

ATTACHMENT J

Application Appendix D-6 – RMU-2 Landfill Drawings

PERMIT DRAWINGS

RESIDUALS MANAGEMENT
UNIT 2

CWM CHEMICAL SERVICES, LLC
MODEL CITY, NIAGARA COUNTY
NEW YORK

AUGUST 2009



DRAWINGS REMOVED AND INCLUDED UNDER
SEPARATE COVER

- 34 FAC POND GRADING PLANS
- 35 FAC POND SECTIONS AND DETAILS
- 36 FULL TRAILER PARKING AREA
- 37 SLF 10 HOLDING TANK BUILDING LEACHATE TRANSFER RAMP
- 38 SLF 1-11 OIL/WATER SEPARATOR BUILDING LEACHATE TRANSFER RAMP
- 40 STABILIZATION FACILITY FULL TRAILER PARKING AREA
- 41 FAC POND TRANSFER PIPELINE
- 42 FAC POND TRANSFER PIPELINE
- 43 FAC POND TRANSFER PIPELINE
- 45 FAC POND TRANSFER PIPELINE DETAILS
- 48 FAC POND RISER HOUSE MECHANICAL INSTALLATION DETAILS
- 49 FAC POND RISER HOUSE ELECTRICAL INSTALLATION DETAILS
- 50 VALVE HOUSE DETAILS
- 51 FAC POND TRANSFER PIPELINE DETAILS

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- 4 SUBGRADE GRADES
- 5 TOP OF OPERATIONS LAYER GRADES
- 6 TOP OF WASTE GRADES
- 7 TOP OF VEGETATIVE COVER GRADES
- 8 CELL 20 INITIAL FILL PROGRESSION
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- 10 CROSS SECTION 11,400 E
- 11 CROSS SECTION 9,030 N
- 12 TYPICAL SUMP PLANS
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- 15 LINER SYSTEM SECTIONS AND DETAILS
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- 24 SURFACE WATER MANAGEMENT DETAILS
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NOT TO SCALE

THIS BAR
REPRESENTS ONE
INCH ON THE
ORIGINAL DRAWING:

USE TO VERIFY
FIGURE
REPRODUCTION
SCALE

THIS DRAWING IS THE PROPERTY OF THE ARCADIS ENTITY IDENTIFIED IN THE TITLE BLOCK
AND MAY NOT BE REUSED OR ALTERED IN WHOLE OR IN PART WITHOUT THE
EXPRESS WRITTEN PERMISSION OF SAME.

Professional Engineer's Name
JOSEPH MOLINA
Professional Engineer's No.
072644

State
NY

Date Signed
2/21/13

Project Name
WAR

Designed by
BMS/PTO

Drawn by
BMS

Checked by
BMS

ARCADIS

ARCADIS OF NEW YORK, INC.

CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK
RESIDUALS MANAGEMENT UNIT 2 PERMIT DRAWING

TITLE AND INDEX

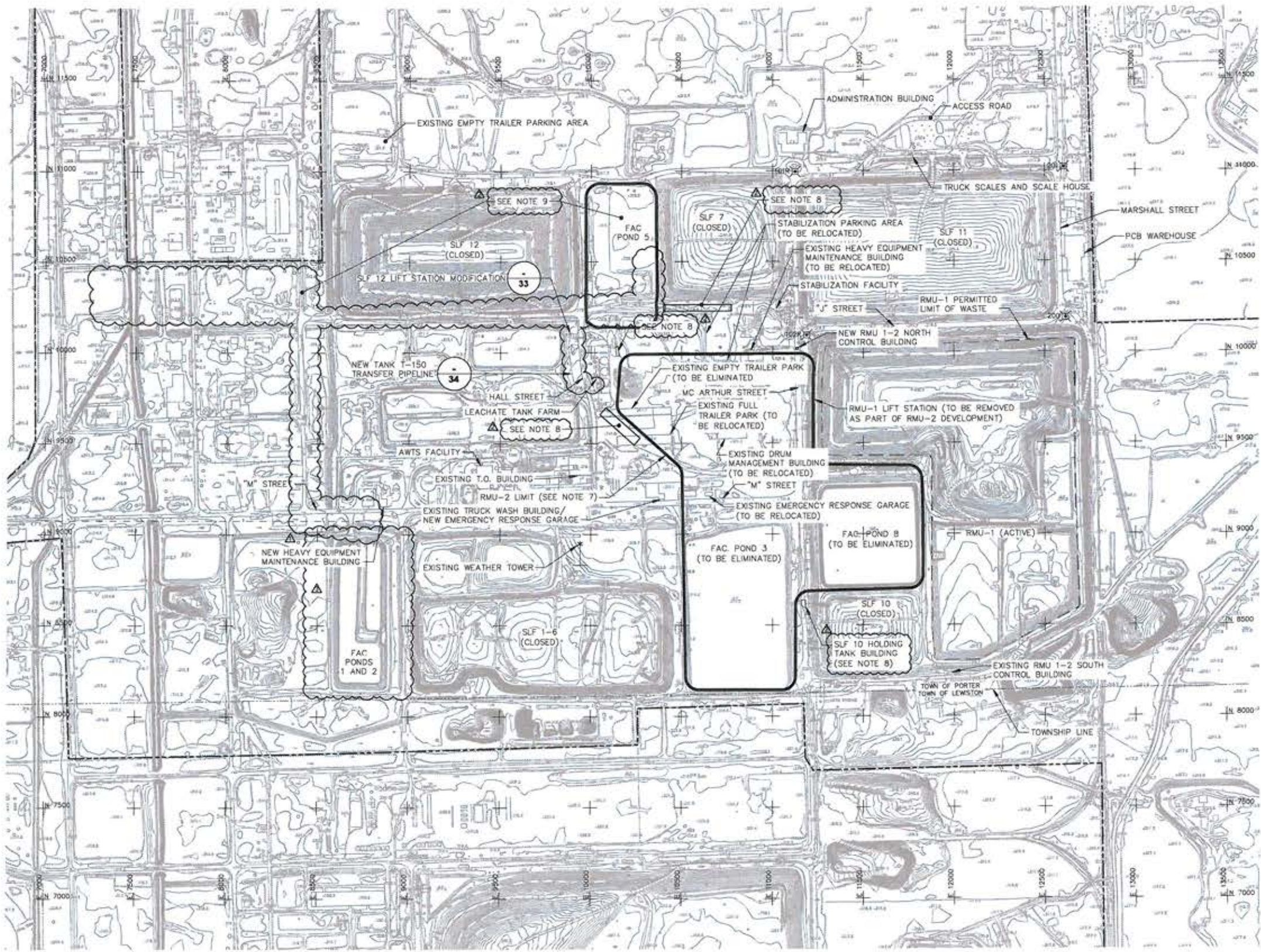
GENERAL

ARCADIS Project No.
B0023725.2009.00006

Date
AUGUST 2009

ARCADIS of New York, Inc.
6723 Towpath Road
P.O. Box 66
Syracuse, New York
TEL. 315.446.9120

CITY: SYRACUSE, NY DIVISION: ENVIRONMENTAL ENGINEERING PROJECT: RMU-2 SITE PERMIT DRAWING
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- LEGEND:**
- BRUSHLINE
 - CABLE MARKER
 - CATCH BASIN
 - DROP INLET
 - FENCE
 - FIRE HYDRANT
 - GUARD RAIL
 - LIGHT POLE
 - MISCELLANEOUS POLE
 - MONUMENT
 - POST
 - RAILROAD TRACKS
 - SIGN
 - SWAMP
 - TRAFFIC LIGHT
 - TREE
 - TREELINE
 - UNIDENTIFIED OBJECT
 - UTILITY POLE
 - VALVE
 - WATER LINE
 - EXISTING CONTOUR
 - EXISTING GRADEBREAK
 - PROPERTY LINE

200' CONTROL MONUMENT (SEE TABLE BELOW)

2 33 DETAIL REFERENCE NUMBER
DRAWING REFERENCE NUMBER

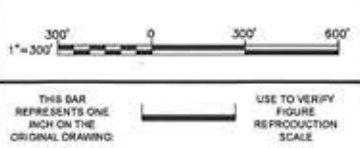
13000 N 7000 COORDINATE GRID (SEE NOTE 3)

RMU-1/RMU-2 CONTROL MONUMENTS									
MONUMENTS	ELEVATION	CWM PLANT GRID		RMU-1 GRID		NY STATE PLANE COORDINATES (NAD-27)		NGVD-29 ELEVATION	
		NORTHING	EASTING	NORTHING	EASTING	NORTHING	EASTING		
102R	319.72	100+94.55	111+87.56	100+94.65	111+87.56	1,175,430.46	396,360.12	319.66	
200	318.33	101+89.56	126+13.77	101+89.56	26+13.77	1,175,488.28	397,808.18	318.27	
101R	318.01	109+94.28	111+23.09	---	---	1,176,331.436	396,339.034	315.92	
201	316.62	110+17.62	126+3.49	---	---	---	---	---	

CONTROL MONUMENTS NOTE:

1. RMU-1 EASTING GRID COORDINATES ARE SIMPLIFIED PLANT GRID COORDINATES. SUBTRACTING 10,000 FROM THE CWM PLANT GRID EASTING COORDINATE WILL CONVERT THE CWM PLANT GRID TO THE RMU-1 GRID. NOTE THAT NO CONVERSION IS REQUIRED FOR NORTHING COORDINATES.

- NOTES:**
- TOPOGRAPHIC BASE MAP CONSISTS OF COMBINATION OF DATA COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 5/31/01 BY AIR SURVEY CORP. (PROJECT NO.71010503), AND AN AUGUST 2008 SURVEY BY ENSOL, INC.
 - VERTICAL DATUM BASED ON NGS MEAN SEA LEVEL.
 - GRID COORDINATES SHOWN ARE CWM PLANT GRID.
 - CONTOUR INTERVAL 2 FT.
 - DASHED CONTOURS INDICATE THAT GROUND IS PARTIALLY OBSCURED BY VEGETATION OR SHADOWS. THESE AREAS MAY NOT MEET STANDARD ACCURACY AND REQUIRE FIELD VERIFICATION.
 - PROPERTY LINE IS APPROXIMATE. EASEMENTS AND RIGHT-OF-WAYS NOT SHOWN.
 - RMU-2 LIMIT REPRESENTS TOE OF PERIMETER MSE WALL.
 - REFER TO DRAWINGS IN ATTACHMENT D-1 OF THE OVERALL SITE/RMU-1 PERMIT FOR FURTHER DETAIL.
 - REFER TO DRAWINGS IN ATTACHMENT D-2 OF THE OVERALL SITE/RMU-1 PERMIT FOR FURTHER DETAIL.



