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MEMO

To:

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David Paule, Bayer
John Brussel, P.E., ARCADIS

David Kingsley, ARCADIS
Gregory McDermott, ARCADIS
Michael Perciballi, Posillico
Lee Kaplan, Posillico
Chris Hurst, Posillico
Marc Atamian, Posillico

From:

Andrew Enigk, ARCADIS

Date:

April 7, 2015

ARCADIS Project No.:

B0032305.2013

Subject:

Bayer MaterialScience LLC
125 New South Road, Hicksville, New York
Phase 2 Operable Unit 4 Remedial Activities
Progress Report #21 (March 30, 2015 – April 3, 2015)

This memorandum summarizes work performed from March 30, 2015 through April 3, 2015 in connection with the Phase 2 Operable Unit 4 (OU4) remedial activities at the above-referenced Site. The remedial activities are being implemented by Bayer MaterialScience LLC's (Bayer's) remedial contractor (Posillico) with onsite construction/engineering oversight provided by ARCADIS. The work activities during the reporting period were as observed by Gregory McDermott of ACRADIS.

COMPLETED WORK / WORK-IN-PROGRESS

Work activities performed by Posillico and its subcontractors during this period consisted of the following:

- Continuing to perform post-backfill and soil cover system topographic survey activities.
- Continuing to backfill "A" "B" and "C" Group excavation areas using approximately 955 cubic yards (CY) of imported clean backfill from Beth Moses Cemetery (BMC) located in West Babylon, New York. The imported clean backfill was placed in approximately one-foot loose lifts and compacted. In-place compaction testing was performed on each lift at a minimum frequency of one sample per 2,500 square feet (SF), as required by the *Remedial Design Addendum* (ARCADIS, August 2014)(RDA), by Posillico's compaction testing subcontractor, MT Group.

- Continuing installation of the site-wide soil cover system and demarcation layer below the system. Approximately 800 CY of imported clean backfill from BMC were placed and compacted during this reporting period to establish the 8-inch base of the soil cover system. Compaction testing was performed in accordance with the RD Addendum, by MT Group. Approximately 50% of the 8-inch cap base had been completed by the end of this reporting period.
- Continuing erosion/sedimentation control measures inspection, maintenance, and documentation.

PROPOSED WORK ACTIVITIES

Posillico's two-week "look ahead" schedule is included as Attachment A and summarized below:

- Collect additional samples of the imported clean backfill from BMC in accordance with DER-10 if backfill is needed beyond what has previously been pre-characterized (31,000 CY of general fill has already been characterized, and approximately 28,000 CY of general fill was placed by the end of this reporting period).
- Collect additional samples to pre-characterize topsoil to be imported for use in constructing the upper 4-inches of the soil cover system (4,000 CY of topsoil has already been characterized, and approximately 3,200 CY of topsoil is expected to need characterization to complete the soil cover). No topsoil has been imported to the Site yet.
- Continue importing general fill and start importing topsoil.
- Continue backfilling excavations and conducting in-place compaction testing.
- Install erosion control matting along the side slopes of the rainwater runoff sumps.
- Continue installation of site-wide soil cover system.
- Continue erosion and sedimentation control measures inspection, maintenance, and documentation.

ATTACHMENTS

- Attachment A: Posillico's Two-Week "Look Ahead" Schedule
- Attachment B: Weekly Site Photos
- Attachment C: Excavation/Backfilling Progress Table
- Attachment D: Excavation/Backfilling Progress Figure
- Attachment E: Soil Cover System Progress Figure

Upon receipt of this memorandum, please notify Mr. Andrew Enigk of ARCADIS at 315.671.9548 within 5 days if you believe that any portion of this summary does not accurately reflect work performed during the reporting period or if additional items should be recorded in this summary. If modifications are made, a revised memorandum will be distributed.

