US Army Corps of Engineers
St Paul District

Public Notice

ISSUED: March 17, 2023
EXPIRES: March 31, 2023

APPLICANT: City of Washburn

REFER TO: 2016-00609-DWW

SECTION: 404 - Clean Water Act

1. APPLICATION FOR PERMIT TO expand Pier 4, replace the mooring system on Pier 4, and complete dredging activity near Pier 4, all within the Washburn Marina.

2. SPECIFIC INFORMATION

AGENT — Chase Dewhirst - AMI engineers, P.A.
91 Main Street
Superior, WI 54880

PROJECT LOCATION: The project site is located in SE ¼, NE ¼, Section 5, Township 48 North, Range 4 West, Bayfield County, Wisconsin. Latitude *46.66875*, Longitude *-90.888612*.

DESCRIPTION OF PROJECT: The project is intended to address the ice damage to the Pier 4 mooring system that occurred due to high water in 2019-2020, increase the transient dockage to accommodate visiting boaters and answer requests to provide a means for persons with mobility limitations to embark and disembark boats from Pier 4.

The proposed project would place a new head pier section (432 square feet) to existing pier with placement of previous pier terminal section at end of new head pier section (288 square feet), add two finger piers to new head pier section (256 square feet), and add proposed ADA lift (60 square feet) below the ordinary high-water mark (OHWM) of Lake Superior. The proposed project would also result in the discharge of fill material into 360 square feet below the plane of the OHWM of Lake Superior for 10 mooring pile foundations to secure the pier to the bed of the lake. In addition, the proposed project would dredge 300 cubic yards of sand sediment from an area of 3,000 square feet of the waterway within a depth of 1 to 2 feet.

QUANTITY, TYPE, AND AREA OF FILL: The proposed project would result in the discharge of fill material into 360 square feet below the plane of the OHWM of Lake Superior for 10 mooring pile foundations to secure the pier to the bed of the lake.

VEGETATION IN AFFECTED AREA: No vegetation was described in the application materials.

SOURCE OF FILL MATERIAL: Concrete manufacturer.

SURROUNDING LAND USE: Washburn Marina and the City of Washburn business district.

DESCRIPTION OF STRUCTURE: The proposed structure would include a new head pier section (432 square feet) to existing pier with placement of previous pier terminal section at end of new head pier section (288 square feet), add two finger piers to new head pier section (256 square feet), and add proposed ADA lift (60 square feet) below the ordinary high-water mark (OHWM) of Lake Superior. The total structure placement would be within 1,036 square feet below the OHWM of Lake Superior.

DESCRIPTION OF DREDGING OR EXCAVATION: The proposed project would dredge 300 cubic yards of sand sediment from an area of 3,000 square feet of the waterway within a depth of 1 to 2 feet.

Dredged material would be temporarily stored at the City of Washburn Commercial Dock which is adjacent to the marina facility. The permanent placement of the dredged would be the City of Washburn yard/compost site on County Truck Highway C within the City of Washburn where previous dredged material has been placed.

THE FOLLOWING POTENTIALLY TOXIC MATERIALS COULD BE USED AT THE PROJECT SITE: No known toxic materials would be used at the project site.

THE FOLLOWING PRECAUTIONS TO PROTECT WATER QUALITY HAVE BEEN DESCRIBED BY THE APPLICANT: The project would have the standard BMPs to reduce sedimentation outside the project area.

MITIGATION: No mitigation required.

3. FEDERALLY LISTED THREATENED OR ENDANGERED WILDLIFE OR PLANTS OR THEIR CRITICAL HABITAT

None were identified by the applicant or are known to exist in the permit area. However, Bayfield County is within the known or historic range of the following Federally listed species:

Northern Long-Eared Bat	Hibernates in caves and mines – swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during spring and summer.
Canada Lynx	Forests with boreal features.
Gray Wolf	Forested areas and grasslands.
Tricolored Bat	Hibernates in caves and mines – swarming in surrounding wooded areas in autumn. Roosts and forages in upland forests during spring and summer.
Piping Plover	Sandy beaches and islands.
Red Knot	Sandy beaches and islands.

This application is being coordinated with the U.S. Fish and Wildlife Service. Any comments it may have concerning Federally listed threatened or endangered wildlife or plants or their critical habitat will be considered in our final assessment of the described work.

4. JURISDICTION

This application is being reviewed in accordance with the practices for documenting Corps jurisdiction under Sections 9 & 10 of the Rivers and Harbors Act of 1899 and Section 404 of the Clean Water Act.

5. SECTION 401 WATER QUALITY CERTIFICATION

Valid Section 404 permits cannot be issued for any activity unless water quality certification for the activity is granted or waived pursuant to Section 401 of the Clean Water Act. The Section 401 authority for this project is Wisconsin Department of Natural Resources (WDNR). A Department of the Army permit will not be granted until the WDNR has issued or waived Section 401 WQC certification and the U.S. Environmental Protection Agency (USEPA) neighboring jurisdiction process is completed. Corps Section 404 Clean Water Act decisions may not be finalized until after the USEPA completes this process.

6. HISTORICAL/ARCHAEOLOGICAL

This public notice is being sent to the National Park Service and the State Archaeologist for their comments. The Corps will review information on known cultural resources and/or historic properties within and adjacent to the project area. The Corps will also consider the potential effects of the project on any properties that have yet to be identified. The results of this review and the Corps' determination of effect will be coordinated with the State Historic Preservation Officer independent of this public notice. Any adverse effects on historic properties will be resolved prior to the Corps authorization, or approval, of the work in connection with this project.

The latest versions of the National Register of Historic Places and the Wisconsin Historic Preservation Database (WHPD) have been consulted and no listed properties (known to be eligible for inclusion, or included in the Register) are located within, or directly adjacent to the project area. A check with the WHPD inventory layers shows no known archaeological or structural historic resources within proposed project extent. Topographic maps from the WHPD does show this project review area is adjacent to developed properties and also shows historic properties within city limits, and a historic sawmill property to the southwest of the project area.

7. PUBLIC HEARING REQUESTS

Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, in detail, the reasons for holding a public hearing. A request may be denied if substantive reasons for holding a hearing are not provided or if there is otherwise no valid interest to be served.

8. PUBLIC INTEREST REVIEW

The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects. Among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production and, in general, the needs and welfare of the people. Environmental and other documents will be available for review in the St. Paul District Office.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

9. COASTAL ZONE MANAGEMENT.

This Public Notice has been sent to the agency responsible for Coastal Zone Management and is considered by the District Engineer to constitute valid notification to that agency for a Coastal Zone Consistency determination.

REPLIES/COMMENTS

Interested parties are invited to submit to this office written facts, arguments, or objections by the expiration date indicated above. These statements should bear upon the suitability of the location and the adequacy of the project and should, if appropriate, suggest any changes believed to be desirable. Comments received may be forwarded to the applicant.

Replies may be sent to Daryl W Wierzbinski at U.S. Army Corps of Engineers, daryl.w.wierzbinski@usace.army.mil.

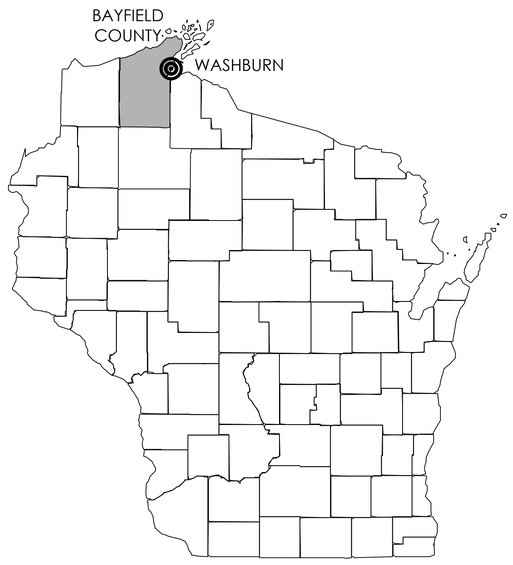
IF YOU HAVE QUESTIONS ABOUT THE PROJECT, contact Daryl W Wierzbinski at the Duluth office at 218-788-6406 or daryl.w.wierzbinski@usace.army.mil.

To receive Public Notice notifications, go to: https://www.mvp.usace.army.mil/Contact/RSS/ and subscribe to the RSS Feed for which you would like to receive Public Notices.

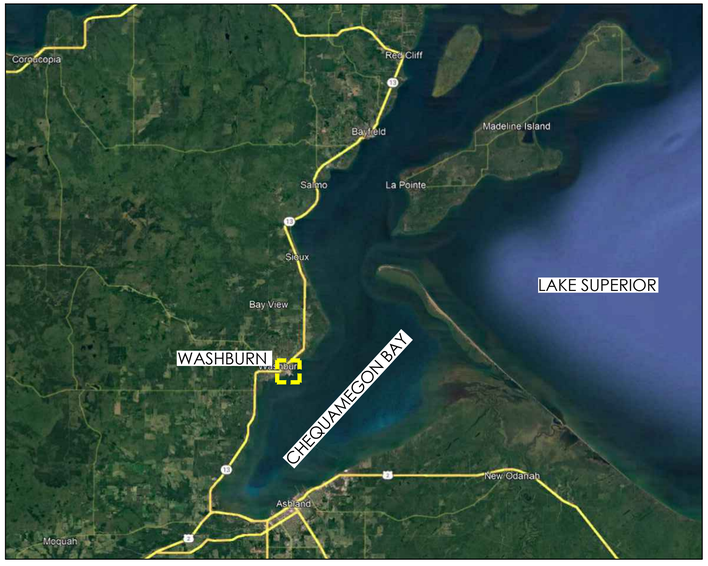
Enclosures

WASHBURN MARINA
DOCK MODIFICATIONS

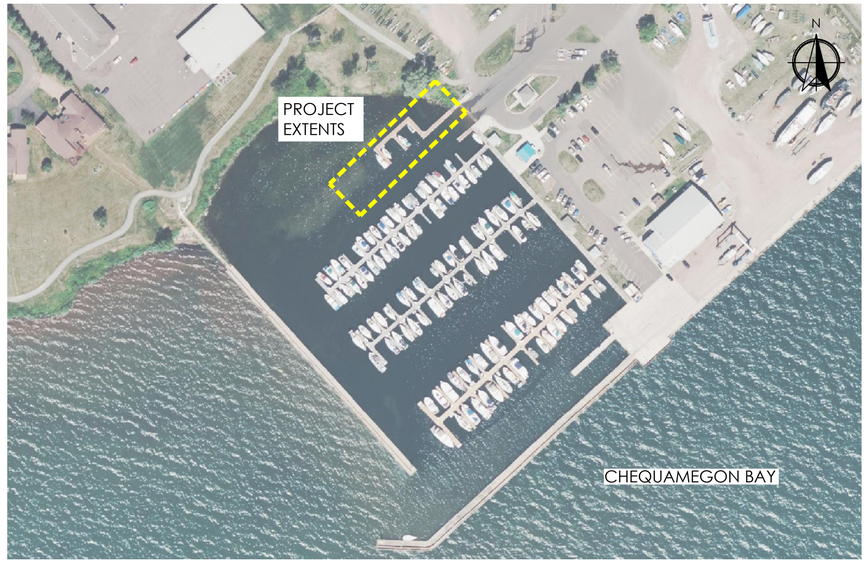
1 MARINA DRIVE
WASHBURN, WISCONSIN



WISCONSIN



PROJECT LOCATION



PROJECT SITE

SHEET INDEX	
G0.0	COVER SHEET AND INDEX
S0.0	GENERAL NOTES
S1.0	EXISTING DOCK PLAN
S1.1	PROPOSED DOCK PLAN
S2.0	EXISTING DOCK DETAILS
S2.1	PROPOSED DOCK DETAILS
S2.2	DOCK MODIFICATION DETAILS - ADA LIFT
S2.3	DOCK MODIFICATION DETAILS - ADA LIFT
S2.4	ALTERNATE 1: KAYAK LAUNCH DETAILS

