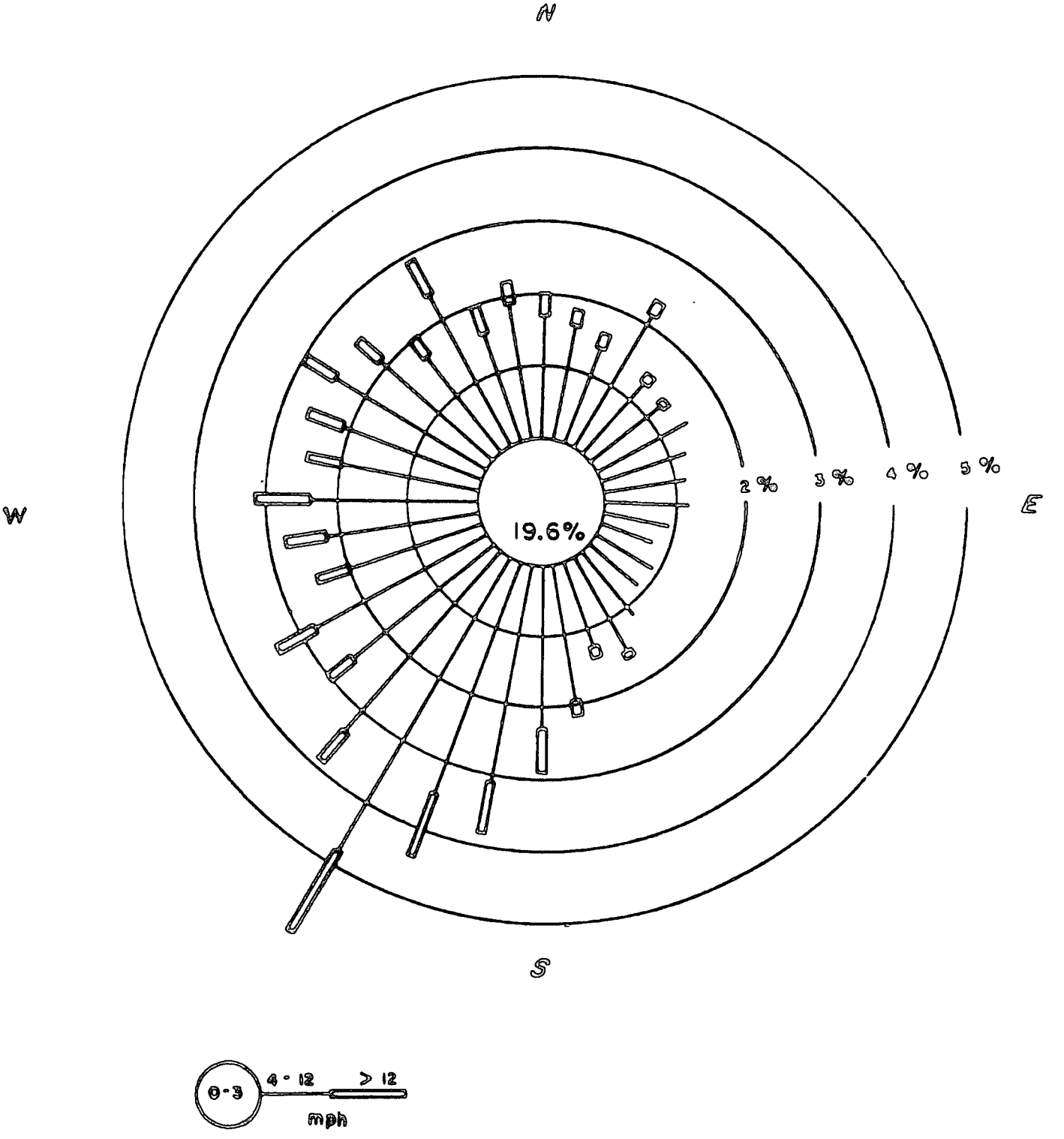
SPRING WIND ROSE 19-FOOT LEVEL
ARGONNE, ILLINOIS
(1950-1964)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-19

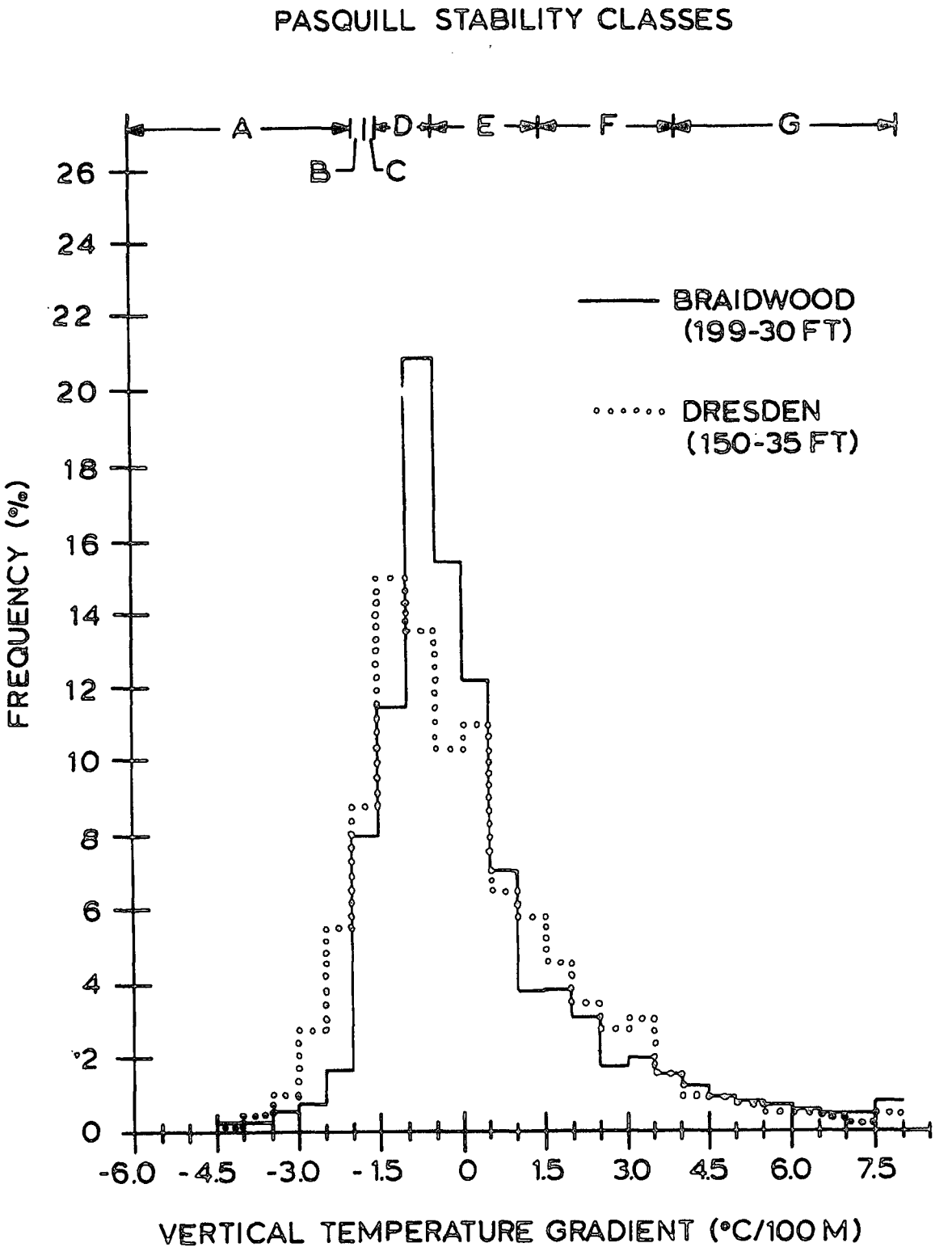
SUMMER WIND ROSE 19-FOOT LEVEL
ARGONNE, ILLINOIS
(1950-1964)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-20

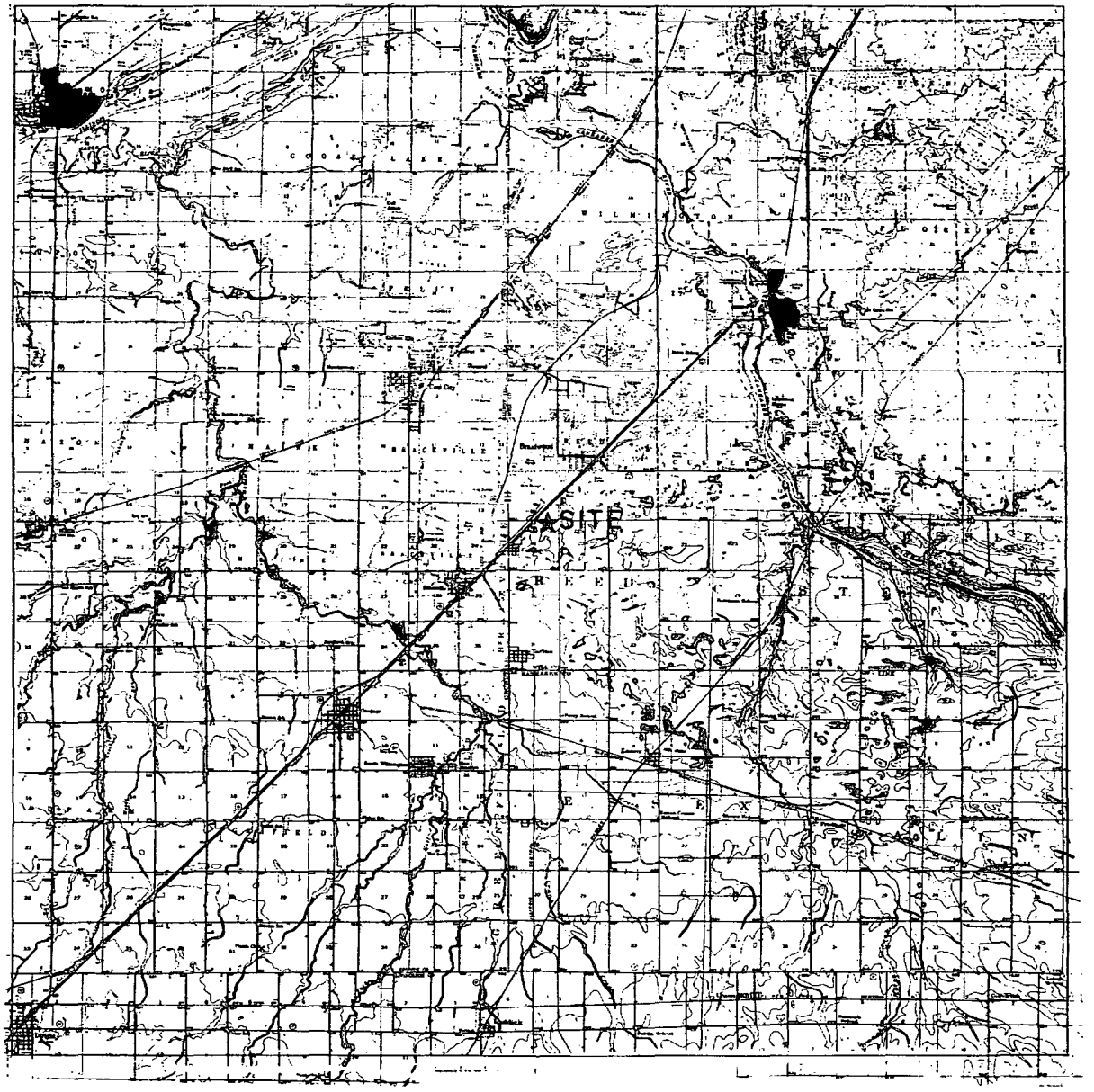
FALL WIND ROSE 19-FOOT LEVEL
ARGONNE, ILLINOIS
(1950-1964)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-21

VERTICAL TEMPERATURE GRADIENT HISTOGRAMS FOR BRAIDWOOD AND DRESDEN (1974-1976)

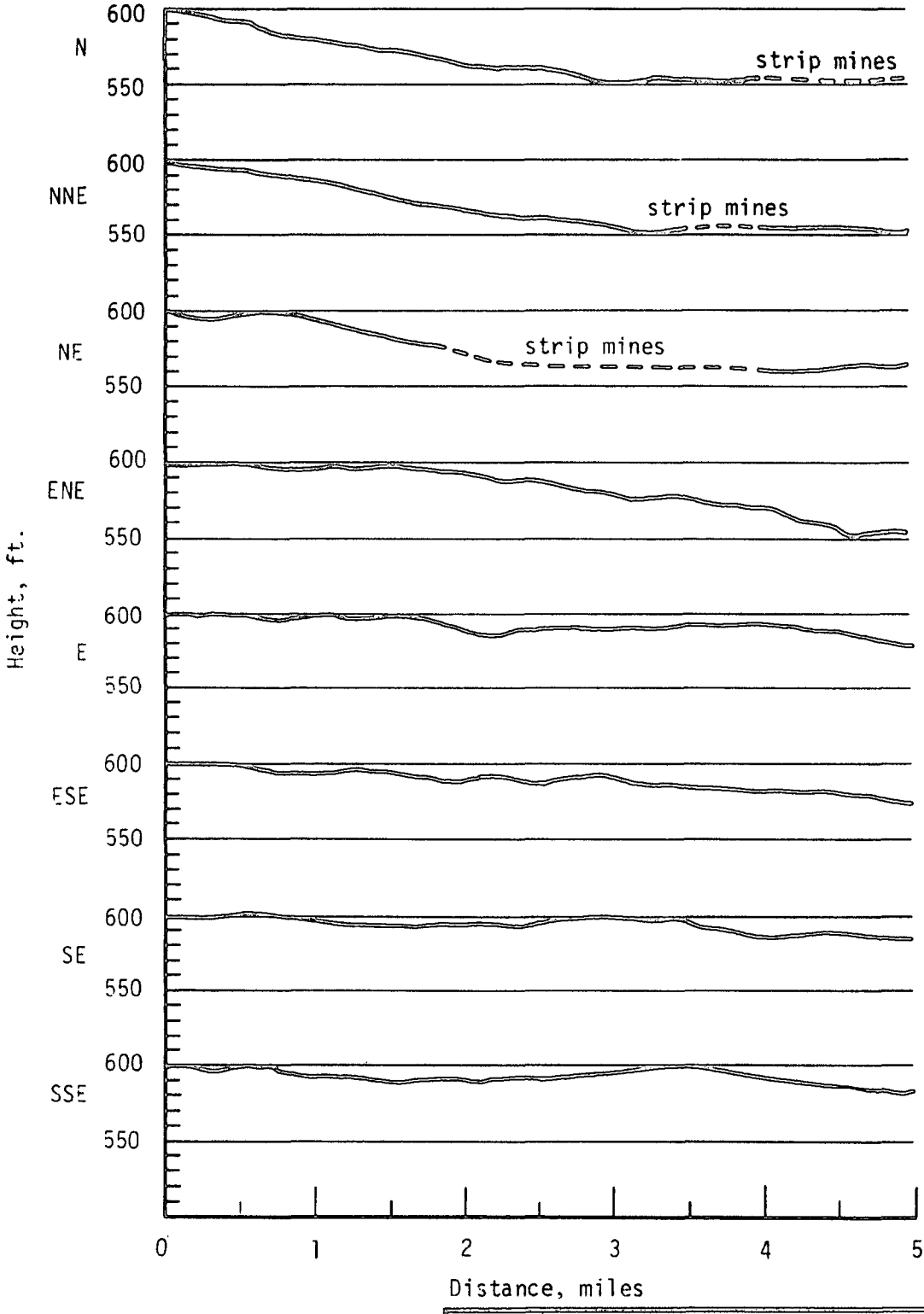


0 1 2 3 4
Scale in Miles

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-22

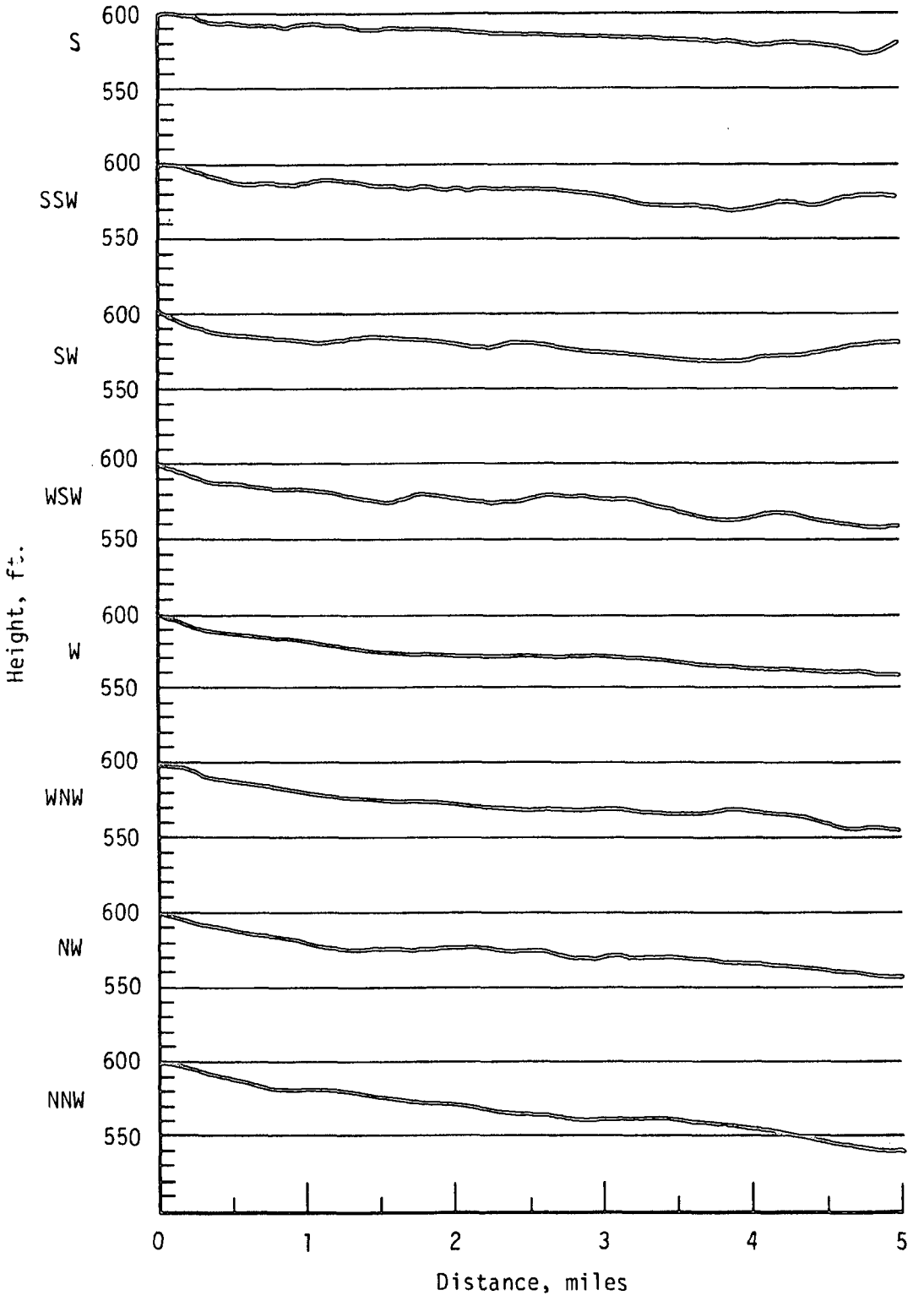
TOPOGRAPHICAL MAP OF THE SITE VICINITY WITHIN A 10-MILE RADIUS



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-23

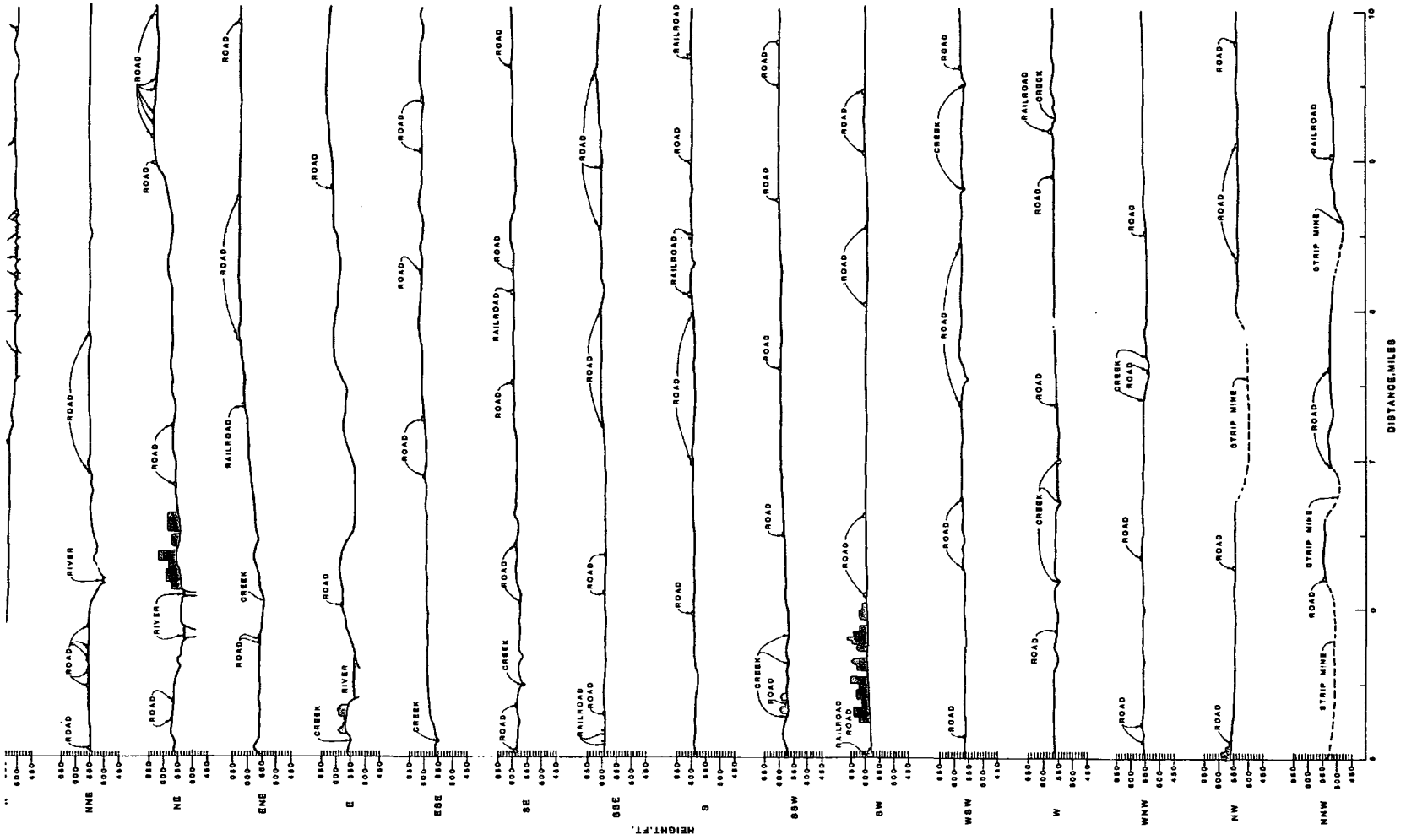
TOPOGRAPHICAL CROSS SECTIONS WITHIN A 10-MILE RADIUS OF THE BRAIDWOOD SITE (SHEET 1 OF 3)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-23

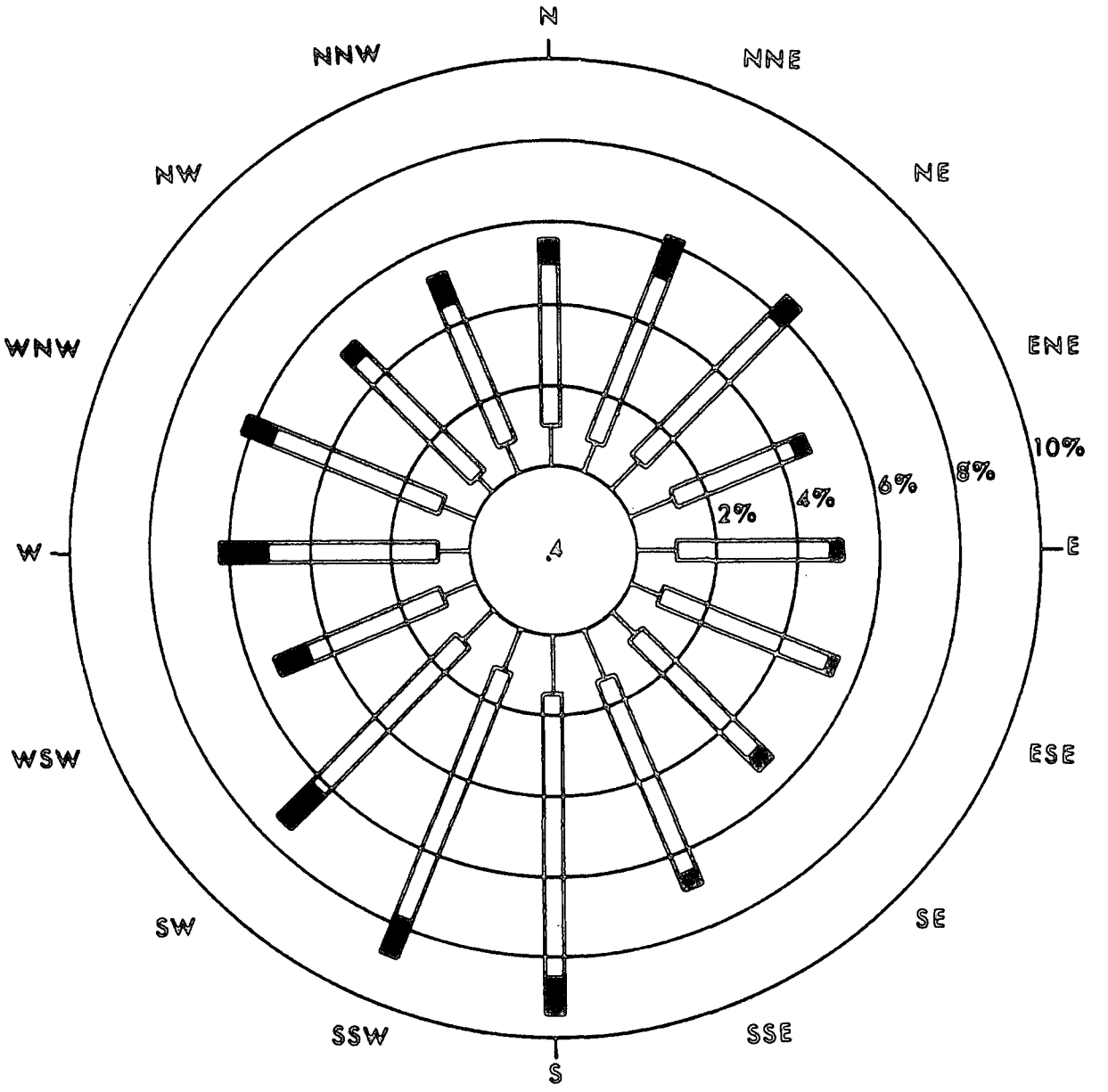
TOPOGRAPHICAL CROSS SECTIONS WITHIN A 10-MILE RADIUS OF THE BRAIDWOOD SITE (SHEET 2 OF 3)

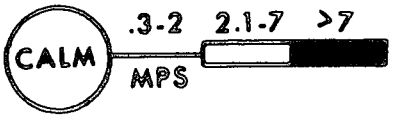


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-23

TOPOGRAPHICAL CROSS SECTIONS WITHIN A 10-MILE RADIUS OF THE BRAIDWOOD SITE (SHEET 3 OF 3)

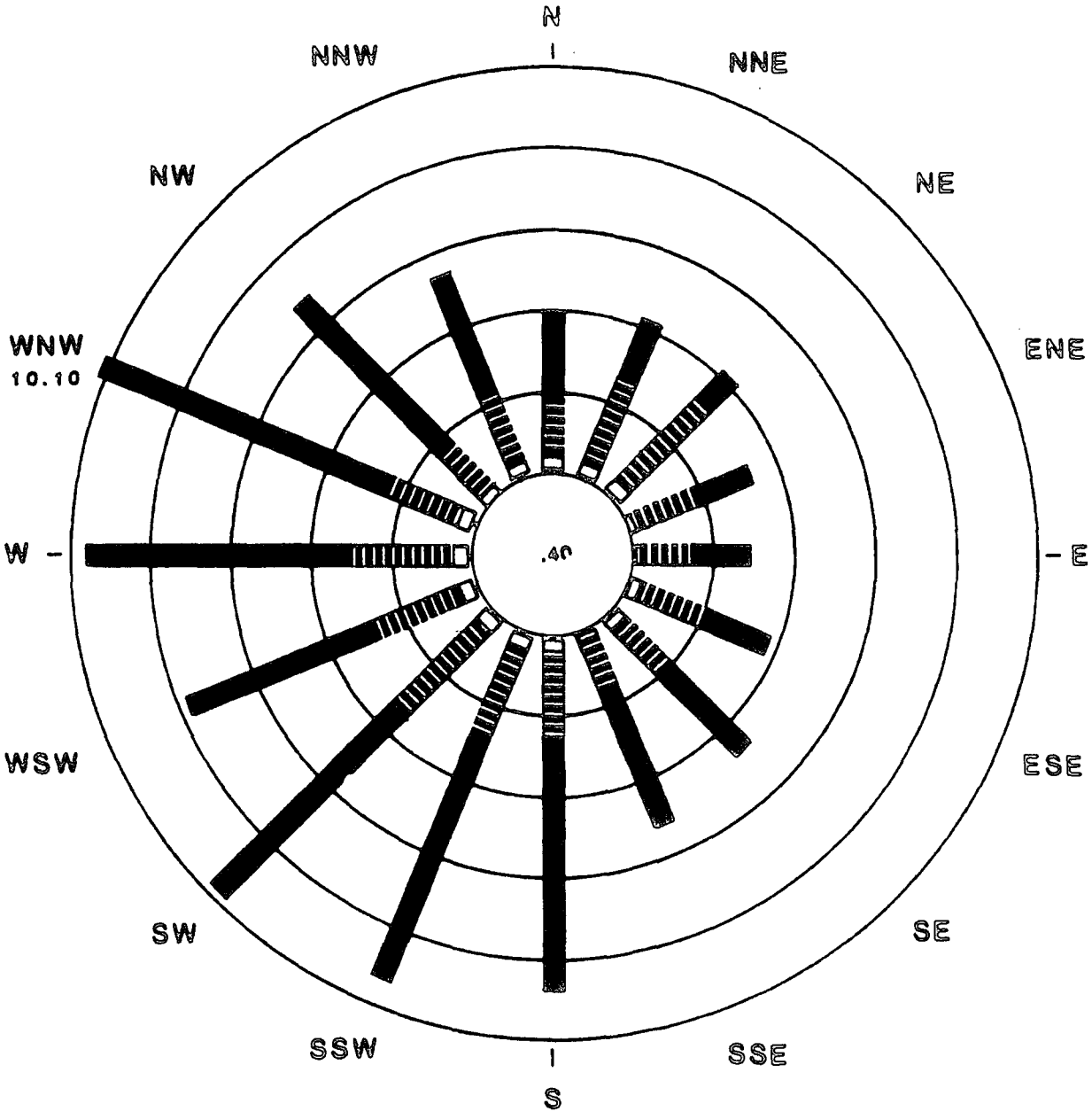


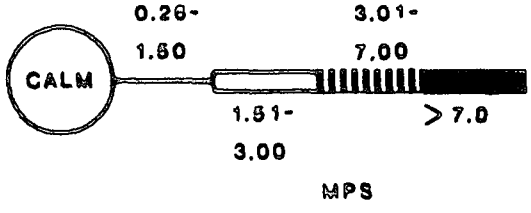


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-24

ANNUAL WIND ROSE FOR 10-METER LEVEL
AT CLINTON POWER STATION
(5-72 TO 4-73)





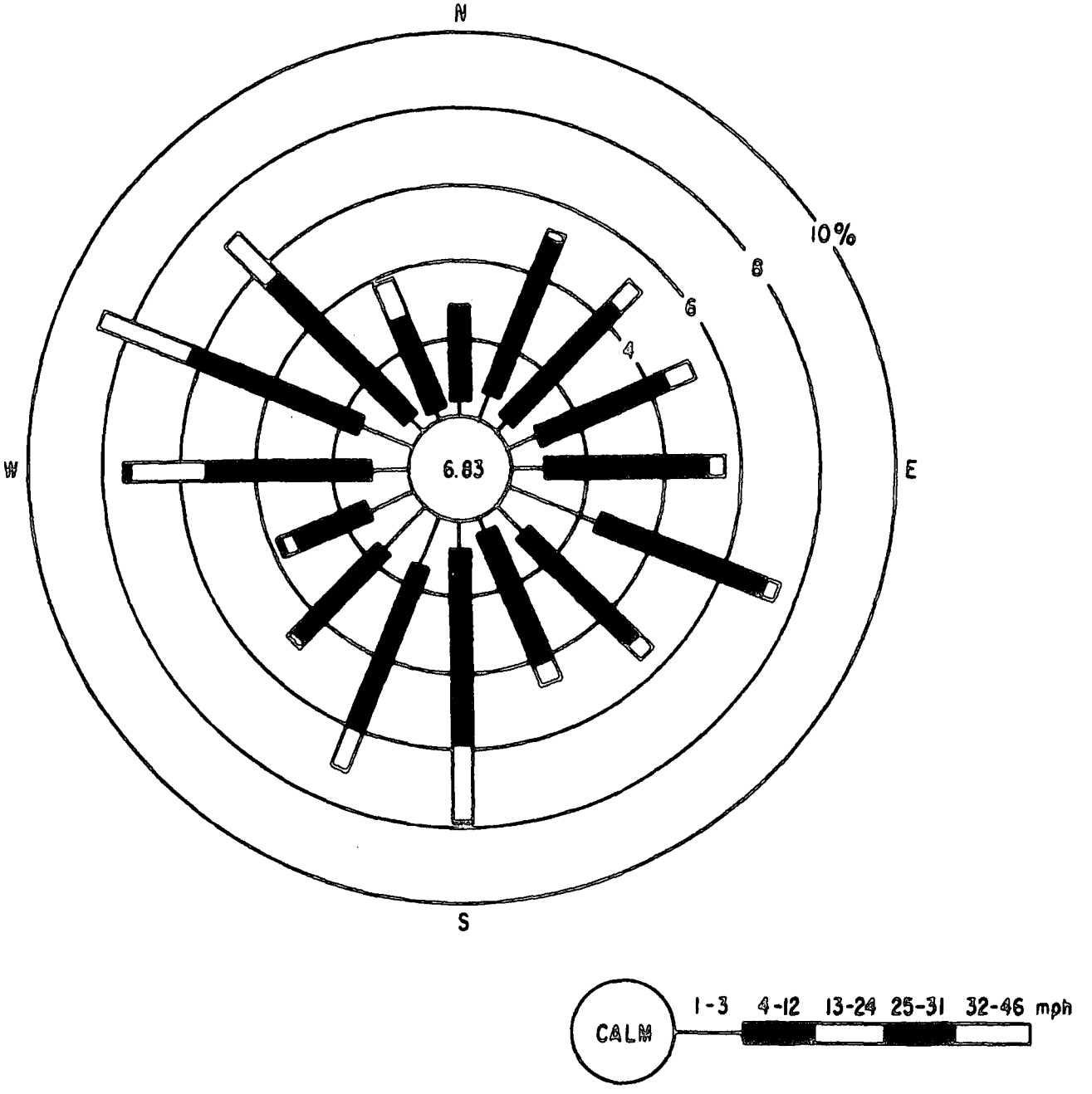
NOTE:

