

CONSULTING CIVIL ENGINEERS
 200 NESSON AVENUE SOUTH
 BLOOMINGTON, MINNESOTA 55407
 (952) 881-4344 TEL. PHONE
 (952) 881-1913 FAX
 www.sundecll.com

TILLER CORPORATION
ZAVORAL MINING AND RECLAMATION PROJECT

SCANDIA, MINNESOTA

DATE: REVISION:

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AS A PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Krista Pauly
 Krista Pauly REG. NO.: 21842

INFORMATION: DATE: 12/22/10

PROJECT NO.: 02-626

DRAWN BY: NM

CHECKED BY: KP

APPROVED BY: KP

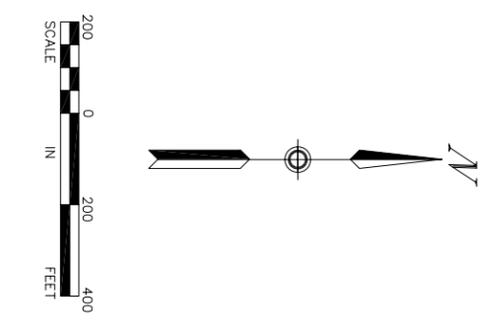
SCALE: Graphic

DATE: 12/22/10

DESCRIPTION:
MINING AND RECLAMATION PHASING

SHEET NO.:

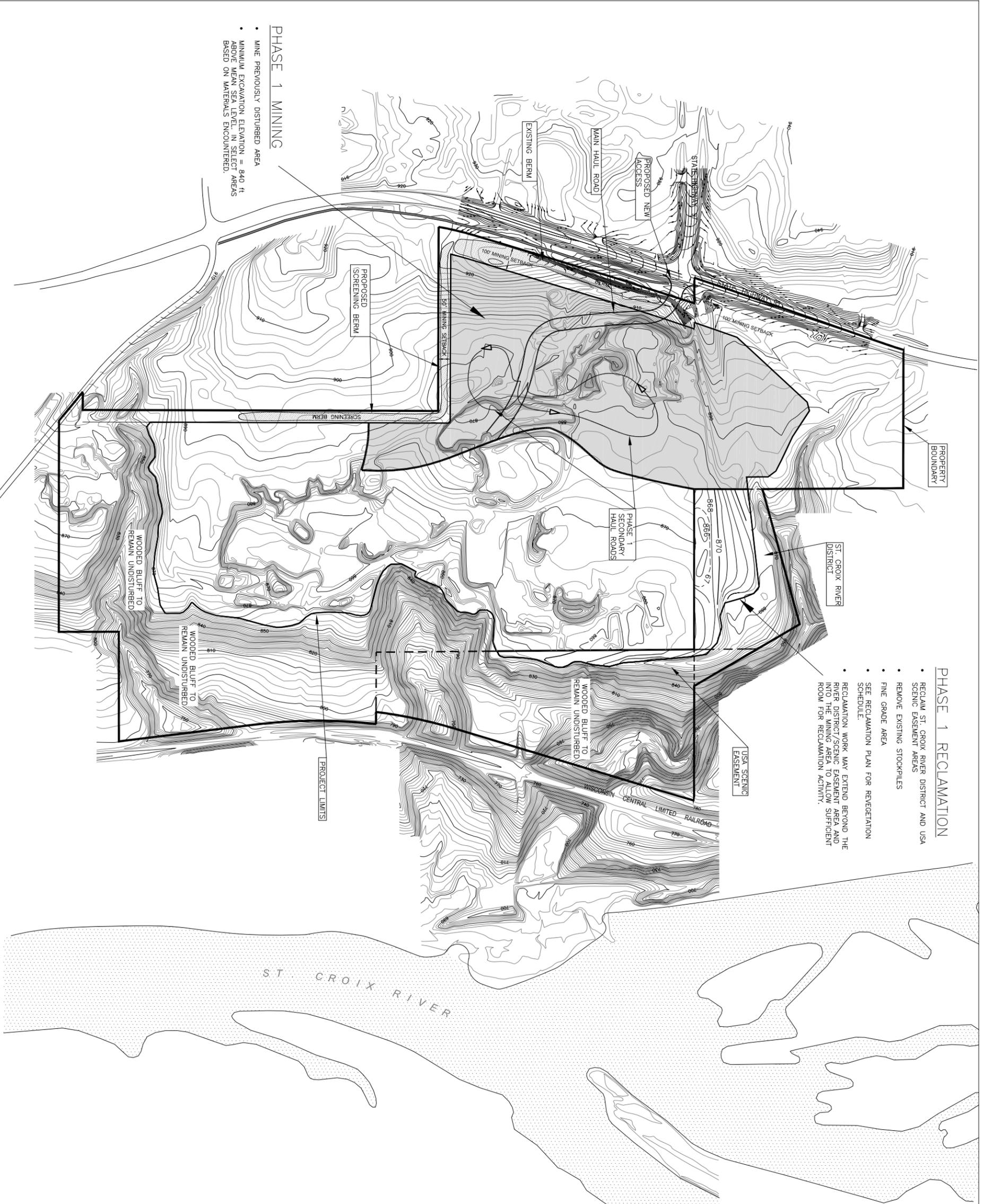
C1



- NOTES:
1. TOPOGRAPHY FROM WASHINGTON COUNTY, AERIAL PHOTOGRAPHY FROM APRIL 2000.
 2. GRADES REPRESENT PROPOSED MINIMUM RESTORATION GRADES.
 3. SETBACKS ARE AS FOLLOWS:
 50' FROM PROPERTY LINE
 100' FROM ROAD RIGHT-OF-WAY, MINING AND RECLAMATION GRADING MAY OCCUR WITHIN 50' OF THE ROAD RIGHT-OF-WAY IF COMPLETED WITHIN ONE MINING SEASON.
 4. MINING ACTIVITY WILL FOLLOW THE GENERAL PROGRESSION INDICATED ON THIS SERIES OF PLANS.
 5. DEPTH OF MINING TO VARY THROUGHOUT THE SITE AND WILL DEPEND UPON THE QUALITY OF MATERIAL ENCOUNTERED. MAXIMUM EXCAVATION DEPTH WILL BE TO A MINIMUM ELEVATION OF 840 FEET ABOVE MEAN SEA LEVEL.
 6. THE MINING AREA WILL BE RECLAIMED TO APPROXIMATE GRADES ILLUSTRATED ON THIS PLAN. GRADES ILLUSTRATED REPRESENT A MINIMUM RECLAMATION ELEVATION. SLOPES SHALL BE GRADED AT A MAXIMUM OF 4:1. SLOPE PROTECTION PLANS AND REVEGETATION PLAN ARE DETAILED IN THE RECLAMATION PLAN.
 7. SEQUENCING:
 1) CONSTRUCT HAUL ROAD.
 2) REMOVE EXISTING TREES
 3) CONSTRUCT NEW SCREENING BERMS AS INDICATED ON PLANS.
 4) BEGIN PHASE 1 RECLAMATION
 5) PROCEED WITH MINING, PHASES 1-3.

PHASE 1 RECLAMATION

- RECLAIM ST. CROIX RIVER DISTRICT AND USA SCENIC EASEMENT AREAS
- REMOVE EXISTING STOCKPILES
- FINE GRADE AREA
- SEE RECLAMATION PLAN FOR REVEGETATION SCHEDULE
- RECLAMATION WORK MAY EXTEND BEYOND THE RIVER DISTRICT/SCENIC EASEMENT AREA AND INTO THE MINING AREA TO ALLOW SUFFICIENT ROOM FOR RECLAMATION ACTIVITY.



PHASE 1 MINING

- MINE PREVIOUSLY DISTURBED AREA
- MINIMUM EXCAVATION ELEVATION = 840 FT ABOVE MEAN SEA LEVEL. IN SELECT AREAS BASED ON MATERIALS ENCOUNTERED.

PHASE 2 RECLAMATION

- FINE GRADE AREA
- SEE RECLAMATION PLAN FOR REVEGETATION SCHEDULE.



PHASE 2 MINING

- MINIMUM EXCAVATION ELEVATION = 840 ft ABOVE MEAN SEA LEVEL. IN SELECT AREAS BASED ON MATERIALS ENCOUNTERED.

