CITY COUNCIL/ELECTRICAL ADVISORY COMMITTEE

July 11, 2012 – 6:00 p.m.
Regular Meeting

CITY COUNCIL
Leo Evans, Mayor
Brady Nelson, Mayor Pro-tem
Patricia Baribeau, Council Member
Ronald Beauchamp, Council Member
Walter Baker, Council Member

ADMINISTRATION
James V. O'Toole, City Manager
Robert S. Richards, CMC, City Clerk
Ralph B.K. Peterson, City Attorney
Mike Furmanski, Electrical Superintendent
Michael Dewar, City Controller
Thomas Butz, Power System Engineering

ELECTRICAL ADVISORY COMMITTEE
Tim Wilson, Chairperson
Ann Bissell, Vice Chairperson
Larry Arkens, Committee Member
Glendon Brown, Committee Member
Donald Racicot, Committee Member
John Anthony, Committee Member
Vacant Seat
Vacant Seat

Escanaba City Council Chambers: 410 Ludington Street - Escanaba, MI 49829

Regular Meeting Agenda
Wednesday, July 11, 2012

CALL TO ORDER
ROLL CALL
APPROVAL/ADJUSTMENTS TO THE AGENDA
CONFLICT OF INTEREST DECLARATION

NEW BUSINESS

1. **Update - Electric Department –Distribution Operations**
Explanation: Electrical Superintendent Mike Furmanski will discuss current departmental activities and operations.

2. **Update– Operation and Maintenance of Power Plant – Pro Energy Services, Inc.**
Explanation: Pro Energy Services, Inc will update the City Council, Electrical Advisory Committee and Citizens of Escanaba on the status of the operation and maintenance of the power plant.

3. **Discussion – Environmental Update**
Explanation: Administration will provide an update on the Ash Pond sediment removal.

4. **Discussion – MISO Attachment Y-1 Discussions.**
Explanation: Administration will review and discuss the negotiations with MISO of the System Security Resource (SSR) agreement and how this process relates to the plant sale negotiations.

5. **Discussion – MISO Market Agent Discussions.**
Explanation: Administration will provide an update on the seeking a new provider to replace the UPPCO contract to provide MISO Market Agent Services.

6. **Decision – Legal and Consulting Approvals.**
Explanation: Administration will seek approval for legal and consulting costs related to the plant sale.

7. **Decision – Plant Sale Asset Purchase Agreement.**
Explanation: Administration will provide an update of the plant sale negotiations with Escanaba Green Energy and a seek approval of the plant sale agreement.

GENERAL PUBLIC COMMENT
COMMISSION/STAFF COMMENT AND ANNOUNCEMENTS
ADJOURNMENT

The City of Escanaba will provide all necessary, reasonable aids and services, such as signers for the hearing impaired and audiotapes of printed materials being considered at the meeting to individuals with disabilities at the meeting/hearing upon five days notice to the City of Escanaba. Individuals with disabilities requiring auxiliary aids or services should contact the City of Escanaba by writing or calling City Hall at (906) 786-9402.

Respectfully Submitted,

James V. O'Toole
City Manager

OFFICIAL PROCEEDINGS
CITY COUNCIL
ELECTRICAL ADVISORY COMMITTEE
CITY OF ESCANABA, MICHIGAN
Special Joint Meeting
Thursday, June 28, 2012

Pursuit to a meeting notice posted June 25, 2012, the meeting was called to order by the Mayor Leo J. Evans at 6:00 p.m. in the Council Chambers of City Hall located at 410 Ludington Street.

Present: Mayor Leo J. Evans, Council Members, Walter A. "Pete" Baker, Patricia A. Baribeau, Ronald J. Beauchamp, and Brady L. Nelson.

Absent: None

Present: Electrical Advisory Committee Members: John Anthony, Larry Arkens, Ann Bissell, Glendon Brown, Don Racicot, and Tim Wilson.

Absent: Two vacancies

Also Present: City Manager James V. O'Toole, Electric Superintendent Mike Furmanski, City Controller Mike Dewar, City Attorney Ralph B.K. Peterson, Pro Energy Escanaba Power Plant Manager Jack Scott, Power Systems Engineering (PSE) Representatives Tom Butz, members of the public, and Media.

Nelson moved, Beauchamp seconded, **CARRIED UNANIMOUSLY**, to approve the agenda by combining NB-1 and NB-2 in one discussion.

UNFINISHED BUSINESS - None

CONFLICT OF INTEREST - None

PUBLIC HEARING - None

NEW BUSINESS

Discussion – MISO Attachment Y submittal and Plant Sale Update.

Administration reviewed and discussed the negotiations with MISO of the System Security Resource (SSR) agreement and how the process related to the plant sale negotiations, and received an update of the plant sale negotiations with Escanaba Green Energy and a summary of the plant sale. Power Systems Engineering (PSE) Representative Tom Butz presented a power point presentation (See Attachment – A) which reviewed the following:

- Plant Sale Status;
- Summarized June 13, 2012 Conference Call with MISO;
- SSR Understandings, Term, Operations, Contract Assignable to New Plant Owner, Margins from Operating Revenues to Apply to Fixed Costs, Process and Assignment of SSR;

- MISO Registration/Asset Transfer;
- FERC Approvals;
- SSR Considerations;
- MISO Market Agent and ICCP;
- Major Agreement Provisions;
- Extension of Exclusivity Agreement with Escanaba Green Energy LLC to July 13, 2012. provided the City of Escanaba receives an extension of the letter of credit;
- Schedule of Updated Exclusivity Agreement;
- Will be meeting with MISO on July 5, 2012, which would resolve major portion of remaining questions;
- Discussed additional Attorney Fees.

After discussion, Nelson moved, Baribeau seconded, to extend the Exclusivity agreement with Escanaba Green Energy LLC and Huntley MacMillan Energy Ventures LLC to July 13, 2012.

Upon a call of the roll, the vote was at follows:

Ayes: Nelson, Baribeau, Beauchamp, Evans
Nays: Baker

GENERAL PUBLIC COMMENT

Escanaba Green Energy representative Charles DeTiege thanked Council for the extension of the APA Agreement. He advised, both parties were very close in finalizing the agreement.

COUNCIL/COMMITTEE, STAFF REPORTS - None

ADJOURNMENT

Hearing no further public comment, or further reports from the Electrical Advisory Committee or Council, the meeting adjourned at 6:55 p.m.

Respectfully submitted,

Robert S. Richards, CMC
City Clerk

Approved: _____
Leo J. Evans, Mayor

- Extension of Exclusivity Agreement and Letter of Credit
  - Need Based on Delay of Buyer Not Having Counsel in Place
  - Delay Also Driven by Time Required to Complete MISO Registration
  - New Arrangement Provides Defined Approach of EGE Compensating City for Third Party Costs
    - $200 K Max

Plant Sale Update

13

- Schedule of Updated Exclusivity Agreement
  - Seek APA - Counsel Approval July 11, 2012
  - Letter of Credit Approved to July 13, 2012 to Allow for Time to Establish Documentation Before Cashing Letter of Credit
  - Escrow to be In Place by July 18, 2012
    - Date Expected for EGE to Make FERC Filings
  - Letter of Credit will be in play until July 23, 2012
  - Escrow Instructions Completed When FERC Approvals Granted
    - Expected as Early as Sept 15, (Driven by MISO Registration) - As Late as November 30 – Last Date for MISO Registration

Plant Sale Update

14

- Major Agreement Provisions
  - Only Agreement to be Assigned is the Generation Interconnection Agreement
  - Remediation
    - Dredging Ash Pond and Additional Wells
    - EGE will Monitor Wells and Provide Input to Remediation to Reduce Future Headaches
  - Water Usage
    - Wells Cannot be Used to Supply Plant Water
      - Due Care Plan Findings
    - EGE will Continue to Use Muni Water Supply

Plant Sale Update

11

- Power Supply Arrangement
  - City and EGE working Out Pricing for Emergency Power Purchases
- Escrow Arrangement
  - Same Asset Transfer Closing Provisions
  - Different Mechanism of Transferring Funds to Seller and Exchange of Signed Documents

Major Agreement Provisions (Cont)

12

- SSR Considerations
  - Significant Uncertainty of Timeframe of getting approved SSR with FERC
  - Not Certain on Buyer Value of SSR
  - Uncertainty on Major Questions Regarding SSR Assigned to Buyer
    - May not be Resolved in Next Two Weeks
  - Left with Needing to Make Decision on Imperfect Information

Plant Sale Update

9

- MISO Market Agent and ICCP
  - Current Market Agent Agreement Terminates on August 17, 2012
  - Negotiating with Great Lakes and NextEra to Determine Best Fit
  - Need to Implement Metering Changes to Accommodate Services

Plant Sale Update

10

- MISO Registration / Asset Transfer
  - Completed by Escanaba Green Energy LLC and City of Escanaba
  - Escanaba Green Energy Required to Begin Significant Credit Requirements by July 1, 2012
    - Sign of Being a Serious Player in the Deal
  - Timing of Asset Transfer
    - As Early as Sept 15 - Late as Nov 30
    - 15 Days Notice

Plant Sale Update

7

- Buyer FERC Approvals Needed
  - Need a FERC 205 and likely a 203
  - Filings will be concurrent
  - Asset Transfer Cannot Occur with out Approvals
  - Approval Time Expected in 45-90 days of Filing
  - Filing Expected by Mid July 2012
  - Approval Expected as early as Sept 1
    - Late as Mid October

Plant Sale Update

8

- Process
  - MISO And City Agree on Fixed Costs to Include
  - Draft Testimony Supporting Costs to be Included
  - MISO Files at FERC (Earliest by Aug 1?)
    - Requests Implementation on Day of Filing
  - First MISO SSR Filing
    - Likely to have Interveners in Filing
  - FERC Approval Expected 60-90 Days

SSR Understandings (Cont)

5

- Will Filing Process Muddy Up Ability to Sell Plant?
  - Timing of Closing on Plant Could Result in City not Owning Assets at the time of the FERC Approval – Instant need to Transfer Assets
  - City Could be Receiving SSR payments after filing with FERC – and no longer own Plant.
- Will Assignment of SSR result in Long-Term City Liability?
  - Credit Provisions Name City as Backstop for any Credit Issues if Assigned to New Buyer

SSR Concerns

6

- Conference Call with MISO – June 13, 2012
  - Mike Dewar, Tom Butz, Many MISO staff including Counsel
  - Provided Some Answers – Many More Issues to Work Through
  - Understandings At This Point
    - City and MISO to Negotiate Fixed Plant Costs to be Paid to the City
    - Costs will be Recovered by ATC Footprint

MISO SSR (Support Supply Resource)

3

- Term –
  - One Year –
  - Renewable within 90 Days by MISO
- Operations
  - Similar to Today – May be Tightening on Outage notice requirements
- Contract Assignable to New Plant Owner
- Margins from Operating Revenues to Apply to Fixed Costs Payment

SSR Understandings (Cont)

4

Escanaba - SSR and Plant Sale Update

June 28, 2012

1

- MISO SSR
- Plant Sale Status
  - MISO Registration
  - FERC Approval Question
  - SSR Considerations
  - Timing of MISO Market Agent and ICCP
  - Major Provisions - Asset Purchase Agreement
  - Extension of Exclusivity - Letter of Credit

Agenda

2

DRAFT

Title: Settling Pond Sediment Removal Project Specifications

Location: Escanaba Generating Station

Addendum: 0

Date: July 3, 2012

Issued For Bid Evaluation

Project Specifications

CITY OF Escanaba Soak it Up!

