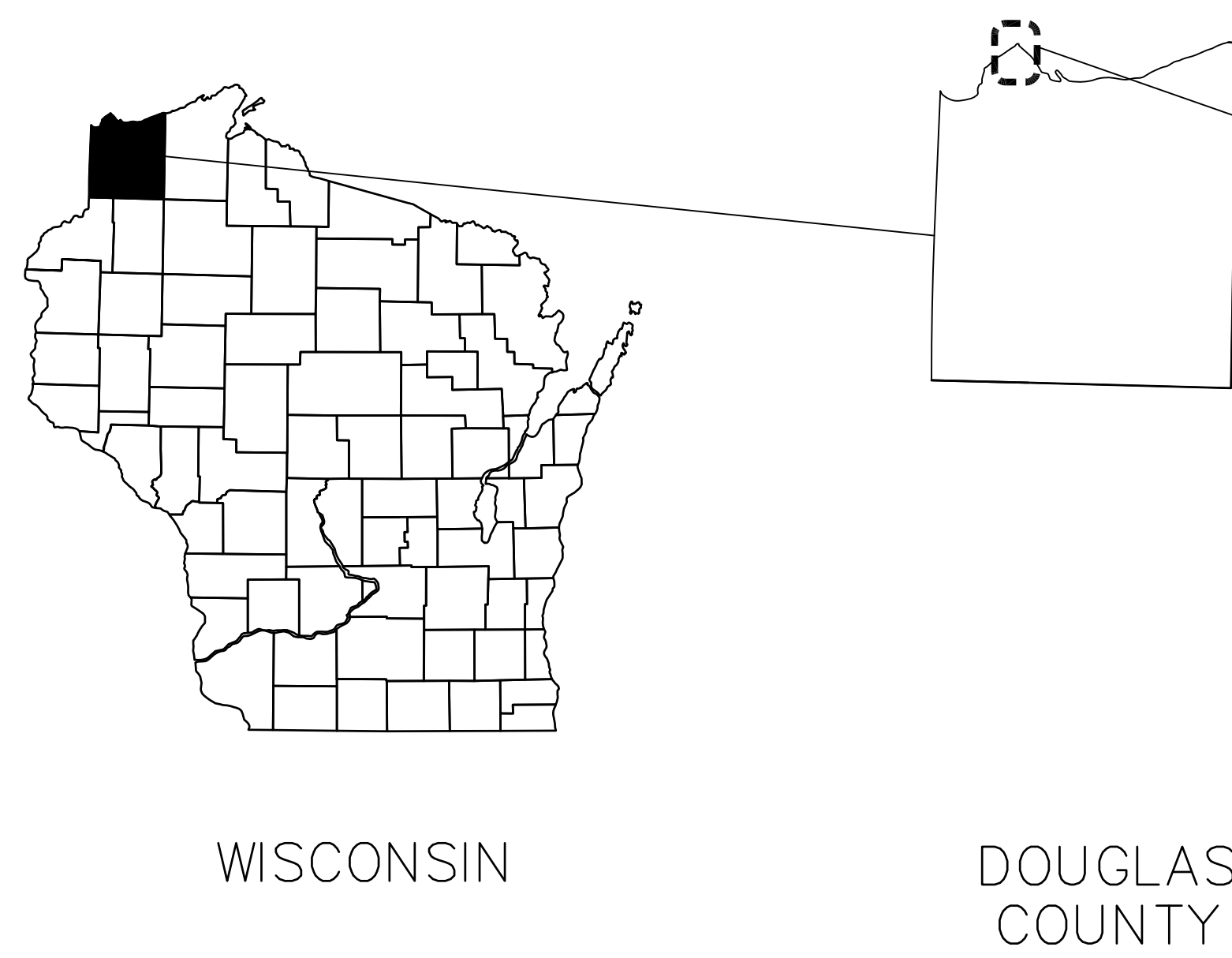


BARKER'S ISLAND MARINA

DOCK UPGRADES

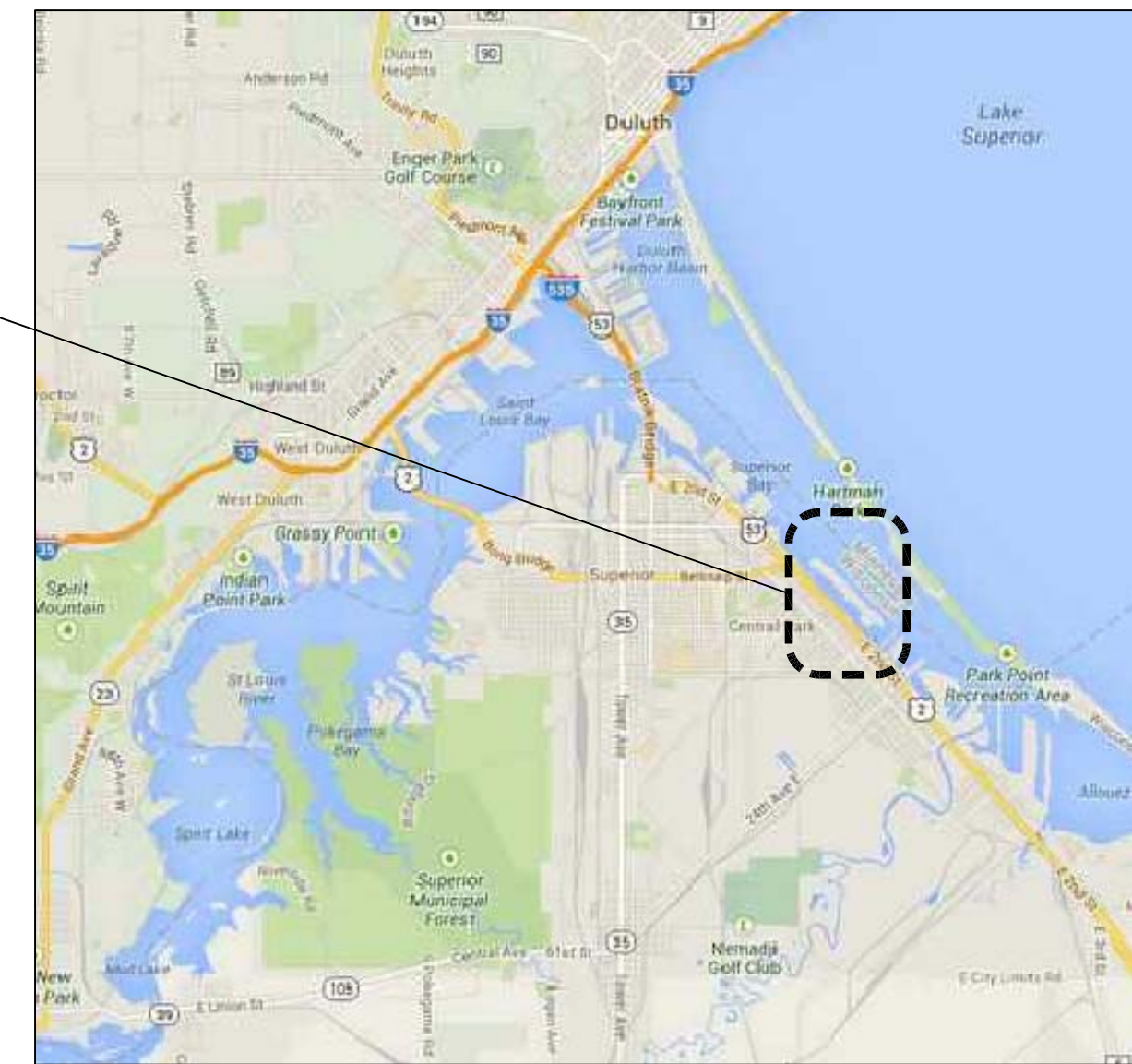
PHASE I

SUPERIOR, WISCONSIN



WISCONSIN

DOUGLAS COUNTY



PROJECT LOCATION



SITE PLAN

SHEET INDEX	
G1.0	GENERAL SITE PLAN
S1.0	DOCKS E, F & G PLAN & GENERAL NOTES
S1.1	DECKING, SPUDS AND GANGWAY ANCHORAGE PLANS & DETAILS
S1.2	ADD ALTERNATE #1- DOCK A MODIFICATIONS
E0.0	ELECTRICAL DEMOLITION PLAN
E1.0	ELECTRICAL POWER PLAN
E1.1	SHORESIDE DETAILS
P2.0	ELECTRICAL NOTES
P1.0	PLUMBING SITE PLAN AND DETAILS

DATE	REV.	DESCRIPTION	REV. BY:
1/16/14	A	Issued for Review	SAJ
1/27/14	B	Issued for Bid	SAJ

Barker's Island Marina
Dock Upgrades
Phase I
Superior, Wisconsin
Cover Sheet

JOB No: 131134
DATE: 1/16/14
DRAWN BY: ADM
DESIGNED BY: KRF

SHEET:
COV



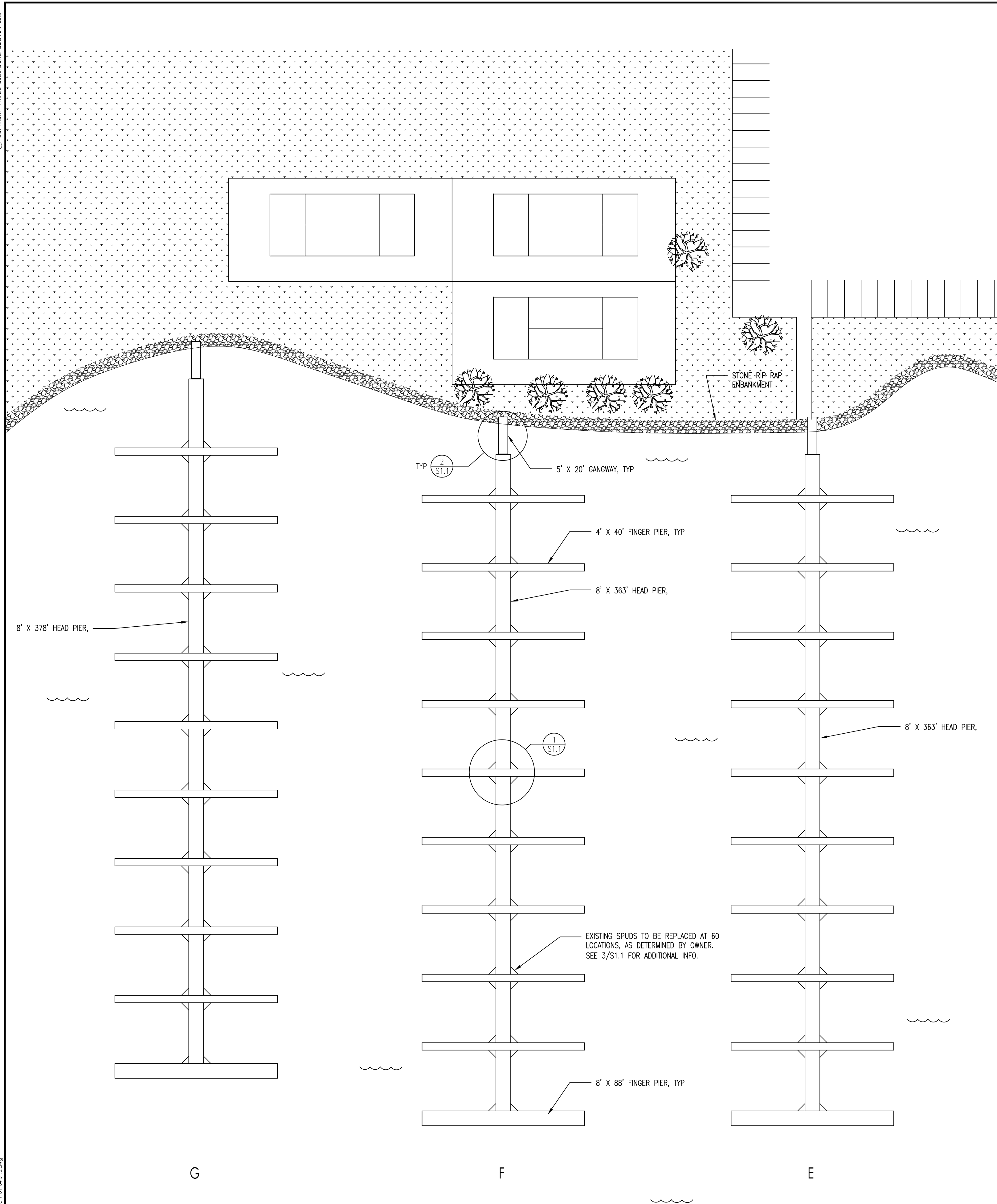
1 Plan
 B1.0 SCALE: 1/64"=1'-0"

DATE	REV.	DESCRIPTION	REV. BY:
1/16/14	A	Issued for Review	SAJ
1/27/14	B	Issued for Bid	SAJ

Barker's Island Marina
 Dock Upgrades
 Phase I
 Superior, Wisconsin
 General Site Plan

JOB No: 131134
 DATE: 1/16/14
 DRAWN BY: ADM
 DESIGNED BY: KRF

SHEET:
G1.0



GENERAL NOTES:

- GENERAL**
- ELEVATIONS SHOWN, EXCEPT AS NOTED, ARE BASED ON IGLD 1985 DATUM OF 601.1. ON GENERAL ARRANGEMENT DRAWINGS, ELEVATIONS ALSO SHOWN RELATIVE TO IGLD DATUM.
 - 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 DRAWINGS ARE TO BE WORKED TOGETHER WITH MECHANICAL, STRUCTURAL, ELECTRICAL, AND CIVIL DRAWINGS AND SPECIFICATIONS FOR ALL INTER-DISCIPLINE INTERFACE WORK WHICH MAY NOT BE INCLUSIVE ON THE 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, ELEVATIONS INDICATED IN THE CONTRACT DOCUMENTS SHALL BE FIELD VERIFIED AS SITE CONDITIONS MAY HAVE CHANGED SINCE LAST INSPECTION BY ENGINEER. ANY VERIFIED CONDITIONS THAT DIFFER FROM THAT INDICATED IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PRODUCTION OF SHOP DRAWINGS & FABRICATION.
 - WHERE A SPECIFIC MODEL AND MANUFACTURER OF AN ITEM ARE NAMED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE MODEL AND MANUFACTURER NAMED ARE THE BASIS OF DESIGN. ITEMS BY OTHER MANUFACTURERS OF EQUAL DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR CONSIDERATION AS APPROVED EQUAL. IF APPROVED AS EQUAL BY ENGINEER, ANY ADDITIONAL DRAWINGS, ENGINEERING DEVIATIONS, AND CONSTRUCTION CHANGES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
 - THE ACCURACY OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES ARE NOT GUARANTEED AND NOT INCLUSIVE. FIELD CONDITIONS SHALL BE VERIFIED PRIOR TO ANY EXCAVATION.
 - THE GENERAL STRUCTURAL AND MARINE NOTES GIVEN IN THE CONSTRUCTION DOCUMENTS MAY NOT BE INCLUSIVE TO THE ENTIRE PROJECT. SEE FULL PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.