AMI
Consulting Engineers P.A.
91 Main Street SUPERIOR, WI
715.718.2193 - amiengineers.com
TWIN CITIES - IRON RANGE

PRELIMINARY
NOT FOR CONSTRUCTION

REV. BY:	DESCRIPTION	REV:	DATE:

WASHBUN MARINA
DOCK MODIFICATIONS
1 MARINA DRIVE
WASHBUN, WISCONSIN

COVER SHEET AND INDEX

JOB No: 221014
DATE:
DRAWN BY: SAJ
DESIGNED BY: KKM

SHEET:
G0.0

11/10/2022 1:02 PM
Z:\2022\221014 Washburn Marina Dock Modifications\Marine Structural\3_CAD\Cover and notes.dwg

GENERAL

- ELEVATIONS SHOWN, EXCEPT AS NOTED, ARE BASED ON THE 1985 LAKE SUPERIOR INTERNATIONAL GREAT LAKES DATUM (IGLD). ON GENERAL ARRANGEMENT DRAWINGS, ELEVATIONS ARE ALSO SHOWN RELATIVE TO THE IGLD LOW-WATER DATUM (LWD) OF 601.1 FT. THE IGLD ORDINARY HIGH-WATER MARK (OHWM) IS 603.1 FT. EXISTING WATER ELEVATIONS MAY VARY ABOVE AND BELOW THE IGLD OHWM AND LWD, RESPECTIVELY, THROUGHOUT THE DURATION OF THE PROJECT. VARIATIONS ABOVE THE OHWM AND BELOW THE LWD ARE GENERALLY DUE TO ENVIRONMENTAL CHANGES, I.E. RAINFALL, WIND, RUNOFF, PRESSURE, AND CYCLICAL CHANGES IN WATER LEVELS.
- ALL PLAN DIMENSIONS ON THE DRAWINGS ARE MEASURED IN A TRUE HORIZONTAL PLANE UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL FROM THE SITE AND LEGAL DISPOSAL OF DEBRIS GENERATED AS A RESULT OF DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
- ALL MATERIALS AND INSTALLATION MUST MEET THE STANDARD SPECIFICATIONS LISTED IN THE DESIGN CRITERIA SECTION OF THE STRUCTURAL NOTES AND THE PROJECT SPECIFICATIONS.
- OPENINGS AND PENETRATIONS NOT SHOWN IN THE CONTRACT DOCUMENTS THROUGH ANY STRUCTURAL ELEMENTS OR ITEMS EMBEDDED IN THE STRUCTURAL ELEMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO IMPLEMENTING THE WORK.
- PLANS, SECTIONS, AND DETAILS SHALL NOT BE SCALED FOR DETERMINATION OF SIZE, QUANTITIES, LENGTHS, ETC.
- ALL MEMBERS ARE DESIGNED TO RESIST THE DESIGN LOADS WITHIN THE COMPLETED MARINE SYSTEM. CONTRACTOR IS RESPONSIBLE FOR ADEQUATE SHORING, BRACING, ETC DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ANY AND ALL STREETS, UTILITIES, EXISTING STRUCTURES, EQUIPMENT, ETC.
- CONTRACTOR IS RESPONSIBLE TO FOLLOW ALL LOCAL, STATE, & FEDERAL PERMIT REQUIREMENTS AT ALL TIMES.
- EXISTING CONDITIONS, RELATED DIMENSIONS, ELEVATIONS INDICATED IN THE CONTRACT DOCUMENTS SHALL BE FIELD VERIFIED AS SITE CONDITIONS MAY HAVE CHANGED SINCE LAST INSPECTION BY ENGINEER. ANY VERIFIED CONDITIONS THAT DIFFER FROM THAT INDICATED IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PRODUCTION OF SHOP DRAWINGS & FABRICATION.
- WHERE A SPECIFIC MODEL, MANUFACTURER, OR GEOMETRIC SIZE/SHAPE OF AN ITEM ARE IDENTIFIED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE MODEL, MANUFACTURER, OR GEOMETRIC SIZE/SHAPE IDENTIFIED ARE THE BASIS OF THE DESIGN. ITEMS OF OTHER MODEL, MANUFACTURER, OR GEOMETRIC SIZE/SHAPE OF EQUAL DESIGN WHICH ARE ACCEPTED BY THE ENGINEER THAT REQUIRE ANY ADDITIONAL DRAWINGS, ENGINEERING DEVIATIONS, OR CONSTRUCTION/QUANTITY CHANGES ARE THE RESPONSIBILITY OF THE CONTRACTOR INCLUDING ALL ASSOCIATED COSTS.
- THE ACCURACY OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES ARE NOT GUARANTEED AND NOT INCLUSIVE. FIELD CONDITIONS SHALL BE VERIFIED PRIOR TO ANY EXCAVATION.
- THE GENERAL STRUCTURAL NOTES GIVEN IN THE CONSTRUCTION DOCUMENTS MAY NOT BE INCLUSIVE TO THE ENTIRE PROJECT. SEE FULL PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.

DESIGN CRITERIA

- CODES AND SPECIFICATIONS
  - ALL DESIGN, UNLESS OTHERWISE NOTED, ARE IN ACCORDANCE WITH THE FOLLOWING:
    - I. LOCAL & STATE CODES FOR WHICH THE PROJECT IS ERECTED
    - II. INTERNATIONAL BUILDING CODE (IBC)
    - III. ASCE STANDARD 7
    - IV. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES (AASHTO)
- DESIGN LOADS
  - A. ENVIRONMENTAL LOADS

WIND SPEED FOR DOCK STRUCTURES:	105 MPH 3 SEC GUST
WIND ABEAM DRAG COEFFICIENT:	1.15
WIND ASTERN DRAG COEFFICIENT:	0.85
MOORING WIND ABEAM PRESSURE:	21.2 PSF
MOORING WIND ASTERN PRESSURE:	15.7 PSF
ICE THERMAL LOAD:	6.7 KIPS
ICE JACKING FORCE:	19 KIPS

  - B. LIVE LOADS

FLOATING DOCK UNIFORM LIVE LOAD FOR STRUCTURAL MEMBERS:	50 PSF
FLOATING DOCK UNIFORM LIVE LOAD FOR FLOATATION:	40 PSF
ADA LIFT CAPACITY:	375 LBS

  - C. FOR MOORING DESIGN, WIND PRESSURE ON VESSEL BASED ON WIND PRESSURES SHOWN ABOVE WHILE DOCKED.
  - D. THE STRUCTURES HAVE BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS COMPLETED STRUCTURES, UNLESS OTHERWISE NOTED ON THE DRAWINGS. ANY PROPOSED APPLICATION OF CONSTRUCTION LOADS WHICH EXCEED THE DESIGN LOADS MUST BE APPROVED BY THE ENGINEER.
- GENERAL VESSEL PARAMETERS
  - A. 38FT LONG FLOATING DOCK VESSEL PROPERTIES:

LENGTH:	38 FT
BEAM:	14 FT
AVERAGE PROFILE HEIGHT:	9 FT

  - B. 32FT LONG FLOATING DOCK VESSEL PROPERTIES:

LENGTH:	32 FT
BEAM:	12 FT
AVERAGE PROFILE HEIGHT:	8 FT

TESTING NOTES

- CONTRACTOR SHALL PERFORM ALL QUALITY CONTROL TESTING PER THE SPECIFICATIONS AND SUBMIT REPORTS TO OWNER/ENGINEER WEEKLY.
- CONTRACTOR SHALL COORDINATE AND COOPERATE WITH THE ENGINEER AND OWNER'S TESTING AGENCY ENGINEER TO ALLOW FOR PERFORMANCE & QUALITY ASSURANCE TESTING OF ALL MATERIALS.
- THE OWNER/ENGINEER WILL PERFORM OR ENGAGE A REPRESENTATIVE FIRM(S) FOR THE INDEPENDENT TESTING OF THE FOLLOWING ITEMS:
  - A. CONCRETE: ONE SET OF FIVE CONCRETE TEST CYLINDERS WILL BE TAKEN FOR EVERY 50 CUBIC YARDS OR LESS OF CONCRETE PLACED DAILY. TEST ONE CYLINDER AT SEVEN DAYS, THREE AT 28 DAYS AND RESERVE ONE CYLINDER FOR CONTINGENCY TESTING AT 56 DAYS. CONCRETE TEST REPORTS TO BE SUBMITTED TO THE ENGINEER. AIR CONTENT AND SLUMP TESTS SHALL BE TAKEN FOR EACH SET OF TEST CYLINDERS.

ENERGY CONTROLS

- CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE PROJECT OWNER TO INSURE A SAFE WORK AREA, INCLUDING THE LOCKOUT OF PIER MACHINERY, VESSEL PROPS, AND VESSEL EQUIPMENT WHEN REQUIRED.

EPOXY ADHESIVE

- EPOXY RESIN SHALL BE HIT-RE 500 V3 PROVIDED BY HILTI CORPORATION OR APPROVED EQUAL FOR THE APPLICATION AS RECOMMENDED BY THE MANUFACTURER.
- CONTRACTOR SHALL FOLLOW ALL OF MANUFACTURERS RECOMMENDATIONS OF POT LIFE AND TEMPERATURE REQUIREMENTS DURING MIXING AND PLACEMENT OF PRODUCT.
- ITEMS EMBEDDED INTO THE EPOXY SHALL BE FREE OF LOOSE SCALE, RUST, AND MARINE GROWTH.
- SURFACES MUST BE CLEANED OF ALL OILS, GREASES, DIRT, WAX SOLUTIONS, AND OLD COATINGS.
- SURFACE SHOULD BE CLEANED WITH A HIGH PRESSURE WATER BLAST, SANDBLAST, OR OTHER APPROVED METHODS TO REMOVE ALL CONTAMINANTS WHICH MIGHT INTERFERE WITH PROPER ADHESION.
- METAL SURFACES SHALL BE CLEANED TO A BARE METAL SURFACE AND CONCRETE SURFACES SHALL BE FREE OF WEAK AND LOOSE CONCRETE BY CHIPPING DOWN TO SOUND CONCRETE.
- EPOXY COMPONENTS SHALL BE STORED IN A COVERED, WELL VENTILATED SPACE WHERE TEMPERATURES ARE NO LOWER THAN 40°F (5°C) OR HIGHER THAN 120°F (49°C).

