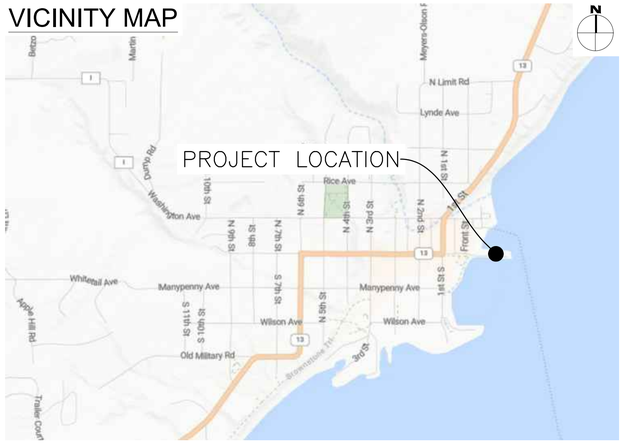
BAYFIELD MARINA
FINGER PIER REPLACEMENT
BAYFIELD, WI

VICINITY MAP



PROJECT AERIAL

PLAN HATCHES:

- UTILITY TRENCH
- CONCRETE PIER PAVEMENT
- BITUMINOUS PAVEMENT
- RUB RAIL
- STEEL SHEET PILE WITH CHANNEL CAP
- FENCE/GUARDRAIL
- BUILDING
- DECK
- ARMOR STONE REVETMENT
- STEEL GALVANIZED FRAME FLOATING DOCK
- DECKING PAVEMENT REMOVAL
- REMOVE DECKING PAVEMENT AND STRUCTURE BELOW

PLAN SYMBOLS:

- SS — STORM SEWER CATCH BASIN
- CLEAT
- SAFETY LADDER
- UTILITY PEDESTAL
- LIGHT POLE

GOVERNING SPECIFICATIONS

THE 2025 EDITION OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE CURRENT VERSION OF THE **CITY OF BAYFIELD** STANDARD CONSTRUCTION SPECIFICATIONS SHALL GOVERN.

SHEET INDEX

OWNER

CITY OF BAYFIELD HARBOR COMMISSION

OWNER REPRESENTATIVE CONTACT

MICHELLE WETMORE-SHRIDER
MAWSHRIDER@YAHOO.COM
125 SOUTH FIRST STREET
BAYFIELD, WI 54814
715.209.7455

DESIGN TEAM

AMI CONSULTING ENGINEERS, P.A.
MARINE STRUCTURAL

CHASE DEWHIRST
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MECHANICAL

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SUB-CONSULTANT

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ELECTRICAL

GARY LOFTIS
GARY@MAFFETT-LOFTIS.COM
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COOKEVILLE, TN 38501
931.526.5143

Know what's **below.** **Call** before you dig.

THE LOCATIONS OF UNDERGROUND UTILITIES HAVE BEEN PROVIDED BY THE UTILITY OWNER, ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING CONSTRUCTION PER STATE LAW.

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91 MAIN STREET, SUPERIOR, WI
651.344.8783 - amiengineers.com
SUPERIOR - IRON RANGE - TWIN CITIES

THESE DOCUMENTS ARE PRELIMINARY AND NOT FOR CONSTRUCTION

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

NAME: _____ SIGNATURE: _____ DATE: _____ LICENSE NUMBER: XXXX

DATE:	REV:	DESCRIPTION	REV. BY:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814
COVER SHEET

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET: G0.0

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). THE IGLD LOW-WATER DATUM IS 601.1 FT. EXISTING WATER ELEVATIONS MAY VARY ABOVE AND BELOW THE LWD THROUGHOUT THE DURATION OF THE PROJECT. VARIATIONS ABOVE 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.
- ALL MATERIALS AND INSTALLATION MUST MEET THE STANDARD SPECIFICATIONS LISTED IN THE DESIGN CRITERIA SECTION OF THE STRUCTURAL NOTES AND THE PROJECT SPECIFICATIONS.
- THE MARINE/STRUCTURAL DRAWINGS ARE TO BE WORKED TOGETHER WITH MECHANICAL, STRUCTURAL, ELECTRICAL, CIVIL DRAWINGS AND SPECIFICATIONS FOR ALL INTER-DISCIPLINE INTERFACE WORK WHICH MAY NOT BE INCLUSIVE ON THE MARINE/STRUCTURAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION AND SHALL REPORT ANY DISCREPANCY TO THE ENGINEER PRIOR TO COMMENCING THE WORK.
- 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, AND ELEVATIONS INDICATED IN THE CONTRACT DOCUMENTS SHALL BE FIELD VERIFIED AS SITE CONDITIONS MAY HAVE CHANGED SINCE THE LAST INSPECTION BY THE ENGINEER. ANY VERIFIED CONDITIONS THAT DIFFER FROM THOSE 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 MARINE/STRUCTURAL NOTES GIVEN IN THE CONSTRUCTION DOCUMENTS MAY NOT BE INCLUSIVE TO THE ENTIRE PROJECT. SEE FULL PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- CONTRACTOR IS RESPONSIBLE FOR SUBMITTING A SITE SAFETY AND SITE CONTINGENCY PLAN, AND RESPONSE ACTION PLAN ADDRESSING THE REQUIREMENTS SET FORTH IN 29 CFR 1910.120.
- ALL CONSTRUCTION MATERIALS, STRUCTURAL STEEL, STEEL SHEET PILE, AND COATINGS SHALL BE AMERICAN MINED AND SOURCED.

DESIGN CRITERIA

- CODES AND SPECIFICATIONS

  ALL DESIGN, UNLESS OTHERWISE NOTED, ARE IN ACCORDANCE WITH THE FOLLOWING:

  I. 2015 WISCONSIN BUILDING CODE
  II. 2015 INTERNATIONAL BUILDING CODE
  III. ASCE 7-10: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES WITH SUPPLEMENT NO. 1
  IV. ACI 318-14: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
  V. AISC 360-10: SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS
  VI. GREAT LAKES SMALL-CRAFT HARBOR AND STRUCTURE DESIGN FOR ICE CONDITIONS: AN ENGINEERING MANUAL
  VII. UFC 4-152-01 DESIGN OF PIERS AND WHARVES
  VIII. ASCE MOP 50 PLANNING AND DESIGN GUIDELINES FOR SMALL CRAFT HARBORS
  IX. US ARMY CORPS OF ENGINEERS – COASTAL ENGINEERING MANUAL-PART II
  X. PIANC GUIDELINES FOR THE DESIGN OF FENDER SYSTEMS 2002
  XI. UFC 4-159-03 MOORING
  XII. FHWA WAVE FORCES ON BRIDGE DECKS
  XIII. USACE SHORE PROTECTION MANUAL

- DESIGN LOADS
  - A. LIVE LOADS

FIXED PIER:	100 PSF
FLOATING DOCKS:	40 PSF
WIND SPEED FOR DOCK & DOLPHIN STRUCTURES:	105 MPH 3 SEC GUST
PRIMARY DOCK SURCHARGE:	220 PSF TO 1000 PSF
STRIP LOAD:	100 PSF
HEAVY EQUIPMENT LOAD:	CAT 365LC EXC & WEIGHT = 145,000 LBS
CRANE PAD:	100 TON CAPACITY SUPPORT AT 4 POINTS
ICE IMPACT LOAD:	8 KIPS
ICE JACKING FORCE:	50 KIPS
SERVICE VEHICLE LOAD:	4000 LBS MAX WHEEL LOAD

  - B. SNOW LOADS

GROUND SNOW LOAD:	60 PSF

  - C. FOR MOORING DESIGN, WIND PRESSURE ON VESSEL BASED ON WIND PRESSURES SHOWN ABOVE WHILE DOCKED.
  - D. A DESIGN VESSEL IMPACT VELOCITY OF 0.8 FEET PER SECOND AND A 10° APPROACH ANGLE WERE USED TO DETERMINE THE TOTAL BERTHING IMPACT ENERGY FOR EACH VESSEL.
  - E. 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. DESIGN VESSEL PROPERTIES:

LENGTH OVERALL:	64.8 FT (19.8 M)
BEAM:	28 FT (8.5 M)
BREADTH MOLDED:	35 FT (11 M)
DEPTH MOLDED:	22 FT (6.8 M)
DRAFT, DESIGN, MOLDED:	15 FT (4.6 M)

PERMITS

- THE FOLLOWING PERMITS/APPROVALS HAVE BEEN OBTAINED FOR THIS PROJECT:
  - A. DNR PERMIT FOR DOCK REHABILITATION – PENDING
  - B. ARMY CORPS OF ENGINEERS PERMIT FOR DOCK REHABILITATION AND DREDGING – PENDING
  - C. DNR PERMIT FOR DREDGING – PENDING
- CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL DISPOSAL, OR LOCAL PERMITTING NECESSARY BEFORE THE START OF THE PROJECT.

WORK SCHEDULE & DELAYS

- ALL DOCK CONSTRUCTION MUST BE COMPLETED DURING SCHEDULED DOWN TIME PERIODS TO PREVENT INTERFERENCE WITH PIER/DOCK OPERATIONS. THE CONTRACTOR SHALL COORDINATE WITH DOCK OWNER TO SCHEDULE WORK.
- THE CONTRACTOR SHOULD ANTICIPATE THREE VESSELS UNLOADING DURING CONSTRUCTION AND ASSUME ONE DAY OF STANDBY TIME PER VESSEL FOR DREDGING AND/OR PILE DRIVING OPERATIONS.
- THE FOLLOWING SCHEDULE MILESTONES MUST BE MET:

  APRIL 27, 2018: COMPLETION AND ACCEPTANCE BY ENGINEER/OWNER OF DOCK WALL AND ANCHORAGE SYSTEM, BOLLARD FOUNDATION AND ANCHORAGE SYSTEM, AND FENDERING SYSTEM.

  JUNE 1, 2018: COMPLETION AND ACCEPTANCE BY ENGINEER/OWNER OF PROJECT.
- ALL WORK THAT MAY BE CONSIDERED A PUBLIC NOISE NUISANCE AS DETERMINED BY ENGINEER/OWNER (E.G. PILE DRIVING) SHALL BE PERFORMED BETWEEN 7:00 AM AND 7:00 PM. NO PUBLIC NOISE NUISANCE WORK MAY BE PERFORMED OUTSIDE OF THESE HOURS UNLESS APPROVED BY ENGINEER/OWNER.
- LIQUIDATED DAMAGES WILL BE $1,000 PER CALENDAR DAY FOR EVERY CALENDAR DAY THAT SCHEDULE MILESTONES ARE NOT MET. CONSEQUENTIAL DAMAGES WILL BE CHARGE TO CONTRACTOR IF WORK IS NOT COMPLETED AND ACCEPTED BY JUNE 15, 2018.

VIBRO COMPACTION

- VIBRO COMPACTION WILL BE REQUIRED FOR ALL MATERIAL PLACED IN WATER DEPTHS GREATER THAN ONE FOOT.
- CONTRACTOR SHALL SUBMIT VIBRO COMPACTION EQUIPMENT AND PROCEDURE FOR APPROVAL PRIOR TO STARTING WORK.

CLEATS

- UNLESS OTHERWISE NOTED, NEW CAST STEEL CLEATS SHALL BE MODEL #1460-24 PROVIDED BY SCHOELLHORN-ALBRECHT OR APPROVED EQUAL AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- CLEAT SHALL BE MADE OF CAST STEEL MEETING ASTM A27 GRADE 70-36.

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
  - H. JOINT LAYOUT
  - I. COMPRESSIBLE FILLER BOARD
  - J. SILICONE JOINT SEALER
  - K. CONCRETE FINISH
- STRUCTURAL STEEL & SHEET PILING
  - A. PLAN FOR CLEARING THE DRIVING LINE OF OBSTRUCTIONS.
  - B. SHOP DRAWINGS INCLUDING MEMBER SIZES, LENGTHS, CUT & CONNECTIONS DETAILS, LENGTHS, SIZE, & NUMBER OF BOLTS, AND WELD SIZE, TYPE, LENGTH, & LOCATION.
  - C. AWS D1.1 WELDING CERTIFICATES FOR PERSONNEL PERFORMING WELDING
  - D. MATERIAL SPECIFICATIONS FOR STRUCTURAL SHAPES AND STEEL PLATES
  - E. DAILY FIELD QUALITY CONTROL REPORTS INCLUDING PILE DRIVING LOGS, PILE DRIVING EQUIPMENT, VERTICAL AND HORIZONTAL ALIGNMENT VERIFICATIONS, FINAL TIP AND CUTOFF ELEVATIONS, OBSTRUCTIONS ENCOUNTERED WHILE DRIVING, HOURS WORKED, ETC. THE DAILY FIELD QUALITY CONTROL REPORT SHALL BE SUBMITTED THE SAME DAY THE WORK WAS PERFORMED.
  - F. INSTALLER QUALIFICATIONS
  - G. CERTIFIED COPIES OF MILL TEST REPORTS
  - H. BASELINE DRIVING LANE
  - I. PAINT AND PRIMER MATERIAL SPECIFICATIONS
  - J. PILE TESTING PROCEDURE
  - K. STEEL SHEET PILE CLOSURE PLATE DESIGN AND DRAWINGS
  - K. TESTING AND INSTALLATION PROCEDURE FOR PRE-TENSIONED BOLTS
- 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
- VIBRO COMPACTION
  - A. VIBRO COMPACTION EQUIPMENT AND PROCEDURE
- CLEATS
  - A. PRODUCT DATA AND TECHNICAL SPECIFICATION
  - B. CLEAT LOAD RATING AND CERTIFICATE OF CONFORMANCE
  - C. PAINT AND PRIMER SPECIFICATIONS FOR CLEAT
- SITE SAFETY AND SITE CONTINGENCY PLAN
  - A. CONTRACTOR IS RESPONSIBLE FOR SUBMITTING A SITE SAFETY AND SITE CONTINGENCY PLAN, AND RESPONSE ACTION PLAN ADDRESSING THE REQUIREMENTS SET FORTH IN 29 CFR 1910.120
- TESTING AGENCY
  - A. QUALIFICATIONS
- SELECTIVE SITE DEMOLITION
  - A. WORK SEQUENCE
- SURVEY
  - A. EXPERIENCED LAND SURVEYOR QUALIFICATIONS AND SUPERVISION

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PRELIMINARY NOT FOR CONSTRUCTION

NAME: XXXX
SIGNATURE:
DATE:
LICENSE NO. XXXX

DATE:	REV:	DESCRIPTION	REV. BY:

BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

MARINE NOTES

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CG0.0

CONCRETE REINFORCEMENT PROTECTION

EXPOSURE	STRUCTURAL ELEMENTS	BAR SIZE	CLEAR COVER
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	ALL	ALL	3"
CONCRETE EXPOSED TO EARTH OR WEATHER	ALL	NO. 6 THRU NO. 18 BARS NO. 5 BAR, W31 OR D31 WIRE AND SMALLER	2" 1 1/2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	SLABS, WALLS, JOISTS	NO. 14 AND NO. 18 BARS NO. 11 BAR AND SMALLER	1 1/2" 3/4"
	BEAMS, COLUMNS	PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS	1 1/2"

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 c. – c. 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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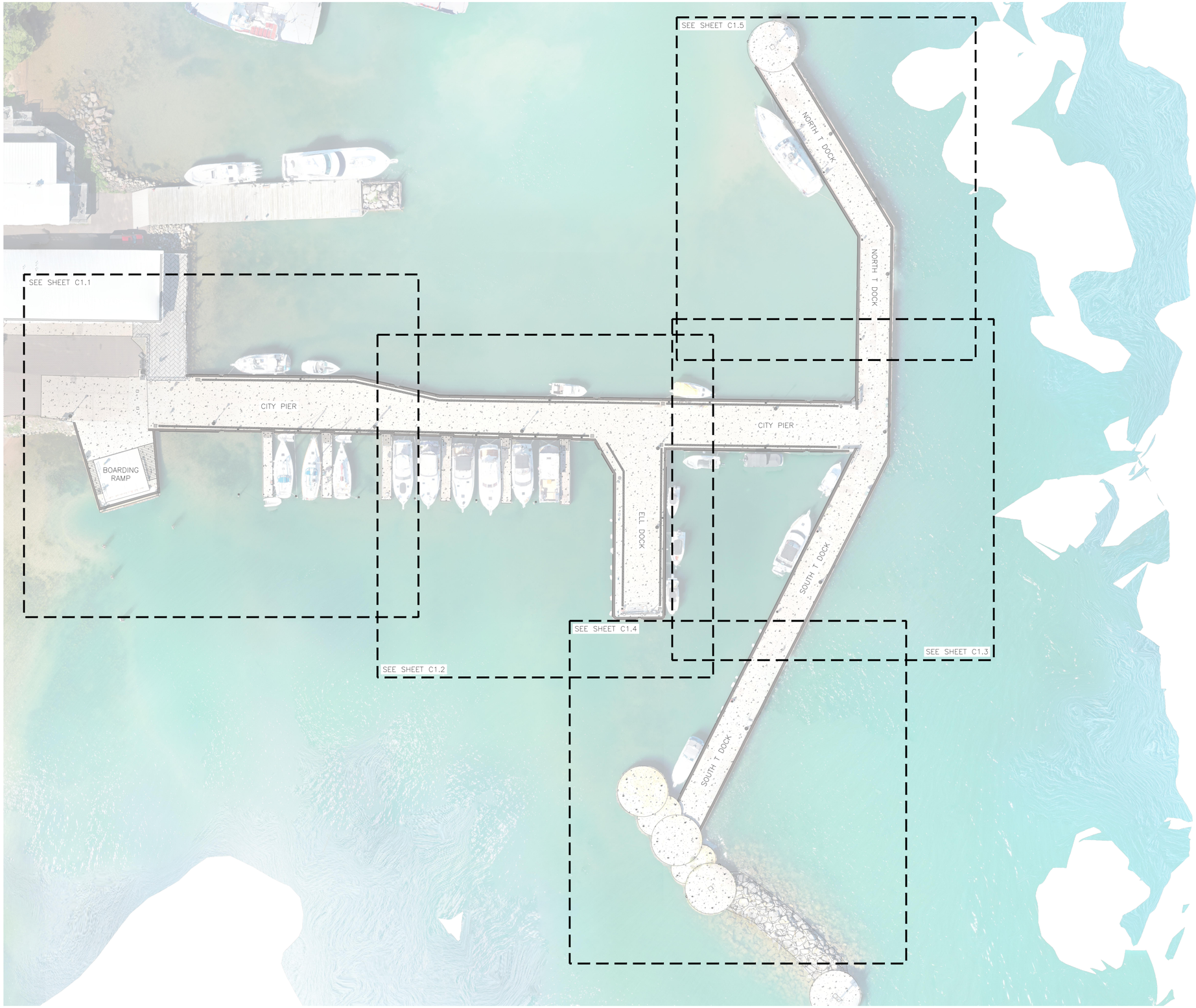

N

0 30 60 Feet

EXISTING CONDITIONS LEGEND

- UTILITY TRENCH
- CONCRETE PIER PAVEMENT
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BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
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EXISTING CONDITIONS OVERVIEW

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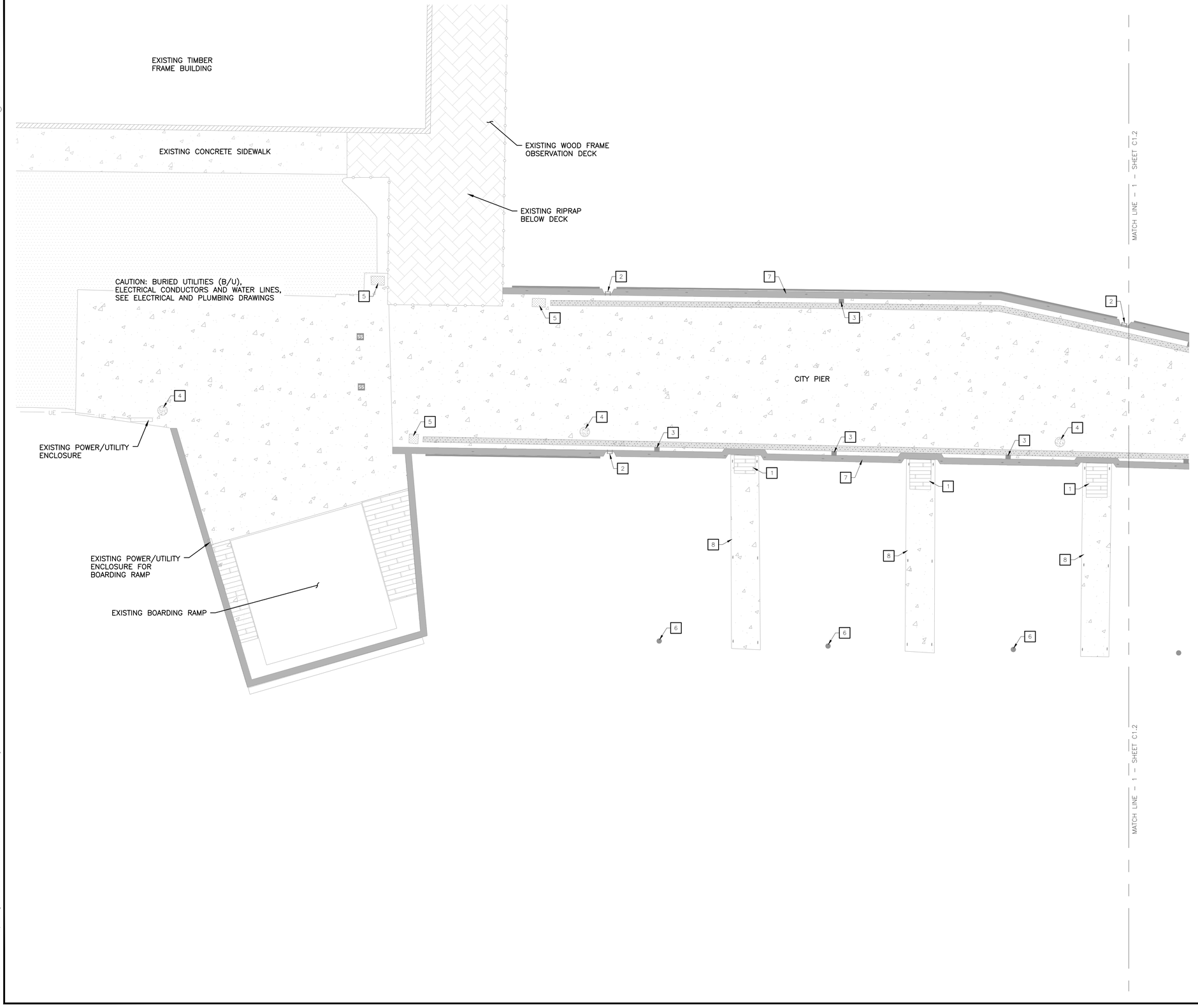

KEY NOTES

1. EXISTING TIMBER RAMP
2. EXISTING SAFETY LADDER
3. EXISTING UTILITY PEDESTAL
4. EXISTING LIGHT POLE
5. EXISTING UTILITY HANDHOLE
6. EXISTING PELICAN PILE
7. EXISTING SHEET PILE WALL TOP OF WALL ELEVATION = 604.95'
8. EXISTING METAL BIN–WALL MOORING PIER (6' WIDE BY 38' LONG) WITH CONCRETE CAP.

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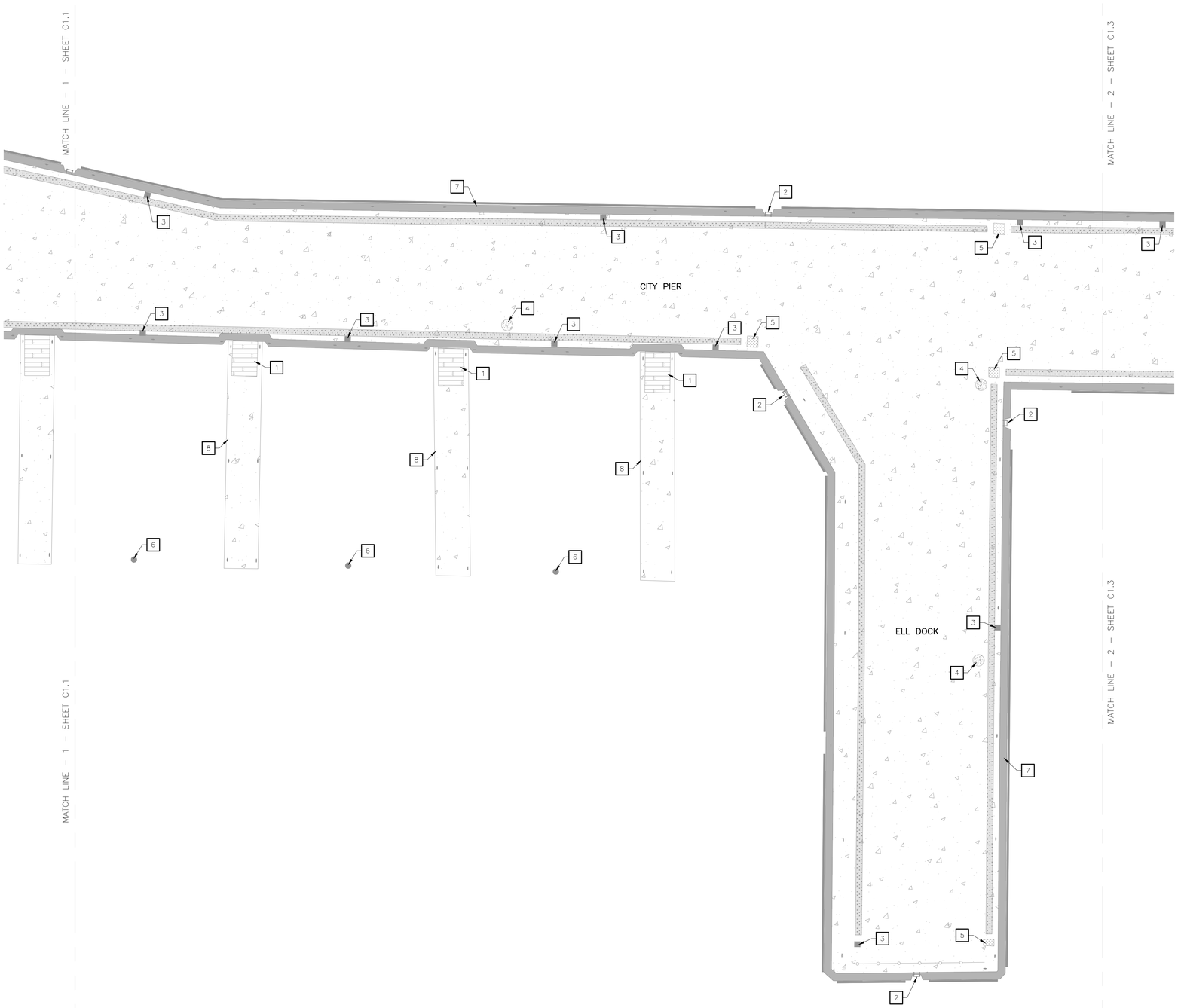

KEY NOTES

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4. EXISTING LIGHT POLE
5. EXISTING UTILITY HANDHOLE
6. EXISTING PELICAN PILE
7. EXISTING SHEET PILE WALL
   TOP OF WALL ELEVATION = 604.95'
8. EXISTING METAL BIN–WALL MOORING PIER
   (6' WIDE BY 38' LONG) WITH CONCRETE CAP.

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NOT FOR CONSTRUCTION
PRELIMINARY

NAME: XXXX
SIGNATURE:
DATE:

DATE:	REV:	DESCRIPTION	REV. BY:

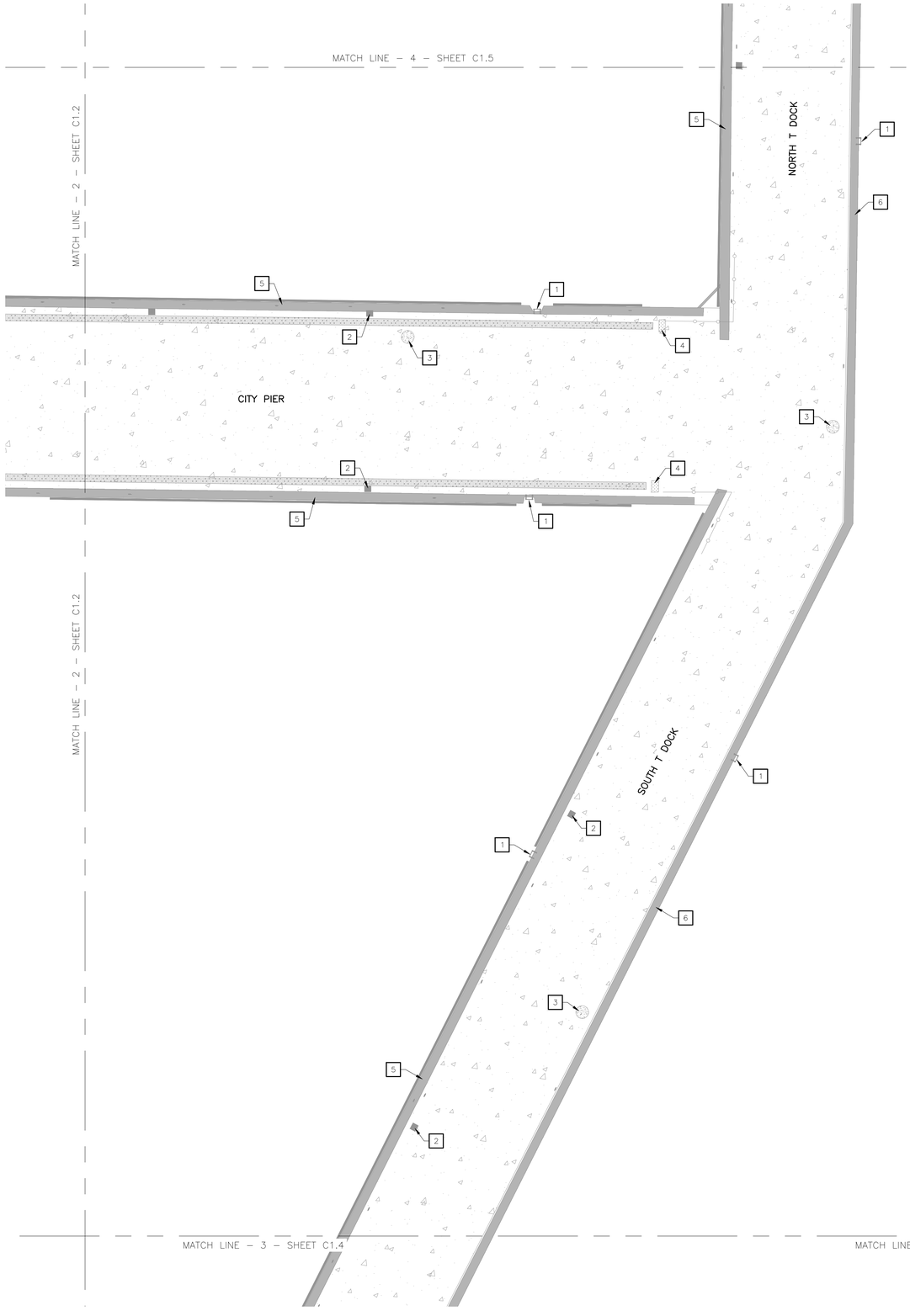
BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

EXISTING CONDITIONS PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET: C1.2



N

0 10 20 Feet

KEY NOTES

1. EXISTING SAFETY LADDER
2. EXISTING UTILITY PEDESTAL
3. EXISTING LIGHT POLE
4. EXISTING UTILITY HANDHOLE
5. EXISTING SHEET PILE WALL TOP OF WALL ELEVATION = 604.95'
6. EXISTING SHEET PILE WALL TOP OF WALL ELEVATION = 608.10'

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BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814

