CITY OF SUPERIOR
C. Reiss Dock
RFQ #23-17-PL

ADDENDUM **#3**

DATE: April 20, 2023

TO: Prospective Applicants

Bid Opening Date: **Tuesday, May 2, 2023, at 2:00 PM**

This addendum modifies the Proposal Documents for the above listed project. The addendum consists of 53 pages.

Acknowledge receipt of the Addenda by signing the Addenda Acknowledgment form included within the proposal documents. Failure to do so may subject the Proposer to disqualification.

Clarifications and answers to questions received:

1. Q: The project documents state to follow Buy America and Buy American provisions. Which is to be followed? Depending on the clarification this could have a major impact on material delivery dates.

   A: This response is pending as it is still under review, response will be provided in future addendum.

2. Q: Can the barge schedule for Hallet Dock #8 be provided?

   A: No. Vessel notifications are given between 7 and 14 days in advance. Once vessel is nominated for Hallett, daily updates can be given.

3. Q: Underwater Driveline Clearing has a quantity of 1000 LF, are certain areas found to be problematic? Why is the full quantity of dock wall not listed in this quantity?

   A: Quantity has been revised to 2,600 LF.

4. Q: What documentation and type of sonar is required for the pre-construction sonar imaging?

   A: Spec Section 02 41 13, Paragraph 3.11 to be modified/added on to: GPS integrated Multibeam System is the required type of sonar imaging survey. Alternatives to be considered by Engineer if findings can be easily verified by an independent 3rd party.

5. Q: Can bollard concrete be poured underwater?

   A: Yes

6. Q: How is underwater welding and coating of the safety ladders to be handled?

   A: This involves means and methods which is the Contractors responsibility.

7. Q: Is the checkered concrete pad allowed for site laydown? How are damaged panels handled?

A: Yes, the existing concrete panels on site may be used for site laydown and staging efforts. It is anticipated that some damage to existing concrete panels will occur due to construction activities. It will be determined by the onsite Engineer whether damage results in a need for complete removal, but likelihood of the need for removal is low due to proposed base aggregate surfacing and ultimate intended use of the site.

8. Q: Is there an option to plug steel sheet pile picking holes verses cutoff to grade?

A: Spec Section 35 42 13.19, Paragraph 3.2.D to be modified/added on to: Sheets driven to final plan elevation and not requiring being cut off shall have holes plugged. Plugs shall be welded watertight, and coating made according to paragraph 3.4 Touchup Coating.

9. Q: If damage occurs to the existing rail cap during driving operation due to vibrations and the unknown structural integrity, would this damage be considered additional work?

A: Yes, this will be considered additional work. Engineer shall be notified if damage is observed to allow for an assessment of the damage and repair type, if necessary.

10. Q: Can more detail be provided for drain tile outlet, specifically Jet Drain and Jet Filter System?

A: See detail 9 on Sheet M501. Please provide more specific follow up questions as to what is needed.

11. Q: Will Interzone 954 be acceptable as a coating alternate? Data sheet attached.

A: This response is pending as it is still under review, response will be provided in future addendum.

12. Q: Sheet M402 has tie rod nut/washer in 2 different locations. Near STA 35+00 the tie rods end at the rail cap and STA 11+00 they end at the new concrete beam. Is that optional orientation for contractor or is there a specific location they change?

A: Tie rod nut and washer shall be located outside the new concrete beam as shown in detail 1 on Sheet M301 and Detail 1 Sheet M503.

13. Q: What is the expectation for handling/disposing of the sheet pile drive line material that gets excavated? Is this material expected to be contaminated as well? Is it assumed that this line item is not going to be necessary?

A: Spec Section 02 41 13, Paragraph 3.11.B to be added: Contractor shall attempt to limit soil excavated with sheet pile drive line clearing, but any excavated soil shall be assumed to be contaminated and disposed of within the designated on-site disposal berm location. If significant quantities of soil are excavated, then field evaluations and quantities will determine whether disposal berm location has adequate capacity for this use. If required, offsite disposal of contaminated soil would be considered additional work. All other removed drive line clearing material shall be legally disposed of offsite by the contractor.

14. Q: Are there any geotechnical borings, that go below tip elevation, near the sheet pile wall that can be shared?

A: All geotechnical information obtained has been provided in the bidding documents.

15. Q: Is an impact hammer expected to be necessary on the sheet pile? With limited geotechnical

information, would that be something the city would consider as unnecessary for base bid?

A: Assume sheets are driven with a vibratory hammer for base bid. The design team is aware of installation of proximate, similar steel sheet pile bulkhead walls by use of vibratory hammers.

16. Q: Sheet M501 drawing 5 has welding inside the channel on the back side of the plate washer. Is this required, or is there another way to meet the design that is more feasible?

A: The inside channel weld shown on detail 5 of sheet M501 can be omitted if the outside weld from the upland bearing plate to the outside flange of the channel is completed top and bottom of the bearing plate.

17. Q: With limited space for backfilling behind sheet pile after waler is installed, is it approved to backfill prior to wale installation or is demo of the existing concrete cap assumed?

A: In the interest of maintaining stability, demo of the existing cap is not assumed or desired, but not prohibited in select locations. Wall stability during construction/backfilling is the responsibility of the contractor to meet driving tolerance specifications.

18. Q: Sheet M301 says all rail bolts need to be cut flush with concrete surface. Is that necessary with everything getting buried?

A: Rail bolts need to be removed or do not protrude above the top of concrete because it is expected that the depth of bury in some areas may be shallow and future use of the dock will involve deployment of rubber tire rolling stock.

19. Q: What is the termination criteria for installing H-pile for mooring bollard foundations? Plans/specs seem to indicate that embedment within mooring bollard foundation/earthen embedment below govern. Please confirm that no bearing requirements are needed for installation of H-Pile.

A: Termination pile tip elevation is the performance requirement. There is no vertical bearing performance requirement for the bollard H-piles.

20. Q: The new reinforced concrete beam (tie back connection beam) is shown to be continuous. Are joints allowed? What is the maximum joint spacing? If joints are allowable, please identify some parameters for providing continuous reinforcement at joints (e.g., lap splices at joint, additional lap bars, smooth dowels, etc.). Would expansion joint material be needed at joints?

A: Joints are allowed, at the discretion of the contractor, to prevent a finished element without unacceptable drying shrinkage within casting lengths. Normal lap lengths are acceptable within cold joints. Expansion joints are not included within this finished cast beam as it is to be integral with the existing upland crane rail in the finished condition.

21. Q: 31 23 19.1.03.B notes a dewatering plan for any necessary dewatering of contaminated groundwater. Is it anticipated that contaminated water may be encountered below the ~2-to-3-foot top surface contamination zone that was indicated during pre-bid discussion?

A: This response is pending as it is still under review, response will be provided in future addendum.

22. Q: 03 20 00.1.04.B notes submittal of shop drawings of all material under this section. Are reinforcing shop drawings required for all cast-in-place concrete elements? (Building, dock wall works, rail scale,

etc.)

A: Yes.

23. Q: Sheet M002 notes that timber fender angles and area behind fender are to be coated. Fender angles have a welded connection to sheet pile and coating will need to be removed in areas to perform welding. Please confirm that touch-up coating after welding is acceptable.

A: Yes, it is acceptable to touch up coating after welding in accordance with specification Section 35 42 13.19, Paragraph 3.4 Touchup Coating

24. Q: Please clarify the corrugated steel culvert specifications. I don't see what is required for nominal thickness and gauge.

A: Spec Section 33 40 00, Paragraph 2.02B to be modified/added on to: Thickness U.S. Std. Gage shall be: 18" or less (Nominal Diameter): 14 gage; 21"-36" (Nominal Diameter): 12 gage; 36" and greater: Refer to Table 1 in BNSF Guidelines for Industry Track Projects.