ANNUAL VALUES BASED ON DATA COLLECTED OCTOBER 1, 1976 THROUGH SEPTEMBER 30, 1977.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-25

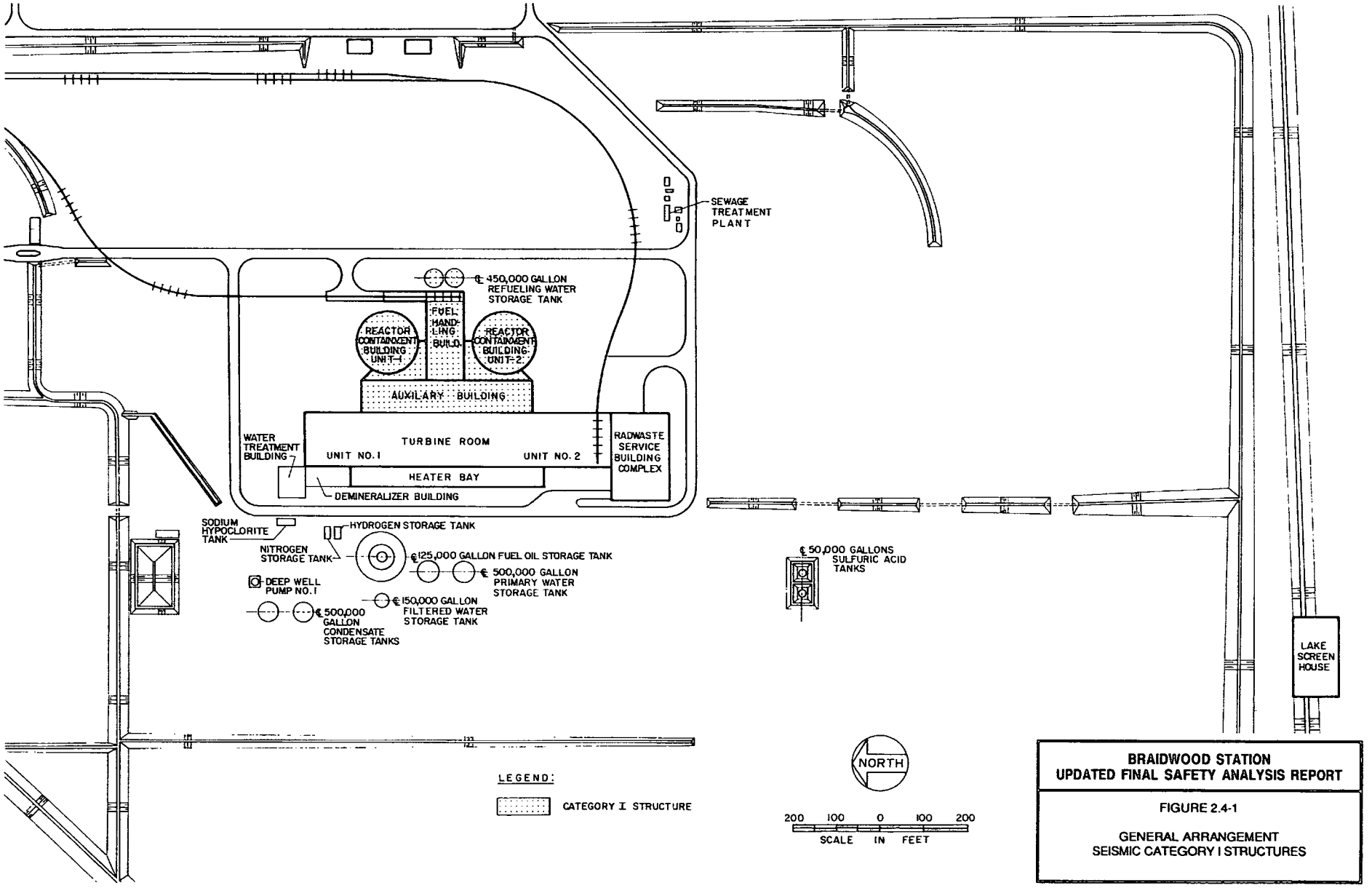
ANNUAL WIND ROSE FOR 375-FOOT LEVEL AT LASALLE COUNTY STATION (10-1-76 TO 9-30-77)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.3-26

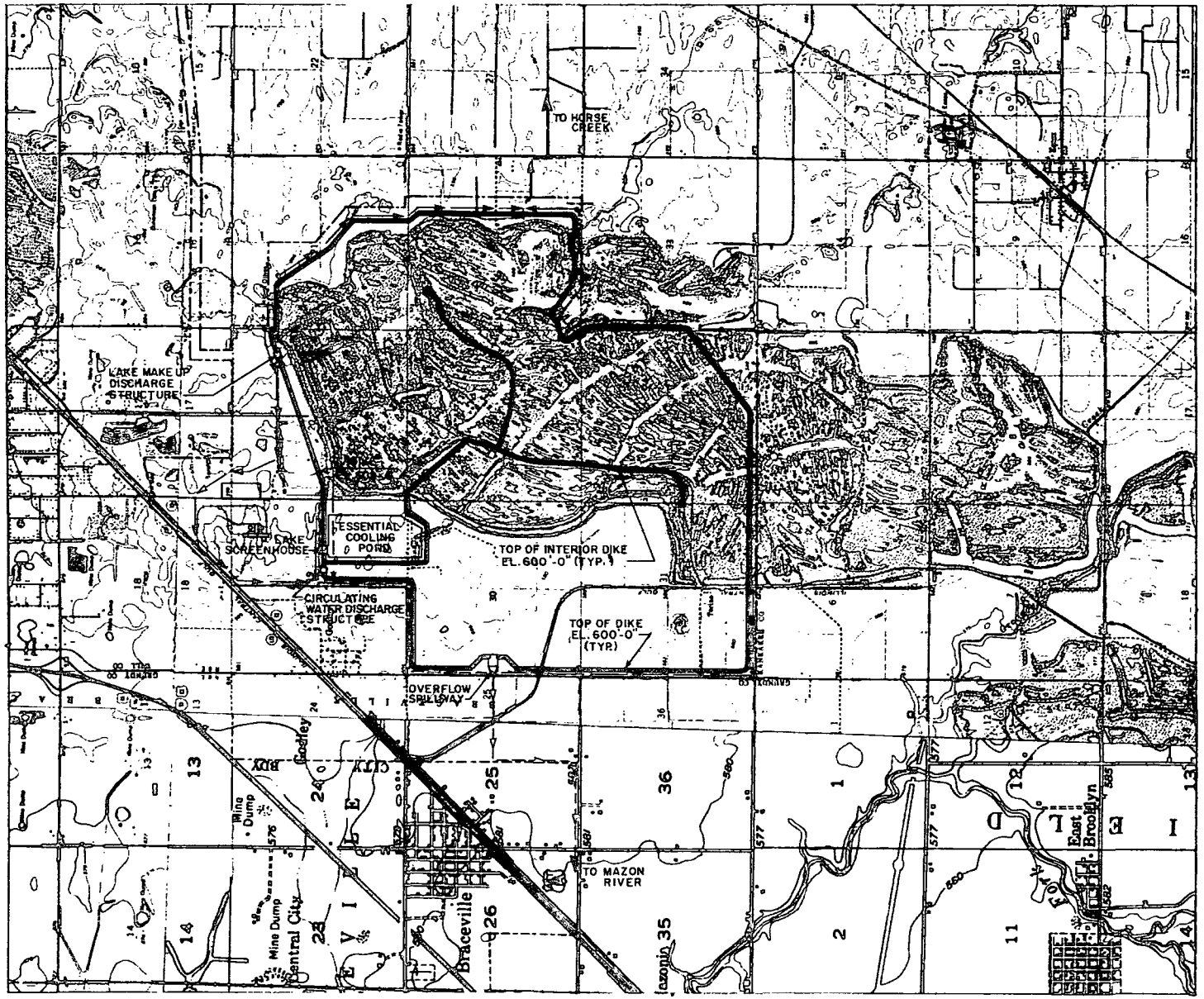
ANNUAL WIND ROSE FOR 35-FOOT LEVEL
AT DRESDEN



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-1

GENERAL ARRANGEMENT
SEISMIC CATEGORY I STRUCTURES



LEGEND:

- EXISTING DRAINAGE
- NEW DITCHES
- DIKES
- PROPERTY LINE

NORTH

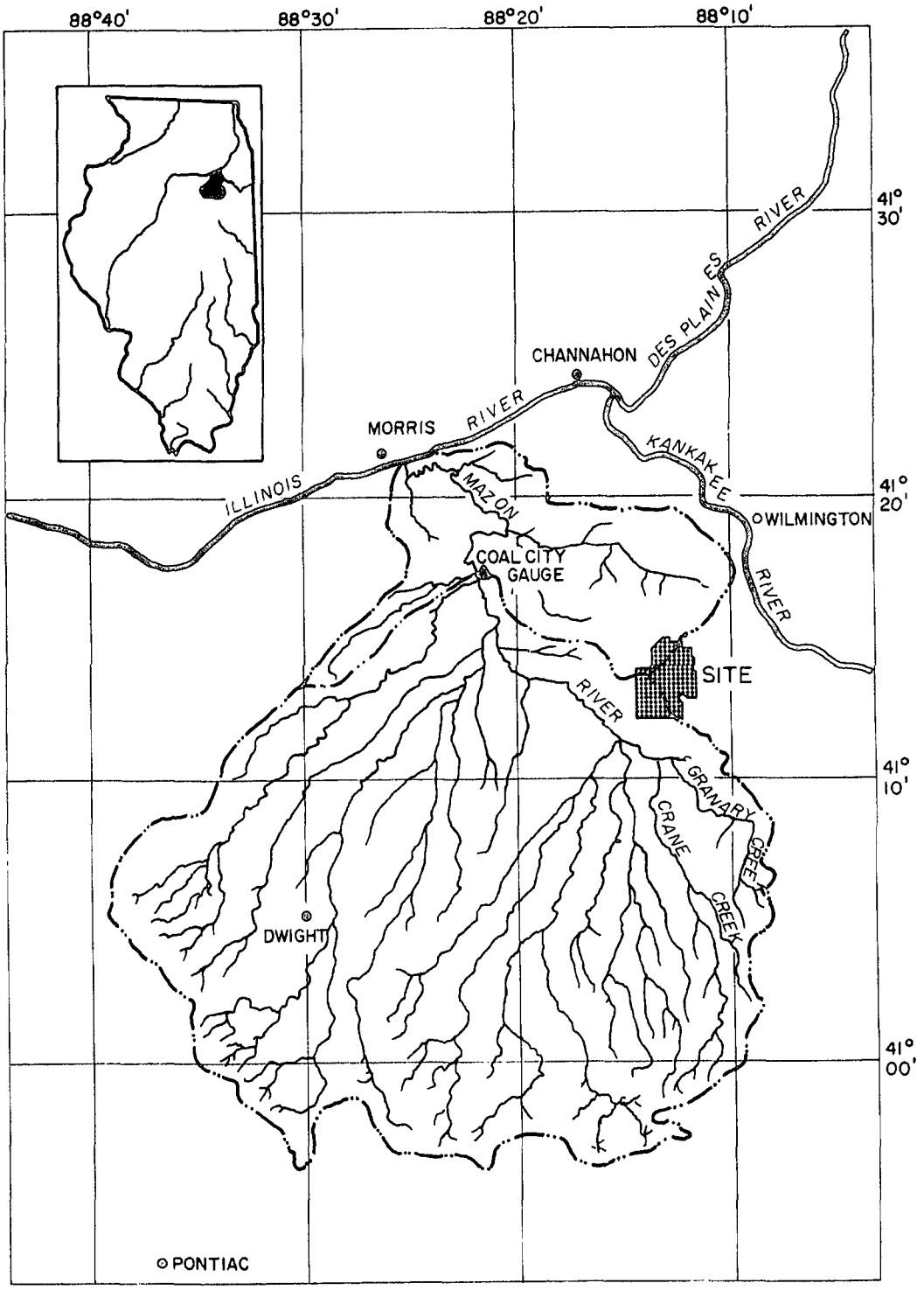
3000 0 3000

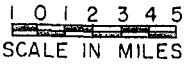
SCALE IN FEET

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-2

SITE CHARACTERISTICS AND CHANGES TO EXISITING DRAINAGE FEATURES

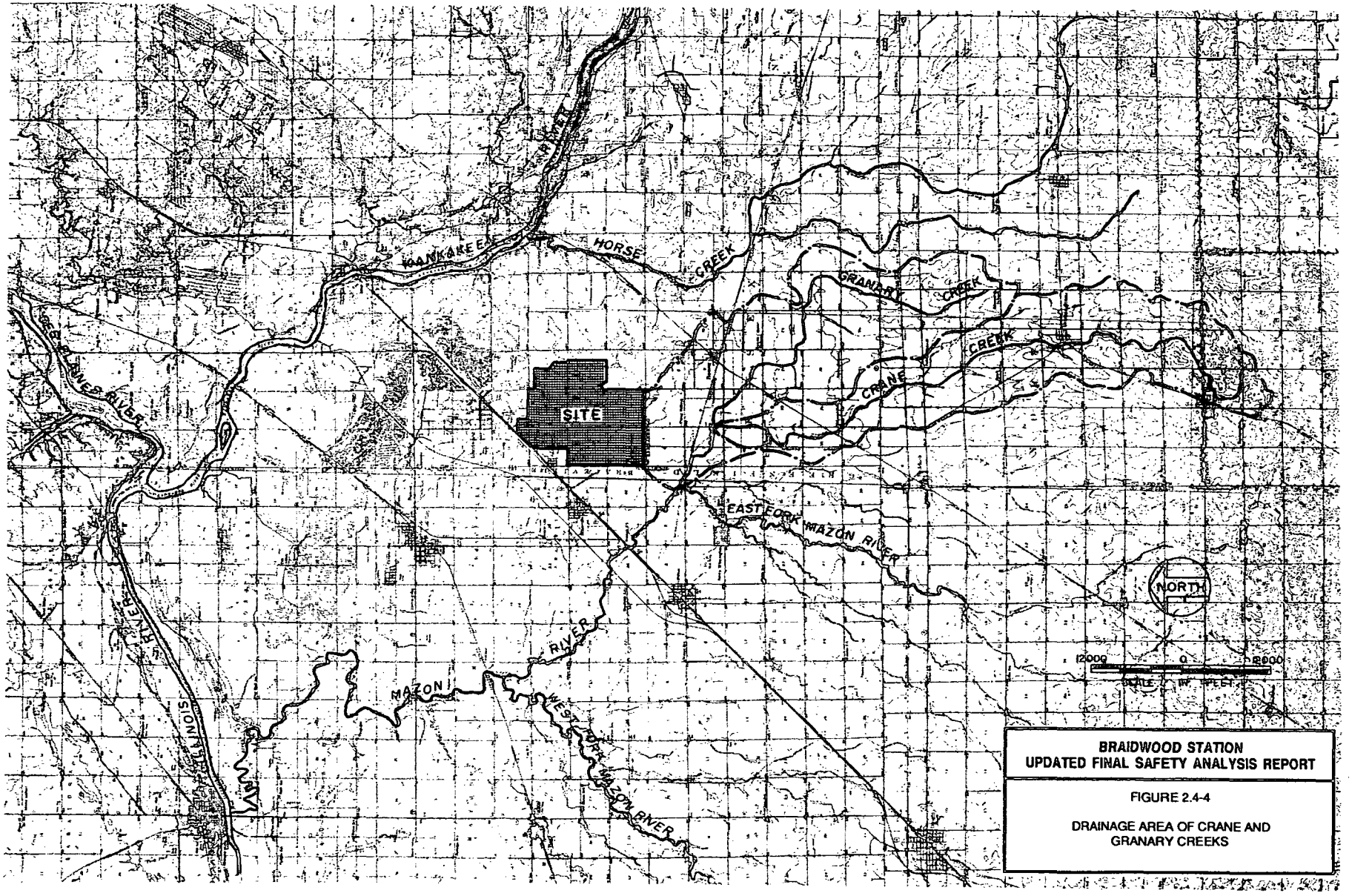




BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-3

DRAINAGE BASIN OF MAZON RIVER

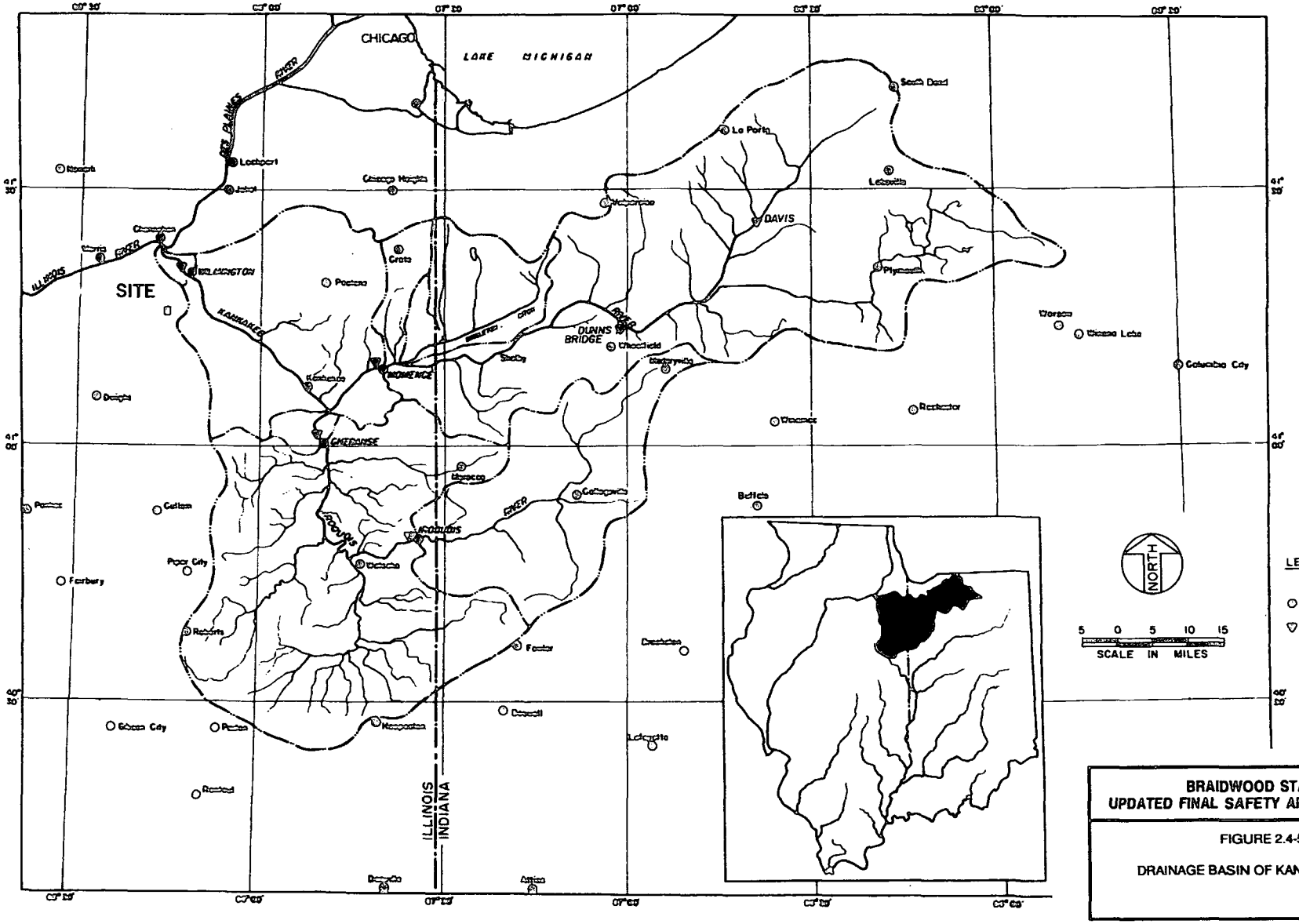


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-4

DRAINAGE AREA OF CRANE AND GRANARY CREEKS

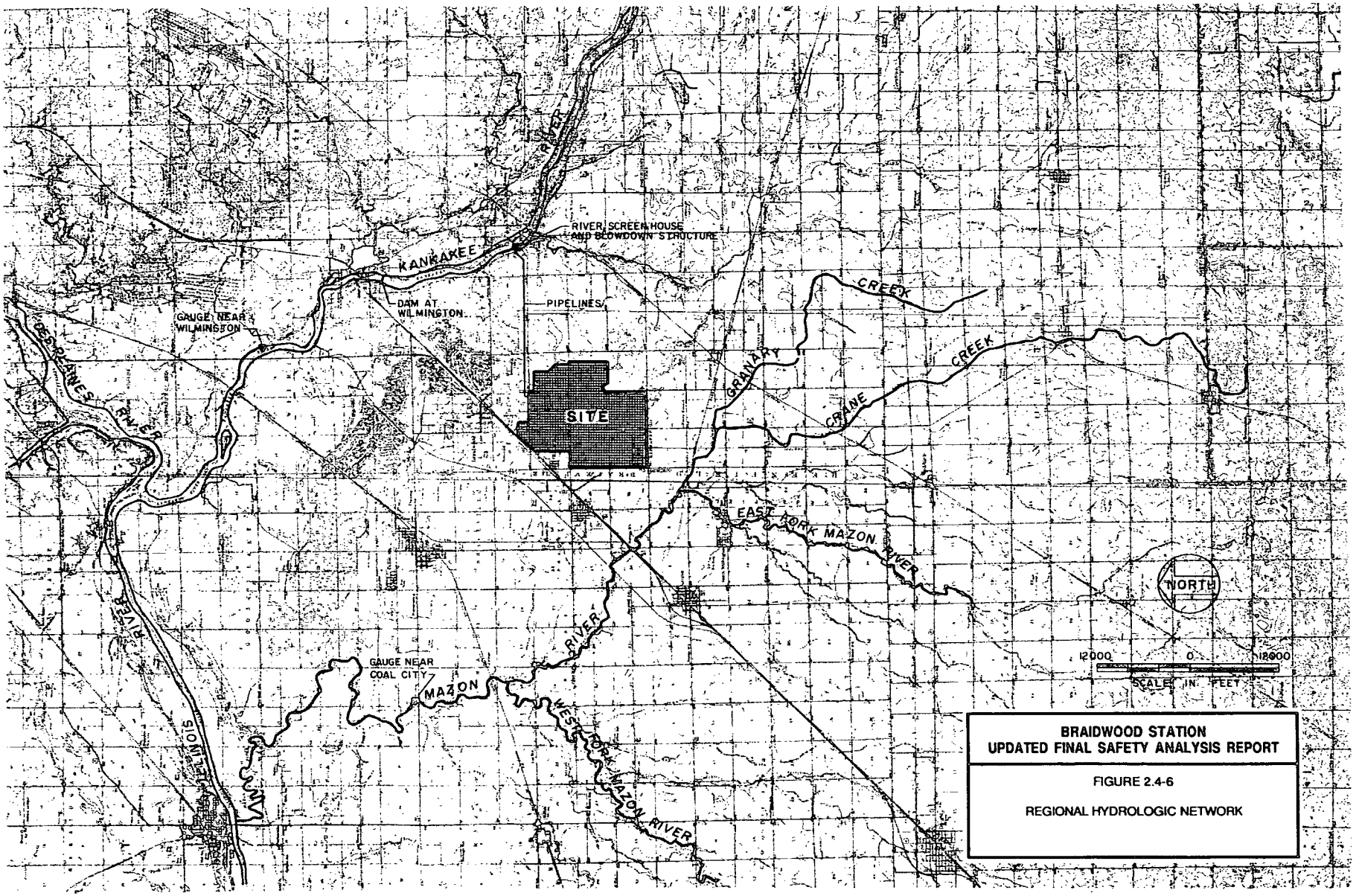
REVISION 3
DECEMBER 1991



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-5

DRAINAGE BASIN OF KANKAKEE RIVER

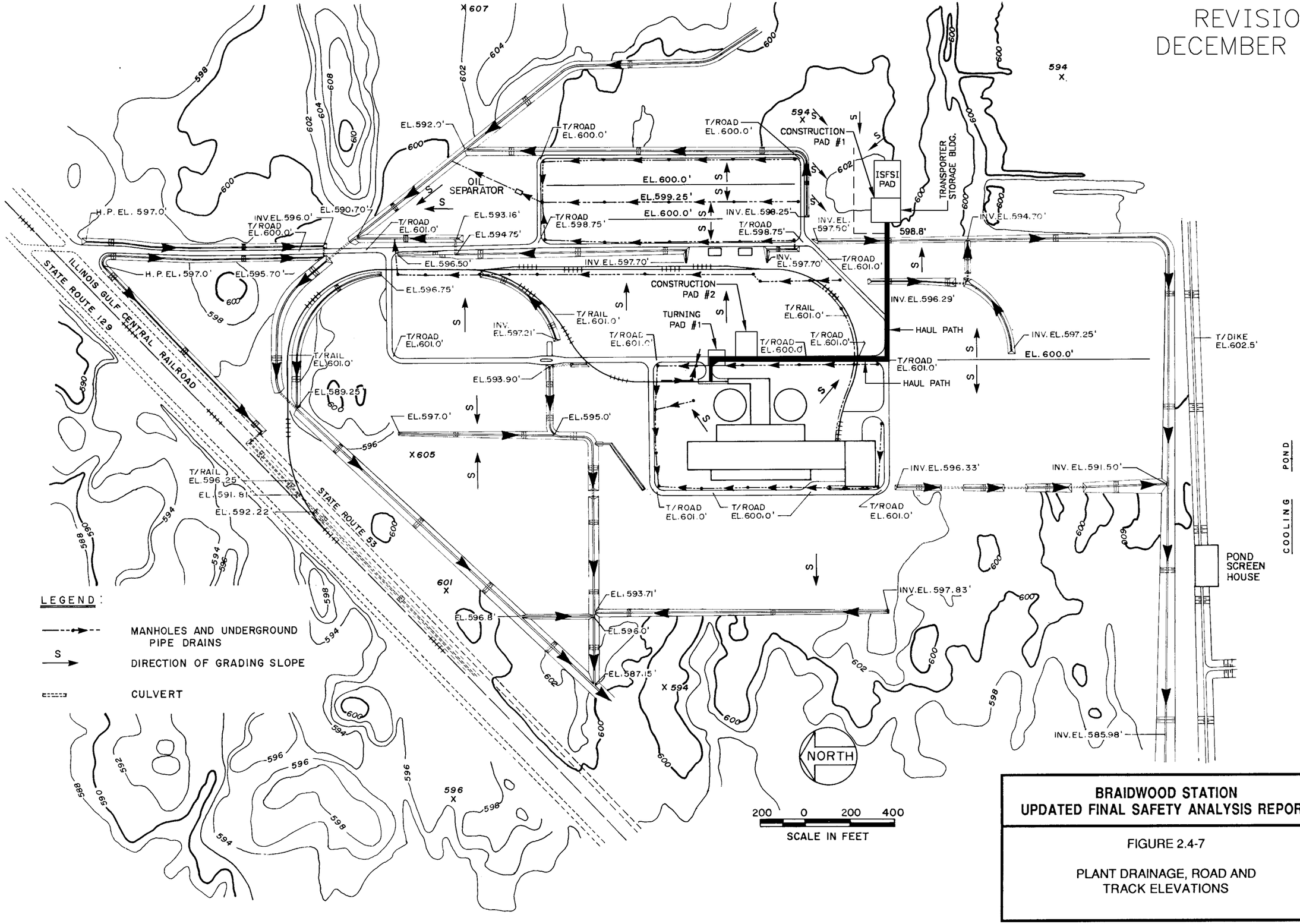


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-6

REGIONAL HYDROLOGIC NETWORK

REVISION 14
DECEMBER 2012

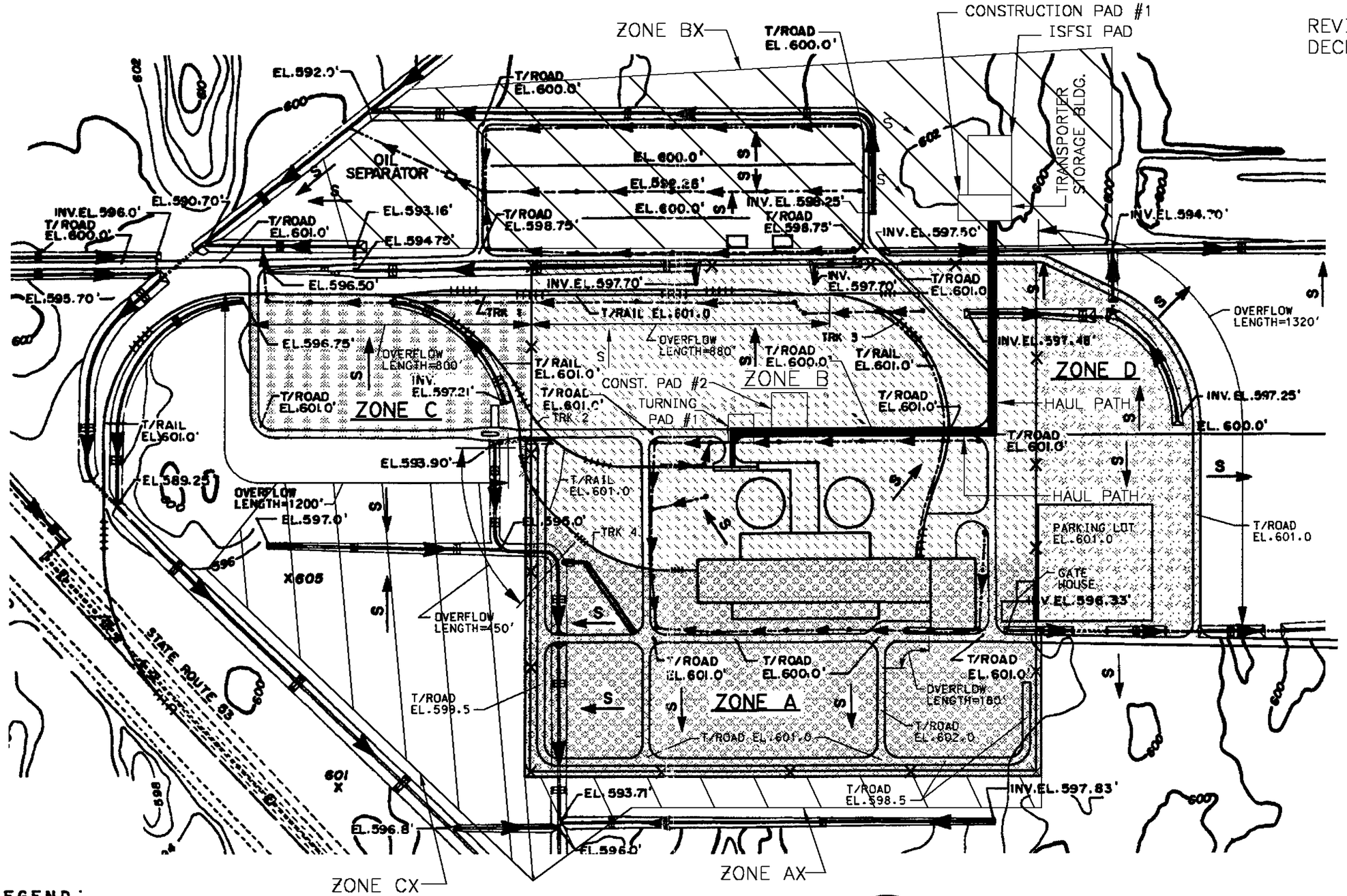


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-7

PLANT DRAINAGE, ROAD AND TRACK ELEVATIONS

REVISION 14
DECEMBER 2012



LEGEND:

MANHOLES AND UNDERGROUND PIPE DRAINS

DIRECTION OF GRADING SLOPE

CULVERT

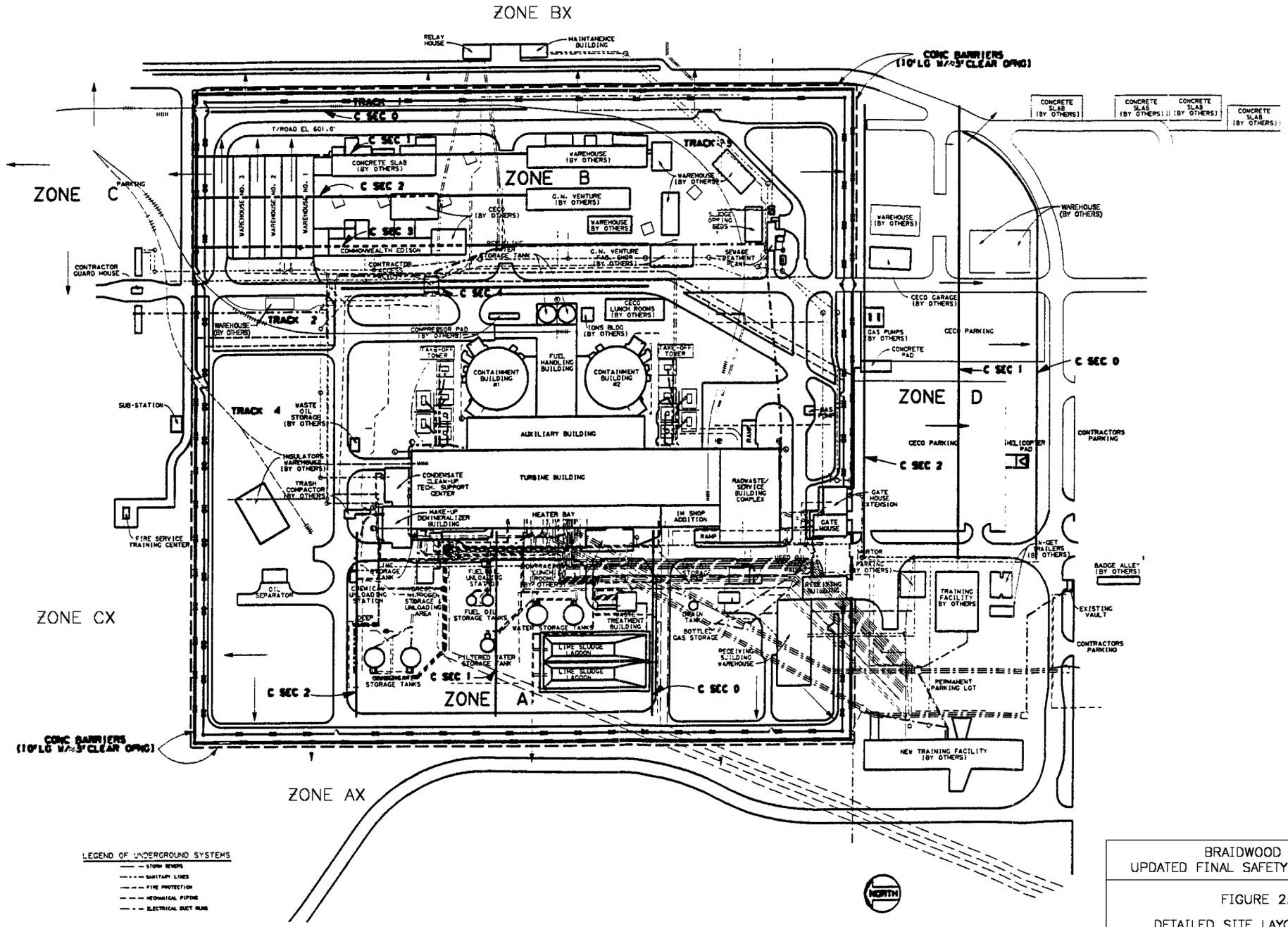
300 0 300 600
GRAPHIC SCALE

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-7A

SUBDIVISION OF PLANT AREA
FOR LOCAL INTENSE
PRECIPITATION ANALYSIS

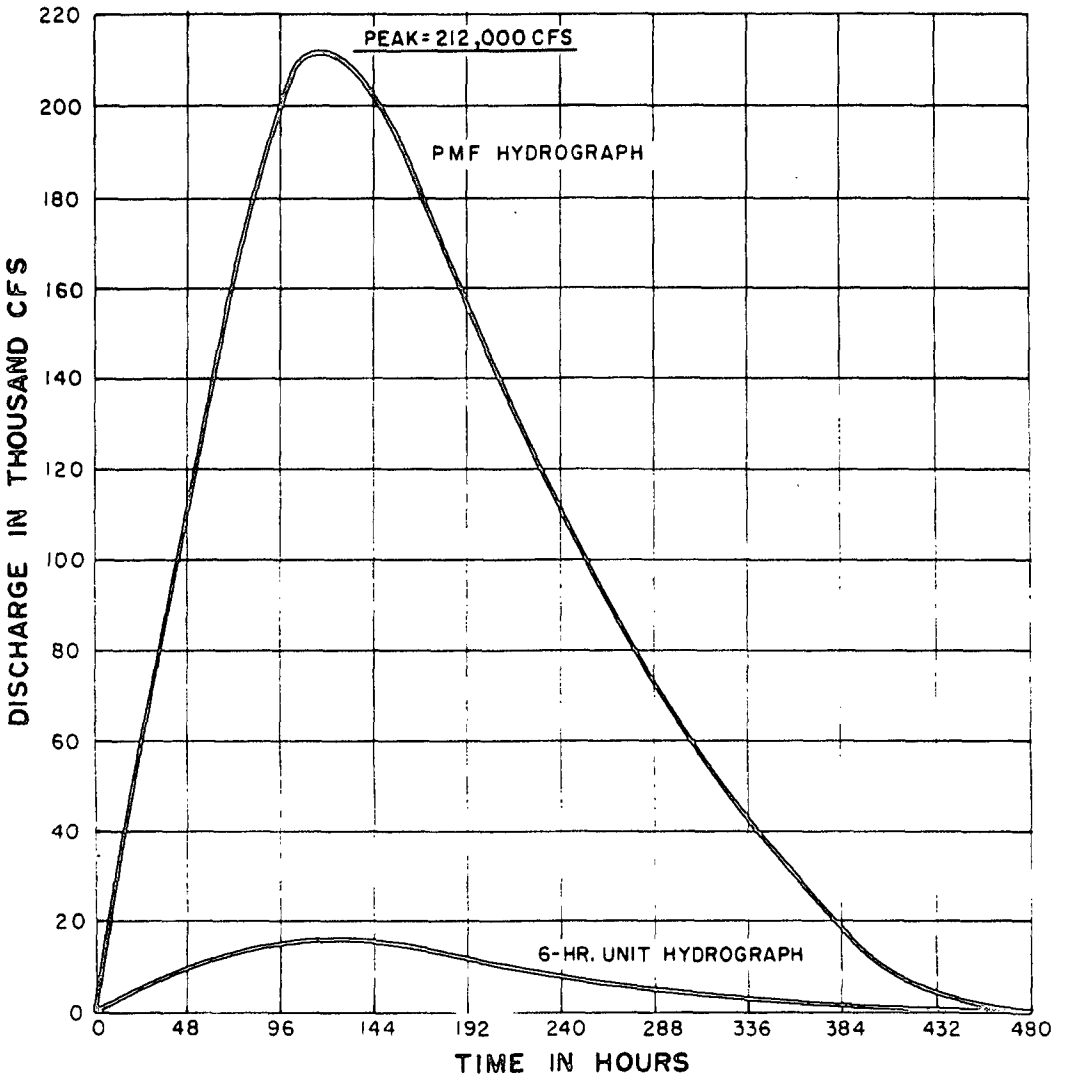
REVISION 13
DECEMBER 2010



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-7B

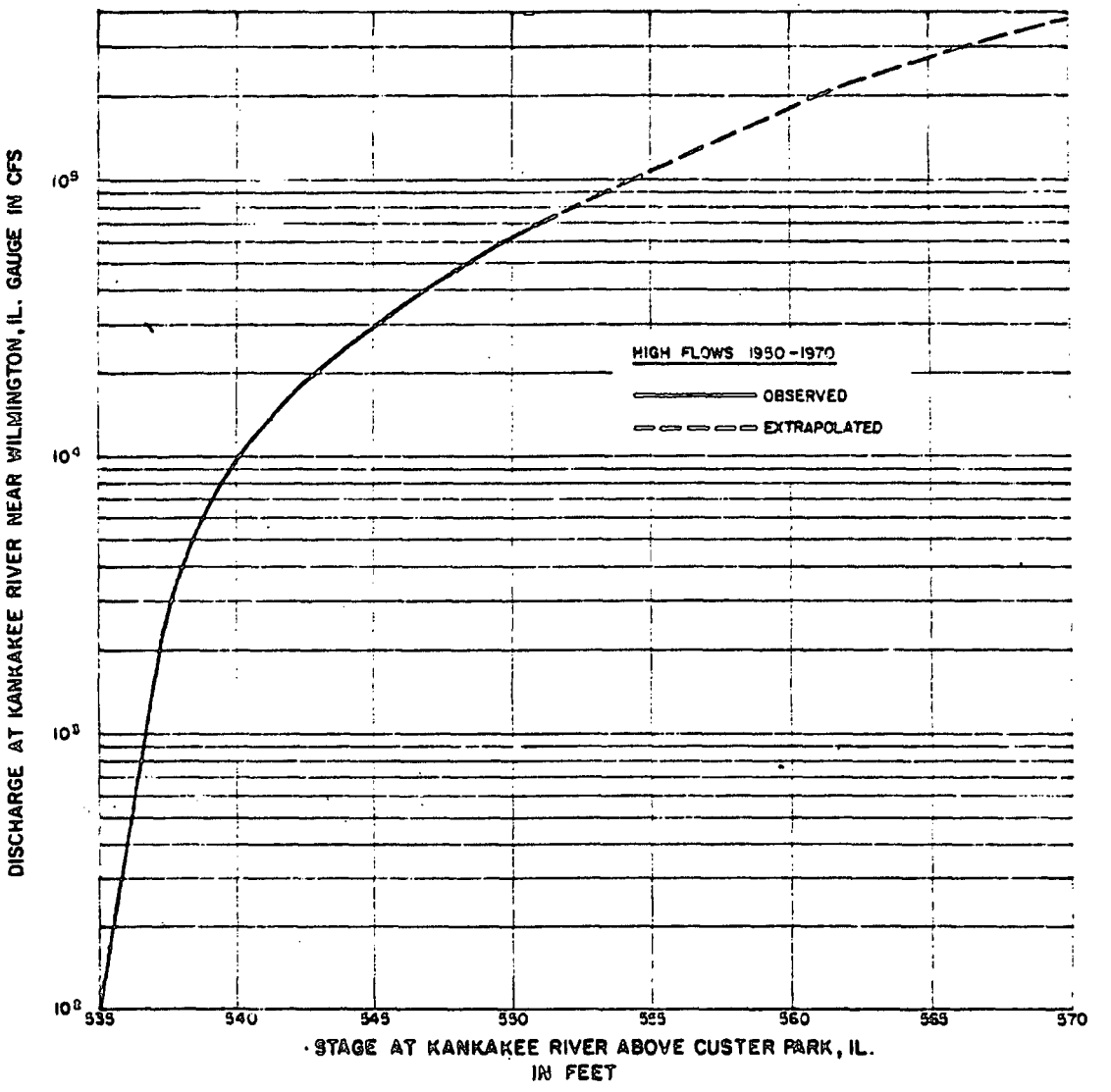
DETAILED SITE LAYOUT AND CROSS SECTIONS FOR BACKWATER CALCULATION FOR LOCAL INTENSE PRECIPITATION



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-8

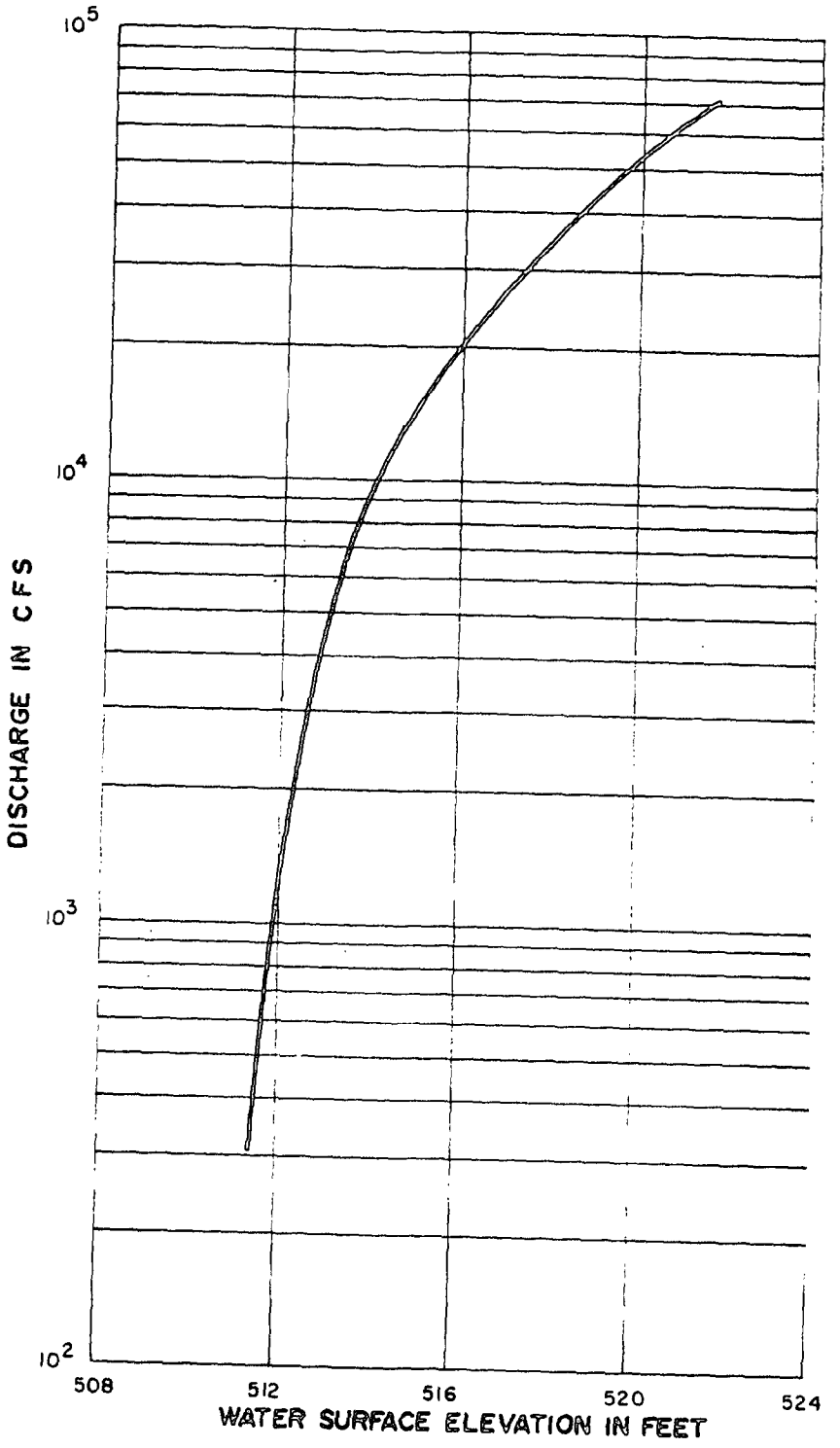
UNIT HYDROGRAPH AND PMF HYDROGRAPH FOR KANKAKEE RIVER NEAR WILMINGTON



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-9

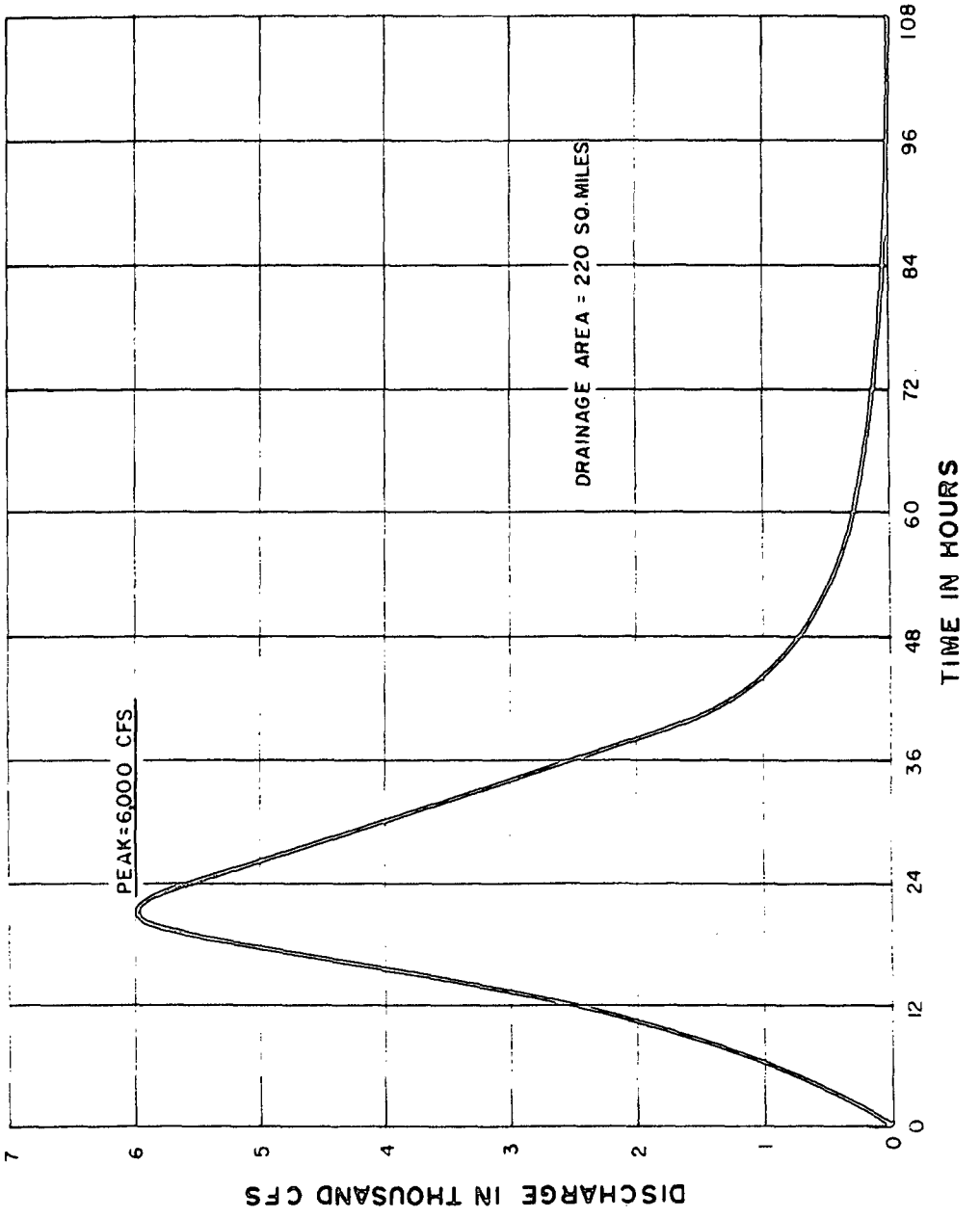
KANKAKEE RIVER STAGE AT CUSTER PARK
VERSUS DISCHARGE AT WILMINGTON, ILLINOIS



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-10

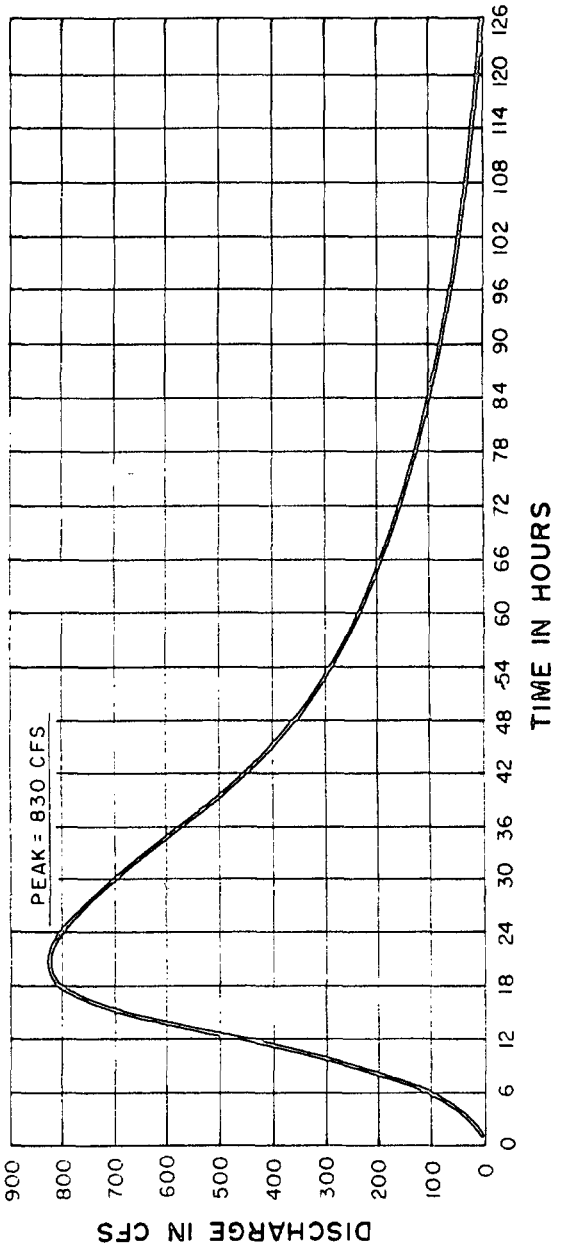
RATING CURVE FOR KANKAKEE RIVER
NEAR WILMINGTON GAUGING STATION



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-11

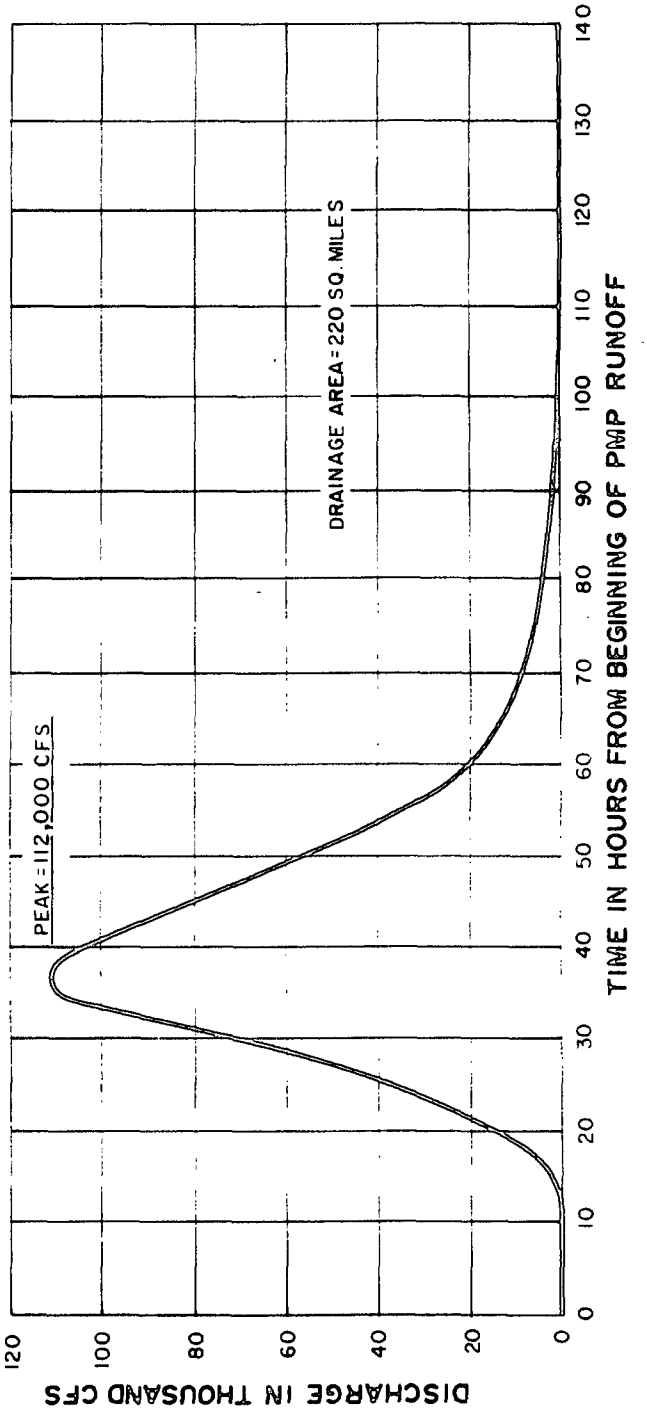
MAZON RIVER 3-HOUR UNIT HYDROGRAPH



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-12

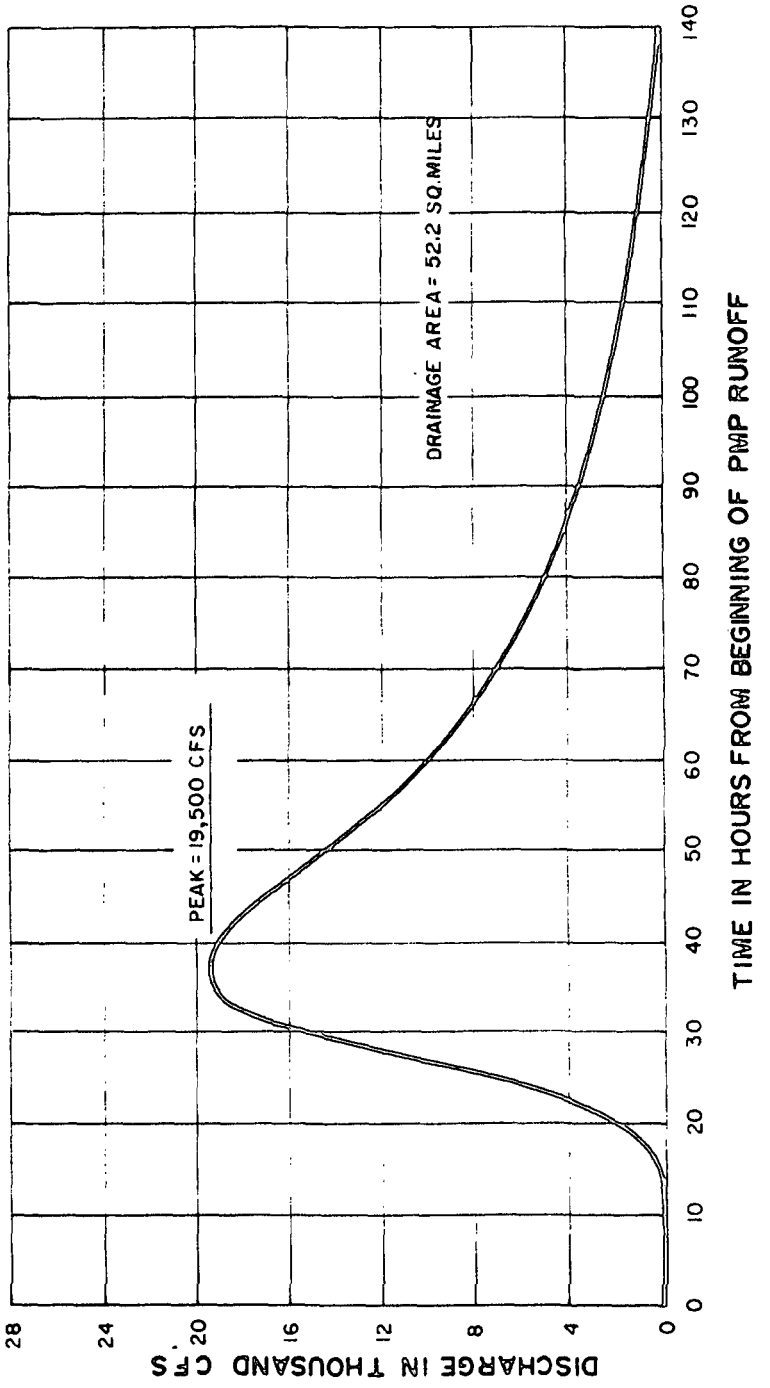
3-HOUR UNIT HYDROGRAPH CRANE AND GRANARY CREEKS AT THE CONFLUENCE WITH EAST FORK MAZON RIVER



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-13

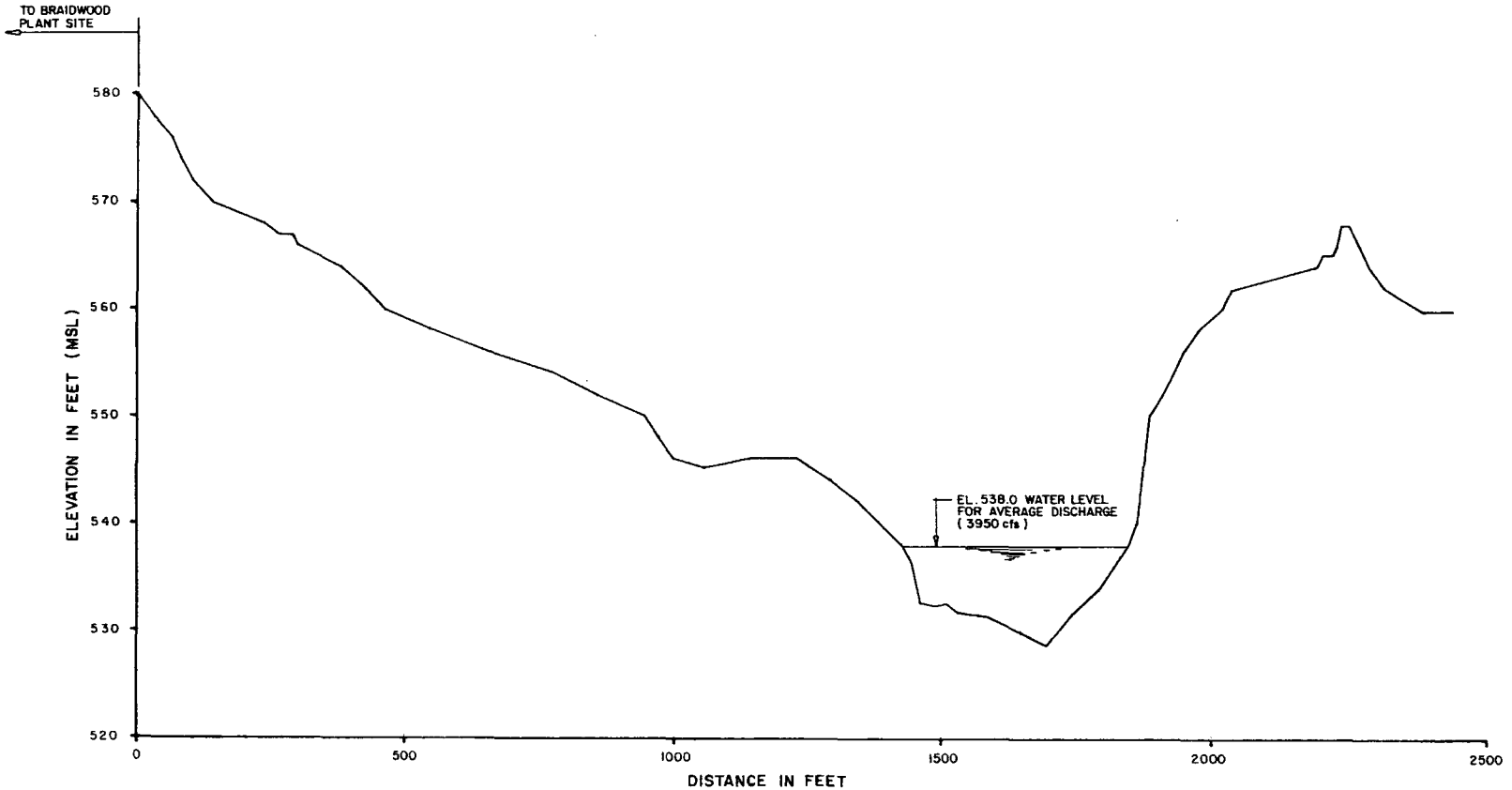
MAZON RIVER PMF HYDROGRAPH



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-14

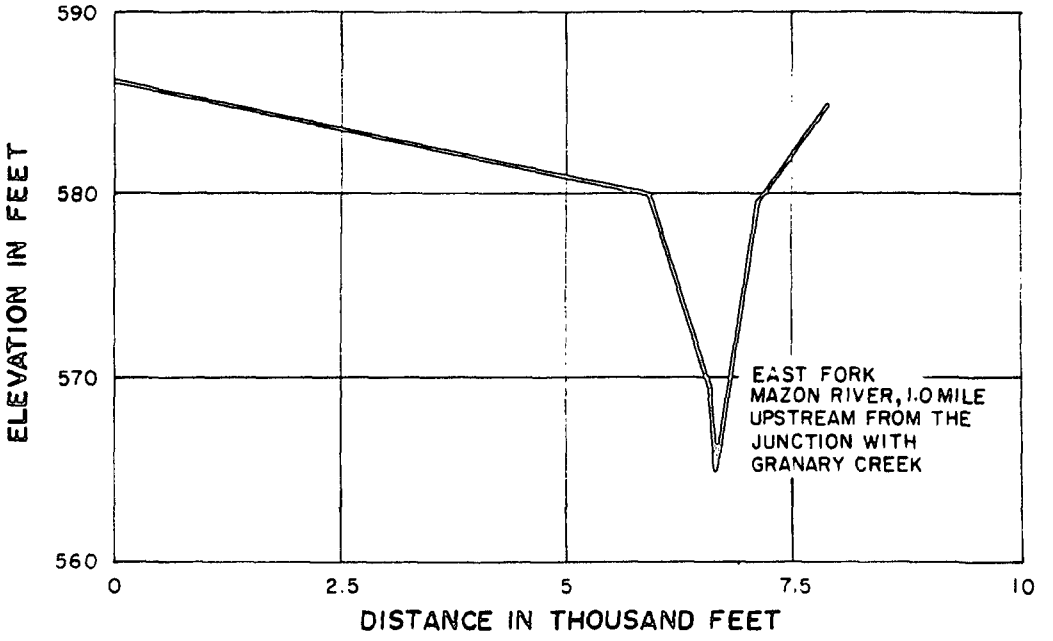
CRANE AND GRANARY CREEKS
PMF HYDROGRAPH



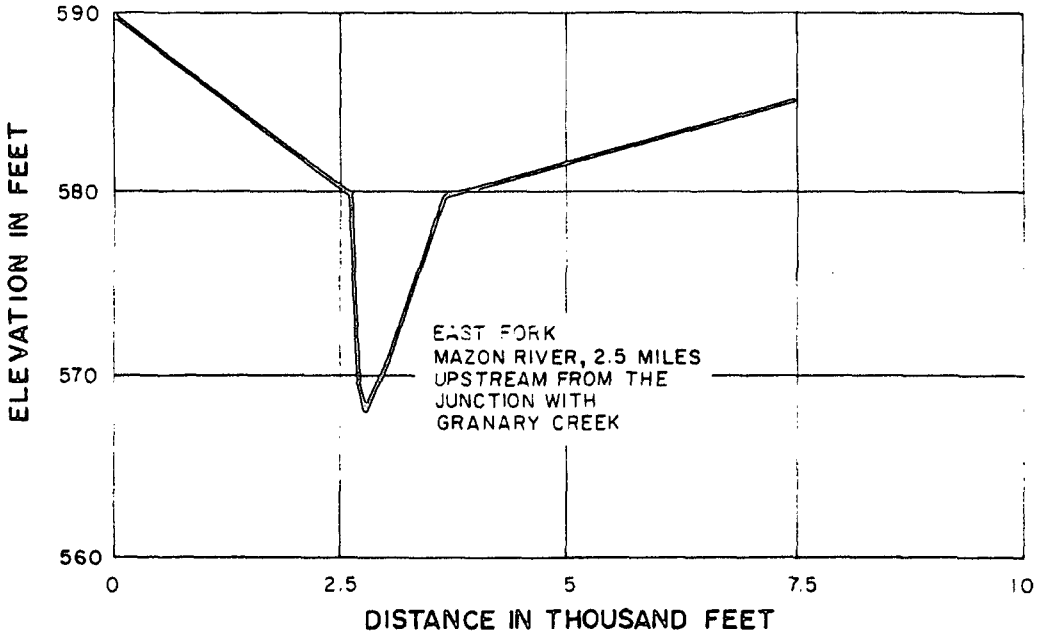
BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-14a