PHASE 2 SECONDARY HAUL ROADS

PROJECT LIMITS

WOODED BLUFF TO REMAIN UNDISTURBED

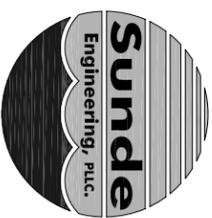
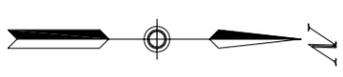
WOODED BLUFF TO REMAIN UNDISTURBED

WOODED BLUFF TO REMAIN UNDISTURBED

TISA SCENIC EASEMENT

NOTES:

1. TOPOGRAPHY FROM WASHINGTON COUNTY, AERIAL PHOTOGRAPHY FROM APRIL 2000.
2. GRADES REPRESENT PROPOSED MINIMUM RESTORATION GRADES.
3. SETBACKS ARE AS FOLLOWS:
50' FROM PROPERTY LINE
100' FROM ROAD RIGHT-OF-WAY.
MINING AND RECLAMATION GRADING MAY OCCUR WITHIN 50' OF THE ROAD RIGHT-OF-WAY IF COMPLETED WITHIN ONE MINING SEASON.
4. MINING ACTIVITY WILL FOLLOW THE GENERAL PROGRESSION INDICATED ON THIS SERIES OF PLANS.
5. DEPTH OF MINING TO VARY THROUGHOUT THE SITE AND WILL DEPEND UPON THE QUALITY OF MATERIAL ENCOUNTERED. MAXIMUM EXCAVATION DEPTH WILL BE TO A MINIMUM ELEVATION OF 840 FEET ABOVE MEAN SEA LEVEL.
6. THE MINING AREA WILL BE RECLAIMED TO APPROXIMATE GRADES ILLUSTRATED ON THIS PLAN. GRADES ILLUSTRATED REPRESENT A MINIMUM RECLAMATION ELEVATION. SLOPES SPECIFIED ON THE PLANTING AND REVEGETATION PLAN ARE DETAILED IN THE RECLAMATION PLAN.
7. SEQUENCING:
1) CONSTRUCT HAUL ROAD.
2) REMOVE EXISTING TREES
3) CONSTRUCT NEW SCREENING BERMS AS INDICATED ON PLANS.
4) BEGIN PHASE 1 RECLAMATION
5) PROCEED WITH MINING, PHASES 1-3.



CONSULTING CIVIL ENGINEERS
10830 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-8344 TELEPHONE
(952) 881-8134 FAX
www.sundeck.com

TILLER CORPORATION
ZAVORAL MINING AND RECLAMATION PROJECT

SCANDIA, MINNESOTA

REVISION 11/17/11 Phase 2 Reclamation Notes

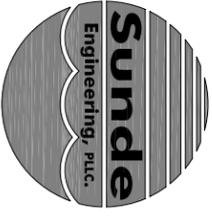
I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Karen Pauly
Karen Pauly
REG. NO.: 21942

INFORMATION:
PROJECT NO.: 02-628
DRAWN BY: NM
CHECKED BY: KP
APPROVED BY: KP
SCALE: Graphic
DATE: 12/22/10
DESCRIPTION:

MINING AND RECLAMATION PHASING

SHEET NO.: **C2**



CONSULTING CIVIL ENGINEERS
 10830 NESSITT AVENUE SOUTH
 BLOOMINGTON, MINNESOTA 55437
 (952) 891-8344 TELEPHONE
 (952) 891-9134 FAX
 WWW.SUNDECHM.COM

TILLER CORPORATION
ZAVORAL MINING AND RECLAMATION PROJECT

SCANDIA, MINNESOTA

DATE: _____ REVISION: _____

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Krista Pauly
 Krista Pauly REG. NO.: 21942