No.	Date	Revisions	By	Ckd
1	11/13/2013	REMOVED FAC POND 1/2 RECONSTRUCTION	GNG/BMS	
2	2/2013	REVISED CALLOUTS AND NOTES	GNG/BMS	
3	1/2012	REDESIGNED FAC POND TRANSFER PIPELINE	NWF/BMS	

Professional Engineer's Name: **JOSEPH MOLINA**
 Professional Engineer's No.: 072644
 State: NY Date Signed: 11/5/13 Project No.: WAR
 Designed by: BMS/PTO Drawn by: SJK Checked by: BMS

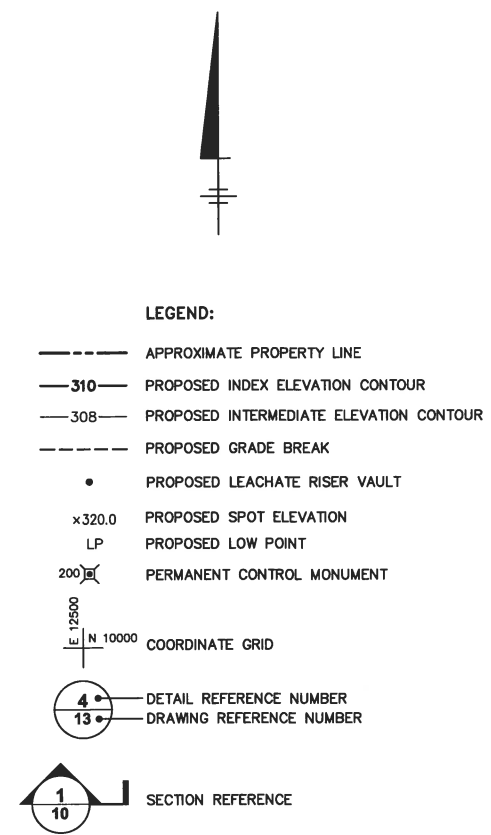
ARCADIS
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CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK
 RESIDUALS MANAGEMENT UNIT 2 PERMIT DRAWING

RMU-2 SITE

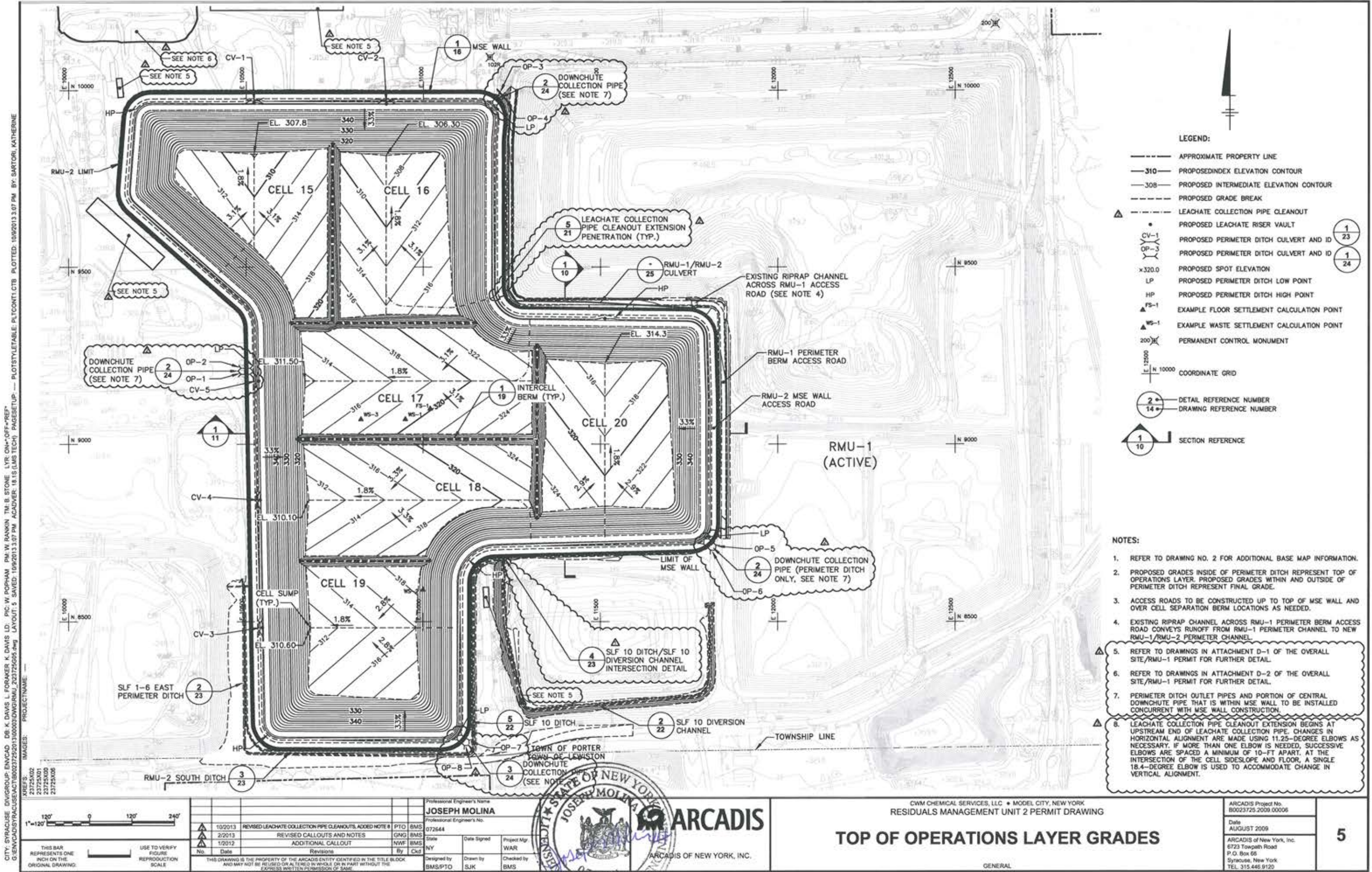
GENERAL

ARCADIS Project No. 00023725.2009.00006
 Date: AUGUST 2009
 ARCADIS of New York, Inc.
 6723 Township Road
 P.O. Box 86
 Syracuse, New York
 TEL 315.446.9120

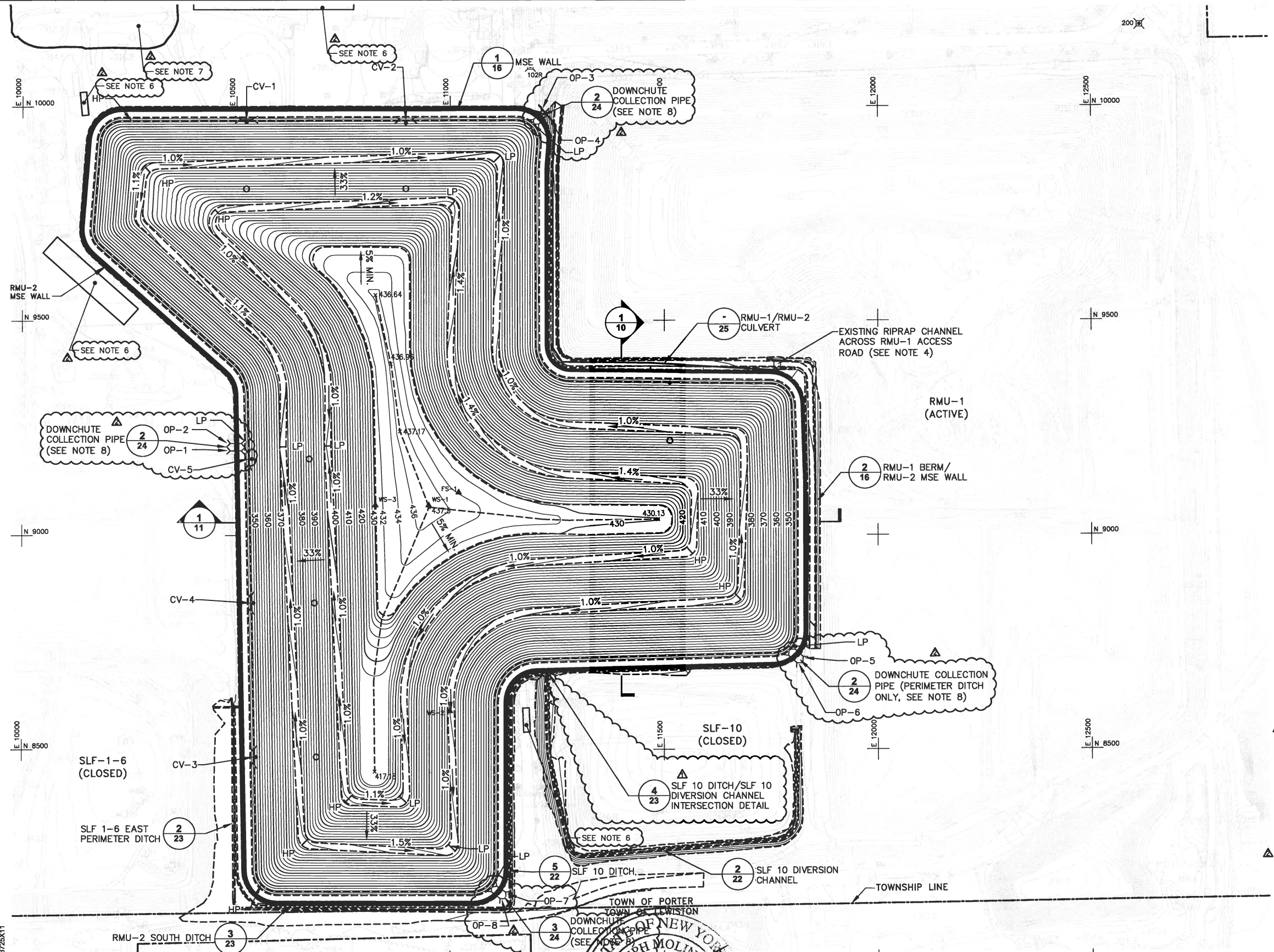


1. REFER TO DRAWING NO. 2 FOR ADDITIONAL BASE MAP INFORMATION.
2. PROPOSED GRADES INSIDE PERIMETER MSE WALL ARE TOP OF FINISHED SUBGRADE (BOTTOM OF LINER SYSTEM) AFTER PROOF ROLLING. PROPOSED GRADES SHOWN FOR MSE WALL AND AREA BEYOND WALL ARE FINAL GRADES.
3. TOPSOIL, GENERAL FILL AND CLAY WITHIN THE CONSTRUCTION AREA WILL BE STRIPPED AND STOCKPILED IN AREAS DETERMINED BY CWM.
4. SURFACE DRAINAGE SHALL BE DIRECTED AROUND EXCAVATIONS. SURFACE WATER SHALL BE PUMPED TO ADJACENT DRAINAGE DITCHES AND ROUTED TO EXISTING STORMWATER RETENTION BASINS DURING CONSTRUCTION.
5. CELL TRANSITION ZONES ALLOW FOR GRADE TRANSITIONS BETWEEN INDICATED CELLS.
6. PROPOSED SPOT ELEVATIONS AT CELL LOW POINTS REPRESENT GENERAL FLOOR SUBGRADE ELEVATIONS AND DO NOT REPRESENT SUMP SUBGRADES. ADDITIONAL EXCAVATION IS REQUIRED BELOW GRADES SHOWN ON THIS DRAWING AT EACH CELL SUMP LOCATION. SEE DRAWING NOS. 12, 13, AND 14 FOR ADDITIONAL INFORMATION. PRIOR TO SUMP EXCAVATION, THE POTENTIAL FOR UPFUT WILL BE IDENTIFIED BY THE PROTOCOL OUTLINED IN THE RMU-2 CONSTRUCTION QUALITY ASSURANCE MANUAL. APPROPRIATE CONDITIONS WILL EXIST PRIOR TO SUMP EXCAVATIONS.
7. RELOCATE OR ABANDON UTILITIES PER PROJECT SPECIFICATIONS AND WITH AUTHORIZATION OF OWNER.
8. DEMOLISH EXISTING FACILITIES (e.g., BUILDING STRUCTURES, FOUNDATIONS) WITHIN LIMITS OF LANDFILL PER PROJECT SPECIFICATIONS AND WITH AUTHORIZATION OF OWNER.
9. EXISTING RIPRAP CHANNEL ACROSS ACCESS ROAD CONVEYS RUNOFF FROM RMU-1 PERIMETER CHANNEL TO NEW RMU-1/RMU-2 PERIMETER CHANNEL.
10. RMU-2 LIMIT REPRESENTS TOE OF PERIMETER MSE WALL.
11. REFER TO DRAWINGS IN ATTACHMENT D-1 OF THE OVERALL SITE/RMU-1 PERMIT FOR FURTHER DETAIL.
12. REFER TO DRAWINGS IN ATTACHMENT D-2 OF THE OVERALL SITE/RMU-1 PERMIT FOR FURTHER DETAIL.
13. REFER TO SPECIFICATION SECTION 02402 FOR REQUIREMENTS FOR LEAK LOCATION SURVEYING.