TYPICAL CROSS SECTION OF THE KANKAKEE RIVER NEAR THE RIVER SCREENHOUSE



SECTION X-MU2

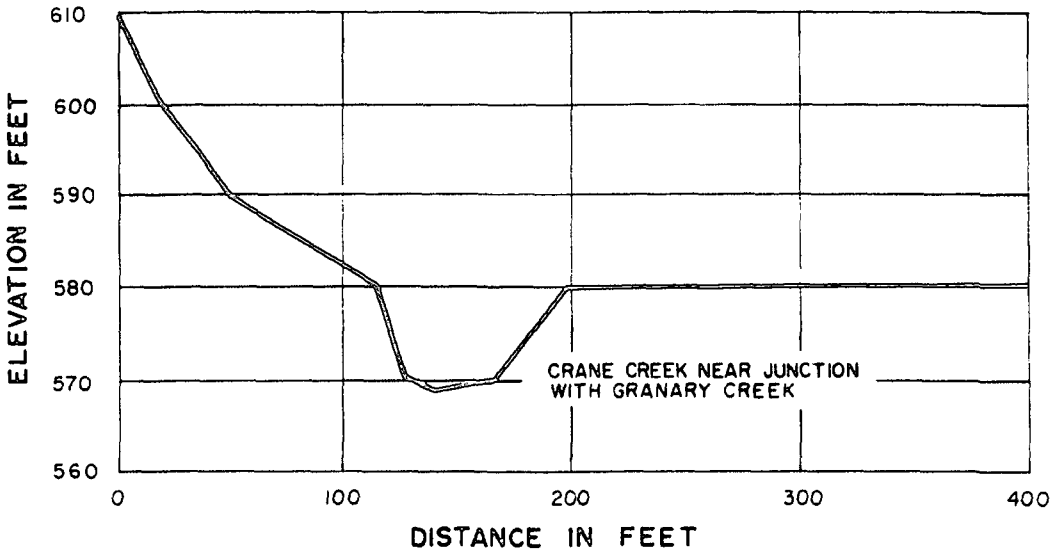


SECTION X-MU1

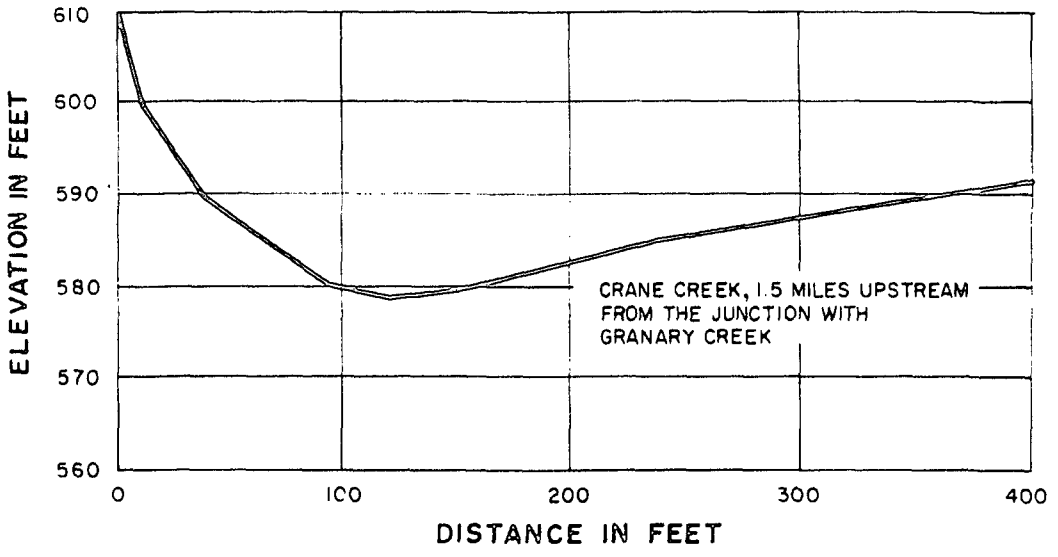
BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-15

CROSS SECTIONS FOR EAST FORK MAZON RIVER
UPSTREAM FROM GRANARY CREEK



SECTION X-CD

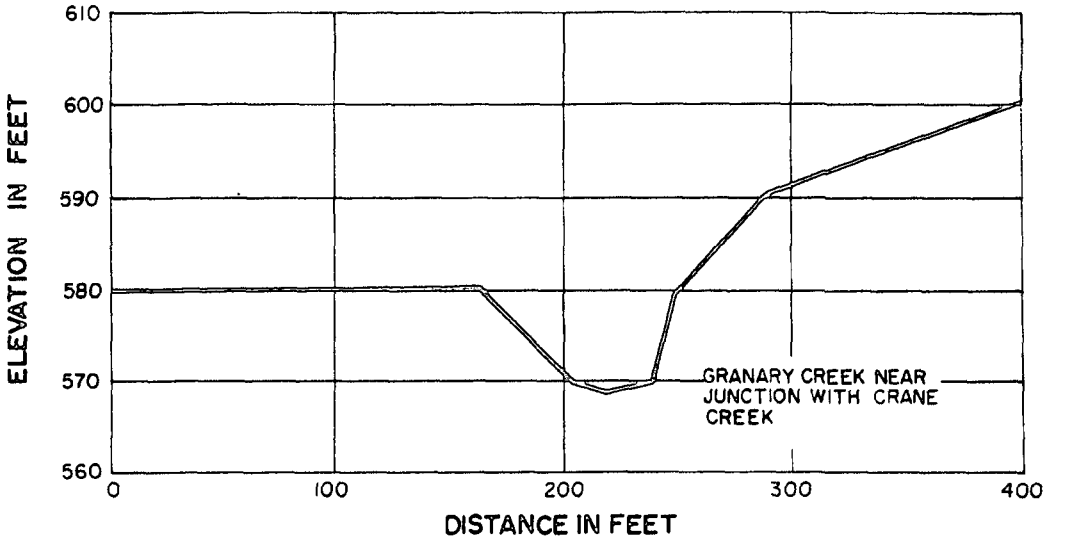


SECTION X-CU

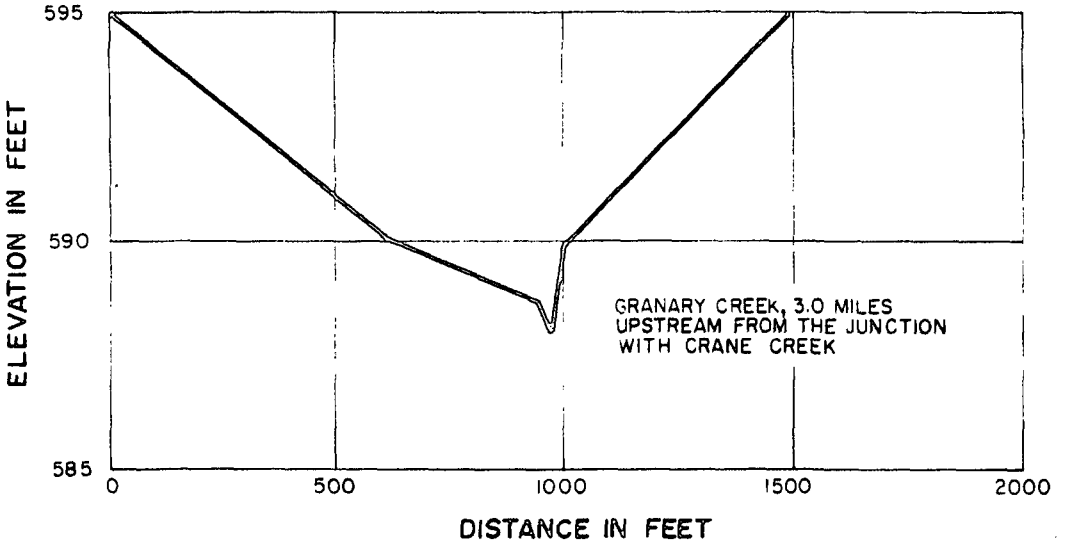
BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-16

CROSS SECTIONS OF CRANE CREEK



SECTION X-GD

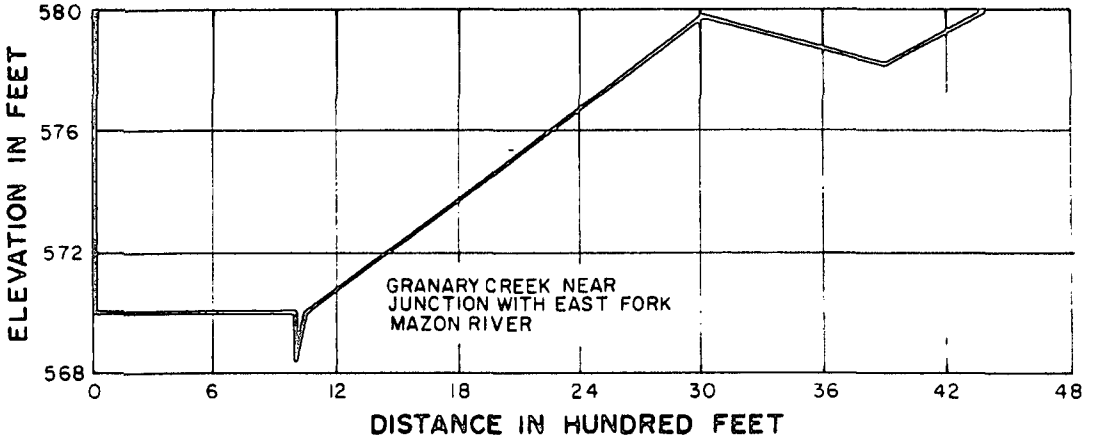


SECTION X-GU

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-17

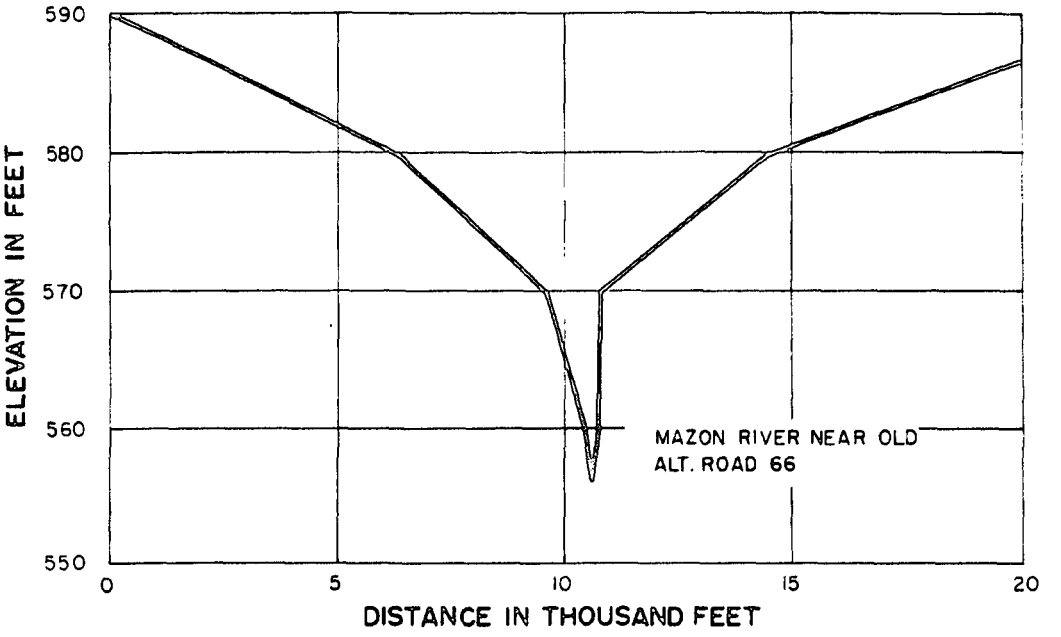
CROSS SECTIONS OF GRANARY CREEK



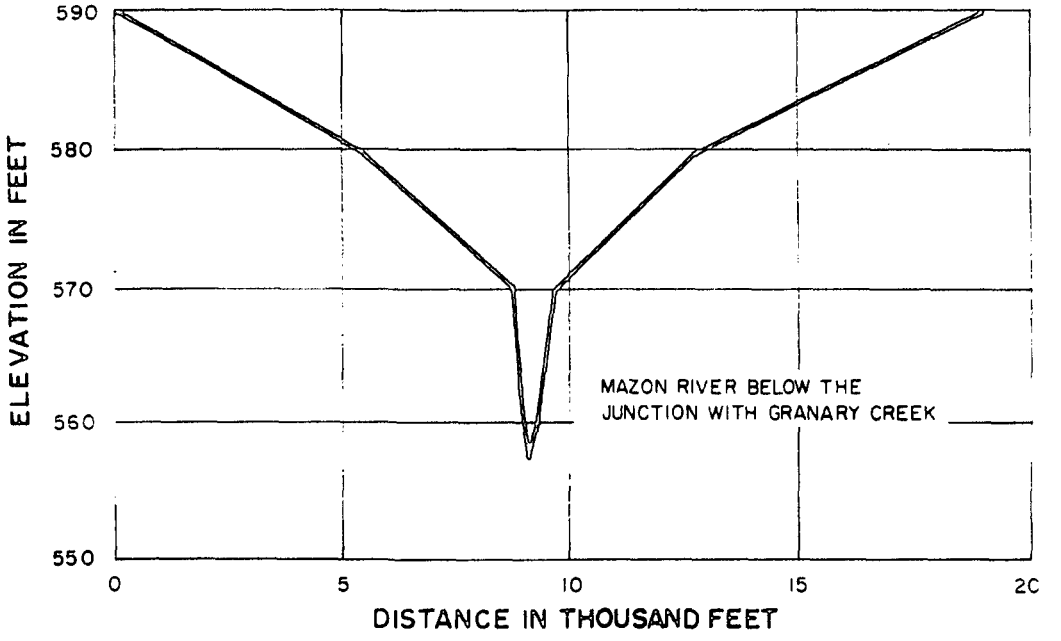
BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-17a