STRUCTURAL STEEL

- ALL STRUCTURAL STEEL AND MISCELLANEOUS METAL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF THE LATEST:
  - A. AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS
  - B. AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
  - C. SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS (RCRBJ)
  - D. AISC QUALITY CERTIFICATION PROGRAM.
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING MATERIAL SPECIFICATIONS:

ANGLES AND PLATES	ASTM A36
HOLLOW STRUCTURAL SECTIONS	ASTM A500 GRADE C
STEEL PIPE	ASTM A53 GRADE B
WELDED STUDS	ASTM A108
WELD ELECTRODES	E70XX
GALVANIZED BOLTS	ASTM A307
GALVANIZED NUT	ASTM A563
GALVANIZED WASHER	ASTM F436

- WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1 BY QUALIFIED WELDERS AS DEFINED BY AWS D1.1 & ALL UNDERWATER WELDING SHALL BE IN ACCORDANCE WITH AWS D3.6. ELEMENTS INVOLVING CONNECTIONS OF SHEET STEEL OR STRIP STEEL SHALL ALSO BE IN ACCORDANCE WITH THE LATEST EDITION OF AWS D1.3, SPECIFICATION FOR WELDING SHEET STEEL IN STRUCTURES.
- WELDING RODS UTILIZED IN UNDERWATER WELDING SHALL MEET THE STANDARDS OF AWS D3.6.
- ALL NOMINAL BOLT HOLE DIAMETERS THROUGH STRUCTURAL ELEMENTS SHALL BE STANDARD SIZED UNLESS NOTED OTHERWISE.
- BEVELED WASHERS SHALL BE UTILIZED WHEN THE OUTER FACE OF THE JOINT HAS A SLOPE THAT IS GREATER THAN 1:20 WITH RESPECT TO A PLANE THAT IS NORMAL TO THE BOLT AXIS.
- PROVIDE FIRE WATCH DURING ALL WELDING, FLAME CUTTING, AND BURNING.
- ALL STEEL REMOVED BY FLAME CUTTING (TORCHES, PLASMA, BROCO, ETC.) SHALL BE PERFORMED IN GENERAL ACCORDANCE WITH AWS D1.1. UNLESS NOTED OTHERWISE, ALL REMAINING SURFACES AFTER STEEL REMOVAL SHALL HAVE GRINDED SMOOTH SURFACES. ALL SURFACES SHALL HAVE NO MORE THAN 10% MATERIAL LOSS AT ANY LOCATION (I.E., AT ANY PIT) UNLESS NOTED OTHERWISE. IN THE EVENT OVER 10% MATERIAL LOSS IS DISCOVERED, THE CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, REPAIR THE SURFACES AS DIRECTED BY THE ENGINEER.
- STEEL MEMBERS AND CONNECTIONS WERE DESIGNED ASSUMING A TYPE PR (PARTIALLY RESTRAINED) OR "SIMPLE FRAMING" CONSTRUCTION TYPE.
- ALL BOLTED CONNECTIONS SHALL BE SNUG TIGHTENED PER RCSC 2020 UNO.
- ALL HARDWARE AND STRUCTURAL STEEL SHAPES TO BE GALVANIZED BY THE HOT DIPPED PROCESS IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123, A153 AND/OR F2329, AS APPLICABLE, AFTER FABRICATION, UNLESS OTHERWISE NOTED.
- FIELD TREAT DAMAGED GALVANIZED FINISH WITH TWO COATS OF HIGH ZINC DUST OXIDE PAINT, COLD GALVANIZING COMPOUNDS OR APPROVED EQUAL CONFORMING TO THE REQUIREMENTS OF ASTM A780.
- FIELD TREAT ALL COATING DAMAGED WITH MANUFACTURERS RECOMMENDED REPAIR PROCESS. ALL PROCESSES FOR REPAIR MUST BE APPROVED BY THE ENGINEER PRIOR TO THE REPAIR.

FLOATING DOCK SYSTEMS

- DESIGN LOADS
  - A. VERTICAL DEAD LOAD SHALL BE THE ENTIRE WEIGHT OF THE FLOATING DOCK SECTION, INCLUDING ALL ACCESS RAMPS AND APPURTENANCES.
  - B. VERTICAL LIVE LOAD FOR FLOTATION DESIGN SHALL BE A MINIMUM OF 40 PSF.
  - C. VERTICAL LIVE LOAD FOR STRUCTURAL MEMBER DESIGN SHALL BE A MINIMUM OF 50 PSF.
  - D. THE FLOATING DOCK SYSTEM SHALL BE DESIGNED TO RESIST AN IMPACT FROM THE LARGEST VESSEL NORMALLY AT THE DOCK. THE VESSEL SHALL STRIKE THE END OF THE DOCK AT A 10 DEGREE OFF OF THE CENTERLINE OF THE DOCK WITH A VESSEL SPEED OF 3FT/SEC. AS A MINIMUM A VESSEL WEIGHT OF 18,000 LBS SHALL BE CONSIDERED. THE DOCK SHALL BE DESIGNED FOR THIS IMPACT EVEN IF FENDERS OR BUMPERS ARE UTILIZED.
  - E. THE FLOATING DOCK SYSTEM SHALL BE DESIGNED TO RESIST A MAXIMUM WIND SPEED OF 105 MPH AND A RESULTING UNIFORM WIND LOAD PRESSURE INDICATED IN THE DESIGN LOADS. THE LOADING TO THE DOCK SHALL CONSIDER THE MAXIMUM VESSEL PROFILE HEIGHT NORMALLY AT THE DOCK BUT A MINIMUM PROFILE HEIGHT OF 9 FT SHALL BE CONSIDERED.
- FLOATATION SHALL PROVIDE A MINIMUM FREEBOARD OF 18" TO A MAXIMUM FREEBOARD OF 24" UNDER DEAD LOADS
- FLOATATION SHALL PROVIDE A MINIMUM FREEBOARD OF 10" UNDER THE COMBINATION OF DEAD & LIVE LOADS
- A LOSS OF FREEBOARD SHALL NOT BE GREATER THAN 4" WHEN A 400 LBS POINT LOAD IS APPLIED TWO FEET FROM THE END OF THE DOCK
- A VERTICAL DIFFERENCE FROM CORNER TO CORNER OF THE DOCK SHALL NOT BE GREATER THAN 2" WHEN A 200 LBS POINT LOAD IS APPLIED AT ONE CORNER OF THE DOCK
- THE FLOATING DOCK SHALL BE DESIGNED FOR A STORM CONDITION OF 1 FT WAVE DURING BOATING SEASON, 2.5 FT DURING WINTER (NON BOATING) SEASON AND A 1.35 FT STORM SURGE
- DOCK FLOATATION SHALL BE DESIGNED SUCH THAT FREEBOARD CRITERIA SHALL BE MAINTAINED WHEN THE DOCK IS FREE FLOATING AND DISCONNECTED FROM THE MAIN STRUCTURE.
- ADDITIONAL FLOATATION SHALL BE ADDED WHEN NEEDED TO SUPPORT THE ADDITIONAL LOADING FROM THE ADA LIFT WITHOUT PRODUCING ANY UNDUE DISTORTION IN THE FLOATING STRUCTURE
- FLOATATION UNITS & CONNECTIONS SHALL BE DESIGNED THAT THE DOCK ACTS AS ONE STRUCTURAL SYSTEM AND ONE FLOATATION UNIT DOES NOT DEFLECT WITHOUT ADJACENT UNITS DEFLECTING.
- FLOATATION UNITS SHALL BE DESIGNED TO MAINTAIN BUOYANCY IF STRUCTURALLY DAMAGED.
- FLOATATION UNITS SHALL CONSTRUCTED OF FIRE RESISTANT MATERIALS
- ALL STEEL MATERIALS SHALL BE EITHER HOT DIPPED GALVANIZED OF STAINLESS STEEL
- CONNECTIONS SHALL BE DESIGNED SO THE UNITS MAY BE DISCONNECTED AND MOVED WITH RELATIVE EASE
- FENDERS OR BUMPERS SHALL BE PROVIDED ON ALL SIDES OF THE DOCK AND BE CAPABLE OF MEETING THE IMPACT STANDARDS SPECIFIED IN THE DESIGN LOAD CRITERIA
- THE FLOATATION UNITS SHALL CONSISTS OF A PREMOLDED HIGH DENSITY POLYETHYLENE SHELL WITH FOAMED IN PLACE POLYSTYRENE FLOATATION. FLOATATION UNITS SHALL BE OF ONE PIECE ROTATIONAL-MOLDED CONSTRUCTION WITH REINFORCED WALL THICKNESS TO MAINTAIN SHAPE.
- THE HIGH DENSITY POLYETHYLENE PRODUCTS SHALL MEET THE FOLLOWING MINIMUM STANDARDS:
  - MINIMUM THICKNESS = 0.125 INCHES
  - DENSITY (ASTM D1505) = 59 LBS/FT3
  - ULTIMATE TENSILE STRENGTH (ASTM D638) = 3200 PSI
  - VICANT SOFTENING TEMPERATURE (ASTM D1525) = +240° F
  - BRITTLENESS TEMPERATURE (ASTM D746) = -180° F
  - FLEXURAL MODULUS (ASTM D790) = 100,000 PSI
- THE FOLLOWING WARRANTIES SHALL BE APPLIED TO THE APPROPRIATE COMPONENTS OF THE FLOATING DOCK STRUCTURE:
  - A. FLOATATION UNITS – 10 YEARS
  - B. BALANCE OF COMPONENTS – 5 YEARS
  - C. DECKING MATERIALS – 10 YEARS

CONCRETE

- ALL TOPSIDE CONCRETE AND CONCRETE MATERIALS TO BE DESIGNED, MIXED AND PLACED IN ACCORDANCE WITH THE STANDARDS AND RECOMMENDATIONS OF THE LATEST ACI-318 CODE FOR REINFORCED CONCRETE.
- ALL NEW CONCRETE PLACED UNDERWATER SHALL FOLLOW CHAPTER 8 OF ACI 304R "GUIDE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE" AND ALL EXISTING CONCRETE BELOW THE WATER SHALL BE REPAIRED IN ACCORDANCE TO ACI 546.2R "GUIDE TO UNDERWATER REPAIR OF CONCRETE".
- CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI.
- CONCRETE SLUMP SHALL BE 4" ± 1" WITH ALLOWANCE TO USE SUPERPLASTICIZING ADMIXTURE TO INCREASE UP TO 8" IF DESIRED.
- ENTRAINED AIR SHALL BE 6% ± 1.5% (MEASURED AT TRUCK DISCHARGE).
- MAXIMUM COARSE-AGGREGATE SIZE OF SHALL BE ¾".
- CONCRETE SHALL BE DESIGNED TO A MINIMUM WATER-CEMENTITIOUS MATERIAL RATIO TO LIMIT SHRINKAGE AND PRODUCE MAXIMUM DURABILITY. MAXIMUM WATER-CEMENTITIOUS RATIO SHALL BE 0.40.
- CEMENT USED SHALL BE PORTLAND CEMENT MEETING THE REQUIREMENTS OF ASTM C150, TYPE II.
- ALL AGGREGATES SHALL CONFORM TO ASTM C33.
- ALL FLY ASH INCLUDED IN THE CONCRETE SHALL BE TYPE F MEETING THE REQUIREMENTS OF ASTM C618.
- ALL SLAG CEMENT INCLUDED IN THE CONCRETE SHALL MEET THE REQUIREMENTS OF ASTM C989.
- ALL SILICA FUME INCLUDED IN THE CONCRETE SHALL MEET THE REQUIREMENTS OF ASTM C1240.
- ALL HORIZONTAL REINFORCING BARS SHALL BE CONTINUOUS AROUND CORNERS.
- WATER USED TO BE POTABLE AND FREE OF DEBRIS, OIL, AND OTHER DELETERIOUS SUBSTANCES AND MEET THE REQUIREMENTS OF ASTM C1602.
- FOLLOW ACI 305 AND ACI 306 FOR HOT AND COLD WEATHER CONSTRUCTION WHEN APPLICABLE.
- ALL FORMING SHALL BE TRUE AND STRAIGHT IN ACCORDANCE WITH ACI STANDARDS.
- ALL EMBEDDED ITEMS AND OPENINGS REQUIRED FOR MOORING SERVICES SHALL BE INCORPORATED INTO THE STRUCTURES WHETHER OR NOT THEY ARE DETAILED OR INDICATED ON THE STRUCTURAL DRAWINGS.
- ALL ITEMS EMBEDDED INTO CONCRETE SHALL BE CLEANED TO REMOVE ALL LOOSE SCALE, RUST, AND MARINE GROWTH. REFER TO THE RESPECTIVE DRAWINGS FOR THE DETAILS OF EMBEDDED ITEMS AND OPENINGS.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO OWNERS REPRESENTATIVE FOR REINFORCING STEEL BEFORE PROCEEDING WITH FABRICATION.