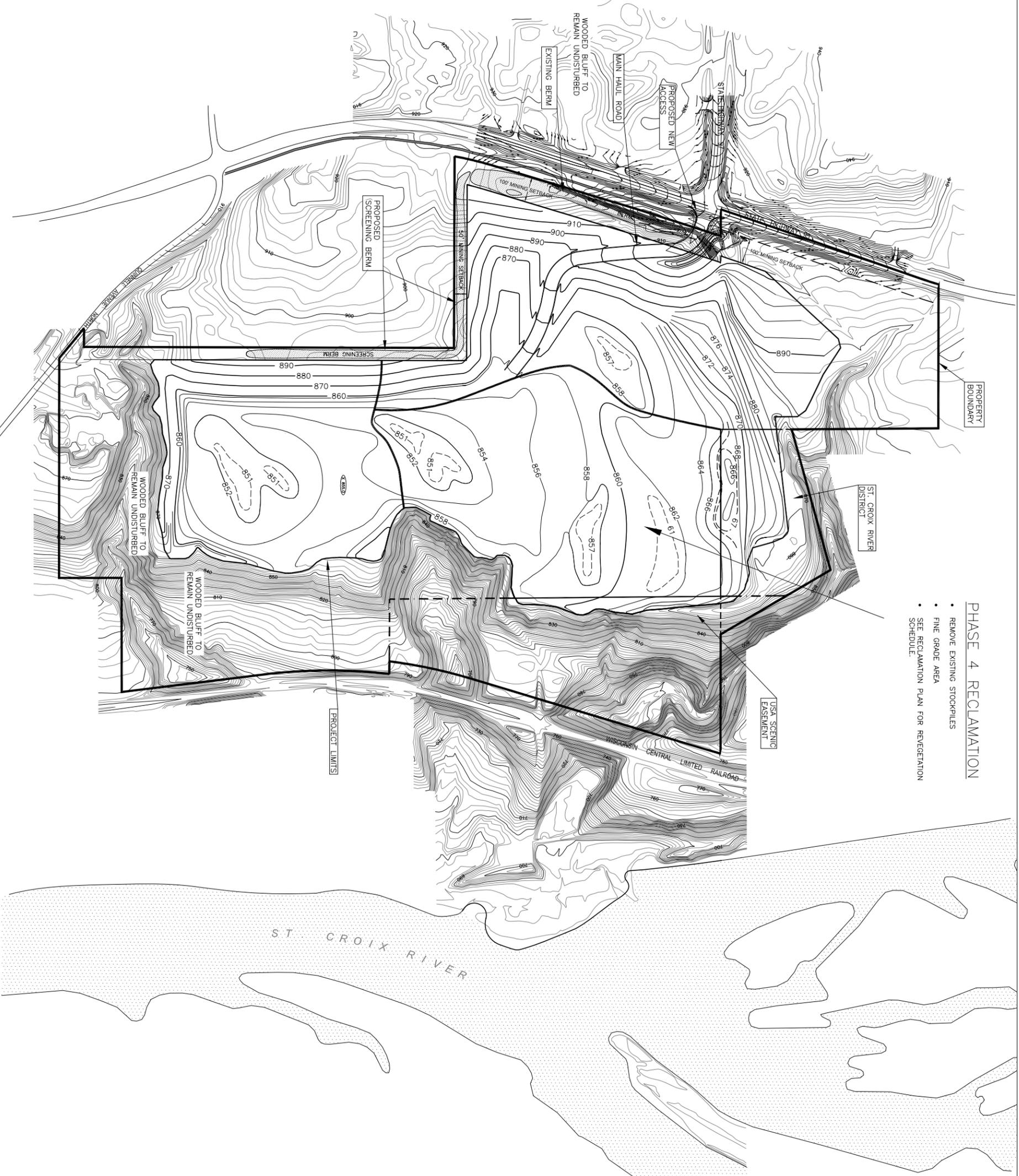
INFORMATION:
 PROJECT NO.: 02-628
 DRAWN BY: NMI
 CHECKED BY: KP
 APPROVED BY: KP
 SCALE: Graphic
 DATE: 12/22/10
 DESCRIPTION:

MINING AND RECLAMATION PHASING

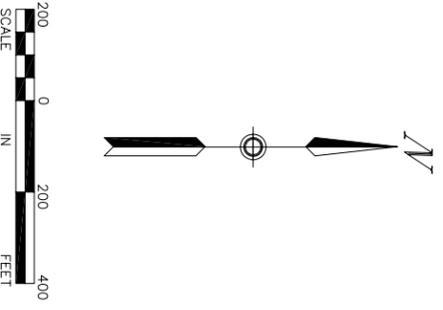
SHEET NO.: **C4**

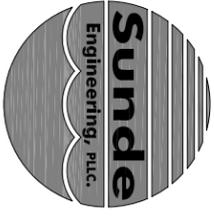
PHASE 4 RECLAMATION

- REMOVE EXISTING STOCKPILES
- FINE GRADE AREA
- SEE RECLAMATION PLAN FOR REVEGETATION SCHEDULE.



