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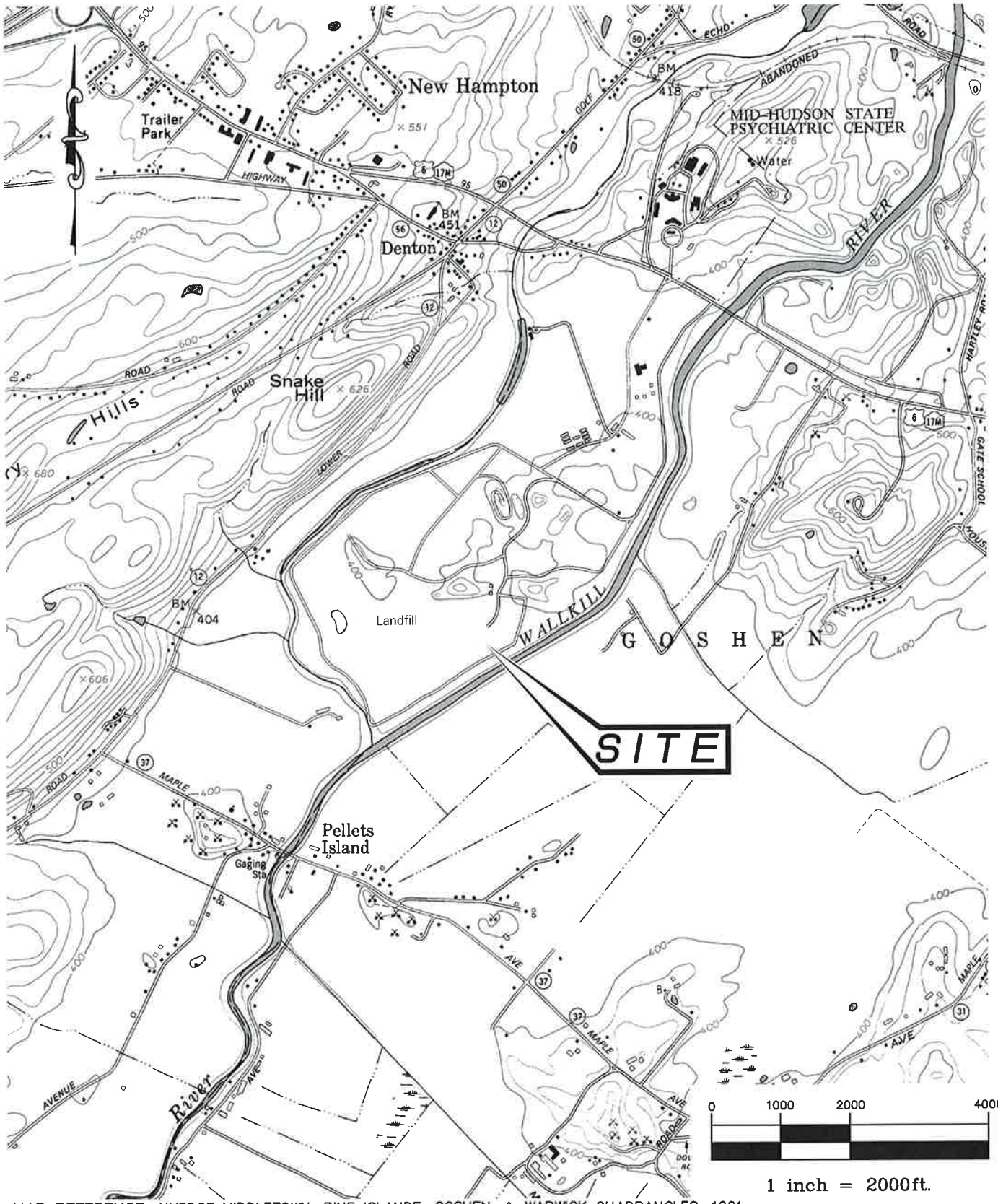
Figure 9	Seep Mitigation Plan
Figure 10	Seep Mitigation Details
Figure 11	Wetland Treatment System



MAP REFERENCE: NYSDOT MIDDLETOWN, PINE ISLANDE, GOSHEN, & WARWICK QUADRANGLES, 1991.

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SITE LOCATION MAP

ORANGE CO. DEPT. OF PUBLIC WORKS

ORANGE COUNTY LANDFILL

TOWN OF GOSHEN ORANGE CO., N.Y.

PROJ. No.: 2013–29	DATE: 10/31/14	SCALE: 1" = 2000'	DWG. NO. 2010–15026	FIGURE 1

LEGEND:

APPROXIMATE PROPERTY BOUNDARY

APPROXIMATE LIMIT OF WASTE

MAP REFERENCES:

1. PROPERTY BOUNDARY AND LIMIT OF WASTE FROM DRAWINGS ENTITLED "OVERALL PLAN AND RESTRICTED PARCEL," BY THOMAS J. BARRY, DATED FEBRUARY 14, 2013.
2. AERIAL PHOTOGRAPH FROM GOOGLE EARTH IMAGERY, DATED 2013.

0 1000 2000 4000

1 inch = 2000ft.

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SITE VICINITY MAP

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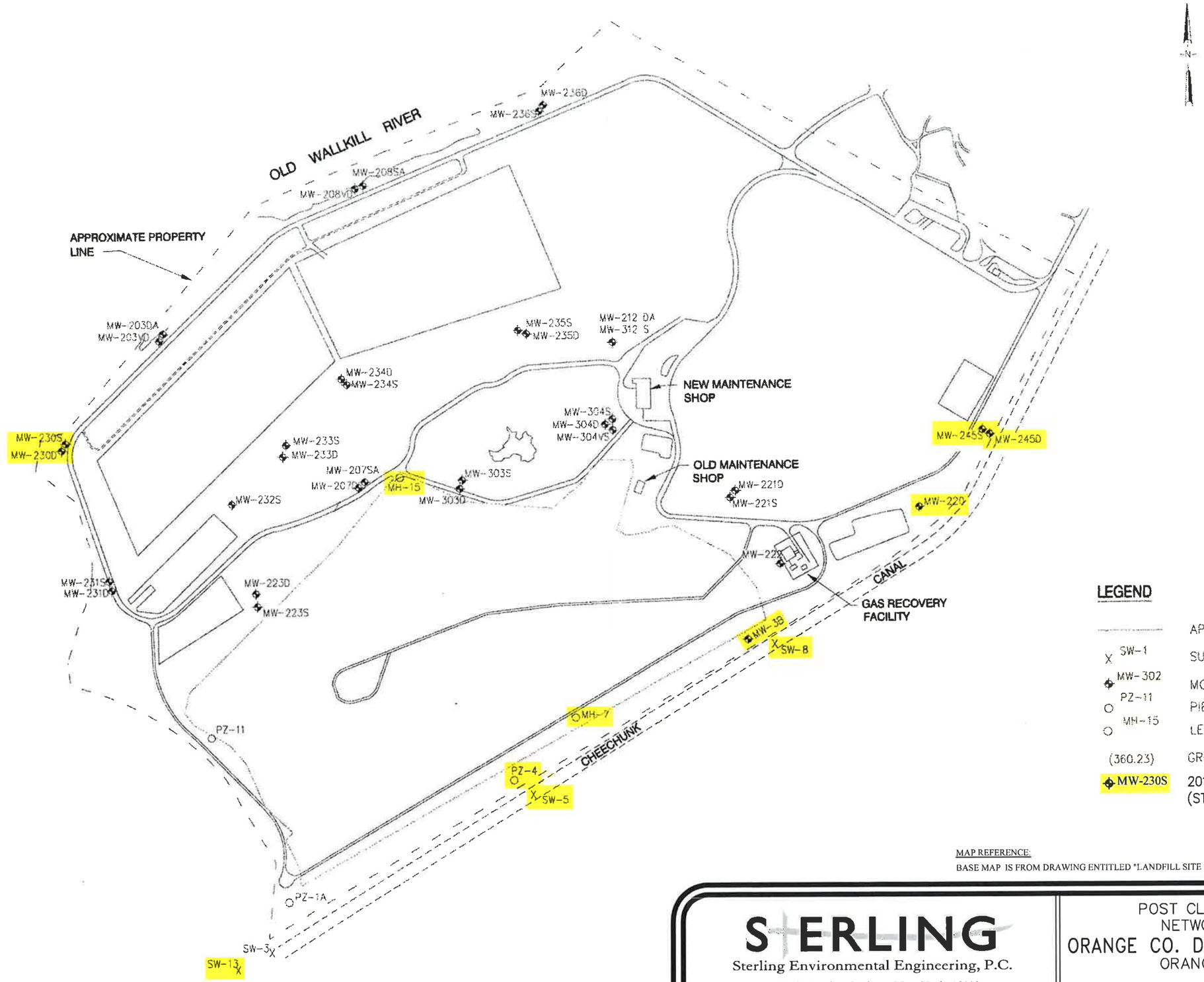
PROJ. No.: 2010-15	DATE: 10/31/14	SCALE: 1" = 1000'	DWG. NO. 2010-15027	FIGURE 2