REINFORCING STEEL

- ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60, WITH A MINIMUM YIELD POINT OF 60,000 PSI.
- ALL REINFORCING BAR DIMENSIONS SHOWN ON THE DRAWINGS ARE TO CENTERLINE OF BARS UNLESS NOTED OTHERWISE.
- DETAIL REINFORCING STEEL IN ACCORDANCE WITH "ACI DETAILING MANUAL" ACI MNL66 AND "CRSI: MANUAL OF STANDARD PRACTICE" AND "CRSI: PLACING REINFORCING BARS", EXCEPT WHERE SHOWN OTHERWISE.
- DEVELOPMENT LENGTH AND LAP SPLICE LENGTH OF REINFORCING BARS SHALL BE AS SHOWN ON THE PLANS. ALL REINFORCING BAR SPLICES SHALL BE CLASS "B" TENSION LAP SPLICES, UNLESS NOTED OTHERWISE.
- REINFORCING MEETING ASTM A615 SHALL NOT BE WELDED WITHOUT PRIOR APPROVAL FROM ENGINEER.
- REINFORCING TO BE WELDED SHALL BE WELDABLE REBAR MEETING ASTM A706 SPECIFICATION OR DEFORM BAR ANCHORS MEETING ASTM A496 STANDARD. ALL WELDING OF REBAR SHALL BE SUBMITTED FOR APPROVAL TO ENGINEER PRIOR TO WELDING.

MOORING PILE FOUNDATIONS

- ALL STEEL PIPES SHALL BE 8"ø PIPE PILES (⅛" MIN WALL) CONFORMING TO ASTM A53 GRADE BE OR ASTM A252 GRADE 2. STEEL PIPES SHALL BE GALVANIZED BY THE HOT DIPPED PROCESS IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123 AND/OR A153 AS APPLICABLE
- NO SECONDS, REJECT, OR USED PILING WILL BE CONSIDERED UNLESS APPROVED BY ENGINEER.
- SEE PLAN FOR ESTIMATED PIPE LENGTHS AND PIPE TOP ELEVATIONS.
- MOORING PILE FOUNDATIONS SHALL BE LOCATED HORIZONTALLY WITHIN 2 INCHES OF THE PLAN LOCATION AND PIPES SHALL NOT BE OUT OF PLUMB VERTICALLY BY MORE THAN 2% FOR PROPER ALIGNMENTS.
- THE CONTRACTOR SHALL PREPARE RECORDS FOR ALL MOORING PILE FOUNDATIONS INCLUDING PILE IDENTIFICATION MARK, TYPE, SIZE AND PLUMBNESS CHECKS. DAILY RECORDS SHALL BE TURNED OVER TO THE ENGINEER FOR REVIEW.
- MOORING PILE FOUNDATIONS DAMAGED OR INSTALLED OUTSIDE THE ABOVE TOLERANCES SHALL BE REMOVED AND REPLACED WITH NO ADDITIONAL EXPENSE TO THE OWNER.

SUBMITTALS

THE FOLLOWING ITEMS SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER OR OWNERS REPRESENTATIVE PRIOR TO THE PURCHASE AND INSTALLATION OF THE ITEM

- BASELINE PROJECT SCHEDULE AND FOREMAN CONTACT INFORMATION
- BI-WEEKLY PROJECT SCHEDULE
- PRE-CONSTRUCTION PHOTOGRAPHS, VIDEOS, AND RELEVANT DOCUMENTATION
- QUALITY CONTROL TEST RESULTS SHALL BE SUBMITTED WEEKLY FOR ALL QUALITY CONTROL TESTS PERFORMED BY CONTRACTOR
- CONCRETE
  - A. MIX DESIGNS AND MATERIAL SPECIFICATIONS INCLUDING NON-SHRINK GROUT
  - B. STEEL REINFORCING MATERIAL SPECIFICATIONS AND PLACEMENT DRAWINGS THAT DETAIL FABRICATION, BENDING, PLACEMENT, BAR SIZES, LENGTHS, AND SPLICE LENGTHS
  - C. HOT/COLD WEATHER CONSTRUCTION PROCEDURES
  - D. EPOXY ADHESIVE PRODUCT, SPECIFICATIONS, AND INSTALLATION PROCEDURES
  - E. CONCRETE CURING PROCEDURE AND MATERIALS
  - F. FORM-RELEASE AGENT
  - G. PATCHING MATERIALS INCLUDING BONDING AGENT
- STRUCTURAL STEEL
  - A. SHOP DRAWINGS INCLUDING MEMBER SIZES, LENGTHS, CUT & CONNECTIONS DETAILS, LENGTHS, SIZE, & NUMBER OF BOLTS, AND WELD SIZE, TYPE, LENGTH, & LOCATION.
  - B. AWS D1.1 WELDING CERTIFICATES FOR PERSONNEL PERFORMING WELDING
  - C. MATERIAL SPECIFICATIONS FOR STRUCTURAL SHAPES AND STEEL PLATES
  - D. DAILY FIELD QUALITY CONTROL REPORTS INCLUDING, VERTICAL AND HORIZONTAL ALIGNMENT VERIFICATIONS, FINAL TIP AND CUTOFF ELEVATIONS, OBSTRUCTIONS ENCOUNTERED, HOURS WORKED, ETC. THE DAILY FIELD QUALITY CONTROL REPORT SHALL BE SUBMITTED THE SAME DAY THE WORK WAS PERFORMED.
  - E. INSTALLER QUALIFICATIONS
  - F. CERTIFIED COPIES OF MILL TEST REPORTS
- FLOATING DOCKS
  - A. MATERIAL SPECIFICATIONS FOR ALL COMPONENTS
  - B. INSTALLATION AND REMOVAL INSTRUCTIONS
  - C. LAYOUT & FABRICATION DRAWINGS FOR ALL STRUCTURAL UNITS
  - D. COMPLETE DETAILS FOR THE FLOATATION OF EACH UNIT
  - E. COMPLETE FABRICATION DETAILS FOR THE ANCHORAGE SYSTEM FOR THE FLOATING DOCKS
  - F. DECKING LAYOUT & DECKING MATERIAL SPECIFICATIONS
  - G. DETAILS OF ALL CONNECTIONS BETWEEN DOCK UNITS AND ACCESS STRUCTURES
  - H. COMPLETE DESIGN CALCULATIONS SHOWING ADEQUACY OF THE DESIGN SIGNED AND STAMPED BY A PROFESSIONAL ENGINEER. CALCULATION SHALL INCLUDE BUT ARE NOT LIMITED TO FLOATATION LOADS, FREEBOARDS, DOCK DEFLECTIONS, STRUCTURAL FRAME DESIGN FOR APPLIED LOADS, ADEQUACY OF ALL WELD & BOLTING DESIGN, AND ANCHORAGE & ANCHOR ATTACHMENT DESIGN
- COMMERCIAL DIVING OPERATIONS
  - A. DIVE PLAN AND ACTIVITY HAZARD ANALYSIS (AHA'S)
  - B. COMMERCIAL DIVER CERTIFICATION & DIVE PHYSICALS
  - C. FIRST AID, CPR, & DAN O2 TRAINING CERTIFICATIONS
  - D TRANSPORTATION WORKER IDENTIFICATION CREDENTIAL CARD (TWIC)
  - E. CONTRACTORS UNDERWATER WELDING PROCEDURE. DIVERS COMPLETING THE WELDING WILL BE TESTED TO COMPLIANCE WITH THE WELDING PROCEDURE
  - F. UNDERWATER CLEANING PLAN INCLUDING BUT NOT LIMITED TO CLEANING EQUIPMENT, PROCEDURES, AND ALLOWABLE TIME BETWEEN CLEANING PROCESS AND STRUCTURE REHABILITATION
- TESTING AGENCY
  - A. QUALIFICATIONS
- SELECTIVE SITE DEMOLITION
  - A. WORK SEQUENCE
- SURVEY
  - A. EXPERIENCED LAND SURVEYOR QUALIFICATIONS AND SUPERVISION

CONCRETE REINFORCEMENT TENSION DEVELOPMENT AND LAP SPLICE LENGTHS

BAR SIZE	LAP SPLICE CLASS	CONCRETE COVER = 0.75"		CONCRETE COVER = 1.00"		CONCRETE COVER = 1.50"		CONCRETE COVER ≥ 2.00"	
		TOP	OTHER	TOP	OTHER	TOP	OTHER	TOP	OTHER
#3	A	12	12	12	12	12	12	12	12
	B	16	16	16	16	16	16	16	16
#4	A	19	15	15	12	15	12	15	12
	B	24	19	20	16	20	16	20	16
#5	A	28	21	22	17	19	15	19	15
	B	36	28	29	22	24	19	24	19
#6	A	37	29	31	24	22	17	22	17
	B	48	37	40	31	29	22	29	22
#7	A	60	46	50	38	37	28	33	25
	B	78	60	64	50	48	37	42	33
#8	A	74	57	62	48	47	36	37	29
	B	96	74	80	62	60	47	48	37
#9	A	90	69	76	58	57	44	46	36
	B	117	90	98	76	74	57	60	46
#10	A	108	83	92	70	70	54	57	44
	B	140	108	119	92	91	70	74	57
#11	A	127	98	108	83	84	64	68	53
	B	165	127	141	108	109	84	89	68

NOTES:
1. TABULATED VALUES ARE BASED ON GRADE 60 UNCOATED REINFORCING BARS AND 4000 PSI NORMAL WEIGHT CONCRETE. LENGTHS ARE IN INCHES.
2. TENSION DEVELOPMENT LENGTH AND LAP SPLICE LENGTHS ARE CALCULATED PER ACI 318-11, SECTIONS 12.2.3 AND 12.15.
3. TENSION DEVELOPMENT LENGTH = 1.0 X CLASS A LAP SPLICE
4. FOR 3000 PSI AND 5000 PSI CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.16 AND 0.90 RESPECTIVELY.
5. BAR ℄ – ℄ SPACING WAS ASSUMED TO BE GREATER THAN TWICE THE CONCRETE COVER PLUS ONE BAR DIAMETER.
6. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
7. FOR LIGHTWEIGHT AGGREGATE CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.
8. FOR EPOXY COATED REBAR, MULTIPLY THE TABULATED VALUES BY 1.2.
9. FOR LAP SPLICE LENGTHS IN MASONRY SEE MASONRY NOTES.
10. COVER IS CLEAR DISTANCE FROM THE CONCRETE SURFACE TO OUTERMOST SURFACE OF REINFORCING.

