

TECHNICAL SPECIFICATIONS FOR:

# **Temporary Relocation of the William A. Irvin**

350 Harbor Drive  
Duluth, Minnesota

Prepared For:



Duluth Entertainment  
Convention Center

## **Duluth, Minnesota**

Prepared By:



Consulting Engineers P.A.

91 Main Street  
Superior, WI 54880

AMI Project No. 181078  
Date: 6/19/2018

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END OF SECTION – 00 0115

**SECTION 00 3100**  
**AVAILABLE PROJECT INFORMATION**

**PART 1 - GENERAL**

**1.1 EXISTING CONDITIONS**

- A. Certain information relating to existing surface and subsurface conditions and structures is available to bidders but will not be part of the Contract Documents, and does not relieve the Bidder from performing their own investigation to determine the existing conditions of the site.
- B. **APPENDIX A** - "SS William Irvin" Project 178 Report dated March 1<sup>st</sup>, 2017 prepared by United States Corps of Engineers (USACE) Marine Design Center (MDC) is provided for informational purposes only.
  - 1. The recommendations described shall not be construed as a requirement of this Contract, unless specifically referenced in the Contract Documents.
  - 2. This report, by its nature, cannot reveal all conditions that exist on the site. Should conditions be found to vary substantially from this report, changes in the relocation design will be made, with resulting credits or expenditures to the Contract Price accruing to Owner.
- C. **APPENDIX B** - "SS William A. Irvin Underwater Hull Inspection" dated June 19<sup>th</sup>, 2018 prepared by AMI Consulting Engineers, PA (Job #171295) is provided for informational purposes only.
  - 1. The recommendations described shall not be construed as a requirement of this Contract, unless specifically referenced in the Contract Documents.
  - 2. This report, by its nature, cannot reveal all conditions that exist on the site. Should conditions be found to vary substantially from this report, changes in the relocation design will be made, with resulting credits or expenditures to the Contract Price accruing to Owner.
- D. **APPENDIX C** - "Museum S.S. William A. Irvin" Marine Surveyor Condition Assessment prepared by North American Marine, Inc dated June 12<sup>th</sup>, 2018 is provided for informational purposes only.
  - 1. The recommendations described shall not be construed as a requirement of this Contract, unless specifically referenced in the Contract Documents.
  - 2. This report, by its nature, cannot reveal all conditions that exist on the site. Should conditions be found to vary substantially from this report, changes in the relocation design will be made, with resulting credits or expenditures to the Contract Price accruing to Owner.

- E. **APPENDIX D** - “Irvin Relocation Risk Register” dated June 13th, 2018 prepared by City of Duluth, AMI Consulting Engineers, PA, United States Army Corps of Engineers (USACE) Marine Design Center (MDC), Minnesota Pollution Control Agency (MPCA) and Duluth Entertainment Convention Center (DECC) is provided for informational purposes only and only addresses the potential risks and possible options to mitigate the associated risks.
1. The recommendations described shall not be construed as a requirement of this Contract, unless specifically referenced in the Contract Documents.
  2. This report, by its nature, cannot reveal all conditions that exist on the site. Should conditions be found to vary substantially from this report, changes in the relocation design will be made, with resulting credits or expenditures to the Contract Price accruing to Owner.
- F. **APPENDIX E** - “WWM: Dead Ship Movements – Appendix B, C & E” provided by the United States Coast Guard (USCG) is available for informational purposes only. Include in this information is a “Menu of Relevant Information”, “Standards of Care” and an “Example Tow plan.”
1. The recommendations described shall not be construed as a requirement of this Contract, unless specifically referenced in the Contract Documents.
- G. **APPENDIX J** – “Recommendations for Pending Tow” prepared by North American Marine, Inc is provided for informational purposes only.
1. The recommendations described shall not be construed as a requirement of this Contract, unless specifically referenced in the Contract Documents.
  2. This report, by its nature, cannot reveal all conditions that exist on the site. Should conditions be found to vary substantially from this report, changes in the relocation design will be made, with resulting credits or expenditures to the Contract Price accruing to Owner.

## 1.2 EXISTING REFERENCE DRAWINGS

- A. Existing drawings referenced within drawing can be found at the end of the drawing set. These reference drawings are provided to illustrate current site conditions at the project location.
1. MN Slip Site Remediation provide by MPCA (**Not Currently Available**). MN Slip bathymetry will be provided for informational purposes only after the remediation of the contaminated sediment in the fall of 2018.
  2. **APPENDIX F** - “DECC Seawall Project” prepared by AMI Consulting Engineers, PA dated October 25<sup>th</sup>, 2017.

3. **APPENDIX G** - “Minnesota Slip Pedestrian Bridge” prepared by Krech & Ojard Consulting Engineers, PA dated February 11<sup>th</sup>, 1991.
4. **APPENDIX G** - “Retrofit of Minnesota Slip Bridge” prepared by Krech & Ojard Consulting Engineers, PA dated March 3<sup>rd</sup>, 1995.
5. **APPENDIX G** - “Minnesota Slip Bridge Rack & Pinion System” prepared by Krech & Ojard Consulting Engineers, PA and BARR Engineering Company dated March 7<sup>th</sup>, 1995.
6. **APPENDIX H** - “Req’d Plan – Minnesota Slip” prepared by USACE Detroit District dated March 14<sup>th</sup>, 2018 which show the bathymetry of MN Slip at the time of the survey.
7. **APPENDIX I** - Vessel SS William A. Irvin Historical Drawings.

## **PART 2 - PRODUCTS (NOT USED)**

## **PART 3 - EXECUTION**

### **3.1 PERMITS**

- A. U.S. Army Corps of Engineers (USACE)
  1. A Department of the Army Permit issued by the USACE authorizing the work as detailed in the plans and specifications has been obtained by the City of Duluth. A copy of this permit and any associated amendments will be distributed to Contractors once obtained. (**Pending Approval from USACE**)
- B. United States Coast Guard (USCG)
  1. The USCG is responsible for the safety of the public in navigable waterways. The USCG will review the final tow plan submitted the selected Contractor. The USCG will neither approve or disapprove the tow plan but only make comments in the concern of public safety. Written comments from the USCG will be distributed by the City of Duluth once received.
- C. The Contractor is solely responsible for any permitting beyond that which is included within these specifications and which has already been obtained by the City of Duluth, such as permits which may be required by Contractor’s means and methods.