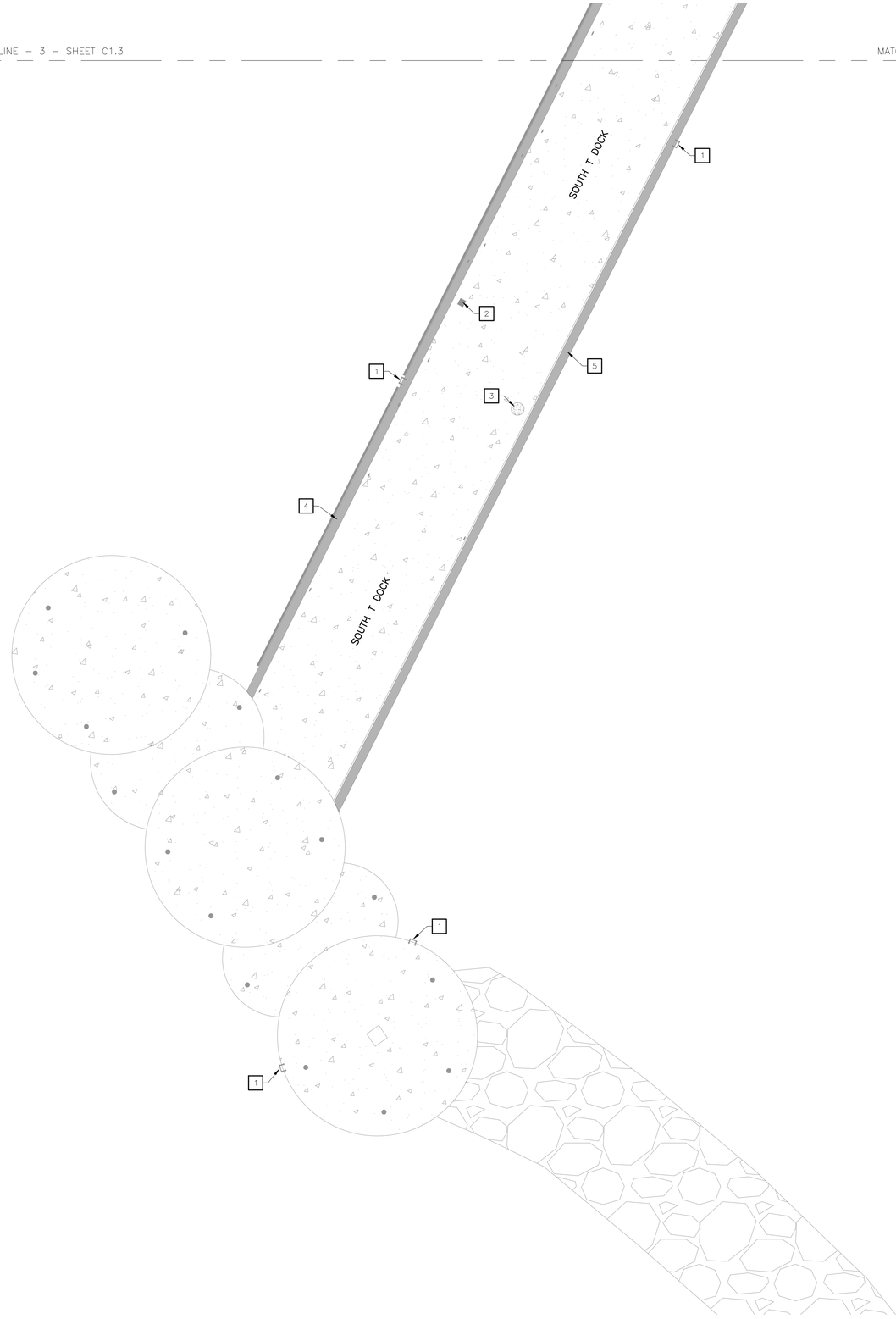
EXISTING CONDITIONS PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
C1.3

MATCH LINE – 3 – SHEET C1.3

MATCH LINE – 3 – SHEET C1.3



N

0 10 20 Feet

KEY NOTES

1. EXISTING SAFETY LADDER
2. EXISTING UTILITY PEDESTAL
3. EXISTING LIGHT POLE
4. EXISTING SHEET PILE WALL
   TOP OF WALL ELEVATION = 604.95'
5. EXISTING SHEET PILE WALL
   TOP OF WALL ELEVATION = 608.10'

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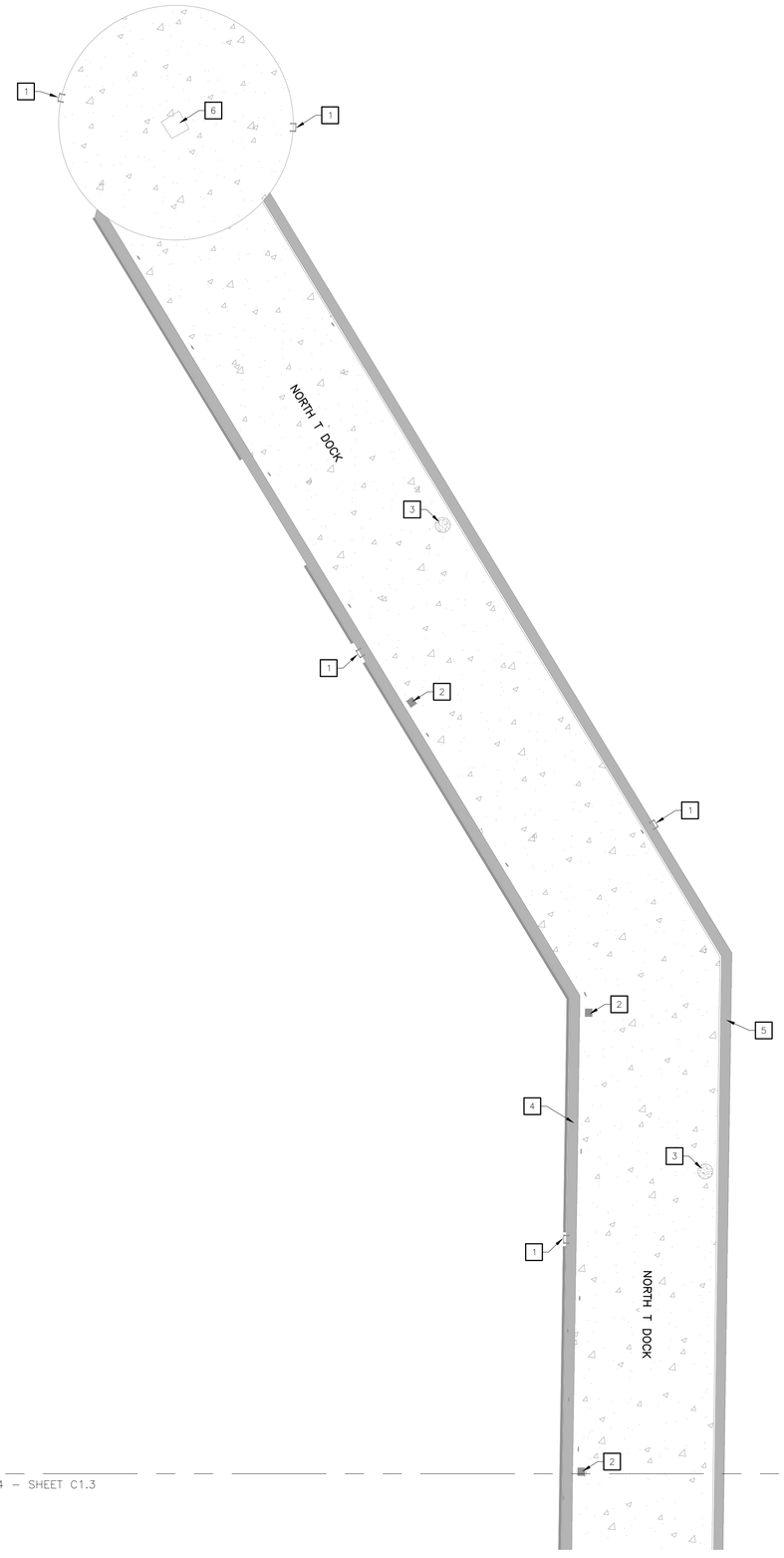
BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

EXISTING CONDITIONS PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
C1.4



N

0 10 20 Feet

KEY NOTES

1. EXISTING SAFETY LADDER
2. EXISTING UTILITY PEDESTAL
3. EXISTING LIGHT POLE
4. EXISTING SHEET PILE WALL
   TOP OF WALL ELEVATION = 604.95'
5. EXISTING SHEET PILE WALL
   TOP OF WALL ELEVATION = 608.10'
6. EXISTING MARINE SIGNAL LIGHTS

MATCH LINE – 4 – SHEET C1.3

MATCH LINE – 4 – SHEET C1.3

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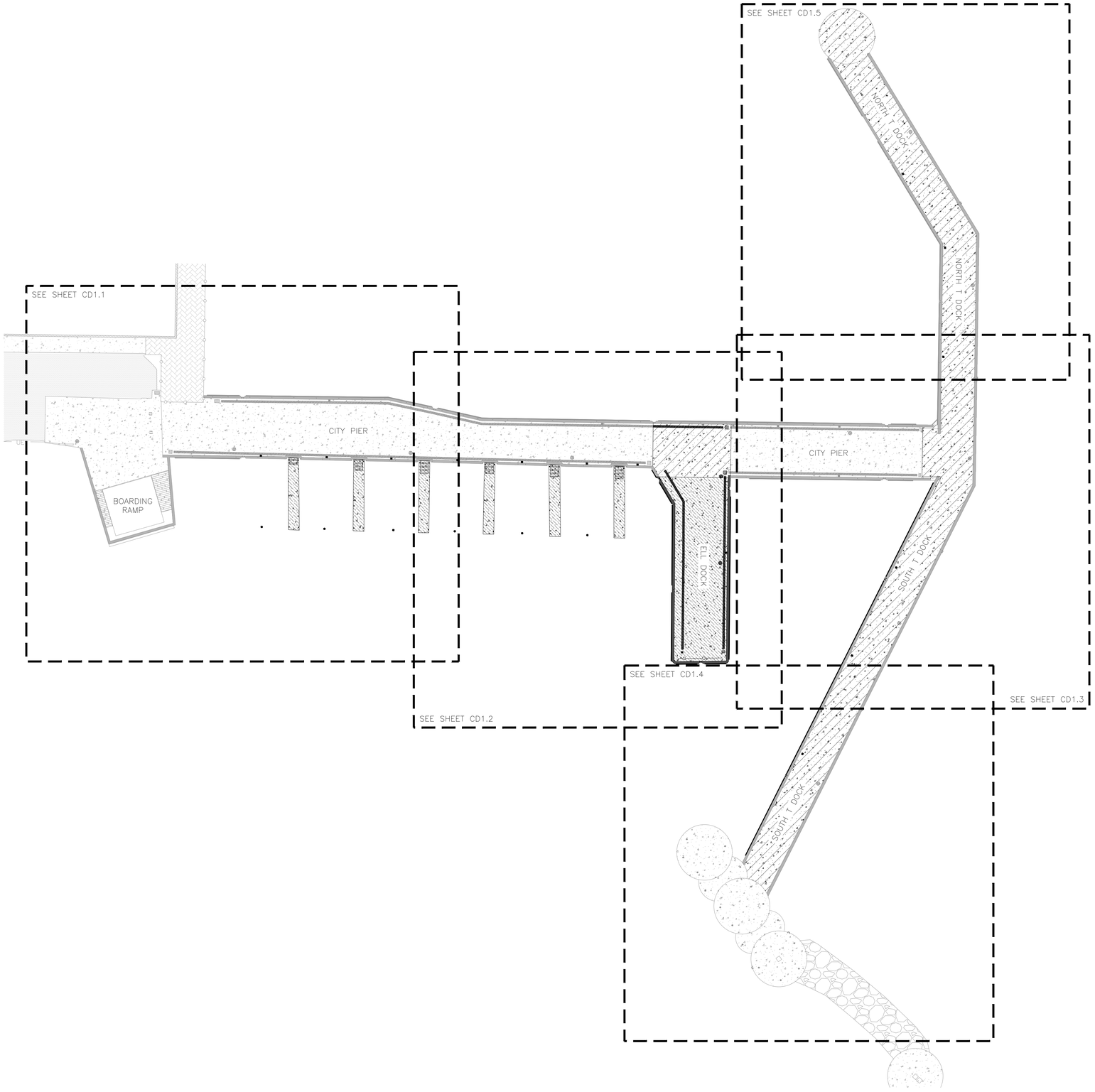
BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

EXISTING CONDITIONS PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
C1.5



N

0 30 60 Feet

DEMOLITION LEGEND

- REMOVE UTILITY TRENCH
- REMOVE CONCRETE PAVEMENT
- REMOVE CONCRETE PAVEMENT AND STRUCTURE BELOW
- REMOVE RUB RAIL
- REMOVE SSP WITH CAP CHANNEL
- REMOVE FENCE/GUARDRAIL
- REMOVE CLEAT

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REV:	BY:	DESCRIPTION

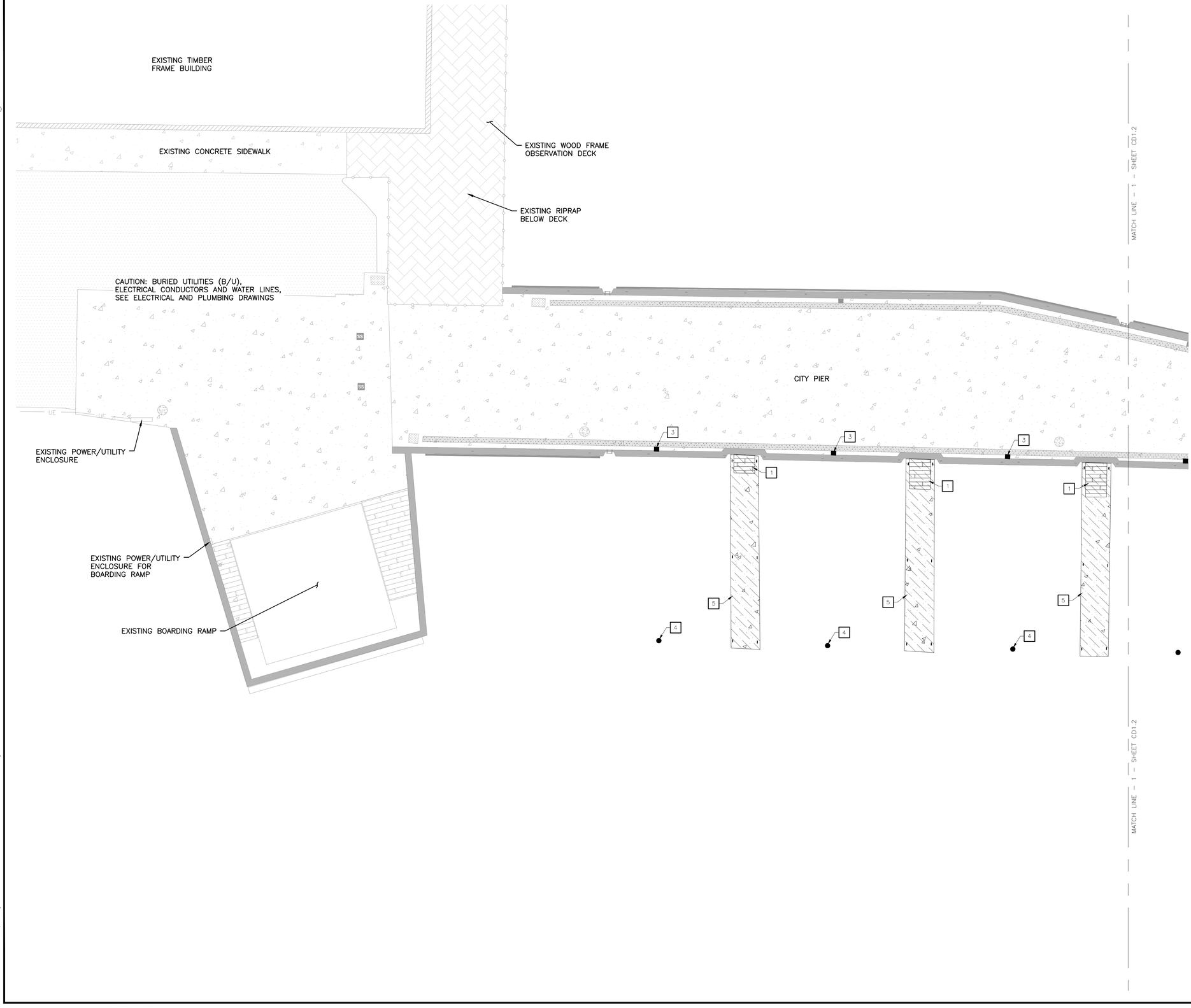
BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

DEMOLITION PLAN OVERVIEW

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CD1.0



KEY NOTES

1. REMOVE TIMBER RAMP
2. REMOVE SAFETY LADDER
3. REMOVE AND SALVAGE UTILITY PEDESTAL
4. REMOVE PILE
5. REMOVE FINGER PIER

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NAME:
SIGNATURE:
DATE:

REV:	DATE:

DESCRIPTION

REV. BY:

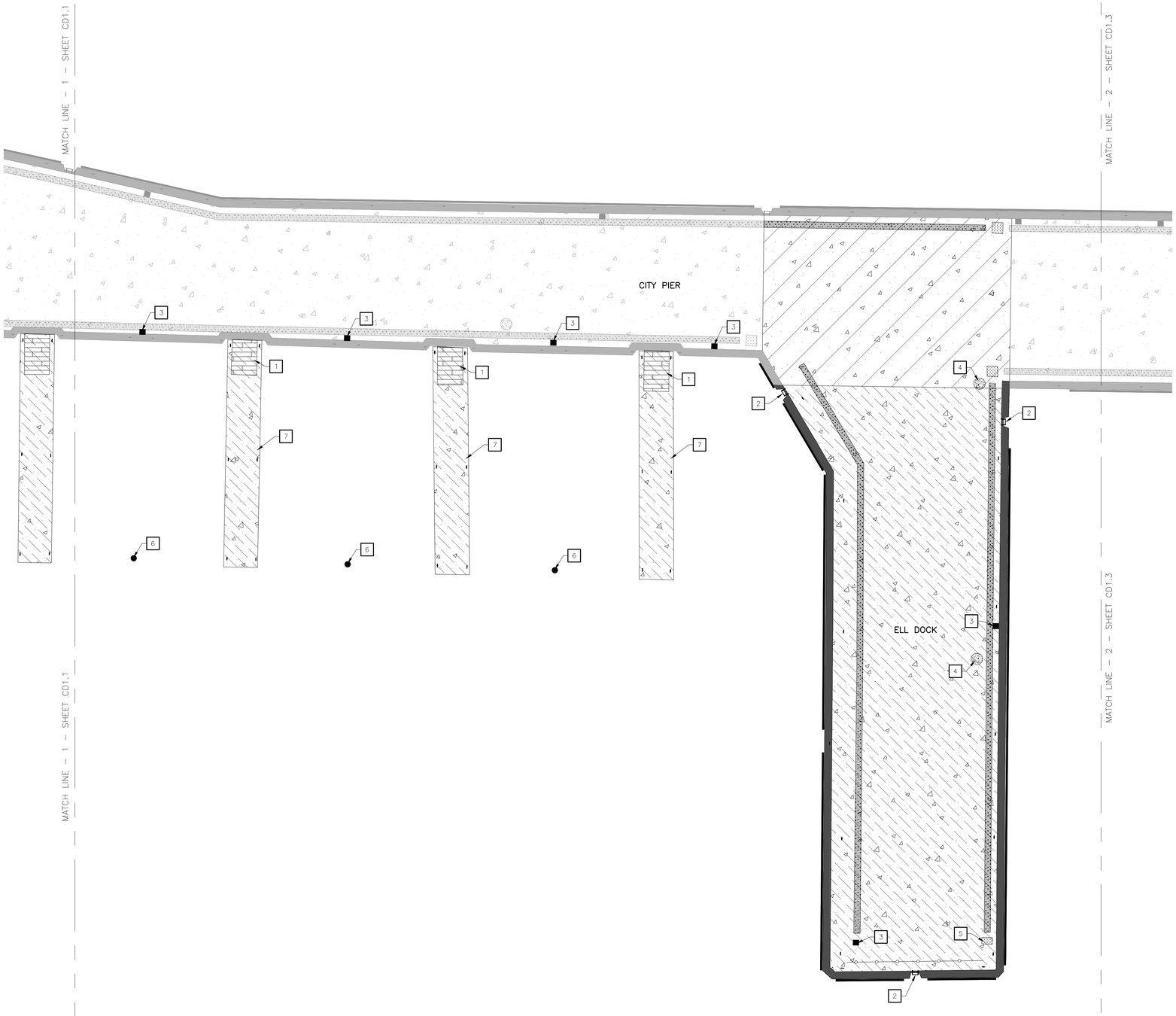
BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

DEMOLITION PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CD1.1



N

0 10 20 Feet

KEY NOTES

1. REMOVE TIMBER RAMP
2. REMOVE AND SALVAGE SAFETY LADDER
3. REMOVE AND SALVAGE UTILITY PEDESTAL
4. REMOVE AND SALVAGE LIGHT POLE AND FIXTURES
5. REMOVE UTILITY HANDHOLE
6. REMOVE PILE
7. REMOVE FINGER PIER

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PRELIMINARY

SIGNATURE:
NAME:
DATE:
LIC. NO.: XXXX

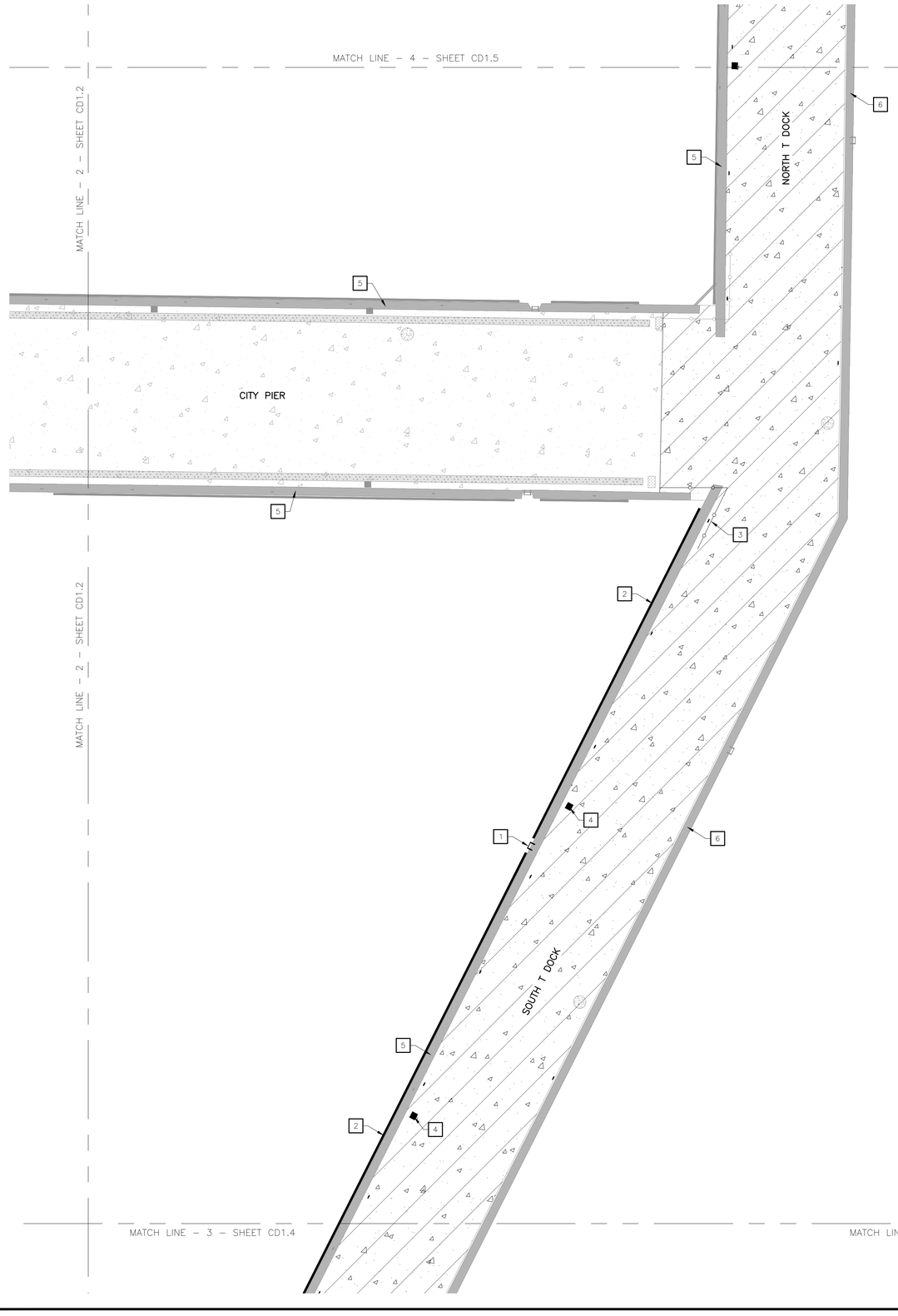
REV.	BY:	DESCRIPTION	DATE:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814

DEMOLITION PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CD1.2



N

0 10 20 Feet

KEY NOTES

1. REMOVE SAFETY LADDER
2. REMOVE TIMBER RUB RAIL
3. REMOVE FENCE
4. REMOVE AND SALVAGE UTILITY PEDESTAL
5. EXISTING SHEET PILE WALL TOP OF WALL ELEVATION = 604.95'
6. EXISTING SHEET PILE WALL TOP OF WALL ELEVATION = 608.10'

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PRELIMINARY
NOT FOR CONSTRUCTION
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NAME:
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LIC. NO.:

REV. BY:	DESCRIPTION	REV:	DATE:

BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

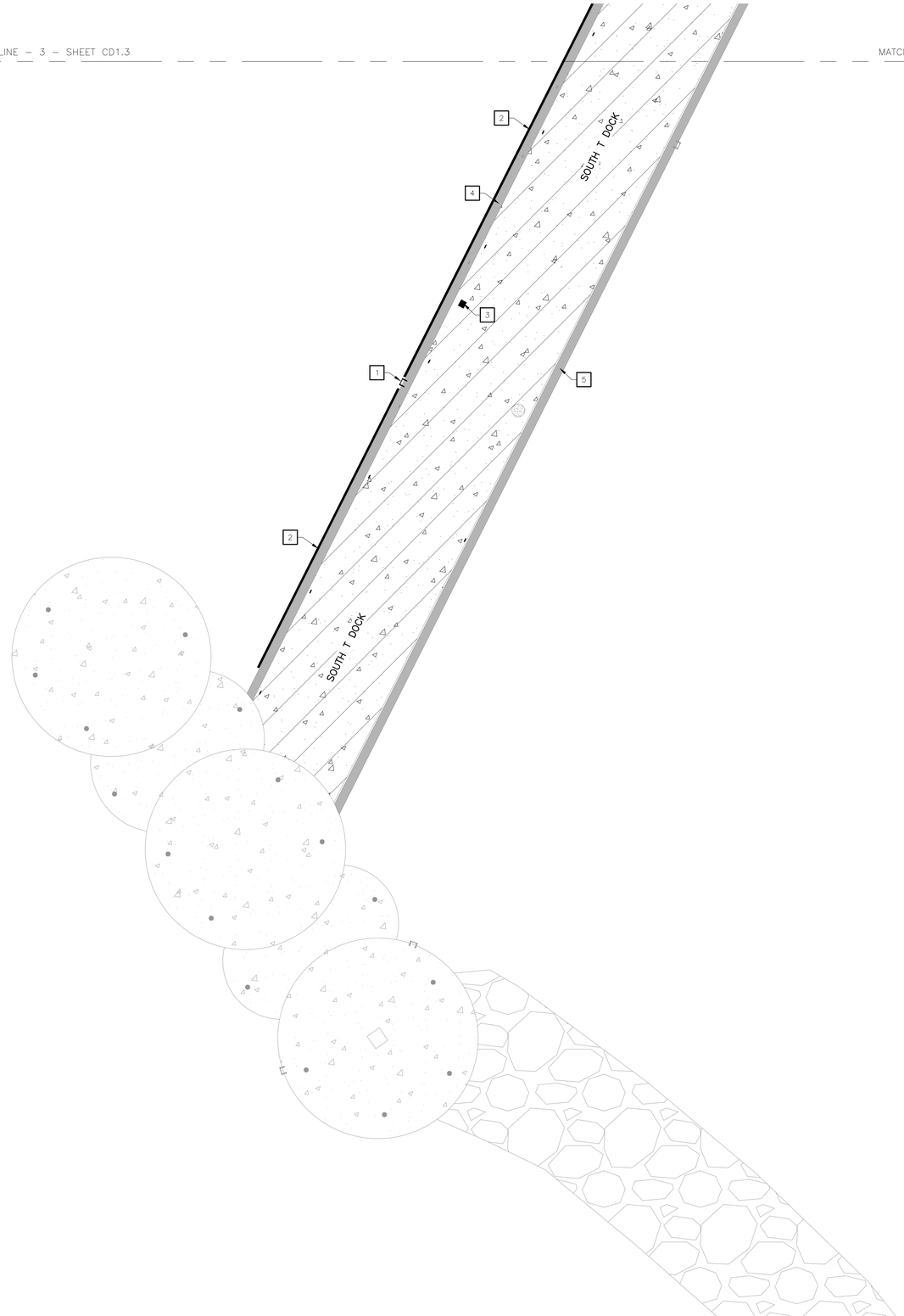
DEMOLITION PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CD1.3

MATCH LINE – 3 – SHEET CD1.3

MATCH LINE – 3 – SHEET CD1.3



N

0 10 20 Feet

KEY NOTES

1. REMOVE SAFETY LADDER
2. REMOVE TIMBER RUB RAIL
3. REMOVE AND SALVAGE UTILITY PEDESTAL
4. EXISTING SHEET PILE WALL TOP OF WALL ELEVATION = 604.95'
5. EXISTING SHEET PILE WALL TOP OF WALL ELEVATION = 608.10'

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DATE:

DATE:	REV:	DESCRIPTION	REV. BY:

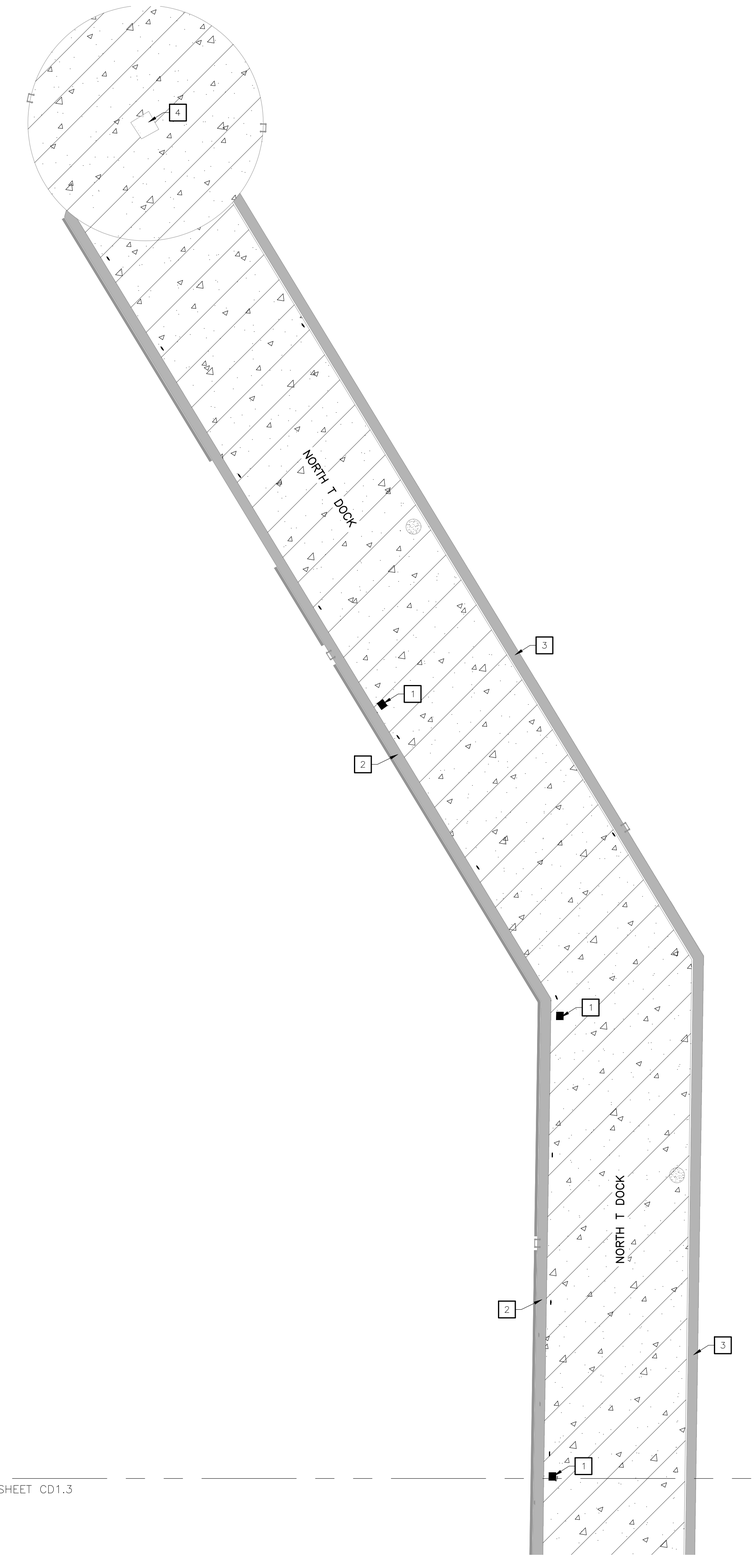
BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