Attachment A

Two-Week Look Ahead Schedule

PROJECT : Bayer- Hicksville
DATE/TIME: 3/18/2015

JOB #: 07042
BY: Chris Hurst

	Activity Description & Location	LABOR	OPER	OTHER	Week of:					04/06/15					Week of:					04/13/15					EQUIPMENT/MATERIALS NEEDED	PROD RATE PER SHIFT	ISSUES
					Week of:					04/06/15					Week of:					04/13/15						PLAN	
					M	T	W	T	F		M	T	W	T	F		M	T	W	T	F						
	Survey		1				x		x			x		x	x		excavator payloader John Deere 850 DZ. dirt roller										
	import backfill material				x	x	x	x	x		x	x															
	Import topsoil										x	x	x	x	x												
	Grade/backfill redesign Areas	3	2		x			x	x																		
	Install Site wide Cap	3	2					x	x		x	x	x	x	x												
	load out water from Adler Tank.			1			x																				
SUBCONTRACTOR	MTGroup - Compaction testing			1			x		x		x		x														
	HTC landscape													x	x												
PLAN B WORK																											

General Issues / Change Orders																								Ball In Court	
1																									
2																									
3																									

Attachment B

Weekly Site Photos

Weekly Progress Report #21 (March 30, 2015 – April 3, 2015)

Weekly Site Photos



Posillico performing installation of 8-inch base cap.



Posillico performing installation of 8-inch base cap.

Weekly Progress Report #21 (March 30, 2015 – April 3, 2015)

Weekly Site Photos



Posillico performing compaction of backfill in southeastern re-grade area



Backfill in progress in “C” Group Excavation Area 19C.

Weekly Progress Report #21 (March 30, 2015 – April 3, 2015)

Weekly Site Photos



Posillico performing installation of 8-inch base cap.



Posillico grading southeastern re-grading area.

Weekly Progress Report #21 (March 30, 2015 – April 3, 2015)

Weekly Site Photos



Backfill in progress in "C" Group Excavation Areas 25C and 26C.



Backfill in progress in "C" Group Excavation Areas 25C and 26C.

Weekly Progress Report #21 (March 30, 2015 – April 3, 2015)

Weekly Site Photos



Posillico accepting delivery of clean backfill.



Posillico performing backfill of "C" Group Excavation Area 19C.

Attachment C

Excavation/Backfilling Progress
Table

TABLE 1
EXCAVATION AND BACKFILL TRACKING
UPDATED THROUGH APRIL 3, 2015

PHASE 2 OPERABLE UNIT 4 REMEDIAL ACTION
BAYER MATERIALSCIENCE LLC
125 NEW SOUTH ROAD
HICKSVILLE, NEW YORK

Operation	Design Volume (CY)	Estimated Removal Volumes ¹ (CY)				Percent Completed
		Previous Totals	Current Week Totals	Total to Date	Remaining Volume	
Excavation						
"A" Group Excavation Areas						
PCB-Impacted Soil (>50ppm)	167	167	0	167	0	100%
Non-Hazardous Waste Soil	201	201	0	201	0	100%
Subtotal:	368	368	0	368	0	100%
"B" Group Excavation Areas						
PCB-Impacted Soil (>50ppm)	218	218	0	218	0	100%
Non-Hazardous Waste Soil	183	183	0	183	0	100%
Subtotal:	401	401	0	401	0	100%
"C" Group Excavation Areas						
PCB-Impacted Soil (>50ppm)	227	227	0	227	0	100%
Non-Hazardous Waste Soil	5,538	5,538	0	5,538	0	100%
Concrete	400	0	0	0	400	0%
Subtotal:	6,165	5,765	0	5,765	400	94%
PCB-Impacted Soil (>50ppm) Subtotal:	612	612	0	612	0	100%
Non-Hazardous Waste Soil Subtotal:	5,922	5,922	0	5,922	0	100%
Total:	6,534	6,534	0	6,534	0	100%
Backfill						
Run-of-Bank Gravel						
Phase 1 "A" Group Excavation Areas	5,327	4,359	75	4,434	893	83%
Phase 1 "B" Group Excavation Areas	1,384	1,134	34	1,168	216	84%
Phase 2 "A" Group Excavation Areas	368	202	0	202	166	55%
Phase 2 "B" Group Excavation Areas	401	362	39	401	0	100%
Phase 2 "C" Group Excavation Areas	5,765	3,694	807	4,501	1,264	78%
Soil Cover System	18,200	8,230	800	9,030	9,170	50%
Subtotal:	31,445	17,581	1,755	19,336	11,709	61%
Topsoil						
Soil Cover System	7,192	0	0	0	7,192	0%
Total:	38,637	11,759	1,755	19,336	18,901	50%