- DESIGN CRITERIA**
- CODES AND SPECIFICATIONS
 - A. ALL DESIGN, UNLESS OTHERWISE NOTED, ARE IN ACCORDANCE WITH THE FOLLOWING:
 - I. LOCAL & STATE CODES FOR WHICH THE PROJECT IS ERCTED
 - II. INTERNATIONAL BUILDING CODE (IBC)
 - III. ASCE STANDARD 7
 - IV. ASCE PLANNING & DESIGN GUIDELINES FOR SMALL CRAFT HARBORS
 - DESIGN LOADS
 - A. LIVE LOADS
 - WIND SPEED FOR DOCK STRUCTURES: 90 MPH, 3 SEC. GUST OR 120 MPH FASTEST MILE
 - PRIMARY DOCK LIVE LOAD: SEE FLOATING DOCK SYSTEMS
 - FIXED DOCK LIVE LOAD: 40 PSF
 - PILE LATERAL LOAD: 20 KIPS
 - ICE JACKING FORCE: 6 KIPS
 - B. 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.

- PERMITS**
- CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY PERMITS, INCLUDING DISPOSAL, ELECTRICAL OR PLUMBING, BEFORE THE START OF THE PROJECT.
- SUBMITTALS**
- THE FOLLOWING ITEMS SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER OR OWNERS REPRESENTATIVE PRIOR TO THE PURCHASE AND INSTALLATION OF THE ITEM
- PROJECT SCHEDULE AND FOREMAN CONTACT INFORMATION
 - STRUCTURAL STEEL & PIPE PILING
 - A. SHOP DRAWINGS INCLUDING MEMBER SIZES, LENGTHS, CUT & CONNECTIONS DETAILS, LENGTHS, SIZE, & NUMBER OF BOLTS, AND WELD SIZE, TYPE, LENGTH, & LOCATION.
 - B. WELDING CERTIFICATES FOR PERSONNEL PERFORMING THE WELDING
 - C. MATERIAL SPECIFICATIONS FOR STRUCTURAL SHAPES AND STEEL PLATES
 - D. PAINT AND PRIMER MATERIAL SPECIFICATIONS

- STRUCTURAL STEEL**
- ALL STRUCTURAL STEEL AND MISCELLANEOUS METAL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF THE LATEST:
 - A. AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS
 - B. AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
 - C. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS (RCRBJ)
 - D. AISC QUALITY CERTIFICATION PROGRAM.
 - STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING MATERIAL SPECIFICATIONS:

WIDE FLANGES AND SHAPES CUT FROM THEM	ASTM A992
S-BEAMS, CHANNELS, ANGLES AND PLATES	ASTM A36
HOLLOW STRUCTURAL SECTIONS	ASTM A500 GRADE B
STEEL PIPE	ASTM A53 GRADE B
HIGH STRENGTH BOLTS	ASTM A325-X OR ASTM F1852-X
NUTS	ASTM A563
WASHERS	ASTM F436
ANCHOR RODS	ASTM A1554 GRADE 36
WELDED STUDS	ASTM A108
WELD ELECTRODES	E70XX
GALVANIZED BOLTS	ASTM A307
STAINLESS STEEL BOLTS	TYPE 304 OR 316
GALVANIZED NUT	ASTM A563
GALVANIZED WASHER	ASTM F436
 - WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1 BY QUALIFIED WELDERS AS DEFINED BY AWS D1.1. ELEMENTS INVOLVING CONNECTIONS OF SHEET STEEL OR STRIP STEEL SHALL ALSO BE IN ACCORDANCE WITH THE LATEST EDITION OF AWS D1.3, SPECIFICATION FOR WELDING SHEET STEEL IN STRUCTURES.
 - PROVIDE FIRE WATCH DURING ALL WELDING, FLAME CUTTING, AND BURNING.
 - ALL HARDWARE AND STRUCTURAL STEEL SHAPES SHALL BE GALVANIZED BY THE HOT DIPPED PROCESS IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123 AND/OR A153, AS APPLICABLE, AFTER FABRICATION, UNLESS OTHERWISE NOTED.
 - FIELD TREAT DAMAGED GALVANIZED FINISH WITH TWO COATS OF HIGH ZINC DUST OXIDE PAINT, COLD GALVANIZING COMPOUNDS OR APPROVED EQUAL CONFORMING TO THE REQUIREMENTS OF ASTM A780.
 - FIELD TREAT ALL COATING DAMAGED WITH MANUFACTURERS RECOMMENDED REPAIR PROCESS. ALL PROCESSES FOR REPAIR MUST BE APPROVED BY THE ENGINEER PRIOR TO THE REPAIR.

- WOOD DECKING NOTES**
- CONTRACTOR SHALL SUBMIT CERTIFICATION FORMS FOR WOOD DECKING TO OWNER FOR APPROVAL PRIOR TO PROCUREMENT.
 - ALL WOOD DECKING THAT DOES NOT CONFORM TO THE SPECIFICATIONS OUTLINED HEREIN (LOOSE KNOTS, HOLES, WAKES, ETC.) SHALL BE REMOVED AND REPLACED AT CONTRACTOR'S EXPENSE.
 - CONTRACTOR SHALL FOLLOW THE PROVISIONS OF SECTION 2308: CONVENTIONAL LIGHT-FRAME CONSTRUCTION IN THE IBC UNLESS NOTED OTHERWISE IN THE CONSTRUCTION DRAWINGS OR PROJECT SPECIFICATIONS.
 - WOOD MEMBERS SHALL MEET THE FOLLOWING REQUIREMENTS:

TREATED DIMENSIONAL LUMBER SHALL BE SOUTHERN PINE GRADE NO. 1 OR BETTER, CONFORMING TO THE SOUTHERN YELLOW PINE INSPECTION BUREAU AS APPLICABLE, UNLESS NOTED OTHERWISE ON DRAWINGS. IN ADDITION TO BEING NO.1, THERE SHALL BE NO LOOSE KNOTS, HOLES OR WANE.

WOOD DECKING SHALL HAVE A 2" NOMINAL THICKNESS. LAY-UP SHALL BE RANDOM LENGTH CONTINUOUS AND MEET THE FOLLOWING MINIMUM DESIGN VALUES:

CONCENTRATED LIVE LOAD = 400-LB ON ANY 1FT²

WOOD DECKING SHALL BE INSTALLED W/ BARK SIDE UP

-WOOD SHALL BE TREATED IN ACCORDANCE WITH AWPA U1, USE CATEGORY UC4A, WATER-BORNE COPPER BASED SUSPENSIVE PRESERVATIVES. (MICRONIZED COPPER)

THE PRESERVATIVE SHALL HAVE A RETENTION ASSAY (IN ACCORDANCE WITH AWPA UC4A) OF TREATED WOOD OF 0.16 POUNDS/CUBIC FOOT FOR NON-STRUCTURAL MEMBERS AND 0.24 POUNDS/ CUBIC FOOT FOR STRUCTURAL MEMBERS.

TREATMENT PROCESS SHALL INCLUDE A WATER-REPELLANT TREATMENT.

ALL DECKING SHALL BE KILN DRIED AFTER TREATMENT TO THE MOISTURE CONTENT AS PER ASSOCIATION RULES.

ALL SAW CUT ENDS AND HOLES DRILLED AFTER TREATMENT SHALL RECEIVE TWO COATS OF WOOD PRESERVATIVE ON ALL EXPOSED SURFACES.

-FASTENERS USED WITH TREATED WOOD SHALL BE HOT DIPPED GALVANIZED (ASTM A153) OR STAINLESS STEEL (TYP 304 OR 316).



TYPICAL SLIP NUMBER LOCATION ON HEAD PIERS



TYPICAL SLIP NUMBER LOCATION ON FINGER PIERS

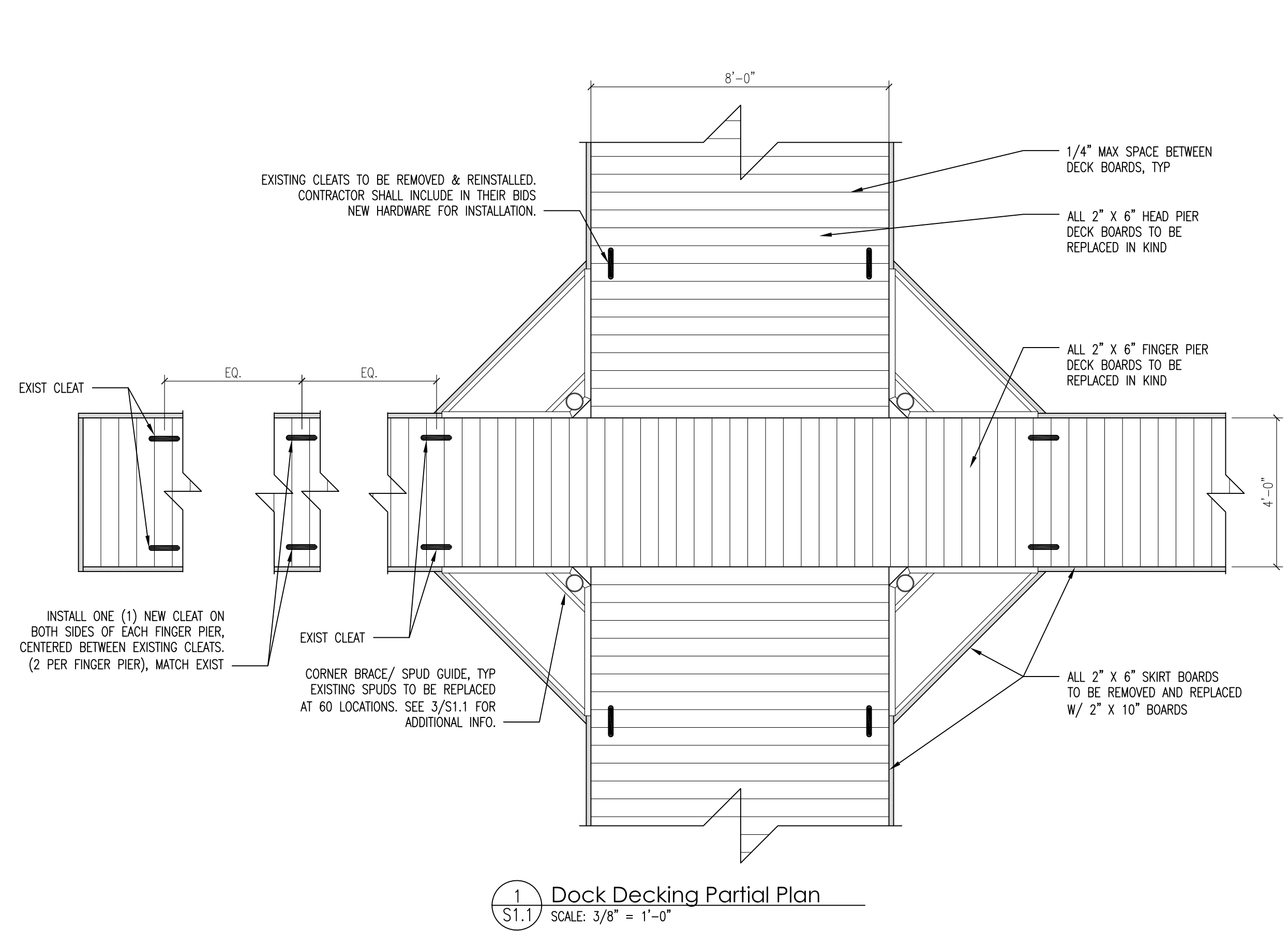
NOTE: ALL SLIP NUMBERS SHOULD BE REMOVED FROM THE DOCKS AND REINSTALLED IN THE SAME ORDER AND LOCATION AS SHOWN IN PHOTOS ABOVE.

REV. BY:	SAJ	SAJ
DESCRIPTION	Issued for Review	Issued for Bid
REV.:	A	B
DATE:	1/16/14	1/27/14

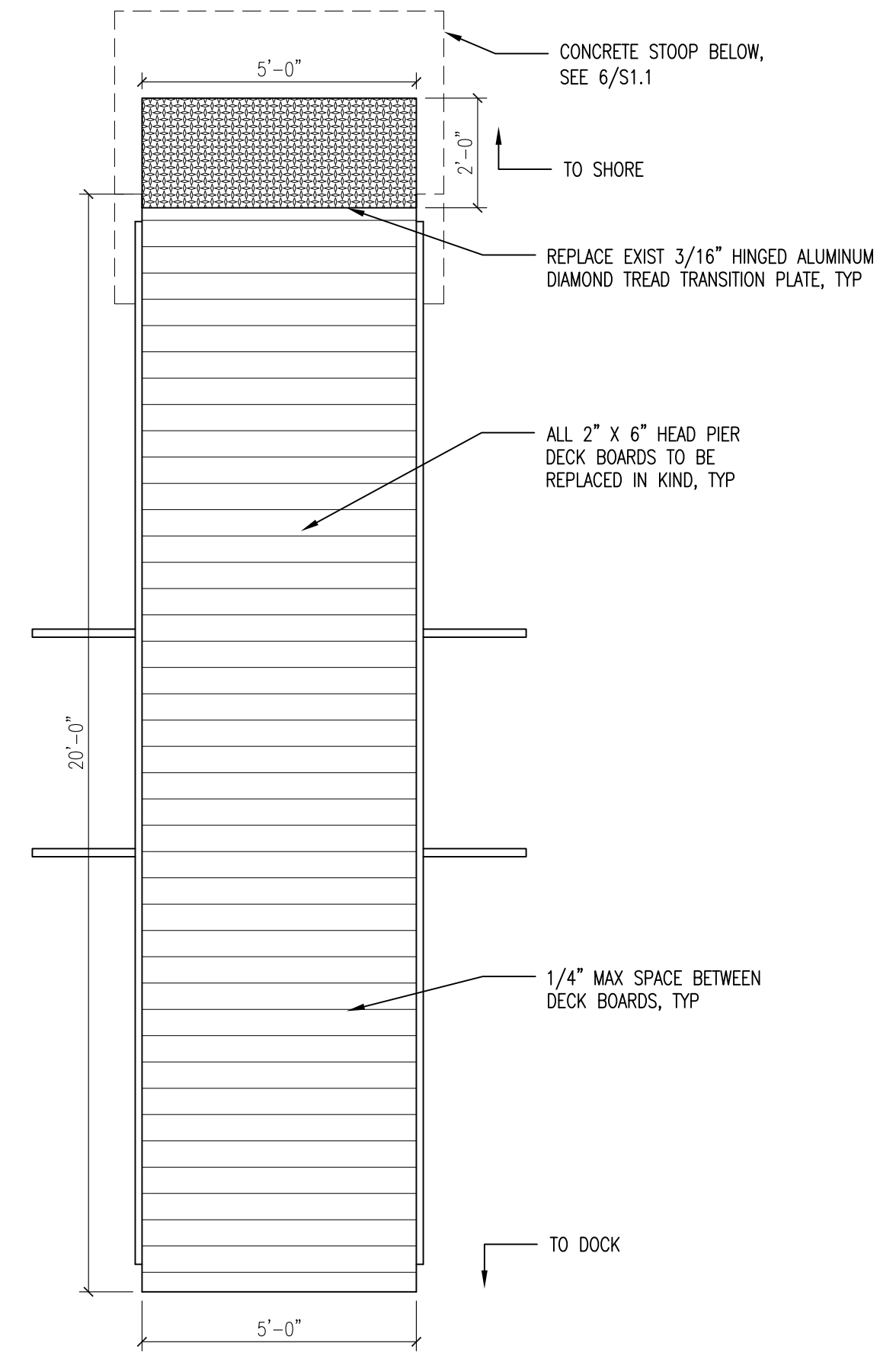
Barker's Island Marina
Dock Upgrades
Phase I
Superior, Wisconsin
Docks 'E', 'F', and 'G'
Plan & General Notes

