

Legend

- SB-101 ● Soil boring location (EnviroForensics)
- B1 ● Soil boring location (By Others)
- Proposed Soil boring location
- - - Property boundary
- ⊙ Sump
- FDCM Former dry cleaning machine location

- 5 Soil PCE concentration (µg/kg)
- Extent of PCE in soil exceeding the Soil to groundwater RCL (4.5 µg/kg)
- - - Dashed boundaries are inferred

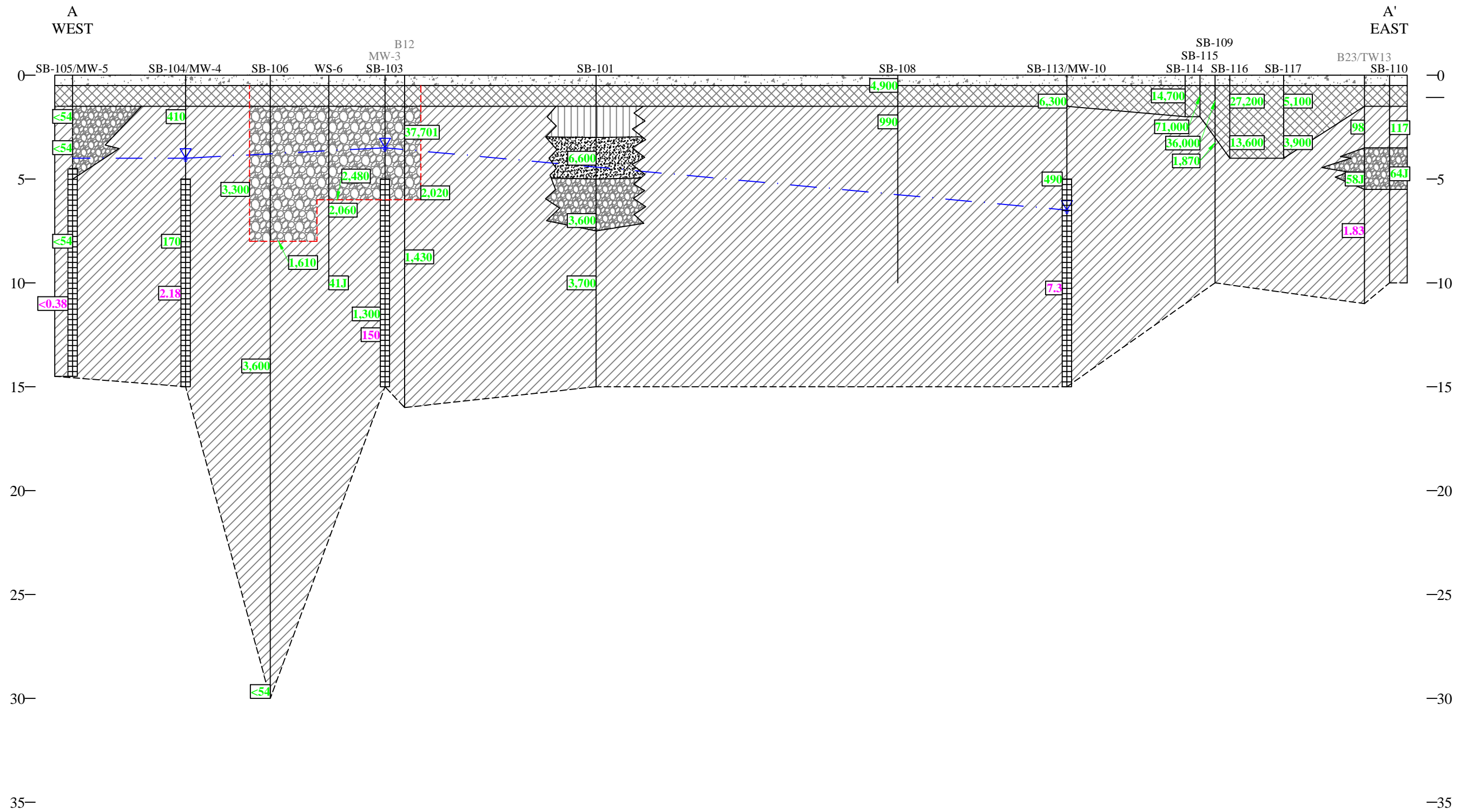
No.	Date	Revision	Approved



Date: 9/12/18
 Designed: EB
 Drawn: EB
 Checked: KH
 DWG file: 6306-0605

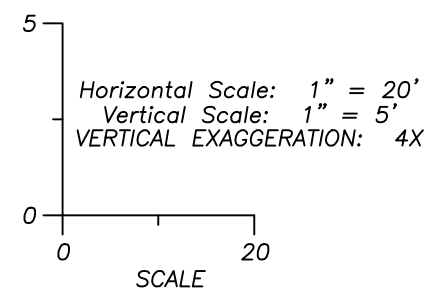
EXTENT OF PCE IN SOIL AND PROPOSED SOIL BORING LOCATION MAP
 Former Packard Way Cleaners
 3650/3652 East Barnard Avenue
 Cudahy, Wisconsin

Figure
1
Project
6306



Legend

	Concrete		Monitoring well screen
	Top Soil		Excavation boundaries
	Fill		Dashed boundaries are inferred
	Silty Sand		700 PCE concentration in soil sample (mg/kg)
	Silty Clay		700 PCE concentration in groundwater sample (µg/L)
	Sandy Silt		WTR - Underground water utility line
	Gravely Sand		SAN - Underground sanitary utility line
	Stone		



GEOLOGIC CROSS SECTION A-A'