DEMOLITION PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CD1.4



N

0 10 20 Feet

KEY NOTES

1. REMOVE AND SALVAGE UTILITY PEDESTAL
2. EXISTING SHEET PILE WALL
   TOP OF WALL ELEVATION = 604.95'
3. EXISTING SHEET PILE WALL
   TOP OF WALL ELEVATION = 608.10'
4. EXISTING MARINE SIGNAL LIGHTS

MATCH LINE – 4 – SHEET CD1.3

MATCH LINE – 4 – SHEET CD1.3

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XXXX

NAME:
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DATE:

REV:	BY:
DESCRIPTION	
REV:	
DATE:	

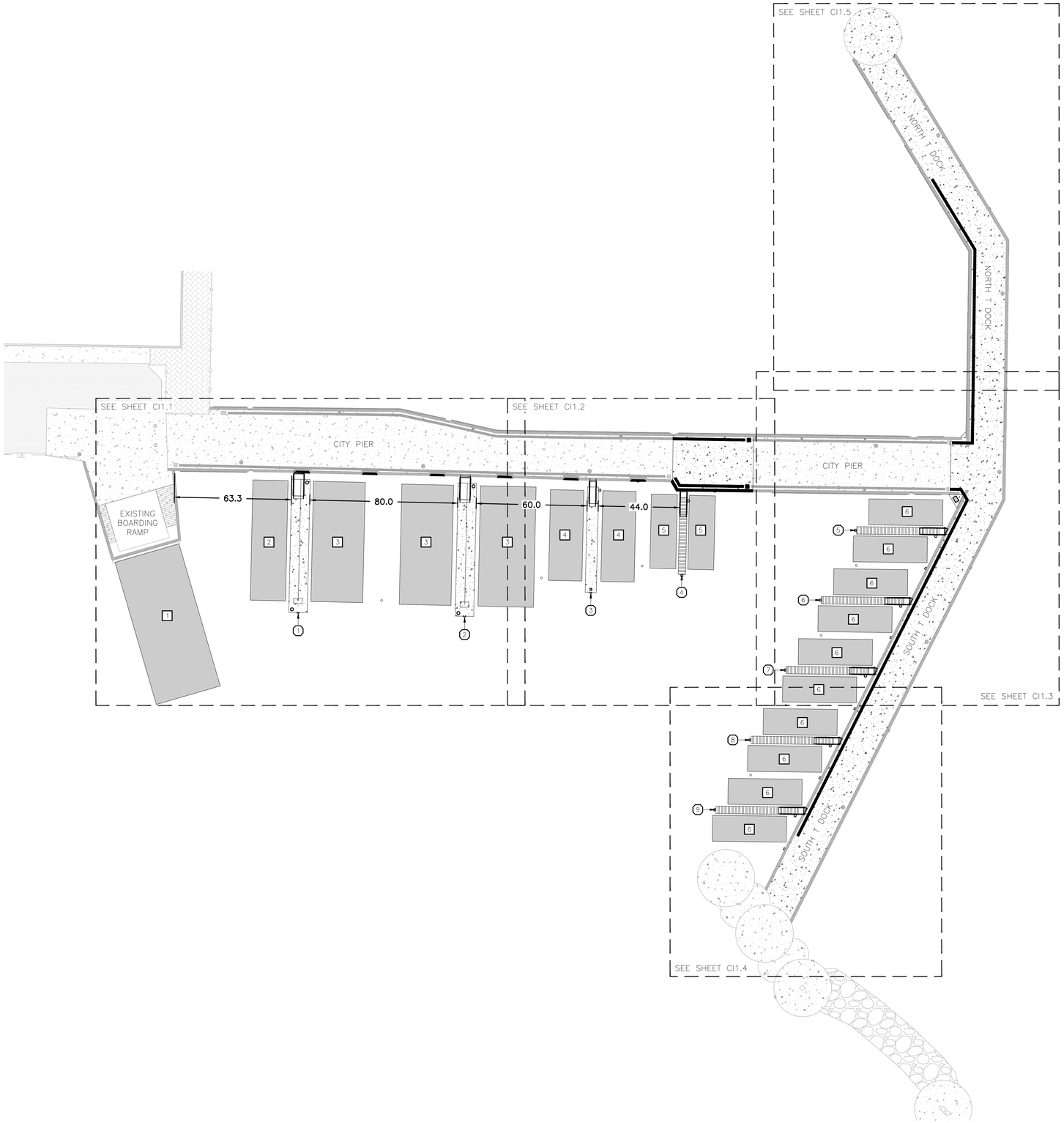
BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

DEMOLITION PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CD1.5



N

0 30 60 Feet

SITE LEGEND

- NEW UTILITY TRENCH
- NEW CONCRETE PIER PAVEMENT
- NEW STEEL GALVANIZED FRAME FLOATING DOCK WITH WOODEN DECKING
- NEW RUB RAIL
- NEW CHANNEL CAP
- NEW FENCE/GUARDRAIL
- NEW CLEAT

BERTH SPECIFICS

- 1 EXISTING 80-FT x 36-FT BOARDING SLIP
- 2 PERMANENT 65-FT x 19-FT SLIP
- 3 PERMANENT 65-FT x 28-FT SLIP
- 4 PERMANENT 49-FT x 18-FT SLIP
- 5 PERMANENT 40-FT x 14-FT SLIP
- 6 TRANSIENT 40-FT x 14-FT SLIP

FLOATING DOCKS				
(#) DOCK	TYPE	L	W	DETAIL SHEET
1, 2	REINFORCED CONCRETE	75'	10'	DETAIL X/CS4.X
3	REINFORCED CONCRETE	60'	6'	DETAIL X/CS4.X
4-9	GALVANIZED STEEL W/ TIMBER DECKING	44.5'	4'	DETAIL X/CS4.X

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DATE:

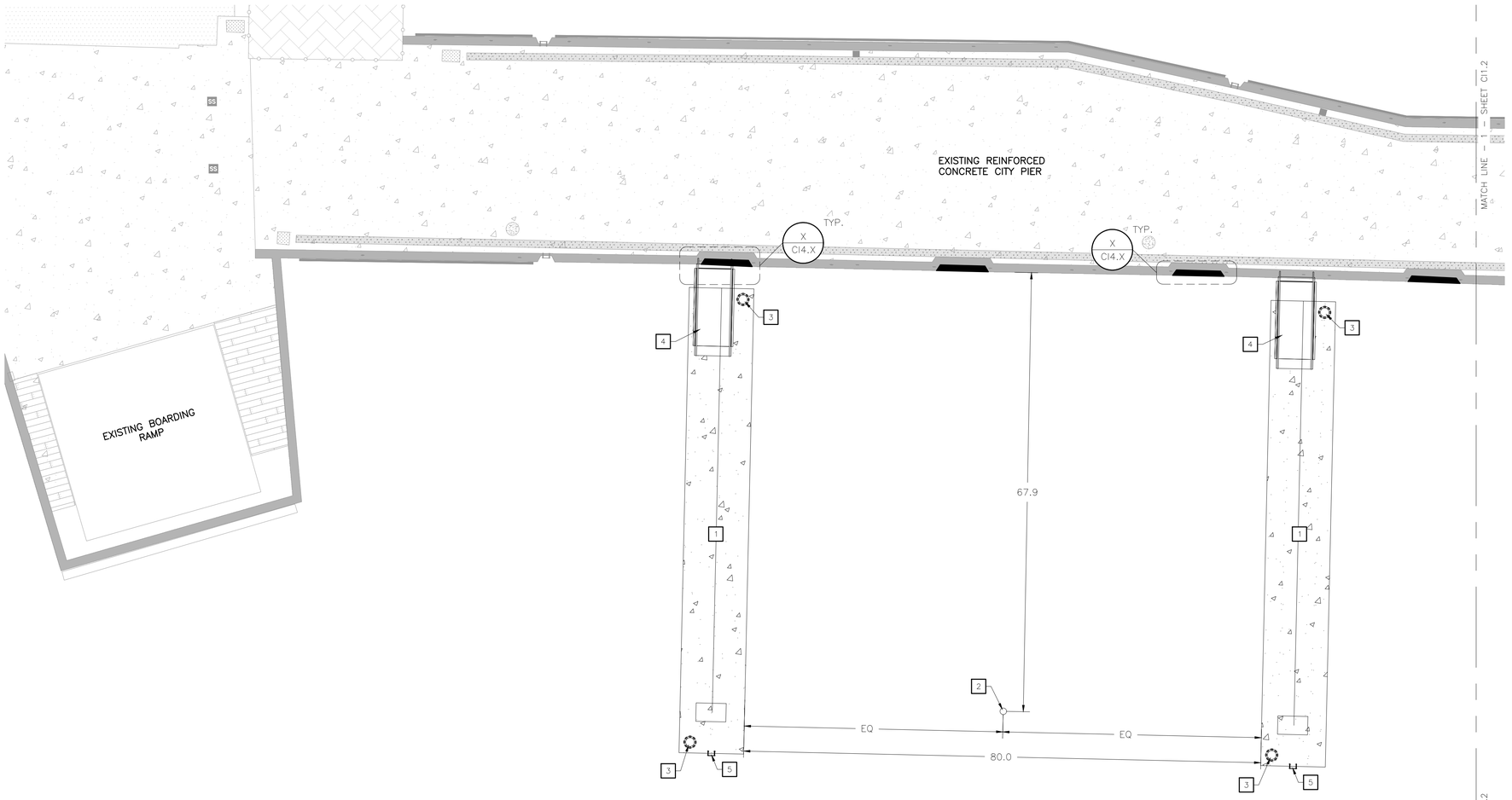
REV. BY:

DESCRIPTION	REV:	DATE:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814
MARINA SITE PLAN OVERVIEW

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CI1.0



N

0 10 20 Feet

KEY NOTES

1. NEW CONCRETE FLOATING DOCK
   SEE SHEET CI3.1 FOR ADDITIONAL INFORMATION.
2. NEW 12" DIAMETER PELICAN PILE
3. 16" DIAMETER GUIDE PILE
4. GANGWAY, SEE PLAN
5. NEW SAFETY LADDER
   SEE DETAIL 2/CI4.1

FLOATING DOCK NOTES

1. SEE DETAIL X/CI4.X FOR DOCK CLEAT DETAIL ON FINGER PIERS.
2. PROVIDE DOCK FENDERS ON ALL PIERS INTENDED FOR BOAT MOORING. SEE DETAIL X/CI4.X FOR ADDITIONAL INFORMATION.
3. FLOATING DOCK MANUFACTURER TO COORDINATE DOCK ANCHORAGE WITH STEEL PIPE PILES SHOWN ON THE PLANS.

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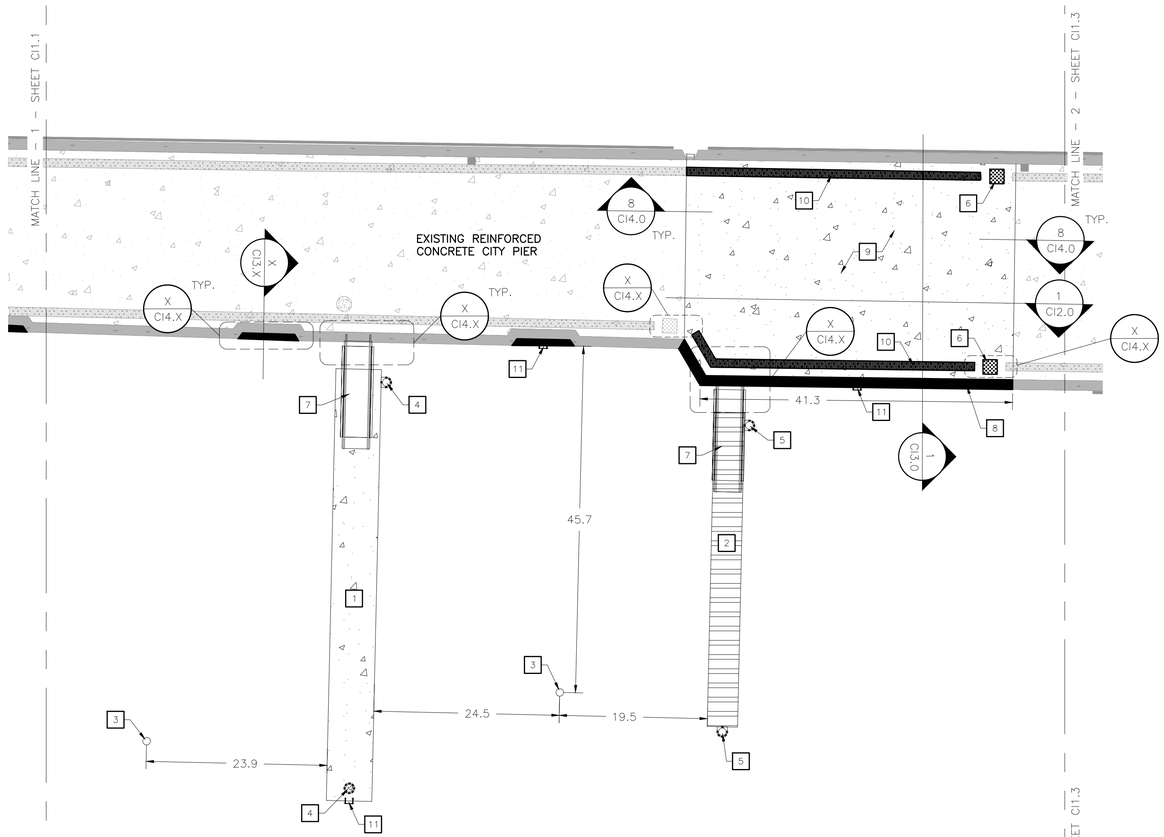
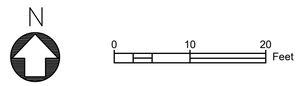
REV. BY:	DESCRIPTION	REV:	DATE:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814
SITE PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CI1.1





KEY NOTES

1. NEW CONCRETE FLOATING DOCK SEE SHEET CI3.2 FOR ADDITIONAL INFORMATION.
2. NEW GALVANIZED STEEL FRAME FLOATING DOCK WITH TIMBER DECKING. SEE SHEET CI3.3 FOR ADDITIONAL INFORMATION.
3. NEW 12" DIAMETER PELICAN PILE
4. 16" DIAMETER GUIDE PILE
5. 12" DIAMETER GUIDE PILE
6. NEW UTILITY HANDHOLE
7. GANGWAY, SEE PLAN
8. NEW EZ80 STEEL SHEET PILE WALL WITH CHANNEL CAP. SEE DETAIL 1/CI4.0 FOR ADDITIONAL INFORMATION.
9. NEW 8" THICK CONCRETE SLAB REINFORCED WITH _____. PROVIDE CONTROL JOINTS IN SLAB PER DETAIL 7/CI4.0.
10. NEW UTILITY TRENCH. SEE DETAIL X/CI4.X FOR ADDITIONAL INFORMATION.
11. NEW SAFETY LADDER SEE DETAIL 2/CI4.1

FLOATING DOCK NOTES

1. SEE DETAIL X/CI4.X FOR DOCK CLEAT DETAIL ON FINGER PIERS.
2. PROVIDE DOCK FENDERS ON ALL PIERS INTENDED FOR BOAT MOORING. SEE DETAIL X/CI4.X FOR ADDITIONAL INFORMATION.
3. FLOATING DOCK MANUFACTURER TO COORDINATE DOCK ANCHORAGE WITH STEEL PIPE PILES SHOWN ON THE PLANS.

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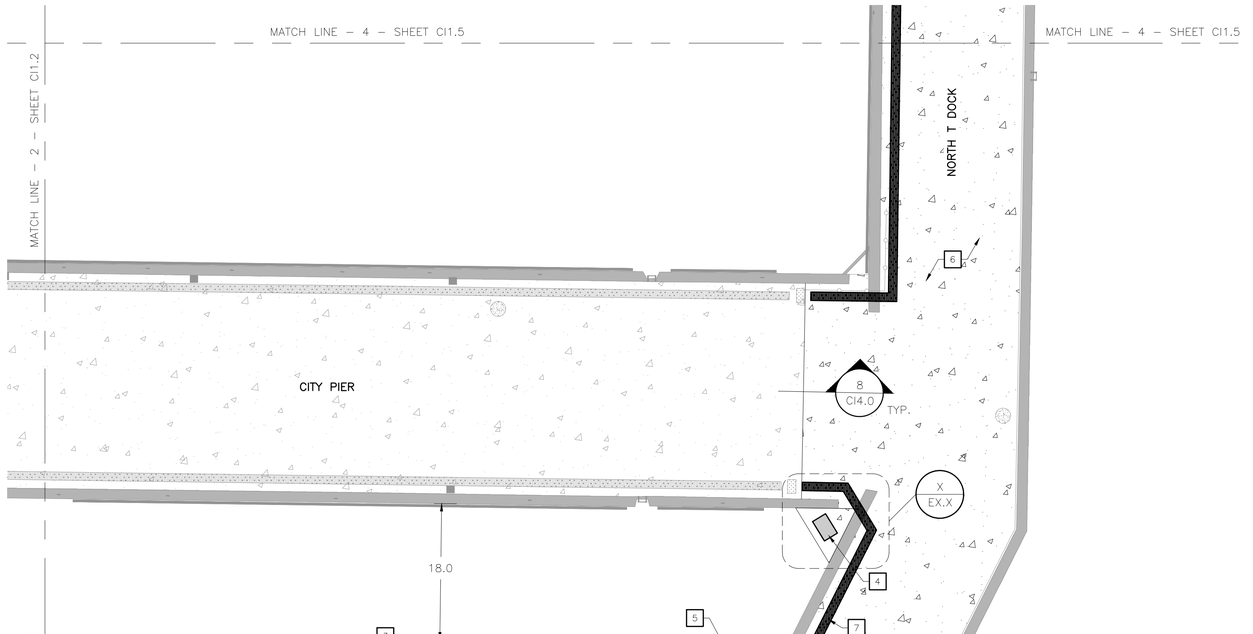
REV:	DATE:	DESCRIPTION	REV. BY:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814

SITE PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CI1.2



N

0 10 20 Feet

KEY NOTES

1. NEW GALVANIZED STEEL FRAME FLOATING DOCK WITH TIMBER DECKING. SEE SHEET CI3.4 FOR ADDITIONAL INFORMATION.
2. NEW 12" DIAMETER PELICAN PILE
3. 12" DIAMETER GUIDE PILE
4. NEW UTILITY BOX
5. GANGWAY, SEE PLAN
6. NEW 8" THICK CONCRETE SLAB REINFORCED WITH _____. PROVIDE CONTROL JOINTS IN SLAB PER DETAIL 7/CI4.0.
7. NEW UTILITY TRENCH, SEE DETAIL X/CI4.X FOR ADDITIONAL INFORMATION.
8. NEW SAFETY LADDER SEE DETAIL 2/CI4.1

FLOATING DOCK NOTES

1. SEE DETAIL X/CI4.X FOR DOCK CLEAT DETAIL ON FINGER PIERS.
2. PROVIDE DOCK FENDERS ON ALL PIERS INTENDED FOR BOAT MOORING. SEE DETAIL X/CI4.X FOR ADDITIONAL INFORMATION.
3. FLOATING DOCK MANUFACTURER TO COORDINATE DOCK ANCHORAGE WITH STEEL PIPE PILES SHOWN ON THE PLANS.

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NAME: _____
SIGNATURE: _____
DATE: _____

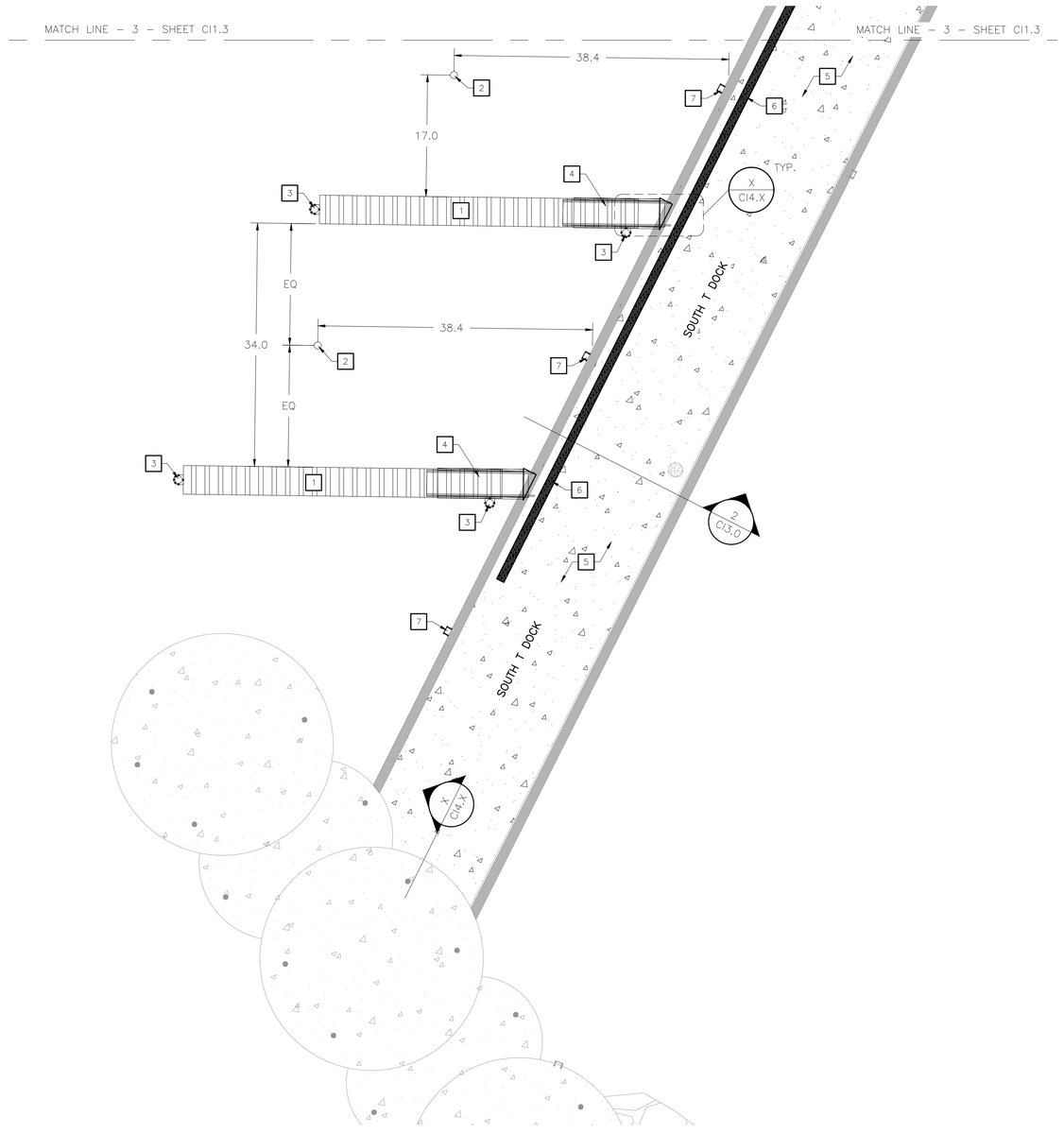
DATE:	REV:	DESCRIPTION	REV. BY:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814

SITE PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CI1.3



N

0 10 20 Feet

KEY NOTES

1. NEW GALVANIZED STEEL FRAME FLOATING DOCK WITH TIMBER DECKING. SEE SHEET CI3.4 FOR ADDITIONAL INFORMATION.
2. NEW 12" DIAMETER PELICAN PILE
3. 12" DIAMETER GUIDE PILE
4. GANGWAY, SEE PLAN
5. NEW 8" THICK CONCRETE SLAB REINFORCED WITH _____. PROVIDE CONTROL JOINTS IN SLAB PER DETAIL 7/CI4.0.
6. NEW UTILITY TRENCH. SEE DETAIL X/CI4.X FOR ADDITIONAL INFORMATION.
7. NEW SAFETY LADDER SEE DETAIL 2/CI4.1

FLOATING DOCK NOTES

1. SEE DETAIL X/CI4.X FOR DOCK CLEAT DETAIL ON FINGER PIERS.
2. PROVIDE DOCK FENDERS ON ALL PIERS INTENDED FOR BOAT MOORING. SEE DETAIL X/CI4.X FOR ADDITIONAL INFORMATION.
3. FLOATING DOCK MANUFACTURER TO COORDINATE DOCK ANCHORAGE WITH STEEL PIPE PILES SHOWN ON THE PLANS.

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PRELIMINARY
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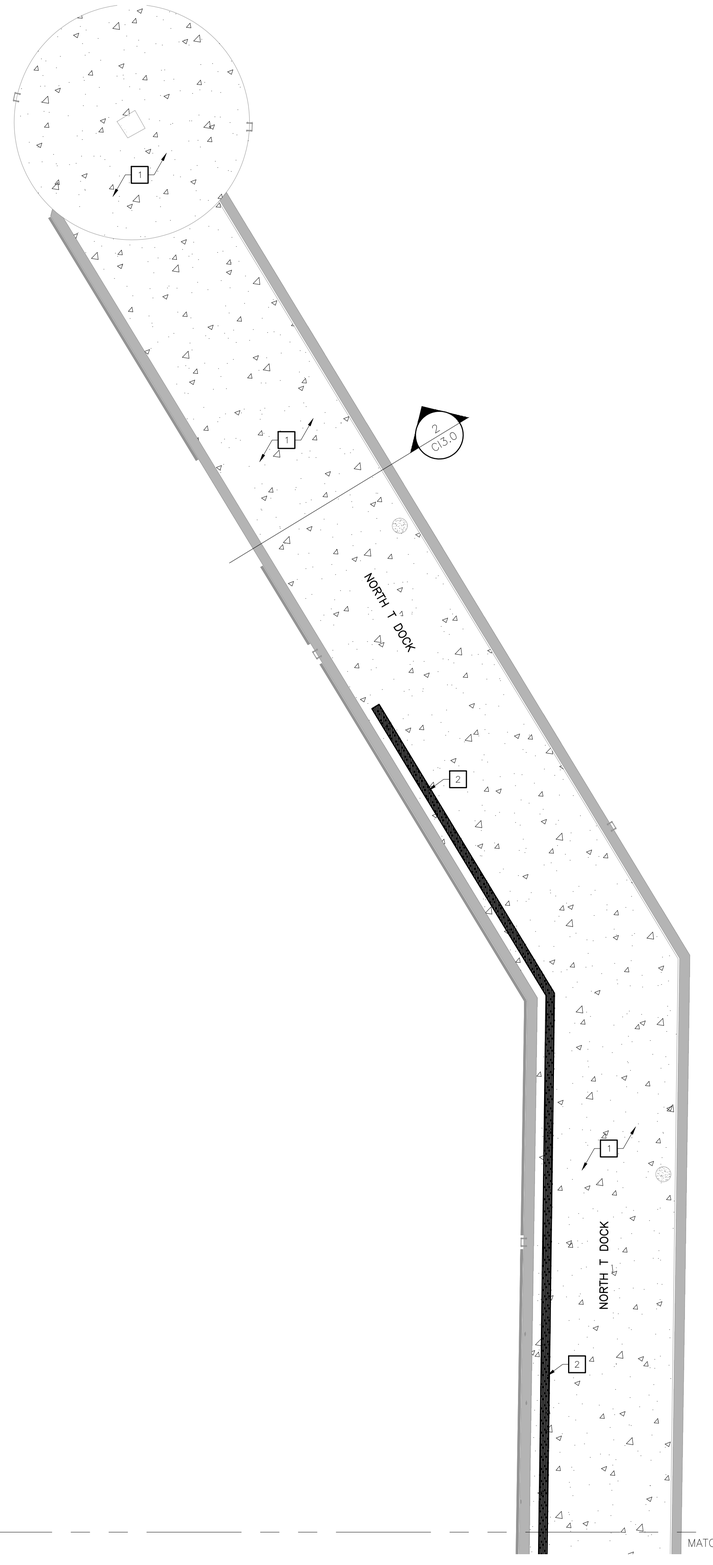
NAME: _____
SIGNATURE: _____
DATE: _____

REV. BY:	DESCRIPTION	REV:	DATE:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814
SITE PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CI1.4



N

0 10 20 Feet

KEY NOTES

1. NEW 8" THICK CONCRETE SLAB REINFORCED WITH _____. PROVIDE CONTROL JOINTS IN SLAB PER DETAIL 7/CI4.0.

2. NEW UTILITY TRENCH. SEE DETAIL X/CI4.X FOR ADDITIONAL INFORMATION.

MATCH LINE – 4 – SHEET CI1.3

MATCH LINE – 4 – SHEET CI1.3

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BAYFIELD FINGER PIER REHABILITATION

