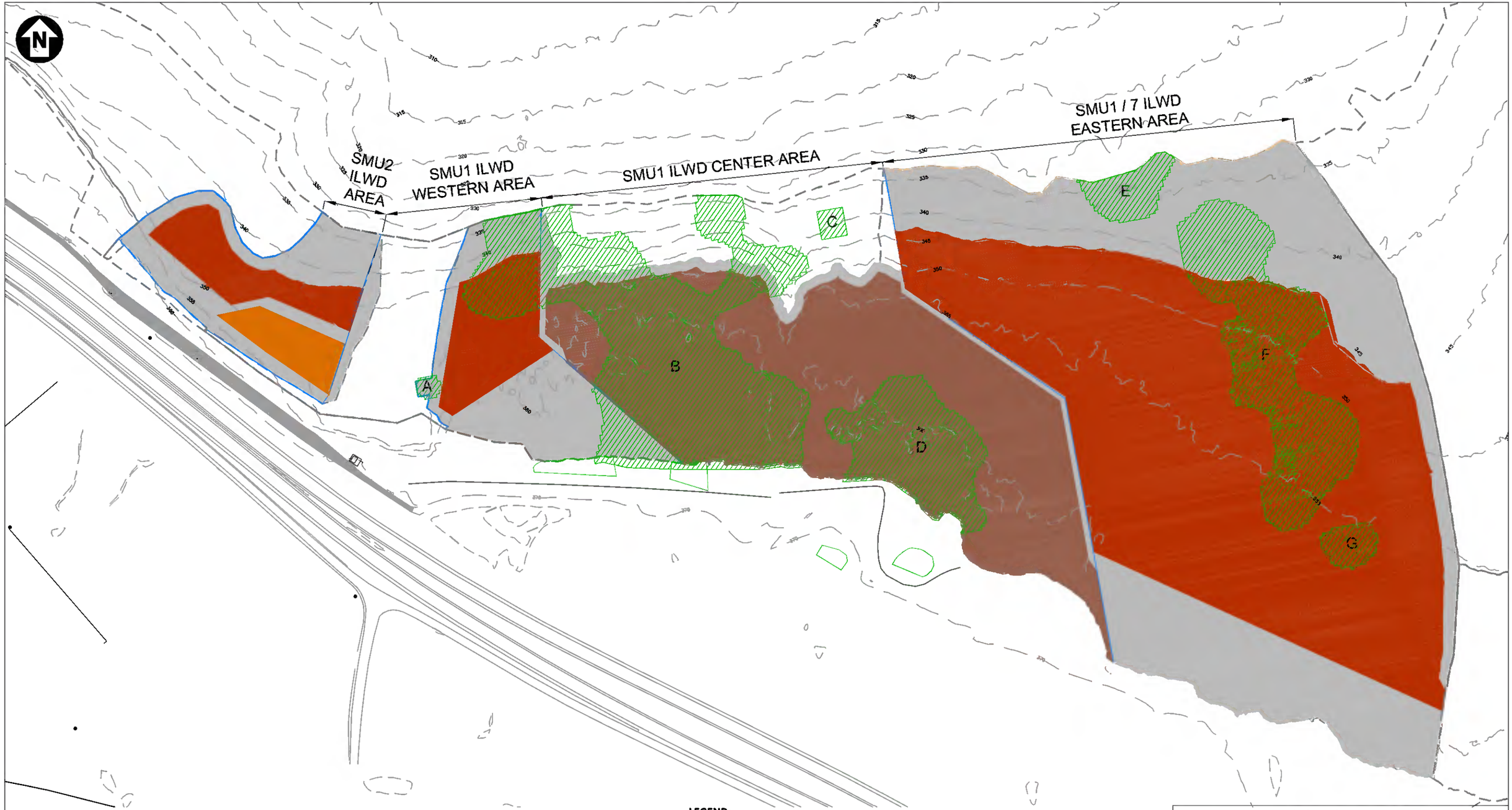


NOTES:
1. Areas designated as hot spots will be dredged one additionol meter.

FIGURE 5.1

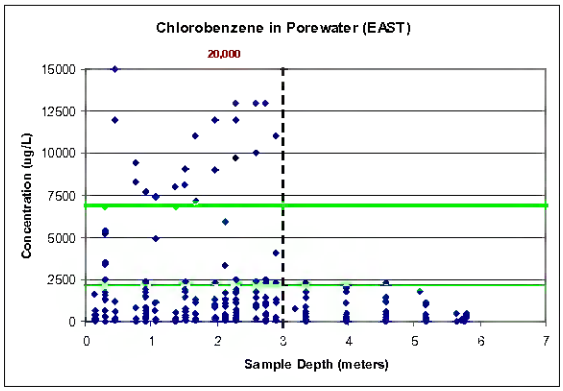
Honeywell ONONDAGA LAKE SYRACUSE, NEW YORK

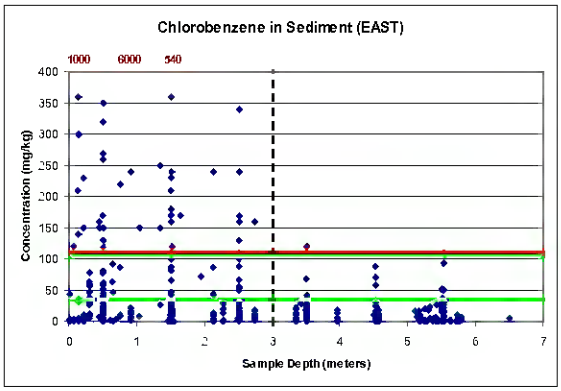
ILWD Removol Depths – 2 Meter Average Removal Plus Hot Spots

PARSONS
301 PLAINFIELD ROAD, SUITE 350, SYRACUSE, NY 13212 PHONE: 315-451-9560

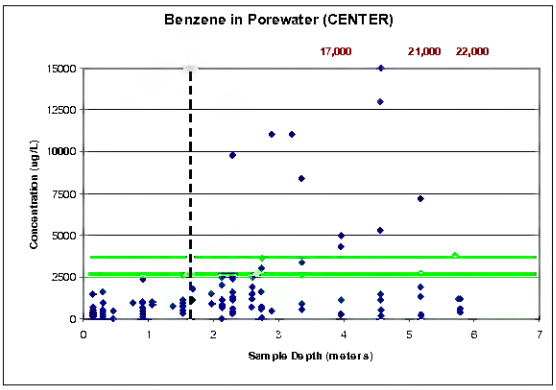
FILE NAME: P:\HONEYWELL -SYR\446232 - CAP DESIGN\10 TECHNICAL CATEGORIES\10.1 CAD\HABITAT-DRAFT FINAL\446232-HB-HOTSPOT.DWG
PLOT DATE: 8/16/2011 3:12 PM PLOTTED BY: RUSSO, JILL

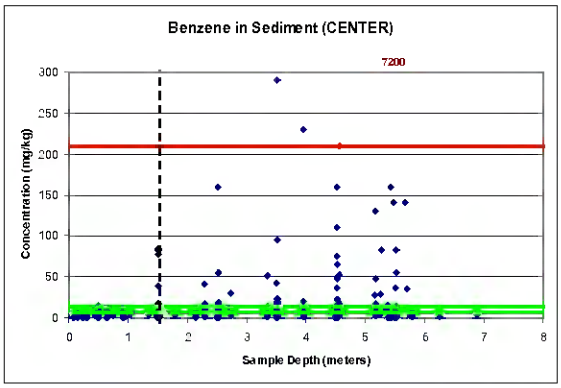
SMU1/SMU7 ILWD Eastern Area



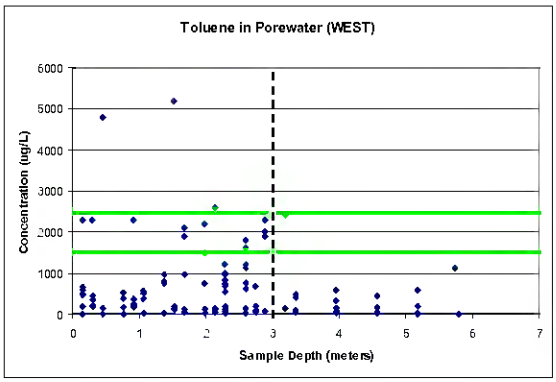


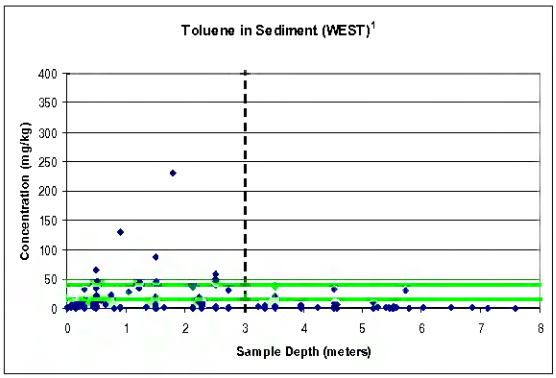
SMU1 ILWD Center Area





SMU1 ILWD Western Area





Data Presentation:

- Red lines indicate hot spot criteria for sediment as listed in the ROD.
- Dashed lines represent the proposed removal depth. This removal depth will not be achieved everywhere due to issues such as required sloping from shoreline down to the maximum removal depth. Therefore, not all data points shown above the removal depth will be removed.
- Green lines indicate 90th and 95th percentile concentrations.
- Numbers in red denote concentrations beyond the range of the scatterplots.

Notes: (1) Hot spot criteria for toluene above the range of plots.