25. Q: Drawings for OFFICE BUILDING. (Electrical)

Sheet E-601. (Single-Line and Panel Schedule)

- Single line is calling out for 1phase panelboards but the service wire is for 2" conduit with 4-3/0.... Please clarify the office service requirements.

- Also, needing the panel schedule for the two office panelboards.

A: Single phase is correct for the office building. Electrical conduit and wire revised to 3-3/0. See revised Plan Sheet E-601. Panelboard schedules for the office are not currently available but will be provided by Owner prior to construction.

26. Q: Site lighting.

Sheet E101. (Electrical Site Plan) Parking lot pole/light. Div. 26-50-00 calls out a 30' pole. Plan sheet called out a single LED adjustable fixture. (Looking for fixture information)

A: Fixture shall be Lithonia DSX2 series or equal. See Revised Plan Sheet E-101.

27. Q: Drawing M401 specifies a single bitt bollard, Schoellhorn-Albrecht Model #S1309 or equivalent. The S1309 is a 100-ton single bitt bollard. Specification section 35 59 33, paragraph 2.01 specifies a 50-ton staghorn bollard. Could you please clarify which type of bollard (single bitt or staghorn) and the required tonnage rating (100-ton or 50-ton) is required for this project?

A: Section 35 59 33, paragraph 2.01.A. delete 1-6 and replace with: Bollards shall be Schoellhorn-Albrecht Model # S1309, 100-ton bollard, or equivalent.

28. Q: Is the "Remove Accumulated Organic Material & Sediment from Existing Concrete Panels" included in the 20 Acres of "Clearing and Grubbing"? If not, can you please provide direction on which item this work should be included in?

a. What is the expectation as far as to how clean these joints must be? Will tree roots need to be

completely removed?

b. It also says "Protect Existing Concrete Panels during Removal" but it appears many of the panels are in very rough shape (either cracked or spalling) and there are numerous large trees growing in many of the joints. It will be extremely difficult to remove the accumulated organic material and sediment without causing any damage to the panels. Is there an expectation that damaged panels will be replaced?

c. Do we have to replace any of the panels removed at the reinforced concrete beam for the soil anchor placement and construction of the concrete beam?

A: Removal of organic material from existing concrete panels is to be included in the Common Excavation - Onsite Disposal Bid Item.

a. Organics shall be removed from the existing panels in order to provide a relatively clean and uniform surface for proposed site use, i.e., movement of heavy machinery, scraping and pushing of raw materials, etc.

b. If panels are damaged due required removal of organics and grubbing, to the point in which they can no longer provide a workable dock surface, they shall be removed and backfilled with base aggregate material. The removal of the existing concrete required due to removal of organic materials or beneath the proposed asphalt salt pad would be measured and paid for according to Specification Section 02 41 13, which will be revised in a future addendum to include a bid item for removal of existing concrete panels. Base aggregate material would be measured and paid for according to Specification Section 32 11 23. Engineer shall verify and authorize any claims of the need for concrete removal.

c. Pavement removal is incidental work with Tierod Anchors (Concrete Beam) and Soil Anchors in an effort to limit the extents of removals. Panels do not need to be replaced.

29. Q: The spec says clearing and grubbing will be paid as 1 LS, but the bid item calls for 20 Acres. If there is indeed only 20 Acres of clearing and grubbing, can you please provide more direction the clearing and grubbing limits?

A: Limits for Clearing and Grubbing are defined by limits of construction disturbance on the site, shown on the Site Plans Sheets. This area is approximately 35 acres. Bid Form Item has been revised to adjust Quantity to 1 Lump Sum.

30. Q: Regarding the dredge material, when is the material turned over? Is the contractor for the C Reiss Dock project responsible for moving the material from the transfer area over to the staging area, or just from the staging area over to where it will be placed?

A: Dredging Contractor will be responsible for transferring dredge material from barge, to dewatering area, and then to staging area/stockpile directly adjacent for Site Civil Contractor to move to Disposal Berm.

31. Q: Is there any chance the rail work could be completed in the spring of 2024?

a. Where is the cut-off from BNSF mainline to track that will be installed as part of this project?

A: Yes, See revised substantial completion date within Addendum #2. BNSF track construction limit is to the mainline clear point. This is shown on Sheet R201. Contractor is still responsible for all other

work within the BNSF trackwork limits such as grading, drainage, and sub ballast as shown on the plans and details.

32. Q: In the dock section, it states to remove organics. Is this paid for as Common Excavation? If not, where should this work be included in the pricing?

a. How is the Breaker Run in the dock section paid for?

b. Is work for the Reinforced Concrete Beam to be included in the item for the "Soil Anchors" or the "Tie Back Anchors" or a different item?

A: Removing organics in the dock section is to be paid for under the Excavation Common bid item. Excavation Common – Onsite Disposal bid Item and quantity (2,200 CYDS) added to bid form, Schedule C.

a. Breaker Run bid item and quantity (4,900 Tons) added to bid form, schedule C. Base Aggregate Dense 1-1/4" bid Item and quantity (4,500 tons) added to bid form, Schedule C.

b. Reinforced Concrete Beam is to be incidental to the Tie Rod Anchors bid item of work. Spec Section 35 42 34.30 modified and attached.

33. Q: Should the bid item for Temp Diversion Berm include removing that berm and filling in the drainage ditch after the construction of the containment berm is completed?

A: This response is pending as it is still under review, response will be provided in future addendum.

34. Q: Is AZ-26 an acceptable alternative for sheet piling profile? The cut sheet for this is attached.

A: The Bulkhead wall details, tierod anchors, soil anchors, spacings, and miscellaneous connection hardware fixtures are predicated on the use of a NZ22 sheet pile width module. The use of an alternate sheet pile section will require Contractor to arrange for an engineered revision of the bulkhead plan to reflect the change in dimensions, fixtures, and details prior to the start of construction. The revision must be sealed by an Engineer licensed in the state of Wisconsin, approved by the Engineer of record, and become and updated document in the project records.

35. Q: Clarifying. Electrical work on sheets R110 - R111 will be applied to measurement and payment of Rail Car Scale.

A: Yes

36. Q: Bid item A27 "Chain Link Fence, 6-Feet" indicates 3500 LF of fence. Scaling fence locations on Sheet C2.01 to C2.04 yields about 7100 LF of fence. The bid item language and Specification 32 31 13 state 6-feet, but the plan details on Sheet C8.04 note an 8-foot height. Please confirm the LF quantity of fence and height of proposed fence.

A: This response is pending as it is still under review, response will be provided in future addendum.

37. Q: Is D. Fir an option for the square dock timber? Per the specification in section 2.01 B. WCLIB is referenced, which governs West Coast D. Fir. If D. Fir is allowed, would you require #1 or Select Structural? Both grades are listed in the specification.

A: No, White Oak is the specified timber material.

38. Q: Is the rail material to meet Buy America spec?

A: This response is pending as it is still under review as we are still determining whether salvaged rail materials not made in America may be used, response will be provided in future addendum.

39. Q: Is relay material acceptable?

A: This response is pending as it is still under review as we are still determining whether salvaged rail materials not made in America may be used, response will be provided in future addendum. The Rail Scale is required to be new material though.

40. Q: Is industrial quality (IQ) rail acceptable?

A: No.

41. Q: Can the contractor provide an alternate for a relay #1 heavier section of rail?

A: Yes. 115lb rail is the minimum.

42. Q: Are 11" tie plates acceptable?

A: No, they are not acceptable. 11" tie plates do not meet the specifications.

43. Q: Please provide a turnout spec for the industrial turnouts.

A: This response is pending as it is still under review with BNSF.

44. Q: I see the minimum rail size is 115RE. Would 136RE be too large? If not, would the turnouts need to 136 as well, or would comping into 115Re turnouts be acceptable?

A: This response is pending as it is still under review with BNSF.

45. Q: Wanting to confirm that there are no expansion joints on the approaches leading to the rail scale. If there are no expansion joints should I figure on box anchoring 150' of both approaches?