		Professional Engineer's Name JOSEPH MOLINA Professional Engineer's No. 072644						CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK RESIDUALS MANAGEMENT UNIT 2 PERMIT DRAWING		ARCADIS Project No. B0023725.2009.00006	
THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING:		USE TO VERIFY FIGURE REPRODUCTION SCALE		2/2013 1/2012		REVISED CALLOUTS AND NOTES ADDITIONAL CALLOUT		GNG BMS NWF BMS By Ckd		Date Signed 2/27/12	
No.		Date		Revisions		State NY		Project WAR		Checked by BMS	
THIS DRAWING IS THE PROPERTY OF THE ARCADIS ENTITY IDENTIFIED IN THE TITLE BLOCK AND MAY NOT BE REUSED OR ALTERED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF SAME.		Designed by BMS/PTO		Drawn by SJK		ARCADIS OF NEW YORK, INC.		GENERAL		ARCADIS of New York, Inc. 6723 Towpath Road P.O. Box 66 Syracuse, New York TEL. 315.446.9120	



CITY: SYRACUSE DIV/GRP: ENVCAD DR: K. DAVIS L. FORAKER K. DAVIS LD: PIC: W. POPHAM PM: W. RANKIN TM: B. STONE LYN: ON="OFF=REF"
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 IMAGES: 1"=120'

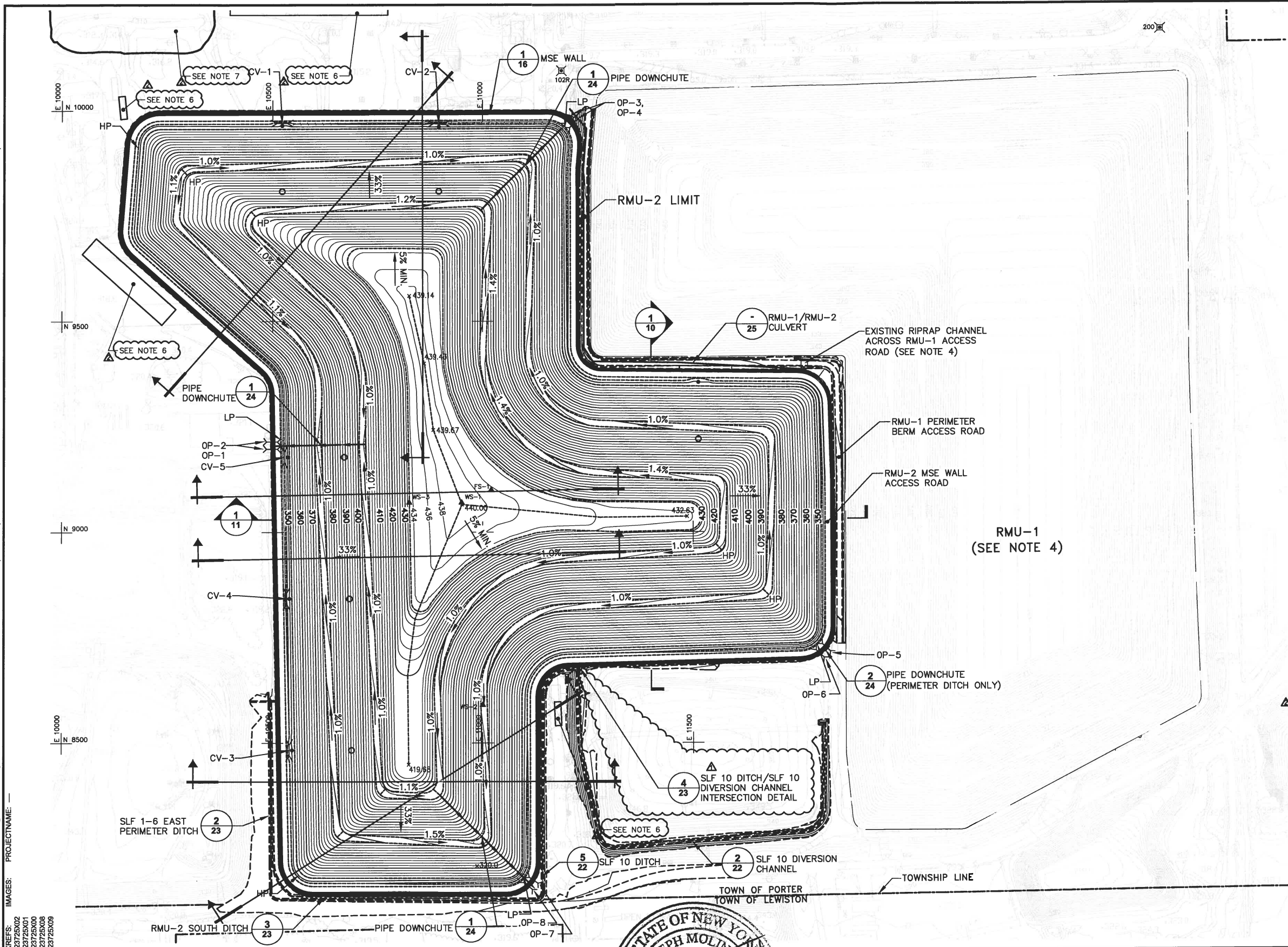


- LEGEND:**
- APPROXIMATE PROPERTY LINE
 - 310 PROPOSED INDEX ELEVATION CONTOUR
 - 428 PROPOSED INTERMEDIATE ELEVATION CONTOUR
 - PROPOSED GRADE BREAK
 - PROPOSED RISER MANHOLE (2/13)
 - PROPOSED LEACHATE RISER VAULT
 - CV-1 PROPOSED CULVERT AND ID (1/23)
 - OP-3 PROPOSED PERIMETER DITCH CULVERT AND ID (1/24)
 - x320.0 PROPOSED SPOT ELEVATION
 - LP PROPOSED PERIMETER DITCH LOW POINT
 - HP PROPOSED PERIMETER DITCH HIGH POINT
 - ▲ FS-1 EXAMPLE FLOOR SETTLEMENT CALCULATION POINT
 - 200' PERMANENT CONTROL MONUMENT
 - COORDINATE GRID
 - 2/14 DETAIL REFERENCE NUMBER
 - 1/10 SECTION REFERENCE

- NOTES:**
- REFER TO DRAWING NO. 2 FOR ADDITIONAL BASE MAP INFORMATION.
 - PROPOSED GRADES SHOWN INSIDE OF PERIMETER DITCH ARE TOP OF WASTE GRADES. PROPOSED GRADES WITHIN AND OUTSIDE PERIMETER DITCH ARE FINAL GRADES.
 - MSE WALL ACCESS RAMPS TO BE DESIGNED/CONSTRUCTED AS NEEDED DURING LANDFILL OPERATION.
 - EXISTING RIPRAP CHANNEL ACROSS RMU-1 PERIMETER BERM ACCESS ROAD CONVEYS RUNOFF FROM RMU-1 PERIMETER CHANNEL TO NEW RMU-1/RMU-2 PERIMETER CHANNEL.
 - PROPOSED TOP OF WASTE GRADES DO NOT REFLECT LOCAL GRADING PROXIMATE TO PIPE DOWNCHUTES. PROPOSED TOP OF WASTE GRADES DO NOT REFLECT EXISTENCE OF INFILTRATION CHANNEL AT LANDFILL PERIMETER.
 - REFER TO DRAWINGS IN ATTACHMENT D-1 OF THE OVERALL SITE/RMU-1 PERMIT FOR FURTHER DETAIL.
 - REFER TO DRAWINGS IN ATTACHMENT D-2 OF THE OVERALL SITE/RMU-1 PERMIT FOR FURTHER DETAIL.
 - PERIMETER DITCH OUTLET PIPES AND PORTION OF CENTRAL DOWNCHUTE PIPE THAT IS WITHIN MSE WALL TO BE INSTALLED CONCURRENT WITH MSE WALL CONSTRUCTION.

1"=120' THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>No.</th> <th>Date</th> <th>Revisions</th> </tr> <tr> <td>1</td> <td>2/2013</td> <td>REVISED CALLOUTS AND NOTES</td> </tr> <tr> <td>2</td> <td>1/2012</td> <td>ADDITIONAL CALLOUT</td> </tr> </table> THIS DRAWING IS THE PROPERTY OF THE ARCADIS ENTITY IDENTIFIED IN THE TITLE BLOCK AND MAY NOT BE REUSED OR ALTERED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF SAME.	No.	Date	Revisions	1	2/2013	REVISED CALLOUTS AND NOTES	2	1/2012	ADDITIONAL CALLOUT	Professional Engineer's Name JOSEPH MOLINA Professional Engineer's No. 072644 State NY Date Signed 2/27/13 Project Mgr WAR Designed by BMS/PTO Drawn by SJK Checked by BMS	ARCADIS ARCADIS OF NEW YORK, INC.	CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK RESIDUALS MANAGEMENT UNIT 2 PERMIT DRAWING TOP OF WASTE GRADES GENERAL	ARCADIS Project No. B0023725.2009.00006 Date AUGUST 2009 ARCADIS of New York, Inc. 6723 Towpath Road P.O. Box 66 Syracuse, New York TEL. 315.446.9120
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2	1/2012	ADDITIONAL CALLOUT												