END OF SECTION – 00 3100

**SECTION 01 1000  
SUMMARY**

**PART 1 - GENERAL**

**1.1 PROJECT**

- A. Project Name: Temporary Relocation of the William A. Irvin.
- B. Owner's Name: City of Duluth & Duluth Entertainment Convention Center (DECC).
- C. The Project consists of temporarily relocating the Vessel SS William A. Irvin from its permanent location in Minnesota Slip (MN Slip) in Duluth, MN to Fraser Shipyards' facility in Superior, WI. The vessel is a retired Great Lakes bulk carrier that currently operates as a museum. The selected Contractor will be responsible for moving the vessel to Fraser Shipyards during the fall of 2018 and back to MN Slip in the early spring of 2019. The selected Contractor shall present a finalized tow plan to the City, USACE MDC & USCG for review and is responsible for verifying the exact width of the vessel and the opening between the abutments of the Pedestrian Bridge which spans across MN Slip.
- D. The vessel needs to be removed from the MN Slip so the Minnesota Pollution Control Agency (MPCA) can complete the remediation of contaminated sediments in the slip in the fall of 2018. The MPCA plans to level the bottom of the slip to one elevation once the vessel is removed from the slip. Once the existing sediments in the slip are level, additional material will be utilized to cap the contaminated materials. The maximum final water depth will be 12 feet below International Great Lakes Datum (IGLD) Low Water Datum.

**1.2 ENUMERATION OF CONTRACTS, SPECIFICATIONS, AND ADDENDA**

- A. All work on this project will be included in one prime Contract. Work shall include all items indicated on the plans, general and supplementary conditions, addenda, and the technical sections of the specifications.

**1.3 CONTRACT DESCRIPTIONS AND SUMMARY OF WORK**

- A. Summary of Work: Work shall include all items indicated on the plans, general and supplementary conditions, addenda, and technical sections of the specifications. Work under this Contract consists of furnishing all materials, labor, equipment, supplies, transportation and skill to perform all work in strict accordance with these specifications, schedules, and drawings. All fees included in proper disposal of waste material are the responsibility of the Contractor.

**1.4 DESCRIPTION OF ALTERATIONS WORK**

- A. Scope of alterations work is shown on drawings (if applicable).

**1.5 SEQUENCE OF OPERATIONS**

- A. Begin Work to achieve substantial completion as scheduled to prevent delay in Owner's operations and Work by others.
- B. Coordinate construction schedule and operations with Owner and Engineer.

**1.6 SALVAGE MATERIALS**

- A. Salvage all items noted in the Contract Documents.

**1.7 SURVEY**

- A. No additional field measurements will be provided by Owner.

**1.8 LAYING OUT WORK**

- A. The Contractor shall immediately upon entering the project site for the purpose of beginning work, locate all general reference points and to lay out his own work and be responsible for all lines, elevations, and measurements of work executed under the Contract. The Contractor must exercise proper caution to verify figures shown on the drawings before laying out work and will be held responsible for any error resulting from failure to exercise such precautions.

**1.9 MEASUREMENTS**

- A. All omissions or discrepancies shall be reported to the Engineer, immediately, for his consideration and decision by the Owner.

**1.10 REGULATIONS**

- A. All work and material shall conform strictly to the respective requirements of the latest editions of the following:
  - 1. US Army Corps of Engineers Regulations
  - 2. US Coast Guard Regulations
  - 3. State of Minnesota DNR Regulations
  - 4. Federal, Local Ordinances and Codes
  - 5. State Laws of Minnesota



- 6. Minnesota Pollution Control Agency and Environmental Protection Agency Regulations
- 7. City of Duluth
- B. Any conflict between items in the above between themselves or with these specifications must be submitted to the Engineer for adjustment before proceeding with the Work.

#### 1.11 CONDITION OF SURFACES

- A. Contractor shall inspect and submit the surface conditions over which work will be installed to the Engineer prior to starting work.
- B. The Contractor shall present notice of unacceptable surfaces to the Engineer.
- C. Contractor's start of Work denotes his acceptance of surfaces and places responsibility for acceptable final results upon him.

#### 1.12 CONTRACTOR USE OF PREMISES

- A. Limit use of the premises to construction activities in areas indicated on Drawings; allow for Owner occupancy and use by the Owner's tenants.
- B. Keep driveways and entrances clear at all times. Do not use these areas for parking or storage of materials unless authorized by the Owner. Schedule deliveries to minimize requirements for storage of materials.
- C. Use of driveways and other areas surrounding project site for staging of equipment should only be done with prior notification and approval of Owner.
- D. Contractors and all other persons connected with this Project shall only use parking areas approved.
- E. Maintain site in safe condition and keep free of construction materials and debris.
- F. Work occurring on public property shall be constructed in accordance with all laws, ordinances, rules, regulations and orders of any public authority having jurisdiction.
- G. Provide access to and from site as required by law and by Owner:
  - 1. Do not obstruct roadways, sidewalks, or other public ways without a permit.
  - 2. Where the conduct of the Work requires the obstruction or use of a roadway or parking lot, it shall be the responsibility of the Contractor to secure all necessary

permission from the Owner. The Contractor shall be responsible for the protection of the public in the vicinity of the Work and nothing in these specifications shall be construed to relieve him of said responsibility. Protective devices shall conform to the requirements of the Highway Department having jurisdiction and/or the proper public authorities and shall be installed as required by the Owner.

#### **1.13 FULL OWNER OCCUPANCY**

- A. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.
- B. Schedule the Work to accommodate Owner occupancy.
- C. The Owner will occupy the site and the existing buildings throughout the duration of the project. Cooperate with the Owner to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the Owner's operations.

#### **1.14 PROTECTION**

- A. Weather Conditions
  - 1. In the event of temporary suspension of work, or during inclement weather, or whenever the Engineer shall direct, the Contractor will, and will cause his subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Engineer, any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of his subcontractors to so protect his work, such materials shall be removed and replaced at the expense of the Contractor.
- B. Protection of Work and Property – Emergency
  - 1. The Contractor shall at all times safely guard the Owner's property from injury or loss in connection with this Contract. He shall at all times safely guard and protect his own work, and that of adjacent property, from damage. The Contractor shall replace or make good any such damage, loss or injury unless such is caused directly by errors contained in the Contract or by the Owner, or his duly authorized representative.
  - 2. In case of an emergency which threatens loss or injury of property, and/or safety of life, the Contractor will be allowed to act, without previous instructions from the Engineer, in a diligent manner. He shall notify the Engineer immediately thereafter.

3. Where the Contractor has not taken action but has notified the Engineer of an emergency threatening injury to persons or damage to the work or any adjoining property, he shall act as instructed or authorized by the Engineer.
4. The amount of reimbursement claimed by the Contractor on account of any emergency action shall be determined in the manner provided in the General Conditions.

#### **1.15 RECORD OF PROJECT CHANGES**

- A. The Contractor shall keep records required and shall provide a copy of the Contract Documents marked with all changes from the original design that have occurred during the construction period. This copy shall be delivered to the Owner within 30 days from physical completion of the Project.

