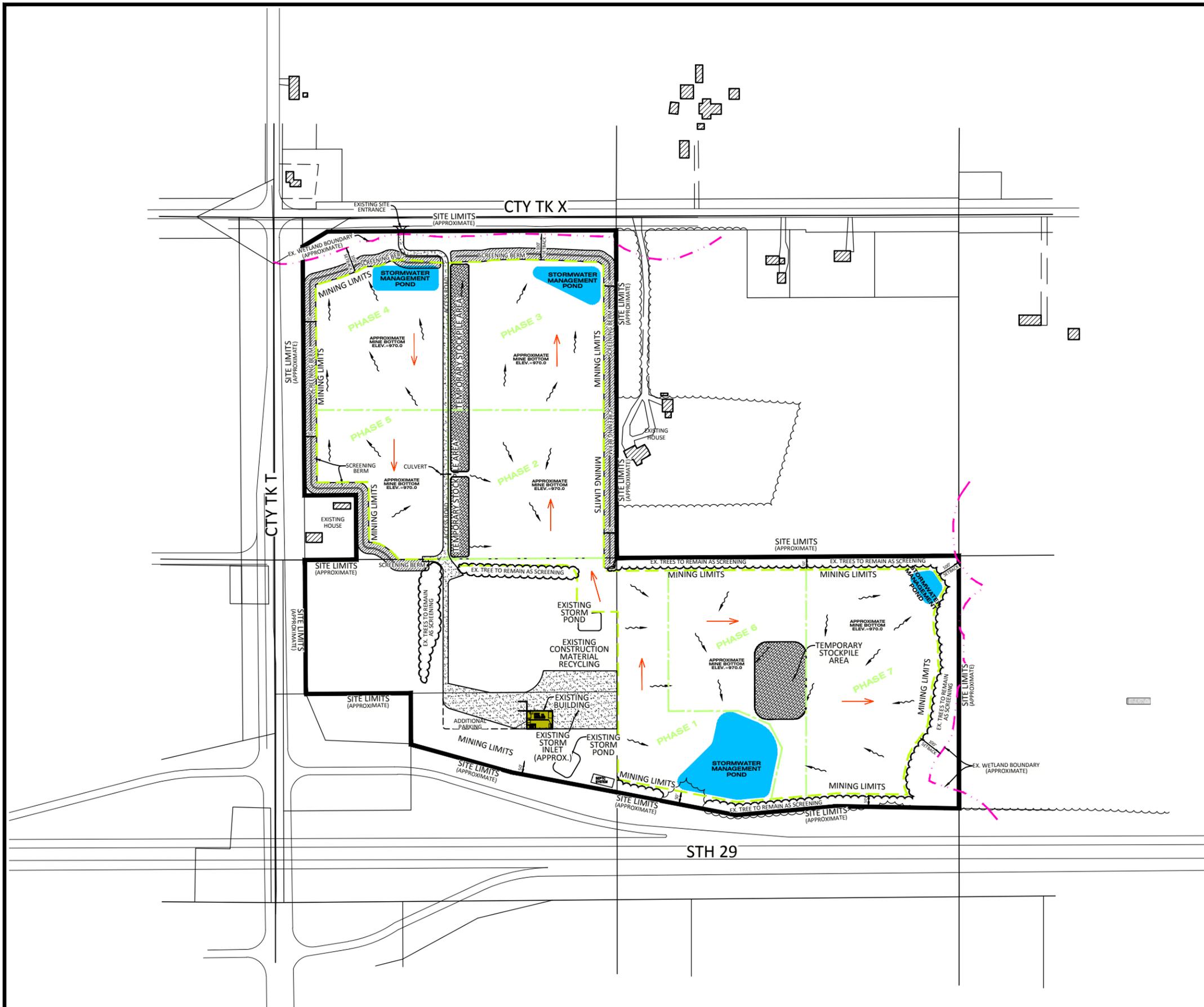


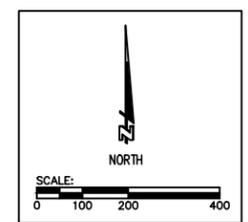
**Appendix 2**  
**Site Plans**





LEGEND	
	SITE LIMITS (APPROXIMATE)
	WETLAND BOUNDARY (APPROXIMATE)
	MINE LIMITS
	PHASE BOUNDARY
	SCREENING BERM
	TEMPORARY STOCKPILE AREA (APPROXIMATE)
	STORM WATER MANAGEMENT POND
	FINAL TREELINE - SCREENING AREA
	FINAL RECLAMATION SURFACE DRAINAGE DIRECTION
	GRAVEL SURFACE
	MINING DIRECTION

NOTE:  
1. REFER TO DETAIL SHEETS FOR STORM WATER BASIN DETAILS.



<b>BRANCH OFFICE</b> 2920 Polaris Street Suite 101 Madison, WI 53716 Tel: 715-981-8277		DRAWING PHASE: DCK OWNER REVIEW: ZPF AGENCY REVIEW: 02/19/16 BID DOCUMENT: 5282-001-C20-MING FOR CONSTRUCTION: 5282-001 AS-BUILT DOCUMENT: 5282-001	REVISION DESCRIPTION: ZPF 10/12/16 ZPF 09/30/16 ZPF 3/29/16 NAME:
<b>CORPORATE OFFICE</b> 408 Technology Drive East Suite 4 Menomonie, WI 54751 Tel: 715-282-8490 authconsulting.com		<b>Auth Consulting/associates</b> Soil Land Surveying a division of A.C.A.	
PROJECT: <b>NON-METALLIC MINE          NO MERCY EXCAVATING          TOWN OF WHEATON, CHIPPEWA COUNTY, WISCONSIN</b>			
SHEET NO. <b>C2.0</b>			
MINING PLAN			



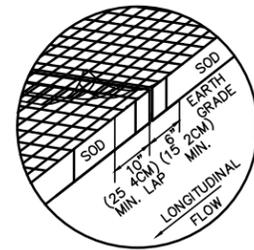
### LEGEND

- 990 --- EXISTING 10FT CONTOUR
- 992 --- EXISTING 2FT CONTOUR
- 980 --- PROPOSED 10FT CONTOURS
- 978 --- PROPOSED 2FT CONTOURS
- SITE LIMITS (APPROXIMATE)
- WETLAND BOUNDARY (APPROXIMATE)
- MINE LIMITS
- FINAL RECLAMATION SURFACE DRAINAGE DIRECTION
- GRAVEL SURFACE

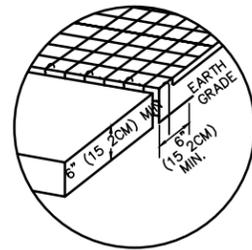
- ### GENERAL GRADING NOTES:
- CONTRACTOR SHALL NOTIFY UTILITIES AND HAVE ALL UTILITIES LOCATED PRIOR TO ANY EXCAVATION/GRADING ACTIVITIES COMMENCING.
  - CONTRACTOR TO COORDINATE WITH SMALL UTILITIES ALL UTILITY RELOCATION TO AVOID CONFLICTS WITH PROPOSED GRADING, IF REQUIRED.
  - CONTRACTOR SHALL SALVAGE AND REPLACE TOPSOIL IN ALL DISTURBED AREAS.
  - ALL ON-SITE SAFETY REQUIREMENTS SHALL FOLLOW STATE AND FEDERAL REGULATIONS, INCLUDING MSHA REGULATIONS DURING MINING ACTIVITIES.
  - SEE SHEETS C5.0 & C5.2 FOR SITE CROSS SECTIONS.

- ### EROSION CONTROL NOTES:
- EROSION CONTROL DEVICES SHALL BE IN PLACE BEFORE BEGINNING ANY EXCAVATION OR GRADING ACTIVITIES AND CONTINUOUSLY MAINTAINED.
  - THE CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION AND SEDIMENT CONTROL DEVICES TO LIMIT EROSION AND SEDIMENT FROM LEAVING THE SITE. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE "WISCONSIN DEPARTMENT OF NATURAL RESOURCES TECHNICAL STANDARDS".
    - 1052 - NON-CHANNEL EROSION MAT
    - 1056 - SILT FENCE
    - 1057 - STONE TRACKING PAD AND TIRE WASHING
    - 1058 - MULCHING FOR CONSTRUCTION SITES
    - 1059 - SEEDING FOR CONSTRUCTION SITE EROSION CONTROL
    - 1062 - DITCH CHECK(CHANNEL)
    - 1066 - CONSTRUCTION SITE DIVERSION
    - 1068 - DUST CONTROL ON CONSTRUCTION SITES
  - SILT FENCE SHALL BE PLACED DOWNSLOPE OF ALL DISTURBED AREAS AND SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1053. 12" COMPOST FILTER SOCK MAY BE USED IN LIEU OF SILT FENCE.
  - ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER FINAL GRADE IS ESTABLISHED IN ANY PARTICULAR AREA. SEEDING & MULCHING SHALL NOT WAIT UNTIL ALL GRADING IS COMPLETE ON THE ENTIRE SITE. COVER DISTURBED AREAS WITH A MINIMUM OF 4 INCHES OF TOPSOIL AND PLANT SEED TO ESTABLISH TEMPORARY AND PERMANENT VEGETATION FOR EROSION CONTROL IN ACCORDANCE TO WDNR TECHNICAL STANDARD 1059 AND MANUFACTURERS RECOMMENDATIONS. WIS DOT # 20 SEED MIXTURE.
  - ALL SEEDED AREAS, INCLUDING ANY GRASS LINED CHANNELS, SHALL BE RE-SEEDED AS NECESSARY TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.
  - ALL DISTURBED SLOPES IN EXCESS OF 4:1 SHALL BE SEEDED AND PROTECTED WITH EROSION MAT (CLASS I TYPE A) OR SHALL BE SODDED AND STAKED OR HYDRO-SEEDED AS AN ALTERNATIVE. EROSION MAT SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1053 AND WDOT STANDARD SPECIFICATIONS. PLACE AT LOCATIONS SHOWN OR AS NEEDED OR DETERMINED IN THE FIELD.
  - ALL DITCHES WITH SIDE SLOPES GREATER THAN 4:1 SHALL HAVE CLASS I TYPE B EROSION MAT INSTALLED TO THE TOP OF THE BANK. ANY UNPROTECTED DRAINAGE DITCHES EXPERIENCING EXCESSIVE EROSION AND CHANNEL DEGRADATION DUE TO HIGH RUNOFF VOLUMES WILL BE RE-GRADED AND COVERED WITH A BIODEGRADABLE EROSION MAT. INSTALLATION SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS.
  - ALL DITCH CHECKS ARE TO BE SEDIMENT LOGS OR APPROVED EQUAL. INSTALL DITCH CHECKS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND WITH WDNR TECHNICAL STANDARD 1062. INSTALL IF EROSION BECOMES EVIDENT IN NEWLY CONSTRUCTED SWALES.
  - TEMPORARY SEED SHOULD BE APPLIED, IF CONSTRUCTION EXTENDS PAST SEPTEMBER 1ST, OF ANNUAL RYEGRASS AND OATS AT THE RATE OF 5 POUNDS PER 1000 S.F. OF AREA AND LEFT OVER WINTER. PERMANENT SEEDING SHALL BE COMPLETED THE FOLLOWING SPRING. IF TEMPORARY SEEDING CANNOT BE COMPLETED BEFORE WINTER FREEZE UP THEN ALL DISTURBED AREAS SHALL BE MULCHED AT A RATE OF 120 POUNDS PER 100 SQUARE FT AND PERMANENT SEEDING SHALL BE COMPLETED THE FOLLOWING SPRING.
  - ALL EROSION CONTROL MEASURES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL RESTORATION ON SITE HAS BEEN ESTABLISHED. REMOVE ALL SILT FENCE AND TEMPORARY EROSION CONTROL DEVICES & STRUCTURES AFTER FINAL STABILIZATION IS ESTABLISHED.
  - ANY SOIL STOCKPILES WHICH ARE LEFT MORE THAN 7 DAYS MUST BE PROTECTED BY SEEDING AND MULCHING, EROSION MAT, SILT FENCING, COVERING OR OTHER METHODS. THIS DOES NOT INCLUDE FILL OR TOPSOIL PILES THAT ARE IN ACTIVE USE.
  - SITE WATERING SHALL TAKE PLACE AS CONSTRUCTION AND WEATHER CONDITIONS WARRANT TO MINIMIZE DUST POLLUTION FROM LEAVING THE SITE.
  - SITE MONITORING OF EROSION AND SEDIMENT CONTROL PRACTICES FOR MAINTENANCE NEEDS SHALL BE COMPLETED AT THE INTERVALS SPECIFIED UNTIL THE SITE IS STABILIZED. SITE MONITORING SHALL OCCUR AT LEAST WEEKLY OR WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. A RAINFALL EVENT SHALL BE CONSIDERED TO BE THE TOTAL AMOUNT OF RAINFALL RECORDED IN ANY CONTINUOUS 24 HOUR PERIOD. MONITORING RECORDS SHALL BE KEPT AND CONTAIN, AT A MINIMUM, THE CONDITION OF THE EROSION AND SEDIMENT CONTROL PRACTICES AT THE INTERVALS SPECIFIED AND A DESCRIPTION OF THE MAINTENANCE CONDUCTED TO REPAIR OR REPLACE EROSION AND SEDIMENT CONTROL PRACTICES.
  - OFF-SITE SEDIMENT DEPOSITION RESULTING FROM THE FAILURE OF AN EROSION OR SEDIMENT CONTROL PRACTICE SHALL BE CLEANED UP WITHIN 24 HOURS. OFF-SITE SEDIMENT DEPOSITION RESULTING FROM CONSTRUCTION ACTIVITY, THAT CREATES A NUISANCE, SHALL BE CLEANED UP BY THE END OF THE WORK DAY. IF THE FAILURE OF EROSION OR SEDIMENT CONTROL PRACTICES RESULT IN AN IMMEDIATE THREAT OF SEDIMENT ENTERING PUBLIC SEWERS OR THE WATERS OF THE STATE, PROCEDURES SHALL BE IMPLEMENTED IMMEDIATELY TO REPAIR OR REPLACE THE PRACTICES. SCRAPING OF THE STREET SHALL BE COMPLETED WITHIN 4 HOURS AND STREET SWEEPING WITHIN 24 HOURS.