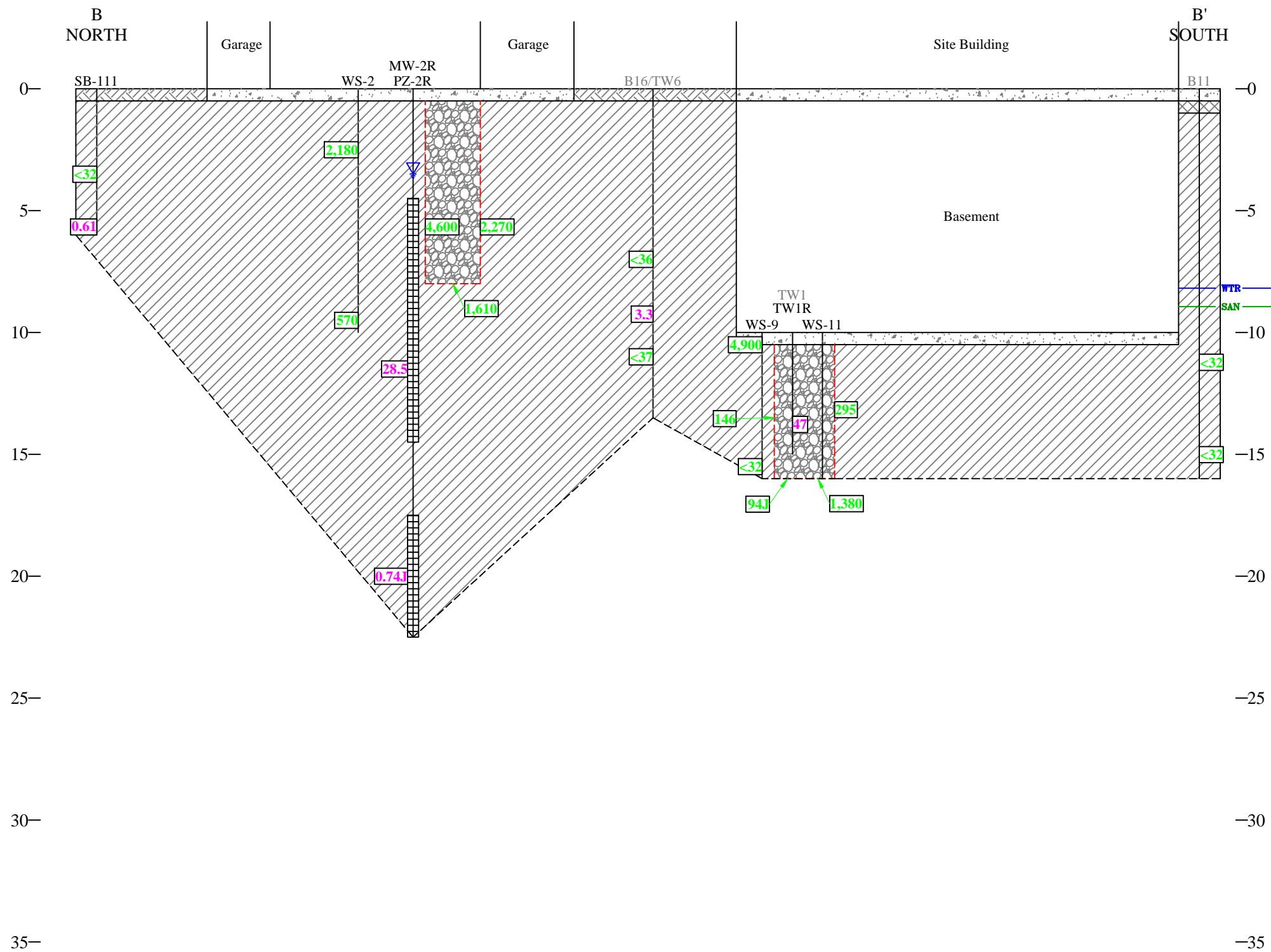
Former Packard Way Cleaners
 3650/3652 East Barnard Avenue
 Cudahy, Wisconsin

Date:	3/21/19
Designed:	EB
Drawn:	EB
Checked:	RH
DWG file:	6306-0706



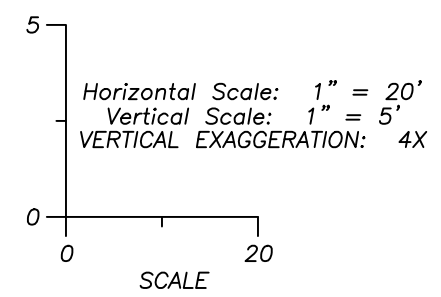
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Figure	1
Project	6306



Legend

- Concrete
- Top Soil
- Fill
- Silty Sand
- Silty Clay
- Sandy Silt
- Gravely Sand
- Stone
- Monitoring well screen
- Excavation boundaries
- Dashed boundaries are inferred
- 700 PCE concentration in soil sample (mg/kg)
- 700 PCE concentration in monitoring well sample (µg/L)
- WTR Underground water utility line
- SAN Underground sanitary utility line
- Observed groundwater elevation in monitoring well



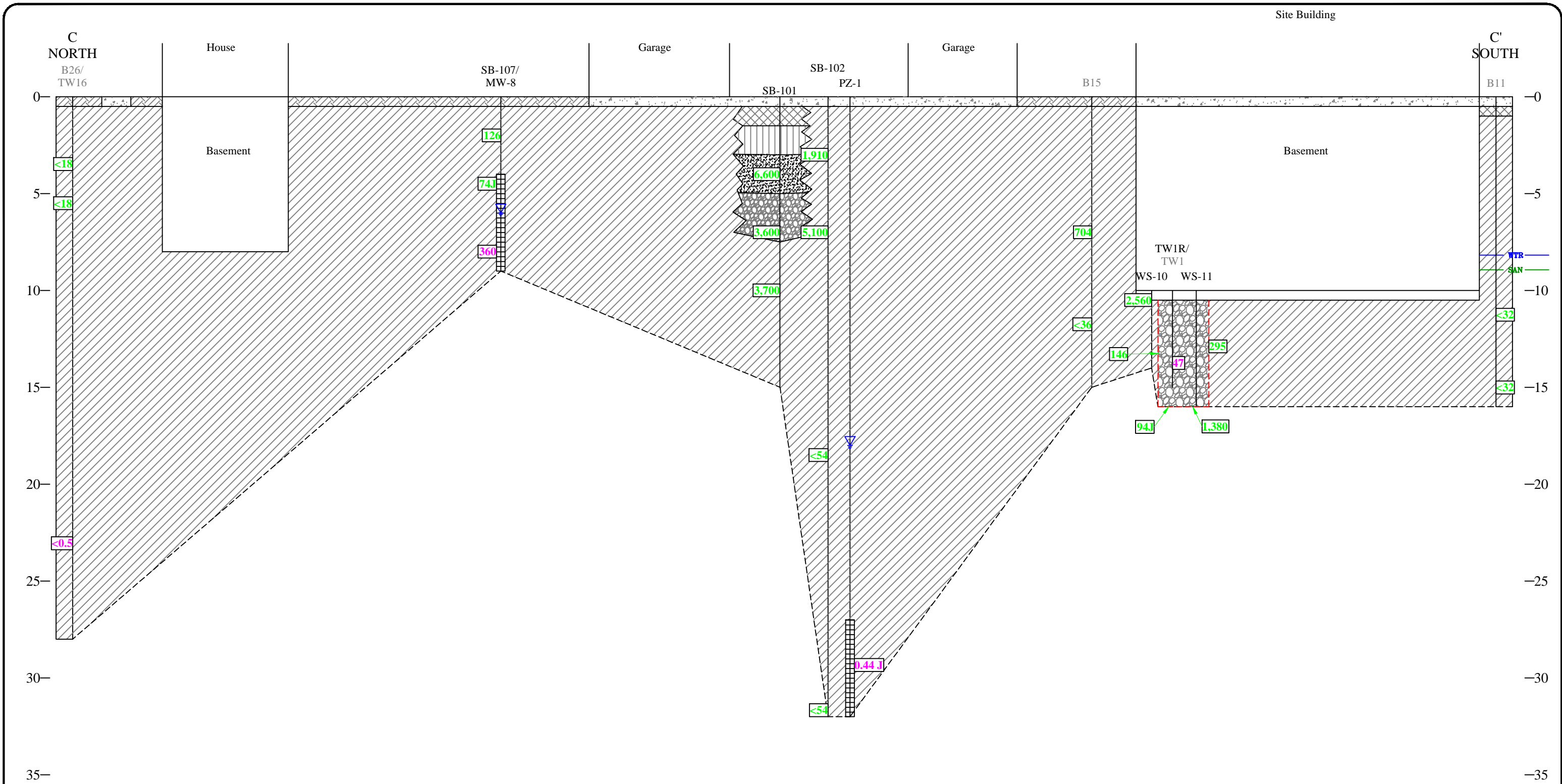
GEOLOGIC CROSS SECTION B-B'

Former Packard Way Cleaners
 3650/3652 East Barnard Avenue
 Cudahy, Wisconsin

Date:	3/21/19
Designed:	EB
Drawn:	EB
Checked:	RH
DWG file:	6306-0706

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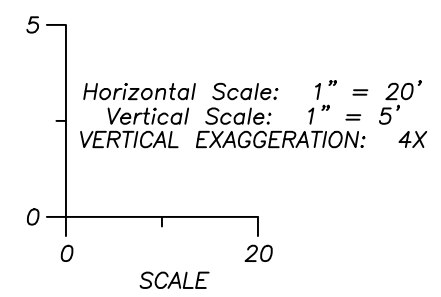
Figure	1
Project	6306



