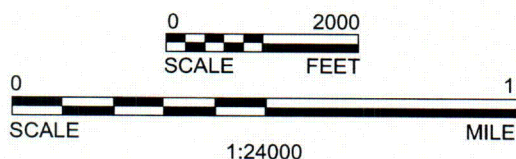


# **KEY**

Residential
  Business, including commercial & industrial
  Cultivation & woodlands



26770 smc.fh10

BASE CREATED WITH TOPO™ © 1996 WILDFLOWERS PRODUCTIONS, www.topo.com 7.5' USGS TOPOGRAPHIC MAP

**TRC**  
Customer-Focused Solutions

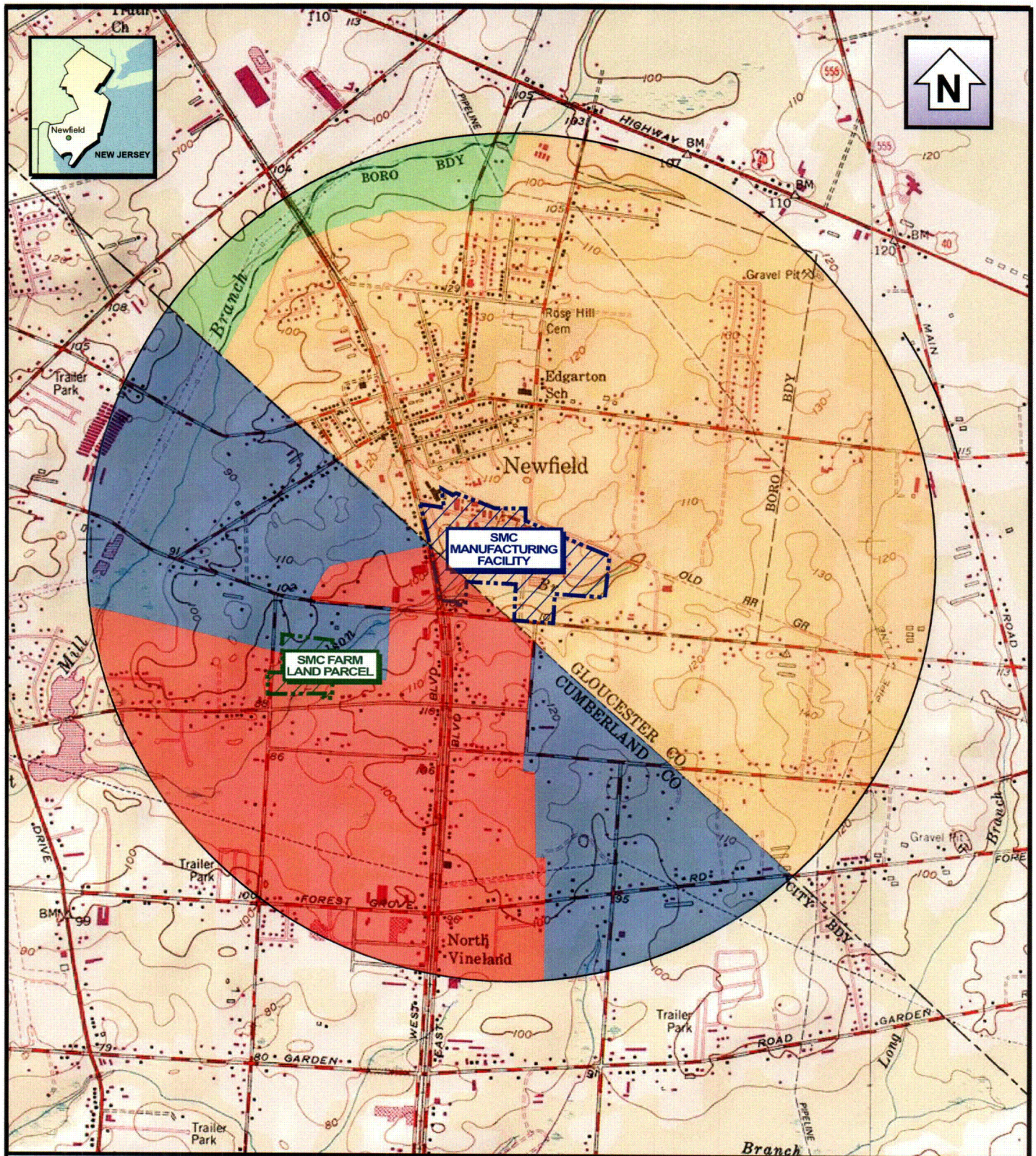
5 Waterside Crossing  
Windsor, CT 06095  
(860) 298-9692

**SHIELDALLOY METALLURGICAL CORPORATION**  
NEWFIELD, NEW JERSEY

## **FIGURE 3-1** **LAND USE WITHIN 1 MILE OF SMC**

Date: 04/05

Project No. 26770-0100-00000



# **KEY**

- Rural/Environmental Sensitive Planning Area
- Suburban Planning Area
- Environmental Sensitive Planning Area
- Rural Planning Area

0 2000  
SCALE FEET

0 1  
SCALE 1:24000 MILE

SOURCES: Policy Maps of the New Jersey State Development and Redevelopment Plan for Cumberland and Cloucester Counties (8/15/2003 and 7/30/2003, respectively).

BASE CREATED WITH TOPO™ © 1996 WILDFLOWERS PRODUCTIONS, www.topo.com 7.5' USGS TOPOGRAPHIC MAP

**TRC**  
Customer-Focused Solutions

5 Waterside Crossing  
Windsor, CT 06095  
(860) 298-9692

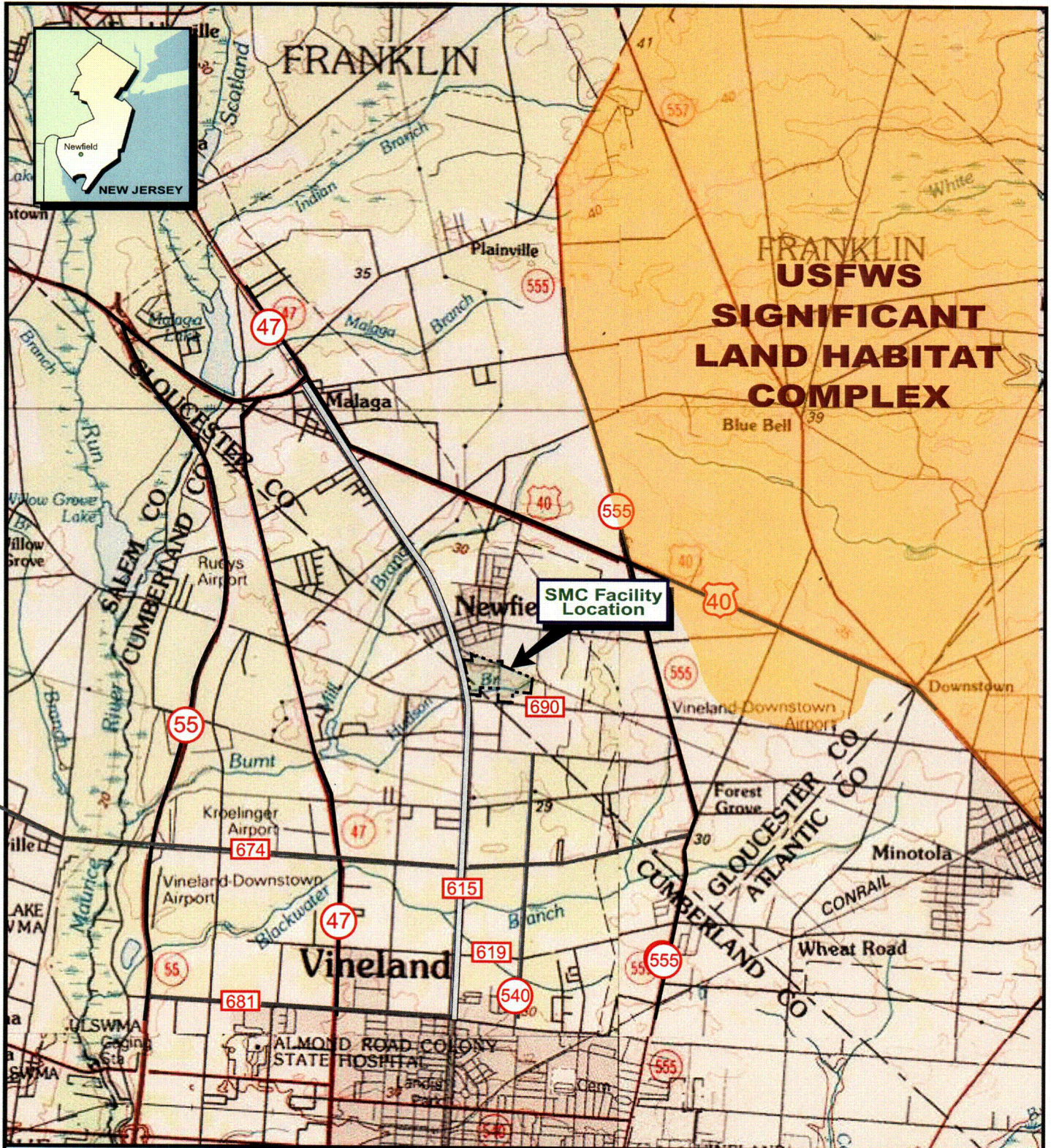
**SHIELDALLOY METALLURGICAL CORPORATION**  
NEWFIELD, NEW JERSEY

## **FIGURE 3-2** **STATE PLANNING AREAS** **WITHIN 1 MILE OF SMC**

Date: 04/05

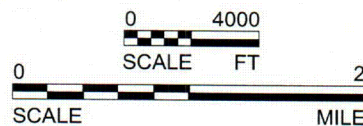
Project No. 26770-0100-00000





# KEY

-  U.S. Highways
-  State Highways
-  County Roads



BASE CREATED WITH TOPO™ © 1996 WILDFLOWERS PRODUCTIONS, www.topo.com 7.5' USGS TOPOGRAPHIC MAP

SOURCE: USFWS, Significant Habitats and Habitat Complexes of the New York Bight Watershed, New Jersey Pinelands, Complex #2 Maps.

26770 smc.fh10

**TRC**

Customer-Focused Solutions

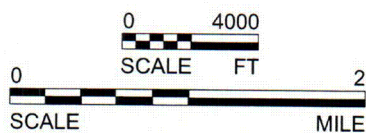
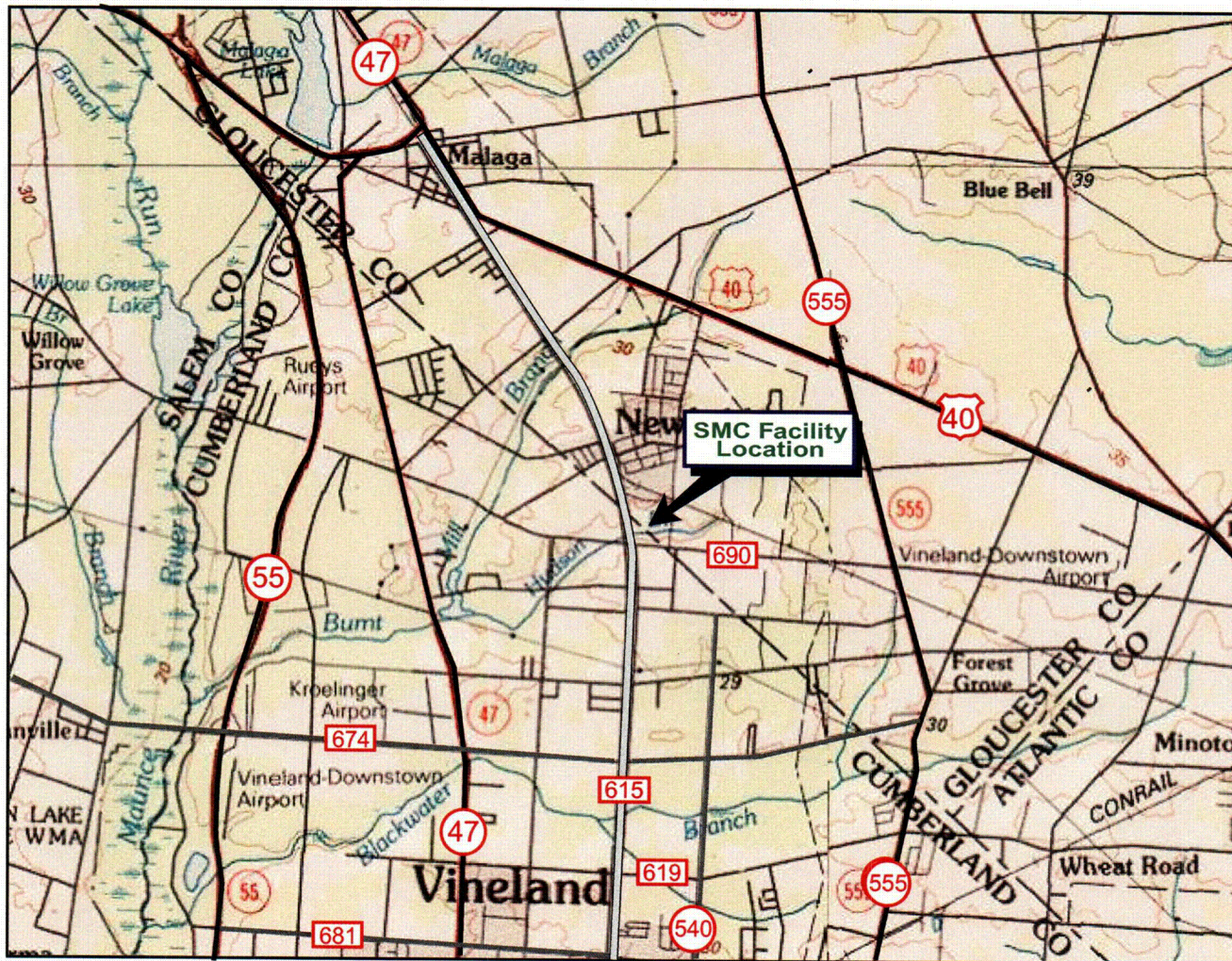
5 Waterside Crossing  
Windsor, Ct 06095  
(860) 298-9692