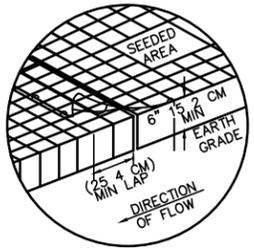
PROJECT:	NON-METALLIC MINE NO MERCY EXCAVATING TOWN OF WHEATON, CHIPPEWA COUNTY, WISCONSIN	DATE:	10/12/16
SHEET NO.:	C3.0	REVISION FOR REVIEW:	ZPF 09/30/16
		REVISION FOR REVIEW:	ZPF 03/29/16
		REVISION DESCRIPTION:	ZPF 03/29/16
		NAME:	
DRAWING PHASE:	OWNER REVIEW	CHECKED BY:	ZPF
	AGENCY REVIEW	DATE:	02/19/16
	BID DOCUMENT	DWG FILE:	502-301-A3A-RECLAM
	FOR CONSTRUCTION	REF FILE:	5282-001
	AS-BUILT DOCUMENT	JOB NUMBER:	5282-001
DRAWN BY:	DCK		
CORPORATE OFFICE:	408 Technology Drive East Suite 4 Menomonie, WI 54751 Tel 715-282-8490	BRANCH OFFICE:	2820 Faber Street Suite 101 Ironstone, WI 54016 Tel 715-381-8277
		<b>Auth-Consulting/associates</b> Soil Land Surveying & C/O	
<b>RECLAMATION PLAN</b>			



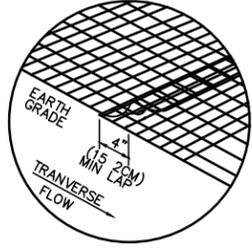
JUNCTION SLOT  
SOD ONLY  
**DETAIL A**  
N.T.S.



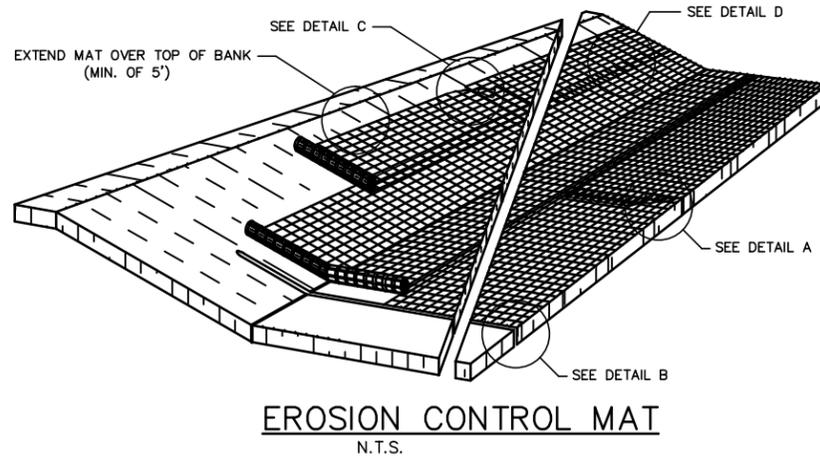
ANCHOR SLOT  
AT BEGINNING AND END OF EROSION MAT  
**DETAIL B**  
N.T.S.



JUNCTION SLOT  
SEED ONLY  
**DETAIL C**  
N.T.S.



LAP JOINT  
SEED AND SOD  
**DETAIL D**  
N.T.S.



**GENERAL NOTES**

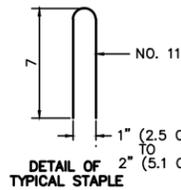
Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Lap Joints shall not be placed in the bottom of V-shaped ditches.

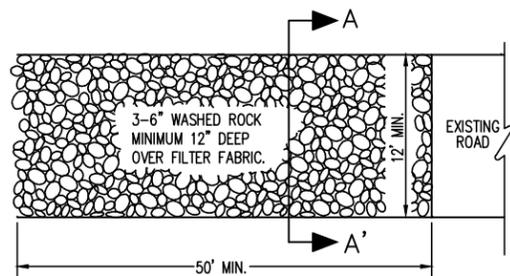
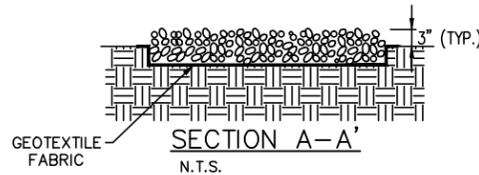
Junction slots on adjacent strips of Matting shall be staggered a minimum of 4 feet (1.219 m) apart.

Edges of the Erosion Mat shall be impressed in the soil.

EROSION MAT OVER SEEDING  
Junction or Anchor Slots shall be at minimum intervals of 50 feet.



\* 6" (15.2 CM MIN. FOR LOOSE SOILS  
12" (30.5 CM MIN FOR LOOSE SOILS  
8" (20.3 CM MIN WHERE BOTH SOD  
AND MATS ARE BEING USED)

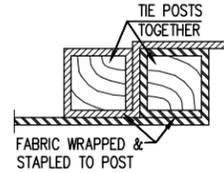
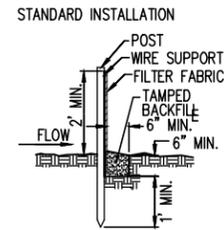


**CONSTRUCTION VEHICLE TRACKING AREA**  
N.T.S.

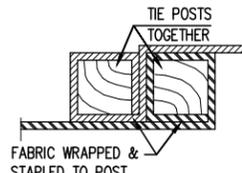
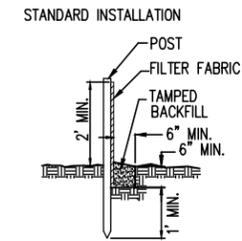
\* MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPENING.

**NOTES:**

1. TRACKING ENTRANCE SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY. THIS WORK SHALL BE INCIDENTAL TO THE CONTRACT.
2. STONE SHALL BE REMOVED AND REPLACED WHEN SOIL FILLS OPENINGS AND/OR DIRECTED BY THE ENGINEER.
3. EXISTING PAVEMENT SHALL BE INSPECTED AND CLEANED AT LEAST DAILY.



**EROSION FENCE WITH WIRE MESH SUPPORT**  
N.T.S.



**DETAIL FOR INSTALLATION OF EROSION FENCE**  
N.T.S.

- NOTES:**
1. MIN. 2"x4" 4' LONG POST TO BE SPACED AT A MAX. OF 8'.
  2. WIRE SUPPORT TO BE 14 GAGE MIN. WOVEN WIRE WITH MAX. MESH SPACING OF 6".
  3. FILTER FABRIC TO BE MIRAFI 100 OR EQUAL.
  4. POSTS DAMAGED ON DRIVING SHALL BE REPLACED.
  5. EROSION CONTROL SHALL BE MAINTAINED DAILY.

- NOTES:**
1. MIN. 2"x2" POST TO BE SPACED AT A MAX. OF 5'.
  2. FILTER FABRIC TO BE MIRAFI 100 OR EQUAL.
  3. POSTS DAMAGED ON DRIVING SHALL BE REPLACED.
  4. EROSION CONTROL SHALL BE MAINTAINED DAILY.

**GENERAL NOTES SILT FENCE**

DETAIL OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

WHEN POSSIBLE THE SILT FENCE SHOULD BE CONSTRUCTED IN AN ARC OR HORSESHOE SHAPE, WITH THE ENDS POINTING UPSLOPE TO MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.

CROSS BRACE WITH 2"x4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS AS DIRECTED BY THE ENGINEER.

