



CITY OF EAGAN REQUEST FOR BIDS

ISSUE DATE	February 17, 2021	
SUBMIT BIDS TO	Eric Macbeth, Water Resources Manager City of Eagan emacbeth@cityofeagan.com	
RFB TITLE	AQUATIC PLANT HARVESTING EQUIPMENT	
PURPOSE	This Request for Bids (RFB) solicits proposals to supply and deliver an aquatic plant harvester, trailer, and shore conveyor and to provide initial training to transport, operate, and maintain the equipment. Complete description and technical specifications are attached.	
DEADLINE FOR BID SUBMISSIONS	MARCH 8, 2021 — 1:00 PM CST <i>Bids must be received by specified date/time. Late bids and/or unsigned bids will be rejected.</i>	
PLEASE DIRECT ALL INQUIRIES TO	NAME	Eric Macbeth
	TITLE	Water Resources Manager
	PHONE #	(651) 675-5330 (O); (651) 485-0833 (C)
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	EMAIL	emacbeth@cityofeagan.com
<u>THIS RFB IS COMPRISED OF:</u> Part 1 – General Guidelines & Information Part 2 – Detailed Equipment Specifications Part 3 – Bid Forms	<u>RESPONSE CHECKLIST:</u> <input type="checkbox"/> Completed RFB (and related information) <input type="checkbox"/> Completed, Signed Bid Form <input type="checkbox"/> Bid Security <input type="checkbox"/> Completed Deviations/Subcontractors Form <input type="checkbox"/> Completed Statement of “No Bid” Form	

PART 1

GENERAL GUIDELINES AND INFORMATION

1.0 INSTRUCTIONS

- 1.1. GENERAL: The specifications detailed herein are not intended to limit competition to a certain manufacturer's product, but to reflect the minimum requirements of the City of Eagan (City) for purchasing new aquatic plant harvesting equipment. Bid prices shall include all labor, parts, and materials necessary to construct, supply, and deliver the equipment and to provide initial training to transport, operate, and maintain the equipment.
- 1.2. EQUIVALENT BIDS: The detailed equipment specifications describe the acceptable equipment. Minor variations may be accepted if, in the opinion and at the sole discretion of the City, they do not adversely affect the quality, maintenance, or performance of the equipment.
- 1.3. LITERATURE: Bidders must submit all corporate brochures, specification sheets, videos, histories, and any other information available to demonstrate a minimum of three (3) years of experience in the construction, operation, maintenance, and training of the equipment.
- 1.4. DEVIATIONS: Any deviation from the minimum specifications must be identified in detail on the form provided and must include a description of how the proposed item/s differ from RFB requirements, along with detailed justification for such deviation/s. Bidder shall include photos and schematics as necessary, for complete clarification.
- 1.5. ACCEPTABLE MODELS: All equipment shall be new and unused, and of a proven design. Prototype units are unacceptable. All models shall have been in regular production for a minimum of ten (10) years.
- 1.6. REFERENCES: Bidder must provide contact names, addresses, and telephone numbers for a minimum of three (3) state/federal institutions (i.e., universities) or municipal clients who have purchased equipment of similar stainless steel construction, not only the barge/hull, within the last three years. Bidder must provide picture/s of each stainless-steel piece of equipment with details of the construction materials. Failure to provide complete reference information will be cause for immediate disqualification.
- 1.7. FINANCIAL INTEGRITY: The successful bidder shall be a well-established, financially sound company and be able to provide evidence of such upon request.
- 1.8. MANUFACTURING: All equipment shall be designed and constructed to the best industry standards. All components requiring fabrication shall be manufactured entirely at the bidder's proprietary facility, including the barges, superstructures, conveyor frames and sidewalls, operator and engine platforms, paddle wheels and guards, etc. Typical purchased finished parts such as the engine, hydraulic motors and conveyor mesh are exempt from this requirement.
- 1.9. SUBCONTRACTORS: If the bidder intends to employ any subcontractors to perform any of the work, the bidder shall provide the contact information for those subcontractors and the work that each subcontractor shall be performing on the form provided.
- 1.10. COLLUSION: The bidder, in affixing signature hereto, thereby certifies bid is made without previous understanding, agreement or connection with any person, firm or corporation making a bid for the same item/s and is in all respects fair, without outside control, collusion, fraud or otherwise illegal action.
- 1.11. INSPECTIONS: The City reserves the right to visit the successful bidder's manufacturing facility at any time prior to and during production of the equipment for the purpose of inspection. The City shall be permitted full access to all parts of the facility when and where the equipment is being manufactured.
- 1.12. EQUIPMENT DUE DATE: The City desires delivery of all equipment on or before July 6, 2021.