PROJECT SPECIFICATIONS
APPROVAL PAGE

Escanaba Generation Station Settling Pond Sediment Removal

Prepared by: Omer Bozok 6/25/2012
Senior Staff Engineer Date

Checked by: Erik Petrovskis
Engineer's Project Director Date

APPROVAL

Approved by: John P. Seymour
Engineer of Record Date

Approved by: Mike Furmanski
Project Engineer Date

Date	Document Status
	Issued for Initial Review
	Issued for Final Review
	Issued Revised for Review
	Issued for Bid
	Issued for Construction

TABLE OF CONTENTS

DIVISION 0- BID DOCUMENTS

Section 00120 –Instructions to Bidders

Section 00300 – Bid Form

DIVISION 1 – GENERAL REQUIREMENTS

Section 01000 – Summary of Work

Section 01025 – Measurement and Payment

Section 01030 – Environmental Protection

Section 01040 – Coordination

Section 01060 – Regulatory Compliance

Section 01300 – Submittals

DIVISION 2 – SITE WORK

Section 02105 – Surface Water, Erosion and Sediment Control

Section 02200 – Excavation

REFERENCE DOCUMENTS

Appendix A: Soil Borings

DIVISION 0

BID DOCUMENTS

SECTION 00120

INSTRUCTIONS TO BIDDERS

1.01 The Specifications and Drawings are complementary. What is specified in either is binding as if required in both. In case of conflict between the Specification and the Drawings, the most stringent requirement shall govern.

1.02 The Bidder shall submit the ***Work Plan*** as specified in Sections 01300 paragraph 1.05 and Section 02200 paragraph 1.04.A with its bid.

1.03 The Bidder shall provide a preliminary schedule at the pre-bid meeting for the Owner's review.

1.04 Include in the Bidder's proposal any item not included on the Drawings or in the Specifications but is necessary for a complete installation.

1.05 State in the bid all proposed Subcontractors by trade. Include the Subcontractors business address, telephone number, and legal business name.

1.06 Addenda to the Specifications issued prior to the due date of the proposals shall become a part of this Specification.

1.07 Soil borings are provided in the Reference Documents, Appendix A. Boring locations are provided on the Drawings.

SECTION 00300

BID FORM

Provide a total dollar value for all labor, material, equipment, supervision, and incidental services according to the 'BID FORM' shown below. Include any other cost and service deemed necessary for a complete and accurate bid proposal.

PART 1 GENERAL

1.01 BID FORM

A. Project: **Escanaba Generating Station Settling Pond Sediment Removal**

B. Bidder's Name :_____

Address:_____

City / State:_____

Contact person:_____

Phone:_____

Date:_____

C. PRICE QUOTATION FOR THE WORK DESCRIBED HEREIN:

The Agreement, including Drawings 1 and 2, Division 1 and Division 2 Specifications provide the details of the scope of work for this bid.

The bid shall be a LUMP SUM bid. The following price breakdown is required:

Price Breakdown:	Price ($)
1. Mobe & Demob Equip. & Personnel	_____
2. Dredging/Excavation	_____
3. Temporary and Permanent Erosion Controls	_____

4. Water Management _____
5. Off-site Disposal of Sediments _____
6. All Other Costs Not Included above[1] _____

TOTAL LUMP SUM BID $_____

Written Bid Price: _____ Dollars

D. UNIT PRICE QUOTATION FOR RELATED WORK DESCRIBED HEREIN
Bidder shall provide unit rates to be used for additions/deductions for the Work to address changed conditions:

1. Dredging/Excavation of sediments from the pond ($/cuyd) _____
2. Off Site Non-hazardous Waste Disposal ($/ton) _____
3. General Fill- Procure, Transport and Compact ($/cuyd in place) _____
4. Aggregate- Procure, Transport and Place ($/ton in place) _____
5. Silt Fence- Material, Transport and Place ($/ft in place) _____
6. Separator Fabric- Material, Transport and Place ($/sqft in place) _____
7. On-site Topsoil- Procure, Transport and Place ($/cuyd in place) _____
8. Off-site Topsoil- Procure, Transport and Place ($/cuyd in place) _____
9. Seed and Fertilize Disturbed

[1] The Contractor shall provide and itemized list of any items of Work that were not included in the other price breakdown items.

Areas ($/sqyd in place) _____

10. Mulch- Procure, Transport, and Place ($/sqyd) _____
11. Additional, Approved Project Time ($/day) _____
12. Stand-by ($/hour) _____
13. Price List of Common Equipment to be used on the project shall be attached to the Bid including unit price per day for operation.
14. All unit prices shall include overhead (field and office) and profit.

1.02 QUANTITIES

A. The Bidder shall provide their estimated quantities of the following elements of the Work:

1. Dredging of sediments from the pond (cuyd) _____
2. General Fill Placement (cuyd in place) _____
3. Silt Fence (ft) _____
4. Aggregate (ton) _____
5. Separator Fabric (sqft in place) _____
6. On-site Topsoil Placement (cuyd in place) _____
7. Off-site Topsoil Placement (cuyd in place) _____
8. Seed and Fertilize Slope and Disturbed Areas (sqyd in place) _____
9. Mulch (sqyd in place) _____

END OF SECTION

DIVISION 1

GENERAL REQUIREMENTS

SECTION 01000

SUMMARY OF WORK

In summary, the Work is to include everything necessary to remove minimum one foot of sediments from the bottom and side slopes of the pond. This is to include the following:

1. Submittal of a Work Plan to describe how the Work will be completed and the integrity and stability of the slopes of the pond will be maintained;
2. Installation and maintenance of stormwater and erosion and sedimentation controls;
3. All work is to follow Michigan Public Act 451, Part 91 Soil Erosion and Sediment Control (SESC) and any other permit obtained by the Owner and under OSHA 1910.120.

The recommended approach to remove sediment is as follows:

1. Install all soil erosion and sediment controls as defined on the Drawings;
2. Construct the confinement berm as shown on the Drawings;
3. Establish the benchmark and grid system as defined in Section 02200, Paragraph 3.08.
4. Obtain depth soundings to obtain bottom elevations prior to excavation.
5. Start removing sediments from one pond progressing towards the other pond and place sediments within the area bounded by the confinement berm and the western edge of the pond.
6. Perform additional depth soundings as the dredging progresses to calculate how much sediment is removed.
7. Once it is verified that a minimum of one foot of sediment is removed, assist the Engineer in obtaining bottom soil samples.
8. The Engineer may ask the Contractor to remove more sediment depending on the analysis results of the bottom sample.
9. Once the dredging activities are completed stabilize any disturbed area in accordance with Section 02105 and the Drawings.

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 GENERAL

Lump Sum Bid

Lump sum bids shall be paid on a progress basis. Details on the payment procedure are provided in the Paragraphs 25 and 26 of the General Conditions of the Contract. Measurement of quantities shall not be made for Lump sum work. The Contractor shall provide evidence acceptable to the Owner of the percent complete of the Price Breakdown items in Section 00300 in each progress invoice.

For additional work that is necessary to be completed under the unit rates in Section 00300, the measurements shall be of the units measured based on field measurements/surveys or by the weight of the quantity using quantity calculations approved by the Owner. All unit rates include the Contractor's field and office overhead and profit. Payment shall be applied based upon the unit rate times the agreed quantity.

The Contractor's final request for payment shall be accompanied with a waiver of lien on a form acceptable to the Owner.

END OF SECTION

SECTION 01030

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.01 SCOPE

A. The Contractor shall provide environmental protection throughout the conduct of the Work and shall specifically provide controls to prevent the occurrence of an unacceptable level of risk to public health and the environment (air, water, and land) during construction activities. The Contractor shall minimize any environmental disturbance during the work activities that would conflict with this standard. The Contractor and associated subcontractors shall comply with all applicable federal, state, and local laws and regulations relating to the activities to be performed.

1.02 RELATED SECTIONS AND PLANS

A. Section 01060 – Regulatory Compliance

B. Section 01300 – Submittals

C. Section 02105 – Surface Water, Erosion and Sediment Control

D. Section 02200 – Excavation

1.03 NOTIFICATION

A. If the Contractor is notified of or becomes aware of any nonconformance with federal, state, or local laws or regulations, the Contractor shall immediately inform the Owner of proposed corrective action and take such action as may be approved. If the Contractor fails or refuses to comply promptly, the Owner may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for additional costs or damages by the Contractor.

1.04 PROTECTION OF LAND RESOURCES

A. The Contractor shall provide temporary control measures to prevent soil erosion and to prevent damage to ground cover, shrubs, or trees outside the areas of the Work. Erosion and sediment control measures taken by the Contractor shall fulfill all requirements of applicable federal, state, and local regulations for erosion control and the requirements set forth in Section 02105 of the Specifications.

1.05 PROTECTION OF AIR RESOURCES

A. The Contractor shall minimize air pollution likely to occur from construction operations by maintaining effective dust-control measures, requiring proper emission control devices on construction vehicles and equipment, and by shutdown of motorized equipment when not in use.

B. The Contractor shall be responsible for dust control in the Work Area, as well as all roads, and areas used for the transportation of personnel, equipment and materials on the Site. At a minimum, Contractor shall employ the use of a water truck for the control of dust. If the opacity exceeds 20% as determined by the Engineer, the Contractor shall immediately implement dust control measures such as watering. Any proposed additives to the water shall be submitted to the Engineer for approval prior to use.