A: Approach rail joints and installation will be dependent on scale vendor requirements which are to be selected and coordinated by the contractor.

46. Q: Is there a particular rail scale manufacturer/model that was chosen for this project? If so, would it be possible for me to get that info? I need to know what is required to fasten the rail to the deck and if I need to provide it.

A: No particular scale vendor was chosen. Rail scale to meet minimum requirements in the specifications. Contractor shall select rail scale vendor and provide coordination on items of work that the vendor is providing. The remaining work is to be provided by the contractor to provide a complete working system as specified.

47. Q: If a track joint falls within the area of a timber crossing, should we plan for the joint to be thermite welded? I understand this is not a BNSF requirement. However, there are advantages eliminating the

joints in road crossings especially a crossing that sees frequent use by heavy equipment and trucks so some customers prefer it.

A: This response is pending as it is still under review with BNSF.

48. Q: Project substantial completion date is 12/31/23 with a final completion date of 6/1/24. The subsequent language indicates that it will be the Engineers opinion what constitutes substantial completion and will be based off if it can be utilized for its intended purpose. Please provide a more detailed explanation on what will be considered substantial completion in relation to specific scope of work.

A: Answer provided within Addendum #2.

49. Q: Is there an option to submit alternates to the base bid items noted in Schedules A, B and C? Would alternate options for materials be reviewed if they better aligned with the project schedule?

A: This response is pending as it is still under review, response will be provided in future addendum.

50. Q: Bid Item C4 has a SSP quantity of 130,500SF. The length of the wall, 2610LF x 51' sheets is equal to 133,110SF. Please clarify.

A: Bid Item C4 Quantity has been updated to 133,110 SF.

51. Q: What is the dimension of the #18 tie rod anchors?

A: The typical dimension on the west wall from the outside face of sheet pile to the outside face of the continuous reinforced concrete beam is approximately 49'-1". On the northern wall, the dimension varies from approximately 22'-6" to 38'-9". This dimension could vary slightly due to irregularities of the existing upland crane rail foundation alignment with respect to the proposed dock alignment. These dimensions do not include additional lengths necessary for plates, washers, nuts and additional thread length beyond nut to achieve the loadings specified in the contract plans. Contractor shall field verify all final lengths necessary.

52. Q: Bid item for Clearing the Driveline has a quantity of 1,000LF. How was that quantity established based on the length of SSP to be installed?

A: Bid Item C3 Quantity has been revised to 2,600 LF.

53. Q: Item A23, HMA Pavement, 3MT 58-34 V has a listed quantity of 6,400 Tons. The Contractor estimates the quantity for the asphalt salt pad to be significantly less. Please verify quantity.

A: Bid Item A23 Quantity has been revised to 2100 tons.

54. Q: Item C2, Base Aggregate Open-Graded, has a listed quantity of 4,000 Tons. The Contractor estimates the quantity to be nearly 4X the listed tonnage. Please verify.

A: Bid Item C2 Quantity has been revised to 11,600 tons.

55. Q: What are the compaction and moisture content requirements for the disposal berm soil cap?

A: This response is pending as it is still under review, response will be provided in future addendum.

56. Q: Contingency for offsite disposal of excess contaminated soil, if not suitable for use on site?

A: This response is pending as it is still under review, response will be provided in future addendum.

57. Q: There is no bid item listed for the continuous concrete grade beam. Which item is this work incidental to, if any?

A: Removing organics in the dock section is to be paid for under the Excavation Common bid item. Excavation Common – Onsite Disposal bid Item and quantity (2,200 CYDS) added to bid form, Schedule C.

a. Breaker Run bid item and quantity (4,900 Tons) added to bid form, schedule C. Base Aggregate Dense 1-1/4" bid Item and quantity (4,500 tons) added to bid form, Schedule C.

b. Reinforced Concrete Beam is to be incidental to the Tie Rod Anchors bid item of work. Spec Section 35 42 34.30 modified and attached.

58. Q: Should the continuous concrete grade beam be a standalone bid item? If the continuous grade beam is incidental to a Schedule C item, is it fair to assume the Breaker run and 1 ¼" Base Aggregate for the space between the newly installed SSP wall and continuous grade beam is not accounted for in the overall quantities of aggregate, and is also incidental to a Schedule C item?

A: Removing organics in the dock section is to be paid for under the Excavation Common bid item. Excavation Common – Onsite Disposal bid Item and quantity (2,200 CYDS) added to bid form, Schedule C.

a. Breaker Run bid item and quantity (4,900 Tons) added to bid form, schedule C. Base Aggregate Dense 1-1/4" bid Item and quantity (4,500 tons) added to bid form, Schedule C.

b. Reinforced Concrete Beam is to be incidental to the Tie Rod Anchors bid item of work. Spec Section 35 42 34.30 modified and attached.

59. Q: Sheet MB101 Notes a continuation of the gas line for the building on the Civil Sheets. The civil utility sheets (C4.01, C4.02) do not detail any gas line.

A: This response is pending as it is still under review, response will be provided in future addendum.

60. Q: The Maintenance and Office Parking area is shown to be gravel, but calls for pavement markings. Is the intent to put pavement markings on the gravel surface?

A: This response is pending as it is still under review, response will be provided in future addendum.

61. Q: The Fencing Spec section 32 31 13 does not comply with fence detail. Spec shows a 6' tall PVC coated. Detail does not mention PVC coated and shows 8' tall with barb.

A: This response is pending as it is still under review, response will be provided in future addendum.

62. Q: Fencing Detail 1/C8.04 has conflicting notes:

a. The detail shows posts 5' on center while fence note on same sheet mentions 10' on center (10' on center is typical).

b. The detail shows 4" terminal/corner post size while fence note on same sheet shows a 4" terminal post size but 2-7/8" corner post size (2-7/8" post size is typical for this height for both terminal and corner posts).

A: This response is pending as it is still under review, response will be provided in future addendum.

63. Q: Fencing Details show 36" deep footings for line posts, 42" for corner posts, & 48" for gate posts. Recommend changing to 12" X 72" footing for gate and corner posts and 6' drive set for line posts due to frost issues in area.

A: This response is pending as it is still under review, response will be provided in future addendum.

64. Q: Detail 1/C8.01 shows a 3/8" truss rod in combination with a diagonal rod with turnbuckle. Typical security fence only has a truss rod - to add a rod above the truss rod is redundant. Please clarify the if this is to be required.

A: This response is pending as it is still under review, response will be provided in future addendum.

65. Q: The Contractor recommends using Wheatland WT-40 for framework as it has an interior chromate coating and an exterior clear organic overcoat. The pipe is a 50,000 PSI rated compared to the 30,000 PSI rating the Sch-40 has that is currently specified.

A: This response is pending as it is still under review, response will be provided in future addendum.

66. Q: Can the Raw Data files for the CPT borings be provided?

A: This response is pending as it is still under review, response will be provided in future addendum.

67. Q: We need some clarifications on the "Underwater Driveline Clearing" requirements?

a. Relating to bid item quantity: The way the note on drawing M001 reads, the entire length (2,600'+/-) should be surveyed and cleared. However the bid item is only for 1,000 LF. Can you clarify if only a certain portion of the wall needs to be cleared and where that is? Or revise quantity if necessary to whole wall length.

b. Is there a depth below mudline at which we are no longer responsible for obstructions? Or are we responsible for any obstruction encountered all the to the toe of the sheet pile?

A:

a. Quantity has been revised to 2,600 LF.

b. Spec Section 02 41 13, Paragraph 3.11 states contractor is responsible for removal and disposal of obstructions discovered and documented during the pre-construction survey.

68. Q: What is the dimension from the sheet pile wall alignment to the front face of cast in place continuous grade beam?

A: This response is pending as it is still under review, response will be provided in future addendum.

69. Q: Would it be acceptable to provide a mill certificate from mill for the white oak fenders in lieu of the

independent grader?