CITY: SYRACUSE DIV/GRP: ENV/CD: DB: K. DAVIS G. STOWELL L. FORAKER LD: PIC: W. POPHAM PM: W. RANKIN TM: B. STONE LVR: ON=OFF=REF
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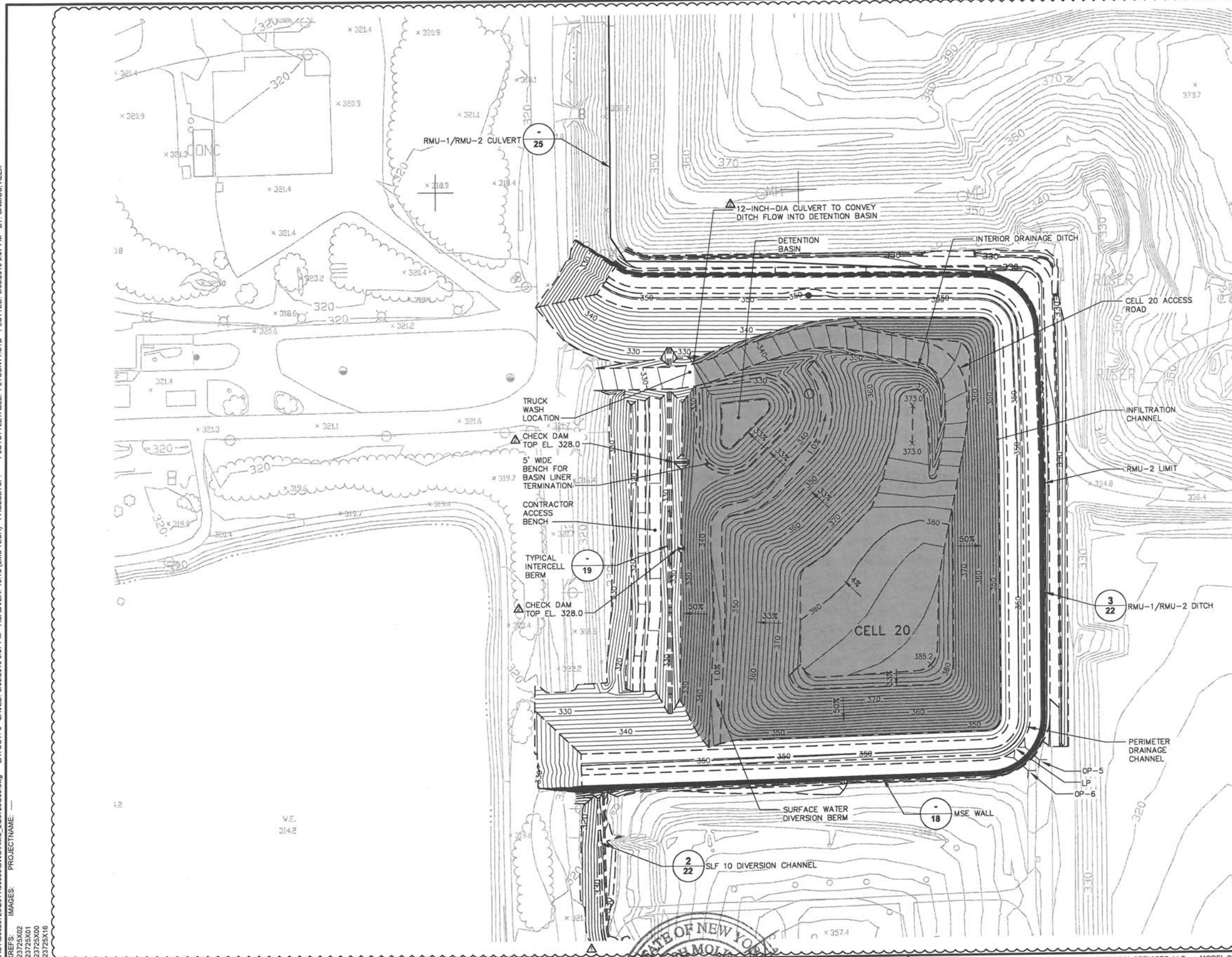
LEGEND:

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- 428 PROPOSED INTERMEDIATE ELEVATION CONTOUR
- PROPOSED GRADE BREAK
- PROPOSED RISER MANHOLE (3/20)
- PROPOSED LEACHATE RISER VAULT
- ↑ SLOPE STABILITY SECTION
- CV-1 PROPOSED PERIMETER DITCH CULVERT AND ID (1/23)
- OP-3 PROPOSED PERIMETER DITCH CULVERT AND ID (1/24)
- x320.0 PROPOSED SPOT ELEVATION
- LP PROPOSED PERIMETER DITCH LOW POINT
- HP PROPOSED PERIMETER DITCH HIGH POINT
- △ FS-1 SETTLEMENT CALCULATION POINT
- 200' PERMANENT CONTROL MONUMENT
- E 12500 N 10000 COORDINATE GRID
- 2 14 DETAIL REFERENCE NUMBER
- 1 10 SECTION REFERENCE

- NOTES:**
- REFER TO DRAWING NO. 2 FOR ADDITIONAL BASE MAP INFORMATION.
 - PROPOSED GRADES SHOWN INSIDE OF PERIMETER DITCH ARE TOP OF WASTE GRADES. PROPOSED GRADES WITHIN AND OUTSIDE PERIMETER DITCH ARE FINAL GRADES.
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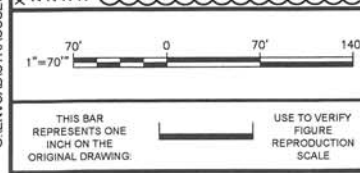
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IMAGES: PROJECTNAME: ---



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 - HP PROPOSED PERIMETER DITCH HIGH POINT
 - 200' PERMANENT CONTROL MONUMENT
 - 1" = 1000' COORDINATE GRID
 - 2/14 DETAIL REFERENCE NUMBER
 - 14 DRAWING REFERENCE NUMBER
 - WASTE PLACEMENT AREA

NOTES:

1. REFER TO DRAWING NO. 2 FOR ADDITIONAL BASE MAP INFORMATION.
2. PROPOSED GRADES SHOWN REPRESENT A COMBINATION OF FINAL AND INTERIM MSE WALL GRADES, OPERATIONS LAYER GRADES, AND INTERIM WASTE GRADES.
3. ACCESS ROAD TO BE CONSTRUCTED OVER CELL SEPARATION BERM.



No.	Date	Revisions
1	5/2013	REVISED ACCESS ROAD GRADING AND ADDED CULVERT SIZE AND CHECK DAMS
2	2/2013	CHANGED INITIAL OPERATING CELL FROM 15 TO 20 AND MISCELLANEOUS REVISIONS

Professional Engineer's Name
JOSEPH MOLINA
Professional Engineer's No.
072644

State
NY

Date Signed
6/3/13

Project Mgr.
WAR

Designed by
BMS/PTO

Drawn by
SJK

Checked by
BMS

ARCADIS OF NEW YORK, INC.

CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK
RESIDUALS MANAGEMENT UNIT 2 PERMIT DRAWING

CELL 20 INITIAL FILL PROGRESSION

GENERAL

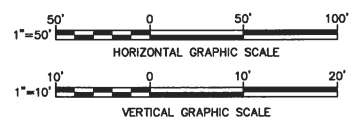
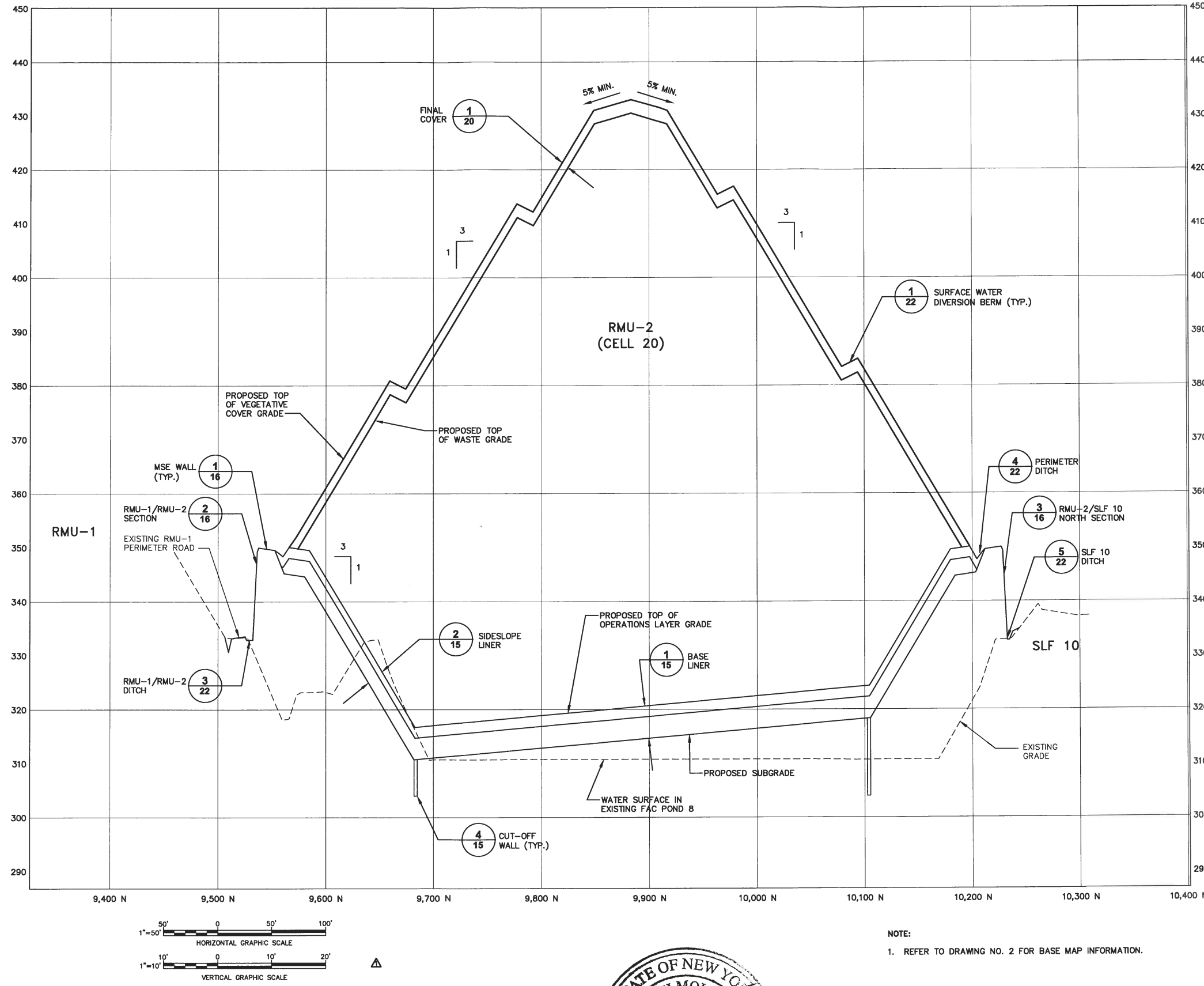
ARCADIS Project No.
B0023725.2009.00006

Date
AUGUST 2009

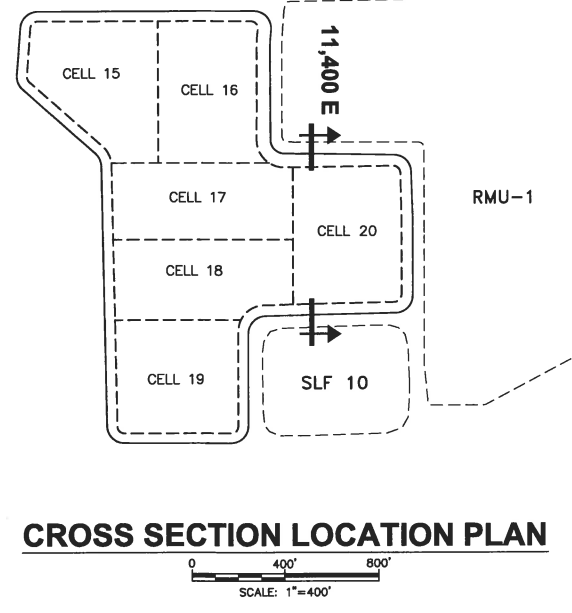
ARCADIS of New York, Inc.
6723 Towpath Road
P.O. Box 66
Syracuse, New York
TEL. 315.445.9120

