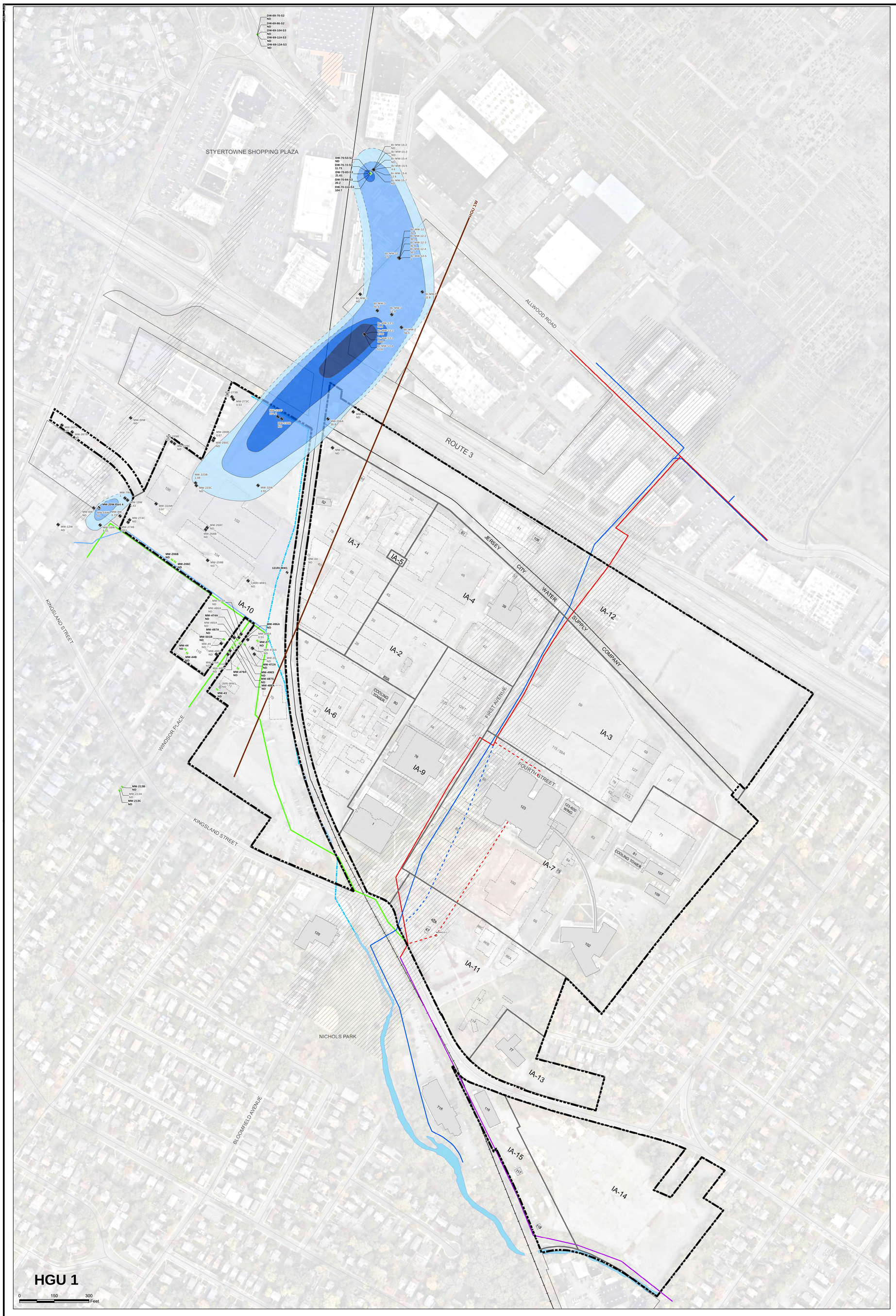

N

LEGEND

- HOFFMANN-LA ROCHE INC. SITE PROPERTY BOUNDARY
- INVESTIGATIVE AREAS
- OFF-SITE PROPERTY BOUNDARY
- DEMOLISHED BUILDING
- CURRENT BUILDING
- RAILROAD
- ROADWAY
- INFERRED HGU SUBCROP BOUNDARY
- APPROXIMATE FAULT ZONE
- ST. PAUL'S BROOK
- SPRINGER BROOK (CULVERT)
- ST. PAUL'S BROOK (CULVERT)
- VALLEY DRAIN
- FORMER VALLEY DRAIN
- CLIFTON-ALLWOOD MUNICIPAL SEWER
- FORMER CLIFTON-ALLWOOD MUNICIPAL SEWER
- NUTLEY MUNICIPAL SEWER
- TRUNK SEWER