CROSS SECTION OF GRANARY CREEK JUST UPSTREAM OF EAST FORK MAZON RIVER



SECTION X-MD2

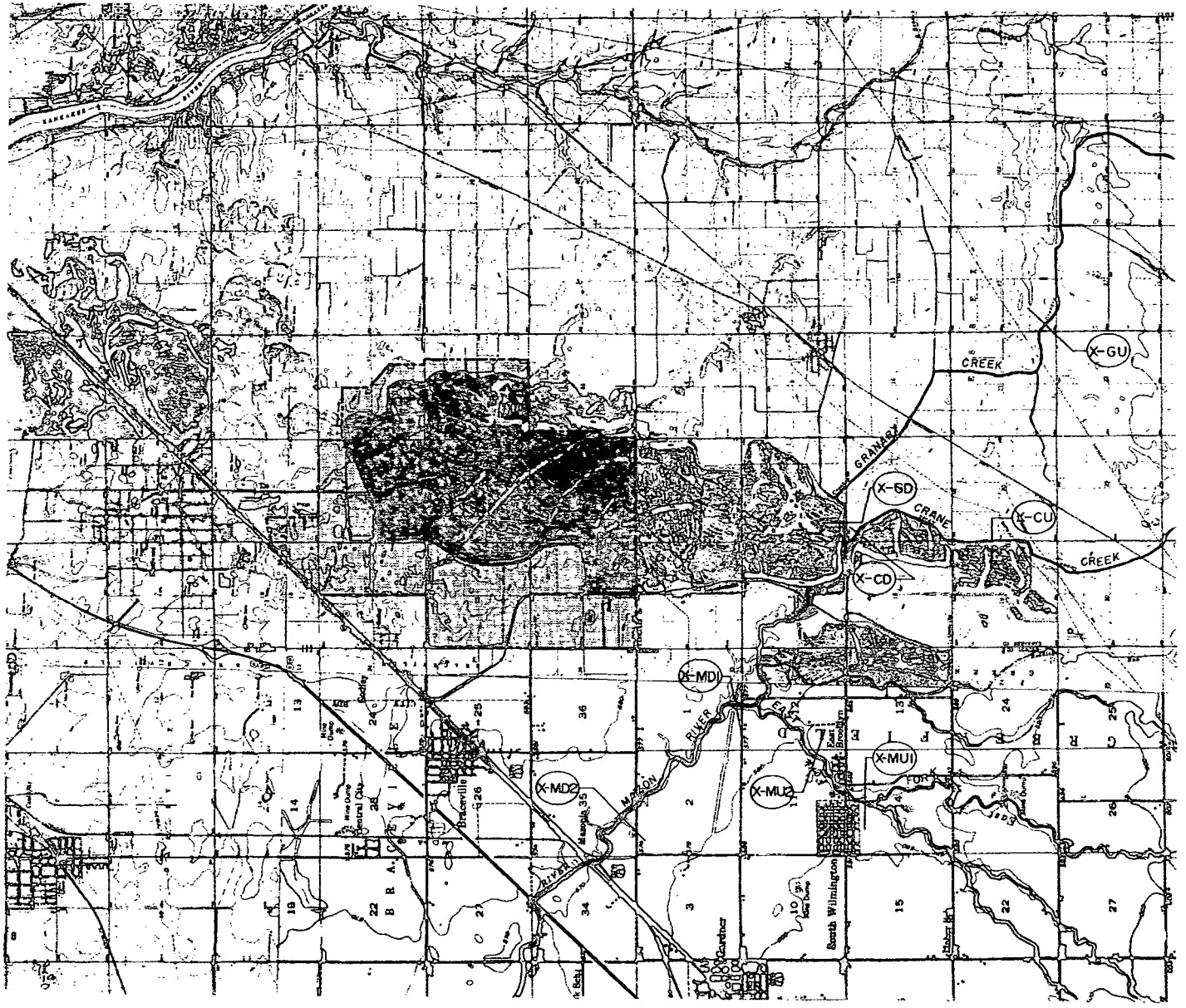


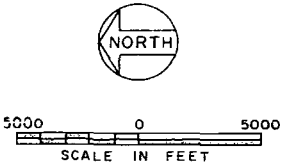
SECTION X-MD1

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-18

CROSS SECTIONS FOR MAZON RIVER
DOWNSTREAM FROM GRANARY CREEK

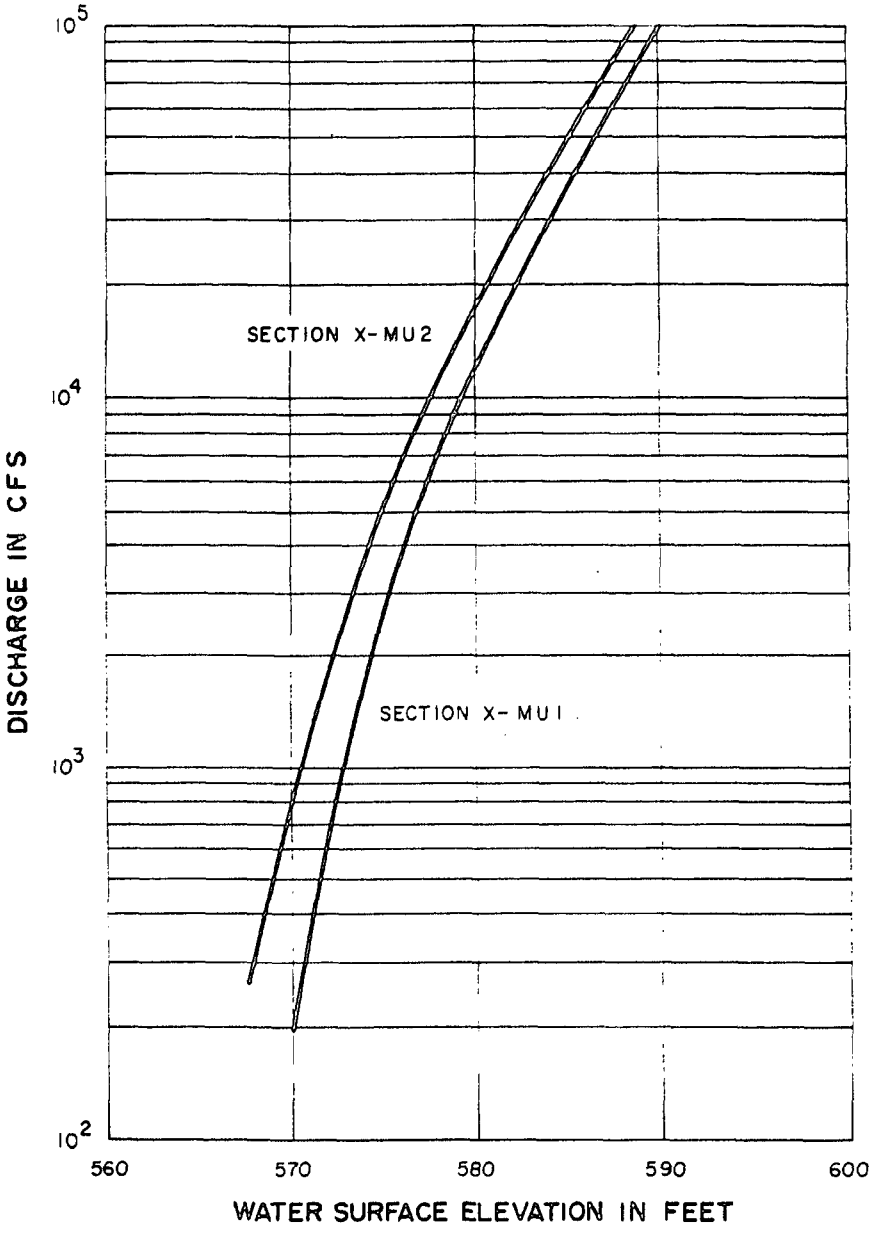




BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-19

CROSS SECTIONS OF MAZON RIVER, CRANE AND GRANARY CREEKS

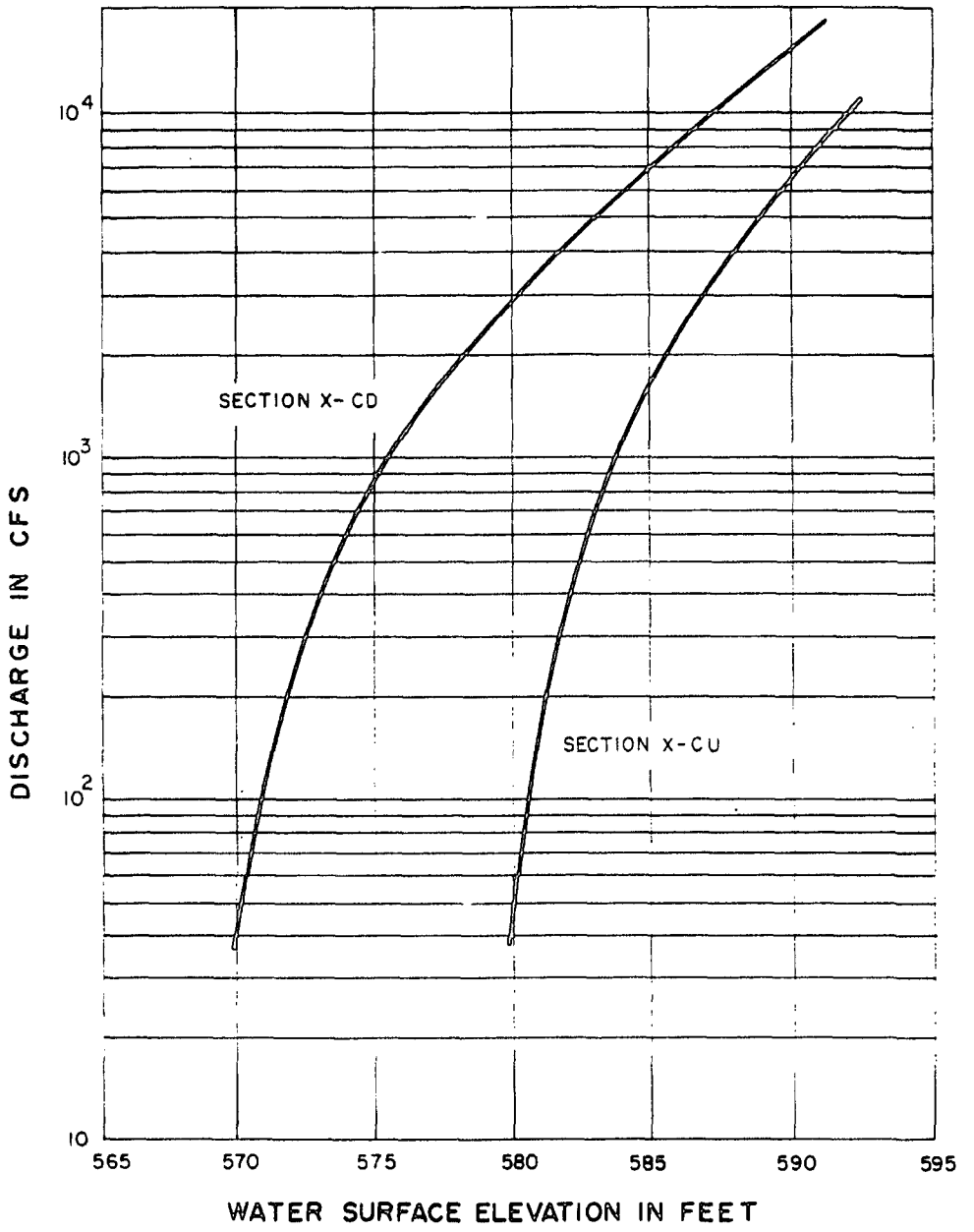


NOTE: REFER TO FIGURE 2.4-19 FOR THE LOCATION OF CROSS SECTIONS

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-20

RATING CURVES FOR EAST FORK MAZON RIVER UPSTREAM FROM GRANARY CREEK

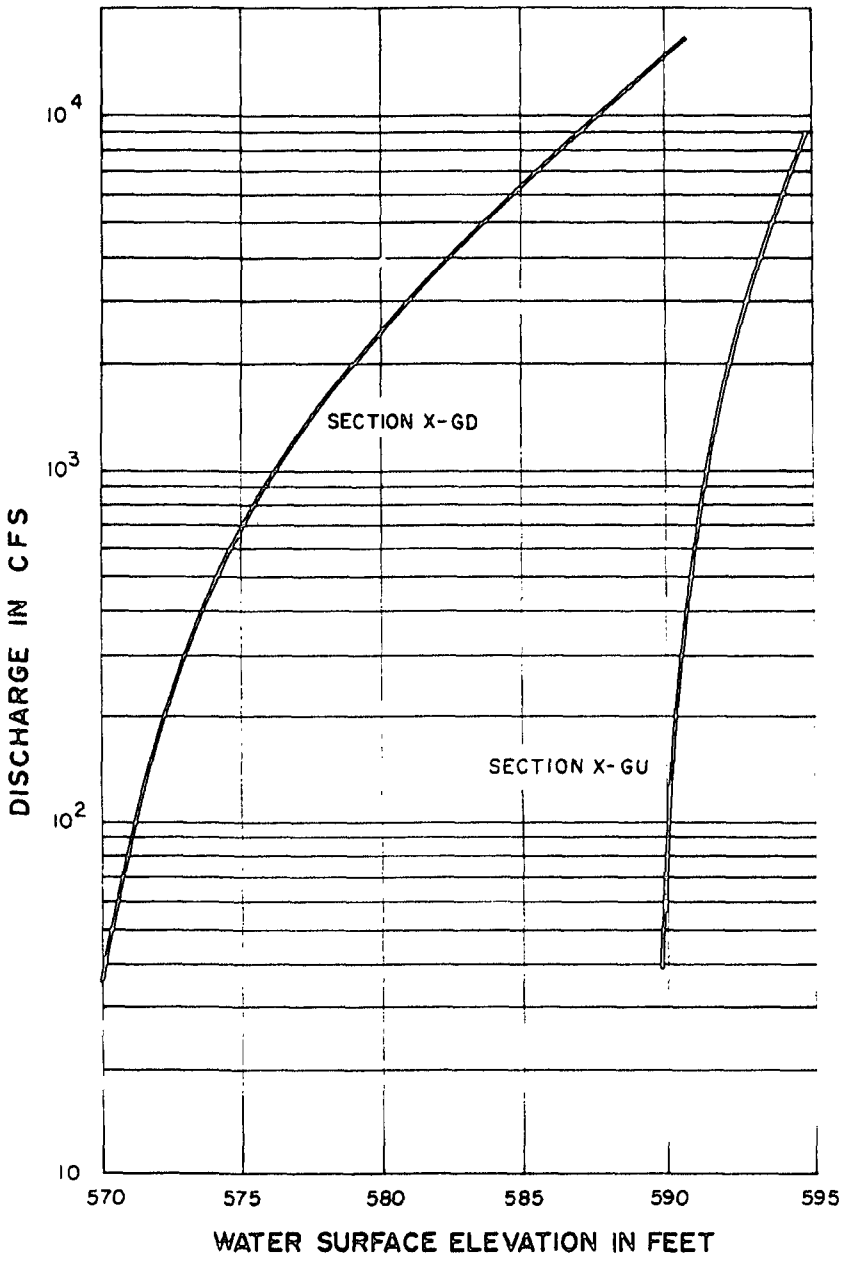


NOTE: REFER TO FIGURE 2.4-19 FOR THE LOCATION OF CROSS SECTIONS

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-21

RATING CURVES FOR CRANE CREEK

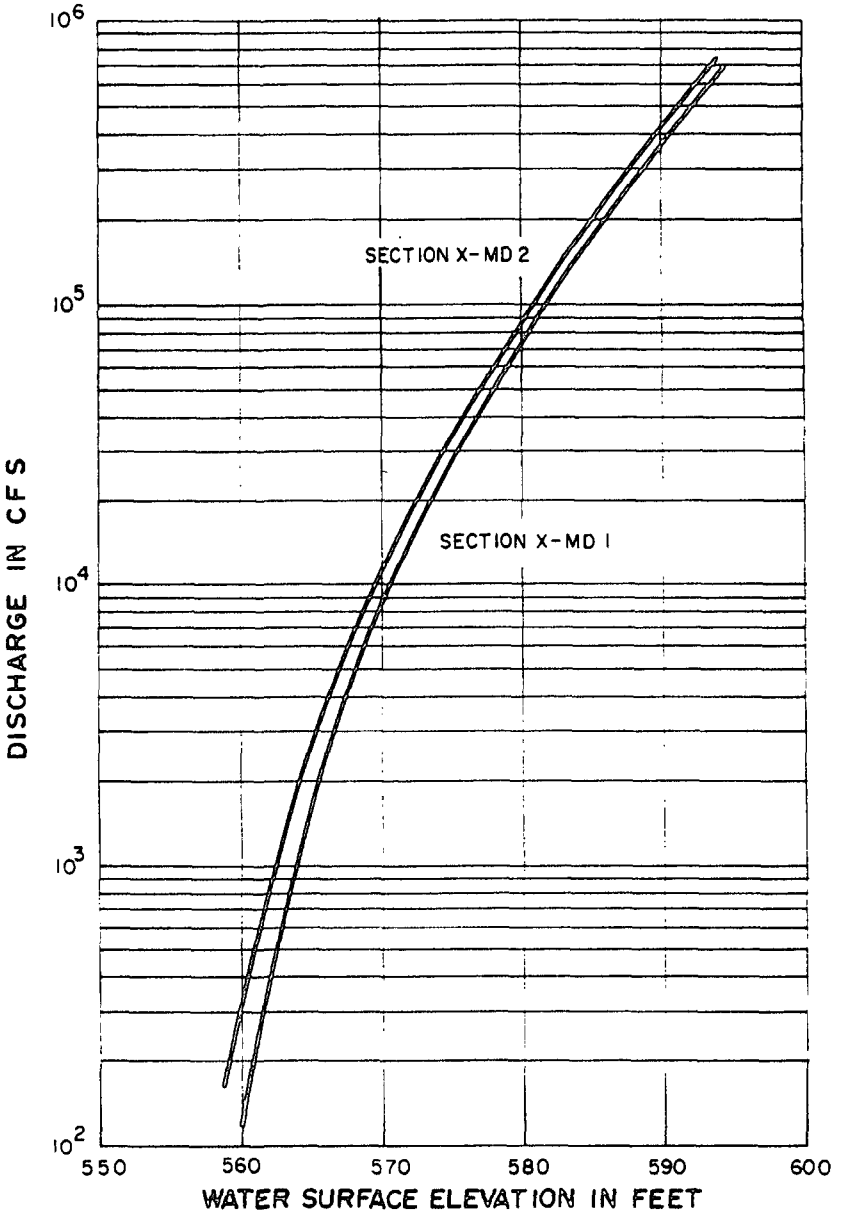


NOTE: REFER TO FIGURE 2.4 FOR THE LOCATION OF CROSS SECTIONS

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-22

RATING CURVES FOR GRANARY CREEK

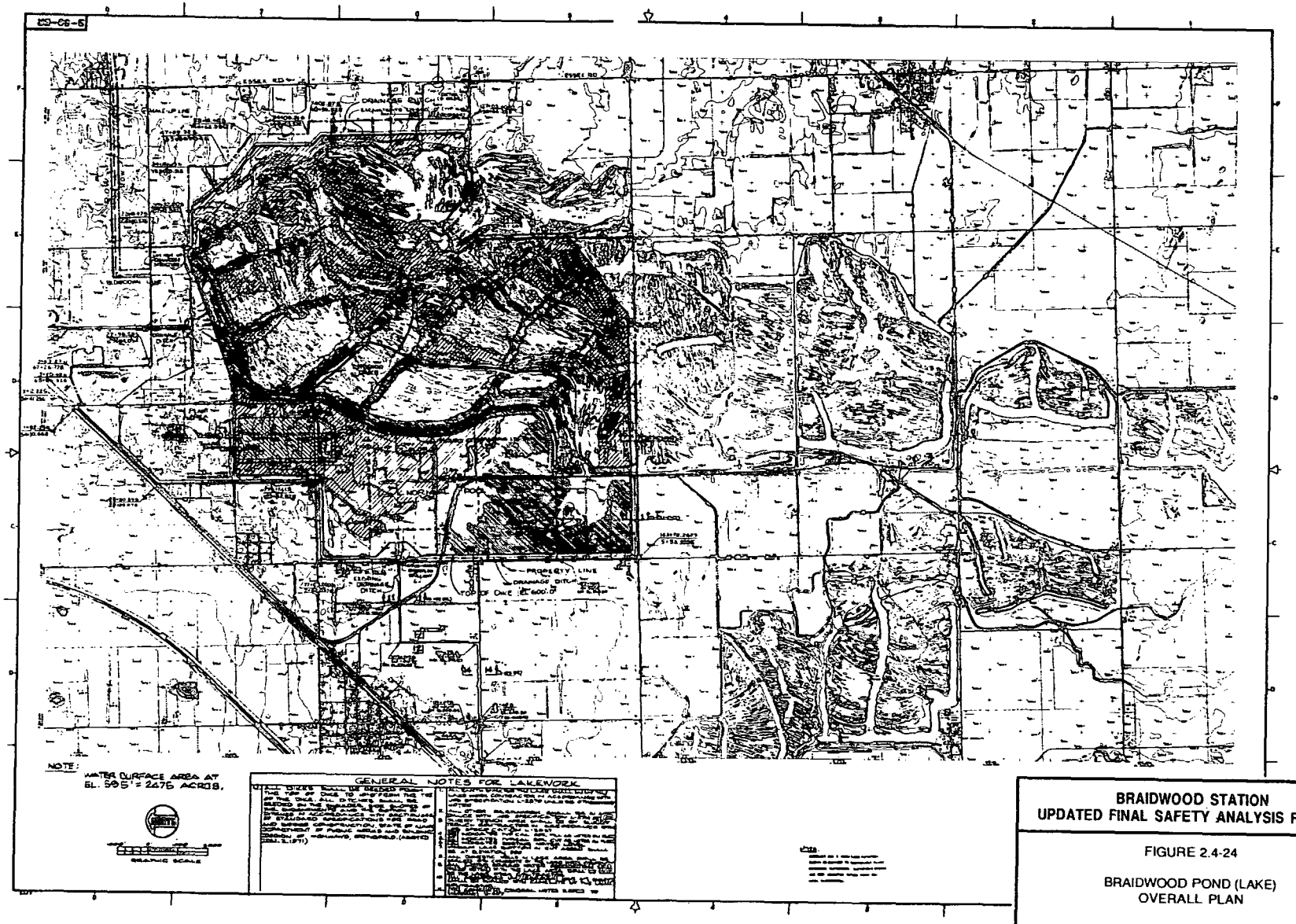


NOTE : REFER TO FIGURE 2.4-19 FOR THE LOCATION OF CROSS SECTIONS

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-23

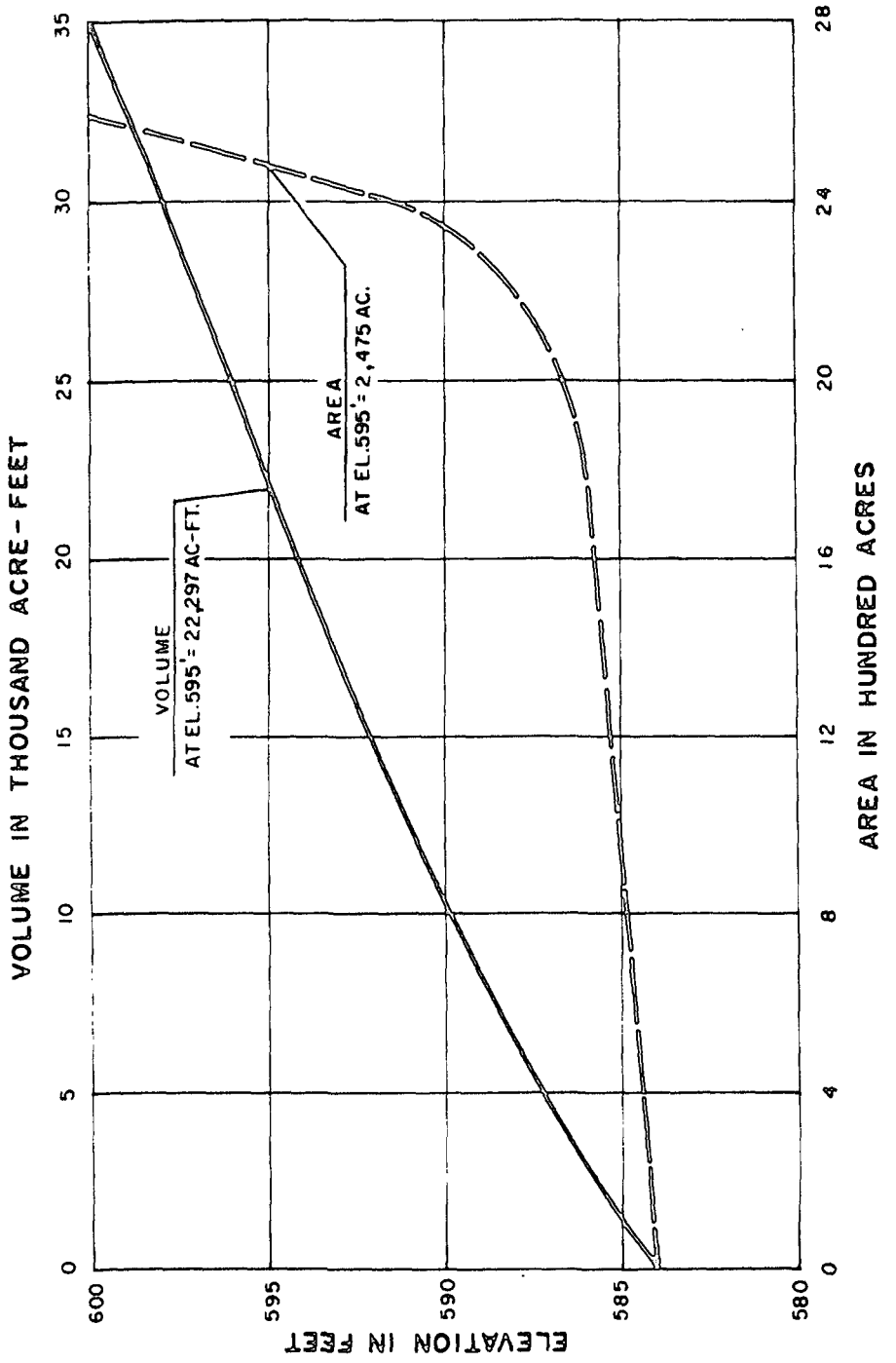
RATING CURVES FOR EAST FORK MAZON RIVER DOWNSTREAM FROM GRANARY CREEK



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-24

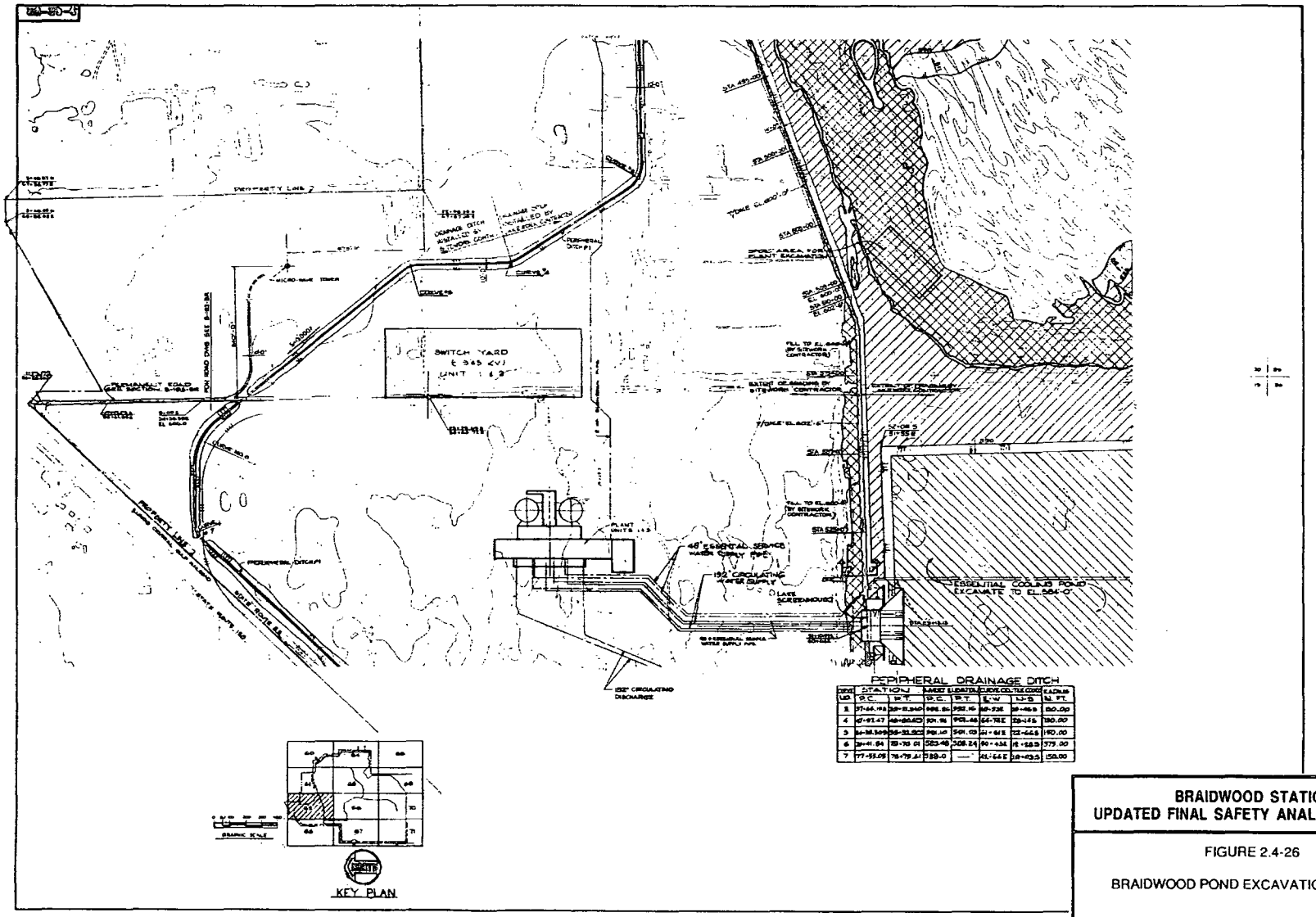
BRAIDWOOD POND (LAKE)
OVERALL PLAN



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-25

AREA-CAPACITY CURVE FOR
BRAIDWOOD POND



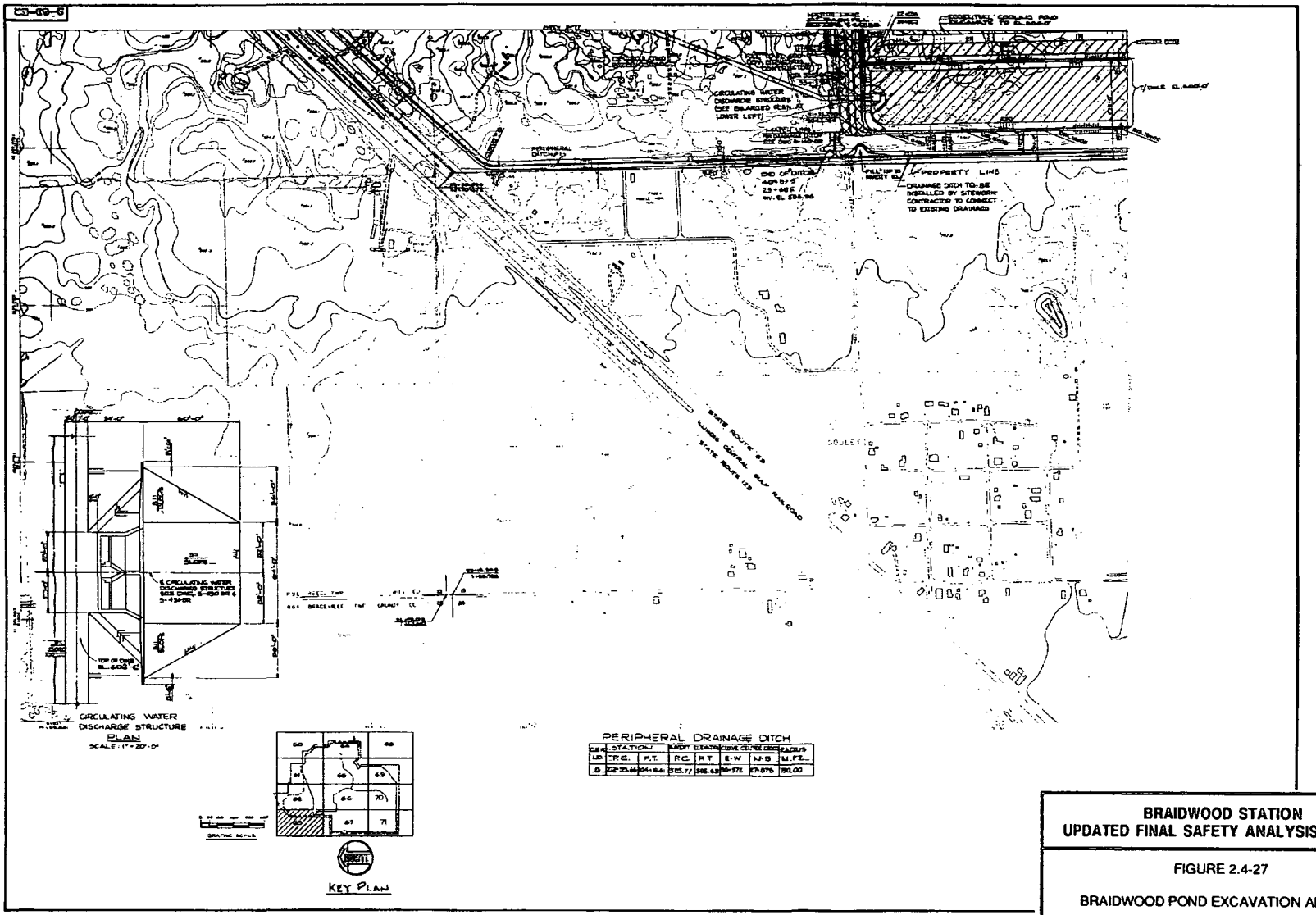
PERIPHERAL DRAINAGE DITCH

CURVE NO	STATION P.C.	STATION P.T.	MAGNETIC BEARING P.C.	MAGNETIC BEARING P.T.	CURVE CONTROL BEARING	TIE CURVE DISTANCE	RADIUS IN FT.
1	37+64.19	39+51.340	N85.84	N82.16	N8°-32E	89+46.5	150.00
4	47+97.47	48+80.60	N91.16	N91.46	S4°-18E	23+14.5	150.00
3	54+38.549	56+35.80	N91.10	S91.03	S4°+61E	22+66.5	150.00
6	64+41.84	69+70.01	S23.48	S08.24	S0°+43W	15+58.5	379.00
7	77+53.09	78+79.41	S39.0	—	S5°-54E	28+93.5	150.00

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-26

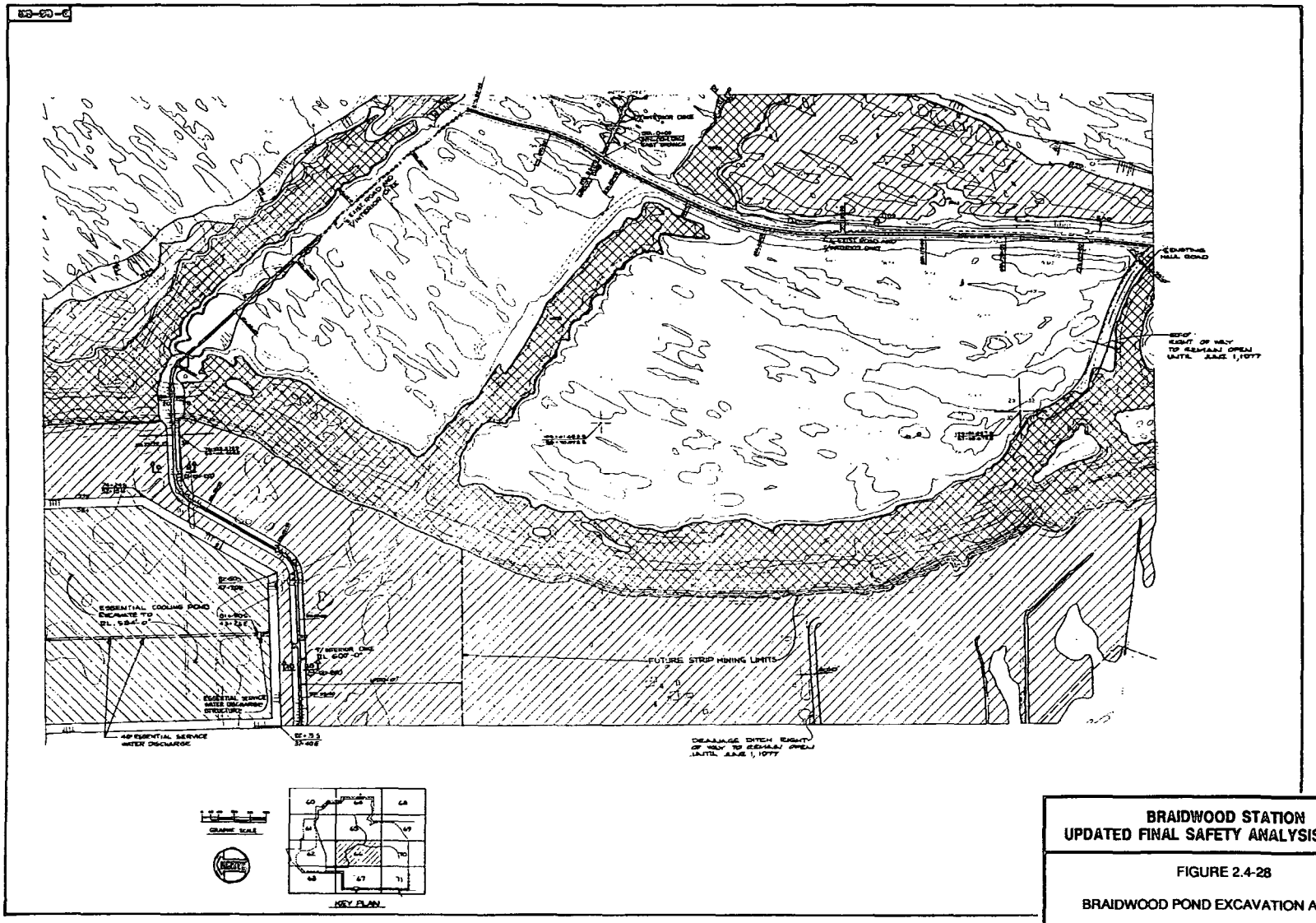
BRAIDWOOD POND EXCAVATION AND FILL



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-27

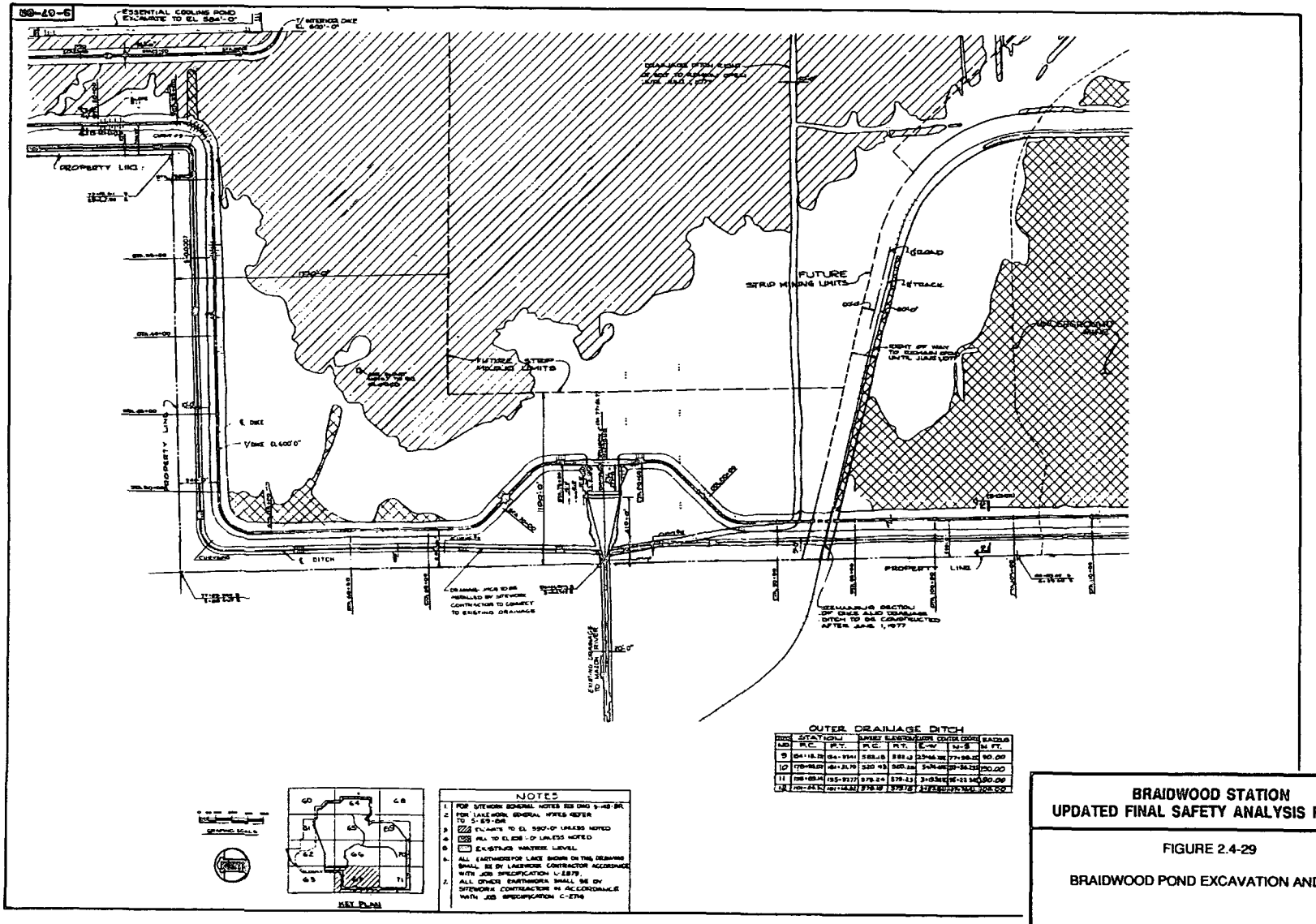
BRAIDWOOD POND EXCAVATION AND FILL



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-28

BRAIDWOOD POND EXCAVATION AND FILL

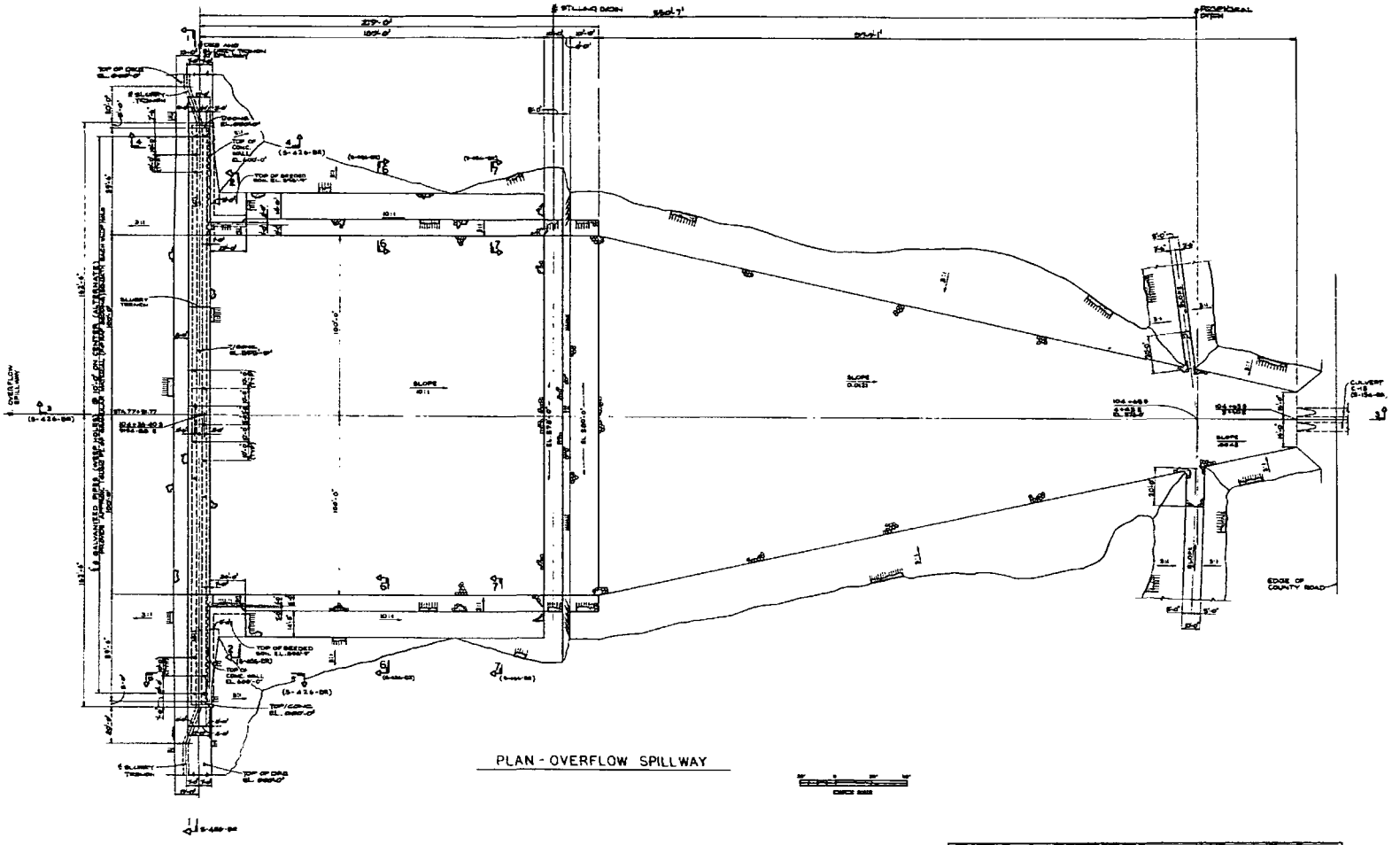


DITCH NO.	STATION R.C.	STATION P.T.	INVERT ELEVATION R.C.	INVERT ELEVATION P.T.	CENTER COORD E-W	CENTER COORD N-S	RADIUS IN FT.
9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	90.00
10	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	90.00
11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	90.00
12	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	90.00

