

Village of Dexter - Mill Creek Park - Phase 1	May 9, 2011	1
PROJECT	ISSUE DATE	ADDENDUM NO.
50094.004	P. Evanoff \ R. Abraham	
PROJECT NUMBER	PREPARED BY	

THIS ADDENDUM IS ISSUED BEFORE OPENING OF BIDS TO INFORM THE BIDDERS OF REVISIONS TO THE BIDDING DOCUMENTS AND IS HEREBY MADE A PART OF THE BIDDING DOCUMENTS.

ALL REQUIREMENTS CONTAINED IN THE BIDDING DOCUMENTS SHALL APPLY TO THIS ADDENDUM. THE GENERAL CHARACTER OF THE WORK CALLED FOR IN THIS ADDENDUM SHALL BE THE SAME AS ORIGINALLY SET FORTH IN THE APPLICABLE PORTIONS OF THE BIDDING DOCUMENTS FOR SIMILAR WORK, UNLESS OTHERWISE SPECIFIED HEREIN; AND ALL INCIDENTAL WORK NECESSITATED BY THIS ADDENDUM AS REQUIRED TO COMPLETE THE WORK SHALL BE INCLUDED IN THE BID, EVEN THOUGH NOT PARTICULARLY MENTIONED IN THIS ADDENDUM.

- NO DRAWINGS ARE ISSUED WITH THIS ADDENDUM.
- THE FOLLOWING DRAWINGS, DATED 05-09-2011, ARE ISSUED WITH THIS ADDENDUM AND FORM A PART HEREOF.

SPECIFICATIONS:

Item #1: Section 00 11 13, ADVERTISEMENT FOR BIDS - Replaced in its entirety and attached with this Addendum. Additions and revisions pertain to Part 1.5 D, Certificate of Awardability and Part 1.5 E, Prevailing Wage Rates.

Item #2: Section 01 78 39, RECORD DOCUMENTS - Replaced in its entirety and attached with this Addendum. Add Part 1.3.E.6.

Item #3: Section 31 25 00 SOIL EROSION AND SEDIMENTATION CONTROL - Replaced in its entirety and attached with this Addendum. Clarity has been provided for County Erosion control permit under Part 1.4 A.2.

Item #4: Section 35 54 15, TIMBER PILES, MARINE - Replace in its' entirety with attached with this Addendum.

Item #5: Appendix "C", Permits – Delete April 1, 2011 MDEQ Permit and replace with April 12, 2011 MDEQ Permit attached with this Addendum.

DRAWINGS:

Item # 6: Refer to Sheet C-11 – Revised boardwalk note 5, Revised detail call-out for concrete walk at boardwalk.

Item #7: Refer to Sheet C-15 – Added railing material specifications, Revised details 4 and 5.

Item #8: Refer to Sheet C-16 – Revised details 1, 2 and 7.

Item #9: Refer to Sheet C-21 – Added foundations at walk and at lower platform, Revised double 2x12 beam to triple 2x12 beam (4 locations), added detail 7. Revised Stairway notes.

END OF ADDENDUM

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ADDENDUM #1
SECTION 00 11 13

ADVERTISEMENT FOR BIDS

PROJECT: Mill Creek Park – Phase 1 Improvements

BID FOR: Site Improvements

OWNER: Village of Dexter
8140 Main Street
Dexter, MI 48130
Attn: Ms. Allison Bishop
Community Development Director

ARCHITECT: JJR, LLC
110 Miller Avenue
Ann Arbor, Michigan 48104
Attn. Paul Evanoff

1.1 SEALED BIDS

- A. Sealed bids for the construction and completion of the Contract will be received by the Owner until two o'clock p.m., local time at location of receipt of bids, on May 16, 2011.
- B. Address bids to: Owner

1.2 BID OPENING

- A. Bids received on time will be opened publicly and read aloud at the address given for receipt of bids promptly after time for receipt.

1.3 CONTRACTING ARRANGEMENT

- A. Lump sum bids will be received for the complete Work described in the Bidding Documents.

1.4 MANDATORY PRE-BID MEETING

- A. A mandatory pre-bid meeting will be held at the Dexter District Library, 3255 Alpine Street, Dexter, Michigan, 48130, at 2:00 p.m. on May 3, 2011

1.5 DESCRIPTION OF THE WORK

- A. The Project is a completely new park that will be constructed over a +/- 8 acre site situated along and within the banks of Mill Creek in Downtown Dexter. The work will mostly occur within the original impoundment area of the dam that was removed in 2009 as part of a bridge reconstruction project. The work reflects the first phase of improvements that will be constructed throughout 2011 and spring of 2012 followed by a landscape maintenance and warranty period. One contract for construction will be issued for the entire project and will most likely require a team of specialized sub-contractors to assist the Bidder with the work. State or Federal funds are being used to assist in construction and relevant State or Federal requirements will apply.
- B. Principal work items include: Site removals, clearing and grubbing, soil erosion and sedimentation control, permitting, earthwork, stream channel reconstruction including; rock riprap, stone swales and cross vanes, canoe/kayak access to the creek and habitat structures, limestone boulders and stone seating areas, pre-cast

concrete pavers, concrete pavement, bituminous pavement, parking signage, boardwalk and steps, metal railing, ramp handrail, timber retaining walls, miscellaneous storm sewer modifications, lighting and associated electrical, benches, topsoil, seeding, erosion control blankets landscape planting and landscape seeding maintenance, and other incidental items associated with these primary work items.

- C. The Contractor will be required to comply with all requirements of 1976 PA 453 (Elliott-Larsen Civil Rights Act) and 1976 PA 22 (Persons with Disabilities Civil Rights Act), as amended. In accordance with these laws, the contract for construction must contain a covenant by the contractor and any subcontractors not to discriminate against an employee or applicant for employment with respect to hire, tenure, terms, conditions, or privileges of employment, or a matter directly or indirectly related to employment, because of race, color, religion, national origin, age, sex, height, weight, marital status or a disability that is unrelated to the individual's ability to perform the duties of a particular job or position. A breach of this covenant will be regarded as a material breach of the contract for construction.
- D. **CERTIFICATE OF AWARDBILITY:** The Contractor must not discriminate on the basis of religion, race, color, national origin, age, sex, marital status, height, weight, arrest record or disability. Prior to the award of any Contract of \$100,000.00 or more, the Michigan Department of Technology, Management and Budget (DTMB) Contract Compliance Representative will notify the Michigan Department of Civil Rights (DCR) Contract Compliance Representative, providing a bid tabulation and providing a description of the recommended awardee(s) including business(es)' name, business(es)' designated contact person, last four digits of company(ies)' tax identification number, business(es)' address, and business(es)' contact person telephone number. In the event a contractor doesn't possess a valid Certificate of Awardability and is the most qualified low bidder, the contractor must immediately submit, upon notification by DTMB, their application to DCR. **DO NOT SUBMIT APPLICATION TO DCR UNLESS YOU ARE THE LOW BIDDER.**

The time required by DCR to process and render a decision on such application is nine (9) calendar days from the date of transmission of bid tab information by DTMB to DCR. Communications concerning Certificates of Awardability should be directed to:

Michigan Department of Civil Rights
Business and Community Affairs
Cadillac Place
3054 West Grand Boulevard, Suite 3-600
Detroit, Michigan 48202
Telephone: (313) 456-3822
Fax: (313) 456-3826

- E. **PREVAILING WAGE RATES:** Under the "REQUIREMENTS OF THE PREVAILING WAGES ON STATE PROJECTS ACT, PUBLIC ACT 166 OF 1965", the contractor shall comply with all wage requirements established by the Michigan Department of Energy, Labor & Economic Growth, Wage & Hour Division. Certified payroll records will be required as back-up to all progress payments. Refer to Appendix "B" for rate sheets and instructions

1.6 BIDDING DOCUMENTS

- A. On or about April 22, 2011, Bidding Documents will be made available by the Architect to qualified Bidders, and may be examined or obtained at the following locations:

Michigan Inter-Governmental Trade Network (MITN)
www.govbids.com/scripts/mitn/public/home1.asp

JJR, LLC
110 Miller Avenue
Ann Arbor, Michigan 48104
Attn. Paul Evanoff

734-669-2706
Paul.evanoff@jjr-us.com

- B. Ownership of Documents. In making copies of the Bidding Documents available, the Owner and Architect do so only for the purpose of obtaining bids on the Project and do not confer a license or grant for any other use.
- C. Complete sets of Bidding Documents shall be used in preparing bids. Neither the Owner nor the Architect assumes any responsibility for errors, omissions or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- D. The non-refundable charge from JJR will be \$125.00 for each set. Upon request and receipt of deposit, the Architect will ship complete sets of Bidding Documents to the Bidder, shipping charges collect. Each set of Bidding Documents will include Bidding and proposed Contract Documents.
- E. Bid Guarantee: Bids shall be submitted on the Bid Form included in the Bidding Documents, and shall be accompanied by Bid Guarantee in the amount of five percent of the Base Bid sum.
 - 1. The Bid Guarantee shall be a certified check, bank draft, irrevocable bank letter of credit, or a satisfactory surety bond.
 - a. Bid Guarantee shall be made payable to the Village of Dexter.
 - b. The Bid Bond shall be issued by a guaranty or surety company listed in the latest interim issue of the Department of the Treasury's Listing of Approved Sureties (Department Circular 570). The amount of the Bid Bond shall not exceed the maximum amount specified for the company in Circular 570.
- F. Bids may not be withdrawn after the date for receipt of bids within a period of 60 calendar days, except as otherwise specified in the Bid Form.

End of Section

ADDENDUM #1
SECTION 01 78 39

RECORD DOCUMENTS

1.1 GENERAL PROVISIONS

- A. Maintain at the Project site, one copy of the:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Approved Shop Drawings.
 - 5. Change Orders and other modifications.
 - 6. Field test records.
 - 7. Other documents referenced in the Contract.
- B. Such documents shall be known as "Record Documents," and shall be marked by the Contractor to reflect an accurate and up-to-date record of actual construction of the Work as it progresses.
- C. Label each Record Document, "Record Document," in highly visible printed letters.
- D. Store the Record Documents in files or on racks as appropriate, in the field office or at other approved location, and apart from documents used for construction.
- E. Maintain the Record Documents in clean, dry, legible condition.
- F. Do not use the Record Documents for construction purposes.
- G. Make the Record Documents readily available for reference by the Architect.
- H. Contractor is fully and totally responsible for the accuracy and completeness of the Record Documents.

1.2 RECORDING

- A. Record all instances where actual field construction differs from the Work as shown on the Drawings, and identify origin of change.
- B. Keep the Record Documents up-to-date concurrent with the progress of the Work. Updating shall be performed, with the concurrence of the Architect:
 - 1. Prior to concealment of Work;
 - 2. When directed by the Architect; and
 - 3. Not less than every two weeks.

1.3 RECORD DRAWINGS

- A. Make drawing changes on a set of esolene sepias purchased from the Architect for cost of reproduction; or on a set of blue-line prints, from which the Contractor then transfers the information to the Record Drawing sepias prior to submittal.
- B. Carefully draw information and letter notes of explanation on the Record Drawing transparencies. If, in the Architect's opinion, the record indications are not legible or are otherwise unsatisfactory for the purpose, make new Record Drawings to accomplish the desired result to the satisfaction of the Architect.

- C. In the case of a Change Order issuance, replace the Record Drawings with the revised Drawings incorporating the Contract Modifications.
- D. Locate all moved and concealed items with reference to approved, visible horizontal and vertical reference datum.
- E. The following items are representative, but not all-inclusive, of the information which shall be recorded on the record drawings:
 - 1. Changes in depth, shape, location, or other characteristics of foundations, columns, beams, openings, concrete reinforcing, lintels, and concealed anchorages.
 - 2. Changes in plan, sections, elevations and details, such as shifts in location of walls, doors, windows and stairs.
 - 3. Final locations and arrangement of mechanical equipment and concealed plumbing, including supply and circulating mains, vent stacks, and sanitary and storm water drainage.
 - 4. Changes made in electrical design, final arrangement of electric circuits, light switches, and telephone and other outlets.
 - 5. Final location and arrangement of underground utilities, connections to buildings and rerouting of existing utilities, including sanitary, storm, heating, electric, signal, gas, water and telephone. Horizontal location of underground utilities shall be by dimension to established elevation at invert from permanent benchmark. Points of vertical location shall be located horizontally.
 - 6. Final locations and elevations of all rock vanes, riprap and stone swales.

1.4 RECORD SPECIFICATIONS AND ADDENDA

- A. Legibly annotate Specification Sections and Addenda and Change Order items to record manufacturer, trade name, catalog number and supplier of each product actually installed.

1.5 COMPLETION

- A. Submit the Record Drawing in AutoCAD format and other Record Documents bound and in paper format to the Architect with the request for final payment. Each drawing shall be stamped "Record Drawing" or "Record Document" and a notation made on the drawing or other document certifying its completeness. Shop Drawings will not be acceptable as Record Drawings.

1.6 TRANSMITTAL LETTER

- A. Accompany the Record Document submittal with a transmittal letter containing:
 - 1. Date.
 - 2. Project title and Architect's Project number.
 - 3. Name of Contract.
 - 4. Contractor's name and address.
 - 5. Title and number of each Record Document.
 - 6. Certification that each Record Document, as submitted, is complete and accurate.
 - 7. Signature of the Contractor or the Contractor's authorized representative.

End Of Section

ADDENDUM #1
SECTION 31 25 00

SOIL EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Measures to protect undisturbed areas and site improvements from soil erosion, and to reduce downstream sedimentation and/or accelerated runoff.

1.2 REFERENCES

- A. Michigan Department of Transportation, Standard Specifications for Construction, latest edition, herein referenced as MDOT.
- B. Michigan Department of Transportation, Sheet R-96-D, Soil Erosion and Sedimentation Control Measures, key to number erosion control items shown on Drawings.

1.3 SUBMITTALS

- A. Permit: Within 2 weeks following the Notice to Proceed, submit the following:
1. Copy of soil erosion control permit to the Owner.
 2. Schedule of Soil Erosion and Sedimentation Control activities. Include events (with days and/or dates of the various activities) for review and approval prior to obtaining a permit.
 3. Manufacturer's cut sheet and sample for each specified product.
 4. Copies of permit and Notice of Coverage.
 5. Resume of Certified Storm Water Operator.

1.4 QUALITY ASSURANCE

- A. Requirements of Regulatory Agencies:
1. Part 91, Soil Erosion and Sedimentation Control of the Natural Resources and Environmental Protection Act 1994 PA 451, as amended, State of Michigan, requires that all site-work be in compliance with the requirements of the Act and that a permit be obtained before starting work.
 2. Obtain the soil erosion and sedimentation control permit and pay all associated fees. Maintain the approved SESC permit and plans and specifications at the site and shall be available for review. The Village has applied for the permit and paid the initial application fee. The Contractor shall pay the \$4,000 refundable bond and once the permit has been issued there will be a monthly inspection and each monthly inspection fee will be based on acres of disturbance during each month until stabilization measures are completed.
 3. The CONTRACTOR, at his expense, shall secure Notice of Coverage (NOC) under the National Pollution Discharge Elimination System (NPDES) Rules for storm water discharges from construction activity. Obtain the NOC from the Michigan Department of Environmental Quality (MDEQ). The NOC shall be available for review at the project site.
 4. Under the Rules of the NOC, the CONTRACTOR shall provide a Certified Storm Water Operator who will be responsible for all reporting and compliance with the applicable NOC and SESC permit. The Certified Storm Water Operator shall:
 - a. Prepare and submit weekly reports to the ENGINEER regarding all NOC and SESC duties performed for the previous week.
 - b. Perform all NPDES NOC and SESC inspections, reporting and logs.
 - c. Maintain required logs and inspection and other required reports at the site.
 - d. Coordinate and document all required NOC and SESC installations and maintenance performed at the site.

- e. Coordinate with and respond to SESC regulatory agency staff requests.
 - f. Maintain all SESC inspection reports at the construction site.
 - g. Respond to and maintain written records of responses to all SESC inspection reports performed at the site.
- B. Comply with all requirements of the agencies having jurisdiction. OWNER will deduct payment to CONTRACTOR equivalent to any fines resulting from non-compliance with applicable regulations.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Provide materials, in compliance with MDOT, Article 2.08, Soil Erosion and Sedimentation Control, subject to approval and modification by the local enforcing agency.

PART 3 - EXECUTION

3.1 GENERAL

- A. Comply with all requirements of the Soil Erosion and Sedimentation Control Act. Where the following unanticipated events result in the need for additional or modified soil erosion and sedimentation control installations to meet the objective of the referenced Act, provide such installation on a timely basis:
- 1. Unanticipated alterations to the Contract schedule when not dictated by the Owner.
 - 2. Unanticipated weather conditions, except unusual natural occurrences such as tornado, 50-year storm or fire.
- B. Install temporary erosion control measures prior to commencement of earthwork activity.
- C. Maintain all erosion and sedimentation controls until the Contract has been completed and accepted. Such maintenance includes:
- 1. Repair of all damaged installations.
 - 2. Replacement of lost facilities.
 - 3. Periodic removal of collected silt and sedimentation as required or directed to maintain effectiveness of the silt traps, filters and basins.

3.2 CLEANING

- A. Remove temporary erosion control measures and accumulated sediment at the completion of construction, unless directed by the Owner to remain in place. Take care during removal to minimize siltation of nearby drainage courses.

End Of Section

ADDENDUM #1
SECTION 35 54 15

TIMBER PILES, MARINE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Design and Construction of Timber Piles driven to depths required by the Testing Agency as required for design bearing capacity indicated on the Drawings.

1.2 REFERENCES

- A. ASTM International, as referenced herein as ASTM.
- B. American Wood Preservers Association, as referenced herein as AWWA.

1.3 SUBMITTALS

- A. Source Quality Control:
 - 1. Shop Drawings:
 - a. Submit fabrication and installation details for piles including details of driving shoes, tip or boot, and pile butt protection.
 - 2. Statement of Compliance:
 - a. Submit a statement of compliance that all materials and preservative treatment furnished under this section conforms to Article 1.4.
- B. Field Quality Control:
 - 1. Submit a detailed procedure relating to pile driving operation prior to commencement of pile installation. Include details of pile hammer, power plant, leads, pile cushion and cap block.
 - 2. Submit complete record of each driven pile indicating driven length, embedded length, final elevation of tip and top, blows required for each foot of penetration throughout the entire length and final 6 inches of penetration, total driving time, and pile deviations from location and plumb. Include records of any unusual conditions encountered during pile installation.

1.4 QUALITY ASSURANCE

- A. Testing Agency:
 - 1. Engage an independent Testing Agency to perform all testing as specified.
- B. Testing Agency shall:
 - 1. Specify a pile driving formula specific to the Contractor pile driving equipment.
 - 2. Observe and confirm pile records meet driving formula requirements for design load.
 - 3. Inform the Engineer immediately when any pile driven to the depth specified on the Contract Drawings does not meet the design load requirement.
- C. Pre-installation Meeting:
 - 1. Submit written procedure of proposed method of construction and meet with the Engineer and Testing Agency at the Project site to review procedures relating to the Work.
 - 2. Attendance of the Contractor's representative designated to control field Work is required at the meeting. Responsibility for enforcement of accepted procedures is required of the Contractor's representative.

1.5 PROJECT CONDITIONS

- A. Examine the site and become familiar with geological formation in the area of this project to ascertain the state and conditions under which the Work is to be done.
- B. Logs of soil borings are included only as “Information to Bidders” and are not part of the Contract Documents. The data on indicated subsurface conditions is not intended as representation or warranties of accuracy or continuity between soil borings. Assume full responsibility for interpreting boring data and conclusion drawn from the information furnished and from the inspection at the site.
- C. A geotechnical report prepared by Testing Engineers & Consultants, dated march 26, 2009, is available for information purpose and may be examined at the Owner's office during normal working hours. This report was prepared for design purposes only. Should the data contained in this report not be adequate for the contractor's purposes, additional test borings and other exploratory operation may be performed at its expense with the approval of the Owner.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Except for piles to be used for test purposes, materials ordered or delivered to Project site prior to verification of pile length, will be at Contractor's risk.
 - 1. Examine and make repairs in accordance with AWPA M4 where preservative treatment is damaged.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Timber Piles:
 - 1. Round Timber Piles: ASTM D25, unused, clean peeled, one piece without splices from butt to tip, pressure treated and with a minimum load capacity of 10 kips, a 25 inch minimum butt circumference and a 16 inch minimum tip circumference.
- B. Preservative Treatment:
 - 1. Pressure treat round timber piles according to AWPA C3.
- C. Pile Accessories:
 - 1. Driving Shoes: Fabricate from ASTM 1011/A1011M hot-rolled carbon-steel strip to suit pile-tip diameter specially fabricated for the purpose and product of a regularly engaged in the manufacture of pile fittings. Secure driving shoe to pile tip so as not to affect pile alignment during driving.
 - 2. Strapping: 1.25 inches wide, 22 gauge, cold-rolled, heat-treated steel; painted and waxed.
- D. Driving Equipment:
 - 1. Provide air-, steam-, or diesel-powered hammer of sufficient weight and energy to install specified pile and with required axial alignment without damage into subsurface material anticipated.
 - 2. Provide driving helmet or a cap and cushion block combination as recommended by the hammer manufacturer to protect the top of the pile during driving. Center the helmet or block to avoid eccentricity of impact during driving and to uniformly transmit energy to the pile with a minimum loss of energy.
 - 3. Provide pile-driver leads that will hold pile in position, in axial alignment with hammer and within pile tolerances.

2.2 FABRICATION

- A. Pile Tips: Cut and shape pile tips to accept driving shoes. Fit and fasten driving shoes to pile tips according to manufacturer's written instructions.

- B. Pile Butt: Trim pile butt and cut perpendicular to longitudinal axis of pile. Chamfer and shape butt to fit tightly to driving cap of hammer.
- C. Field-Applied Wood Preservative: Treat field cuts, holes, and other penetrations according to AWWA M4.1.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protection:
 - 1. Exercise extreme care in performing piling operations so as not to create excessive shock waves, vibrations or tremors which may cause damage to adjacent structures and property, underground structures, including sewers, and utilities.

3.2 PILE INSTALLATION

- A. General:
 - 1. Do not drive piles until dynamic load formula has been established by the Testing Agency.
 - 2. Do not drive piles until earthwork in area in which piles are to be driven has been completed.
- B. Pile Driving:
 - 1. Drive each pile to a final resistance or penetration depth as determined by the Testing Agency to develop an ultimate pile capacity of not less than twice the indicated design capacity.
- C. Tolerances:
 - 1. Maximum permissible variation of pile at cut-off location: 1 inch.
 - 2. Maximum variation from vertical for plumb piles: 1 in 48.
 - 3. Should the specified tolerance be exceeded and redesign indicates load on any pile exceeding 110% of design load, provide additional piles and pile caps to the extent deemed necessary by the Engineer to correct the condition. Provide additional engineering required to correct the error made at Contractor's expense.
- D. Obstructions:
 - 1. Should obstructions be encountered below grade preventing placement of pile to required location or penetration, or cause the pile to drift from the required location which prevent securing adequate penetration, or cause pile to drift from its required location, cease driving and consult with the Engineer and Testing Agency. Drive the replacement pile as directed by the Testing Agency after the extent of obstruction is determined by the Testing Agency.
- E. Pile Cut-Off:
 - 1. Cut-off each pile to a horizontal plane within 1 inch of cut-off elevations indicated, and excess pile material removed from the premises. Treat the top of pile as per AWWA M4.

3.3 FIELD QUALITY CONTROL:

- A. The Testing Agency will observe and confirm pile records meet driving formula requirements for design load.

End of Section

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY PERMIT

ISSUED TO:

Village of Dexter
Attn: Allison Bishop
8140 Main Street
Dexter, MI 48130

Permit No.	09-81-0074-P
Issued	April 12, 2011
Extended	
Revised	
Expires	April 12, 2016

This permit is being issued by the Michigan Department of Environmental Quality (MDEQ) under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) and specifically:

- Part 301 Inland Lakes and Streams Part 315 Dam Safety
 Part 325 Great Lakes Submerged Lands Part 323 Shorelands Protection and Management
 Part 303 Wetlands Protection Part 353 Sand Dune Protection and Management
 Part 31 Floodplain/Water Resources Protection

Permission is hereby granted, based on permittee assurance of adherence to State requirements and permit conditions to:

Permitted Activity: *******MODIFIED PERMIT*******
Mill Creek: Construct temporary cofferdams and pump the stream flow around the construction area. Excavate 2,850 cubic yards of material and place 527 cubic yards of fill to realign approximately 1,320 feet of Mill Creek. Place 648 cubic yards of rock within the stream channel to construct four cross vanes, and place 80 cubic yards of rock along 472 feet of the stream channel to create a stable stream channel and banks. Install fish habitat structures within the new channel. Floodplain: Excavate 4,445 cubic yards of material from and place 775 cubic yards of fill within the 100-year floodplain of Mill Creek to provide connectivity between the creek and its floodplain, create a rain garden, and construct a pedestrian path from downtown Dexter to Mill Creek Park. Construct 759 feet of open pile boardwalk and an overlook within the floodplain.
****Permitted Activity Continued on Page 2****

Water Course Affected: Mill Creek

Property Location: Washtenaw County, Scio Township, Section 6

Subdivision, Lot Town/Range 2S, 5E Property Tax No. HD-08-06-210-047+

Authority granted by this permit is subject to the following limitations:

- A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
- B. The permittee in exercising the authority granted by this permit shall not cause unlawful pollution as defined by Part 31, Floodplain/Water Resources Protection of the NREPA.
- C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
- D. All work shall be completed in accordance with the plans and the specifications submitted with the application and/or plans and specifications attached hereto.
- E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved herein.
- F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with Act 53 of the Public Act of 1974 and comply with each of the requirements of that act.
- G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits or complying with other state statutes.
- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify the MDEQ within one week after the completion of the activity authorized by this permit, by completing and forwarding the attached, preaddressed post card to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of the MDEQ.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific State Act, Federal Act and/or Rule under which this permit is granted.
- L. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

****Permitted Activity Continued from Page 1****

Extend an existing storm sewer outlet 32 feet. Place 120 cubic yards of riprap within the floodplain, for channel stabilization. Construct two canoe launches. Wetland: Place 1,748 cubic yards of fill within 0.25 acre of wetland and excavate 3,341 cubic yards of material from 1.3 acres of wetland. Construct 346 feet of open pile boardwalk. Place 96 cubic yards of riprap within the wetland, for channel stabilization. Refer to Impact Tables on Plan Sheets P-2, P-3, and S-2 for additional details. All work shall be completed in accordance with the attached modified plans and specifications of this permit.