1.06 PROTECTION OF WATER RESOURCES

A. The Contractor shall perform activities in a manner that minimizes the potential for harmful impacts to surface water and groundwater. Measures for protection of water resources shall include providing temporary drainage facilities to prevent run-on and to control run-off from the work areas. These drainage features shall be maintained throughout the period of construction. The Contractor shall not dispose of any materials into any waters and shall install and maintain erosion and sediment controls (e.g., silt fences) as needed throughout the work. Tarps or plastic sheeting shall also be available to prevent run-off from newly exposed areas where soils appear to be contaminated. Finally, the Contractor shall take whatever steps are necessary to comply with all applicable federal, state, and local regulations for erosion and sediment control and surface water resources.

B. Temporary surface water management shall be performed in accordance with Section 02105 of the Specifications.

1.07 SPILL CONTROL

A. The Contractor shall prepare and submit a Spill Control and Countermeasures Plan (SCCP) to the Owner.

1.08 NOISE CONTROL

A. The Contractor shall minimize noise by executing work using appropriate construction methods and equipment and only conducting work during approved work hours.

B. Acceptable hours of work on this project are between 6 a.m. and 7 p.m. Monday through Saturday, unless the Owner gives prior approval.

1.09 BURNING

A. Burning any material will not be permitted.

1.10 ODOR CONTROL

A. Construction odors are not expected to be a problem; however, the Contractor shall minimize odors if they should occur to the best extent practicable.

1.11 MAINTENANCE OF MONITORING FACILITIES DURING CONSTRUCTION

A. The Contractor shall maintain all facilities constructed for environmental control and monitoring for the duration of the project.

PART 2 PRODUCTS

2.01 SILT FENCE

A. Silt fence shall be in accordance with Section 02105.

2.02 DUST INHIBITOR

A. Calcium chloride, if used as a dust inhibitor, shall require prior approval in accordance with procedures described in Section 01300 of the Specifications.

B. Water, if used as a dust inhibitor, shall be obtained from sources accepted by the Owner.

2.03 TARPS AND SHEETING

Contractor may use tarps as temporary cover of soils. Potential materials of construction include fabric or synthetic fiber type materials or plastic type sheeting.

Tarps that have been used to cover waste, sludge or contaminated material from other project sites shall not be used.

PART 3 EXECUTION

3.01 GENERAL

Throughout the Work, the Contractor shall be prepared to use or implement the environmental protection controls and equipment described herein in the event that monitoring indicates there is a need or whenever there is concern

about the potential for an unacceptable level of risk to public health and the environment (air, water and land).

3.02 QUALITY CONTROL

The Contractor shall retain labels and/or shipping information for all products and materials supplied under this Section 01030 to verify that the products or materials meet the requirements of this section.

The Contractor is responsible for completing and documenting all quality control (QC). QC includes all measurements, observations, inspections, tests, and verifications that materials and procedures meet the requirements of the Specifications and Drawings. The completion of measurements, observations, inspections, tests or verifications by any other entity other than the Contractor does not relieve the Contractor of the responsibility to meet the requirements of the Drawings and Specifications.

END OF SECTION

SECTION 01040

COORDINATION

PART 1 GENERAL

1.01 PROJECT MANAGEMENT

A. **The Owner.** The Owner is the City of Escanaba.

B. **The Project Manager**. The Owner's Project Manager is the primary site interface with the Contractor's authorized management representative regarding all matters of contract.

Project Manager: Mike Furmanski Telephone No: 906-786-0061

C. **The Engineer**. The Engineer is Geosyntec Consultants, the company responsible for the design of the work. The Engineer's authority is provided in Paragraph 35 of the General Conditions of the Contract.

D. Any directions or instructions from the Engineer to the Contactor's representative that in any way alters the scope of the contract will be in writing and must be approved by the Project Manager and the Engineer prior to the work starting. Normally a written Acknowledgement of Work (AOW) will be used.

E. The Contractor shall address all day-to-day communications regarding technical issues and quality of the Work first to the Engineer. The Project Manager shall be responsible to provide any related and necessary authorizations that affect commercial contract terms.

F. The Contractor shall provide the services of a competent site **Superintendent** throughout the duration of the Contractors' on-site work. The Superintendent shall represent the Contractor on all matters related to the Work and shall be authorized to act on behalf of the contractor. Decisions and agreements made by the Superintendent shall be binding as if made by the Contractor.

1.02 COORDINATION WITH OTHER CONTRACTORS AND SUB-CONTRACTORS

A. Plan the work schedule to provide proper coordination with other Contractors, including the Engineer, performing work on the job site, as mutually agreed to with the Project Manager or delegate.

B. Meet with other Contractors, including the Engineer, in conjunction with the Owner to coordinate plans and schedules for orderly completion of the work. Adjust and revise the sequence of activities to meet coordination requirements in the best interest of the project.

C. Inspect all work completed by others upon which the proper execution of the Contractor's work is dependent. Report any defect which renders such work unsuitable to the Engineer in writing prior to the commencement of further work. Failure to inspect and report constitutes an acceptance of such other work as fit and proper for the reception of the Contractor's work.

D. To assure proper execution of the work, measure any work already in place affecting this portion of the job, and at once report to the Engineer any discrepancy between the executed work and the drawings immediately.

1.03 SCHEDULE OF WORK

A. Prepare schedules as defined in Section 01300 Paragraph 1.03.

B. The schedule shall graphically show the sequence of the various portions of the work and provide sufficient activity detail and definition to permit timely monitoring and comparison of actual progress to the expected progress. Include the anticipated man loading required to achieve the defined tasks in the specified time periods.

C. Submit the Schedule to the Project Manager for review, comments, and approval prior to the start of work.

D. Maintain the Schedule as required to adequately record actual performance and report progress.

E. Make periodic revisions to the Schedule as required to adequately reflect actual performance and necessary adjustments to the succeeding activities.

F. Provide plan details to correct schedule slippages.

1.04 PROJECT KICKOFF MEETING

A. Project Kickoff Meeting shall be held at the site three days prior to the start of the Work. During this meeting, the Contractor shall present and discuss his Work Plan, equipment (including the associated loads and pressures) and procedures for performing all of the Work.

B. This meeting shall be attended by the Contractor's Field Superintendent, The Project Manager and the Engineer.

C. The Work shall not begin until the Project Manager authorizes the Work to "proceed".

END OF SECTION

SECTION 01060

REGULATORY COMPLIANCE

PART 1 GENERAL

1.01 SCOPE

A. This Section covers the requirements for regulatory compliance on this project.

1.02 RELATED SECTIONS

A. Section 01000 – Summary of Work

B. Section 01030 – Environmental Protection

C. Section 01300 – Submittals

D. Section 02105 – Surface Water, Erosion and Sediment Control

E. Section 02200 – General Earthwork

1.03 GENERAL

A. The work shall be performed under OSHA 1910.120 (Hazardous Waste Operation and Emergency Response).

B. It is the sole responsibility of the Contractor to be completely familiar with and to comply with all local, state, and federal regulations and permits pertaining to the work required in the Agreement.

C. Certain permits and governmental agency approvals may be required for various portions of the work. Contractor shall be fully knowledgeable of, and to comply with, all regulatory requirements affecting the work, including any and all environmental requirements, permits and approvals. **Work that is included under a permit may not be initiated until the permit is received.** Copies of permits obtained for this project by the Owner are maintained onsite by the Engineer and are available for Contractor's review.

D. The Contractor shall be solely responsible for obtaining and complying with any and all additional permits necessary to perform the Work. This shall include, but not be limited to, building permits, construction permits, permits for off-site debris and waste disposal, traffic and highway permits, demolition permits, etc.

PART 2 EXECUTION

2.01 REGULATORY REPORTING DURING CONSTRUCTION

Routine regulatory reporting during construction will include progress reports prepared by the Engineer. The Contractor shall be aware of their required recordkeeping responsibilities as set forth in these Specifications, and shall promptly provide information as requested by the Owner and Project Manager for inclusion in the progress reports.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 – GENERAL

1.01 SUBMITTAL PROCEDURE

A. All submittals shall include a transmittal sheet identifying all documents (with revision level) being submitted. Identify submittals with the Owner's Contract Number, and name of company location.

B. Submit documents for review within 14 days after award of the Contract unless specified otherwise.

C. Submittal documents shall include all required detail, assembly, erection drawings and diagrams required for complete installation.

D. Submittals for approval shall be provided to the Engineer. Submittals shall be returned to the Contractor designated: "Proceed", "Proceed-Review Not Required", "Proceed as Noted" or "Revise and Resubmit".

1.02 PROJECT REQUIRED DOCUMENTATION & DATABASES

A. Not required for this project

1.03 SCHEDULE

A. Schedule requirements are provided in Paragraph 24 of the General Conditions of the Contract.

B. The schedule shall graphically show the sequence of the various portions of the work and provide sufficient activity detail and definition to permit timely monitoring and comparison of actual progress to the expected progress. Include the anticipated man loading required to achieve the defined tasks in the specified time periods.

C. One "day" in the schedule shall mean a calendar day excluding legal holidays recognized by the State of Michigan.

D. Update the schedule as required to ensure that all parties involved are aware of their schedule commitments and that the overall scope of work for the parties involved is completed in accordance with the project schedule and the intent of the project.

1.04 DRAWINGS

A. All new drawings are to be drawn on CAD. AutoCAD, version Land Desktop 2007, is the preferred CAD system. Other file formats that are compatible with AutoCAD or that can be converted are acceptable. Approval of the format is required by the Owner.

B. Maintain at the job site one complete set of all construction documents marked to show the actual field installed locations and conditions.

C. Within 20 days upon completion of the Work, the Contractor shall deliver a set of as built/record drawings to the Project Manager. All measurements, locations and details of the completed Work are to be shown with sufficient clarity to enable their transfer to permanent documents without additional field verification.

1.05 WORK PLAN

A. The Contractor shall submit a written Work Plan with its bid, and a finalized Work Plan at least 10 days prior to starting Excavation, to address the following:

1. construction sequencing for implementing soil erosion and sediment control measures, dredging sediments from the settling pond and re-establishing all disturbed areas;

2. transportation plan for loading and hauling sediments to off-site disposal;

3. list of disposal facilities that are permitted under Michigan Public Act 241, Part 115;

4. stockpiling plan indicating where stockpiles will be located; and

5. surface water management, including how water will be pumped, how erosion and sedimentation will be minimized, where water will be placed/discharged and whether any additional permits are required.