#### **1.16 PHOTOGRAPHS/PRESS RELEASES**

- A. Do not take or cause any photographs to be taken at the job site without prior approval of the Owner/Engineer.
- B. Do not issue any press releases or disseminate information concerning the Project to the news media without prior approval of the Owner/Engineer.

#### **PART 2 - PRODUCTS (NOT USED)**

#### **PART 3 - EXECUTION (NOT USED)**

END OF SECTION – 01 1000

**SECTION 01 2200**  
**UNIT PRICES**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. List of unit prices, for use in preparing Bids.
- B. Measurement and payment criteria applicable to Work performed under a unit price payment method.

**1.2 COSTS INCLUDED**

- A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals, erection, application or installation of an item of the Work, and overhead and profit.

**1.3 UNIT QUANTITIES SPECIFIED**

- A. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements of actual Work will determine the payment amount.
- B. Refer to Drawing Sheets and Bid Form for Statement of Estimated Quantities. If a discrepancy exists between the drawing sheets and bid form, Contractor shall notify Engineer immediately.

**1.4 MEASUREMENT OF QUANTITIES**

- A. Take all measurements and compute quantities. Measurements and quantities will be verified by Engineer.
- B. Assist by providing necessary equipment, workers, and survey personnel as required.
- C. Provide Measurement Devices as required.
- D. Linear Measurement: Measured by linear dimension, at the item centerline or mean chord.
- E. Perform surveys required to determine quantities, including control surveys to establish measurement reference lines. Notify Engineer prior to starting work.

1.5 PAYMENT

- A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Engineer, multiplied by the unit price.

1.6 DEFECT ASSESSMENT

- A. Replace Work, or portions of the Work, not conforming to specified requirements.

1.7 SCHEDULE OF UNIT PRICES

- A. Measurement and payment for unit prices will be as follows. For Bid items not listed, refer to MnDOT Standard Specifications for Construction, 2018 edition as modified by the plans, specifications, addenda, and project Special Provisions.

**Item 1.1: Vessel Beam Verification**

Measurement: Measurement will be made as one lump sum after the Contractor has performed the necessary field services and provided the City of Duluth written documentation on the beam of the vessel.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, equipment and other incidentals necessary to verify the vessel beam. Incidental costs shall include but not limited to (1) equipment maintenance, calibration, or rental (if necessary), (2) labor to complete survey and (3) documentation stating the beam of the vessel.

**Item 1.2: MN Slip Bridge Opening Width Verification**

Measurement: Measurement will be made as one lump sum after the Contractor has performed the necessary field services and provided the City of Duluth written documentation on the opening between the concrete abutments and steel members of the Pedestrian Bridge. The Contractor will perform the bridge opening width verification after the bridge has been partially disassembled.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, equipment and other incidentals necessary to verify the opening between the concrete abutments and steel members of the Pedestrian Bridge. Incidental costs shall include but not limited to (1) equipment maintenance, calibration, and rental (if necessary), (2) labor to complete survey and (3) documentation stating the opening width of the Pedestrian Bridge.

**Item 1.3: Temporary Guide Structures & Protection of Existing Structures**

Measurement: Measurement will be made as one lump sum after the Contractor has correctly furnished, installed & removed (if required) the necessary structures to

maintain the alignment of the Irvin and protection of the existing structures during the movement of the vessel. Additional surveys will be performed by the Owner's representative to verify the final alignment of the guide structures and protective structures, however this does not alleviate the Contractor of liability.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, materials, equipment and other incidentals necessary to maintain the alignment of the Irvin and protection of the existing structures during the movement of the vessel. Incidental costs shall include but not limited to (1) survey equipment maintenance, calibration, and rental (if necessary), (2) labor to complete survey, (3) materials & equipment to install guide structures and protective structures, (4) equipment necessary to remove temporary structures (if required), (5) meetings to discuss the temporary structures, (6) additional permitting fees for temporary structures and (7) furnishing submittals.

**Item 1.4: Preparation of Vessel for Movement out of MN Slip**

Measurement: Measurement will be made as one lump sum after the Contractor has correctly prepared & installed the necessary items on the Irvin in preparation for its removal from MN Slip.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, equipment and other incidentals necessary to prepare the vessel to be removed from MN Slip. Incidental costs shall include but not limited to (1) inspection of the hull and vessel components necessary to move the vessel, (2) design & installation of additional anchor points (if necessary), (3) removal of access platforms and hull penetrations as required, (4) answering questions & addressing concerns from the Owner or Permitting Agencies, (5) meetings to discuss vessel preparation, (6) equipment & labor to prepare vessel for tow, (7) safety & equipment requirements per the Owner & Permitting Agencies request, and (8) furnishing submittals.

**Item 1.5: Movement of Vessel from MN Slip to Fraser Shipyards**

Measurement: Measurement will be made as one lump sum after the Contractor has correctly removed the vessel from the limits of MN Slip.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, equipment and other incidentals necessary to remove the vessel from the slip. Incidental costs shall include but not limited to (1) labor & equipment to remove the vessel from the slip, (2) meetings to discuss the movement of the vessel, (3) crew requirements of the Owner & Permitting Agencies, (4) design of towline(s) and bridle as necessary, (5) preparing the vessel for towing and (6) furnishing submittals.

**Item 1.6: Movement of Vessel to Fraser Shipyards Along Tow Route**

Measurement: Measurement will be made as one lump sum after the Contractor has correctly moved the vessel from outside of MN Slip to Fraser Shipyards in Superior, WI.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, equipment and other incidentals necessary to move the vessel to Fraser Shipyards. Incidental costs shall include but not limited to (1) labor & equipment to remove the vessel from the slip, (2) meetings to discuss the movement of the vessel, (3) safety & equipment requirements per the Owner & Permitting Agencies request, (4) crew requirements of the Owner & Permitting Agencies, (5) equipment & labor to prepare vessel for tow, (6) design of towline(s) and bridle as necessary, (7) coordination with Fraser Shipyards, (8) mooring of vessel at Fraser Shipyards and (9) furnishing submittals.

**Item 1.7: Best Management Practices (BMPs) to Control the Resuspension & Dispersal of Contaminated Sediments**

Measurement: Measurement will be made as one lump sum after the Contractor has correctly furnished, installed and removed the necessary items/BMPs to control the resuspension & dispersal of contaminated sediments.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, equipment and other incidentals necessary to control the resuspension & dispersal of contaminated sediments. Incidental costs shall include but not limited to (1) equipment & labor necessary to BMPs, (2) meetings to discuss the installation, (3) coordination with the Minnesota Pollution Control Agency (MPCA) and (4) furnishing submittals.