8

CITY: SYRACUSE DIV/GROUP: EN/CAD DE: K. DAVIS L. FORAKER K. DAVIS LD: PIC: W. POPHAM PM: W. RANKIN TM: B. STONE LTR: ON*OFF*REF*
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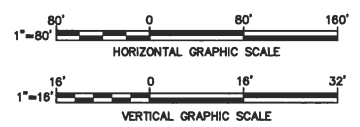
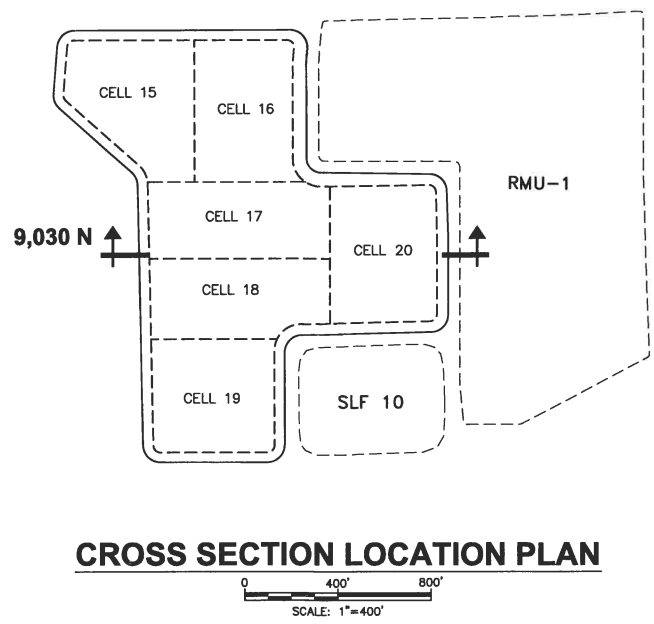
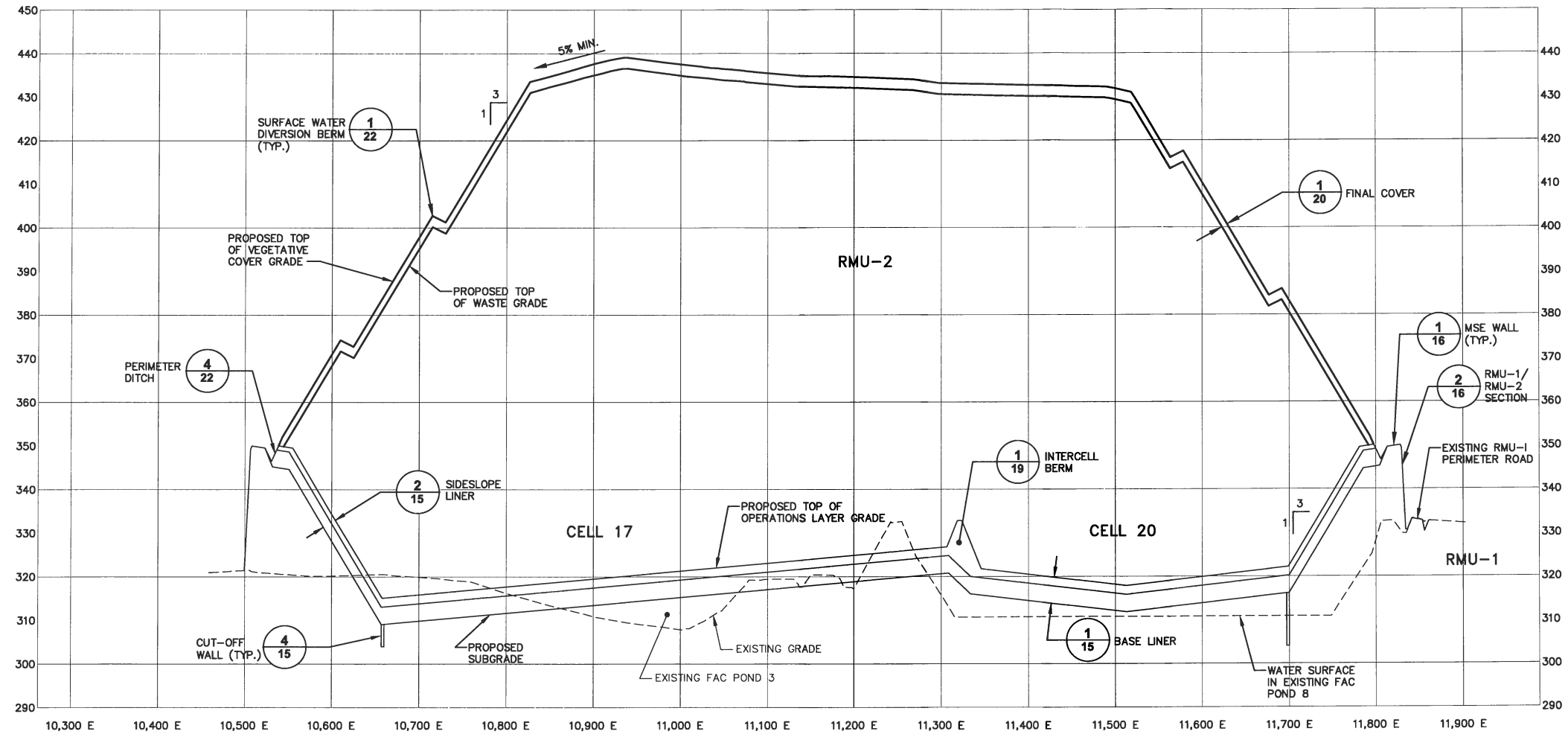
NOTE:
1. REFER TO DRAWING NO. 2 FOR BASE MAP INFORMATION.



CROSS SECTION LOCATION PLAN

SCALE(S) AS INDICATED		Professional Engineer's Name JOSEPH MOLINA Professional Engineer's No. 072644		ARCADIS		GWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK RESIDUALS MANAGEMENT UNIT 2 PERMIT DRAWING		ARCADIS Project No. 80023725.2009.00006 Date AUGUST 2009 ARCADIS of New York, Inc. 6723 Towpath Road P.O. Box 66 Syracuse, New York TEL. 315.446.9120		10
THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING.		Revisions No. Date Description 1 2/2013 CORRECTED CROSS SECTION STATION & DWG. TITLE		State NY Date Signed 2/2/13 Project Mgr. WAR Designed by BMS/PTO Drawn by SJK Checked by BMS		CROSS SECTION 11,400 E				
GENERAL										

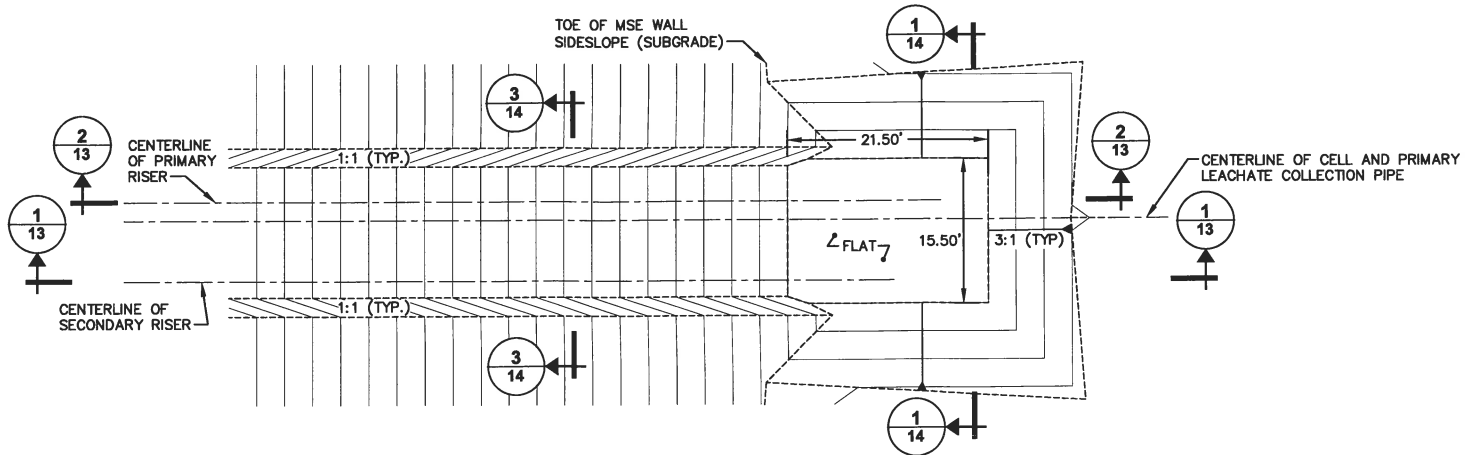
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PROJECTNAME: 23725X00
XREFS: 23725X00
IMAGES: 23725X00



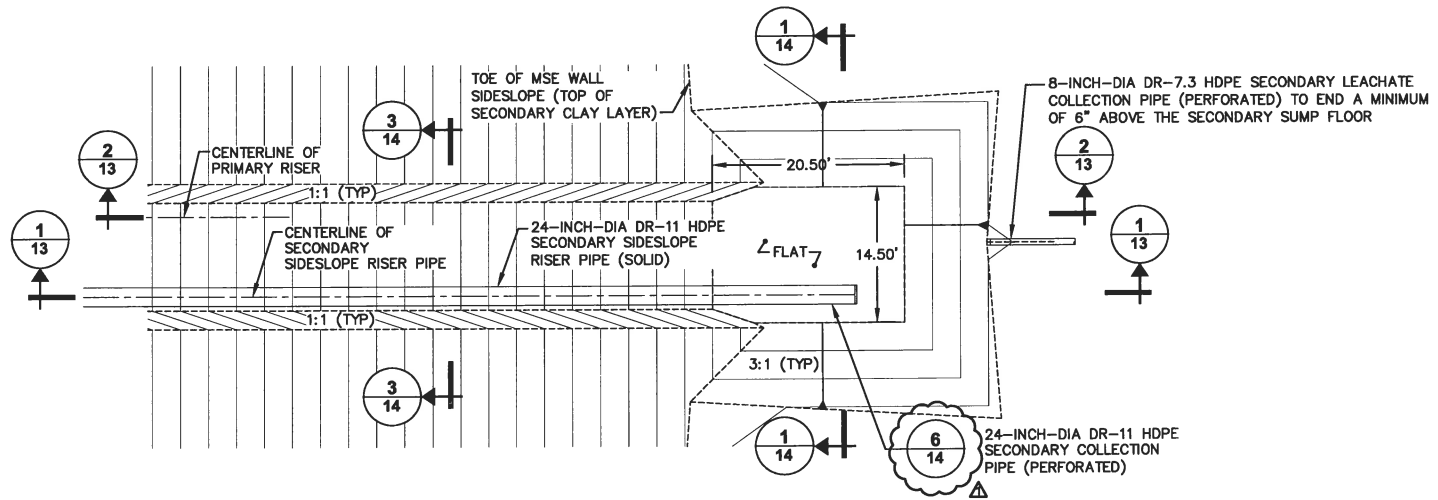
SECTION 1

NOTE:
1. REFER TO DRAWING NO. 2 FOR BASE MAP INFORMATION.