FIGURE 5.2

Honeywell

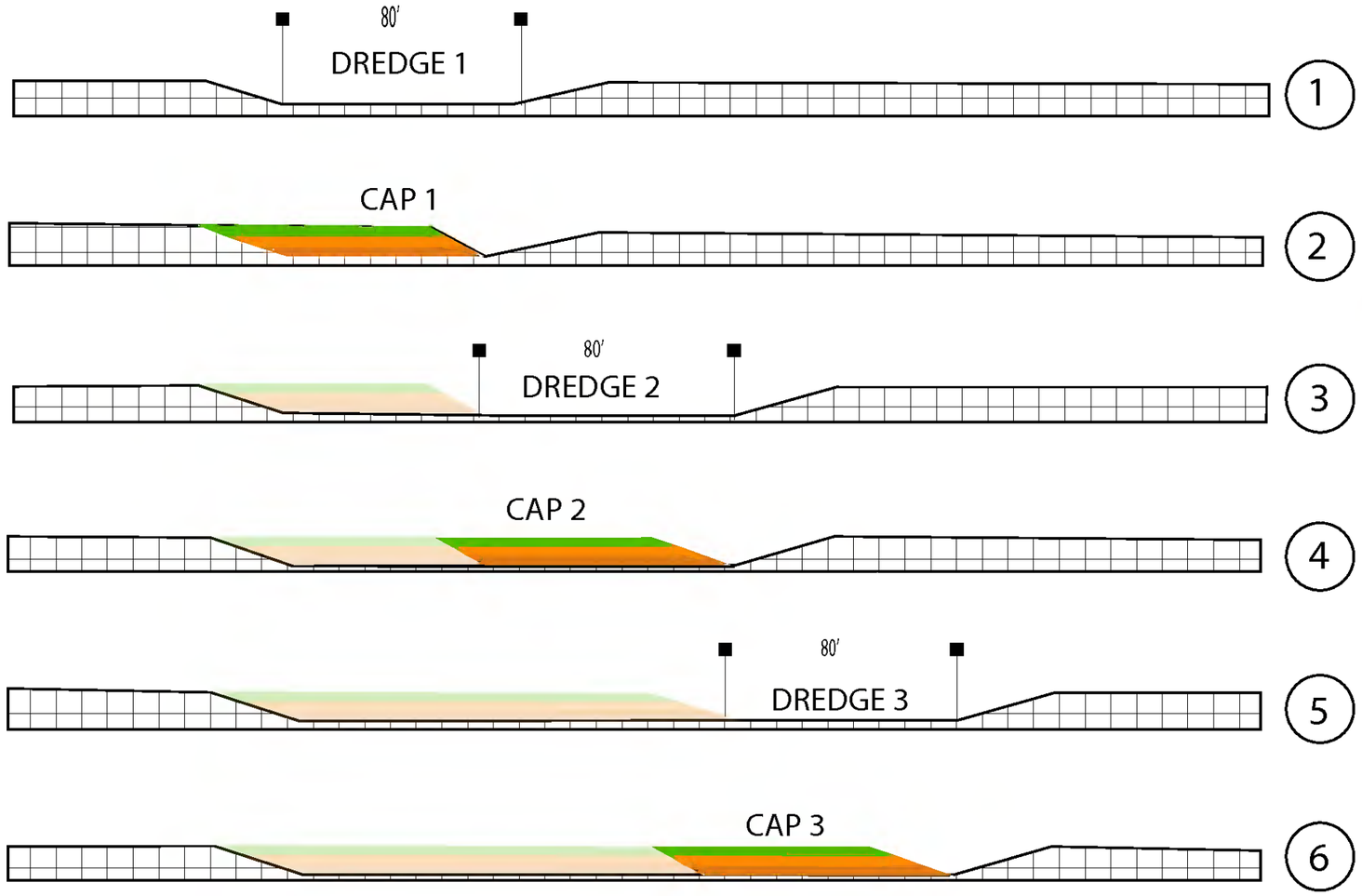
Example ILWD Contaminant Concentration Versus Depth Plots

PARSONS

301 Plainfield Road, Suite 350, Syracuse, NY 13212

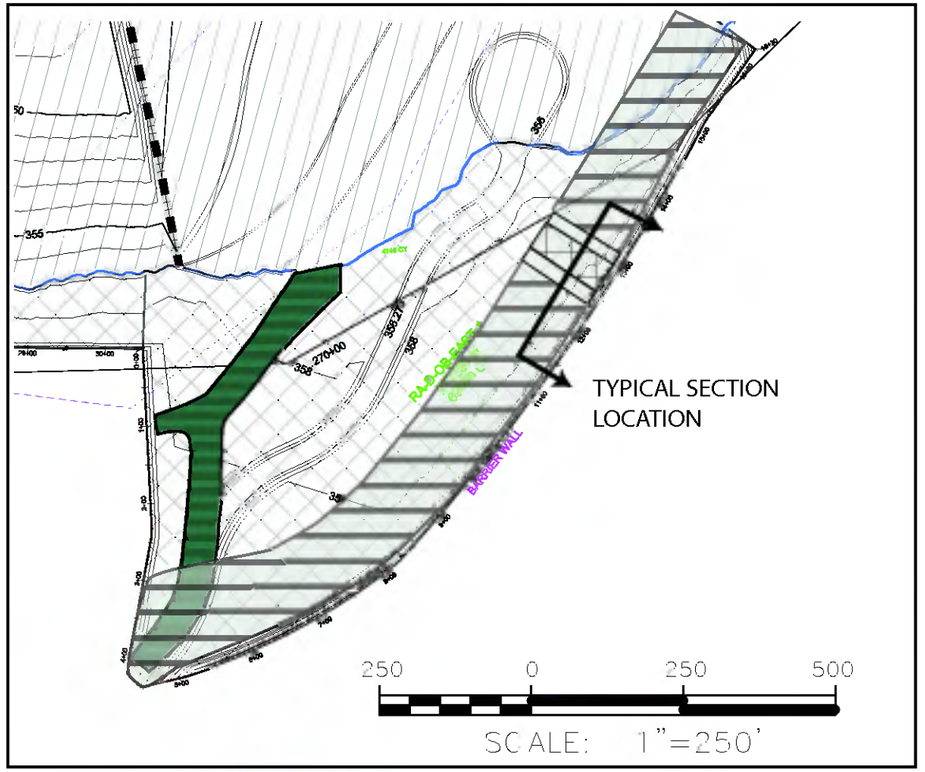
P:\Hon-Syr\444576\9.0…\9.1 Draft Capping and Dredge…\Figures\Figure 5.2.ppt

TYPICAL SECTION VIEW OF DREDGE SEQUENCE



*Repeat steps 5 & 6

PLAN VIEW OF DREDGE SEQUENCE



Harbor Brook Temporary channel

Sequential Dredge Area

FIGURE 5.3

Honeywell

Onondaga Lake
Syracuse, New York

Dredge and Cap Sequence
WB-B East Wall Sequential Area

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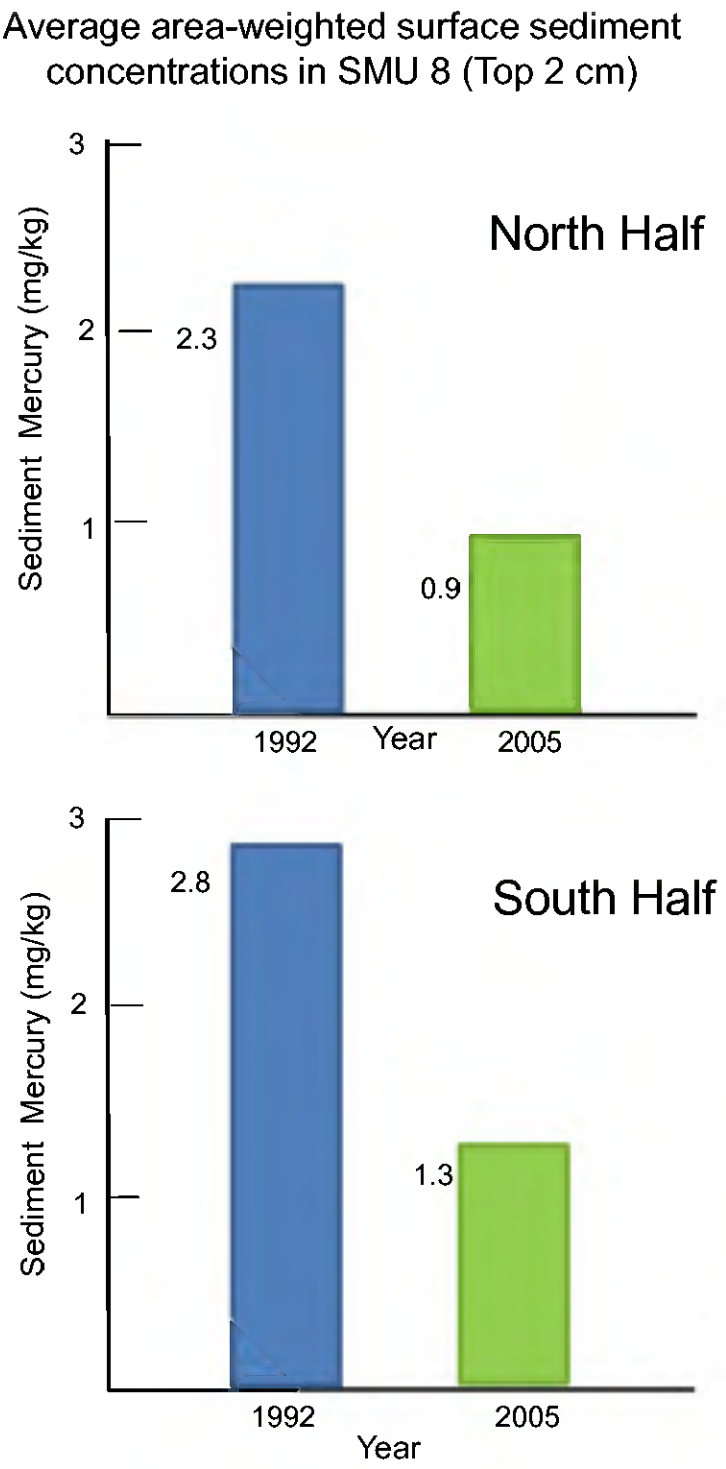
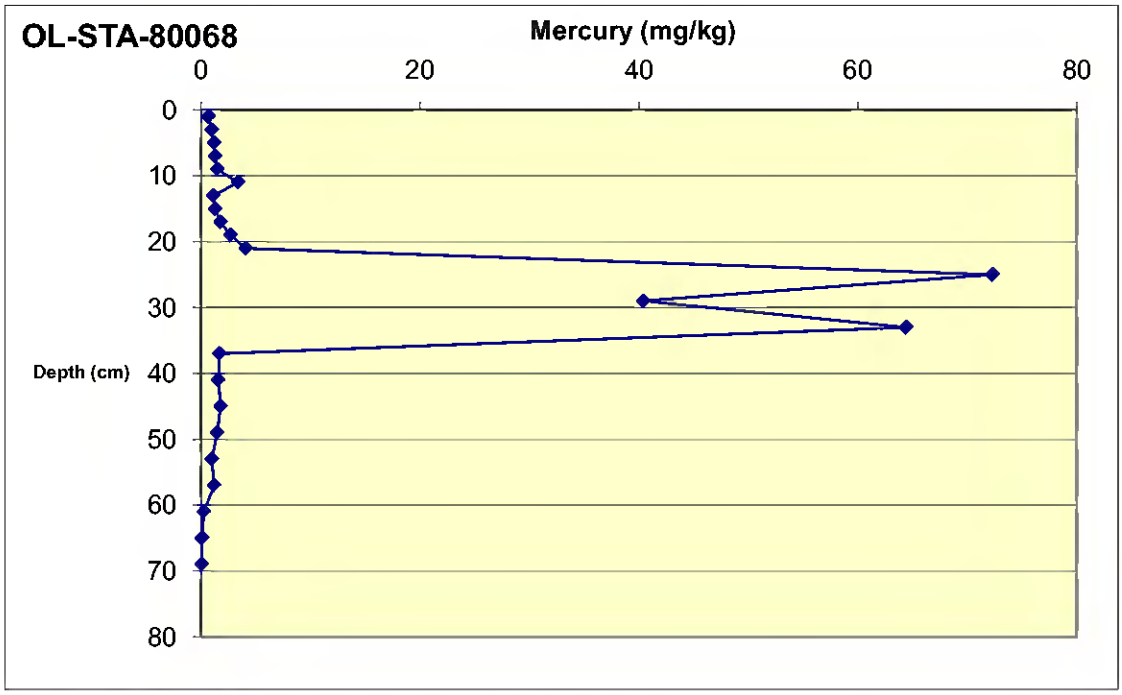
301 Plainfield Rd, Suite 350, Syracuse, NY, 13212, Phone 315-451-9560