HGU 1 WELL LOCATIONS

- MW-472A 25.02 — WELL SAMPLED 3Q 2017 SEMI-ANNUAL & IRM PROGRAMS
- MW-259B ND — WELL SAMPLED DURING PREVIOUS SAMPLING EVENTS - 1Q 2015 THROUGH 2Q 2017 (DATA USED FOR CONTOURING)
- 131RI-MW1 — WELL SAMPLED PRIOR TO 1Q 2015 (DATA NOT SHOWN)
- 26RI-MW1 — DECOMMISSIONED WELL THROUGH 3Q 2017

TOTAL TCA+ ISOCONCENTRATION CONTOURS (1,1,1-TCA, 1,1-DCE, 1,1-DCA)

- >1 AND ≤ 10 PP
- >10 AND ≤ 100 PPB
- >100 AND ≤ 1,000 PPB
- >1,000 PPB

Well ID

DW-70-72-S3			
1,1,1-TCA	1,1-DCE	1,1-DCA	Total TCA+
(0.53)	5.7	(5.5)	11.73

Data From Current Reporting Period - 3Q 2017

TCA+ Detections (non-exceeding results are shown in parentheses)

Asterisk indicates well not sampled for 1,4-dioxane
Well ID
Sample Date (Month/Year)

* MW-230C (3/2015)
Total TCA+
231.2

Data From Previous Sampling Events (used for contouring purposes)

ABBREVIATION	GWQS (ppb)	COMPOUND
1,1,1-TCA	30	1,1,1-Trichloroethane
1,1-DCE	1	1,1-Dichloroethene
1,1-DCA	50	1,1-Dichloroethane

NOTES:

1. HGU = HYDROGEOLOGIC UNIT.
2. TCA+ = 1,1,1-TCA AND BREAKDOWN PRODUCTS (1,1-DCE AND 1,1-DCA).
3. THIS FIGURE DEPICTS THE TCA+ GROUNDWATER QUALITY DATA WITHIN HGUs, AS DEFINED IN THE JANUARY 2018 CONCEPTUAL SITE MODEL (CSM) REPORT.
4. HGUs DIP TO THE NORTHWEST AND THEREFORE HGUs 1, 2, 3, AND 4 ARE NOT UNIFORMLY PRESENT BENEATH THE ENTIRE SITE AS THEY SUBCROP (i.e., INTERSECT THE BEDROCK SURFACE) FROM EAST TO WEST ACROSS THE SITE. HGU SUBCROP BOUNDARIES FOR HGUs 1, 2, 3, AND 4 ARE SHOWN AND THE RESPECTIVE HGUs ARE NOT PRESENT EAST OF THESE LINES.
5. ALL CONCENTRATIONS ARE IN PARTS PER BILLION (PPB).
6. THE TOTAL SUM OF TCA+ DETECTIONS PRESENT IN GROUNDWATER ARE INCLUDED IN THE ISOCONCENTRATION CONTOURS.
7. THE DATA BOXES SHOW ALL GROUNDWATER CONTAMINANT DETECTIONS FOR TCA+. TCA+ SAMPLE RESULTS AT AND BELOW THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP) GROUND WATER QUALITY STANDARDS (GWQS) ARE SHOWN IN PARENTHESES. TCA+ SAMPLE RESULTS GREATER THAN THE NJDEP GWQS ARE SHOWN WITHOUT THE PARENTHESES. WELLS WITH SAMPLES THAT HAVE NO DETECTIONS OF TCA+ ARE MARKED "ND".
8. THE DATA SUMMARIZED ON THIS FIGURE INCLUDE THE SITE-WIDE SEMI-ANNUAL SAMPLING EVENT CONDUCTED IN 3Q 2017 AND INTERIM REMEDIAL MEASURES (IRM) PERFORMANCE MONITORING DATA.
9. DURING THE 3Q 2017 SAMPLING EVENT, ALL WELLS WERE SAMPLED VIA PASSIVE DIFFUSION BAG (PDB) FOR THE VOLATILE ORGANIC COMPOUNDS (VOCs) BETWEEN OCTOBER 17, 2017 AND OCTOBER 31, 2017. DURING IRM PERFORMANCE MONITORING EVENTS WELLS WERE SAMPLED VIA LOW-FLOW FOR VOCs BETWEEN AUGUST 1, 2017 AND NOVEMBER 9, 2017. WESTBAY PORT SAMPLING (DW-65, DW-69, DW-70, AND DW-72) FOR VOCs WAS CONDUCTED BETWEEN SEPTEMBER 27, 2017 AND OCTOBER 4, 2017.
10. THE MOST RECENT HISTORICAL DATA WERE USED FOR WELLS THAT WERE NOT SAMPLED DURING THE CURRENT REPORTING PERIOD TO INTERPOLATE TCA+ CONTOURS. THESE DATA ARE SHOWN IN GRAY DATA BOXES.
11. IN SOME CASES, ADJACENT WELLS SCREENED AT DIFFERENT DEPTH INTERVALS HAVE CONCENTRATIONS THAT DIFFER BY MORE THAN AN ORDER OF MAGNITUDE. IN THESE CASES, THE WELL WITH THE HIGHEST CONCENTRATION WAS USED FOR CONTOURING PURPOSES.
12. TOTAL TCA+ ISOCONCENTRATION CONTOURS ARE SHOWN DASHED WHERE INFERRED.
13. GROUNDWATER QUALITY DATA OF OFF-SITE WELLS ON THE BRIAD PROPERTY (NORTH OF ROUTE 3), COLLECTED BETWEEN JANUARY AND DECEMBER 2016, WERE USED FOR CONTOURING THE EXTENT OF TOTAL TCA+ IN THIS AREA. REFER TO RANSOM RIR APRIL 2017.
14. DELUXE WELLS LOCATED ON-SITE AND OFF-SITE WERE LAST SAMPLED BY ROCHE IN 2015 OR 2016.
15. SELECT WELLS SAMPLED DURING THE 3Q 2017 SAMPLING EVENT AND THE IRM PERFORMANCE MONITORING EVENTS WERE DECOMMISSIONED SUBSEQUENT TO SAMPLING.

