

The following is a summary of the Biosolids Management Plan to be followed by the contractor and Owner at the following three facilities during construction of the Red Cliff, Greater Bayfield, and Washburn Wastewater Treatment Plant (WWTP) Reed Bed Replacement Project.

1. Red Cliff Band WWTP
89160 Blueberry Road
Red Cliff, WI 54814
Permit No. WI-0049727-3

2. Greater Bayfield WWTP
85025 Old San Road
Bayfield, WI 54814
Permit No. WI-0063053-03-0

3. Washburn WWTP
10th Avenue West
Washburn, WI 54891
Permit No. WI-0022675-09-0

These requirements will be specified in Section 01 74 00 - Construction Waste Management and Disposal and shown on the Contract Drawings. Documents referenced herein are attached to this summary.

All three facilities currently use non-native Phragmites reed beds to dewater and store aerobically digested sludge. The intent of the Biosolids Management Plan is to minimize the potential of infestation of the non-native Phragmites reeds at the Red Cliff, Greater Bayfield, and Washburn WWTPs, along the haul route to the landfill, and at the final disposal location, and to reduce the risk of reinfestation of the reed beds once the native Phragmites reeds are planted. Spreading of Phragmites may occur by both rhizome and seed.

General Removal, Hauling, and Disposal

After establishing erosion protection and providing equipment washing capabilities at each site, the contractor will remove all contents of the reed beds (non-native Phragmites biomass, biosolids, sand and gravel, underdrain piping, geotextile fabric, and polyvinyl chloride bed liner) as specified and indicated on the drawings. Demolition shall be completed in such a manner as to avoid **site disturbance, tracking of material, and** dissemination of Phragmites rhizomes and seeds. All piping to remain will be tightly covered or plugged by the contractor prior to removal of the reed bed contents to prevent contamination with non-native material. All materials will be disposed of at the Superior Landfill. The contractor will be required to tightly cover all materials during transportation, and the empty truck bed during return, to prevent release or spread of rhizomes or seeds. **Trucks shall not be allowed to haul material, other than the material being removed from the reed beds, until the truck bed has been thoroughly cleaned and inspected for non-native Phragmites propagules (reproductive parts of a plant that can grow independent of its parent source).**

No onsite stockpiling of biosolids or reed bed material will be allowed without prior approval from the Owner. Any stockpiling will be done in accordance with NR 204 and in strict adherence with Section 01 50 00 of the specifications, which requires the stockpile area to, at a minimum, be lined with plastic sheeting to prevent migration of the materials from the area and requires the materials to be covered and the cover fastened down to prevent precipitation from entering the area.

Inspection and Cleaning Protocols During Removal

Prior to leaving the Area of Site identified on the drawings, the contractor will be required to clean all equipment and vehicles that have come into contact with the reed bed contents. Cleaning is to be completed as needed using a stiff brush, broom, or other hand tools and/or power washer in order to remove any biosolids or Phragmites biomass from the equipment and vehicles. Todd Norwood, Red Cliff Band of Lake Superior Chippewa Project Coordinator, or his designated and trained representative (Owner) will visually inspect equipment and vehicles to verify that all reed bed material is tightly covered and that no non-native Phragmites biomass or biosolids will be inadvertently tracked outside of the WWTP. Mr. Norwood's resume is attached to this document. All equipment and vehicles exiting the Area of Site will be required to pass through a wheel wash station, as detailed on the drawings, to remove any unidentified biomass potentially trapped in the tracks or tires of the equipment or vehicles. Any plant material or biosolids splatter that must be removed from the equipment/vehicle shall be removed while the vehicle is within the pool area of the wheel wash station.

Individuals coming into contact with the reed bed contents, or near the reed beds during removal of the contents, will be required to inspect (and clean as necessary) shoes and clothing for non-native Phragmites rhizomes and seeds prior to leaving the WWTP. Footwear should be cleaned with water and a stiff brush prior to leaving the Area of Site. Individuals working in or near the reed beds are encouraged to wear outer layers of clothing and footwear that will reduce the risk of holding onto seeds, biosolids, and rhizome fragments. Wisconsin Department of Natural Resources (WDNR) recommends the following be worn, if appropriate for the type of work being performed, while working in areas with established invasive species.

1. Low-tread footwear that does not hold soil, seeds, or plant parts.
2. Ankle gaiters over socks and shoe laces.
3. Hat to cover hair.
4. No exposed Velcro, bulky knits (e.g. wool, fleece), pants with cuffs, or other fabrics/clothing styles that can easily carry seeds.