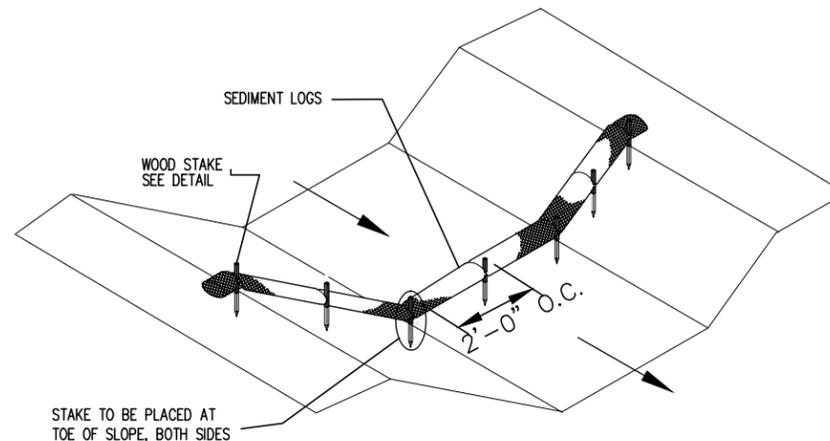
- ① MINIMUM 14 GAGE WIRE REQUIRED, FOLD FABRIC 3" OVER THE WIRE AND STAPLE TO PLACE WIRE RINGS ON 12" C-C.
- ② EXCAVATE A TRENCH A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1-1/8"x1-1/8" OF OAK OR HICKORY.

Seed Mix	Areas of Use	Species	Scientific Name	Mixture Proportions %
Perennial Forage Conservation Cover	Area designated as Area 2 - Ag Production on Reclamation Plan	Canada Wild Rye	Elymus canadensis	10
		Annual Rye Grass	Lolium multiflorum	30
		Timothy	Phleum pretense	10
		Tall Fescue	Festuca arundinaceae	10
		Alsike Clover*	Trifolium hybridum	10
		Red Clover	Trifolium repens	10
		Alfalfa*	Medicago sativa	10

\* Must be inoculated according to the seed provider's instruction prior to seeding.

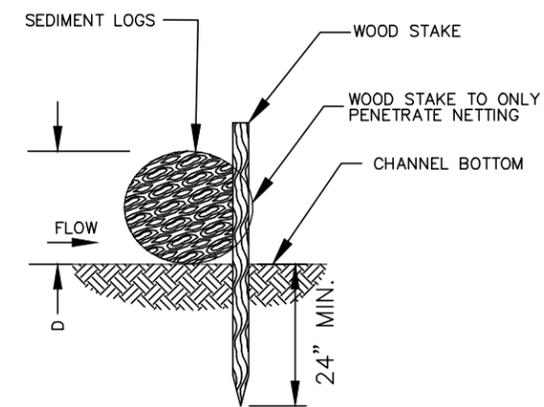
Seed Mix Number	Areas of Use	Species	Mixture Proportions %	Seeding Rate
20	Light, dry, well-drained, sandy, or gravelly soils and high cut & fill slopes	Kentucky Bluegrass	6	3 lbs/ 1000 sq.ft
		Hard Fescue	24	
		Tall Fescue	40	OR
		Perennial Ryegrass	30	

**TYPICAL SEED MIXTURES**



**SEDIMENT LOGS**  
N.T.S.

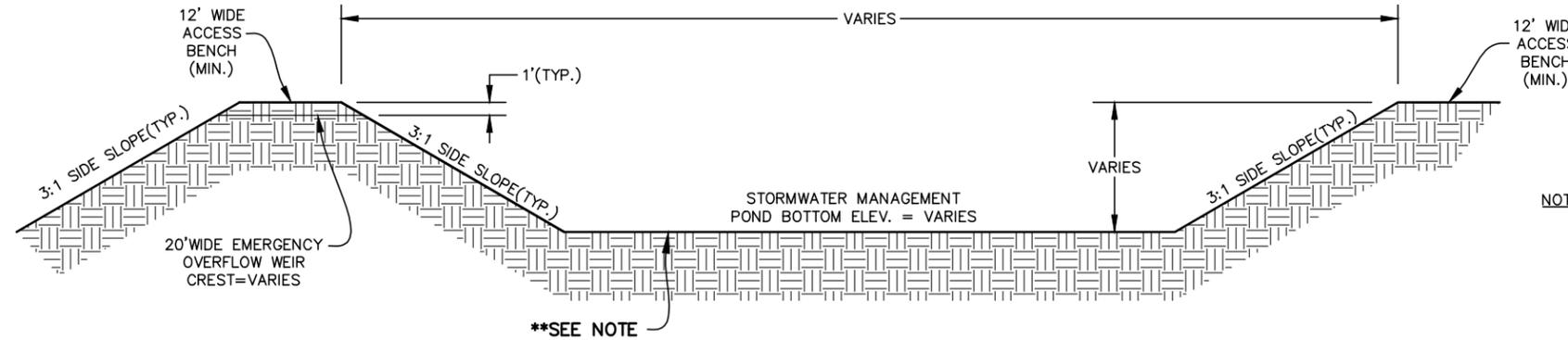
$$\left[ \frac{\text{DISTANCE BETWEEN CHANNEL BOTTOM AND TOP OF INSTALLED SEDIMENT LOGS (D)(FT)}}{\text{CHANNEL GRADIENT (\%)}} \right] \times 100 = \text{SEDIMENT LOGS SPACING (FT)}$$



**STAKE DETAILS**  
N.T.S.

PROJECT:	NON-METALLIC MINE NO MERCY EXCAVATING TOWN OF WHEATON, CHIPPEWA COUNTY, WISCONSIN	DATE:	10/12/16
SHEET NO.:	C4.0	DATE:	09/30/16
DRAWING PHASE:	OWNER REVIEW	DATE:	02/19/16
DRAWN BY:	DCK	DWG FILE:	5282-001-C40-DETAILS
CHECKED BY:	ZPF	REF FILE:	5282-001
AGENCY REVIEW	X	JOB NUMBER:	5282-001
FOR CONSTRUCTION		REVISION DESCRIPTION:	
AS-BUILT DOCUMENT			

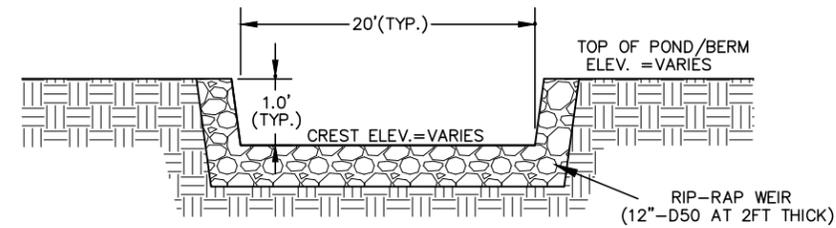
BRANCH OFFICE: 2820 Fisher Street, Suite 100, Hudson, WI 54016, Tel: 715-381-8277  
CORPORATE OFFICE: 408 Technology Drive East, Menomonie, WI 54751, Tel: 715-232-8400  
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Auth Consulting/associates  
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**TYPICAL STORMWATER MANAGEMENT BASIN CROSS SECTION**

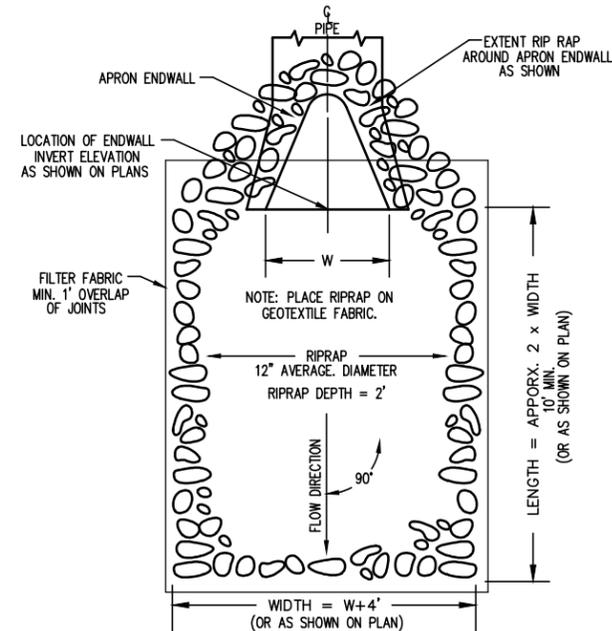
N.T.S.

**NOTE:** PROPOSED INFILTRATION BASIN AREAS SHALL BE PROTECTED FROM VEHICULAR TRAFFIC AND HEAVY EQUIPMENT. ALL EXISTING SOILS GOOD INFILTRATION CHARACTERISTICS SHALL BE MAINTAINED TO THE MAXIMUM EXTENT PRACTICABLE. INFILTRATION BASINS SHALL BE CLEANED OUT AND BROUGHT BACK TO ORIGINAL CONDITION IF ANY DISTURBANCE TAKES PLACE OR ANY SEDIMENT IS DEPOSITED WITHIN THE INFILTRATION BASINS. IN ADDITION, COMPACTION MITIGATION TECHNIQUES SHALL BE PERFORMED ON CONSTRUCTED INFILTRATION BASIN BOTTOMS AFTER BASINS ARE GRADED TO FINISHED GRADE. INFILTRATION BASIN BOTTOMS SHALL BE DEEP TILLED 3 FT DEEP AT 5 FT SPACING, FOLLOWED BY CHISEL PLOWING 12 INCHES DEEP. THIS WILL BE DEPENDENT ON SOIL TYPE AND DEGREE OF COMPACTION.



**TYPICAL WEIR EMERGENCY OVERFLOW SPILLWAY SECTION FOR STORM WATER BASIN**

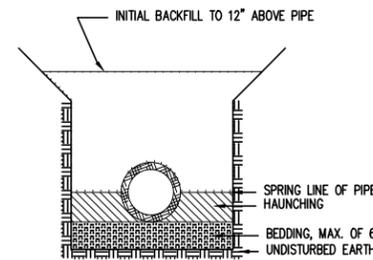
N.T.S.



**RIPRAP @ ENDWALL**

N.T.S.

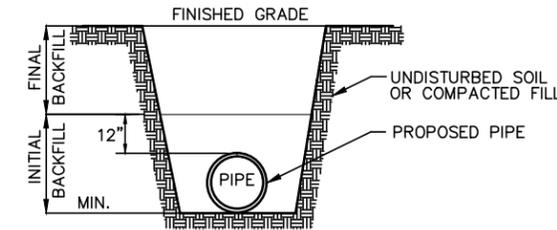
LAY GEOTEXTILE FABRIC AT 90° TO FLOW. START FABRIC AT LOW END OF AREA AND OVERLAP SECTIONS AS WORK PROCEEDS UPHILL.



**TYPICAL BEDDING OF PLASTIC PIPE**

N.T.S.

(PER ASTM D-2321)



**PIPE BEDDING**

N.T.S.