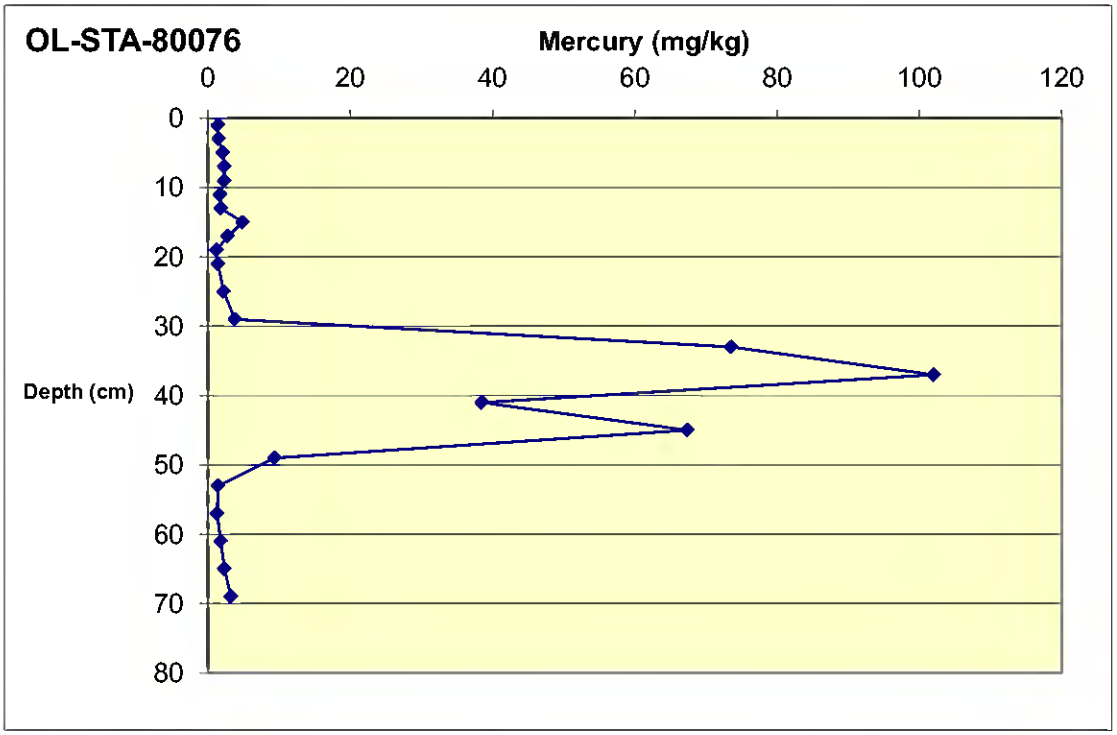
Notes: (1) The north half of the lake includes the saddle area in the middle of SMU 8.
(2) Data applied in this figure were collected on behalf of Honeywell.

Figure 6.1 Demonstration of Ongoing Natural Recovery in Onondaga Lake SMU 8 Sediment

(North Basin)

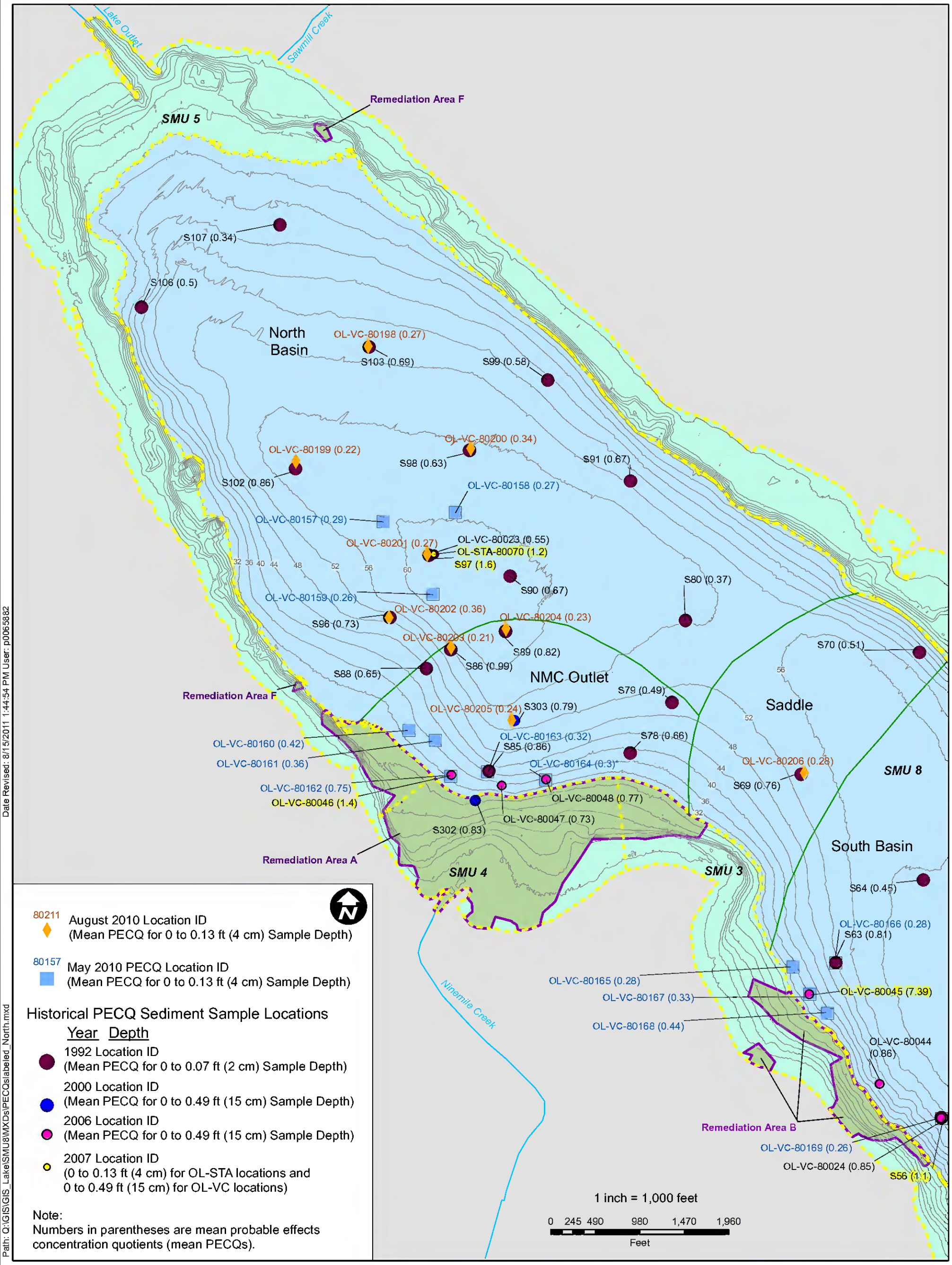


(South Basin)



Note: The mercury concentrations were plotted based on the midpoint of the depth interval from which the sample was collected.

Figure 6.2 Example SMU 8 Sediment Mercury Vertical Profiles (from 2008)



Date Revised: 8/15/2011 1:44:54 PM User: p0065882

Path: Q:\GIS\GIS_Lake\SMU8\MXDs\PECQslabeled_North.mxd

4 ft. Bathymetric Contour

NYSDEC Demarcation for SMU 8

SMU Boundary

Remediation Area Boundary

(1.2) OL-VC-80030 Sample Locations Where Mean PECQ is 1 or Higher

NOTES

1. Bathymetry in 4 ft. intervals, labeled only in SMU 8.
2. Water depth based on average lake elevation of 362.82 feet.
3. * Indicates a duplicate sample location.
May and August 2010 maximum PECQ values posted.

Figure 6.3a

Honeywell

Onondaga Lake
Syracuse, New York

SMU 8 Surface Sediment Sample Locations with Mean PECQ Results in the North Half of Onondaga Lake