Legend

	Concrete
	Top Soil
	Fill
	Silty Sand
	Silty Clay
	Sandy Silt
	Gravely Sand
	Stone

- Observed groundwater elevation in monitoring well
- Monitoring well screen
- Excavation boundaries
- Dashed boundaries are inferred
- 700 PCE concentration in soil sample (mg/kg)
- 700 PCE concentration in monitoring well sample (µg/L)
- WTR** Underground water utility line
- SAN** Underground sanitary utility line

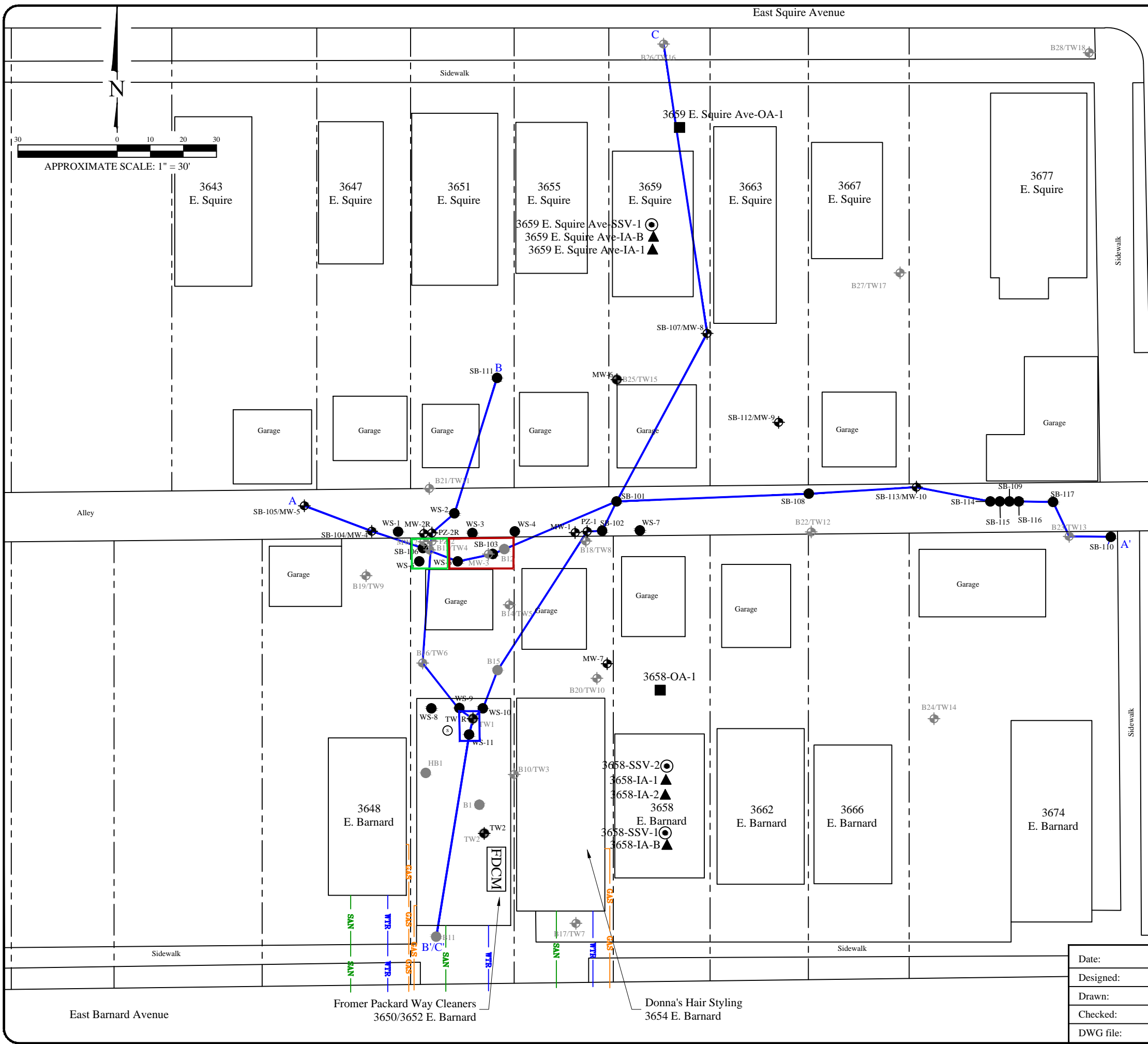


Date:	3/21/19
Designed:	EB
Drawn:	EB
Checked:	RH
DWG file:	6306-0706

GEOLOGIC CROSS SECTION C-C'

Former Packard Way Cleaners
 3650/3652 East Barnard Avenue
 Cudahy, Wisconsin

	Figure
	1
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6306	



- ### Legend
- MW-1 Monitoring well location
 - SB-101 Direct push soil boring location
 - B1 Soil boring location (By Others)
 - B26/TW16 Former soil boring/Temporary well location (By Others)
 - SSV-1 Sub-slab sample
 - OA-1 Outdoor air sample
 - IA-1 Indoor air sample
 - - - - - Property boundary
 - GAS Underground gas utility line
 - WTR Underground water utility line
 - SAN Underground sanitary utility line
 - Sump
 - Former dry cleaning machine location
 - A - A' Cross section transect
 - B - B' Cross section transect
 - C - C' Cross section transect
 - Excavation area to 5 feet bgs
 - Excavation area to 6 feet bgs
 - Excavation area to 8 feet bgs

**GEOLOGIC CROSS SECTION TRANSECT MAP
A-A' AND B-B'**

Former Packard Way Cleaners
3650/3652 East Barnard Avenue
Cudahy, Wisconsin

Date:	3/21/19
Designed:	EB
Drawn:	EB
Checked:	RH
DWG file:	6306-0706

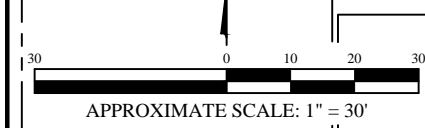
Figure	1
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Date:	3/21/19
Designed:	EB
Drawn:	EB
Checked:	RH
DWG file:	6306-0706