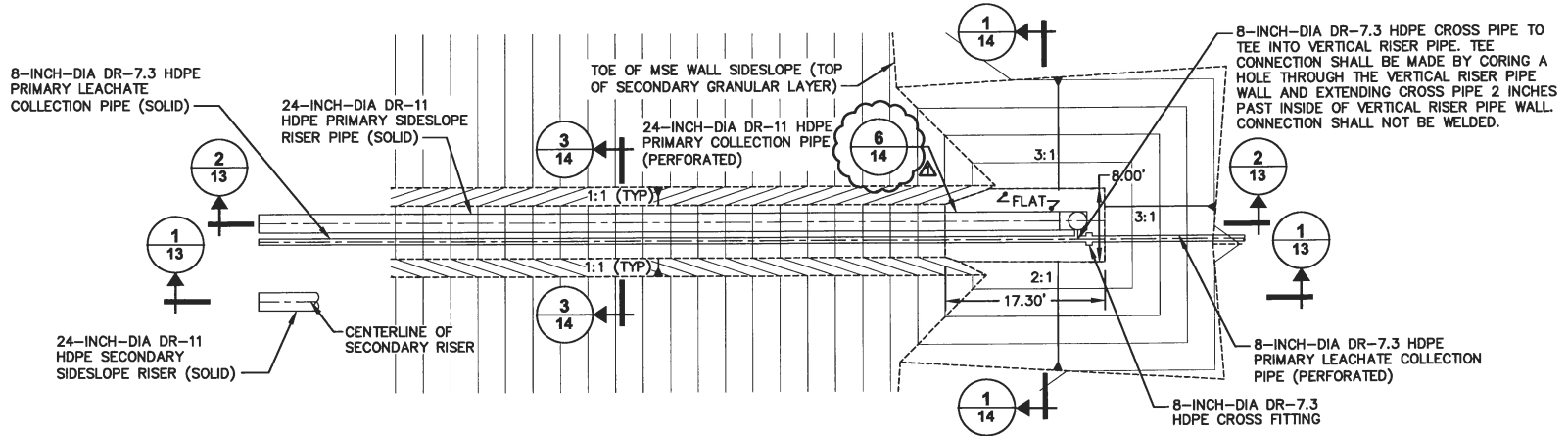
SCALE(S) AS INDICATED		Professional Engineer's Name JOSEPH MOLINA Professional Engineer's No. 072644		Professional Engineer's Seal 		ARCADIS ARCADIS OF NEW YORK, INC.		CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK RESIDUALS MANAGEMENT UNIT 2 PERMIT DRAWING CROSS SECTION 9,030 N GENERAL		ARCADIS Project No. B0023725.2009.00006 Date AUGUST 2009 ARCADIS of New York, Inc. 6723 Towpath Road P.O. Box 68 Syracuse, New York TEL. 315.446.9120		11
THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: 		USE TO VERIFY FIGURE REPRODUCTION SCALE		No. Date Revisions By Ckd		State NY Date Signed 2/27/13 Project Mgr. WAR Designed by BMS/PTO Drawn by SJK Checked by BMS		THIS DRAWING IS THE PROPERTY OF THE ARCADIS ENTITY IDENTIFIED IN THE TITLE BLOCK AND MAY NOT BE REUSED OR ALTERED IN WHOLE OR IN PART WITHOUT THE EXPRESS WRITTEN PERMISSION OF SAME.				



LEACHATE COLLECTION SUMP SUBGRADE PLAN (1)



SECONDARY LEACHATE COLLECTION SUMP AND SIDESLOPE RISER PIPE (TOP OF SECONDARY LINER) (2)



PRIMARY LEACHATE COLLECTION SUMP AND SIDESLOPE RISER PIPE (TOP OF PRIMARY LINER) (3)

CITY: SYRACUSE DIV/GROUP: ENVCAD DE: K. DAVIS G. STOWELL L. FORAKER LD: PIC: W. POPHAM PM: W. RANKIN TM: B. STONE LTR: ON*-OFF*-REF*
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XREFS: IMAGES: PROJECTNAME: 1
23725X00

1"=10'

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USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	GNG	BMS
1	2/2013	REVISED CALLOUT		

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Professional Engineer's Name
JOSEPH MOLINA
Professional Engineer's No.
072644

State
NY

Date Signed
2/27/13

Project Mgr
WAR

Designed by
BMS/PTO

Drawn by
SJK

Checked by
BMS

ARCADIS
ARCADIS OF NEW YORK, INC.

CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK
RESIDUALS MANAGEMENT UNIT 2 PERMIT DRAWING

TYPICAL SUMP PLANS

GENERAL

ARCADIS Project No.
B0023725.2008.00006

Date
AUGUST 2009

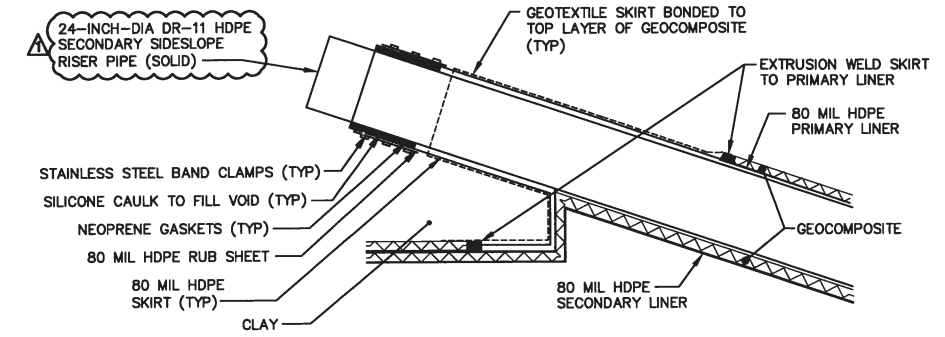
ARCADIS of New York, Inc.
6723 Towpath Road
P.O. Box 68
Syracuse, New York
TEL. 315.446.9120



Diagram illustrating the layers of a composite liner system:

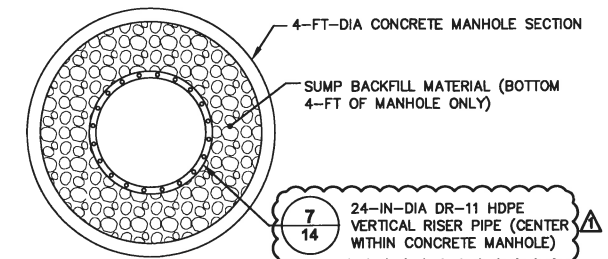
- GEOCOMPOSITE
- 80 MIL TEXTURED HDPE PRIMARY LINER
- GEOSYNTHETIC CLAY LINER
- 80 MIL TEXTURED HDPE GCL SEPARATION LINER
- GEOCOMPOSITE
- 80 MIL TEXTURED HDPE SECONDARY LINER

13



NOT TO SCALE

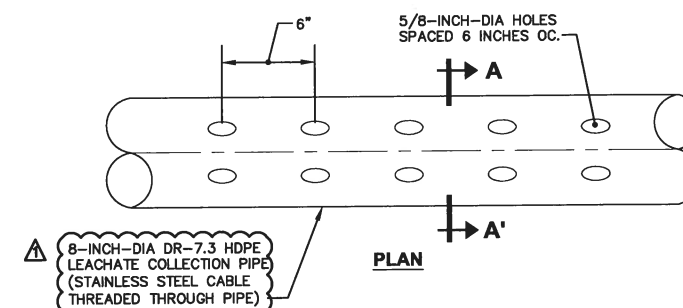
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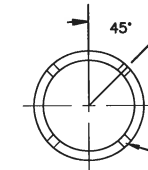
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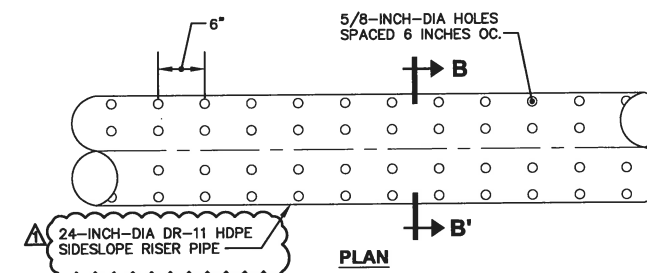


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SECTION A-A

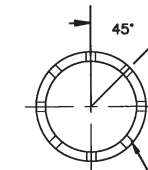


SECTION A-A

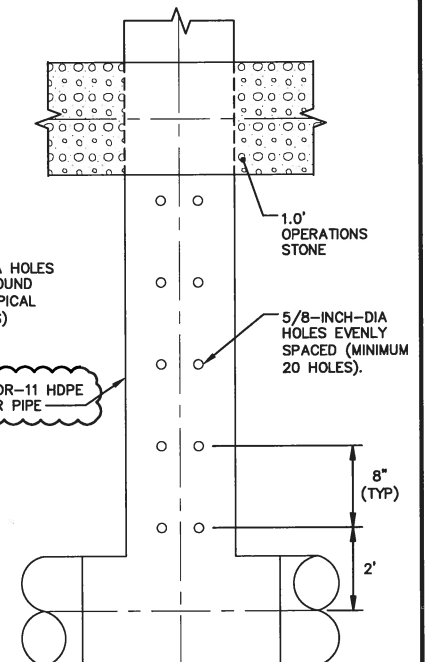


NOT TO SCALE

(



SECTION B-B



NOT TO SCALE

7

Professional Engineer's Name JOSEPH MOLINA				 
Professional Engineer's No. 072644				
State NY	Date Signed 2/27/12	Project No. WAR		
Designed by BMS/PTO	Drawn by SJK	Checked by BMS		

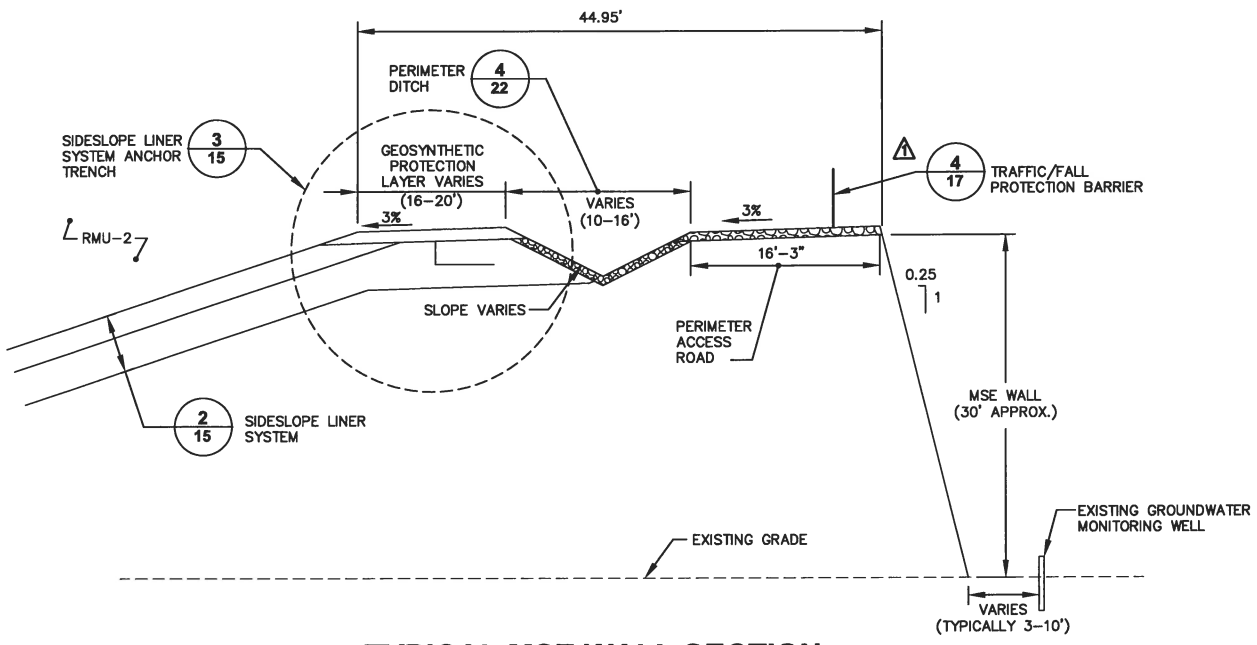
TYPICAL SUMP SECTIONS AND DETAILS

ARCADIS Project No. B0023725.2009.00006
Date AUGUST 2009
ARCADIS of New York, Inc. 6723 Towpath Road P.O. Box 66 Syracuse, New York TEL. 315.446.9120