**PIPE BEDDING:**

FOR ALL BEDDING AND TRENCHING, CONTRACTOR SHALL EXCAVATE FOR THE PIPE'S BELLS, AS APPLICABLE. BEDDING SHALL BE UNIFORM ALONG THE ENTIRE LENGTH OF THE PIPE.

**BACKFILL:**

BACKFILL TRENCH IMMEDIATELY AFTER INSTALLATION OF THE PIPE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. INITIAL BACKFILL SHALL BE CAREFULLY PLACED AND EVENLY COMPACTED AROUND THE PIPE TO A DISTANCE ABOVE THE PIPE OF TWELVE (12) INCHES.

BACKFILLING SHALL BE COMPLETED BY MECHANICAL MEANS. DEBRIS, FROZEN MATERIAL, LARGE CLOUDS OR STONES, ORGANIC MATTER, OR OTHER UNSTABLE MATERIALS SHALL NOT BE USED FOR BACKFILL. BACKFILL SHALL BE PLACED IN SUCH A MANNER AS NOT TO DISTURB THE ALIGNMENT OF THE PIPE.

**TRENCH COMPACTION:**

MECHANICAL COMPACTION SHALL BE REQUIRED FOR TRENCHES UNDER ALL PAVEMENT IMPROVEMENTS PLUS A MINIMUM OF TWO (2) FEET BEYOND EACH OUTSIDE EDGE.

MECHANICAL COMPACTION SHALL CONSIST OF MECHANICALLY COMPACTING THE BACKFILL IN SIX (6) INCH LAYERS, FROM A DISTANCE OF ONE (1) FOOT ABOVE THE PIPE TO THE SURFACE. THE DEGREE OF COMPACTION SHALL BE AT LEAST 95% OF STANDARD PROCTOR.

**EXCESS MATERIAL:**

EXCESS MATERIAL FOLLOWING BACKFILLING SHALL BE DISPOSED OF BY THE CONTRACTOR AT A SITE INDICATED BY THE ENGINEER. EXCESS MATERIAL SHALL NOT BE DISPOSED OF IN ANY WETLANDS OR WATERS OF THE STATE.

DRAWING PHASE:	DRAWN BY: DCK	REVISION DESCRIPTION:	DATE:
OWNER REVIEW	CHECKED BY: ZPF	REVISION NUMBER: 5282-001	NAME:
AGENCY REVIEW	DATE: 02/19/16	REVISION NUMBER: 5282-001	DATE:
BID DOCUMENT	DWG FILE: 5282-001-040-REV15	REVISION NUMBER: 5282-001	DATE:
FOR CONSTRUCTION	REF FILE: 5282-001	REVISION NUMBER: 5282-001	DATE:
AS-BUILT DOCUMENT	JOB NUMBER: 5282-001	REVISION NUMBER: 5282-001	DATE:

**CORPORATE OFFICE**  
 408 Technology Drive East  
 Suite 100  
 Menomonee, WI 54951  
 Tel: 715-282-8400

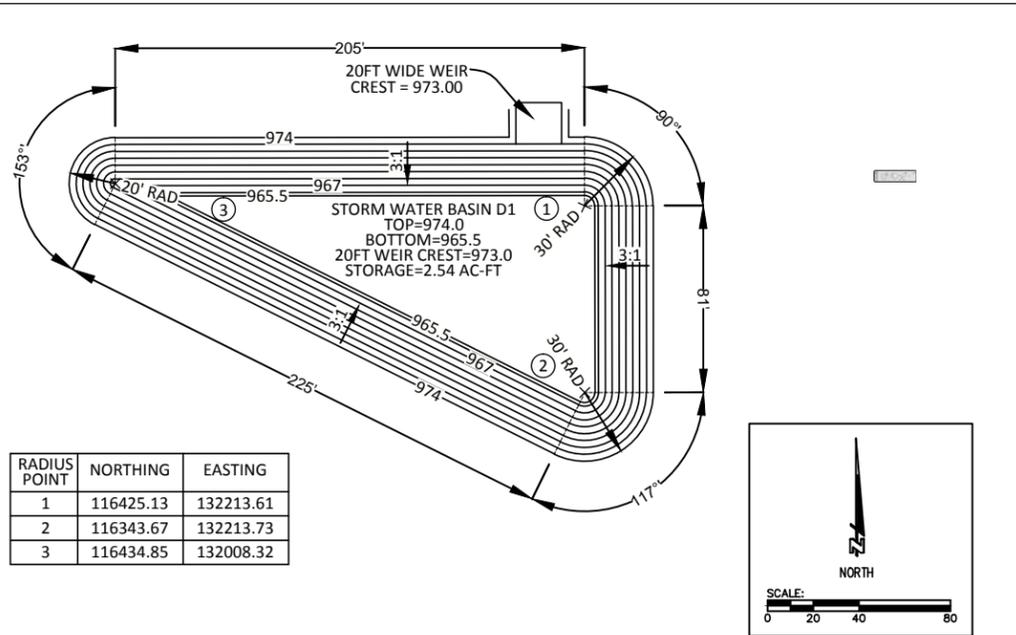
**BRANCH OFFICE**  
 2820 Pilsbe Street  
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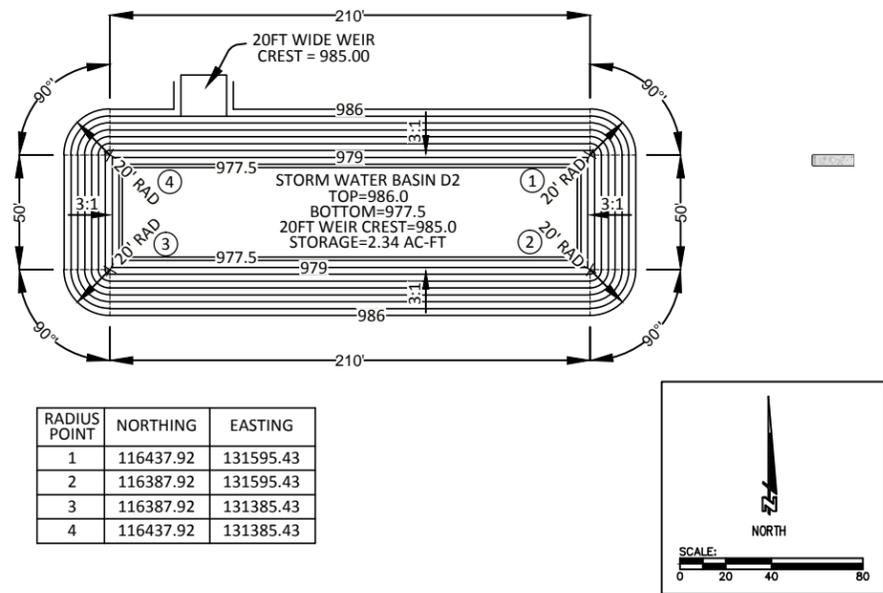