B. The Work Plan shall be discussed in the Project Kickoff Meeting to be held three days prior to the initiation of the Work.

C. Excavation shall not begin until the Project Manager authorizes the Work to "proceed".

END OF SECTION

DIVISION 2

SITE WORK

SECTION 02105

SURFACE WATER, EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The Contractor shall furnish all labor, materials, tools, supervision, transportation, installation equipment, and incidentals required to install, inspect and maintain all temporary and permanent erosion and sediment control measures. All grading and site preparation work and surface water control and dewatering are included in this Work necessary to install the erosion and sediment control measures and conduct the Work.

1.02 RELATED SECTIONS

A. Section 01030 – Environmental Protection

B. Section 01060 – Regulatory Compliance

C. Section 02200 – Excavation

1.03 REFERENCES

A. NRCS National Engineering Handbook Material Specification.

B. MDOT Standard Specification for Construction, 2003.

1.04 SUBMITTALS

A. At least 10 days prior to the start of installation of the erosion and sediment controls, the Contractor shall submit the following information to the Engineer:

1. manufacturer's product data and recommended methods of application for silt fence;
2. the manufacturer's product data for a Separator Fabric;
3. source and confirmation of mix for seed and fertilizer (if needed);
4. the source of aggregates and representative pre-qualification test results from the supplier indicating the gradation or specified size and type of the material;
5. for the off-site topsoil, pre-qualification test results for organic content and soil nutrients (phosphorous, potassium, nitrogen and acidity);
6. samples for aggregate and off-site topsoil for the third party conformance testing; and
7. A written construction Work Plan shall be submitted to document procedures.

A. The Contractor shall notify the Engineer a minimum of five (5) days prior to starting erosion and control activities. Erosion and sediment control measures must be installed before beginning any land clearing or grading work.

B. Copies of shipping manifests that describe the product and quantity shall be submitted to the Engineer one week prior to their use on site.

C. The Contractor shall provide labels of materials received at the Site to the Engineer to verify the product and quantities.

1.05 CONSTRUCTION QUALITY ASSURANCE

A. Erosion and sediment control activities will be monitored by the Engineer and the Certified Stormwater Operator. The Contractor shall assist the Engineer and the Certified Stormwater Operator in these activities as needed and as appropriate.

B. Monitoring of the performance of erosion and sediment control measures by

the Engineer and the Certified Stormwater Operator in no manner relieves the Contractor of the responsibility to perform construction quality control and to construct all Work in accordance with the Drawings and Specifications.

C. If the monitoring indicates that the Work does not meet specified requirements, the Contractor shall remove, replace, and retest the Work, at no additional cost to the Owner.

1.06 EXISTING CONDITIONS

A. The Contractor shall comply with applicable regulations and the Owner's requirements in locating and providing clearance for all underground and above ground utilities prior to beginning construction activities. The Contractor shall immediately notify the Engineer if other utility lines or structures not shown on the Drawings are encountered.

B. The Contractor may be required to subcontract a utility location service, if directed by the Project Manager.

C. The contractor is responsible for knowing the location of all existing structures (such as monitoring wells, overflow structure) and marking them so that they are visible.

D. The Contractor is responsible for protecting the existing structures and maintaining them in a readily accessible condition for the duration of the work.

E. The Contractor is responsible for immediately notifying the Engineer of any observed damage to existing structures. The Owner may, at its own discretion, directly arrange repair of damaged structure, or authorize the Contractor to repair or install/construct a new one at no additional cost to the Owner.

F. The Contractor must notify the Engineer in advance if it is necessary to temporarily limit or prohibit access to a given existing structure.

PART 2 PRODUCTS

2.01 AGGREGATE

A. Aggregate shall meet the requirements of Section 02200.

2.02 SILT FENCE

A. Silt fence shall be as specified on the Drawings. However, at a minimum, the filter fabric shall meet the requirements of NRCS National Engineering Handbook Material Specification 592, Geotextile Table 1 or 2, Class III with apparent opening size of at least 30 for non woven and 50 for woven geotextiles.

B. The fabric shall have a minimum width of 3.5 feet including embedment. Filter fabric will be fastened in place by wire fasteners as specified on the drawings.

C. Fence posts shall be either steel or wood with minimum cross-sectional area of 3.0 sq. in. Posts shall be driven minimum 18-inches into the ground as shown on the drawings.

2.03 SEPARATOR FABRIC

A. Separator Fabric shall meet the requirements of Section 02200.

2.04 VEGETATION

A. Vegetative Soil (Topsoil) layer shall be in accordance with Section 02200. Finished work area surfaces are to be finished graded, fertilized (if necessary) and seeded with permanent or temporary seed mix and covered with mulch.

B. Temporary seeding of the stockpile fill surfaces and disturbed work areas that remain inactive for 14 days must have temporary or permanent stabilization in place. Stabilization measures shall be as indicated on the Drawings.

C. Permanent seeding of the restored areas shall be as specified on the Drawings. For the Vegetative Soil from an off-site source, the Contractor shall provide pre-qualification test results for organic content and soil nutrients (phosphorous, potassium, nitrogen and acidity) along with a sample for conformance testing.

PART 3 EXECUTION

3.01 INSTALLATION

A. All soil erosion and sediment control measures shall be installed prior to starting any site preparation activities.

B. Silt fence shall be installed in accordance with the manufacturers' recommendations and as shown on the Drawings. However, posts shall be spaced a maximum of five (5) feet center-to-center. They shall extend at least 18 inches into the ground, and they shall support the silt fence for the full height of the fabric and extend at least 24 inches above ground. The filter fabric shall be buried at least 6 inches deep in a 6-inch wide trench. The fabric shall extend at least 24 inches above the ground.

C. Temporary seeding shall be placed on stockpile fill surfaces and disturbed work areas that remain inactive for 14 days.

D. At the end of the Work, any disturbed areas shall be permanently stabilized utilizing topsoil, the permanent seed mix, fertilizer (if needed) and mulch as stated on the Drawings.

3.02 PROTECTION OF WORK

A. The Contractor shall use all means necessary to protect all prior work, including materials and completed work of other Sections. The Contractor shall verify that the materials meet Specifications.

B. The Contractor shall provide all necessary control of surface water run-on and run-off.

C. Sediment and erosion control measures shall be inspected by a Certified Storm Water Operator, as defined by the MDEQ, at least once every seven (7) days and within 24 hours of precipitation events that results in a discharge from the site. The Contractor shall make immediate repairs as needed at no additional cost to the Owner.

3.03 QUALITY CONTROL

A. The Contractor shall submit labels and/or shipping information for all products and materials supplied under this Section 02105 to the Engineer to verify that the products or materials meet the requirements of this section.

B. The Contractor is responsible for completing and documenting all quality control (QC). QC includes all measurements, observations, inspections, tests, and verifications that materials and procedures meet the requirements of the Specifications and Drawings.

C. The Contractor shall provide the pre-qualification test results.

END OF SECTION

SECTION 02200

EXCAVATION

PART 1 GENERAL

1.01 SCOPE

A. The Contractor shall furnish all labor, tools, supervision, transportation, and installation equipment necessary to perform the Work as specified herein and as shown on the Drawings.

B. The Contractor shall be prepared to perform the excavation (dredging) in conjunction with other construction activities, if present, and coordinate all the work.

C. The Work of this section shall include, but not necessarily be limited to: excavating sediments from the bottom and side slopes of the pond, hauling, stockpiling, backfilling, compacting, and grading soil materials. The Work of this section also includes any dewatering of Work areas, and protection necessary to complete the Work.

1.02 RELATED SECTIONS

A. Section 01025 - Measurement and Payment

B. Section 01300 - Submittals

C. Section 02105 - Surface Water, Erosion and Sediment Control

1.03 REFERENCES

A. Drawings 1 and 2.

B. Latest version of American Society for Testing and Materials (ASTM) standards:

1. ASTM D 422. Standard Test Method for Particle-Size Analysis of Soils,

2. ASTM D 2974. Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soil.

3. ASTM D 2487. Classification of Soils for Engineering Purposes (Unified Soil Classification System).

4. ASTM D4253. Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.

C. MDOT Standard Specification for Construction, 2003.

D. NRCS National Engineering Handbook Material Specification.

E. USEPA Test Method 9095B "Paint Filter Liquids Test"

1.04 SUBMITTALS

A. A Work Plan shall be submitted in accordance with Section 01300.

B. At least 10 days prior to the start of excavation operations, the Contractor shall submit the pre-qualification test results of all soils and aggregates to the Engineer that are to be used in the excavation tasks included in this section.

C. At least 10 days prior to the start of excavation operations, the Contractor shall submit samples of all aggregate and soils to the Engineer for the third party conformance testing.

D. For soils supplied from an off-site borrow source, the Contractor shall submit written evidence, including but not limited to, documented knowledge of the past use of the borrow soil property, at least 10 days prior to the start of earthwork operations that the soil is free of materials containing hazardous or toxic constituents at concentrations above those defined by the Michigan Department of Environmental Quality for residential land use.

E. The Contractor shall submit agricultural test results of soils that will be used for Vegetative Soil (Topsoil) to the Engineer at least 10 days before preparation of the seed bed. Tests shall include soil organic content, nitrogen, phosphorus, potassium and acidity.

F. The Contractor shall submit written notification to the Engineer minimum of five (5) days prior to starting construction of the work included in this section. No work shall start until the Project Manager gives the Notice-to-Proceed.

G. If the Work is interrupted for reasons other than inclement weather, the Contractor shall submit a notification to the Engineer a minimum of 24 hours prior to resuming work.

1.05 EXISTING CONDITIONS

A. The Contractor shall comply with applicable regulations and the Owner's

requirements in locating and providing clearance for all underground and above ground utilities prior to beginning construction activities. The Contractor shall immediately notify the Engineer if other utility lines or structures not shown on the Drawings are encountered.

B. The Contractor may be required to subcontract a utility location service, if directed by the Project Manager.

C. The Contractor is responsible for knowing the location of all existing structures (such as monitoring wells, overflow structure) and marking them so that they are visible.

D. The Contractor is responsible for protecting the existing structures and maintaining them in a readily accessible condition for the duration of the work.

E. The Contractor is responsible for immediately notifying the Engineer for any observed damage to existing structures. The Owner may, at its own discretion, directly arrange repair of damaged structures, or authorize the Contractor to repair or install/construct a new one at no additional cost to the Owner.

F. The Contractor must notify the Engineer in advance if it is necessary to temporarily limit or prohibit access to a given existing structure.