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SITE PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
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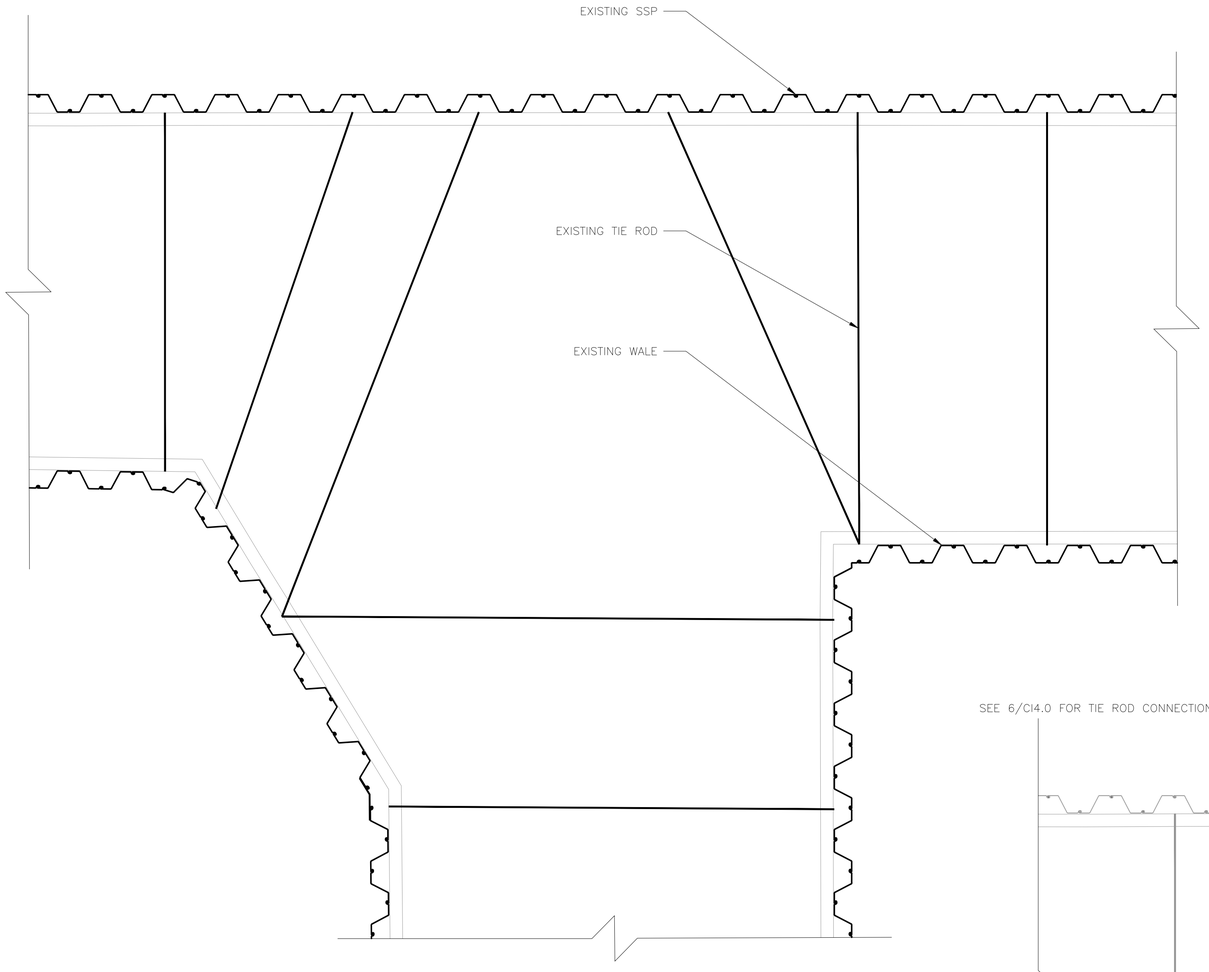
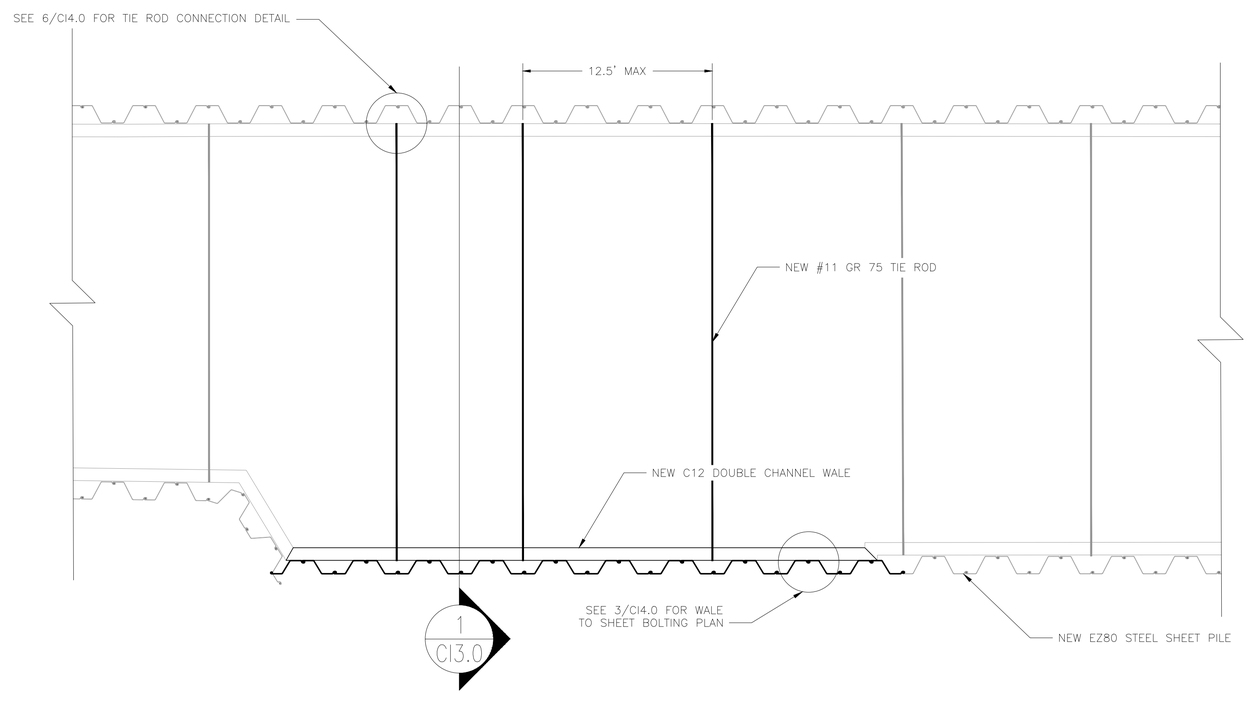
SHEET:
CI1.5



1 / CI2.0 EXISTING EI DOCK
1" = 10'-0"



2 / CI2.0 PROPOSED SHEET PILE CONTINUATION
1" = 10'-0"

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BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
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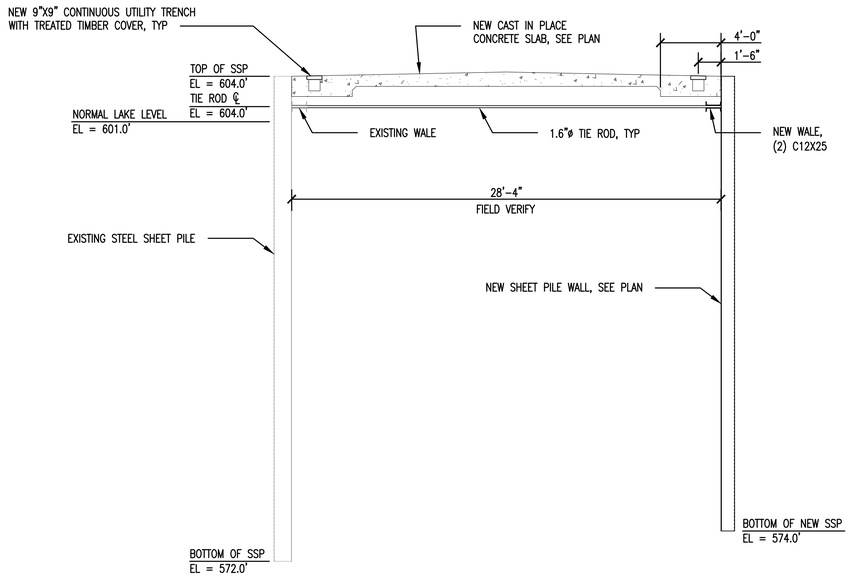
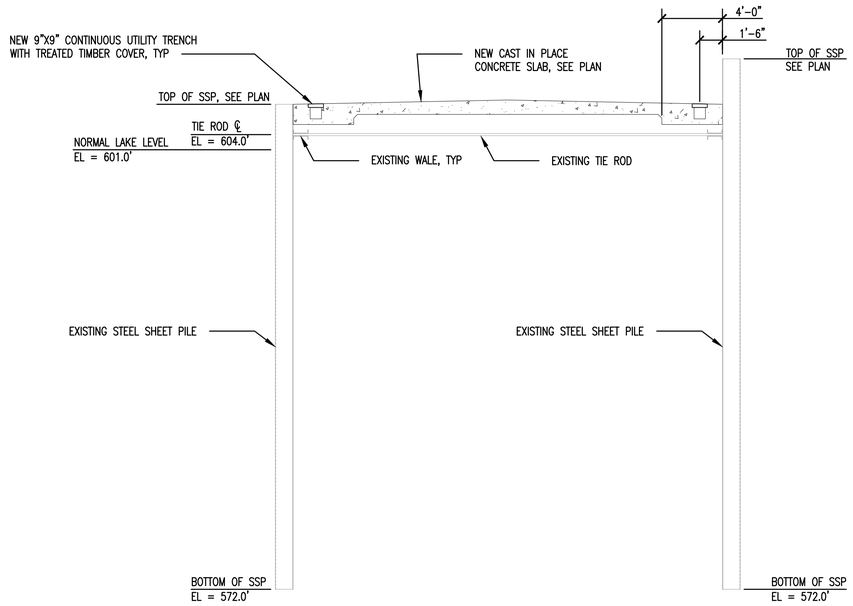
TIE ROD DETAILS

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CI2.0



1 / CI3.0 TYPICAL PIER SECTION
1" = 5'-0"



2 / CI3.0 TYPICAL T-DOCK SECTION
1" = 5'-0"

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SIGNATURE:
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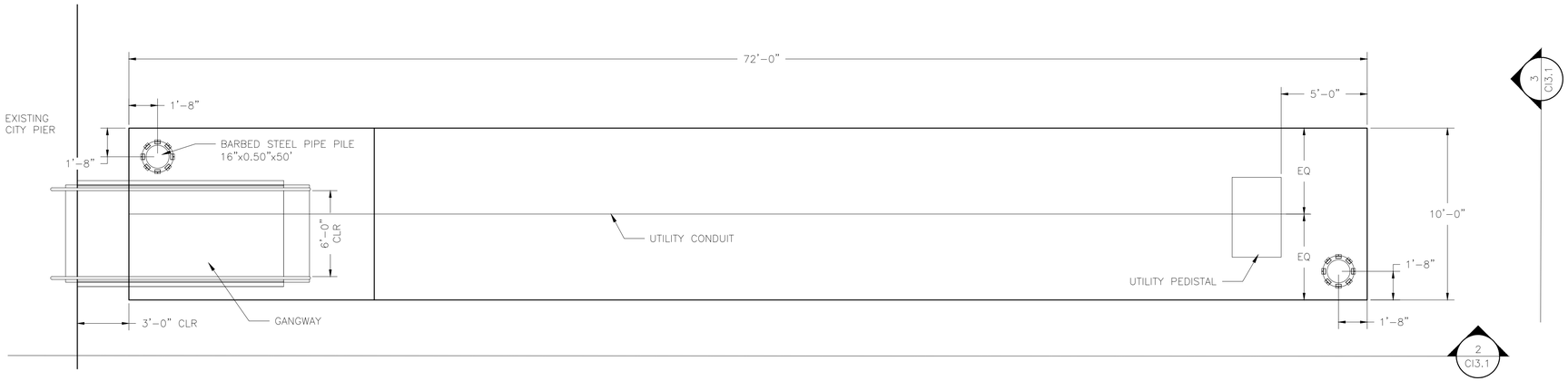
BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814
ELEVATIONS

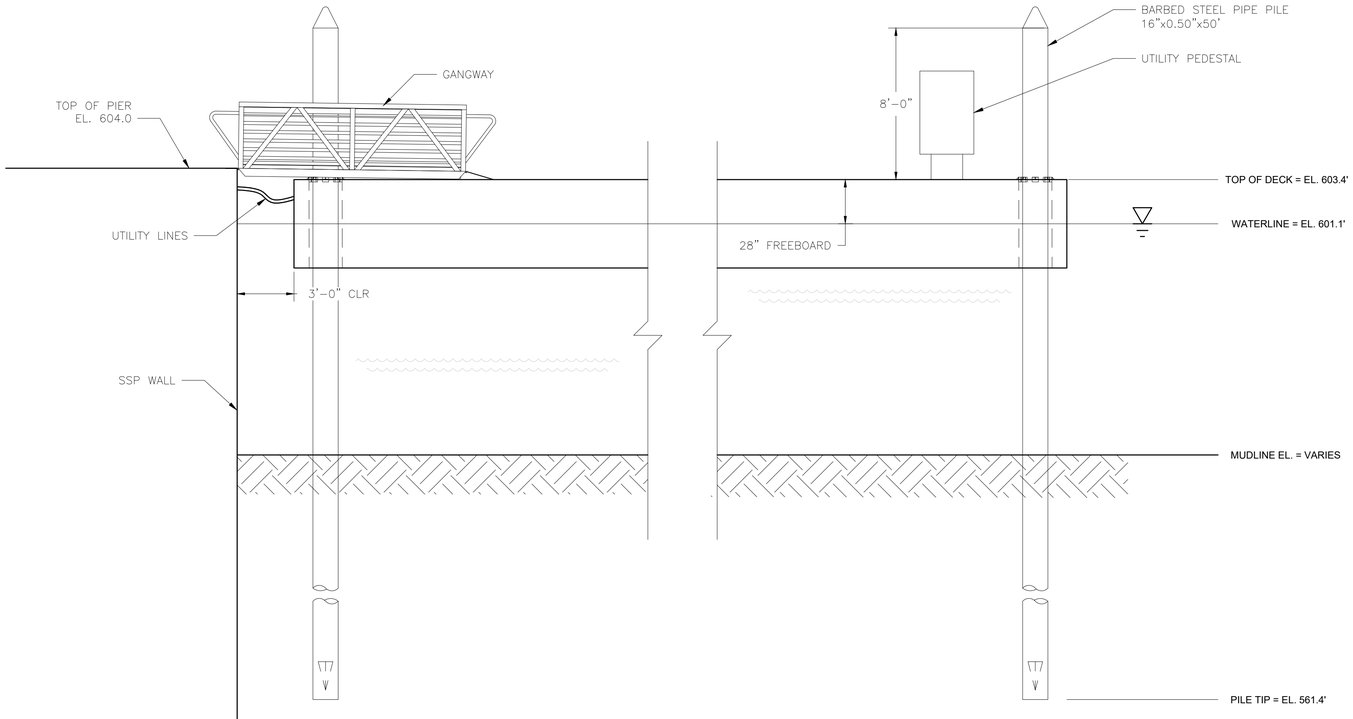
JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CI3.0



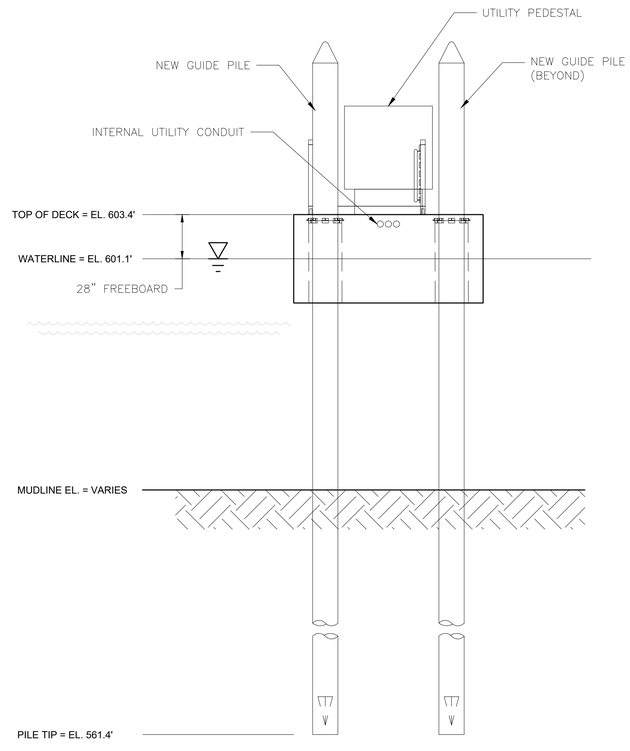
1 / CI3.1 CONCRETE FLOATING DOCK – 75-FT SLIP

1/4" = 1'-0"



2 / CI3.1 CONCRETE FLOATING DOCK ELEVATION – 75-FT SLIP

1/4" = 1'-0"



3 / CI3.1 CONCRETE FLOATING DOCK SECTION – 75-FT SLIP

1/4" = 1'-0"

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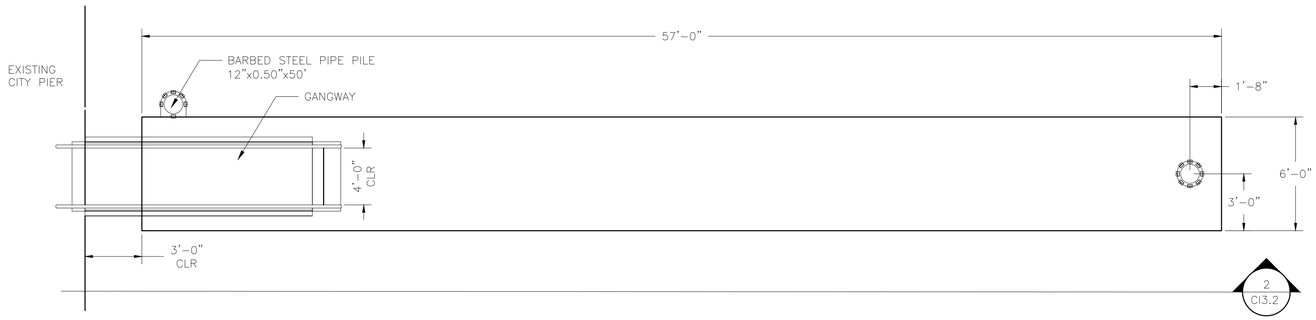
BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

REINFORCED CONCRETE FLOATING DOCKS 1-2

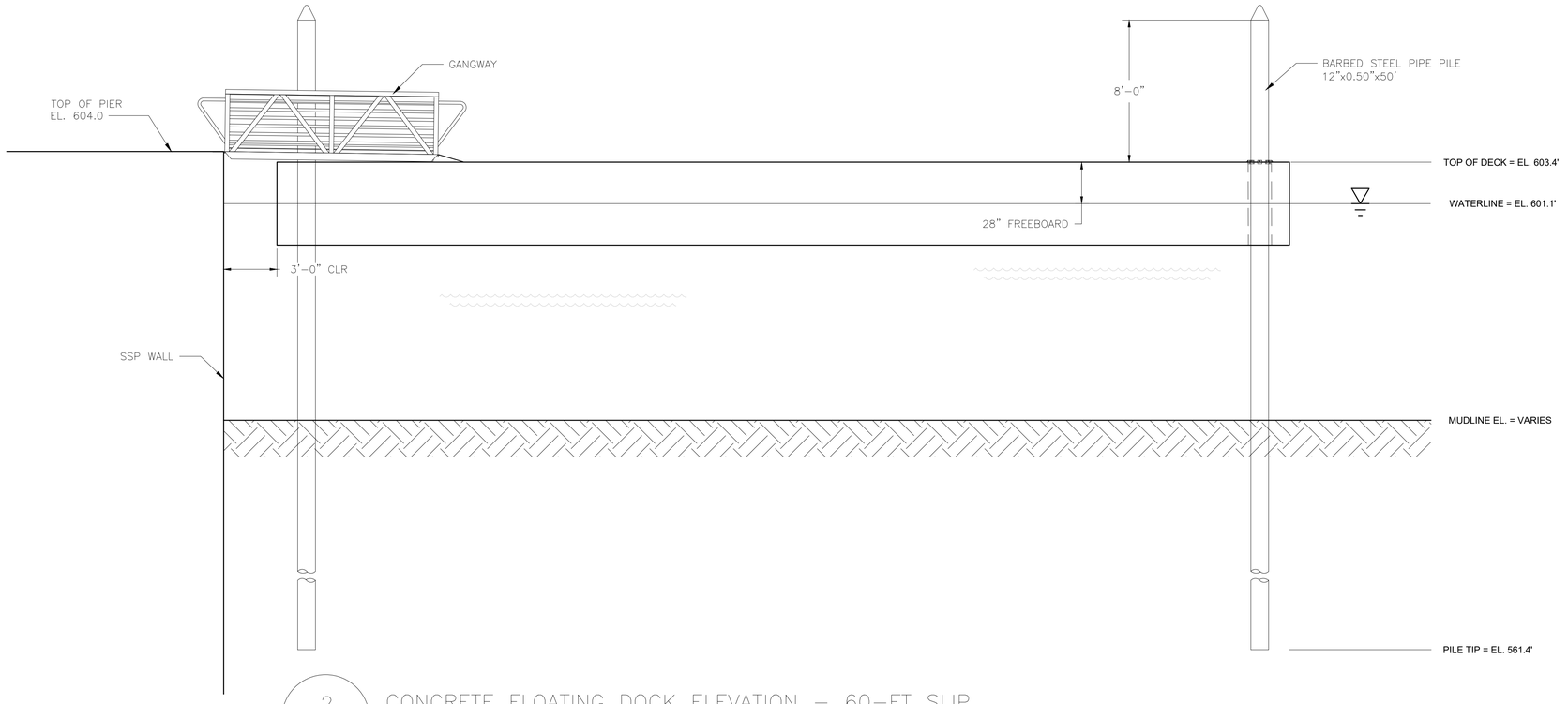
JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CI3.1



1 / CI3.2 CONCRETE FLOATING DOCK PLAN – 60-FT SLIP

1/4" = 1'-0"



2 / CI3.2 CONCRETE FLOATING DOCK ELEVATION – 60-FT SLIP

1/4" = 1'-0"

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DATE:

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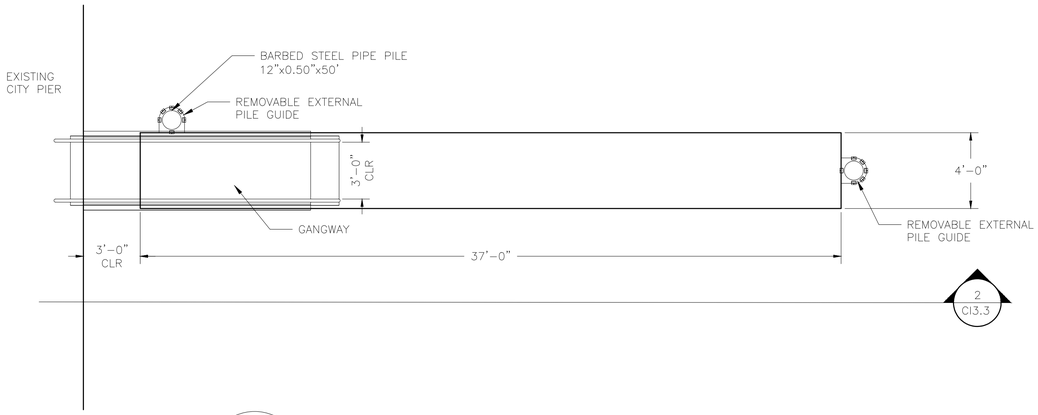
BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

FLOATING DOCK 3

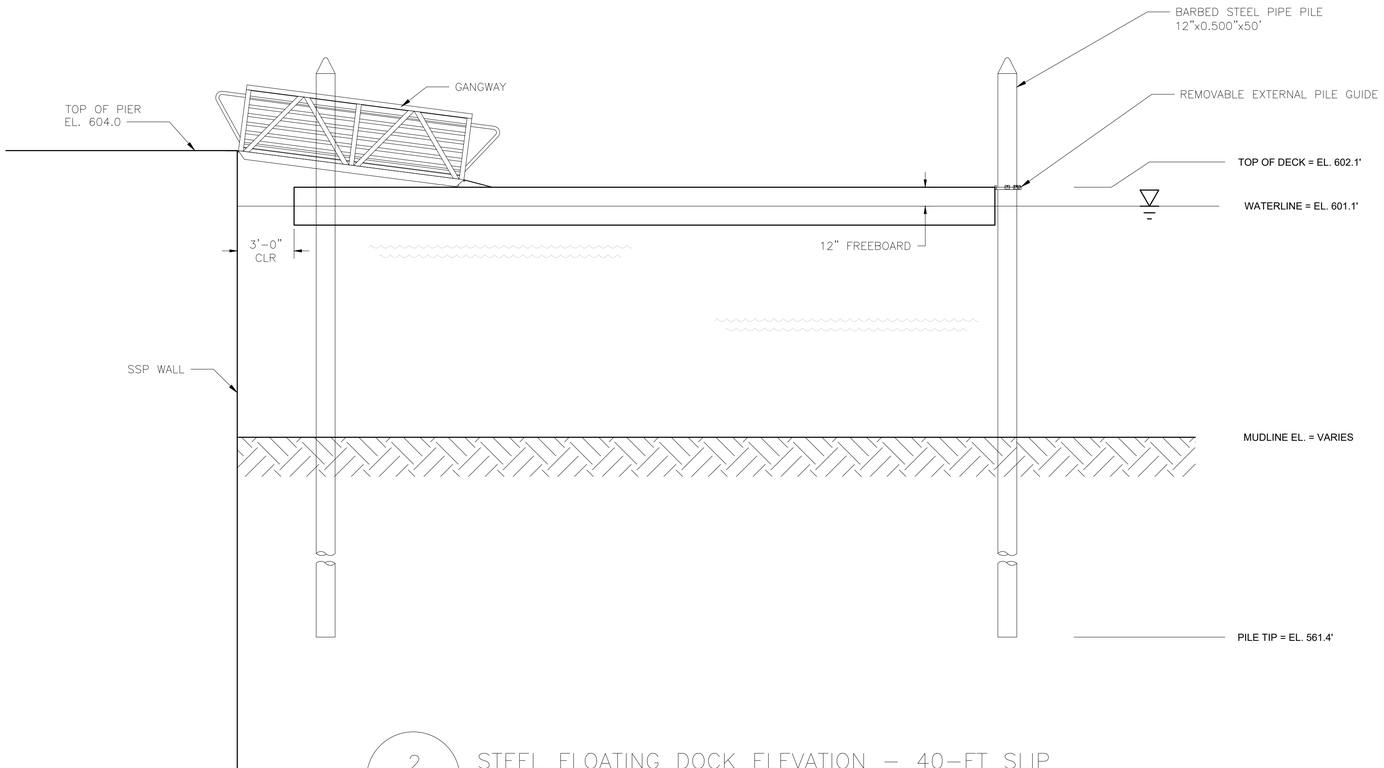
JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
CI3.2



1 / CI3.3 STEEL FLOATING DOCK PLAN – 60-FT SLIP

1/4" = 1'-0"



2 / CI3.3 STEEL FLOATING DOCK ELEVATION – 40-FT SLIP

1/4" = 1'-0"

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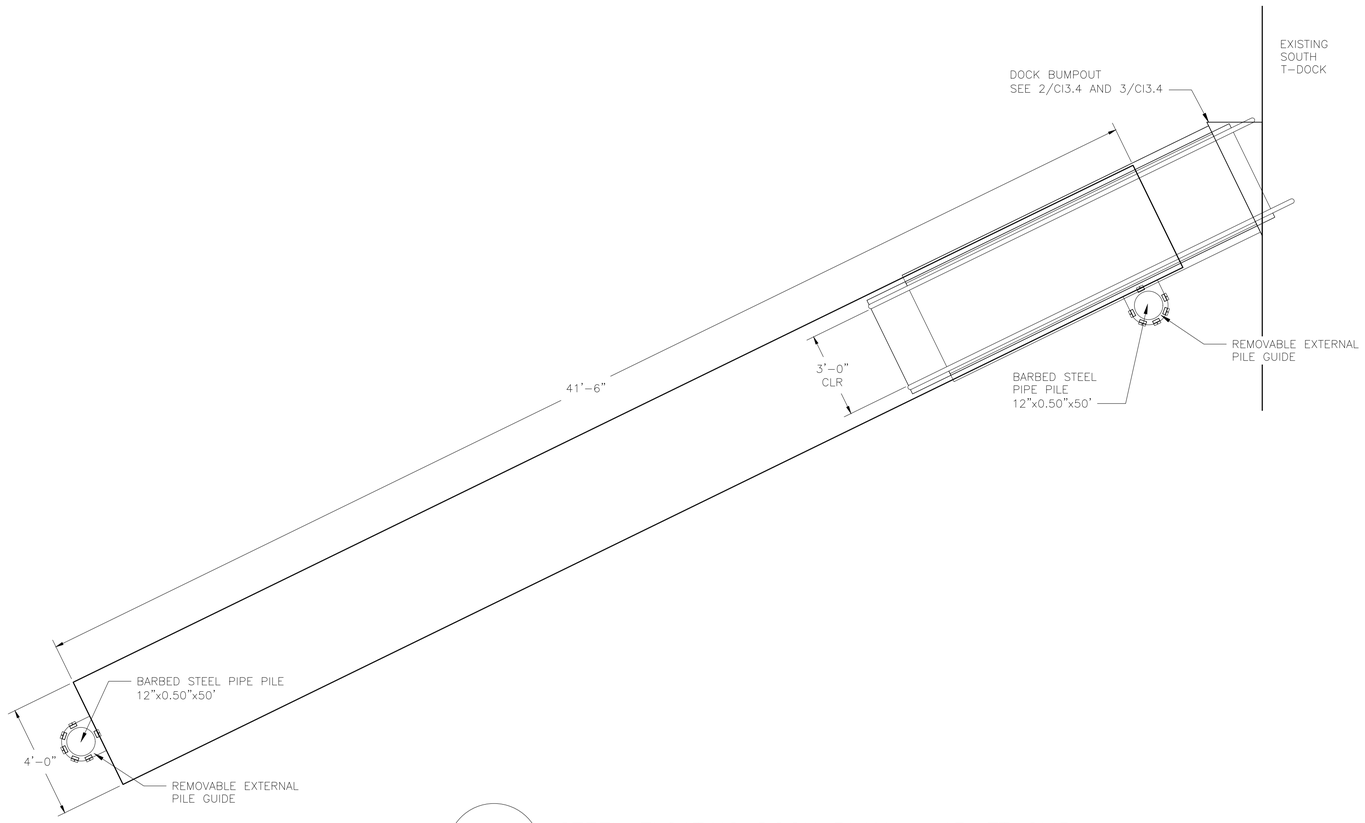
BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

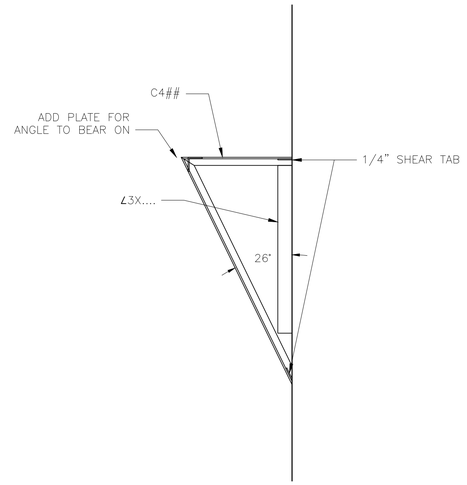
FLOATING DOCK 4

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

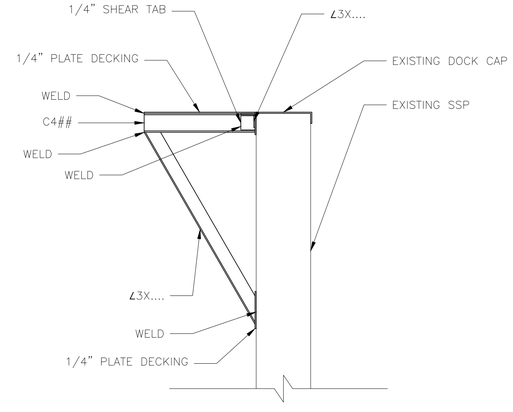
SHEET:
CI3.3



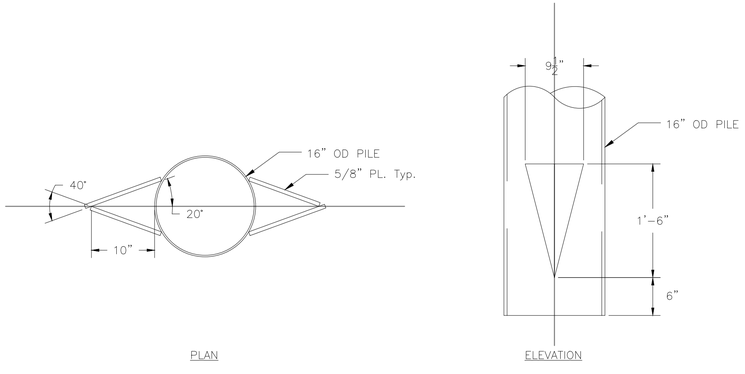
1 / CI3.4 — STEEL FLOATING DOCK PLAN – 45-FT SLIP
3/8" = 1'-0"



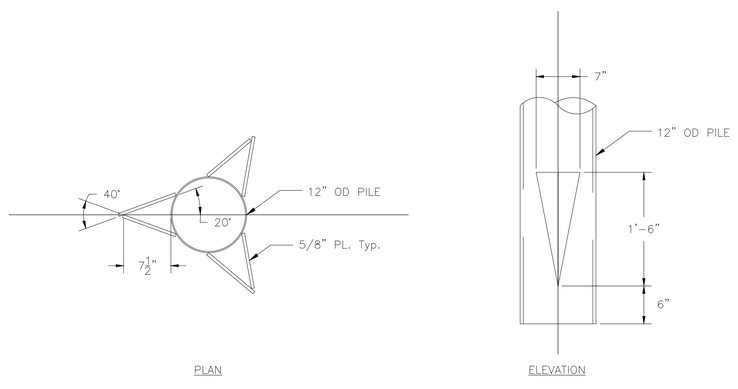
2 / CI3.4 — DOCK BUMPOUT DETAIL
3/4" = 1'-0"