JOB No: 131134
DATE: 1/16/14
DRAWN BY: SAJ
DESIGNED BY: KRF

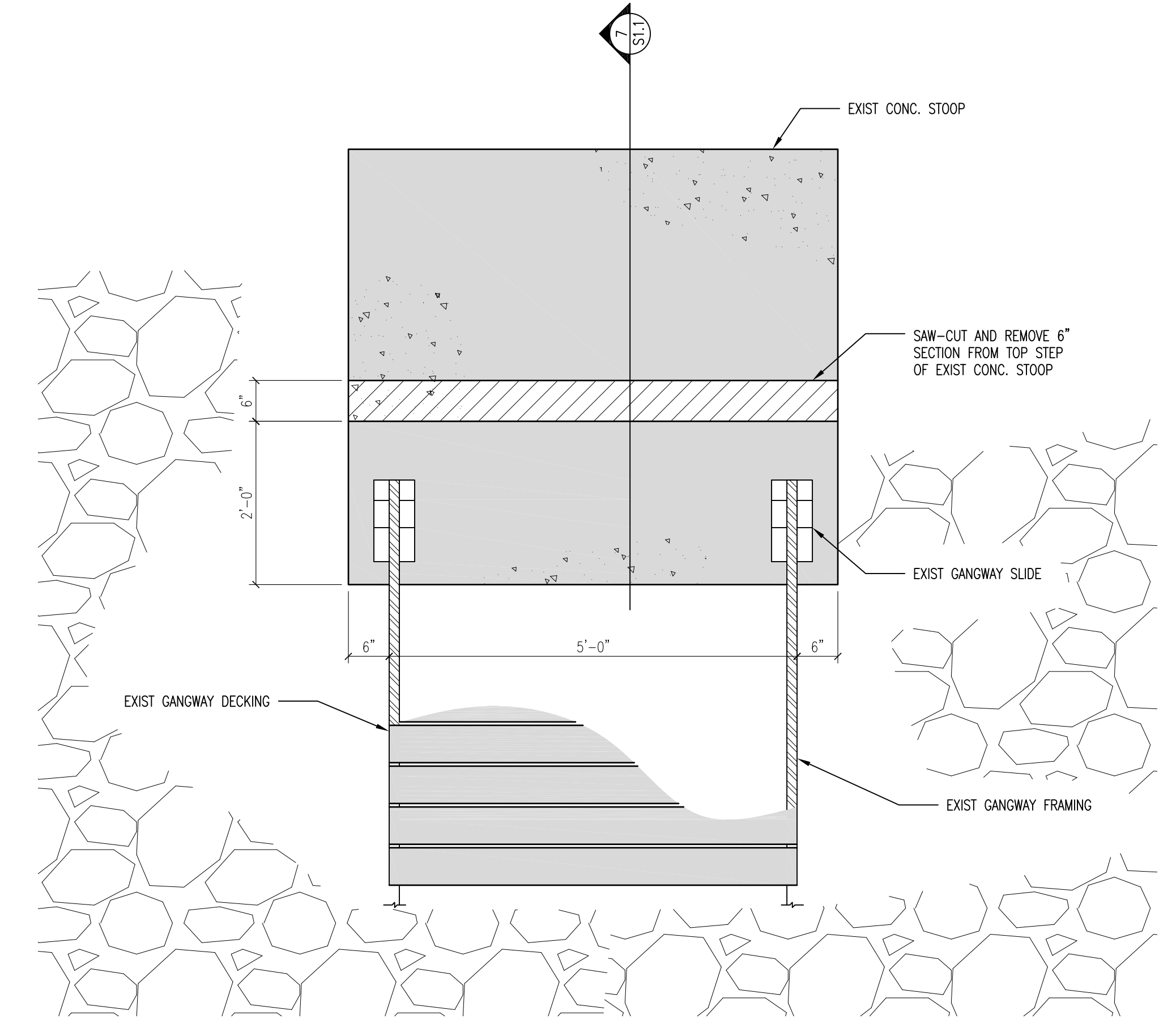
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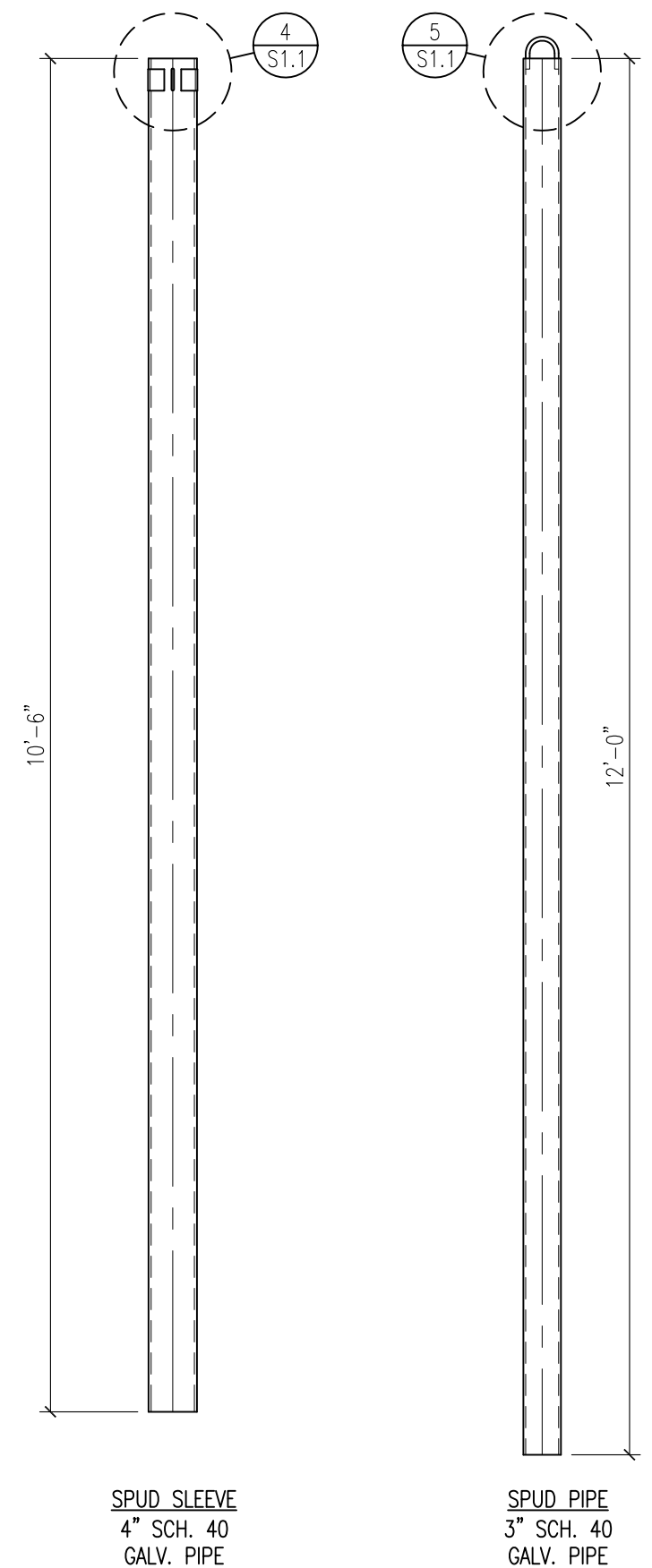
1 Dock Decking Partial Plan
SCALE: 3/8" = 1'-0"



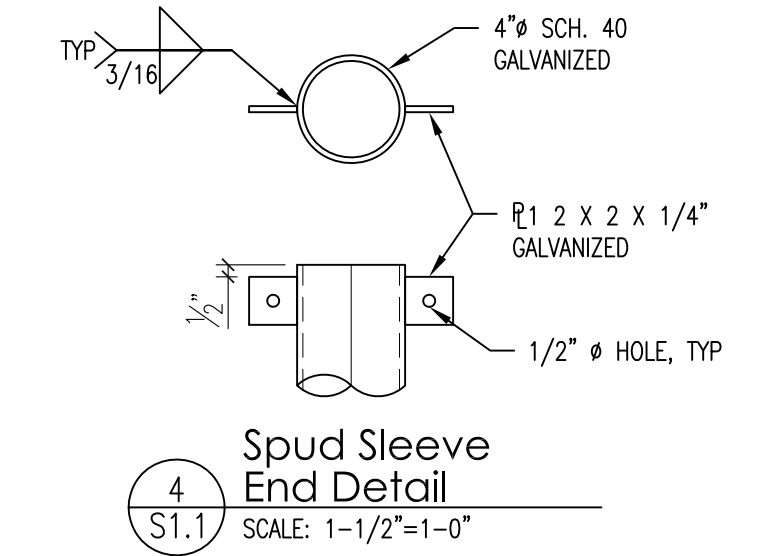
2 Gangway Decking Plan
SCALE: 3/8" = 1'-0"



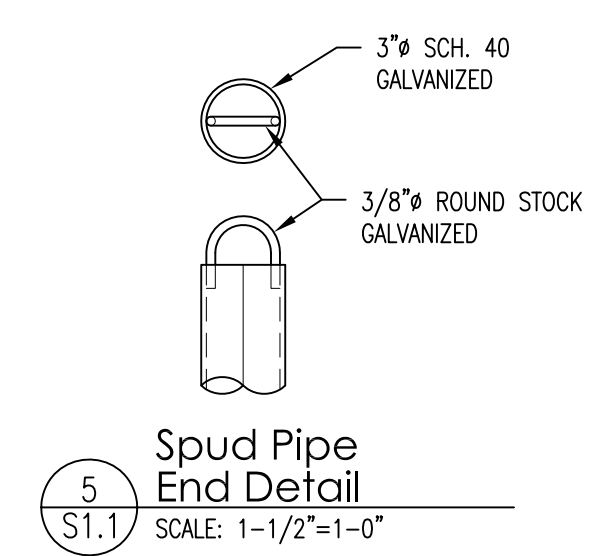
6 Gangway Anchorage Plan
SCALE: 3/4" = 1'-0"



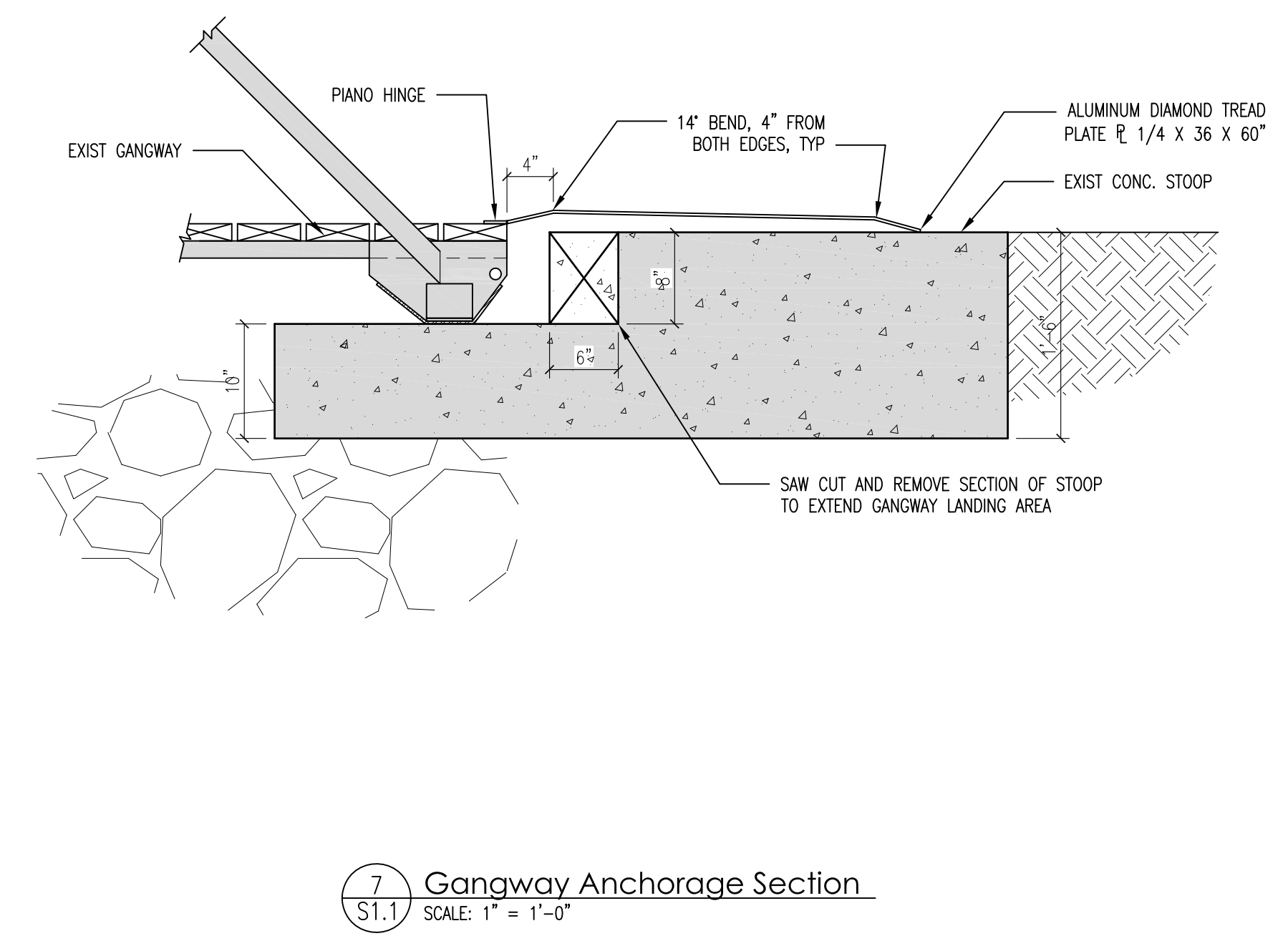
3 Spud Sleeve & Spud Pipe
SCALE: 3/4" = 1'-0"