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TWIN CITIES - IRON RANGE

PRELIMINARY NOT FOR CONSTRUCTION

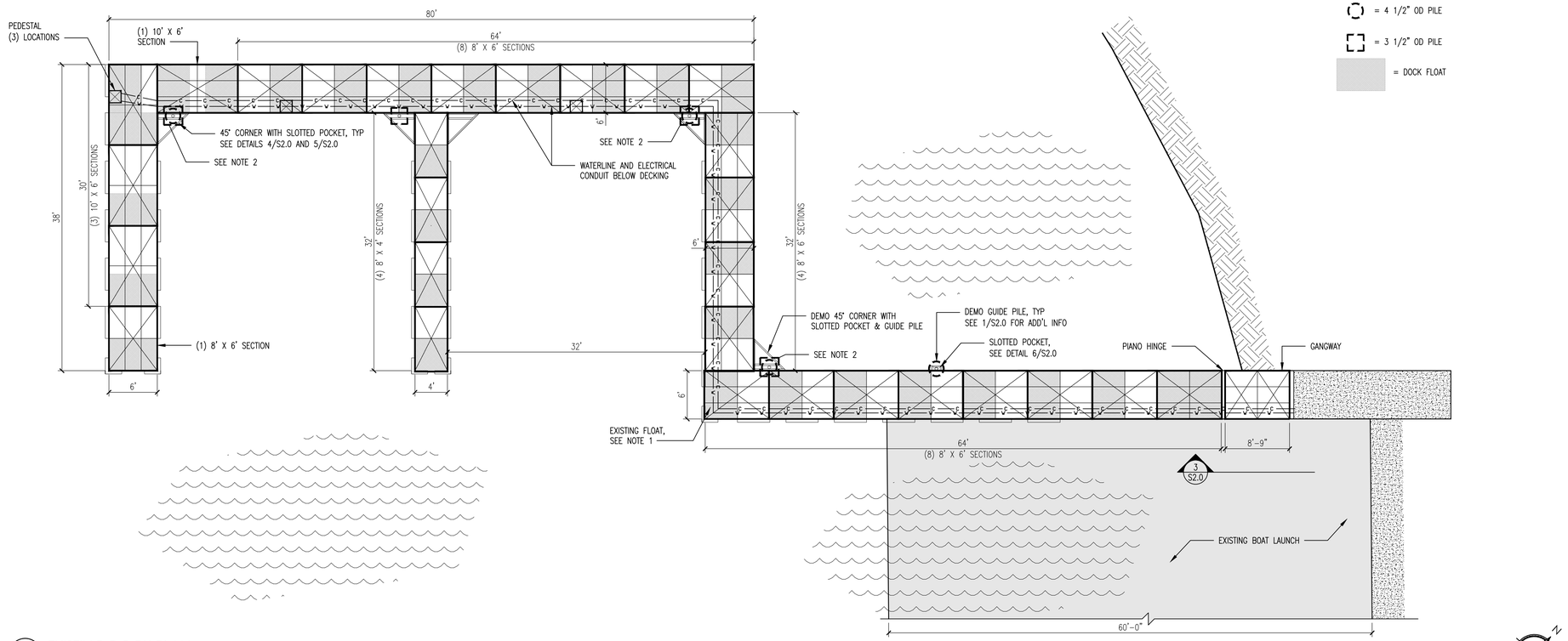
DATE:	REV:	DESCRIPTION	REV. BY:

WASHBUN MARINA
DOCK MODIFICATIONS
1 MARINA DRIVE
WASHBUN, WISCONSIN

GENERAL NOTES

JOB No: 221014
DATE:
DRAWN BY: SAJ
DESIGNED BY: KKM

SHEET:
S0.0



KEY:

= 4 1/2" OD PILE

= 3 1/2" OD PILE

= DOCK FLOAT

1 / S1.0 EXISTING DOCK PLAN

SCALE: 1/8" = 1'-0"

1. SEVERAL OF THE FLOATS HAVE BECOME DISCONNECTED FROM THE STEEL FRAME. CONTRACTOR SHALL RECONNECT FLOATS TO FRAME PER MANUFACTURER'S RECOMMENDATIONS
2. ADDITIONAL 3 1/2"O.D. PIPE ADDED TO ADDITIONAL SUPPORT BY OWNER. SEE 5/S2.0 FOR ADDITIONAL INFORMATION.

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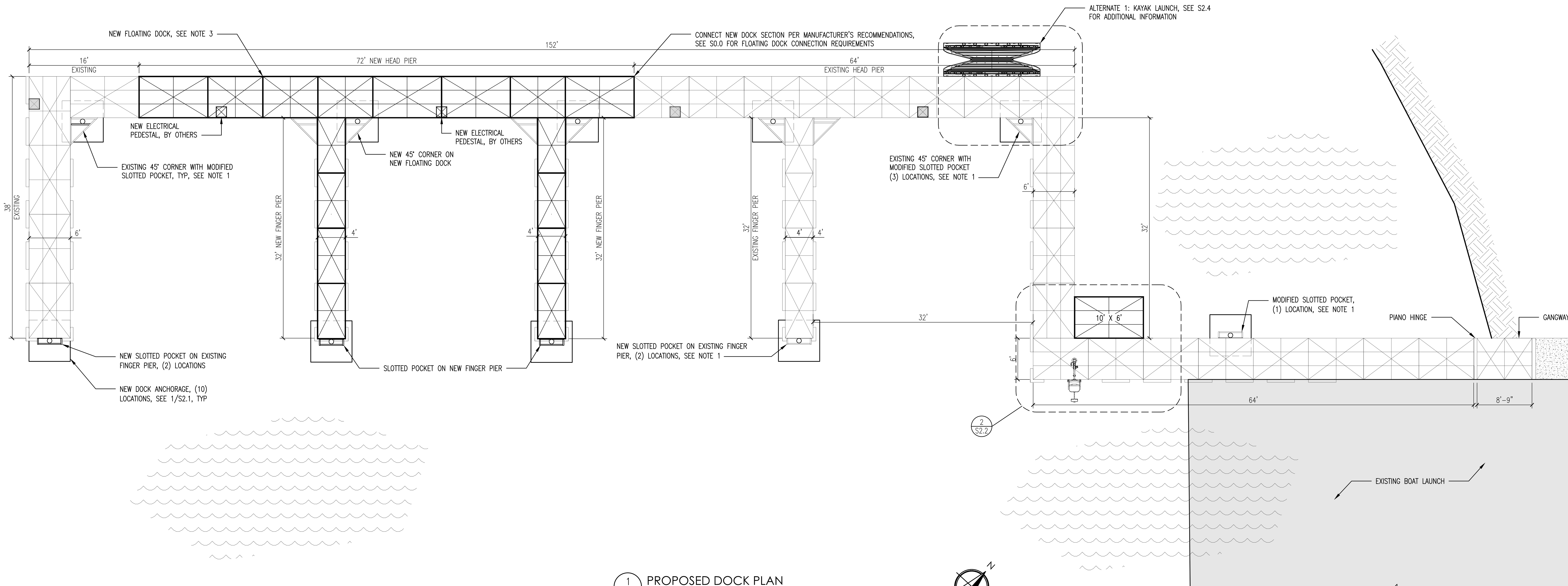
DATE:	REV:	DESCRIPTION	REV. BY:

WASHBURN MARINA
DOCK MODIFICATIONS
1 MARINA DRIVE
WASHBURN, WISCONSIN

EXISTING DOCK PLAN

JOB No: 221014
DATE:
DRAWN BY: SAJ
DESIGNED BY: KKM

SHEET:
S1.0



1 S1.1 PROPOSED DOCK PLAN

SCALE: 1/8" = 1'-0"

1. CONTRACTOR SHALL COORDINATE WITH DOCK MANUFACTURER FOR NEW SLOTTED POCKETS AND MODIFICATIONS TO EXISTING SLOTTED POCKETS.
2. DOCK FLOATS NOT SHOWN FOR CLARITY
3. CONTRACTOR SHALL COORDINATE WITH OWNER AND DOCK MANUFACTURER TO MATCH FLOATING DOCK COMPOSITE DECKING. CONTRACTOR SHALL SUBMIT PROPOSED COMPOSITE DECKING TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO PURCHASE.
4. CONTRACTOR SHALL REMOVE DOCK FROM WATER TO FULLY INSPECT DOCKS FOR DAMAGE, MISSING CONNECTION PLATES AND DISCONNECTED FLOATS. CONTRACTOR SHALL REPORT DISCREPANCIES TO OWNER AND INSTALL MISSING PLATES AND HARDWARE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
5. INDIVIDUAL SIZES OF NEW DOCK SECTIONS ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR IS RESPONSIBLE FOR SIZE AND NUMBER OF NEW DOCK SECTIONS.
6. MODIFICATIONS TO EXISTING UTILITIES ARE TO BE COMPLETED BY OTHERS.

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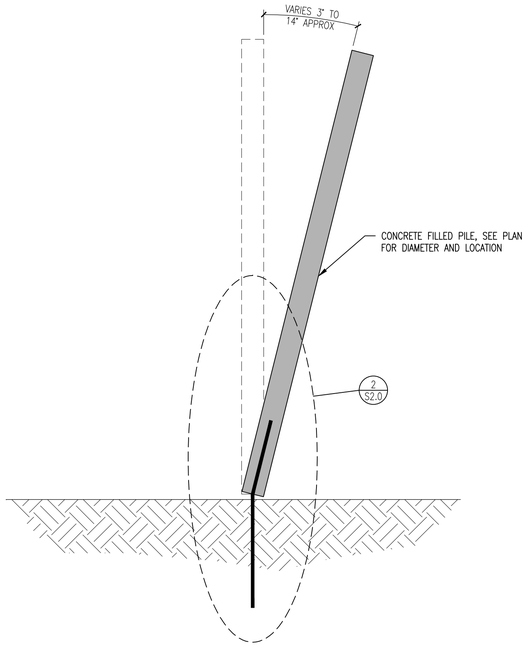
REV. BY: | DESCRIPTION | REV: | DATE:

WASHBURN MARINA DOCK MODIFICATIONS
1 MARINA DRIVE
WASHBUN, WISCONSIN

PROPOSED DOCK PLAN

JOB No: 221014
DATE:
DRAWN BY: SAJ
DESIGNED BY: KKM

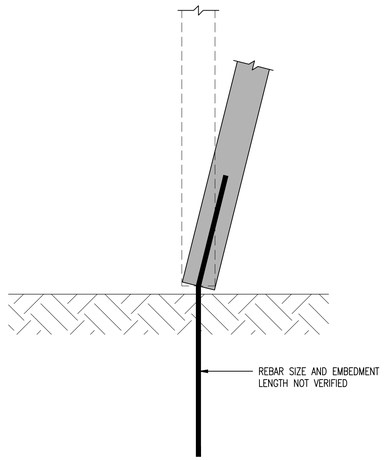
SHEET: S1.1



1 S2.0 EXISTING PILE CONDITION

NTS

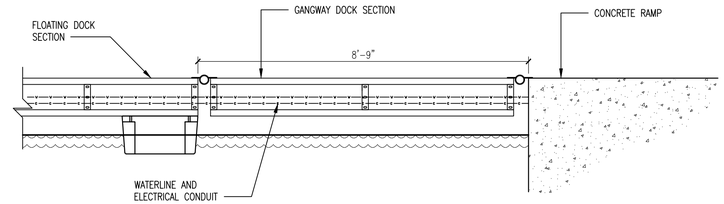
1. CONSTRUCTION OF EXISTING MOORNG PILE NOT VERIFIED AND BASED ON INFORMATION PROVIDED BY WASHBURN MARINA PERSONNEL. CONTRACTOR SHALL FIELD VERIFY CONSTRUCTION.