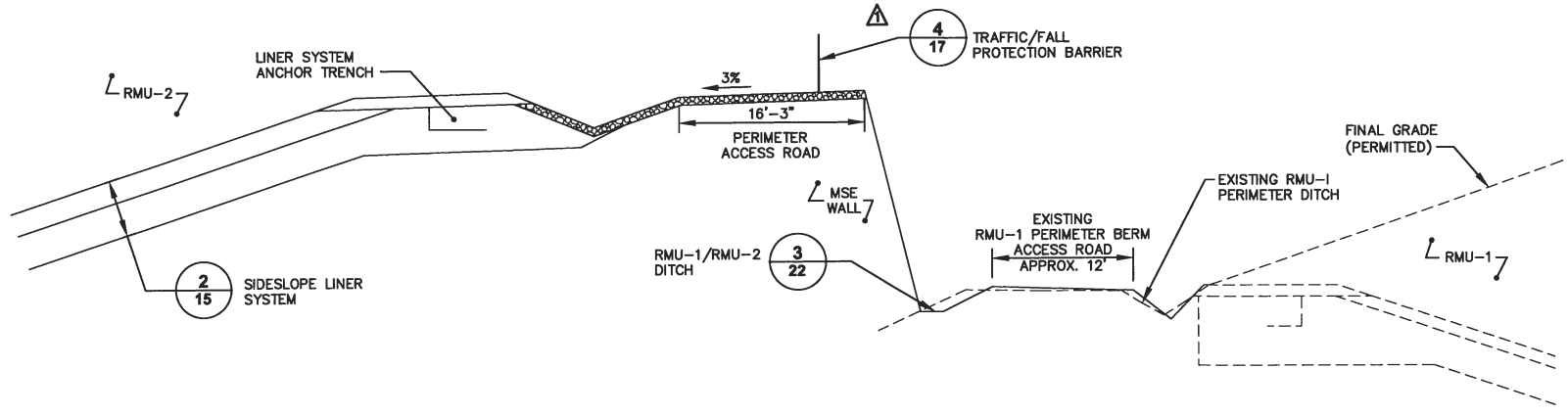


CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK RESIDUALS MANAGEMENT UNIT 2 PERMIT DRAWING		ARCADIS Project No. B0023725.2008.00006
LINER SYSTEM SECTIONS AND DETAILS		Date AUGUST 2009
		ARCADIS of New York, Inc. 6723 Towpath Road P.O. Box 66 Syracuse, New York TEL. 315.446.9120
GENERAL		15

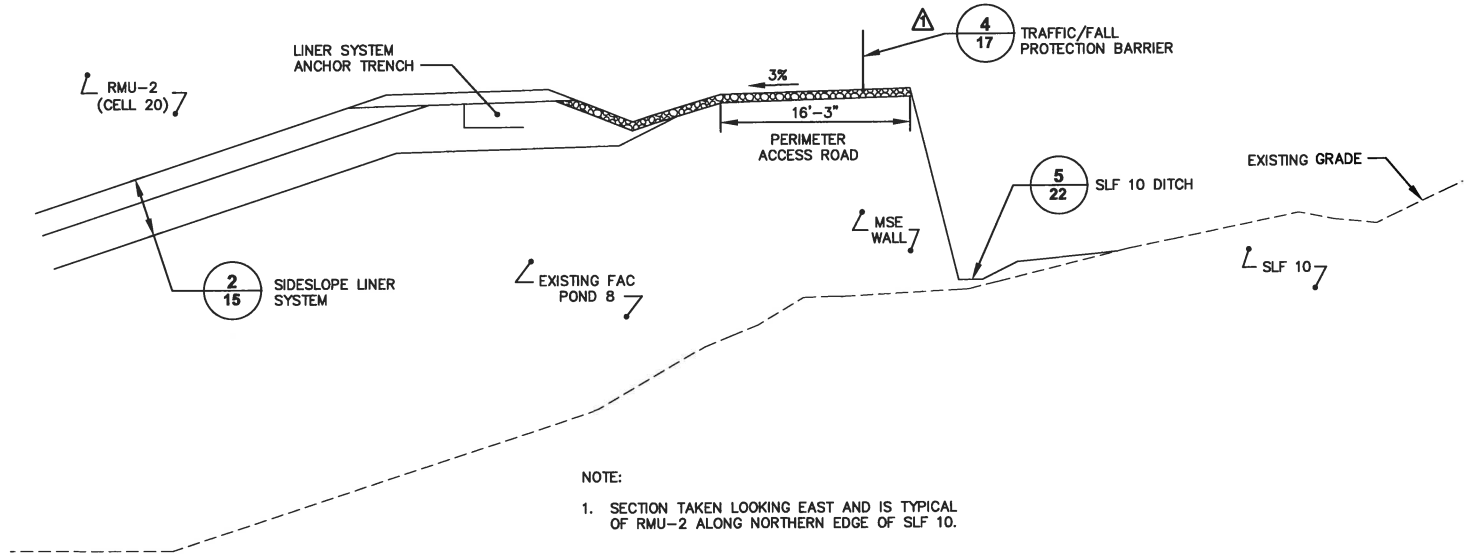
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XREFS: 23725X00
IMAGES: PROJECTNAME: --



TYPICAL MSE WALL SECTION 1



RMU-1/RMU-2 SECTION 2



RMU-2/SLF 10 NORTH SECTION 3

NOTE:
1. SECTION TAKEN LOOKING EAST AND IS TYPICAL OF RMU-2 ALONG NORTHERN EDGE OF SLF 10.



THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING.

USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
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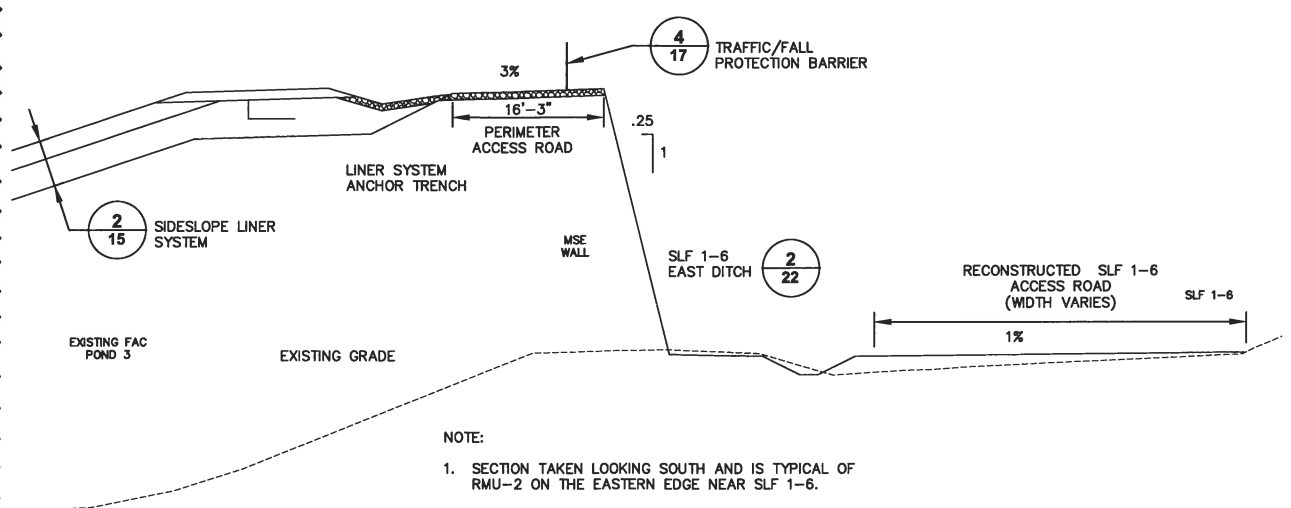
Professional Engineer's Name JOSEPH MOLINA		Professional Engineer's No. 072644	
State NY	Date Signed 2/27/12	Project Mgr WAR	Checked by BMS
Designed by BMS/PTO	Drawn by SJK	ARCADIS OF NEW YORK, INC.	



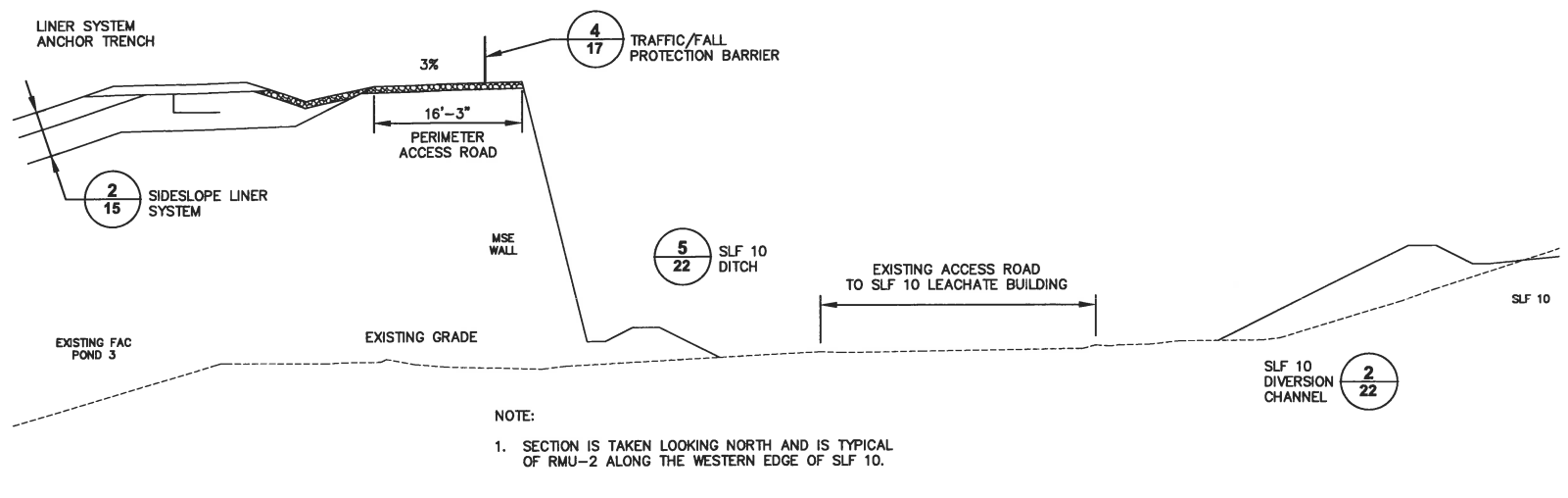
CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK
RESIDUALS MANAGEMENT UNIT 2 PERMIT DRAWING
MSE WALL SECTIONS
GENERAL

ARCADIS Project No.
B0023725.2009.00006
Date
AUGUST 2009
ARCADIS of New York, Inc.
6723 Towpath Road
P.O. Box 66
Syracuse, New York
TEL: 315.446.9120