Notes:

1. Excavation and backfill volumes are estimates based on field observations and measurements.
2. CY = Cubic Yards.
3. PCB = polychlorinated biphenyls
4. ppm = parts per million

Attachment D

Excavation/Backfilling Progress
Figure

PROGRESS LEGEND

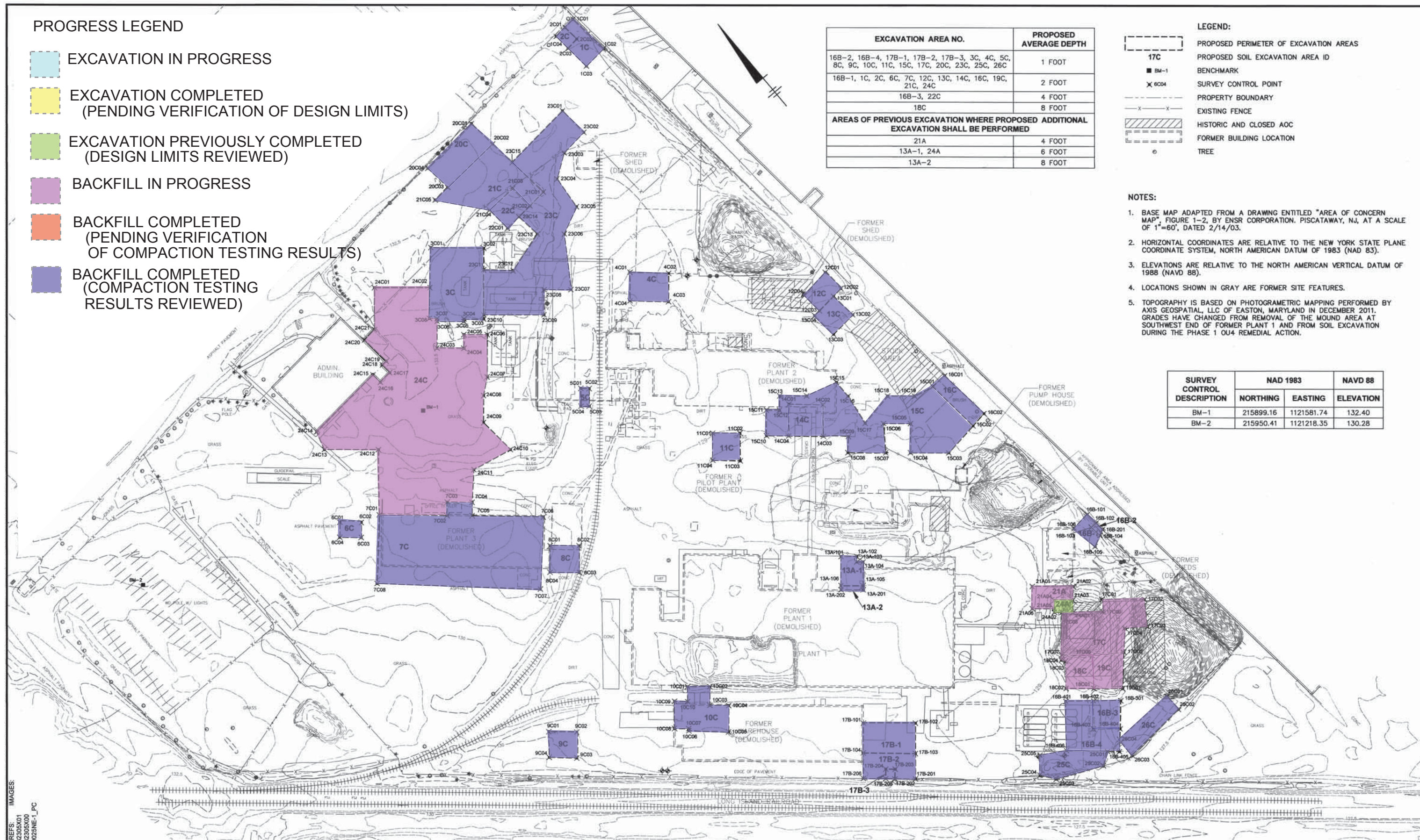
- EXCAVATION IN PROGRESS
- EXCAVATION COMPLETED
(PENDING VERIFICATION OF DESIGN LIMITS)
- EXCAVATION PREVIOUSLY COMPLETED
(DESIGN LIMITS REVIEWED)
- BACKFILL IN PROGRESS
- BACKFILL COMPLETED
(PENDING VERIFICATION OF COMPACTION TESTING RESULTS)
- BACKFILL COMPLETED
(COMPACTION TESTING RESULTS REVIEWED)