A: This response is pending as it is still under review, response will be provided in future addendum.

70. Q: Would a green colored sealant be acceptable for the white oak timbers?

A: This response is pending as it is still under review, response will be provided in future addendum.

71. Q: 22% moisture content be difficult to obtain as the mill cuts the timbers “green” so initially they have a moisture content of around 40%. The timber will dry out over time, will that be acceptable?

A: This response is pending as it is still under review, response will be provided in future addendum.

72. Q: Will alternates to White Oak be acceptable?

A: White Oak is the preferred timber material and should be the base bid.

73. Q: Will field torching for bolt holes be acceptable?

A: Yes.

74. Q: Piling specifications mention dynamic testing to be done for the piling, will there be a driving capacity that the pile will have to be driven to?

A: Spec Section 35 42 13.19, Delete paragraph 1.3 F "Dynamic Pile Test Reports to be performed by owners Independent Testing Agency."

75. Q: Will the truck scale need to be supported on helical piles as well?

A: This response is pending as it is still under review, response will be provided in future addendum.

76. Q: Please confirm the final length of sheet pile including any cutoff will be 51’? Per the elevations shown on M302 and M303.

A: Correct.

77. Q: Please confirm the loads in the soil anchor schedule have been factored since they are labeled as Ultimate loads. There is an ASD equation in the notes which leads us to question if the pile loading is 95 kips allowable tension or 47.5 kips allowable tension?

A: This response is pending as it is still under review, response will be provided in future addendum.

78. Q: The plans show the timber fender installation to be approximately 1’ above normal pool. If water elevations increase where timber fender elevation would be below water, would this be considered a change of condition?

A: If water levels increase in elevation such that the planned fender elevation is below water, the engineer will consider raising the elevation of the fender to avoid a change in condition.

79. Q: Would you be able to clarify if a master mixing valve/ mixing station is needed for this job? I have attached a detail that shows an mmv and mms. For the flammable waste trap, I see the schedule lists a 500-gallon capacity unit. However, in the specs (attached) it says 35 cubic ft, can you please advise on

what size is needed? Also, would It be possible to get Streim approved as an equal? Streim offers the OT-500 or the OS-100 which has the 35 cubic ft. Specs attached for both units.

A: This response is pending as it is still under review, response will be provided in future addendum.

80. Q: 01 20 00 Paragraph 1.03.C has Alternate No. 1 listed as select borrow. Is this still considered an alternate? We have a bid item in the base bid schedule?

A: Alternate language from 01 20 00, Paragraph 1.03, has been removed. There are currently no alternates on this project.

81. Q: Are some non-domestic rail materials acceptable, such as frog castings, nuts/washers, switch stand?

A: This response is pending as it is still under review, response will be provided in future addendum.

82. Q: Plan notes indicate some double silt fence. Is the pay item per lineal foot for silt fence going to be paid twice in those locations? Or will "double silt fence" but required but only be paid for as a single silt fence? Please clarify and provide enough information so we can bid correctly.

A: This response is pending as it is still under review, response will be provided in future addendum.

83. Q: Plans indicate removing the organic material deposited on top of the existing concrete slab. Please clarify:

a. How deep is this material?

b. Where should this be placed onsite?

c. Is this contaminated material?

d. Is this part of the excavation common item? Or which pay item specifically is this work paid under?

A: This response is pending as it is still under review, response will be provided in future addendum.

84. Q: It is unclear the limits of the 20 Acre Clear & Grub pay item. Please provide a plan view layout depicting planned limits for this work.

A: Limits for Clearing and Grubbing are defined by limits of construction disturbance on the site, shown on the Site Plans Sheets. This area is approximately 35 acres. Bid Form Item has been revised to adjust Quantity to 1 Lump Sum.

85. Q: Spec section 01 50 00 Part 3.03 indicate temporary sewer and water services. Please clarify if this is required and for which buildings.

A: This response is pending as it is still under review, response will be provided in future addendum.

86. Q: By spec dewatering is incidental. Has the Engineer or Owner considered the water trapped on the surface of the dock? It will certainly impact the project intent of utilizing onsite clay embankment.

a. What is the plan for this water?

b. Is it contaminated?

A: This response is pending as it is still under review, response will be provided in future addendum.

87. Q: Questions related to the dredging contract:

a. What is the planned quantity coming to this project site?

- What portion of the planned dredge material is considered to be contaminated?

b. What is the anticipated duration it will take the dredge to be received on site?

- Which months will this occur?

c. What type of material is it?

d. What will the moisture content of it be, when placed onto the C Reiss Dock (for the civil contractor to go place)?

A: This response is pending as it is still under review, response will be provided in future addendum.

88. Q: Compaction Standards for the onsite Berm:

a. What is the compaction spec for the Berm and Cap?

b. What is the compaction spec for the contaminated sediment?

c. What is the compaction spec for the contaminated soil?

- What is the planned quantity?

d. What is the compaction spec for the clean clay fill?

- What is the planned quantity?

A: This response is pending as it is still under review, response will be provided in future addendum.

89. Q: We greatly appreciate the depth of information provided on plan sheet R601 by Krech Ojard in relation to Earthwork calculations and how it correlates to the pay items provided. This information is NOT PROVIDED for the Site Civil Work portion for the earthwork pay item A17. This is very important – please provide a similar in depth table so we can understand the nature of the work.

a. Existing Topsoil

- Please clarify quantity stripped

- Clarify quantity salvaged/embanked

- Clarify if any is contaminated and what the plan is for that material, if applicable

A: This response is pending as it is still under review, response will be provided in future addendum.

90. Q: Unsuitable Material vs Suitable Material

a. It appears that pay items B1 and B2 are utilized only when sufficient Suitable Material isn't available and/or when excessive Unsuitable Material exists. Please clarify how onsite material will be deemed either Suitable or Unsuitable? Is it based on native moisture content? Time of year? Do you let a contractor attempt to perform the work, then use these items when it can't be performed? Please explain.

A: This response is pending as it is still under review, response will be provided in future addendum.

91. Q: Is winter work to be included?

A: This response is pending as it is still under review, response will be provided in future addendum.

92. Q: Schedule. It appears that the excess excavated material from the Rail Track Work SOW, is intended to be placed in the onsite berm. The dredge material, by default of the new March 24th completion date, will possibly arrive late spring/early summer 2024. Meaning the excavation for the rail will be hindered by NOT having the dredge sooner and making the June 30th completion date impossible to hit. Please consider this and provide direction.

A: This response is pending as it is still under review, response will be provided in future addendum.

93. Q: Please clarify plan for the "Pad for Office". Is this provided at some later date, but NOT under this contract?

a. Civil drawings call it an office drawing and the plumbing drawings indicate a trailer. Please clarify for us what is to be included.

A: This response is pending as it is still under review, response will be provided in future addendum.

94. Q: Plan sheet M302 Detail 1

a. Is the Breaker Run and Void Fill shown, to be paid under bid item #B6?

b. Note indicates "Existing Concrete Checkered Panels to be Removed as Required" :

- Is this a pay item, or is this incidental to the soil anchors?

- Is the concrete to be replaced and if so, which pay item?

c. The "Remove Organics to Native Soil (Common Excavation)" note:

- What is your planned quantity for this?

- Which pay item does it fall under (A17, B2, or B3?)

A: This response is pending as it is still under review, response will be provided in future addendum.

95. Q: Do we have 1500 psf at the site of the truck scale? If not, what are the Engineer's recommendations to get the required bearing capacity?

A: This response is pending as it is still under review, response will be provided in future addendum.

96. Q: What are the plans for the scale weight data? i.e., are we expected to:

a. Provide a basic output to a PC and the Owner will take it from there? If so, what is the preferred output string and method? OR

b. Are we expected to offer a data management solution? If so, there will be a lot of questions that we will need to have answered in order to be sure to offer the system they expect

A: This response is pending as it is still under review, response will be provided in future addendum.