PART 2 PRODUCTS

2.01 MATERIALS

A. General Fill (GF) shall be obtained from an off-site source that is free of debris, foreign objects, rock fragments, roots, and organic material. General Fill shall be classified as SM, SP, or appropriate dual classifications in accordance with the Unified Soil Classification System (USCS) as described in ASTM D2487, or equivalent as approved by the Engineer.

B. Aggregate shall be Coarse Gravel 3x1 imported from an off-site source and shall meet the requirements of the Section 916 of MDOT Standard Specifications for Construction, or equivalent material approved by the Engineer.

C. Surface Course shall be MDOT 21AA imported from an off-site source and shall meet the requirements of the Table 902.1 of MDOT Standard Specifications for Construction, or equivalent material approved by the Engineer.

D. Separator Fabric shall meet the requirements of NRCS National Engineering Handbook Material Specification 592, Geotextile Table 1 or 2, Class III with apparent opening size of at least 30 for non-woven and 50 for woven geotextiles.

E. Vegetative Soil (Topsoil) from an off-site source shall consist of relatively homogeneous, natural soils that are free of debris, foreign objects, and large rock fragments. No material with maximum diameter larger than 3 inches shall be allowed. Vegetative Soil shall be classified as SP, SM, SC, CL or OL material in accordance with the USCS but shall have a minimum organic content of 3 percent and fines content of 35 percent, or equivalent material approved by the Engineer. Vegetative Soil shall have adequate levels of nitrogen, phosphorous and potassium and suitable acidity for the growth of specified grasses as identified by the supplier of the seed for the project.

F. Substandard materials shall be segregated at the source and will not be permitted at the work area. Materials found to be substandard by the Engineer shall be removed from the work area by the Contractor at the Contractor's expense and relocated to an area designated by the Engineer.

G. Soils provided from off-site shall be free of materials containing hazardous or toxic constituents at concentrations above those defined by the Michigan Department Environmental Quality for residential land use.

PART 3 EXECUTION

3.01 SURFACE WATER, EROSION AND SEDIMENT CONTROL

A. The Contractor shall stake the Limit of Disturbance at 50 ft intervals at the field and maintain it during construction. All earth disturbing construction activities will be performed within the limit of disturbance as indicated on the Drawings.

B. Prior to implementing any of the Work described in this Section, the Contractor shall install all surface water, erosion and sediment controls as described in Section 02105 and on the Drawings.

C. All erosion and sediment control practices must conform to the requirements of Michigan's Permit-by-Rule requirements and the Drawings for construction activities.

D. The Contractor shall conduct daily inspections of the erosion and sediment controls. Maintaining the erosion and sediment controls is the sole responsibility of the Contractor. Accumulated sediment deposited behind the silt fences shall be removed by the Contractor and relocated to designated onsite areas by the Engineer.

3.02 SITE PREPARATION

A. Once all the surface water, erosion and sediment controls are in place, the Contractor shall strip approximately 6-in of topsoil from the area where the construction vehicles will be operating for the dredging activities. Stripped topsoil shall be stockpiled for later use to restore the site.

3.03 STOCKPILING

A. Stockpiled materials shall be located within the area bounded by the Limit of Disturbance so as not to obscure any other construction activities.

B. Stockpiles shall be of neat configurations, graded to drain, have sideslopes no steeper than 2H:1V, be shaped and tracked in at the end of each day.

C. Stockpiles of different construction materials shall be separated by no less than 25 feet and be clearly identified as to which material exists in each stockpile.

D. Soil stockpiles that will remain out of active use for a period greater than 14 days shall either be protected by covering with plastic sheeting or stabilized by revegetation in accordance with the requirements for temporary seeding set forth in the Drawings and Specifications. Chip and mulch stockpiles may be left unprotected unless otherwise directed by the Engineer.

3.04 POND EXCAVATION

A. Once all the surface water, erosion and sediment controls are in place, construct the containment berm as shown on the Drawings.

B. Perform excavation (dredging) activities as outlined on the Drawings.

C. If the area where the sediments will be placed is sloping away from the edge of the pond, place GF to bring the grade to a level (0% grade). If the grade is steeper than 5%, the Contractor shall grade it to 5%.

D. The Contractor shall use an appropriate clamshell or bucket that would minimize the loss of sediments and water during excavation of sediments from pond. Environmental clamshell and buckets are recommended for minimizing the amount of circulation.

E. The Contractor shall remove sediments from one pond (either the northern or southern pond) then move to the other pond. Once it is verified that at least a foot of sediment is removed. The Engineer will collect soil samples from the bottom of each pond for environmental testing. The Contractor is responsible for assisting the Engineer obtaining these samples.

F. All sediment must pass the Paint Filter Liquids Test prior to be hauled to an offsite facility. Therefore, the Contractor shall notify the Engineer in advance for him to perform the test. The Engineer will perform one test per 100 CY of sediment. However, depending on the homogeneity of sediment and his observations, the Engineer may perform the test more frequently.

G. Trucks being utilized to haul sediments to an off-site disposal facility shall have a truck bed lined with a polyvinyl chloride (PVC) or polyethylene (PE) liner, or equivalent to minimize the spill during transportation.

H. The Contractor can propose an alternative approach for removing the sediments from the settling pond. The alternative approach shall be provided to the Engineer at least two weeks prior to the Kickoff Meeting for approval by the Engineer.

3.05 COMPACTION AND STABILIZATION

A. Placement and compaction of General Fill (GF) used for general grading and filling shall comply with the following:

1. General Fill shall be placed in horizontal loose lifts of not more than 12 inches using approved equipment. Contractor may modify the lift height provided a test fill acceptable to the Engineer is completed and documented in a Test Fill Results Report to demonstrate the modification meets the specified density criteria;

2. Compaction shall be performed using a vibratory smooth or pad foot drum compactors for granular soils. Each lift shall receive a minimum of three passes resulting in an average compacted lift thickness of no more than 9 inches. The GF shall be compacted to 75% relative density of the maximum density determined by ASTM D 4253.

B. Surface Course shall be placed in 6-in loose lifts and shall be compacted with vibratory smooth drum compactor.

C. Following the completion of dredging activities, Vegetative Soil (Topsoil) shall be placed in areas that are disturbed during construction and permanently stabilized with seed, fertilizer (if needed) and mulch.

1. The contractor can utilize the Vegetative Soil stripped during site preparation.
2. If additional Vegetative Soil from an off-site source is required, Vegetative Soil shall be tested to assess the nutrients present to assess its suitability as Vegetative Soil and to identify the amount of fertilizer required. Pre-qualification tests shall include soil organic content, nitrogen, phosphorous, potassium, and acidity. The test results shall be submitted to the Engineer to determine the suitability of the Vegetative Soil and any fertilizer requirements based upon input from the supplier of the seed.

3.06 PUMPING AND DRAINAGE

A. At all times during construction, the Contractor shall provide and maintain proper equipment and facilities to remove water entering the construction area so as to obtain satisfactory working conditions.

B. The Contractor shall be responsible for controlling ground water, and prevent surface-water run-off and run-on around the construction area, at no additional cost to the Owner.

C. Surface water in the Work area shall be pumped or drained from the construction area into the settling pond to maintain the construction area free from standing water.

3.07 DUST CONTROL

A. The Contractor shall apply water and/or dust suppressants as needed, or as directed by the Engineer to control dust during construction in accordance with Section 01030. Dust control shall be performed at no additional cost to the Owner.

3.08 SURVEYING AND CONSTRUCTION TOLERANCES

A. Before starting dredging activities, the Contractor shall establish a benchmark at a known elevation, and then establish the elevations of the water levels in each pond, and the elevations of the bottom of the pond. Pond bottom elevations will be obtained on a 25- foot square grid pattern by the Contractor. The Contractor shall provide grid coordinates and elevation differences to the Engineer along with the respective datums.

B. To determine the progress and to track the amount of sediment removed, the Contractor shall provide additional set of readings as the dredging activities progress and provide results to the Engineer. The Owner is not responsible for paying for any extra excavation performed due to lack of a sounding/survey.

C. The measurement tolerance is ±0.05 ft for vertical and ±1.00 ft for horizontal dimensions.

3.09 PROTECTION OF WORK

A. The Contractor shall use all means necessary to protect all prior work, including all materials and completed work of other Sections.

B. In the event of damage, the Contractor shall immediately make all repairs and replacements necessary, subject to the approval of the Engineer at no additional cost to the Owner.

3.10 QUALITY CONTROL

A. The Contractor is responsible for completing and documenting all quality control (QC). QC includes all measurements, observations, inspections, tests, and verifications that materials and procedures meet the requirements of the Specifications and Drawings.

B. The Contractor shall retain labels and/or shipping information for all products and materials supplied under this Section 02200 to verify that the products or materials meet the requirements of this section.

C. Upon arrival of haul trucks to the site, the Contractor shall verify that each truck bed is lined with a polyvinyl chloride (PVC) or polyethylene (PE) liner, or equivalent.

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Table 02200-1. Section Extracted from MDOT Standard Specifications for Coarse Gravel 3x1.

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Section 916. EROSION CONTROL MATERIALS

916.01 Stone Used For Erosion Control. Use cobblestone, coarse gravel and riprap for erosion control on slopes, in ditches and for the construction of erosion control devices including check dams. Natural stone used as cobblestone or riprap must be sound, non-stratified, durable rock. Where approved by the Engineer and not prohibited by permit requirements, sound pieces of broken concrete, with no protruding reinforcement, may be used in place of natural stone. Crushed hot mixed asphalt (HMA) pavement and broken brick will not be allowed as an erosion control material.

A. **Cobblestone.** Cobblestone must consist of rounded or semi-rounded rock fragments with average dimension between 3 inches and 12 inches.

B. **Coarse Gravel 3x1.** This material must conform to commercially graded material with particles sized from ¾ inch to 3 inches.

C. **Riprap.** Riprap must be natural stone, solid precast concrete blocks made from Grade P2 concrete, or sound pieces of broken concrete, free from structural defects. All riprap must be free of soil, HMA and protruding reinforcing steel. The face of the precast concrete blocks must be randomly scored with plane of weakness joints into sections with areas between 4 and 9 square feet. Lifting lugs cast into the concrete blocks must not project above the finished surface of the concrete.

Riprap is classified as either plain or heavy based on the horizontal cross section dimensions ("footprint") and the in-place thickness of the individual pieces.