Disposal of Reed Bed Materials

All reed bed contents will be transported from each of the three WWTPs to the Superior Landfill, located at 107 Moccasin Mike Road, Superior, Wisconsin. Trucks hauling reed bed materials shall only travel along the haul route identified on the drawings. During transportation, all materials will be tightly covered to prevent release or spread of rhizomes or seeds. An acceptance letter from the Superior Landfill is attached to this document.

The contractor shall coordinate with the landfill to have all reed bed contents covered daily to prevent the release or spread of rhizomes or seeds. The contractor shall leave Owner-provided information with the landfill detailing the importance of inspecting (and cleaning as necessary) any equipment coming into contact with the reed bed materials. All contractor equipment and vehicles used to haul the reed bed contents shall be inspected by the contractor (and cleaned as necessary) for non-native Phragmites rhizomes and seeds prior to leaving the landfill. Wash water is not available at the Superior Landfill, so cleaning will need to be completed using a stiff brush or with contractor-provided water and pressure washer. If wash water is used, the wash location should be coordinated with the landfill operator. The washdown location should be selected to minimize the potential of spreading invasive species offsite, and stormwater inlet protection should be provided as necessary. All truck beds shall be tightly covered to contain any residual material and trucks shall return to the WWTP site, along the haul route indicated on the drawings, for final cleaning at the WWTP sites. Trucks will not be allowed to transport other material on the return trip to the WWTP site. Owner will visually inspect contractor equipment and vehicles to verify the equipment cleaning is being completed at the landfill and at the WWTP sites.

The contractor will be responsible for providing to the Owner records indicating the type and amount of materials removed from each site and the location and date of final disposal.

Biosolids Handling During Construction

Each site owner is responsible for handling of its biosolids while the reed beds are out of service. Red Cliff intends to store solids onsite in existing process tanks. GBWWTP and the City of Washburn intend to field spread digested biosolids during construction. Hauling digested biosolids to the Ashland WWTP will be considered if field spreading is not feasible because of weather conditions and/or limited land availability. Each facility will need approximately 80,000 gallons of digested biosolids at 1.5 to 2.5 percent total solids to start up the native reed beds. The reed bed system supplier, Constructed Wetlands Group (CWG) of Plainview, NY has indicated the sludge should be digested to 65 percent to 73 percent volatile solids before it is applied to the reeds.

Inspection and Cleaning Protocols After Removal

After the reed bed contents are removed from the site, Owner will inspect the reed beds, including any remaining reed bed piping, and the general WWTP site for fugitive seeds and rhizomes. Particular areas of concern at all sites include reed bed feed piping and drain piping, and site sewers immediately downstream of the reed bed drainage system. The contractor will clean the site and flush beds, pipes, and drains as required to remove any fugitive biomass identified during the inspection. Liquid from pipe flushing shall pass through a geobag or erosion control filter sock to capture any plant materials. The geobag shall be disposed of at the Superior Landfill as described above. Any non-native biomass on the site not disposed of during the initial demolition phase shall be raked from the grass and double bagged for disposal at a landfill. Any additional material at the site that potentially came into contact with non-native propagules, such as erosion control inlet protection and the Wheel Wash Station, shall be dismantled and contained, and the materials disposed of at the Superior Landfill as described above. Items that are reusable, such as metal rumble racks, or plastic mud mats, shall be washed and inspected for non-native biomass prior to removal from the site.

In addition to the cleaning required by the contractor, each facility will be responsible for evaluating and implementing inspection and decontamination efforts with respect wastewater treatment facilities. These efforts will be based on what each facility thinks is best and necessary for its process.

Replanting of the Reed Beds

No new reed bed material will be brought onsite until after the site has been inspected by Owner and verified as free from non-native *Phragmites* material. Following the inspection, reed bed liner and bedding material installation will proceed. It will be specified that new bed material shall not be sourced from sand and gravel mines within one mile of a known non-native *Phragmites* stand, as identified by Great Lakes Indian Fish and Wildlife Commission (GLIFWC) surveys, unless special methods are used to reduce the potential for incorporating seeds into the new materials. The reed bed system supplier, CWG, will provide and install the native *Phragmites* reeds at each facility. The reed plants shall be of a local northwest Wisconsin genotype and of the genus *Phragmites australis, subsp. americanus*. The contractor will be required to submit data on the reed origination and quality, including DNA testing data to certify the native *Phragmites* variety. This data will be sent to WDNR for record.