PROJECT:  
**NON-METALLIC MINE  
 NO MERCY EXCAVATING**  
 TOWN OF WHEATON, CHIPPEWA COUNTY, WISCONSIN

DETAILS



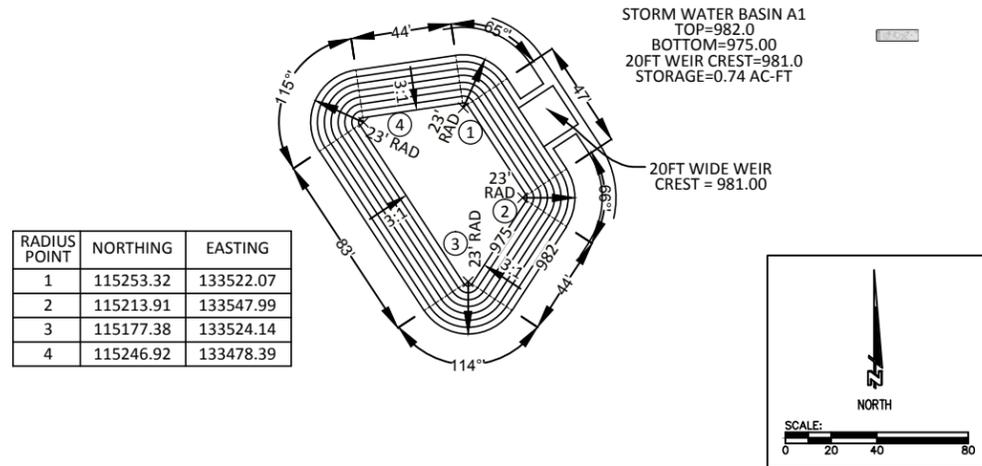
**STORM WATER BASIN D1**



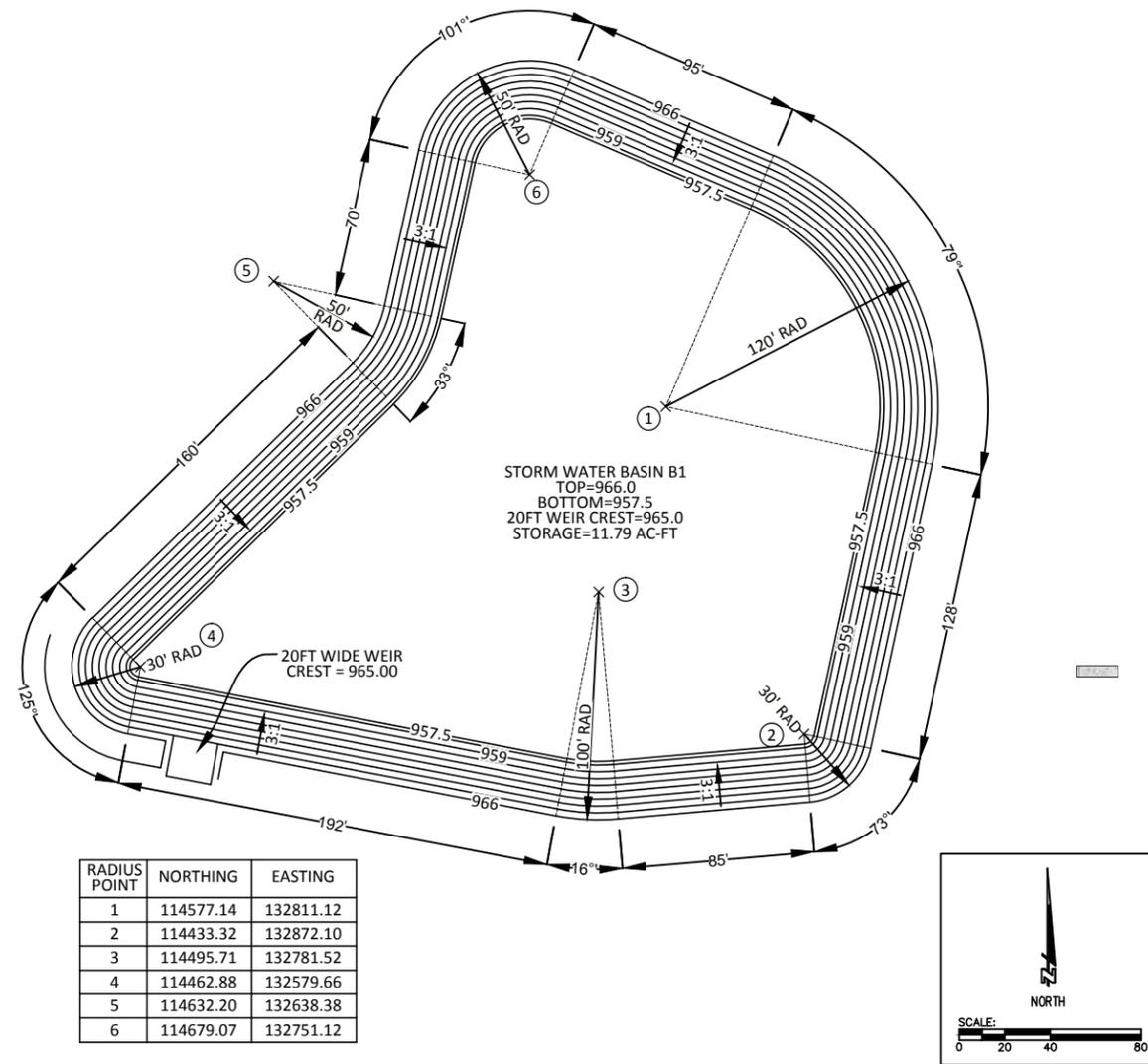
**STORM WATER BASIN D2**

**NOTES:**

1. ALL DIMENSIONS ARE TO TOP OF BASIN.
2. COORDINATES ARE BASED ON CHIPPEWA COUNTY COORDINATES SYSTEM.

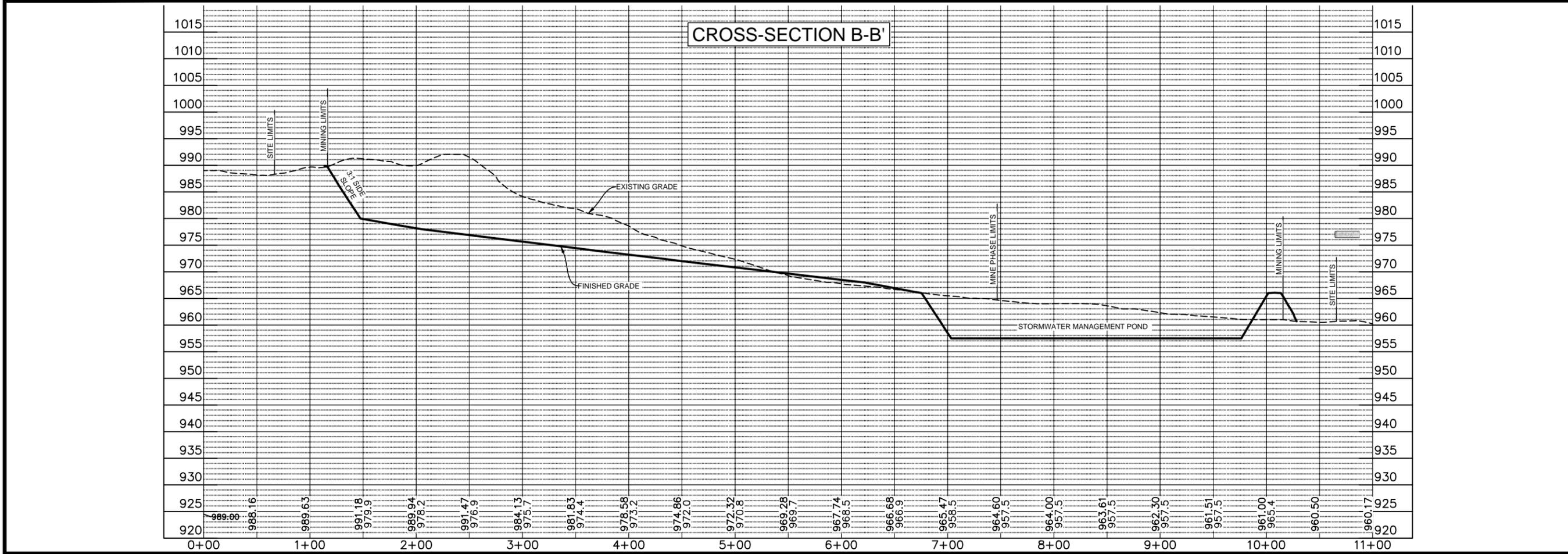
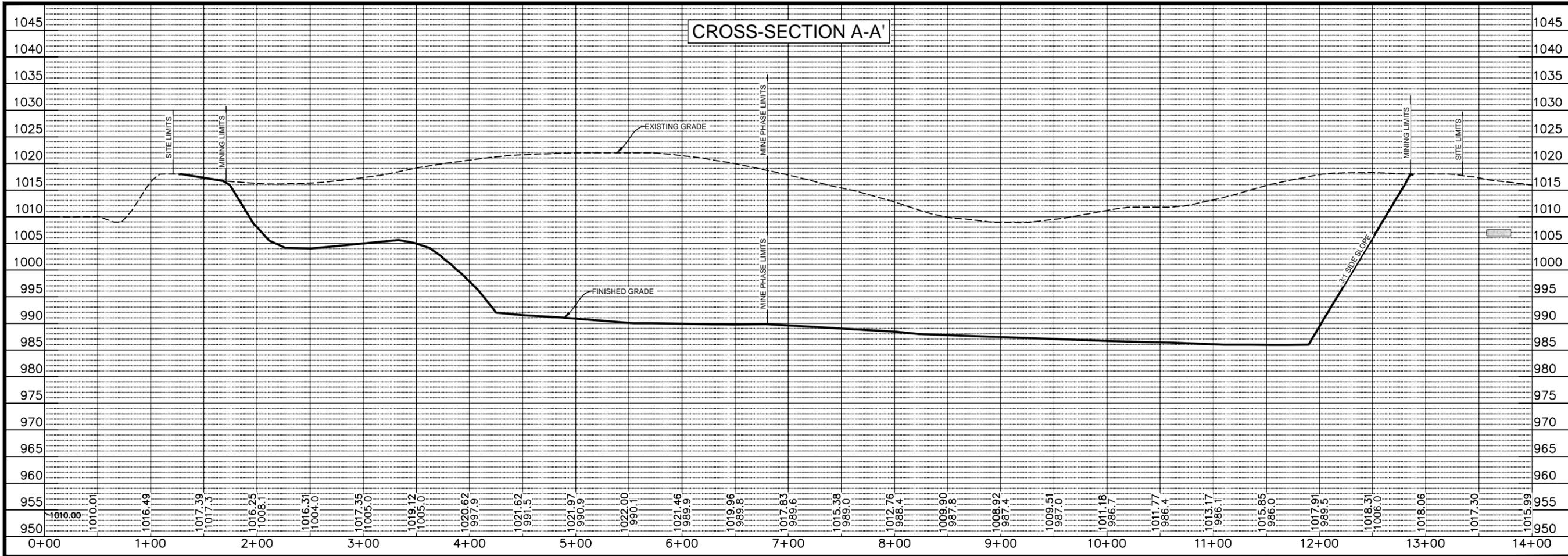


**STORM WATER BASIN A1**



**STORM WATER BASIN B1**

PROJECT:	NON-METALLIC MINE NO MERCY EXCAVATING TOWN OF WHEATON, CHIPPEWA COUNTY, WISCONSIN
SHEET NO.:	C4.2
DATE:	10/12/16
NAME:	ZPF
REVISION DESCRIPTION:	REVISION NUMBER: 5282-001
FOR CONSTRUCTION	REF FILE: 5282-001
AS-BUILT DOCUMENT	JOB NUMBER: 5282-001
DRAWING PHASE:	FOR CONSTRUCTION
OWNER REVIEW	DATE: 02/19/16
AGENCY REVIEW	DWG FILE: 5282-001-040-REV15
BID DOCUMENT	REVISED FOR REVIEW
DRAWN BY: ZPF	REVISED FOR REVIEW
CHECKED BY: ZPF	DATE: 02/19/16
BRANCH OFFICE:	2820 Pilsbe Street Suite 100 Fond du Lac, WI 54916 Tel: 715-881-4277
CORPORATE OFFICE:	408 Technology Drive East Menomonie, WI 54751 Tel: 715-232-8400
 <b>Auth Consulting/associates</b> S&L Land Surveying a division of A.C.a.	