1. **Plain Riprap.** The "footprint" dimensions for natural stone and broken concrete must range from 8 to 16 inches with in-place thickness of at least 8 inches. Smaller pieces may be used to fill spaces for better protection of the slope.

   Precast concrete block used as plain riprap must be at least 6 inches thick and have a surface area no larger than 15 square feet.

2. **Heavy Riprap.** The "footprint" for natural stone and broken concrete must be 16 inches in least dimension with the ratio of maximum to minimum dimension not exceeding 3:1. The in-place thickness must be at least 8 inches.

Table 02200-2. Sections Extracted from NRCS NEH Material Specification 592 for Geotextile (Separator Fabric) Silt Fence

Property	Test method	Class I	Class II & III	Class IV
Tensile strength (pounds) 1/	ASTM D 4632 grab test	200 minimum in any principal direction	120 minimum in any principal direction	180 minimum in any principal direction
Elongation at failure (percent) 1/	ASTM D 4632 grab test	<50	<50	<50
Puncture (pounds) 1/	ASTM D 4833	90 minimum	60 minimum	60 minimum
Ultraviolet light (% residual tensile strength)	ASTM D 4355 150-hr exposure	70 minimum	70 minimum	70 minimum
Apparent opening size (AOS)	ASTM D 4751	As specified, but no smaller than 0.212 mm (#70) 2/	As specified, but no smaller than 0.212 mm (#70) 2/	As specified, but no smaller than 0.212 mm (#70) 2/
Percent open area (percent)	CWO-02215-86	4.0 minimum	4.0 minimum	1.0 minimum
Permitivity sec^{-1}	ASTM D 4491	0.10 minimum	0.10 minimum	0.10 minimum

1/ Minimum average roll value (weakest principal direction).
2/ U.S. standard sieve size.
Note: CWO is a USACE reference.

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Table 02200-3. Sections Extracted from NRCS NEH Material Specification 592 for Geotextile (Separator Fabric) Silt Fence

Property	Test method	Class I	Class II	Class III	Class IV 3/
Tensile strength (lb) 1/	ASTM D 4632 grab test	180 minumum	120 minumum	90 minumum	115 minumum
Elongation at failure(%) 1/	ASTM D 4632	≥ 50	≥ 50	≥ 50	≥ 50
Puncture (pounds)	ASTM D 4833	80 minumum	60 minumum	40 minumum	40 minumum
Ultraviolet light (% residual tensile strength)	ASTM D 4355 150-hr exposure	70 minumum	70 minumum	70 minumum	70 minumum
Apparent opening size (AOS)	ASTM D 4751	As specified max. #40 2/	As specified max. #40 2/	As specified max. #40 2/	As specified max. #40 2/
Permittivity sec^{-1}	ASTM D 4491	0.70 minumum	0.70 minumum	0.70 minumum	0.10 minumum

1/ Minimum average roll value (weakest principal direction).
2/ U.S. standard sieve size.
3/ Heat-bonded or resin-bonded geotextile may be used for classes III and IV. They are particularly well suited to class IV. Needle-punched geotextiles are required for all other classes.

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Table 02200-4. Sections Extracted from MDOT Standard Specifications for Surface Course

Material Type	Class	Item of Work by Section Number (Sequential) (a)	Sieve Analysis (MTM 109) Total Percent Passing (b)										Loss by Washing (MTM 108) % Passing No. 200 (b)
			2.5 in	2 in	1.5 in	1 in	¾ in	½ in	⅜ in	No. 4	No. 8	No. 30	
Coarse Aggregates	4 AA (c)	602	100	90—100	40—60		0-12						2.0 max.
	6 AAA (c)	602			100	90-100	60-85	30-60		0-8			1.0 max.(d)
	6 AA (c)	601,602, 706,708,806			100	95-100		30-60		0-8			1.0 max.(d)
	6 A	205,401,402, 601, 602, 603,706,806			100	95-100		30-60		0-8			1.0 max.(d)
	17 A					100	90-100	50-75		0-8			1.0 max.(d)
	25 A	508					100	95-100	60-90	5-30	0-12		3.0 max.
	26 A	706,712					100	95-100	60-90	5-30	0-12		3.0 max.
	29 A	508						100	90-100	10-30	0-10		3.0 max.
Dense-Graded Aggregates	21 AA	302,304,503			100	85-100		50-75			20-45		4-8 (e)(f)
	21 A	302,503											
	22 A	302,306,307,503				100	90-100		65-85		30-50		4-8 (e)(f)(g)
	23 A	306,307				100			60-85		25-60		9-16 (f)
Open-Graded Aggregates	2 G	303(h)			100	85-100		40-70			0-10	0-8	5.0 max.
	3 G				100	85-100		40-70			0-30	0-13	5.0 max.
	4 G (i)	303			100		60-80	35-65			10-25	5-18	6.0 max.
	34 R	404						100	90-100		0-5		3.0 max.
	34 G	404						100	95-100		0-5		3.0 max.

a. Designated Item of Work (Section).
- 205 Roadway Earthwork
- 302 Aggregate Base Courses
- 303 Open-Graded Drainage Courses
- 304 Rubblizing Existing PCC Pavement-Filler Aggregate
- 306 Aggregate Surface Course
- 307 Aggregate Shoulders and Approaches
- 401 Culverts
- 402 Storm Sewers
- 404 Underdrains-Trench Backfill
- 502 Temporary Patching with HMA Mixture
- 508 Chip Seals
- 601 PCC Pavement Mixtures
- 602 Concrete Pavement Construction
- 603 Concrete Pavement Repair
- 706 Structural Concrete Construction
- 708 Prestressed Concrete Beams
- 712 Bridge Rehabilitation-Concrete
- 806 Bicycle Paths

b. Based on dry weights.
c. Class 6AAA will be used exclusively for all mainline and ramp concrete pavement when the directional commercial ADT is greater than or equal to 5000 vehicles per day.
d. Loss by Washing will not exceed 2.0 percent for material produced entirely by crushing rock, boulders, cobbles, slag, or concrete.
e. When used for aggregate base courses, surface courses, shoulders and approaches and the material is produced entirely by crushing rock, boulders, cobbles, slag, or concrete, the maximum limit for Loss by Washing must not exceed 10 percent.
f. The limits for Loss by Washing of dense-graded aggregates are significant to the nearest whole percent.
g. For aggregates produced from sources located in Berrien County, the Loss by Washing must not exceed 8 percent and the sum of Loss by Washing and shale particles must not exceed 10 percent.
h. For use with stabilized aggregate base.
i. Acceptance gradation at production site only.

END OF SECTION

REFERENCE DOCUMENTS
APPENDIX A: BORING LOGS

DRAFT

Wilcox

FIELD BORING LOG

One Madison Ave
Cadillac, MI 49601
231-775-7755
231-775-1340 fax

CLIENT & PROJECT: WELL INSTALL @ ESCANABA POWER PLANT
DATE DRILLED: 12-14-11
BORING NO.: MW-8
JOB NUMBER: 12159.00006.D
BORING LOCATION: @ STAKE
DRILLER/HELPER: JRC/MLD
METHOD OF DRILLING:
DRILL RIG: AMS
NOTES:
LOGGED BY: MLD
CITY:
COUNTY:

Depth (ft)	Sample No. Sample Type Sample Depth	SPT Results (N-value)	% REC	Lithology Description	PID (ppm) or Qp (tsf)	Comments
0.0		0-6"		Sandy Topsoil; trace root structures moist - very dk brown - black.		
		6"-7'		Fine Sand; trace silt & fine gravel damp - mixed browns		Peaty organic layer @ 6-6½"
5.0		7-9'		Fine Sand; trace silt & fine gravel. Very moist, grey brown		Grey @ ±8'
10.0		9-10'		Fine-med Sand; trace fine gravel & clay very moist - grey		
15.0						
20.0						
25.0						

GROUNDWATER DEPTH	HOLE COLLAPSE	BACKFILL
DURING DRILLING ±6'	AT COMPLETION	
AT COMPLETION	AFTER HOURS	
AFTER HOURS		

Wilcox

FIELD BORING LOG

One Madison Ave
Cadillac, MI 49601
231-775-7755
231-775-1340 fax

CLIENT & PROJECT: WELL INSTALL ESCANABA POWER PLANT
BORING NO.: MW-9
BORING LOCATION: @ STAKE
METHOD OF DRILLING:
NOTES: LOG WRITTEN WHILE PROBING - WHILE DRILLING WE ALSO HAD COARSE GRAVEL + CONCRETE RUBBLE

DATE DRILLED: 12-14-11
JOB NUMBER: 12159.00006.D
DRILLER/HELPER: JRL/MLD
DRILL RIG: AMS
LOGGED BY: MLD
CITY: COUNTY:

Depth (ft)	Sample No. Sample Type Sample Depth	SPT Results (N-value)	% REC	Lithology Description	PID (ppm) or Qp (tsf)	Comments
0.0		0-5"		CLAYEY TOPSOIL, TRACE ROOT STRUCTURES SAND & FINE GRAVEL DAMP - BLACK		
		5"-1'		SILTY CLAY, TRACE SANDS & FINE GRAVEL REDDISH BROWN - DAMP		
5.0		1'-1½'		FINE SAND, TRACE SILT, FINE GRAVEL - & CLAY DK BROWN - DAMP		
10.0		1½-5"		FINE-COARSE SAND, TRACE SILT, SLAG & FINE GRAVEL - BLACK W/GREYS - DAMP		
		5'-6'		FINE SAND, TRACE SILT & GRAVEL BROWN - VERY MOIST		
15.0		6'-7'		FINE SAND, TRACE SILT, ~~FINE GRAVEL~~ GRAY - VERY MOIST		
		7'-8½'		FIBROUS ORGANICS W/SOME SANDS, TRACE FINE GRAVEL VERY DK BROWN/BLACK - VERY MOIST		
20.0		8½-9½		FINE SAND, TRACE SILT, FINE GRAVEL GRAY - VERY MOIST		
		9½-10'		FINE-MED SAND, TRACE SILT FINE GRAVEL - GRAY - VERY MOIST		
25.0						

GROUNDWATER DEPTH	HOLE COLLAPSE	BACKFILL
DURING DRILLING 1.4'	AT COMPLETION	
AT COMPLETION	AFTER HOURS	
AFTER HOURS		

Wilcox

FIELD BORING LOG

One Madison Ave
Cadillac, MI 49601
231-775-7755
231-775-1340 fax

CLIENT & PROJECT: Well Install @ Escanaba Power Plant
BORING NO.: MW-10
BORING LOCATION: @ Staked Area
METHOD OF DRILLING:
NOTES: Log written while probing - while drilling we also had coarse gravel + concrete rubble