SPECIFICATIONS

- 1) This permit is being issued for the maximum time allowed under Part 301, Inland Lakes and Streams, Part 303, Wetlands Protection, and the Floodplain Regulatory Authority of Part 31, Water Resources, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, including all permit extensions allowed under the administrative rules R 281.813 and R 281.923 of Parts 301 and 313. Therefore, no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by the MDEQ, will be for a five-year period beginning at the date of issuance.
- 2) All work shall be completed in accordance with the attached modified plans and the terms and conditions of this permit.
- 3) Prior to initiating construction, authorized by this permit, the permittee is required to provide a copy of the permit to the contractor(s) for review.
- 4) The property owner, contractor(s), **and any agent involved in exercising this permit** are held responsible to ensure the project is constructed in accordance with all drawings and specifications contained in this permit. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by this permit.
- 5) Prior to initiation of construction, a preconstruction meeting shall be held with the contractor, permittee or her/his representative(s), and representatives of the MDEQ. To arrange the required meeting, please contact James Sallee, at:

4th Floor State Office Building
301 East Louis Glick Highway
Jackson, Michigan 49201
(517) 780-7910
- 6) Notification shall be made to the MDEQ's Water Resources Division, five days prior to starting the project. Please notify James Sallee at the address and telephone number listed above.
- 7) Prior to the start of construction, all non-work wetland and floodplain areas shall be bounded by properly trenched filter fabric fence and orange construction fencing to prevent sediment from entering the wetland and floodplain and to prohibit construction personnel from entering or performing work in these areas. Fence shall be maintained daily throughout the construction process. Upon project completion, the erosion barrier shall then be removed in its entirety and the area restored to its design configuration and cover.
- 8) All dredge/excavated spoils including organic and inorganic soils, vegetation, and other material removed shall be placed only in approved locations and stabilized with sod and/or seed and mulch in such a manner to prevent and ensure against erosion of any material into any waterbody, wetland, or floodplain.

- 9) All fill/backfill shall be CONTAINED in such a manner so as not to erode into any surface water, floodplain, or wetland. All raw areas associated with the permitted activity shall be STABILIZED with sod and/or seed and mulch, riprap, or other technically effective methods as necessary to prevent erosion.
- 10) Prior the commencement of dredging/excavation within the channel of Mill Creek, cofferdams of steel sheet piling or sand bags shall be installed to isolate all construction activities from the stream flow. The cofferdams shall be maintained in good working order throughout the duration of the project. Upon project completion, the cofferdams shall be removed in their entirety.
- 11) During the dredging/excavation within the channel of Mill Creek, the stream flow shall be pumped around the construction area. Water shall be discharged into Mill Creek downstream of the construction area with appropriate treatments to remove suspended particles and to dissipate energy. An extra pump shall be kept on site in the event of failure.
- 12) Riprap shall consist of clean stone or rock (free of paint, soil or other fines, asphalt, soluble chemicals, or organic material). The riprap shall be of appropriate weight and dimension necessary to achieve the intended grade stabilization and erosion protection.
- 13) Upon completion of the project, the site shall be restored to the design contour elevations and stabilized with sod and/or seed and mulch to prevent erosion.
- 14) No fill, excess soil, or other material shall be placed in any wetland or surface water area not specifically authorized by this permit, its plans, and specifications.
- 15) If the project, or any portion of the project, is stopped and lies uncompleted for any length of time other than that encountered in a normal work week, every precaution shall be taken to protect the uncompleted work from erosion.
- 16) No work shall be occur in the wetland from January 1 to May 15 and from September 30 to December 31 to avoid impacts to hibernating, breeding, and nesting wildlife.
- 17) Construction must be undertaken and completed during the dry period of the wetland.
- 18) If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.
- 19) No in-stream work shall occur between March 1 and May 31 to minimize impacts on spring fish migrations.
- 20) No work shall be done in the stream during periods of above-normal flows except as necessary to prevent erosion.
- 21) Fish habitat structures shall be firmly anchored to prevent flotation or lateral movement. The structures shall be placed in such a manner as to minimize hazards to navigation.
- 22) Boardwalk structures shall be firmly anchored to prevent flotation or lateral movement.
- 23) The design flood or 100-year floodplain elevation at this location on Mill Creek ranges from 843.3 feet N.A.V. Datum of 1988 to 839.3 feet N.A.V. Datum of 1988 at the downstream project location.
- 24) Permittee shall submit "As-Built" construction plans of the four rock cross vanes to this office within 60 days of project completion. The "as-built" plans shall be signed by a professional surveyor licensed in the State of Michigan.

- 25) Permittee shall submit an annual monitoring report to the MDEQ documenting the physical condition of the four cross vanes and the physical condition of the bed and banks of Mill Creek by December 31 of each year for a period of three years. The report shall document any observed changes in the condition of the cross vanes and stream channel of Mill Creek during the three year monitoring period and shall include a proposal for the correction of any problems that are observed.
- 26) This permit is limited to authorizing the construction as specified above and carries with it no assurances or implications that associated wetland or floodplain areas can be developed and serviced by the structures authorized by this permit.
- 27) If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from the MDEQ. Such revision requests shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by the MDEQ prior to being implemented.
- 28) This permit may be transferred to another person upon written approval of the MDEQ. The permittee must submit a written request to the MDEQ to transfer the permit to the new owner. The new owner must also submit a written request to accept transfer of the permit. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties which includes all the above information may be provided to the MDEQ. The MDEQ will review the request and if approved, will provide written notification to the new owner.
- 29) In issuing this permit, the MDEQ has relied on the information and data that the permittee has provided in connection with the permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete, or inaccurate, the MDEQ may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
- 30) The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representatives of the permittee, undertaken in connection with this permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
- 31) Issuance of this permit does not obviate the need for the permittee to comply with the requirements of Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), for the proper management of soils within the former impoundment.
- 32) Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the Washtenaw County Water Resources Commissioner's Office, 705 North Zeeb Road, Ann Arbor, Michigan, 48107. Contact Katie Lee at 734-222-3978.
- 33) The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state or federal approval or authorization, necessary to conduct the activity.

34) Please provide the name, address, and telephone number of the person responsible for compliance of these permit conditions, and who has the authority to stop work on the project, whom the MDEQ shall contact if necessary:

Name: ALLISON BISHOP
Print

Sign *Allison Bishop*

Date 4/6/11

Address 8140 Main St.
Dexter, MI 48130

Telephone Number 734-426-8303

FAX Number 734-426-5614

abishop@villageofdexter.org

35) This permit placard shall be kept posted at the work site, in a prominent location at all times for the duration of the project, or until permit expiration.

This permit shall become effective on the date of the MDEQ representative's signature. Upon signing by the permittee named herein, this permit must be returned to the MDEQ's Water Resources Division, 301 East Louis Glick Highway, Jackson, Michigan 49201 for final execution.

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

X *Allison Bishop* 4/6/11
Permittee Date

X ALLISON BISHOP, COMMUNITY DEVELOPMENT MANAGER
Printed Name and Title of Permittee

Dan Wyant, Director
Department of Environmental Quality

By *James Sallee*
James Sallee
Water Resources Division

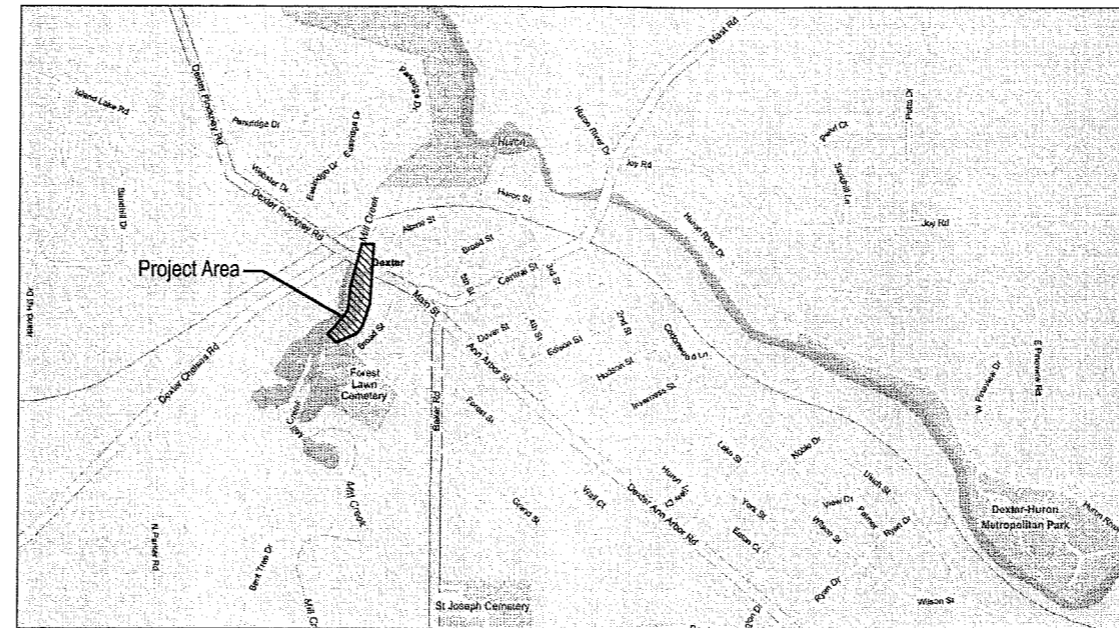
cc: Ms. Katie Lee, Washtenaw County Water Resources Commission
Ms. Wendy Melgin, United States Environmental Protection Agency
Ms. Andrea Kline, ECT
Mr. Paul Evanoff, JJR

The Village of Dexter

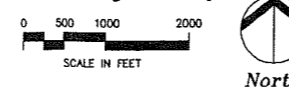
Mill Creek Park

Phase 1

MDNRE FILE NO. 09-81-0074-P



Vicinity Map



Drawing Index

- P-1 Existing Conditions Plan
- P-2 Proposed Plan
- P-3 Wetland & Floodplain Impacts
- P-4 Earthwork Section
- P-5 Proposed Stream Impacts
- S-1 Proposed Stream Design Plan
- S-2 Proposed Rock Cross Vane Details
- S-3 (NOT USED)
- S-4 Proposed Stream Channel Details
- S-5 Proposed Tributary Stabilization Details
- S-6 Proposed Tributary Stabilization Details
- D-1 Stormwater Outlets & Rain Garden Details
- C-11 Boardwalk Plans
- C-14 Boardwalk Details
- C-15 Canoe-Kayak Access Plans
- C-18 Soil Erosion and Sedimentation Control Details
- L-1 Landscape Plan Overall
- L-2 Landscape Plan 1 of 3
- L-3 Landscape Plan 2 of 3
- L-4 Landscape Plan 3 of 3
- L-5 Landscape Details
- L-6 Landscape Plant Lists and Notes

DEQ-LWMD
 FILE # 09-81-0074-P
 APPROVED PLANS
 PAGE 1 OF 23
 3/31/11
 MODIFIED

WATER RESOURCES DIVISION

MAR 30 2011

Prepared For:

The Village of Dexter

Washtenaw County Michigan

8140 Main Street
 Dexter, Michigan 48130

Prepared By:

JJR LLC
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 planning
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 civil engineering
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ECT
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 2200 Commonwealth Blvd, Suite 300
 Ann Arbor, Michigan 48105
 734.769.3004
 734.769.3164 fax
 www.ectinc.com

Issued For:	Date
MDNRE RESPONSE	8-06-10
11/01/10 INFO. REQ. RESPONSE	12-30-10
MDEQ PERMIT	03-29-2011



North

MILL CREEK PARK
PHASE 1 IMPROVEMENTS
DEXTER, MICHIGAN

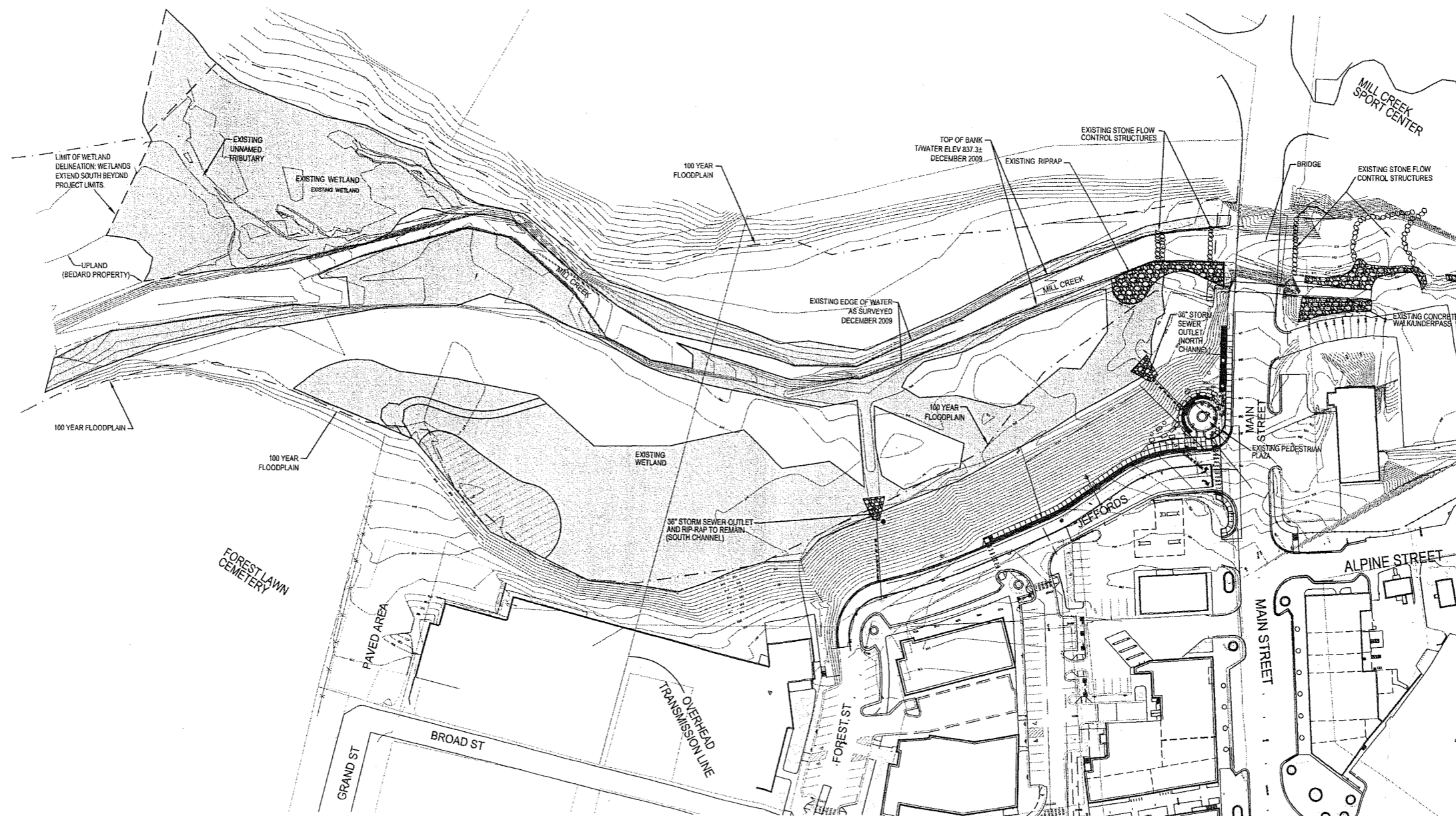
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MDNRE FILE NO. 09-81-0074-P

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SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

KEY PLAN

WATER RESOURCES DIVISION

MAR 30 2011

DEQ-LWMD
FILE # 09 - 81 - 0074 - P
APPROVED PLANS
PAGE 2 OF 23
3 / 31 / 11
MODIFIED

DRAWING TITLE
EXISTING CONDITIONS
PLAN

SCALE
10'-0"=1" = 50' / 1" = 50'
PROJECT NUMBER
DRAWING NUMBER
P-1

MILL CREEK PARK
PHASE 1 IMPROVEMENTS
DEXTER, MICHIGAN

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WATER RESOURCES DIVISION

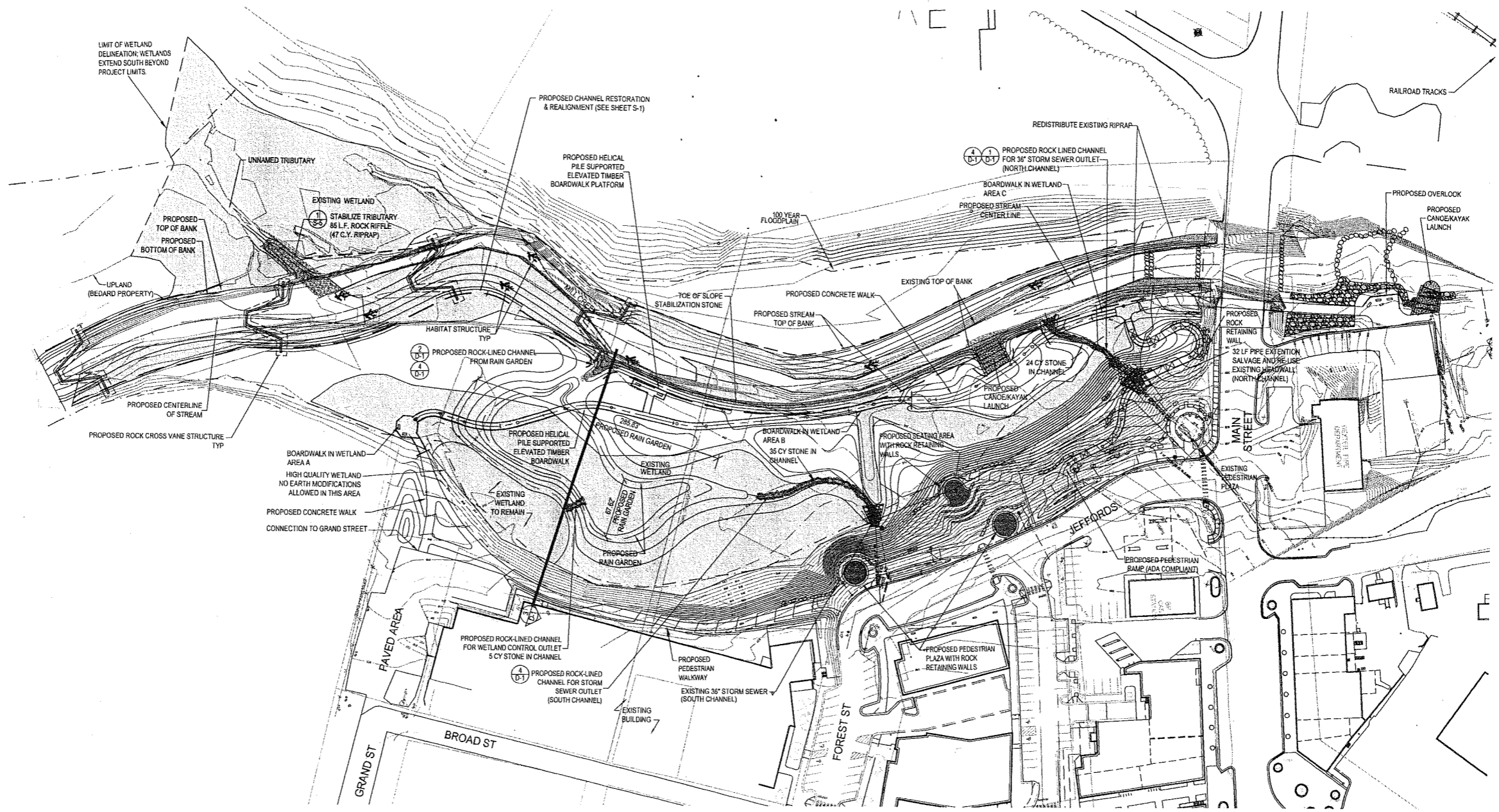
MAR 30 2011

DRAWING TITLE
PROPOSED PLAN

SCALE
0 30 60
50:1

PROJECT NUMBER 10-0276

DRAWING NUMBER
P-2



- NOTES:
- SEE SHEET D-1 FOR TYPICAL ROCK-LINED CHANNEL CROSS-SECTIONAL DETAIL.
 - EXISTING HEAVY RIP-RAP AT SOUTH CHANNEL HEADWALL SHALL REMAIN AND IS NOT INCLUDED IN STONE QUANTITIES CHART.
 - EXISTING HEAVY RIP-RAP AT NORTH CHANNEL HEADWALL SHALL BE RELOCATED TO NEW HEADWALL LOCATION.
 - QUANTITIES OF HEAVY RIP-RAP AT EXISTING HEADWALLS AND AT EXISTING STONE, FLOW CONTROL STRUCTURES, ARE EXISTING AND NOT INCLUDED IN PROPOSED STONE VOLUMES.
 - FILL AREAS SHALL BE FILLED WITH EXISTING SOILS FROM CUT AREAS AND TOPPED WITH 6" OF CLEAN TOPSOIL.
 - CUT AREAS SHALL BE TOPPED WITH 6" OF CLEAN TOPSOIL.

DEQ-LWMD
FILE # 09-81-0074 - P
APPROVED PLANS
PAGE 3 OF 23
3/31/11
MODIFIED

Riprap in Wetland

Activity	Average Width (ft)	Depth (ft)	Average Length (ft)	Volume (cyds)
North Channel	5	1.25	40	9.3
South Channel	5	1.25	150	34.7
Rain Garden Outlet	5	0	0	0
Mill Creek Tributary	12	1.5	70	47
High Qual. Wetland Outlet	5	1.25	20	5
TOTAL				96

Riprap in Floodplain

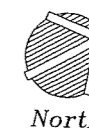
Activity	Average Width (ft)	Depth (ft)	Average Length (ft)	Volume (cyds)
North Channel	5	1.25	105	24.3
South Channel	5	1.25	150	34.7
Rain Garden Outlet	5	1.25	40	9.3
Mill Creek Tributary	12	1.5	70	47
High Qual. Wetland Outlet	5	1.25	20	5
TOTAL				120.3

BOARDWALK SUMMARY

ACTIVITY	AVERAGE WIDTH (FT)	AVERAGE LENGTH (FT)	AREA (SQ FT)
BOARDWALK IN WETLAND			
BOARDWALK - AREA A	9.42	201	1895
BOARDWALK - AREA B	8	122	976
BOARDWALK - AREA C	8	23	184
TOTAL BOARDWALK IN WETLAND		346	3055
BOARDWALK IN FLOODPLAIN			
BOARDWALK IN FLOODPLAIN	8	679	5,432
BOARDWALK PLATFORM IN FLOODPLAIN	9.5	40	380
CONNECTION TO MAIN BOARDWALK	16.4	40	656
TOTAL BOARDWALK IN FLOODPLAIN		759	6,468



MILL CREEK PARK
PHASE 1 IMPROVEMENTS
DEXTER, MICHIGAN



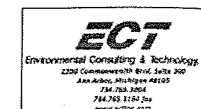
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SEALS AND SIGNATURES

KEY PLAN

WATER RESOURCES DIVISION

MAR 30 2011

DRAWING TITLE
WETLAND & FLOODPLAIN
IMPACTS

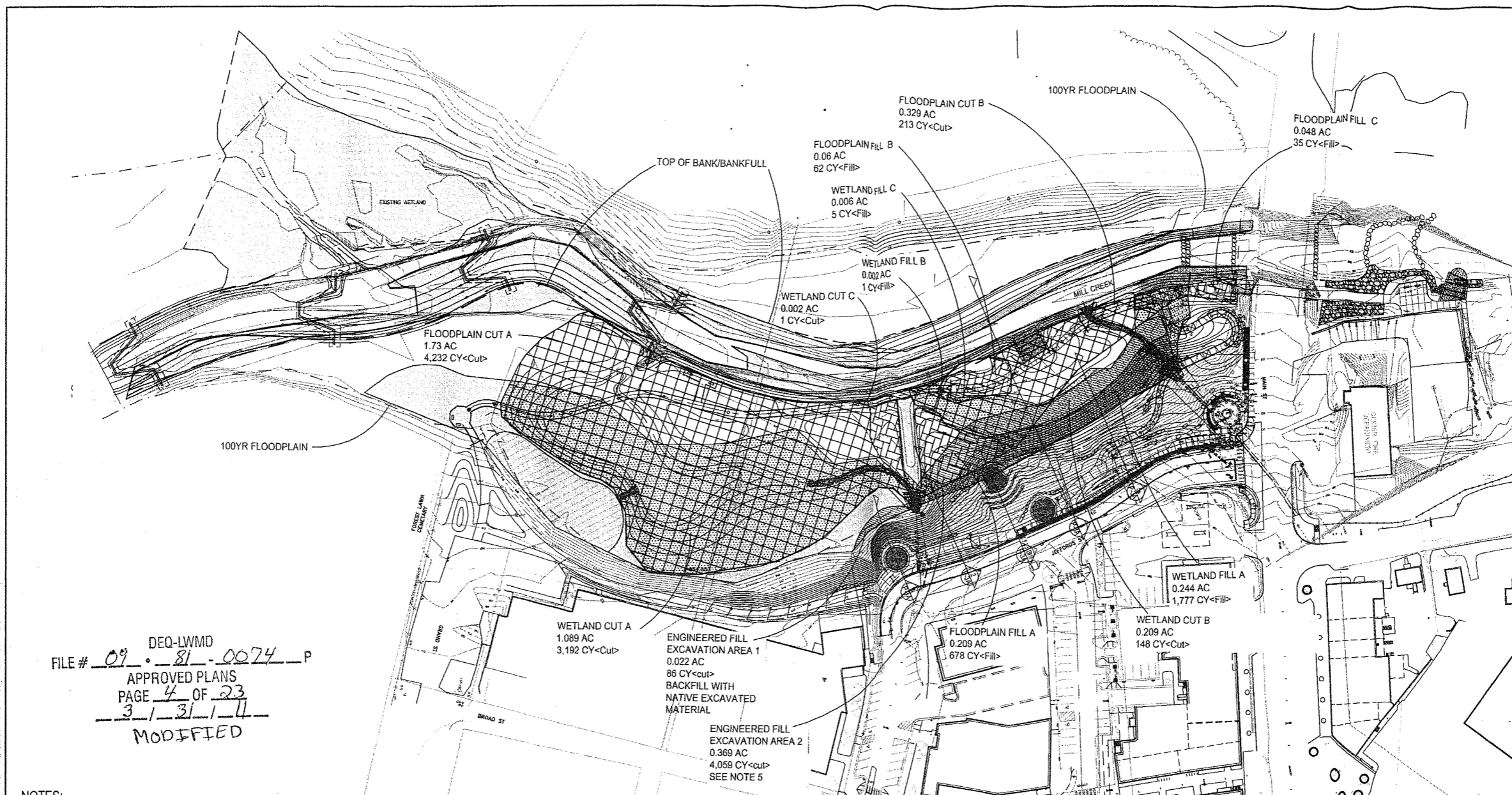
SCALE
50' / 1" =

SCALE 10-02-50

PROJECT NUMBER

P-3

DRAWING NUMBER



FILE # 09-81-0074 P
 DEQ-LWMD
 APPROVED PLANS
 PAGE 4 OF 23
3/31/11
 MODIFIED

NOTES:

- SEE SHEET P-5 & S-1 THROUGH S-5 FOR DETAIL STREAM DESIGN & ASSOCIATED IMPACTS (INCLUDING TRIBUTARY)
- SEE SHEET P-6 FOR BOARDWALK DETAILS AND IMPACTS
- FILL AREAS SHALL BE FILLED WITH EXISTING SOILS FROM CUT AREAS AND TOPPED WITH 6" OF CLEAN TOPSOIL.
- CUT AREAS SHALL BE TOPPED WITH 6" OF CLEAN TOPSOIL.
- 4,059 CUBIC YARDS OF SOIL IN THIS AREA AREA TO BE EXCAVATED TO FIRM SUBGRADE FOR INSTALLATION OF A 3, 500 CUBIC YARD ENGINEERED BACKFILL KEY TO STABILIZE PROPOSED FILL SLOPES. ENGINEERED BACKFILL KEY TO BE BACKFILLED WITH EXCAVATED MATERIAL. EXCESS EXCAVATED MATERIAL SHALL BE USED IN PROPOSED FILL SLOPES. ELEVATION OF FIRM SUBGRADE / DEPTH OF EXCAVATION IS 830.0. REFER EARTHWORK SECTION SHEET P-3A

ACTIVITY	AVERAGE WIDTH (FT)	AVERAGE HEIGHT (FT)	AVERAGE LENGTH (FT)	FILL AREA (ACRES)	FILL VOLUME (CYDS)	CUT AREA (ACRES)	CUT VOLUME (CYDS)
AREA 1	7.11	9.920	49	0.008	128	0.008	128
AREA 2	42.92	11.11	136	0.134	2,402	0.134	2,402

ACTIVITY	AVERAGE WIDTH (FT)	AVERAGE HEIGHT (FT)	AVERAGE LENGTH (FT)	FILL AREA (ACRES)	FILL VOLUME (CYDS)	CUT AREA (ACRES)	CUT VOLUME (CYDS)
AREA 1	9.41	10.213	88	0.190	314	0.019	314
AREA 2	46.83	10.355	226	0.291	4,059	0.291	4,059

ACTIVITY	AVERAGE WIDTH (FT)	AVERAGE HEIGHT (FT)	AVERAGE LENGTH (FT)	FILL AREA (ACRES)	FILL VOLUME (CYDS)	CUT AREA (ACRES)	CUT VOLUME (CYDS)
CUT AREA A	109.55	1.817	433	-	-	1.089	3,192
CUT AREA B	33.47	0.439	272	-	-	0.209	148
CUT AREA C	5.81	0.309	15	-	-	0.002	1
FILL AREA A	30.54	4.514	348	0.244	1,777	-	-
FILL AREA B	3.96	0.309	22	0.002	1	-	-
FILL AREA C	6.70	0.516	39	0.006	5	-	-
TOTAL WETLAND IMPACTS				0.252	1,783	1.300	3,341

ACTIVITY	AVERAGE WIDTH (FT)	AVERAGE HEIGHT (FT)	AVERAGE LENGTH (FT)	FILL AREA (ACRES)	FILL VOLUME (CYDS)	CUT AREA (ACRES)	CUT VOLUME (CYDS)
CUT AREA A	180.71	1.516	417	-	-	1.730	4,232
CUT AREA B	46.83	0.401	306	-	-	0.329	213
FILL AREA A	76.50	2.011	119	0.209	678	-	-
FILL AREA B	33.08	0.641	79	0.060	62	-	-
FILL AREA C	17.87	0.452	117	0.048	35	-	-
TOTAL FLOODPLAIN IMPACTS				0.388	775	2.029	4,445

- LEGEND
- WETLAND AREA
 - FLOODPLAIN FILL
 - FLOODPLAIN CUT
 - WETLAND CUT
 - WETLAND FILL
 - ENGINEERED FILL EXCAVATION

MILL CREEK PARK
PHASE 1 IMPROVEMENTS

DEXTER, MICHIGAN

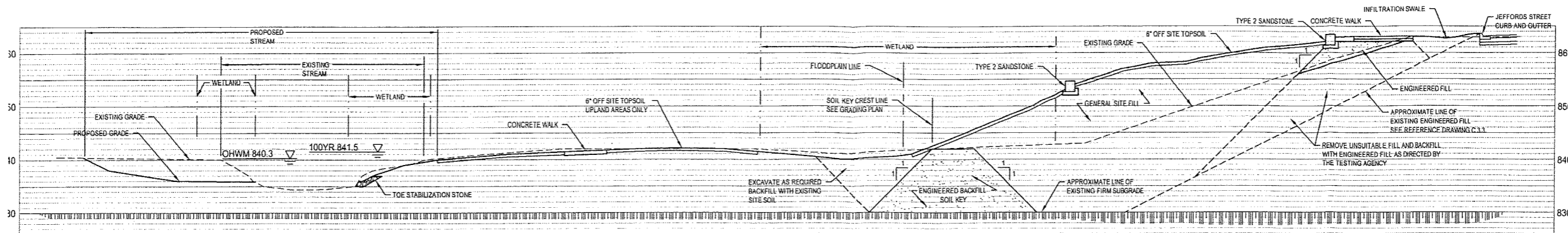
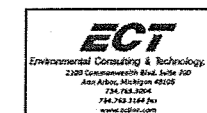
VILLAGE OF DEXTER

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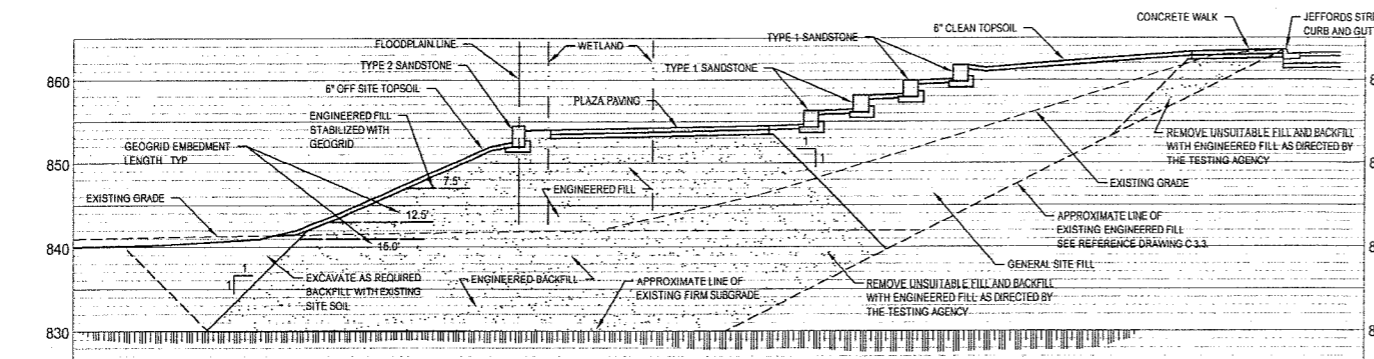
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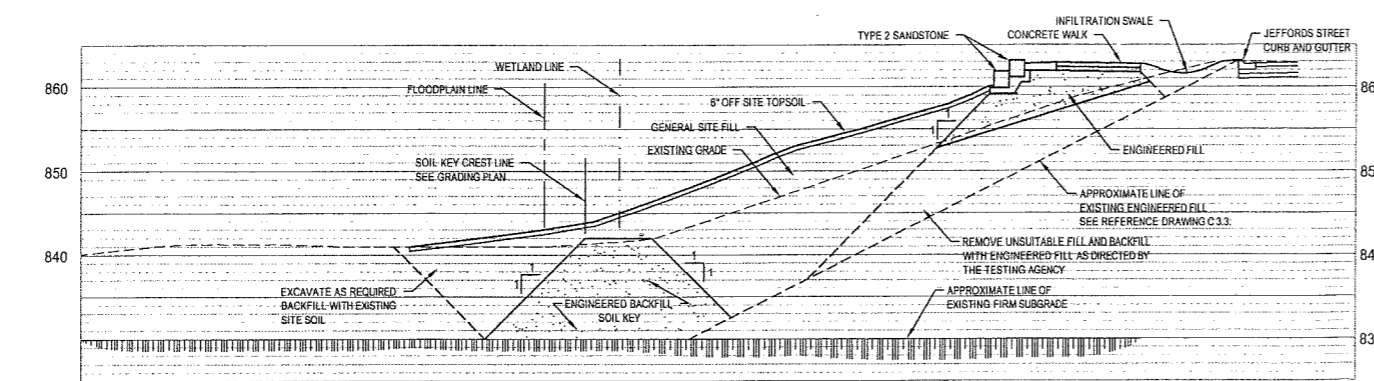
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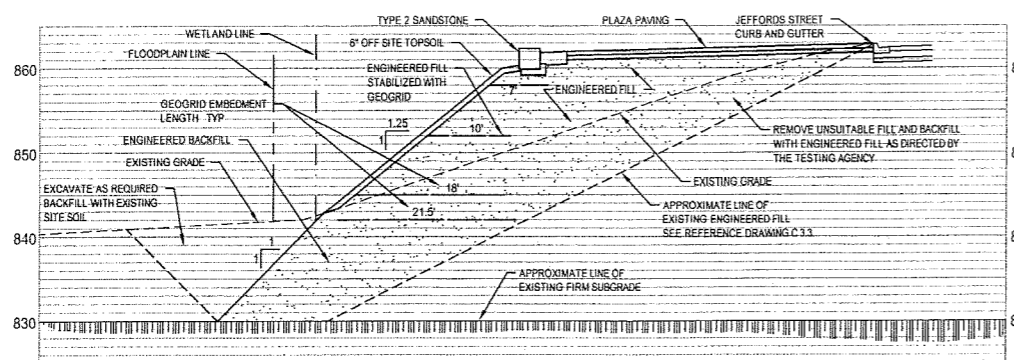
4 SECTION NORTH OF CENTRAL PLAZA
P-3A SCALE 1"=10'



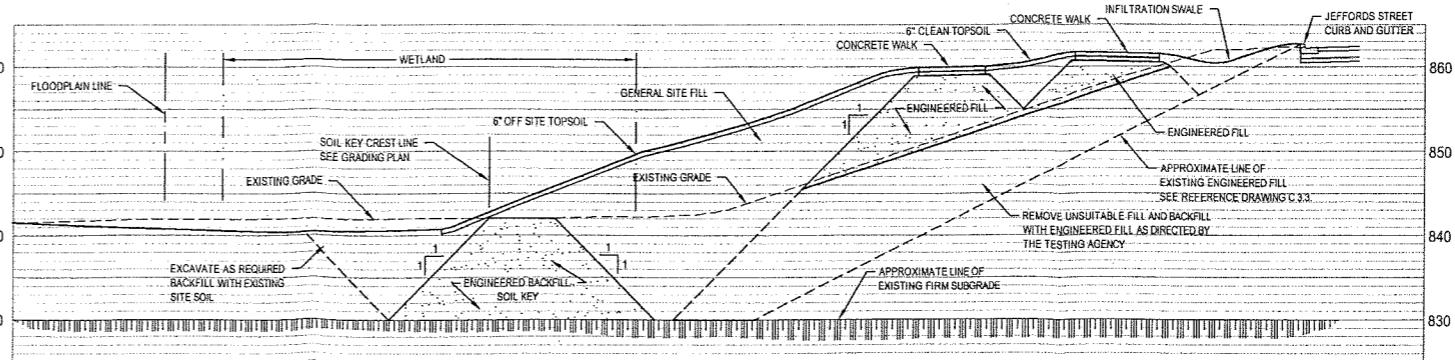
3 SECTION AT AMPHITHEATER
P-3A SCALE 1"=10'



2 SECTION AT SOUTHERN INFILTRATION SWALE
P-3A SCALE 1"=10'



1 SECTION AT SOUTH PLAZA
P-3A SCALE 1"=10'



5 SECTION AT NORTHERN INFILTRATION SWALE
P-3A SCALE 1"=10'

- NOTES:
- ENGINEERED FILL TO BE GRANULAR SITE FILL FROM ON SITE STOCKPILES.
 - SEE GEOTECHNICAL REPORT FOR CLASSIFICATION OF SITE SOILS.
 - GEOGRID TO BE UNI-AXIAL GEOGRID KNITTED FROM POLYESTER YARNS WITH AN ULTIMATE STRENGTH GREATER THAN 3600 POUNDS/FOOT. STRATAGRID SG-200 OR APPROVED EQUAL. INSTALL GEOGRID PER MANUFACTURER'S SPECIFICATIONS.
 - EXISTING WETLANDS WITHIN LIMITS OF GRADING AND SEEDING SHALL BE RESTORED TO ORIGINAL ELEVATIONS UNLESS OTHERWISE NOTED WITH PROPOSED GRADES.

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FILE # 09-81-0074-P
APPROVED PLANS
PAGE 5 OF 23
3/31/11
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MDNRE PERMIT		03-28-2011

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

KEY PLAN

WATER RESOURCES DIVISION

MAR 30 2011

DRAWING TITLE
EARTHWORK SECTIONS

SCALE 1"=10'

PROJECT NUMBER 10-0236

DRAWING NUMBER P-4

MILL CREEK PARK
PHASE 1 IMPROVEMENTS
DEXTER, MICHIGAN

VILLAGE OF DEXTER

MDNRE FILE NO. 09-81-0074-P

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SEALS AND SIGNATURES

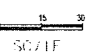
NOT FOR CONSTRUCTION

KEY PLAN

WATER RESOURCES DIVISION

MAR 30 2011

DRAWING TITLE
PROPOSED STREAM
IMPACTS

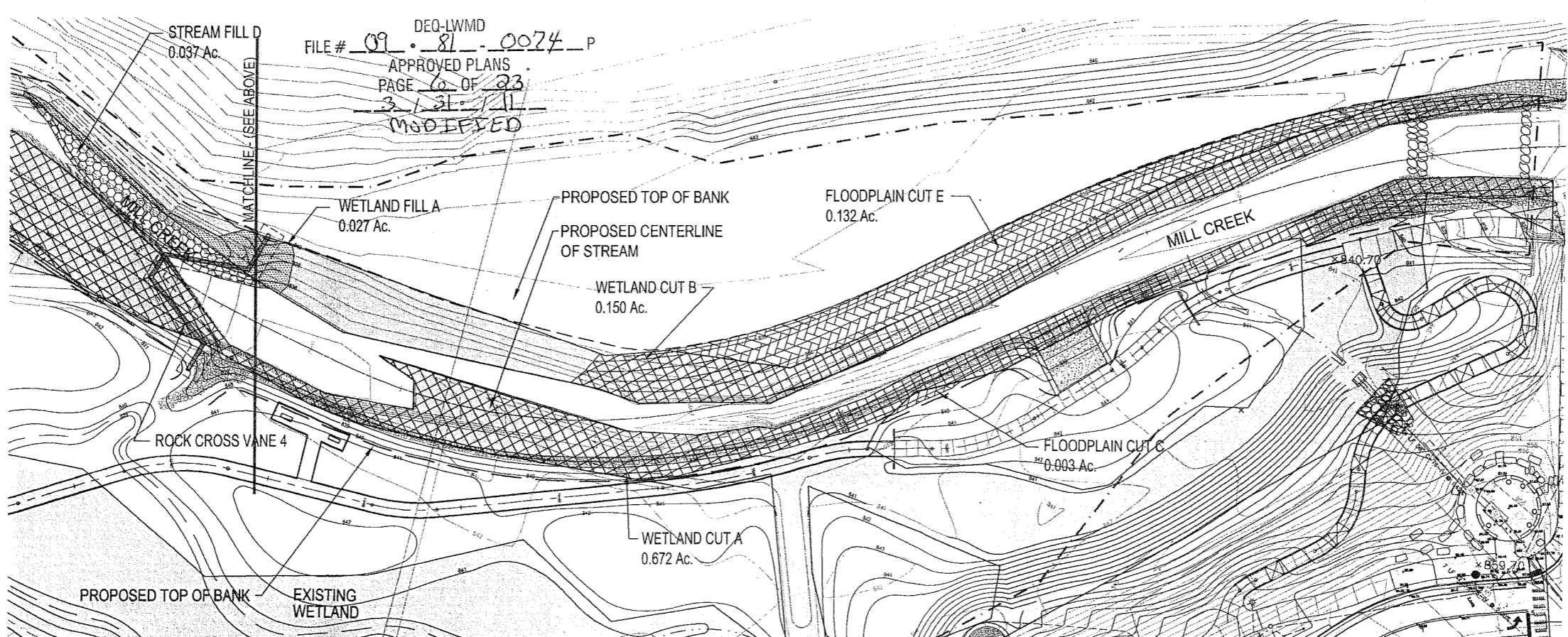
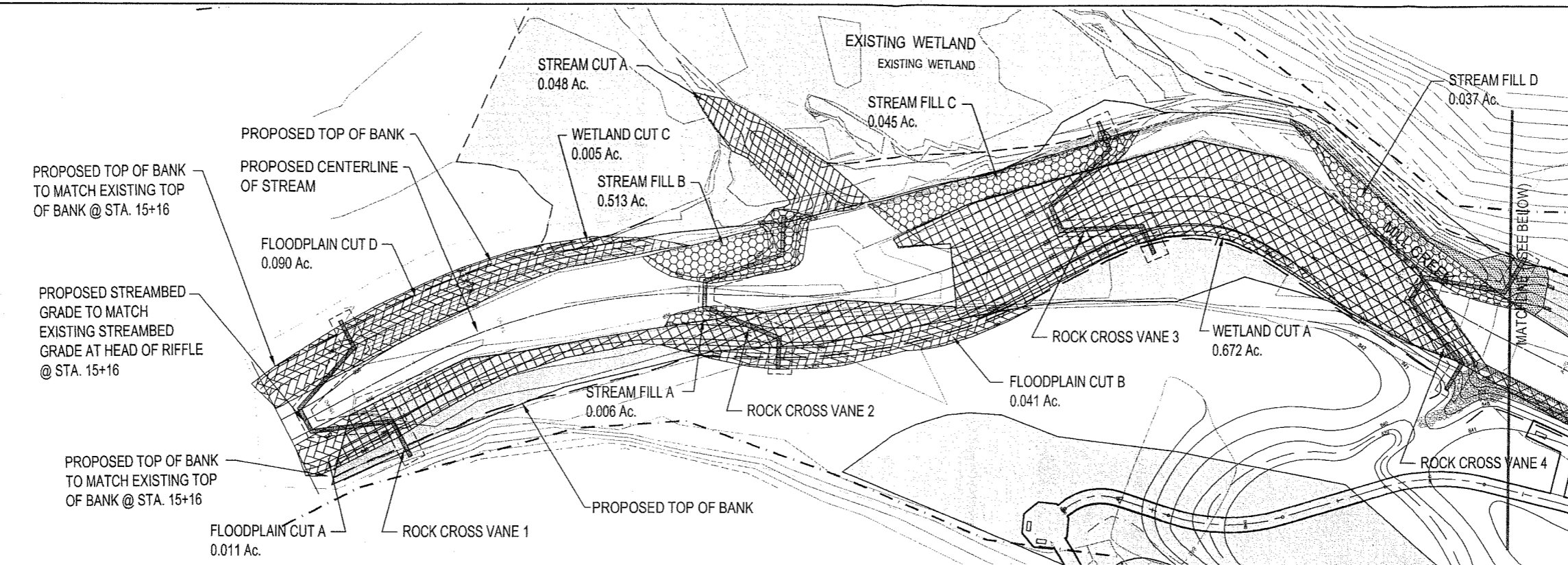


SCALE 10'-02.56'

PROJECT NUMBER

DRAWING NUMBER

P-5



DEQ-LWMD
FILE # 09-81-0074-P
APPROVED PLANS
PAGE 6 OF 23
3/21/11
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NOTES:

1. THIS SHEET ILLUSTRATES PROPOSED IMPACTS TO MILL CREEK ASSOCIATED WITH STREAM RESTORATION. REFER TO SHEET P-3 FOR PROPOSED IMPACTS BEYOND PROPOSED TOP OF BANK.
2. REFER TO SHEET S-2 FOR STREAM IMPACT QUANTITIES.

LEGEND

	WETLAND AREA
	FLOODPLAIN CUT
	FLOODPLAIN FILL
	WETLAND CUT
	WETLAND FILL
	STREAM CUT
	STREAM FILL

**MILL CREEK PARK
PHASE 1 IMPROVEMENTS**
DEXTER, MICHIGAN

VILLAGE OF DEXTER

MDNRE FILE NO. 09-81-0074-P

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MDAQ PERMIT		03-28-2011

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

KEY PLAN

WATER RESOURCES DIVISION

MAR 30 2011

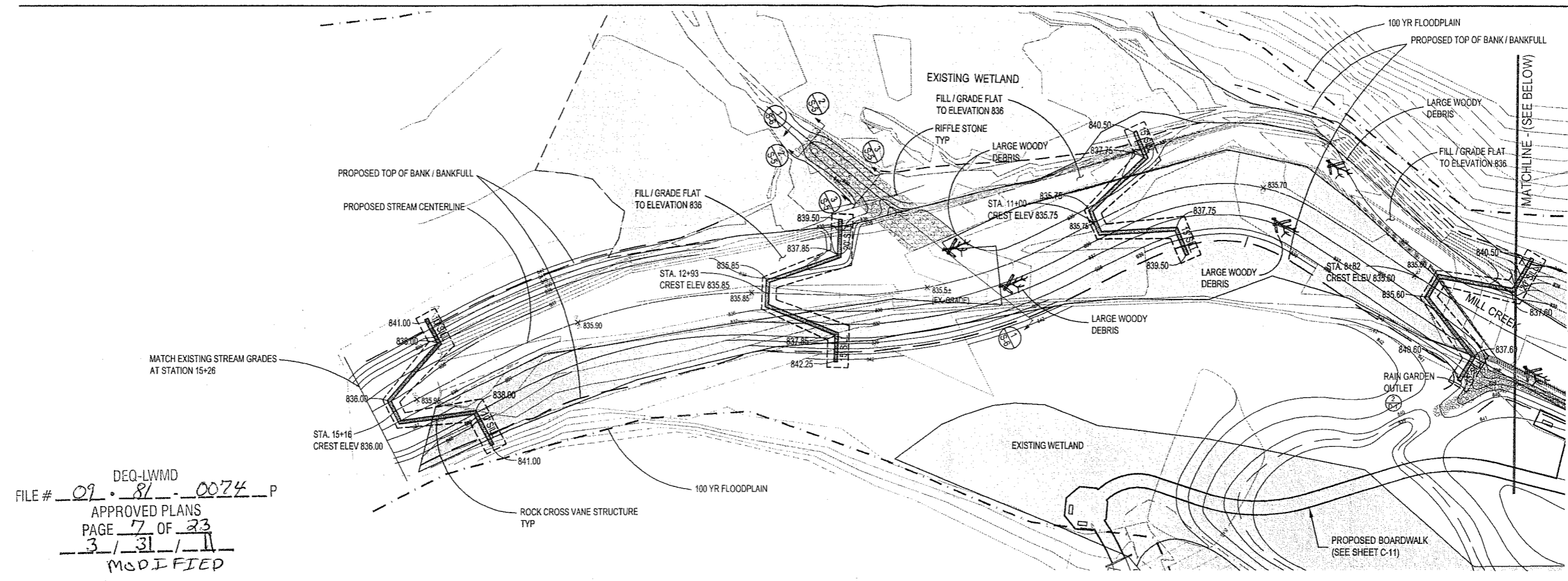
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**PROPOSED STREAM
DESIGN PLAN**

SCALE 1" = 30'