LEGEND

———	APPROXIMATE REFUSE LIMIT
X SW-1	SURFACE WATER LOCATION
MW-302	MONITORING WELL LOCATION
PZ-11	PIEZOMETER LOCATION
MH-15	LEACHATE SAMPLING LOCATION
(360.23)	GROUND WATER ELEVATION
MW-230S	2014 MONITORING POINTS (STERLING SMP, JUNE 6, 2014)

MAP REFERENCE:
BASE MAP IS FROM DRAWING ENTITLED "LANDFILL SITE MAP," BY C&S COMPANIES, NOVEMBER 2003

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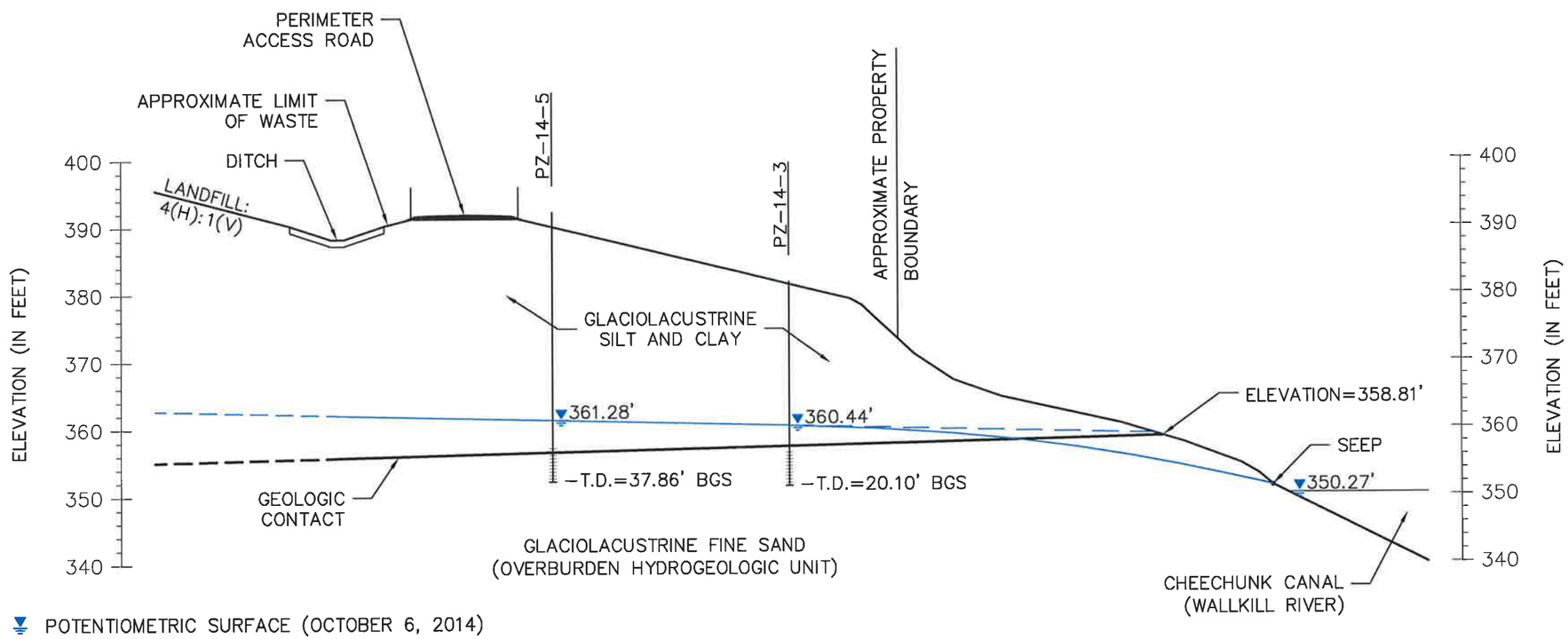
POST CLOSURE MONITORING NETWORK MAP (2014)
ORANGE CO. DEPT. OF PUBLIC WORKS
ORANGE CO. LANDFILL
TOWN OF GOSHEN ORANGE CO., .N.Y.

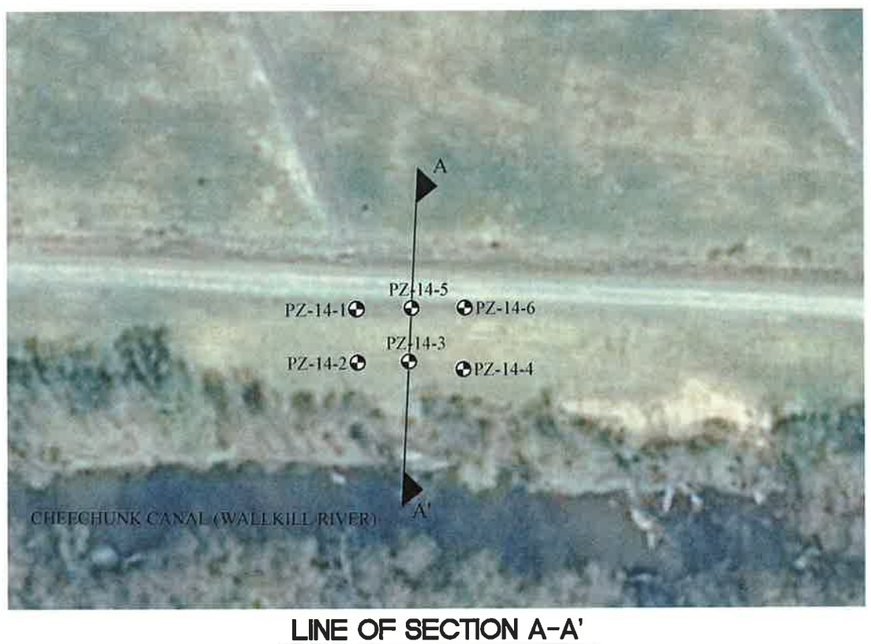
PROJ. No.:	2010–15	DATE:	10/31/14	SCALE:	1" = 500'	DWG. NO. 2010–15028	FIGURE	3

S:\Drawings\2010-15 - Orange County\2010-15028 PostClosureMonitoringMap.dwg 10/31/2014 3:10 PM

GEOLOGIC CROSS SECTION A-A'

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=20'





LINE OF SECTION A-A'

SCALE: 1" =100'

S:\Drawings\2010-15 - Orange County\2010-15029 GeologicCrossSect.dwg10/31/2014 3:09 PM