2 S2.0 EXISTING PILE CONDITION DETAIL

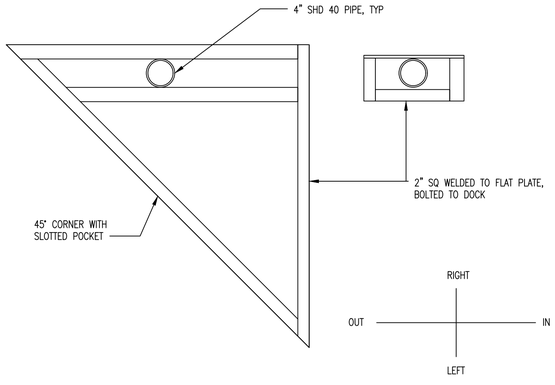
NTS

1. CONSTRUCTION OF EXISTING MOORNG PILE NOT VERIFIED AND BASED ON INFORMATION PROVIDED BY WASHBURN MARINA PERSONNEL. CONTRACTOR SHALL FIELD VERIFY CONSTRUCTION.



3 S2.0 EXISTING GANGWAY DETAIL

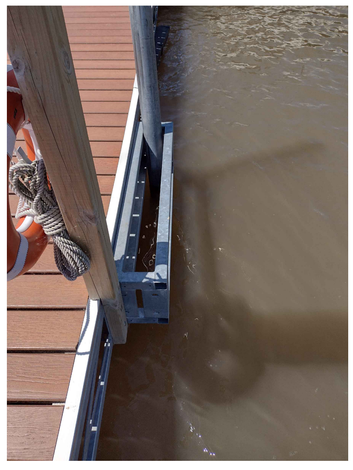
SCALE: 1/2" = 1'-0"



4 S2.0 EXISTING SLOTTED POCKET DETAILS

SCALE: 1" = 1'-0"

5 S2.0 EXITING 45° CORNER W/ SLOTTED POCKET



6 S2.0 EXISTING SLOTTED POCKET

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PRELIMINARY NOT FOR CONSTRUCTION

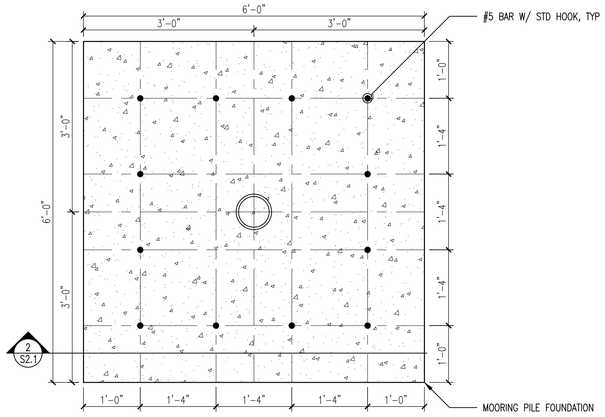
DATE:	REV:	DESCRIPTION	REV. BY:

WASHBURN MARINA
DOCK MODIFICATIONS
1 MARINA DRIVE
WASHBUN, WISCONSIN

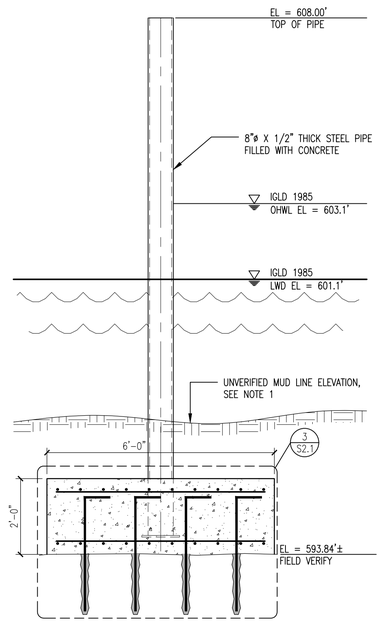
EXISTING DOCK DETAILS

JOB No: 221014
DATE:
DRAWN BY: SAJ
DESIGNED BY: KKM

SHEET:
S2.0

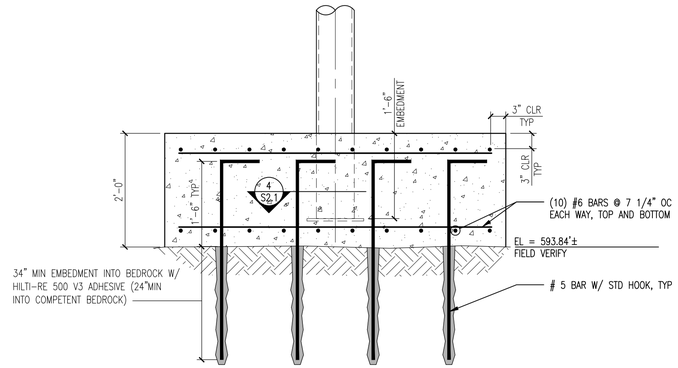


1 S2.1 MOORING PILE PLAN VIEW
SCALE: 1/2" = 1'-0"



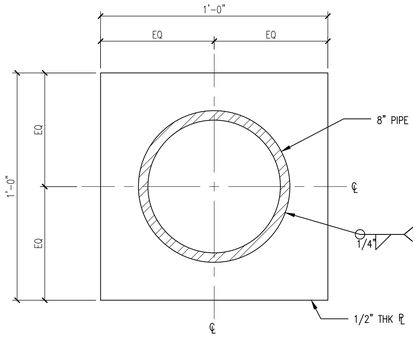
2 S2.1 MOORING PILE SECTION
SCALE: 1/2" = 1'-0"

1. HISTORICAL DOCUMENTS INDICATE THAT DREDGING WAS ONLY COMPLETED WITHIN THE LIMITS OF THE EXISTING DOCK FOOTPRINT. DREDGING OF MARINA FOR THE PROPOSED EXPANSION IS NOT INCLUDED AS PART OF THIS SCOPE OF WORK. SEE HISTORICAL DOCUMENTS FOR ADDITIONAL INFORMATION.



3 S2.1 MOORING PILE FOUNDATION SECTION
SCALE: 1/2" = 1'-0"

1. CONTRACTOR SHALL REMOVE LOOSE SEDIMENT TO BEDROCK AND REMOVE ALL LAYERS OF WEAK AND FRACTURED BEDROCK PRIOR TO INSTALLATION OF HOOKED BARS.
2. EPOXY ADHESIVE SHALL BE HILTI HIT-RE 500 V3 OR APPROVED EQUAL. EPOXY SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.



4 S2.1 MOORING PILE BASE PLATE
SCALE: 3" = 1'-0"

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PRELIMINARY
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REV. BY:	DESCRIPTION	REV:	DATE:

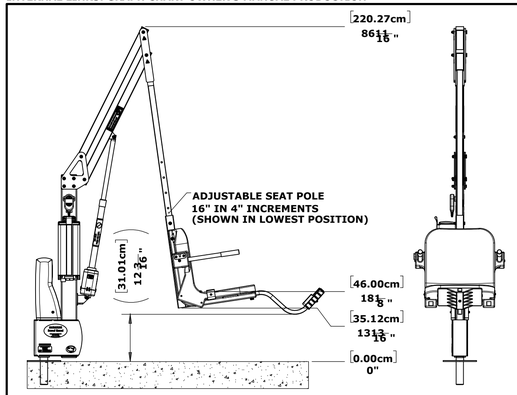
WASHBURN MARINA
DOCK MODIFICATIONS
1 MARINA DRIVE
WASHBURN, WISCONSIN

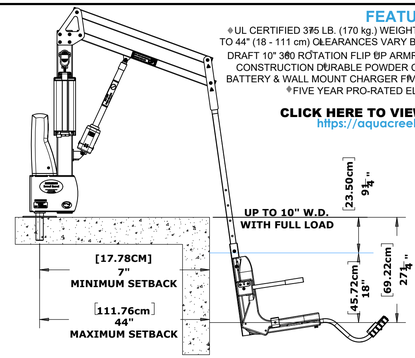
PROPOSED DOCK DETAILS

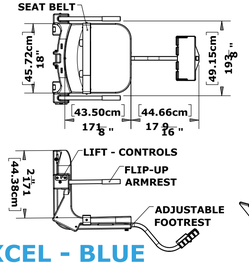
JOB No: 221014
DATE:
DRAWN BY: SAJ
DESIGNED BY: KKM

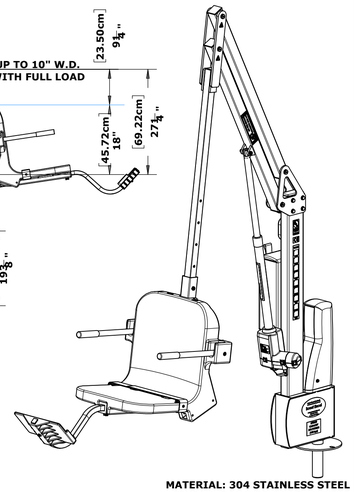
SHEET:
S2.1

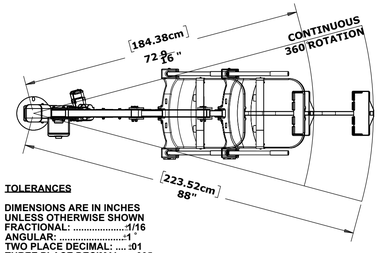
INTERNAL LINKS: GRAPH CHART OWNER'S MANUAL PRODUCTION











TOLERANCES

DIMENSIONS ARE IN INCHES
UNLESS OTHERWISE SHOWN
FRACTIONAL: .....±1/16
ANGULAR: .....±1°
TWO PLACE DECIMAL: ....±01
THREE PLACE DECIMAL: ..±005

FEATURES

- UL CERTIFIED 375 LB. (170 kg.) WEIGHT CAPACITY SETBACK RANGE 7" TO 44" (18 - 111 cm) CLEARANCES VARY BY WALL HEIGHT & WIDTH WATER DRAFT 10" 360 ROTATION FLIP UP ARMREST ALL STAINLESS STEEL CONSTRUCTION DURABLE POWDER COAT FINISH RECHARGEABLE BATTERY & WALL MOUNT CHARGER FIVE YEAR STRUCTURAL WARRANTY
- FIVE YEAR PRO-RATED ELECTRONICS WARRANTY

CLICK HERE TO VIEW THIS PRODUCT:
https://aquacreekproducts.com

SCOUT EXCEL - BLUE

F-SCTXL
PART NO. INV02394

MATERIAL: 304 STAINLESS STEEL
FINISH: POWDER COAT - WHITE
APPROX. WEIGHT: 193.97 LBS.