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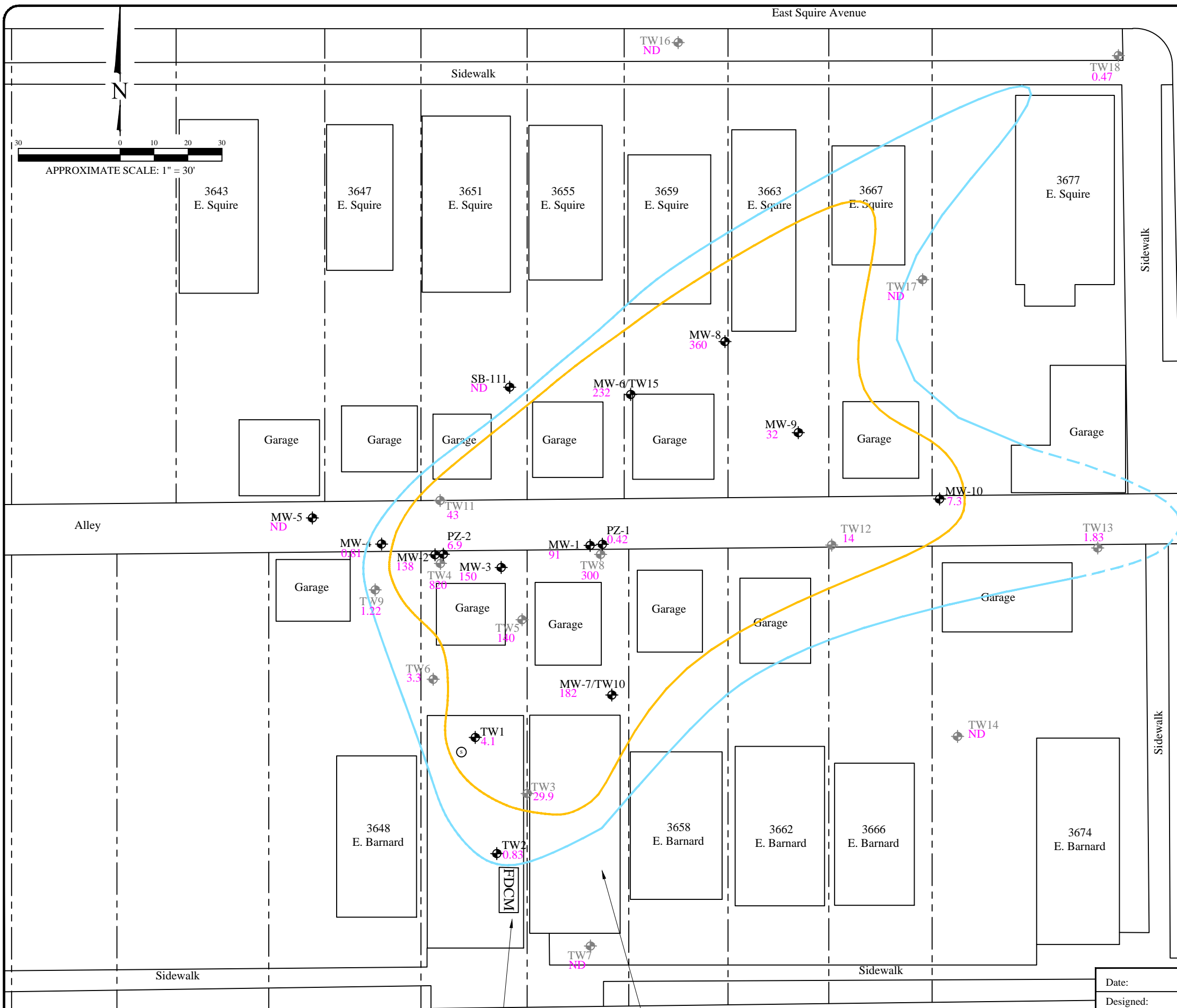
Figure	1
Project	6306



East Barnard Avenue

Former Packard Way Cleaners
3650/3652 E. Barnard

Donna's Hair Styling
3654 E. Barnard



South Kirkwood Avenue

Legend

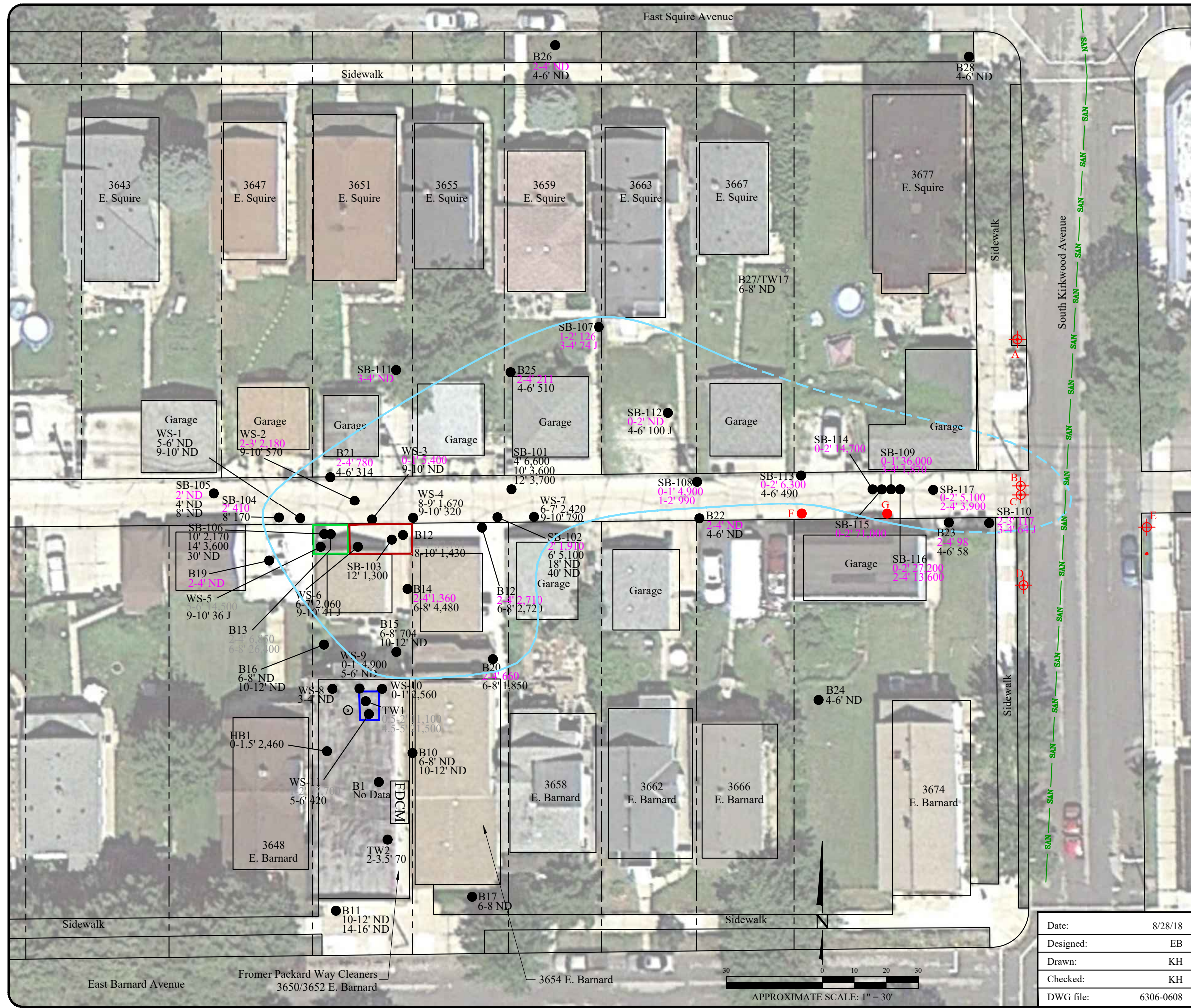
- MW-1 ◆ Monitoring well location (EnviroForensics)
- TW16 ◆ Temporary well location (By Others)
- ◆ Proposed monitoring well location
- 14 Groundwater PCE concentration (ug/L)
- Property boundary
- ⊙ Sump
- [FDCM] Former dry cleaning machine location
- Extent of PCE in groundwater exceeding the Public Health Preventive Action Level (0.5 µg/L)
- Extent of PCE in groundwater exceeding the Public Health Enforcement Standard (5 µg/L)
- - - Dashed boundaries are inferred