**SHIELDALLOY METALLURGICAL CORPORATION**  
NEWFIELD, NEW JERSEY

## FIGURE 3-4 PROXIMITY OF PINELANDS HABITAT TO SMC FACILITY

Date: 04/05

Project No. 26770-0100-00000



BASE CREATED WITH TOPO™ © 1996 WILDFLOWERS PRODUCTIONS, www.topo.com  
7.5' USGS TOPOGRAPHIC MAP

# KEY

-  U.S. Highways
-  State Highways
-  County Roads

**TRC**  
Customer-Focused Solutions

5 Waterside Crossing  
Windsor, Ct 06095  
(860) 298-9692

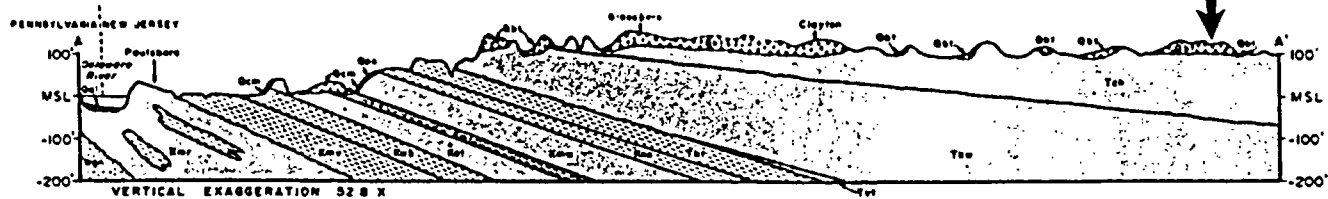
**SHIELDALLOY METALLURGICAL CORPORATION**  
NEWFIELD, NEW JERSEY

## **FIGURE 3-5** **MAIN TRANSPORTATION ROUTES IN** **THE VICINITY OF SMC FACILITY**

Date: 04/05

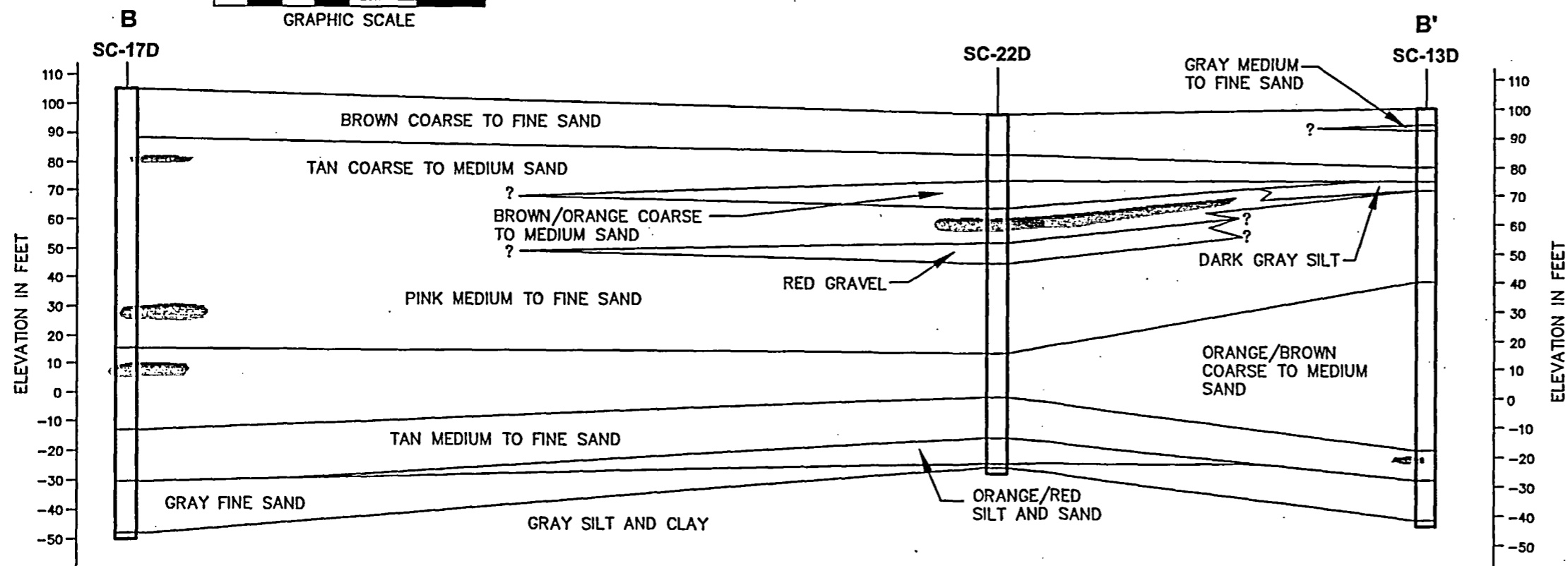
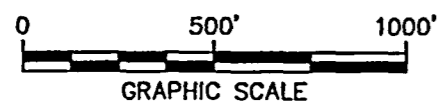
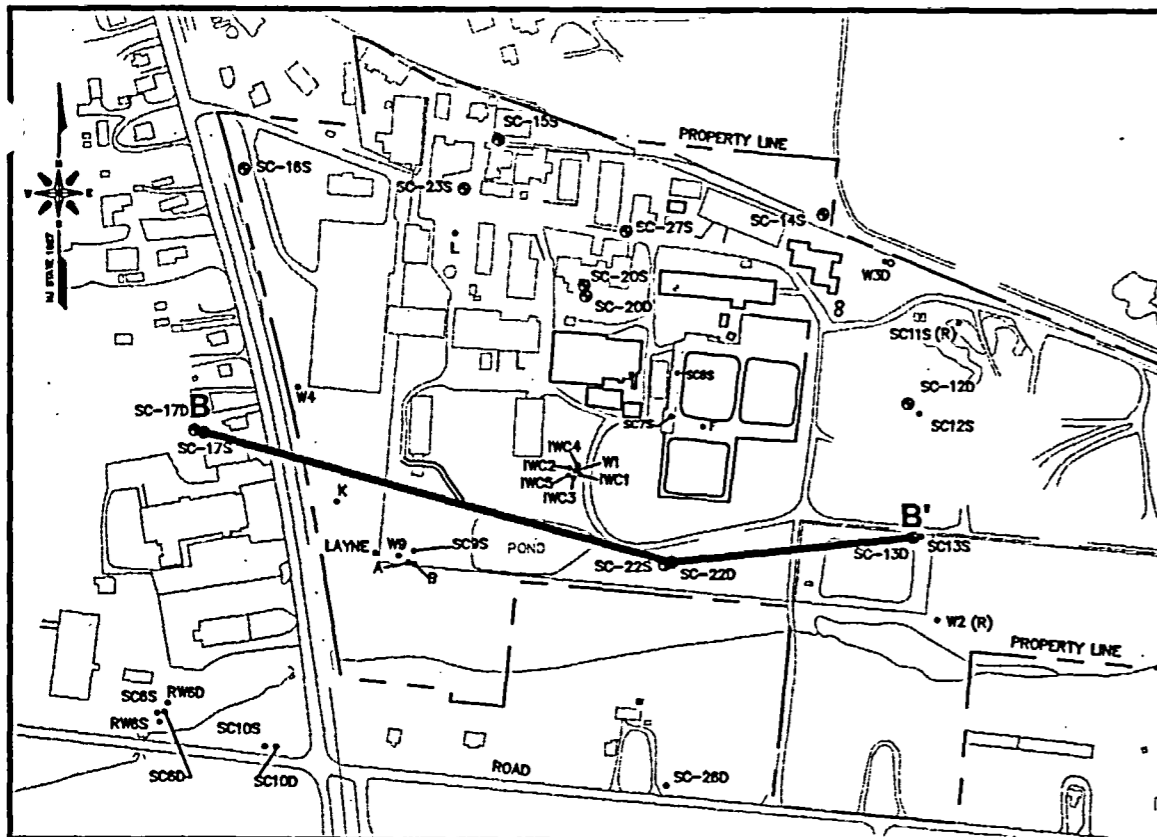
Project No. 26770-0100-00000

A geological map of the Delaware River area. The map shows various geological units with different patterns: Kmt (vertical lines), Kms (diagonal lines), Tht (horizontal lines), Tvt (dots), and Tch (stippled). The Delaware River is shown flowing from the top left towards the bottom right. A cross-section line A-A' is drawn across the map. A box labeled 'SITE LOCATION' points to a specific location on the map. The map is bordered by Pennsylvania to the north and Delaware to the east. Latitude and longitude coordinates are marked along the edges.

[illegible]

Project No. 26770-0100-00000
------------------------------





# LEGEND

 SILT AND CLAY STRINGER



**TRC**  
Customer-Focused Solutions

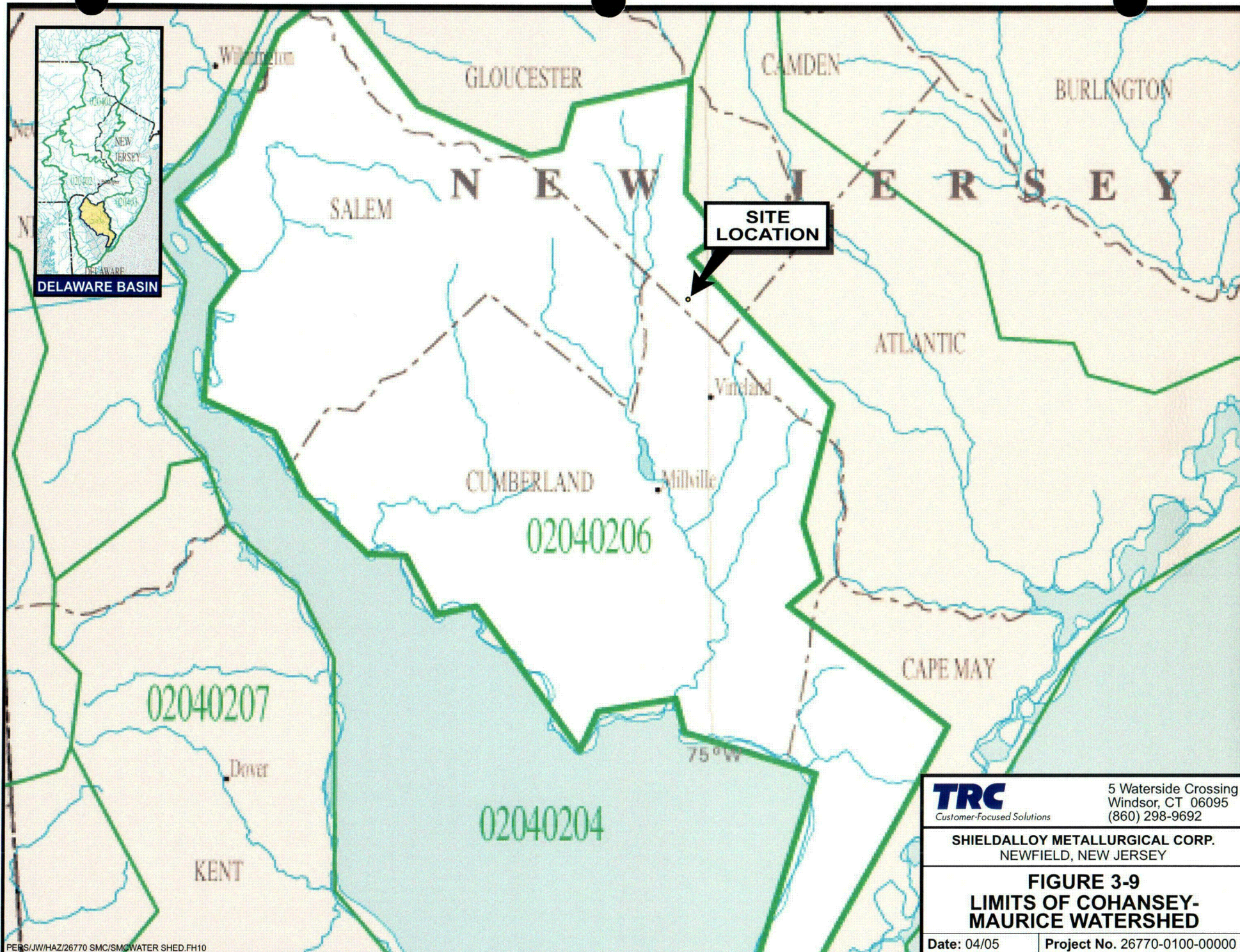
5 Waterside Crossing  
Windsor, CT 06095  
(860) 298-9692