- 1.13. DELIVERY: Delivery shall be made by appointment only between the hours of 7:00 a.m. and 3:30 p.m., Central Standard Time, Monday through Friday. The City will specify the delivery location upon notification the equipment is ready for shipment. Prices quoted shall include freight charges prepaid and included (FOB City of Eagan, Central Maintenance Facility), unless otherwise stated.
- 1.14. TAXES & DUTIES: This is a tax-exempt purchase. All prices quoted shall exclude all federal, state, and local taxes and/or duties.
- 1.15. FLUID LEVELS: The equipment shall be delivered with all system fluids filled to working level, except for diesel and/or gasoline fuels.
- 1.16. MANUALS: Two complete sets of operating manuals, including technical parts identification bulletins, engine manual, and operation and maintenance instructions, shall be provided to the City upon delivery of the equipment. One copy shall be supplied in electronic format with the bid documents.
- 1.17. TRAINING: A manufacturer's factory representative shall participate in an onsite training program for up to sixteen (16) hours over two (2) contiguous days at no additional cost to the City. The training shall include instructions in the transport, operation, safe use, and maintenance of the equipment. The time and location of the training shall be determined by mutual agreement prior to delivery.
- 1.18. CERTIFICATES OF ORIGIN: One (1) original Manufacturer's Certificate of Origin shall be provided for each piece of equipment purchased through this RFB.
- 1.19. WARRANTY: All equipment shall have a minimum one (1) year warranty, preferably two (2) or three (3) year warranty, excluding consumable parts. Bidders must attach their written warranty; failure to do so will result in immediate disqualification.
- 1.20. INSURANCE: Successful bidder must carry a minimum of \$1 million of commercial product liability insurance and a minimum \$2 million umbrella. Bidders must provide proof of liability coverage; failure to do so will be cause for immediate disqualification.
- 1.21. RFB DEADLINE: Bids are due by no later than 1:00 pm CST on March 8, 2021. Bids received after the prescribed date and time will be returned to the bidder unopened.
- 1.22. BID SUBMISSION: Bids must be submitted electronically on the forms provided with this RFB. Bids arriving after the prescribed date and time will be returned to the bidder unopened. Bidders must return a complete copy of this RFB, including all pages initialed at the bottom, to be considered for award. All attached forms must be completed appropriately and signed as required.

Bids must be submitted electronically with attached file(s) and the message subject line stating, "Sealed Bid for Aquatic Plant Harvesting Equipment." The bidder's name and address shall be clearly indicated in the electronic message.
- 1.23. BID REJECTION: Any bid may be rejected if the bidder misstates or conceals any material fact in the bid, the bid does not strictly conform to the law or requirements of the bid, or if the bid is conditional.
- 1.24. CONTRACT AWARD: Award will be made based on bidder responsiveness to this RFB, to be determined at the sole discretion of the City. The City reserves the right to accept or reject any or all bids or portions thereof, to waive minor informalities or irregularities, and to choose the equipment and/or the supplier that best suits the needs of the City.
- 1.25. BID WITHDRAWAL: Bids may not be withdrawn after the time set for the bid submittal. Requests prior to the deadline must be provided in writing.
- 1.26. BID SECURITY: Bidder shall provide a bid bond at the time of bid submittal. Failure to include the requisite bid bond at the time of bid submittal will be cause for immediate disqualification. Bid bonds will be returned to bidders upon contract award. A bid bond shall be a written guarantee in which a third party agrees to be liable to pay the City at least five percent (5%) of the bid price, in the event the bidder awarded the contract does not execute the contract documents, furnish any required bond/s or

required insurance documents and proceed with performance. The bid bond shall name the bidder as principal.

- 1.27. STABILITY CALCULATIONS: Stability calculations must be supplied with the bid. Calculations must be based on the exact specifications. Previously created documents based on other configurations are unacceptable. Failure to provide will be cause for immediate disqualification.

PART 2-A

DETAILED HARVESTER SPECIFICATIONS

2.0 GENERAL REQUIREMENTS

- 2.1. The aquatic plant harvester shall be a completely self-contained system, self-powered, capable of operating on the water and transportable over public roads.
- 2.2. The harvester shall be capable of cutting, loading, and unloading both bottom rooted and floating aquatic plants and marine floatables, without manual assistance.
- 2.3. OVERALL OPERATING DIMENSIONS: Overall operating dimensions shall not exceed:

Length: 42' 0"
Width: 15'-6"
Height: 9'-0"

- 2.4. OVERALL SHIPPING DIMENSIONS: Overall shipping dimensions shall not exceed:

Length: 42' 0"
Width: 12' 0"
Height: 11" 0"