The contractor will be responsible for keeping the beds free of unwanted weeds or terrestrial vegetation until final completion of the project. CWG will closely monitor the success of the planting and assist the Owner with any infestation control and re-planting for 24 months following the planting.

Future Surveys and Monitoring

The Red Cliff Band of Lake Superior Chippewa acknowledges the requirement for future annual *Phragmites* surveys and control on and around the treatment plant, and extended vicinity based on past infestations and any new infestations of non-native *Phragmites*. At this time, the Tribe intends to continue using the Red Cliff Natural Resources Department for annual surveys and eradication of identified non-native *Phragmites* stands. The Tribe's current National Pollutant Discharge Elimination System (NPDES) permit does not required continued surveys following removal of the non-native reeds. However, it is the Tribe's intent to continue with these surveys for a minimum of three years following removal of the non-native reeds. Annual survey reports will be submitted to the United States Environmental Protection Agency (USEPA) in accordance with the Tribe's discharge permit.

The Greater Bayfield WWTP Commission acknowledges the requirement for future annual *Phragmites* surveys and control on and around the treatment plant, and extended vicinity based on past infestations and any new infestations of non-native *Phragmites*. The Commission will contract with a qualified professional for annual surveys and associated eradication of identified non-native *Phragmites* stands, in accordance with its WPDES permit. The GBWWTP Wisconsin Pollutant Discharge Elimination System (WPDES) permit requires continued annual surveys for a period of three years following removal of the non-native reeds or detection of new stands, up to a period of ten years. Annual survey reports will be submitted to the WDNR in accordance with the Commission's discharge permit.

The City of Washburn acknowledges the requirement for future annual *Phragmites* surveys and control on and around the treatment plant, and extended vicinity based on past infestations and any new infestations of non-native *Phragmites*. The City will contract with a qualified professional for annual

surveys and associated eradication of identified non-native Phragmites stands, for a minimum of three years following removal of the non-native reeds. The City's current WPDES permit does not require continued surveys following removal of the non-native reeds. However, WDNR has indicated that the City's WPDES permit will expire in June 2019 and it will be reissued with similar requirements as those in the GBWWTP WPDES permit. Annual survey reports will be submitted to the WDNR in accordance with the City's discharge permit.

Phragmites is a species of primary concern with the GLIFWC Invasive Species Program. GLIFWC has historically conducted Phragmites surveys along the identified haul route between the WWTPs and the Superior Landfill. GLIFWC has indicated it intends to continue monitoring the hauling route and add areas around the Superior Landfill to its Phragmites monitoring area pending future funding for non-native Phragmites surveys. Currently GLIFWC has funding secured through fiscal year 2018.

Operational staff at each facility will be responsible for monitoring their reed beds on a routine basis for re-infestations of non-native Phragmites. The reed bed operation and maintenance manual provided to staff at each site will contain information on differentiating between the native and non-native reeds. If re-infestation occurs, staff will coordinate an eradication plan and any necessary replanting with the local eradication contractor and the CWG. Depending on the extent of the re-infestation, eradication may vary from spot application of herbicides to cutting, burning, and/or flooding of an entire bed. If burning is used, seed heads will be cut first.

Educational and Motivational Procedures

The Owner will provide educational material and present information at a contractor's meeting prior to demolition to provide a short background on invasive species, and explain the purpose and importance of the Biosolids Management Plan. The contractor shall identify a "Waste Manager" that is responsible for overseeing personnel with regards to implementation of the Biosolids Management Plan. The contractor's designated "Waste Manager," equipment operators, and truck drivers should attend the meeting. The contractor will be encouraged to post invasive species signage at prominent locations on each site as a reminder to employees on the importance of adhering to the Biosolids Management Plan.

Attachments

Superior Landfill Acceptance letter
Inspector Qualifications - Todd Norwood Resume
Specification Section 01 74 00 - Construction Waste Management and Disposal
Specification Section 01 50 00 - Temporary Facilities
Drawing Sheet 3 - Overall Biosolids Management Plan
Drawing Sheet 4 - Red Cliff WWTP Design Criteria, Schematic, and Biosolids Management Plan
Drawing Sheet 9 - Greater Bayfield WWTP Design Criteria, Schematic, and Biosolids Management Plan
Drawing Sheet 14 - Washburn WWTP Design Criteria, Schematic, and Biosolids Management Plan
Drawing Sheet 20 - Civil/Site Details