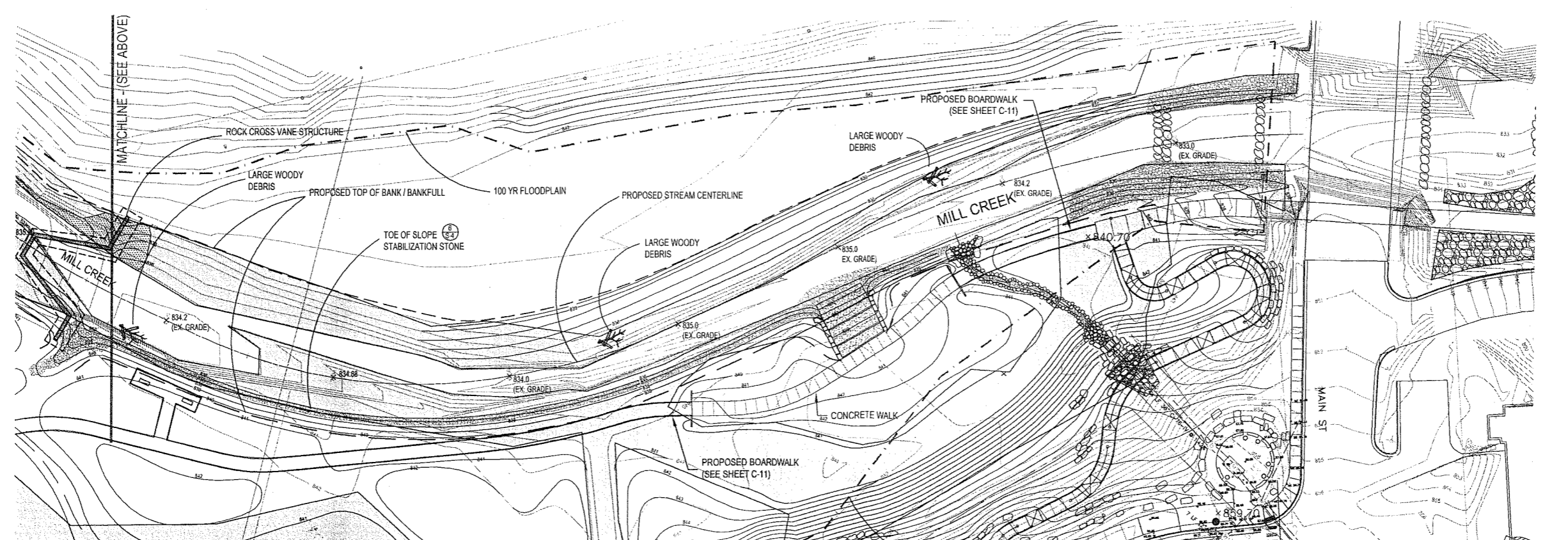
PROJECT NUMBER

DRAWING NUMBER

S-1



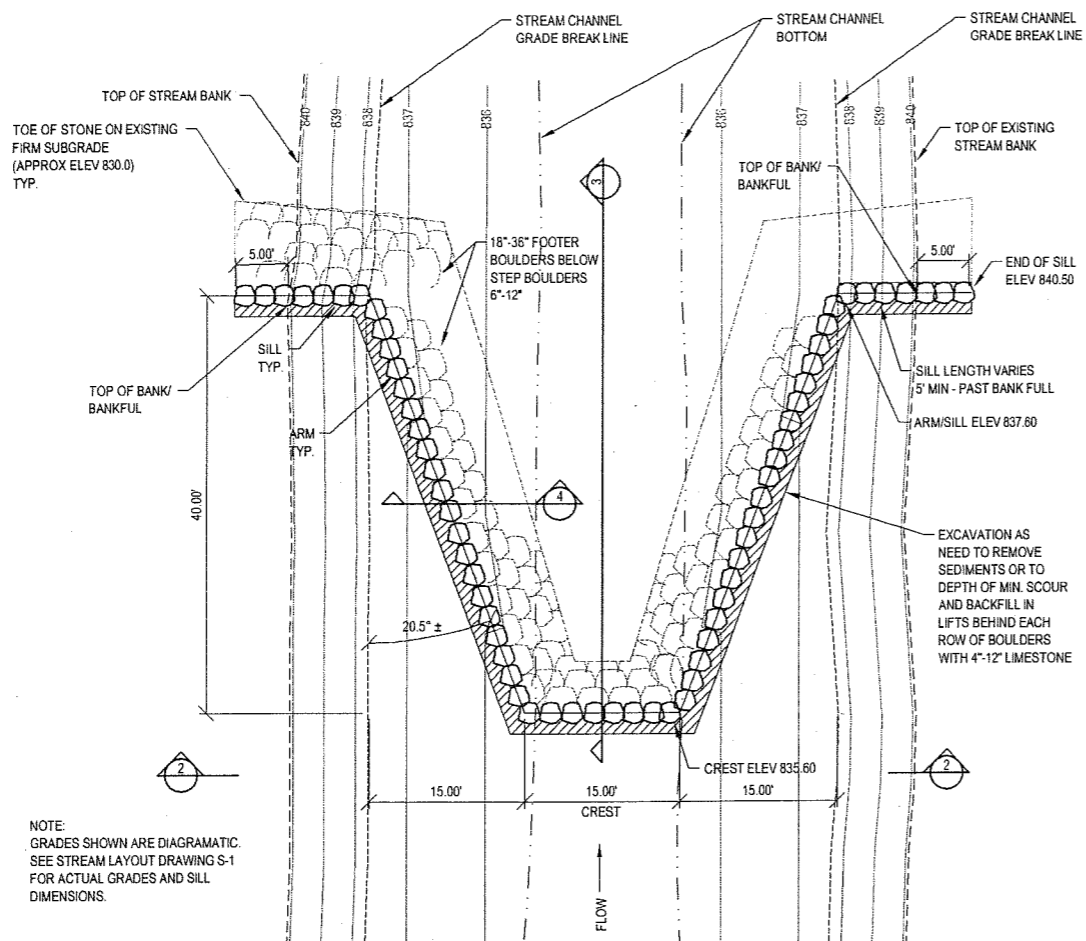
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PAGE 7 OF 23
3-1-31-11
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NOTE:
THIS SHEET ILLUSTRATES PROPOSED STREAM RESTORATION DESIGN PLAN FOR MILL CREEK.
SEE SHEET S-4 FOR TYPICAL STREAM CROSS-SECTIONAL DETAIL, STONE TOE OF SLOPE DETAIL, AND LARGE WOODY DEBRIS DETAIL.
SEE SHEET S-2 FOR PROPOSED ROCK VANE DETAILS

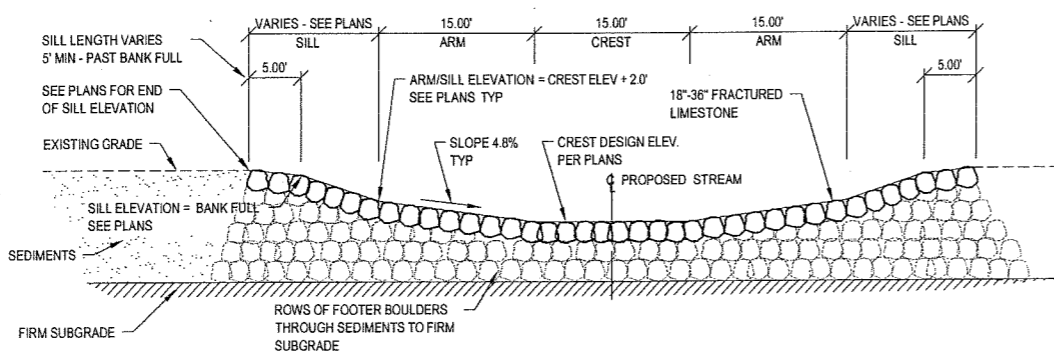
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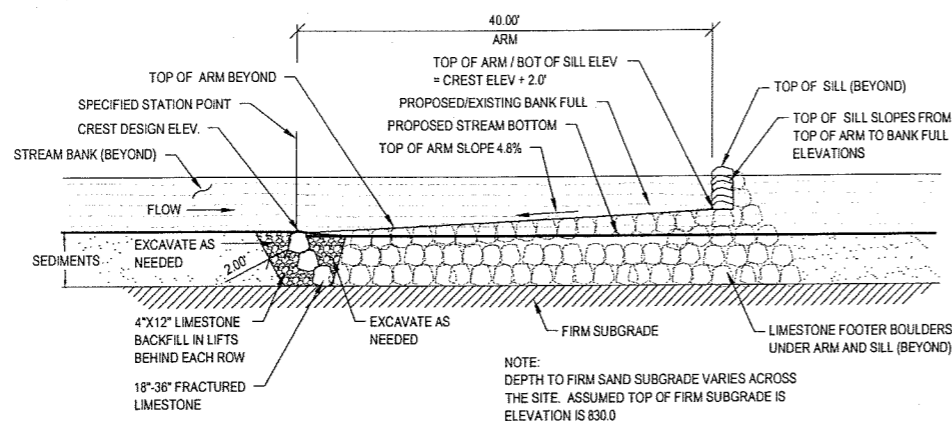
1 S-2 TYPICAL ROCK CROSS VANE GEOMETRY PLAN

SCALE: 1"=10'



2 S-2 ROCK CROSS VANE - ELEVATION

SCALE: 1"=10'



3 S-2 ROCK CROSS VANE - SECTION THROUGH CREST

SCALE: 1"=10'

STREAM CONSTRUCTION IMPACTS							
ACTIVITY	AVERAGE WIDTH (FT)	AVERAGE HEIGHT (FT)	AVERAGE LENGTH (FT)	FILL AREA (ACRES)	FILL VOLUME (CYDS)	CUT AREA (ACRES)	CUT VOLUME (CYDS)
FLOODPLAIN CUT - AREA A	19.17	1.577	25	-	-	0.011	28
FLOODPLAIN CUT - AREA B	10.50	1.558	170	-	-	0.041	103
FLOODPLAIN CUT - AREA C	3.44	1.652	38	-	-	0.003	8
FLOODPLAIN CUT - AREA D	16.27	1.515	241	-	-	0.090	220
FLOODPLAIN CUT - AREA E	15.25	2.113	377	-	-	0.132	450
WETLAND CUT - AREA A	22.04	1.589	1,328	-	-	0.672	1,723
WETLAND CUT - AREA B	12.86	0.938	508	-	-	0.150	227
WETLAND CUT - AREA C	4.53	1.614	48	-	-	0.005	13
STREAM CUT - AREA A	21.78	1.007	96	-	-	0.048	78
STREAM FILL - AREA A	5.33	1.033	49	0.006	10	-	-
STREAM FILL - AREA B	21.03	1.003	87	0.042	68	-	-
STREAM FILL - AREA C	13.52	3.488	146	0.045	255	-	-
STREAM FILL - AREA D	11.56	2.52	139	0.037	150	-	-
WETLAND FILL - AREA A	7.54	1.001	156	0.027	44	-	-
TOTAL IMPACTS				0.157	527	1.152	2,850

ROCK CROSS VANE STRUCTURES								
ROCK CROSS VANE	CREST ELEVATION	SILL ELEVATION	LEFT SILL LENGTH (FT)	RIGHT SILL LENGTH (FT)	EXCAVATION (LxWxD)	EXCAVATION VOLUME (CYDS)	STONE PLACEMENT (LxWxD)	STONE VOLUME (CYDS)
ROCK CROSS VANE 1	836.0	838.0	10	10	119' x 5.8' x 7.6'	195	119' x 4.5' x 7.7'	153
ROCK CROSS VANE 2	835.85	837.85	20	15	134' x 5.8' x 7.5'	216	134' x 4.5' x 7.6'	170
ROCK CROSS VANE 3	835.75	837.75	15	15	129' x 5.8' x 7.4'	206	129' x 4.5' x 7.5'	162
ROCK CROSS VANE 4	835.60	835.30	20	15	134' x 5.8' x 7.2'	208	134' x 4.5' x 7.3'	163
TOTAL IMPACTS						825		648

ROCK CROSS VANE NOTES:

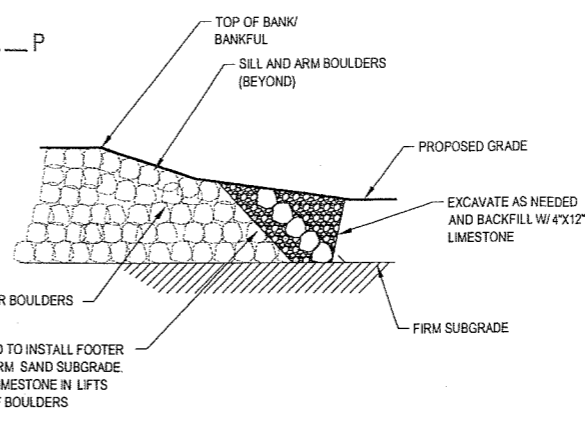
1. ROCK CROSS VANE EXCAVATION VOLUMES REPRESENT EXCAVATION REQUIRED FOR ROCK CROSS VANE CONSTRUCTION AND ARE BASED ON PROPOSED STREAM GRADING.
2. EXCAVATION AND STONE FILL WILL OCCUR BELOW PROPOSED CONDITIONS. NET FLOODPLAIN, STREAM AND WETLAND IMPACT IS ZERO.

TOE OF SLOPE STABILIZATION STONE							
ACTIVITY	AVERAGE WIDTH (FT)	AVERAGE HEIGHT (FT)	AVERAGE LENGTH (FT)	FILL AREA (ACRES)	FILL VOLUME (CYDS)	CUT AREA (ACRES)	CUT VOLUME (CYDS)
TOE OF SLOPE STABILIZATION STONE	3	1.525	472	0.33	80	0.33	80
TOTAL IMPACTS				0.33	80	0.33	80

ROCK CROSS VANE NOTES:

1. TOE OF SLOPE STABILIZATION STONE EXCAVATION VOLUMES REPRESENT EXCAVATION REQUIRED FOR TOE OF SLOPE STABILIZATION STONE CONSTRUCTION AND ARE BASED ON PROPOSED STREAM GRADING.
2. EXCAVATION AND STONE FILL WILL OCCUR BELOW PROPOSED CONDITIONS. NET FLOODPLAIN, STREAM AND WETLAND IMPACT IS ZERO.
3. FOR TOE OF SLOPE STABILIZATION STONE CONSTRUCTION REFER TO DETAIL 5 ON SHEET S-4

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FILE # 09-81-0074-P
APPROVED PLANS
PAGE 8 OF 23
3/31/11
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4 S-2 ROCK CROSS VANE - SECTION THROUGH ARM

SCALE: 1"=10'

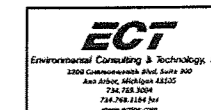
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KEY PLAN

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DRAWING TITLE
PROPOSED ROCK CROSS
VANE DETAILS

SCALE 50097.00'

PROJECT NUMBER

DRAWING NUMBER S-2

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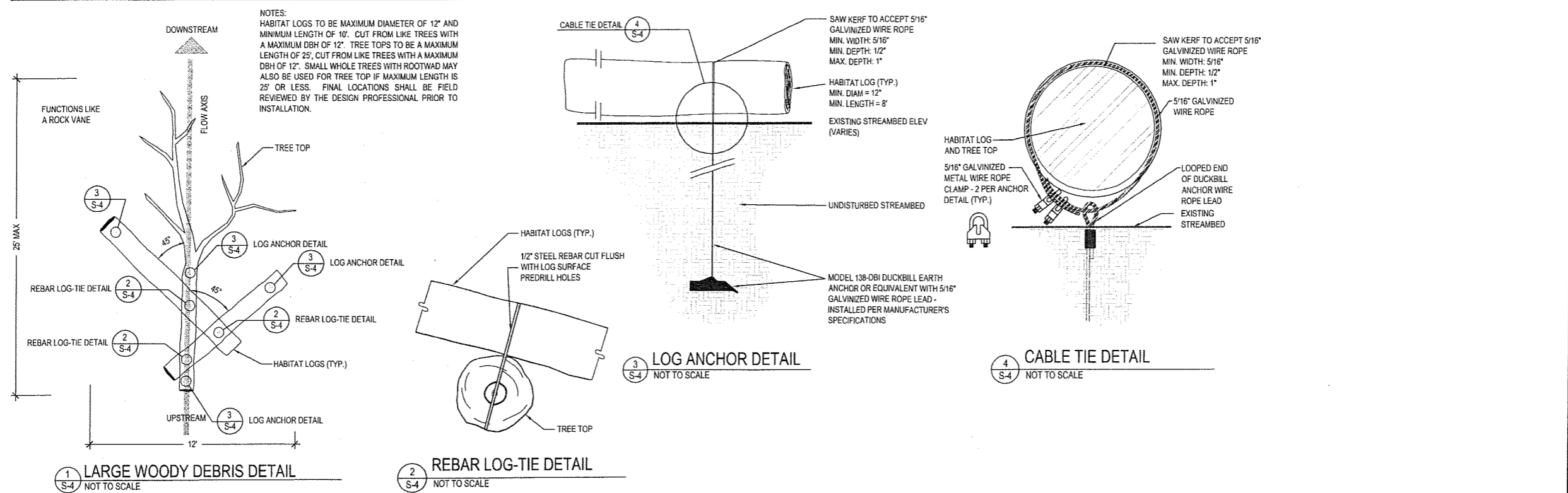
DRAWING TITLE

**PROPOSED STREAM
CHANNEL DETAILS**

SCALE 50097.007

PROJECT NUMBER

DRAWING NUMBER **S-4**



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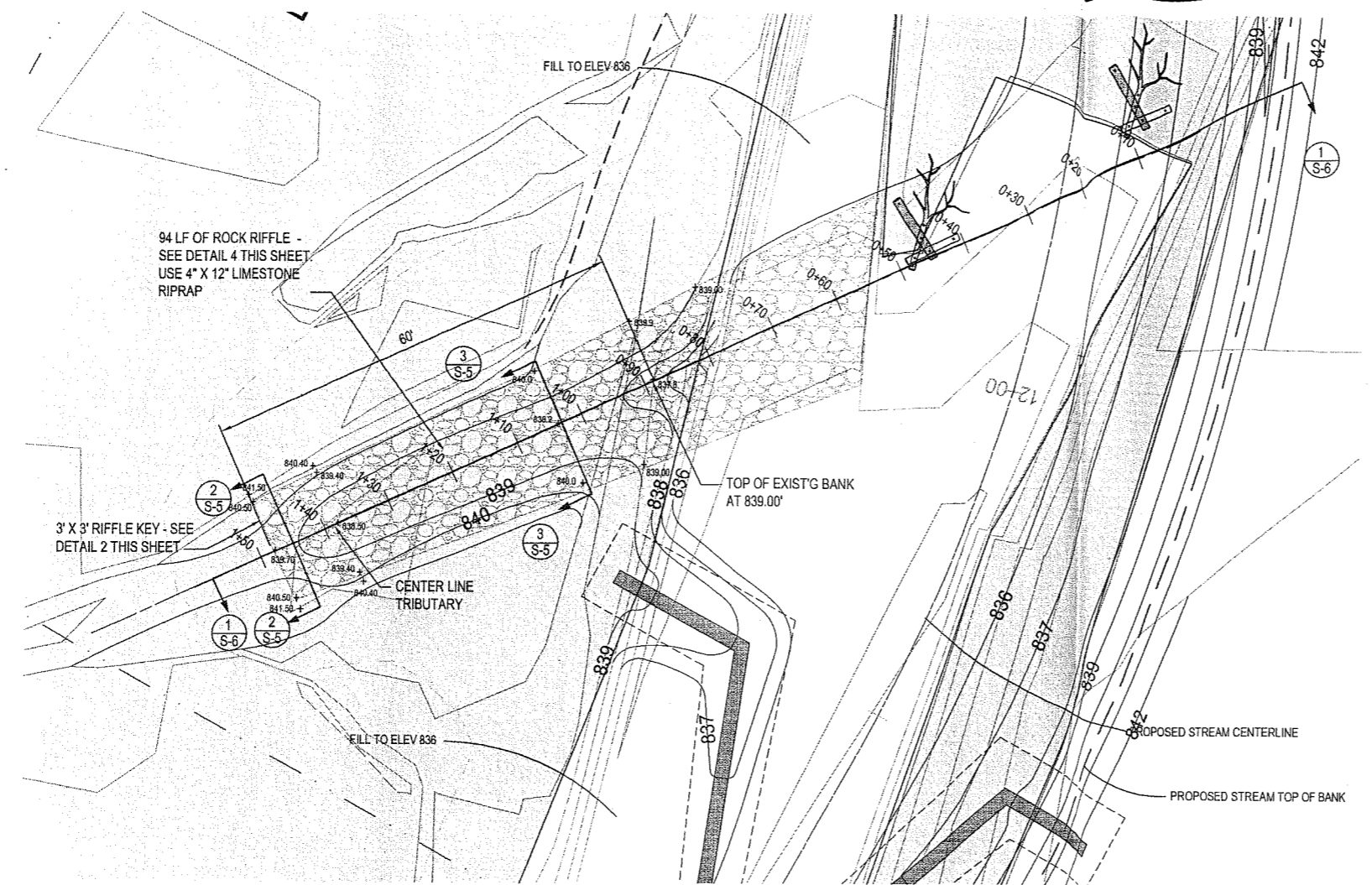
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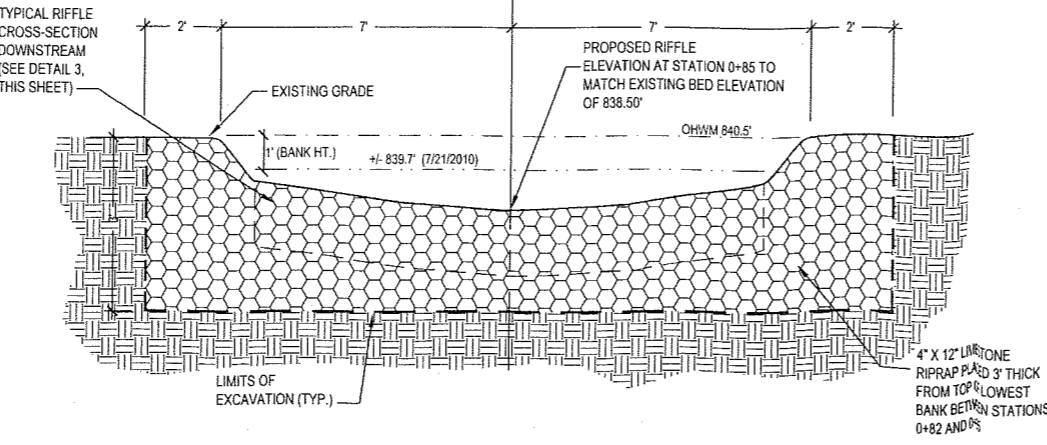
TABLE OF PROPOSED STREAM & CENTERLINE STATION COORDINATES			
STATION NO.	ELEV.	X	Y
0+00	836.5	13251552.8053	305194.6183
0+40	836.5	13251516.2809	305178.2349
0+82	836.7	13251476.0581	305160.1618
0+89	837.8	13251529.0801	305184.0396



1 S-5
EXISTING TRIBUTARY - STABILIZATION PLAN
1" = 10'

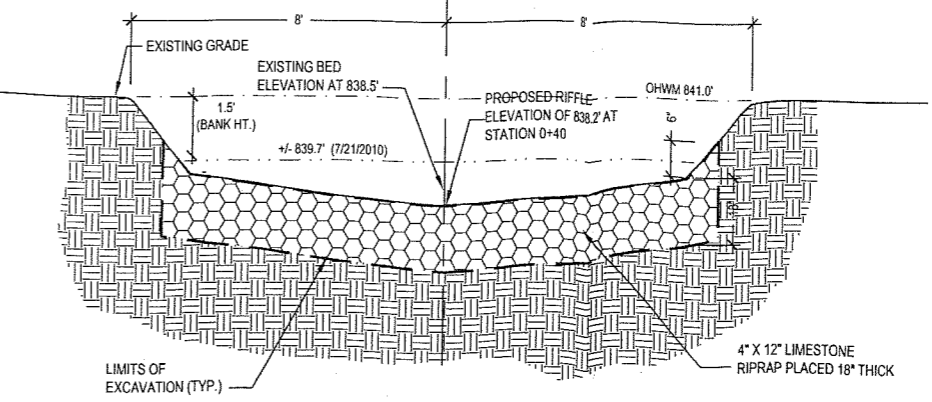
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APPROVED PLANS
PAGE 10 OF 23
3/31/11
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- NOTES:
1. RESTORE ALL DISTURBED AREAS TO ORIGINAL GRADES.
2. SEED AND MULCH ALL DISTURBED AREAS.



2 S-5
CROSS-SECTION AT RIFFLE KEY - STATION 1+38
NOT TO SCALE

- NOTES:
1. RESTORE ALL DISTURBED AREAS TO ORIGINAL GRADES.
2. SEED AND MULCH ALL DISTURBED AREAS.



3 S-5
TYPICAL RIFFLE CROSS-SECTION - STATION 1+03
NOT TO SCALE

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DRAWING TITLE
PROPOSED TRIBUTARY
STABILIZATION DETAILS

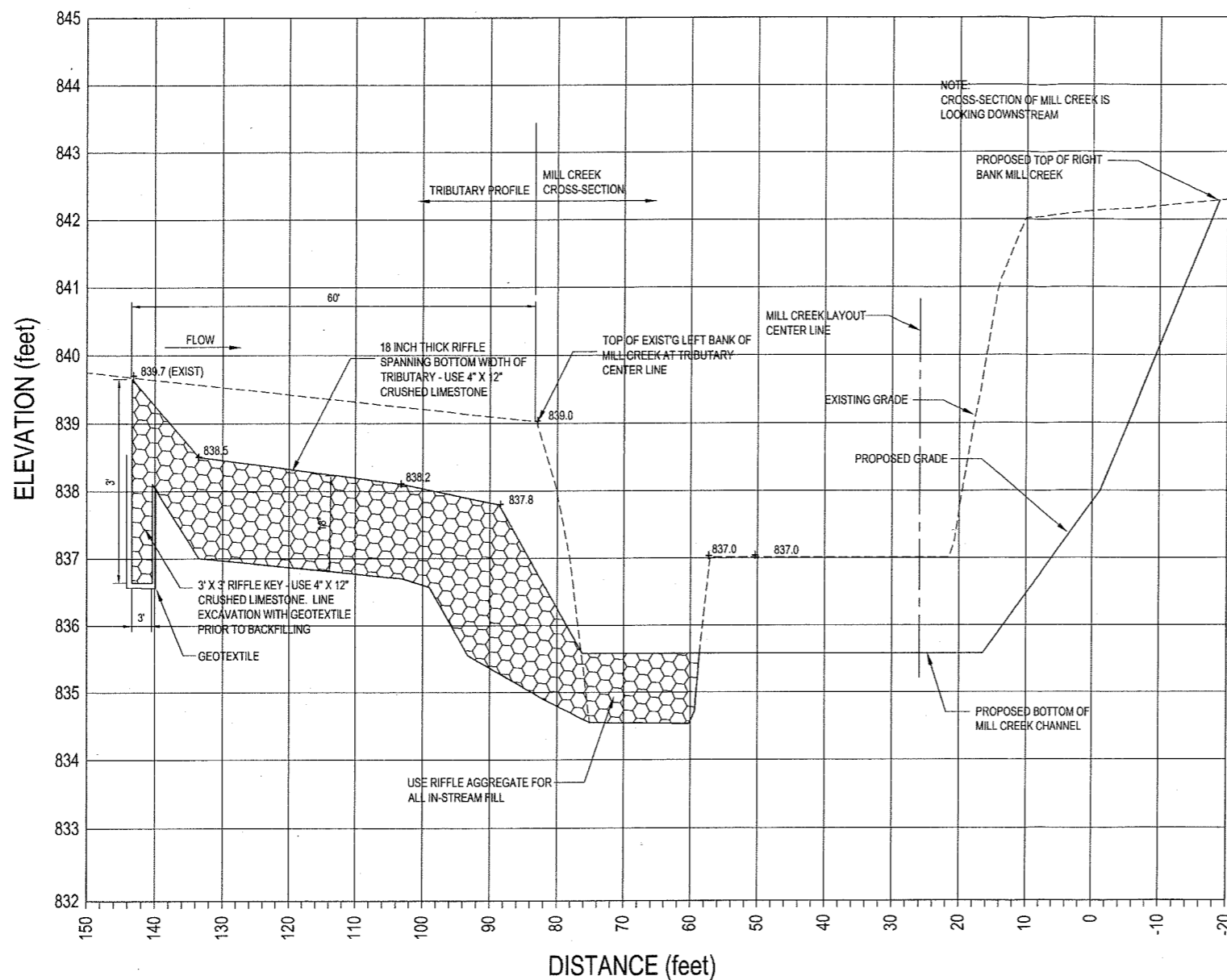
SCALE 50097.00'
PROJECT NUMBER
DRAWING NUMBER S-5

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① TRIBUTARY RIFFLE PROFILE
1" = 1' VERT / 1" = 10' HORZ

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FILE # 09-81-0074 P
APPROVED PLANS
PAGE 11 OF 23
3/31/11
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DRAWING TITLE
PROPOSED TRIBUTARY
STABILIZATION DETAILS