EXTENT OF PCE IN GROUNDWATER											
Former Packard Way Cleaners 3650/3652 East Barnard Avenue Cudahy, Wisconsin											
	Figure 2										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Date:</td><td>8/28/18</td></tr> <tr><td>Designed:</td><td>EB</td></tr> <tr><td>Drawn:</td><td>KH</td></tr> <tr><td>Checked:</td><td>RH</td></tr> <tr><td>DWG file:</td><td>6306-0726</td></tr> </table>	Date:	8/28/18	Designed:	EB	Drawn:	KH	Checked:	RH	DWG file:	6306-0726	Project 6306
Date:	8/28/18										
Designed:	EB										
Drawn:	KH										
Checked:	RH										
DWG file:	6306-0726										
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East Barnard Avenue

Former Packard Way Cleaners
3650/3652 E. Barnard

Donna's Hair Styling
3654 E. Barnard



Legend

- Soil sample location
- - - Property boundary
- SAN — Underground sanitary utility line
- ⊙ Sump
- [FDCM] Former dry cleaning machine location
- 5 Soil PCE concentration (µg/kg) < 4 feet bgs exceeding MTG
- 5 Soil PCE concentration (µg/kg) > 4 feet bgs
- 5 Soil PCE concentration (µg/kg) excavated
- Excavation area to 5 feet bgs
- Excavation area to 6 feet bgs
- Excavation area to 8 feet bgs
- Extent of PCE in soil exceeding the Soil to groundwater RCL (4.5 µg/kg)
- Proposed boring location
- ⊙ Proposed boring and temporary well location

Analytes	Soil Residual Containment Level (RCL)		
	Industrial	Non-Industrial	Soil to Groundwater
PCE	145,000	33,000	4.5

- Notes:
- Results reported in micrograms per kilogram = ug/kg
 - All soil greater than 4 feet bgs are compared to groundwater standards (all basement samples considered >4 feet bgs)
 - J = Estimated concentration above the method detection limit and below the reporting limit
 - PCE = Tetrachloroethene
 - MTG = Migration to groundwater
 - ND = PCE not detected
 - bgs = below ground surface
 - WS = Waste sample location (EnviroForensics)
 - SB = Soil boring location (EnviroForensics)
 - HB/TW = Hand auger location (Others)
 - B = Soil boring location (Others)

PROPOSED SOIL BORING LOCATION AND PCE ANALYTICAL RESULTS MAP
Former Packard Way Cleaners
3650/3652 East Barnard Avenue
Cudahy, Wisconsin

Date:	8/28/18
Designed:	EB
Drawn:	KH
Checked:	KH
DWG file:	6306-0608



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Figure	1
Project	6306

APPROXIMATE SCALE: 1" = 30'

TABLE
MONITORING WELL CONSTRUCTION DETAILS

Packard Way, Ltd.
3650-3652 East Barnard Avenue
Cudahy, WI

Monitoring Well I.D.	Date Installed	Drilling Method	Drilling Contractor	Project Oversight	Well Diameter (inches)	Screened Interval (ft bgs)
MW-1	6/10/2015	Hollow-Stem Auger	On-Site Environmental	EnviroForensics	2	4.5-14.5
MW-2	6/10/2015	Hollow-Stem Auger	On-Site Environmental	EnviroForensics	2	4.5-14.5
MW-2R	10/11/2018	Hollow-Stem Auger	Horizon Construction and Exploration	EnviroForensics	2	4.5-14.5
MW-3	6/10/2015	Hollow-Stem Auger	On-Site Environmental	EnviroForensics	2	4.5-14.5
MW-4	6/11/2015	Hollow-Stem Auger	On-Site Environmental	EnviroForensics	2	4.5-14.5
MW-5	6/11/2015	Hollow-Stem Auger	On-Site Environmental	EnviroForensics	2	4.5-14.5
MW-6/TW15	2007	GeoProbe	N/A	Northern Environmental	1	3-16
MW-7/TW10	8/8/2006	GeoProbe	Probe Technologies	Northern Environmental	1	5-16
MW-8	10/11/2018	Hand Auger	EnviroForensics	EnviroForensics	2	4-9
MW-9	2/14/2019	Hollow-Stem Auger	Horizon Construction and Exploration	EnviroForensics	2	4.5-14.5
MW-10	2/14/2019	Hollow-Stem Auger	Horizon Construction and Exploration	EnviroForensics	2	4.5-14.5
PZ-1	6/10/2015	Hollow-Stem Auger	On-Site Environmental	EnviroForensics	2	27.5-32.5
PZ-2	10/11/2019	Hollow-Stem Auger	Horizon Construction and Exploration	EnviroForensics	2	17.5-22.5
PZ-2R	10/11/2018	Hollow-Stem Auger	Horizon Construction and Exploration	EnviroForensics	2	17.5-22.5

Notes:

ft bgs = feet below ground surface

N/A = Not Available

Grayed wells were abandoned during interim remedial activities

TABLE
GROUNDWATER ELEVATION DATA

Packard Way, Ltd.
3650-3652 East Barnard Avenue
Cudahy, WI

Well Identification	Date	TOC Elevation (feet AMSL)	Depth to Water (feet below TOC)	Groundwater Elevation (feet AMSL)
MW-1	6/15/2015	702.79	5.27	697.52
	9/26/2016	702.79	3.61	699.18
	1/3/2017	702.79	4.92	697.87
	1/31/2018	702.79	4.74	698.05
	11/20/2018	702.79	4.36	698.43
MW-2	6/15/2015	704.18	1.67	702.51
	9/26/2016	704.18	2.33	701.85
	1/3/2017	704.18	3.60	700.58
	1/31/2018	704.18	3.24	700.94
	8/13/2018	Abandoned		
MW-2R	11/20/2018		3.97	
MW-3	6/15/2015	703.80	1.13	702.67
	9/26/2016	703.80	3.17	700.63
	1/3/2017	703.80	3.51	700.29
	1/31/2018	703.80	4.65	699.15
MW-4	6/15/2015	704.49	9.72	694.77
	9/26/2016	704.49	2.57	701.92
	1/3/2017	704.49	3.44	701.05
	1/31/2018	704.49	4.13	700.36
	11/20/2018	704.49	2.92	701.57
MW-5	6/15/2015	705.11	1.16	703.95
	9/26/2016	705.11	2.75	702.36
	1/3/2017	705.11	2.87	702.24
	1/31/2018	705.11	3.93	701.18
	11/20/2018	705.11	3.61	701.50
MW-6	6/15/2015	701.74	2.68	699.06
	9/26/2016	701.74	4.18	697.56
	1/3/2017	701.74	4.88	696.86
	1/31/2018	701.74	5.49	696.25
	11/20/2018	701.74	5.51	696.23
MW-7	6/15/2015	703.62	3.20	700.42
	9/26/2016	703.62	4.29	699.33
	1/3/2017	703.62	5.12	698.50
	1/31/2018	703.62	5.43	698.19
	11/20/2018	703.62	5.53	698.09
MW-8	11/20/2018	NS	6.04	NS
MW-9	3/4/2019	NS	5.89	NS
MW-10	3/4/2019	NS	6.39	NS
PZ-1	6/15/2015	702.63	13.81	688.82
	9/26/2016	702.63	14.03	688.60
	1/3/2017	702.63	13.98	688.65
	1/31/2018	702.63	15.28	687.35
	1/31/2018	702.63	14.10	688.53
PZ-2	6/15/2015	704.07	21.15	682.92
	9/26/2016	704.07	5.90	698.17
	1/3/2017	704.07	21.77	682.30
	1/31/2017	704.07	7.82	696.25
	8/13/2018	Abandoned		
PZ-2R	11/20/2018	NS	15.71	NS

Notes

All values are in feet
 AMSL = above mean sea level
 DTW = Depth to water
 ND = Not Detected
 TOC = Top of Casing
 NS = Not Surveyed
 Monitoring wells surveyed in June 2015 by Surveying Associates, Inc.