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-29

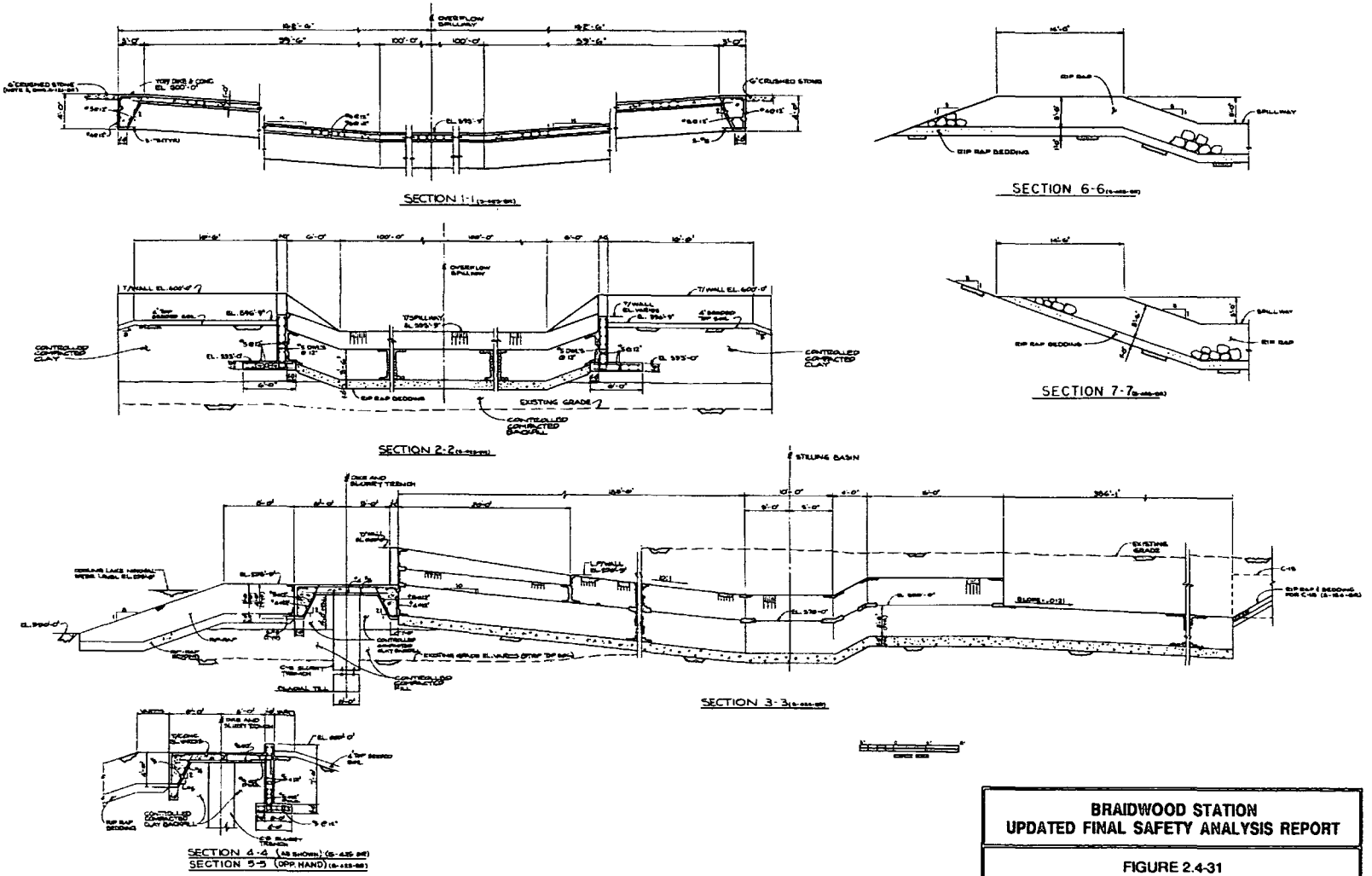
BRAIDWOOD POND EXCAVATION AND FILL



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-30

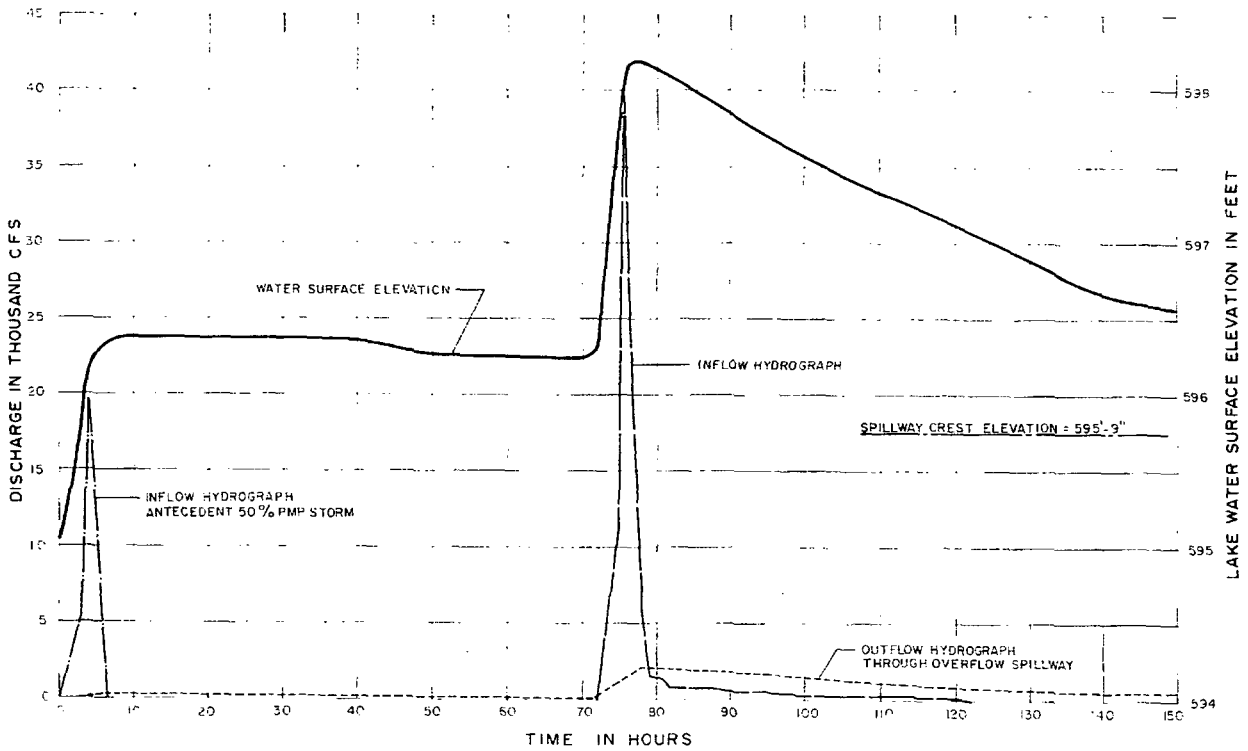
PLAN—OVERFLOW SPILLWAY



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-31

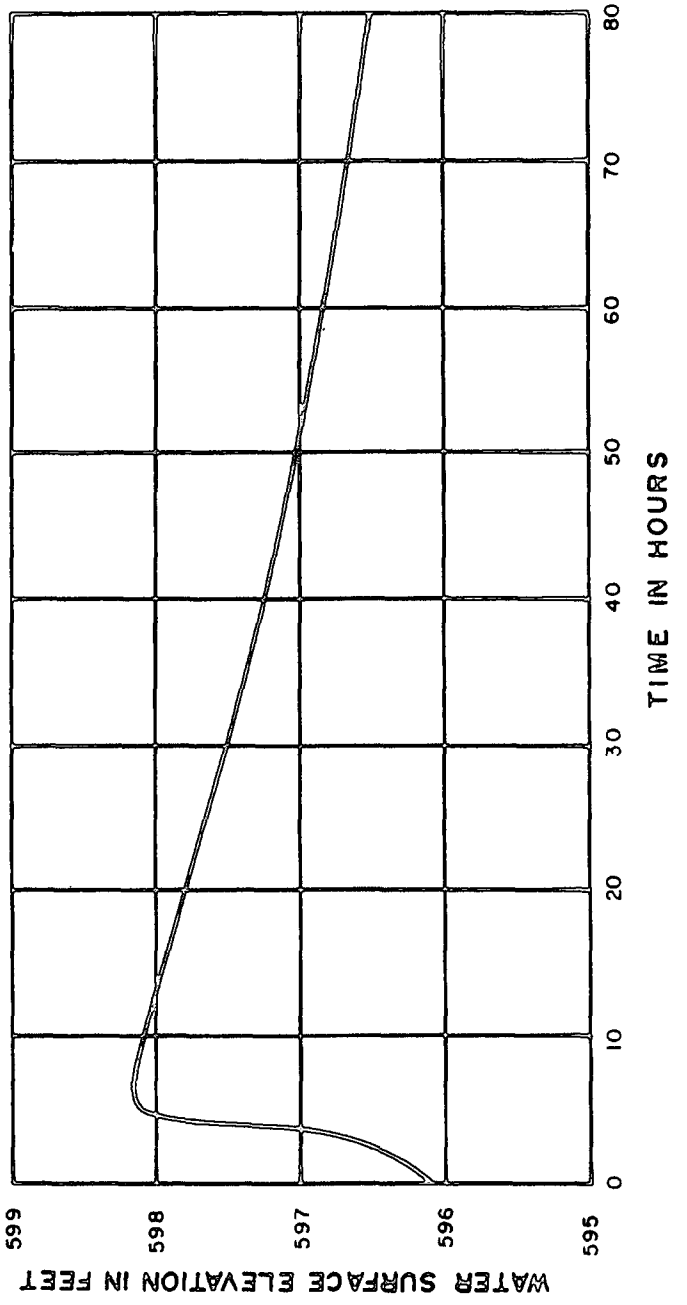
SECTION—OVERFLOW SPILLWAY



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-32

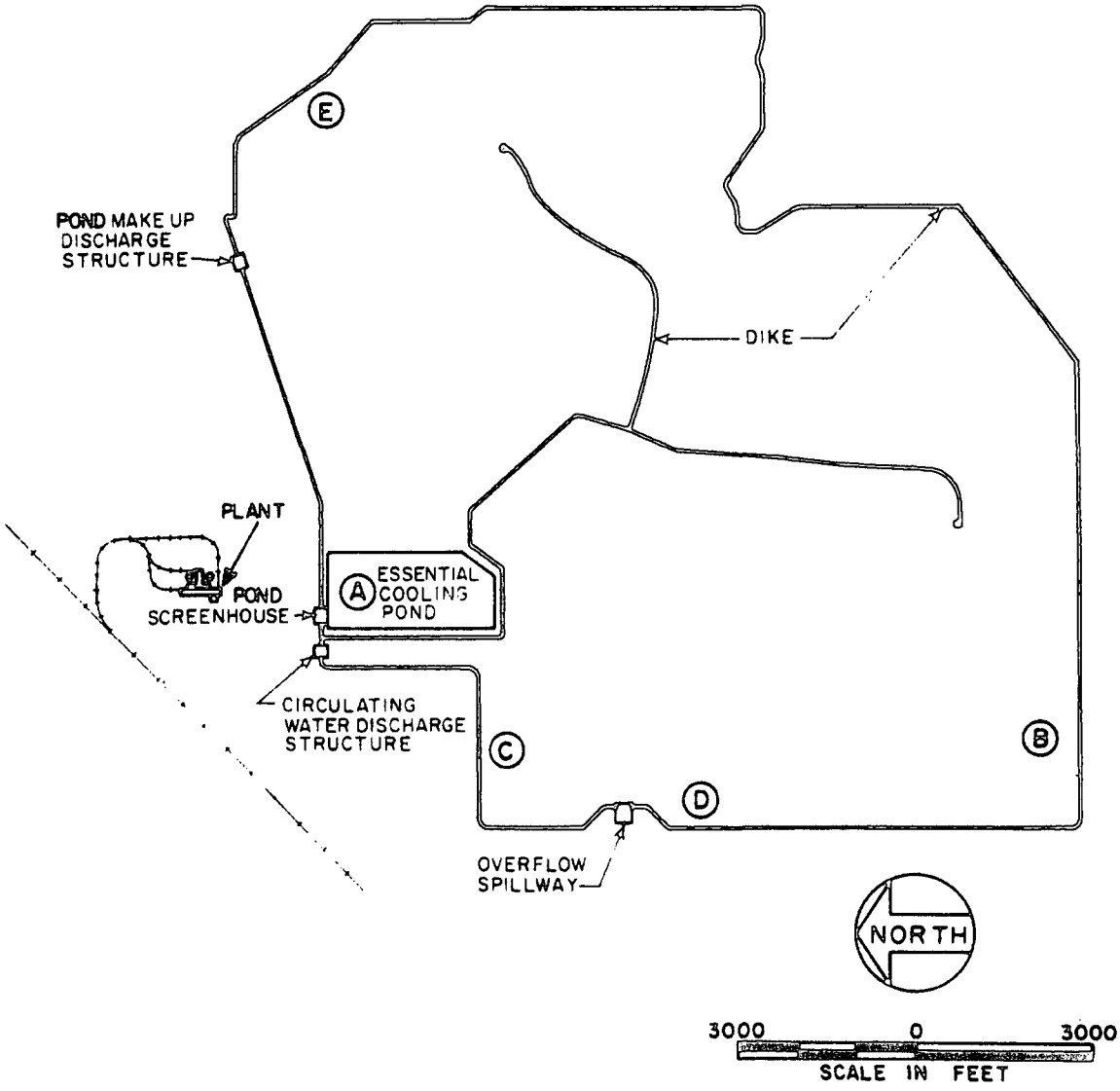
PMF INFLOW AND OUTFLOW HYDROGRAPH



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-33

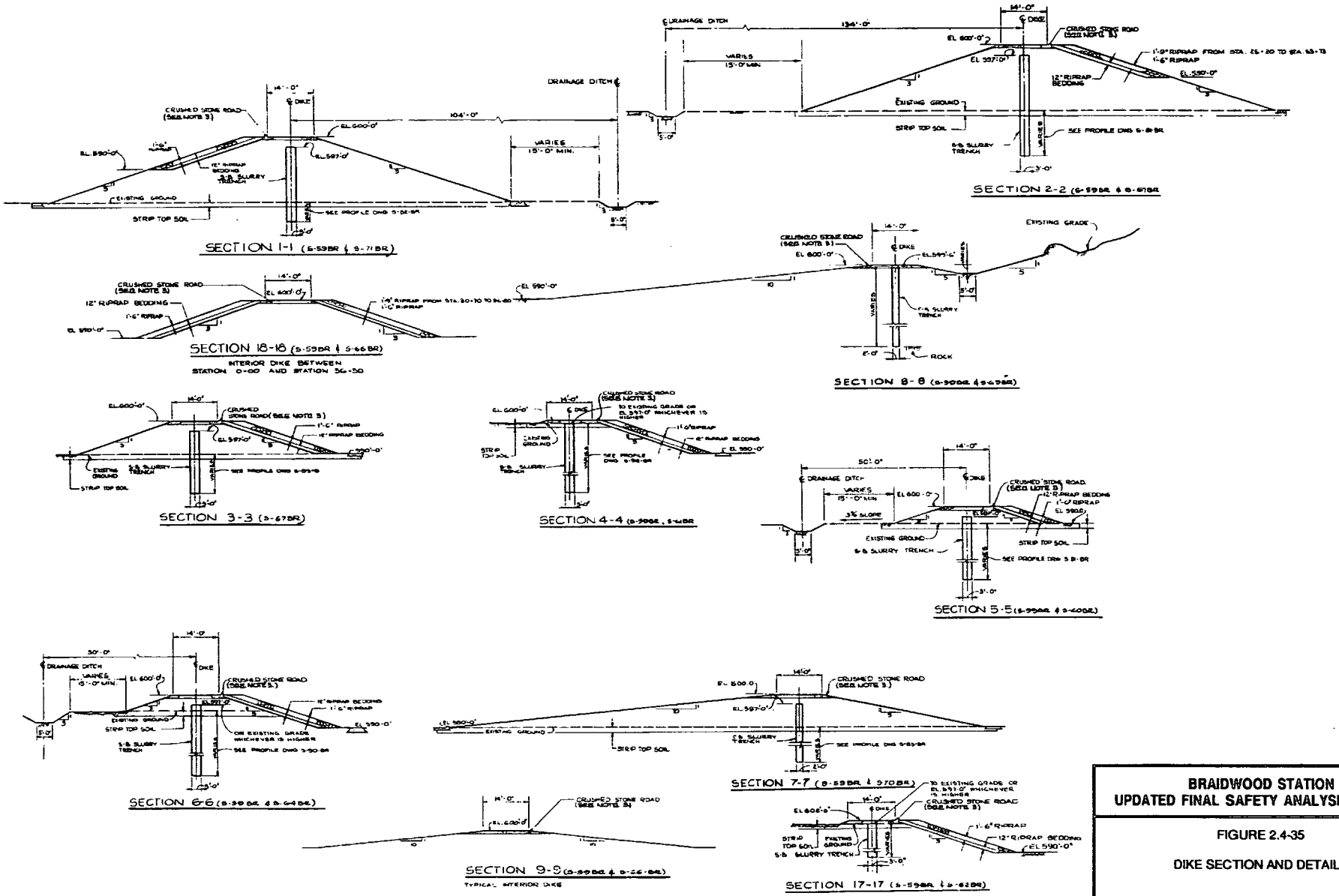
PMF WATER SURFACE TIME HISTORY



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-34

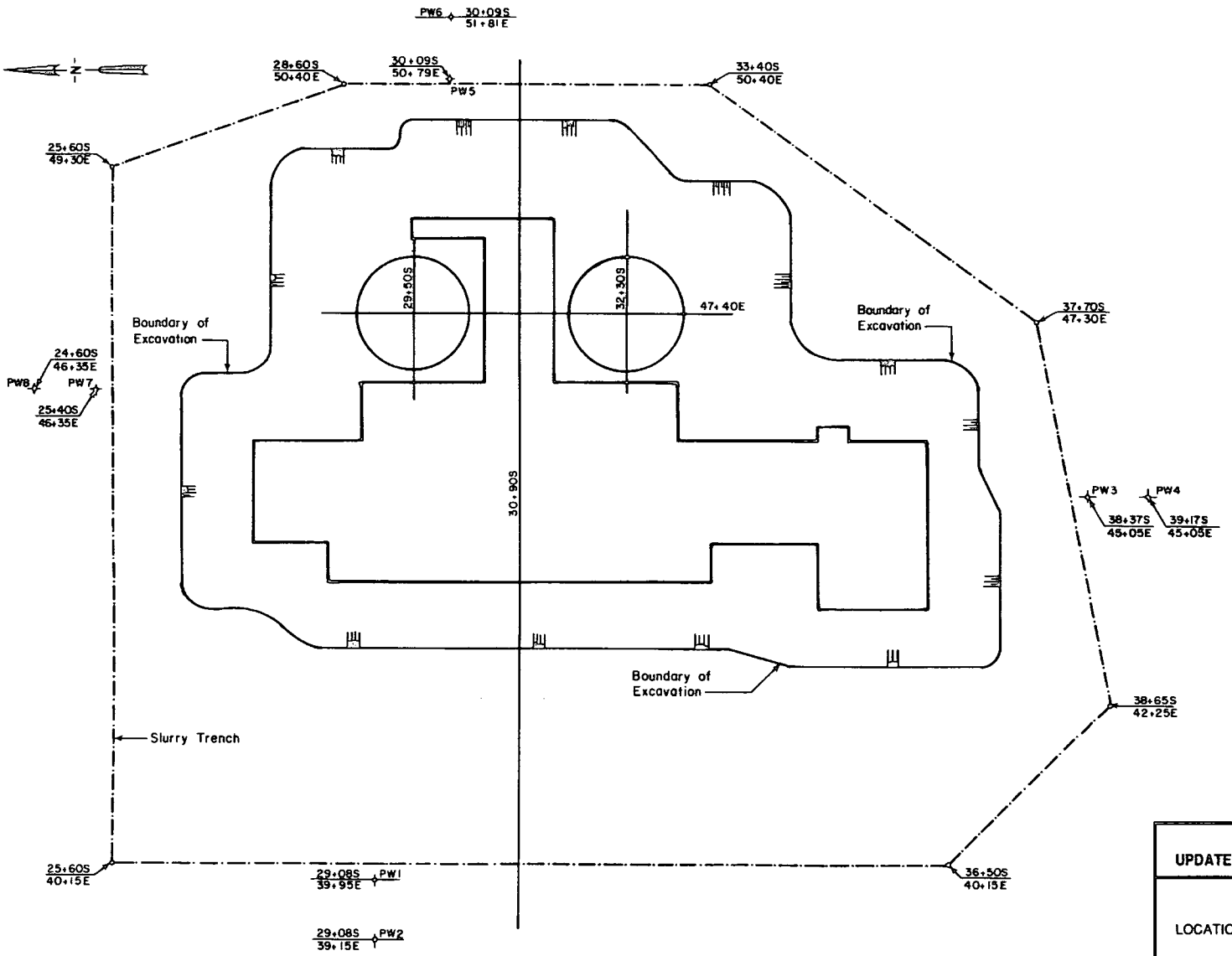
LOCATION OF DIKE REACHES FOR
WIND WAVE ANALYSIS



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-35

DIKE SECTION AND DETAILS



LEGEND

- ✧ Observation well.
- ·—·— Slurry trench

NOTES

1. Slurry trench depth is 2.0 ft. into till.
2. Typical observation well detail is shown on Figure 2.4-43
3. Water levels in these observation wells are shown on Figure 2.4-44 (2 sheets).

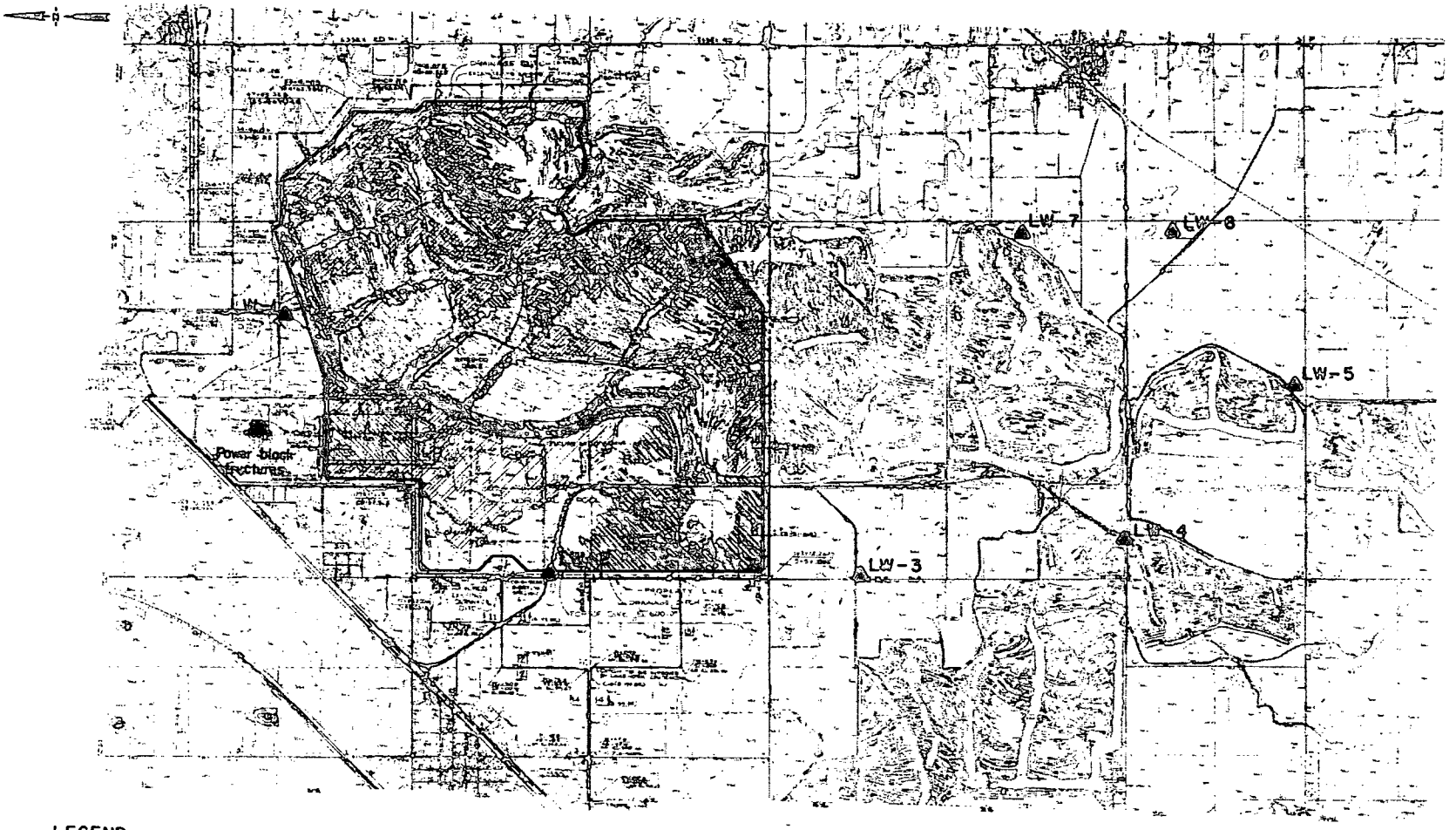
0 130'

Approximate Scale: 1" = 130'

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-36

LOCATIONS OF STATION OBSERVATION WELLS



LEGEND

△LW-2 Observation well

——— Boundary of cooling lake

NOTE

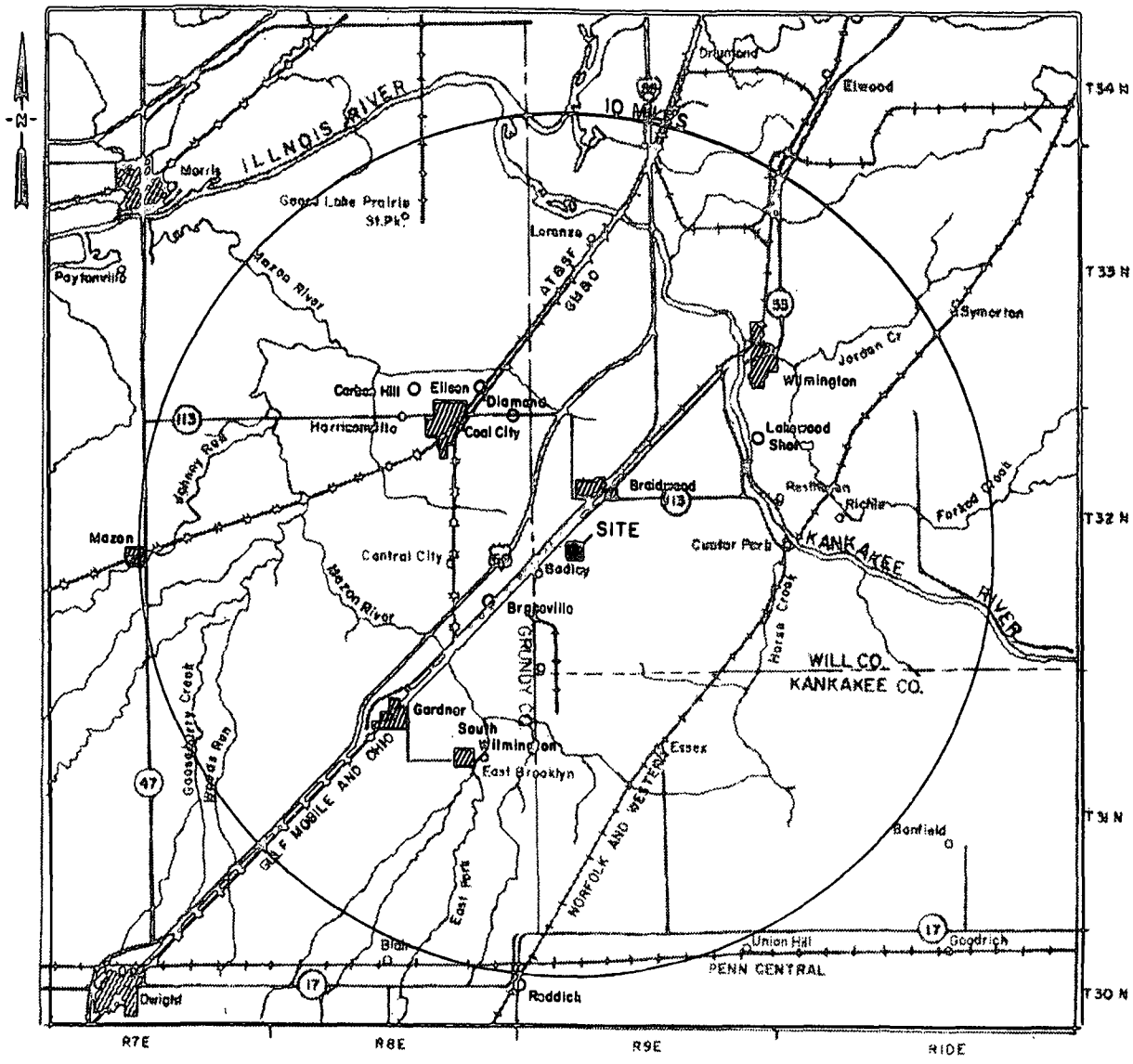
1. Average monthly ground water levels in the observation wells are shown on Figure 2.4-45

1000 0 2000
Scale in Feet

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-37

LOCATIONS OF POND OBSERVATION WELLS



NOTES

1. Data for public ground-water supplies within 10 miles are presented in Table 2.4-22
2. Base map modified from USGS, 1:250,000 series (topographic), Aurora, Illinois (NK16-F), 1958.

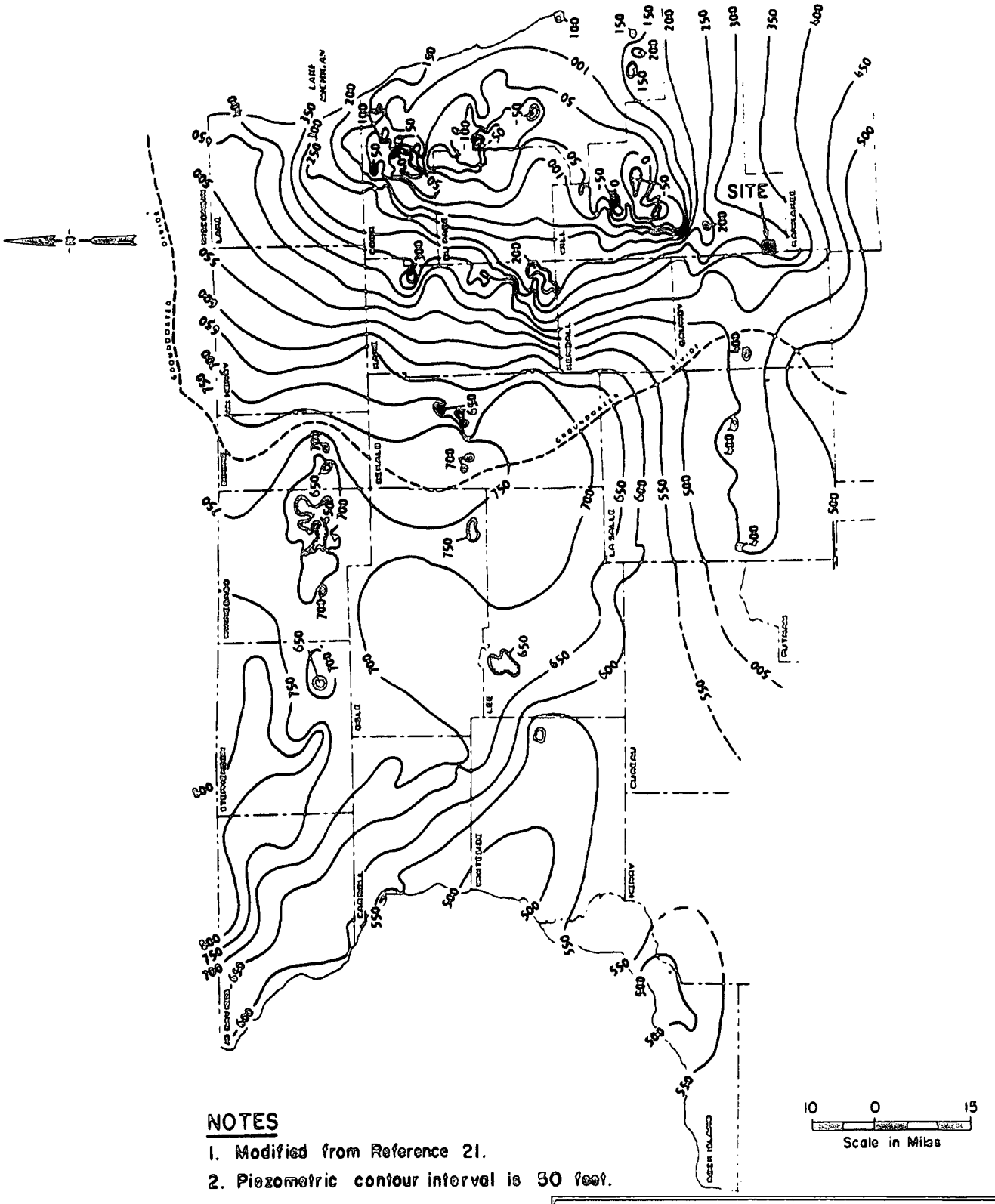
5 0 5

Scale in Miles

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-38

PUBLIC GROUNDWATER SUPPLIES WITHIN 10 MILES



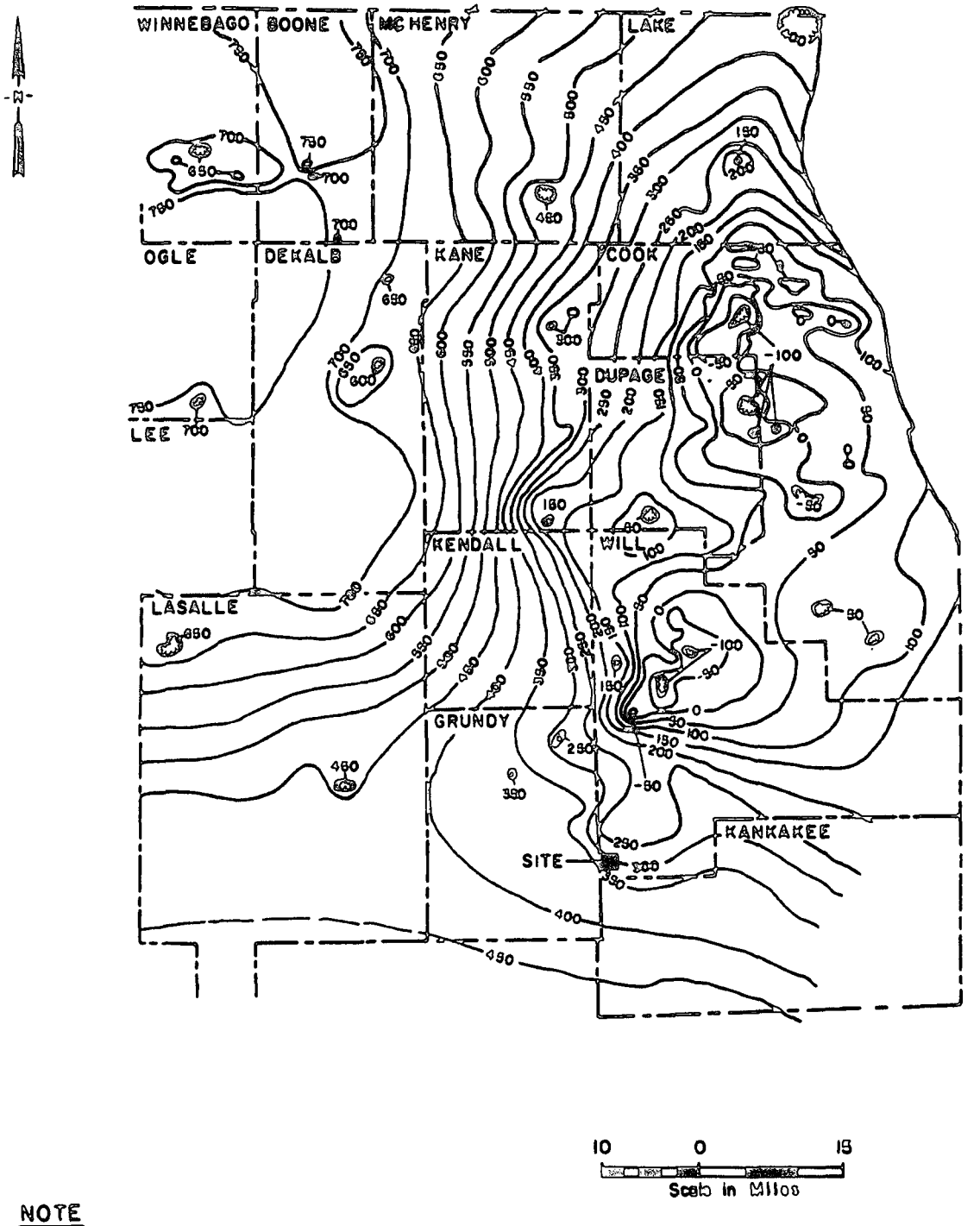
NOTES

1. Modified from Reference 21.
2. Piezometric contour interval is 50 feet.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-39

PIEZOMETRIC SURFACE OF THE CAMBRIAN-ORDOVICIAN AQUIFER, OCTOBER 1971



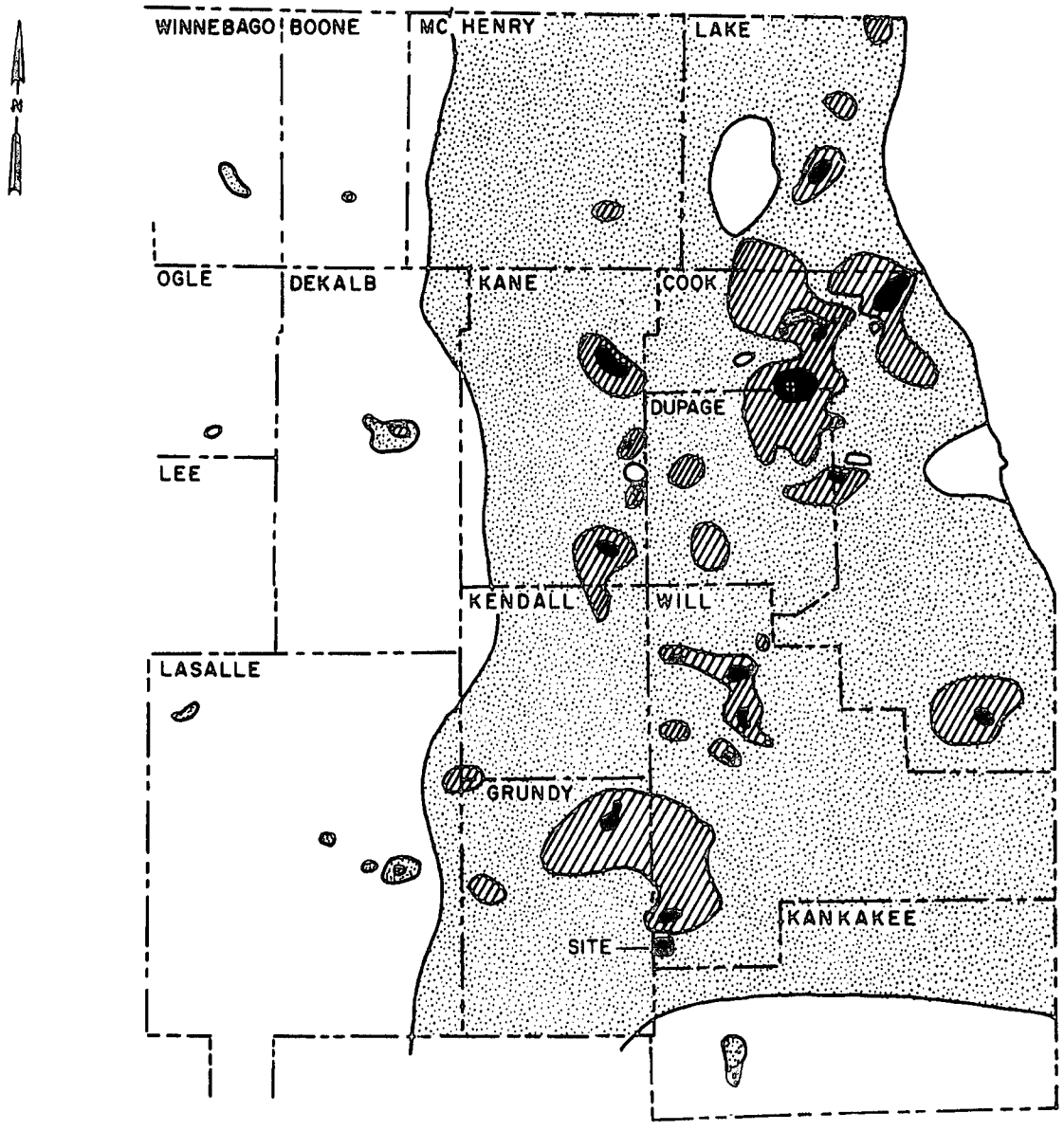
NOTE

1. Modified from Reference 22 in print.
2. Piezometric contour interval is 50 feet.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-40

PIEZOMETRIC SURFACE OF THE CAMBRIAN-ORDOVICIAN AQUIFER, OCTOBER 1975



LEGEND

Water Level Changes:

- Little Change
- 0 to -50 feet
- -50 to -100 feet
- -100 to -150 feet
- -150 to -200 feet

10 0 15
Scale in Miles

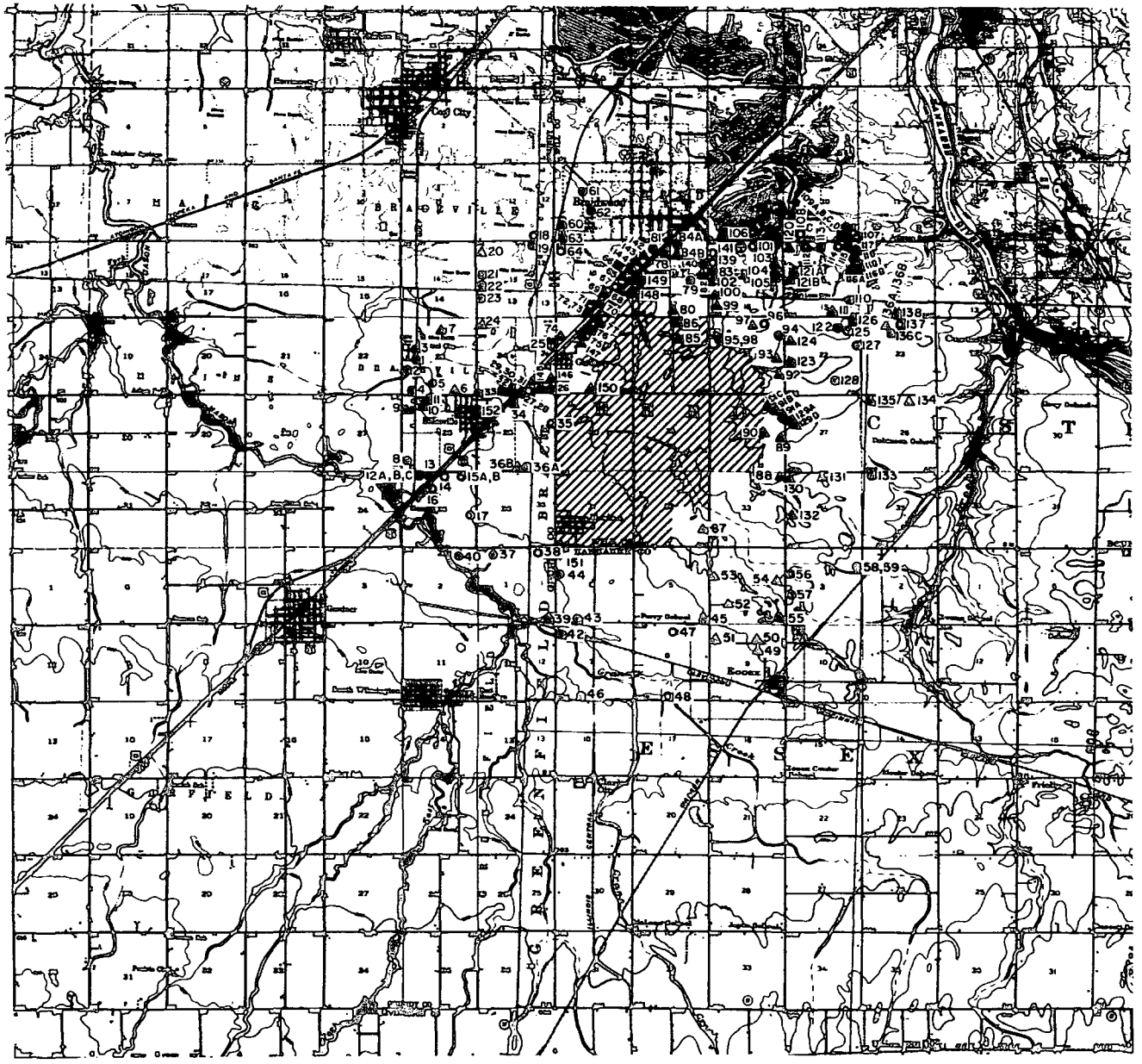
NOTE

1. Modified from Reference 22

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-41

CHANGES IN WATER LEVELS IN THE CAMBRIAN-ORDOVICIAN AQUIFER, 1971-1975



LEGEND

- ○ Drilled Well
- □ Dug Well
- △ Sandpoint
- ○ Unidentified Well
- ▨ Braidwood Project Site

NOTE

1. A tabulation of the private wells within 2 miles of the site is presented in Table 2.4-23
2. Base map modified from: U.S.G.S., 1:62,500 series (topographic), Dwight, 1948, Herscher, 1923, Morris, 1954, and Wilmington, 1954.