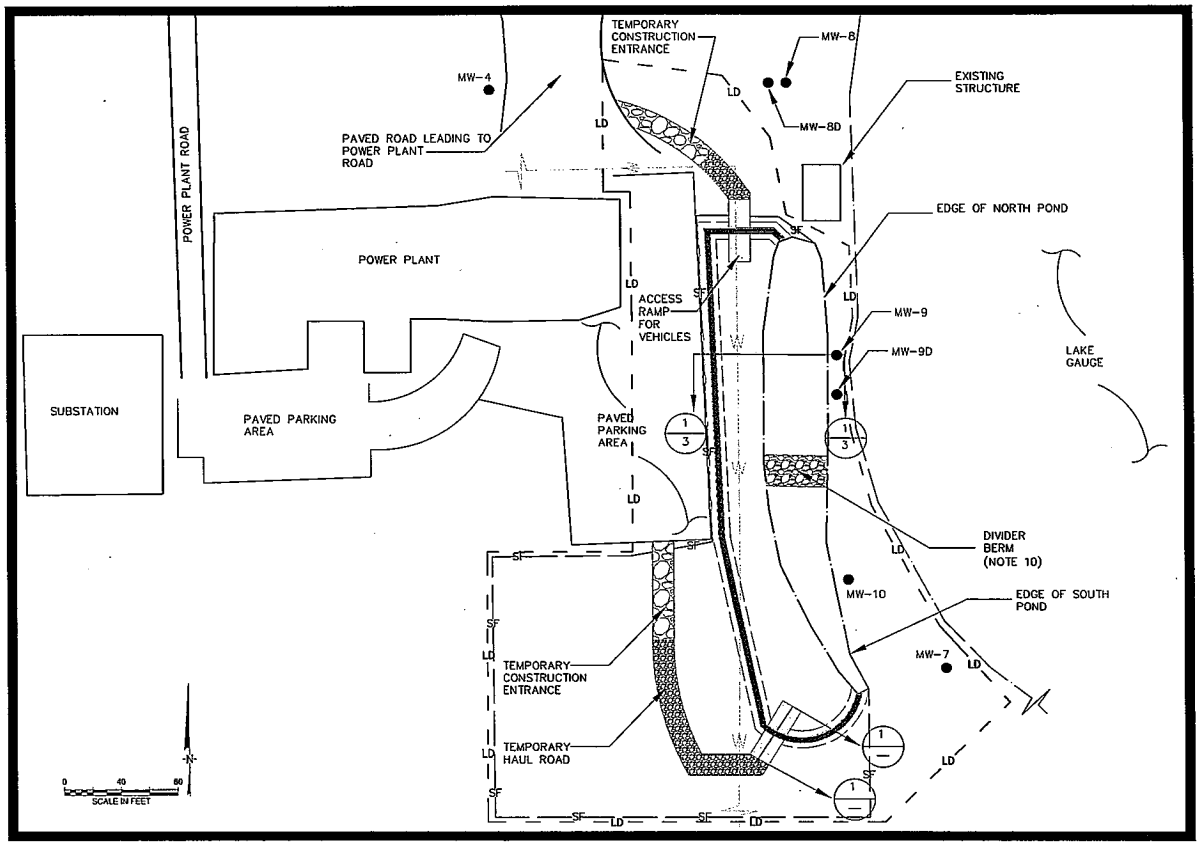
DATE DRILLED: 12-14-11
JOB NUMBER: 12159.00006.0
DRILLER/HELPER: JCL/MLD
DRILL RIG: AMS
LOGGED BY: MLD
CITY: COUNTY:

Depth (ft)	Sample No. Sample Type Sample Depth	SPT Results (N-value)	% REC	Lithology Description	PID (ppm) or Qp (tsf)	Comments
0.0		0-4"		Clayey Topsoil, trace root structures, sand, gravel - damp - black		
5.0		4"-5"		Fine sand, trace - some clay, trace fine gravel damp - mixed browns		with black 1"-2"
10.0		5-7"		Fine sand; trace silt & fine gravel very moist - grey-brown		
15.0		7-10"		Fine-med sand; trace silt & fine gravel very moist - brown		
20.0						
25.0						

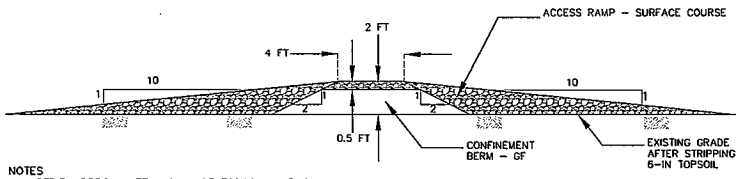
GROUNDWATER DEPTH	HOLE COLLAPSE	BACKFILL
DURING DRILLING ±5"	AT COMPLETION	
AT COMPLETION	AFTER HOURS	
AFTER HOURS		

DRAFT

END OF DOCUMENT



PLAN A



NOTES
1. STRIP APPROXIMATELY 6-IN OF TOPSOIL WHERE THE CONFINEMENT BERM AND THE ACCESS RAMP WILL BE CONSTRUCTED AND TEMPORARILY STOCKPILE.
2. COMPACT GF IN ACCORDANCE WITH THE SPECIFICATIONS AND MAINTAIN THE ACCESS RAMP AND THE CONFINEMENT BERM AS NEEDED.
3. WHERE THERE IS NO ACCESS RAMP ALONG THE CONFINEMENT BERM, THE TOP 0.5 FT OF CONFINEMENT BERM SHALL BE COMPACTED WITH GF IN ACCORDANCE WITH THE SPECIFICATIONS.

1/– DETAIL (TYPICAL)
CONFINEMENT BERM AND ACCESS RAMP CONSTRUCTION
N.T.S.

LEGEND

- WATER BODY
- POND
- MONITORING WELL
- WATER LINE
- BOTTOM OF CONFINEMENT BERM
- TOP OF CONFINEMENT BERM
- LD — LIMIT OF DISTURBANCE
- SF — SILT FENCE (2/3)
- ACCESS RAMP
- DIVIDER BERM
- STABILIZED CONSTRUCTION ENTRANCE (3/3)

NOTES
1. THE ALIGNMENT/LOCATION OF EXISTING STRUCTURES AND WATER BODY BOUNDARIES ARE APPROXIMATE.
2. LOCATE AND TEMPORARILY MARK ALL UNDERGROUND AND ABOVE GROUND UTILITIES. U/G ELECTRIC LINE WILL BE MARKED BY THE OWNER WITH RED FLAGS ONSITE.
3. LOCATE AND MARK ALL EXISTING STRUCTURES (SUCH AS MONITORING WELLS, OVERFLOW STRUCTURE) WITHIN THE LIMIT OF DISTURBANCE.
4. INSTALL ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN IN PLAN A AND DETAILS ON DRAWING 3 PRIOR TO START OF THE WORK. IF THE CONTRACTOR PLANS TO WORK OUTSIDE THE SILT FENCE SHOWN IN PLAN A, THE ENGINEER MUST APPROVE THE NEW LOCATION OF SILT FENCE.
5. STRIP APPROXIMATELY 6-IN TOPSOIL FROM THE AREA WHERE THE CONFINEMENT BERM, TEMPORARY HAUL ROAD AND STABILIZED CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED. IN ADDITION, STRIP APPROXIMATELY 6-IN TOPSOIL FROM THE WESTERN EDGE OF POND TO CONFINEMENT BERM AND FROM STOCKPILE AREAS. AFTER STRIPPING TOPSOIL, INSPECT THE AREA FROM CONFINEMENT BERM TO THE WESTERN EDGE OF POND AND IF NECESSARY, SHAVE OR BACKFILL WITH GENERAL FILL IN ACCORDANCE WITH THE SPECIFICATIONS SO THAT THE GRADE IS FLAT OR SLOPING TOWARDS THE POND WITH A MAXIMUM GRADE OF 5%.
6. CONSTRUCT THE CONFINEMENT BERM WITH GENERAL FILL IN ACCORDANCE WITH THE SPECIFICATIONS.
7. PRIOR TO START OF DREDGING, ESTABLISH A BENCHMARK FOR THE BASIS OF SURVEYING.
8. USING THE SITE BENCHMARK ESTABLISH THE WATER ELEVATION AND ELEVATION OF THE BOTTOM OF THE POND (TOP OF SEDIMENT) ON A 25 FT GRID ESTABLISHED OVER THE POND AREA BY THE CONTRACTOR.
9. START DREDGING SEDIMENTS OUT OF THE NORTH OR SOUTH POND PROGRESSING TOWARDS THE OTHER POND. PLACE THE SEDIMENT BETWEEN THE CONFINEMENT BERM AND THE EDGE OF THE POND AND LET THE WATER INFILTRATE INTO THE GROUND OR DRAIN BACK TO SETTLING POND BEFORE LOADING HAUL TRUCKS.
10. ONCE SEDIMENT REMOVAL IS COMPLETED IN THE POND, MOBILIZE TO THE OTHER POND AND REMOVE SEDIMENTS PER ABOVE PROCEDURE.
11. AS DREDGING PROGRESSES, REPEAT ITEM 8 TO DETERMINE HOW MUCH SEDIMENT HAS BEEN REMOVED.
12. FOLLOWING THE REMOVAL OF THE SEDIMENTS FROM NORTH AND SOUTH PONDS, REMOVE THE DIVIDER BERM. TIE-IN THE SIDESLOPES TO ADJACENT PONDS AT THE SAME GRADE.
13. SEDIMENT MUST PASS THE PAINT FILTER LIQUIDS TEST BEFORE HAULING TO AN OFFSITE DISPOSAL FACILITY. THEREFORE, INFORM THE ENGINEER IN ADVANCE FOR HIM TO PERFORM PAINT FILTER LIQUIDS TEST ON EVERY 100 CY OF SEDIMENT TO BE HAULED OFFSITE. DEPENDING ON THE HOMOGENEITY OF THE SEDIMENTS AND THE ENGINEER'S OBSERVATIONS, THE ENGINEER MAY PERFORM MORE FREQUENT TESTING.
14. BEFORE LOADING THE HAUL TRUCKS WITH SEDIMENTS, INSPECT THE TRUCK BEDS AND VERIFY THAT THEY ARE LINED WITH A PLASTIC LINER OR EQUIVALENT TO PREVENT LIQUIDS AND SOLIDS LEAKING FROM THE TRUCK BED.
15. UPON COMPLETION OF THE DREDGING ACTIVITIES AND ALL SEDIMENTS ARE HAULED TO AN APPROVED OFFSITE DISPOSAL FACILITY, REMOVE THE CONFINEMENT BERM, ACCESS RAMPS, TEMPORARY HAUL ROADS AND CONSTRUCTION ENTRANCES, PLACE 6-IN OF TOPSOIL OVER ALL DISTURBED AREAS WITHIN THE LIMIT OF DISTURBANCE AND PLACE SEED, FERTILIZER (IF NEEDED) FOLLOWED WITH MULCH.