3.0 FLOTATION BARGE

- 3.1. HULL: The vessel hull shall be designed to withstand all stresses to which it is normally subjected. The hull shall consist of a rectangular shaped barge with no add-on pontoons, protrusions, or sponsons. Catamaran hulls are unacceptable.
- 3.2. CONSTRUCTION: All barge outer skins and internal structures shall be 304L stainless steel. The barge shall be constructed with a substantial, welded internal support structure on maximum 24" centers throughout. All deck load bearing areas shall be reinforced with additional internal support angles and minimum ¼" plate on the deck.
- 3.3. REINFORCEMENT STRUT: Barge sidewalls, port and starboard, shall be formed and constructed with an indented reinforcement strut measuring approximately 4" tall and extending the entire length of the barge.
- 3.4. BOTTOM PROTECTION: Replaceable 4" x 4" high density polyethylene runners shall protect the full length of the barge bottom and assist in guiding the harvester on and off a trailer. Runners shall be mounted with a spacing of 68.5" on center.
- 3.5. COMPARTMENTS: The hull shall have a minimum of three (3) airtight and watertight compartments, each fully tested under pressure. Each compartment shall have a 2" NPT inspection plug on the port side deck and a ½" NPT drain plug on the lower starboard side.
- 3.6. OUTFITTING: Four (4) lifting eyes adequately designed and sized to lift the weight of the finished vessel shall be located near the outside corners of the barge deck. Four (4) tie-down cleats shall also be located near the four corners of the barge deck. Anti-skid pads shall be mounted to the barge deck on both the port and starboard sides.

3.7. BOW: The bow of the hull shall be designed in a “V” shape to reduce resistance when cutting through the water, to enhance the capture of vegetation and debris on the pick-up conveyor and to increase stability. A heavy-duty clevis shall be mounted to the forward center of the barge.

3.8. DIMENSIONS: Barge dimensions shall measure:

Length: 24' 0"
Width: 10' 0"
Height: 2' 4"

3.9. DRAFT REQUIREMENTS: Maximum allowable draft shall be:

Empty: 1' 0"
Fully Loaded: 1'10"

4.0 #1 CONVEYOR: CUTTING & COLLECTION HEAD

4.1. CONSTRUCTION: The conveyor shall be suitably designed to facilitate the cutting and collection of material. The cutting and collection head shall consist of a bow mounted structural pivoting frame supporting the pickup/loading conveyor. The frames and return tracks shall have virgin white UHMW wear strips installed.

4.2. FUNCTION: The cutting and collection head shall serve simultaneously to cut aquatic plants, to collect floating vegetation and debris, and to transfer those materials from the water to the storage hold container. Plants and refuse shall be brought on board by means of hydraulically powered conveyor belts traveling at 85' to 100' per minute. Vessel shall include a valve at the operator console that allows the operator to disengage the cutters and operate the pickup conveyor only, for the purpose of skimming floating aquatic plants and marine debris.

4.3. CUTTER HEAD: The cutting and collection head shall be capable of rising out of the water by 18" and lowering to a minimum depth of 5'. Elevation and adjustment shall be accomplished by means of two (2) single acting hydraulic cylinders.

4.4. CUTTER BARS: The cutting and collection head shall consist of three (3) cutter bars, each having a 3" reciprocating stroke. The horizontal cutter shall be mounted across the lower front end of the pickup/loading conveyor frame. The two (2) vertical cutters shall be attached to bolt-on style 304L stainless steel extension flares. To enable easy repair, integral, one-piece and permanently welded extensions flares are unacceptable. The vertical cutter bar extensions shall be painted in a color that contrasts with the rest of the machine for visibility.

4.5. DIMENSIONS: The cutter bars shall measure at a minimum:

Horizontal: 7' 0"
Vertical: 5' 0"

4.6. DRIVE SYSTEM: Each of the cutter bars shall be powered by high torque hydraulic motors (3 total) and 5/8" diameter pitman rods with 5/8" rod end bearings. The loading conveyor shall be driven by a high torque hydraulic motor by means of positive chain drive couplings. Splined couplings are unacceptable. Hydraulic motors shall be of sufficient capacity to continuously move a fully loaded conveyor belt. A selector valve shall be used to isolate the cutters from the conveyor system.

4.7. IMPACT PROTECTION SYSTEM: The cutter head shall incorporate a double impact protection system to minimize damage in the event of collision with an underwater obstruction. This system shall consist of:

- Three (3) pre-compressed shock rods with springs located behind the horizontal cutter bar
- Pivoting gravity spring suspension to pivot entire pickup conveyor upon impact.

A double impact protection system MUST be supplied; deviations are unacceptable.