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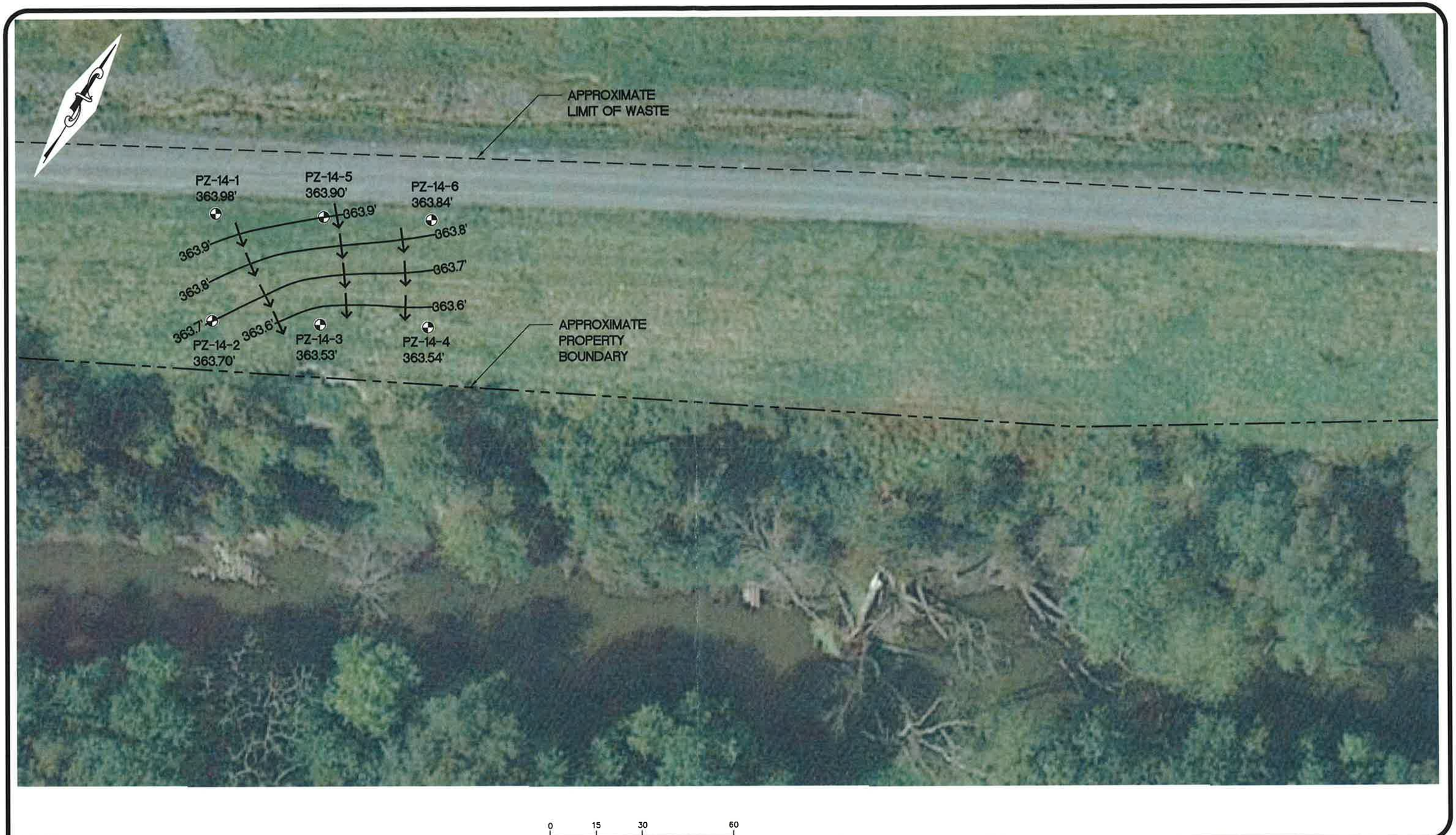
GEOLOGIC CROSS SECTION A-A'
ORANGE CO. DEPT. OF PUBLIC WORKS
ORANGE COUNTY LANDFILL
TOWN OF GOSHEN ORANGE CO., .N.Y.

PROJ. No.: 2010-15	DATE: 10/31/14	SCALE: AS NOTED	DWG. NO. 2010-15029	FIGURE 4



LEGEND:

PZ-14-1 363.21'	PIEZOMETER LOCATION WITH GROUNDWATER ELEVATION
352'	GROUNDWATER ELEVATION CONTOURS
→ →	GROUNDWATER FLOW DIRECTION
— — — — —	LIMIT OF WASTE
— — — —	PROPERTY BOUNDARY

0 15 30 60

(IN FEET)
1 inch = 30 ft.

MAP REFERENCES:
1. PROPERTY BOUNDARY AND LIMIT OF WASTE FROM DRAWINGS ENTITLED "OVERALL PLAN AND RESTRICTED PARCEL," BY THOMAS J. BARRY, DATED FEBRUARY 14, 2013.
2. AERIAL PHOTOGRAPH FROM GOOGLE EARTH IMAGERY, DATED 2013.

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OVERBURDEN GROUNDWATER CONTOUR MAP
(MARCH 18, 2014)
ORANGE CO. DEPT. OF PUBLIC WORKS
ORANGE COUNTY LANDFILL
TOWN OF GOSHEN ORANGE CO., .N.Y.

PROJ. No.:	DATE:	SCALE:	DWG. NO.	FIGURE
2010-15	10/31/14	1" = 30'	2010-15030A	5A

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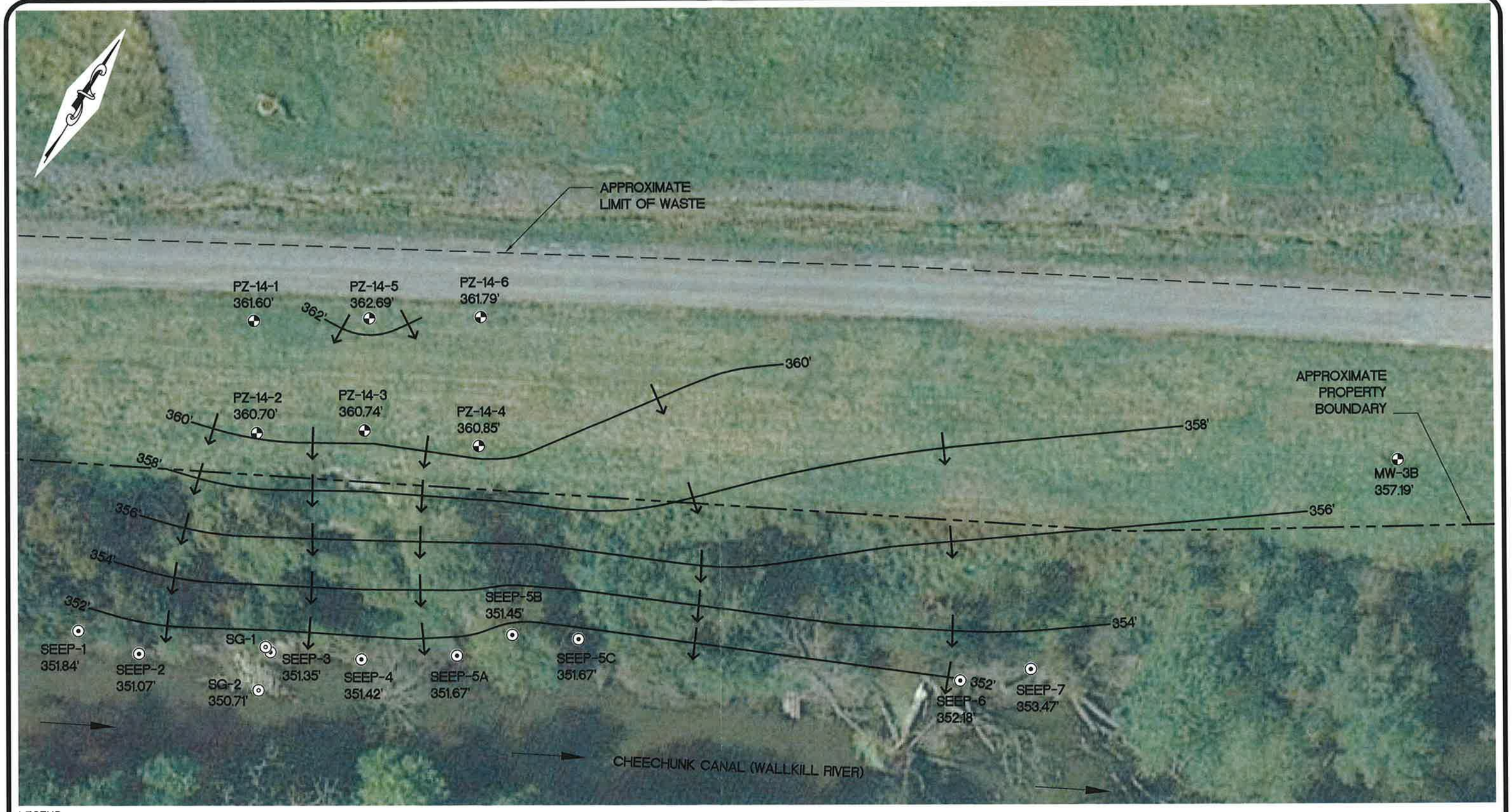