EXCAVATION AREA NO.	PROPOSED AVERAGE DEPTH
16B-2, 16B-4, 17B-1, 17B-2, 17B-3, 3C, 4C, 5C, 8C, 9C, 10C, 11C, 15C, 17C, 20C, 23C, 25C, 26C	1 FOOT
16B-1, 1C, 2C, 6C, 7C, 12C, 13C, 14C, 16C, 19C, 21C, 24C	2 FOOT
16B-3, 22C	4 FOOT
18C	8 FOOT
AREAS OF PREVIOUS EXCAVATION WHERE PROPOSED ADDITIONAL EXCAVATION SHALL BE PERFORMED	
21A	4 FOOT
13A-1, 24A	6 FOOT
13A-2	8 FOOT

- LEGEND:
- PROPOSED PERIMETER OF EXCAVATION AREAS
 - PROPOSED SOIL EXCAVATION AREA ID
 - BENCHMARK
 - SURVEY CONTROL POINT
 - PROPERTY BOUNDARY
 - EXISTING FENCE
 - HISTORIC AND CLOSED AOC
 - FORMER BUILDING LOCATION
 - TREE

- NOTES:
- BASE MAP ADAPTED FROM A DRAWING ENTITLED "AREA OF CONCERN MAP", FIGURE 1-2, BY ENSR CORPORATION, PISCATAWAY, NJ, AT A SCALE OF 1"=60', DATED 2/14/03.
 - HORIZONTAL COORDINATES ARE RELATIVE TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83).
 - ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
 - LOCATIONS SHOWN IN GRAY ARE FORMER SITE FEATURES.
 - TOPOGRAPHY IS BASED ON PHOTOGRAMETRIC MAPPING PERFORMED BY AXIS GEOSPATIAL, LLC OF EASTON, MARYLAND IN DECEMBER 2011. GRADES HAVE CHANGED FROM REMOVAL OF THE MOUND AREA AT SOUTHWEST END OF FORMER PLANT 1 AND FROM SOIL EXCAVATION DURING THE PHASE 1 OU4 REMEDIAL ACTION.

SURVEY CONTROL DESCRIPTION	NAD 1983		NAVD 88
	NORTHING	EASTING	ELEVATION
BM-1	215899.16	1121581.74	132.40
BM-2	215950.41	1121218.35	130.28



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USE TO VERIFY FIGURE REPRODUCTION SCALE