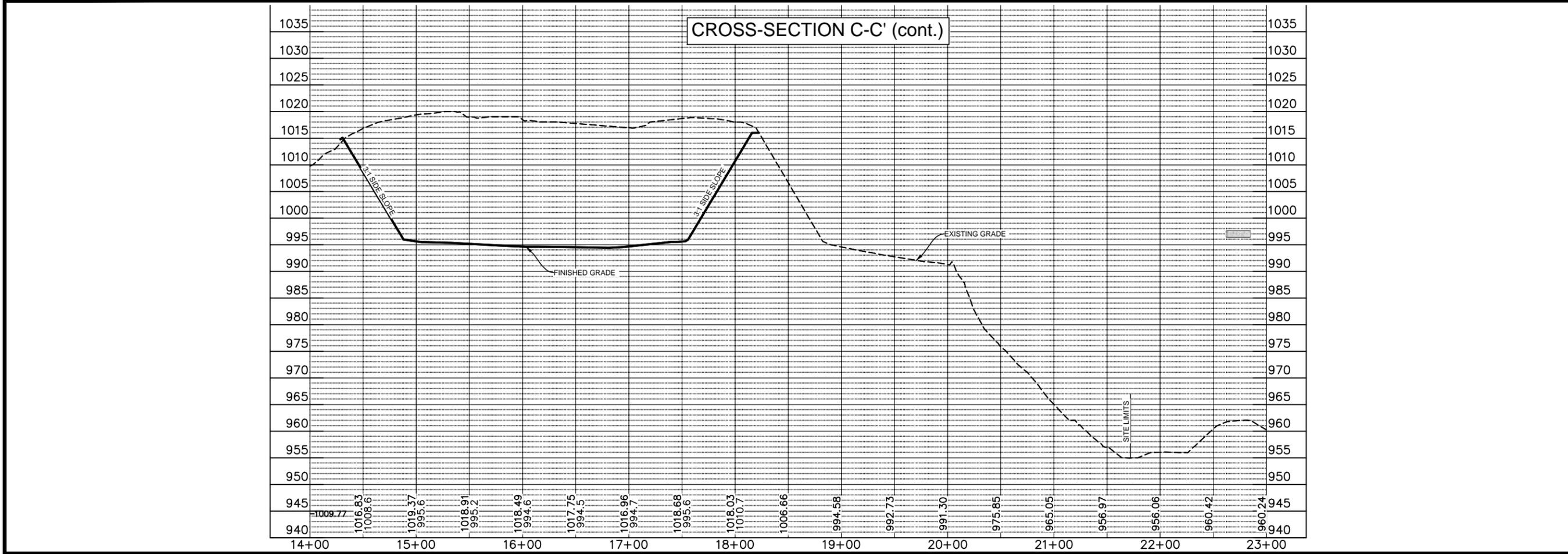
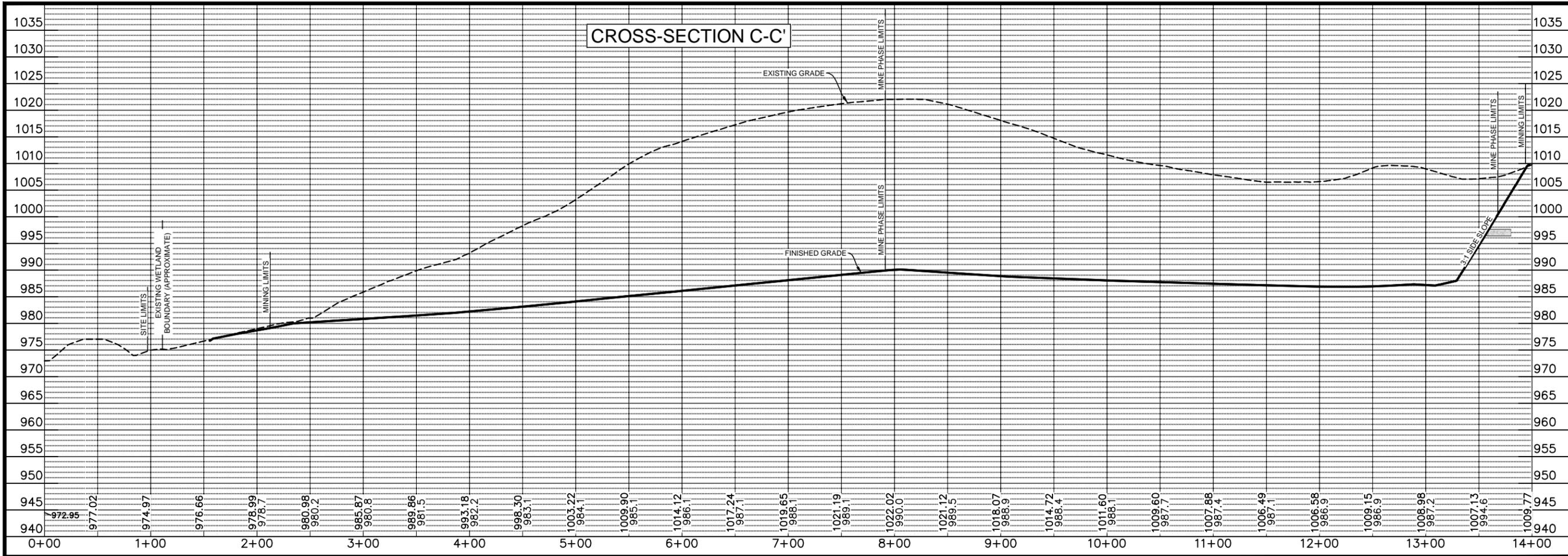
DRAWING PHASE:		BRANCH OFFICE	2820 Faber Street Suite 101 Madison, WI 53705 Tel: 715-981-3277 autobconsulting.com
OWNER REVIEW	CHECKED BY: ZPF	DATE:	02/19/16
AGENCY REVIEW	AGENCY REVIEW	DWG FILE:	5282-001-CS0-XSC
BID DOCUMENT	FOR CONSTRUCTION	REF FILE:	5282-001
AS-BUILT DOCUMENT	JOB NUMBER:	5282-001	NAME:

**PROJECT:**  
NON-METALLIC MINE  
NO MERCY EXCAVATING  
TOWN OF WHEATON, CHIPPEWA COUNTY, WISCONSIN

**SHEET NO.:**  
C5.0

**MINE CROSS SECTIONS**

**Auth•Consulting/associates**  
Soil Land Surveying a division of A.C.A.

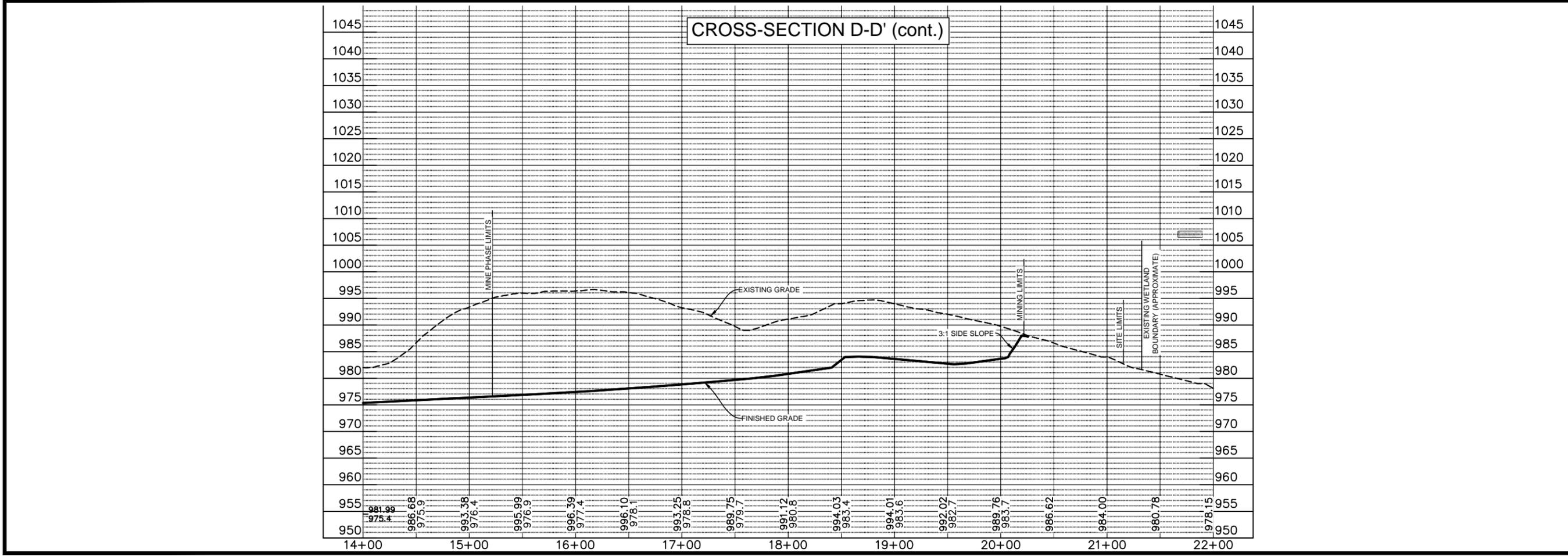
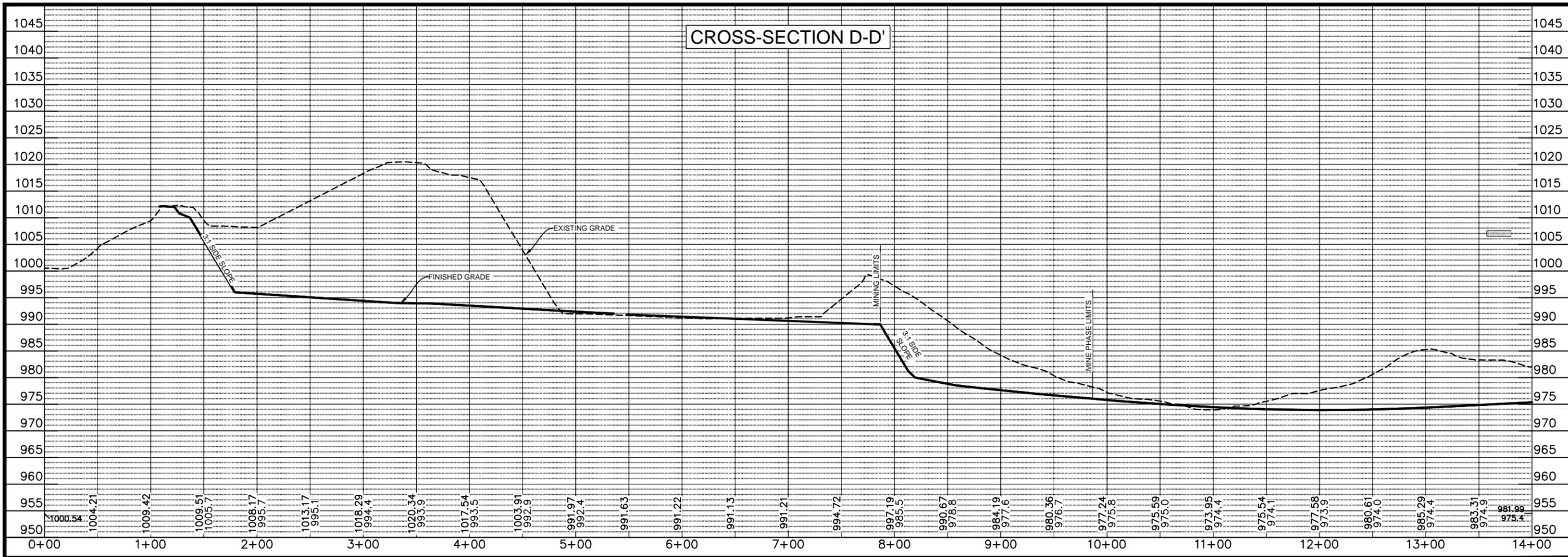


BRANCH OFFICE	2820 Faber Street Suite 101 Madison, WI 53705 Tel: 715-981-3277
CORPORATE OFFICE	408 Technology Drive East Suite 101 Menomonie, WI 54751 Tel: 715-282-8490
 <b>Auth•Consulting/associates</b> Soil Land Surveying a division of A/C/A	

PROJECT:	NON-METALLIC MINE NO MERCY EXCAVATING TOWN OF WHEATON, CHIPPEWA COUNTY, WISCONSIN
SHEET NO.	05.1
MINE CROSS SECTIONS	

DRAWING PHASE:	DCK
OWNER REVIEW:	
AGENCY REVIEW:	X
BID DOCUMENT:	
FOR CONSTRUCTION:	
AS-BUILT DOCUMENT:	

CHECKED BY:	ZPF
DATE:	02/19/16
DWG FILE:	5282-001-C&O-XSC
REF FILE:	5282-001
JOB NUMBER:	5282-001
REVISION DESCRIPTION:	
NAME:	
DATE:	



PROJECT:	NON-METALLIC MINE NO MERCY EXCAVATING
TOWN OF:	WHEATON, CHIPPEWA COUNTY, WISCONSIN
SHEET NO.:	C5.2
DATE:	02/19/16
DWG FILE:	5282-001-C5.0-XSC
REF FILE:	5282-001
JOB NUMBER:	5282-001
AS-BUILT DOCUMENT:	5282-001
FOR CONSTRUCTION:	5282-001
BID DOCUMENT:	5282-001-C5.0-XSC
AGENCY REVIEW:	X
OWNER REVIEW:	X
DRAWING PHASE:	DCK
CHECKED BY:	ZPF
DRAWN BY:	DCK

**ACCa**  
Auth•Consulting/associates  
Soil Land Surveying a division of A/C/A

**CORPORATE OFFICE**  
408 Technology Drive East  
Suite 101  
Menomonie, WI 54751  
Tel: 715-282-8490  
autconsulting.com

**BRANCH OFFICE**  
2820 Polaris Street  
Suite 101  
Eau Claire, WI 54601  
Tel: 715-881-8277

**Appendix 3**  
**Certification of Reclamation Plan & Financial Assurance**

## **Certification of Reclamation & Financial Assurance**

I, Daryl Wojcik, as Operator of property, certify that the reclamation plan referenced in this document will be completed in accordance with this plan and any subsequent approved changes. I will provide financial assurance as required by Chippewa County Ordinance on granting of a permit and before mining changes approved by this plan begin.