- 4.8. DRIVE SHAFT: Cutter head conveyor drive shall be a bearing mounted shaft with a minimum of twelve (12) drive sprockets. Conveyor shall be driven by ½" steel x thirteen (13) toothed machined and shouldered sprockets welded to the shaft. Bearing plates, sprockets, and drive shaft shall be constructed with 304L stainless steel. Ball type sprockets and forged steel sprockets are unacceptable.
- 4.9. IDLER SHAFT: Cutter head conveyor idler roller shall be a bearing mounted smooth tube shaft.
- 4.10. TENSIONING DEVICES: Proper belt tension on the pick-up conveyor shall be maintained with two (2) external 304L stainless steel telescoping threaded tensioning devices at the drive shaft.
- 4.11. CONVEYOR MESH: Cutter head conveyor mesh shall be 1" x 1" 304L stainless steel flat wire belting.

5.0 #2 & #3 CONVEYORS: STORAGE HOLD CONTAINER

- 5.1. CONSTRUCTION: The storage hold shall consist of two (2) separate steel structural frames with formed steel sheet sidewalls. The storage hold conveyor design shall allow for a minimum of 2" clearance between the conveyor belting and the top side of the barge. The frames and return tracks shall have virgin white UHMW wear strips installed.
- 5.2. #2 CONVEYOR DRIVE SYSTEM: The #2 storage hold conveyor shall be driven by a high torque hydraulic motor by means of positive chain drive coupling. Splined couplings are unacceptable. Hydraulic motor shall be of sufficient capacity to move a fully loaded conveyor belt. The #2 conveyor belt speed shall be 20' per minute.
- 5.3. #3 CONVEYOR DRIVE SYSTEM: The #3 storage hold conveyor shall be driven by a high torque hydraulic motor by means of positive chain drive coupling. Splined couplings are unacceptable. Hydraulic motor shall be of sufficient capacity to move a fully loaded conveyor belt. The #3 conveyor belt speed shall be 27' per minute.
- 5.4. STORAGE CAPACITY: The storage hold container shall be self-draining and have a minimum capacity of 450 cubic feet or 10,000 pounds, whichever occurs first.
- 5.5. FUNCTION: In the operating mode the storage container shall be kept in a horizontal position. To unload, the discharge end must be hydraulically raised to an inclined position.
- 5.6. DISCHARGE EXTENSION: The discharge conveyor shall extend a minimum of 6'-7" beyond the barge stern and be capable of raising a minimum of 5' to unload. Raising and lowering the #3 conveyor shall be accomplished by means of two (2) single acting hydraulic cylinders. Optimum unloading time shall be ninety (90) seconds.
- 5.7. DRIVE SHAFTS: Storage conveyor drives shall be bearing mounted shafts with a minimum of eighteen (18) drive sprockets. Conveyors shall be driven by ½" steel x thirteen (13) toothed machined and shouldered sprockets welded to the shaft. Ball type sprockets and forged steel sprockets are unacceptable.
- 5.8. IDLER SHAFTS: Storage conveyor idler rollers shall be bearing mounted smooth tube shafts.
- 5.9. TENSIONING DEVICES: Proper belt tension on the storage hold conveyors shall be maintained via external 304L stainless steel threaded tensioning devices on the bearing plates. The #2 conveyor tensioners shall be mounted at the idler shaft; #3 conveyor tensioners shall be mounted at the drive shaft.
- 5.10. CONVEYOR MESH: Storage hold conveyor mesh shall be 1" x 1" 304L stainless steel flat wire belting.

6.0 POWER PLANT AND HYDRAULICS

- 6.1. LOCATION: For ease of servicing and protection from splashing water, the engine and hydraulic pump, on rubber vibration isolators, shall be platform mounted alongside the hydraulic tank and battery box above the storage container and as far back from the operator as possible. Deck mounted engines and/or power packs are unacceptable.

- 6.2. ENGINE: The harvester shall be powered by a heavy-duty Tier-4 Diesel engine with a minimum rating of 47hp. Engine shall have a 12-volt electrical system and automatic low oil pressure shutdown.
- 6.3. FUEL TANKS: A permanent mounted eighteen (18) U.S. gallon aluminum fuel tank shall be provided. Tank shall be labeled for diesel fuel, shall include a locking filler/breather cap and sensing/sending unit

A separate in-line fuel filter system shall be supplied on the Harvester.

- 6.4. HYDRAULIC PUMP SYSTEM: The engine shall directly drive a variable volume pressure compensated demand pump to power all hydraulic systems on the harvester.