TABLE
SOIL ANALYTICAL RESULTS
Packard Way, Ltd.
3650-3652 East Barnard Avenue
Cudahy, WI

Boring Identification	Date Sampled	Depth	Tetrachloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene	Xylene (total)
Industrial RCL ¹			145,000	219,000	293,000	24,100	3,570,000
Non-Industrial RCL ¹			33,000	219,000	293,000	5,520	818,000
Soil to Goundwater RCL ¹			4.5	1,378	NE	658.2	3,960
HB1	7/20/2004	0-1.5	2,460	<36	<36	NA	NA
TW1	7/20/2004	0.5-2	11,100	<35	<35	NA	NA
		4.5-5	21,500	51	51	NA	NA
TW2	7/20/2004	2-3.5	70	35	35	NA	NA
B10/TW3	8/23/2004	6-8	<35	<35	<35	NA	NA
		10-12	<32	<32	<32	NA	NA
B11	8/23/2004	10-12	<32	<32	<32	NA	NA
		14-16	<32	<32	<32	NA	NA
B12	8/23/2004	2-4	37,701	<34	<34	NA	NA
		8-10	1,430	<33	<33	NA	NA
B13/TW4	8/23/2004	2-4	6,850	<35	<35	NA	NA
		6-8	26,400	<34	<34	NA	NA
B14/TW5	8/23/2004	2-4	1,360	<37	<37	NA	NA
		6-8	4,480	<32	<32	NA	NA
B15	8/23/2004	6-8	704	<35	<35	NA	NA
		10-12	<36	<36	<36	NA	NA
B16/TW6	8/23/2004	6-8	<36	<36	<36	NA	NA
		10-12	<37	<37	<37	NA	NA
B17/TW7	1/19/2006	6-8	<25	<25	<25	NA	NA
B18/TW8	1/19/2006	2-4	2,710	<25	<25	NA	NA
		6-8	2,720	<25	<25	NA	NA
B19/TW9	1/19/2006	2-4	<25	<25	<25	NA	NA
B20/TW10	1/19/2006	2-4	660	<25	<25	NA	NA
		6-8	1,850	<25	<25	NA	NA
B21/TW11	1/19/2006	2-4	780	<25	<25	NA	NA
		4-6	314	<25	<25	NA	NA
B22/TW12	8/8/2006	2-4	<25	<25	<25	NA	NA
		4-6	<25	<25	<25	NA	NA
B23/TW13	8/8/2006	2-4	98	<25	<25	NA	NA
		4-6	58 J	<25	<25	NA	NA
B24/TW14	8/8/2006	4-6	<25	<25	<25	NA	NA
B25/TW15	6/15/2007	2-4	211	<25	<25	NA	NA
		4-6	510	<25	<25	NA	NA
B26/TW16	8/29/2008	2-4	<18	<20	<20	NA	NA
		4-6	<18	<20	<20	NA	NA
B27/TW17	7/30/2010	6-8	<18	<73	<73	NA	NA
B28/TW18	7/30/2010	4-6	<53	<73	<73	NA	NA
SB-101	05/13/15	4	6,600	<78	<78	NA	<99
	05/13/15	10	3,600	<78	<78	NA	<80
	05/13/15	12	3,700	<78	<78	NA	<99
SB-102	05/13/15	2	1,910	<78	<78	NA	<99
	05/13/15	6	5,100	<78	<78	NA	<80
	05/13/15	18	<54	<78	<78	NA	<80
	05/13/15	40	<54	<78	<78	NA	<99
SB-103	05/13/15	12	1,300	<78	<78	NA	<99
SB-104	05/13/15	2	410	86 J	86 J	NA	<99
	05/13/15	8	170	<78	<78	NA	<99
SB-105	05/13/15	2	<54	<78	<78	NA	<99
	05/13/15	4	<54	<78	<78	NA	<99
	05/13/15	8	<54	<78	<78	NA	<99
SB-106	05/13/15	10	2,170	<78	<78	NA	<99
	05/13/15	14	3,600	<78	<78	NA	<99
	05/13/15	30	<54	<78	<78	NA	<99

TABLE
SOIL ANALYTICAL RESULTS
Packard Way, Ltd.
3650-3652 East Barnard Avenue
Cudahy, WI

Boring Identification	Date Sampled	Depth	Tetrachloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene	Xylene (total)
Industrial RCL ¹			145,000	219,000	293,000	24,100	3,570,000
Non-Industrial RCL ¹			33,000	219,000	293,000	5,520	818,000
Soil to Goundwater RCL ¹			4.5	1,378	NE	658.2	3,960
WS-1	12/7/2017	5-6	<32	<25	<25	<40.5	<116
		9-10	<32	<25	<25	NA	<116
WS-2	12/7/2017	2-3	2,180	<25	<25	NA	<116
		9-10	570	<25	<25	NA	<116
WS-3	12/7/2017	0-1	5,400	<25	<25	NA	<116
		9-10	<32	<25	<25	NA	<116
WS-4	12/7/2017	8-9	1,670	<25	<25	NA	<116
		9-10	320	<25	<25	NA	<116
WS-5	12/7/2017	5-6	14,500	<25	<25	NA	<116
		9-10	36 J	<25	<25	NA	<116
WS-6	12/7/2017	6-7	2,060	<25	<25	NA	<116
		9-10	41 J	<25	<25	NA	<116
WS-7	12/7/2017	6-7	2,420	<25	<25	NA	<116
		9-10	790	<25	<25	NA	<116
WS-8	12/7/2017	3-4	<32	<25	<25	NA	<116
WS-9	12/7/2017	0-1	4,900	<25	<25	NA	<116
		5-6	<32	<25	<25	NA	<116
WS-10	12/7/2017	0-1	2,560	<25	<25	NA	<116
WS-11	12/7/2017	1-2	17,700	<25	<25	NA	<116
		5-6	420	<25	<25	NA	<116
SB-107	10/11/18	1-2	126	<25	<25	NA	<116
		3-4	74 J	<25	<25	NA	<116
SB-108	10/11/18	0-1	4,900	<25	<25	NA	<116
		1-2	990	<25	<25	NA	<116
SB-109	10/11/18	0-1	36,000	<25	<25	NA	<116
		3-4	1,870	<25	<25	NA	<116
SB-110	10/11/18	2-3	117	<25	<25	NA	<116
		3-4	64 J	<25	<25	NA	<116
SB-111	02/14/19	3-4	<32	<25	<32	<94	<116
SB-112	02/14/19	0-2	<32	99	41 J	680	133
		4-6	100 J	<25	<32	216 J	<116
SB-113	02/14/19	0-2	6,300	<25	<32	<94	<116
		4-6	490	<25	<32	<94	<116
SB-114	02/14/19	0-2	14,700	<25	<32	<94	<116
SB-115	02/14/19	0-2	71,000	<25	<32	<94	<116
SB-116	02/14/19	0-2	27,200	<25	<32	<94	<116
		2-4	13,600	<25	<32	<94	<116
SB-117	02/14/19	0-2	5,100	35 J	<32	<94	<116
		2-4	3,900	<25	<32	<94	<116

Notes:

Residual contaminant level are based on US EPA Soil Screening Levels (September 2018)

Samples analyzed using EPA SW-846 Method 8260 with Prep Method 5030B

All concentrations reported in units of micrograms per kilogram (µg/kg)

Bolded and Shaded green values exceed the WDNR generic Non-Industrial Residual Contaminant Levels

Bolded and Shaded blue values exceed the WDNR generic Soil to Groundwater Residual Contaminant Levels

Gray Shaded value indicates soil was excavated during August 2018

Bolded values are above detection limits

J = Concentration is less than the reporting limit but greater than the method detection limit.