97. Q: Per the Soil Anchors spec an independent test agency is to observe the load testing and per the Soil Anchor Engineering Spec the design engineer is also called to observe the test. Is the intent to have both parties present for testing?

A: This response is pending as it is still under review, response will be provided in future addendum.

98. Q: Regarding Dock Wall: The spec calls for all the wales etc. to be galvanized. Spec section 35 42 13.20 section 2.5. Can you verify?

A: This response is pending as it is still under review, response will be provided in future addendum.

99. Q: Regarding Dock Wall: For the wood fenders. Is it the intent to have 10" angles at every out pan?

A: This response is pending as it is still under review, response will be provided in future addendum.

100. Q: On the civil drawings there are notes for removing storm sewer pipe and removing hydrants. Which pay items are these paid under?

A: This response is pending as it is still under review, response will be provided in future addendum.

101. Q: On the Asphalt Salt Pad. What is the importance of the height of the asphalt berm? Is the shape of the asphalt berm important or can it be slightly different?

A: This response is pending as it is still under review, response will be provided in future addendum.

102. Q: There is a note on C2.02 for a Railing at the Truck Scale. Please clarify what is expected here. Location of railing, length, height, material type, etc.

A: This response is pending as it is still under review, response will be provided in future addendum.

103. Q: There is a note on C2.02 for Parking Lot Striping.

a. Where is this paid?

b. Is this striping to be placed on an aggregate parking area?

A: Stall Layout shown for reference only. No Striping Proposed. Plan Sheet Callout has been revised accordingly.

104. Q: On C2.02 a Proposed Pump House is mentioned. Please confirm if this is to be included in this project? If so, provide details.

A: This response is pending as it is still under review, response will be provided in future addendum.

105. Q: C4.01 references Directional Drilling for installation of a 4" steel casing. Do you mean Jack and Bore?

A: This response is pending as it is still under review, response will be provided in future addendum.

106. Q: C4.02 seems to indicate a 1" water service to the future office pad. Please clarify if any 1" water service is to be provided in this bid or not? If so, please provide a bid item.

A: This response is pending as it is still under review, response will be provided in future addendum.

107. Q: SWLP electrical primary extension and utility fees and cost.

a. Who will carry this work scope?

b. What bid item will receive this cost.

A: This response is pending as it is still under review, response will be provided in future addendum.

Contract Documents – Bid Form

1. Item A16 has been revised to Lump Sum, Quantity 1.
2. Item A23 has been revised to 2,100 Tons.
3. Item C2 has been revised to 11,600 Tons.
4. Item C3 has been revised to 2,600 Lineal Feet.
5. Item C4 has been revised to 133,110 Square Feet.
6. Item C14 (Excavation Common – Onsite Disposal) has been added: 2,200 Cubic Yards.
7. Item C15 (Breaker Run) has been added: 4,900 Tons.
8. Item C16 (Base Aggregate Dense 1-1/4 – Inch) has been added: 4,500 Tons.

Technical Specifications – Section 01 20 00 – Price and Payment Procedures

1. Alternate language from 01 20 00, Paragraph 1.03, has been removed. There are currently no alternates on this project.

Technical Specifications – Section 02 41 13 – Selective Demolition

1. Paragraph 3.11A modified/added on to: GPS integrated Multibeam System is the required type of sonar imaging survey. Alternatives to be considered by Engineer if findings can be easily verified by an independent 3rd party.
2. Paragraph 3.11.B to be added: Contractor shall attempt to limit soil excavated with sheet pile drive

line clearing, but any excavated soil shall be assumed to be contaminated and disposed of within the designated on-site disposal berm location. If significant quantities of soil are excavated, then field evaluations and quantities will determine whether disposal berm location has adequate capacity for this use. If required, offsite disposal of contaminated soil would be considered additional work. All other removed drive line clearing material shall be legally disposed of offsite by the contractor.

Technical Specifications – Section 33 40 00 – Storm Drainage Utilities

1. Paragraph 2.02B modified/added on to: Thickness U.S. Std. Gage shall be: 18" or less (Nominal Diameter): 14 gage; 21"-36" (Nominal Diameter): 12 gage; 36" and greater: Refer to Table 1 in BNSF Guidelines for Industry Track Projects.

Technical Specifications – Section 35 59 33 – Cast Steel Bollards

1. Paragraph 2.01.A. delete 1-6 and replace with: Bollards shall be Schoellhorn-Albrecht Model # S1309, 100-ton bollard, or equivalent.

Technical Specifications – Section 35 42 13.19 – Steel Piling

1. Delete paragraph 1.3.F "Dynamic Pile Test Reports to be performed by owners Independent Testing Agency."

2. Paragraph 3.2.D modified/added on to: Sheets driven to final plan elevation and not requiring being cut off shall have holes plugged. Plugs shall be welded watertight, and coating made according to paragraph 3.4 Touchup Coating.

Technical Specifications – Section 35 42 34.30 – Tierod Anchors

1. Section 1.01B added.

2. Paragraph (b) added to Section 1.02A(1).

3. Paragraph (E) added to Section 2.01.

4. Section 3.04 added.

Plan Sheet – G-001

1. List of Sheets amended have been rev clouded.

Plan Sheet – C-202

1. Stall Layout shown for reference only. No Striping Proposed. Plan Sheet Callout has been revised accordingly.

Plan Sheet – E-101

1. Fixture shall be Lithonia DSX2 series or equal.

Plan Sheet – E-601

1. Single phase is correct for the office building. Electrical conduit and wire revised to 3-3/0.

Attachments:

1. Revised Bid Form
2. Revised Technical Specification Section 01 20 00 – Price and Payment Procedures
3. Revised Technical Specification Section 02 41 13 – Selective Demolition
4. Revised Technical Specification Section 33 40 00 – Storm Drainage Utilities
5. Revised Technical Specification Section 35 59 33 – Cast Steel Bollards
6. Revised Technical Specification Section 35 42 13.19 – Steel Piling
7. Revised Technical Specification Section 35 42 34.30 – Tierod Anchors
8. Revised Plan Sheet G-001
9. Revised Plan Sheet C-202
10. Revised Plan Sheet E-101
11. Revised Plan Sheet E-601

END OF ADDENDA TEXT

ITEM #	ITEM NAME	UNITS	QUANTITY	$/UNIT	EXTENSION
SCHEDULE A - SITE CIVIL WORK					
A1	MOBILIZATION	LS	1		
A2	TRAFFIC CONTROL	LS	1		
A3	SILT FENCE	LF	5000		
A4	SILT CURTAIN	LF	310		
A5	INLET PROTECTION	EACH	3		
A6	EROSION MAT CLASS 1 TYPE B	SY	25000		
A7	STRAW BALE DITCH CHECK	EACH	42		
A8	STONE TRACKING PAD	EACH	1		
A9	TEMPORARY DIVERSION BERM	LF	2700		
A10	INTERIM MANUFACTURED PERIMETER CONTROL	LF	2500		
A11	5 MIL. POLYLINER WITH 6" CRUSHED WASHED STONE	SY	1100		
A12	REMOVE RETAINING WALL	LF	475		
A13	REMOVE ABANDONED PETROLEUM LINE, 8-INCH	LF	680		
A14	REMOVE ASPHALTIC SURFACE	SY	135		
A15	REMOVE CONCRETE CURB & GUTTER	LF	24		
A16	CLEARING AND GRUBBING	LS	1		
A17	EXCAVATION COMMON - ONSITE DISPOSAL	CY	37060		
A18	GEOGRID TYPE SR	SY	24400		
A19	BASE AGGREGATE DENSE, 1 1/4-INCH	TON	10400		
A20	TACK COAT	GAL	1500		
A21	HMA PAVEMENT, 3 MT 58-34 S	TON	12		
A22	HMA PAVEMENT, 4 MT 58-34 S	TON	16		
A23	HMA PAVEMENT, 3 MT 58-34 V	TON	2100		
A24	CONCRETE STRIP, 5-FEET WIDE	SY	1260		
A25	CONCRETE PAVEMENT, 8-INCH	SY	100		
A26	CONCRETE CURB & GUTTER	LF	24		
A27	CHAIN LINK FENCE, 6-FEET	LF	3500		
A28	TOPSOIL	TON	4300		
A29	SEED, FERTILIZER, AND MULCH	SY	50000		
A30	STEEL CASING PIPE, 4-INCH	LF	161		
A31	DRY HYDRANT ASSEMBLY	EACH	1		
A32	WATER SERVICE, HDPE, 2-INCH	LF	1620		
A33	SEPTIC TANK	LS	1		
A34	FLARED END SECTION WITH TRASH GUARD, 30-INCH	EACH	2		