**Item 2.1: MN Slip Bridge Opening Width Verification**

Measurement: Measurement will be made as one lump sum after the Contractor has performed the necessary field services and provided the City of Duluth written documentation on the opening between the steel members of the Pedestrian Bridge. The City of Duluth will partially disassembly the steel components of the bridge to prevent any items from overhanging the concrete abutments. The Contractor will perform the bridge opening width verification after the bridge has been partially disassembled.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, equipment and other incidentals necessary to verify the opening between the steel members of the Pedestrian Bridge. Incidental costs shall include but not limited to (1) equipment maintenance, calibration, and rental (if necessary), (2) labor to complete survey and (3) documentation stating opening width of the Pedestrian Bridge.

**Item 2.2: Temporary Guide Structures & Protection of Existing Structures**

Measurement: Measurement will be made as one lump sum after the Contractor has correctly furnished, installed & removed the necessary structures to maintain the alignment of the Irvin and protection of the existing structures during the movement of the vessel. Additional surveys will be performed by the Owner's representative for Owner's records.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, materials, equipment and other incidentals necessary to maintain the alignment of the Irvin and protection of the existing structures during the movement of the vessel. Incidental costs shall include but not limited to (1) survey equipment maintenance, calibration, and rental (if necessary), (2) labor to complete survey, (3) materials & equipment to install guide structures and protective structures, (4) equipment necessary to remove temporary structures (if required), (5) meetings to discuss the temporary structures, (6) additional permitting fees for temporary structures and (7) furnishing submittals.

### **Item 2.3: Preparation of Vessel for Movement to MN Slip**

Measurement: Measurement will be made as one lump sum after the Contractor has correctly prepared & installed the necessary items on the Irvin in preparation for its return to MN Slip.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, equipment and other incidentals necessary to prepare the vessel to move back to MN Slip. Incidental costs shall include but not limited to (1) inspection of the hull and vessel components necessary to move the vessel, (2) design & installation of additional anchor points (if necessary), (3) answering questions & addressing concerns from the Owner or Permitting Agencies, (4) meetings to discuss vessel preparation, (5) equipment & labor to prepare vessel for tow, (6) safety & equipment requirements per the Owner & Permitting Agencies request and (7) furnishing submittals.

### **Item 2.4: Movement of Vessel from Fraser Shipyards**

Measurement: Measurement will be made as one lump sum after the Contractor has correctly moved the vessel from Fraser Shipyards in Superior, WI to MN Slip.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, equipment and other incidentals necessary to move the vessel from Fraser Shipyards. Incidental costs shall include but not limited to (1) labor & equipment to move the vessel from Fraser Shipyards, (2) meetings to discuss the movement of the vessel, (3) safety & equipment requirements per the Owner & Permitting Agencies request, (4) crew requirements of the Owner & Permitting Agencies, (5) equipment & labor to prepare vessel for tow, (6) design of



towline(s) and bridle as necessary, (7) coordination with Fraser Shipyards, (8) preparing the vessel for towing and (9) furnishing submittals.

**Item 2.5: Movement of Vessel into MN Slip**

Measurement: Measurement will be made as one lump sum after the Contractor has correctly move the vessel into MN Slip.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, equipment and other incidentals necessary to move the vessel into MN Slip. Incidental costs shall include but not limited to (1) labor & equipment to remove the vessel from the slip, (2) meetings to discuss the movement of the vessel, (3) safety & equipment requirements per the Owner & Permitting Agencies request, (4) crew requirements of the Owner & Permitting Agencies, (5) equipment & labor to prepare vessel for tow, (6) design of towline(s) and bridle as necessary, (7) mooring of the vessel in MN Slip (8) reinstallation of access platforms and hull penetrations as required and (9) furnishing submittals.

**Item 2.6: Best Management Practices (BMPs) to Control the Resuspension & Dispersal of Contaminated Sediments**

Measurement: Measurement will be made as one lump sum after the Contractor has correctly furnished, installed and removed the necessary items/BMPs to control the resuspension & dispersal of contaminated sediments.

Payment: Payment will be made as one lump sum at the Contract Price, which shall be compensation in full for all labor, equipment and other incidentals necessary to control the resuspension & dispersal of contaminated sediments. Incidental costs shall include but not limited to (1) equipment & labor necessary to BMPs, (2) meetings to discuss the installation, (3) materials, labor & equipment to repair the capping material, (4) coordination with the Minnesota Pollution Control Agency (MPCA) and (5) furnishing submittals.

**Add Alternative Item 3.0: Delays Due to Weather**

Measurement: Measurement will be made per day of delay caused by weather. In no event will more than two days be compensated for weather delays. Contractor shall use industry standard standby rates for their equipment. Labor & office overhead will not be allowed to be charged for weather delays.

Payment: Payment will be made on a per day basis at the Contract Price, which shall be standby compensation for equipment and other incidentals necessary which may occur during the delay. Incidental costs shall exclude indirect costs & labor costs.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION – 01 2200

**SECTION 01 3000  
ADMINISTRATIVE REQUIREMENTS**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. Electronic document procedures.
- B. Pre-construction meeting.
- C. Progress meetings.
- D. Construction progress schedule.
- E. Progress photographs.
- F. Coordination drawings.
- G. Submittals for review, information, and project closeout.
- H. Number of copies of submittals.
- I. Submittal procedures.

**1.2 PROJECT COORDINATION**

- A. Project Coordinator: Owner's Representative.
- B. Cooperate with the Project Coordinator in allocation of mobilization areas of site; for field offices and sheds, for site access, traffic, and parking facilities.
- C. During construction, coordinate use of site and facilities through the Project Coordinator.
- D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- E. Comply with instructions of the Project Coordinator for use of temporary utilities and construction facilities.
- F. Coordinate field engineering and layout work under instructions of the Project Coordinator.

G. Make the following types of submittals to Engineer through the Project Coordinator:

1. Requests for interpretation.
2. Requests for substitution.
3. Shop drawings, product data, and samples.
4. Test and inspection reports.
5. Manufacturer's instructions and field reports.
6. Applications for payment and change order requests.
7. Progress schedules.
8. Coordination drawings.
9. Closeout submittals.
10. Demonstration of compliance with regulatory agencies.

## **PART 2 - PRODUCTS (NOT USED)**

## **PART 3 - EXECUTION**

### **3.1 ELECTRONIC DOCUMENT PROCEDURES**

A. All documents transmitted for purposes of administration of the Contract are to be in electronic (PDF) format and transmitted via E-mail.