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BAYER MATERIALSCIENCE LLC • HICKSVILLE, NEW YORK

REMEDIAL DESIGN ADDENDUM







PHASE 2 OU4 EXCAVATION BACKFILLING PROGRESS UPDATE

WEEK ENDING 04/03/2015

ARCADIS
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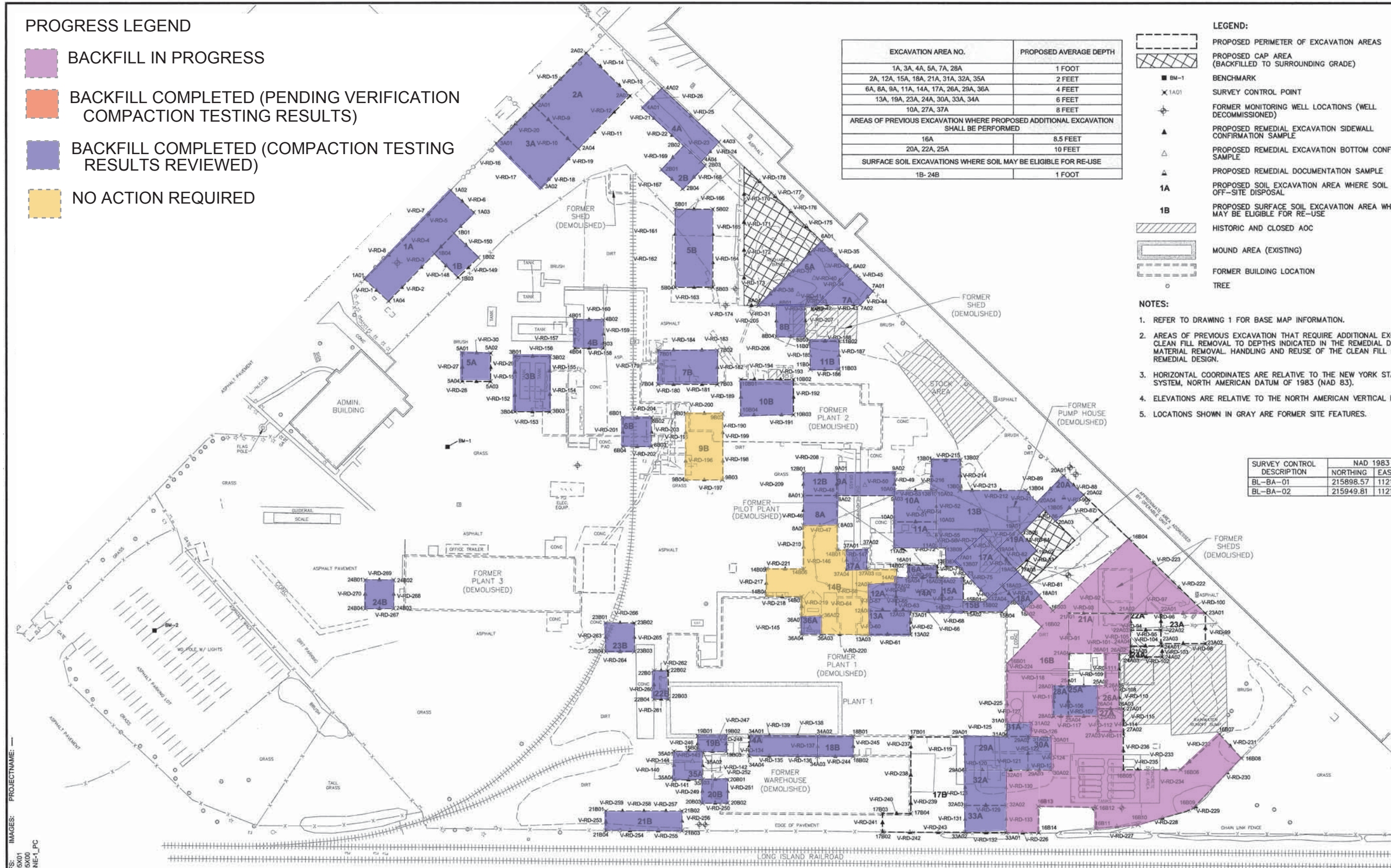
 NO ACTION REQUIRED

EXCAVATION AREA NO.	PROPOSED AVERAGE DEPTH
1A, 3A, 4A, 5A, 7A, 28A	1 FOOT
2A, 12A, 15A, 18A, 21A, 31A, 32A, 35A	2 FEET
6A, 8A, 9A, 11A, 14A, 17A, 26A, 29A, 36A	4 FEET
13A, 19A, 23A, 24A, 30A, 33A, 34A	6 FEET
10A, 27A, 37A	8 FEET
AREAS OF PREVIOUS EXCAVATION WHERE PROPOSED ADDITIONAL EXCAVATION SHALL BE PERFORMED	
16A	8.5 FEET
20A, 22A, 25A	10 FEET
SURFACE SOIL EXCAVATIONS WHERE SOIL MAY BE ELIGIBLE FOR RE-USE	
1B- 24B	1 FOOT