LEGEND:

PZ-14-1 361.21'	PIEZOMETER LOCATION WITH GROUNDWATER ELEVATION
⊙	SEEP MONITORING POINT
SG-2 350.27'	STAFF GAUGE ELEVATION
352'	GROUNDWATER ELEVATION CONTOURS
→	GROUNDWATER FLOW DIRECTION
— — —	LIMIT OF WASTE
— — —	PROPERTY BOUNDARY

0 15 30 60

(IN FEET)
1 inch = 30 ft.

MAP REFERENCES:
1. PROPERTY BOUNDARY AND LIMIT OF WASTE FROM DRAWINGS ENTITLED "OVERALL PLAN AND RESTRICTED PARCEL," BY THOMAS J. BARRY, DATED FEBRUARY 14, 2013.
2. AERIAL PHOTOGRAPH FROM GOOGLE EARTH IMAGERY, DATED 2013.

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OVERBURDEN GROUNDWATER CONTOUR MAP
(SEPTEMBER 9, 2014)
ORANGE CO. DEPT. OF PUBLIC WORKS
ORANGE COUNTY LANDFILL
TOWN OF GOSHEN ORANGE CO., .N.Y.

PROJ. No.:	DATE:	SCALE:	DWG. NO.	FIGURE
2010-15	10/31/14	1" = 30'	2010-15030B	5B

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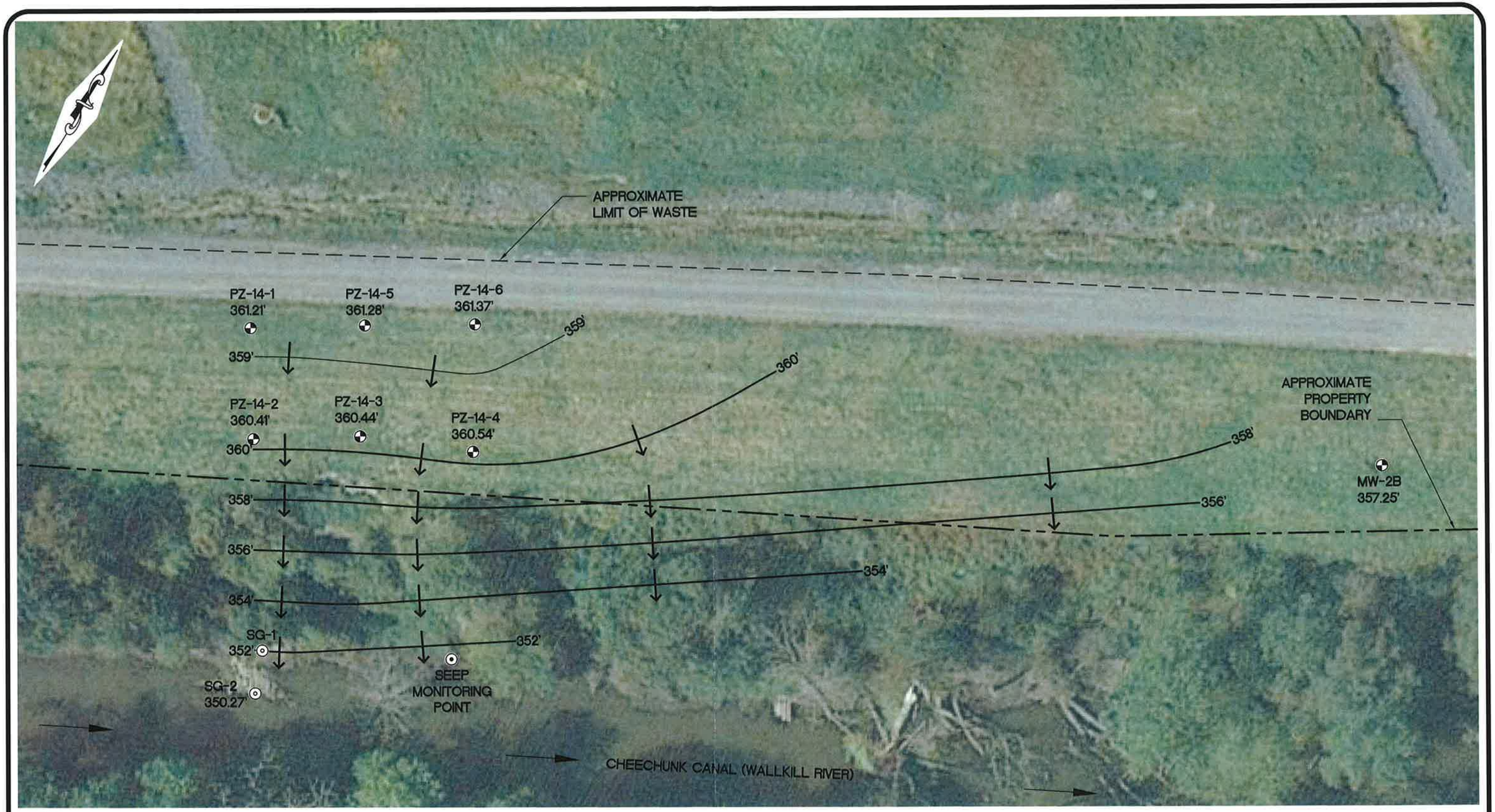

LEGEND:

PZ-14-1 361.21'	PIEZOMETER LOCATION WITH GROUNDWATER ELEVATION
	SEEP MONITORING POINT
SG-2 350.27'	STAFF GAUGE ELEVATION
352'	GROUNDWATER ELEVATION CONTOURS
	GROUNDWATER FLOW DIRECTION
	LIMIT OF WASTE
	PROPERTY BOUNDARY

0 15 30 60

(IN FEET)
1 inch = 30 ft.

MAP REFERENCES:
1. PROPERTY BOUNDARY AND LIMIT OF WASTE FROM DRAWINGS ENTITLED "OVERALL PLAN AND RESTRICTED PARCEL," BY THOMAS J. BARRY, DATED FEBRUARY 14, 2013.
2. AERIAL PHOTOGRAPH FROM GOOGLE EARTH IMAGERY, DATED 2013.

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OVERBURDEN GROUNDWATER CONTOUR MAP
(OCTOBER 6, 2014)
ORANGE CO. DEPT. OF PUBLIC WORKS
ORANGE COUNTY LANDFILL
TOWN OF GOSHEN ORANGE CO., .N.Y.

PROJ. No.: 2010-15	DATE: 10/31/14	SCALE: 1" = 30'	DWG. NO. 2010-15030C	FIGURE 5C

S:\Drawings\2010-15 - Orange County\2010-15030C-GW\ContourMap_10-6-14 dwg\10/31/2014 2:54 PM

LEGEND:

PZ-14-1 (6/12/14)	PIEZOMETER/MONITORING WELL LOCATION (DATE SAMPLE WAS TAKEN)
GW-01 (8/22/12)	SEEP LOCATION (DATE SAMPLE WAS TAKEN)
SEEP-1 (9/9/14•)	SEEP LOCATION (DATE OBSERVED)
SW-02 (8/22/12)	SURFACE WATER LOCATION (DATE SAMPLE WAS TAKEN)
— — — — —	LIMIT OF WASTE
—— - - ——	PROPERTY BOUNDARY

0 40 80 160

(IN FEET)
1 inch = 80 ft.