Total flow capacity/gallons per minute (GPM) shall be sufficient to operate both paddle wheels as well as all cutting and loading conveyor motors simultaneously. The system should allow for all operating functions at infinitely variable speeds from zero to factory set maximum speeds.

- 6.5. HYDRAULIC RESERVOIR: The hydraulic reservoir shall have a minimum capacity of 35 U.S. gallons and shall include a filler/breather cap, water collection drain peacock, magnetic particle collector, suction strainer, 10 micron return filter, visual oil level & temperature gauge and electronic low level sensing unit with alarm. The hydraulic tank shall be mounted on an elevated platform next to the engine. A hydraulic cooling fan shall also be mounted on the hydraulic tank platform.

- 6.6. HYDRAULIC OIL: Hydraulic oil shall be environmentally safe, marine grade, AW-68.

- 6.7. HYDRAULIC LINES: All hydraulic lines shall be made of heavy-duty stainless-steel tubing, except where flexibility is required. Stainless tubing shall be uniformly shaped and bent and shall be trimly mounted to the machine using tube clamp brackets.

Where flexibility is required, high quality heavy duty double braided rubber hose shall be used. The following minimum PSI hose ratings shall be required:

- 1/4" Hose – 5000 PSI minimum
- 1/2" Hose – 3500 PSI minimum
- 3/4" Hose – 2250 PSI minimum
- 1" Hose – 2000 PSI minimum

Rubber hose shall be guarded with nylon sheathing at all potential friction points.

- 6.8. HYDRAULIC FITTINGS: Only high-quality hydraulic fittings shall be used; all fittings shall be properly matched in size and rating to the hydraulic tubing and/or hose. Pot metal, inferior metallic fittings and/or plastic fittings are unacceptable.
- 6.9. HYDRAULIC OPERATION: The paddle wheels shall have separate speed control, both forward and reverse, by manual hydraulic control levers. All other hydraulic functions shall be independently activated by manual hydraulic control levers and/or foot pedals.

7.0 PROPULSION SYSTEM

- 7.1. PADDLE WHEELS: Two bi-directional paddle wheels shall be amidships, on the port and starboard sides of the barge, and hydraulically retractable, enabling them to be completely tucked inside the storage hold conveyor for over-the-road transport. When retracted, they shall be within the overall barge-width dimensions. Each paddle wheel shall be powered by a heavy-duty planetary torque hub driven by a low speed high torque hydraulic motor. Each paddle wheel motor shall be protected by a crossover relief valve. Paddle wheels shall be uniform and symmetrical in design without modifications that may cause rotational balance issues. No exceptions will be accepted.

- 7.2. DIMENSIONS: Each paddle wheel shall measure approximately:

Diameter: 68"
Width: 28"

- 7.3. PADDLE WHEEL GUARDS: Each paddle wheel shall have a manually removable guard to prevent

operator or passenger injury during harvester operation. The guards shall be fabricated to tuck inside the storage hold conveyor for over-the-road transport.

- 7.4. FINISH: Paddle wheels and entire paddle wheel system and guards shall be painted in a color that contrasts with the rest of the machine for safety.

8.0 CONTROL BRIDGE

- 8.1. LOCATION: The operator control area shall be a raised bridge, permanently mounted at the forward end of the harvester over the storage hold container. Bridge shall be surrounded by safety railings with access to it from the barge deck by means of non-skid ladder steps from both the starboard and port sides.
- 8.2. CONTROL CONSOLE: On the bridge within easy reach of the operator in the seated position, there shall be an ergonomic, single dual-axis IP67 Hall-effect joystick. Controller handle shall incorporate push buttons, switches, and trigger for operator comfort, convenience, performance, and serviceability features. All hydraulic lines to the valve bank must be shielded. Operator console shall include at least one (1) lockable storage cabinet.
- 8.3. CONTROL PANEL: The control panel shall be mounted to the right of the operator seat within easy reach of an operator in the seated position; maximum distance from the seat shall be 12". Blocking the operator's forward line of sight with the control panel is unacceptable.
- 8.4. INSTRUMENTATION: Instrumentation shall include an ignition switch, engine accelerator, tachometer, oil pressure sounder, hour meter and ammeter. Gauges, controls, and electrical circuitry must be of weather resistant design. A power outlet and hydraulic pressure gauge shall also be provided.
- 8.5. SEATING: The operator seat shall be an ergonomic type made of foam rubber, padded, and covered with weather-proof heavy-duty vinyl. A passenger seat shall be located next to the operator seat.
- 8.6. OPERATOR CANOPY: A large, rigid aluminum sun/rain canopy shall be provided with the vessel. Canopy shall have a headroom clearance of between 6' 4" and 6' 6" and shall be removable.