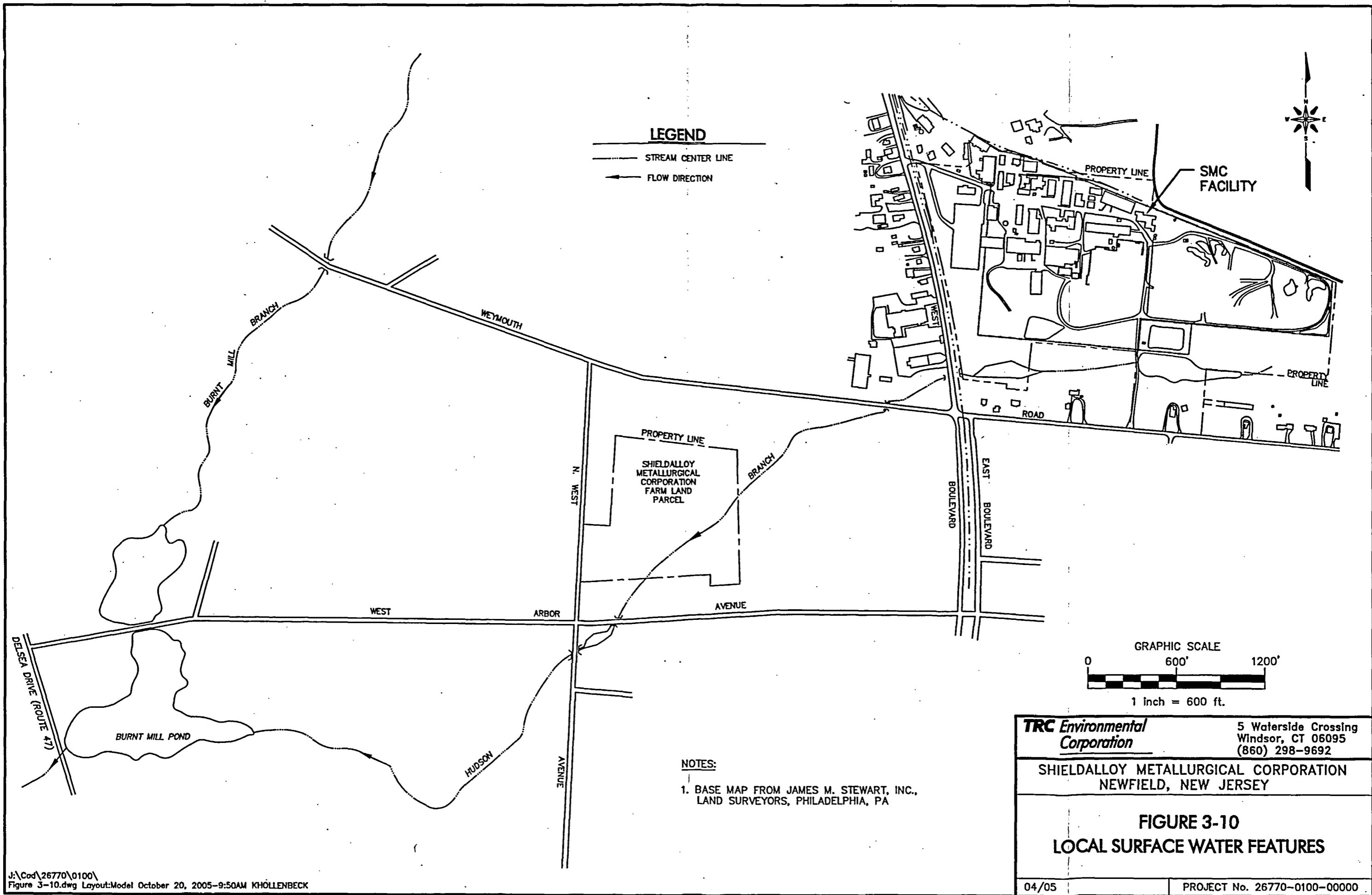
SHIELDALLOY METALLURGICAL CORPORATION  
NEWFIELD, NEW JERSEY

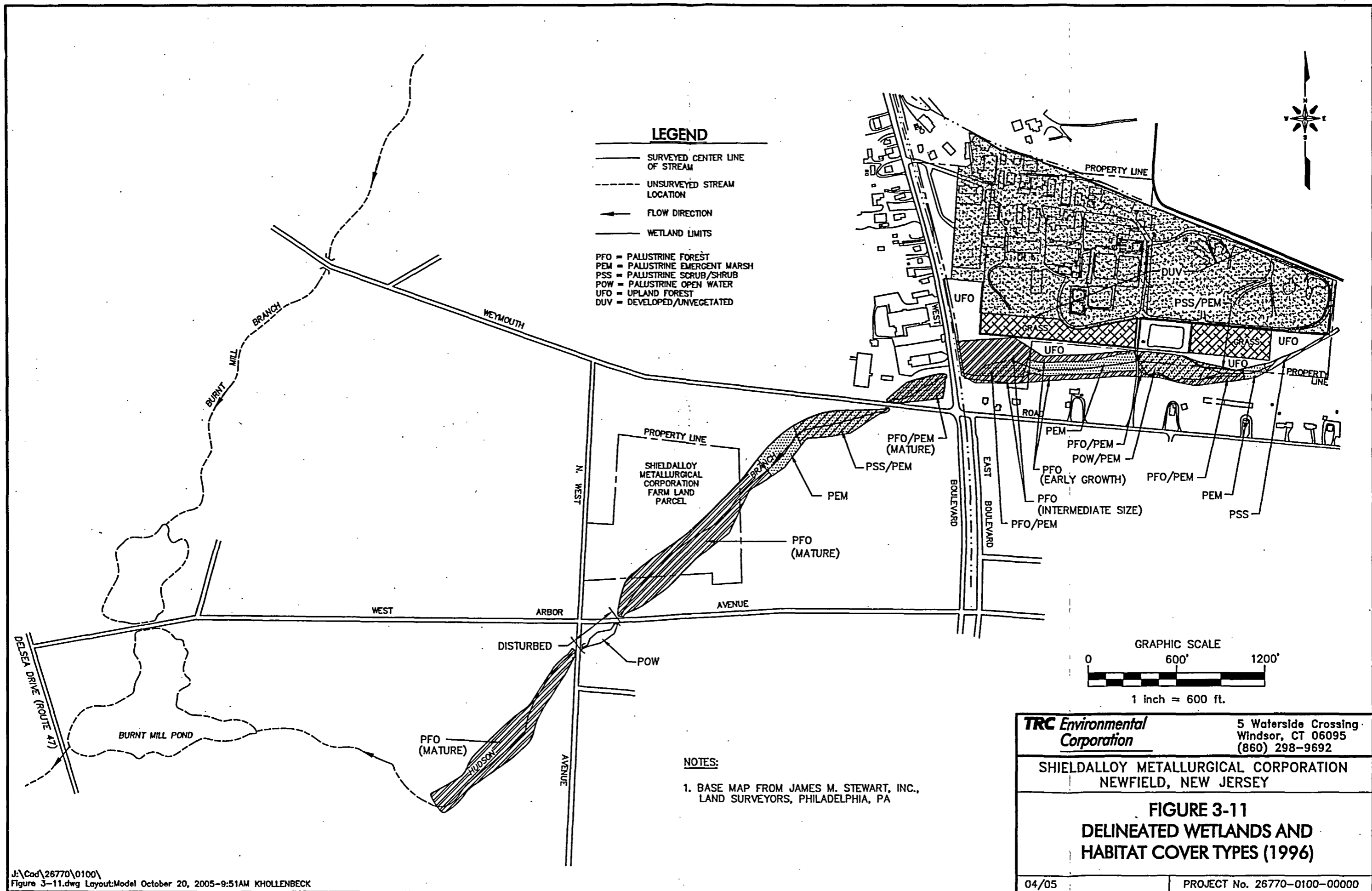
**FIGURE 3-8**  
**SITE GEOLOGIC CROSS-SECTION**

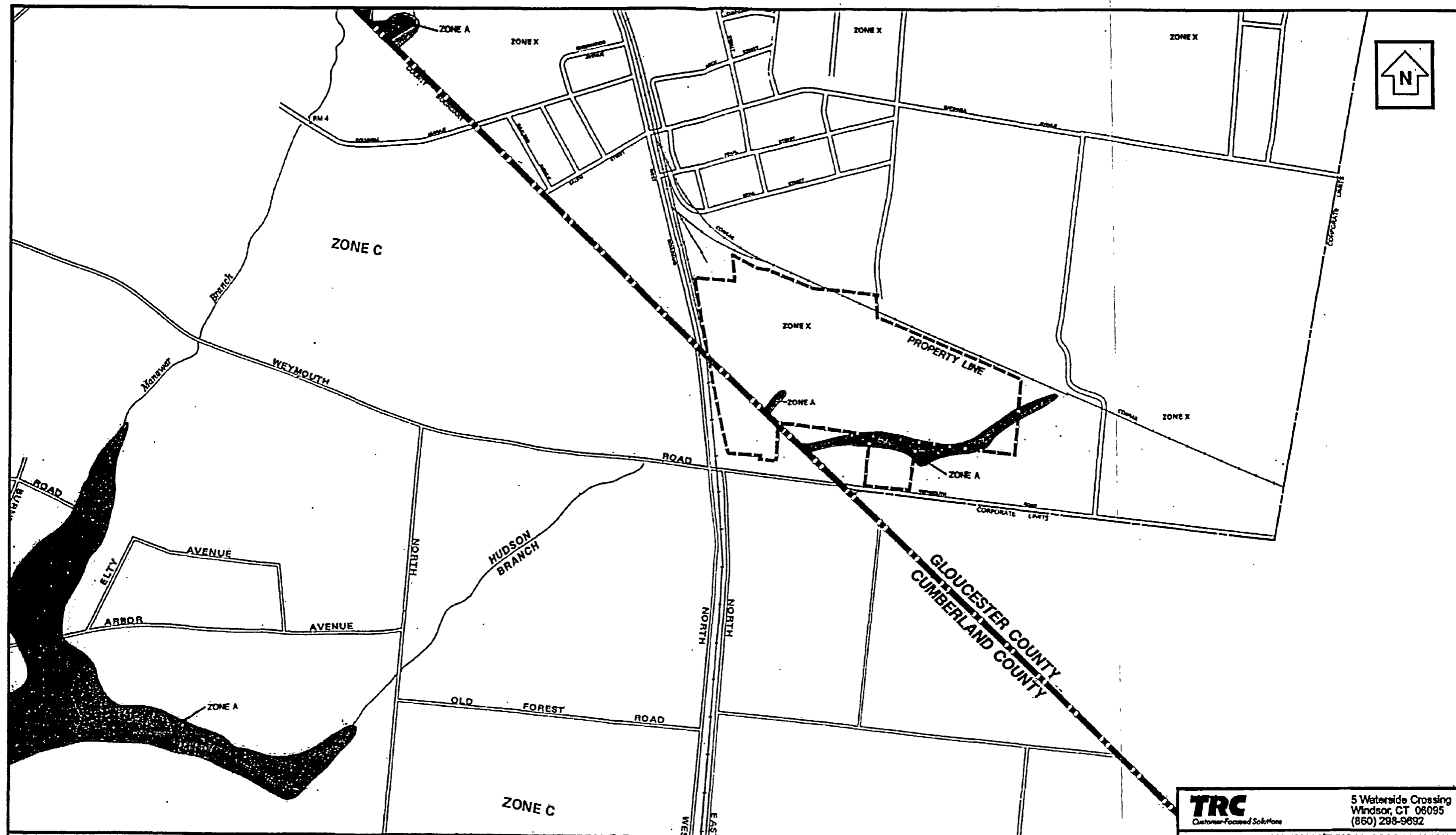
Date: 04/05

Project No. 26770-0100-00000









**LEGEND**

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

Zone A - No Base Flood Elevations Determined

OTHER AREAS

Zone X - Areas Determined to be Outside 500-year Flood Plain

Zone C - Areas of Minimal Flooding



FROM:  
FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP & STREET INDEX,  
BOROUGH OF NEWFIELD, NJ, GLOUCESTER COUNTY, 340549 0001 B, 6/17/91 AND CITY OF VINELAND,  
NEW JERSEY CUMBERLAND COUNTY, 340176 0005 B 7/5/82