MAP REFERENCES:
1. PROPERTY BOUNDARY AND LIMIT OF WASTE FROM DRAWINGS ENTITLED "OVERALL PLAN AND RESTRICTED PARCEL," BY THOMAS J. BARRY, DATED FEBRUARY 14, 2013.
2. AERIAL PHOTOGRAPHY FROM NEW YORK STATWIDE DIGITAL ORTHOIMAGERY PROGRAM, PHOTOGRAPHY CIRCA 2013.

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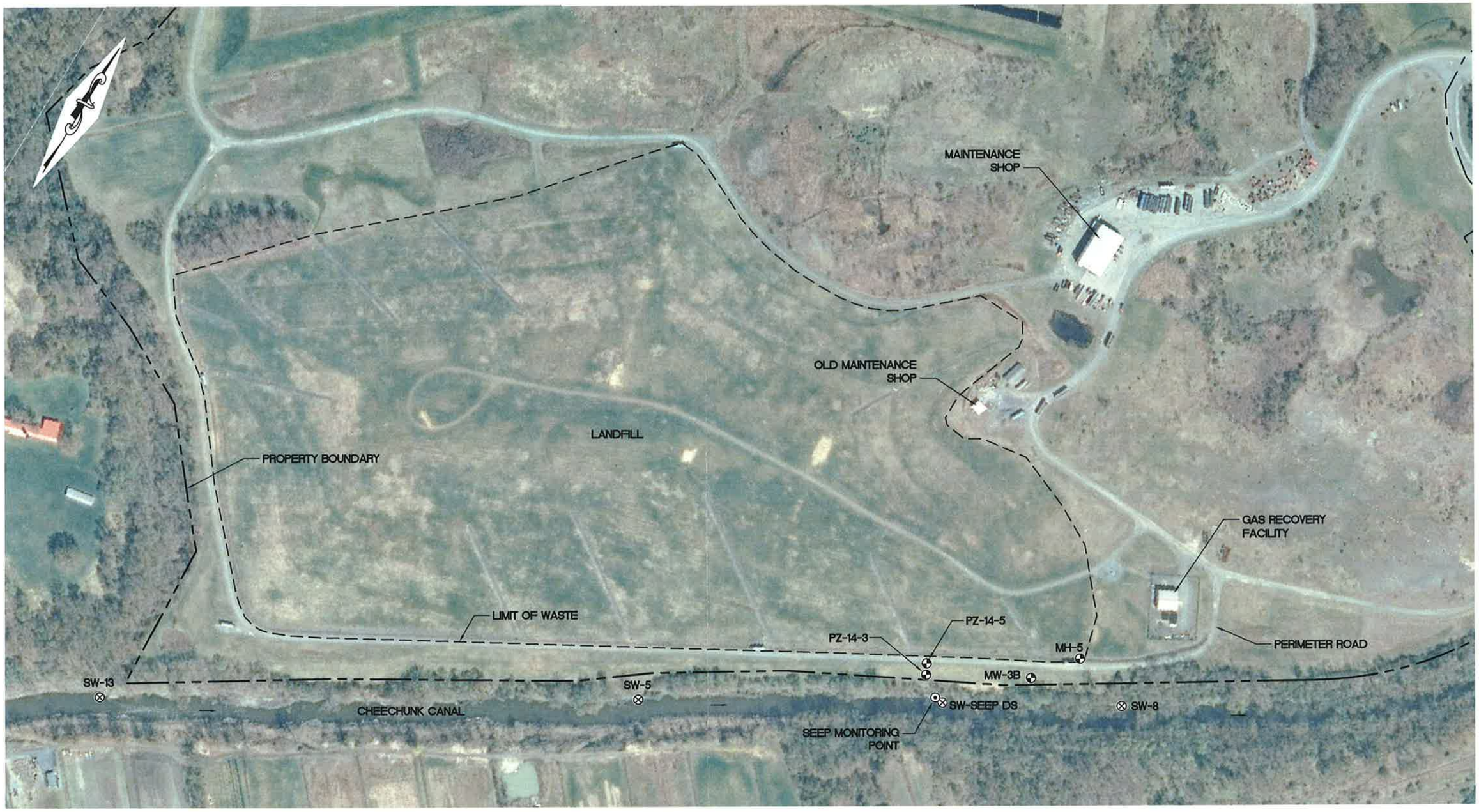
SAMPLE & SEEP LOCATION MAP
ORANGE CO. DEPT. OF PUBLIC WORKS
ORANGE COUNTY LANDFILL
TOWN OF GOSHEN ORANGE CO., .N.Y.

PROJ. No.:	DATE:	SCALE:	DWG. NO.	FIGURE
2010–15	10/31/14	1" = 80'	2010–15031	6

S:\Drawings\2010-15 - Orange County\2010-15031 SampleLocMap.dwg 10/31/2014 2:53 PM



LEGEND:

⊕ MW-3B	GROUNDWATER AND LEACHATE SAMPLE LOCATIONS
⊙	SEEP MONITORING POINT
⊗ SW-5	SURFACE WATER SAMPLE LOCATION
— — — — — —	LIMIT OF WASTE
—— — — ——	PROPERTY BOUNDARY

0 150 300 600

(IN FEET)
1 inch = 300 ft.

MAP REFERENCES:
1. PROPERTY BOUNDARY AND LIMIT OF WASTE FROM DRAWINGS ENTITLED "OVERALL PLAN AND RESTRICTED PARCEL," BY THOMAS J. BARRY, DATED FEBRUARY 14, 2013.
2. AERIAL PHOTOGRAPHY FROM NEW YORK STATWIDE DIGITAL ORTHOIMAGERY PROGRAM, PHOTOGRAPHY CIRCA 2013.

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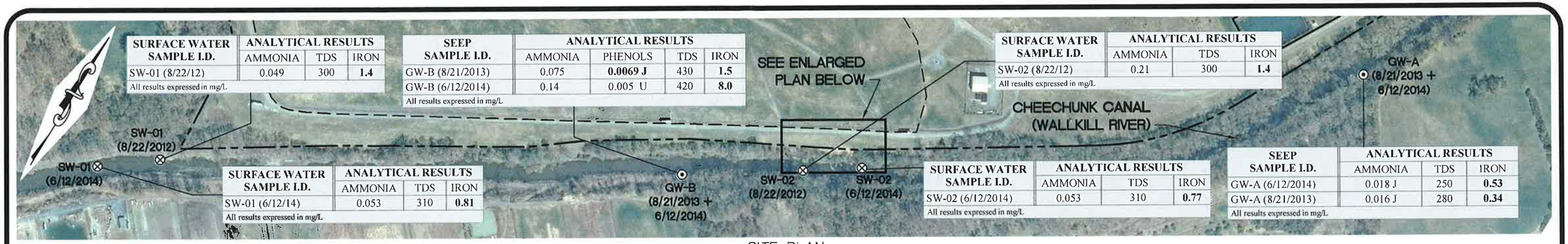
OCTOBER 2014 SAMPLE LOCATION MAP
ORANGE CO. DEPT. OF PUBLIC WORKS
ORANGE COUNTY LANDFILL
TOWN OF GOSHEN ORANGE CO., N.Y.