4 Spud Sleeve End Detail
SCALE: 1-1/2" = 1'-0"



5 Spud Pipe End Detail
SCALE: 1-1/2" = 1'-0"



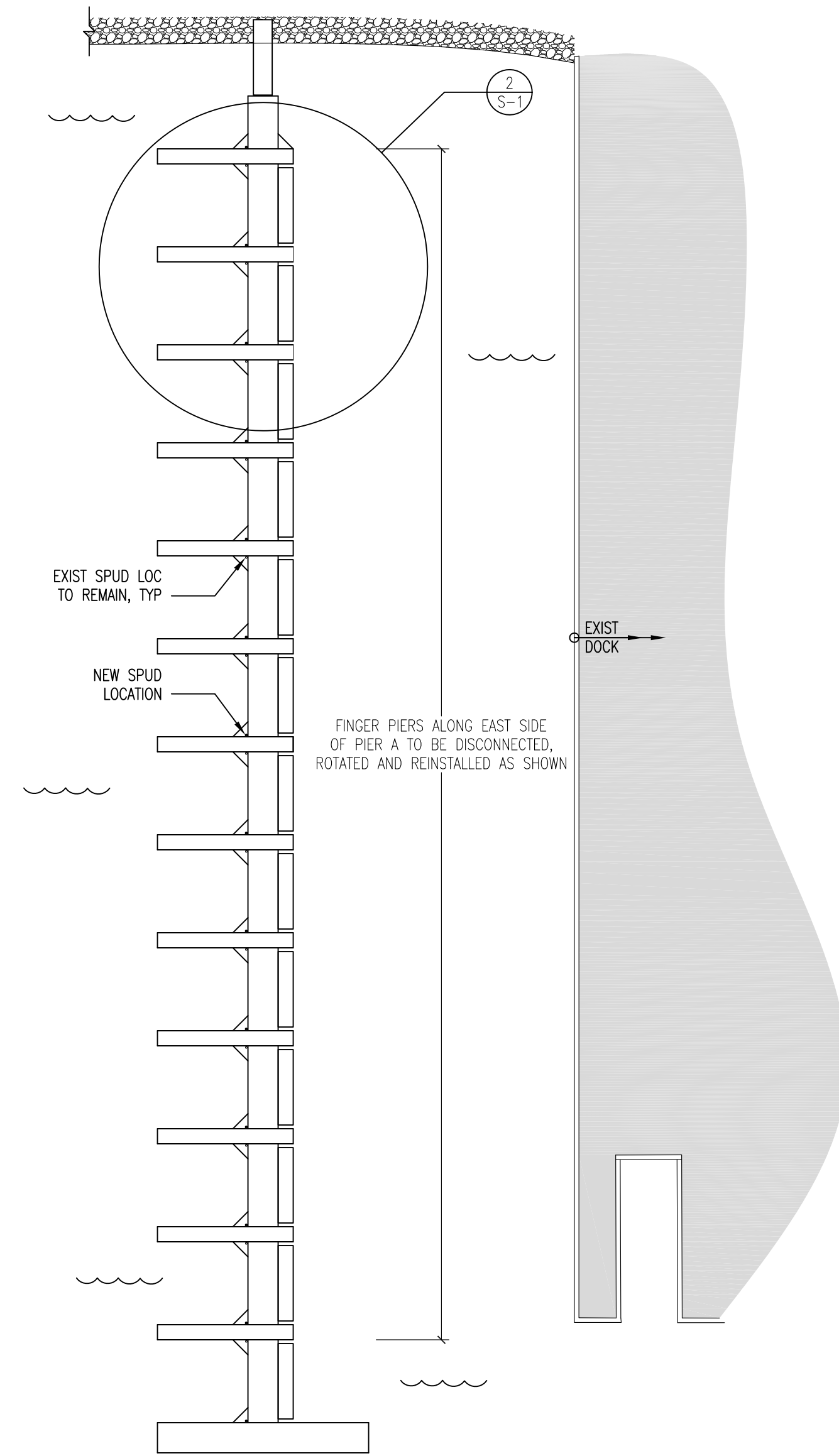
7 Gangway Anchorage Section
SCALE: 1" = 1'-0"

REV.	DATE	DESCRIPTION	REV. BY:
A	1/16/14	Issued for Review	SAJ
B	1/27/14	Issued for Bid	SAJ

Barker's Island Marina
Dock Upgrades
Phase I
Superior, Wisconsin
Decking, Spuds & Gangway Anchorage
Plans, Sections & Details

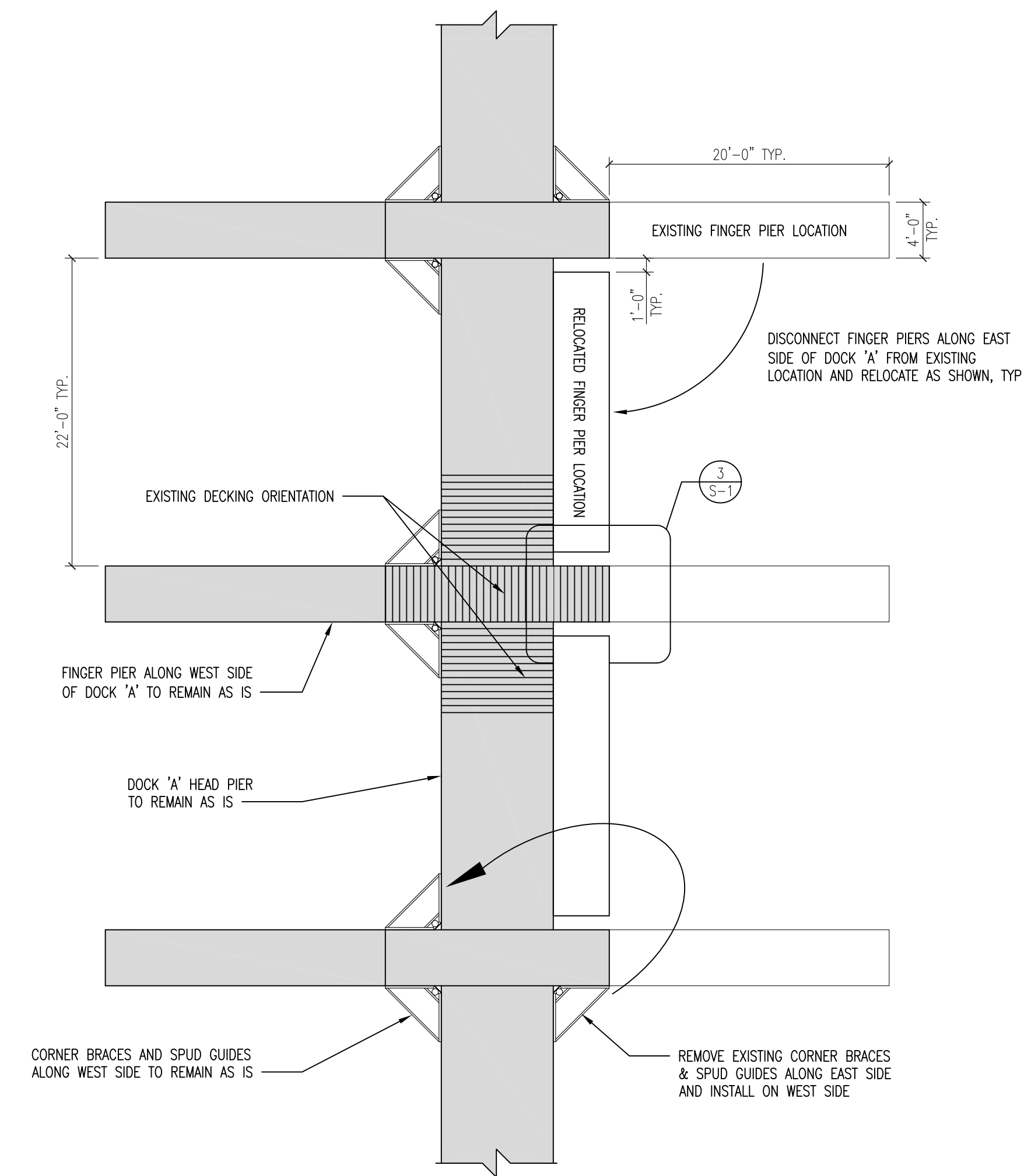
JOB No: 131134
DATE: 1/16/14
DRAWN BY: SAJ
DESIGNED BY: KRF