PARSONS
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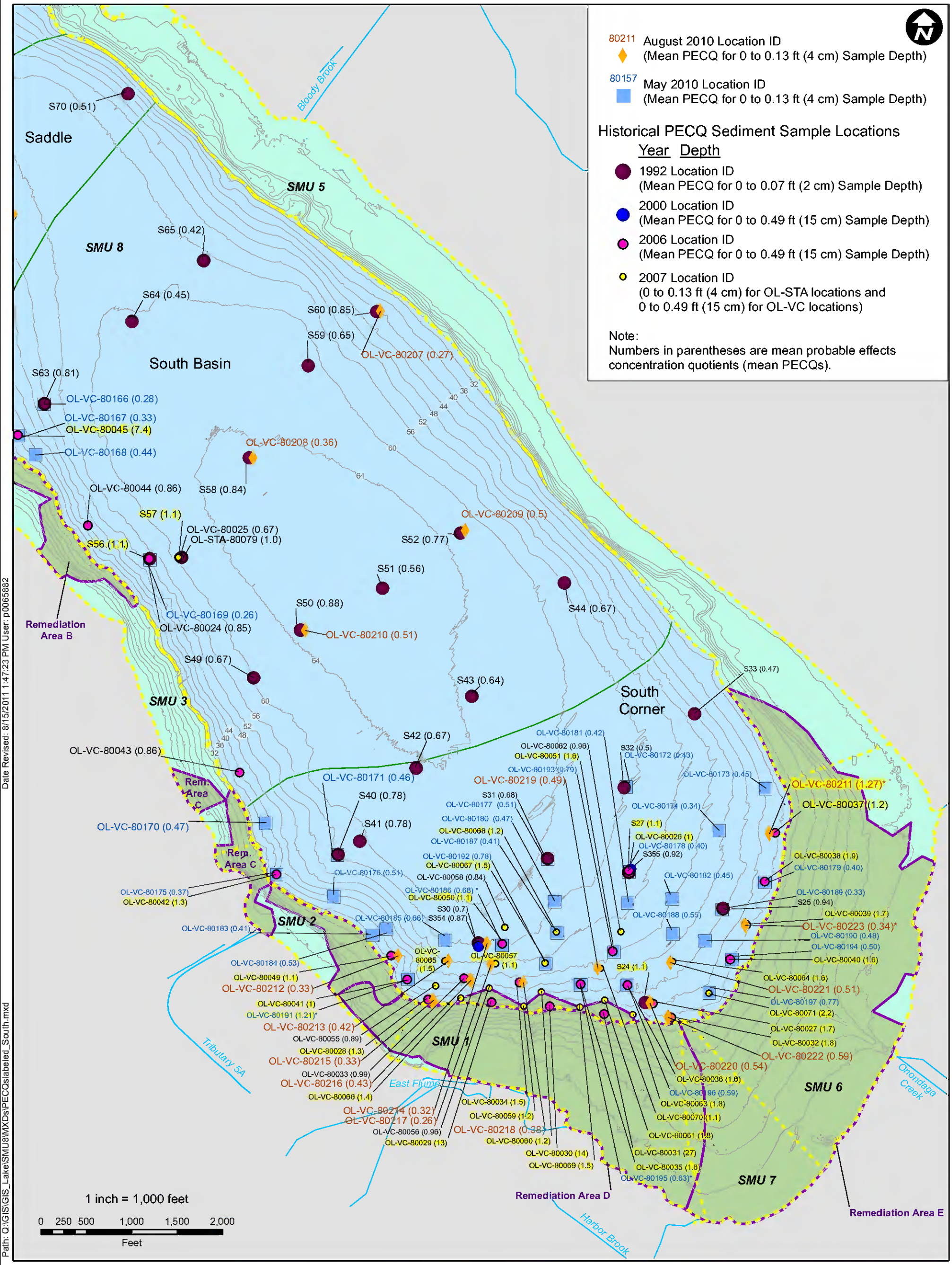


4 ft. Bathymetric Contour

NYSDEC Demarcation for SMU 8

SMU Boundary

Remediation Area Boundary

(1.2) OL-VC-80030 Sample Locations Where Mean PECQ is 1 or Higher

NOTES

1. Bathymetry in 4 ft. intervals, labeled only in SMU 8.
2. Water depth based on average lake elevation of 362.82 feet.
3. * Indicates a duplicate sample location. May and August 2010 maximum PECQ values posted.

Figure 6.3b

Honeywell

Onondaga Lake
Syracuse, New York

SMU 8 Surface Sediment Sample Locations with Mean PECQ Results in the South Half of Onondaga Lake

PARSONS
301 Plainfield Road, Suite 350; Syracuse NY 13212 Phone:(315)451-9560

Date Revised: 4/22/2011 3:04:40 PM User: p001 3927

Path: Q:\GIS\GIS_Lake\SMU8\MXDs\PECQ_TLC_IDS2_Southbasin.mxd

Phase VI Pre-Design Investigation
PECQ Sediment Sample Locations

80211 August 2010 Location ID
(Mean PECQ for 0 to 0.13 ft (4 cm) Sample Depth)

80157 May 2010 Location ID
(Mean PECQ for 0 to 0.13 ft (4 cm) Sample Depth)

* Indicates a duplicate sample location.

Historical PECQ Sediment Sample Locations From Top 2 cm

2007 Location ID
(Mean PECQ for 0 to 0.49 ft (15 cm) Sample Depth)

1992 Location ID
(Mean PECQ for 0 to 0.07 ft (2 cm) Sample Depth)

OL-VC-80030 (1.2) Sample Locations Where Mean PECQ is 1 or Higher

Remediation Area Boundary

Thin-Layer Cap Boundary
Based on Mean PECQ

Isolation Cap Area

4 ft. Bathymetric Contour

NYSDEC Demarcation for SMU 8

SMU Boundary

NOTES: 1. Numbers in parentheses are mean probable effects concentration quotients (mean PECQs).
2. Maximum mean PECQs displayed.
3. Bathymetry in 4 ft. intervals.
4. Water depth based on average lake elevation of 362.82 feet.

Thin-Layer Cap Areas in Acres
A: 15.2
B: 11.7
Total: 26.9

1 inch = 600 feet
0 300 600 1,200
Feet

Figure 6.4

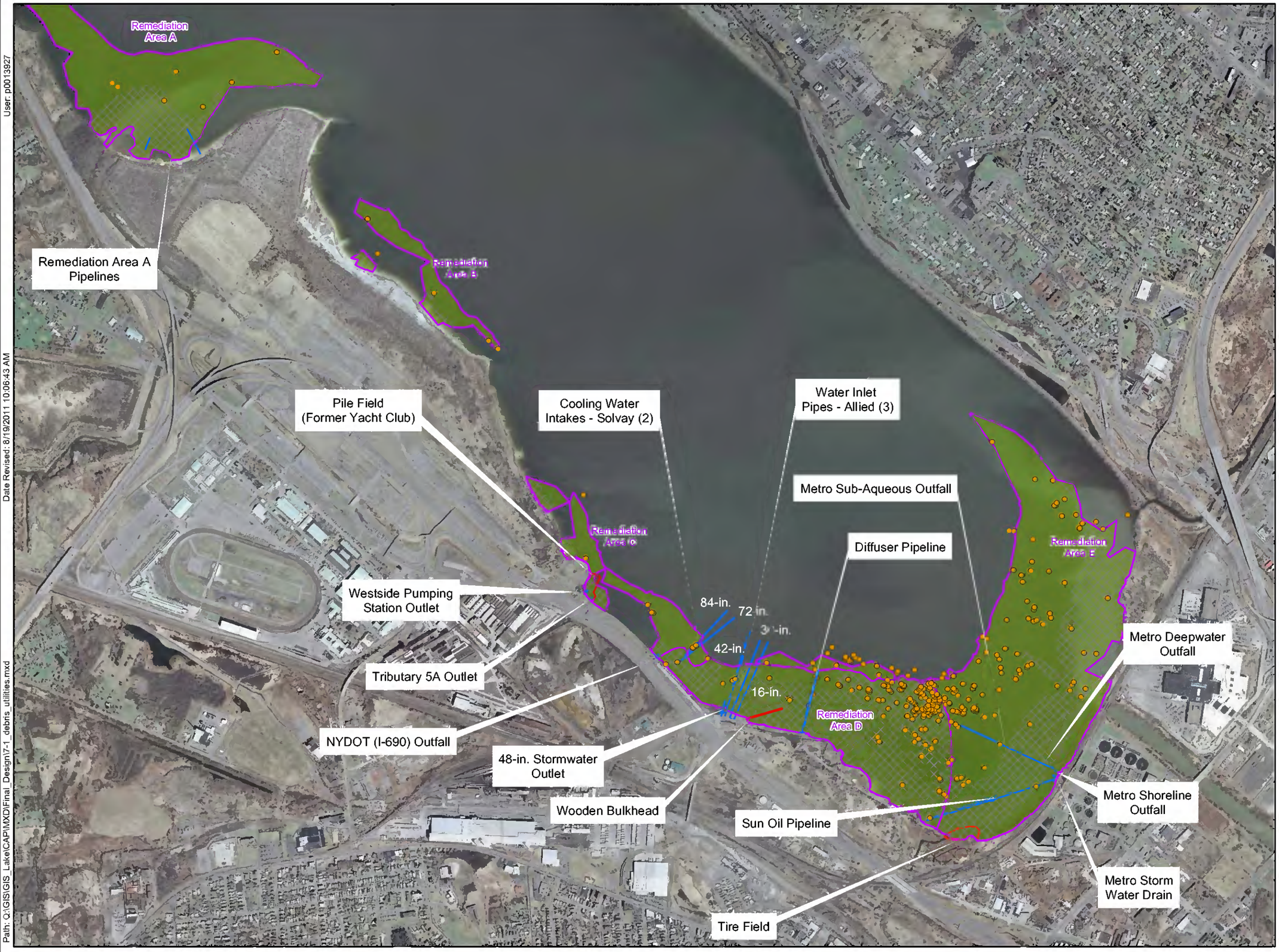
Honeywell

Onondaga Lake
Syracuse, New York

SMU 8 Thin-Layer Cap Areas
Based on Mean PECQ Results

PARSONS

301 Plainfield Road, Suite 350; Syracuse NY 13212 Phone:(315)451-9560



Side-scan Sonar Target

- Debris (greater than 5' in any dimension)

- Digitized Anomalies from Magnetometer Data and Historical Records (locations/lengths are approximate)
- Remediation Area Boundary
- Isolation Cap Area
- Dredge Area

N

900 450 0 900
Feet

Note: 2009 Aerial Photos obtained from NYS GIS Clearinghouse

FIGURE 7.1

Honeywell — Onondaga Lake, Syracuse, New York

Remediation Areas
Debris & Utilities

PARSONS
301 Plainfield Road, Suite 350; Syracuse, NY 13212

User: p0013927
Date Revised: 8/19/2011 10:06:43 AM
Path: Q:\GIS\GIS_Lake\CAP\MXD\Final_Design\7-1_debris_utilities.mxd

AUTOMOBILE
(target determined to be a car)
To be removed

PILE FIELD
(former yacht club - approximate extent)
To be pulled out or cut off at mudline

2 COOLING WATER INTAKES
(Solvay Process - inactive)
Utility structures below dredge elevations

WOODEN BULKHEAD/ BAFFLE WALL
(approximate location)
To be pulled out or cut off at mudline

REMEDIATION AREA D (ADDENDUM CAP AREA)

REMEDIATION AREA C

REMEDIATION AREA C

REMEDIATION AREA D
(SMU-1)

REMEDIATION AREA D
(SMU-2)

RA D

333
302
295
294
245
236
233
235
234
227
211
207
202
198
196
117

BARRIER WALL

TRIBUTARY 5A OUTLET

WESTSIDE PUMPING STATION OUTLET

48" OUTFALL (PENETRATION
THROUGH BARRIER WALL)

VALVE STRUCTURE
(associated with water intake pipes)
Modified cap design

3 WATER INLET PIPES
(Allied Chemical - inactive, approximate locations)
Utility structures below dredge elevations

DIFFUSER PIPELINE
(Allied Chemical - inactive)
Dredging and capping up to utility structure

LEGEND:

- DREDGE-AND-CAP
- CAP-ONLY
- OUTBOARD AREA
- APPROXIMATE EASTERN EXTENT OF 2012 DREDGING
- SHORELINE (ELEV. 362.5)
- REMEDIATION AREA BOUNDARY
- UTILITY STRUCTURES
- BARRIER WALLS
- WOOD STRUCTURES/ ZONES - TO BE REMOVED OR CUT OFF
- DEBRIS TARGETS - TO BE REMOVED PRIOR TO OR DURING DREDGING
- DEBRIS TARGETS - CAP IN PLACE
- DEBRIS TARGETS IDENTIFIED IN 2005 THAT COULD NOT BE VISUALLY VERIFIED IN 2011
- DEBRIS TARGET NOT IN 2012 REMEDIAL ACTION AREA

0 75 150
SCALE IN FEET

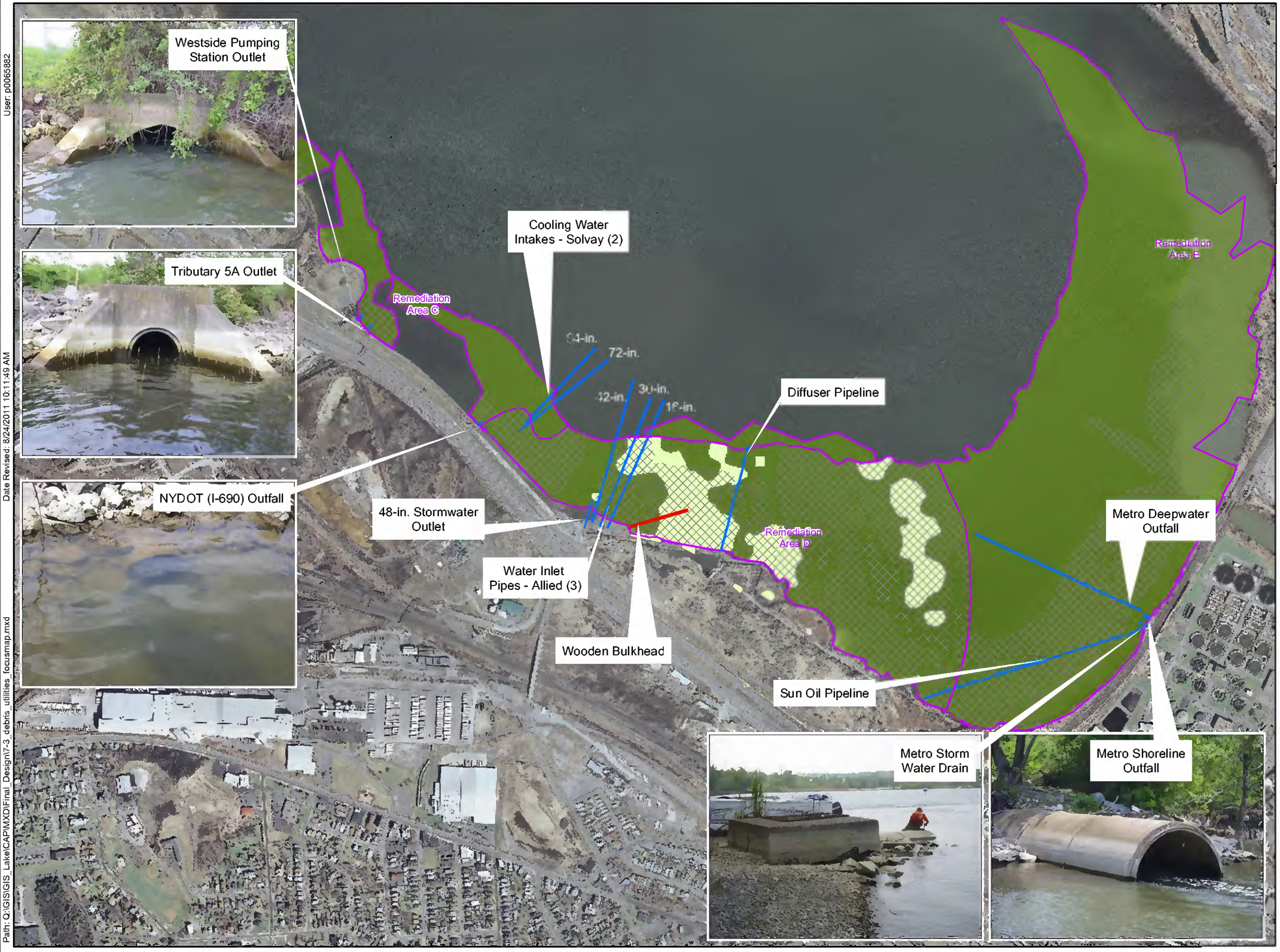
FIGURE 7.2

Honeywell

Onondaga Lake
Syracuse, New York

Debris Targets Within 2012 Remedial Action Area

PARSONS
301 Plainfield Rd, Suite 350, Syracuse, NY, 13212, Phone 315-451-9560



Utilities based on Magnetometer Data and Historical Records (locations/lengths are approximate)

Remediation Area Boundary

Hot Spot Dredge Area

Isolation Cap Area

Dredge Area

N

540 270 0 540
Feet

Note: 2009 Aerial Photos obtained from NYS GIS Clearinghouse

FIGURE 7.3

Honeywell — Onondaga Lake, Syracuse, New York

Utilities in Remediation Areas C, D and E

PARSONS
301 Plainfield Road, Suite 350; Syracuse, NY 13212

Path: Q:\GIS\GIS_Lake\CAP\MXD\Final_Design\7-3_debris_utilities_focusmap.mxd
Date Revised: 8/24/2011 10:11:49 AM
User: p0065882

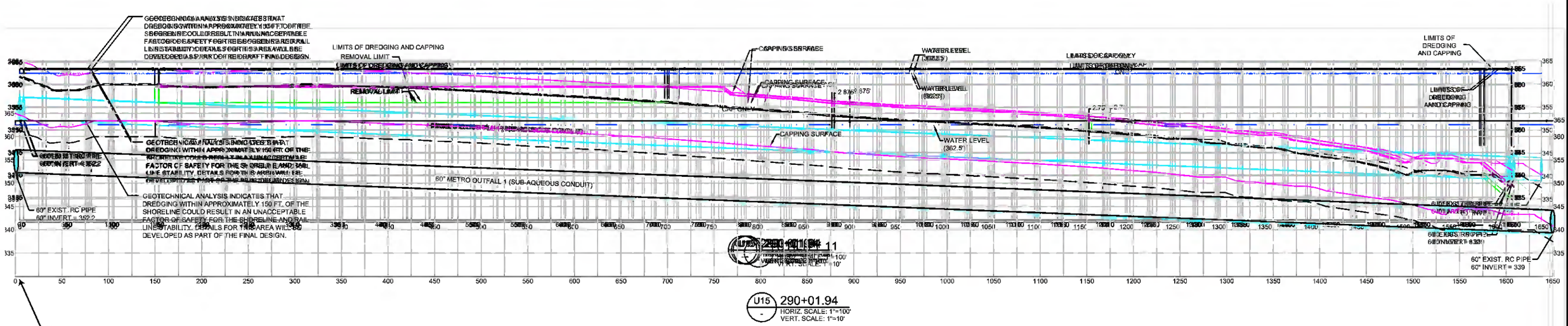


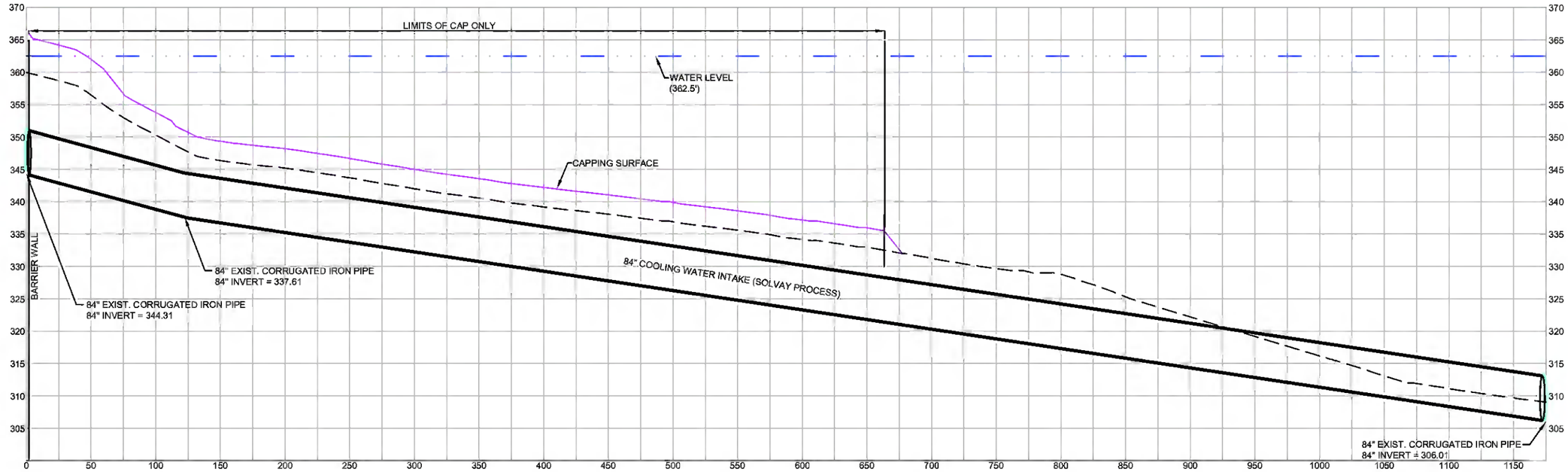
FIGURE 7.4

Honeywell

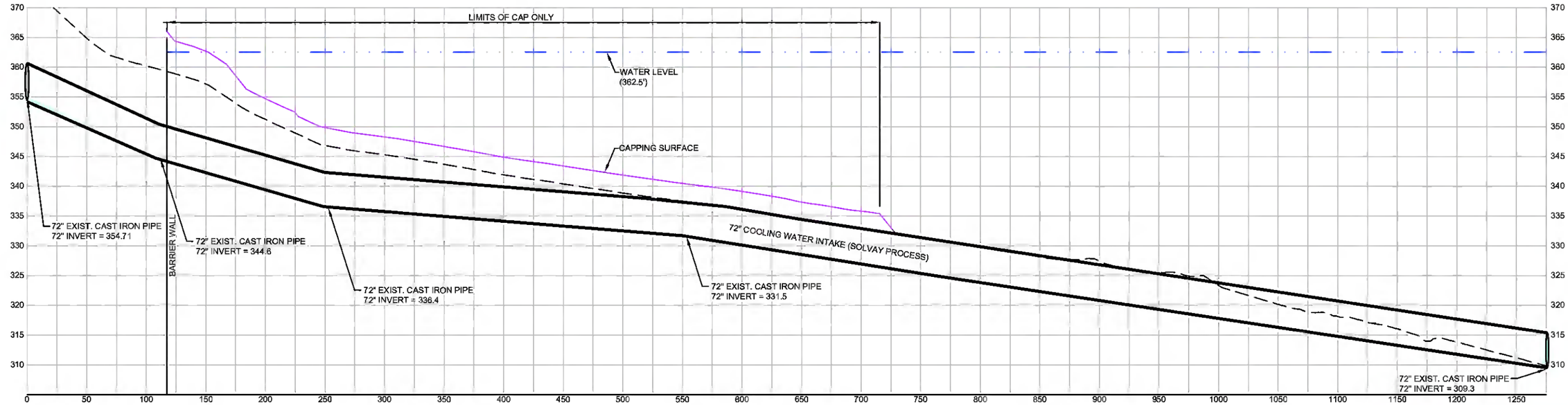
Onondaga Lake
Syracuse, New York

METRO
Deepwater Outfall

PARSONS
301 Plainfield Rd, Suite 350, Syracuse, NY, 13212, Phone 315-451-9560



U6 / - 222+65.25
HORIZ. SCALE: 1"=80'
VERT. SCALE: 1"=10'