DATA FROM CURRENT REPORTING PERIOD - 3Q 2017

DW-69-70-S2
Total TCA+
ND

DW-69-86-S2
Total TCA+
ND

DW-69-104-S3
Total TCA+
ND

DW-69-114-S3
Total TCA+
ND

DW-69-134-S3
Total TCA+
ND

DW-70-53-S2
Total TCA+
ND

DW-70-72-S3			
1,1,1-TCA	1,1-DCE	1,1-DCA	Total TCA+
(0.53)	5.7	(5.5)	11.73

DW-70-83-S3			
1,1,1-TCA	1,1-DCE	1,1-DCA	Total TCA+
(0.51)	12	(9.1)	21.61

DW-70-94-S3			
1,1,1-TCA	1,1-DCE	1,1-DCA	Total TCA+
(0.5)	11	(8.7)	20.20

DW-70-114-S3			
1,1,1-TCA	1,1-DCE	1,1-DCA	Total TCA+
(1.7)	67	(36)	104.7

MW-27
Total TCA+
ND

MW-43
Total TCA+
ND

MW-44
Total TCA+
ND

MW-44B
Total TCA+
ND

MW-206B
Total TCA+
ND

MW-206C
Total TCA+
ND

MW-213B
Total TCA+
ND

MW-213C
Total TCA+
ND

MW-472A
Total TCA+
ND

MW-474A
Total TCA+
ND

MW-479A
Total TCA+
ND

MW-487A
Total TCA+
ND

MW-487S
Total TCA+
ND

MW-488A
Total TCA+
ND

MW-496A
Total TCA+
ND

MW-496S
Total TCA+
ND

MW-501B
Total TCA+
ND

DATA FROM PREVIOUS SAMPLING EVENTS - 1Q 2015 THROUGH 2Q 2017

* 26RI-MW1 (1/2016)
Total TCA+
ND

138RI-MW1 (4/2017)
Total TCA+
ND

Br-MW-1 (12/2016)
Total TCA+
12.4

Br-MW-2 (12/2016)
Total TCA+
56.5

Br-MW-3 (12/2016)
Total TCA+
50.6

Br-MW-7 (9/2016)
Total TCA+
ND

Br-MW-9 (12/2016)
Total TCA+
22.8

Br-MW-11 (12/2016)
Total TCA+
1.5

Br-MW-12-1 (2/2016)
Total TCA+
31.1

* Br-MW-12-2 (4/2016)
Total TCA+
30.3

Br-MW-12-3 (2/2016)
Total TCA+
42.8

Br-MW-12-4 (2/2016)
Total TCA+
50.1

Br-MW-12-5 (2/2016)
Total TCA+
1

Br-MW-13-1 (2/2016)
Total TCA+
64.8

Br-MW-13-2 (2/2016)
Total TCA+
4,730

* Br-MW-13-3 (4/2016)
Total TCA+
2,660

Br-MW-13-4 (2/2016)
Total TCA+
5,100

Br-MW-15-2 (2/2016)
Total TCA+
ND

Br-MW-15-3 (2/2016)
Total TCA+
ND

Br-MW-15-4 (2/2016)
Total TCA+
ND

* Br-MW-15-5 (4/2016)
Total TCA+
4.6

* Br-MW-15-6 (4/2016)
Total TCA+
13.6

Br-MW-15-7 (2/2016)
Total TCA+
ND