TABLE 1. TEMPORARY SEED MIX.

SEEDING DATE	SEED TYPE	AMOUNT PER 1,000 SQ.FT	AMOUNT PER ACRE
MAY 1 – AUGUST 1	OATS, BARLEY	2 LB	90 LB
AUGUST 1–OCTOBER 1	RYE	3 LB	90 LB
SEPTEMBER 1–OCTOBER 1	WHEAT	3 LB	90 LB

IMMEDIATELY AFTER TEMPORARY OR PERMANENT SEEDING, MULCH WITH UNWEATHERED SMALL GRAIN STRAW OR HAY. SPREAD UNIFORMLY AT A RATE OF 1.5 TO 2 TONS PER ACRE, OR 100 POUNDS (2–3 BALES) PER 1,000 SQUARE FEET. MULCH MUST BE ACNHORED (I.E., CRIMPED INTO SOIL).

TABLE 2. PERMENANT SEED MIX.

SEEDING DATE	SEED TYPE	AMOUNT PER 1,000 SQ.FT	AMOUT PER ACRE
MAY 1 – SEPTEMBER 20	CREEPING RED FESCUE	2 LB	90 LB
	KENTUCKY BLUE GRASS	3 LB	90 LB

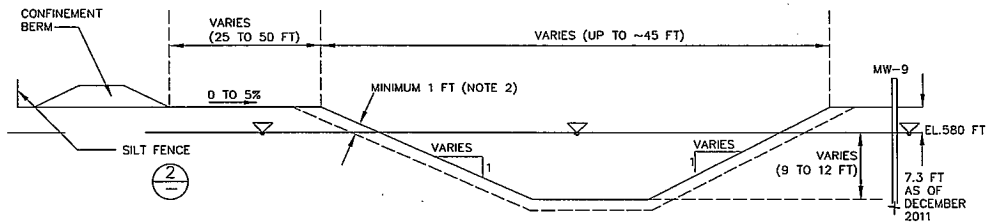
REV	DATE	DESCRIPTION	BY	CHK'D

PREPARED BY:
CITY OF ESCANABA
ENGINEERING DEPARTMENT
410 LUDINGTON STREET, ESCANABA, MICHIGAN 49829
(906) 786-1842 or 786-3796 FAX: (906) 786-3796

PROJECT TITLE: SETTLING POND SEDIMENT REMOVAL
SHEET TITLE: PLAN VIEW AND DETAILS

DRWN: OB DATE: 6/14/12
CHKD: JPS DATE: 6/20/12
APPR: DATE:
SCALE:
CITY PROJECT NUMBER: MIKE FURMANSK
DRAWING 2 OF 3

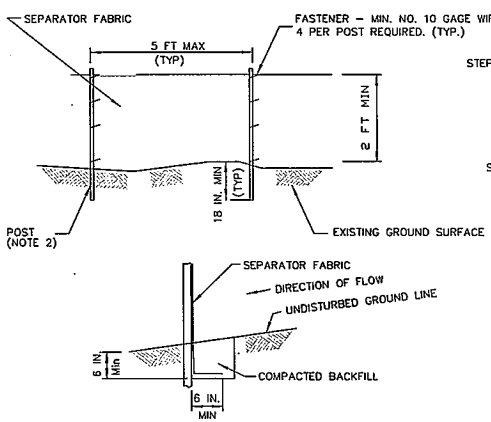
G:\CWP CH10270 – Sediment Removal Bid Specs\Drawings\Drawing1-Plan.dwg 7-02-12 02:57:35 PM SKaderski



NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING SAFE OPERATING CONDITIONS FOR ALL OF THE CONTRACTOR'S VEHICLES AND EQUIPMENT, INCLUDING BUT NOT LIMITED TO VEHICLE SIZE, GROSS OPERATIONAL LOAD, AXLE LOAD, CONTACT PRESSURE AND VEHICLE OFFSET DISTANCE FROM THE EDGE OF POND.
2. EXCAVATE/DREDGE MINIMUM OF ONE FOOT OF SEDIMENTS FROM THE BOTTOM AND SIDE SLOPES OF THE POND.
3. PLACE DREDGED SEDIMENTS OVER AN AREA BETWEEN THE CONFINEMENT BERM AND THE WESTERN EDGE OF THE POND.
4. SURVEY THE TOP OF SEDIMENT AS DREDGING PROGRESSES AND PROVIDE RESULTS TO THE ENGINEER.
5. IF ANYTHING UNEXPECTED IS FOUND DURING DREDGING ACTIVITIES, INFORM THE ENGINEER IMMEDIATELY.
6. ONCE MINIMUM OF ONE FOOT OF SEDIMENT HAS BEEN REMOVED FROM THE POND, ASSIST THE ENGINEER IN OBTAINING A BOTTOM SAMPLE.

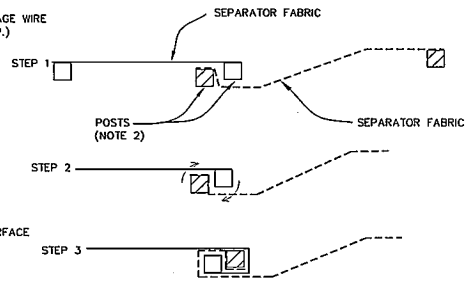
1/2 DETAIL (TYPICAL)
DREDGING OF THE POND
N.T.S.



NOTES:

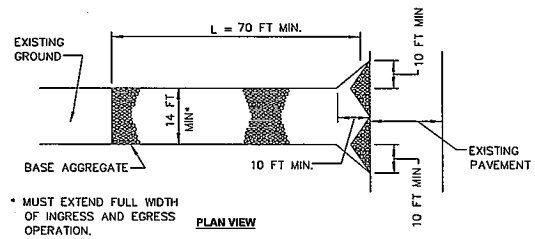
1. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THE SILT FENCE SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION WITH APPROVAL FROM THE CERTIFIED STORMWATER OPERATOR AND THE ENGINEER.
2. FENCE POSTS SHALL BE EITHER STANDARD STEEL POSTS OR WOOD POSTS WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.

2/2 DETAIL (TYPICAL)
SILT FENCE
N.T.S.



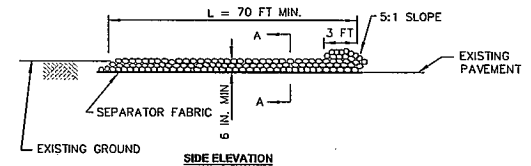
ATTACHING TWO SILT FENCES

4. PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE.
5. ROTATE BOTH POSTS AT LEAST 180 DEGREES IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL.
6. DRIVE BOTH POSTS A MINIMUM OF 18 INCHES INTO THE GROUND AND BURY THE BOTTOM FLAP.

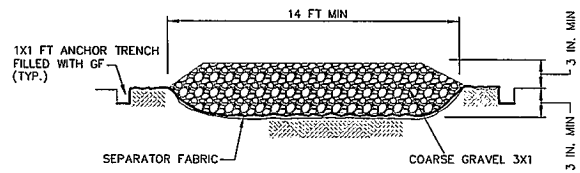


* MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPERATION.

PLAN VIEW



SIDE ELEVATION



SECTION A-A

NOTES:

1. STRIP APPROXIMATELY 6-IN OF TOPSOIL AND PLACE SEPARATOR FABRIC.
2. PLACE COARSE GRAVEL 3X1.
3. ROUGHEN OR ADD ADDITIONAL COARSE GRAVEL 3X1 AS THE VOIDS FILL WITH SEDIMENTS.

3/2 DETAIL (TYPICAL)
TEMPORARY CONSTRUCTION ENTRANCE
N.T.S.

REV	DATE	DESCRIPTION	BY	CHK'D

PREPARED BY:
CITY OF ESCANABA
DEPARTMENT OF PUBLIC WORKS
410 LUDINGTON STREET ESCANABA, MICHIGAN 49829
(906) 786-9402 or 789-5795 FAX: (906) 789-5796

PROJECT TITLE: SETTLING POND SEDIMENT REMOVAL

SHEET TITLE: SECTIONS AND DETAILS

DRWN: OB DATE: 6/14/12
CHKD: JPS DATE: 6/20/12
APPR: DATE:
SCALE:

CITY PROJECT NUMBER: MIKE FURMANSKI

DRAWING 3 OF 3

G:\CMP CH16270 – Sediment Removal Bid Specs Drawings Drawings-Backup 7-02-12 03:58:10 PM SMarzewski

PLANS OF PROPOSED

JOB. NO. CHA8270

ESCANABA GENERATING STATION SETTLING POND SEDIMENT REMOVAL

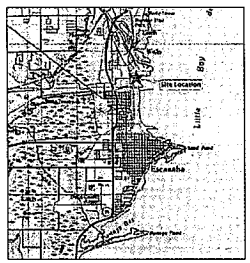
FROM GEOSYNTEC CONSULTANTS

CITY OF ESCANABA

DELTA COUNTY

STATE OF MICHIGAN

DRAWING TITLE	DRAWING NUMBER
COVER SHEET	1
PLAN VIEW AND DETAILS	2
SECTIONS AND DETAILS	3



72 HOURS
(3 WORKING DAYS)
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL FREE)

PLEASE RECYCLE

PREPARED UNDER SUPERVISION OF:

John P. Seymour
Geosyntec Consultants Engineer

CITY OF ESCANABA, MICHIGAN
ORGANIZATION

410 Ludington Street
Escanaba, Michigan
49829

I HEREBY CERTIFY THAT THESE PLANS ARE A TRUE AND CORRECT DELINEATION OF THE EXISTING WATERMAIN SYSTEM AND THE WORK PROPOSED FOR WHICH A PERMIT IS HEREBY REQUESTED.

SIGNED: _____
John P. Seymour

CITY OF ESCANABA JOB NO. CHA8270 2012