U7 / - 222+93.36
HORIZ. SCALE: 1"=80'
VERT. SCALE: 1"=10'

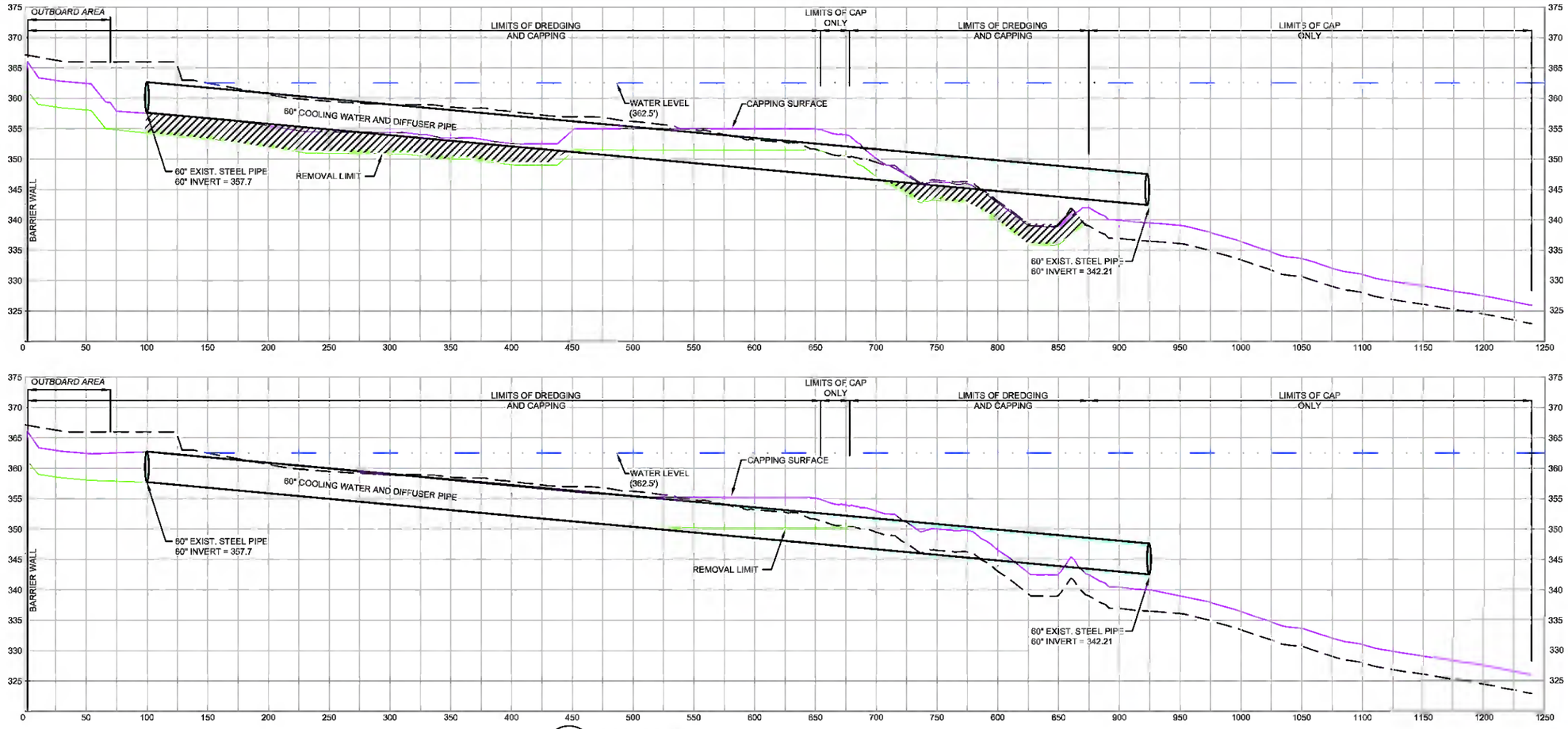
FIGURE 7.5

Honeywell

Onondaga Lake
Syracuse, New York

COOLING WATER INTAKES
(SOLVAY PROCESS)

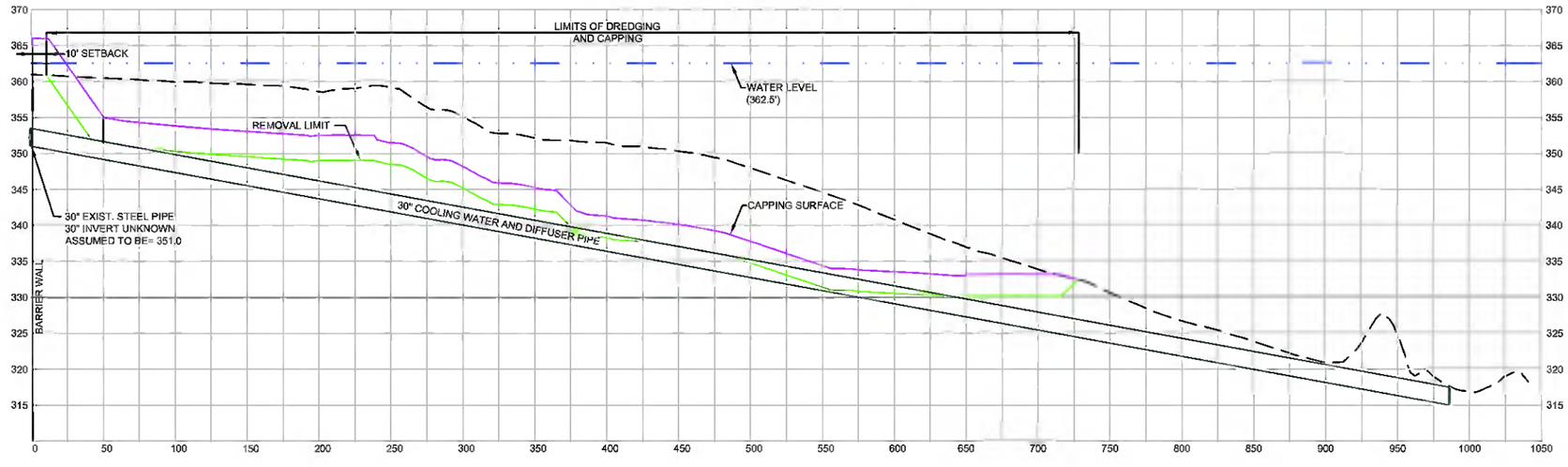
PARSONS
301 Plainfield Rd, Suite 350, Syracuse, NY, 13212, Phone 315-451-9560



Diffuser Pipeline Profile Adjacent to Pipe

U11 - 244+39.90
HORIZ. SCALE: 1"=80'
VERT. SCALE: 1"=10'

Diffuser Pipeline Profile At Pipe



U9 - 244+35.15
HORIZ. SCALE: 1"=80'
VERT. SCALE: 1"=10'

30" Water Inlet Profile

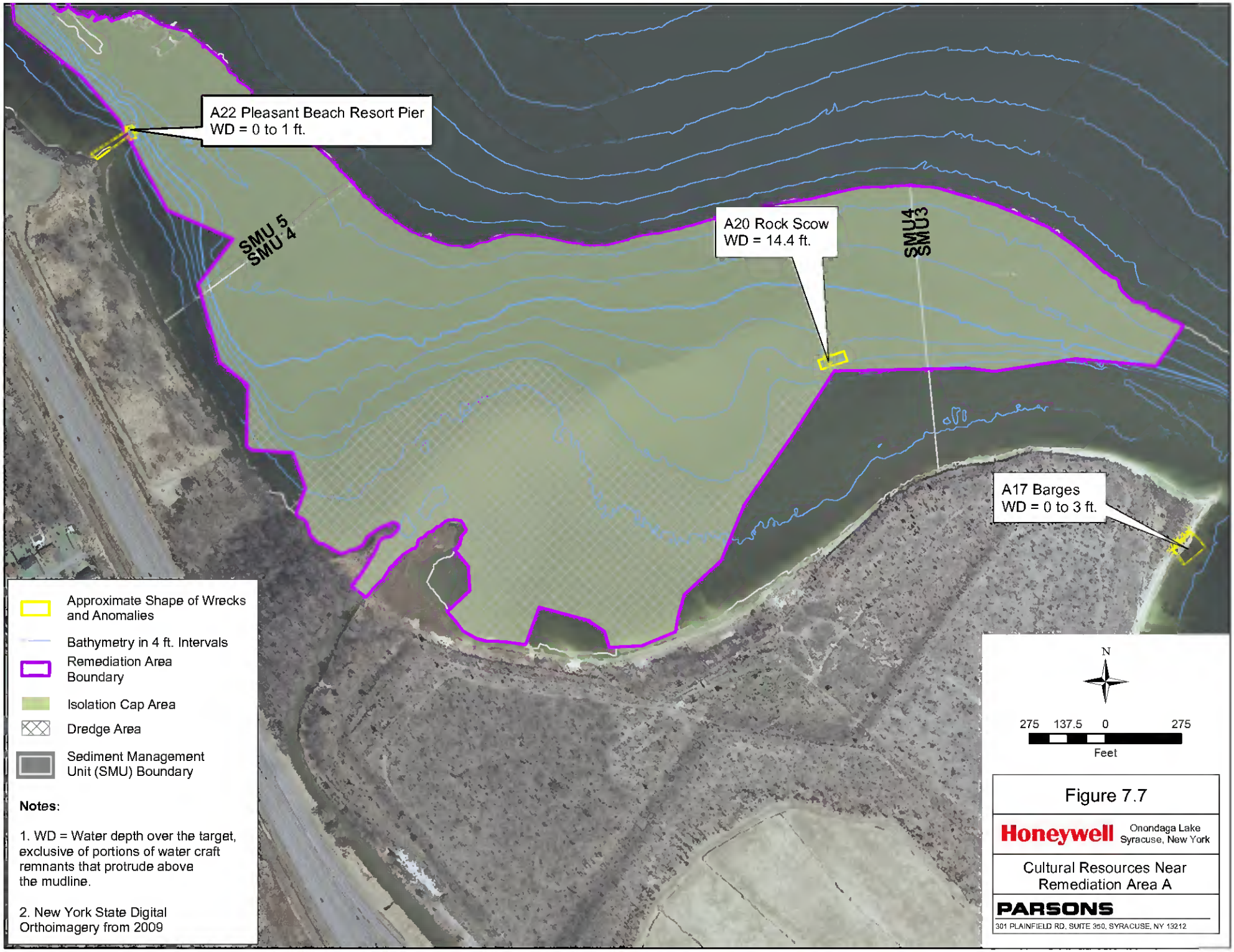
Area underlying pipeline that will not be removed to avoid undermining and potential collapse of pipeline.