 TRC Customer-Focused Solutions	5 Waterside Crossing Windsor, CT 06095 (860) 298-9692
	SHIELDALLOY METALLURGICAL CORPORATION NEWFIELD, NEW JERSEY
<b>FIGURE 3-12</b> <b>DELINEATED FLOOD HAZARD</b> <b>AREAS NEAR SMC FACILITY</b>	
Date: 04/05	Project No. 26770-0100-00000

# NEW JERSEY WATER WITHDRAWALS, USES, TRANSFERS & DISCHARGES - Watershed Management Area Summary

V 2.5

WMA: **Maurice, Salem, and Cohansey**

Click on the box to the left and use the pull down menu to select a WMA.

# 17

Subject to revision.

Table 12. Freshwater Withdrawals, Imports & Exports in WMA 17 (millions of gallons)

Withdrawals (Q)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average
surface water	14,930	23,621	30,836	24,864	27,509	27,527	20,316	27,217	21,133	17,594	23,555
ground water	21,601	22,563	20,524	23,024	25,629	26,828	23,631	27,238	26,653	26,427	24,412
total Q	36,531	46,184	51,359	47,887	53,138	54,356	43,947	54,455	47,787	44,021	47,966
imports	433	457	434	448	373	404	355	374	385	367	403
exports	16	167	177	495	983	1,130	1,105	1,322	1,444	1,296	814
net	418	290	257	(47)	(609)	(726)	(750)	(947)	(1,059)	(929)	(410)

Table 13. Freshwater imports to WMA 17 in 1999

Source WMA	MG received	% of all water withdrawn in source WMA in 1999	% of all potable water used in WMA 17 in 1999
15	303	1.2%	2.5%
16	0	0.0%	0.0%
18	64	0.1%	0.5%
sum:	367		3.0%

Table 14. Freshwater Exports from WMA 17 in 1999

Destination WMA	MG sent	% of all water withdrawn in WMA 17 in 1999	% of all potable water used in destination WMA in 1999
15	136	0.3%	0.9%
18	1,161	2.6%	3.8%
sum:	1,296		2.9%

Table 15. Use of Fresh Water in WMA 17 (millions of gallons) (includes imports, excludes exports)

Use Group	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average
agricultural	3,912	6,021	4,538	6,583	5,844	6,769	4,511	6,992	7,814	6,668	5,965
commercial	26	55	57	83	44	41	45	17	16	14	40
industrial	8,217	9,154	7,944	8,752	10,040	9,657	9,631	8,420	7,978	7,304	8,710
irrigation	97	87	103	166	139	116	74	120	122	112	113
mining	13,895	19,433	27,742	20,388	24,380	25,098	18,161	25,780	18,856	17,029	21,076
potable supply	10,833	11,752	11,231	11,872	12,081	11,951	10,832	12,424	12,065	12,089	11,713
power generation	0	0	0	0	0	0	0	0	0	0	0
total volume	36,979	46,502	51,615	47,843	52,529	53,630	43,254	53,753	46,851	43,216	47,617
consumed volume	7,370	10,145	9,616	10,836	10,754	11,614	8,537	11,801	11,660	10,326	10,266
consumed percent	20%	22%	19%	23%	20%	22%	20%	22%	25%	24%	22%

Table 16. Sewage Transfers & Reclaimed-Water Discharges in WMA 17 (millions of gallons)

Sewage/Reclaimed Water	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average
imported to WMA	0	0	0	0	0	0	0	0	0	0	0
exported from WMA	1,117	1,202	1,400	988	1,510	1,389	1,590	1,671	1,552	1,527	1,395
generated in WMA	3,996	4,563	4,753	4,472	5,122	4,566	5,315	5,048	4,924	5,019	4,778
discharged in WMA	2,879	3,361	3,353	3,484	3,612	3,177	3,725	3,376	3,372	3,491	3,383

Table 17. Destination of Reclaimed-Water Discharges in WMA 17 (millions of gallons)

Destination	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average
fresh water	1,341	1,508	1,561	1,697	1,730	1,587	1,817	1,669	1,692	1,802	1,640
brackish water	1,538	1,853	1,792	1,787	1,882	1,590	1,909	1,708	1,680	1,689	1,743
salt water	0	0	0	0	0	0	0	0	0	0	0

Table 18. Nonconsumptive Water Returns to WMA 17 (millions of gallons)

Water Use	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Average
potable purveyors	7,200	7,983	7,520	8,020	8,181	8,026	7,056	8,425	8,051	8,057	7,852
domestic wells	2,370	2,385	2,412	2,439	2,469	2,496	2,518	2,539	2,563	2,587	2,478
ind + comm + mining	19,639	25,378	31,603	25,873	30,526	30,807	24,685	30,277	23,784	21,567	26,414
ag + irrig	401	611	464	675	598	688	459	711	794	678	608
power generation	0	0	0	0	0	0	0	0	0	0	0
sum:	29,609	36,357	41,999	37,008	41,774	42,017	34,717	41,952	35,191	32,890	37,351

- notes: ♦ Volumes include an estimate of domestic-well withdrawals and their consumptive use.  
♦ Consumed refers to water evaporated in the watershed, it does not include exports.  
♦ This does not account for water released from onstream reservoirs for downstream intakes.  
♦ No accounting for intakes or use of salt-water.  
♦ The allocated volume is based on users with allocation permits.  
♦ Sewage and reclaimed-water transfers and discharges based on sewer service areas and NJPDES discharge volumes.  
♦ Withdrawals for offstream reservoirs in WMAs 03, 08, and 12 are problematic and complicate Figure 1.  
♦ See the 'User's Guide' worksheet for more information.  
♦ Subject to revision.

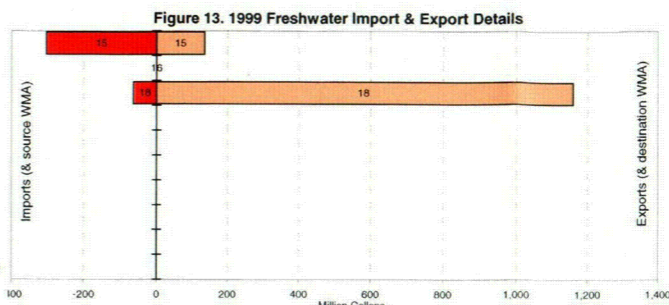
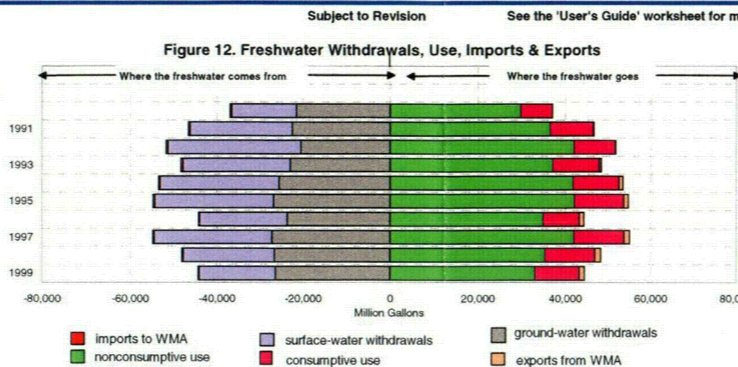


Table 19. Water Allocations in WMA 17 by Water Source

Water Source	Million Gallons/Year
surface water	24,082
ground water	105,998
total	130,080

Table 20. Water Allocations in WMA 17 by Water Use Group

Use Group	Million Gallons/Year
agricultural	50,541
commercial	298
industrial	14,941
irrigation	663
mining	50,159
potable supply	13,479
power generation	0
sum	130,080

Table 21. Descriptive Statistics for WMA 17

Area:	1,233.3	sq mi.
Population:		
year	population	change
1940	123,835	-
1950	150,151	21.3%
1960	184,557	22.9%
1970	206,443	11.9%
1980	233,065	12.9%
1990	245,154	5.2%
2000	255,187	4.1%
Withdrawals per square mile (average):		
surface	19.1	mg/sq mi
ground	19.8	mg/sq mi
Land Use:		
type	1986	1995
ag.	28.1%	27.1%
barren	0.9%	0.9%
forest	26.1%	25.7%
water	5.2%	5.5%
urban	10.9%	12.3%
wetlands	28.9%	28.5%
% of WMA in:		
Pinelands:		5.8%
Highlands:		0.0%

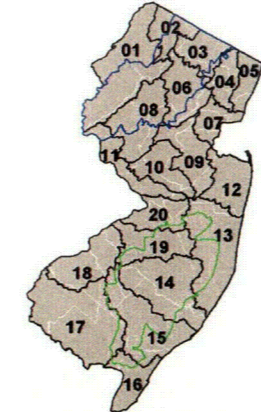
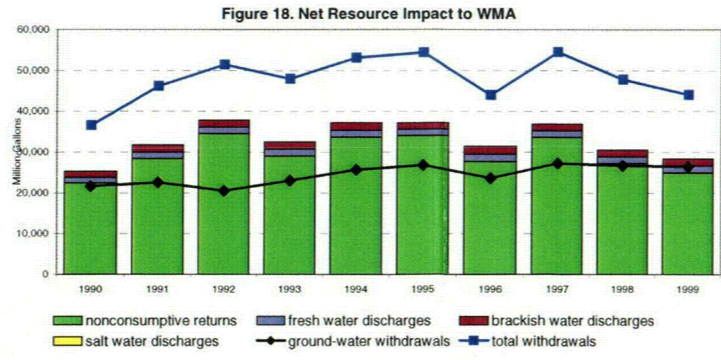
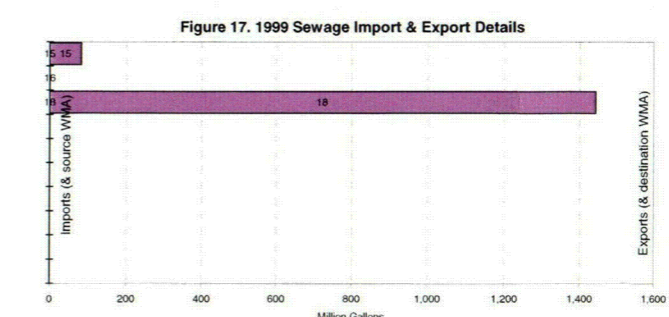
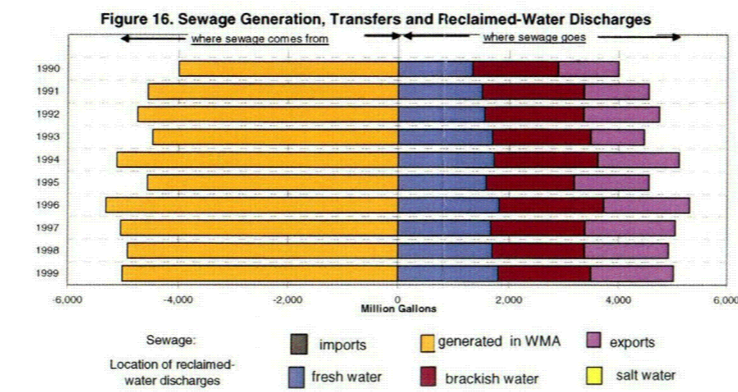
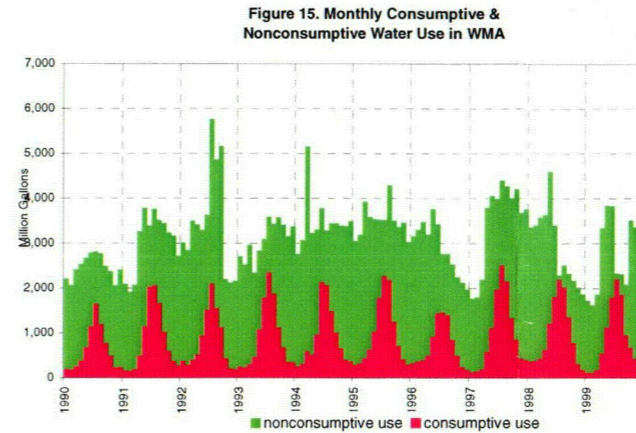
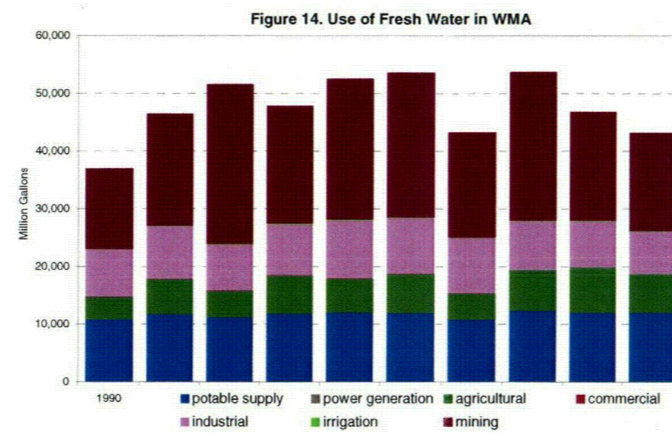