9.0 FINISH

- 9.1. PREPARATION & FINISH: All weldments and fabricated parts shall be thoroughly cleaned to remove all grease, oil, and foreign material. Weld spatter, slag, flux, rust, and corrosion shall be completely removed. All carbon steel surfaces shall be abrasive blasted per SSPC-SP10 and primed with Devco Bar Rust 235 Epoxy applied at 4 to 8 mils D.F.T. All surfaces above the waterline shall be finish coated with Devco Devthane 379 Polyurethane paint applied at 2 to 4 mils D.F.T. Any surfaces below the waterline that are not stainless steel shall be finish coated with Devco Bar Rust 235 Epoxy applied at 4 to 8 mils D.F.T. No exceptions to this paint specification are acceptable. The City and the successful bidder will determine final paint scheme and details in a pre-construction meeting.
- 9.2. FASTENERS: All fasteners shall be stainless steel grade 18/8 throughout the machine where applicable.
- 9.3. PARTS AVAILABILITY: Parts and fittings for the vessel and any of its accessories, (i.e., engine, hydraulic lines, pumps & valves, hydraulic motors, hoses & fittings, hardware, electrical components, etc.), shall be of a manufacture, design and size that is readily available to the City. Odd sized, close-out or hard-to-find components are unacceptable.

10.0 MISCELLANEOUS

- 10.1. SPARE PARTS KIT: A spare parts kit shall be provided with the vessel at no additional cost, and shall include at least the following: hydraulic oil filter/s, engine oil filter/s, cutter blades, vertical and horizontal shear fingers, rod end bearings, miscellaneous fasteners, hold down clip/s and shim/s, hydraulic pressure gauge, hydraulic motor seal kit, and any other parts deemed appropriate by the manufacturer.

- 10.2. TOOL KIT: A complete set of required tools for servicing the equipment shall be supplied, along with a toolbox, grease gun and fire extinguisher.
- 10.3. SAFETY KIT: A safety kit shall be supplied and include: two (2) 50' nylon lines, one (1) right buoy with a 50' line & mounting hook, one (1) signal horn, one (1) distress flag, and one (1) first aid kit.
- 10.4. NAVIGATION LIGHTS: LED navigation light shall be installed. Port and Starboard lights shall be located on the bow of the operator platform and the mast light shall be at the stern end of the #3 conveyor. An on/off switch shall be located on the instrument panel.
- 10.5. CENTRAL GREASING BLOCK: A central greasing block shall be located on the operator's council for manually greasing all the conveyor bearings individually.
- 10.6. WASH DOWN SYSTEM: An onboard, wash down system with hydraulic powered pump shall be supplied. Drop-in pump is acceptable. Twenty (20) feet of 2" hose shall be included, along with a compatible and appropriate 2" nozzle.

PART 2-B

DETAILED TRAILER SPECIFICATIONS

11.0 GENERAL REQUIREMENTS

- 11.1. A trailer designed to work with the aquatic plant harvester shall have sufficient capacity to haul the harvester safely at speeds up to 50 miles per hour.
- 11.2. The trailer shall be capable of launching and retrieving the harvester from a boat ramp or similar launching facility.
- 11.3. The trailer shall serve to store the harvester and/or transport barge when the vessel is not in use.
- 11.4. GUIDE RAILS: The trailer shall have guide rails to properly locate the harvester and/or transport barge onto the trailer during retrieval from the water. Guide rails shall measure 68.5" on center and be designed to receive the polyethylene runners mounted on the bottom of the harvester.
- 11.5. DIMENSIONS: Outside trailer dimensions shall measure:

Length:	35' 8"
Width:	8' 0"
Height to Trailer Deck:	2' 8"

12.0 FINISH

- 12.1. MATERIAL: The trailer shall be constructed of heavy-duty tubular and structural carbon steel.
- 12.2. REPARATION & FINISH: All structural elements shall be thoroughly cleaned to remove all grease, oil, and foreign material. Weld spatter, slag, flux, rust, and corrosion shall be completely removed. All carbon steel surfaces shall be abrasive blasted then under coated and over coated with a minimum of 14 mils of high-quality industrial urethane paint. No exceptions to this paint specification are acceptable.
- 12.3. COLOR: Equipment shall be finish coated in black.
- 12.4. FASTENERS: All fasteners shall be stainless steel grade 18/8 throughout the machine.

