

TECHNICAL SPECIFICATIONS

PART 1 GENERAL

1.1 DESCRIPTION

- A. This work involves the preparation, installation, and final shoreline restoration of the Cottonwood Campground at Cooney State Park.
- B. All work shall conform to the Montana Public Works Standard Specifications, 6th Edition, April 2010 plus subsequent addenda, unless otherwise noted herein.

1.2 SHORELINE PREPARATION

- A. This work entails the import/grading/compaction of each shoreline flexamat location (See plan sheet). The prepared subgrade shall provide a firm, unyielding foundation for the mats. The subgrade shall be prepared as detailed on the plans. Subgrade surface shall be free of any debris, protrusions, rocks, sticks, roots or other hindrances which would result in an individual block being raised more than $\frac{3}{4}$ " above the adjoining blocks.

PART 2 PRODUCTS/EXECUTION

2.1 GENERAL

A. Non-Woven Geotextile Fabric

- 1) 10 Oz., non-woven geotextile fabric with flexamat shall be installed as per the plan sheet locations. The fabric/flexamat shall envelop the entire area, as shown on the plans, with a two-foot overlap at any junctions of the material, and a two-foot flap left at the perimeter. This overlap at the perimeter shall be dug/buried into the surrounding embankment to prevent any infiltration of mud/deleterious materials/erosion into the flexamat base.
- 2) Fabric shall be installed as per manufacturers specifications.

B. Rip-Rap

- 1) Rip Rap shall be removed from the lake bottom as shown on the plan sheets.
- 2) Contractor shall endeavor to create the smallest ground disturbance possible. Rubber tire equipment is preferred.
- 3) No work shall be allowed below the existing lake waterline.
- 4) The contractor shall salvage as much existing rip rap as is reasonable. No large excavations will be allowed. If in the process of picking from a rip rap pile, it continues to be found below the surrounding ground elevation, the contractor shall be allowed to salvage this rip rap which is below the surrounding lakebed.
- 5) Any old existing fabric that gets exposed during this work, the contractor shall remove and dispose of from the site.

- 6) Salvaged rip rap shall be placed in the locations identified on the plan sheets. No dumping from a height of more than 2 feet high shall be allowed. Rip Rap shall be placed to prevent any tearing of the underlying fabric/flexamat.

C. Flexamat

- 1) Flexamat shall be installed at each location shown on the plan sheets.
- 2) All items associated with flexamat, including the preparation, placement, stabilization, and final installation shall meet with the manufacturers recommended specifications.
- 3) Install stainless steel zip ties in 2' increments across mat overlaps to secure seams. Stainless steel zip tie shall penetrate a minimum of three cords of grid of either mat at overlaps.
- 4) Contractor shall prepare a submittal for the flexamat product before installation. Product will not be installed until it has been approved by FWP.

D. Topsoil, Seeding, Fertilizer, and Blanket

- 1) After the concrete matting has been installed, the contractor shall place 2" of top soil into the infill areas between each concrete pillow of the flexamat product, as shown on the plan sheets.
- 2) All areas of disturbance, throughout the project site (including the infill areas over the flexamat), shall be seeded (including fertilizer) with a native grass seed mix listed below or as determined by the Park Manager (Marina 445-2326);

40% Crested Wheatgrass Ephraim
40% Crested Wheatgrass Fairway
20% Streambank Wheatgrass Sodar

- 3) Once the seed/fertilizer has been thoroughly raked and blended into the disturbed locations, the contractor shall place/secure the seed blanket over these areas as per manufacturers recommendations.
- 4) Seed blanket shall be a coir fabric, machine produced mat of 100% coconut fiber covered on the top and bottom sides with a heavyweight photodegradable polypropylene netting.
- 5) Before placement, contractor shall supply a submittal of the seed blanket for approval by FWP.

PART 3 MISCELLANEOUS

3.1 GENERAL

A. Additional Requirements

- 1) Refueling of equipment shall not be permitted in the lake bed area.
- 2) Any required permits for this project are the responsibility of the contractor to obtain.

- 3) Any property damage resulting from Contractor activity will be repaired or replaced at Contractor expense.
- 4) Contractor is responsible for all utility locates.
- 5) All work shall comply with federal, state, and local codes. If there is a conflict between codes, the more stringent code will apply, unless specifically authorized by the Owner.
- 6) Any degradation of the shoreline banks during construction, shall be restored to original condition where feasible.
- 7) Project site shall be left in a neat and clean condition when completed.
- 8) Before any mobilization/work, the contractor must contact the Park Manager (Marina at 445-2326 or 740-0805) to coordinate activities.

End of Specifications