SCALE 50097.007

PROJECT NUMBER

DRAWING NUMBER **S-6**

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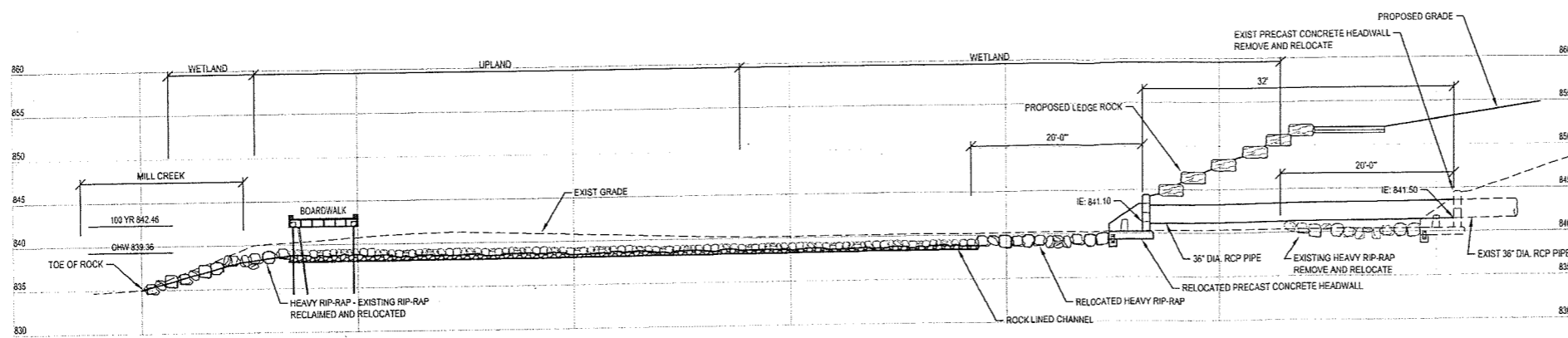
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**STORMWATER OUTLETS &
RAIN GARDEN DETAILS**

SCALE 10'-02"=1"

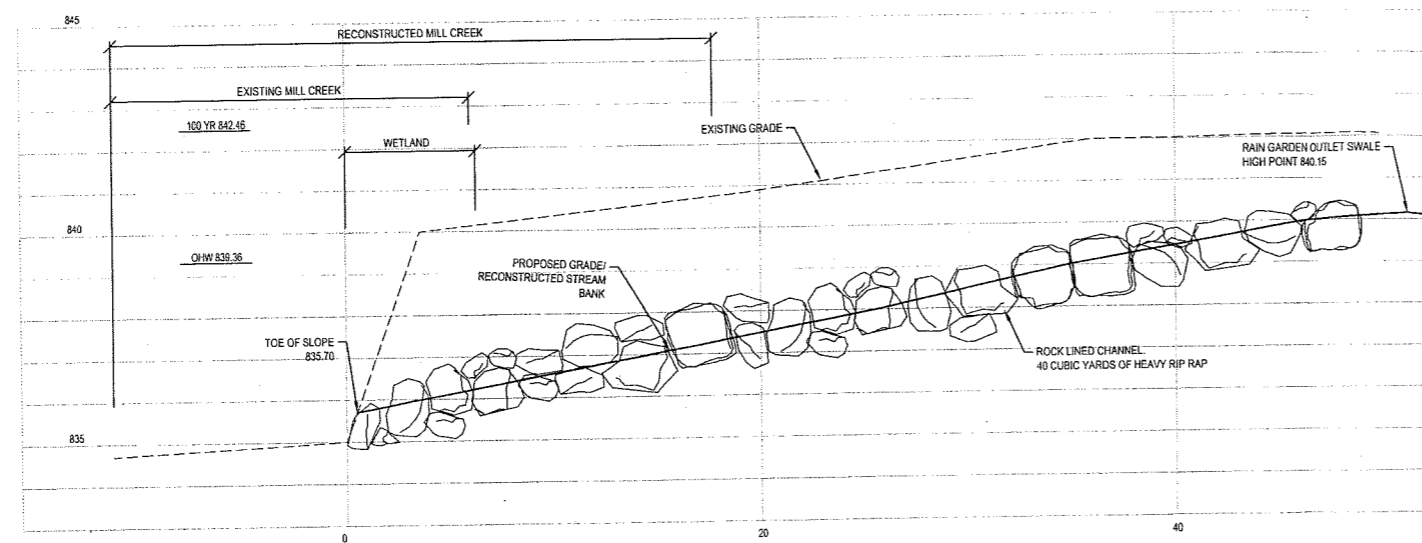
PROJECT NUMBER

D-1

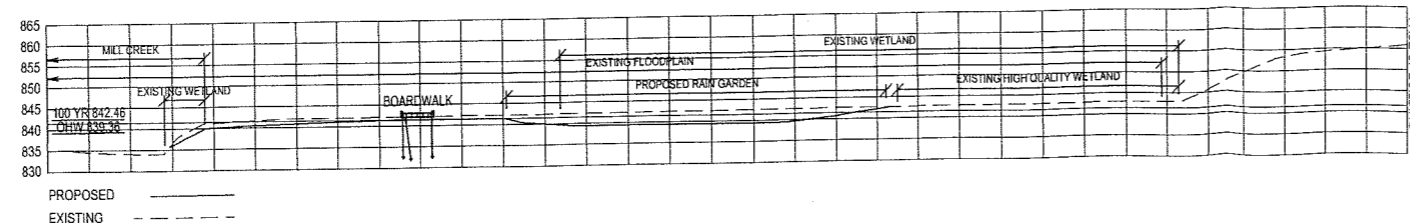
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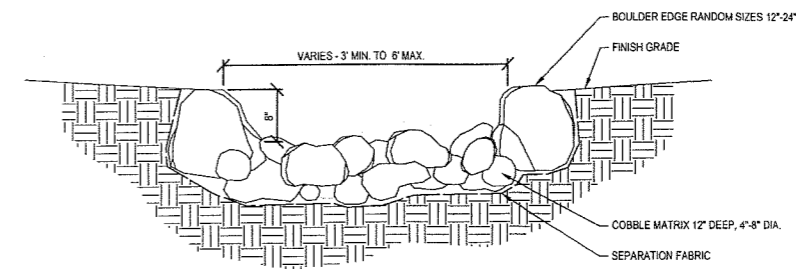
1 D-1 **STORM SEWER OUTLET - NORTH CHANNEL**



2 D-1 **RAIN GARDEN OUTLET**

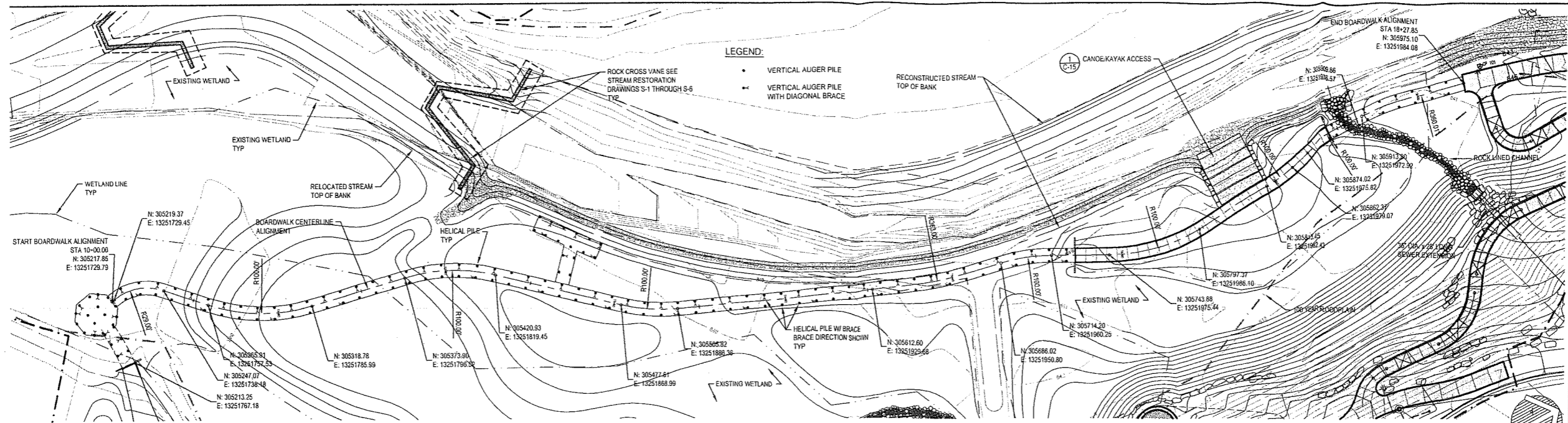


3 D-1 **RAIN GARDEN CROSS SECTION**

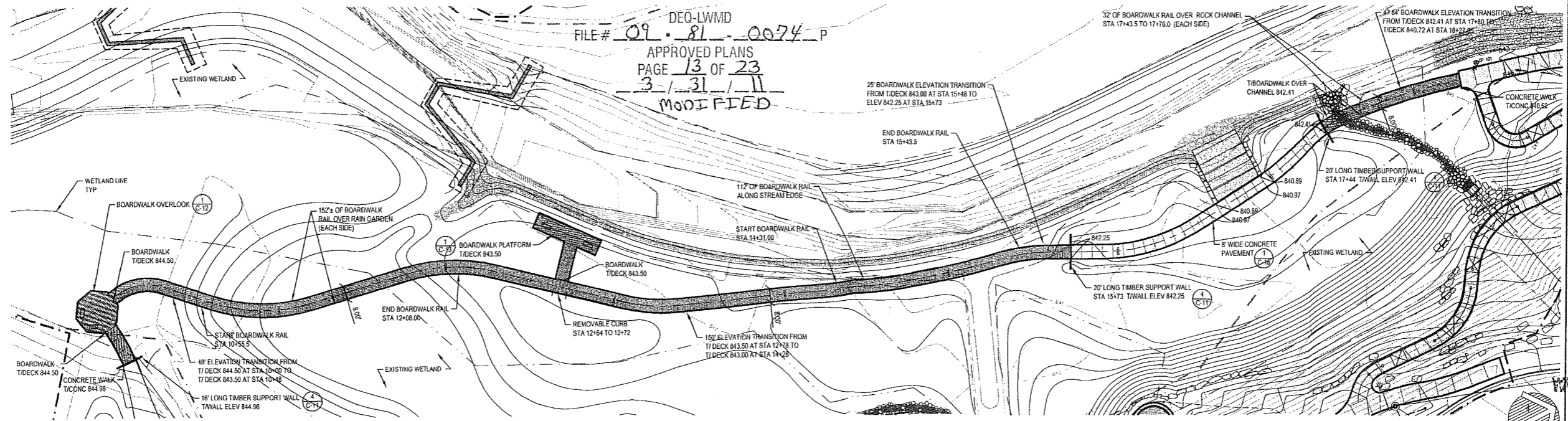


4 D-1 **ROCK LINED CHANNEL**

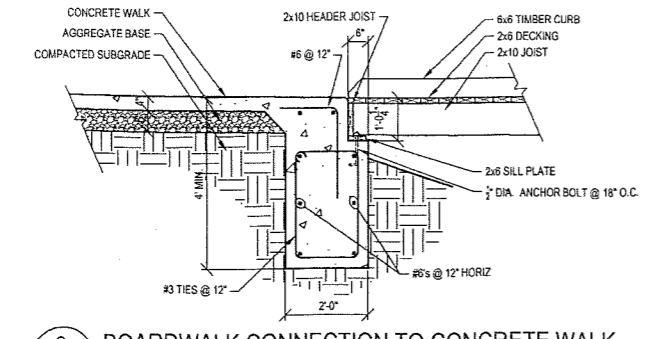
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PAGE 12 OF 23
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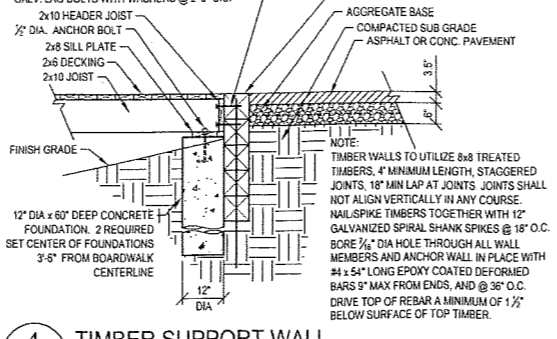
1 BOARDWALK PILE LAYOUT PLAN
 C-11 SCALE: 1"=30'



2 BOARDWALK PLAN
 C-11 SCALE: 1"=30'



3 BOARDWALK CONNECTION TO CONCRETE WALK
 C-11 SCALE: 1"=2'-0"



4 TIMBER SUPPORT WALL
 C-11 SCALE: 1"=2'-0"

BOARDWALK NOTES

- BOARDWALK TO BE PRESSURE TREATED TIMBER FRAME AND DECKING SUPPORTED ON HELICAL PILE FOUNDATIONS.
- BOARDWALK DESIGNED FOR 90 PSF ASHTO PEDESTRIAN LIVE LOAD AND 30 PSF DEAD LOAD.
- HELICAL PILES TO HAVE MINIMUM BEARING (COMPRESSION) OF 10 KIIPS.
- HELICAL BRACE (BATTER) PILES TO HAVE A MINIMUM TENSION/COMPRESSION OF 10 KIIPS.
- CENTERLINE ALIGNMENT SHOWN IS FOR LAYOUT PURPOSES ONLY. RADIi SHOWN ARE EQUIVALENTS. ACTUAL BOARDWALK TO BE CONSTRUCTED OF STRAIGHT SEGMENTS TO APPROXIMATE THE RADIAL SECTIONS.
- HELICAL PILES TO BE GALVANIZED SOLID STEEL SQUARE SHAFT MULTI-HELIX ANCHORS, MACLEAN-DIXIE HFS RCS, OR APPROVED EQUAL.
- DIAGONAL (BATTERED) HELICAL PILE BRACES TO BE PLACED IN ALTERNATE DIRECTIONS AT ALTERNATE PILE PAIRS, AND AS INDICATED ON THE PLANS.
- PILE PAIRS (BENTS) TO SUPPORT TRIPLE 2x12 TREATED TIMBER BEAMS. MAXIMUM CENTER TO CENTER SPACING BETWEEN PILE BENTS SHALL BE 10'-0". PILE BENTS SHALL BE CONSTRUCTED PERPENDICULAR TO THE BOARDWALK CENTERLINE ALIGNMENT.
- BOARDWALK FRAMING TO BE 2x10 TREATED TIMBER JOISTS SPACED 16" ON CENTER. JOISTS ARE TO BE SUPPORTED FROM TRIPLE 2x12 BEAMS WITH GALVANIZED STEEL JOIST HANGERS. JOIST HANGERS TO BE RATED FOR HEAVY DUTY SERVICE. SIMPSON STRONG-TIE HUS SERIES OR APPROVED EQUAL. MAXIMUM SPAN LENGTH OF 2x10 JOIST TO BE 10'-0". EXTERIOR (RIM EDGE) JOISTS TO BE 2x12 TREATED TIMBER, CONNECTED TO OUTER EDGE OF TRIPLE 2x12 BEAM.
- BOARDWALK TO HAVE CONTINUOUS 6x6 TREATED TIMBER CURB EXCEPT AT HANDRAIL LOCATIONS AND AT KAYAK LAUNCH ACCESS.
- TIMBER FOR FRAMING MEMBERS TO BE SOUTHERN YELLOW PINE, No. 1 SELECT STRUCTURAL, PRESSURE TREATED ACCORDING TO AWPA STANDARD U1, RATED FOR GROUND CONTACT.
- TIMBER FOR DECKING TO BE SOUTHERN YELLOW PINE, No. 1 OR No. 1 PRIME, PRESSURE TREATED FOR ABOVE GROUND APPLICATIONS, AND VISUALLY INSPECTED TO BE FREE OF ALL DEFECTS. DECKING TO BE PLACED WITH ANNULAR RINGS FACING DOWN (BARK SIDE UP).
- DECKING SHALL BE CONNECTED TO FRAMING WITH #10x3" STAINLESS STEEL DECK SCREWS. DECKING SHALL BE ATTACHED TO FRAMING MEMBERS (JOISTS) WITH A MINIMUM OF TWO SCREWS PER DECK BOARD PER JOIST FOR INTERNAL JOISTS (2x10'S) AND A MINIMUM OF THREE SCREWS PER DECK BOARD PER JOIST FOR EXTERIOR (RIM / EDGE) JOISTS

OPTIONAL PILE NOTES:

- THE CONTRACTOR IS PROVIDED THE OPTION TO INSTALL TIMBER PILES IN LIEU OF HELICAL PILES. DIFFERENT CONSTRUCTION REQUIREMENTS APPLY TO EACH OPTION.
- TIMBER PILES SHALL BE SPACED AS SHOWN ABOVE AS HELICAL PILES. LATERAL BRACING OF TIMBER PILES SHALL BE DESIGNED BY THE CONTRACTOR FOR FULL TRANSFER OF ALL VERTICAL AND HORIZONTAL LOADS.
- DRIVEN PRESSURE TREATED TIMBER PILES, ASTM D25, MINIMUM BEARING CAPACITY OF 10 KIIPS, 4 FOOT MINIMUM PENETRATION INTO MEDIUM DENSE SAND.
- PILES TO HAVE A MINIMUM BUTT CIRCUMFERENCE OF 12" AS NOTED

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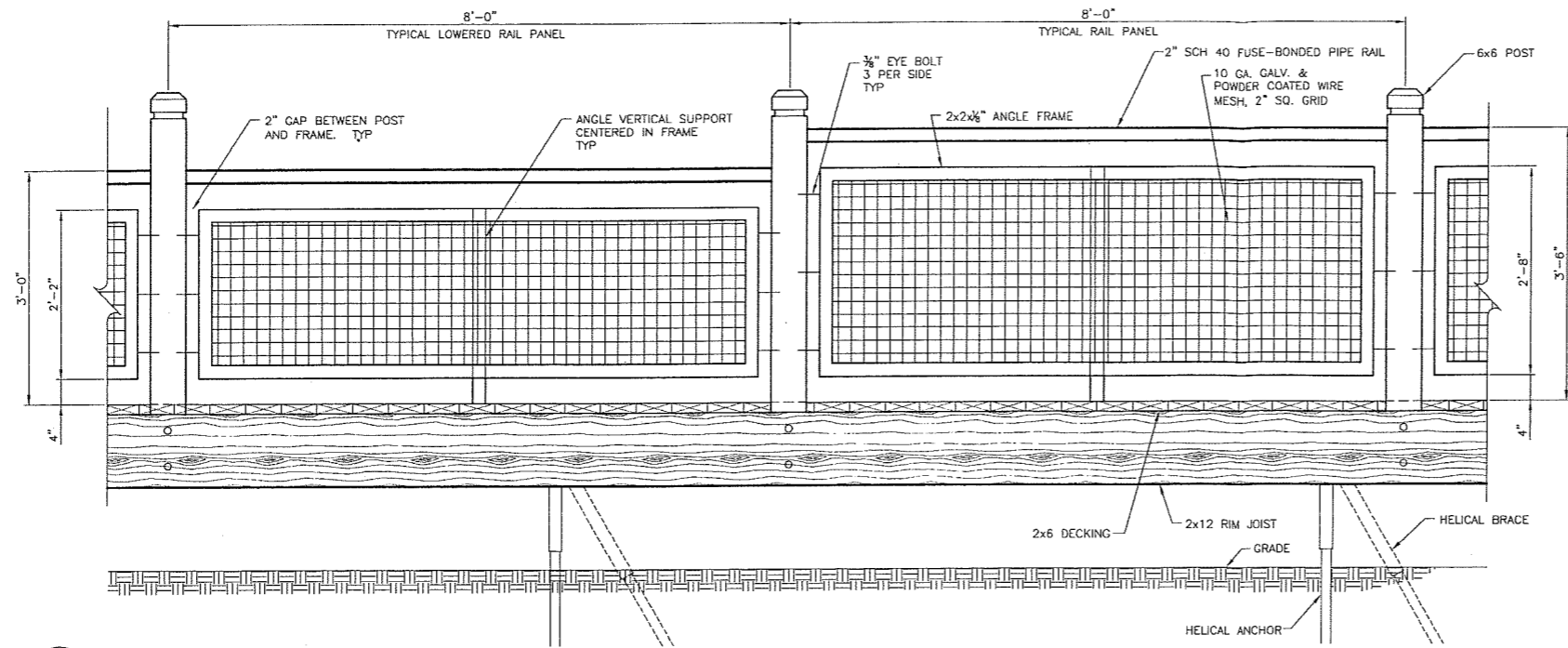
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DRAWING TITLE
BOARDWALK PLANS

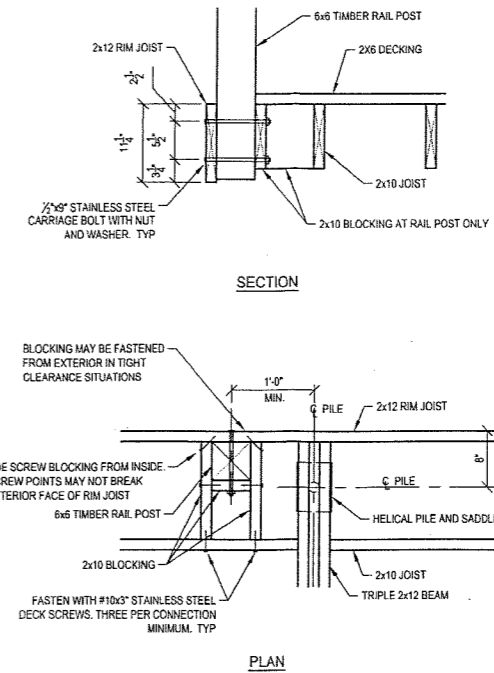
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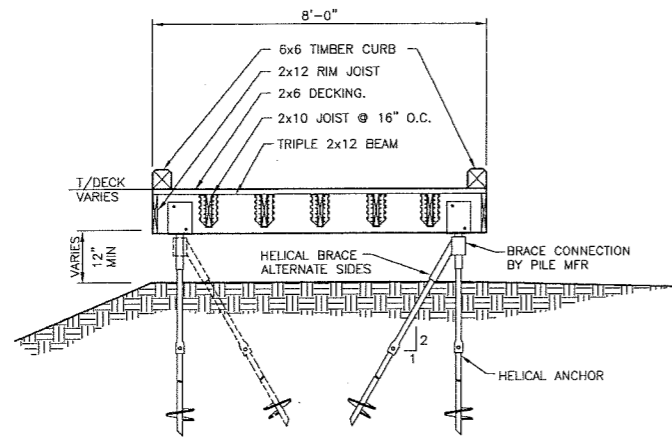
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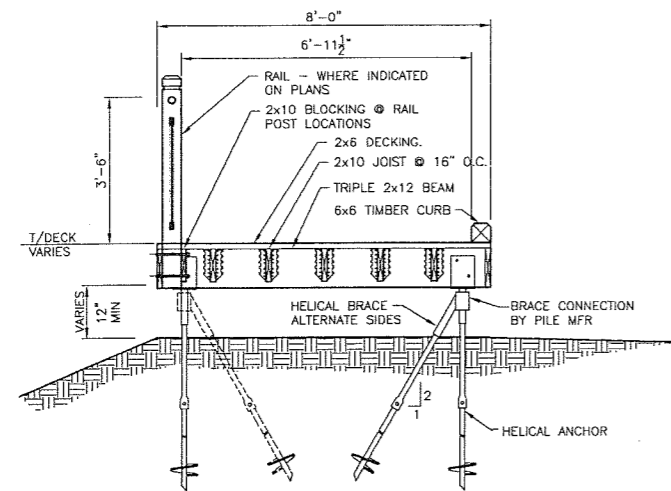
1 BOARDWALK RAIL ELEVATION
C-14