SHEET:
S1.1

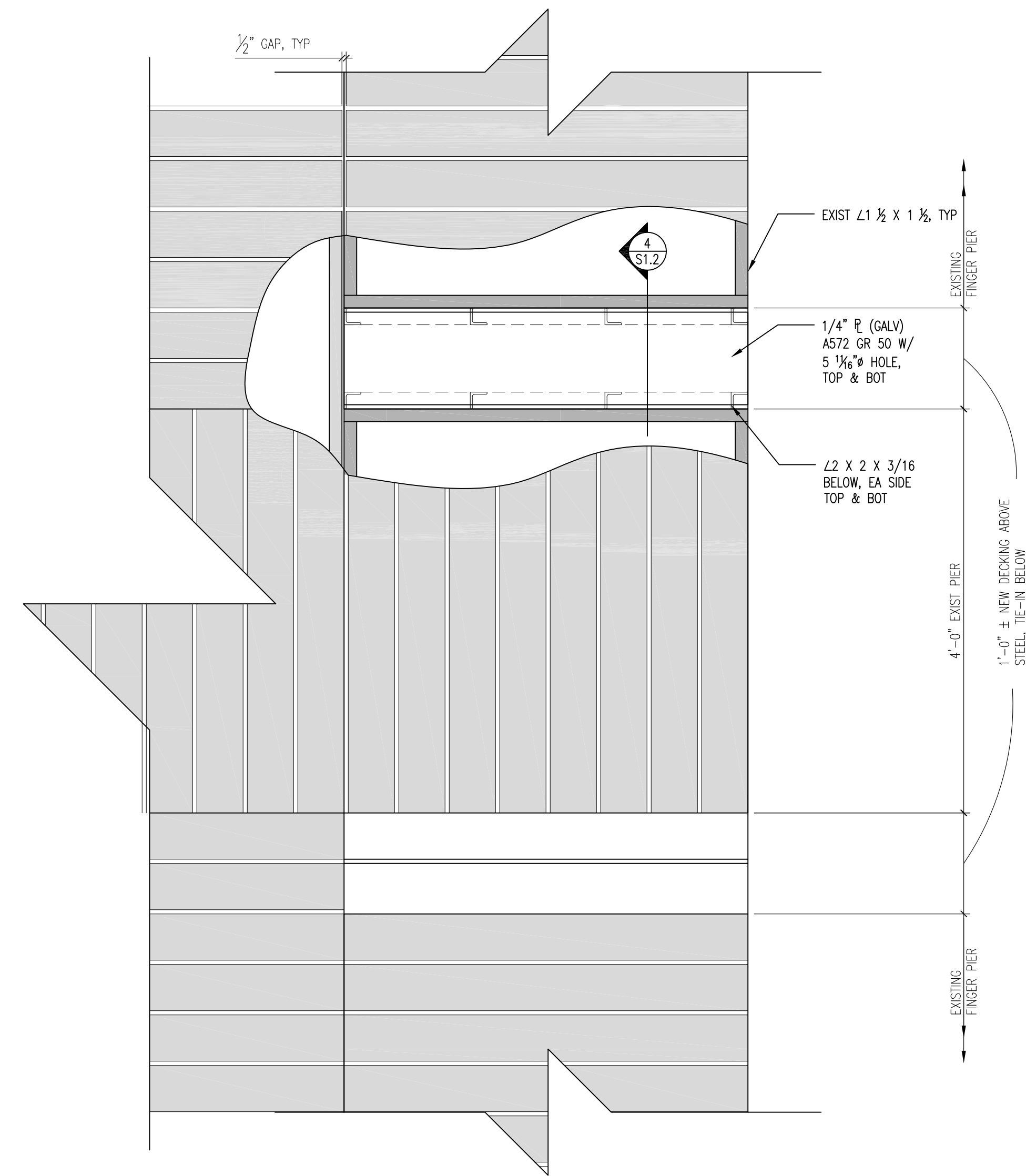


1 Dock A Plan
 S1.2 SCALE: 1/32"=1'-0"

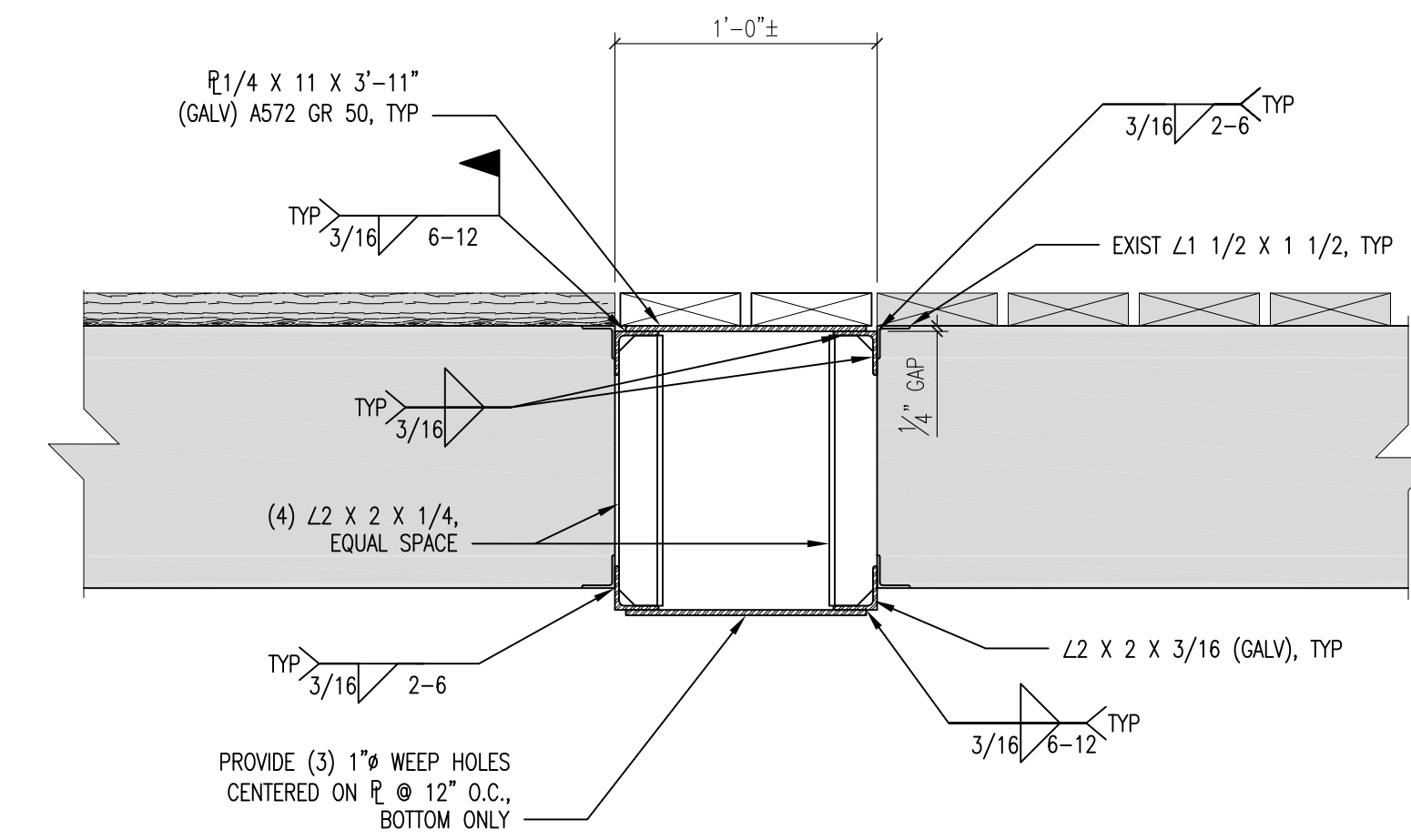
DOCK A



2 Layout Partial Plan
 S1.2 SCALE: 1/8" = 1'-0"



3 Pier Tie-in and Decking Plan
 S1.2 SCALE: 1" = 1'-0"



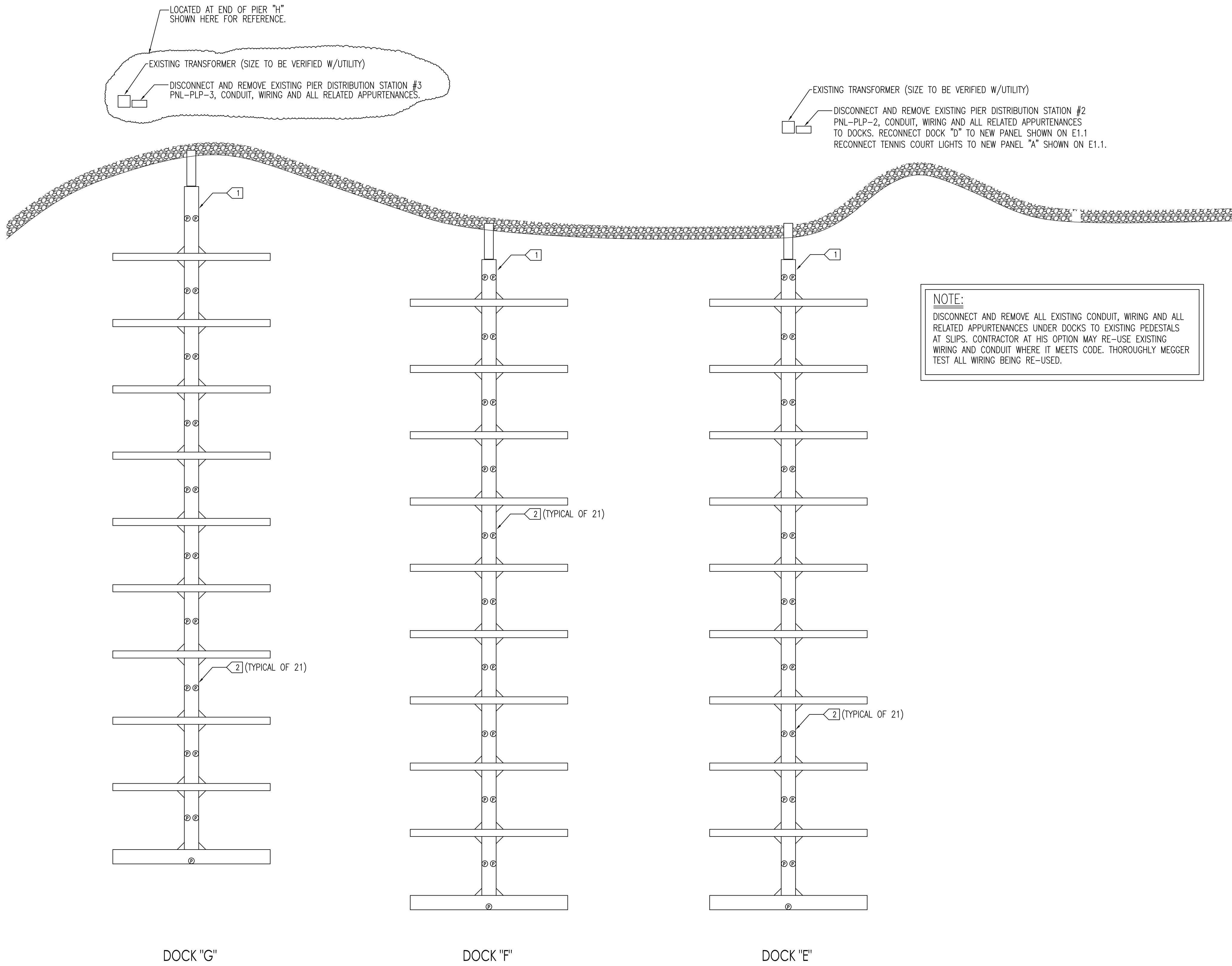
4 Pier Tie-in Detail
 S1.2 SCALE: 1 1/2" = 1'-0"

DATE	REV.	DESCRIPTION	REV. BY:
1/16/14	A	Issued for Review	SAJ
1/27/14	B	Issued for Bid	SAJ

Barker's Island Marina
 Dock Upgrades
 Phase I
 Superior, Wisconsin
 Add Alternate 1
 Dock 'A' Modifications

JOB No: 131134
 DATE: 1/16/14
 DRAWN BY: SAJ
 DESIGNED BY: KRF

SHEET:
S1.2



GENERAL NOTES:

- CONTRACTOR SHALL COORDINATE WITH OTHER TRADES IN ORDER TO AVOID ALL INTERFERENCE.
- CONTRACTOR SHALL VERIFY ALL EXISTING SIZES, FUNCTIONS, LOCATIONS AND CONDITIONS PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY FITTINGS, FIXTURES, AND/OR APPURTENANCES FOR THE COMPLETE INSTALLATION, OPERATION AND CONNECTION OF THE EQUIPMENT SHOWN AND/OR SPECIFIED.
- ALL DEVICES SHOWN ON THE DEMOLITION DRAWING ARE TO BE DISCONNECTED AND REMOVED UNLESS NOTED. ALL MATERIALS REMOVED BY THIS CONTRACTOR SHALL BE REVIEWED BY THE OWNER. MATERIAL NOT WANTED BY THE OWNER SHALL BECOME THE PROPERTY OF THIS CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES. MATERIAL THE OWNER ELECTS TO KEEP SHALL BE STORED BY THE OWNER. THIS CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING EQUIPMENT, WIRING, CONDUIT ETC. AS INDICATED ON THE DRAWINGS OR AS REQUIRED TO COMPLETE THE WORK. CONCEALED ITEMS NOT TO BE REUSED MAY BE ABANDONED IF DISCONNECTED FROM THE SYSTEM.
- CONTRACTOR SHALL INSTALL EQUIPMENT, FIXTURES, IN SUCH A MANNER AS TO AVOID ALL INTERFERENCE WITH THE NEW AND EXISTING EQUIPMENT AND SYSTEMS.
- WHEN REMOVING EXISTING EQUIPMENT AS SHOWN AND AS NOTED, INCLUDING, BUT NOT LIMITED TO ELECTRICAL WIRING AND ANY OTHER DEMOLITION WORK; ALL WIRING AND ANY OTHER CONNECTIONS SHALL BE REMOVED BELOW FLOORS, INSIDE WALL AND/OR ABOVE CEILINGS; THE FLOORS, WALLS, AND/OR CEILINGS SHALL BE PATCHED TO MATCH THE EXISTING CONDITIONS BY THIS CONTRACTOR.
- ALL OPENINGS AND PENETRATIONS REQUIRED FOR INSTALLATIONS SHOWN ON THE DRAWINGS SHALL BE BY THIS CONTRACTOR, PATCH AND PAINT TO MATCH EXISTING.

ELECTRICAL DEMOLITION NOTES (THIS SHEET):

- DISCONNECT AND REMOVE EXISTING PHOTOCELLS AND PEDESTAL LIGHTING CIRCUIT, INCLUDING CONDUIT, WIRING AND APPURTENANCES. TURN BREAKER OVER TO OWNER.
- EXISTING PEDESTAL TO BE DISCONNECTED AND REMOVED. MODIFY WIRING FOR CONNECTION TO NEW PEDESTAL LIGHTHOUSE.

NOTE:
 ALL ELECTRICAL WORK TO BE IN FULL COMPLIANCE WITH NEC 555 AND NFPA 303.5.20

DATE:	REV:	DESCRIPTION	REV. BY:
1/13/2014	A	Issued for Review	KDM
1/31/2014	B	Issued for Bid	KDM

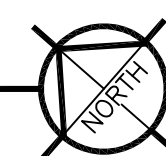
Barker's Island Marina
 Dock Upgrades
 Phase 1
 Superior, Wisconsin
ELECTRICAL DEMOLITION PLAN

JOB No: 131134
 DATE:
 DRAWN BY: KDM
 DESIGNED BY: OWM

SHEET:
 E0.0

ELECTRICAL DEMOLITION PLAN

SCALE: 1/32" = 1'-0"



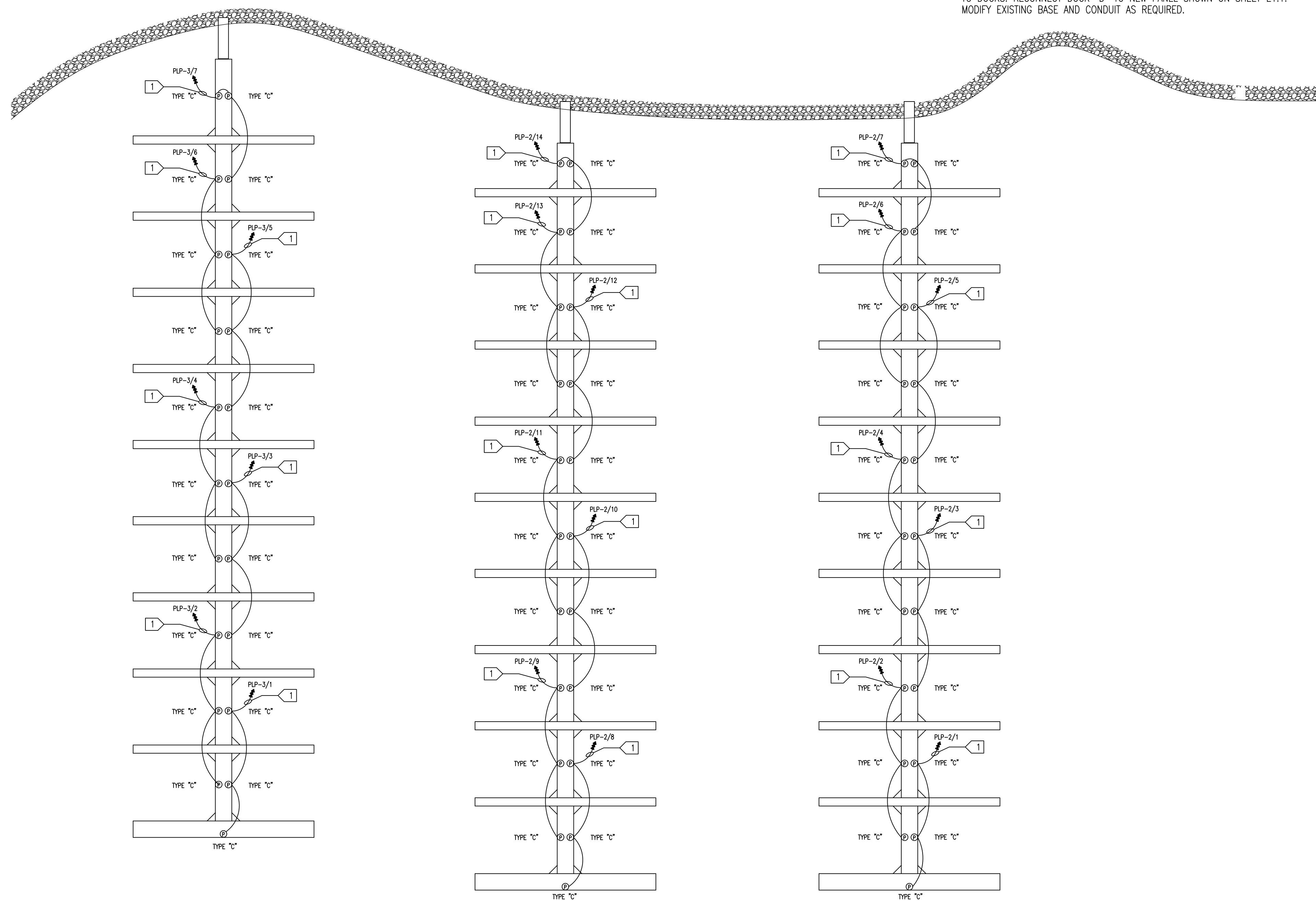
LOCATED AT END OF PIER "H"
SHOWN HERE FOR REFERENCE.

EXISTING TRANSFORMER (SIZE TO BE VERIFIED W/UTILITY)

INSTALL NEW PIER DISTRIBUTION STATION #3
PNL-PLP-3, CONDUIT, WIRING AND ALL RELATED APPURTENANCES.
MODIFY EXISTING BASE AND CONDUIT AS REQUIRED.

EXISTING TRANSFORMER (SIZE TO BE VERIFIED W/UTILITY)

INSTALL NEW PIER DISTRIBUTION STATION #2
PNL-PLP-2, CONDUIT, WIRING AND ALL RELATED APPURTENANCES
TO DOCKS. RECONNECT DOCK "D" TO NEW PANEL SHOWN ON SHEET E1.1.
MODIFY EXISTING BASE AND CONDUIT AS REQUIRED.



DOCK "G"

DOCK "F"

DOCK "E"

GENERAL NOTES:

- CONTRACTOR SHALL COORDINATE WITH OTHER TRADES IN ORDER TO AVOID ALL INTERFERENCE.
- CONTRACTOR SHALL VERIFY ALL EXISTING SIZES, FUNCTIONS, LOCATIONS AND CONDITIONS PRIOR TO BEGINNING WORK.
- CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY FITTINGS, FIXTURES, AND/OR APPURTENANCES FOR THE COMPLETE INSTALLATION, OPERATION AND CONNECTION OF THE EQUIPMENT SHOWN AND/OR SPECIFIED.
- ALL DEVICES SHOWN ON THE DEMOLITION DRAWING ARE TO BE DISCONNECTED AND REMOVED UNLESS NOTED. ALL MATERIALS REMOVED BY THIS CONTRACTOR SHALL BE REVIEWED BY THE OWNER. MATERIAL NOT WANTED BY THE OWNER SHALL BECOME THE PROPERTY OF THIS CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES. MATERIAL THE OWNER ELECTS TO KEEP SHALL BE STORED BY THE OWNER. THIS CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING EQUIPMENT, WIRING, CONDUIT ETC. AS INDICATED ON THE DRAWINGS OR AS REQUIRED TO COMPLETE THE WORK. CONCEALED ITEMS NOT TO BE REUSED MAY BE ABANDONED IF DISCONNECTED FROM THE SYSTEM.
- CONTRACTOR SHALL INSTALL EQUIPMENT, FIXTURES, IN SUCH A MANNER AS TO AVOID ALL INTERFERENCE WITH THE NEW AND EXISTING EQUIPMENT AND SYSTEMS.
- WHEN REMOVING EXISTING EQUIPMENT AS SHOWN AND AS NOTED, INCLUDING, BUT NOT LIMITED TO ELECTRICAL WIRING AND ANY OTHER DEMOLITION WORK; ALL WIRING AND ANY OTHER CONNECTIONS SHALL BE REMOVED BELOW FLOORS, INSIDE WALL AND/OR ABOVE CEILINGS. THE FLOORS, WALLS, AND/OR CEILINGS SHALL BE PATCHED TO MATCH THE EXISTING CONDITIONS BY THIS CONTRACTOR.
- ALL OPENINGS AND PENETRATIONS REQUIRED FOR INSTALLATIONS SHOWN ON THE DRAWINGS SHALL BE BY THIS CONTRACTOR, PATCH AND PAINT TO MATCH EXISTING.

NUMBERED NOTES (THIS SHEET):

1 > (4) #4/0, (1) #2 GRD, 2-1/2" C

NOTE:
MAIN DISTRIBUTION STATIONS #2 AND #3
SHALL HAVE SAME MASTER KEY.