3 / CI3.4 — DOCK BUMPOUT ELEVATION
3/4" = 1'-0"



4 / CI3.4 — 16" OD BARBED PILE DETAIL
1" = 1'-0"



5 / CI3.4 — 12" OD BARBED PILE DETAIL
1" = 1'-0"

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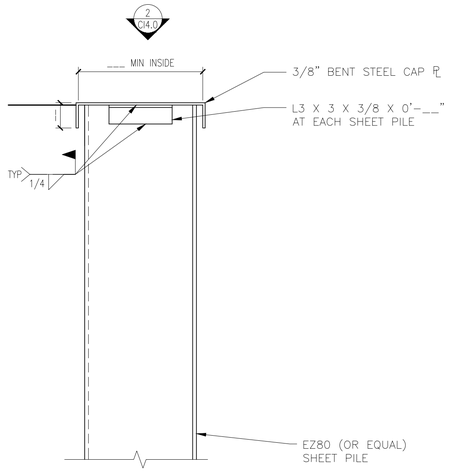
BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814

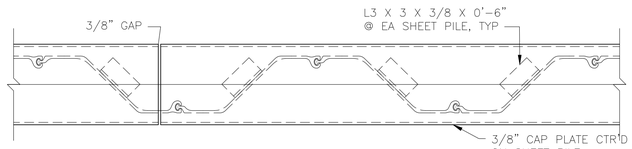
FLOATING DOCKS 5-9 AND BARBED PILE DETAILS

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

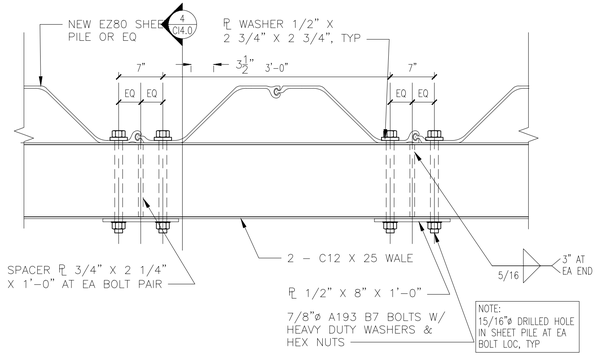
SHEET:
CI3.4



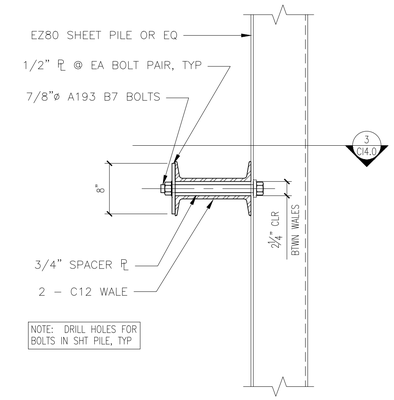
1 CI4.0 SHEET PILE CAP DETAIL
1" = 1'-0"



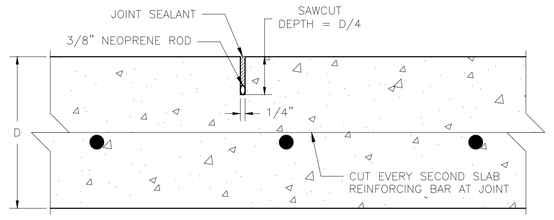
2 CI4.0 SHEET PILE CAP DETAIL
1" = 1'-0"



3 CI4.0 TYP WALE TO SHEET PILE BOLTING PLAN
1" = 1'-0"

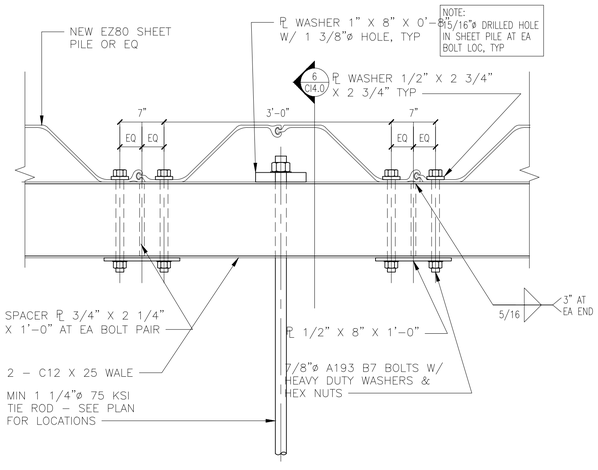


4 CI4.0 TYP WALE BOLT DETAIL
1" = 1'-0"

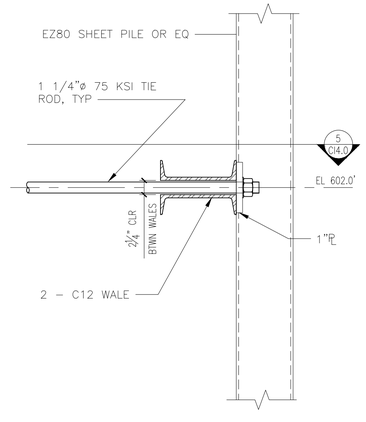


7 CI4.0 CONTROL JOINT DETAIL
3" = 1'-0"

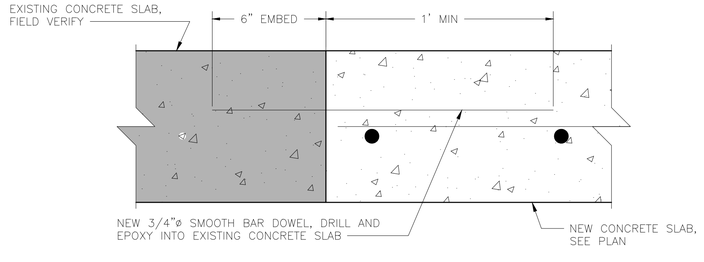
1. MAX LENGTH TO WIDTH ASPECT RATIO = 1.5:1
2. MAX CONTROL JOINT SPACING == 20'-0"



5 CI4.0 TYP WALE TO SHEET PILE W/ TIE ROD
1" = 1'-0"



6 CI4.0 TIE ROD CONNECTION DETAIL
1" = 1'-0"



8 CI4.0 NEW TO EXISTING SLAB DETAIL
1" = 1'-0"

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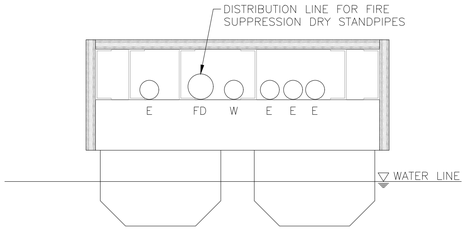
NAME: BRIAN R. MINARY
DATE: 11/1/2025
LICENSE NO. XXXXX

REV:	DATE:	DESCRIPTION	REV. BY:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814
DETAILS

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

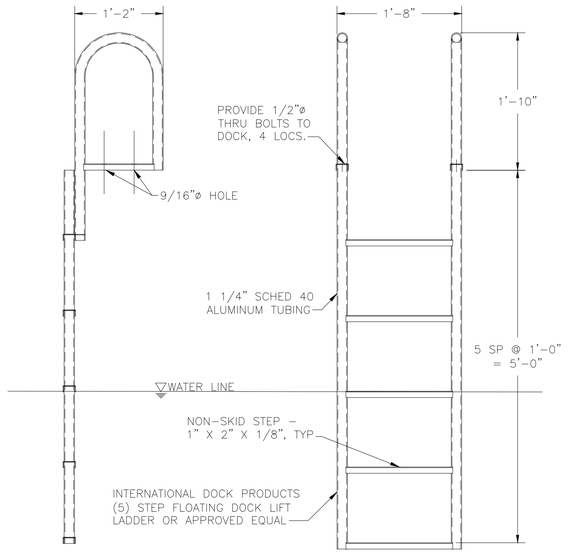
SHEET:
CI4.0



1 / CI4.1 DOCK UTILITY DETAILS

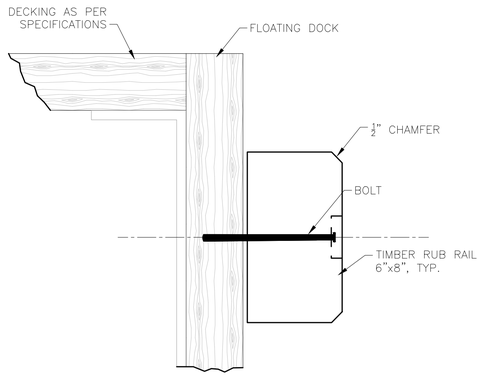
1" = 1'–0"

1. UTILITY CONDUIT AND PIPING TO BE SECURED TO DOCK STRUCTURE WITH GALVANIZED OR STAINLESS STEEL U–BOLTS OR STRAPS.
2. VERIFY LOCATIONS OF PIPES AND CONDUITS
3. ALL VALVES AND DRAINS SHALL BE EASILY ACCESSIBLE FOR MAINTENANCE.
4. PROVIDE SUPPORT AT BENDS IN WATER LINES TO RESIST WATER THRUSTING. THE SUPPORT SHALL BE DESIGNED TO RESIST A PRESSURE EQUAL TO 100 PSI WITH A FACTOR OF SAFETY OF 1.5.
5. MARK PIPING AND CONDUITS FOR CONTENTS AT INTERVALS AND LOCATIONS SPECIFIED.
6. PLACE WATER LINES NEAR CENTER OF DOCK.
7. CONTRACTOR TO INSTALL DRAIN VALVES AT ENDS OF ALL DOCK MAIN WATER LINES, SLOPE WATER LINE FOR WINTERIZATION.
8. KEEP ELECTRICAL NEAR THE HEAD PIER EDGES TO FEED THE MARINA SERVICE STATIONS.
9. ELECTRICAL CONTRACTOR AND ALL SUBCONTRACTORS SHALL COORDINATE UTILITY PIPING LAYOUTS IN HEAD PIERS.
10. ELECTRICAL BOXES ARE NOT ALLOWED BELOW DECK AS PER THE NATIONAL ELECTRICAL CODE (N.E.C.)
11. CONTRACTOR SHALL COMPLY WITH N.E.C. AND ALL OTHER APPLICABLE CODES INCLUDING BUT NOT LIMITED TO N.E.C 555.2 AND 555.5
12. DOCK MANUFACTURER TO REINFORCE STRUCTURE/MODIFY FLOATATION WHERE NEEDED TO SUPPORT UTILITY SYSTEMS.
13. SCHEMATIC IS FOR SAMPLE LAYOUTS AND DOES NOT ACCURATELY DEPICT DOCK STRUCTURE.
14. DOCK STRUCTURE TO VARY BASED ON MANUFACTURER.



2 / CI4.1 RECOVERY LADDER

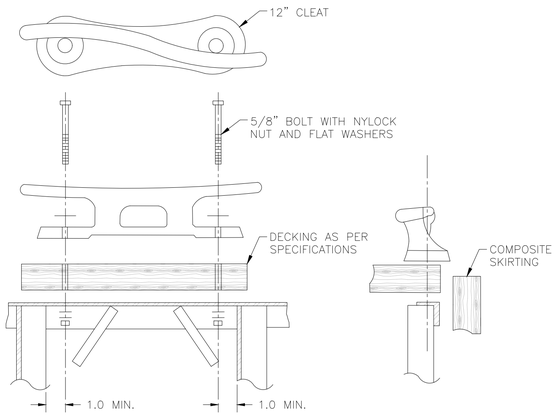
1" = 1'–0"



3 / CI4.1 FLOATING DOCK RUB RAIL DETAIL

6" = 1'–0"

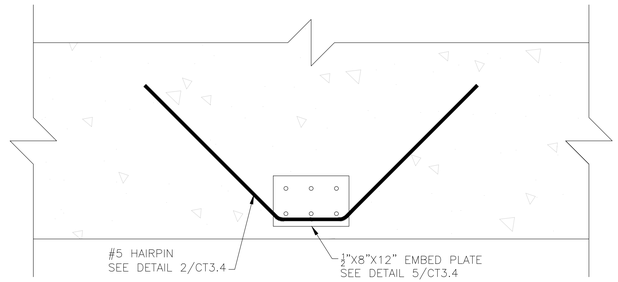
1. FENDERS REQUIRED ON ALL PIERS INTENDED FOR BOAT MOORING, INCLUDING SLIPS, BOAT LAUNCH DOCKS, AND BROADSIDE MOORING LOCATIONS AND ALL OTHER DOCK LOCATIONS WHICH MAY CONTACT BOATS.



4 / CI4.1 DOCK CLEAT INSTALLATION DETAIL

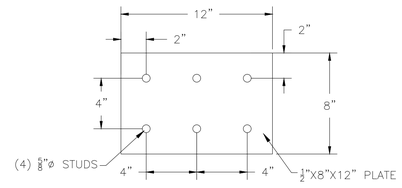
3" = 1'–0"

1. 12" CLEATS FOR DOCKS LESS THAN 50'
2. LARGE CLEATS WILL BE 24" AND RATED FOR 10 TONS.



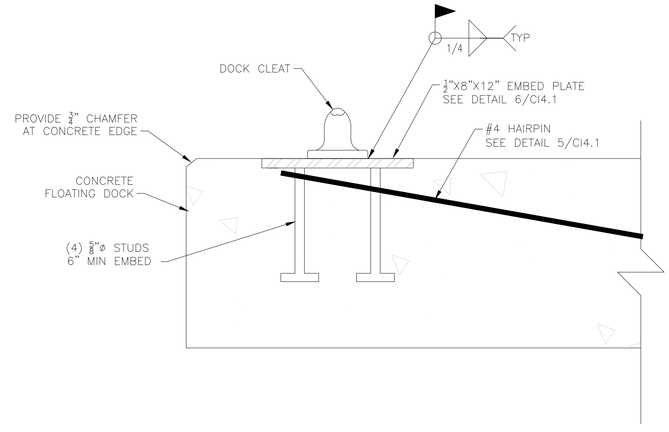
5 / CI4.1 MOORING CLEAT EMBED DETAIL

1" = 1'–0"



6 / CI4.1 EMBED PLATE DETAIL

2" = 1'–0"



7 / CI4.1 MOORING CLEAT EMBED PLATE SECTION

3" = 1'–0"

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NOT FOR CONSTRUCTION

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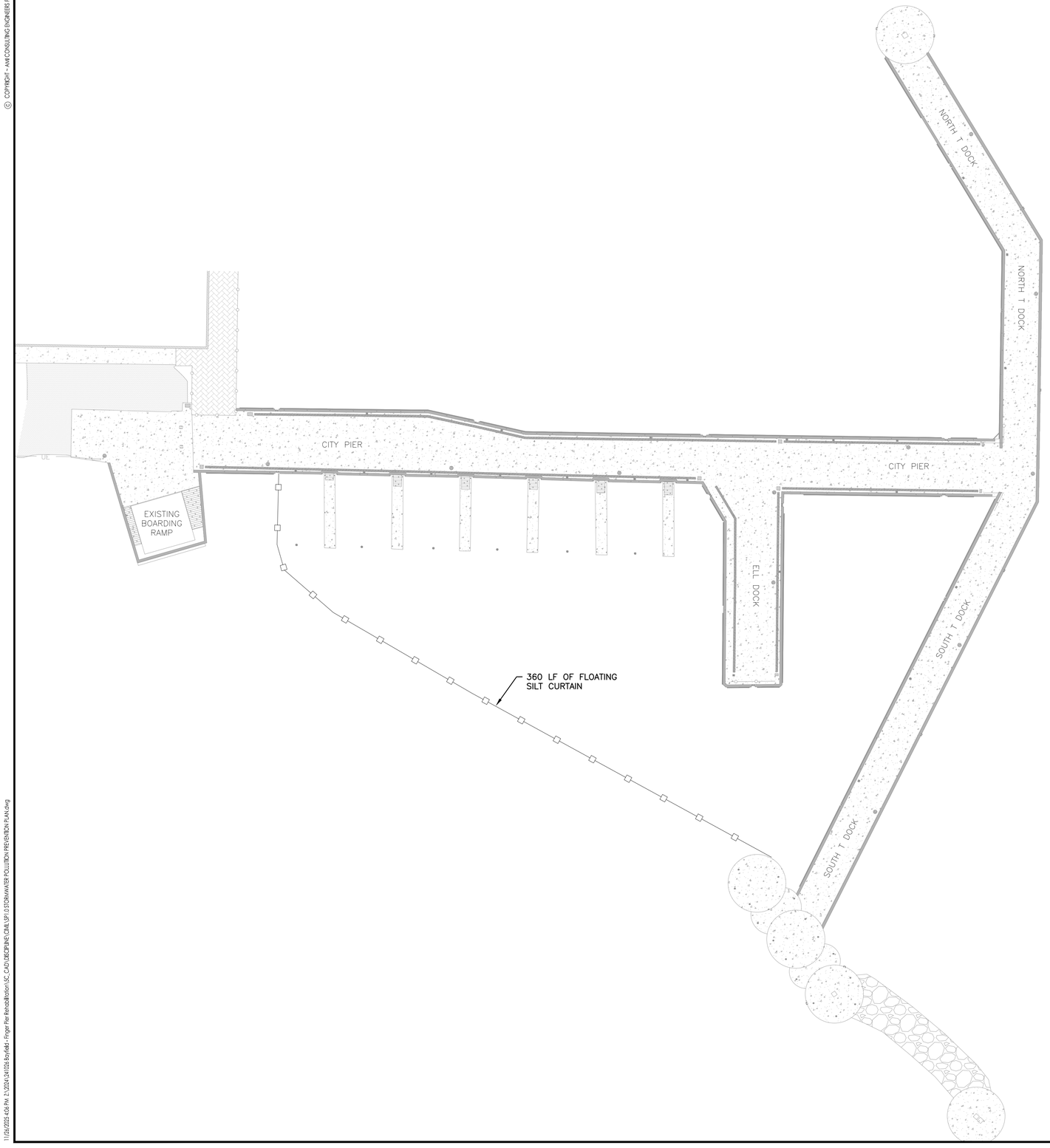
SIGNATURE:
DATE:
LIC. NO.: XXXX

DATE:	REV:	DESCRIPTION	REV. BY:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814
DETAILS

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET: CI4.1

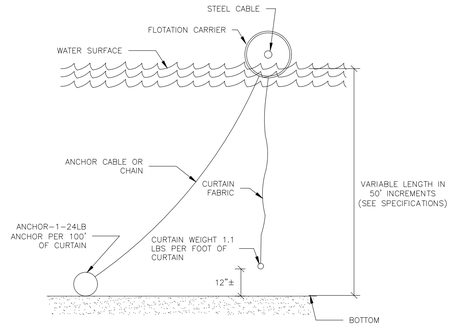


N

0 30 60 Feet

EROSION AND SEDIMENT CONTROL NOTES

1. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY WORK BEGINNING ON THE PROJECT.
2. PERIMETER CONTROL BMP'S SHALL BE INSTALLED PRIOR TO WORK IN WATER OPERATIONS.
3. THE CONTRACTOR CAN PROPOSE A DIFFERENT CONFIGURATION FOR THE SILT CURTAIN LAYOUT AS LONG AS IT MEETS CONSTRUCTION PERMIT REQUIREMENTS.
4. IF DEBRIS FALLS INTO THE WATER DURING REMOVAL, ALL EFFORTS MUST BE MADE TO CLEAN UP WATER BODY OF DEBRIS.
5. STOCKPILING MATERIALS NEAR THE WATERS EDGE REQUIRES APPROPRIATE BMPS.
6. PROVIDE ADDITIONAL EROSION CONTROL, WHICH MAY NOT BE SHOWN ON THE DRAWINGS, CONSISTENT WITH THE MEANS, METHODS AND SEQUENCE OF CONSTRUCTION IN ACCORDANCE WITH PERMIT REQUIREMENTS AND AUTHORITIES HAVING JURISDICTION.
7. MATERIALS AND EQUIPMENT STAGING AREA MUST BE LOCATED AT LEAST 250 FEET FROM THE LAKE SHORE/WATERLINE.



NOTES:

1. SILT CURTAIN TYPE 2 – MOVING WATER
2. THE SILT CURTAINS SHALL BE PROTECTED FROM ALL ENVIRONMENTAL CONDITIONS INCLUDING, BUT NOT LIMITED TO, ICE DAMAGE, CURRENTS, AND FLOODING EVENTS. ALL WORK ASSOCIATED WITH MAINTAINING SILT CURTAINS AND SWPPP COMPONENTS IS INCIDENTAL TO THE CONTRACT; THIS INCLUDES BUBBLER SYSTEMS, ANCHORING, AND ALL OTHER PROTECTIVE AND NECESSARY MEASURES. THE SILT CURTAINS SHALL BE MAINTAINED IN GOOD WORKING CONDITION AT ALL TIMES.

607 | FLOATING SILT CURTAIN

NOT TO SCALE

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REV. BY:	DESCRIPTION	REV.	DATE:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814

STORMWATER POLLUTION PREVENTION PLAN

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
SP1.0

1. SCOPE
   - 1.1. CONTRACTOR SHALL FURNISH LABOR, MATERIALS, AND ALL ELSE NECESSARY TO COMPLETE THE PLUMBING WORK SHOWN ON DRAWINGS AND AS SPECIFIED, EXCEPT AS OTHERWISE NOTED. WORK SHALL GENERALLY INCLUDE BUT NOT BE LIMITED TO:
     - 1.1.1. COMPLETE POTABLE WATER DISTRIBUTION SYSTEM FROM EDGE OF BUILDING TO ENDS OF DOCK

2. CODES, RULES, AND REGULATIONS
   - 2.1. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH WI STATE BUILDING CODE, WI STATE PLUMBING CODE, AND APPLICABLE RULES, REGULATIONS OF LOCAL AND STATE GOVERNMENTS, AND UTILITY REQUIREMENTS.
   - 2.2. CONTRACTOR SHALL MAKE ALL CONNECTIONS OF HIS TRADE AND SHALL CONFORM WITH, COOPERATE WITH, AND ASSIST OTHER CONTRACTORS.
   - 2.3. DRAWINGS AND SPECIFICATIONS INDICATE MINIMUM STANDARDS OF CONSTRUCTION.

3. GENERAL REQUIREMENTS
   - 3.1. PERMITS, FEES, LICENSES, TAXES – CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, LICENSES, FEES, TAXES, INSPECTIONS, AND CERTIFICATES, ECT., NECESSARY FOR THE PERFORMANCE OF THE WORK INCLUDED IN THIS CONTRACT AND SHALL OBSERVE ANY REQUIREMENTS STIPULATED.
   - 3.2. CONSULT AND COOPERATE WITH ALL LOCAL BUILDING OFFICIALS, UTILITIES, ECT., FOR SERVICE COSTS AND INSTALLATION REQUIREMENTS.
   - 3.3. CONTRACTOR SHALL CALL TO THE ATTENTION OF THE ENGINEER TO ANY MATERIALS OR APPARATUS IT BELIEVES TO BE INADEQUATE OR UNSUITABLE. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE SATISFACTORY FUNCTIONING OF THE MODIFIED SYSTEMS AND THAT ALL WORK CONFORMS TO APPLICABLE CODES.
   - 3.4. RUN AND ARRANGEMENT OF PIPING SHALL BE APPROXIMATELY AS INDICATED ON DRAWINGS, SUBJECT TO MODIFICATIONS AS REQUIRED. CONTRACTOR SHALL REFER TO AND CAREFULLY CHECK DRAWINGS AND DETAILS, AND SHALL ARRANGE ITS WORK ACCORDINGLY.
   - 3.5. MATERIALS SHALL BE NEW AND OF BEST QUALITY.
   - 3.6. MATERIALS, EQUIPMENT, FIXTURES, AND FITTINGS SHALL BE PROPERLY AND ADEQUATELY PROTECTED BY THE CONTRACTOR.
   - 3.7. CONSULT WITH OWNER'S REPRESENTATIVE IN MATTER OF CONFLICT.

4. INSTALLATION
   - 4.1. SITE CONDITIONS
     - 4.1.1. DRAWINGS ARE DIAGRAMMATIC. EXACT LOCATIONS OF ALL WORK SHALL BE SUBJECT TO STRUCTURAL CONDITIONS AND THE WORK OF OTHER CONTRACTORS.
     - 4.1.2. CONTRACTOR SHALL DO HIS OWN CUTTING AND PATCHING. DO NOT CUT STRUCTURAL MEMBERS WITHOUT PERMISSION OF ENGINEER.
   - 4.2. MATERIALS TO AND INSTALLATION TO CONFORM TO APPLICABLE STATE AND LOCAL CODES.
   - 4.3. ALL PIPING SHALL BE RUN WITHOUT SAGS OR HUMPS, PIPES SHOULD BE RUN WITH AN S-SHAPED LAYOUT TO ALLOW FOR EXPANSION AND CONTRACTION.

5. PLUMBING MATERIALS
   - 5.1. SHALL BE THE FOLLOWING MATERIALS AND ACCORDANCE WITH STATE PLUMBING CODE AND THE FOLLOWING MINIMUMS.

     PE – ASTM 2239 SIDR9 160 PSI PIPE

6. MISCELLANEOUS
   - 6.1. CONTRACTOR SHALL TEST ENTIRE WATER SUPPLY SYSTEM TO A HYDROSTATIC PRESSURE OF 50 PSI GAUGE FOR 15 MINUTES AS SPECIFIED IN APPLICABLE CODES. SYSTEMS SHALL BE PROVEN TIGHT AT THIS PRESSURE BEFORE TRENCHES ARE BACK-FILLED, WALLS ARE FINISHED, AND BEFORE FIXTURES ARE INSTALLED.
   - 6.2. THE CONTRACTOR SHALL GUARANTEE THAT DURING THE ONE YEAR PERIOD FOLLOWING THE COMPLETION OF INSTALLATION IT SHALL REPAIR ALL DEFECTIVE WORK AND REPLACE ALL DEFECTIVE MATERIALS FURNISHED OR INSTALLED UNDER THIS CONTRACT FREE OF COST TO OWNER.
   - 6.3. ALL PIPING TO BE FLUSHED AND SANITIZED TO MEET APPLICABLE CODES.

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NAME: BRADLEY R. MINARY
SIGNATURE: _____
DATE: _____
LIC. NO.: XXXX

REV. BY:	DESCRIPTION	REV:	DATE:

BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

PLUMBING NOTES

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

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P0.0

N

0 30 60 Feet

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BAYFIELD FINGER PIER REHABILITATION

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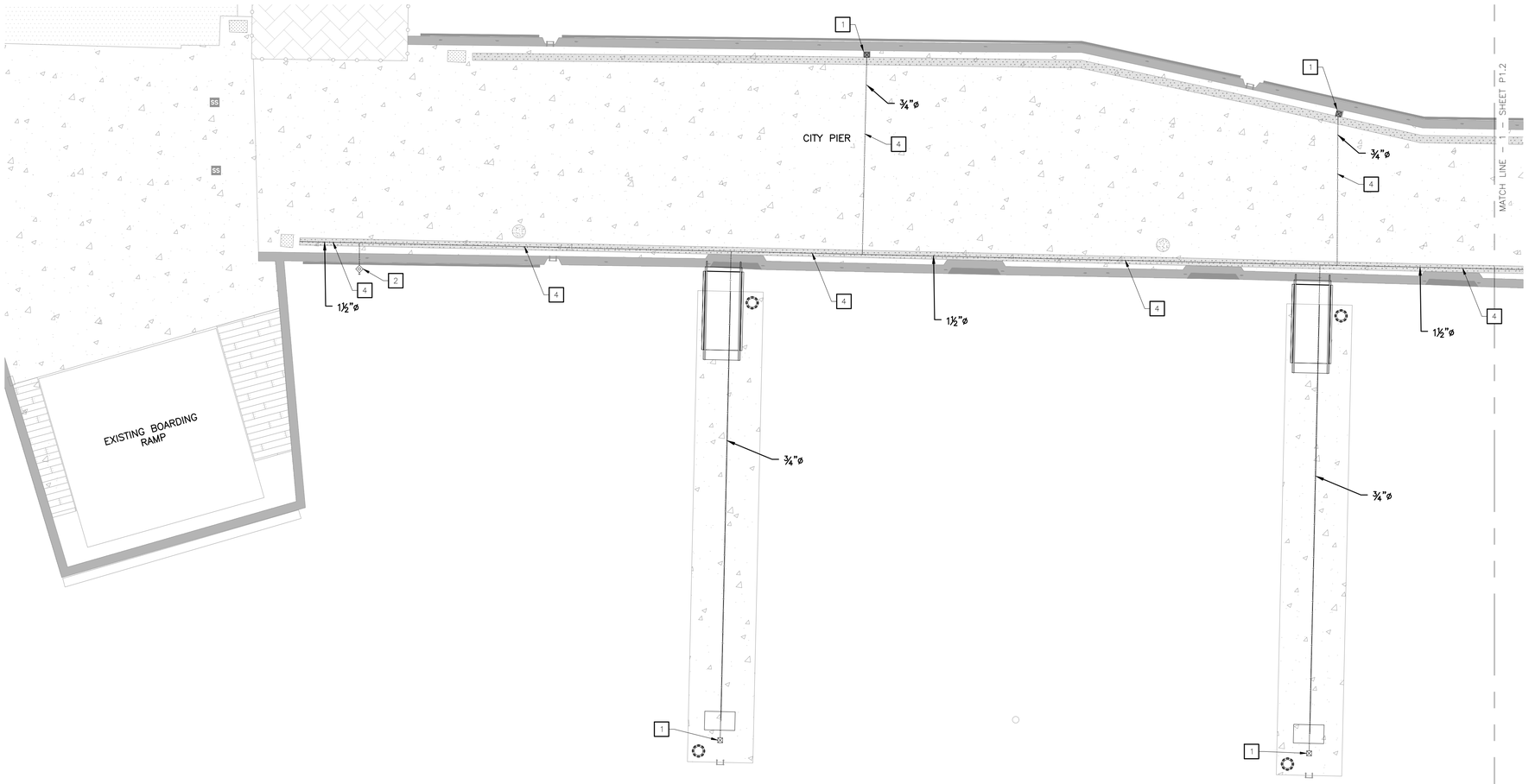
PLUMBING PLAN OVERVIEW

JOB No: 241026
DATE: 11/1/2025
DRAWN BY: BRG
DESIGNED BY: CAD

SHEET:
P1.0



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0 10 20 Feet

KEY NOTES

1. UTILITY PEDESTAL WITH WATER
2. ¾" DRAIN LINE WITH BALL VALVE
3. UTILITY HANDHOLE
4. REPLACE EXISTING COPPER LINE WITH P.E. WATER LINE OF SIZE INDICATED

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NAME: BRIAN R. MINARY
SIGNATURE:
DATE:
LIC. NO.: XXXX

DATE:	REV:	DESCRIPTION	REV. BY:

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PLUMBING PLAN

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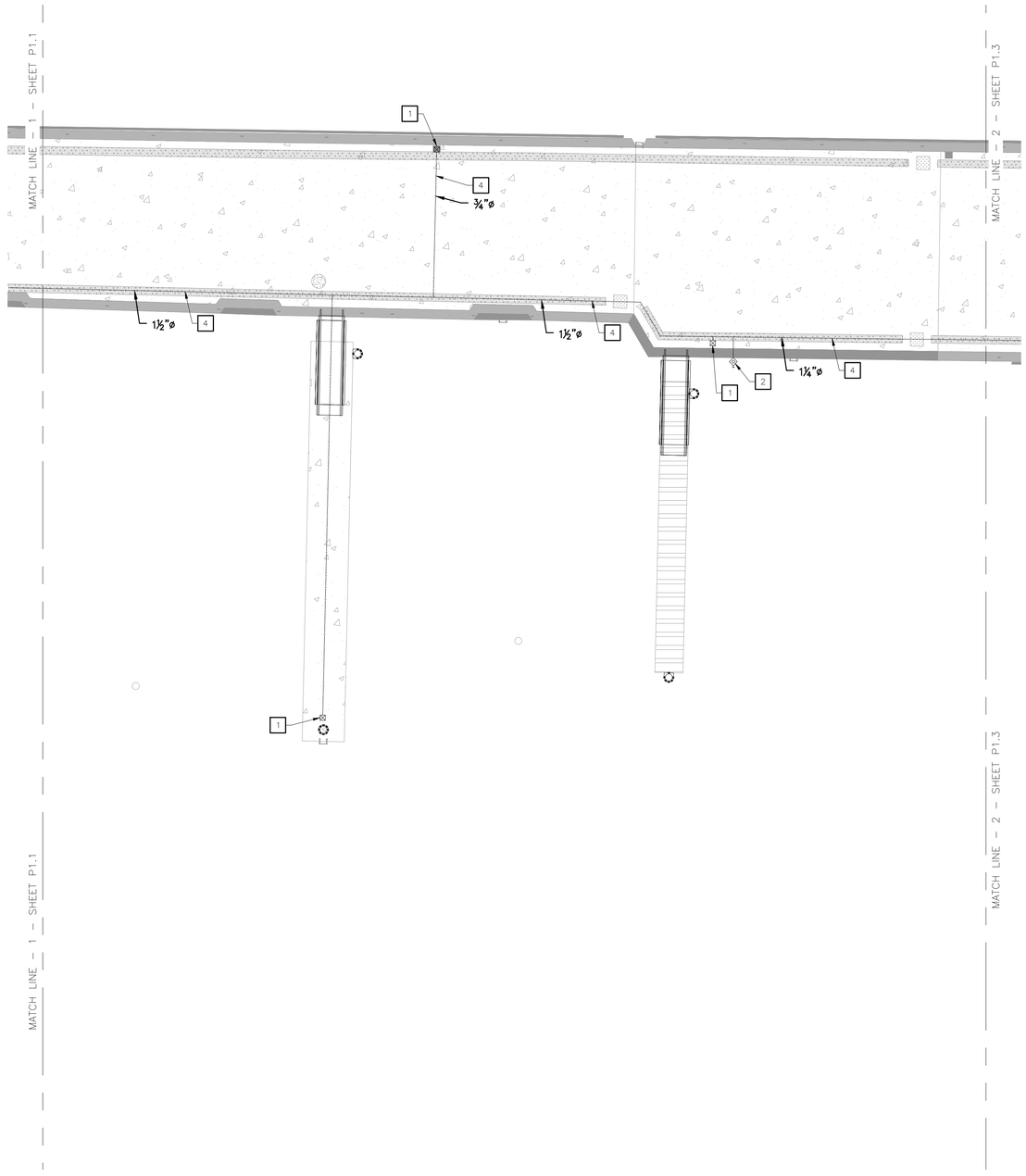

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PLUMBING PLAN

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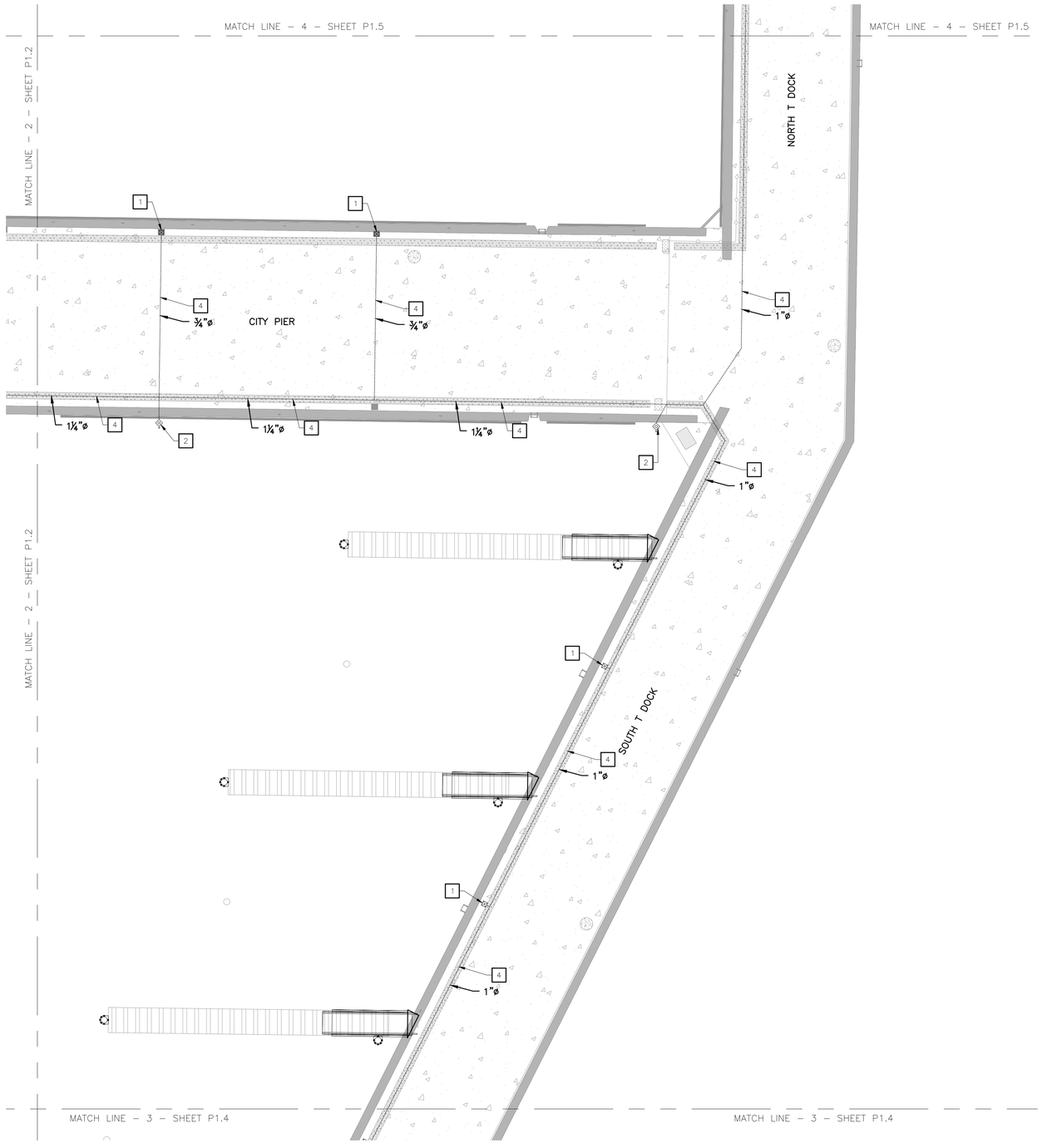

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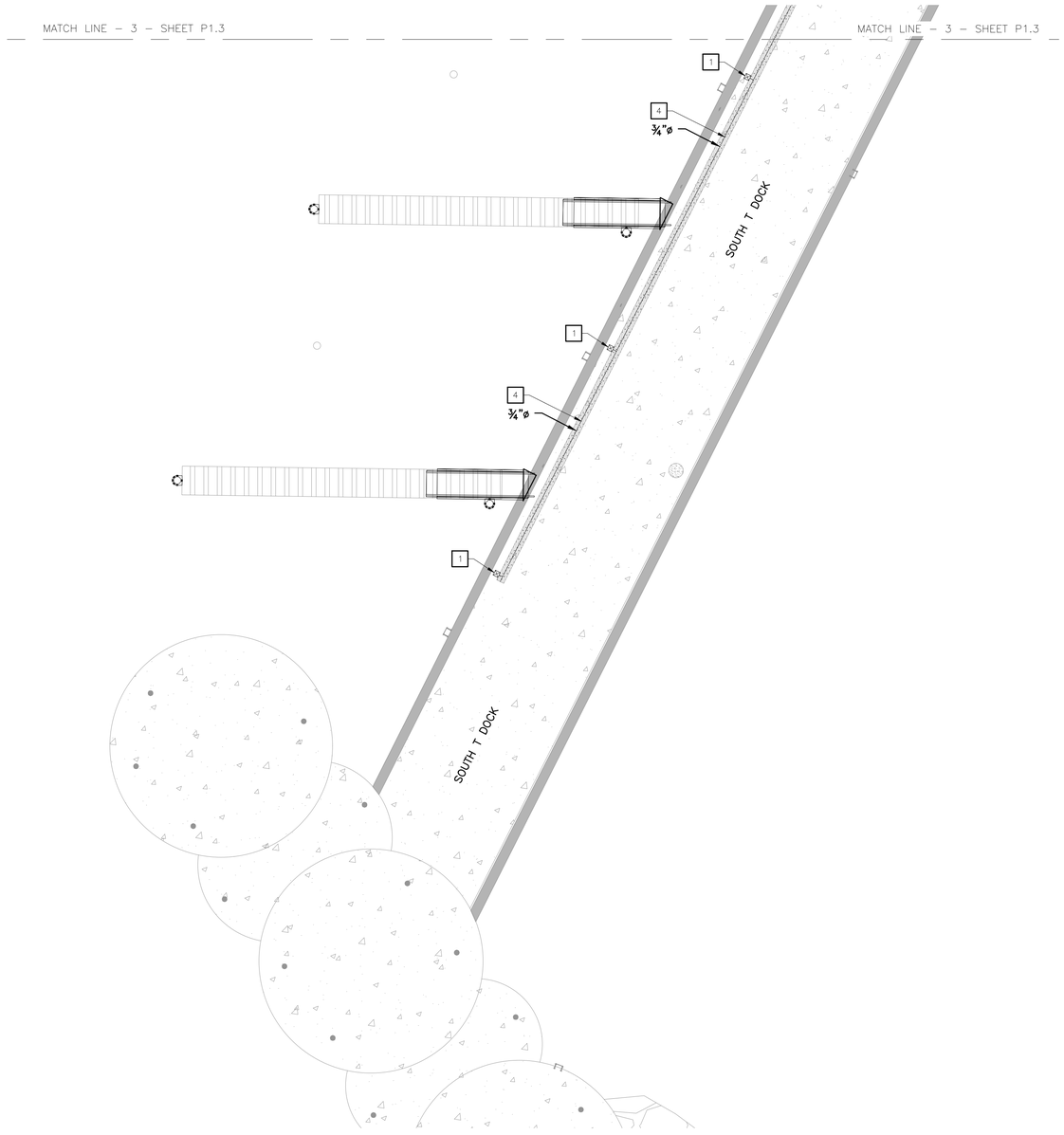

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PLUMBING PLAN

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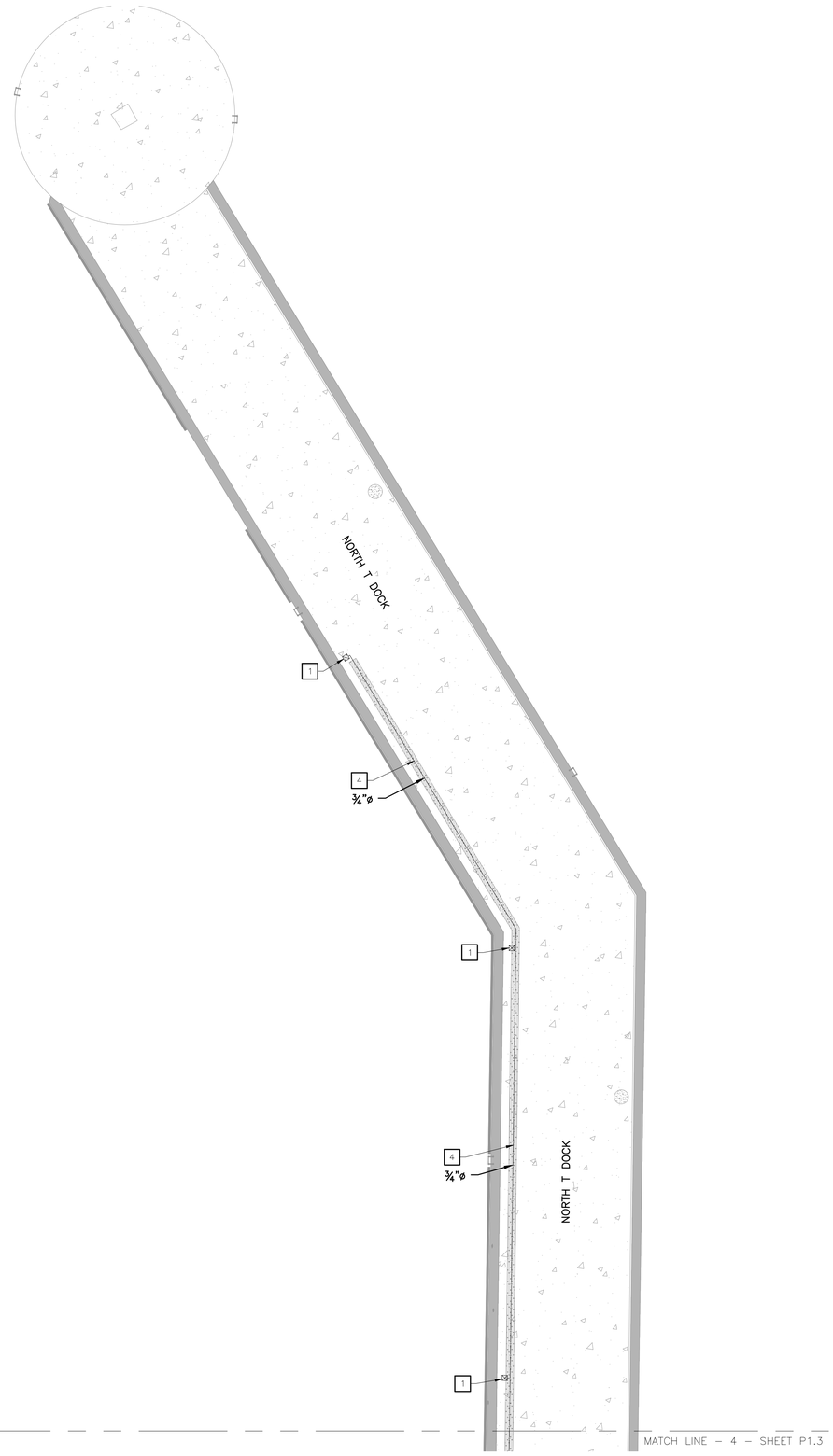

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ELECTRICAL LEGEND

GENERAL

- PANEL
- HOT LEG
- HOT LEG WITH NEUTRAL
- HOT LEG WITH GROUND
- SWITCH LEG
- THREE-WAY CIRCUIT
- CIRCUIT HOME RUN

POWER

- NON-FUSED DISCONNECT
- TRANSFORMER
- 120V DUPLEX RECEPTACLE
- 120V QUAD RECEPTACLE
- 240V RECEPTACLE
- RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER
- RECEPTACLE, IN-FLOOR BOX & COVER
- WEATHER-RESISTANT RECEPTACLE, IN-USE, METAL, HEAVY-DUTY, WITH GROUND FAULT CIRCUIT INTERRUPTER
- A — ABOVE COUNTER RECEPTACLE, COORDINATE WITH ARCHITECTURE
- U — UNDER COUNTER RECEPTACLE, COORDINATE WITH ARCHITECTURE
- C — 120V DUPLEX RECEPTACLE SWITCHED WITH LIGHTING CONTROLS
- USB — 120V DUPLEX RECEPTACLE WITH USB PORT
- TAMPER-RESISTANT RECEPTACLE
- J — JUNCTION BOX
- NORMALLY CLOSED CONTACT
- NORMALLY OPEN CONTACT
- R — CONTACT
- DR — DELAY OFF
- T — THERMOSTAT
- T — TIMER
- F — FUSE

WIRING COLOR CODE

CONDUCTOR	COLOR
120/208 (240)	
PHASE A	BLACK
PHASE B	RED
PHASE C (3Φ ONLY)	BLUE
NEUTRAL	WHITE
GROUND	GREEN
277/480	
PHASE A	BROWN
PHASE B	ORANGE
PHASE C (3Φ ONLY)	YELLOW
NEUTRAL	GRAY
GROUND	GREEN

ELECTRICAL ABBREVIATIONS

A / AB	ABOVE
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFI	ARC FAULT INTERRUPTER
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AVAILABLE FAULT CURRENT
AMP	AMPERE
AP	ANNUNCIATOR PANEL
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
BFG	BELOW FINISHED GRADE
BOD	BASIS OF DESIGN
CKT	CIRCUIT
CT	CURRENT TRANSFORMER
DN	DOWN
DWG	DRAWING
ECB	ENCLOSED CIRCUIT BREAKER
EDP	ELECTRICAL DATUM PLANE
EMG	EMERGENCY
ERMS	ENERGY REDUCING MAINTENANCE SWITCH
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
GFM	GROUND FAULT MONITOR
GFPE	GROUND FAULT PROTECTION OF EQUIPMENT
HP	HORSEPOWER
HZ	HERTZ
KVA	KILOVOLT-AMPERE
KW	KILOWATT
LEUD	LOCAL ELECTRICAL AND UTILITY DEPARTMENT
MCB	MAIN CIRCUIT BREAKER
MCS	MOLDED CASE SWITCH
MDP	MAIN DISTRIBUTION PANEL
MFG	MANUFACTURING
MFR	MANUFACTURER
MLO	MAIN LUG ONLY
MOCP	MAIN OVERCURRENT PROTECTION
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
OH	OVERHEAD
PH / Φ	PHASE
PNL	PANEL
PPC	PORTABLE POWER CABLE
RECPT	RECEPTACLE
SCH	SCHEDULE
SER	SERVICE ENTRANCE RATED
SPD	SURGE PROTECTIVE DEVICE
ST	SHUNT TRIP
TYP	TYPICAL
U / UC	UNDER / UNDER CABINET
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
US	UNDERSLAB
UW	UNDERWATER
V	VOLT
VA	VOLT-AMPERE
W	WATT
WR	WEATHER-RESISTANT
WRI	WEATHER-RESISTANT, IN-USE

ELECTRICAL MATERIALS SCHEDULE - MARINA

- ALL NONMETALLIC MATERIAL SHALL BE UV-RESISTANT
- ALL WIRING METHODS ABOVE DECK SHALL BE PROTECTED IN SCHEDULE 80 PVC CONDUIT UP TO 8'-0"

DESCRIPTION	MATERIAL	STANDARDS	REMARKS
WIRE / CABLE			
#10 & SMALLER	600-VOLT THWN THWN-2 AS NOTED	UL 83	• STRANDED • TINNED SOFT • DRAWN COPPER • NOT FOR SUBMERSION
#8 & LARGER	600-VOLT THWN THWN-2 AS NOTED	UL 83	• STRANDED • TINNED SOFT • DRAWN COPPER • UNDER DECK • NOT FOR SUBMERSION
#10 & SMALLER TYPE "SOW" / "STW" / "STOW" / "SEOW" / "STOOW" PORTABLE POWER CORDS	105°C 2000-VOLT	UL 83	• STRANDED • TINNED SOFT • DRAWN COPPER • EXTRA HARD USE • SUN LIGHT RESISTANT • OIL, GAS, AND CHEMICAL RESISTANT
#8 & LARGER TYPE "W" / "G" / "G-GC" PORTABLE POWER CABLE	105°C 2000-VOLT	UL 83	• STRANDED • TINNED SOFT • DRAWN COPPER • EXTRA HARD USE • SUN LIGHT RESISTANT • OIL, GAS, AND CHEMICAL RESISTANT
WET-LISTED MC CABLE	600-VOLT		• PVC JACKET • NOT FOR SUBMERSION
CONDUIT			
RIGID	GALVANIZED STEEL	HH 9359	• NOT FOR SUBMERSION
PVC	SCHEDULE 40 / 80 PVC	NEMA TC-2	• USE SCHEDULE 40 IN PROTECTED DOCK STRUCTURE OR UNDERGROUND / UNDERWATER / UNDERDECK • USE SCHEDULE 80 ABOVE THE DECK AND ABOVE GROUND UP TO 8'
EMT	GALVANIZED DUCTILE STEEL	HE 8141	• ELECTRIC METALLIC TUBING - USE IN DRY LOCATIONS OF FLOATING BUILDINGS
LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT		• LISTED FOR DIRECT BURIAL - INSTALL WHERE NOT SUBJECT TO PHYSICAL DAMAGE AND NOT ABOVE THE DECK
HDPE	HIGH-DENSITY POLYETHYLENE		• INSTALL UNDERGROUND FOR SERVICE AND FEEDER CONDUCTORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE
CONDUIT HANGERS / STRAPS			
UP TO 3/4"	GALVANIZED STEEL		• 4'-0" O/C MAXIMUM
1" TO 1-1/4"			• 6'-0" O/C MAXIMUM
1-1/2" & UP			• 8'-0" O/C MAXIMUM
CABLE SUPPORT			
"KELLEMS" CABLE GRIPS	STAINLESS STEEL		• COORDINATE SIZE AND STYLE FOR PROPER CABLE OR CONDUIT

ELECTRICAL MARINA NOTES

1. APPLICABLE CODES INCLUDE, BUT ARE NOT RESTRICTED TO, THE LATEST ADOPTED VERSIONS OF THE FOLLOWING CODES AT THE TIME OF THE PLAN DATE:
   - NFPA 70 NATIONAL ELECTRIC CODE
   - INTERNATIONAL BUILDING CODE
   - UL UNDERWRITERS LABORATORY
   - NEMA
2. ELECTRICAL SYSTEM(S) SHALL BE INSTALLED COMPLETE WITH ALL WORK, MATERIALS, AND EQUIPMENT CUSTOMARILY CONSIDERED PART OF SUCH WORK FOR A FULLY OPERATIONAL, COMPLETE, AND CODE COMPLIANT SYSTEM.
3. PLANS ARE DIAGRAMMATIC AND ARE PROVIDED ONLY TO SHOW GENERAL SYSTEM. CONTRACTOR SHALL CONSIDER ACTUAL FIELD CONDITIONS DURING INSTALLATION. ANY GROSS INTERFERENCE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE CONTINUING.
4. ALL ELECTRICAL CONNECTIONS SHALL BE MOUNTED ABOVE ELECTRICAL DATUM PLANE.
5. COORDINATE FINAL LOCATIONS OF ALL SWITCHES AND OUTLETS WITH OWNER. OWNER SHALL RETAIN RIGHT TO MAKE MINOR LOCATION ADJUSTMENTS PRIOR TO EQUIPMENT INSTALLATION WITHOUT ADDITIONAL COST.
6. ALL 3Φ CIRCUITS SHALL HAVE A-B-C PHASE ROTATION. ALL 3Φ ELECTRICAL SWITCHGEAR, SWITCHBOARDS, MCC'S, AND SIMILAR EQUIPMENT SHALL HAVE A-B-C PHASE ROTATION FROM LEFT TO RIGHT. REFER TO THE POWER WIRING COLOR CODE ON THIS SHEET.
7. VERIFY AVAILABLE CIRCUIT CURRENT WITH ELECTRICAL POWER SUPPLIER.
8. PROVIDE COMPLETE AND COMPLIANT EQUIPMENT AND SYSTEM GROUNDING THROUGHOUT ELECTRICAL INSTALLATION. INSTALL BONDING JUMPERS TO OUTLET BOXES IN METALLIC CONDUIT SYSTEMS.
9. UNLESS OTHERWISE NOTED, EACH CONDUIT OR RACEWAY SHALL CONTAIN ONLY A SINGLE CIRCUIT.
10. ALL EXTERIOR EQUIPMENT SHALL BE NEMA 3R RAINTIGHT.
11. WITH ALL LIGHTING AND MOTOR LOADS OPERATING, CONTRACTOR SHALL VERIFY THAT THE PHASE BALANCE IN EACH PANEL IS WITHIN 5%.
12. COMPLETE ELECTRICAL SYSTEMS SHALL BE TESTED FOR COMPLIANCE AND FUNCTION IN ACCORDANCE WITH LOCAL INSPECTIONS AND NATIONAL CODES.
13. CONTRACTOR SHALL INSTALL EXPANSION AND DEFLECTION CONDUIT FITTINGS PER NEC 300.7(B), PLANS, AND SPECIFICATIONS.
14. THE AMPACITY, VOLTAGE, AND PHASE OF ALL DISCONNECTS SHALL BE RATED PER THE SPECIFIED CIRCUIT AND UPSTREAM OVERCURRENT PROTECTION UON. THE ENCLOSURE NEMA RATING SHALL BE COORDINATED AS REQUIRED BY THE ENVIRONMENT.
15. IF DISCREPANCIES EXIST WITHIN THE PLANS AND/OR SPECIFICATIONS, THE MOST STRINGENT SHALL APPLY AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BRING IT TO THE ATTENTION OF THE ENGINEER BEFORE WORK IS STARTED OR MATERIAL/EQUIPMENT IS ORDERED.
16. THE PLANS AND SPECIFICATIONS FOR THIS WORK HAVE BEEN PREPARED WITH THE INTENT TO BE AS ACCURATE AND COMPLETE AS PRACTICAL, BUT ERRORS, OMISSIONS, AND CONFLICTS MAY EXIST. PRIOR TO SUBMITTING A BID FOR CONSTRUCTING THE WORK, THE CONTRACTOR SHALL REVIEW THE PLANS AND SPECIFICATIONS IN DETAIL. ANY QUESTIONS OR COMMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO SUBMITTING A BID. BY SUBMITTING A BID FOR THE WORK, THE CONTRACTOR ACKNOWLEDGES THAT HE HAS REVIEWED THE PLANS AND SPECIFICATIONS, UNDERSTANDS THE DESIGN INTENT, AND DOES NOT HAVE ANY FURTHER QUESTIONS OR COMMENTS.
17. CONTRACTOR SHALL FIELD VERIFY THAT ALL PARALLEL CONDUCTOR RUNS OF SERVICE ENTRANCE OR FEEDER CONDUCTORS FOR EACH CIRCUIT FOLLOW THE SAME PATH AND ARE OF EQUAL LENGTH.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UTILITY FEES AND CHARGES FOR INSTALLATION AND UTILITY UPGRADES FOR PROJECT.
19. CONTRACTOR SHALL COORDINATE AND PAY FOR ALL PERMITS, INSPECTION FEES, UTILITY FEES, AND UTILITY CHARGES FOR THIS PROJECT.
20. CONTRACTOR SHALL WARRANTY ALL SYSTEMS FOR PARTS, EQUIPMENT, MATERIAL, AND LABOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
21. THE OWNER AND/OR OWNER'S REPRESENTATIVE SHALL INSPECT THE INSTALLATION AT SUBSTANTIAL COMPLETION AND AT ONE YEAR FROM SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CORRECTIONS THAT DO NOT CONFORM TO THE CODE AND/OR THE CONTRACT DOCUMENTS.
22. KELLEMS GRIPS SHALL BE INSTALLED SO THE GRIP IS ALIGNED WITH THE CABLE TO AVOID ANY PRESSURE POINTS ANYWHERE ALONG THE LENGTH OF THE GRIP. THIS INCLUDES INSTALLATION PROJECTS WHERE TIDAL ACTION MAY CHANGE THE ANGLE OF THE CABLE IN REFERENCE TO THE GRIP POSITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBSERVING AND MAKING ANY ADJUSTMENTS TO THE GRIP MOUNTING POSITION AND CABLE LENGTHS AS REQUIRED TO MITIGATE PRESSURE POINTS AT LOW AND HIGH TIDES. REFER TO PLANS AND DETAILS WHERE THE GRIPS ARE INDENDED TO BE INSTALLED. ALL KELLEMS GRIPS, SUPPORT CABLE, AND MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
23. LABEL REQUIREMENTS:
    A. ALL ELECTRICAL EQUIPMENT SHALL BE AFFIXED WITH A PERMANENT LABEL STATING THE EQUIPMENT NAME, VOLTAGE AND PHASE CLASS, AMPACITY, AND WHERE THE EQUIPMENT IS FED FROM.
    B. PANEL DIRECTORIES SHALL BE TYPED SHOWING EACH BRANCH BREAKER LOAD AS SHOWN IN THE PANEL SCHEDULES.
    C. EACH SHORE POWER PEDESTAL SHALL BE LABELED WITH THE UPSTREAM CIRCUIT AND PANEL.
24. CONTRACTOR SHALL CARRY CONTINGENCY IN THE AMOUNT OF 10% OF BID.
25. SUBMITTAL REQUIREMENTS: CONTRACTOR SHALL PREPARE AND SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL DETAILED PRODUCT INFORMATION ON ALL EQUIPMENT INCORPORATED IN THE PROJECT RELATED TO THE SPECIFIC CONTRACTOR TRADE. SUBMITTAL SHALL BE PROVIDED, AND ENGINEER SHALL REVIEW AND APPROVE, PRIOR TO EQUIPMENT PURCHASE. FOUR COPIES OF SUBMITTALS SHALL BE PROVIDED TO THE ENGINEER. TWO COPIES SHALL BE RETURNED TO THE CONTRACTOR. PRIOR TO SUBMITTAL, CONTRACTOR SHALL REVIEW AND CERTIFY BY SIGNATURE THE SUBMITTED EQUIPMENT MEETS SPECIFICATION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIMENSIONS, FITTINGS, AND CONSTRUCTION FEATURES RELATIVE TO EQUIPMENT. APPROVAL OF SUBMITTAL INFORMATION BY THE ENGINEER ONLY REFERS TO MATERIALS, DESIGN, AND ADHERENCE TO SPECIFICATIONS. "APPROVED EQUAL" MEANS THE CONTRACTOR SHALL SUBMIT A REQUEST FOR ALTERNATE EQUIPMENT AND/OR MATERIAL FOR ENGINEER'S REVIEW AND APPROVAL. THE CONTRACTOR SHALL NOT ASSUME THE ALTERNATE WILL BE APPROVED.
26. ALL CONNECTIONS SHALL BE MADE WITH A LISTED BI-METAL GALVANIC CORROSION INHIBITOR.
27. ALL ALUMINUM CONNECTIONS AND TERMINATION BLOCKS SHALL BE LISTED FOR BOTH ALUMINUM AND COPPER CONDUCTORS.
28. WHERE CONDUCTORS HAVE BEEN UPSIZED FOR VOLTAGE DROP, IT IS THE CONTRACTOR'S RESPONSIBILITY TO DOWNSIZE THE CONDUCTOR AT THE TERMINATION POINT IN ORDER TO LAND ON THE LUGS OF THE BREAKER. ALL ELECTRICAL CONNECTIONS MUST BE MADE ABOVE THE ELECTRICAL DATUM PLANE.
29. COORDINATE EXACT SIZES AND QUANTITIES OF LUGS WITH THE CONDUCTORS THAT WILL BE INSTALLED.