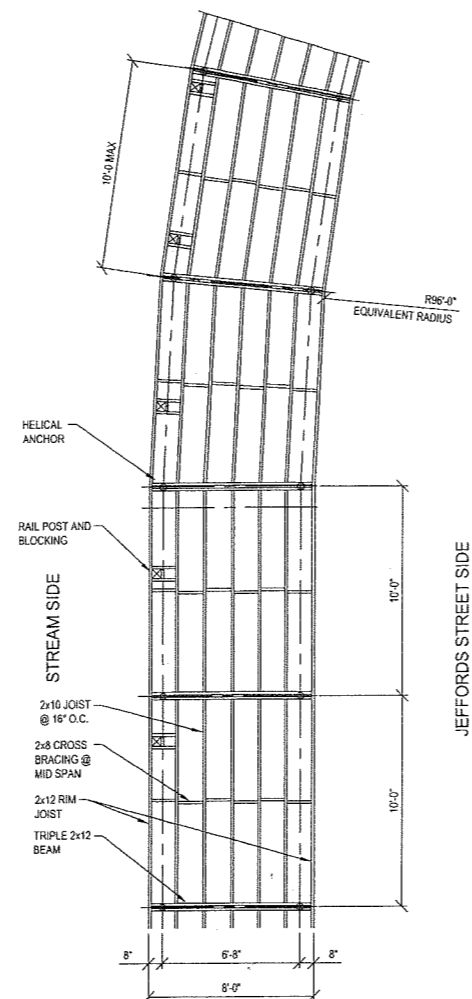
2 RAIL POST CONNECTION TO BOARDWALK FRAME
C-14



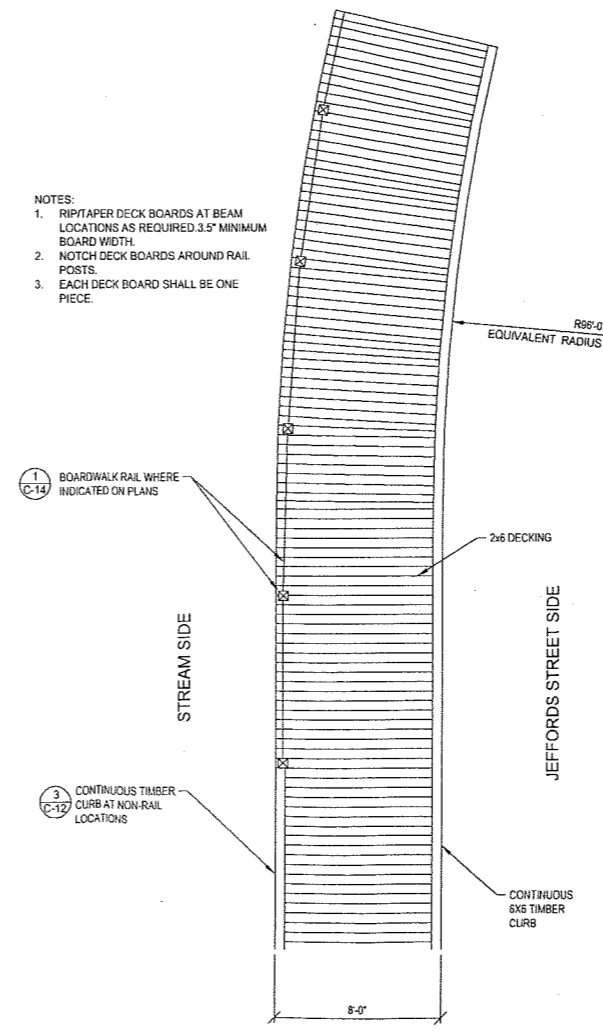
3 BOARDWALK CONSTRUCTION SECTION
C-14



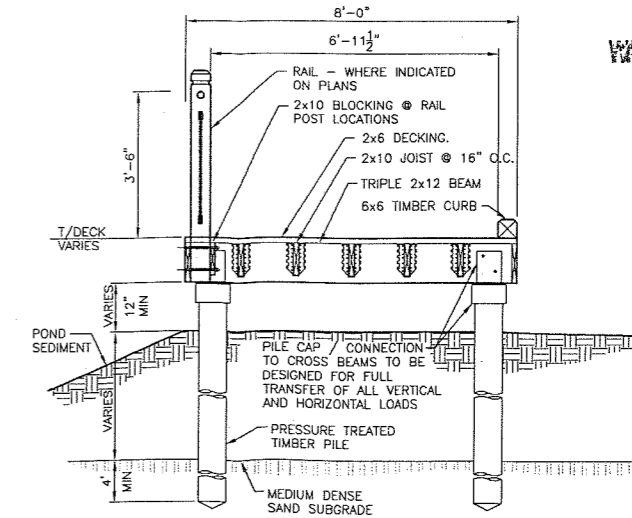
4 BOARDWALK WITH RAIL CONSTRUCTION SECTION
-14



5 TYPICAL BOARDWALK FRAMING PLAN
C-14



6 TYPICAL BOARDWALK LAYOUT PLAN
C-14



7 OPTIONAL TIMBER PILE SUPPORTS
C-14

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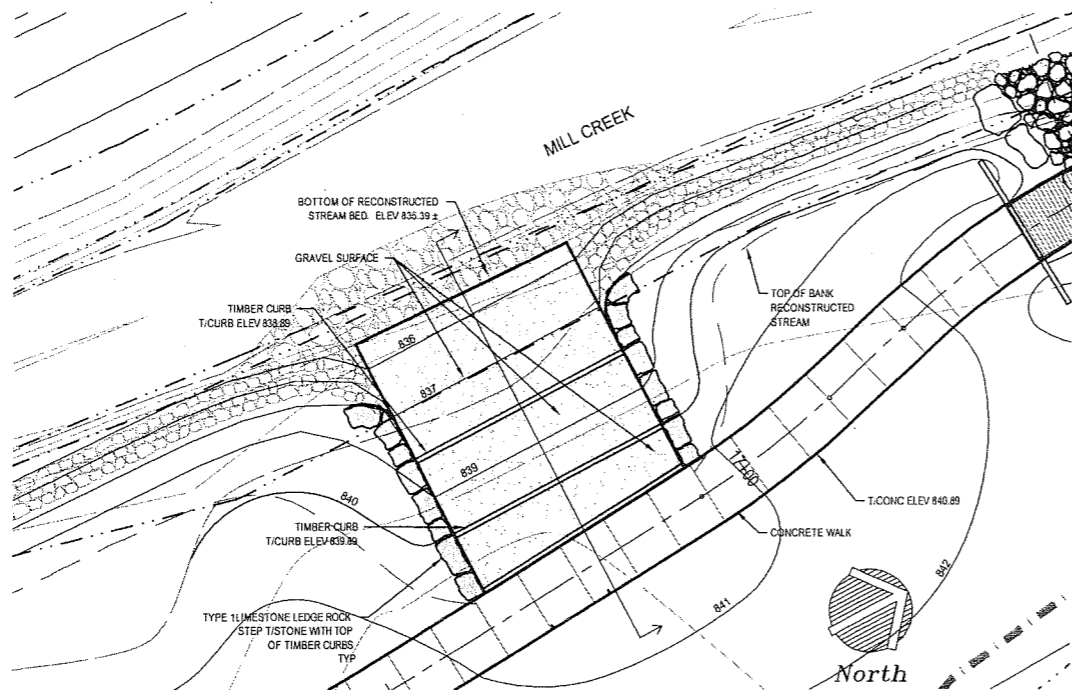
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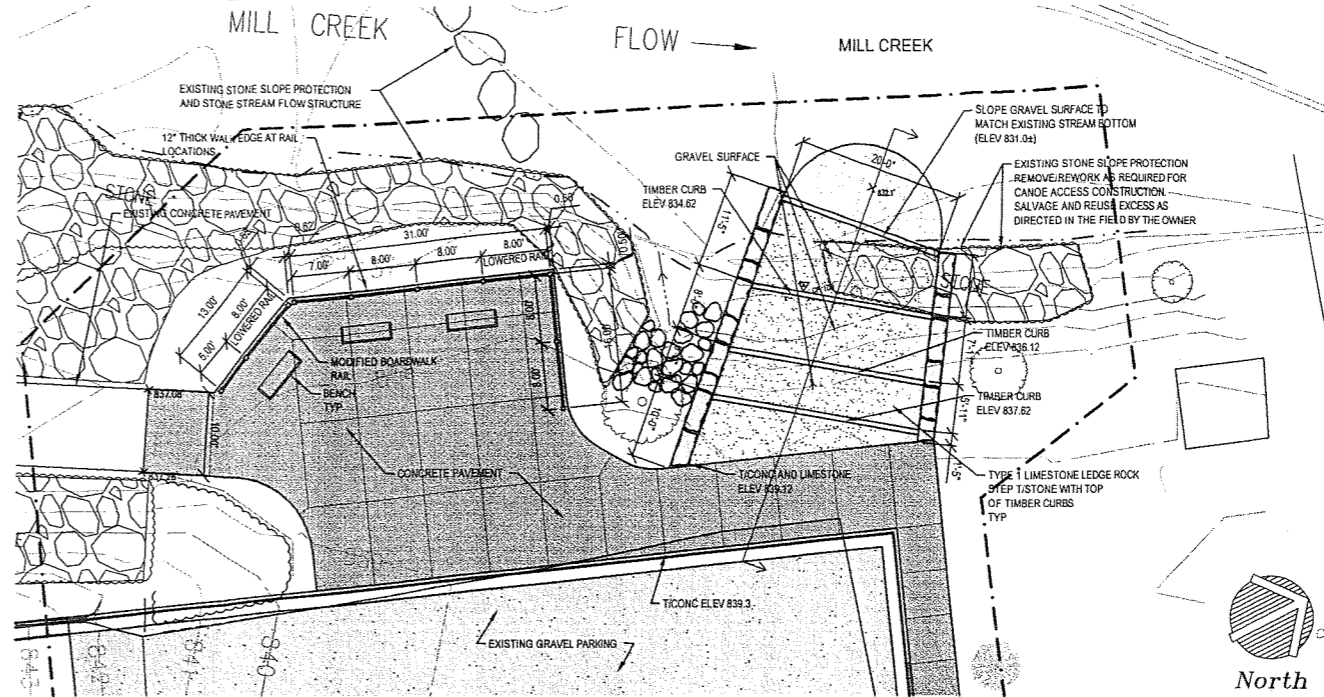
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BOARDWALK DETAILS

SCALE
PROJECT NUMBER 50094.004

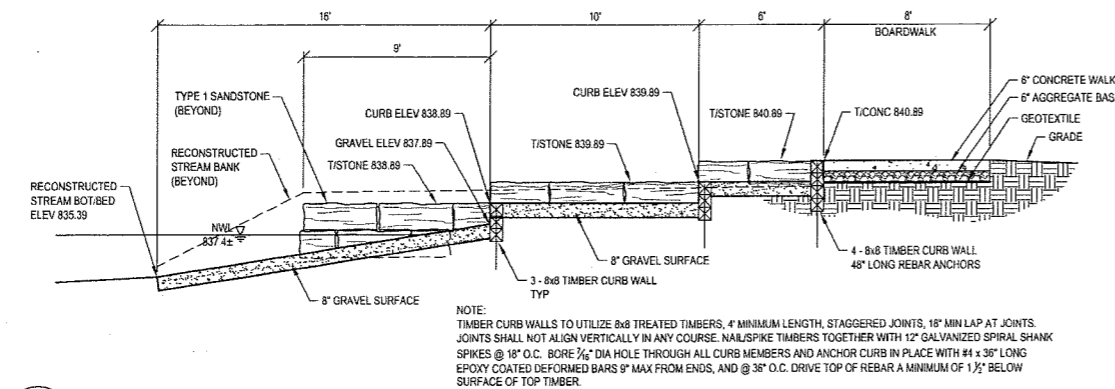
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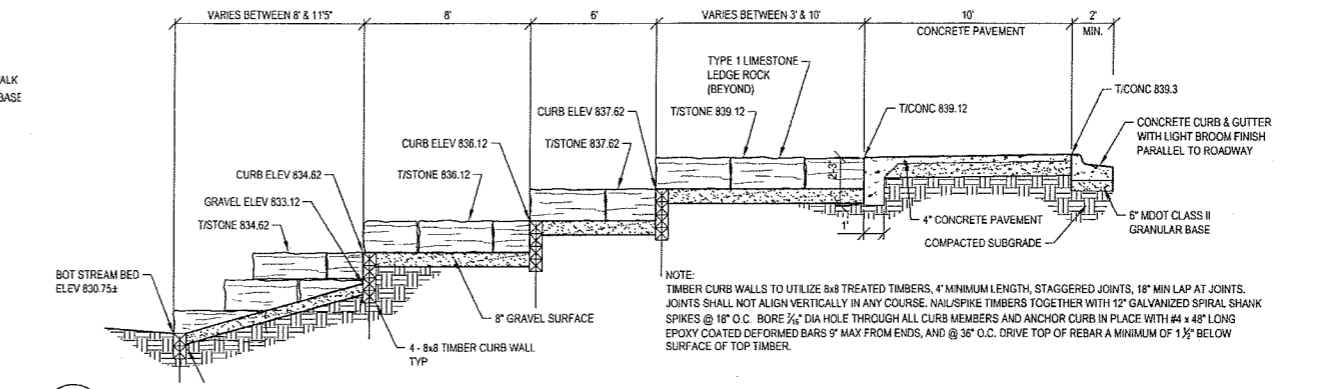
1 MILL CREEK PARK CANOE/KAYAK ACCESS PLAN
C-15 SCALE: 1"=10'



2 WARRIOR CREEK PARK CANOE/KAYAK ACCESS PLAN
C-15 SCALE: 1"=10'

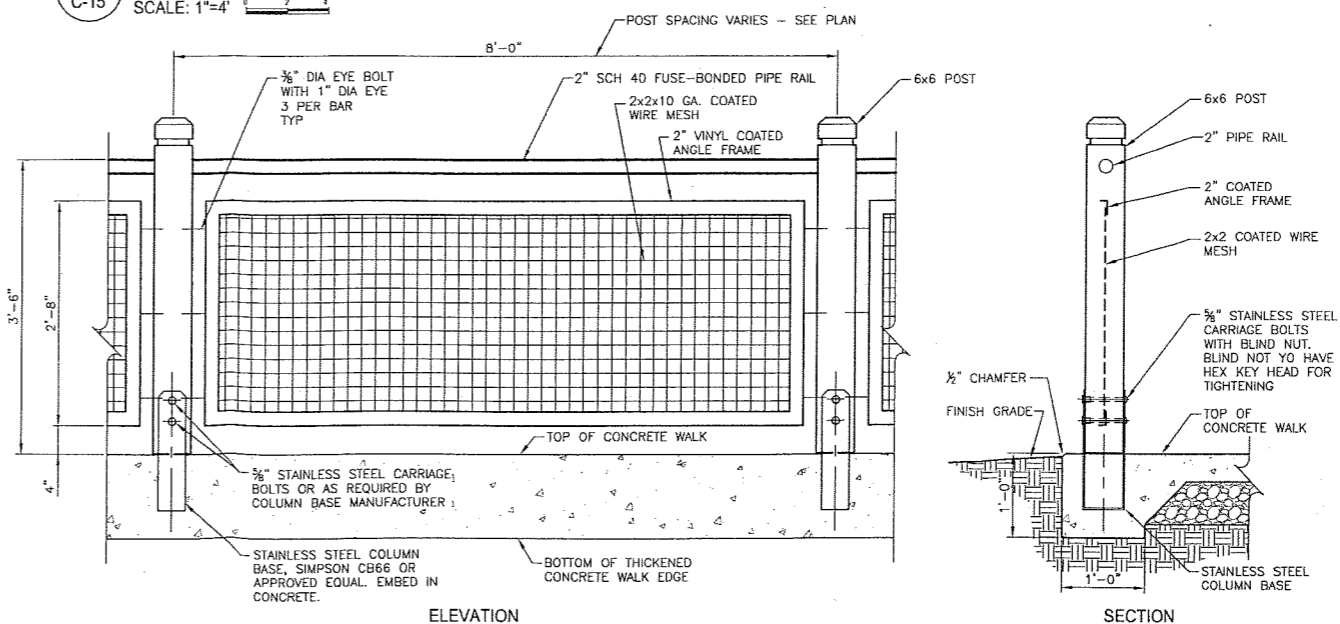


3 MILL CREEK PARK CANOE/KAYAK ACCESS CONSTRUCTION SECTION
C-15 SCALE: 1"=4'



4 WARRIOR CREEK PARK CANOE/KAYAK ACCESS CONSTRUCTION SECTION
C-15 SCALE: 1"=4'

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FILE # 07-81-0074 P
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PAGE 15 OF 23
3/31/11
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5 WARRIOR CREEK PARK MODIFIED BOARDWALK RAILING
C-15 SCALE: 1"=1'-0"

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DRAWING TITLE
CANOE/KAYAK ACCESS PLANS
AS NOTED
SCALE 50094.004
PROJECT NUMBER C-15
DRAWING NUMBER

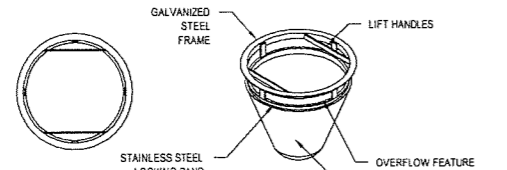




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DEXTER, MICHIGAN

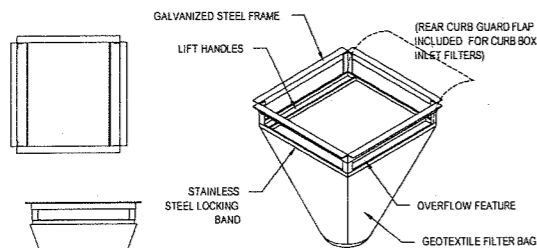
Owner:
VILLAGE OF DEXTER

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JJR, LLC
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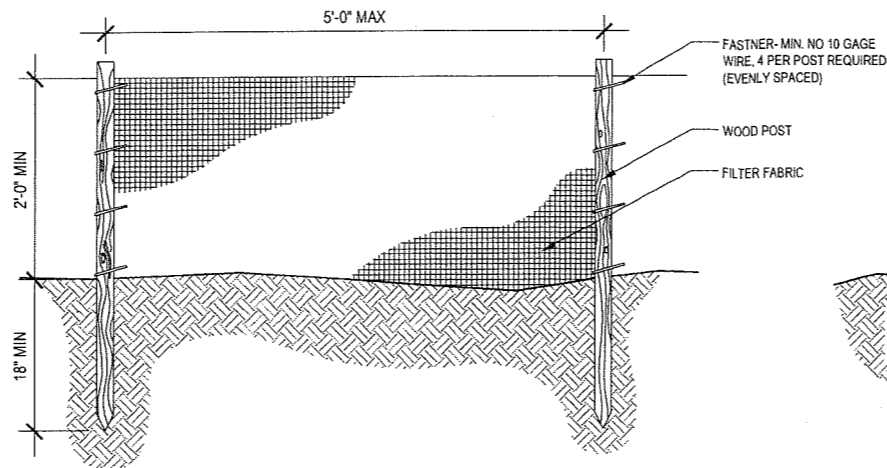
ROUND INLET FILTER

NOTE:
TEMPORARY INLET SEDIMENT FILTER TO BE INSTALLED ON ALL CATCH BASINS AND STORM INLETS. INLET FILTER TO BE ROUND I/P INLET FILTER AS MANUFACTURED BY INLET & PIPE PROTECTION, INC. (847-722-0690) OR APPROVED OTHER. CLEAN FILTER AS NEEDED.

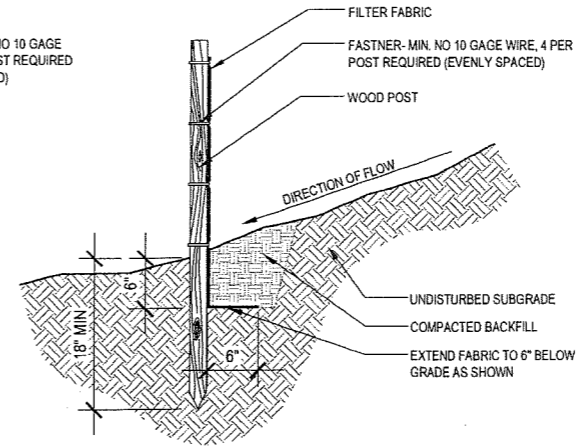


RECTANGLE INLET FILTERS

NOTE:
TEMPORARY INLET SEDIMENT FILTER TO BE INSTALLED ON ALL CATCH BASINS AND STORM INLETS. INLET FILTER TO BE RECTANGLE I/P INLET FILTER AS MANUFACTURED BY INLET & PIPE PROTECTION, INC. (847-722-0690) OR APPROVED OTHER. CLEAN FILTER AS NEEDED.



ELEVATION



FABRIC ANCHOR DETAIL

NOTES

1. TEMPORARY SEDIMENT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED FOLLOWING SITE STABILIZATION.
2. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
3. FENCE POSTS SHALL BE EITHER STANDARD STEEL POST OR WOOD POST WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.

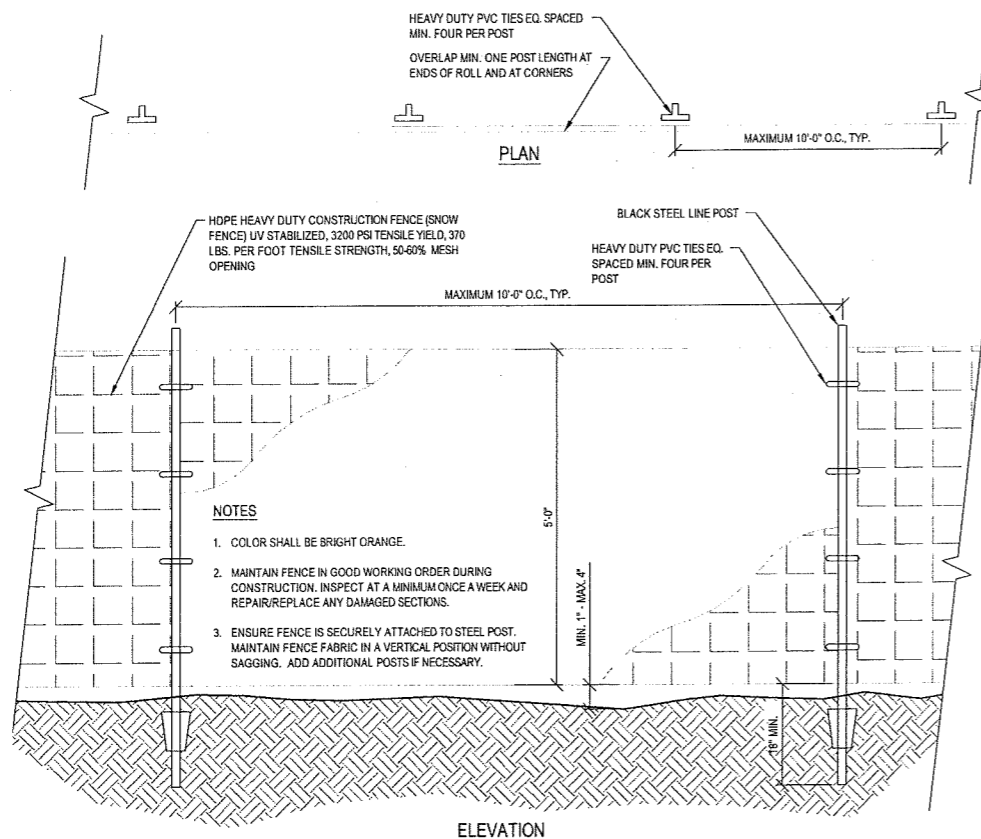
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FILE # 09-21-0074-P
APPROVED PLANS
PAGE 16 OF 23
3/31/11
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1 INLET PROTECTION FILTER

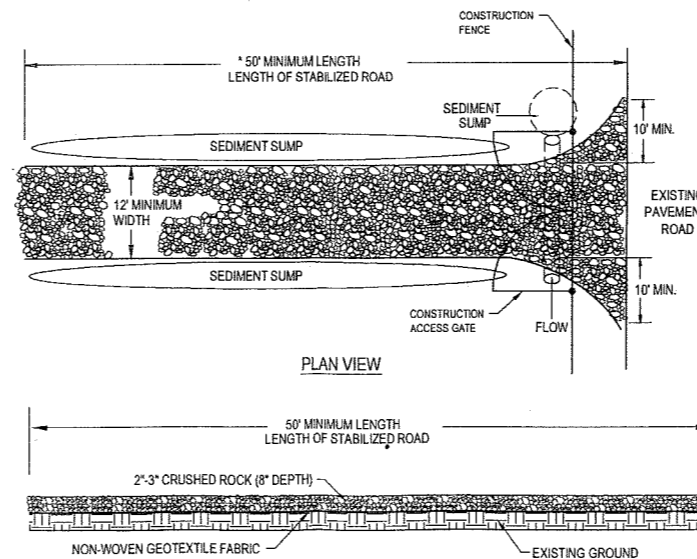
C-18

2 SILT FENCE

C-18



ELEVATION



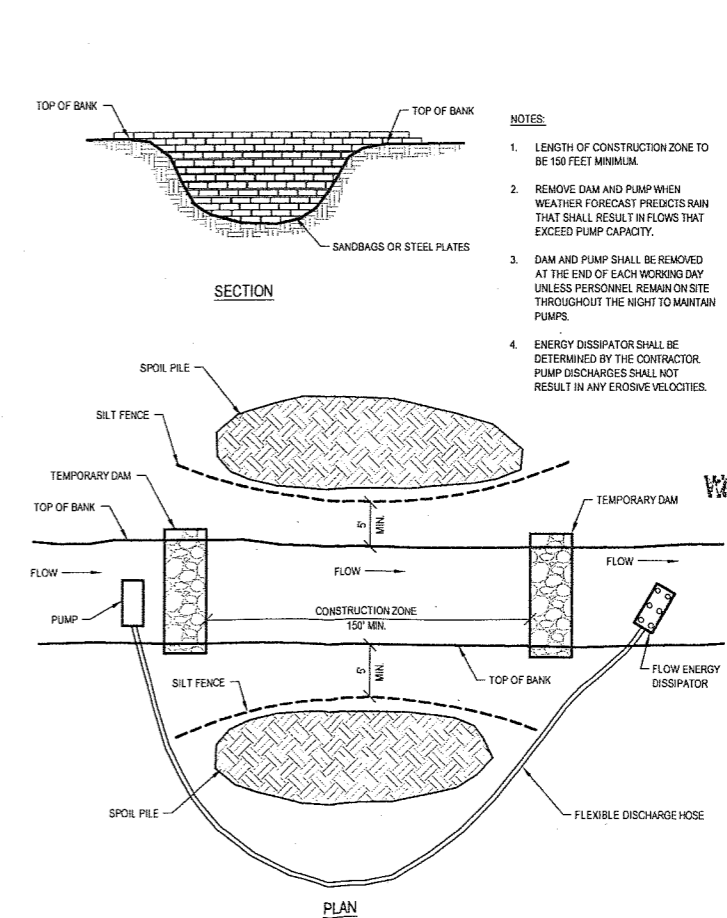
PROFILE

NOTES

1. ESTABLISH STABILIZED CONSTRUCTION ENTRANCE PRIOR TO THE INITIATION OF SITE CONSTRUCTION ACTIVITIES.
2. CARE SHOULD BE TAKEN TO PREVENT MATERIAL MOVEMENT INTO ADJACENT WATERBODIES.
3. CARE SHOULD BE TAKEN TO MAINTAIN EXISTING ROADSIDE DRAINAGE VIA CULVERT INSTALLATION, WITH SEDIMENT SUMP PLACED DOWNFLOW OF CULVERT.
4. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
5. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
6. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

4 CONSTRUCTION STONE ACCESS PAD

C-18



PLAN

NOTES

1. LENGTH OF CONSTRUCTION ZONE TO BE 150 FEET MINIMUM.
2. REMOVE DAM AND PUMP WHEN WEATHER FORECAST PREDICTS RAIN THAT SHALL RESULT IN FLOWS THAT EXCEED PUMP CAPACITY.
3. DAM AND PUMP SHALL BE REMOVED AT THE END OF EACH WORKING DAY UNLESS PERSONNEL REMAIN ON SITE THROUGHOUT THE NIGHT TO MAINTAIN PUMPS.
4. ENERGY DISSIPATOR SHALL BE DETERMINED BY THE CONTRACTOR. PUMP DISCHARGES SHALL NOT RESULT IN ANY EROSION VELOCITIES.