1. Besides submittals for review, information, and closeout, this procedure applies to requests for information (RFIs), progress documentation, contract modification documents (e.g. supplementary instructions, change proposals, change orders), applications for payment, field reports and meeting minutes, and any other document any participant wishes to make part of the project record.
2. Contractor and Engineer are required to use this service.
3. It is Contractor's responsibility to submit documents in PDF format.
4. Contractors need an email address, Internet access, and PDF review software that includes ability to mark up and apply electronic stamps (such as Adobe Acrobat, [www.adobe.com](http://www.adobe.com)).
5. Paper document of submittals will not be reviewed.
6. All other specified submittal and document transmission procedures apply, actual samples or color selection charts shall be submitted to the Engineer in addition to a PDF copy.

### **3.2 PRE-CONSTRUCTION MEETING**

A. Engineer will schedule a pre-construction meeting after Notice of Award.

B. Attendance Required:

1. Owner.

2. Engineer.
3. Contractor.
4. Major Subcontractors.

C. Agenda:

1. Execution of Owner-Contractor Agreement.
2. Submission of executed bonds and insurance certificates.
3. Distribution of Contract Documents.
4. Submission of list of Subcontractors, list of Products, schedule of values, submittal schedule, and baseline project schedule. **Contractor shall submit the submittal schedule and baseline project schedule to the Engineer two weeks prior to the pre-construction meeting for approval.**
5. Designation of personnel representing the parties to Contract including the Owner, Contractor, Subcontractors, and Engineer.
6. Procedures and processing of field decisions, submittals, substitutions, Applications for Payments, Proposal Requests, Change Orders, and Contract closeout procedures.

### 3.3 PROGRESS MEETINGS

- A. Engineer will schedule and administer meetings throughout progress of the Work.
- B. Attendance Required: Contractor's Project Manager and Job Superintendent, major Subcontractors and Suppliers, Owner, Engineer, and other parties and personnel as required for agenda topics at each meeting.
- C. Agenda:
  1. Review minutes of previous meetings.
  2. Review of Work progress.
  3. Field observations, problems, and decisions.
  4. Identification of problems that impede, or will impede, planned progress.
  5. Review of submittals schedule and status of submittals.
  6. Maintenance of progress schedule.
  7. Corrective measures to regain projected schedules.
  8. Planned progress during succeeding work period.
  9. Maintenance of quality and work standards.
  10. Effect of proposed changes on progress schedule and coordination.
  11. Other business relating to Work.
- D. Record minutes and distribute copies within three days after meeting to participants, with copies to Engineer, Owner, participants, and those affected by decisions made.

### **3.4 CONSTRUCTION PROGRESS SCHEDULE**

- A. Submit updated construction progress schedule to Engineer at each progress meeting.

### **3.5 COORDINATION DRAWINGS**

- A. Review, stamp, approve and sign drawings prior to submission to Engineer.

### **3.6 SUBMITTALS FOR REVIEW**

- A. When the following are specified in individual sections, submit for review in PDF (electronic format) as an attachment to e-mail:
  - 1. Product data.
  - 2. Shop drawings.
  - 3. Samples for selection.
  - 4. Samples for verification.
- B. Provide quantity and size as specified in individual sections for review.
  - 1. Samples for selection.
  - 2. Samples for verification.
- C. Submit to Engineer for review for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.
- D. Samples will be reviewed only for aesthetic, color, or finish selection.
- E. After review, provide copies and distribute in accordance with the submittal procedures described in this section and for record documents purposes.

### **3.7 SUBMITTALS FOR INFORMATION**

- A. When the following are specified in individual sections, submit for review in PDF (electronic format) as an attachment to e-mail:
  - 1. Design data.
  - 2. Certificates.
  - 3. Test reports.
  - 4. Inspection reports.
  - 5. Manufacturer's instructions.
  - 6. Manufacturer's field reports.
  - 7. Other types indicated.
- B. Submit for Engineer's knowledge as contract administrator or for Owner (if required).

**3.8 SUBMITTALS FOR PROJECT CLOSEOUT**

- A. Submit for Owner's benefit during and after project completion.

END OF SECTION – 01 3000

**SECTION 01 3216**  
**CONSTRUCTION SCHEDULES**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. Baseline construction schedule.
- B. Progress construction schedules.

**1.2 SUBMITTALS**

- A. Within 10 days after date of Agreement & two weeks prior to the preconstruction meeting, submit baseline schedule defining planned operations for the project to Engineer for approval.
- B. If schedule requires revision after review, submit revised schedule within 7 days.
- C. Include written certification that major subcontractors have reviewed and accepted proposed schedule.
- D. Submit updated progress schedule with each Application for Payment.

**1.3 SCHEDULE FORMAT**

- A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.
- B. Sheet Size: 11x17 in PDF format.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION**

**3.1 BASELINE AND PROGRESS CONSTRUCTION SCHEDULE**

- A. Prepare baseline construction schedule in the form of a horizontal bar chart with all major activities and controlling minor activities identified. Clearly indicate the critical path.
- B. Schedule of work is to occur between two timeframes:
  - 1. Vessel SS William A. Irvin removal from MN Slip and properly moored at Fraser Shipyards in Superior, WI.



- a. Project Start Date: Upon Notice to Proceed on or before, and estimated to be no later than August 15<sup>th</sup>, 2018
  - b. Project Completion Date: September 30<sup>th</sup>, 2018.
  - c. **The Irvin must be removed from MN Slip prior to October 1<sup>st</sup> due the remediation of the contaminated material in MN Slip.**
2. Vessel SS William A. Irvin moved from Fraser Shipyards and properly moored at MN Slip in Duluth, MN.
    - a. Project Start Date: Ice Out or when weather has been determined to be acceptable.
    - b. Estimated Project Completion Date: May 17<sup>th</sup>, 2019.
    - c. The exact timeline of moving the Irvin back to MN Slip will be heavily dependent on the weather conditions. Contractor shall make all possible efforts to move Irvin back to MN Slip safely and in a timely manner.

### 3.2 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Identify work of separate stages and other logically grouped activities.
- D. Identify the critical path.
- E. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- F. Provide separate schedule of submittal dates for shop drawings, product data, and samples, owner-furnished products, Products identified under Allowances, and dates reviewed submittals will be required from Engineer. Indicate decision dates for selection of finishes.
- G. Provide legend for symbols and abbreviations used.

### 3.3 UPDATING SCHEDULE

- A. Maintain schedules to record actual start and finish dates of completed activities.
- B. Indicate progress of each activity to date of revision, with projected completion date of each activity.
- C. Annotate diagrams to graphically depict current status of Work.

- D. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.
- E. Indicate changes required to maintain Date of Substantial Completion.
- F. Submit reports required to support recommended changes.
- G. Provide narrative report to define problem areas, anticipated delays, and impact on the schedule. Report corrective action taken or proposed and its effect including the effects of changes on schedules of separate contractors.