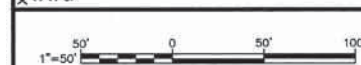
- LEGEND:**
- | | |
|---|--|
|  | PROPOSED PERIMETER OF EXCAVATION AREAS |
|  | PROPOSED CAP AREA
(BACKFILLED TO SURROUNDING GRADE) |
| ■ BM-1 | BENCHMARK |
| ✕ 1A01 | SURVEY CONTROL POINT |
|  | FORMER MONITORING WELL LOCATIONS (WELL
DECOMMISSIONED) |
| ▲ | PROPOSED REMEDIAL EXCAVATION SIDEWALL
CONFIRMATION SAMPLE |
| △ | PROPOSED REMEDIAL EXCAVATION BOTTOM CONFIRMATION
SAMPLE |
| ▲ | PROPOSED REMEDIAL DOCUMENTATION SAMPLE |
| 1A | PROPOSED SOIL EXCAVATION AREA WHERE SOIL REQUIRES
OFF-SITE DISPOSAL |
| 1B | PROPOSED SURFACE SOIL EXCAVATION AREA WHERE SOIL
MAY BE ELIGIBLE FOR RE-USE |
|  | HISTORIC AND CLOSED AOC |
|  | MOUND AREA (EXISTING) |
|  | FORMER BUILDING LOCATION |
| ○ | TREE |

1. REFER TO DRAWING 1 FOR BASE MAP INFORMATION.
2. AREAS OF PREVIOUS EXCAVATION THAT REQUIRE ADDITIONAL EXCAVATION WILL REQUIRE CLEAN FILL REMOVAL TO DEPTHS INDICATED IN THE REMEDIAL DESIGN PRIOR TO IMPACTED MATERIAL REMOVAL. HANDLING AND REUSE OF THE CLEAN FILL IS ALSO DESCRIBED IN THE REMEDIAL DESIGN.
3. HORIZONTAL COORDINATES ARE RELATIVE TO THE NEW YORK STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83).
4. ELEVATIONS ARE RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
5. LOCATIONS SHOWN IN GRAY ARE FORMER SITE FEATURES.

SURVEY CONTROL DESCRIPTION	NAD 1983		NAVD 88
	NORTHING	EASTING	ELEVATION
BL-BA-01	215898.57	1121583.09	132.40
BL-BA-02	215949.81	1121219.70	130.28



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32305X00
9025NE-1_PC
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REMEDIAL DESIGN