---

Daryl Wojcik  
Operator

---

Date

**Appendix 4**  
**Wisconsin Department of Natural Resources**  
**Endangered Resource Review**



## Endangered Resources Preliminary Assessment

Created on 2/18/2016. This report is good for one year after the created date.

### Results

**No actions required/recommended.** No endangered resources have been recorded in this area. For additional information on Endangered Resources (ER) Reviews, please visit: <http://dnr.wi.gov/topic/ERReview/Review.html>

### Project Information

Landowner name	Daryl Wojcik
Project address	NE Quadrant of STH 29 & CTY Road T
Project description	Non-Metallic Mine

### Project Questions

Does the project involve a public property?	No	Is the project a utility, agricultural, forestry or bulk sampling (associated with mining) project?	No
Is the project on a federal property?	No		
Is the project federally funded?	No	Is the project property in Managed Forest Law or Managed Forest Tax Law?	No



<https://dnrx.wisconsin.gov/nhiportal/public>

101 S. Webster Street . PO Box 7921 . Madison, Wisconsin 53707-7921

**Appendix 5**  
**Storm Water Basin Calculations**

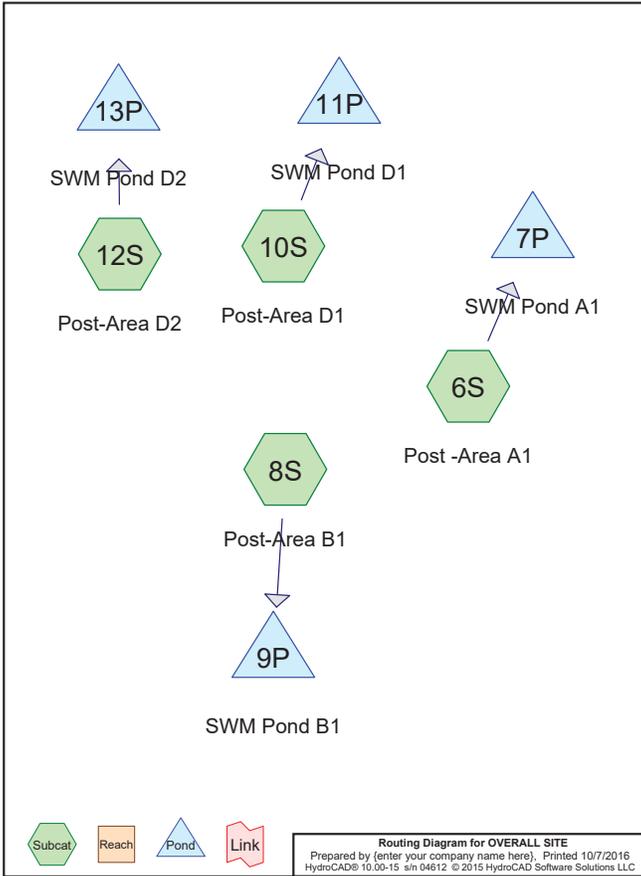
**OVERALL SITE**

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 Page 2

**Area Listing (selected nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
10.940	61	>75% Grass cover, Good, HSG B (8S, 10S, 12S)
0.250	74	>75% Grass cover, Good, HSG C (8S)
22.350	72	Legumes, straight row, Good, HSG B (8S, 10S, 12S)
7.950	81	Legumes, straight row, Good, HSG C (8S)
8.470	86	Newly graded area, HSG B (8S, 10S, 12S)
8.760	91	Newly graded area, HSG C (8S, 10S, 12S)
0.550	98	Unconnected pavement, HSG B (8S)
7.920	92	Urban commercial, 85% imp, HSG B (8S)
5.730	55	Woods, Good, HSG B (8S)
<b>72.920</b>	<b>76</b>	<b>TOTAL AREA</b>



**OVERALL SITE**

MSE 24-hr 3 25-Year Rainfall=4.87"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

- Subcatchment 6S: Post -Area A1**  
 Runoff Area=2,230 ac 0.00% Impervious Runoff Depth>3.85"  
 Tc=15.0 min CN=91 Runoff=105.43 cfs 9.865 af
- Subcatchment 8S: Post-Area B1**  
 Runoff Area=52,480 ac 13.88% Impervious Runoff Depth>2.26"  
 Tc=30.0 min CN=74 Runoff=105.43 cfs 9.865 af
- Subcatchment 10S: Post-Area D1**  
 Runoff Area=9,070 ac 0.00% Impervious Runoff Depth>2.78"  
 Tc=20.0 min CN=80 Runoff=28.13 cfs 2.098 af
- Subcatchment 12S: Post-Area D2**  
 Runoff Area=9,140 ac 0.00% Impervious Runoff Depth>2.78"  
 Tc=20.0 min CN=80 Runoff=28.35 cfs 2.115 af
- Pond 7P: SWM Pond A1**  
 Peak Elev=980.65' Storage=30,037 cf Inflow=10.59 cfs 0.716 af  
 Discarded=0.02 cfs 0.026 af Primary=0.00 cfs 0.000 af Outflow=0.02 cfs 0.026 af
- Pond 9P: SWM Pond B1**  
 Peak Elev=963.79' Storage=419,625 cf Inflow=105.43 cfs 9.865 af  
 Discarded=0.23 cfs 0.231 af Primary=0.00 cfs 0.000 af Outflow=0.23 cfs 0.231 af
- Pond 11P: SWM Pond D1**  
 Peak Elev=971.89' Storage=88,825 cf Inflow=28.13 cfs 2.098 af  
 Discarded=0.06 cfs 0.059 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.059 af
- Pond 13P: SWM Pond D2**  
 Peak Elev=984.32' Storage=89,620 cf Inflow=28.35 cfs 2.115 af  
 Discarded=0.06 cfs 0.057 af Primary=0.00 cfs 0.000 af Outflow=0.06 cfs 0.057 af

**Total Runoff Area = 72.920 ac Runoff Volume = 14.794 af Average Runoff Depth = 2.43"**  
**90.01% Pervious = 65.638 ac 9.99% Impervious = 7.282 ac**

**OVERALL SITE**

MSE 24-hr 3 25-Year Rainfall=4.87"

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**Summary for Subcatchment 6S: Post -Area A1**

Runoff = 10.59 cfs @ 12.23 hrs, Volume= 0.716 af, Depth> 3.85"

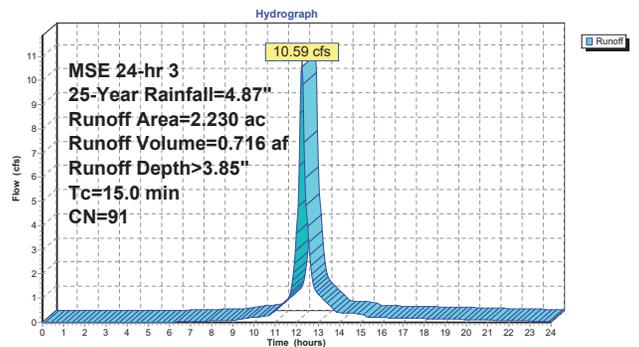
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 MSE 24-hr 3 25-Year Rainfall=4.87"

Area (ac)	CN	Description
2,230	91	Newly graded area, HSG C
2,230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
15.0					Direct Entry,

**Subcatchment 6S: Post -Area A1**



**Summary for Subcatchment 8S: Post-Area B1**

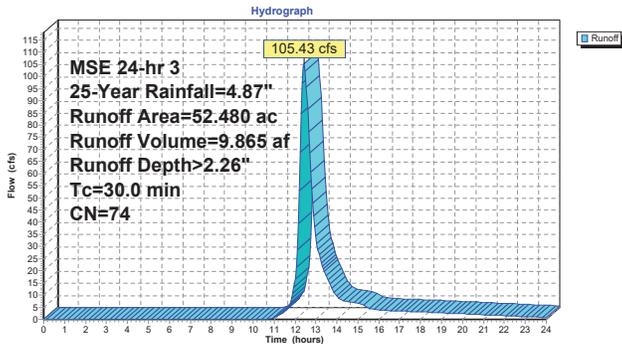
Runoff = 105.43 cfs @ 12.44 hrs, Volume= 9.865 af, Depth> 2.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 MSE 24-hr 3 25-Year Rainfall=4.87"

Area (ac)	CN	Description
7.920	92	Urban commercial, 85% imp, HSG B
5.730	55	Woods, Good, HSG B
0.550	98	Unconnected pavement, HSG B
9.270	61	>75% Grass cover, Good, HSG B
0.250	74	>75% Grass cover, Good, HSG C
15.810	72	Legumes, straight row, Good, HSG B
7.950	81	Legumes, straight row, Good, HSG C
2.500	91	Newly graded area, HSG C
2.500	86	Newly graded area, HSG B
52.480	74	Weighted Average
45.198		86.12% Pervious Area
7.282		13.88% Impervious Area
0.550		7.55% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
30.0					Direct Entry,

**Subcatchment 8S: Post-Area B1**



**Summary for Subcatchment 10S: Post-Area D1**

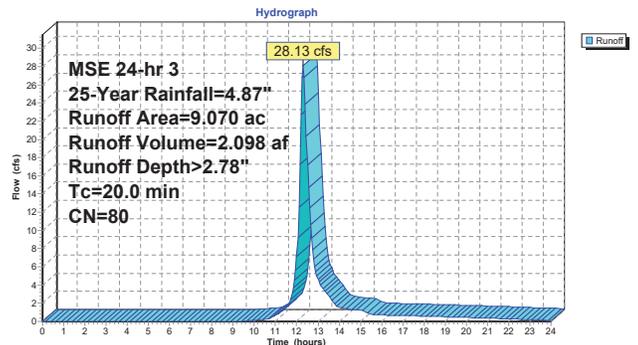
Runoff = 28.13 cfs @ 12.30 hrs, Volume= 2.098 af, Depth> 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 MSE 24-hr 3 25-Year Rainfall=4.87"