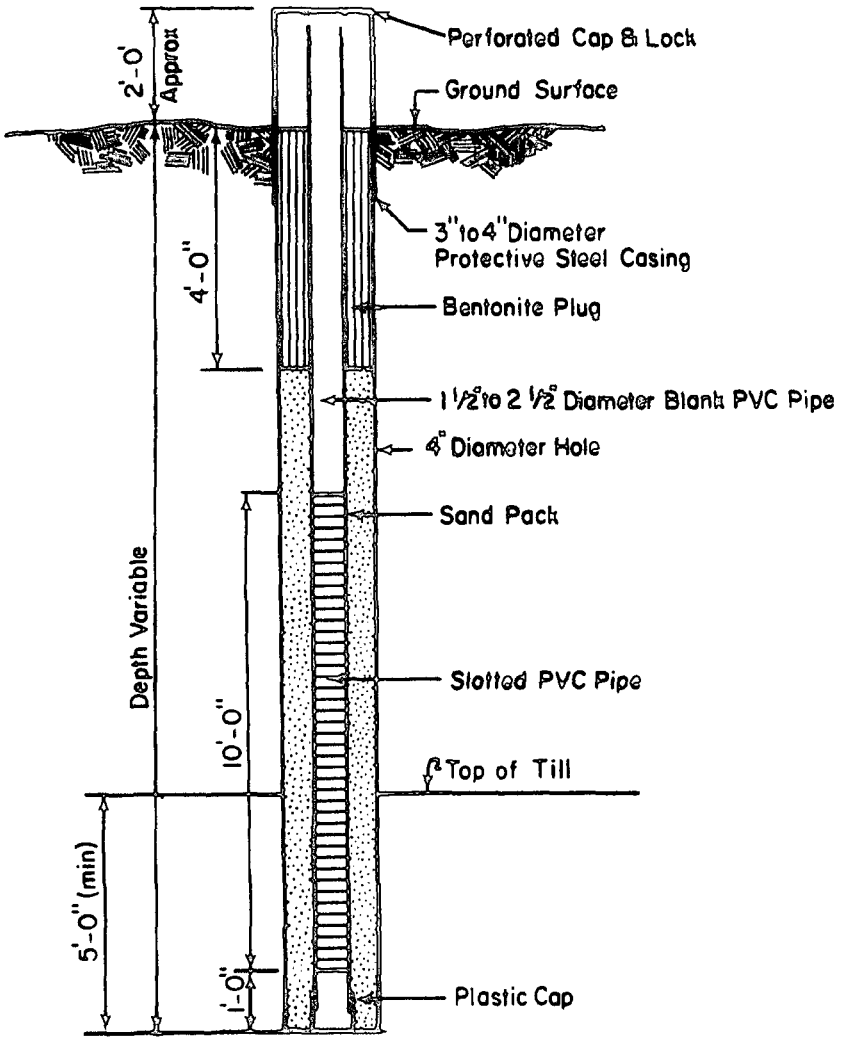
1 0

Scale in Miles
Contour Interval = 10 ft.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-42

PRIVATE WATER SUPPLY WELLS WITHIN 2 MILES OF THE SITE



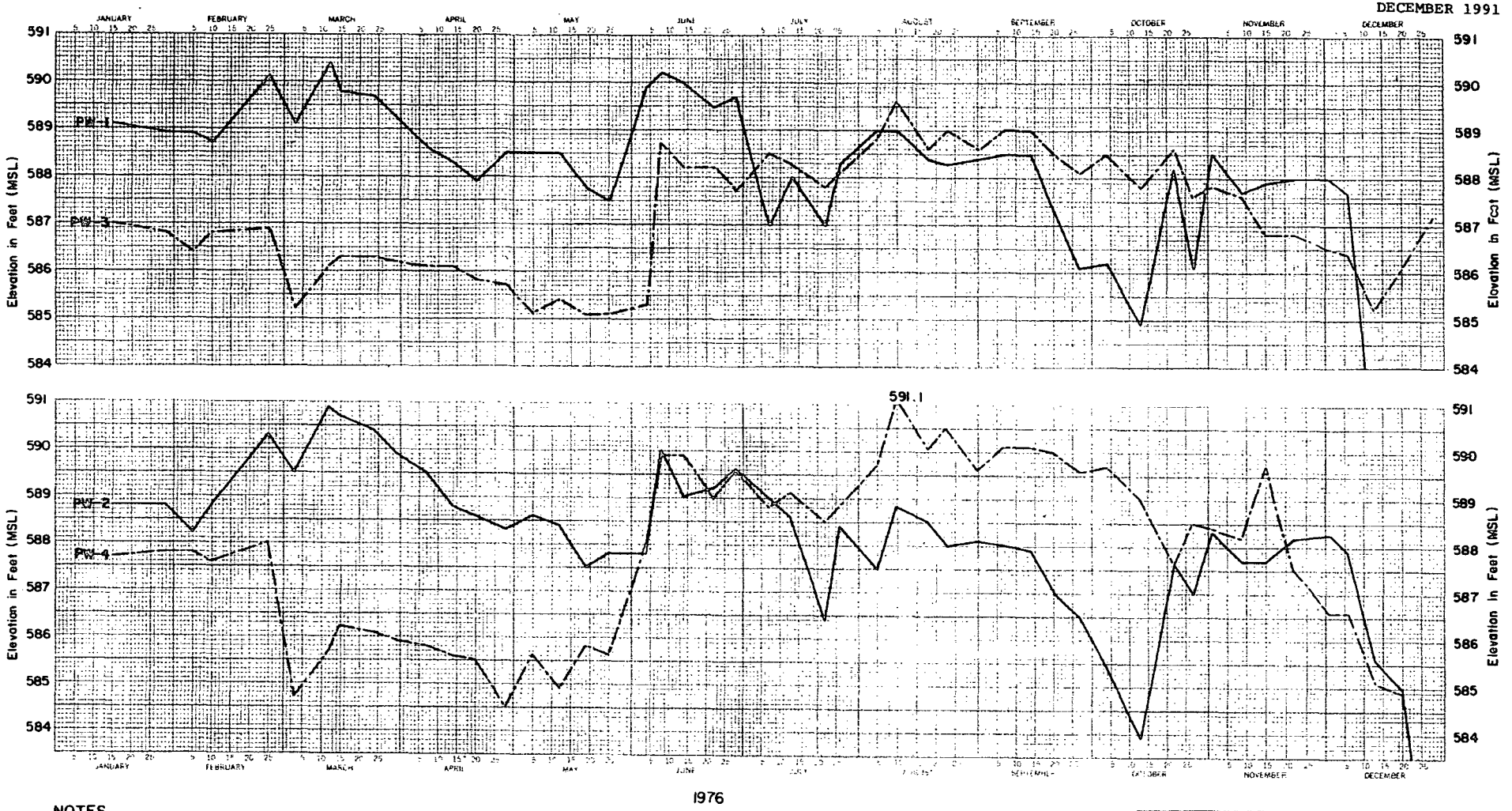
NOTES

1. Not drawn to scale.
2. Location of observation wells are shown on Figure 2.4-36

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-43

TYPICAL DETAIL FOR STATION OBSERVATION WELL



1976

NOTES

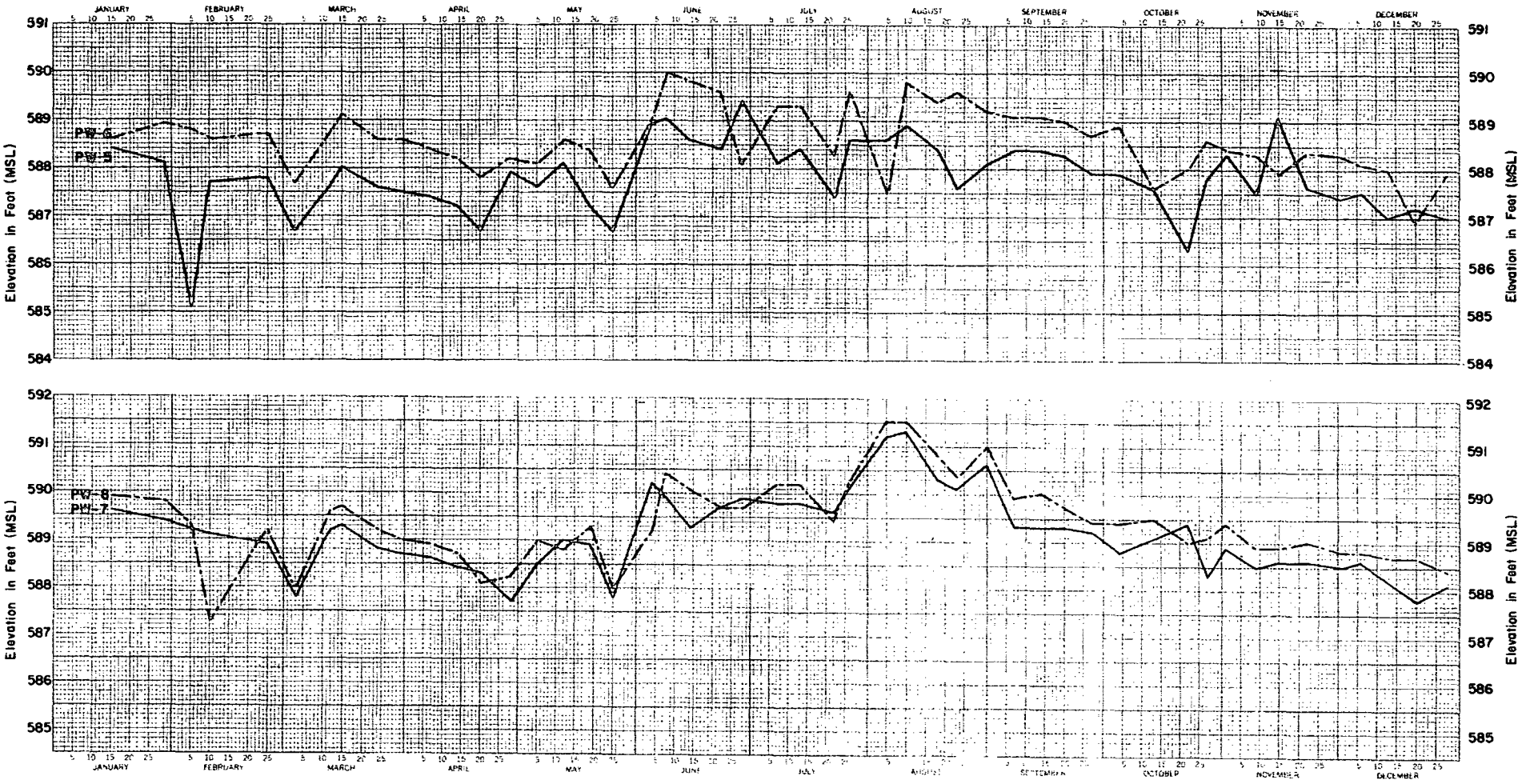
1. Locations of station observation wells are shown on Figure 2.4-36
2. Groundwater levels were measured weekly in the observation wells.
3. Groundwater levels measured in PW-1 and PW-2 were affected by the excavation of a nearby slurry trench in December.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-44

GROUNDWATER LEVELS IN STATION OBSERVATION WELLS, 1976
(SHEET 1 OF 10)

REVISION 3
DECEMBER 1991



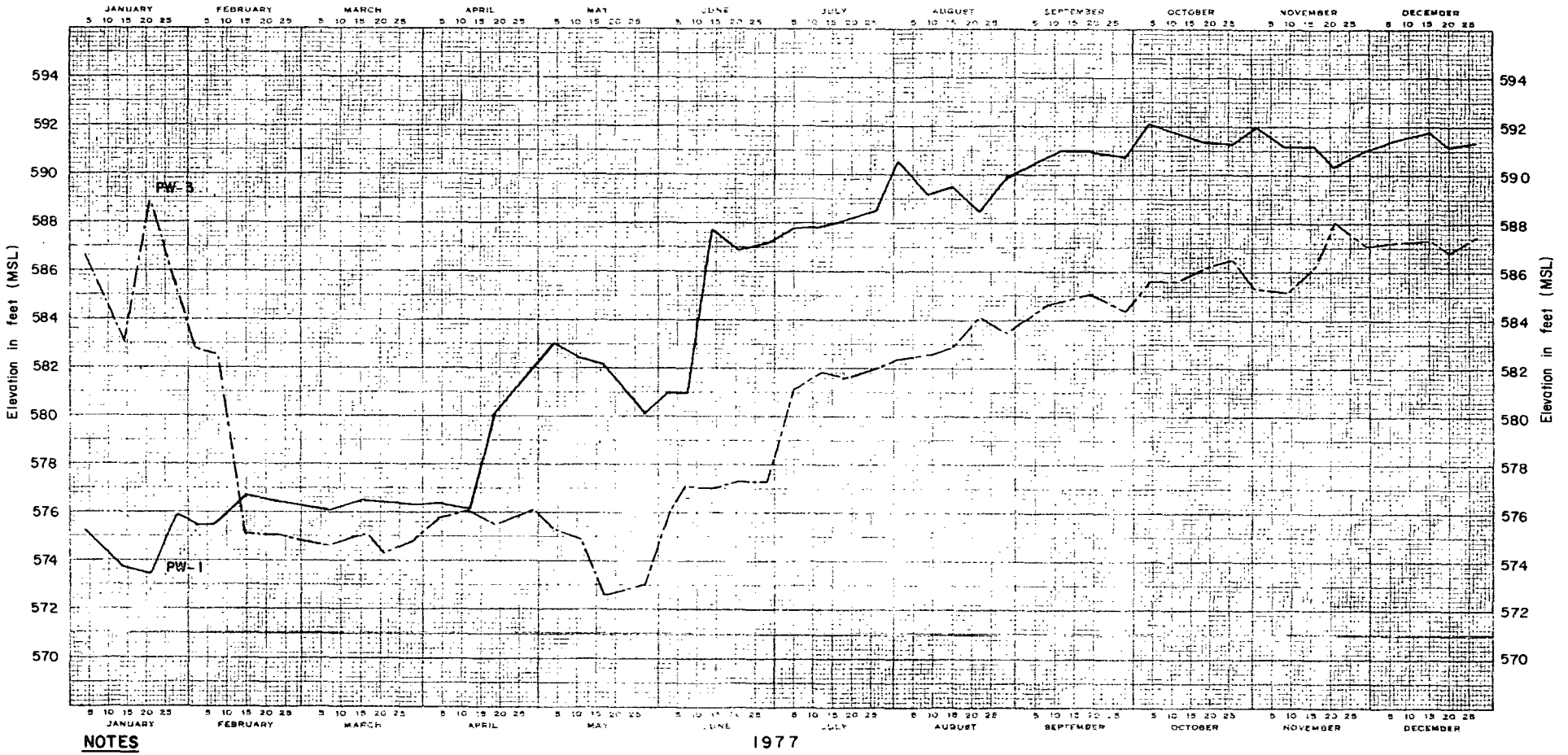
NOTES

1. Locations of station observation wells are shown on Figure 2.4-36
2. Groundwater levels were measured weekly in the observation wells.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-44

GROUNDWATER LEVELS IN STATION OBSERVATION WELLS, 1976
(SHEET 2 OF 10)



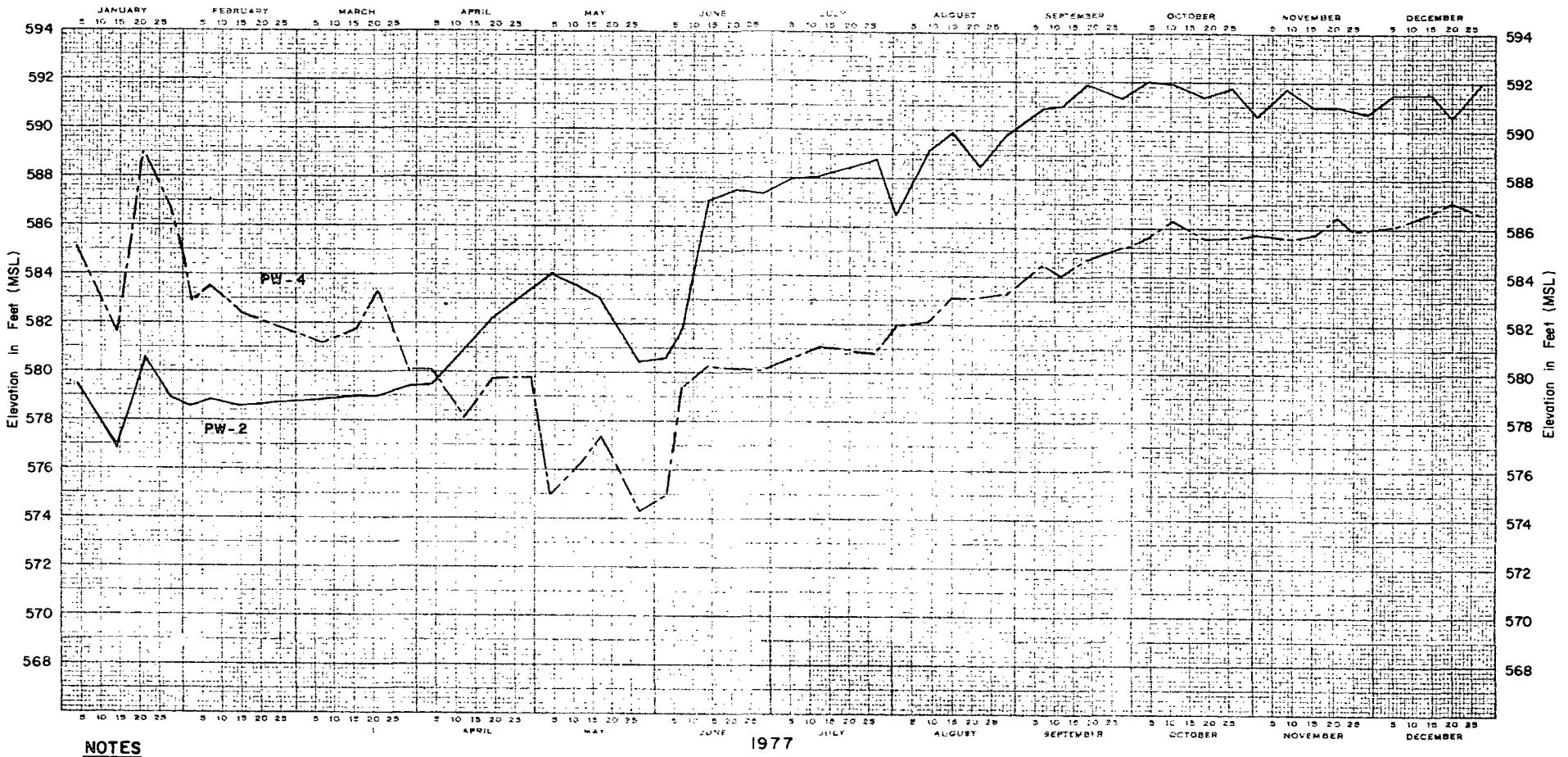
NOTES

1. Locations of station observation wells are shown on Figure 2.4-36
2. Groundwater levels were measured weekly in the observation wells.
3. Vertical scale is different than other station observation well graphs.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-44

GROUNDWATER LEVELS IN STATION OBSERVATION WELLS, 1976
(SHEET 3 OF 10)



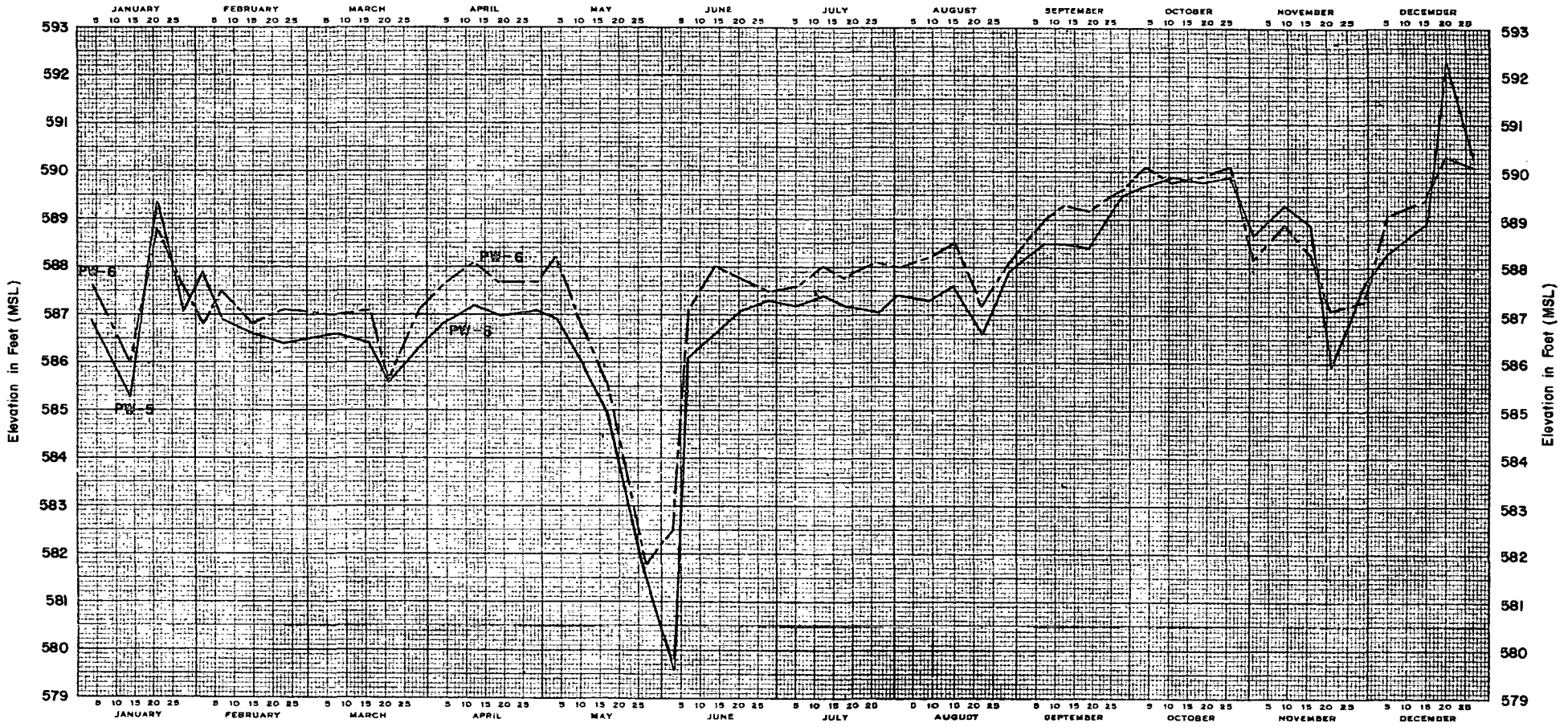
NOTES

1. Locations of station observation wells are shown on Figure 2.4-36
2. Groundwater levels were measured weekly in the observation wells.
3. Vertical scale is different than other station observation well graphs.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-44

GROUNDWATER LEVELS IN STATION OBSERVATION WELLS, 1976
(SHEET 4 OF 10)



1977

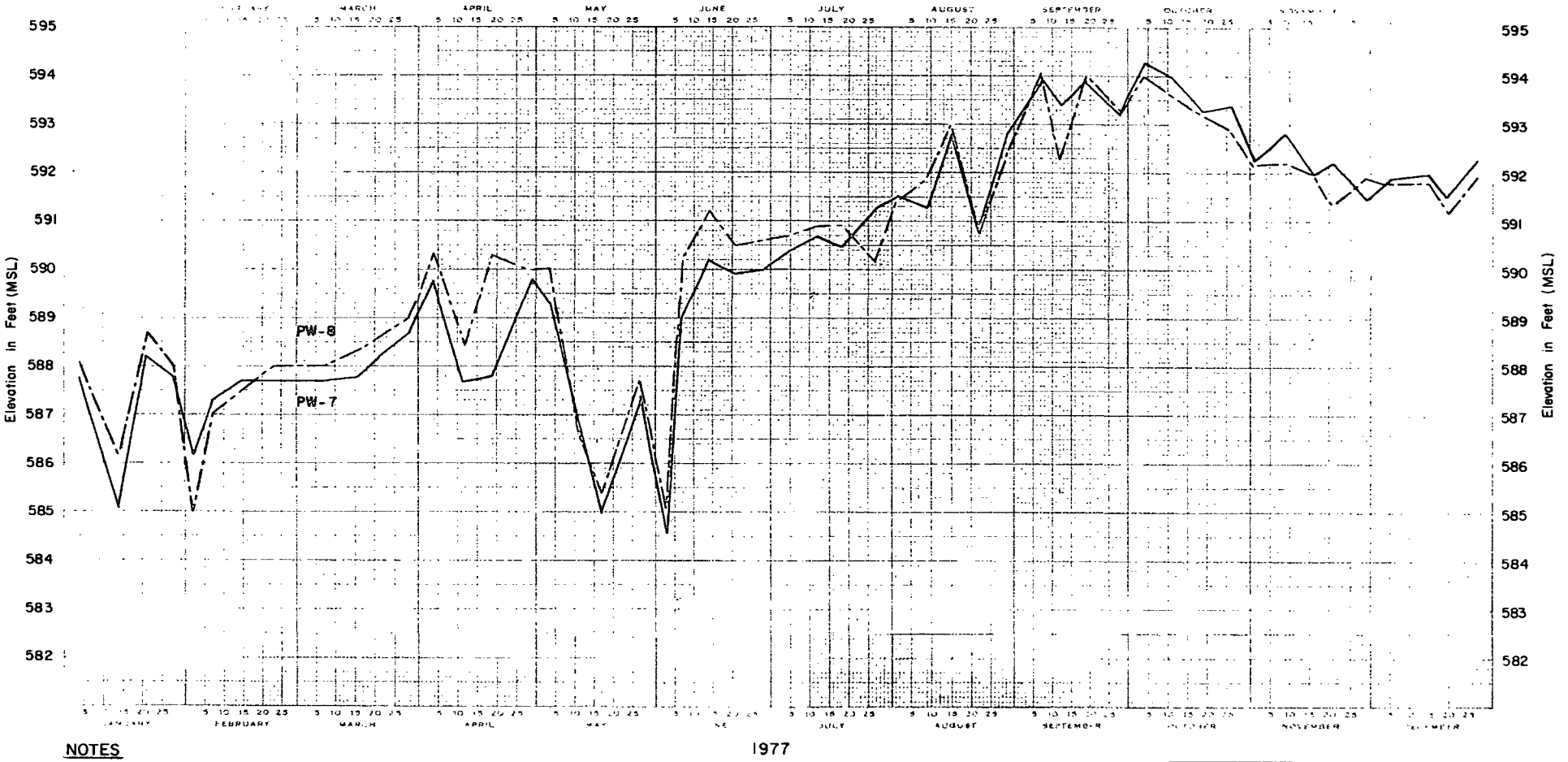
NOTES

1. Locations of station observation wells are shown on Figure 2.4-36
2. Groundwater levels were measured weekly in the observation wells.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-44

GROUNDWATER LEVELS IN STATION OBSERVATION WELLS, 1976
(SHEET 5 OF 10)



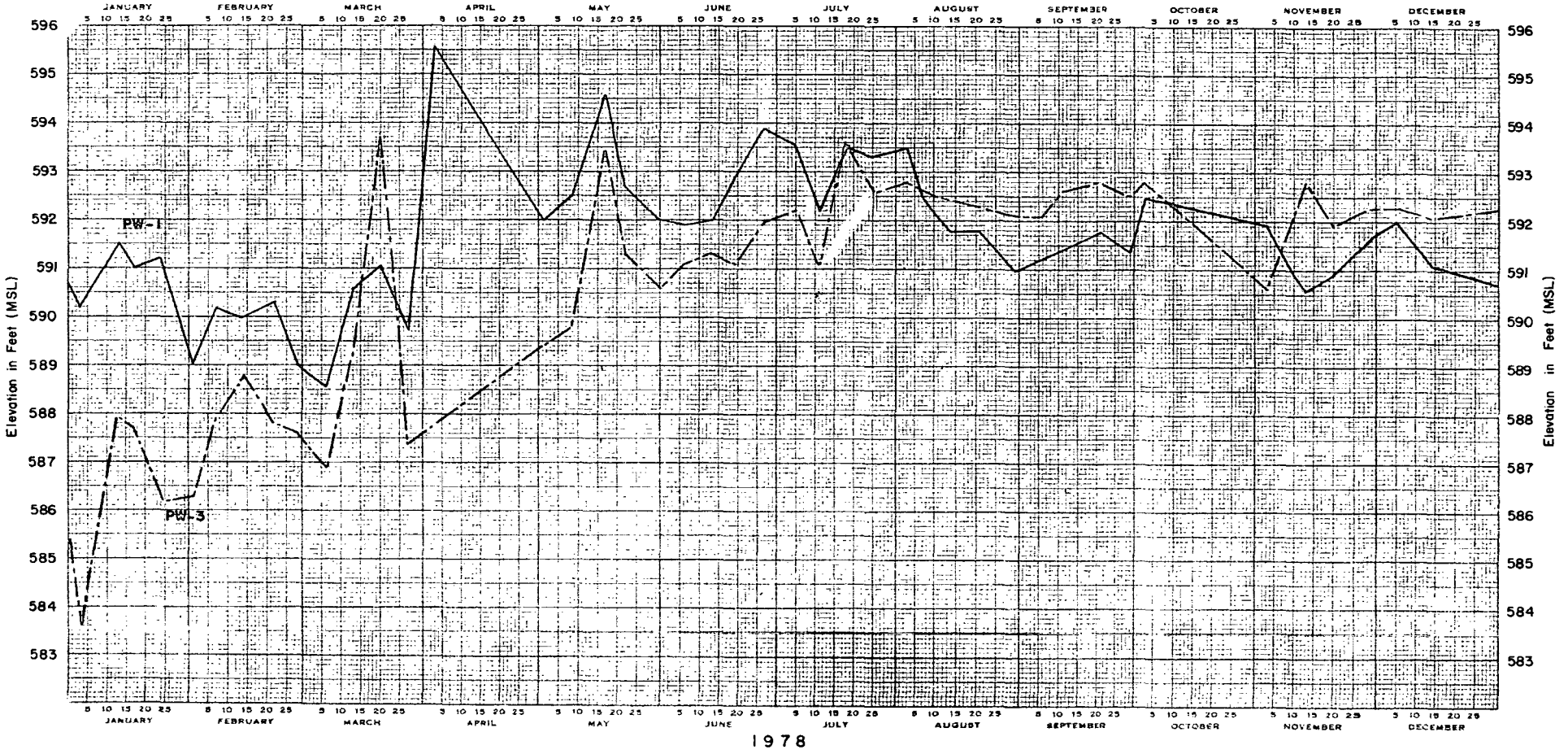
NOTES

1. Location of station observation wells are shown on Figure 2.4-36
2. Groundwater levels were measured weekly in the observation wells.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-44

GROUNDWATER LEVELS IN STATION OBSERVATION WELLS, 1976
(SHEET 6 OF 10)



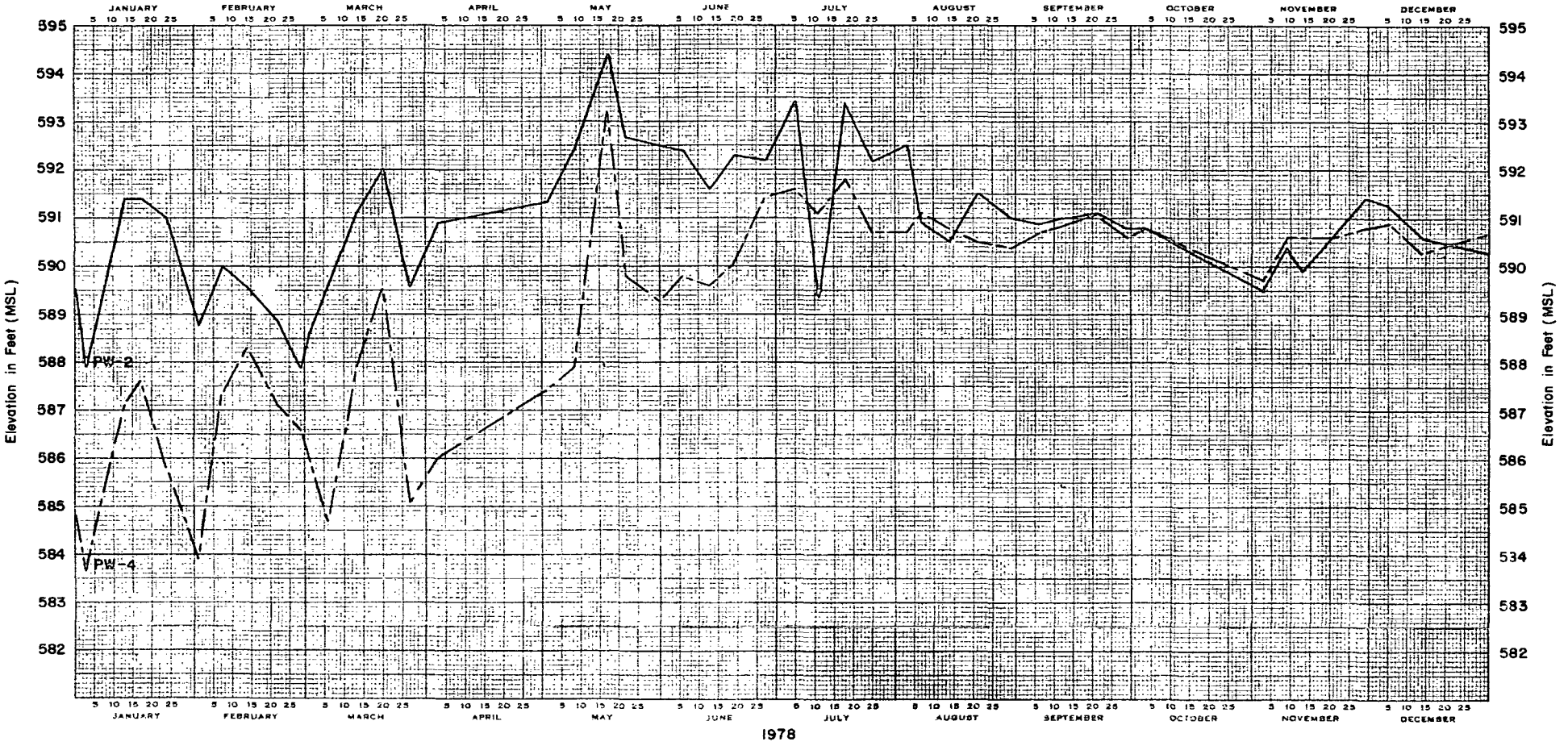
NOTES

1. Locations of station observation wells are shown on Figure 2.4-36
2. Groundwater levels were measured weekly in the observation wells.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-44

GROUNDWATER LEVELS IN STATION OBSERVATION WELLS, 1976
(SHEET 7 OF 10)