13.0 MISCELLANEOUS

- 13.1. ELECTRICAL SYSTEM: The trailer shall have a 12-volt electrical system with a six (6) prong connector.
- 13.2. AXLES: The trailer shall have two (3) axles with a minimum rating of 7000 lb. each; Gross Vehicle Weight Rating (GVWR) shall be 21,000 lb. The axles shall include a leaf spring suspension system.
- 13.3. BRAKES: The trailer shall include an electrical brake system with controller. A break-away safety device shall also be installed to bring the trailer to a safe, controlled stop if it should ever separate from the towing vehicle.
- 13.4. WINCH: The trailer shall include an electrically powered winch with minimum 9,000 lb. capacity double lined, fairlead and connection cables.
- 13.5. JACK STAND: The trailer shall include one (1) 5000 lb. capacity jack stand with sand shoe base.
- 13.6. TOWING EQUIPMENT: The trailer shall be outfitted with a heavy duty 2" pintle ring style towing hitch and two (2) transport rated 5/16" safety chains. Each chain shall measure a minimum of three linear feet (3') in length, have a minimum workload capacity of 4700 lbs. and include a clevis hook for attaching to the towing vehicle.
- 13.7. LIGHTING: The trailer shall include an integrated Department of Transportation (DOT) compliant LED lighting system, including brake lights, side running lights and turn signals. The trailer shall also include reflective lighting on each of the sides.
- 13.8. VEHICLE IDENTIFICATION: The trailer shall include an identification plate clearly indicating the serial number, vehicle identification number and all other DOT required markings. A lighted license plate holder shall be mounted to the rear of the trailer frame.
- 13.9. PARTS AVAILABILITY: Parts and fittings for the trailer and any of its accessories shall be of a manufacture, design and size that is readily available to the City. Odd sized, close-out or hard-to-find components are unacceptable.

PART 2-C

DETAILED SHORE CONVEYOR SPECIFICATIONS

14.0 GENERAL REQUIREMENTS

- 14.1. A shore conveyor designed to work with the aquatic plant harvester shall be capable of transferring collected material from the harvester up into a dump truck or similar container for disposal.
- 14.2. The shore conveyor shall be capable of being towed at speeds up to 45 MPH.
- 14.3. OVERALL DIMENSIONS: Approximate dimensions when fully deployed shall measure:

Length:	37' 3"
Width:	11' 0"
Discharge Height:	12' 3"

- 14.4. CONVEYOR BED DIMENSIONS: Approximate conveyor bed dimensions shall measure:

Conveyor Length:	32' 0"
Conveyor Width:	5' 0"
Conveyor Sidewall Height:	14"

15.0 POWER PLANT & HYDRAULICS

- 15.1. HYDRAULIC OIL: Hydraulic oil shall be environmentally safe, marine grade.

- 15.2. HYDRAULIC LINES: All hydraulic lines shall be made of heavy-duty stainless-steel tubing, except where flexibility is required. Stainless tubing shall be uniformly shaped and bent and shall be trimly mounted to the machine using tube clamp brackets. Where flexibility is required, high quality heavy duty double braided rubber hose shall be used. The following minimum PSI hose ratings shall be required:
- 15.3. HYDRAULIC FITTINGS: Only high-quality hydraulic fittings shall be used; all fittings shall be properly matched in size and rating to the hydraulic tubing and/or hose. Pot metal, inferior metallic fittings and/or plastic fittings are unacceptable.
- 15.4. HYDRAULIC POWER SUPPLY: The Shore Conveyor shall be supplied with hydraulic quick-disconnect hoses that enable it to be powered from the vessel. A manual lever located on the operator console of the vessel shall engage the hydraulic functions of the shore conveyor.
- 15.5. CONVEYOR METHOD: The conveyor shall be drag angle style with Nylatron® wear strips for positive movement of collected material. Two (2) hydraulic motors shall drive the conveyor.

16.0 MISCELLANEOUS

- 16.1. ATTACHMENTS: The shore conveyor shall include a mating bracket for the harvester. Conveyor shall also include a removable positioning hitch with a 2" pintle ring towing receiver.
- 16.2. AXLES: The shore conveyor shall have a single (1) axle with fenders. Two (2) wheel chocks with securing stakes shall also be provided.
- 16.3. WINCH: The shore conveyor shall include a manual winch for the raising/lowering of the positioning hitch.
- 16.4. JACK STAND: The shore conveyor shall include a 5000 lb. capacity jack stand.
- 16.5. TOWING EQUIPMENT: The shore conveyor shall be outfitted with a heavy duty 2" pintle ring style towing hitch and two (2) transport rated 5/16" safety chains. Each chain shall measure a minimum of three linear feet (3') in length, have a minimum workload capacity of 4700 lbs. and include a clevis hook for attaching to the towing vehicle.
- 16.6. LIGHTING: The shore conveyor shall include an integrated Department of Transportation (DOT) compliant LED lighting system, including brake lights, side running lights and turn signals. The shore conveyor shall also include reflective lighting on each of the sides. The shore conveyor shall have a 12-volt electrical system and a six (6) prong connector.
- 16.7. VEHICLE IDENTIFICATION: The shore conveyor shall include an identification plate clearly indicating the serial number, vehicle identification number and all other DOT required markings. A lighted license plate holder shall be mounted to the rear of the shore conveyor frame.
- 16.8. PARTS AVAILABILITY: Parts and fittings for the shore conveyor and any of its accessories, (i.e., hydraulic lines, hydraulic motors, hoses and fittings, hardware, etc.), shall be of a manufacture, design and size that is readily available to the City. Odd sized, close-out or hard-to-find components are unacceptable.
- 16.9. GREASING SYSTEM: The shore conveyor shall include a greasing block to manually service all four (4) idler and driveshaft bearings. The greasing block shall be in an easily reached location.