- NOTES:
1. TOPOGRAPHY FROM WASHINGTON COUNTY, AERIAL PHOTOGRAPHY FROM APRIL 2000.
 2. GRADES REPRESENT PROPOSED MINIMUM RESTORATION GRADES.
 3. SETBACKS ARE AS FOLLOWS:
 50' FROM PROPERTY LINE
 100' FROM ROAD RIGHT-OF-WAY
 MINING AND RECLAMATION GRADING MAY OCCUR WITHIN 50' OF THE ROAD RIGHT-OF-WAY IF COMPLETED WITHIN ONE MINING SEASON.
 4. MINING ACTIVITY WILL FOLLOW THE GENERAL PROGRESSION INDICATED ON THIS SERIES OF PLANS.
 5. DEPTH OF MINING TO VARY THROUGHOUT THE SITE AND WILL DEPEND UPON THE QUALITY OF MATERIAL ENCOUNTERED. BE MAXIMUM MINIMUM ELEVATION OF 840 FEET ABOVE MEAN SEA LEVEL.
 6. THE MINING AREA WILL BE RECLAIMED TO APPROXIMATE GRADES ILLUSTRATED ON THIS PLAN. GRADES ILLUSTRATED REPRESENT A MINIMUM RECLAMATION ELEVATION. SLOPES WILL BE GRADED TO A MAXIMUM OF 4:1. SPECIFICS OF THE PLANTING AND REVEGETATION PLAN ARE DETAILED IN THE RECLAMATION PLAN.
 7. SEQUENCING:
 1) CONSTRUCT HAIL ROAD.
 2) REMOVE EXISTING TREES
 3) CONSTRUCT NEW SCREENING BERMS
 4) BEGIN PHASE 1 RECLAMATION
 5) PROCEED WITH MINING, PHASES 1-3.





CONSULTING CIVIL ENGINEERS
 10830 NESSBITT AVENUE SOUTH
 BLOOMINGTON, MINNESOTA 55437
 (952) 891-9344 TELEPHONE
 (952) 891-9314 FAX
 WWW.SUNDECHM.COM

TILLER CORPORATION
ZAVORAL MINING AND RECLAMATION PROJECT

SCANDIA, MINNESOTA

DATE REVISION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED ENGINEER OF THE STATE OF MINNESOTA.