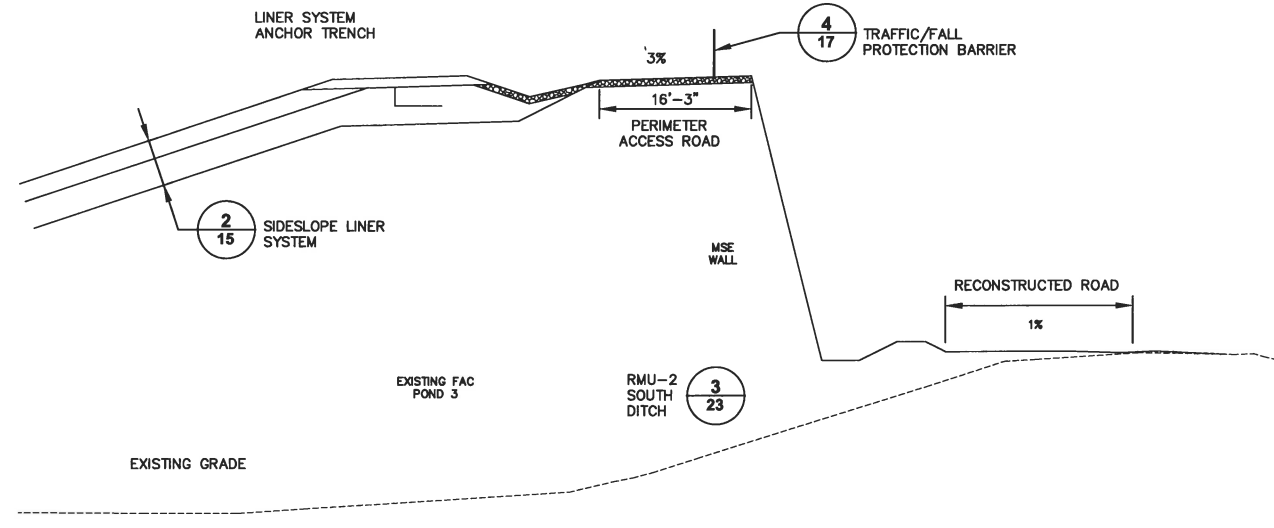
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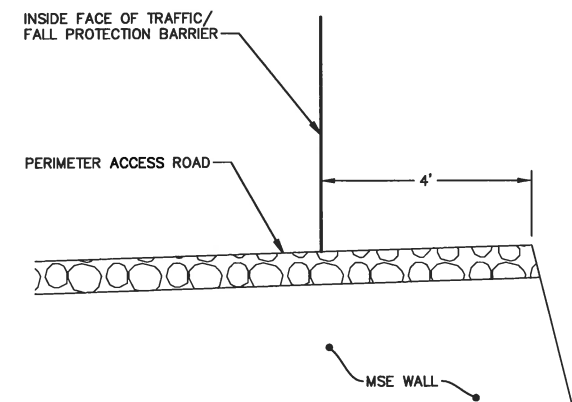
RMU-2/SLF 1-6 SECTION 1



RMU-2/SLF 10 WEST SECTION 2

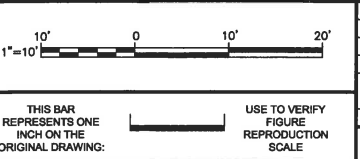


RMU-2 SOUTH SECTION 3



- NOTES:
1. TRAFFIC/FALL PROTECTION BARRIER WILL BE DESIGNED TO ARREST TYPICAL VEHICLES ANTICIPATED TO BE OPERATED ON THE PERIMETER ACCESS ROAD AND TRAVELING AT THE POSTED SPEED AND WILL COMPLY WITH OSHA FALL PROTECTION REQUIREMENTS CONTAINED IN 29 CFR 1910.23.
 2. TRAFFIC/FALL PROTECTION BARRIER WILL ALSO INCLUDE A PROVISION FOR ATTACHING A TEMPORARY LITTER FENCE TO MINIMIZE THE POTENTIAL FOR WIND-BLOWN DEBRIS TO LEAVE THE LANDFILL WHILE THE LANDFILL IS IN OPERATION. TEMPORARY LITTER FENCE MAY BE REMOVED FOLLOWING FINAL CLOSURE OF LANDFILL.
 3. EXACT CONFIGURATION OF TRAFFIC/FALL PROTECTION BARRIER WILL BE DETERMINED AT TIME OF CONSTRUCTION. ONE POSSIBLE CONFIGURATION INCLUDES PRECAST CONCRETE HIGHWAY BARRIERS INSTALLED END-TO-END AND OF SUFFICIENT HEIGHT TO MEET OSHA FALL PROTECTION REQUIREMENTS OR ALTERNATIVELY EQUIPPED WITH AN ADDITIONAL RAILING SECURED TO THE TOP TO MEET OSHA FALL PROTECTION REQUIREMENTS.
 4. THE INDICATED LOCATION OF THE BARRIER IS BASED ON THE ASSUMED SETBACK DISTANCE FOR VEHICLE LOADING USED IN THE MSE WALL DESIGN CALCULATIONS. THE BARRIER WILL BE DESIGNED SO AS TO NOT COMPROMISE THE FUNCTIONALITY OF THE MSE WALL GEOGRID LAYERS

TRAFFIC/FALL PROTECTION BARRIER 4
NOT TO SCALE



No.	Date	Revisions	By	Ckd
1	2/2013	REVISED TOP EDGE OF MSE WALL, REVISED CALLOUTS, AND ADDED DETAIL 4	NWF	BMS

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Professional Engineer's Name
JOSEPH MOLINA
Professional Engineer's No.
072644

State: NY Date Signed: 2/27/13 Project Mgr: WAR
Designed by: BMS/PTO Drawn by: SJK Checked by: BMS

ARCADIS
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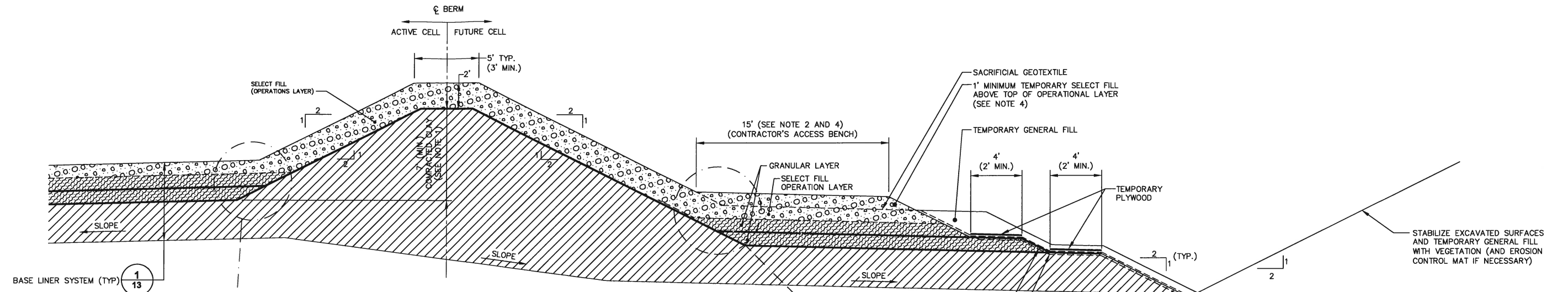
MSE WALL SECTIONS

GENERAL

ARCADIS Project No. B0023725.2009.00006
Date: AUGUST 2009
ARCADIS of New York, Inc.
6723 Towpath Road
P.O. Box 66
Syracuse, New York
TEL: 315.446.9120

17

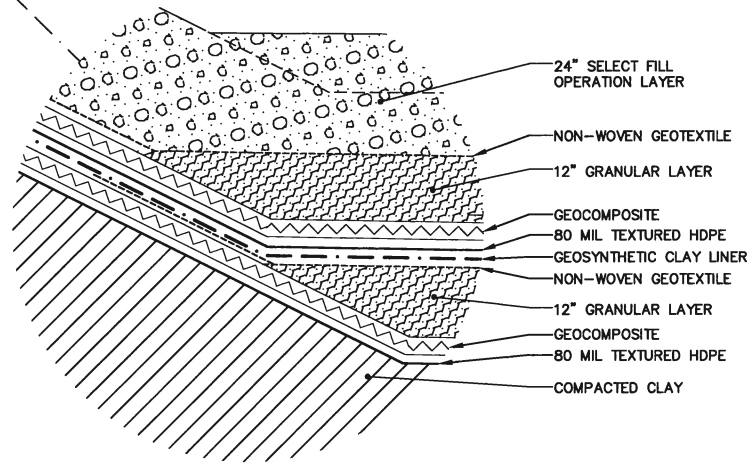
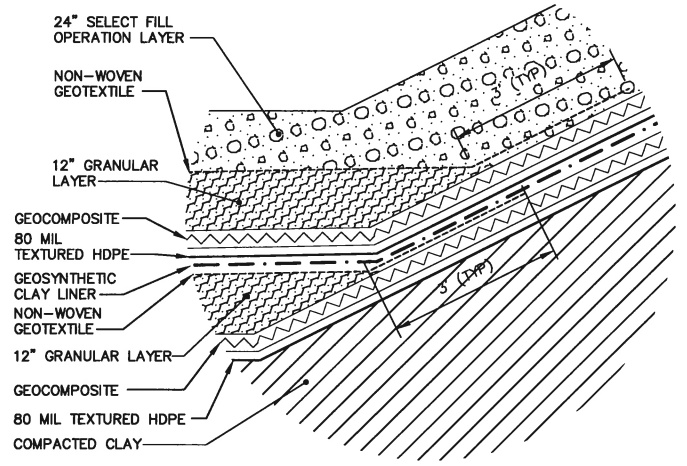
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PROJECTNAME: 23725X00
XREFS: 23725X00
IMAGES:



NOTES:

1. THE ACTUAL THICKNESS OF THE COMPACTED CLAY COMPRISING THE INTERCELL BERM WILL BE DETERMINED FROM THE HIGHEST TOP ELEVATION OF THE 3" THICK SECONDARY CLAY LAYER ADJACENT TO THE INTERCELL BERM.
2. CONTRACTOR'S ACCESS BENCH IS FOR REMOVAL OF TEMPORARY COVER MATERIAL AS PART OF FUTURE CONSTRUCTION OF CELLS.
3. EXTEND PRIMARY GEOMEMBRANE TO RUNOUT FOR SECONDARY GEOMEMBRANE AND EXTRUSION WELD LINERS TO SEAL OFF SECONDARY LEACHATE COLLECTION SYSTEM.
4. A MINIMUM OF 1' OF SELECT FILL SHALL BE PLACED ABOVE COMPACTED OPERATIONS LAYER TO PROVIDE PROTECTION OVER CONSTRUCTED LINER SYSTEM RUNOUT. SELECT FILL ON CONTRACTOR'S ACCESS BENCH SHALL BE REMOVED DURING CONSTRUCTION OF FUTURE CELL.

TYPICAL INTERCELL BERM 1 A



GENERAL NOTES:

1. GEOSYNTHETICS ARE SHOWN AT AN EXAGGERATED SCALE FOR CLARITY.
2. DETAIL SHOWS TEMPORARY TERMINATION OF LINER SYSTEM LAYERS ON UNCONSTRUCTED SIDE OF INTERCELL BERM. TEMPORARY FEATURES TO BE REMOVED DURING CONSTRUCTION OF FUTURE CELL.

NOT TO SCALE		USE TO VERIFY FIGURE REPRODUCTION SCALE		THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING:	
2/2013		DELETED GENERAL FILL, COLLECTION PIPE, AND DETAIL 2		NWF BMS	
No. Date		Revisions		By Ckd	
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Professional Engineer's Name JOSEPH MOLINA		Professional Engineer's No. 072644		State NY	
Date Signed 2/27/13		Project Mgr. WAR		Designed by BMS/PTO	
Drawn by SJK		Checked by BMS		BMS/PTO	
CWM CHEMICAL SERVICES, LLC • MODEL CITY, NEW YORK RESIDUALS MANAGEMENT UNIT 2 PERMIT DRAWING TYPICAL INTERCELL BERM GENERAL					
ARCADIS OF NEW YORK, INC.				ARCADIS Project No. B0023725.2009.00006 Date AUGUST 2009 ARCADIS of New York, Inc. 6723 Towpath Road P.O. Box 66 Syracuse, New York TEL. 315.446.9120	