A35	STORM SEWER PIPE, REINFORCED CONCRETE CLASS III, 30-INCH	LF	110		
A36	BENTONITE COLLAR	EACH	2		
A37	TURF REINFORCEMENT MATTING, CLASS III, TYPE B	SY	260		
A38	SITE ELECTRICAL	LS	1		
A39	BUILDINGS	LS	1		
A40	TRUCK SCALE	LS	1		
SCHEDULE B - RAIL TRACK WORK					
B1	SELECT BORROW	TON	31878		
B2	EXCAVATION COMMON - OFFSITE DISPOSAL	CY	27720		
B3	EXCAVATION COMMON - ONSITE DISPOSAL	CY	47940		
B4	BASE AGGREGATE DENSE 3/4 - INCH	TON	82		
B5	BASE AGGREGATE DENSE 1-1/4 - INCH	TON	26,965		
B6	BREAKER RUN	TON	700		
B7	TACK COAT	GAL	75		
B8	HMA PAVEMENT 3 MT 58-34 S	TON	150		
B9	HMA PAVEMENT 4 MT 58-34 S	TON	150		
B10	CULVERT PIPE CORRUGATED STEEL 18-INCH	LF	50		
B11	CULVERT PIPE CORRUGATED STEEL 24-INCH	LF	50		
B12	ADJUSTING MANHOLE FRAME AND RING CASTING	EACH	1		
B13	POSTS WOOD 4x6 INCH x 14-FOOT	EACH	4		
B14	SIGNS TYPE II REFLECTIVE H	SF	33		
B15	MARKING STOP LINE EPOXY, 24-INCH	LF	24		
B16	TRAFFIC CONTROL	LS	1		
B17	GEOTEXTILE FABIC TYPE SAS	SY	34,100		
B18	TURNOUT (No. 9)	EACH	6		
B19	STEEL CASING PIPE, 15-INCH	LF	110		
B20	CULVERT PIPE STEEL 15-INCH	LF	65		
B21	CULVERT PIPE STEEL 18-INCH	LF	105		
B22	FLARED END SECTION, 18-INCH	EACH	2		
B23	FLARED END SECTION, 24-INCH	EACH	2		
B24	SANITARY SEWER, 8-INCH	LF	130		
B25	RAILROAD CAR SCALE	LS	1		
B26	DERAIL SLIDING WITH WHEEL CROWDER	EACH	1		
B27	CONSTRUCT TRACK	TF	7,828		

B28	CROSSING TIMBER	TF	147		
SCHEDULE C - DOCK WALL WORK					
C1	SOIL ANCHOR ENGINEERING	LS	1		
C2	BASE AGGREGATE OPEN-GRADED	TON	11600		
C3	UNDERWATER DRIVELINE CLEARING	LF	2600		
C4	STEEL SHEET PILES	SF	133310		
C5	STEEL H-PILES	LF	4550		
C6	TIMBER FENDERS	LF	2610		
C7	CAST STEEL BOLLARDS	EACH	13		
C8	WALE AND ANCHOR HARDWARE ASSEMBLIES	LF	2610		
C9	SOIL ANCHORS	EACH	140		
C10	TIEROD ANCHORS	EACH	277		
C11	PILE WALL CAP	LF	2610		
C12	WEEP DRAINS	EACH	44		
C13	SAFETY LADDERS	EACH	12		
C14	EXCAVATION COMMON – ONSITE DISPOSAL	CY	2200		
C15	BREAKER RUN	TON	4900		
C16	BASE AGGREGATE DENSE 1-1/4 - INCH	TON	4500		

Total Schedule A: $_____
Total Schedule A in written words:

_____

Total Schedule B: $_____
Total Schedule B in written words:

_____

Total Schedule C: $_____
Total Schedule C:

_____

BID TOTAL – Schedule A, B, and C: $_____

Bid Total in written words: _____

_____

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes
Administrative and procedural requirements for allowances, Alternates, pricing of Work, and request for payment procedures.

1.02 PRICE AND PAYMENT PROCEDURES

A. Measurement and Payment
All Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

1.03 BID UNIT PRICES

A. Provide access and assist Engineer in determining actual quantities of Bid Unit Price work.

B. Provide documentation to substantiate Bid Unit Price work.

C. If the Contractor delivers and places more of any material that is paid for on a Bid Unit Price basis than is required to perform the Work and thereby causes the materials to be wasted, the quantity wasted will be deducted from the final measurement for that Bid Item.

1.04 INCREASED/DECREASED QUANTITIES

A. No claim for adjustment in unit price compensation due to increased or decreased quantities is allowed.

B. Certain proposal work items are included in anticipation of the possibility that conditions may be encountered which require this work. The estimates of quantities for these proposal items are based upon general experience in the area. They are included in the work to establish a bid unit price in the event that such work is necessary to complete the project. The quantity is not guaranteed and the extent of the work required will be dependent upon prevailing conditions. As such, no unit price adjustments for any magnitude of increased or decreased quantities is allowed for such work.

1.05 PAYMENT PROCEDURES

A. Engineer will provide initial Application for Payment Form at the Preconstruction Conference.

B. Submit 1 preliminary copy of progress payment application for review, consistent with the General Specifications. Submit 4 signed copies of Application for Payment to Engineer prior to the dates identified at the Preconstruction Conference.

C. Attach the following supporting documentation, in addition to the requirements of the General Specifications:
Documentation to substantiate Bid Unit Price work.
Updated construction schedule consistent with Section 01 33 00.
Wage reports, etc. required for funded portions of the project.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 02 41 13

SELECTIVE SITE DEMOLITION

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes
   1. Complete or partial removal and disposal or salvage of at grade, above grade, and below grade structures and miscellaneous items.

B. Related Sections
   1. Section 31 23 00 – Excavation and Fill.

1.02 PRICE AND PAYMENT PROCEDURES

A. Measurement and Payment
   1. Bid Items have been provided for demolition and removal items. Payment at the Bid Unit Price will be considered compensation in full for all Work necessary to complete the Bid Item in full, including removal, salvage, storage, and disposal.
   2. Measurement will be based upon the units as listed below for items removed, abandoned, or salvaged complete as specified. No measurement will be made of any removals that are not required. The actual quantity removed multiplied by the appropriate Bid Unit Price will be compensation in full for all Work and costs of the following Bid Items:
      a. **Underwater Driveline Clearing**: Lineal Foot.
      b. **Remove Abandoned Petroleum Line, 8-inch**: Lineal Foot.
      c. **Remove Asphaltic Surface**: Per square yard without regard to thickness, including integral bituminous curb.
      d. **Remove Concrete Curb and Gutter**: Per lineal foot, no matter the type.
      e. **Remove Retaining Wall**: Per lineal foot, measured at ground level, not matter the height.
         1) Note: it shall be the responsibility of the Bidder to evaluate the existing retaining walls on site, prior to bidding.
      f. Removal of fencing will be incidental.
      g. Saw cutting will be incidental.
      h. Bulkheading and abandoning of existing pipe will be incidental.
      i. Salvage and reinstallation of signs and mailboxes will be incidental.
   3. All other Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

1.03 REFERENCES

A. Wisconsin Department of Transportation "Standard Specifications for Highway and Structure Construction," 2022 Edition (WisDOT Spec.) and supplements
   1. 204 – Removing or Abandoning Miscellaneous Structures.