Figure 11. Watershed Management Areas & Counties in New Jersey

WMA boundaries and numbers in black.  
County boundaries in white.  
Pinelands outer border in green.  
Highlands outer border in blue.

TRC  
Customized Solutions

5 Waterside Crossing  
Windsor, CT 06095  
(860) 298-9692

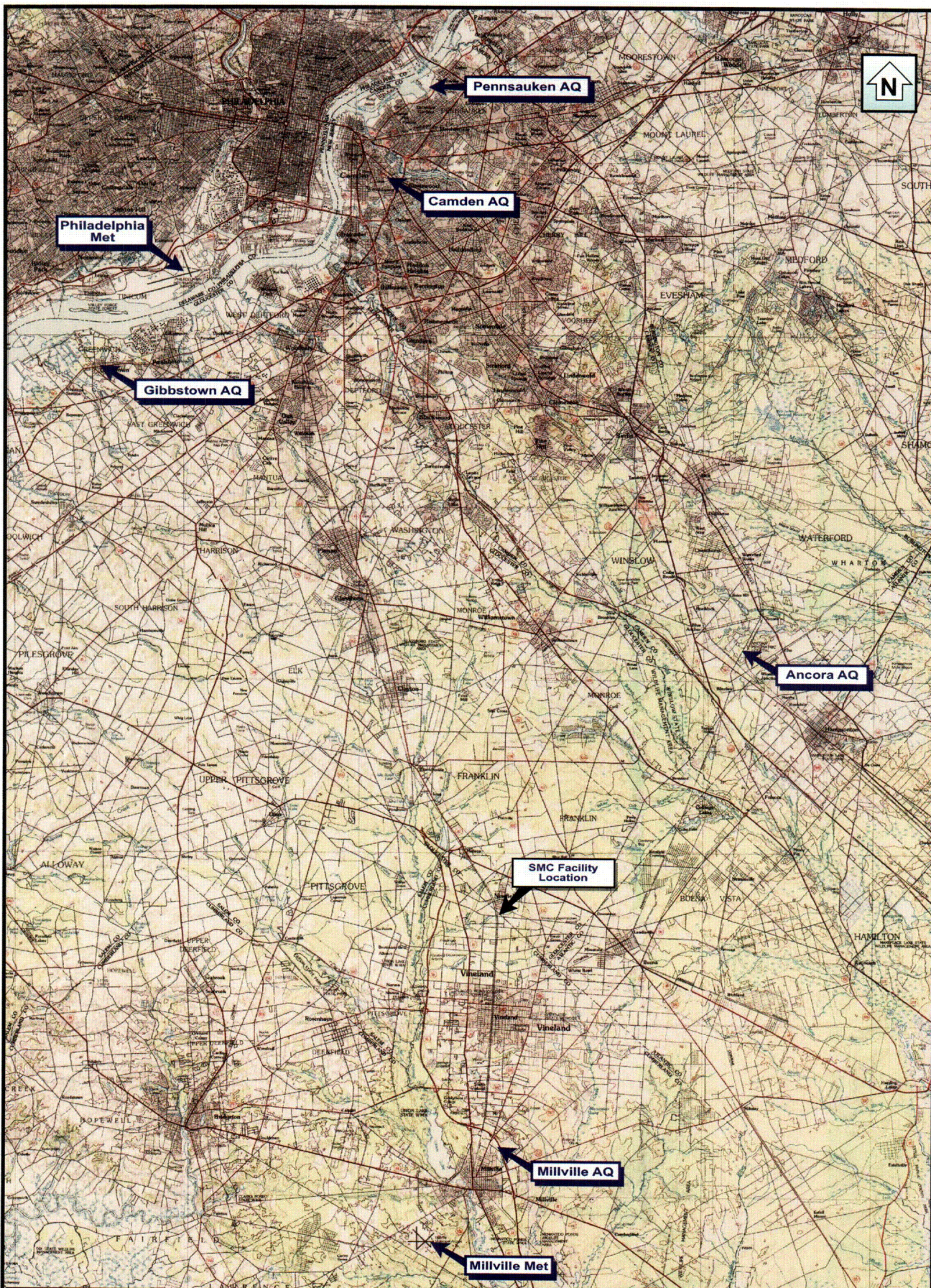
SHIELDALLOY METALLURGICAL CORP.  
NEWFIELD, NEW JERSEY

FIGURE 3-13  
WATER USE SUMMARY MAURICE,  
SALEM & COHANSEY WATERSHED  
MANAGEMENT AREA

Date: 04/05

Project No. 26770-0100-0000





0 8000  
SCALE FT

0 4  
SCALE MILES

BASE CREATED WITH TOPO™ © 1996 WILDFLOWERS PRODUCTIONS, www.topo.com  
7.5' USGS TOPOGRAPHIC MAP

PHILADELPHIA/NEW JERSEY/PA/NC/26770.FH10

**TRC**  
Customer Focused Solutions

5 Waterside Crossing  
Windsor, CT 06095  
(860) 298-9692

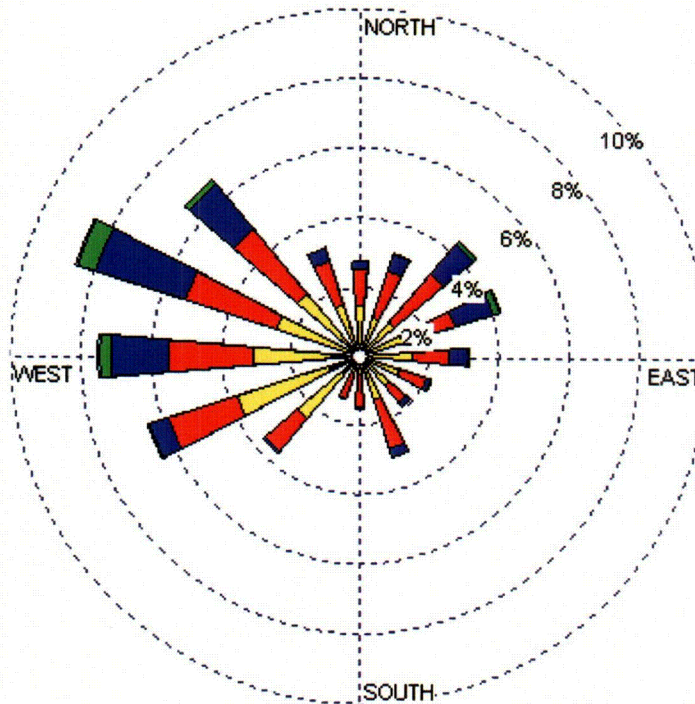
**SHIELDALLOY METALLURGICAL CORPORATION**  
NEWFIELD, NEW JERSEY

**FIGURE 3-15**  
**METEOROLOGICAL (MET) AND AIR QUALITY (AQ) MONITORING SITE LOCATIONS**

Date: 04/05

Project No. 26770-0000-00000

C10



WIND SPEED  
(m/s)

<span style="color: lightblue;">■</span>	>= 11.1
<span style="color: darkgreen;">■</span>	8.8 - 11.1
<span style="color: darkblue;">■</span>	5.7 - 8.8
<span style="color: red;">■</span>	3.6 - 5.7
<span style="color: yellow;">■</span>	2.1 - 3.6
<span style="color: black;">■</span>	0.5 - 2.1