SERVICE ENTRANCE CONDUCTOR & CONDUIT LEGEND

ALL WIRE SIZED FOR THWN COPPER
ALL CONDUIT SIZED FOR RIGID PVC, SCHEDULE 40; RESIZE FOR DIFFERENT CONDUIT AS REQUIRED

LABEL	GROUNDING ELECTRODE CONDUCTOR	CONDUCTORS PER CONDUIT	NUMBER OF RUNS	MINIMUM CONDUIT	CONDUCTOR AMPACITY 75 °C	Φ	VOLTAGE RANGE
1S60	#8	(3) #6	1	2"	65	1	208 - 480
1S100	#8	(3) #3	1	3"	100	1	208 - 480
1S150	#6	(3) #1/0	1	3"	150	1	208 - 480
1S200	#4	(3) #3/0	1	3"	200	1	208 - 480
1S225	#2	(3) #4/0	1	3"	230	1	208 - 480
1S400	#1/0	(3) #3/0	2	3"	400	1	208 - 480
1S400	#1/0	(3) #600 KCM	1	4"	420	1	208 - 480
1S600	#3/0	(3) #3/0	3	3"	600	1	208 - 480
1S600	#3/0	(3) #350 KCM	2	3"	620	1	208 - 480
1S800	#3/0	(3) #3/0	4	3"	800	1	208 - 480
1S800	#3/0	(3) #300 KCM	3	3"	855	1	208 - 480
1S1000	#3/0	(3) #250 KCM	4	3"	1020	1	208 - 480
3S100	#8	(4) #3	1	3"	100	3	208 - 480
3S200	#4	(4) #3/0	1	3"	200	3	208 - 480
3S225	#2	(4) #4/0	1	3"	230	3	208 - 480
3S400	#1/0	(4) #3/0	2	3"	400	3	208 - 480
3S600	#3/0	(4) #350 KCM	2	3"	620	3	208 - 480
3S800	#3/0	(4) #300 KCM	3	3"	855	3	208 - 480
3S1000	#3/0	(4) #400 KCM	3	3"	1005	3	208 - 480
3S1000	#3/0	(4) #250 KCM	4	3"	1020	3	208 - 480
3S1200	#3/0	(4) #350 KCM	4	3"	1240	3	208 - 480
3S1400	#3/0	(4) #500 KCM	4	4"	1520	3	208 - 480
3S1600	#3/0	(4) #400 KCM	5	3"	1675	3	208 - 480
3S2000	#3/0	(4) #600 KCM	5	4"	2100	3	208 - 480
3S2500	#3/0	(4) #600 KCM	6	4"	2520	3	208 - 480
3S3000	#3/0	(4) #500 KCM	8	4"	3040	3	208 - 480
3S3500	#3/0	(4) #700 KCM	8	4"	3680	3	208 - 480
3S3500	#3/0	(4) #600 KCM	9	4"	3780	3	208 - 480
3S4000	#3/0	(4) #600 KCM	10	4"	4200	3	208 - 480

PORTABLE POWER CABLE & CORD BRANCH CIRCUIT AND FEEDER LEGEND

ALL WIRE SIZED USING 400.5(A)(1) AND NEC 400.5(A)(2), WITH GREEN INSULATED GROUND
ALL CONDUCTORS SHALL BE COPPER
- WET LISTED
- APPROVED FOR MARINA USE
- SUITABLE FOR CONTINUOUS SUBMERSION IN WATER

ALL CONDUIT SIZED FOR RIGID PVC, SCHEDULE 40; RESIZE FOR DIFFERENT CONDUIT AS REQUIRED
FEEDER LABEL WITH * IN THE PLANS INDICATES NEUTRAL IS NOT REQUIRED

LABEL	CABLE FOR MARINA / BOATYARD APPLICATION	NUMBER OF RUNS	MINIMUM CONDUIT	CONDUCTOR AMPACITY 75 °C	Φ	VOLTAGE RANGE
1G35	#12 AWG TYPE SOW OR EQUAL	1	1-1/2"	37	1	240 - 480
1G50	#10 AWG TYPE SOW OR EQUAL	1	1-1/2"	52	1	240 - 480
1G60	#8 AWG TYPE G OR W CABLE	1	2"	65	1	240 - 480
1G80	#6 AWG TYPE G OR W CABLE	1	2"	88	1	240 - 480
1G100	#4 AWG TYPE G OR W CABLE	1	2"	115	1	240 - 480
1G125	#3 AWG TYPE G OR W CABLE	1	2"	135	1	240 - 480
1G150	#2 AWG TYPE G OR W CABLE	1	2-1/2"	152	1	240 - 480
1G175	#1 AWG TYPE G OR W CABLE	1	2-1/2"	178	1	240 - 480
1G200	#1/0 AWG TYPE G OR W CABLE	1	3"	207	1	240 - 480
1G225	#2/0 AWG TYPE G OR W CABLE	1	3"	238	1	240 - 480
1G250	#3/0 AWG TYPE G OR W CABLE	1	3"	275	1	240 - 480
1G300	#4/0 AWG TYPE G OR W CABLE	1	3-1/2"	317	1	240 - 480
1G350	250 KcMIL TYPE G OR W CABLE	1	4"	354	1	240 - 480
1G400	#1/0 AWG TYPE G OR W CABLE	2	3"	414	1	240 - 480
1G450	#2/0 AWG TYPE G OR W CABLE	2	3"	476	1	240 - 480
1G500	#3/0 AWG TYPE G OR W CABLE	2	3"	550	1	240 - 480
1G600	#4/0 AWG TYPE G OR W CABLE	2	3-1/2"	634	1	240 - 480
1G600	#1/0 AWG TYPE G OR W CABLE	3	3"	621	1	240 - 480
1G800	#3/0 AWG TYPE G OR W CABLE	3	3"	825	1	240 - 480
1G800	#1/0 AWG TYPE G OR W CABLE	4	3"	828	1	240 - 480
1G1000	250 KcMIL TYPE G OR W CABLE	3	4"	1062	1	240 - 480
1G1000	#3/0 AWG TYPE G OR W CABLE	4	3"	1100	1	240 - 480
1G1200	#4/0 AWG TYPE G OR W CABLE	4	3-1/2"	1268	1	240 - 480
3G50	#8 AWG TYPE G OR W CABLE	1	2"	57	3	208 - 480
3G70	#6 AWG TYPE G OR W CABLE	1	2"	77	3	208 - 480
3G100	#4 AWG TYPE G OR W CABLE	1	2"	101	3	208 - 480
3G110	#3 AWG TYPE G OR W CABLE	1	3"	118	3	208 - 480
3G125	#2 AWG TYPE G OR W CABLE	1	3"	133	3	208 - 480
3G150	#1 AWG TYPE G OR W CABLE	1	3"	156	3	208 - 480
3G175	#1/0 AWG TYPE G OR W CABLE	1	3"	181	3	208 - 480
3G200	#2/0 AWG TYPE G OR W CABLE	1	3"	208	3	208 - 480
3G225	#3/0 AWG TYPE G OR W CABLE	1	3"	241	3	208 - 480
3G250	#4/0 AWG TYPE G OR W CABLE	1	4"	277	3	208 - 480
3G300	250 KcMIL TYPE G OR W CABLE	1	4"	310	3	208 - 480
3G400	#2/0 AWG TYPE G OR W CABLE	2	3"	416	3	208 - 480
3G450	#3/0 AWG TYPE G OR W CABLE	2	3"	482	3	208 - 480
3G500	#1/0 AWG TYPE G OR W CABLE	3	3"	543	3	208 - 480
3G500	#4/0 AWG TYPE G OR W CABLE	2	4"	554	3	208 - 480
3G600	250 KcMILTYPE G OR W CABLE	2	4"	620	3	208 - 480
3G600	#2/0 AWG TYPE G OR W CABLE	3	3"	624	3	208 - 480
3G800	#4/0 AWG TYPE G OR W CABLE	3	4"	831	3	208 - 480
3G800	#2/0 AWG TYPE G OR W CABLE	4	3"	832	3	208 - 480
3G1000	#4/0 AWG TYPE G OR W CABLE	4	4"	1108	3	208 - 480
3G1200	250 KcMIL TYPE G OR W CABLE	4	4"	1240	3	208 - 480

BRANCH CIRCUIT AND FEEDER LEGEND W/ EQUIP. GND.

ALL WIRE SIZED FOR THWN COPPER
ALL CONDUIT SIZED FOR RIGID PVC, SCHEDULE 40; RESIZE FOR DIFFERENT CONDUIT AS REQUIRED
FEEDER LABEL WITH * IN THE PLANS INDICATES NEUTRAL IS NOT REQUIRED

LABEL	CONDUCTORS PER CONDUIT	NUMBER OF RUNS	MINIMUM CONDUIT	CONDUCTOR AMPACITY 75 °C	Φ	VOLTAGE RANGE
A20	(2) #12 & (1) #12 GND.	1	1/2"	20	1	120 OR 277
A30	(2) #10 & (1) #10 GND.	1	3/4"	30	1	120 OR 277
A50	(2) #8 & (1) #10 GND.	1	3/4"	50	1	120 OR 277
B20	(3) #12 & (1) #12 GND.	1	1/2"	20	1	208 - 480
B30	(3) #10 & (1) #10 GND.	1	3/4"	30	1	208 - 480
B50	(3) #8 & (1) #10 GND.	1	3/4"	50	1	208 - 480
B60	(3) #6 & (1) #10 GND.	1	3/4"	65	1	208 - 480
B80	(3) #4 & (1) #8 GND.	1	1"	85	1	208 - 480
B100	(3) #3 & (1) #8 GND.	1	1-1/2"	100	1	208 - 480
B110	(3) #2 & (1) #6 GND.	1	1-1/2"	115	1	208 - 480
B125	(3) #1 & (1) #6 GND.	1	1-1/2"	130	1	208 - 480
B150	(3) #1/0 & (1) #6 GND.	1	2"	150	1	208 - 480
B175	(3) #2/0 & (1) #6 GND.	1	2"	175	1	208 - 480
B200	(3) #3/0 & (1) #6 GND.	1	2"	200	1	208 - 480
B225	(3) #4/0 & (1) #4 GND.	1	2-1/2"	230	1	208 - 480
B250	(3) #250 KCM & (1) #4 GND.	1	2-1/2"	255	1	208 - 480
B275	(3) #300 KCM & (1) #4 GND.	1	2-1/2"	285	1	208 - 480
B300	(3) #350 KCM & (1) #4 GND.	1	3"	310	1	208 - 480
B350	(3) #500 KCM & (1) #3 GND.	1	3"	380	1	208 - 480
B400	(3) #3/0 & (1) #3 GND.	2	2"	400	1	208 - 480
B450	(3) #4/0 & (1) #2 GND.	2	2-1/2"	460	1	208 - 480
B500	(3) #250 KCM & (1) #2 GND.	2	2-1/2"	510	1	208 - 480
B600	(3) #350 KCM & (1) #1 GND.	2	3"	620	1	208 - 480
B800	(3) #300 KCM & (1) #1/0 GND.	3	2-1/2"	855	1	208 - 480
B1000	(3) #250 KCM & (1) #2/0 GND.	4	2-1/2"	1020	1	208 - 480
B1200	(3) #350 KCM & (1) #3/0 GND.	4	3"	1240	1	208 - 480

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THE CONTRACTOR SHALL NOTIFY ALL UTILITIES INCLUDING AND NOT LIMITED TO GAS, WATER, ELECTRIC, CABLE, AND TELEPHONE COMPANIES PRIOR TO ANY EXCAVATION. THE CONTRACTOR SHALL NOTIFY ONE-CALL SERVICE (CALL 811) SEVENTY-TWO (72) HOURS AS REQUIRED BY LAW BEFORE ANY EXCAVATION, AT ANY LOCATION.

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NOT FOR CONSTRUCTION
NAME: XXXX
SIGNATURE:
DATE:
LICENSE NO.

MAFFETT LAFOTIS ENGINEERING, LLC
1 SUPERIOR AVE, SUITE 101
COOKEVILLE, TN 38501
TEL: (931) 526-5143
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REV BY:	DESCRIPTION	REV:	DATE:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814
ELECTRICAL NOTES AND LEGENDS

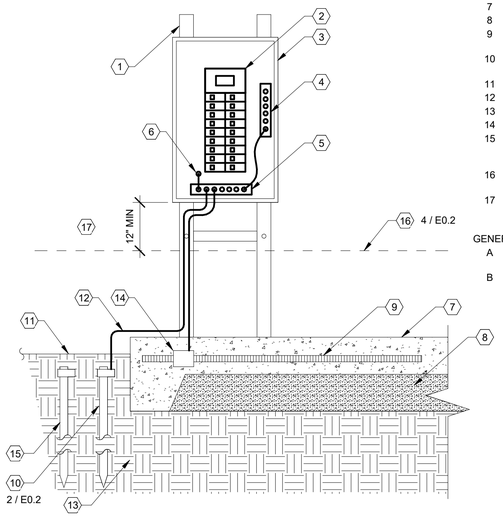
JOB No: 25039
DATE: 11/24/2025
DRAWN BY: JLC
DESIGNED BY: AJG

SHEET:
E0.1

ELECTRICAL NOTES

NUMBERED NOTES
1 SUPPORT STRUCTURE.
2 MAIN DISCONNECT.
3 SERVICE DISCONNECT.
4 NEUTRAL BAR.
5 GROUNDING BAR.
6 BONDING STRAP.
7 CONCRETE PAD (IF REQUIRED).
8 FILL GRAVEL.
9 CONCRETE-ENCASED ELECTRODE, 1/2" x 20" (IF PAD OR FOOTER IS INSTALLED).
10 GROUND ROD, COPPER CLAD, SEE REFERENCED DETAIL.
11 FINISHED GRADE.
12 GROUNDING ELECTRODE CONDUCTOR.
13 VIRGIN SOIL.
14 EXOTHERMIC WELD.
15 STRUCTURE GROUNDING ELECTRODE CONDUCTOR. ISOLATE FROM SERVICE GROUNDING ELECTRODE CONDUCTOR.
16 ELECTRICAL DATUM PLANE, SEE REFERENCED DETAIL.
17 BOTTOM OF SERVICE EQUIPMENT SHALL BE MOUNTED AT LEAST 12" ABOVE EDP.

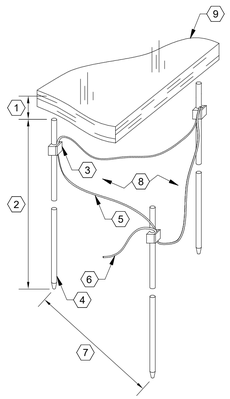
GENERAL NOTES
A GROUNDING SHALL BE PER NEC ARTICLE 250 AND 555.
B CONFIGURATION OF SERVICE MAY DIFFER. COORDINATE INSTALLATION.



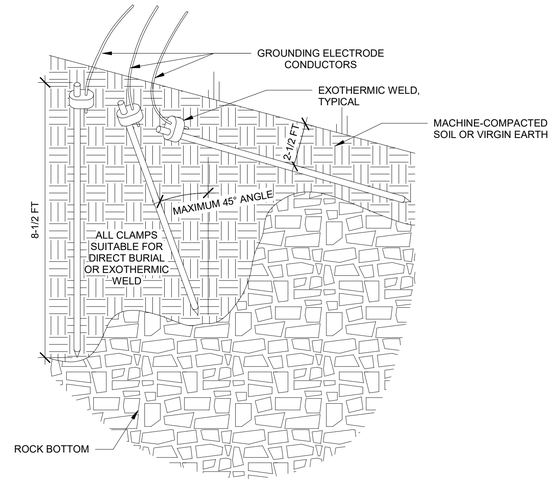
1 E0.2 SERVICE GNDING DTL
NOT TO SCALE

ELECTRICAL NOTES

NUMBERED NOTES
1 INSTALL GROUND ROD BELOW GROUND FREEZING DEPTH. COORDINATE DEPTH WITH AREA OF INSTALLATION.
2 GROUND ROD TO HAVE A MINIMUM OF 8' IN CONTACT WITH UNDISTURBED EARTH.
3 UL LISTED UNDERGROUND EXOTHERMIC WELD OR APPROVED CLAMP, TYP.
4 UL LISTED 5/8" Ø x 10' DRIVEN GROUND ROD, TYP. COORDINATE LOCATION WITH SITE. SEE REFERENCED DETAIL.
5 GROUNDING CONDUCTOR, TYP. SAME SIZE AS GROUNDING ELECTRODE CONDUCTOR.
6 GROUNDING ELECTRODE CONDUCTOR.
7 GROUND RODS TO BE INSTALLED IN A TRIANGULAR PATTERN WITH MIN. 6' APART, TYP.
8 VIRGIN EARTH.
9 FINISHED GRADE.



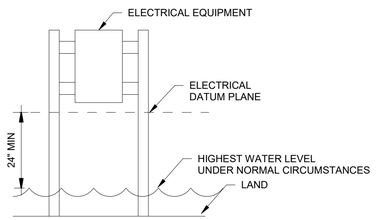
2 E0.2 GROUND ROD DTL
NOT TO SCALE



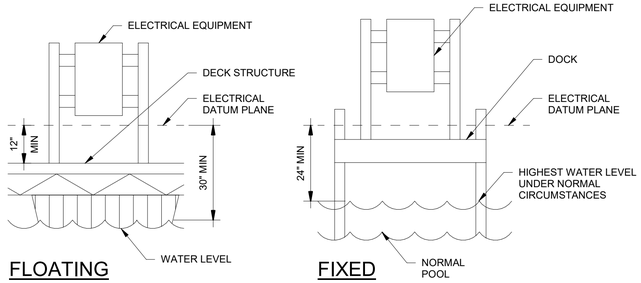
3 E0.2 GND ROD INSTALL. DTL
NOT TO SCALE

ELECTRICAL NOTES

GENERAL NOTES
A ALL ELECTRICAL CONNECTIONS (WITH EXCEPTION TO GROUND BONDING TO DOCK STRUCTURE), ON FLOATING OR FIXED PIERS, SHALL BE ABOVE THE ELECTRICAL DATUM PLANE. BOTTOMS OF TRANSFORMERS SHALL NOT BE BELOW THE ELECTRICAL DATUM PLANE.

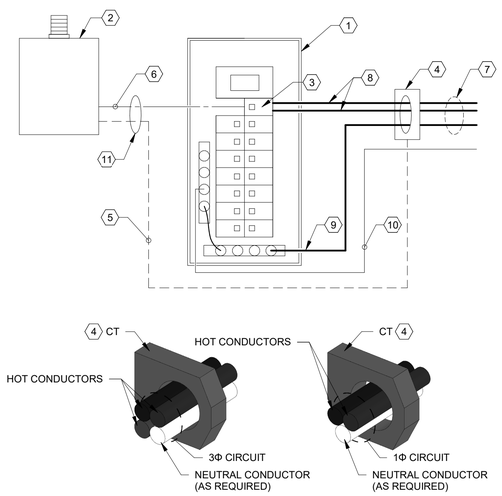


LAND NOT SUBJECT TO TIDES



4 E0.2 ELECTRICAL DATUM PLANE DTL
NOT TO SCALE

ELECTRICAL NOTES



NUMBERED NOTES
1 ELECTRICAL PANEL.
2 GROUND FAULT MONITOR (GFM) SHALL BE PROVIDED 120V SOURCE. SEE ELECTRICAL PLANS FOR ADDITIONAL INFORMATION. COORDINATE WITH MANUFACTURER FOR WIRING AND INSTALLATION REQUIREMENTS. RED BEACON SHALL FLASH UPON ALL CIRCUIT TRIPS DUE TO GROUND FAULT ALARMS. FOR PROJECTS SPECIFIED WITH SUBSTATIONS, THE GFM SHALL BE INTEGRAL TO THE SUBSTATION.
3 SHUNT TRIP BRANCH BREAKER, TYPICAL. SEE PANEL SCHEDULE FOR SIZE.
4 GFM CURRENT SENSOR, TYPICAL. SIZE PER WIRE AS SHOWN IN PANEL SCHEDULE. HOT AND NEUTRAL CONDUCTORS ROUTED THROUGH CT.
5 CURRENT SENSOR CONTROL WIRE SHALL BE #16 AWG THWN, TYPICAL.
6 SHUNT TRIP CONTROL WIRE SHALL BE #16 AWG THWN, TYPICAL.
7 BRANCH CIRCUIT TO MARINA PEDESTAL, TYPICAL.
8 HOT CONDUCTORS.
9 NEUTRAL CONDUCTOR.
10 EQUIPMENT GROUNDING CONDUCTOR.
11 ROUTED IN CONDUIT AS REQUIRED.

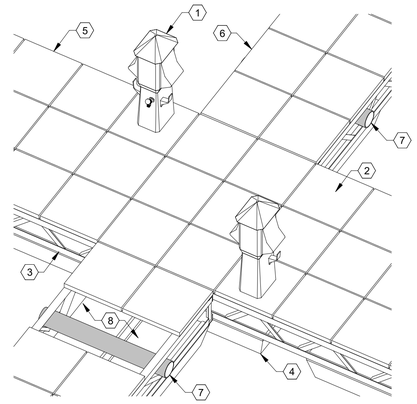
GENERAL NOTES
A REFER TO GROUND FAULT MONITOR SCHEDULE.

5 E0.2 GFM WIRING DTL
NOT TO SCALE

ELECTRICAL NOTES

NUMBERED NOTES
1 SHORE POWER PEDESTAL, TYPICAL.
2 DECK PAVER.
3 UNDERDECK DOCK STRUCTURE.
4 DOCK FLOTATION.
5 DOCK WALKWAY.
6 DOCK FINGER.
7 UNDERDECK 6" PVC CHASE FOR SHORE POWER CABLE TO BE ROUTED UNDERNEATH FINGER. MOUNT AS HIGH AS PRACTICAL IN DOCK STRUCTURE. LOCATE WITHIN 24" OF MAIN WALKWAY UON.
8 DECK PAVER NOT SHOWN FOR COORDINATION PURPOSES ONLY.

GENERAL NOTES
A COORDINATE LOCATION OF CHASE WITH DOCK LAYOUT.



6 E0.2 SHORE POWER CHASE DTL
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REV:	DESCRIPTION	REV:	DATE:

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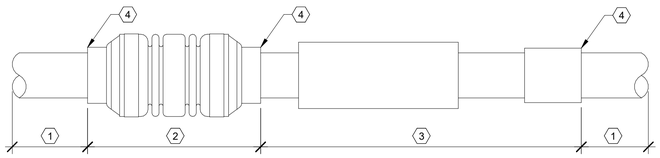
DATE: 11/24/2025
DRAWN BY: JLC
DESIGNED BY: AJG

SHEET:
E0.2

ELECTRICAL NOTES

NUMBERED NOTES
1. RIGID PVC CONDUIT.
2. DEFLECTION FITTING, THOMAS & BETTS CATALOG # XD-NM-TB OR EQUAL.
3. LINEAR PVC EXPANSION FITTING, THOMAS & BETTS CATALOG # E945L OR EQUAL. INSTALL BASE ON AMBIENT TEMPERATURE TO ALLOW MAXIMUM MOVEMENT FOR FULL TEMPERATURE SWINGS.
4. PVC GLUE FITTING.

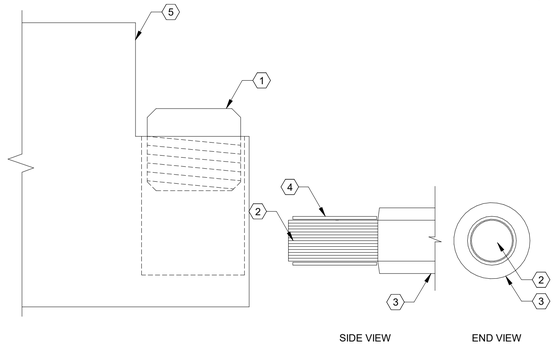
GENERAL NOTES
- A. SIZE FITTINGS PER CONDUIT SIZE.
- B. BASED ON A 100°F TEMPERATURE SWING AND NEC TABLE 352.44, INSTALL THIS DETAIL IN EVERY CONTINUOUS SECTION OF PVC RUN GREATER THAN 50' IN LENGTH AND 200' ON CENTER THEREAFTER.



1 EXPANSION & DEFLECTION DTL
E0.3 NOT TO SCALE

ELECTRICAL NOTES

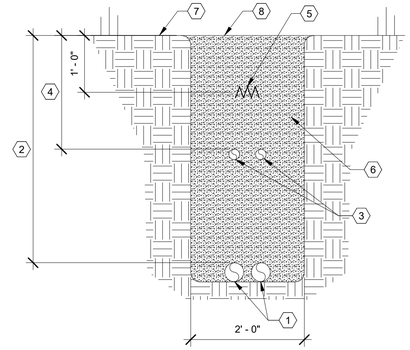
NUMBERED NOTES
1. SET SCREW.
2. FINE STRAND CONDUCTOR.
3. CONDUCTOR INSULATION.
4. METAL BARREL OF FERRULE. CRIMPING OF FERRULE IS NOT REQUIRED. COORDINATE FERRULE DIAMETER WITH THE SPECIFIED FINE STRAND CONDUCTOR SIZE.
5. BREAKER OR OTHER TERMINATION DEVICE.



2 FINE STRAND CONDUCTOR TERMINATION DTL
E0.3 NOT TO SCALE

ELECTRICAL NOTES

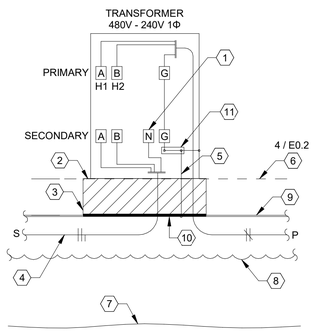
NUMBERED NOTES
1. CONDUITS FOR PRIMARY, SERVICE, FEEDER, OR BRANCH CIRCUITS AS REQUIRED. SEE NOTE 2 FOR CONDUIT DEPTH BASED ON TYPE.
2. DEPTH FOR CONDUITS VARY BY TYPE AS REQUIRED. FOR CONDUITS CONTAINING PRIMARY CONDUCTORS, INSTALL AT A MINIMUM OF 48" BFG. FOR CONDUITS CONTAINING SERVICE CONDUCTORS, INSTALL AT A MINIMUM OF 36" BFG. FOR FEEDER AND BRANCH CIRCUIT CONDUITS, INSTALL AT A MINIMUM 24" BFG.
3. COMMUNICATION CONDUITS AS REQUIRED. SEE NOTE 4 FOR CONDUIT DEPTH.
4. COMMUNICATIONS CONDUIT SHALL BE AT A MINIMUM OF 2'-0" BFG, COORDINATE DEPTH WITH ELECTRICAL. WHERE PRACTICAL, COMMUNICATIONS CONDUITS SHALL HAVE A SEPARATION OF 1'-0" FROM ELECTRICAL CONDUITS.
5. WARNING TAPE.
6. MACHINE COMPACTED GRAVEL FILL FOR AREAS WHEN CROSSING DRIVEWAYS, ROADS, AND PARKING LOTS. DIRT FILL AND COMPACT ALL OTHER AREAS.
7. FINISHED GRADE.
8. MATCH EXISTING SURFACE CONDITIONS.



3 DITCH DTL
E0.3 NOT TO SCALE

ELECTRICAL NOTES

NUMBERED NOTES
1. BOND NEUTRAL TO GROUND AT FIRST OVERCURRENT PROTECTION DEVICE.
2. RODENT WIRE GUARD.
3. SUPPORT FORM TO RAISE TRANSFORMER ABOVE ELECTRICAL DATUM PLANE.
4. SECONDARY TO DISTRIBUTION PANEL.
5. BOND GROUND TO DOCK METAL STRUCTURE. IF DECK IS NON-METALLIC (i.e. WOOD OR CONCRETE), THEN THE BONDING CONDUCTOR SHALL BE ROUTED BACK TO THE UPLAND GROUNDING ELECTRODE.
6. ELECTRICAL DATUM PLANE, SEE REFERENCED DETAIL.
7. LAKE BOTTOM.
8. WATER LEVEL.
9. DECK.
10. NON-COMBUSTIBLE MATERIAL.
11. INSTALL A LISTED GROUNDING TERMINAL BAR IN TRANSFORMER ENCLOSURE.



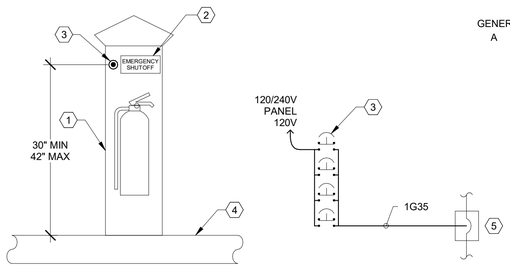
4 MARINA TRANSFORMER DTL
E0.3 NOT TO SCALE

E-STOP CKT. SCHEDULE	
PANEL	CKT #
PL1	9
PL2	6

ELECTRICAL NOTES

NUMBERED NOTES
1. FIRE EXTINGUISHER PEDESTAL.
2. PERMANENT SIGN MOUNTED ADJACENT TO E-STOP BUTTON. LETTERS SHALL BE RED ON WHITE BACKGROUND AND 1" TALL.
3. E-STOP BUTTONS REFER TO PLANS FOR LOCATIONS.
4. DECK.
5. 120/240V PANEL SHUNT-TRIP MCB. REFER TO PLANS FOR ADDITIONAL INFORMATION.

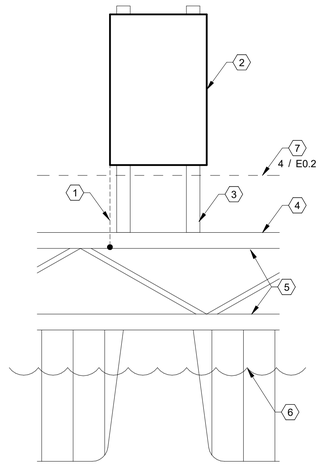
GENERAL NOTES
- A. E-STOP BUTTON SHALL BE NEMA 4X, MUSHROOM STYLE PUSH BUTTON, PUSH TO CLOSE, PULL TO OPEN.



5 TYPICAL EMERGENCY SHUTOFF DIAGRAM
E0.3 NOT TO SCALE

ELECTRICAL NOTES

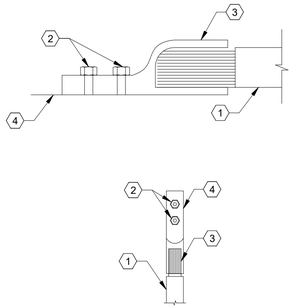
NUMBERED NOTES
1. BOND METAL DOCK STRUCTURE TO GROUND BUS OF EQUIPMENT.
2. ELECTRICAL EQUIPMENT.
3. SUPPORT STRUCTURE.
4. DECK.
5. DOCK STRUCTURE.
6. WATER LEVEL.
7. ELECTRICAL DATUM PLANE, SEE REFERENCED DETAIL.



6 EQUIPMENT BONDING DTL
E0.3 NOT TO SCALE

ELECTRICAL NOTES

NUMBERED NOTES
1. BONDING CONDUCTOR #3/0 GREEN INSULATION COPPER CABLE, MSHA ACCEPTED, WET LOCATIONS, RESISTANT TO OILS, ACIDS, ALKALINES, AND ABRASION-RESISTANT, OR 12" OF GREEN TAPE AT EACH END. CONDUCTOR STRAND SHALL BE MINIMUM OF 448/24 STRANDS. ALLOW ENOUGH SLACK IN WIRE FOR STRUCTURE MOVEMENT AS PRACTICAL. INSTALLATION LOCATION SHALL BE SUCH THAT NO DAMAGE WILL OCCUR TO CONDUCTOR DURING STRUCTURE MOVEMENT.
2. (2) STAINLESS STEEL HEX BOLTS 5/16 - 18 MIN.
3. HEX STYLE CRIMP OR EQUAL, USING A MINIMUM OF 14 TON CRIMP TOOL.
4. CLEAN STRUCTURE METAL BEHIND CLAMP.