* MW-4A (9/2015)
Total TCA+
ND

* MW-5AW (6/2016)
Total TCA+
41

* MW-6W (7/2015)
Total TCA+
ND

* MW-7W (6/2016)
Total TCA+
1

* MW-9W (6/2016)
Total TCA+
0.79

* MW-12W (6/2016)
Total TCA+
ND

MW-16 (9/2015)
Total TCA+
ND

* MW-16AW (6/2016)
Total TCA+
0.97

* MW-19W (6/2016)
Total TCA+
1.43

* MW-28 (1/2016)
Total TCA+
ND

* MW-30W (7/2015)
Total TCA+
ND

* MW-32W (7/2015)
Total TCA+
2.91

* MW-38W (6/2016)
Total TCA+
5.31

* MW-45 (6/2015)
Total TCA+
ND

* MW-58 (6/2015)
Total TCA+
ND

* MW-223B (6/2015)
Total TCA+
1.49

* MW-223C (6/2015)
Total TCA+
ND

MW-229B (9/2015)
Total TCA+
ND

MW-229C (9/2015)
Total TCA+
ND

* MW-230B (3/2015)
Total TCA+
ND

* MW-230C (3/2015)
Total TCA+
231.2

MW-259B (6/2015)
Total TCA+
ND

MW-266A (9/2015)
Total TCA+
35.8

MW-267A (6/2015)
Total TCA+
ND

MW-267B (6/2015)
Total TCA+
ND

MW-268B (6/2015)
Total TCA+
ND

MW-268C (6/2015)
Total TCA+
ND

MW-273B (9/2015)
Total TCA+
ND

MW-273C (9/2015)
Total TCA+
0.53

MW-274B (9/2015)
Total TCA+
0.51

MW-274C (9/2015)
Total TCA+
ND

* MW-280B (6/2015)
Total TCA+
0.67

* MW-280C (6/2015)
Total TCA+
ND

MW-446A (1/2017)
Total TCA+
0.53

MW-473A (1/2017)
Total TCA+
ND

MW-475A (1/2017)
Total TCA+
ND

MW-476A (1/2017)
Total TCA+
ND

MW-480A (1/2017)
Total TCA+
ND

MW-485A (1/2017)
Total TCA+
ND

MW-486A (1/2017)
Total TCA+
ND

MW-489A (1/2017)
Total TCA+
ND

PROJECT:
HOFFMANN-LA ROCHE INC. SITE
NUTLEY, NEW JERSEY

TITLE:
TCA+ IN GROUNDWATER HGU 1 - 3Q 2017

DATE: FEBRUARY 2019 | PROJ. NO.: 198233

FIGURE 19

TRC ENVIRONMENTAL CORP.
41 Spring Street, Suite 102
New Providence, New Jersey 07974
908-988-1700

FILE NO.: ROCHE TCA - HGU 1.mxd

Plot Date: 2/19/2019, 11:24:46 AM by MGIAMBATTISTA -- LAYOUT: ANSI D (22"X34")
Path: M:\ArcGIS Files\105009\GWPR\2017 3Q\MAP DOCUMENTS\TCA\ROCHE TCA - HGU 1.mxd