Calms: 36.35 %

**TRC**  
Customer-Focused Solutions

5 Waterside Crossing  
Windsor, CT 06095  
(860) 298-9692

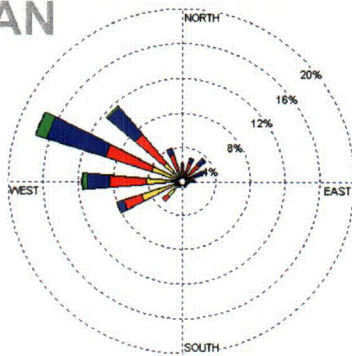
SHIELDALLOY METALLURGICAL CORPORATION  
NEWFIELD, NEW JERSEY

**FIGURE 3-16**  
**ANNUAL WINDROSE FOR**  
**MILLVILLE MUNICIPAL AIRPORT**

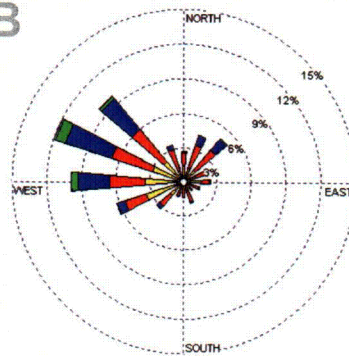
Date: 04/05

Project No. 26770-0000-00000

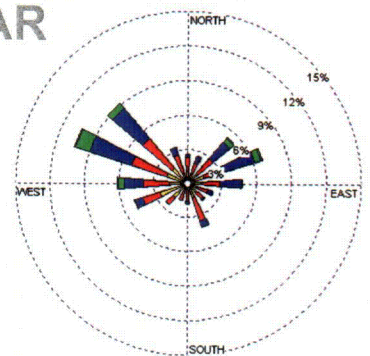
JAN



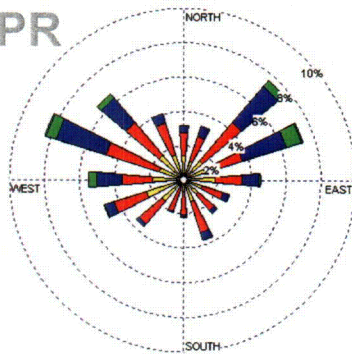
FEB



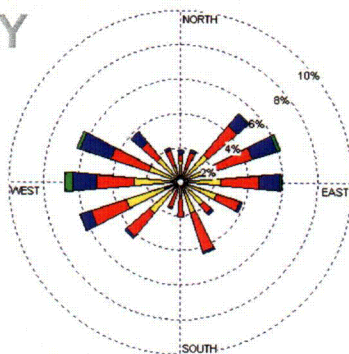
MAR



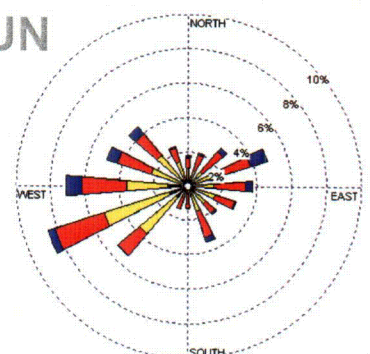
APR



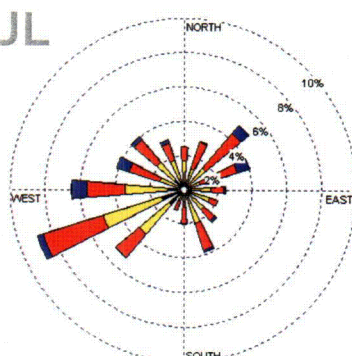
MAY



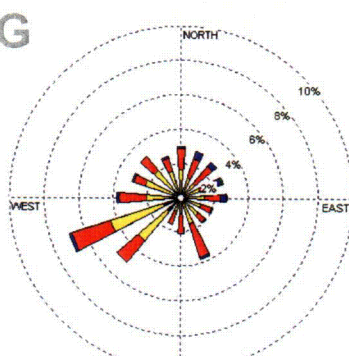
JUN



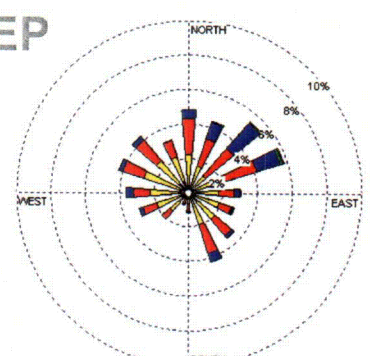
JUL



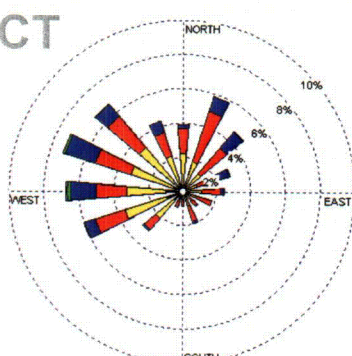
AUG



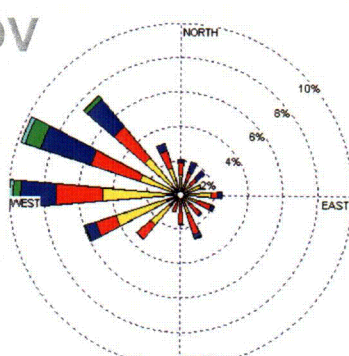
SEP



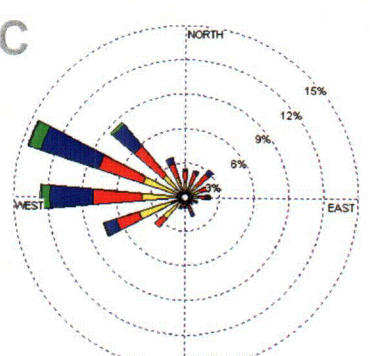
OCT



NOV



DEC



## WIND SPEED (m/s)

**TRC**

Customer-Focused Solutions

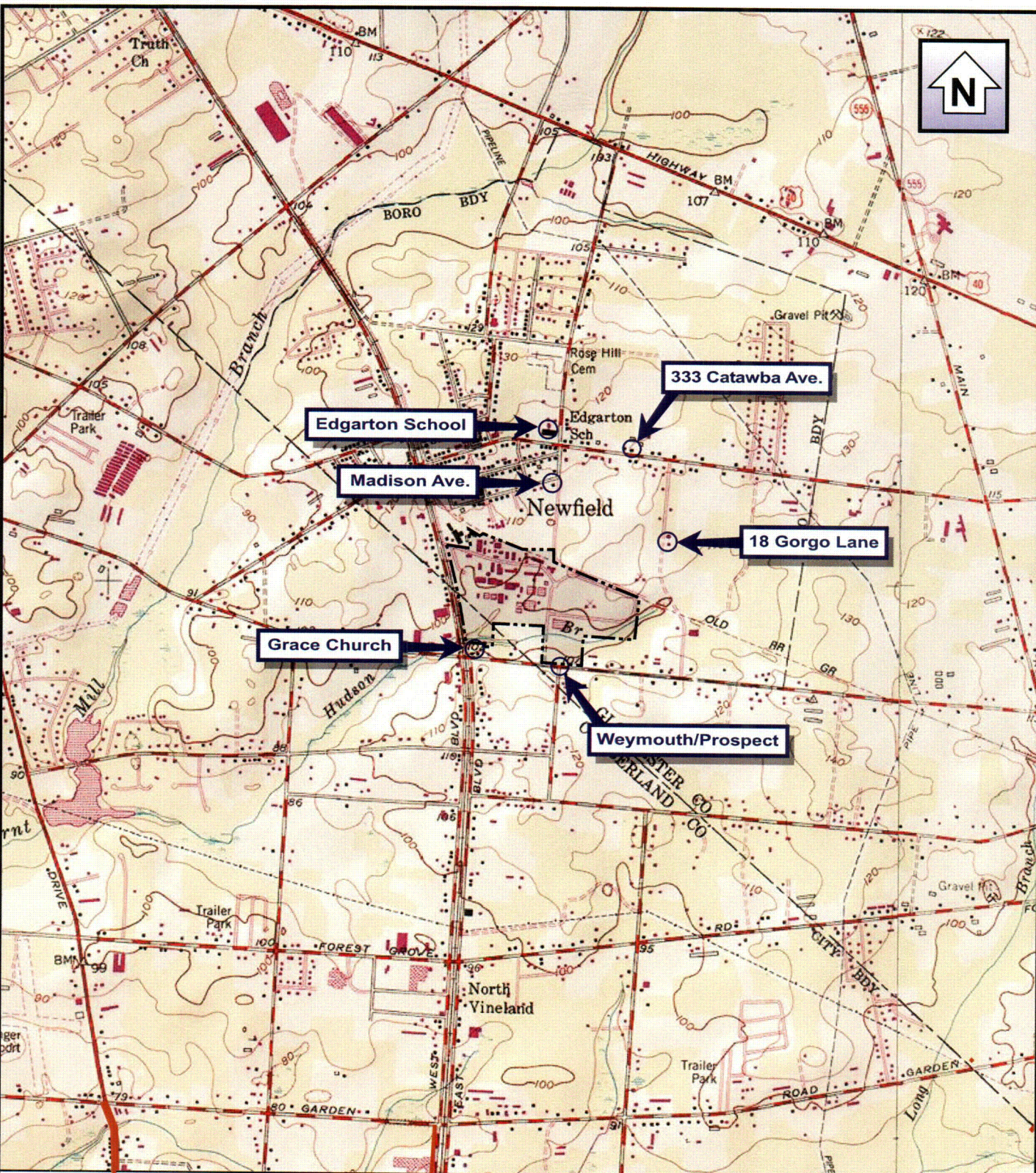
5 Waterside Crossing  
Windsor, CT 06095  
(860) 298-9692

**SHIELDALLOY METALLURGICAL CORPORATION**  
NEWFIELD, NEW JERSEY

**FIGURE 3-17**  
**MONTHLY WINDROSES FOR**  
**MILLVILLE MUNICIPAL AIRPORT**

Date: 04/05

Project No. 26770-0000-00000



0 2000  
SCALE FEET

0 1  
SCALE MILE  
1:24000

BASE CREATED WITH TOPO™ © 1996 WILDFLOWERS  
PRODUCTIONS, www.topo.com  
7.5' USGS TOPOGRAPHIC MAP

HAZ/26770 SMC/26770 SMC NML.rh9

**TRC**

Customer-Focused Solutions

5 Waterside Crossing  
Windsor, CT 06095  
(860) 298-9692

**SHIELDALLOY METALLURGICAL CORPORATION**  
NEWFIELD, NEW JERSEY

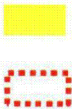
### FIGURE 3-18 NOISE MONITORING LOCATIONS

Date: 03/05

Project No. 26770-0100-00000



New Jersey 2002 High Resolution  
February-April, 2002.  
The ortho-rectification process achieved  
a +/-4.0 ft. horizontal accuracy at a  
95% confidence level  
Publication\_Date: 20030731



Existing viewshed of current site elevation  
obtained from site aerial survey  
maximum elevation of existing pile 129.1 feet

1- MILE RADIUS

Abstract:

Visibility Analysis was produced using a bare earth  
Digital Elevation Model (DEM) with New Jersey Land Cover Data  
Set added to compensate for areas with vegetation. Site specific  
survey information for the proposed and existing footprints was  
utilized to adjust for elevation differences in this vicinity.

DEM Information: (10- by 10-m data spacing, elevations in decimeters)  
Elevation\_resolution\_ is 1 decimeter (0.1 meter). Elevation accuracy  
is 24,000 contour data, i.e. plus/minus half the contour interval.

SHIELDALLOY METALLURGICAL  
CORPORATION  
NEWFIELD, NEW JERSEY

PROJECTED STORAGE YARD  
VIEWSHED  
EXISTING CONDITIONS

FIGURE 3-19



Boott Mills South  
Foot of John Street  
Lowell, MA 01852  
(978)970-5600

PROJ.26770-0100

0 0.125 0.25 0.5 Miles



<p>New Jersey 2002 High Resolution February-April, 2002. The ortho-rectification process achieved a +/-4.0 ft. horizontal accuracy at a 95% confidence level Publication_Date: 20030731</p> <p>0 0.125 0.25 0.5 Miles</p>	<p>VIEWPOINT LOCATION</p> <p>1 - MILE RADIUS</p> <p>Abstract:</p> <p>Visibility Analysis was produced using a bare earth Digital Elevation Model (DEM) with New Jersey Land Cover Data Set added to compensate for areas with vegetation. Site specific survey information for the proposed and existing footprints was utilized to adjust for elevation differences in this vicinity.</p> <p>DEM Information: (10- by 10-m data spacing, elevations in decimeters) Elevation_resolution is 1 decimeter (0.1 meter). Elevation accuracy is 24,000 contour data, i.e. plus/minus half the contour interval.</p>	<p>SHIELDALLOY METALLURGICAL CORPORATION NEWFIELD, NEW JERSEY</p>	<p><b>TRC</b> Boott Mills South Foot of John Street Lowell, MA 01852 (978)970-5600</p>
	<p>VIEWPOINT LOCATIONS</p>		
	<p>FIGURE 3-20</p>		<p>PROJ.26770-0100</p>



Photo 1. View of northern portion of storage yard taken just west of the storage yard.

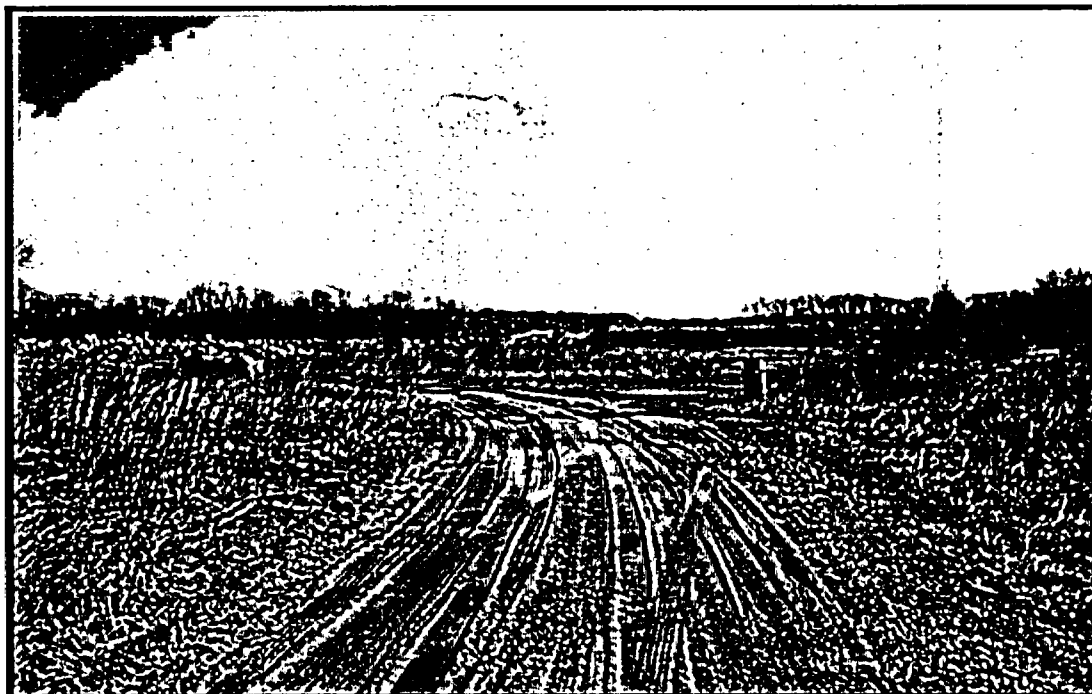


Photo 2. View of southern portion of storage yard taken from the unpaved SMC access road.