END OF SECTION – 01 3216

**SECTION 01 5000**  
**TEMPORARY FACILITIES AND CONTROLS**

**PART 1 - GENERAL**

**1.1 SECTION INCLUDES**

- A. Temporary utilities.
- B. Temporary sanitary facilities.
- C. Temporary Controls: Barriers and enclosures.
- D. Security requirements.
- E. Vehicular access and parking.
- F. Waste removal facilities and services.
- G. Project identification sign.
- H. Field offices.

**1.2 CONTRACTOR RESPONSIBILITIES**

- A. Contractor is responsible for:
  - 1. Dumpsters.
  - 2. Sanitary Facilities.
  - 3. Potable water.

**1.3 TEMPORARY UTILITIES**

- A. Provide and pay for all electrical power, telephone service, lighting, water, heating and cooling, and ventilation required for construction purposes.
- B. Existing facilities may not be used, unless separately metered and paid for including all modification costs and costs to restore to as-found condition.

**1.4 TEMPORARY SANITARY FACILITIES**

- A. Use of existing facilities is not permitted.
- B. The Contractor shall provide portable self-contained units. Location to be coordinated with Owner.

**1.5 VERMIN CONTROL**

- A. All food waste shall be disposed of in a container with a lid.

**1.6 DUST CONTROL**

- A. Contractor is responsible to contain construction-related dust, contaminants and odors within the construction limits. Construction-related dust, contaminants, and odors shall not interfere with Owner's operations.

**1.7 BARRIERS**

- A. Provide barriers to prevent unauthorized entry to construction areas, to allow for owner's use of site and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Provide barricades and covered walkways required by governing authorities for public rights-of-way and for public access to existing building.
- C. Enclose the construction site limits, including the staging area, with a 2-inch and 6-foot-high mesh chain link fence with a top rail and lockable gates. Anchor steel posts, and space them not more than 10 feet on center. To avoid cutting or damaging pavement to remain use portable base posts where appropriate.
- D. Close and lock gates at times when construction personnel are not present.
- E. Remove fencing and restore the staging area to original condition before final completion.
- F. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.
- G. Provide adequate signage to notify Owner, vessels, and agents of removed areas of fender to prevent accidental impact. Signage shall be of adequate size to be seen by vessels when berthing.

**1.8 WEATHER PROTECTION**

- A. Provide necessary measures to protect temporary and final work, existing and adjacent buildings, material and equipment from weather damage. This includes groundwater, rainwater, bay water wind, ice, snow and the backing up of sewers and drains.
- B. The Contractor shall inspect, protect, maintain and ensure intended operation of existing site drainage, exterior catch basins and areaway drains, and provide erosion

control BMP's within the construction site so water does not pond, or create erosion and runoff concerns.

#### **1.9 SECURITY**

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.
- B. Coordinate with Owner's security program (if applicable).

#### **1.10 VEHICULAR ACCESS AND PARKING**

- A. Contractor shall comply with all posted regulations, signs and directions regarding traffic, parking and loading/unloading.
- B. Parking areas to accommodate construction personnel will be designated by the Owner.
- C. Existing Owner parking shall not be used by construction personnel without prior approval by the Owner.
- D. Coordinate access and haul routes with governing authorities and Owner.
- E. Provide and maintain access to fire hydrants, free of obstructions.
- F. Contractor may use the staging area as indicated on the drawings for material storage, equipment or other necessary purpose directly related to the work.

#### **1.11 WASTE REMOVAL**

- A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.
- B. Remove debris and waste materials from pipe chases, vent stacks and other closed or remote spaces, prior to enclosing the space.
- C. Provide containers with lids. Remove trash from site periodically to prevent vermin and pests from the job site.

#### **1.12 PROJECT IDENTIFICATION AND SIGNS**

- A. Provide project identification sign of design, construction, and location approved by Owner.
- B. No other signs are allowed without Owner permission except those required by law.

**1.13 FIELD OFFICES**

- A. Office: Weathertight, with lighting, electrical outlets, heating, ventilating equipment, and equipped with sturdy furniture, drawing rack and drawing display table.
- B. Provide space for Project meetings with table and chairs.
- C. Submit proposed field office location to Engineer for approval.

**1.14 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS**

- A. Remove temporary above grade or buried utilities, equipment, facilities, materials, prior to Substantial Completion Inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

END OF SECTION – 01 5000

**SECTION 35 0099  
DEAD VESSEL TOW**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Minimum requirements of the dead vessel tow.
  - 2. Weather & equipment restrictions.
  - 3. Minimum strength criteria for protection systems of existing structures.

**1.2 RELATED DOCUMENTS AND REFERENCES**

- A. Society for Testing and Materials (ASTM International).
- B. Contract, the General Requirements Sections of Division 00 & 01 and the Drawings apply to Work of this Section.
- C. Minnesota Department of Transportation (MnDOT) Standard Specifications for Construction.
- D. City of Duluth, Minnesota Construction Standards 2017.
- E. United States (US) Navy Towing Manual; SL740-AA-MAN-010 (Revision 3, Dated 1 July 2002).

**1.3 UNIT PRICES**

- A. Contractor shall provide labor, equipment, tools, materials, and incidentals necessary to perform the Work as detailed on the contract drawings. Contractor shall include proper disposal of all materials not suitable or not approved for reuse on the Project.

**1.4 SUBMITTALS**

- A. Schedule indicating Work sequence.
  - 1. Coordinate the schedule to allow sufficient time for required Quality Assurance (QA) testing & inspection, and installation of work of Related Sections.
  - 2. Coordinate with continuations of Owner's onsite operations.
- B. Experienced Land Surveyor qualifications and supervision.
- C. Pre-Work photographs or video before Work begins.
- D. Test reports from the independent testing facility on materials showing compliance with the Specifications.
- E. Copies of all permits received along with any special conditions or requirements of compliance.

- F. Proof of Liability Insurance.
- G. Copy of Interstate Commerce Commission Permit.
- H. Shop Drawings:
  - 1. Plan & details showing the location and type of temporary structures & protection of existing structures.
  - 2. Plan & details showing the type of equipment necessary to slowly move the Irvin backwards and forward in MN Slip.
  - 3. Plans & details showing the required modifications to the hull of the Irvin to provide attachment points to control the movement of the vessel.
- I. Welding certificates.
- J. Certified mill test reports for structural steel, including chemical and physical properties to be used.
- K. Tow Plan – The Contractor shall have a written document that outlines the step by step procedures for the process of relocating the vessel. This written document shall be reviewed and approved the City of Duluth, United States Army Corps of Engineers (USACE) Marine Design Center (MDC) & United States Coast Guard (USCG). At a minimum, the written document shall contain the following:
  - 1. General overall scope of work to be completed and means & methods for slowly moving the Irvin out of & into MN Slip and tow from outside of MN Slip to Fraser Shipyards. List of personnel, assigned roles involved with the relocation process & past experience.
  - 2. Pre-& Post-tow inspection checklist
  - 3. Procedures & items to be completed in the event of lost control of vessel, fire, structural damage to the hull of the vessel, damage to the surrounding structures, and leaking hull.
  - 4. List of proposed tugs and certified certificates for the tugs.
  - 5. Certifications, Class Certifications and Load Line Certifications as required for all vessel & rescue launches.
  - 6. Safe Working Loads (SWL) certifications for all towing rigging.
- L. Source quality-control reports.
- M. Approval Letter from Third-Party Marine Surveyor.