17.0 FINISH

- 17.1. MATERIAL: The shore conveyor shall be constructed of heavy-duty structural tubing and sheet material.
- 17.2. PREPARATION & FINISH: All structural elements shall be thoroughly cleaned to remove all grease, oil, and foreign material. Weld spatter, slag, flux, rust, and corrosion shall be completely removed. All carbon steel surfaces shall be abrasive blasted then under coated and over coated with a minimum of

14 mils of high-quality industrial urethane paint. No exceptions to this paint specification are acceptable.

17.3. COLOR: The City and the successful bidder will determine final paint scheme and details in a pre-construction meeting.

17.4. FASTENERS: All fasteners shall be stainless steel grade 18/8 throughout the machine.

PART 3

BID FORMS

The following forms are attached:

1. Bid Form
2. Deviations/Subcontractors Form
3. Statement of "No Bid" Form

BID FORM

COMPANY NAME

INSTRUCTIONS:

- This is a Request for Bids, NOT an order for the equipment or an acceptance of a bid.
- Prices quoted must exclude all federal, state, and local taxes and/or duties.
- Prices quoted must be FOB destination.
- All responses must be printed legibly or typed; erasures are unacceptable.

Make and model number of unit/s: _____

Name and Employer of Engineer Responsible for Barge Design:

Manufacturer of Barge/Hull: _____

Manufacturer of Conveyor Frames and Sidewalls: _____

Manufacturer of Operator and Engine Platforms: _____

Location of Manufacturing Facility/s: _____

Will Any Work be Completed by Contractors? If Yes, Please Explain.

Total Bid Price (USD) \$ _____

Total Bid Price (Written) _____

Delivery Date _____

Company Name _____

Address _____

City, State, Zip _____

Telephone _____ Email _____

I/we hereby certify that I/we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that I/we have not attempted to induce any other person or firm to submit or not submit a bid; that this bid has been independently derived without collusion with any other bidder, competitor or potential competitor; that this bid has not been knowingly disclosed prior to the opening of bids to any other bidder or competitor; that the above statement is accurate under penalty of perjury.

The undersigned, submitting this bid, hereby agrees with all terms, conditions and specifications set forth in this RFB, and declares that the attached bid and pricing are in conformity therewith.

Signature of Authorized
Company Representative _____

Title _____ Date _____

DEVIATIONS

Bidder must use the spaces below to itemize any and all deviations from the detailed equipment specifications:

ITEM NUMBER

DEVIATION EXPLANATION

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Check box if there are NO deviations from the specifications.

SUBCONTRACTORS

Bidder must use the spaces below to itemize any and all subcontractors who will be performing any of the work:

ITEM NUMBER

NAME, ADDRESS & PHONE NUMBER OF SUBCONTRACTOR WHO WILL BE PERFORMING THE WORK

_____	_____
_____	_____
_____	_____
_____	_____

Check box if there are NO subcontractors.

STATEMENT OF "NO BID"

Recipients of this RFB may elect not to respond. The City is interested in the reason/s for no response. If you elect NOT to respond, please indicate the reason/s below and return this form to the address below:

Eric Macbeth, Water Resources Manager
City of Eagan
3830 Pilot Knob Rd
Eagan, MN 55122
(651) 675-5330
emacbeth@cityofeagan.com

Please check all that apply:

- Do not offer this product or an equivalent
- Schedule would not permit
- Insufficient time to respond to solicitation
- Unable to meet specifications and/or scope of work
- Specifications "too tight"
- Specifications not clear
- Unable to meet bond and/or insurance requirements
- Solicitation addressed incorrectly, delayed in forwarding of mail
- Other (please explain in the spaces provided below or on separate attachment)

Company Name _____

Contact Name _____ Title _____

Address _____

City, State, Zip _____

Telephone _____ Email _____

Signature _____ Date _____