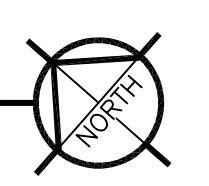
PEDESTAL SCHEDULE			
TYPE "A"	NOT USED		
TYPE "B"	NOT USED		
TYPE "C"	<table border="0"> <tr> <td>LIGHTHOUSE PEDESTAL-SIDE 1 (1) 30A, 120V RECEPTACLE (1) 50A, 240V RECEPTACLE</td> <td>LIGHTHOUSE PEDESTAL-SIDE 2 (1) 30A, 120V RECEPTACLE (1) 50A, 240V RECEPTACLE</td> </tr> </table> <p>NOTE: PEDESTAL FABRICATED FROM 100% ALUMINUM CASING 8X8X41X3/16" & POWDER COATED WHITE, TO MARINE SPECS. PL-9 FLUORESCENT LIGHT WITH PHOTOCELL.</p> <p>MODEL: INTERNATIONAL DOCK PRODUCTS #SPB 41-4A</p> <p>(2) 50 AMP 125/250V TWIST LOCK RECEPTACLES. (2) 30 AMP 125V TWIST LOCK RECEPTACLES. ONE EACH SIDE WITH SEPARATE COVERS.</p> <p>BREAKER PANEL AND COVER WITH SQ-D CIRCUIT BREAKERS. SPACE FOR DUAL ELECTRIC METER READOUTS. DUAL HOSE/CABLE HOLDERS. PEDESTAL WILL HAVE ABILITY FOR DIRECT FEED TO ACCOMMODATE UP TO 2/0 WIRE.</p>	LIGHTHOUSE PEDESTAL-SIDE 1 (1) 30A, 120V RECEPTACLE (1) 50A, 240V RECEPTACLE	LIGHTHOUSE PEDESTAL-SIDE 2 (1) 30A, 120V RECEPTACLE (1) 50A, 240V RECEPTACLE
LIGHTHOUSE PEDESTAL-SIDE 1 (1) 30A, 120V RECEPTACLE (1) 50A, 240V RECEPTACLE	LIGHTHOUSE PEDESTAL-SIDE 2 (1) 30A, 120V RECEPTACLE (1) 50A, 240V RECEPTACLE		
TYPE "D"	NOT USED		

NOTE:
ALL ELECTRICAL WORK TO BE IN FULL COMPLIANCE WITH NEC 555 AND NFPA 303.5.20

NOTE:
1. THE PEDESTALS AT THE ENDS OF DOCKS E, F, & G ONLY SHALL BE 18" MINIMUM FROM DOCK EDGE.
2. ALL EXISTING WIRING TO BE RE-USED SHALL BE "MEGGER" TESTED.

ELECTRICAL POWER PLAN

SCALE: 1/32" = 1'-0"



DATE:	REV:	DESCRIPTION:	REV. BY:
1/13/2014	A	Issued for Review	KDM
1/31/2014	B	Issued for Bid	KDM

Barker's Island Marina
Dock Upgrades
Phase 1
Superior, Wisconsin

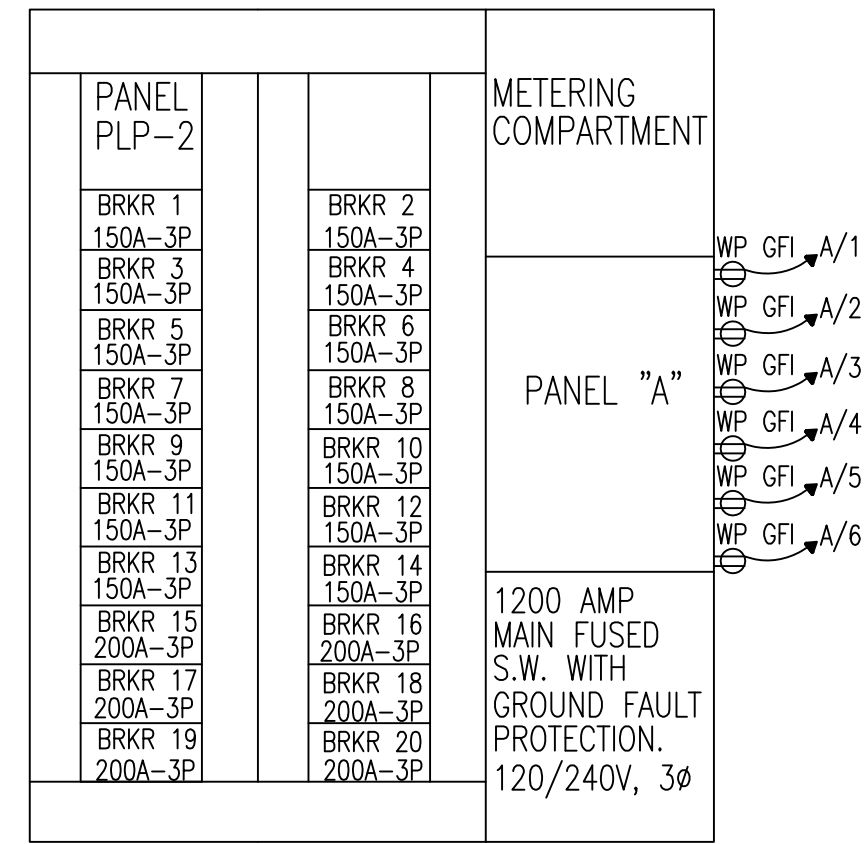
ELECTRICAL POWER PLAN

JOB No: 131134
DATE:
DRAWN BY: KDM
DESIGNED BY: OWM

SHEET:
E1.0

NOTE:

- BREAKERS 15, 16 & 17 ARE TO BE RECONNECTED TO DOCK "D" POWER CIRCUITS.
- RECONNECT EXISTING TENNIS COURT LIGHTS TO NEW PANEL "A".

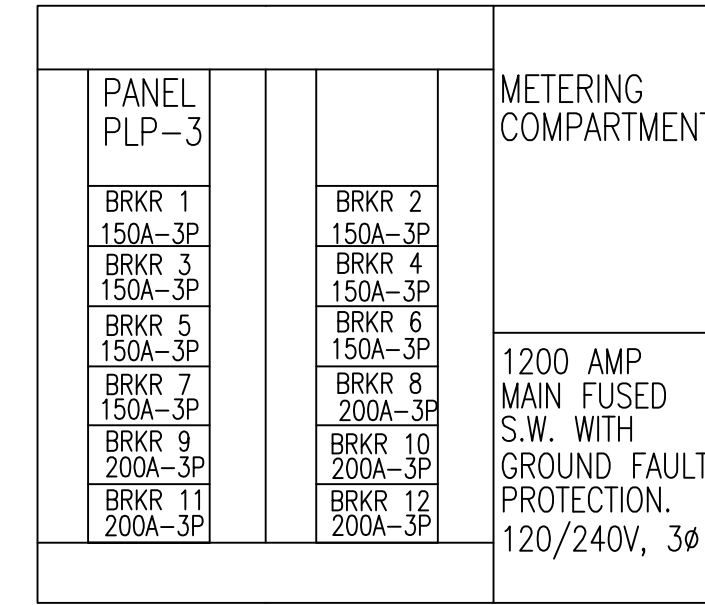


NEW PIER DISTRIBUTION STATION #2

NO SCALE

NOTE:

- BREAKERS 8 & 9 ARE TO BE RECONNECTED TO DOCK "H" & "I" POWER CIRCUITS.



NEW PIER DISTRIBUTION STATION #3

NO SCALE

PANEL "A" SCHEDULE

TYPE: NDDO. VOLT: 120/240V/3ØS/N/4W MNT. RECESSED FEED. BOT MAIN DISC. AMPS: 100

Circuit	LOAD	WATTS	BRKR.	PH			BRKR.	WATTS	LOAD	Circuit
				A	B	C				
1	⊙	180	20A-1P	X			20A-1P	180	⊙	2
3	⊙	180	20A-1P	X			20A-1P	180	⊙	4
5	⊙	180	20A-1P	X			20A-1P	180	⊙	6
7	TENNIS CT. LIGHTS		20A-1P	X						8
9	TENNIS CT. LIGHTS		20A-1P	X						10
11	TENNIS CT. LIGHTS		20A-1P	X						12
13										14
15										16
17										18
19										20

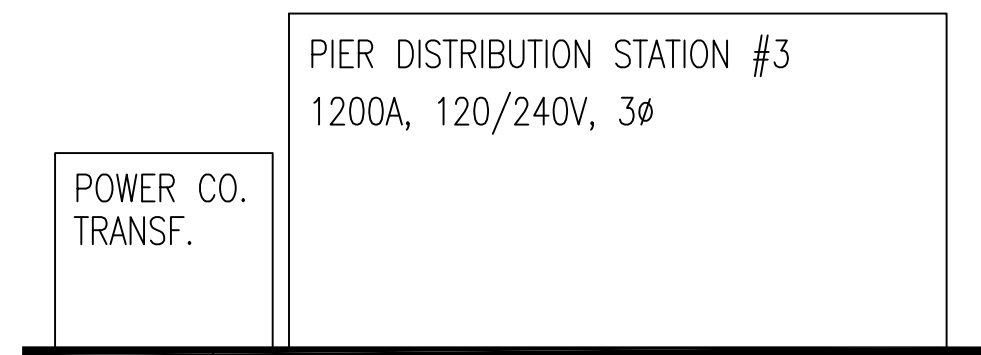
PANEL SHALL BE RATED AT 22 KWAC

NOTE:

ALL ELECTRICAL WORK TO BE IN FULL COMPLIANCE WITH NEC 555 AND NFPA 303.5.20

NOTE:

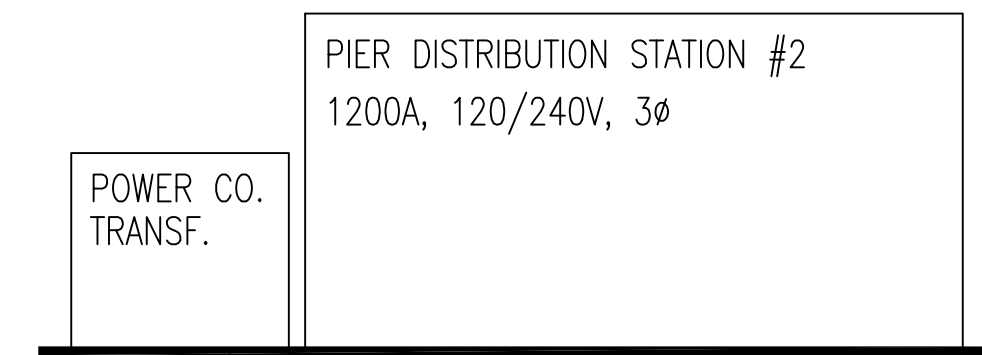
ALL BRANCH CIRCUITS TO HAVE GROUND FAULT PROTECTION AND MONITORING.



(3) SETS PARALLEL, (4) #600, (1)#2/0 GRD, 4" C 24" BELOW GRADE

ONE LINE WIRING DIAGRAM FOR PIER DISTRIBUTION CENTERS

NO SCALE



(3) SETS PARALLEL, (4) #600, (1)#2/0 GRD, 4" C 24" BELOW GRADE

$$VD = \frac{2 \times L \times R \times I}{1,000}$$

$$VD = \frac{2 \times (434') \times (.0608) \times (100)}{1,000}$$

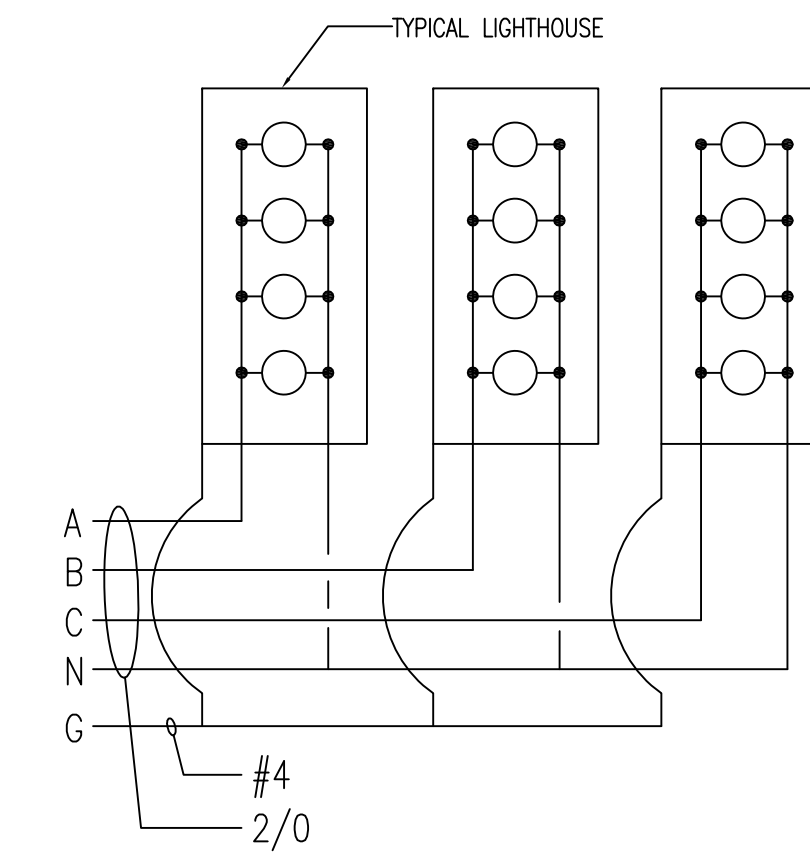
$$VD = 5.2\%$$

$$R = .0608 \text{ OHMS/1,000 FT. FOR 4/0 CU}$$

$$I = 100 \text{ AMPS}$$

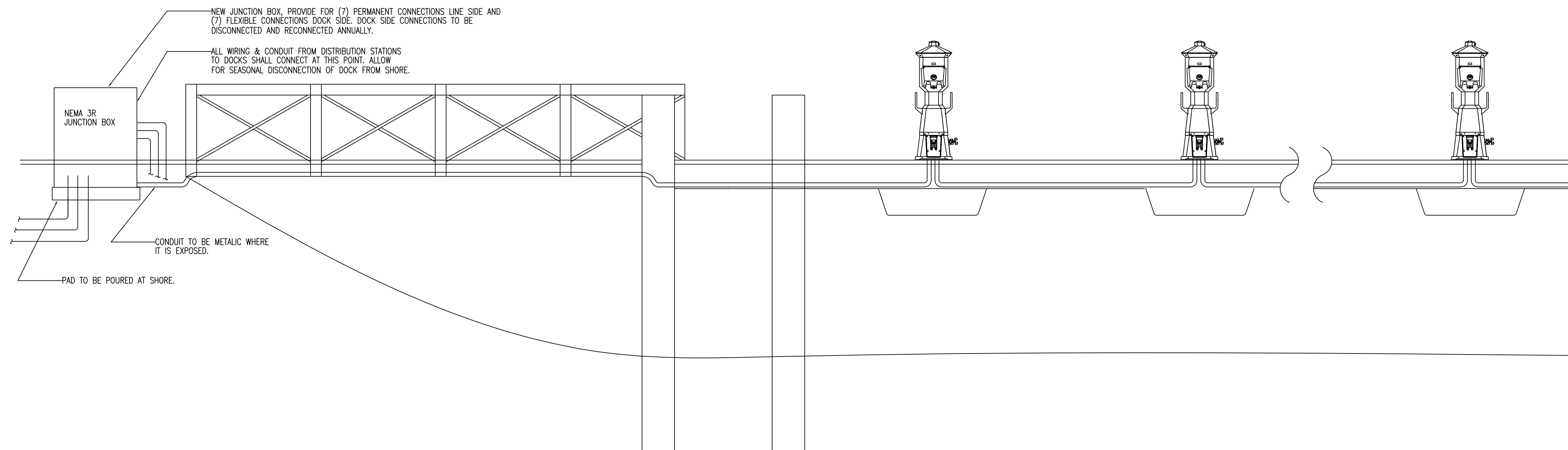
VOLTAGE DROP CALCULATION

NO SCALE



ONE LINE DIAGRAM

NO SCALE



DETAIL SHORE SIDE - PIER SIDE ELECTRICAL INTERFACE

NO SCALE

REV.	DATE	DESCRIPTION
A	1/13/2014	Issued for Review
B	1/31/2014	Issued for Bid

Barker's Island Marina
Dock Upgrades
Phase 1
Superior, Wisconsin

ELECTRICAL DETAILS & SCHEDULES

JOB No: 131134
DATE:
DRAWN BY: KDM
DESIGNED BY: OWM

SHEET:

E1.1

SECTION 16000

ELECTRICAL - SPECIFICATIONS
Barkers Island Marina Upgrades

General Requirements:
The conditions of the contract and the general provisions of Division 01 apply to all Work of this Section. The Work to be done under this Specification includes the furnishing of all labor, materials, equipment, and services necessary for the proper completion of all electrical work. The omission of express reference to any parts necessary for or reasonably incidental to the complete installation shall not be construed as releasing the Contractor from furnishing such parts.