## **1.5 QUALITY CONTROL**

- A. Use adequate numbers of skilled workmen under the supervision of a Project Manager who is experienced in the necessary crafts required for proper performance of the Work Qualifications:
  - 1. Project Manager shall be completely familiar with the specified requirements.
  - 2. Project Manager shall be authorized to render decisions on behalf of the Contractor.



- B. Use equipment adequate in size, capacity and number to accomplish the Work in a timely manner.
- C. Conform to applicable Federal and Minnesota State Statutes and Rules, MnDOT Specifications, the Minnesota State Building Code, and local codes and ordinances for performance of Work, dewatering, transport and disposal of excess material, dust and run-off control, and emergency access to the site.
- D. Testing and observations paid for by the Owner shall be conducted by an Independent Testing Laboratory and by, or under the direct supervision of, a Licensed Professional.
  - 1. Subsequent tests required as a result of non-conforming work shall be paid for by the Contractor.
- E. The Contractor is to employ the services of an experienced Land Surveyor with at least four (4) years of surveying experience related to the Work. The experienced Land Surveyor shall complete all Survey Work under the direct supervision of a Licensed Land Surveyor or Professional Engineer.
- F. Pre-installation Conferences: Conduct pre-installation conferences at Project Site. Note that more than one pre-installation conference may be required for each of the following:
  - 1. Alterations to the hull of the Irvin for attachment points, if necessary.
  - 2. Temporary structures to protect the existing surrounding structures.
  - 3. Temporary structures installed to maintain alignment of vessel as it moves out of MN Slip.
- G. The Contractor shall retain an independent third party Marine Surveyor who is an expert in marine towing to accomplish the following items:
  - 1. Inspect Irvin & Irvin towing requirements.
  - 2. Inspect all towing vessels.
  - 3. Inspect all towing equipment.
  - 4. Review the tow plan.
- H. The Contractor shall provide a letter from the independent marine surveyor documenting that the Irvin, towing arrangements, tow plan, towing vessels and rigging equipment & components are suitable for the intended tow route.

## **PART 2 - PRODUCTS**

### **2.1 GENERAL**

- A. The Contractor is responsible for determining the quantities of material necessary for completing the Work.
- B. Unless otherwise indicated, all required materials shall be furnished by the Contractor.
- C. The Contractor shall install a minimum of one temporary guide structure that extends

- from the west side of MN Slip out into the Duluth-Superior Harbor to maintain alignment of vessel during the relocation process. The temporary guide structure shall extend a minimum of 428 lineal feet from outer corner of MN Slip. The temporary guide structure can be continuous or spaced apart and be comprised of spud barges or dolphin types structures.
- D. The structural components of the temporary guide wall shall not exceed a maximum deflection of 4 inches when impact by the vessel during the relocation process.

### **PART 3 – EXECUTION**

#### **3.1 GENERAL**

- A. The intent of this specification is to provide the minimum standards required for a tow plan. The items presented in the drawing set shall be utilized by the Contractor as a general guideline. The Contractor is responsible for providing a tow plan that will be reviewed and approved by the City of Duluth, DECC, USACE MDC, USCG & Regulatory Agencies.

#### **3.2 EXAMINATION**

- A. Verify elevations and locations of temporary guide wall & protection systems for compliance with requirements.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### **3.3 PREPARATION**

- A. Provide temporary shores, guys, braces, and other supports during erection to keep installed items plumb and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent connections and bracing are in place unless otherwise indicated.
- B. North American Marine, Inc has provided a list of recommendations for the pending tow (**APPENDIX J**). The list of recommendations is not considered a requirement of this Contract, but the Contractor should be prepared to either provide alternative methods that serve the same function or reasoning for not implementing the recommendations.
- C. The vessel shall be inspected and prepared according to the final tow plan provide by the selected Contractor and the requirements of the City of Duluth, DECC, USACE MDC, USCG and the Regulatory Agencies.
- D. The Contractor shall be prepared for the potential of weather delays in the event that weather conditions change rapidly during the day when the movement of the Irvin was to occur. An additional line item has been added to the bid form to account for this potential.

- E. The structural steel member of the MN Slip Pedestrian Bridge currently hangs over the face of the concrete abutments when in the upright position. The City of Duluth will partially disassemble the bridge so that all components are behind or inline with the face of the concrete bridge abutments below. The Contractor is responsible for verifying that all components are behind or inline with the face of the concrete abutments below. An additional line item has been provided to the bid form to account for scope of work.
- F. Before & After Video Requirements
  - 1. The Contractor shall provide before & after video surveys of the Irvin hull and superstructure. The video survey shall be in color and shall be sufficiently detailed to identify damage that may occur during the towing process.
  - 2. The Contractor shall provide electronic copies of video, on storage media, to the City of Duluth, DECC, USACE MDC, USCG & Regulatory Agencies. The before video shall be provided before the commencement of the tow.

### **3.4 TOWING CONTRACTOR REQUIREMENTS**

- A. The towing Contractor shall warrant that each tug furnished for each tow possess the minimum tow capabilities. Substitution for any tug previously accepted for a specific trip shall require approval.
- B. The towing Contractor shall be in charge of all aspects of the tow origin to destination. The Contractor shall be fully responsive to the designated Irvin representative, consistent with maritime law & practice.
- C. The towing Contractor shall report the following:
  - 1. Wind speed & direction,
  - 2. Air temperature,
  - 3. Weather & lake conditions and
  - 4. Estimated time of arrival at destination.
- D. The Irvin tow shall be exclusive & continuous and be moved as expeditiously as conditions permit for safe towage.
- E. All laws, rules & regulations affecting the navigation and use of the various waters involved shall be fully adhered to and enforced.
- F. The towing Contractor shall maintain a log during any periods of inclement weather that documents the weather and conduct of tow. Acceptable lake & weather conditions shall be verified to prevail at the point of departure.
- G. Towing speed shall be reduced, as necessary, to prevent pounding/slamming of Irvin or subjecting the Irvin to any undue risk.