5 DAM AND PUMP

C-18

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SEALS AND SIGNATURES

KEY PLAN

WATER RESOURCES DIVISION

MAR 30 2011

DRAWING TITLE
SOIL EROSION AND
SEDIMENTATION CONTROL
DETAILS

SCALE
50094.004

PROJECT NUMBER

C-18

DRAWING NUMBER

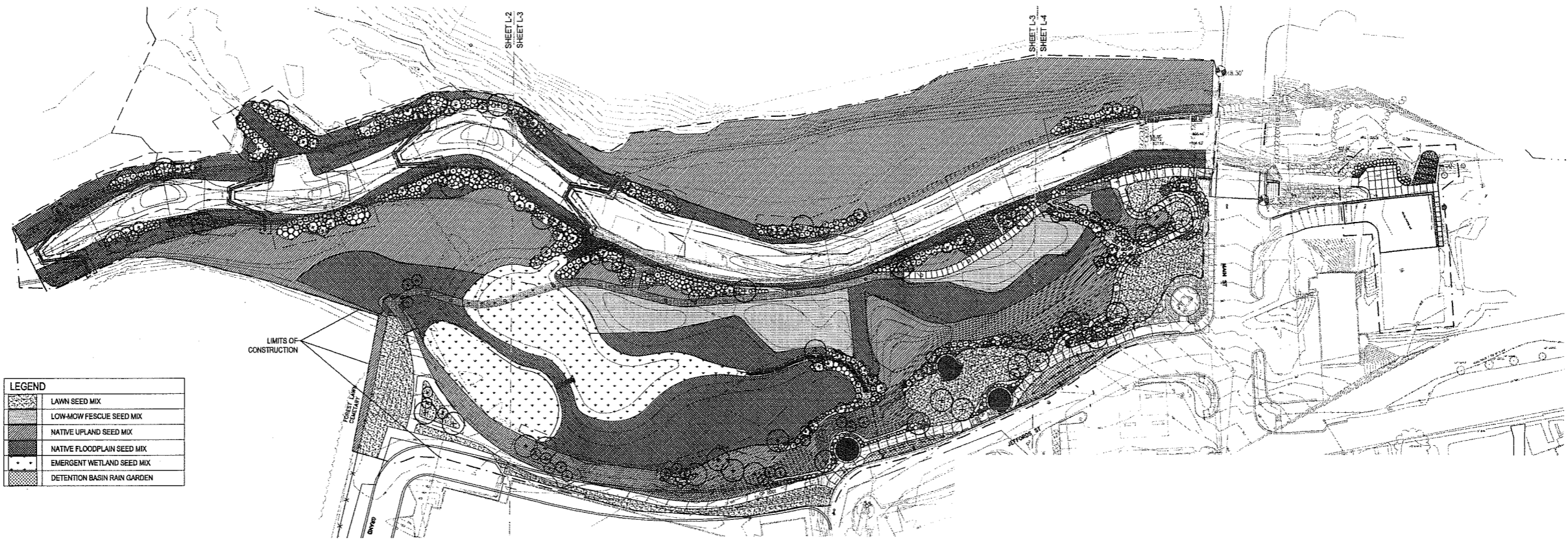
NOT FOR CONSTRUCTION

**MILL CREEK PARK
PHASE 1 IMPROVEMENTS
DEXTER, MICHIGAN**

Owner:
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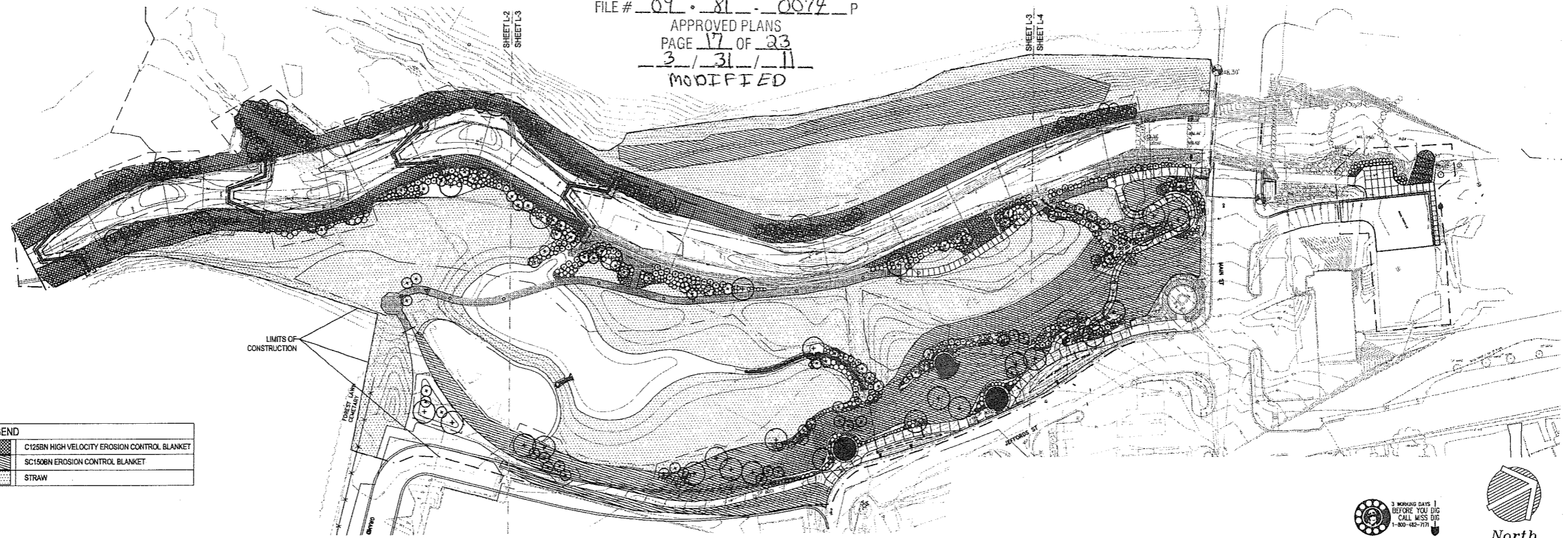
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LEGEND	
[Stippled Pattern]	LAWN SEED MIX
[Horizontal Lines]	LOW-MOW FESCUE SEED MIX
[Cross-Hatch]	NATIVE UPLAND SEED MIX
[Diagonal Lines]	NATIVE FLOODPLAIN SEED MIX
[Dotted Pattern]	EMERGENT WETLAND SEED MIX
[Solid Black]	DETENTION BASIN RAIN GARDEN

1 LANDSCAPE AND SEEDING PLAN - OVERALL
L-1 1" = 60'

DEQ-LWMD
FILE # 09-81-0074 P
APPROVED PLANS
PAGE 17 OF 23
3/31/11
MODIFIED



LEGEND	
[Diagonal Lines]	C125BN HIGH VELOCITY EROSION CONTROL BLANKET
[Cross-Hatch]	SC150BN EROSION CONTROL BLANKET
[Stippled Pattern]	STRAW

2 SOIL STABILIZATION PLAN
L-1 1" = 60'

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SEALS AND SIGNATURES

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KEY PLAN
WATER RESOURCES DIVISION

MAR 30 2011

DRAWING TITLE
LANDSCAPE PLAN OVERALL

0 30 60

SCALE 50094.004

PROJECT NUMBER

L-1

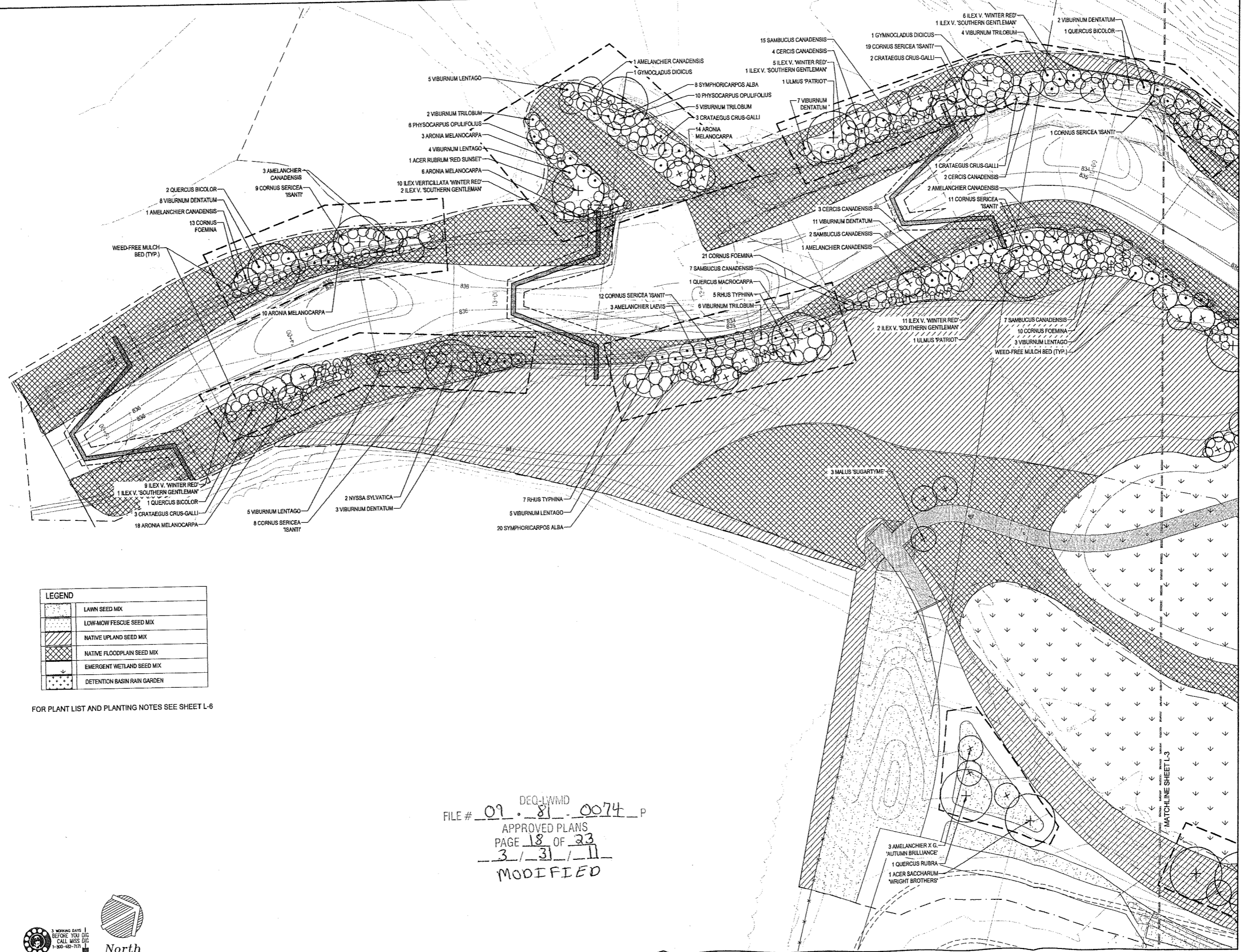
DRAWING NUMBER



MILL CREEK PARK
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DEXTER, MICHIGAN

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LEGEND	
[Pattern]	LAWN SEED MIX
[Pattern]	LOW-MOW FESCUE SEED MIX
[Pattern]	NATIVE UPLAND SEED MIX
[Pattern]	NATIVE FLOODPLAIN SEED MIX
[Pattern]	EMERGENT WETLAND SEED MIX
[Pattern]	DETENTION BASIN RAIN GARDEN

FOR PLANT LIST AND PLANTING NOTES SEE SHEET L-6

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FILE # 09-8-0074-P
APPROVED PLANS
PAGE 18 OF 23
3/31/11
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KEY PLAN
WATER RESOURCES DIVISION

JAN 30 2011

DRAWING TITLE
LANDSCAPE PLAN
1 OF 3

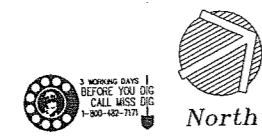


SCALE 50094.004

PROJECT NUMBER

L-2

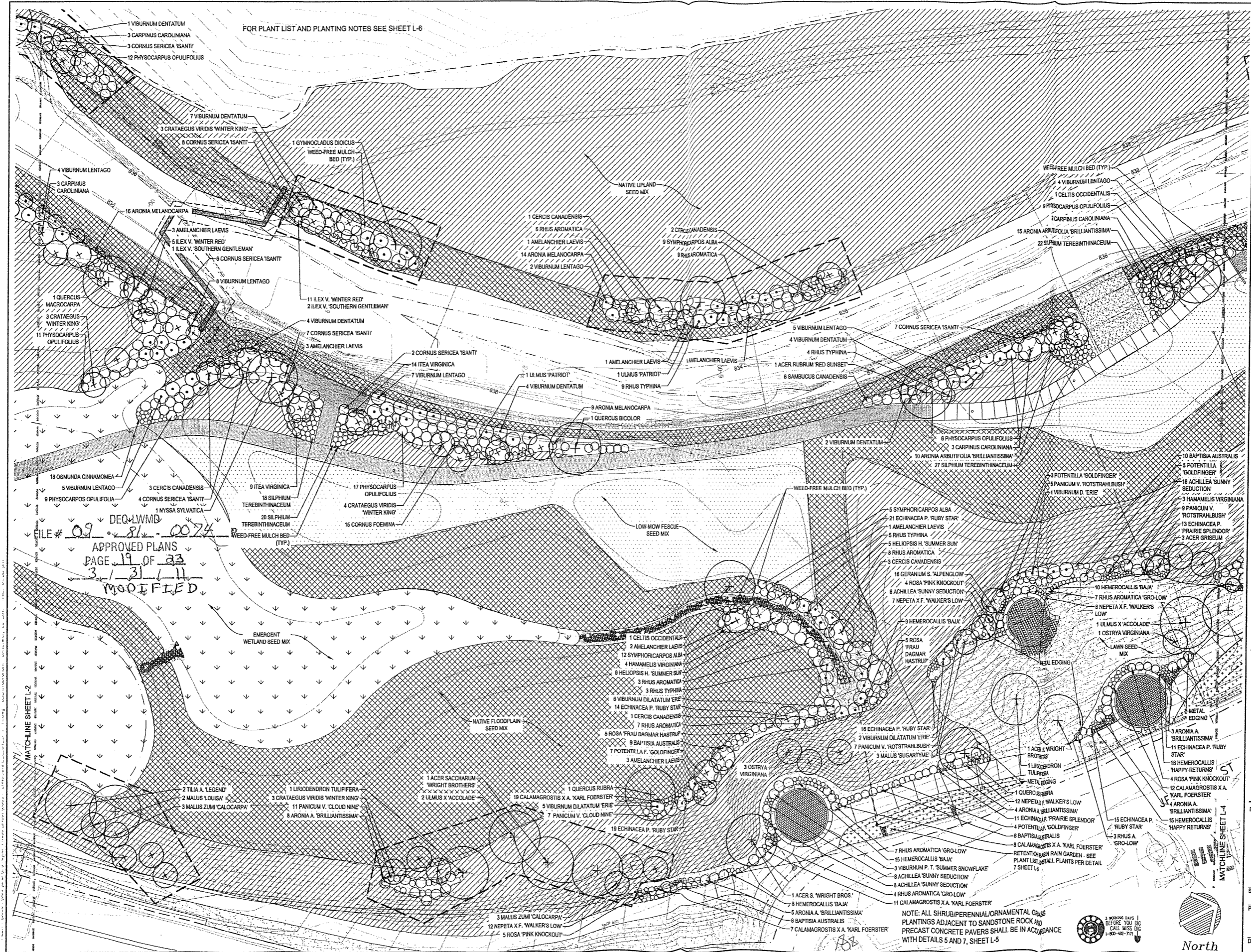
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MILL CREEK PARK
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FILE # 09 DEQ-LWMB 81-0074
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PAGE 19 OF 23
3/31/11
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SEALS AND SIGNATURES

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KEY PLAN

WATER RESOURCES DIVISION

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DRAWING TITLE
LANDSCAPE PLAN
2 OF 3

SCALE
50094.004

PROJECT NUMBER
L-3

DRAWING NUMBER

NOTE: ALL SHRUB/PERENNIAL/ORNAMENTAL GRASS PLANTINGS ADJACENT TO SANDSTONE ROCK AND PRECAST CONCRETE PAVERS SHALL BE IN ACCORDANCE WITH DETAILS 5 AND 7, SHEET L-5



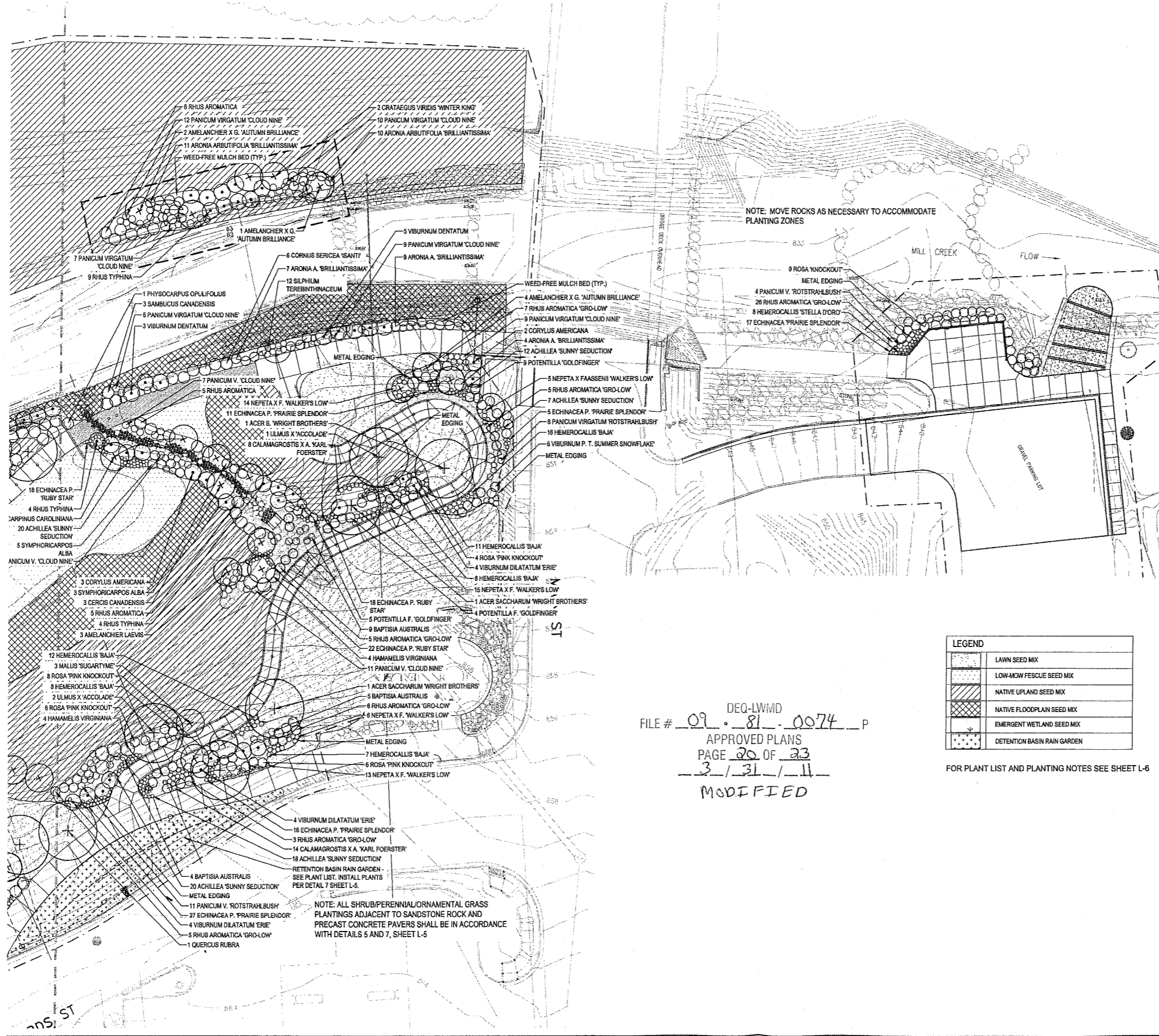
MATCHLINE SHEET L-2

MATCHLINE SHEET L-4

MILL CREEK PARK
 PHASE 1 IMPROVEMENTS
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NOTE: MOVE ROCKS AS NECESSARY TO ACCOMMODATE PLANTING ZONES

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 FILE # 09-81-0074 P
 APPROVED PLANS
 PAGE 20 OF 23
3/31/11
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LEGEND	
	LAWN SEED MIX
	LOW-MOW FESCUE SEED MIX
	NATIVE UPLAND SEED MIX
	NATIVE FLOODPLAIN SEED MIX
	EMERGENT WETLAND SEED MIX
	DETENTION BASIN RAIN GARDEN

FOR PLANT LIST AND PLANTING NOTES SEE SHEET L-6

KEY PLAN

WATER RESOURCES DIVISION

MAR 30 2011

DRAWING TITLE
LANDSCAPE PLAN
 3 OF 3

SCALE

PROJECT NUMBER 50094.004

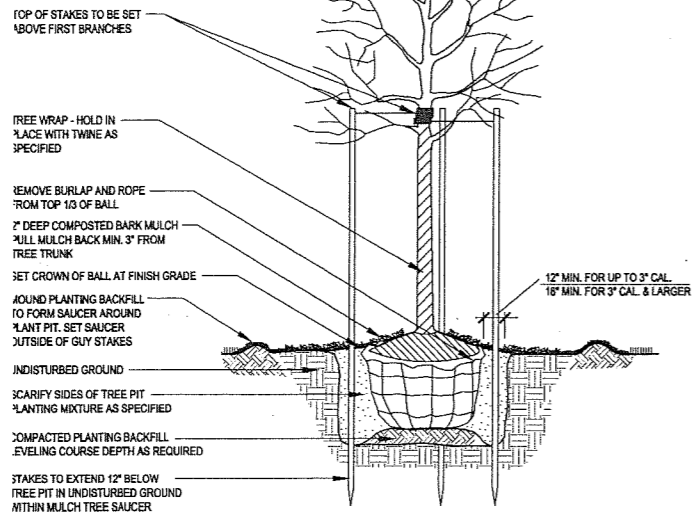
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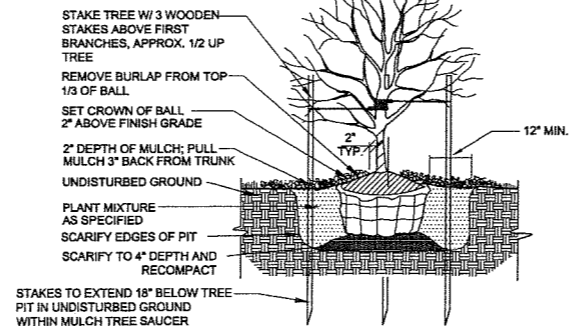
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NOTES:
TRIPLE STAKE ALL TREES. SET STAKES
VERTICAL AND AT SAME HEIGHT. NEVER CUT
CENTRAL LEADERS AND PRUNE ONLY TO
REMOVE DEAD OR DAMAGED BRANCHES.

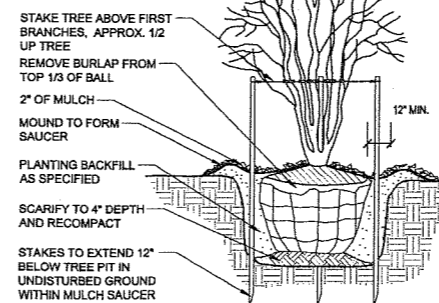


1 CANOPY TREE
L-5 NO SCALE



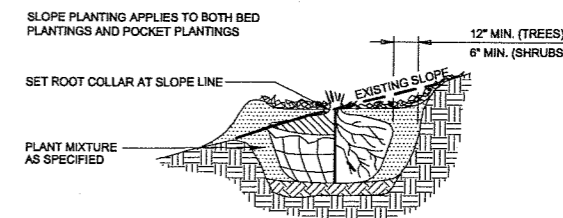
2 ORNAMENTAL TREE
NO SCALE

NOTES:
1. STAKE 3 LARGEST STEMS,
IF TREE HAS MORE THAN 3
LEADERS
2. SET TREE STAKES
VERTICAL AND AT SAME
HEIGHT.
3. DOUBLE STAKE TREES UP
TO 6\"/>



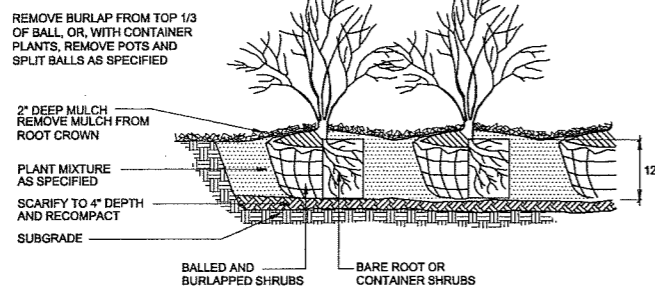
3 MULTI-STEM TREE STAKING
L-5 NO SCALE

NOTE:
PLANT SHALL BEAR SAME RELATION TO
FINISHED GRADE AS IT BORE TO PREVIOUS
GRADE EXCEPT IN AREAS OF COMPACTED
FILL, WHERE THE TOP OF ROOT BALL
SHALL BE 4\"/>

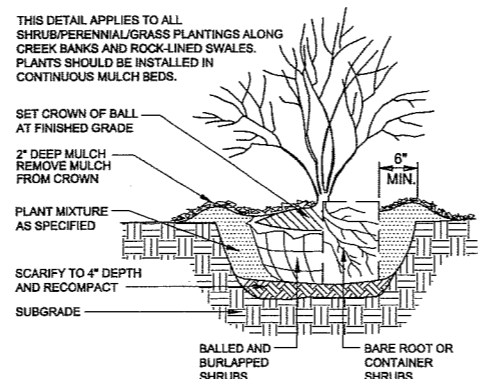


4 TREE AND SHRUB PLANTING ON SLOPES
L-5 NO SCALE

NOTES:
THIS DETAIL APPLIES TO ALL PLANT BEDS
ADJACENT TO SANDSTONE ROCK AND
PRECAST CONCRETE PAVERS.

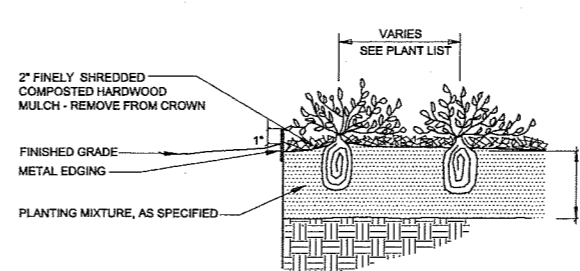


5 SHRUB BED PLANTING
L-5 NO SCALE

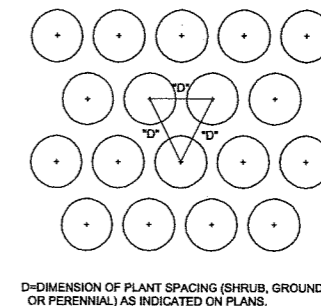


6 SHRUB POCKET PLANTING
L-5 NO SCALE

NOTES:
THIS DETAIL APPLIES TO ALL PLANT BEDS
ADJACENT TO SANDSTONE ROCK AND
PRECAST CONCRETE PAVERS.