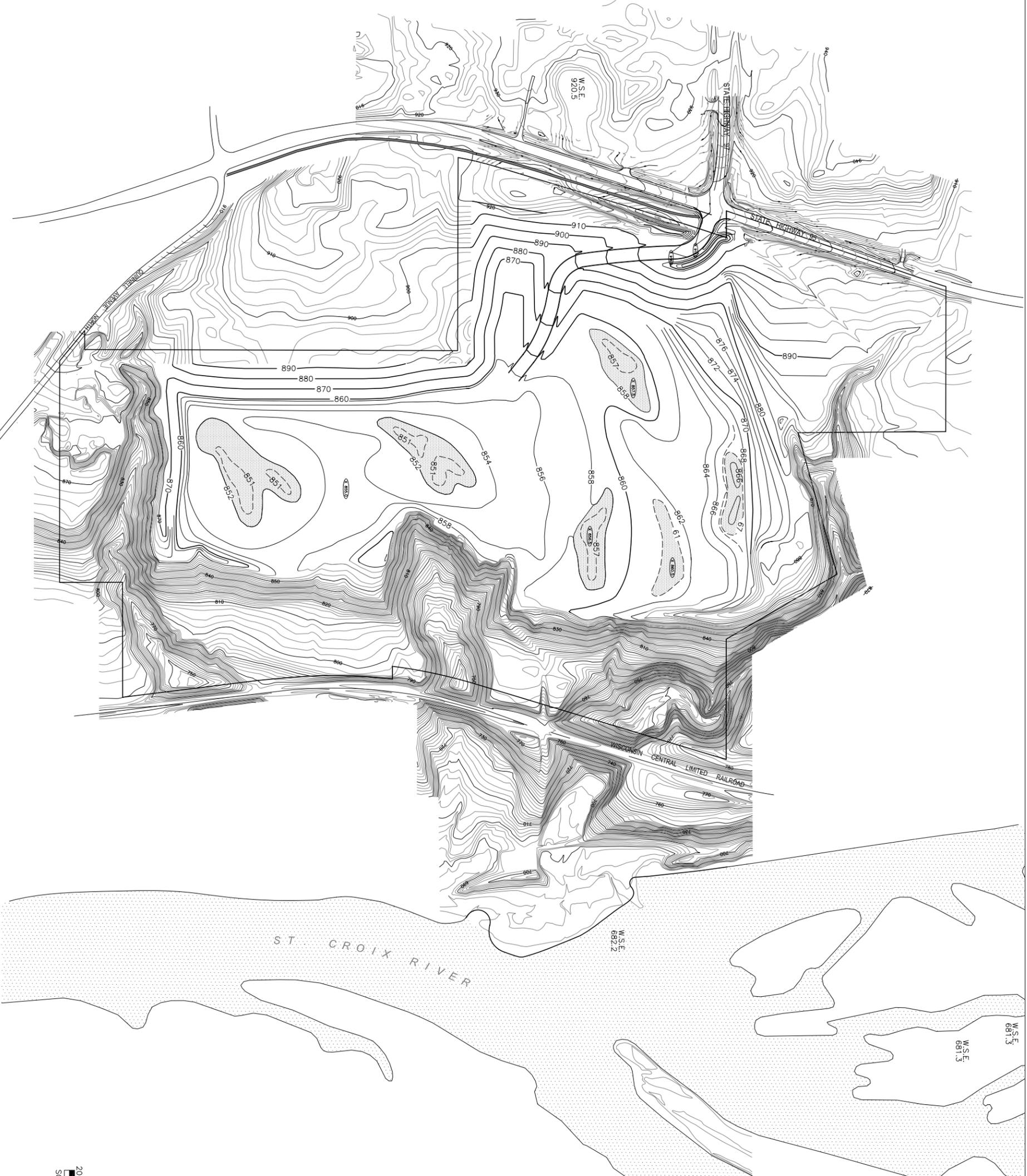
Kristi Paaby
 Kristi Paaby
 DATE: 12/22/10 REG. NO.: 21942

ORGANIZATION:
 PROJECT NO.: 02-628
 DRAWN BY: NM
 CHECKED BY: KP
 APPROVED BY: KP
 SCALE: Graphic
 DATE: 12/22/10

RECLAMATION GRADES

SHEET NO.:

C5



- NOTES:
1. TOPOGRAPHY FROM WASHINGTON COUNTY, AERIAL PHOTOGRAPHY FROM APRIL 2000.
 2. GRADES REPRESENT PROPOSED MINIMUM RESTORATION GRADES.
 3. SETBACKS ARE AS FOLLOWS:
 50' FROM PROPERTY LINE
 100' FROM ROAD RIGHT-OF-WAY
 MINING AND RECLAMATION GRADING MAY OCCUR WITHIN 50' OF THE ROAD RIGHT-OF-WAY IF COMPLETED WITHIN ONE MINING SEASON.
 4. MINING ACTIVITY WILL FOLLOW THE GENERAL PROGRESSION INDICATED ON THIS SERIES OF PLANS.
 5. DEPTH OF MINING TO VARY THROUGHOUT THE SITE AND WILL DEPEND UPON THE QUALITY OF MATERIAL ENCOUNTERED. BE MAXIMUM MINIMUM ELEVATION OF 840 FEET ABOVE MEAN SEA LEVEL.
 6. THE MINING AREA WILL BE RECLAIMED TO APPROXIMATE GRADES ILLUSTRATED ON THIS PLAN. GRADES ILLUSTRATED REPRESENT A MINIMUM RECLAMATION ELEVATION. SLOPES WILL BE GRADED TO A MAXIMUM OF 4:1. SPECIFICS OF THE PLANTING AND REVEGETATION PLAN ARE DETAILED IN THE RECLAMATION PLAN.
 7. SCREENING BERMS MAY BE REMOVED AS PART OF FINAL RECLAMATION ACTIVITY.