**TABLE
POST EXCAVATION SOIL ANALYTICAL RESULTS**

Packard Way, Ltd.
3650-3652 East Barnard Avenue
Cudahy, WI

Boring Identification	Date Sampled	Depth	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2_Dichloroethene	Vinyl Chloride
Industrial RCL ¹			145,000	8,410	2,340,000	1,850,000	2,080
Non-Industrial RCL ¹			33,000	1,300	156,000	1,560,000	67
Soil to Goundwater RCL ¹			4.5	3.6	41.2	62.6	0.1
6306-BWS-1	8/9/2018	4'	146	<41	<32	<28	<19
6306-BWS2	8/9/2018	4'	340	<41	<32	<28	<19
6306-BWS-3	8/9/2018	4'	295	<41	<32	<28	<19
6306-BWS-4	8/9/2018	4'	960	<41	<32	<28	<19
6306-BFS-1	8/9/2018	5'	94 J	<41	<32	<28	<19
6306-BFS-2	8/9/2018	5'	1,380	<41	<32	<28	<19
6306-EWS-1	8/13/2018	6'	4,600	292	<32	<28	<19
6306-EWS-2	8/13/2018	6'	2,020	<41	<32	<28	<19
6306-EWS-3	8/13/2018	6'	2,270	<41	<32	<28	<19
6306-EWS-4	8/13/2018	6'	3,300	<41	<32	<28	<19
6306-EFS-1	8/13/2018	8'	1,610	<41	<32	<28	<19
6306-EFS-2	8/13/2018	6'	2,480	<41	<32	<28	<19

Notes:

Residual contaminant level are based on USEPA Soil Screening Levels (December 2017)

Samples analyzed using EPA SW-846 Method 8260 with Prep Method 5030B

All concentrations reported in units of micrograms per kilogram (µg/kg)

Bolded and Shaded blue values exceed the WDNR generic Soil to Groundwater Residual Contaminant Levels

Bolded values are above detection limits

J = Concentration is less than the reporting limit but greater than the method detection limit.

**TABLE
GROUNDWATER ANALYTICAL RESULTS**

Packard Way, Ltd.
3650-3652 East Barnard Avenue
Cudahy, WI

Monitoring Well Identification	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
Public Health Enforcement Standard		5	5	70	100	0.2
Public Health Preventive Action Limit		0.5	0.5	7	20	0.02
TW1	9/9/2004	36	3.0	ND	ND	ND
	9/9/2004'	39	3.3	ND	ND	ND
	1/20/2006	24	2.35	ND	ND	ND
	8/8/2006	28.3	1.9	ND	ND	ND
	6/11/2015*	5.1	1.12 J	<0.45	<0.54	<0.17
	1/31/2018*	4.1	0.74 J	<0.37	<0.34	<0.2
	11/20/2018*^	47	3.5	1.5	<0.34	<0.2
TW2	9/9/2004	2.1	5.0	ND	ND	ND
	1/20/2006	<0.45	<0.37	ND	ND	ND
	8/8/2006	1.9	0.69 J	ND	ND	ND
	6/11/2015	<0.74	<0.47	2.58	<0.54	<0.17
	1/31/2018	0.83 J	<0.3	2.09	<0.34	<0.2
	11/21/2018	12.4	1.45	6.6	<0.34	<0.2
TW3	9/9/2004	6.9	5.9	ND	ND	ND
	1/20/2006	64	10.9	ND	ND	ND
	8/8/2006	29.9	10.2	ND	ND	ND
TW4	9/9/2004	890	220	ND	ND	ND
	1/20/2006	313	52	ND	ND	ND
	8/8/2006	820	105	ND	ND	ND
TW5	9/9/2004	140	4.6	ND	ND	ND
TW6	9/9/2004	2.4	26	ND	ND	ND
	1/20/2006	1.17 J	32	ND	ND	ND
	8/8/2006	3.3	28	ND	ND	ND
TW7	1/20/2006	<0.45	<0.37	ND	ND	ND
TW8	1/20/2006	49	4.6	ND	ND	ND
	8/8/2006	300	22.7	ND	ND	ND
TW9	1/20/2006	1.41	12.7	ND	ND	ND
	8/8/2006	1.22	22.3	ND	ND	ND
TW10	1/20/2006	195	13.2	ND	ND	ND
	8/8/2006	182	<3.9	ND	ND	ND
TW11	1/20/2006	6.4	<0.37	ND	ND	ND
	1/20/2006	0.62 J	33	ND	ND	ND
	8/8/2006	43	0.44 J	ND	ND	ND
TW12	8/8/2006	14	2.01	ND	ND	ND
TW13	8/8/2006	1.83	<0.39	ND	ND	ND
TW14	8/8/2006	<0.37	<0.39	ND	ND	ND
TW16	9/19/2008	<0.5	<0.47	ND	ND	ND
TW17	8/13/2010	<0.43	<0.39	ND	ND	ND
TW18	8/13/2010	0.47 J	<0.39	ND	ND	ND
3650 Barnard Ave Basement Sump	9/8/2005	740	11	ND	ND	ND
	12/7/2017	3,700	51 J	21.5 J	<0.54	<0.17
64 Barnard Ave Basement Su	8/29/2006	11.5	0.79 J	ND	ND	ND
MW-1	6/15/2015	5.4	1.91	27.8	1.12 J	3.6
	9/27/2016	118	27	46	2.68	4.3
	1/5/2017	104	21	39	1.71	1.36
	1/31/2018	91	13.4	26.4	1.58	1.16
	11/21/2018	95	15.6	34	1.71	1.38
MW-2	6/15/2015	25.2	146	65	<5.4	<1.7
	9/27/2016	192	1,040	410	25.6	14.5
	1/5/2017	158	760	320	16.6 J	6.2
	1/31/2018	138	660	370	19.9	6.4 J
	8/13/2018	Abandoned				
MW-2/R	11/21/2018	28.5	890	440	23	4.8 J