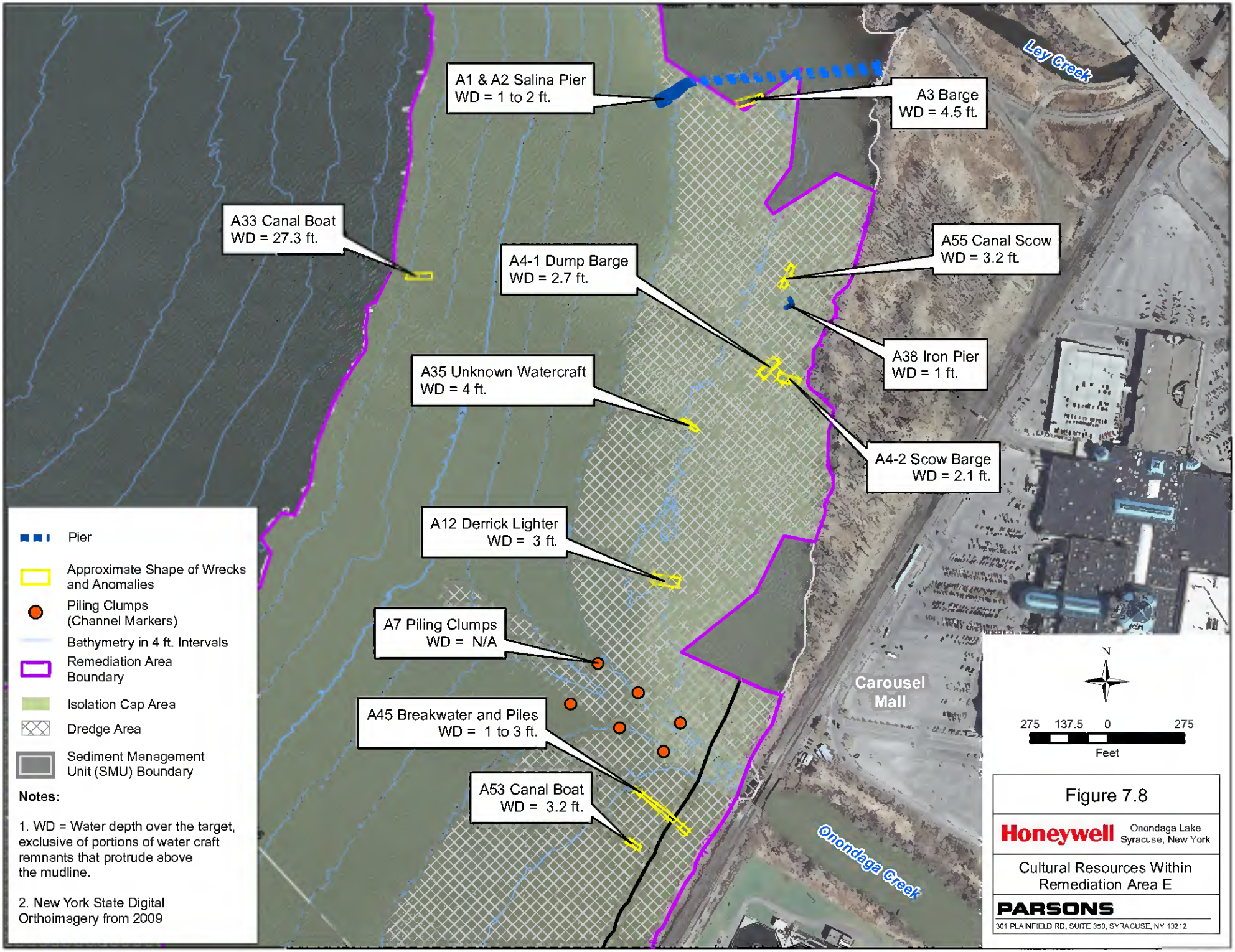
FIGURE 7.6

Honeywell — Onondaga Lake, Syracuse, New York

Diffuser Pipeline Profiles & 30" Water Inlet

PARSONS
301 Plainfield Rd, Suite 350, Syracuse, NY, 13212, Phone 315-451-9560


A22 Pleasant Beach Resort Pier
WD = 0 to 1 ft.
A20 Rock Scow
WD = 14.4 ft.
A17 Barges
WD = 0 to 3 ft.
SMU 5
SMU 4
SMU4
SMU3
Approximate Shape of Wrecks and Anomalies
Bathymetry in 4 ft. Intervals
Remediation Area Boundary
Isolation Cap Area
Dredge Area
Sediment Management Unit (SMU) Boundary
Notes:
1. WD = Water depth over the target, exclusive of portions of water craft remnants that protrude above the mudline.
2. New York State Digital Orthoimagery from 2009
N
275 137.5 0 275
Feet
Figure 7.7
Honeywell
Onondaga Lake
Syracuse, New York
Cultural Resources Near Remediation Area A
PARSONS
301 PLAINFIELD RD, SUITE 350, SYRACUSE, NY 13212
User: p0065882
Date Revised: 8/15/2011 1:52:21 PM
Path: Q:\GIS\GIS_Lake\mxds\Cultural_Resources\RemA_CulturalResources.mxd


A1 & A2 Salina Pier
WD = 1 to 2 ft.
A3 Barge
WD = 4.5 ft.
Ley Creek
A33 Canal Boat
WD = 27.3 ft.
A55 Canal Scow
WD = 3.2 ft.
A4-1 Dump Barge
WD = 2.7 ft.
A38 Iron Pier
WD = 1 ft.
A35 Unknown Watercraft
WD = 4 ft.
A4-2 Scow Barge
WD = 2.1 ft.
A12 Derrick Lighter
WD = 3 ft.
A7 Piling Clumps
WD = N/A
Carousel Mall
A45 Breakwater and Piles
WD = 1 to 3 ft.
A53 Canal Boat
WD = 3.2 ft.
Onondaga Creek
Pier
Approximate Shape of Wrecks and Anomalies
Piling Clumps (Channel Markers)
Bathymetry in 4 ft. Intervals
Remediation Area Boundary
Isolation Cap Area
Dredge Area
Sediment Management Unit (SMU) Boundary
Notes:
1. WD = Water depth over the target, exclusive of portions of water craft remnants that protrude above the mudline.
2. New York State Digital Orthoimagery from 2009
N
275 137.5 0 275
Feet
Figure 7.8
Honeywell
Onondaga Lake
Syracuse, New York
Cultural Resources Within Remediation Area E
PARSONS
301 PLAINFIELD RD, SUITE 350, SYRACUSE, NY 13212
Path: Q:\GIS\GIS_Lake\mxds\Cultural_Resources\RemE_ArchaeologicalFeats.mxd
Date Revised: 8/15/2011 2:08:19 PM
User: p0065882