PROJ. No.:	DATE:	SCALE:	DWG. NO.	FIGURE
2010-15	10/31/14	1"=300'	2010-15032	7



SURFACE WATER SAMPLE I.D.	ANALYTICAL RESULTS		
	AMMONIA	TDS	IRON
SW-01 (8/22/12)	0.049	300	**1.4**

All results expressed in mg/L

SEEP SAMPLE I.D.	ANALYTICAL RESULTS			
	AMMONIA	PHENOLS	TDS	IRON
GW-B (8/21/2013)	0.075	**0.0069 J**	430	**1.5**
GW-B (6/12/2014)	0.14	0.005 U	420	**8.0**

All results expressed in mg/L

SURFACE WATER SAMPLE I.D.	ANALYTICAL RESULTS		
	AMMONIA	TDS	IRON
SW-02 (8/22/12)	0.21	300	**1.4**

All results expressed in mg/L

SURFACE WATER SAMPLE I.D.	ANALYTICAL RESULTS		
	AMMONIA	TDS	IRON
SW-01 (6/12/14)	0.053	310	**0.81**

All results expressed in mg/L

SURFACE WATER SAMPLE I.D.	ANALYTICAL RESULTS		
	AMMONIA	TDS	IRON
SW-02 (6/12/2014)	0.053	310	**0.77**

All results expressed in mg/L

SEEP SAMPLE I.D.	ANALYTICAL RESULTS		
	AMMONIA	TDS	IRON
GW-A (6/12/2014)	0.018 J	250	**0.53**
GW-A (8/21/2013)	0.016 J	280	**0.34**

All results expressed in mg/L

SITE PLAN
SCALE: 1" = 400'

GROUNDWATER SAMPLE I.D.	ANALYTICAL RESULTS				
	AMMONIA	PHENOLS	ARSENIC	TDS	IRON
PZ-14-5 (10/6/2014)	**9.1 B**	0.005 U	**0.057**	**780**	**4.8 B**

All results expressed in mg/L

GROUNDWATER SAMPLE I.D.	ANALYTICAL RESULTS				
	AMMONIA	PHENOLS	ARSENIC	TDS	IRON
PZ-14-3 (10/6/2014)	**5.3**	**0.026**	**0.094**	**680**	**18 B**

All results expressed in mg/L

SEEP SAMPLE I.D.	ANALYTICAL RESULTS			
	AMMONIA	PHENOLS	TDS	IRON
GW-3 (6/12/2014)	**6.3**	0.005 U	**780**	**13**

All results expressed in mg/L

SEEP SAMPLE I.D.	ANALYTICAL RESULTS			
	AMMONIA	PHENOLS	TDS	IRON
GW-2 (6/12/2014)	**8.8**	0.005 U	**660**	**5.3**

All results expressed in mg/L

SEEP SAMPLE I.D.	ANALYTICAL RESULTS			
	AMMONIA	PHENOLS	TDS	IRON
GW-01 (8/22/2012)	**40**	**0.0054 J**	**680**	**6.5**
GW-1 (6/12/2014)	**18**	0.005 U	**690**	**11**

All results expressed in mg/L

SEEP SAMPLE I.D.	ANALYTICAL RESULTS			
	AMMONIA	PHENOLS	TDS	IRON
GW-03 (8/22/2012)	**13**	0.005 U	**780**	**3.2**
GW-D (8/21/2013)	**8**	**0.005 J H**	**830**	**12**
SEEP MONITORING POINT (10/6/2014)	**6.9**	0.01 U	**720**	**8.6**

All results expressed in mg/L

NOTE:
U = Not detected at or above laboratory method detection limit

ENLARGED SITE PLAN
SCALE: 1" = 40'

LEGEND:

PZ-14-1 (6/12/14)	PIEZOMETER/MONITORING WELL LOCATION (DATE SAMPLE WAS TAKEN)
GW-01 (8/22/12)	SEEP LOCATION (DATE SAMPLE WAS TAKEN)
SW-01 (8/22/12)	SURFACE WATER LOCATION (DATE SAMPLE WAS TAKEN)
— — — — —	LIMIT OF WASTE
— — — — —	PROPERTY BOUNDARY

0 20 40 80
(IN FEET)
1 inch = 40 ft.

MAP REFERENCES:
1. PROPERTY BOUNDARY AND LIMIT OF WASTE FROM DRAWINGS ENTITLED "OVERALL PLAN AND RESTRICTED PARCEL," BY THOMAS J. BARRY, DATED FEBRUARY 14, 2013.
2. AERIAL PHOTOGRAPHY FROM NEW YORK STATWIDE DIGITAL ORTHOIMAGERY PROGRAM, PHOTOGRAPHY CIRCA 2013.

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2012, 2013, & 2014 GROUNDWATER / SEEP / SURFACE WATER EXCEEDANCES MAP
ORANGE CO. DEPT. OF PUBLIC WORKS
ORANGE COUNTY LANDFILL
TOWN OF GOSHEN ORANGE CO., .N.Y.

PROJ. No.:	2010–15	DATE:	10/31/14	SCALE:	AS NOTED	DWG. NO. 2010–15033	FIGURE	8

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RIPRAP DOWN CHUTE

LANDFILL

A

20,000 GALLON ABOVE GROUND GROUNDWATER STORAGE TANK

RIPRAP DITCH

APPROXIMATE LIMIT OF WASTE

PZ-14-1

PZ-14-5

PZ-14-6

GRAVEL TANK PAD

EXISTING ACCESS ROAD

APPROXIMATE PROPERTY BOUNDARY

FM

PZ-14-3

PZ-14-2

PZ-14-4

UNDERGROUND FORCEMAIN TO STORAGE TANK. SIZE TO BE DETERMINED BY NUMBER OF RECOVERY WELLS AND EXPECTED FLOW RATE.

DISTANCE BETWEEN ADDITIONAL RECOVERY WELLS TO BE DETERMINED BY RESULTS OF PILOT WELL PUMP TEST.

SEEP-5B

SEEP-5C

SEEP-1

SEEP-2

SEEP-3

SEEP-4

SEEP-5A

SEEP-6

SEEP-7

A'

CHEECHUNK CANAL (WALLKILL RIVER)

LEGEND:

- PROPOSED PILOT RECOVERY WELL
- ADDITIONAL RECOVERY WELLS (IF NECESSARY)
- PROPOSED CANAL BANK EROSION CONTROL RIPRAP ARMORING
- PZ-14-1 EXISTING PIEZOMETER LOCATIONS
- SEEP-1 SEEP/SURFACE WATER LOCATIONS
- PROPERTY BOUNDARY
- LIMIT OF WASTE
- EDGE OF STREAM
- TREE LINE

0 15 30 60

(IN FEET)
1 inch = 30 ft.

MAP REFERENCES:
1. PROPERTY BOUNDARY AND LIMIT OF WASTE FROM DRAWINGS ENTITLED "OVERALL PLAN AND RESTRICTED PARCEL," BY THOMAS J. BARRY, DATED FEBRUARY 14, 2013.

S:\Drawings\2010-15 - Orange County\2010-15034-35 SeepMitigationPlan.dwg 10/31/2014 2:49 PM