<b>TRC</b> <i>Customer-Focused Solutions</i>	5 Waterside Crossing Windsor, CT 06095 (860) 298-9692
<b>SHIELDALLOY METALLURGICAL CORP.</b> NEWFIELD, NEW JERSEY	
<b>FIGURE 3-21</b> <b>POINTS OF STORAGE YARD VISIBILITY-</b> <b>VIEWPOINTS 1 AND 2</b>	
<b>Date:</b> 03/05	<b>Project No.</b> 26770-0100-00000



Photo 3. View toward storage yard, taken near the SMC pond

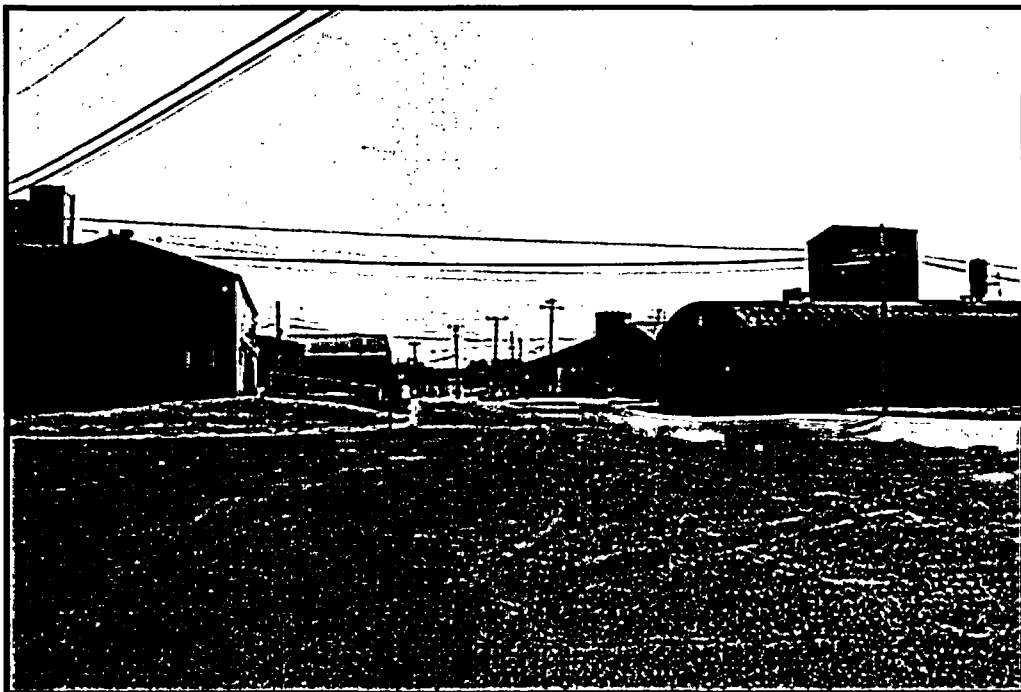
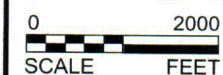
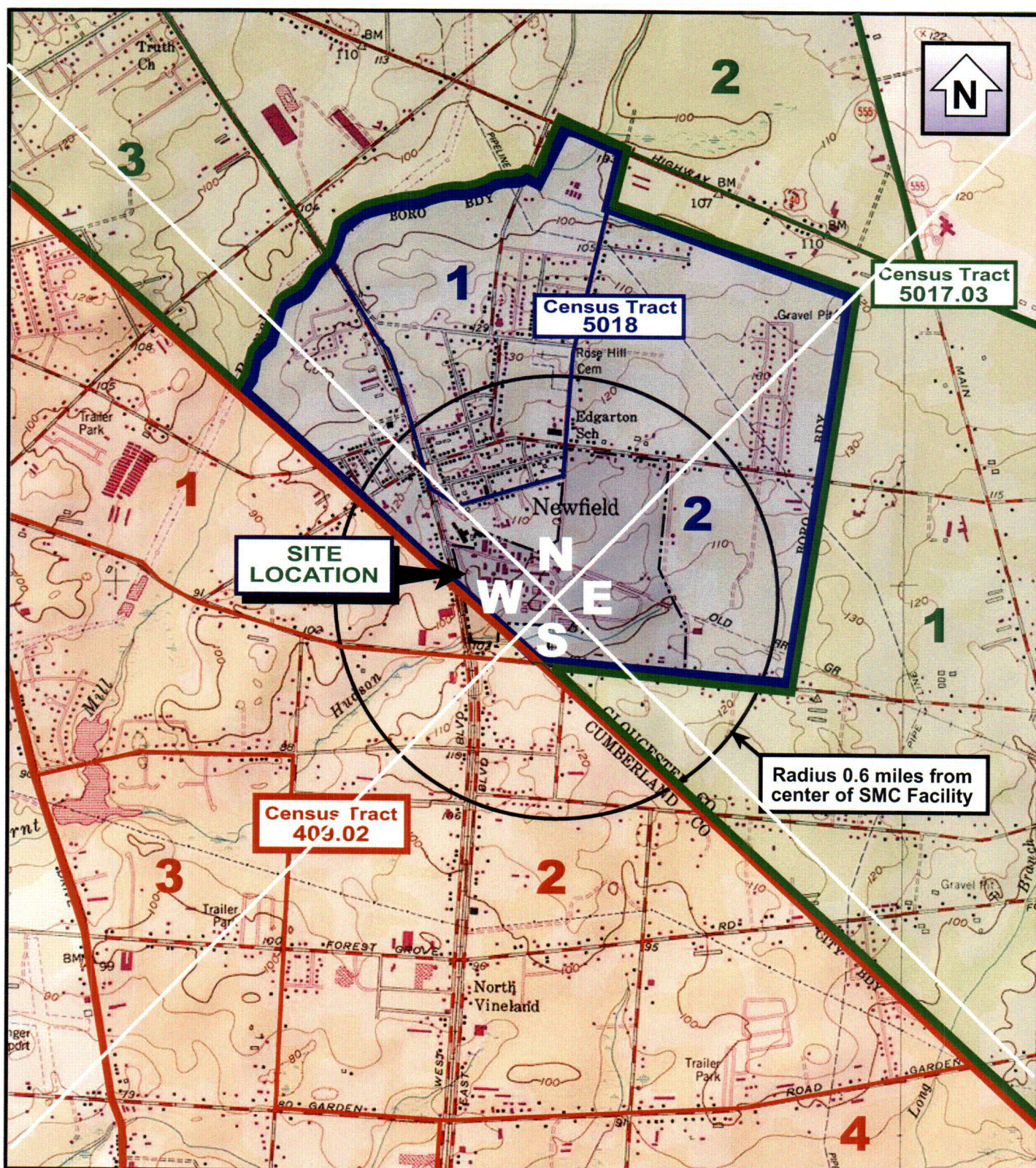


Photo 4. View toward storage yard, from near the SMC administration building.

<b>TRC</b> <i>Customer-Focused Solutions</i>	5 Waterside Crossing Windsor, CT 06095 (860) 298-9692
SHIELDALLOY METALLURGICAL CORP. NEWFIELD, NEW JERSEY	
<b>FIGURE 3-22</b> <b>POINTS OF STORAGE YARD VISIBILITY-</b> <b>VIEWPOINTS 4 AND 5</b>	
Date: 03/05	Project No. 26770-0100-00000