SCOUT EXCEL - BLUE - INV02394

P2

SCALE 1:18

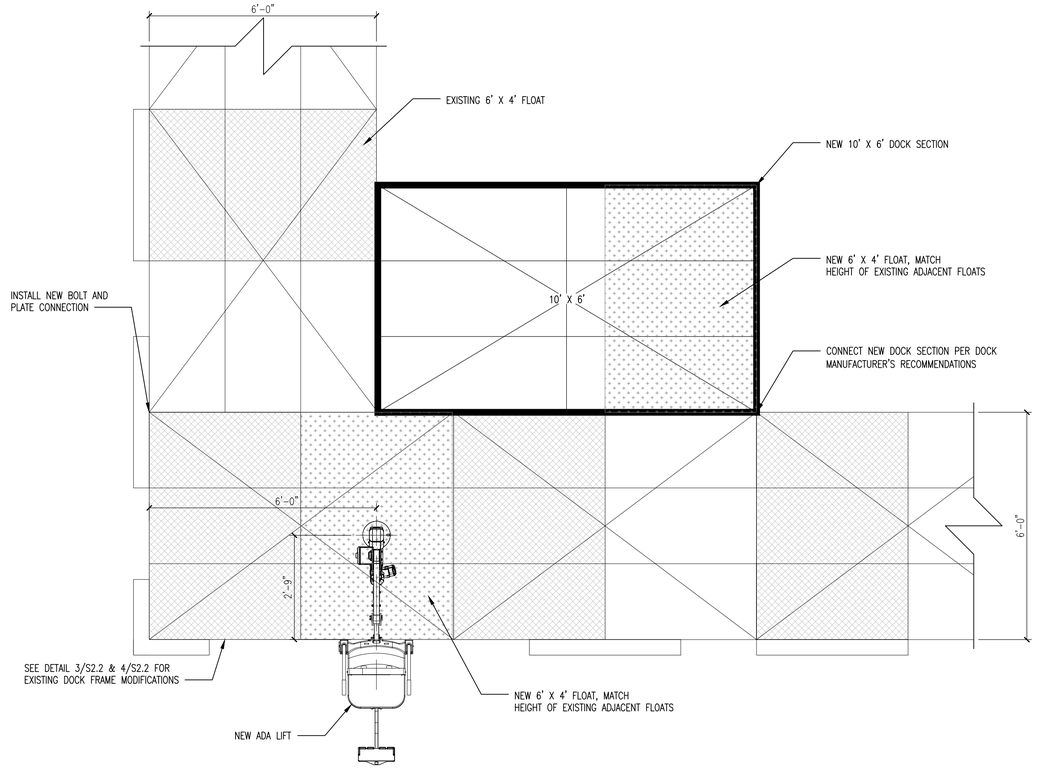
SHEET 1

9889 GARRYMORE LANE
MISSOULA, MT 59808
(406) 549-0769
FAX (406) 549-2602
www.AquaCreek.com

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
P1	INITIAL RELEASE	3/30/2021	J.MAXWELL
P2	ENCLOSED LOWER CASING	2/28/2022	J.MAXWELL

P2 - Monday, April 4, 2022 8:09:41 AM

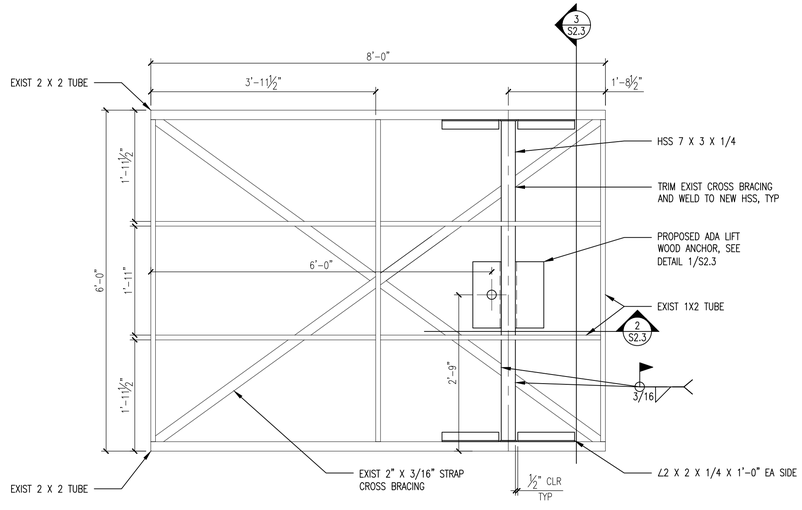


1 S2.2 ADA LIFT

1. ACCEPTABLE PRODUCT INCLUDES AQUA CREEK PRODUCTS SCOUT EXCEL AND OTHERS, AS APPROVED. CONTRACTOR SHALL SUBMIT ALTERNATIVE PRODUCTS TO OWNER FOR REVIEW AND APPROVAL.

2 S2.2 ADA LIFT - DOCK MODIFICATION PLAN

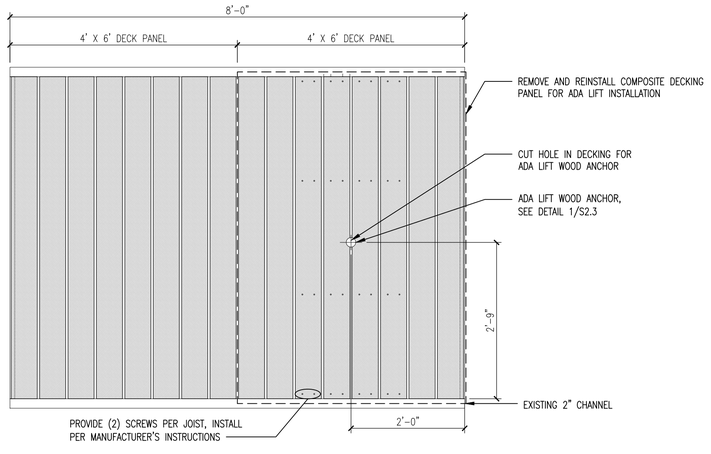
1/2" = 1'-0"



3 S2.2 6 X 8 DOCK FRAME MODIFICATION PLAN

3/4" = 1'-0"

1. DOCK MODIFICATIONS FOR AQUA CREEK PRODUCTS SCOUT EXCEL AND WOOD ANCHOR. CONTRACTOR SHALL DESIGN MODIFICATIONS IF ALTERNATE PRODUCTS ARE PROPOSED.
2. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ADA CHAIR PRIOR TO INSTALLATION OF NEW STEEL MEMBERS.



4 S2.2 6 X 8 DOCK DECKING MODIFICATION PLAN

3/4" = 1'-0"

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PRELIMINARY NOT FOR CONSTRUCTION

REV. BY:	DESCRIPTION	REV:	DATE:

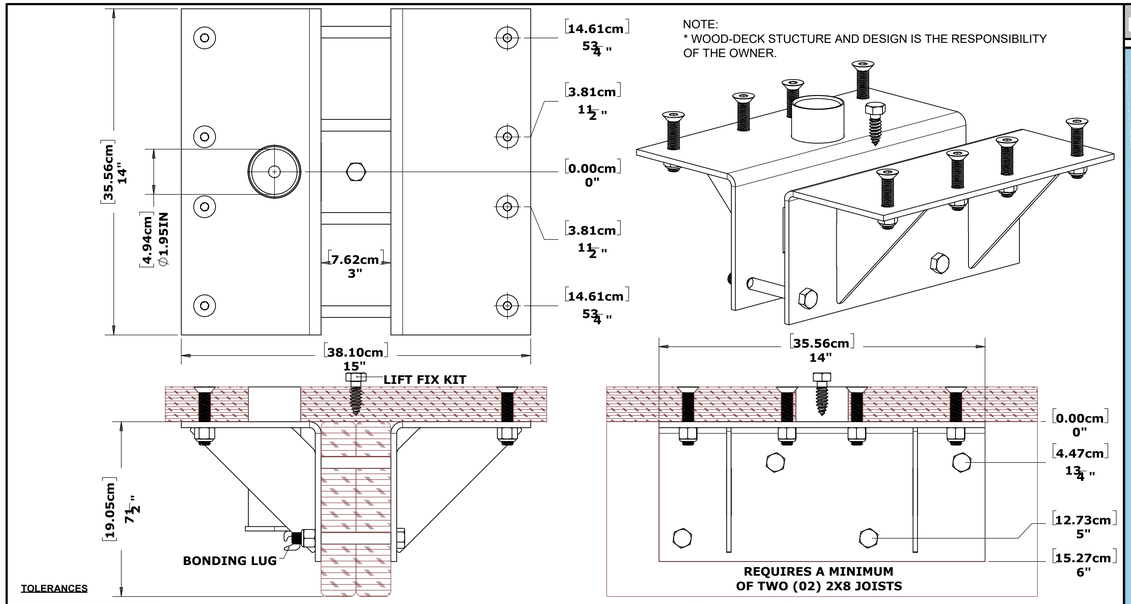
WASHBURN MARINA
DOCK MODIFICATIONS
1 MARINA DRIVE
WASHBURN, WISCONSIN

DOCK MODIFICATION DETAILS
ADA LIFT

JOB No: 221014
DATE:
DRAWN BY: SAJ
DESIGNED BY: KKM

SHEET: S2.2

11/15/2022 9:33 AM
P:\2022\22-014 Washburn Marina Dock Modifications\Marine Structural\3_CAD\DOCK REHAB P-ANS.dwg



NOTE:
* WOOD-DECK STUCTURE AND DESIGN IS THE RESPONSIBILITY OF THE OWNER.

TOLERANCES

DIMENSIONS ARE IN INCHES
UNLESS OTHERWISE SHOWN
FRACTIONAL: 1/16
ANGULAR: .....1°
TWO PLACE DECIMAL: .....:01
THREE PLACE DECIMAL: . .:005

ANCHOR - WOOD DECK - 1.90"X6.00"

F-842SWDA
PART NO. INV01504

MATERIAL: 304 STAINLESS STEEL
FINISH: POWDER COAT - WHITE
APPROX. WEIGHT: 31.13 LBS.