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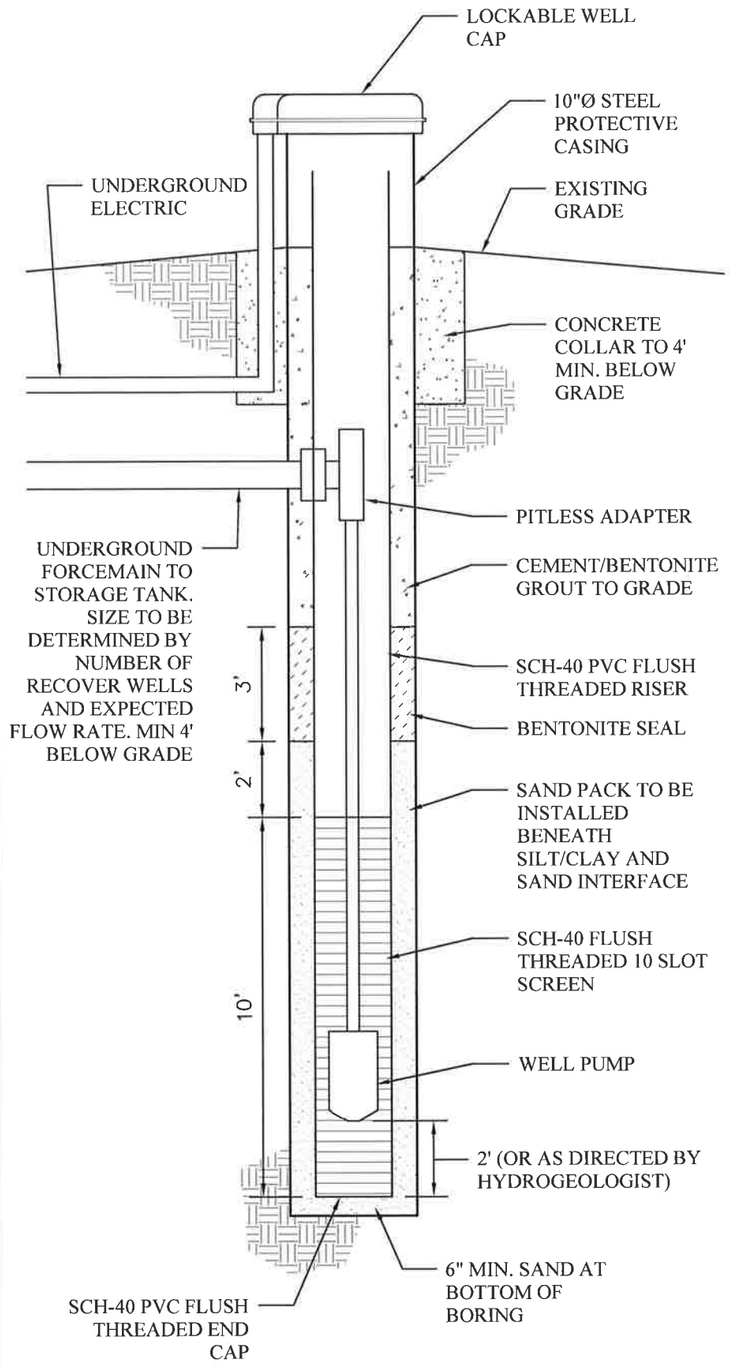
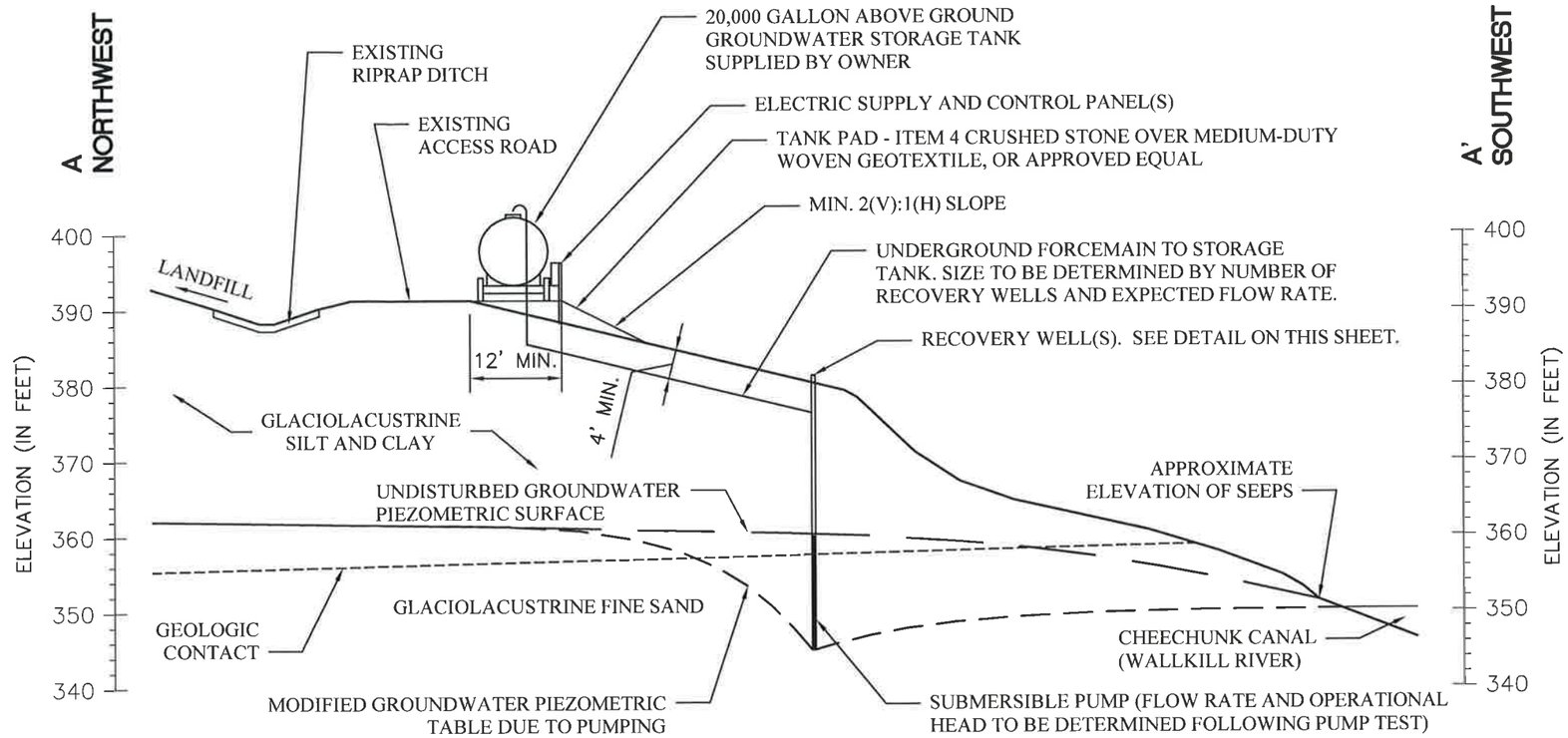
SEEP MITIGATION PLAN
ORANGE CO. DEPT. OF PUBLIC WORKS
ORANGE COUNTY LANDFILL
TOWN OF GOSHEN ORANGE CO., .N.Y.

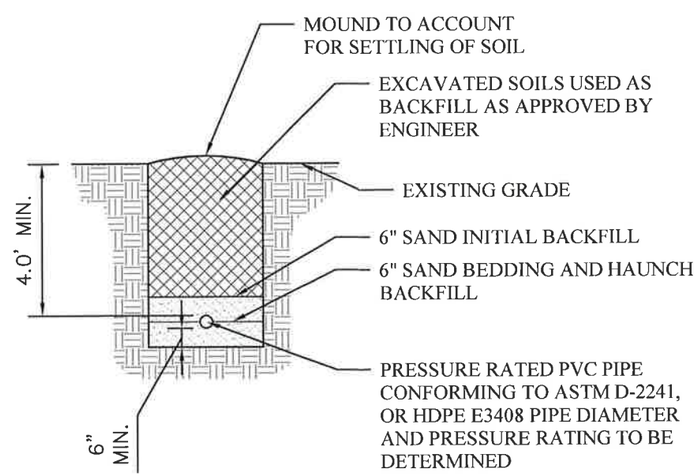
PROJ. No.: 2010-15	DATE: 10/31/14	SCALE: 1" = 30'	DWG. NO. 2010-15034	FIGURE 9



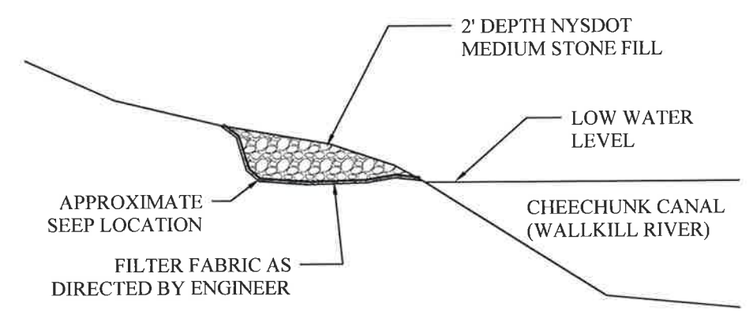
RECOVERY WELL DETAIL
NOT TO SCALE



CROSS SECTION A–A'
SCALE: 1" = 20'