BASE CREATED WITH TOPO™ © 1996  
WILDFLOWERS PRODUCTIONS,  
www.topo.com 7.5' USGS  
TOPOGRAPHIC MAP


**N** Northern  
Quadrant

**S** Southern  
Quadrant

**W** Western  
Quadrant

**E** Eastern  
Quadrant

2 Block Group Number



Defines Census Tract Boundary

**TRC**  
Customer-Focused Solutions

5 Waterside Crossing  
Windsor, Ct 06095  
(860) 298-9692

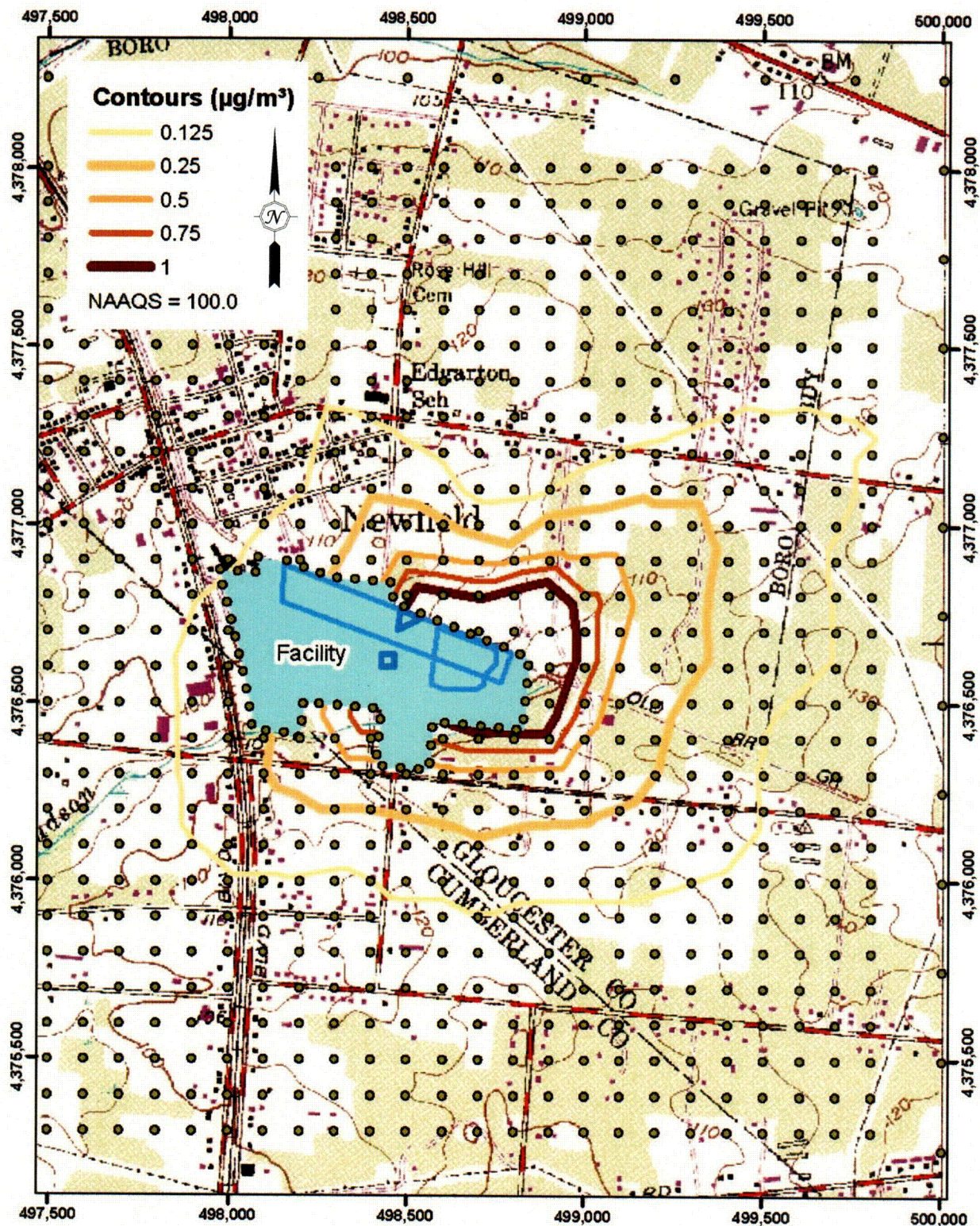
**SHIELDALLOY METALLURGICAL CORPORATION**  
NEWFIELD, NEW JERSEY

**FIGURE 3-23**  
**2000 CENSUS TRACT AND BLOCK**  
**GROUP LOCATIONS WITH POPULATION**  
**DISTRIBUTION QUADRANTS**

Date: 04/05

Project No. 26770-0100-00000





**TRC**

Customer-Focused Solutions

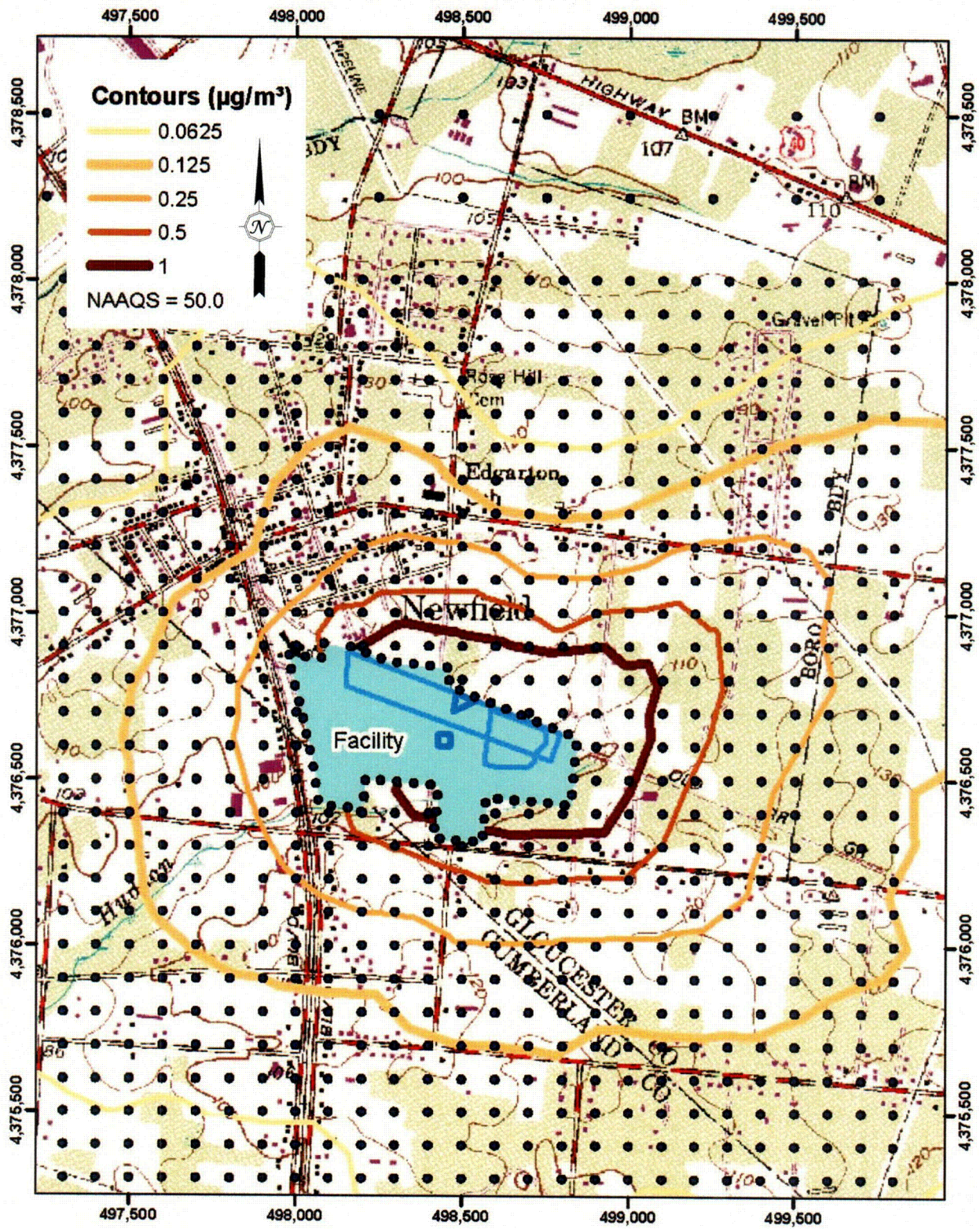
5 Waterside Crossing  
Windsor, CT 06095  
(860) 298-9692

**SHIELDALLOY METALLURGICAL CORPORATION**  
NEWFIELD, NEW JERSEY

**FIGURE 4-2**  
**ISOPLETH MAP OF PREDICTED MAXIMUM**  
**ANNUAL  $\text{NO}_2$  CONCENTRATIONS -**  
**LTC ALTERNATIVE**

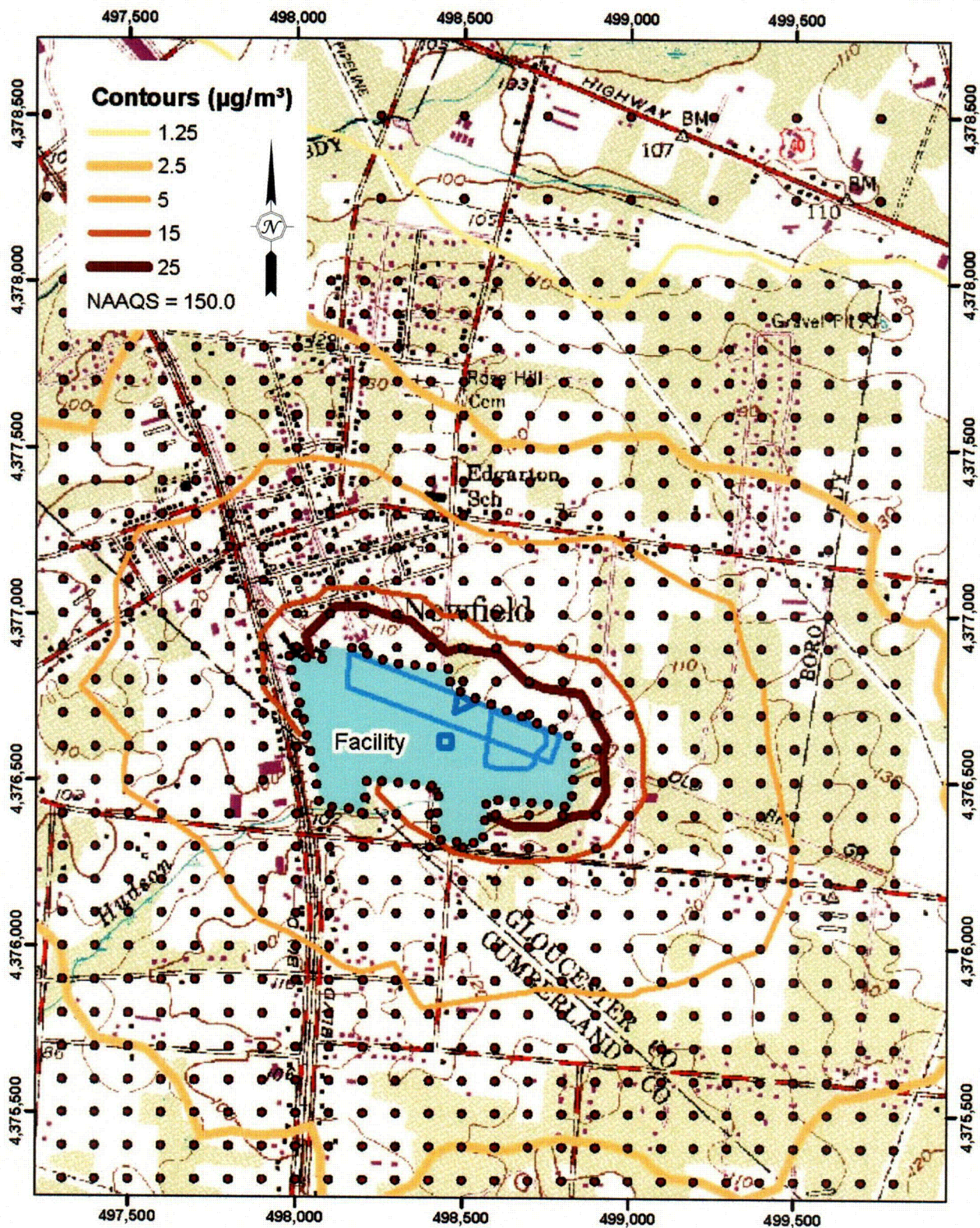
Date: 09/05

Project No. 26770-0000-00000



0 365 730  
SCALE METERS  
NAD\_1927\_UTM\_ZONE\_18N

<b>TRC</b> Customer-Focused Solutions	5 Waterside Crossing Windsor, CT 06095 (860) 298-9692
	<b>SHIELDALLOY METALLURGICAL CORPORATION</b> NEWFIELD, NEW JERSEY
<b>FIGURE 4-3</b> <b>ISOPLETH MAP OF PREDICTED AVERAGE ANNUAL PM<sub>10</sub> CONCENTRATIONS - LTC ALTERNATIVE</b>	
Date: 09/05	Project No. 26770-0000-00000



0 362.5 725  
SCALE METERS  
NAD\_1927\_UTM\_ZONE\_18N

**TRC**

Customer-Focused Solutions

5 Waterside Crossing  
Windsor, CT 06095  
(860) 298-9692

**SHIELDALLOY METALLURGICAL CORPORATION**  
NEWFIELD, NEW JERSEY

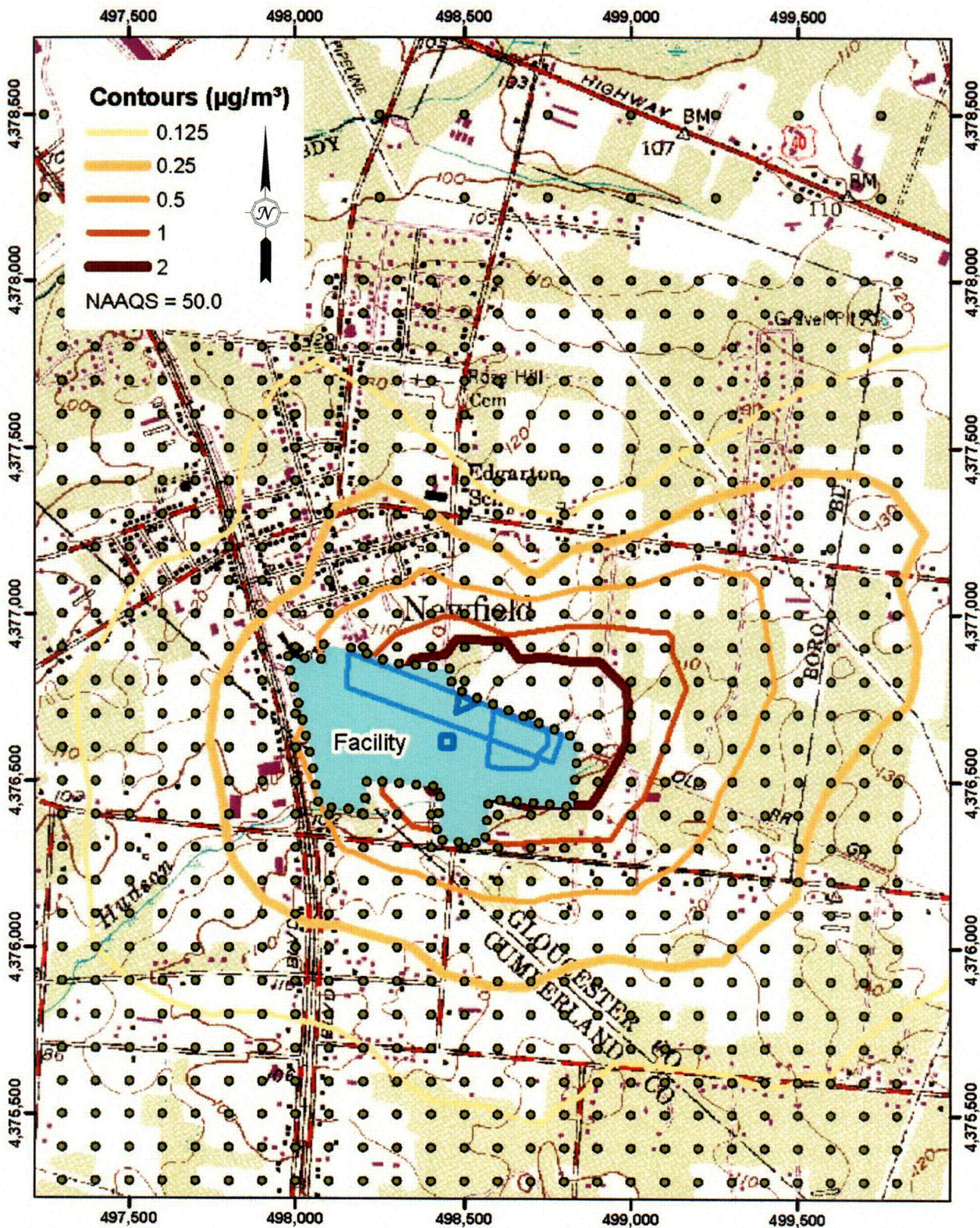
**FIGURE 4-4**

**ISOPLETH MAP OF PREDICTED 6TH-HIGH  
24-HOUR AVERAGE PM<sub>10</sub> CONCENTRATIONS -  
LTC ALTERNATIVE**

Date: 09/05

Project No. 26770-0000-00000





**TRC**

Customer-Focused Solutions

5 Waterside Crossing  
Windsor, CT 06095  
(860) 298-9692

**SHIELDALLOY METALLURGICAL CORPORATION**  
NEWFIELD, NEW JERSEY

**FIGURE 4-6**  
**ISOPLETH MAP OF PREDICTED AVERAGE**  
**ANNUAL  $\text{PM}_{10}$  CONCENTRATIONS -**  
**LT ALTERNATIVE**

Date: 09/05

Project No. 26770-0000-00000