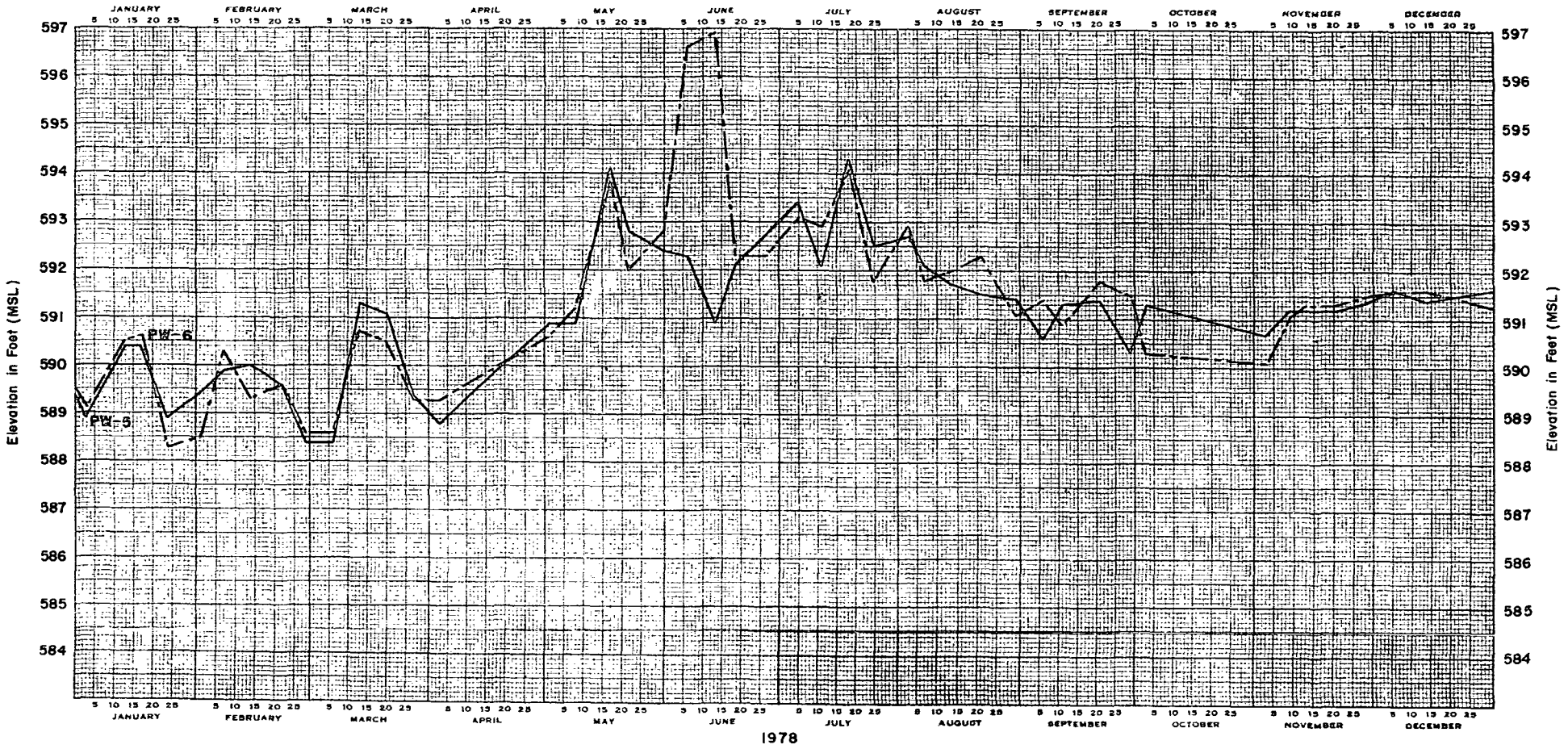
NOTES

1. Locations of station observation wells are shown on Figure 2.4-36
2. Groundwater levels were measured weekly in the observation wells.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-44

GROUNDWATER LEVELS IN STATION OBSERVATION WELLS, 1976
(SHEET 8 OF 10)



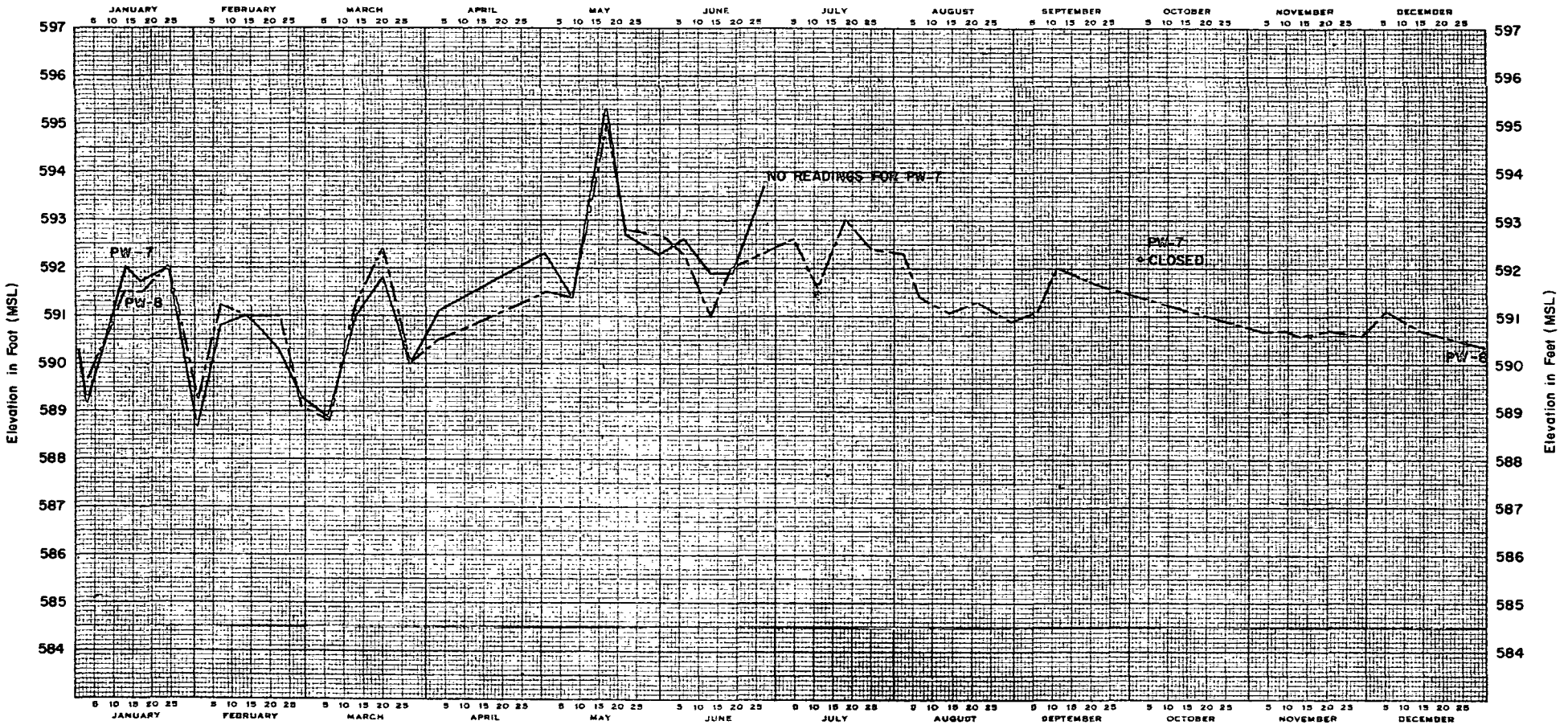
NOTES

1. Locations of station observation wells are shown on Figure 2.4-36
2. Groundwater levels were measured weekly in the observation wells.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-44

GROUNDWATER LEVELS IN STATION OBSERVATION WELLS, 1976
(SHEET 9 OF 10)



1978

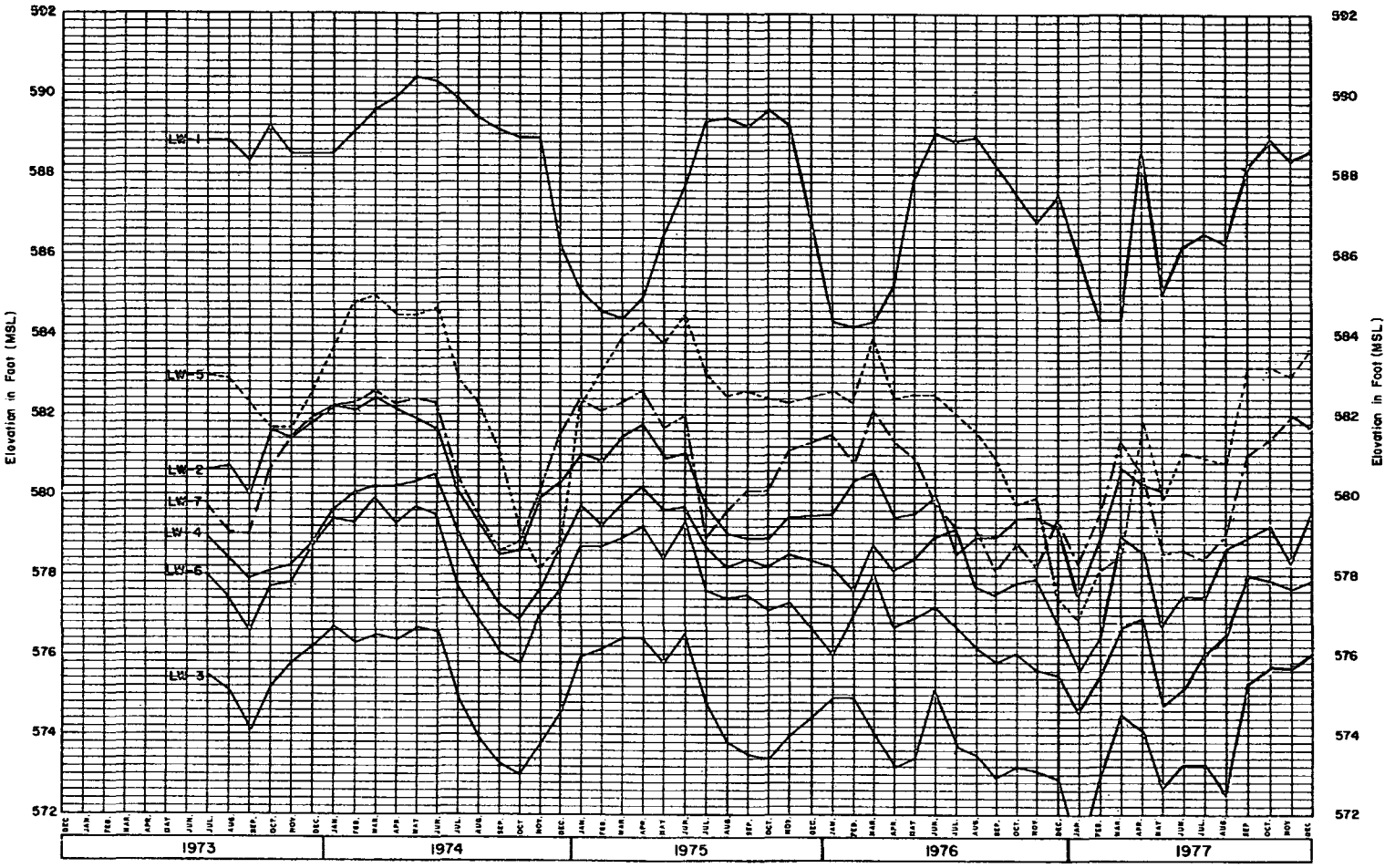
NOTES

1. Locations of station observation wells are shown on Figure 2.4-36
2. Groundwater levels were measured weekly in the observation wells.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-44

GROUNDWATER LEVELS IN STATION OBSERVATION WELLS, 1976
(SHEET 10 OF 10)



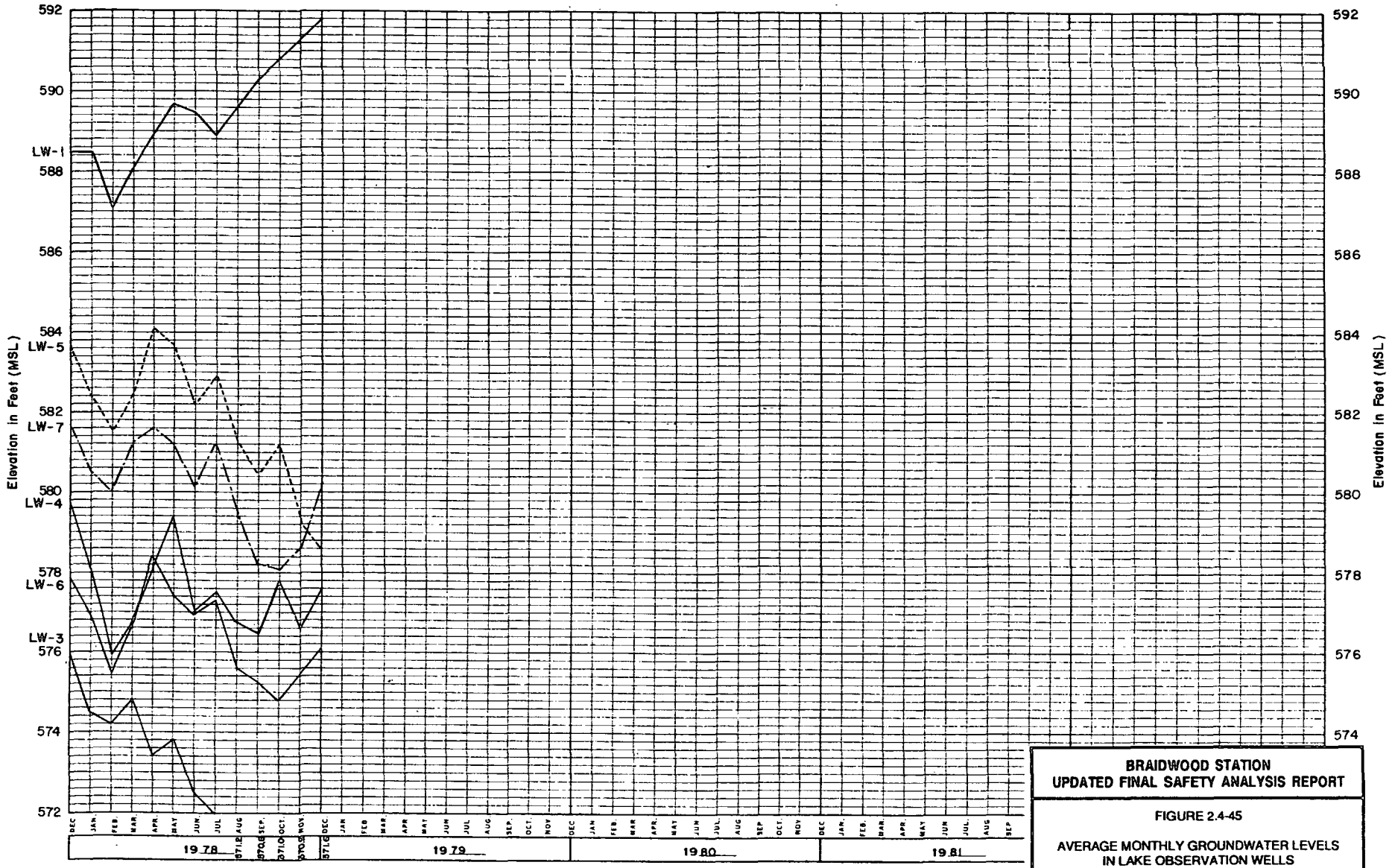
NOTES

1. Locations of pond observation wells are shown on Figure 2.4-37
2. Groundwater levels were measured weekly in the observation wells.
3. Groundwater levels measured in LW-1 were affected by water levels in an adjacent ditch (Subsection 2.4.13.2.2.2).
4. LW-2 was grouted closed during May 1977 due to construction of the lake dike.

BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-45

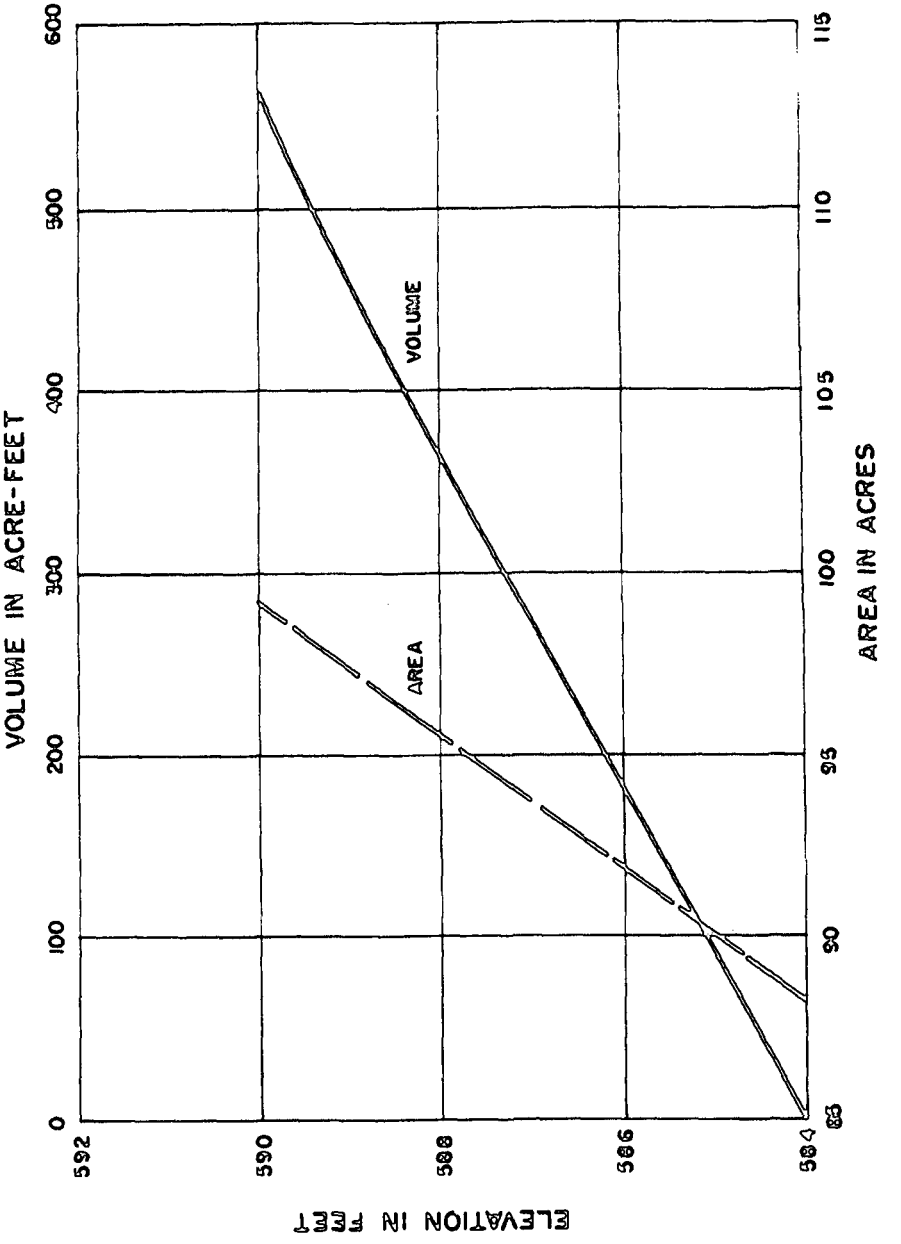
AVERAGE MONTHLY GROUNDWATER LEVELS IN LAKE OBSERVATION WELLS (SHEET 1 OF 2)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-45

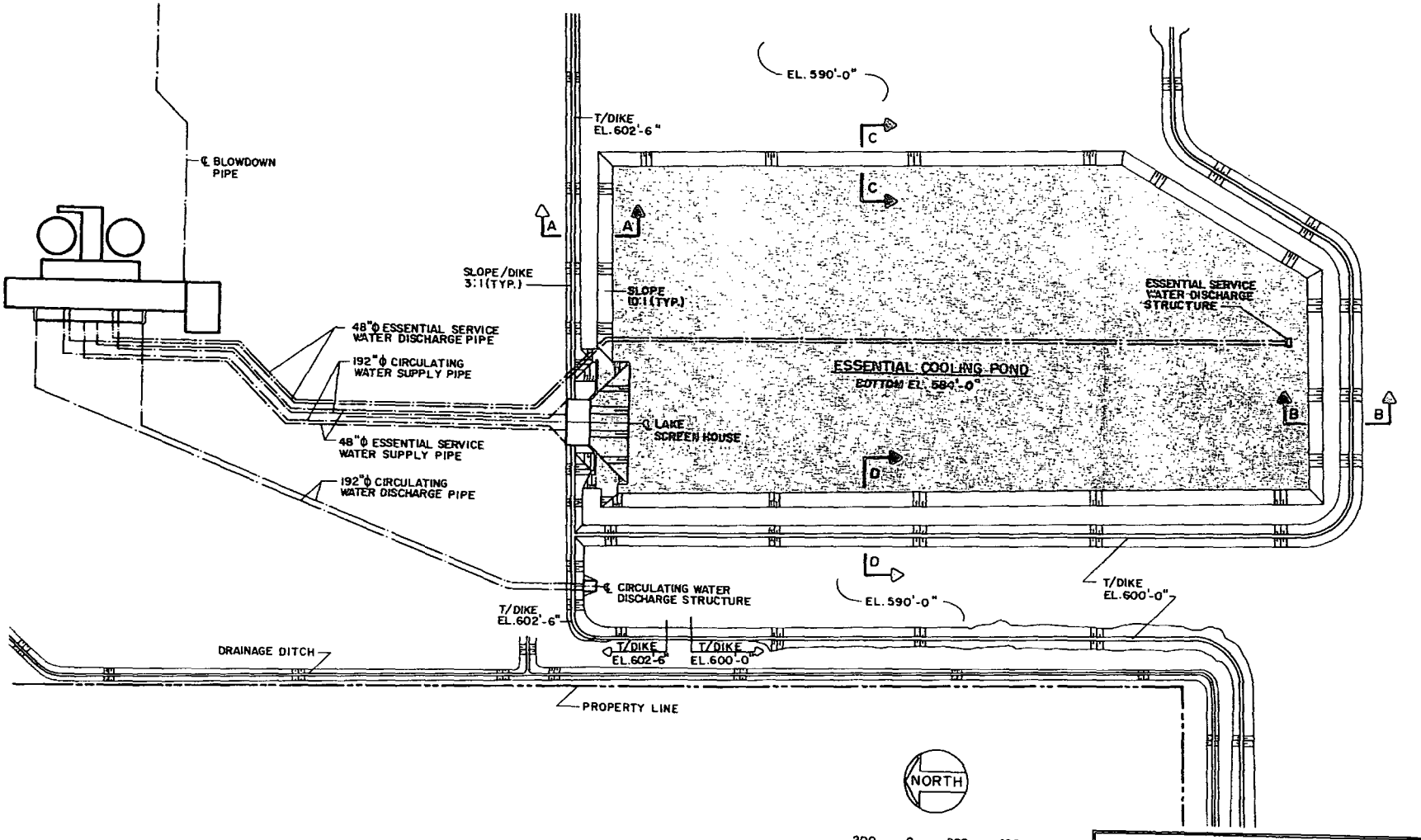
AVERAGE MONTHLY GROUNDWATER LEVELS IN LAKE OBSERVATION WELLS (SHEET 2 OF 2)



BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-46

ESSENTIAL COOLING POND
AREA-CAPACITY CURVES

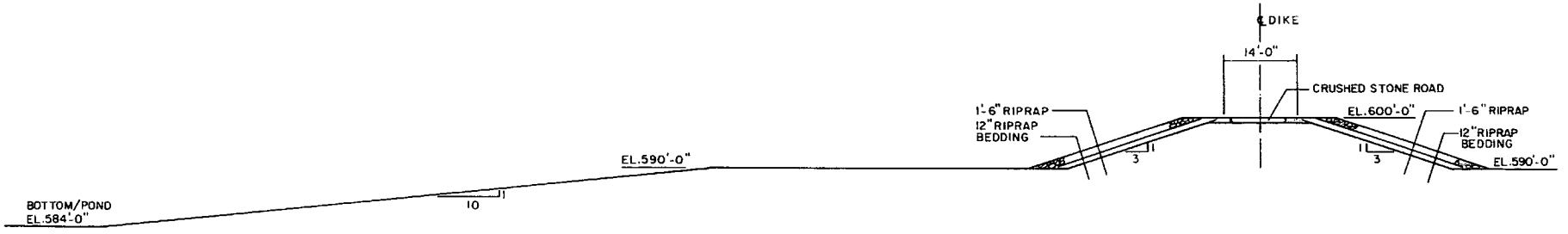


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-47

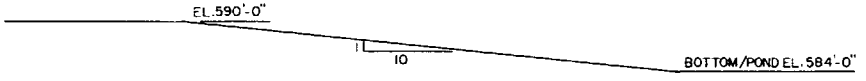
ESSENTIAL COOLING POND

SECTION A-A

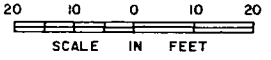


SECTION B-B

SECTION D-D



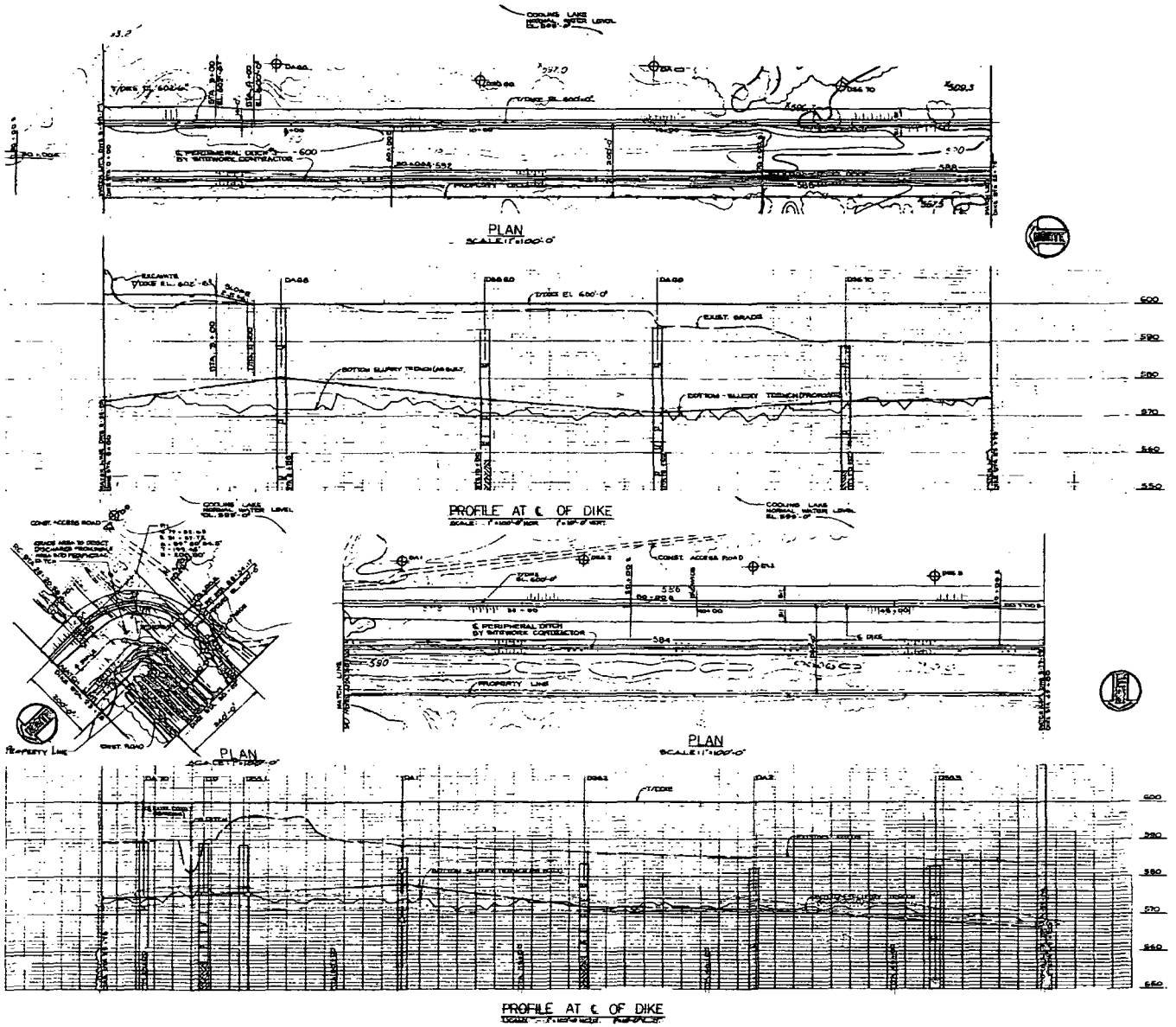
SECTION C-C

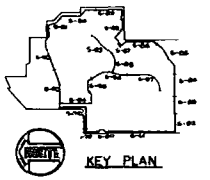


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-48

ESSENTIAL COOLING POND SECTIONS

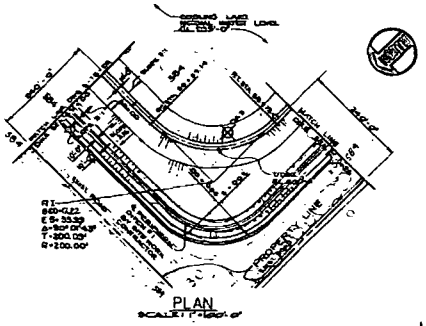


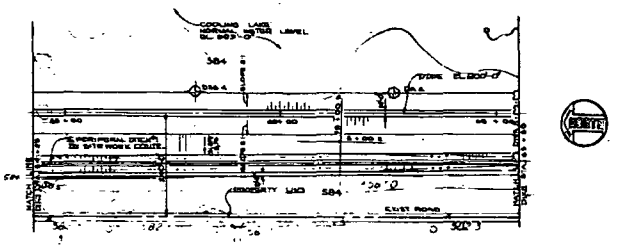


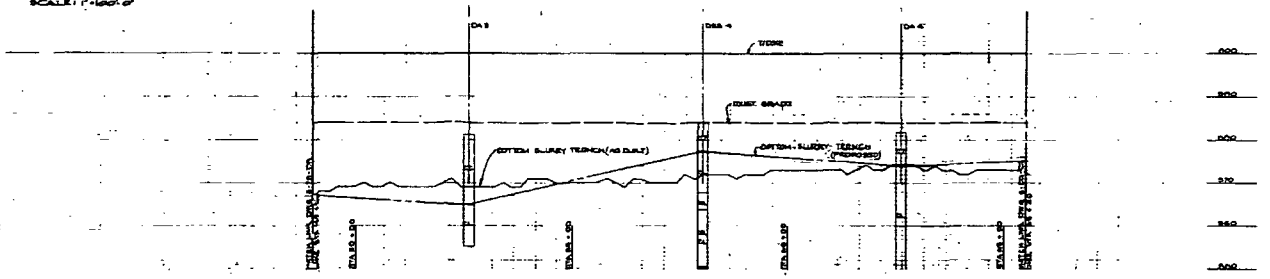
BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

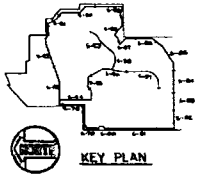
FIGURE 2.4-49

EXTERIOR DIKE PROFILE
STA 0 + 00 TO STA 49 + 00





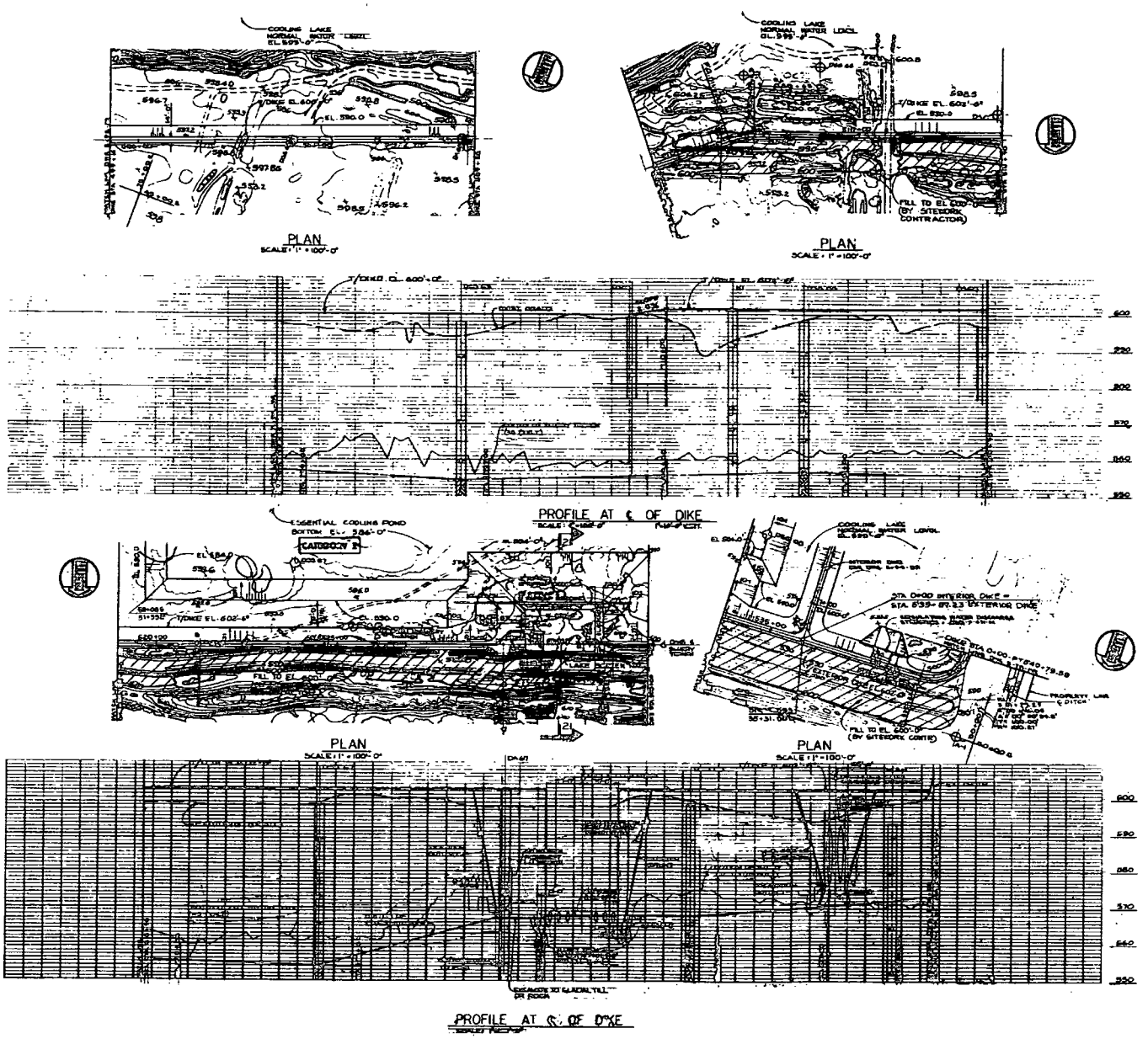


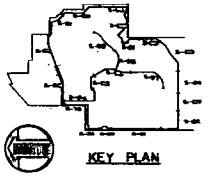


BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-50

EXTERIOR DIKE PROFILE
STA 49 + 00 TO STA 65 + 50





BRAIDWOOD STATION
UPDATED FINAL SAFETY ANALYSIS REPORT

FIGURE 2.4-51

EXTERIOR DIKE PROFILE
STA 499 + 15 TO STA 540 + 79.6