1.04 DEFINITIONS

A. Remove: To take away or eliminate from the Site by any method selected by the Contractor, including disposal of material.

B. Salvage: To dismantle, disassemble, or remove carefully without damage so the item can be re-assembled, replaced, or reused in a workable condition equal to that existing before removal.

C. Abandon: To fill, bulkhead, or close off pipes and structures so that no settlement or flow can occur.

1.05 REGULATORY REQUIREMENTS

A. Conform to WisDOT Spec. 204.3.1.3, with the following modifications:
   1. Dispose of all materials designated for removal outside the Site at locations selected by Contractor.
   2. Stockpile or temporarily store materials designated for salvage at locations provided by Contractor.

1.06 SCHEDULING

A. Prior to starting Work, submit for review by the Engineer and approval by the Owner, a schedule showing the commencement, order, and completion dates of the various parts of this Work.

B. Fill holes or depressions resulting from removal or salvage immediately.

C. Provide temporary surface restoration for traffic continuity where removal or salvage operations are completed within streets, driveways, or parking lots.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 GENERAL

A. Dispose of all items removed, except for those items identified to be salvaged or recycled. Said disposal shall be in accordance with all laws, regulations, statutes, etc.

B. Perform removal work without damage to adjacent retained work. Where such Work is damaged, the Contractor shall patch, repair, or otherwise restore same to its original condition at no expense to the Owner.

C. Remove debris from the work area as often as necessary, but not less than at least once at the end of each workday. Debris shall be placed in approved containers to prevent the spread of dust and dirt.

D. Execute the Work in a careful and orderly manner with the least possible disturbance to the public and occupants of buildings.

E. Fill holes resulting from removals consistent with Section 31 23 00.

3.02 EXAMINATION

A. Meet with owners of signs to determine requirements for salvage, storage, and replacement.

3.03 PROTECTION

A. Take all necessary precautions to adequately protect personnel and public and private property in the areas of Work. All Site fencing shall be in place prior to the start of any removal work.

B. All street signs, traffic control signs, guy wires, mailboxes, posts, wood fence, etc. which may interfere with construction shall be removed, stored safely, and replaced.

C. Approved barriers or warning signs shall be provided as necessary.

D. Provide and maintain temporary protection of existing structures designated to remain where removal work is being done, connections made, materials handled, or equipment moved.

E. Do not close or obstruct walkways or roadways. Do not store or place materials in passageways or other means of egress. Conduct operations with minimum traffic interference.

F. Take reasonable precautions to limit damage to existing turf.

G. Holes or depressions created by removals shall not be left open for more than 1 day. Any hole within 10 feet of sidewalks shall be filled, suitably marked, or covered immediately.

H. Avoid disturbance to any material beyond the limits required for new construction.

3.04 SAWING PAVEMENT

A. Concrete Pavement: Saw along the removal line to a depth of 1/3 of the thickness of the concrete prior to breaking off the pavement.

B. Bituminous Pavement: Saw along the removal line to a minimum depth of 3 inches prior to breaking off the pavement.

3.05 REMOVE CONCRETE PAVEMENT

A. Remove in accordance with WisDOT Spec. 204.3.2.2, except as modified below:
   1. Saw cut concrete pavement and concrete base prior to mechanical pavement removal equipment. Remove concrete in such a manner that the remaining pavement is not damaged.
   2. Prior to restoring trench areas, the edges of the trench shall be trimmed back to a vertical face on a straight line which is parallel with the centerline of the trench.

3.06 REMOVE BITUMINOUS PAVEMENT, PATH, DRIVEWAY

A. Remove in accordance with WisDOT Spec. 204.3.2.2, except as modified below:
   1. Saw cut bituminous pavement at the removal limits prior to that removal, unless otherwise approved by the Engineer.
   2. Prior to restoring trench areas, the edges of the trench shall be trimmed back to a vertical face on a straight line which is parallel with the centerline of the trench.

3.07 REMOVE CURB AND GUTTER

A. Saw cut at removal limits.

B. Concrete Curb and Concrete Curb and Gutter: Do not disturb any material beyond the limits required to form for new construction (assumed 12-inches maximum from the back of new work and 6-inches beyond the edge of new driveways).

3.08 REMOVE CONCRETE SURFACING

A. Work includes sidewalks, pedestrian ramps, medians, and driveways.

B. Saw cut concrete surfacing prior to removal.

C. Remove concrete in such a manner that the remaining surfacing is not damaged.

D. When removing existing sidewalks, the Contractor shall not disturb any material beyond the limits required for new construction (assumed as 6-inches maximum beyond and 8-inches maximum below existing grade).

E. When removing existing driveways, the Contractor shall not disturb any material beyond the limits required to form for new construction (assumed 12-inches maximum from the back of new Work and 6-inches beyond the edge of new driveways).

F. Prior to restoring trench areas, the edges of the trench shall be trimmed back to a vertical face on a straight line which is parallel with the centerline of the trench.

3.09 REMOVE BITUMINOUS SURFACING

A. Work includes pathways and driveways.

B. Saw cut bituminous surfacing to full depth at the limits of partial removal prior to that removal, unless otherwise approved by the Engineer.

C. Remove bituminous in such a manner that the remaining surfacing is not damaged.

D. Prior to restoring trench areas, the edges of the trench shall be trimmed back to a vertical face on a straight line which is parallel with the centerline of the trench.

E. When removing existing pathways and driveways, the Contractor shall not disturb any material beyond the limits required to form for new construction (assumed 12-inches maximum from the back of new work and 6 inches beyond the edge of new driveways).

3.10 REMOVE RETAINING WALL

A. Avoid damage to sections of wall to remain.

B. Dispose of materials off Site at a predetermined location.

C. Remove wall in its entirety, including footings and tiebacks.

3.11 UNDERWATER DRIVELINE CLEARING

A. The contractor shall complete a pre-construction sonar imaging survey of the proposed driveline to identify the nature and location of possible obstructions to installation of new sheet pile. Work includes all labor, materials, tools, equipment, and incidentals necessary for removal and disposal of obstructions discovered and documented as part of the pre-construction imaging survey.
   1. GPS integrated Multibeam System is the required type of sonar imaging survey. Alternatives to be considered by Engineer if findings can be easily verified by an independent 3rd party.

B. Contractor shall attempt to limit soil excavated with sheet pile drive line clearing, but any excavated soil shall be assumed to be contaminated and disposed of within the designated on-site disposal berm location. If significant quantities of soil are excavated, then field evaluations and quantities will determine whether disposal berm location has adequate capacity for this use. If required, offsite disposal of contaminated soil would be considered additional work. All other removed drive line clearing material shall be legally disposed of offsite by the contractor.

3.12 REMOVE ABANDONED PETROLEUM LINE

A. Existing petroleum lines on property shall be removed from the oil/water separator according to Ch. ATCP 93560 WAC requirements and the Materials Management Plan requirements.

3.13 SALVAGE AND REINSTALL

A. Salvage operations conform to WisDOT Spec. 204.3.1.3.

B. Signs
   1. In no case shall a traffic sign or street sign be removed or disturbed by Contractor without prior notification being given to Engineer and then only after satisfactory arrangements have been made for a temporary installation or its disposition
      a. Street identification signage shall be maintained at all times due to its importance to the 911 Emergency Response System.
      b. Remove and salvage all posts, A-frame angle brackets, stringers, as well as the nuts, bolts, and washers.
      c. Exercise reasonable care against damage to in-place signs during storage and installation.
      d. Remove signs damaged during construction and replace with new signs.

C. Fences
   1. Salvage and store fence and post material where they are in conflict with the Work.
   2. After completion of Work, reinstall fence to the condition existing prior to removal.