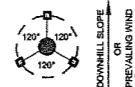


7 PERENNIALS/GRASSES BED PLANTING
L-5 NO SCALE

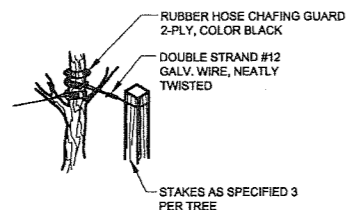


8 PLANT SPACING
L-5 NO SCALE

NOTE:
ORIENT STAKING TO PREVAILING
WINDS, EXCEPT ON SLOPES
GREATER THAN 3:1 ORIENT TO
SLOPE.
USE SAME STAKING ORIENTATION
FOR ALL PLANTS WITHIN EACH
GROUPING OR AREA

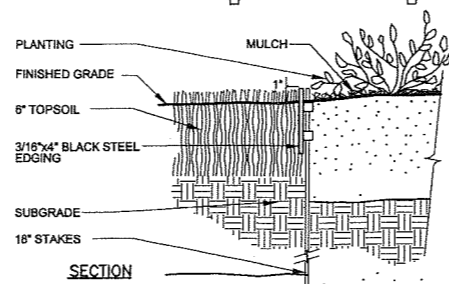
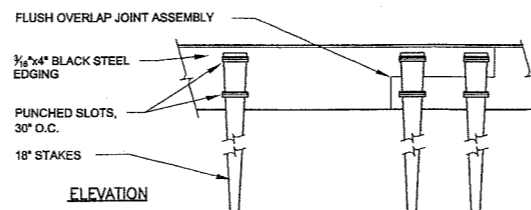


STAKING LOCATION PLAN



STAKING DETAIL - FOR TREES LESS THAN 3\"/>

9 STAKING
L-5 NO SCALE



10 METAL LANDSCAPE EDGING
L-5 NO SCALE

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PAGE 21 OF 23
3 / 31 / 11
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KEY PLAN

WATER RESOURCES DIVISION

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DRAWING TITLE
LANDSCAPE DETAILS

SCALE AS SHOWN
SCALE 50094.004
PROJECT NUMBER
DRAWING NUMBER L-5

MILL CREEK PARK
PHASE 1 IMPROVEMENTS
DEXTER, MICHIGAN

Owner:
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PLANT LIST:

Qty. Base Bid	Qty. Alternate 1	Botanical Name	Common Name	Size	Form	Notes
CANOPY TREES						
1	2	Acer rubrum 'Red Sunset'	Red Sunset red maple	2.5' Cal	B&B	Well-branched, single central leader
5	2	Acer saccharum 'Wright Brothers'	Wright Brothers sugar maple	2.5' Cal	B&B	Well-branched, single central leader
2	0	Celtis occidentalis	Hackberry	2.5' Cal	B&B	Well-branched, single central leader
0	3	Gymnocladus dioica	Kentucky coffeetree	2.5' Cal	B&B	Well-branched, single central leader
1	1	Liriodendron tulipifera	Tuliptree	2.5' Cal	B&B	Well-branched, single central leader
1	2	Nyssa sylvatica	Black gum	2.5' Cal	B&B	Well-branched, single central leader
1	4	Quercus bicolor	Swamp white oak	2.5' Cal	B&B	Well-branched, single central leader
1	1	Quercus macrocarpa	Bur oak	2.5' Cal	B&B	Well-branched, single central leader
3	1	Quercus rubra	Red oak	2.5' Cal	B&B	Well-branched, single central leader
0	2	Tilia americana 'Legend'	Legend American linden	2.5' Cal	B&B	Well-branched, single central leader
2	2	Ulmus 'Patriot'	Patriot elm	2.5' Cal	B&B	Well-branched, single central leader
4	1	Ulmus x 'Accolade'	Accolade elm	2.5' Cal	B&B	Well-branched, single central leader
ORNAMENTAL/UNDERSTORY TREES						
3	0	Acer griseum	Paperbark maple	8' Ht.	B&B	Multi-stem, well-branched
3	5	Amelanchier canadensis	Shadblow serviceberry	8' Ht.	B&B	Multi-stem, well-branched
15	6	Amelanchier laevis	Alleghany serviceberry	8' Ht.	B&B	Multi-stem, well-branched
0	6	Amelanchier x grandiflora 'Autumn Brilliance'	Autumn Brilliance serviceberry	8' Ht.	B&B	Multi-stem, well-branched
10	3	Carpinus caroliniana	Musclewood	2' Cal	B&B	Well-branched, single central leader
13	9	Cercis canadensis	Redbud	8' Ht.	B&B	Multi-stem, well-branched
0	9	Crataegus crus-galli 'nemis'	Thornless hawthorn	2' Cal	B&B	Well-branched, single central leader
7	8	Crataegus villosa 'Winter King'	Winter King hawthorn	2' Cal	B&B	Well-branched, single central leader
0	2	Malus 'Louisia'	Louisa crabapple	2' Cal	B&B	Well-branched, single central leader
9	0	Malus 'SugarTyme'	SugarTyme crabapple	2' Cal	B&B	Well-branched, single central leader
0	6	Malus zumi 'Calocarpa'	Zumi Calocarpa crabapple	2' Cal	B&B	Well-branched, single central leader
4	0	Ostrya virginiana	Ironwood	2' Cal	B&B	Well-branched, single central leader
36	21	Viburnum lentago	Nannyberry	6' Ht.	B&B	Multi-stem, well-branched
DETENTION BASIN RAIN GARDEN PLANTS						
190	0	Asclepias tuberosa	Butterfly weed	36 cell	Flat	Well-rooted, 18" O.C.; total 190 plants
190	0	Aster ericoides 'First Snow'	First Snow heath aster	36 cell	Flat	Well-rooted, 18" O.C.; total 190 plants
190	0	Elymus canadensis	Canada wild rye	36 cell	Flat	Well-rooted, 18" O.C.; total 190 plants
190	0	Monarda fistulosa	Wild bergamot	36 cell	Flat	Well-rooted, 18" O.C.; total 190 plants
190	0	Rudbeckia hirta	Black-eyed Susan	36 cell	Flat	Well-rooted, 18" O.C.; total 190 plants
190	0	Schizachyrium scoparium	Little bluestem	36 cell	Flat	Well-rooted, 18" O.C.; total 190 plants
190	0	Solidago rigida	Stiff goldenrod	36 cell	Flat	Well-rooted, 18" O.C.; total 190 plants
190	0	Zizia aurea	Golden Alexanders	36 cell	Flat	Well-rooted, 18" O.C.; total 190 plants

PLANTING NOTES:

LAYOUT:

- THE LAYOUT OF ALL PLANTINGS AND SEEDING BED EDGES SHALL BE REVIEWED IN THE FIELD BY THE DESIGN PROFESSIONAL IN ADVANCE OF ANY INSTALLATIONS. AN ELECTRONIC COPY OF THE PLANTING PLANS WILL BE PROVIDED TO THE CONTRACTOR TO ASSIST IN THIS WORK.
- FOR PLANTING LAYOUT, THE CONTRACTOR SHALL STAKE EACH PLANT LOCATION WITH A FLAG OR WOOD STAKE WITH THE SPECIFIED PLANT NAME INDICATED ON THE STAKE. ADJUSTMENTS WILL BE MADE BY THE DESIGN PROFESSIONAL AT NO ADDITIONAL COST TO THE OWNER.
- FOR SEED BED BOUNDARIES, THE CONTRACTOR SHALL PROVIDE SIMILAR LAYOUT STAKES EVERY 50 FEET APART ALONG THE BOUNDARIES OF EACH MIX. LAYOUT GUIDANCE IS AS FOLLOWS:
 - EMERGENT WETLAND SEED MIX: INSTALL INTO THE UPPER WETLAND BASIN, WHICH IS THE EXISTING WETLAND WHERE NO GRADING IS REQUIRED. ALSO INSTALL INTO THE LOWER WETLAND BASIN WHICH IS DEFINED BY THE 840 CONTOUR.
 - NATIVE FLOODPLAIN SEED MIX: INSTALL OVER ALL EXISTING WETLANDS EXCEPT WHERE THE EMERGENT WETLAND SEED MIX IS INDICATED TO BE APPLIED. THE LOWER ELEVATION OF SEEDING ON THE MILL CREEK BANKS SHALL BE CONTOUR 837.
 - LOW MOW FESCUE SEED MIX: INSTALL IN ALL REMAINING FLOODPLAIN AREAS ON THE EAST SIDE OF THE CREEK.
 - NATIVE UPLAND SEED MIX: INSTALL ON ALL STEEP SLOPES AND ON ALL NON-WETLAND AREAS ON THE WEST SIDE OF MILL CREEK.
 - LAWN SEED MIX: INSTALL IN ALL REMAINING DISTURBED AREAS.

HERBICIDING:

- IN SPRING, PERIODICALLY DURING THE GROWING SEASON, AND AT LEAST 1 WEEK PRIOR TO CLEARING AND GRUBBING OR OTHER SITE DISTURBANCES, APPLY SPECIFIED HERBICIDE TO ALL AREAS OF THE SITE TO KILL REED CANARY GRASS, PURPLE LOOSESTRIFE, AND OTHER INVASIVE VEGETATION. MONITOR FOR THESE SPECIES AND APPLY PERIODICALLY THEREAFTER UNTIL SEED MIXES ARE INSTALLED. SEE SPECIFICATIONS FOR DETAILED REQUIREMENTS.

PLANTING, MULCHING AND EDGING:

- THE PLANTING DETAILS FOR SHRUBS, PERENNIALS AND ORNAMENTAL GRASSES IDENTIFY TWO TYPES OF PLANTING BEDS. ONE TYPE REFERS TO "BED PLANTINGS" WHICH INCLUDES A FULL DEPTH SPECIFIED PLANT MIX ACROSS THE ENTIRE PLANT BED, AND THE SECOND TYPE REFERS TO "POCKET PLANTING" AND IS APPLICABLE TO FLOODPLAIN LOCATIONS ADJACENT TO MILL CREEK AND ROCK SWALES. IN ADDITION, ALL PLANTING BEDS BELOW CONTOUR ELEVATION 842 SHALL BE POCKET PLANTINGS. REFER TO THE PLANS FOR BED PLANTING LOCATIONS. PLANTING MIX IN BEDS SHALL BE AT LEAST 12 INCHES DEEP.
- ALL BEDS, REGARDLESS OF POCKET PLANTING OR BED PLANTINGS, SHALL RECEIVE SPECIFIED 2 INCH DEEP BARK MULCH THROUGHOUT. DO NOT SEED WITH ANY MULCH BEDS.
- INSTALL METAL EDGING ALONG THE TRANSITIONS BETWEEN ALL PLANT BEDS AND LAWN SEED MIX AREAS.

TOPSOILING, SEEDING, MULCHING AND BLANKETS:

- INSTALL 6 INCHES OFF-SITE TOPSOIL IN ALL FILL AREAS ON THE EAST SIDE OF MILL CREEK AND ALL AREAS TO BE PLANTED WITH LAWN SEED MIX AND LOW-MOW FESCUE SEED MIX. THE NATIVE FLOODPLAIN AND EMERGENT WETLAND SEED MIX AREAS ARE EXCLUDED FROM TOPSOILING BUT SHALL BE FINE GRADED AND MUST BE WEED-FREE PRIOR TO SEED INSTALLATION.
- ALL LAWN, LOW-MOW FESCUE, NATIVE UPLAND, AND NATIVE FLOODPLAIN SEED MIX COVER CROPS SHALL BE INSTALLED IN LATE SUMMER DURING THE GROWING SEASON TO ALLOW PROPER GERMINATION AND ESTABLISHMENT.
- ALL REMAINING SEED MIXES SHALL BE INSTALLED IN LATE FALL/EARLY WINTER AS DORMANT SEEDING.
- EMERGENT WETLAND SEED MIX SHALL NOT BE INSTALLED IN STANDING WATER AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEWATERING TO ALLOW FOR SEED/SOIL CONTACT.
- SEEDING OVER OPEN WATER WILL NOT BE PERMITTED.
- INSTALL ALL SPECIFIED SEED MIXES UNDER THE BASE BID, EVEN WHERE ALTERNATE 1 PLANTINGS ARE SHOWN. DELETE SEEDING IN ALTERNATE 1 PLANTING AREAS IF ALTERNATE 1 IS ACCEPTED.
- EROSION CONTROL BLANKETS AND STRAW MULCH SHALL BE INSTALLED AS FOLLOWS:
 - STREAMBANKS: INSTALL C125BN HIGH VELOCITY BLANKET ON ALL STREAMBANK NATIVE FLOODPLAIN SEED MIX STARTING AT THE TOE OF SLOPE AND ENDING 10 BEYOND THE TOP OF BANKS, CONTINUOUS ALONG THE ENTIRE STREAM EXCEPT WITHIN PLANTING BEDS.
 - STEEP SLOPES 4:1 OR GREATER: INSTALL SC150BN ON ALL SLOPES AS SHOWN ON THE OVERALL LANDSCAPE PLAN.
 - INSTALL STRAW MULCH OVER ALL REMAINING SEED MIXES EXCEPT EMERGENT WETLAND SEED MIX.

DETENTION BASIN RAIN GARDEN PLANTINGS:

- INSTALL EVEN NUMBERS OF PLANTS INDICATED IN PLANT LIST IN GROUPS OF 8-12, PLANTING DIFFERENT SPECIES RANDOMLY, AT 18 INCHES ON-CENTER SPACING.

Qty. Base Bid	Qty. Alternate 1	Botanical Name	Common Name	Size	Form	Notes
SHRUBS						
65	29	Aronia arbutifolia 'Brilliantissima'	Brilliant red chokeberry	36" Ht.	Cont.	Well-branched, min. 4 canes
25	55	Aronia melanocarpa	Black chokeberry	30" Ht.	BR	Well-branched, min. 3 canes
46	13	Cornus foemina (Cornus racemosa)	Gray dogwood	36" Ht.	BR	Well-branched, min. 5 canes
43	60	Cornus sericea 'santi'	santi redbwig dogwood	36" Ht.	BR	Well-branched, min. 4 canes
5	0	Corylus americana	Hazelnut	30" Ht.	BR	Well-branched, min. 3 canes
17	0	Hamamelis virginiana	Witch hazel	36" Ht.	BR	Well-branched, min. 3 canes
16	41	Ilex verticillata 'Winter Red'	Winter Red winterberry	36" Ht.	BR	Well-branched, min. 4 canes
3	7	Ilex verticillata 'Southern Gentleman'	Southern Gentleman winterberry pollinator	24" Ht.	BR	Well-branched, min. 3 canes
23	0	Itea virginica	Sweetspire	24" Ht.	Cont.	Well-branched, min. 4 canes
53	28	Physocarpus opulifolius	Ninebark	36" Ht.	BR	Well-branched, min. 4 canes
37	0	Potentilla fruticosa 'Goldfinger'	Goldfinger potentilla	18" Ht.	Cont.	Well-branched, min. 5 canes
28	21	Rhus aromatica	Fragrant sumac	30" Ht.	BR	Well-branched, min. 3 canes
80	0	Rhus aromatica 'Gro-Low'	Gro-Low sumac	24" Spd.	Cont.	Well-branched, min. 3 canes
20	30	Rhus typhina	Staghorn sumac	36" Ht.	BR	Well-branched, min. 2 canes
10	0	Rosa 'Frau Dagmar Hastrup'	Frau Dagmar Hastrup shrub rose	24" Spd.	Cont.	Well-branched, min. 3 canes
9	0	Rosa 'Knockout'	Knockout shrub rose	24" Spd.	Cont.	Well-branched, min. 3 canes
37	0	Rosa 'Pink Knockout'	Pink Knockout shrub rose	24" Spd.	Cont.	Well-branched, min. 3 canes
25	15	Sambucus canadensis	Elderberry	36" Ht.	BR	Well-branched, min. 3 canes
25	37	Symphoricarpos alba	Snowberry	30" Ht.	BR	Well-branched, min. 3 canes
33	28	Viburnum dentatum	Arrowwood viburnum	36" Ht.	BR	Well-branched, min. 4 canes
29	0	Viburnum dilatatum 'Erie'	Erie viburnum	36" Ht.	Cont.	Well-branched, min. 4 canes
9	0	Viburnum plicatum tomentosum 'Summer Snowflake'	Summer Snowflake viburnum	30" Ht.	B&B	Well-branched, min. 3 canes
0	17	Viburnum trilobum	American cranberrybush	36" Ht.	BR	Well-branched, min. 4 canes
PERENNIALS/GRASSES						
119	0	Achillea 'Sunny Seduction'	Sunny Seduction yarrow	1 Gal.	Cont.	Well-rooted, 18" O.C.
89	0	Baptisia australis	False blue indigo	1 Gal.	Cont.	Well-rooted, 3" O.C.
79	0	Calamagrostis x acutiflora 'Karl Foerster'	Karl Foerster feather reed grass	1 Gal.	Cont.	Well-rooted, 24" O.C.
100	0	Echinacea purpurea 'Prairie Splendor'	Prairie Splendor purple coneflower	1 Gal.	Cont.	Well-rooted, 18" O.C.
152	0	Echinacea purpurea 'Ruby Star'	Ruby Star purple coneflower	1 Gal.	Cont.	Well-rooted, 18" O.C.
16	0	Geranium sanguineum 'Alpenglow'	Alpenglow cranesbill geranium	1 Gal.	Cont.	Well-rooted, 18" O.C.
14	0	Helioscopia helianthoides 'Summer Sun'	Summer Sun false sunflower	1 Gal.	Cont.	Well-rooted, 24" O.C.
104	0	Hemerocallis 'Baja'	Baja daylily	1 Gal.	Cont.	Well-rooted, 24" O.C.
31	0	Hemerocallis 'Happy Returns'	Happy Returns daylily	1 Gal.	Cont.	Well-rooted, 18" O.C.
8	0	Hemerocallis 'Stella d'Oro'	Stella d'Oro daylily	1 Gal.	Cont.	Well-rooted, 18" O.C.
92	0	Nepeta x faassenii 'Walkers Low'	Walkers Low Catmint	1 Gal.	Cont.	Well-rooted, 24" O.C.
16	0	Osmunda cinnamomea	Cinnamon fern	1 Gal.	Cont.	Well-rooted, 24" O.C.
56	40	Panicum virgatum 'Cloud Nine'	Cloud Nine switchgrass	1 Gal.	Cont.	Well-rooted, 3" O.C.
44	0	Panicum virgatum 'Rostrobushy'	Red switchgrass	1 Gal.	Cont.	Well-rooted, 30" O.C.
99	0	Silphium terebinthaceum	Prairie dock	1 Gal.	Cont.	Well-rooted, 30" O.C.

ISSUED FOR _____ REV. DATE _____

DEQ PERMIT _____ 03-29-2011

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

KEY PLAN

WATER RESOURCES DIVISION

MAR 30 2011

DRAWING TITLE
LANDSCAPE PLANT LISTS
AND NOTES

SCALE AS SHOWN
SCALE _____ 50094.004

PROJECT NUMBER

L-6

DRAWING NUMBER

DEQ-LWMD
FILE # 09-81-0074-P
APPROVED PLANS
PAGE 22 OF 23
3/31/11
MODIFIED

Mill Creek Park
Phase 1 Improvements
Village of Dexter

Bidders List

NAME	COMPANY	ADDRESS	PHONE	E-MAIL
Miriah Walsh	ABC Paving Co.	2650 Van Horn Road, Trenton, MI 48183	734-671-2120	mwalsh@abcpaving.com
Erick Garza	Angelo Iafrate Construction Co.	26300 Sherwood Avenue Warren, MI 48091	586-756-1070	egarza@iafrate.com
Rodney Vislosky	Carlo Construction	14899 33 Mile Road, Romeo, MI 48065	810-459-5616	rvislosky@carlocompanies.com
Mark Davenport	Davenport Brothers Construction	301 Industrial Park Drive, Belleville, MI 48111	734-697-2994	mark@davenportbrothers.com
John Niemiec	E.T. Mackenzie Company	6400 Jackson Road Ann Arbor, MI 48103	734-761-5050	jniemiec@mackenzieco.com
Norm Johnston	Fonson, Inc	7688 Whitmore Lake Brighton, MI 48116	810-231-5188	njohnston@fonsoninc.com
Nick Shelton	The Garrison Co.	32871 Middlebelt Farmington Hills, MI 48334	248-932-9100	nshelton@garrisoncompany.com
James Torbrueggen	Glencorp, Inc.	47641 Ryan Road Shelby Township, MI 48317	586-997-9563	jimt@glencorp.net
Jim Filip	Site Development, Inc.	30850 Stephenson Highway Madison Heights, MI 48071	248-583-1200	jfilip@sdevelope.com
James Cerollo	Warren Contractors & Development, Inc	50595 Central Industrial Drive Shelby Township, MI 48315	586--323-3350	warrencontractors@gmail.com

Mill Creek Park
Phase 1 Improvements
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Plan Holder List

NAME	COMPANY	ADDRESS	PHONE	E-MAIL
Todd Underhill	Rauhorn Electric Inc.	17171 23 Mile Road, Macomb, MI 48042	586-992-0400	tunderhill@rauhornelec.com
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James Cerollo	Warren Contractors & Development, Inc	50595 Central Industrial Drive Shelby Township, MI 48315	586-323-3350	warrencontractors@gmail.com
Rodney Vislosky	John Carlo Inc	14899 33 Mile Road Romeo, MI 48065	810-459-5616	rvislosky@carlocompanies.com

Mill Creek Park
Phase 1 Improvements
Village of Dexter

PRE-BID MEETING SIGN-IN SHEET
3-May-11

NAME	COMPANY	ADDRESS	PHONE	E-MAIL
Paul Evanoff	JJR	110 Miller Ave. Ann Arbor, MI 48104	734-669-2706	paul.evanoff@jjr-us.com
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Allison Bishop	Village of Dexter	8140 Main Street Dexter, MI 48130	734-426-8303	abishop@villageofdexter.org
James Tarbuaggen	Glencorp, Inc.	47641 Ryan Rd Shelby Twp. MI 48317	586-997-9563	jimt@glencorp.net
Kyle Ferris Jason Weller	Michigam Wildflower Farm	11770 Cutler Rd Portland MI 48875	(517) 647 - 6010	wildflowers@joysen.com
JOHN NIEMIEC	E.T. MACKENZIE COMPANY	6400 JACOBSON RD. ANN ARBOR, MI 48103	(734) 761.5050	jniemiec@ mackenzieco.com
MARK DAVENPORT	DAVENPORT BROTHERS CONST	301 INDUSTRIAL PARK DR BELLEVILLE MI 48111	734-697-2994 F. 734-697-0200	MARK a DAVENPORTBROTHERS.COM
Miriam Walsh	ABC Paving Co	2650 Van Horn Rd Trenton, MI 48183	734-671-2120	mwals@ABCpaving.com
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Mill Creek Park
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NAME	COMPANY	ADDRESS	PHONE	E-MAIL
Bill McCreff	Rain for Rent Pump Tank, Filtration, etc.	2401 Sibley Rd Bears Town, MI 4883	734- 564-1268	WmMcCreff@rainforrent.com
TOM MATTHEWS	SNOW-X DIVISION RASCAL ENTERPRISE	STATE ST. ANN ARBOR 48104	734 368-1393	tjmatthews1977@ yahoo.com
Ryan Look	DER Earthmoving	5840 Sterling Dr. Howell MI 48843	517-586-4033	rlook@derearthmoving.com
ERICK GARZA	ANGELO IAFRATE CONSTRUCTION CO.	26300 SHERWOOD AVE WARREN, MI 48091	586-756-1070	egarza@iafrate.com
MIKE HARRISON	CLARKS CONSTRUCTION	18109 LIVERMORIS DETROIT 48221	313 345-7503	michaelh@ clarksconstruction.net
Grany Poutz	Testing Equip & Consultant	1343 Rochester Road MI 48099	248-588- 6100	248-588- 6232
Braed Noller	Getw Construction	4832 Giffard Ct. Ann Arbor, MI 48103	734-660-2615 Fax: 426-1358	nollst17@yahoo.com
KEN BROCK	BROCK & ASSOCIATES	48320 W 9 mile Novi, MI 48374	248 760-7117	Ken.Brock@ BrockAssociatesInc.com
RICHARD CEDRONI	CEDRONI ASSOCIATES INC	5638 AUBURN RD UTICA, MI 48317	586 254-7778	BRIAN.CAI@ SBC GLOBAL.NET

Mill Creek Park
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NAME	COMPANY	ADDRESS	PHONE	E-MAIL
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James Vani	V.I.L. Construction INC	6670 Sims Sterling Heights, MI 48313	586-479 6020	j-vani@comcast.net
Josh Skert	Yard Master	9805 N Ann Arbor Milan 48160	734 479-1795	Jmskert94@yahoo.com
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Danko Martynowski	Homeland Boat Services		248.600.8404	DankoHes-60v.com
DAVID WILKIE	DOUGLAS N. HIGGINS, INC.	3390 TRAVIS POINTE RD. ANN ARBOR, MI 48108 STE. A	731-996-9500	dwilkie@dhiggins. net

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NAME	COMPANY	ADDRESS	PHONE	E-MAIL
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Chuck Irish	CHAS. F. IRISH CO INC	48089 24900 Groesbeck Warren MI.	586-775-6600	CHASIRISH@CAUT4L.NET
James Penullo	WARREN CONTRACTORS INC	TUSC. MI 48315 50595 Central Exp. STUBBY	586-323-3350	warrencontractors@gmail.com
RON POTTEN	SITE DEVELOPMENT	MADISON HEIGHTS 3085 STEPHENSON HWY	248-640-0852	R.POTTEN@GMAIL.COM
Kevin Sibilla MARIO AUDIA	AUDIA Construction	2985 Childs Lk Milford MI 48361	248-676-9570	ksibilla@audiaconstructioninc.com
Bryan Van Cyman	Soulliere Decorative Stone	4454 22 mile Rd UTICA MI 48317	586-739-0020 586-531-3506	BVanCyman@BNCKFAVE.COM

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NAME	COMPANY	ADDRESS	PHONE	E-MAIL
Ray Rohrer	Rockwork LLC	1101 RADDOS RD. LAKE ORION, MI	248-693- 0920	Ray@ RockworksLLC.com
Jay Daly	Water Works Sprinklers	2435 Soto Rd. 48360 Dexter, MI 48130	734 474- 5881	Info@waterworksprinklers.com
Dave Hughes	VANSTON/O'BRIEN	2375 Bishop Cr POB 36598	424-0661 5266	DAVID.HUGHES@VANSTON.COM
MARC FAUST	FAUST CORP	G.P.F., MI 48136	415-2030	MARCC@FAUSTCORP.COM