Permits, Licenses and Fees:
The Contractor shall obtain and pay for all permits, notices, inspection fees, licenses, etc. necessary for the performance to the Work included in this Contract, including plan review costs; and shall observe any requirements stipulated thereon.

Codes, Regulations and Standards:
All Work under this division shall be in strict conformance with the applicable parts of the following codes, laws, rules, regulations, and applicable standards of technical societies where referenced hereinafter. References to standards, codes, regulations, etc. shall mean the latest edition of such publications adopted and published at date of the invitation to submit proposals.

- National Electric Code (NEC)
- Regulations of the State Department of Health
- Regulations of the State Industrial Commission
- Rules of the National Board of Fire Underwriters
- Local Codes, Rules, and Regulations
- Occupational Safety and Health Act (OSHA)
- State Building Code Division
- Local Electric Utility
- Life Safety Code 101

Contractors Qualifications:
This Contractor shall be a licensed electrical contractor in the state. All Work shall be installed and completed by electricians skilled in their trade and shall be installed in a practical and workmanlike manner.

Inspection of the Site:
The Contractor is urged to examine the site and become familiar with existing conditions on the premises and surrounding area. No extras will be authorized because of the Contractor's misunderstanding as to extra work required in order to comply with these plans and Specifications or lack of knowledge of conditions in connection with the work. Information received by the Contractor from verbal conversations shall not be construed as relieving the Contractor from actually visiting the site and making a personal analysis of conditions.

Shop Submittals:
This Contractor shall submit for approval at least 6 copies of Shop Drawings to the Engineer before ordering date. Shop Drawings will be returned without consideration if the following are not included before submittal:

- A check by this Contractor for space conformance and performance characteristics.
- Contractor's stamp or signature.
- Identify each item by equipment number (from the Drawings) or, in absence of an equipment number, identify by Specification Section.
- Check or underline specific model to be submitted on catalog sheets containing several models.

The Engineer's approval of the Shop Drawings is general and does not relieve the Contractor from the responsibility for adherence to the Specifications, nor shall it relieve him/her of the responsibility for any error that may exist. Dimensions and quantities are the responsibility of the Contractor. Submit Shop Drawings on equipment listed on the Equipment Schedule of the Drawings and the following pertinent to this Project:

- Main Distribution Equipment
- Panelboards
- Wiring Devices

As-Built Drawings:
The Contractor will be provided a clean set of Drawings for the purpose of recording conduit routings (underground and concealed) and locations of equipment that deviate from the Contractor Drawings. Additional detail of difficult routing shall be sketched on the as-built Drawings to more clearly show routing around where interference was encountered during construction. Sufficient measurements shall also be recorded on the Drawings to locate routings that have been made inaccessible by walls, floors, or ceilings. Upon completion of the Project, the as-built set of Drawings will be reviewed with the Engineer before delivering to the Owner.

Substitute Materials and Equipment:
Contractor requests for materials and equipment in addition to that specified and not followed by or equal shall be considered substitution. Substitute materials and equipment will not be considered unless prior approval has been given by the Engineer. If such approvals are not requested, it shall be assumed materials and equipment specified will be furnished and no further substitution after the bid date will be accepted. Contractor shall be completely responsible for costs involved in equipment other than specified model number as to sizes, layout, interference with other equipment, access to appearances, changes in other appearances, and additional work required because of this equipment change.

Equipment Connections:
Unless otherwise specified, each Contractor shall make all connections of his/her trade to all installed equipment whether provided by him/herself or by other Contractors. Each Contractor shall leave proper connections for equipment furnished by them including flanges, etc. Connection size shall be as indicated but not smaller than equipment.

Coordination of Work:
This Contractor shall coordinate the installation of all electrical equipment and appurtenances required for this Project with other Contractors to eliminate interferences. Installation shall be as shown on the plans unless the coordination between Contractors required minor deviations. These adjustments shall be made at no cost to the Owner. The Engineer shall be kept informed of all such deviations.

Work or Supplies by Others. Others includes other Contractors or persons outside the specified scope of Electrical Contractor or electrical subcontractors; such as General Contractor, Mechanical Contractor, or Owner.

Final Inspection:
When the Project is complete and prior to acceptance by the Owner, a final inspection will be held. Before final inspection is made, the Work shall be complete in accordance with plans and Specifications.

When the Owner is notified in writing that the Work is complete, including the items noted on final inspection, a follow-up inspection will be made. The Contractor shall recognize the need for proper procedure and diligence for completing work on time, including prompt attention to finishing and follow-up work.

Final payments will not be made until all corrective work and incomplete work has been properly finished. Additional corrective work found after the date of final payment will be subject to the provision of guarantees. No reduction in retained percentage will be considered until:

- The project is completed.
- Final inspection has been made.
- Corrective items and deficiencies noted on final inspection complete and finished as far as may be possible within the Contractor's control.
- Approval received from the surety.
- Lien waivers filed.

Drawings and Specifications:
Anything mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be of like effect as if shown on or mentioned in both. In case of any discrepancy in Drawings or Specifications, the matter shall immediately be submitted to the Architect/Engineer, without whose decision said discrepancy shall not be adjusted by the Contractor except at his own risk. Scale of Drawings shall be field verified by Contractor. The Contractor shall consult the Architectural Drawings for all dimensions, furred spaces, suspended ceilings, etc. The Contractor shall also check the Architectural Drawings verifying the heights of cabinets and counters to place wall outlets over this equipment at the proper heights; location of closets, doors, and window frames which may interfere. Particular attention shall also be given to the height and location of convectors and radiators. The Contractor shall check with other trades for interference and shall cooperate to avoid such interferences.

Manufacturer's Directions:
Materials and equipment shall be installed in strict accordance with the manufacturer's directions for installation, connection and startup of factory assembled units and/or composite parts assembled into a system unless specifically designed herein.

Manuals, Parts Lists, and Instructions:
Each Contractor shall furnish and turn over to the Engineer 2 complete sets of manufacturer's instruction manuals. Manuals shall, in addition to 1 copy of each approved Shop Drawing, include operation and maintenance instructions for such items of equipment furnished, including Assembly Drawings and parts lists. Parts lists shall include identification symbols or parts numbers for all replaceable parts and assemblies. The list shall also include the name and address of the nearest supply house carrying spare parts for the equipment. These materials shall be bound in hard covers. Upon approval, these instructions will be turned over to the Owner. The Contractor shall also supervise the initial operation of all equipment and instruct an operator selected by the Owner to thoroughly acquaint him with the best operating practice.

Trenching and Backfilling:
Each contractor shall perform his/her own excavation as necessary and required, in compliance with standards of Section 2 and the additional applicable requirements listed below.

Excavation may be either by hand or machine. Remove all stones, unsound material, and other foreign material from the trench bottom. Provide sheeting and bracing as required to hold walls of excavation. In the event bottoms are carried below grade, backfill to proper grade with sand at no expense to the Owner.

Trenches for electrical conduits and cables shall have a minimum excavation depth to comply with the NEC or as shown on the Drawings or called out in the Specifications, the deepest depth shall govern, and shall be backfilled with sand or gravel 1/4-inch maximum dimension surrounding the conduit or cable 3 inches on all sides and thoroughly tamped in place. Place balance of excavated material, if sound, in 6-inch layers. Add berm for settlement. This backfill material shall be free of stones larger than 4 inches. Compact to 95 percent density of original soil. Use special care in excavating and backfilling under buildings where compaction shall be 98 percent of original soil. Add moisture if required to secure maximum consolidation.

In the event unsound materials are excavated and cannot be reused to backfilling, the Contractor shall provide and install suitable backfilling materials. Excess material not used in backfilling shall be removed from the site by the Contractor.

Equipment Accessibility:
The Contractor shall locate all apparatus requiring adjustments, cleaning, or similar attention so that they will be readily accessible. This shall include access doors and panel of proper size for proper maintenance of various parts. Front and side clearances to electrical equipment shall be in line with the NEC.

Fire and Safety Precautions:
Each Contractor shall take all necessary precautions for safety of employees, employees of owner, and public; comply with applicable provisions of federal, state, and local laws, ordinances and requirements; erect and properly maintain necessary safeguards for said protection as required by conditions and progress of job and shall post danger signs warning against hazards of construction. Each Contractor shall exercise extreme care to maintain and exercise adequate fire safety precautions throughout construction. Provide barriers around all excavations and openings where uncontrolled descent could cause injuries.

Guarantees:
The Contractor shall assume responsibility for any defects which may develop in any part of the system caused by faulty workmanship, material, or equipment and agrees to replace any such workmanship, material, or equipment during a period of 1 year from the date of final acceptance of the Work without cost to the Owner. Acceptance of the Work shall not waive this guarantee.

Protection:
Materials. The Contractor shall, at all times, protect the materials and equipment to be installed in such a manner that when the installation is completed it will present the same new appearance as when uncrated.

This shall be achieved by covering all equipment securely with weatherproofing canvas, by keeping other trades from abusing such material and equipment and by avoiding the final setting of such equipment in location where protection is either difficult or impractical. Any material or equipment damaged as a result of inadequate handling or protection may be ordered taken out and replaced to the satisfaction of the Engineer.

Defective Materials:
In the event damaged or defective materials are discovered during tests or during the guarantee period, this defective or damaged material shall be replaced at the Contractor's expense. The repair of defective or damaged materials shall be at the decision of the Engineer. Neither final payments or any provision in the Contract or whole or partial use or occupancy of the premises shall constitute the acceptance of work not done in accordance with the Specifications or relieve the Contractor of liability for faulty materials or workmanship in accordance with the Specification or law.

Test, Inspections, and Adjustments:
Furnish all items and labor necessary for tests required in this division. The Contractor shall notify the Engineer a reasonable period ahead of time before the tests are to be made. Concealed work shall remain uncovered until required tests have been completed; but, if necessary, tests on portions of the Work may be made and these portions covered up after proving satisfactory. Tests shall be repeated after defects have been eliminated.

Tests will be as prescribed by local, state, or national codes insofar as they apply. Where inspections are made by an enforcing agency, a copy of the Certificate of Compliance of Acceptance shall be forwarded to the Engineer before the final inspection will be made. Tests shall be made at the Contractor's expense. Each portion of Work shall be subject to inspection of the Engineer at times he deems necessary for inspection of materials and construction and shall give instructions as he may consider requisite.

Workmanship, materials, or equipment, either at the site or intended for it, are subject to inspection and approval of Engineer at any time. Contractor must render such facilities as engineer requires for inspection whatever they may be. Engineer may reject and require removal from premises any materials or work that he may decide to be contrary to the Contract. The Engineer shall have the right to make minor changes as may be considered necessary by job conditions, where no change in cost is involved.

At the time of final inspection of the Work under the Contract, the Work covered by this division shall be complete in every respect and in perfect operating condition. All surplus materials of every kind shall have been removed.

After final inspection is made, the Contractor shall receive a list of items requiring adjustment, correction, replacement, or completion. The Contractor shall comply completely with all the listed requirements.

Test for opens, ground, and shorts of feeders and branch circuits at time of construction. All equipment shall be left in first-class operating condition. All outlets, switches, light fixtures, and devices shall be in first-class working order. Motors shall be tested for rotation at time of connections. Test all alarm systems. Test all intercom, call, and PA systems.

All factory-assembled equipment shall be checked when being installed for loose, missing, or broken parts. Any items found loose shall be tightened and items found broken or missing shall be replaced all at no expense to the Owner. Contractor shall obtain and pay for certification by state electrical inspector.

Cutting and Patching:
Each Contractor shall perform all cutting necessary to perform his work and shall patch damaged work. However, special permission shall be obtained from the Architect before cutting structural members or finished materials. All patching shall be performed in such a manner as to leave no visible trace and to return the part affected to the condition of undisturbed work.

Cleaning:
Upon completion of Work, all rubbish must be cleared away; all fixtures, panels, hangers, and trim, etc. shall be thoroughly cleaned and ready for use. All fingermarks around access doors and outlet openings shall be cleaned or repainted if the marks cannot be removed by cleaning.

Conduit:
All above ground conduit shall be galvanized steel or PVC.

Schedule 80 PVC may be used for underground runs unless otherwise noted. Minimum burial depth shall be 24". No PVC elbows will be allowed - galvanized rigid steel will be required.

Wiring:
Wiring shall be type THW, THWN, XHHW, or THHW copper conductors; no wire smaller than #12 shall be used. All wire shall be rated for 600V. Approved connectors shall be used. Wire shall be sized according to NEC. Neutral shall be coded white or gray. Aluminum conductors shall not be used. Conductors shall be UV Resistant.

Panelboards:
Provide and install where shown on the Drawings, circuit breaker panelboards in accordance with the schedule indicated on the Drawings.

Grounding:
The entire wiring system, conduit and apparatus shall be grounded in accordance with the NEC. All wire used for grounding the wiring system and the conduit run and all fittings shall be sized to conform to the requirements of the NEC.

Wiring System:
All power wiring shall be installed in a continuously grounded conduit system. Contractor shall install system so as to form a convenient layout. All wiring shall be color coded.

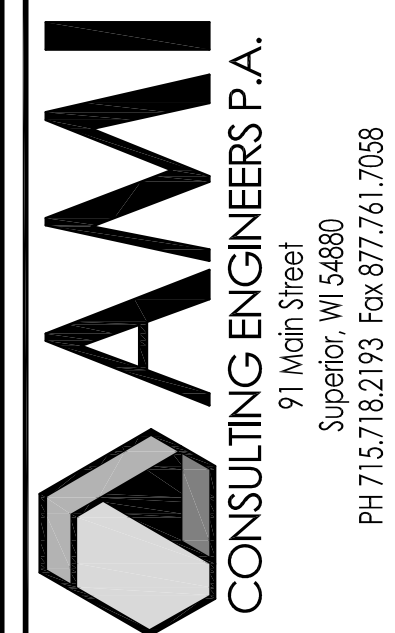
Load Balance:
The Contractor shall connect all branch circuits to panelboards so as to balance the load on each phase at full load conditions.