- H. All towing shackles shall be bolted safety type.
- I. Vessel Captains shall possess current and proper Master Marine's License.
- J. Each tug shall be subject to full inspection by the Contractor's third party Marine Surveyor prior to the scheduled tow to approve tug condition and towing arrangements. The tug Contractor shall perform and accomplish any necessary identified corrective actions as expeditiously as possible.

### 3.5 EXISTING CONDITIONS

#### A. Vessel SS William A. Irvin.

- 1. Anchors
  - a. The bow of the vessel currently has two anchor chains that extend from an internal chamber below the deck of the vessel to the adjacent land. The winches that operate the two anchor chains are operational. However, a third anchor was connected to chain on the starboard side of the vessel. The third anchor will have to be removed prior to operation of the winches.
  - b. There are two anchors that extend off the stern of the vessel. The anchor that extends directly off the stern is for decorative purposes only and will need to be removed prior to the relocation process. The second anchor on the starboard side of the stern is not currently operational since it has a steel pin running through the chain. The pin will need to be removed and connected to the stern winch for it to be operational.
- 2. All the cargo hatches, scuttle hatches, gangway doors, manhole covers for the ballast tank and cabin doors can be closed and secured with the exception of two scuttle hatches directly above the internal gift shop. These scuttle hatches are currently constructed of wood and need to be replaced with steel and a rubber membrane if required to be secured.
- 3. Some of the navigation lights are operational but the Contractor will need to review the USCG requirements for navigation lights if they are to utilize.
- 4. Propeller shaft and rudder are locked in their current position.
- 5. Sea valves & ballast manifold valves are welded shut.
- 6. Starboard ballast tanks 1 thru 5 and port ballast tanks 5 thru 7 are considered non-water tight based on the results of the marine survey performed by North American Marine, Inc. (NA Marine). Refer to NA Marine's report for additional information.
- 7. There are five deck winches that are all operational. A sixth winch is located in the lower compartment near the bow anchor chain winches. This winch is not operational.
- 8. Power to the vessel is currently provided by shore. The Emergency Generator does currently generate power but the operation of it is unknown. The Contractor shall determine how to transfer power from the emergency generator to the vessel or will be responsible for providing temporary power to the Irvin during the relocation process if required.

9. There are two access platforms that are cut into the hull of the vessel of the port side. The Contractor is responsible for removing the platforms as necessary for adequate space between the structural elements of MN Slip Pedestrian Bridge. Once the vessel is located back to MN Slip, the Contractor is responsible for reinstalling platforms as required.
10. Currently there are two pipes that penetrated the hull of the Irvin. The Contractor is responsible for removing the penetrations as necessary for adequate space between the structural elements of MN Slip Pedestrian Bridge. The Contractor shall also inspect the hull of the vessel to determine if there are any other penetrations that could prevent the movement of the vessel thru the MN Slip Pedestrian Bridge. Once the vessel is located back to MN Slip, the Contractor is responsible for reinstalling elements that were removed.

**B. MN Slip Dock Wall**

1. The dock wall along the southwest side of MN Slip is currently being replaced with a new epoxy coated steel sheet pile dock wall. The existing dock wall is failing and will not allow for the vessel to leave MN Slip. The existing wall will be demolished as necessary, so the new wall can be driven in a manner that will allow for the vessel to be removed from MN Slip.
2. New timber and laminated fenders assemblies will be installed along MN Slip. These fenders may be utilized during both moves of the relocation process. Additional details can be found in the Project Drawing Set and Section 00 3100 "Available Project Information."

**3.6 RESTRICTIONS**

- A. Sediments in MN Slip are contaminated with Polyaromatic Hydrocarbons (PAHs), Polychlorinated Biphenols (PCBs), mercury, cadmium, chromium, copper, lead, nickel, and zinc. Contaminated sediments are present throughout the entire Slip to an average depth of 7 feet below the mudline. For this reason, anchoring or the use of spuds for stabilization will not be allowed inside of MN Slip, from the MN Slip bridge inward. If it is deemed necessary to install temporary pilings or other structures in MN Slip in order to facilitate safe movement of the SS. Irvin, the Contractor will coordinate with Minnesota Pollution Control Agency (MPCA) remediation staff to ensure that the proper best management practices (BMPs) are implemented to control the resuspension and dispersion of contaminated sediments. BMPs may include, but are not limited to, the installation of full column silt curtains and installation and removal methods that minimize sediment disturbance. If temporary pilings or structures are installed for the movement of the SS. Irvin out of MN Slip and it is the desire of the Contractor, the pilings or structures may remain in place for the return transport of the SS. Irvin so long as those structures are within 5 feet of the bridge or dock wall.
- B. The MPCA will be constructing a remedial sediment cap in MN Slip in the fall of 2018, while the SS. Irvin is at dry dock. Therefore, the restriction on anchoring and

- spuds usage will remain in place for the return transport of the SS. Irvin. If new or additional pilings or structures within MN Slip are required for the return transport of the SS. Irvin, the Contractor will coordinate with MPCA remediation staff to ensure that the proper best management practices (BMPs) are implemented to ensure minimal disturbance of the remedial cap. If the remedial sediment cap is compromised by the Contractor, the Contractor will repair the remedial sediment cap as determined by the MPCA remediation staff. The repair of the remedial cap may involve, but is not limited to, the placement of new clean sand and aggregate on the bed of MN Slip where the cap has been compromised.
- C. The relocation of the Irvin shall not occur when the below conditions are exceeded or projected to be exceeded during the relocation process.
1. Sustained wind speeds shall not exceed 5 mph & gusts shall not exceed 10 mph.
  2. Wave heights shall be less than 6 inches.
  3. Currents shall be less than 0.5 feet/second.
- D. The movement of the Irvin shall not occur when ice is visible within the Duluth-Superior harbor or there is a risk that ice may impact the movement process.
- E. The speed of the vessel while in MN Slip shall not exceed **1 foot per every 4 seconds**.
- F. The size of the tugs in the slip after the MN Slip cleanup project in the fall of 2018, will be restricted to "Tender Tugs" with a maximum draft depth of 7 feet. The maximum propeller horsepower of the tugs shall not exceed 400 HP.

### 3.7 FIELD QUALITY ASSURANCE

- A. Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

### 3.8 SAFETY PERIMETER

- A. The USCG will issue a notice to all vessels that traffic within the limits of the area immediately surrounding the Irvin shall be prohibited. All commercial traffic through the Duluth Entry will be prohibited and redirected to the Superior Entry.
- B. The USCG will provide a security perimeter around the Irvin to prevent any recreation boat traffic from interfering with the relocation process.

END OF SECTION – 35 0099