TABLE
GROUNDWATER ANALYTICAL RESULTS

Packard Way, Ltd.
3650-3652 East Barnard Avenue
Cudahy, WI

Monitoring Well Identification	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
Public Health Enforcement Standard		5	5	70	100	0.2
Public Health Preventive Action Limit		0.5	0.5	7	20	0.02
MW-3	6/15/2015	52	5.9	0.57 J	<0.54	<0.17
	9/27/2016	175	10.6	<0.45	<0.54	<0.17
	1/5/2017	178	9.1	<0.45	<0.54	<0.17
	1/31/2018*	150	7.4	0.68 J	<0.34	<0.2
	8/13/2018	Abandoned				
MW-4	6/15/2015	<0.74	<0.47	<0.45	<0.54	<0.17
	9/27/2016	1.21 J	1.3 J	<0.45	<0.54	<0.17
	1/4/2017	0.81 J	<0.47	<0.45	<0.54	<0.17
	1/31/2018	0.81 J	<0.3	<0.37	<0.34	<0.2
	11/20/2018*	2.18	0.37 J	<0.37	<0.34	<0.2
MW-5	6/15/2015	<0.74	<0.47	<0.45	<0.54	<0.17
	9/27/2016	<0.49	<0.47	<0.45	<0.54	<0.17
	1/4/2017	<0.49	<0.47	<0.45	<0.54	<0.17
	1/31/2018^	<0.38	<0.3	<0.37	<0.34	<0.2
	11/20/2018^	<0.38	<0.3	<0.37	<0.34	<0.2
MW-6/TW15	6/15/2007	470	25.3	ND	ND	ND
	5/13/2015	246	17.2	6.8	<0.54	<0.17
	9/27/2016	360	22.6	5.1	<0.54	<0.17
	1/5/2017	320	14.3 J	<0.45	<0.54	<0.17
	1/31/2018	232	12.2	<3.7	<3.4	<2
	11/21/2018	221	20.5	5.6	<0.34	<0.2
MW-7/TW10	1/20/2006	195	13.2	ND	ND	ND
	8/8/2006	182	<3.9	ND	ND	ND
	5/13/2015	56	2.95	1.45	<0.54	<0.17
	9/27/2016	26.8	<0.47	<0.45	<0.54	<0.17
	1/5/2017	94	1.77	<0.45	<0.54	<0.17
	1/31/2018	86	1.62	<0.37	<0.34	<0.2
	11/21/2018	66	0.72 J	<0.37	<0.34	<0.2
MW-8	11/21/2018	360	6.4	<0.37	<0.34	<0.2
MW-9	3/5/2019	32	2.47	1.2	<0.34	<0.2
MW-10	3/5/2019	7.3	<0.3	<0.37	<0.34	<0.2
PZ-1	6/15/2015	<0.74	<0.47	<0.45	<0.54	<0.17
	9/27/2016	<0.49	<0.47	<0.45	<0.54	<0.17
	1/4/2017	<0.49	<0.47	<0.45	<0.54	<0.17
	1/31/2018	0.42 J	<0.3	<0.37	<0.34	<0.2
	11/20/2018	0.44 J	<0.3	<0.37	<0.34	<0.2
PZ-2	6/15/2015	9.9	7.9	1.44	<0.54	<0.17
	9/27/2016	8.8	3.6	<0.45	<0.54	<0.17
	1/4/2017	8.3	3.6	0.54 J	<0.54	<0.17
	1/31/2018	6.9	2.03	<0.37	<0.34	<0.2
	8/13/2018	Abandoned				
PZ-2R	11/20/2018	0.74 J	0.38 J	<0.37	<0.34	<0.2

Notes:

Samples analyzed for VOCs according to EPA Method 8260

Only detected compounds are listed

All concentrations reported in micrograms per liter (µg/L)

Bolded values are above method detection limits

Bolded and orange shaded values are above Public Health Enforcement Standard

Bolded and blue shaded values are above Public Health Preventive Action Limit

J = Analyte concentration detected between the Method Detection Limit and Reporting Limit

ND = Not Detected

TABLE
GRAB GROUNDWATER ANALYTICAL RESULTS

Packard Way, Ltd.
3650-3652 East Barnard Avenue
Cudahy, WI

Sample Identification	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
Public Health Enforcement Standard		5	5	70	100	0.2
Public Health Preventive Action Limit		0.5	0.5	7	20	0.02
SB-111-W	2/15/2019	<0.38	<0.3	<0.37	<0.34	<0.2

Notes:

Samples analyzed for VOCs according to EPA Method 8260

Only detected compounds are listed

All concentrations reported in micrograms per liter (µg/L)

Bolded values are above method detection limits

TABLE
VAPOR INTRUSION ANALYTICAL RESULTS

Packard Way, Ltd.
3650-3652 East Barnard Avenue
Cudahy, WI

Sample Address	Consultant	Sample Identification	Sample Location	Applicable Criteria	Sample Duration	Date Sampled	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
INDOOR/OUTDOOR AIR SAMPLES											
Residential Vapor Action Level							42	2.1	NE	NE	1.7
3650-3652 East Barnard Avenue	Northern Environmental	Basement Air	Basement	Residential	24-Hour	8/2/2005	150	<3.6	<2.6	<2.6	<1.7
					24-Hour	10/10/2005	29	<3.6	<2.6	<1.7	
					24-Hour	1/20/2006	<5.4	<4.2	<3.1	<2.0	
	EnviroForensics	6306-3650-3652 E. Barnard Ave-IA-B	1st Floor		24-Hour	3/5/2019	<3.19	<1.07	<19.8	<39.6	<1.28
					24-Hour	3/5/2019	<3.19	<1.07	<19.8	<39.6	<1.28
					24-Hour	3/5/2019	<3.19	<1.07	<19.8	<39.6	<1.28
6306-3650-3652 E. Barnard Ave-IA-2	2nd Floor	24-Hour	3/5/2019	<3.19	<1.07	<19.8	<39.6	<1.28			
6306-3650-3652 E. Barnard Ave-OA	Outdoors	Not Applicable	24-Hour	3/5/2019	<3.19	<1.07	<19.8	<39.6	<1.28		
3658 East Barnard Avenue	EnviroForensics	6306-3658-IA-B	Basement	Not Applicable	24-Hour	7/15/2015	<3.19	<1.07	<19.8	<39.6	<1.28
		6306-3658-IA-1	1st Floor		24-Hour	7/15/2015	<3.19	<1.07	<19.8	<39.6	<1.28
		6306-3658-IA-2	2nd Floor		24-Hour	7/15/2015	<3.19	<1.07	<19.8	<39.6	<1.28
		6306-3658-OA	Outdoors		24-Hour	7/15/2015	<3.19	<1.07	<19.8	<39.6	<1.28
3659 East Squire Avenue	EnviroForensics	6306-3659 E. Squire Ave-IA-B	Basement	Residential	24-Hour	10/12/2018	11.9	<1.07	<19.8	<39.6	<1.28
		6306-3659 E. Squire Ave-IA-1	1st Floor		24-Hour	3/5/2019	<3.19	<1.07	<19.8	<39.6	<1.28
					24-Hour	10/12/2018	<3.19	<1.07	<19.8	<39.6	<1.28
					24-Hour	3/5/2019	<3.19	<1.07	<19.8	<39.6	<1.28
6306-3659 E. Squire Ave-OA	Outdoors	24-Hour	10/12/2018	<3.19	<1.07	<19.8	<39.6	<1.28			
SUB-SLAB VAPOR SAMPLES											
Residential Vapor Risk Screening Level							1,400	70	NE	NE	57
3650-3652 East Barnard Avenue	Northern Environmental	VP1	Basement	Residential	Grab	9/9/2004	2,400	45	<5.6	<5.6	<3.6
					Grab	9/9/2004	1,200,000	26,000	<2,700	<2,700	<1,800
		VP2			24-Hour	8/2/2005	26	110	260	80	4.8
					24-Hour	10/10/2005	<5.9	8.4	6.1	<3.5	<2.2
	EnviroForensics	VP3			24-Hour	1/20/2006	<6.1	<4.8	<3.5	<3.5	<2.3
					Grab	9/9/2004	170,000	4,000	1,200	<94	<240
		6306-3650-3652 E. Barnard Ave-SSV-1			Grab	3/5/2019	30.7	2.63	<19.8	<39.6	<1.28
					6306-3650-3652 E. Barnard Ave-SSV-2	Grab	3/5/2019	2,690	1,260	182	<39.6

Notes:

Results reported in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$)

Samples analyzed according to EPA Method TO-15

Vapor Risk Screening/Action Levels are calculated in accordance with WDNR Publication RR-800 and associated guidance documents

IA = Indoor Air

OA = Outdoor Air

SSV = Sub-slab vapor

Bolded values are above detection limits

Bolded and Blue shaded concentrations exceed the applicable residential screening level

NE = Screening/action level not established