FORCEMAIN TRENCH DETAIL
NOT TO SCALE



CANAL BANK EROSION CONTROL
NOT TO SCALE

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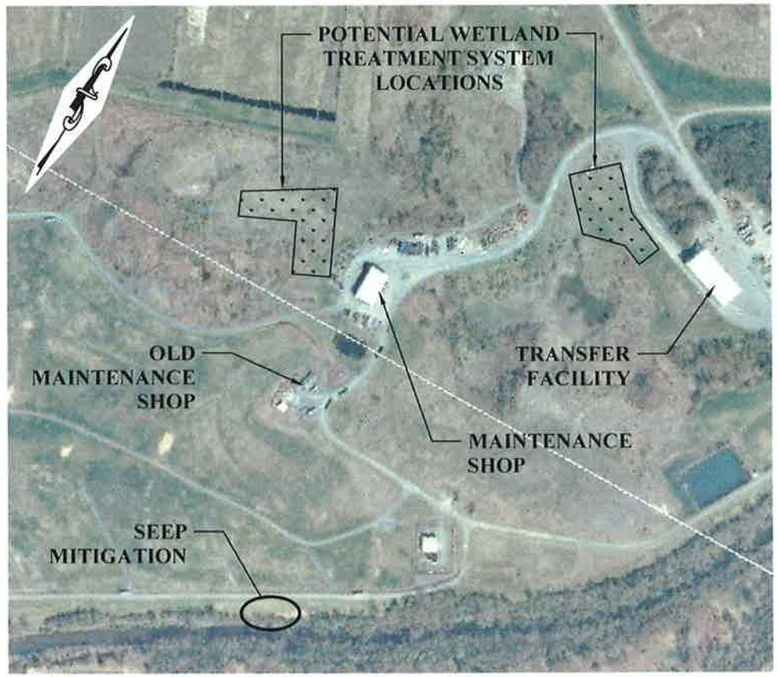
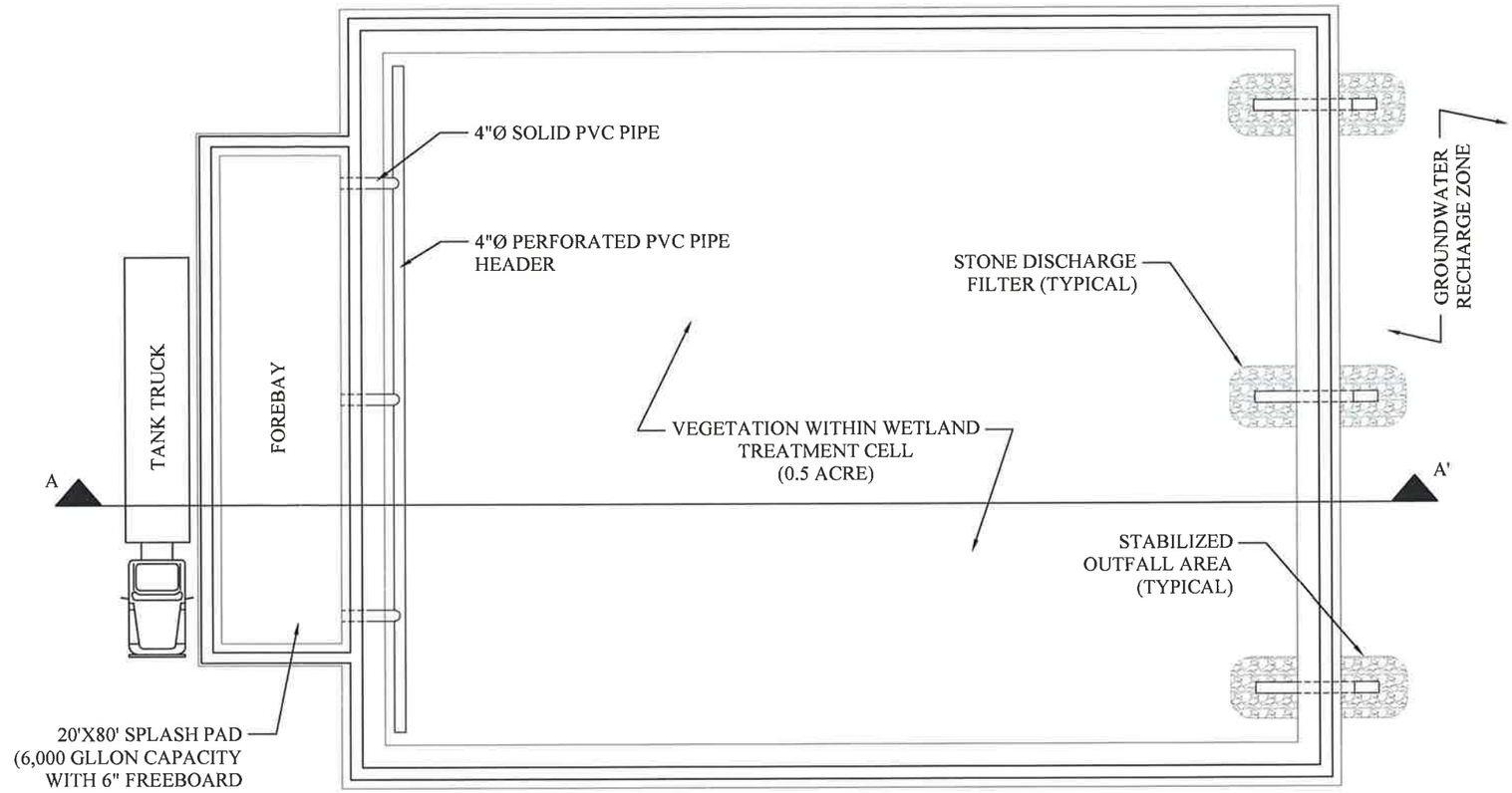
SEEP MITIGATION DETAILS
ORANGE CO. DEPT. OF PUBLIC WORKS
ORANGE COUNTY LANDFILL
TOWN OF GOSHEN ORANGE CO., .N.Y.

PROJ. No.: 2010–15	DATE: 10/31/14	SCALE: AS NOTED	DWG. NO. 2010–15035	FIGURE 10



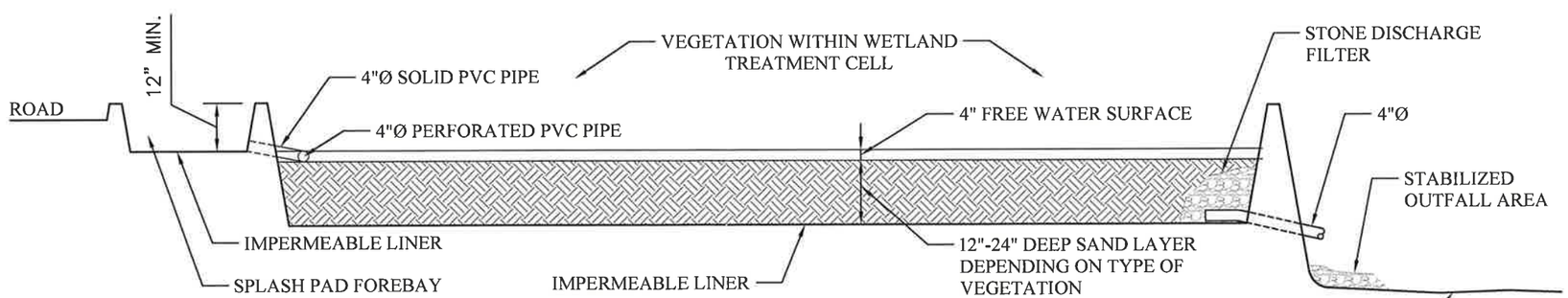
POTENTIAL WETLAND TREATMENT LOCATIONS

SCALE: 1" = 1000'



WETLAND TREATMENT SYSTEM - PLAN

NOT TO SCALE



WETLAND TREATMENT SYSTEM - SECTION A-A'

NOT TO SCALE

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WETLAND TREATMENT SYSTEM
ORANGE CO. DEPT. OF PUBLIC WORKS
ORANGE COUNTY LANDFILL

TOWN OF GOSHEN ORANGE CO., .N.Y.

PROJ. No.: 2010–15	DATE: 10/31/14	SCALE: NOT TO SCALE	DWG. NO. 2010–15036	FIGURE 11