9889 GARRYMORE LANE
MISSOULA, MT 59808
(406) 549-0769
FAX (406) 549-2602
www.AquaCreek.com

*SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

REVISIONS

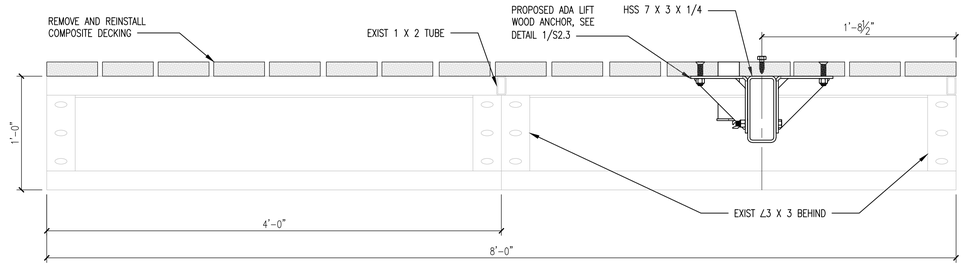
REV.	DESCRIPTION	DATE	APPROVED
P1	INITIAL RELEASE	6/3/2021	J.MAXWELL
P2	MODIFIED DESIGN - ECR-01504-P2	2/24/2022	J.MAXWELL

DRAWN P2
ANCHOR - WOOD DECK - 1.90"X6.00" - INV01504
SCALE 1:3
SHEET 1

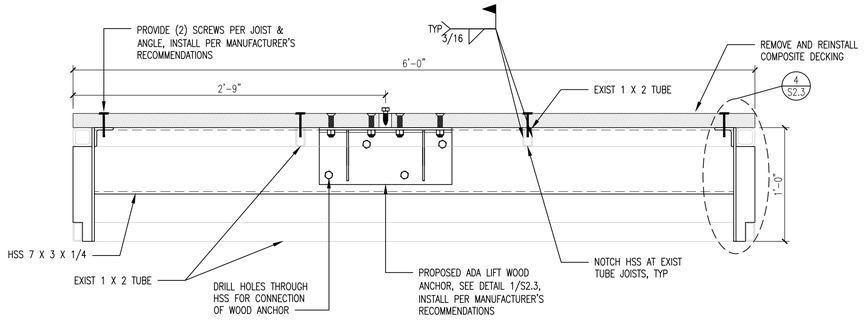
P2 - Friday, May 20, 2022 1:53:34 PM

1 / S2.3 ADA LIFT - WOOD ANCHOR

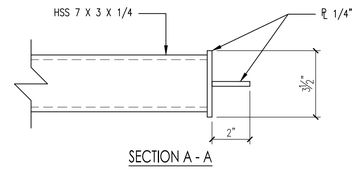
1. ACCEPTABLE PRODUCT INCLUDES AQUA CREEK PRODUCTS, ANCHOR – WOOD DECK AND OTHERS, AS APPROVED. CONTRACTOR SHALL SUBMIT ALTERNATIVE PRODUCTS TO OWNER FOR REVIEW AND APPROVAL.



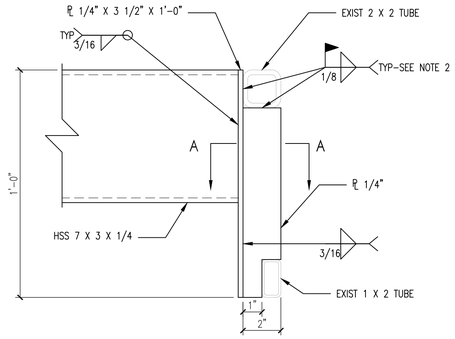
2 / S2.3 6 X 8 DOCK FRAME MODIFICATION SECTION
1 1/2" = 1'-0"



3 / S2.3 6 X 8 DOCK FRAME MODIFICATION SECTION
1 1/2" = 1'-0"



SECTION A - A



4 / S2.3 HSS CONNECTION TO EXISTING DOCK FRAME
3" = 1'-0"

1. DECKING NOT SHOWN FOR CLARITY
2. CONTRACTOR SHALL FIELD VERIFY THICKNESS OF EXISTING STEEL MEMBERS. THE MAXIMUM SIZE OF FILLET WELDS OF CONNECTED PARTS SHALL NOT BE GREATER THAN THE THICKNESS OF THE MATERIAL.
3. CONTRACTOR SHALL REMOVE GALVANIZED FINISH AT FIELD WELD LOCATIONS. FIELD COAT DAMAGED GALVANIZED FINISH AFTER WELDING WITH TWO COATS OF HIGH ZINC DUST OXIDE PAINT, COLD GALVANIZING COMPOUND OR APPROVED EQUAL CONFORMING TO THE REQUIREMENTS OF ASTM A780.

AMI
Consulting Engineers P.A.
91 Main Street SUPERIOR, WI
715.718.2193 - amiengineers.com
TWIN CITIES - IRON RANGE

PRELIMINARY NOT FOR CONSTRUCTION

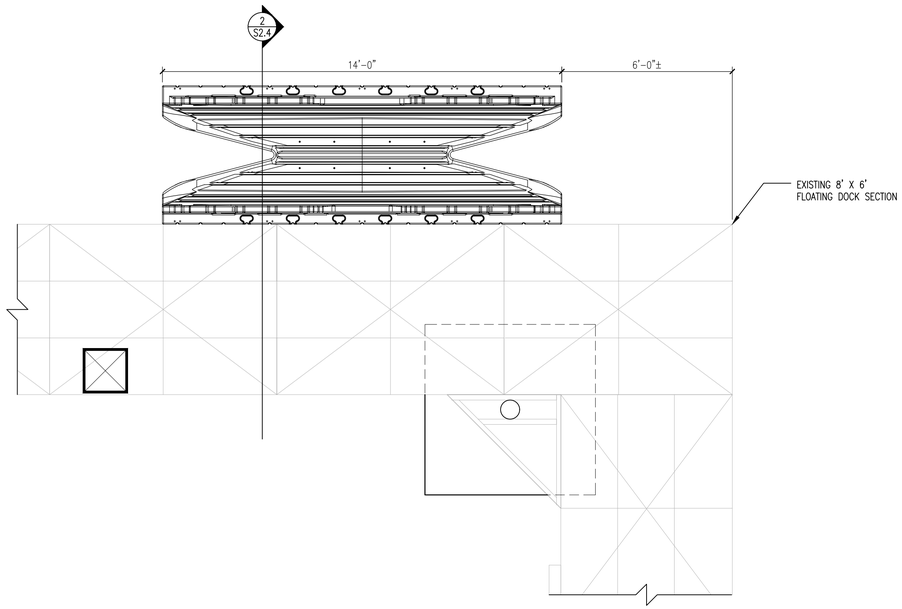
REV. BY:	DESCRIPTION	DATE:

WASHBURN MARINA
DOCK MODIFICATIONS
1 MARINA DRIVE
WASHBURN, WISCONSIN

DOCK MODIFICATION DETAILS - ADA LIFT

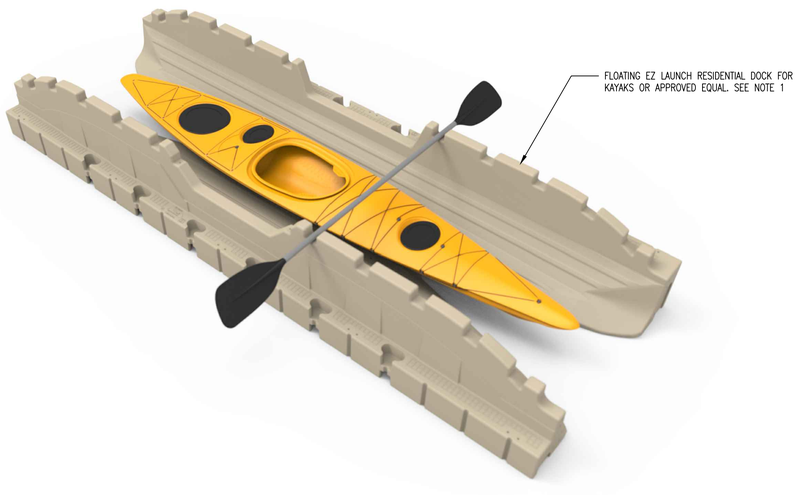
JOB No: 221014
DATE:
DRAWN BY: SAJ
DESIGNED BY: KKM

SHEET: S2.3



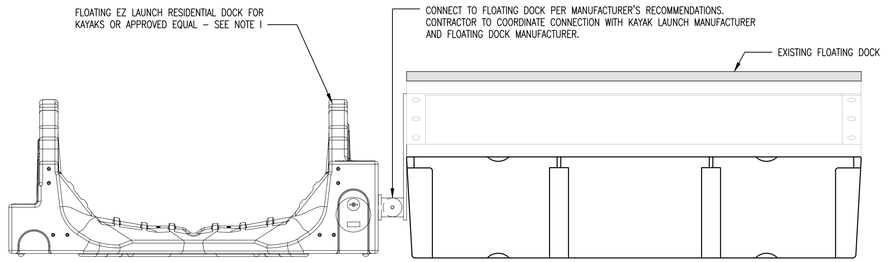
1 S2.4 ALTERNATE 1: KAYAK LAUNCH PLAN

3/8" = 1'-0"



3 S2.4 ALTERNATE 1: KAYAK LAUNCH IMAGE

1. CONTRACTOR SHALL SUBMIT PROPOSED KAYAK LAUNCH TO OWNER FOR REVIEW AND APPROVAL.



2 S2.4 ALTERNATE 1: KAYAK LAUNCH SECTION

1" = 1'-0"

1. CONTRACTOR SHALL SUBMIT PROPOSED KAYAK LAUNCH TO OWNER FOR REVIEW AND APPROVAL.
2. CONNECT KAYAK LAUNCH TO FLOATING DOCK PER MANUFACTURER'S RECOMMENDATIONS. CONTRACTOR SHALL SUBMIT SHOP DRAWING FOR CONNECTION TO OWNER FOR REVIEW AND APPROVAL.

AMI Consulting Engineers P.A.
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TWIN CITIES - IRON RANGE

PRELIMINARY NOT FOR CONSTRUCTION

DATE:	REV:	DESCRIPTION	REV. BY:

WASHBURN MARINA
DOCK MODIFICATIONS
1 MARINA DRIVE
WASHBURN, WISCONSIN

ALTERNATE 1: KAYAK LAUNCH DETAILS

JOB No: 221014
DATE:
DRAWN BY: SAJ
DESIGNED BY: KKM

SHEET:
S2.4

Bayfield County, WI

2016-00609-DWW Drawing10

1/26/2023, 3:34:25 PM

1:1,566

0 0.02 0.04 0.07 mi

0 0.03 0.06 0.12 km

Bayfield

Lake Superior

1

2

3

Rivers

Meander Lines

Approximate Parcel Boundary

Municipal Boundary

All Roads

Town

Survey Maps

Recorded Map

Building Footprint 2009-2015

Existing

Buildings

2016-00609-DWW Drawing11

Bayfield County, WI

1/26/2023, 2:58:54 PM

Rivers
Meander Lines
Approximate Parcel Boundary
Section Lines
Municipal Boundary

All Roads
County
Town

Survey Maps
UnRecorded Map
Recorded Map

Corner Tie Sheets
Section Corner Monument on File

Building Footprint 2009-2015
Changed
Demolished
Existing
New

Driveways
Buildings

1:3,132

0 0.04 0.07 0.15 mi
0 0.05 0.1 0.2 km

Bayfield

Bayfield County Land Records Department
https://maps.bayfieldcounty.wi.gov/BayfieldWAB/