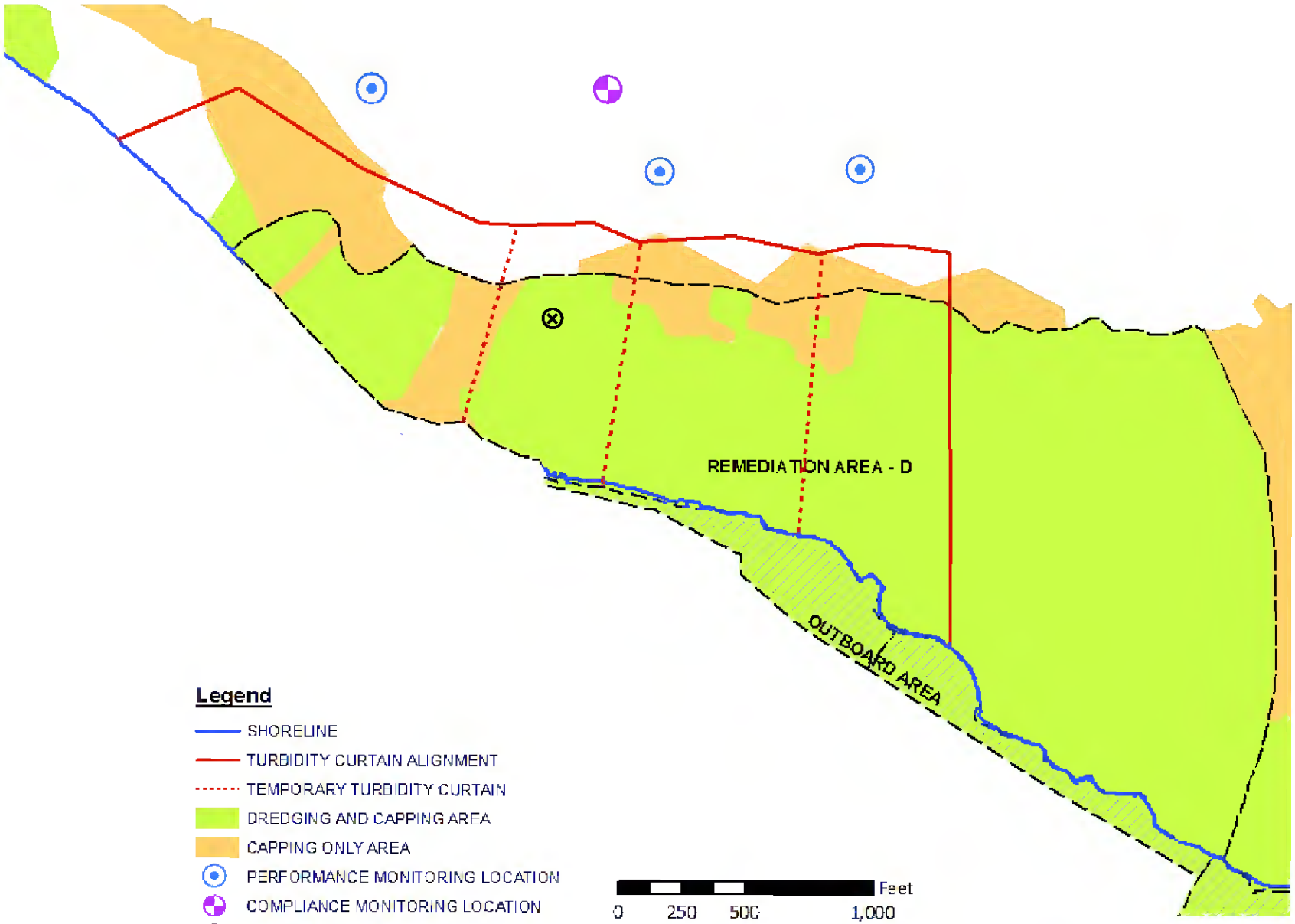


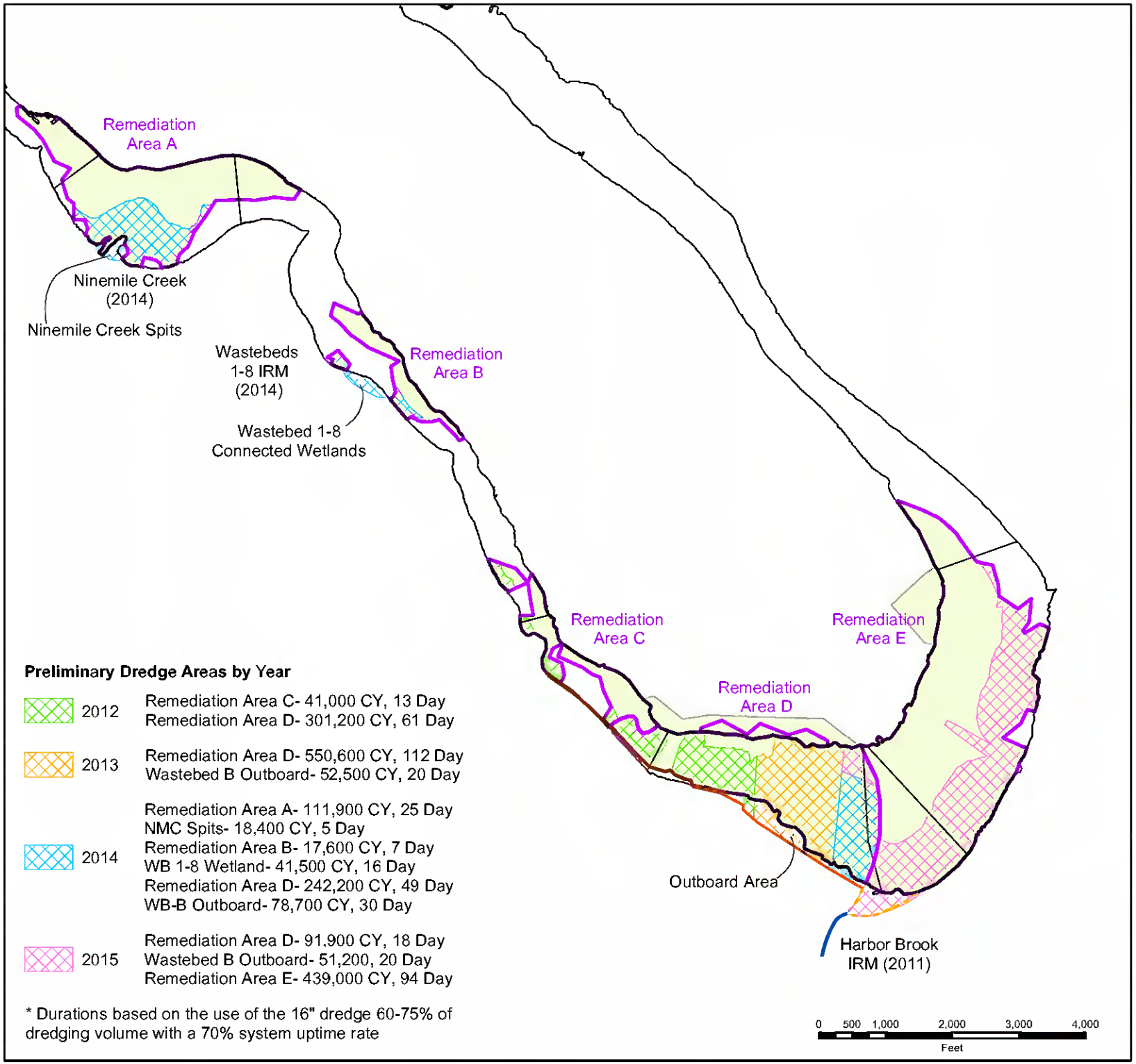
FIGURE 8.1

Honeywell

Onondaga Lake
Syracuse, New York

Example Orientation of Performance and Compliance Monitoring Locations During Dredging

PARSONS
301 Plainfield Rd, Suite 350, Syracuse, NY, 13212, Phone 315-451-9560



Path: Q:\GIS\GIS_Lake\CAP\MXD\Final_Design\Dredge_Sequence.mxd

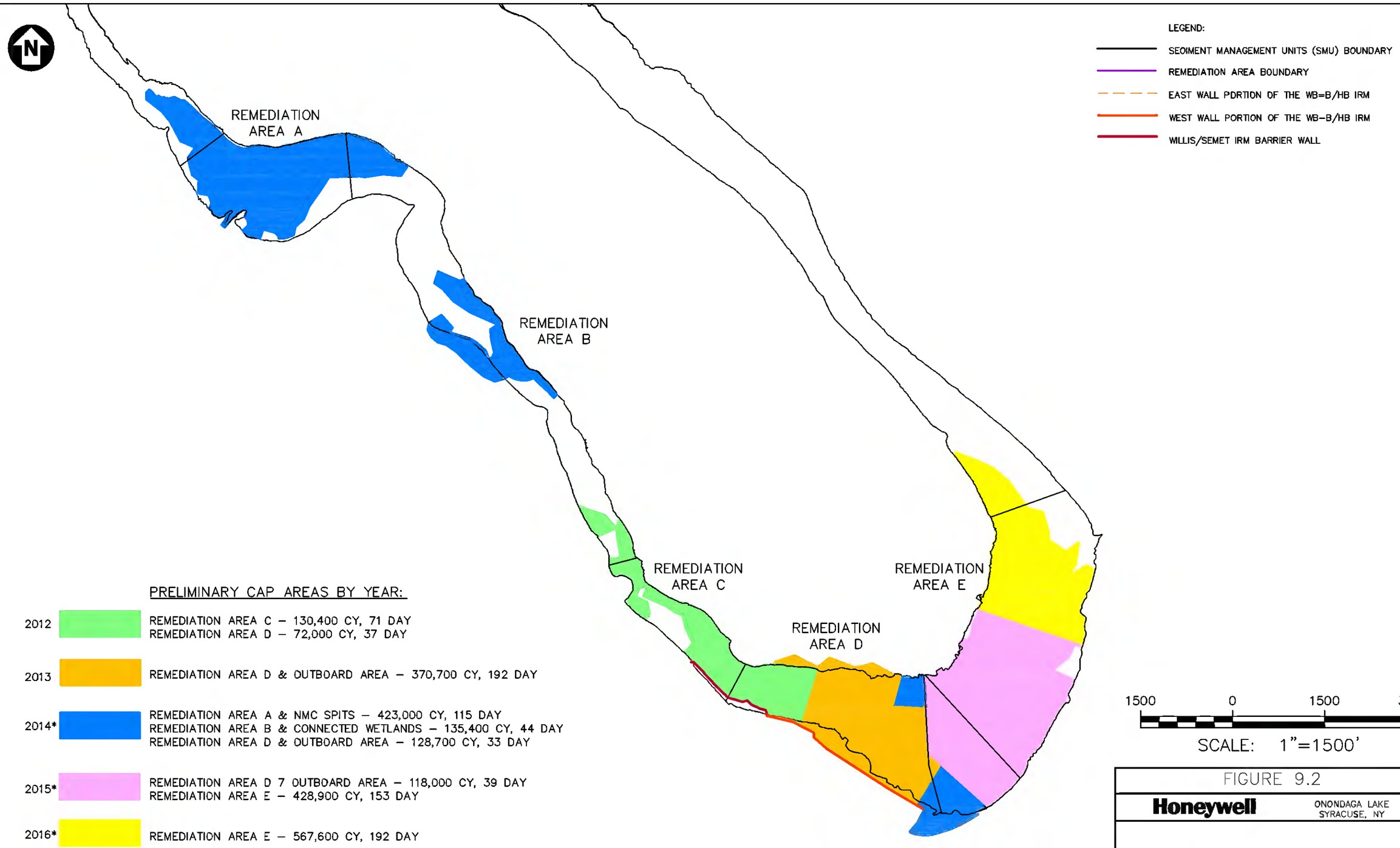
Date Revised: 8/12/2011 11:37:58 AM

FIGURE 9.1

Honeywell Onondaga Lake Syracuse, New York

Preliminary Dredge Sequence

PARSONS
301 Plainfield Road, Suite 350; Syracuse, NY 13212



PRELIMINARY CAP AREAS BY YEAR:

2012		REMEDIATION AREA C – 130,400 CY, 71 DAY REMEDIATION AREA D – 72,000 CY, 37 DAY
2013		REMEDIATION AREA D & OUTBOARD AREA – 370,700 CY, 192 DAY
2014*		REMEDIATION AREA A & NMC SPITS – 423,000 CY, 115 DAY REMEDIATION AREA B & CONNECTED WETLANDS – 135,400 CY, 44 DAY REMEDIATION AREA D & OUTBOARD AREA – 128,700 CY, 33 DAY
2015*		REMEDIATION AREA D 7 OUTBOARD AREA – 118,000 CY, 39 DAY REMEDIATION AREA E – 428,900 CY, 153 DAY
2016*		REMEDIATION AREA E – 567,600 CY, 192 DAY

* TWO CAPPING OPERATIONS

1500 0 1500 3000

SCALE: 1"=1500'

FIGURE 9.2

Honeywell

ONONDAGA LAKE
SYRACUSE, NY

PRELIMINARY CAP SEQUENCE

PARSONS
301 PLAINFIELD ROAD • SUITE 350 • SYRACUSE, NY 13212 • 315/451-9560
OFFICES IN PRINCIPAL CITIES

FILE NAME: P:\HONEYWELL -SYR\446232 - CAP DESIGN\10 TECHNICAL CATEGORIES\10.1 CAD\HABITAT-ORAFT FINAL\446232-HB-SK004.DWG
PLOT DATE: 8/2/2010 1:51 PM PLOTTED BY: RUSSO, JILL