PHASE 1 OU4 EXCAVATION BACKFILLING PROGRESS UPDATE

WEEK ENDING 04/03/2015

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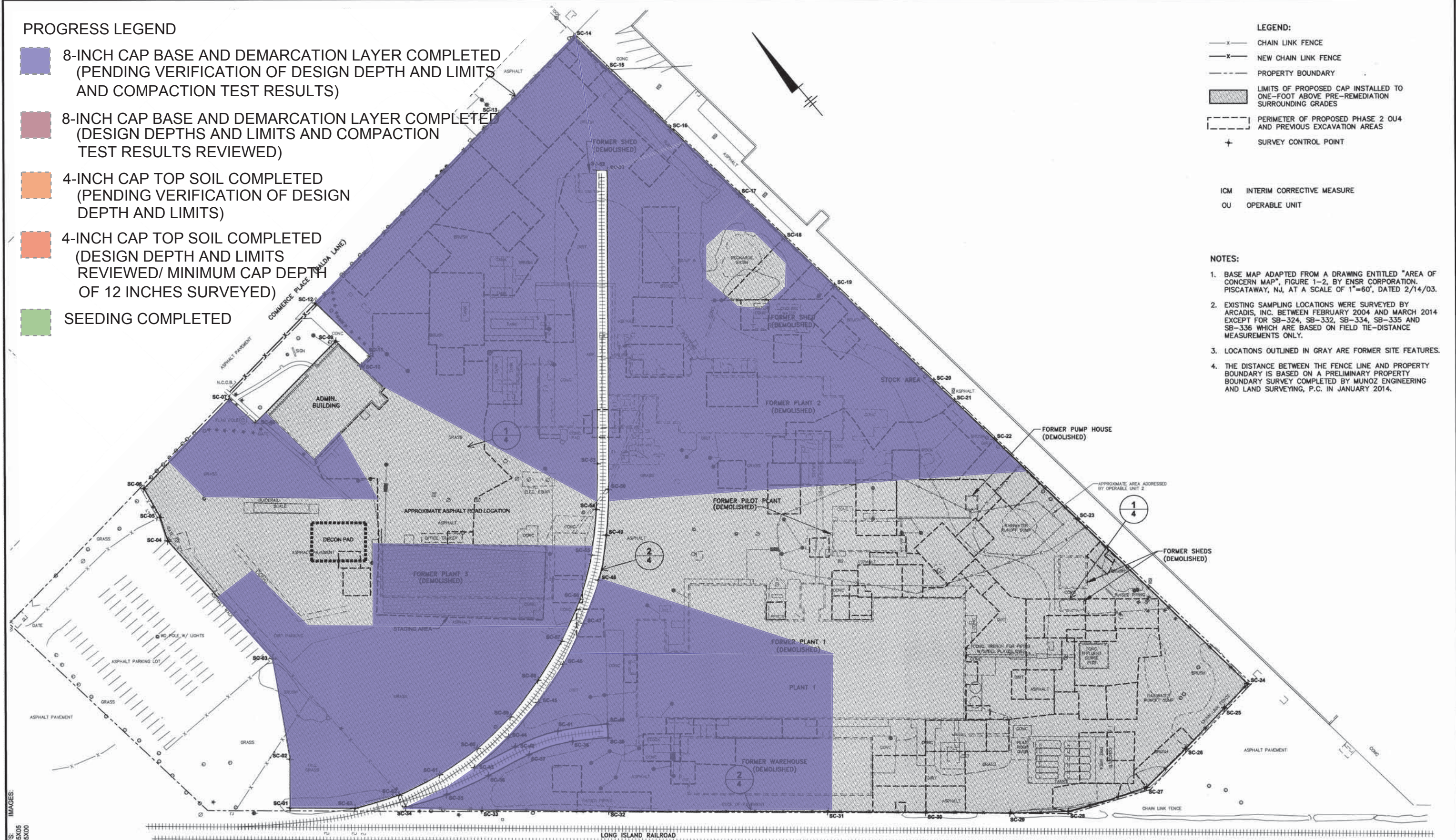
Attachment E

Soil Cover System Progress
Figure

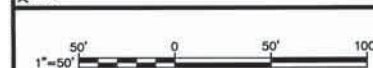
SEEDING COMPLETED

- ICM INTERIM CORRECTIVE MEASURE
OU OPERABLE UNIT

1. BASE MAP ADAPTED FROM A DRAWING ENTITLED "AREA OF CONCERN MAP", FIGURE 1-2, BY ENSR CORPORATION, PISCATAWAY, NJ, AT A SCALE OF 1"=60', DATED 2/14/03.
2. EXISTING SAMPLING LOCATIONS WERE SURVEYED BY ARCADIS, INC. BETWEEN FEBRUARY 2004 AND MARCH 2014 EXCEPT FOR SB-324, SB-332, SB-334, SB-335 AND SB-336 WHICH ARE BASED ON FIELD TIE-DISTANCE MEASUREMENTS ONLY.
3. LOCATIONS OUTLINED IN GRAY ARE FORMER SITE FEATURES.
4. THE DISTANCE BETWEEN THE FENCE LINE AND PROPERTY BOUNDARY IS BASED ON A PRELIMINARY PROPERTY BOUNDARY SURVEY COMPLETED BY MUNOZ ENGINEERING AND LAND SURVEYING, P.C. IN JANUARY 2014.



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REMEDIAL DESIGN ADDENDUM

PHASE 2 OU4 SOIL COVER SYSTEM PROGRESS UPDATE
WEEK ENDING 04/03/2015

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