Area (ac)	CN	Description
3.530	72	Legumes, straight row, Good, HSG B
1.660	91	Newly graded area, HSG C
0.540	61	>75% Grass cover, Good, HSG B
3.340	86	Newly graded area, HSG B
9.070	80	Weighted Average
9.070		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					Direct Entry,

**Subcatchment 10S: Post-Area D1**



**Summary for Subcatchment 12S: Post-Area D2**

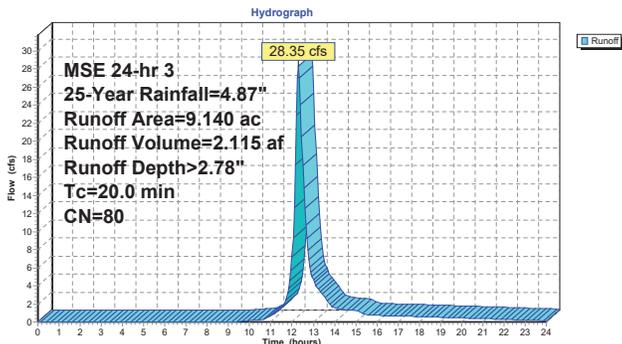
Runoff = 28.35 cfs @ 12.30 hrs, Volume= 2.115 af, Depth> 2.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 MSE 24-hr 3 25-Year Rainfall=4.87"

Area (ac)	CN	Description
3.010	72	Legumes, straight row, Good, HSG B
2.370	91	Newly graded area, HSG C
1.130	61	>75% Grass cover, Good, HSG B
2.630	86	Newly graded area, HSG B
9.140	80	Weighted Average
9.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
20.0					Direct Entry,

**Subcatchment 12S: Post-Area D2**



**Summary for Pond 7P: SWM Pond A1**

Inflow Area = 2.230 ac, 0.00% Impervious, Inflow Depth > 3.85" for 25-Year event  
 Inflow = 10.59 cfs @ 12.23 hrs, Volume= 0.716 af  
 Outflow = 0.02 cfs @ 24.00 hrs, Volume= 0.026 af, Atten= 100%, Lag= 706.3 min  
 Discarded = 0.02 cfs @ 24.00 hrs, Volume= 0.026 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 980.65' @ 24.00 hrs Surf.Area= 7,878 sf Storage= 30,037 cf

Plug-Flow detention time= 481.3 min calculated for 0.026 af (4% of inflow)  
 Center-of-Mass det. time= 230.7 min (1,013.9 - 783.2)

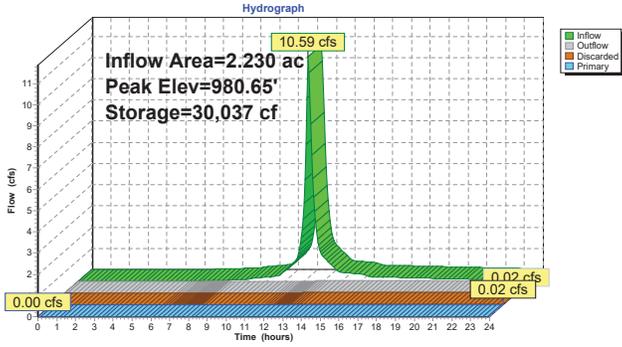
Volume	Invert	Avail. Storage	Storage Description
#1	975.00'	41,635 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf. Area (sq-ft)	Inc. Store (cubic-feet)	Cum. Store (cubic-feet)
975.00	3,060	0	0
976.00	3,780	3,420	3,420
977.00	4,500	4,165	7,585
978.00	5,390	4,970	12,555
979.00	6,280	5,835	18,390
980.00	7,230	6,755	25,145
981.00	8,230	7,730	32,875
982.00	9,290	8,760	41,635

Device	Routing	Invert	Outlet Devices
#1	Discarded	975.00'	0.130 in/hr Exfiltration over Surface area
#2	Primary	981.00'	20.0' long x 1.00' rise Sharp-Crested Rectangular Weir 2 End Contraction(s) 1.0' Crest Height

Discarded OutFlow Max=0.02 cfs @ 24.00 hrs HW=980.65' (Free Discharge)  
 1=Exfiltration (Exfiltration Controls 0.02 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=975.00' (Free Discharge)  
 2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

**Pond 7P: SWM Pond A1**



**Summary for Pond 9P: SWM Pond B1**

Inflow Area = 52.480 ac, 13.88% Impervious, Inflow Depth > 2.26" for 25-Year event  
 Inflow = 105.43 cfs @ 12.44 hrs, Volume= 9,865 af  
 Outflow = 0.23 cfs @ 24.00 hrs, Volume= 0.231 af, Atten= 100%, Lag= 693.6 min  
 Discarded = 0.23 cfs @ 24.00 hrs, Volume= 0.231 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 963.79' @ 24.00 hrs Surf.Area= 76,709 sf Storage= 419,625 cf  
 Plug-Flow detention time= 380.2 min calculated for 0.230 af (2% of inflow)  
 Center-of-Mass det. time= 240.1 min ( 1,072.4 - 832.3 )

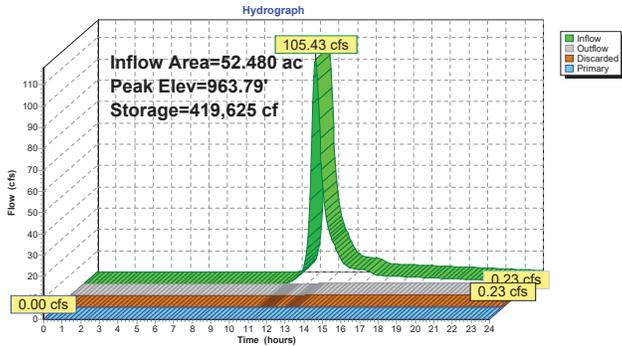
Volume	Invert	Avail.Storage	Storage Description
#1	957.50'	597,080 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
957.50	57,020	0	0
958.00	58,500	28,880	28,880
959.00	61,510	60,005	88,885
960.00	64,570	63,040	151,925
961.00	67,700	66,135	218,060
962.00	70,870	69,285	287,345
963.00	74,100	72,485	359,830
964.00	77,390	75,745	435,575
965.00	80,740	79,065	514,640
966.00	84,140	82,440	597,080

Device	Routing	Invert	Outlet Devices
#1	Discarded	957.50'	0.130 in/hr Exfiltration over Surface area
#2	Primary	965.00'	20.0' long x 1.00' rise Sharp-Crested Rectangular Weir 2 End Contraction(s) 1.0' Crest Height

Discarded OutFlow Max=0.23 cfs @ 24.00 hrs HW=963.79' (Free Discharge)  
 1=Exfiltration (Exfiltration Controls 0.23 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=957.50' (Free Discharge)  
 2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

**Pond 9P: SWM Pond B1**



**Summary for Pond 11P: SWM Pond D1**

Inflow Area = 9.070 ac, 0.00% Impervious, Inflow Depth > 2.78" for 25-Year event  
 Inflow = 28.13 cfs @ 12.30 hrs, Volume= 2,098 af  
 Outflow = 0.06 cfs @ 24.00 hrs, Volume= 0.059 af, Atten= 100%, Lag= 702.0 min  
 Discarded = 0.06 cfs @ 24.00 hrs, Volume= 0.059 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 971.89' @ 24.00 hrs Surf.Area= 19,574 sf Storage= 88,825 cf  
 Plug-Flow detention time= 413.5 min calculated for 0.059 af (3% of inflow)  
 Center-of-Mass det. time= 253.5 min ( 1,066.0 - 812.5 )

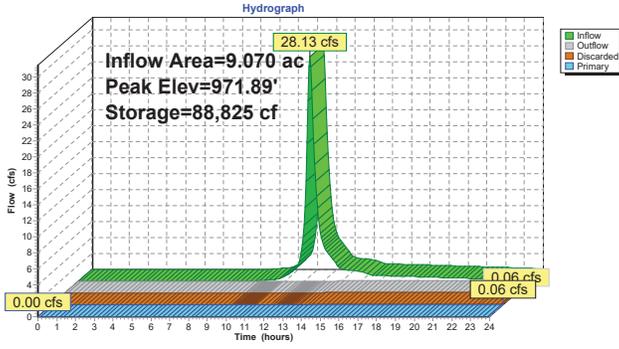
Volume	Invert	Avail.Storage	Storage Description
#1	965.50'	134,450 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
965.50	8,670	0	0
966.00	9,410	4,520	4,520
967.00	10,960	10,185	14,705
968.00	12,610	11,785	26,490
969.00	14,320	13,465	39,955
970.00	16,080	15,200	55,155
971.00	17,900	16,990	72,145
972.00	19,780	18,840	90,985
973.00	21,720	20,750	111,735
974.00	23,710	22,715	134,450

Device	Routing	Invert	Outlet Devices
#1	Discarded	965.50'	0.130 in/hr Exfiltration over Surface area
#2	Primary	973.00'	20.0' long x 1.00' rise Sharp-Crested Rectangular Weir 2 End Contraction(s) 1.0' Crest Height

Discarded OutFlow Max=0.06 cfs @ 24.00 hrs HW=971.89' (Free Discharge)  
 1=Exfiltration (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=965.50' (Free Discharge)  
 2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 11P: SWM Pond D1



Summary for Pond 13P: SWM Pond D2

Inflow Area = 9.140 ac, 0.00% Impervious, Inflow Depth > 2.78" for 25-Year event  
 Inflow = 28.35 cfs @ 12.30 hrs, Volume= 2.115 af  
 Outflow = 0.06 cfs @ 24.00 hrs, Volume= 0.057 af, Atten= 100%, Lag= 702.0 min  
 Discarded = 0.06 cfs @ 24.00 hrs, Volume= 0.057 af  
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Peak Elev= 984.32' @ 24.00 hrs Surf.Area= 18,989 sf Storage= 89,620 cf

Plug-Flow detention time= 416.4 min calculated for 0.057 af (3% of inflow)  
 Center-of-Mass det. time= 255.0 min ( 1,067.5 - 812.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	977.50'	124,200 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
977.50	7,760	0	0
978.00	8,480	4,060	4,060
979.00	9,980	9,230	13,290
980.00	11,550	10,765	24,055
981.00	13,180	12,385	36,420
982.00	14,860	14,020	50,440
983.00	16,600	15,730	66,170
984.00	18,400	17,500	83,670
985.00	20,250	19,325	102,995
986.00	22,160	21,205	124,200

Device	Routing	Invert	Outlet Devices
#1	Discarded	977.50'	0.130 in/hr Exfiltration over Surface area
#2	Primary	985.00'	20.0' long x 1.00' rise Sharp-Crested Rectangular Weir 2 End Contraction(s) 1.0' Crest Height

Discarded OutFlow Max=0.06 cfs @ 24.00 hrs HW=984.32' (Free Discharge)  
 1=Exfiltration (Exfiltration Controls 0.06 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=977.50' (Free Discharge)  
 2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 13P: SWM Pond D2