7 BONDING DTL
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DATE:
LICENSE NO: XXXX

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REV. BY:	DESCRIPTION:	REV#:	DATE:

BAYFIELD FINGER PIER REHABILITATION
RITTENHOUSE AVE
BAYFIELD, WI 54814
ELECTRICAL DETAILS

JOB No: 25039
DATE: 11/24/2025
DRAWN BY: JLC
DESIGNED BY: AJG

SHEET:
E0.3

1 / E1.0 ELECTRICAL SITE PLAN

SCALE: 1" = 30'-0" (WHEN PRINTED FULL SCALE ON 22"X34")

0' 15' 30' 60' 120'

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BAYFIELD FINGER PIER REHABILITATION

RITTENHOUSE AVE
BAYFIELD, WI 54814

ELECTRICAL SITE PLAN

JOB No: 25039
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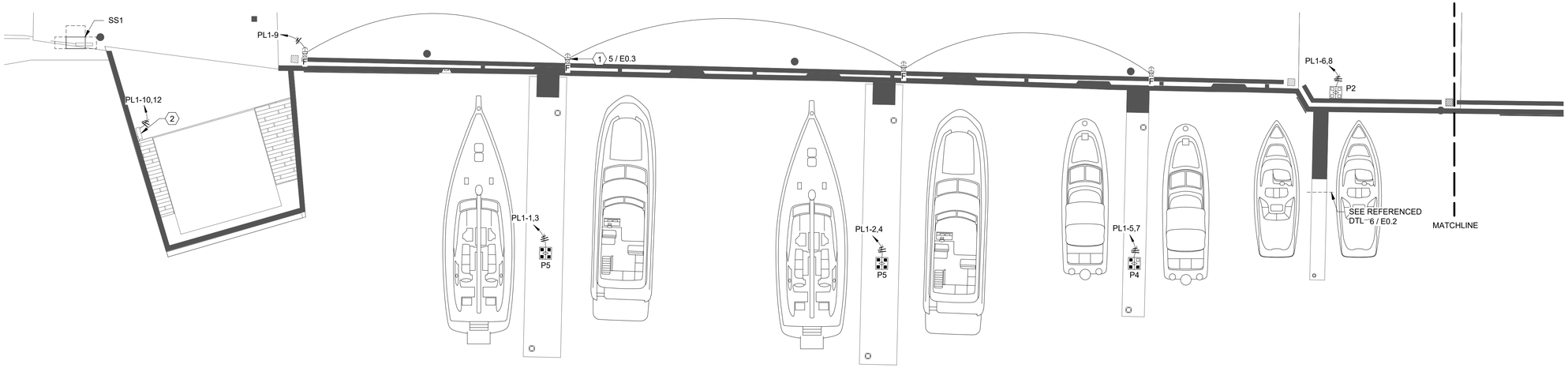
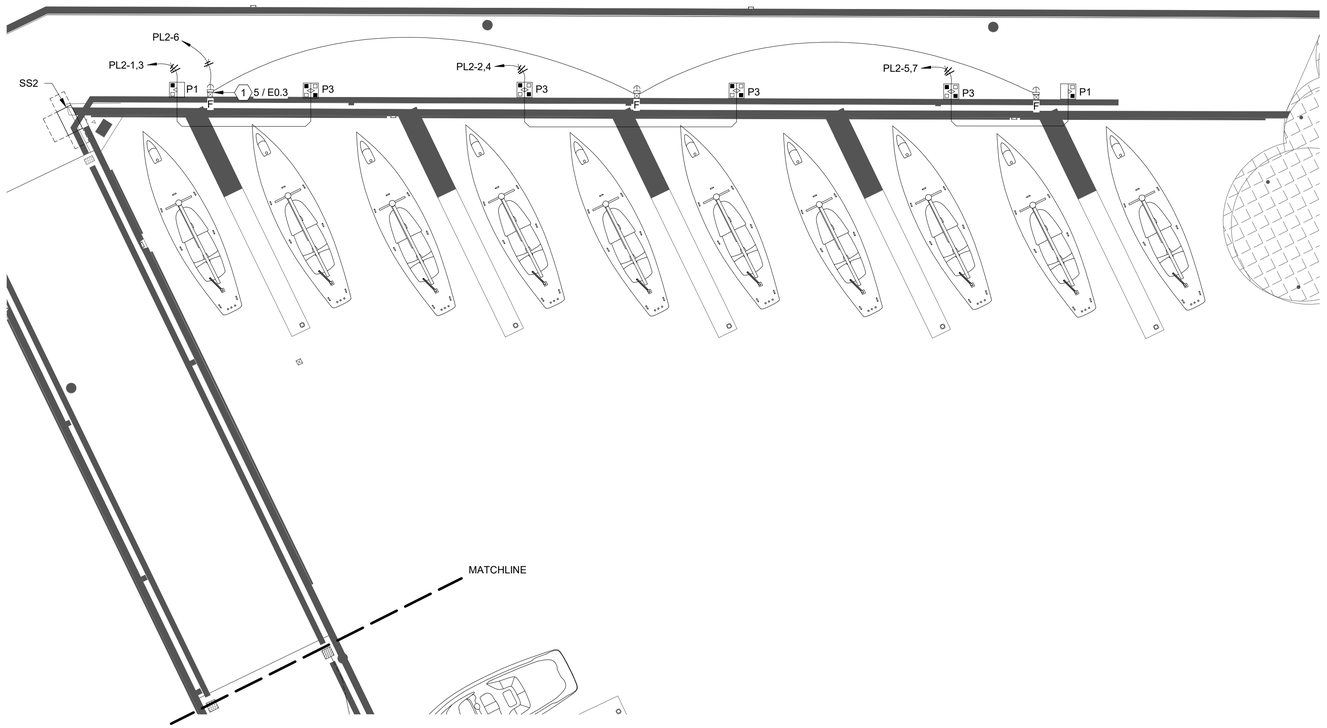


1 / E1.1 ELECTRICAL POWER PLAN - PART 1

SCALE: 1/16" = 1'-0" (WHEN PRINTED FULL SCALE ON 22"X34")

0' 8' 16' 32' 64'



2 / E1.1 ELECTRICAL POWER PLAN - PART 2

SCALE:1 : 180 (WHEN PRINTED FULL SCALE ON 22"X34")

0' 8' 16' 32' 64'

ELECTRICAL NOTES

NUMBERED NOTES

1 TYPICAL, EMERGENCY SHORE POWER DISCONNECT INTEGRAL TO FIRE PEDESTAL. SEE REFERENCED DETAIL FOR ADDITIONAL INFROMATION.

2 EXISTING SHORE POWER CONNECTION AND EQUIPMENT TO REMIAN. EQUIPMENT SHALL BE REFED AS INDICATED. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.

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BAYFIELD, WI 54814

ELECTRICAL POWER PLAN

JOB No: 25039
DATE: 11/24/2025
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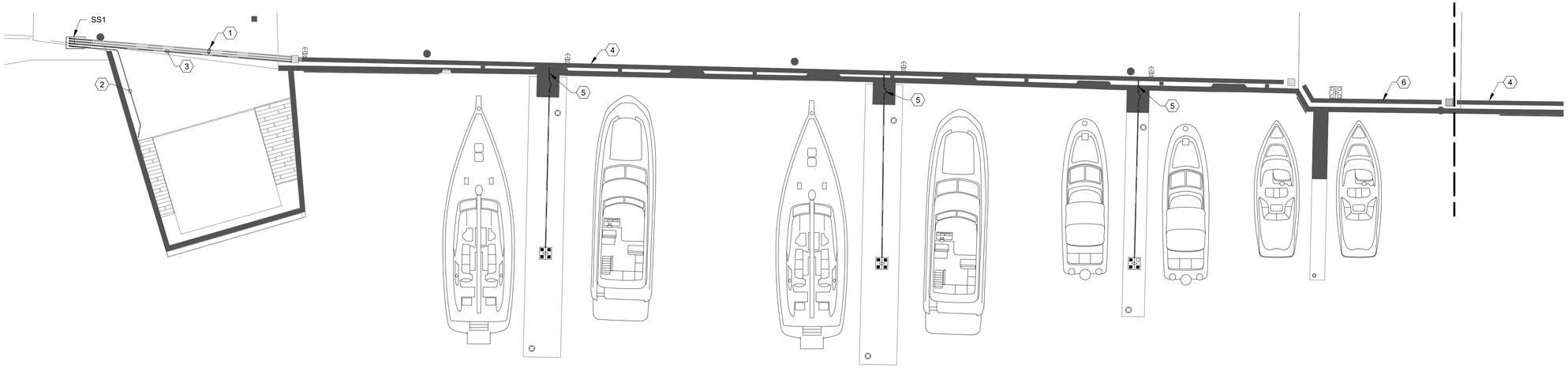
SHEET:

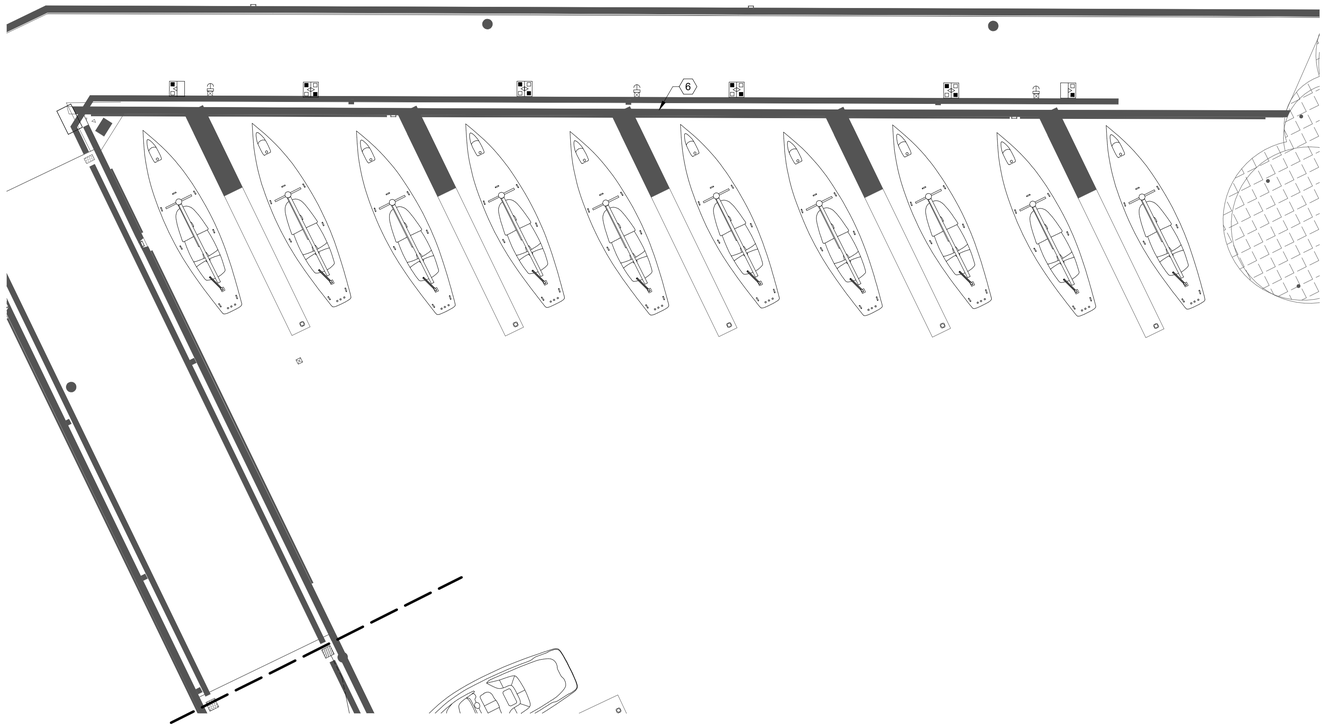
E1.1



1 / E2.1 ELECTRICAL CONDUIT PLAN - PART 1

SCALE: 1/16" = 1'-0" (WHEN PRINTED FULL SCALE ON 22"X34")

0' 8' 16' 32' 64'



2 / E2.1 ELECTRICAL CONDUIT PLAN - PART 2

SCALE:1 : 180 (WHEN PRINTED FULL SCALE ON 22"X34")

0' 8' 16' 32' 64'

(#) ELECTRICAL NOTES

NUMBERED NOTES

1. EXISTING (2) 3" CONDUITS 'C1' AND 'C2' TO BE REUSED. CONTRACTOR SHALL EXTEND EXISTING CONDUITS TO NEW SUBSTATION AS REQUIRED. COORDINATE WITH EXISTING CONDITIONS.
2. EXISTING CONDUIT TO REMAIN FOR REUSE. EXTEND EXISTING CONDUIT TO NEW SUBSTATION AS REQUIRED.
3. INSTALL (3) 2" CONDUITS FROM SUBSTATION TO EXISTING UTILITY CHASE. COORDINATE WITH EXISTING CONDITIONS AND EXISTING QUAZITE PULL BOX.
4. EXISTING UTILITY CHASE.
5. INSTALL (1) 2" CONDUIT FROM UTILITY CHASE TO PENETRATE THE SEAWALL. INSTALL FLEXIBLE CONDUIT TO TRANSITION FROM SEAWALL TO FLOATING CONRETE DOCK. CONNECT FLEXIBLE CONDUIT TO ELECTRICAL UTILITY CHASE WITHIN THE CONCRETE DOCK. COORDINATE WITH EXISTING CHASE, SEAWALL, AND NEW CONCRETE FINGER PIER.
6. NEW UTILITY CHASE.

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BAYFIELD FINGER PIER REHABILITATION

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BAYFIELD, WI 54814

ELECTRICAL CONDUIT PLAN

JOB No: 25039
DATE: 11/24/2025
DRAWN BY: JLC
DESIGNED BY: AJG

SHEET:

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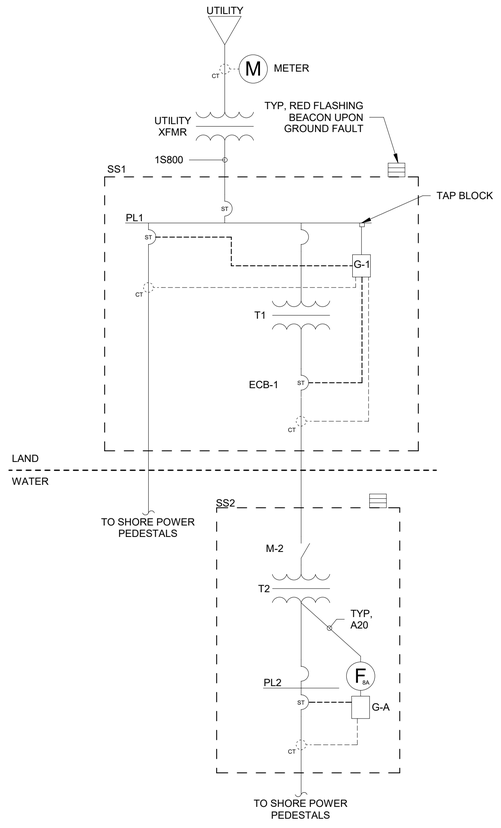


1 E3.1 ELECTRICAL ONE-LINE DIAGRAM

NOT TO SCALE

MARINA POWER PEDESTAL LEGEND

OTHER NOTES:
- (1) kWH METER INCLUDED PER ACTIVE SIDE UNLESS OTHERWISE NOTED
- ALL SHORE POWER RECEPTACLES SHALL BE PROTECTED BY A LISTED GFPE DEVICE SET TO TRIP BETWEEN 25mA - 30mA AND 250ms OR FASTER LOCATED IN THE SHORE POWER PEDESTAL
- COORDINATE LIGHT COLOR AND/OR LENS COLOR WITH OWNER AND LOCAL REQUIREMENTS

	LABEL	SIDE 1	SIDE 2	LIGHTING	OTHER UTILITIES	MOUNTING	MODEL #
☒	F	DURABLE U/V PROTECTED CASE W/ LOCKABLE BREAK-AWAY DOOR W/ HEAVY-DUTY, POWDER-COATED 6061 ALUMINUM STAND W/ 10lb ABC FIRE EXTINGUISHER	N/A	10W LED W/ INTEGRAL PHOTOCELL	N/A	DECK-MOUNTED	MEE FIRESTATION
30A 120V	P1	(1) 50A 240V SHORE POWER RECEPTACLE (1) 30A 120V SHORE POWER RECEPTACLE - 120V GFCI MAINTENANCE OUTLET	- 120V GFCI MAINTENANCE OUTLET	10W LED W/ INTEGRAL PHOTOCELL	(1) 3/4" HOSE BIBB PER ACTIVE SIDE	DECK-MOUNTED	HYPOWER POWERPORT OR APPROVED EQUAL
30A 120V 50A 240V	P2	(2) 30A 120V SHORE POWER RECEPTACLE - 120V GFCI MAINTENANCE OUTLET	(2) 30A 120V SHORE POWER RECEPTACLE - 120V GFCI MAINTENANCE OUTLET	10W LED W/ INTEGRAL PHOTOCELL	(1) 3/4" HOSE BIBB PER ACTIVE SIDE	DECK-MOUNTED	HYPOWER POWERPORT OR APPROVED EQUAL
50A 240V 30A 120V	P3	(1) 50A 240V SHORE POWER RECEPTACLE (1) 30A 120V SHORE POWER RECEPTACLE - 120V GFCI MAINTENANCE OUTLET	(1) 50A 240V SHORE POWER RECEPTACLE (1) 30A 120V SHORE POWER RECEPTACLE - 120V GFCI MAINTENANCE OUTLET	10W LED W/ INTEGRAL PHOTOCELL	(1) 3/4" HOSE BIBB PER ACTIVE SIDE	DECK-MOUNTED	HYPOWER POWERPORT OR APPROVED EQUAL
50A 240V	P4	(2) 50A 240V SHORE POWER RECEPTACLE - 120V GFCI MAINTENANCE OUTLET	(1) 50A 240V SHORE POWER RECEPTACLE (1) 30A 120V SHORE POWER RECEPTACLE - 120V GFCI MAINTENANCE OUTLET	10W LED W/ INTEGRAL PHOTOCELL	(1) 3/4" HOSE BIBB PER ACTIVE SIDE	DECK-MOUNTED	HYPOWER POWERPORT OR APPROVED EQUAL
50A 240V	P5	(2) 50A 240V SHORE POWER RECEPTACLE - 120V GFCI MAINTENANCE OUTLET	(2) 50A 240V SHORE POWER RECEPTACLE - 120V GFCI MAINTENANCE OUTLET	10W LED W/ INTEGRAL PHOTOCELL	(1) 3/4" HOSE BIBB PER ACTIVE SIDE	DECK-MOUNTED	HYPOWER POWERPORT OR APPROVED EQUAL

MOLDED CASE SWITCH SCHEDULE

- USE SPECIFIED EQUIPMENT OR APPROVED EQUAL
- LOCKABLE DOOR

LABEL	ENCLOSURE	AMP RATING	VOLTS	Φ	POLES	NOTES
M-2	SS2	200 A	480 V	1	2	

SUB-STATION SCHEDULE

- NEMA 3RX, ALUMINUM, WHITE
- USE AMERICAN MIDWEST POWER, MARINA ELECTRICAL EQUIPMENT, OR APPROVED EQUAL
- FLASHING RED INDICATOR LIGHT
- SEE ONE-LINE & SCHEDULES

SS1	
PANEL	PL1
TRANSFORMER	T1
ECB	ECB-1
GFM	G1
SS2	
MOLDED CASE SWITCH	M-2
TRANSFORMER	T2
PANEL	PL2
GFM	G2

MARINA GROUND FAULT PERFORMANCE TESTING NOTES

PER THE CONTRACT WITH THE CLIENT, THE ENGINEER'S SCOPE FOR THIS PROJECT INCLUDES THE ENGINEER AND/OR ENGINEER'S TEAM COMPLETING GROUND FAULT DEVICE PERFORMANCE TESTING. THE PERFORMANCE TESTING EFFORTS INCLUDE ONE SITE VISIT AT THE END OF THE CONSTRUCTION ADMINISTRATION PHASE TO TEST THE PROPER FUNCTION OF ALL FEEDER, BRANCH CIRCUIT, AND SHORE POWER RECEPTACLE GROUND FAULT DEVICES. THIS VISIT IS REQUIRED AND SHALL OCCUR AFTER SUBSTANTIAL COMPLETION OF THE CONSTRUCTION. THE SCHEDULE OF THIS VISIT SHALL BE COORDINATED WITH THE ENGINEER, THE CLIENT, AND THE CONTRACTOR.

THE PERFORMANCE TESTING PROCESS SHALL CONSIST OF THE FOLLOWING:
- VERIFY PARAMETERS OF GROUND FAULT MONITORING DEVICES ARE SET TO THE SPECIFIED VALUES PROVIDED IN THE DESIGN PLANS AND SCHEDULES.
- TEST GFCI DEVICES TO VERIFY THEY MEET THE DESIGN SPECIFICATIONS AND UL943 REQUIREMENTS.
- TEST GFPE DEVICES PROTECTING SHORE POWER RECEPTACLES, BRANCH CIRCUITS, AND FEEDERS BY SAFELY INJECTING LEAKAGE CURRENT TO VERIFY THEY MEET THE DESIGN SPECIFICATIONS AND UL1053 REQUIREMENTS.
- TEST TRIP TIMES OF GFCI AND GFPE DEVICES.
- ADJUST PARAMETERS AS REQUIRED FOR GFPE DEVICES IN ORDER TO VERIFY FULL COORDINATION.

IT IS RECOMMENDED FOR THE ELECTRICAL CONTRACTOR TO CHECK ALL WIRING METHODS AND THE INSTALLATION OF THE GFPE SYSTEM'S CT'S AND SHUNT-TRIP BREAKERS, AND TO ALSO PRE-TEST ALL GFPE DEVICES BEFORE THE ENGINEER TRAVELS TO THE SITE TO PERFORM THE PERFORMANCE TESTING EFFORTS. IF DEFICIENCIES ARE FOUND IN THE ELECTRICAL AND/OR GFPE SYSTEMS THAT CANNOT BE REMEDIED WITHIN A REASONABLE TIME OF THE SAME SITE VISIT, ADDITIONAL SITE VISITS SHALL BE REQUIRED AT THE EXPENSE OF THE CONTRACTOR. THE ADDITIONAL SITE VISIT SHALL BE QUOTED TO THE CONTRACTOR BASED ON THE EXPECTED EFFORTS TO RETEST THE DEFICIENCIES AND TRAVEL COST.

THE CONTRACTOR SHALL ASSIST THE ENGINEER FOR THE ENTIRE DURATION OF THE PERFORMANCE TESTING BY PROVIDING EXPERIENCED STAFF THAT INSTALLED AND HAS KNOWLEDGE OF THE ELECTRICAL SYSTEMS OF THE PROJECT. THIS ASSISTANCE SHALL INCLUDE, BUT NOT BE LIMITED TO, THE OPENING AND CLOSING OF ELECTRICAL EQUIPMENT AND SHORE POWER PEDESTALS. TROUBLESHOOTING AND REPAIRING OF DEFICIENCIES SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR.

A DETAILED PERFORMANCE TESTING REPORT BY THE ENGINEER SHALL BE GENERATED DESCRIBING THE FINDINGS OF THE TESTS. PERFORMANCE TESTING SHALL NOT GUARANTEE THE SAFETY OR CODE COMPLIANCE OF THE SYSTEM BUT WILL HELP MITIGATE OPERATIONAL AND SAFETY ISSUES.

ENCLOSED CIRCUIT BREAKER SCHEDULE

- USE SPECIFIED EQUIPMENT OR EQUAL
- LOCKABLE DOOR

LABEL	MANUFACTURER	AMP RATING	ENCLOSURE	FEED	VOLTS	Φ	POLES	NOTES
ECB-1	SQUARE D	200 A	SS1	1G200	480 V	1	2	SHUNT-TRIP VIA GROUND FAULT MONITOR IN SUBSTATION

CIRCUIT SCHEDULE

CKT #	DESCRIPTION	VD %	GFPE TRIP (mA)	GFPE TIME (ms)
1,3	T2	2.38%	90-100	800

GROUND FAULT MONITOR SCHEDULE

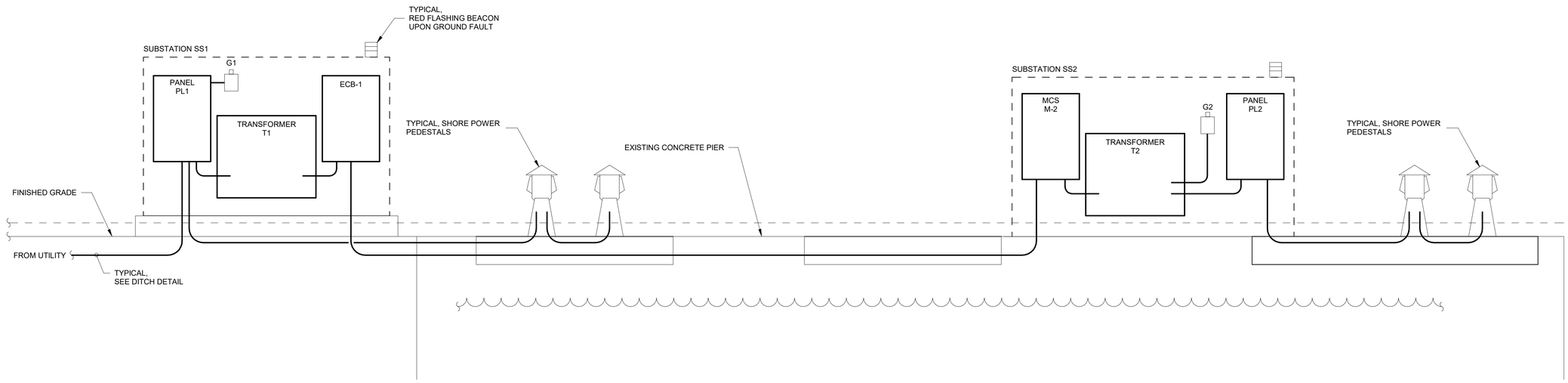
- MANUFACTURER SHALL PROGRAM ALL PARAMETERS PER THE DESIGN AND SHALL SET TIME AND DATE FOR THE PROJECT'S TIME ZONE
- SEE CIRCUIT SCHEDULES FOR TRIP SETTINGS
- CT SENSORS TO BE USED AS REQUIRED TO CONTROL SHUNT TRIP BREAKERS
- SPARE CHANNELS SHALL BE DISABLED
- USE SPECIFIED EQUIPMENT WITH NO SUBSTITUTIONS.
- SHALL HAVE LOCKABLE DOOR

LABEL	MANUFACTURER	MODEL	INPUTS / OUTPUTS	ENCLOSURE	NOTES
G1	BENDER	RCMS490-D-2	12	SS1	LISTED ASSEMBLY
G2	BENDER	RCMS490-D-2	12	SS2	LISTED ASSEMBLY

TRANSFORMER SCHEDULE

- USE SPECIFIED EQUIPMENT OR APPROVED EQUAL

LABEL	MANUFACTURER	MODEL	KVA	ENCLOSURE	TYPE	DOUBLE LUG	PRIMARY VOLTS	PRIMARY Φ	PRIMARY WINDING	SECONDARY VOLTS	SECONDARY Φ	SECONDARY WINDING
T1	HAMMOND	LOW-dB	100	SS1	DRY	No	240	1	1	240/480	1	CTR TAP
T2	HAMMOND	LOW-dB	100	SS2	DRY	No	240/480	1	CTR TAP	120/240	1	CTR TAP



2 E3.1 ELECTRICAL RISER DIAGRAM

NOT TO SCALE

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RITTENHOUSE AVE
BAYFIELD, WI 54814

ELECTRICAL SCHEDULES AND ONE-LINES

JOB No: 25039
DATE: 11/24/2025
DRAWN BY: JLC
DESIGNED BY: AJG

SHEET: E3.1

BRANCH PANEL: PL1

LOCATION:
SUPPLY FROM: UTILITY
MOUNTING: SURFACE
ENCLOSURE: SS1

MANUFACTURER: SQUARE D
MODEL: I-LINE
PANEL NOTES: SER
VOLTS: 120/240 1Φ,3-WIRE

A.I.C. RATING: 36,000 A
MAINS TYPE: MCB, SHUNT-TRIP
MAINS RATING: 800 A
MCB RATING: 800 A

TRIP AMPS	POLES	FEED	NOTES	CIRCUIT DESCRIPTION	CKT	A		B		CKT	CIRCUIT DESCRIPTION	NOTES	FEED	POLES	TRIP AMPS
100 A	2	B110	3	METERED SHORE POWER	1	24.2	24.2			2	METERED SHORE POWER	3	B200	2	200 A
					3			24.2	24.2	4					
150 A	2	B175	3	METERED SHORE POWER	5	18.2	7.4			6	METERED SHORE POWER	3	B175	2	110 A
					7			18.2	7.4	8					
20 A	1	A30	1, B	FIRE PEDESTAL AND E-STOPS	9	0.0	12.0			10	EXISTING POWER PANEL	3	B100	2	100 A
--	1			- SPACE -	11			--	12.0	12					
--	2			- SPACE -	13	--	--			14	- SPACE -			2	--
					15			--	--	16					
400 A	2	B400*	3	T1	17	60.9	--			18	- SPACE -			2	--
					19			60.9	--	20					
				TOTAL LOAD:		146.9 kVA		146.9 kVA							

LOAD CLASSIFICATION	CONNECTED (kVA)	DEMAND FACTOR	EST. DEMAND (kVA)	PANEL TOTALS	
Continuous	0.1 kVA	125.00%	0.2 kVA		
Non-Continuous	0.0 kVA	0.00%	0.0 kVA	**TOTAL CONN. LOAD (kVA):**	293.8 kVA
Metered Shore Power	290.4 kVA	63.00%	183.0 kVA	**TOTAL EST. DEMAND (kVA):**	186.4 kVA
Maint. Recpt.	3.2 kVA	100.00%	3.2 kVA	**TOTAL CONN.:**	1224 A
				TOTAL EST. DEMAND:	776 A

BREAKER NOTES (REFERENCED IN NOTES COLUMN):
1. GFCI
2. COMBINATION AFCI
3. SHUNT TRIP - REFER TO GFM WIRING DETAIL
4. 30mA GFPE
5. TAP BLOCK

CIRCUIT NOTES (REFERENCED IN NOTES COLUMN):
A. CONTINUOUS METAL RACEWAY
B. THE CIRCUIT FROM THE SHUNT-TRIP BREAKER SHALL BE ROUTED TO A GFCI BREAKER TO FEED THE DESIGNATED LOAD. COORDINATE WITH THE EQUIPMENT SUPPLIER FOR STYLE OF GFCI BREAKER, MOUNTING, AND LOCATION.

CIRCUIT SCHEDULE

CKT #	DESCRIPTION	VD %	GFPE TRIP (mA)	GFPE TIME (ms)
1,3	METERED SHORE POWER	3.37%	90-100	400
2,4	METERED SHORE POWER	3.80%	90-100	400
5,7	METERED SHORE POWER	3.51%	90-100	400
6,8	METERED SHORE POWER	3.60%	90-100	400
9	FIRE PEDESTAL AND E-STOPS	0.35%	GFCI	--
10,12	EXISTING POWER PANEL	1.26%	90-100	400
17,19	T1	0.32%	--	--

BRANCH PANEL: PL2

LOCATION:
SUPPLY FROM: T2
MOUNTING: SURFACE
ENCLOSURE: SS2

MANUFACTURER: SQUARE-D
MODEL: I-LINE
PANEL NOTES:
VOLTS: 120/240 1Φ,3-WIRE

A.I.C. RATING: COORDINATE
MAINS TYPE: MCB, SHUNT-TRIP
MAINS RATING: 400 A
MCB RATING: 400 A

TRIP AMPS	POLES	FEED	NOTES	CIRCUIT DESCRIPTION	CKT	A		B		CKT	CIRCUIT DESCRIPTION	NOTES	FEED	POLES	TRIP AMPS
150 A	2	1G150 / B150	3	METERED SHORE POWER	1	18.3	24.4			2	METERED SHORE POWER	3	1G200 / B200	2	200 A
					3			18.3	24.4	4					
150 A	2	1G200 / B200	3	METERED SHORE POWER	5	18.3	0.0			6	E-STOP & LIGHTING	1, B	1G30 /...	1	20 A
					7			18.3		8					
					9					10					
					11					12					
					13					14					
					15					16					
					17					18					
					19					20					
				TOTAL LOAD:		60.9 kVA		60.9 kVA							

LOAD CLASSIFICATION	CONNECTED (kVA)	DEMAND FACTOR	EST. DEMAND (kVA)	PANEL TOTALS	
Continuous	0.1 kVA	125.00%	0.1 kVA		
Non-Continuous	0.0 kVA	0.00%	0.0 kVA	**TOTAL CONN. LOAD (kVA):**	121.9 kVA
Metered Shore Power	120.0 kVA	72.00%	86.4 kVA	**TOTAL EST. DEMAND (kVA):**	88.3 kVA
Maint. Recpt.	1.8 kVA	100.00%	1.8 kVA	**TOTAL CONN.:**	508 A
				TOTAL EST. DEMAND:	368 A

BREAKER NOTES (REFERENCED IN NOTES COLUMN):
1. GFCI
2. COMBINATION AFCI
3. SHUNT TRIP - REFER TO GFM WIRING DETAIL
4. 30mA GFPE
5. TAP BLOCK

CIRCUIT NOTES (REFERENCED IN NOTES COLUMN):
A. CONTINUOUS METAL RACEWAY
B. THE CIRCUIT FROM THE SHUNT-TRIP BREAKER SHALL BE ROUTED TO A GFCI BREAKER TO FEED THE DESIGNATED LOAD. COORDINATE WITH THE EQUIPMENT SUPPLIER FOR STYLE OF GFCI BREAKER, MOUNTING, AND LOCATION.

CIRCUIT SCHEDULE

CKT #	DESCRIPTION	VD %	GFPE TRIP (mA)	GFPE TIME (ms)
1,3	METERED SHORE POWER	1.24%	90-100	400
2,4	METERED SHORE POWER	2.54%	90-100	400
5,7	METERED SHORE POWER	3.59%	90-100	400
6	E-STOP & LIGHTING	0.00%	GFCI	--

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

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
NAME:
SIGNATURE:
DATE:
LICENSE NUMBER: XXXX
NOT FOR CONSTRUCTION

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www.maffettlofts.com

REV. BY:	DESCRIPTION	REV.:	DATE:

BAYFIELD FINGER PIER REHABILITATION
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