Ground Fault Protection:
Ground fault protection shall be provided in line with the NEC for Marina's.

Safety Switches:
Furnish and install enclosed safety switches where shown on the Drawings or otherwise required by code. Safety switches shall be equipped with Fusetrans or equal and approved type delay fuses of proper current capacity and voltage. Switches shall be General Duty except as noted or required by code. Safety switches shall be by Square D, GE, Cutler Hammer, or approved equal.

Fuses:
Fuses shall be furnished in rating suitable for the particular application. This rating shall be such as to give protection to cable, motors, or other equipment which the fuses are protecting. Disconnects shall be provided with Buss Fusetrans or equal type or as recommended by the equipment manufacturer. Other fuses shall be as specified.

NOTE:
ALL ELECTRICAL WORK TO BE IN FULL COMPLIANCE WITH NEC 555 AND NFPA 303.5.20



91 Main Street
Superior, WI 54980
PH 715.718.2193 Fax 877.741.7058

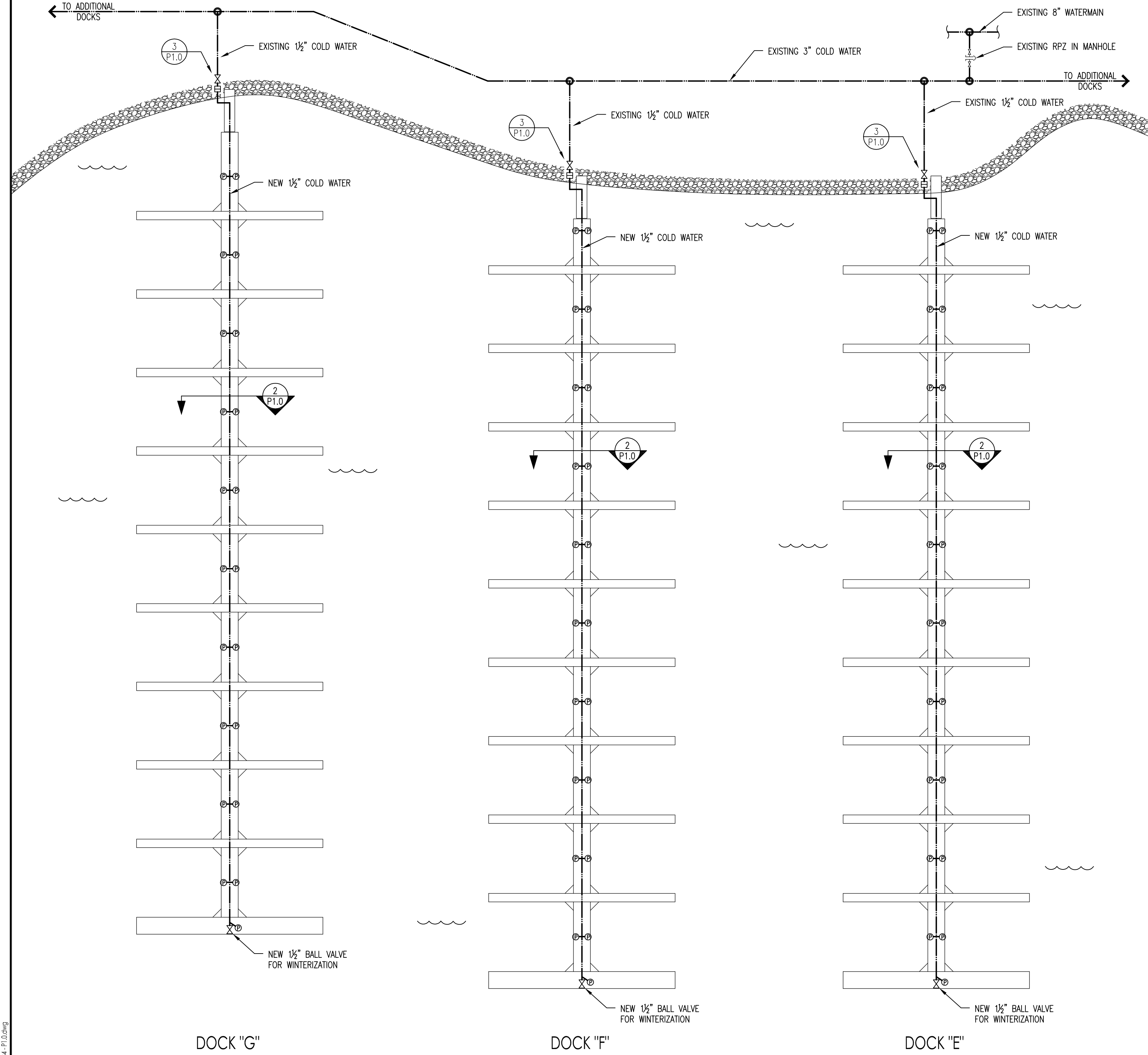
DATE:	REV:	DESCRIPTION	REV. BY:
1/13/2014	A	Issued for Review	KDM
1/31/2014	B	Issued for Bid	KDM

Barkers Island Marina
Dcok Upgrades
Phase 1
Superior, Wisconsin
ELECTRICAL SPECIFICATIONS

JOB No: 131134
DATE:
DRAWN BY: KDM
DESIGNED BY: OWM

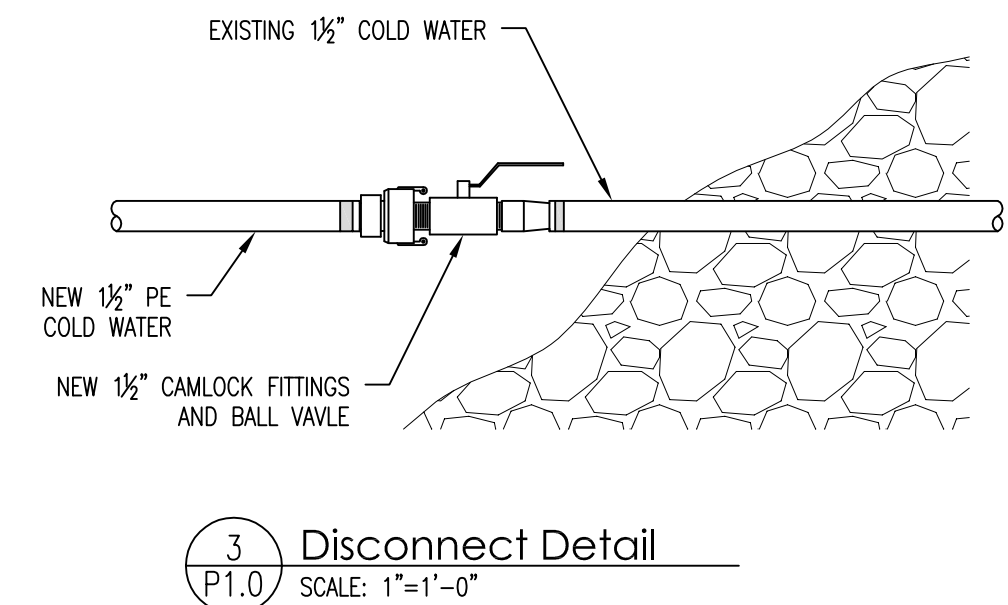
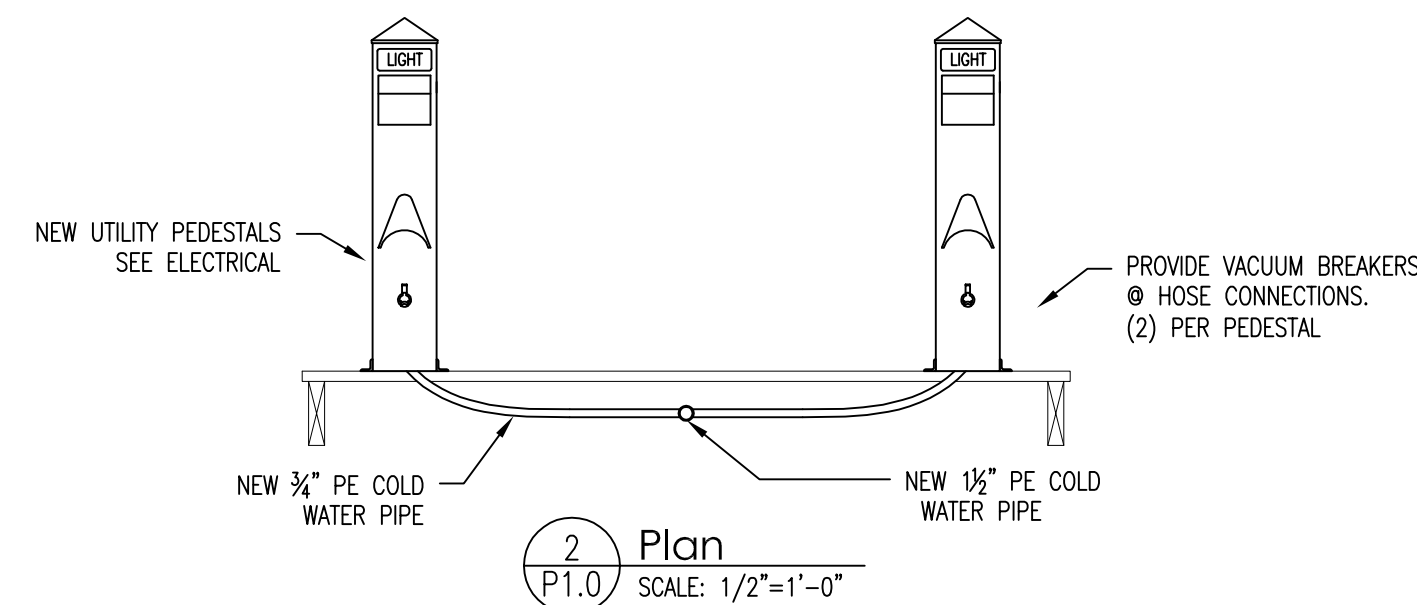
SHEET:
E.2.0

PLUMBING KEY	
	WATER DISTRIBUTION PIPING
	UTILITY PEDESTALS



NOTE: PE PIPE TO BE BLACK EXCEL PE3408 OR ENGINEER APPROVED EQUIVALENT.

NOTE: PIPING TO BE WINTERIZED AT END OF SEASON TO PREVENT DAMAGE FROM FREEZING



1 Phase I Plan
P1.0 SCALE: 1/32"=1'-0"

PLUMBING SPECIFICATIONS

- CODES, RULES, AND REGULATIONS
 - 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.
 - DRAWINGS AND SPECIFICATIONS INDICATE MINIMUM STANDARDS OF CONSTRUCTION.
 - CONTRACTOR SHALL COOPERATE WITH ALL LOCAL BUILDING OFFICIALS, AND UTILITIES
- GENERAL REQUIREMENTS
 - CONTRACTOR SHALL COORDINATE WITH OTHER TRADES IN ORDER TO AVOID ALL INTERFERENCE.
 - CONTRACTOR SHALL MAKE ALL CONNECTIONS OF HIS TRADE AND SHALL CONFORM WITH, COOPERATE WITH, AND ASSIST OTHER CONTRACTORS
 - CONTRACTOR SHALL VERIFY ALL EXISTING SIZES, FUNCTIONS, LOCATIONS, AND CONDITIONS PRIOR TO BEGINNING WORK
 - CONTRACTOR SHALL NOT MODIFY STRUCTURAL COMPONENTS WITHOUT PERMISSION FROM THE ENGINEER
 - 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.
 - MATERIALS SHALL BE NEW AND OF BEST QUALITY.
 - MATERIALS, EQUIPMENT, FIXTURES, AND FITTINGS SHALL BE PROPERLY AND ADEQUATELY PROTECTED BY THE CONTRACTOR.
 - EQUIPMENT AND PIPING SHALL BE SUPPORTED INDEPENDENTLY OF EACH OTHER.
- DEMOLITION
 - ALL EXISTING PLUMBING ON SPECIFIED DOCKS TO BE REMOVED, INCLUDING BUT NOT LIMITED TO WATER DISTRIBUTION PIPE, FITTINGS, VALVES, AND HANGERS. ALL MATERIALS REMOVED BY CONTRACTOR SHALL BE REVIEWED BY OWNER. MATERIALS NOT WANTED BY OWNER SHALL BECOME PROPERTY OF CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES. MATERIALS THAT THE OWNER ELECTS TO KEEP SHALL BE STORED BY THE OWNER.
- INSTALLATION
 - MATERIALS AND INSTALLATION TO CONFORM TO APPLICABLE STATE AND LOCAL CODES.
 - ALL PIPING SHALL BE RUN STRAIGHT AND PLUMB WITHOUT SAGS OR HUMPS.
 - PIPING SHALL BE PROTECTED FROM DAMAGE DUE TO ABRASION, CONTACT WITH SHARP SURFACES, OR KINKING/PINCHING.
- PLUMBING MATERIALS
 - SHALL BE IN ACCORDANCE WITH STATE PLUMBING CODE AND THE FOLLOWING MINIMUMS.
 - CAST IRON - ANSI A21.2/ ANSI 21.6/ A21.8 / CISPI 301-69T
 - STEEL PIPE - ANSI B36.1/B36.2 FITTINGS ANSI B16.2
 - PE - ASTM D2239/ASTM D2737/ ASTM D 2104/ ASTM D2447/ASTM D3035/ AWWA C906/ AWWA C901
 - DUCTILE IRON PIPE - AWWA C151
 - PEX - NSF 14/16, ASTM F877/F876
 - GALVANIZED STEEL - ASTM A53
 - DOMESTIC WATER - COPPER, PEX, HDPE, PE
 - SLEEVES - PROVIDE SLEEVES FOR ALL PIPES PASSING THROUGH MASONRY, CONCRETE, FLOORS OR WALLS OF SUFFICIENT SIZE FOR PIPE AND INSULATION.
 - EXPANSION AND CONTRACTION - PROVIDE FOR EXPANSION AND CONTRACTION.
- MISCELLANEOUS
 - CONTRACTOR SHALL TEST ENTIRE WATER SUPPLY SYSTEM AS SPECIFIED IN APPLICABLE CODES.
 - ALL PIPING TO BE FLUSHED AND SANITIZED TO MEET APPLICABLE CODES.
 - THE CONTRACTOR SHALL GUARANTEE THAT DURING THE ONE YEAR PERIOD FOLLOWING THE COMPLETION OF THE INSTALLATION IT SHALL REPAIR ALL DEFECTIVE WORK AND REPLACE ALL DEFECTIVE MATERIALS FURNISHED OR INSTALLED UNDER THIS CONTRACT FREE OF COST TO OWNER

REV. BY:	DESCRIPTION	DATE:	REV.:
ADM	Issued for Review	1/13/2014	A
ADM	Issued for Bid	1/01/2014	B

Barker's Island Marina
Dock Upgrades
Phase I
Superior, Wisconsin

JOB No: 131134
DATE:
DRAWN BY: ADM
DESIGNED BY: ADM

SHEET:
P1.0

Plumbing Plan and Details