3. Install temporary snow fence or similar barrier at the end of the working day while the permanent fence is removed.

3.14 FIELD QUALITY CONTROL

A. Salvaged items to be reinstalled shall be of the same shape, dimension, location, and quality of the original item prior to construction.

B. Items damaged during removal or salvaging operations shall be replaced with new material of equal type and quality of the damaged item when it was new.

3.15 DISPOSING OF MATERIAL

A. Conform to WisDOT Spec. 204.3.1.3.

B. Dispose of all materials outside of the Site at disposal location selected by Contractor in compliance with state and local regulations. Burying of material and debris is not allowed within the Site.

END OF SECTION

SECTION 33 40 00

STORM DRAINAGE UTILITIES

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes
   1. Storm sewer pipe, manholes, catch basins, fittings, and miscellaneous appurtenances.

B. Related Sections
   1. Section 31 23 00 - Excavation and Fill.
   2. Section 32 11 23 - Aggregate Base Courses.
   3. Section 32 16 13 - Concrete Curbs and Gutters.
   4. Section 33 05 05 - Trenching and Backfilling.
   5. Section 33 05 17 - Adjust Miscellaneous Structures.
   6. Section 33 46 00 - Subdrainage.

1.02 PRICE AND PAYMENT PROCEDURES

A. Measurement and Payment
   1. Bid Items have been provided for **Storm Sewer Pipe**. Measurement will be based on units of lineal feet for each size, type, and class of pipe furnished and installed complete in place as specified, including excavation, bedding, backfilling, shoring, dewatering, and compaction. Pipe will be measured from centerline of structure to centerline of structure:
      a. Improved pipe foundation material, if necessary, shall be per Section 33 05 05.
   2. Bid Items have been provided for **Culvert Pipe**. Measurement will be based on units of lineal feet for each size, type, and class of pipe furnished and installed complete in place as specified, including excavation, bedding, backfilling, shoring, dewatering, and compaction.

B. A Bid Item has been provided for **Flared End Section**. Measurement will be based on units of each size installed at locations indicated in the Drawings complete in place as specified, including trash guard if specified, excavation, bedding, backfilling, shoring, dewatering, and compaction
      a. Where a sewer line is terminated with a flared end section, tying the last 3 joints as specified is considered incidental to the installation of the pipe.
   2. A Bid Item has been provided for **Bentonite Collar**. Measurement will be per each collar constructed according to plan dimensions. Payment at the Bid Unit Price shall include all costs related to constructing the collar in accordance with the Drawings, including excavation, forms, and material.
   3. All other Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

1.03 REFERENCES

A. American Society of Testing and Materials (ASTM)
   1. A48 - Specification for Gray Iron Castings.
   2. A153 - Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

3. A615 - Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
4. A760 - Specification for Corrugated Steel Pipe, Metallic – Coated for Sewers and Drains.
5. C76 - Specification for Reinforced Concrete Culvert, Drain, and Sewer Pipe.
6. C139 - Specification for Concrete Masonry Units for Construction of Catch Basins and Manholes.
7. C150 - Specification for Portland Cement.
8. C206 - Specification for Finishing Hydrated Lime.
9. C361 - Specification for Reinforced Concrete Low Head Pressure Pipe.
10. C443 - Specification for Joints for Circular Concrete Sewer and Pipe, Using Rubber Gaskets.
11. C478 - Specification for Precast Reinforced Concrete Manhole Sections.
12. D1248 - Specification for Polyethylene Plastic Molding and Extrusion Materials for Wire and Cable.
13. D1784 - Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds.
14. D2837 - Specification for Standard Test Method for Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials.
15. D3212 - Specification for Joints for Drain and Sewer Plastic Pipe Using Flexible Elastomeric Seals.
16. F477 - Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
17. F794 - Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter.
18. F894 - Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drainpipe.

B. Standard Specifications for Sewer & Water Construction in Wisconsin, 2003 Edition (Green Book)

C. Wisconsin Department of Transportation "Standard Specifications for Highway and Structure Construction," 2022 Edition (WisDOT Spec.)
1. 504 – Culverts, Retaining Walls, and Endwalls.
2. 520 – Pipe Culverts.
3. 521 – Corrugated Steel Culverts.
4. 522 – Reinforced Concrete Culverts.
5. 608 – Storm Sewer.
6. 645 – Geosynthetics.

1.04 SEQUENCING AND SCHEDULING

A. Do not pursue work-causing shut off of utility service (gas, water, electric, telephone, TV, etc.) to consumers until the utility owner is contacted and all consumers are notified of the shut-off schedule.

B. Successfully complete required inspections and tests before commencement of Section 32 11 23 and Section 32 16 13.

1.05 SUBMITTALS

A. Submit Shop Drawings for storm sewer structures consistent with Section 01 33 00.

B. Shop drawings shall indicate complete information for fabrication and installation of units. Include the following:
   1. Plans and elevations locating and defining all material furnished by manufacturers.
   2. Sections and details showing connections, cast-in items, field installed lifting devices, capacities, all openings, and their relation to the structure.

C. Submit Manufacturer's Certificate of Compliance for the following items:
   1. Pipe.
   2. Flared End Sections.

PART 2 PRODUCTS

2.01 MATERIALS

A. Mortar Materials
   1. Cement: Use Type 1 Standard Portland Cement conforming to ASTM C150.
   2. Lime: Use normal finishing hydrated lime meeting the requirements of ASTM C206.
   3. Mix Proportions
      a. 1-part cement to 3-parts of suitable plaster sand for mortar used for plastering the exterior walls of block manholes and catch basins, adjusting rings, and lift holes. Use lime or mortar mix in the amount necessary to make a suitable mixture for plastering purposes, but not to exceed 15-percent by volume.
      b. 1-part Portland cement to 2-parts of sand to which lime or mortar mix may be added, but not to exceed 15-percent by volume for mortar used for laying concrete block.

2.02 PIPE MATERIALS

A. Reinforced Concrete (RCP) Pipe and Fittings
   1. General Requirement: ASTM C76, Wall B with circular reinforcing.
   2. Materials: Conform to the requirements of ASTM C76, Wall B with circular reinforcing. O-ring gaskets shall be synthetic rubber, circular reinforcing in cross-section, and shall conform to ASTM C361.
   3. Pipe Joints: Bell and spigot ASTM C361.
   4. Pipe Class: As shown on the Drawings.
   5. Marking: Each pipe shall be identified with the name of the manufacturer trade name or trademark and code, identification of plant, date of manufacture, and the pipe class and specification design.

B. Corrugated Steel Pipe
   1. Galvanized corrugated steel pipe shall be manufactured in accordance with AASHTO Specifications M 36 and M 218. All areas of surface rust on re-corrugated ends or lock seams shall be painted using the hot-dip or metallizing process.
      a. Where two types of corrugation are acceptable, the use of standard 2-2/3" x 1/2" material is preferred, if available. 5 x 1 corrugations to be used only on helical pipe.
      b. Thickness U.S. Std. Gage shall be:
         1) 18" or less (Nominal Diameter): 14 gage;
         2) 21"-36" (Nominal Diameter): 12 gage;
         3) 36" and greater: Refer to Table 1 in BNSF Guidelines for Industry Track Projects.

C. Steel Pipe
   1. Steel pipe shall be in conformance with ASTM A1097 and of leakproof construction, such as butt welded or interlocking joints which are capable of withstanding railroad

loading. Pipe shall have a specified minimum yield strength, SMYS, of at least 35,000 psi (pounds per square inch / 241,317kPa).
2. Wall thickness shall be a minimum 0.50 inches.

2.03 FLARED END SECTIONS

A. Conform to WisDOT Spec. 520.2.3 for Materials.

2.04 TRASH GUARDS

A. General Requirement: ASTM A153.

B. Materials: Galvanized steel rods meeting the requirements in ASTM A153.

C. Bar size and configuration as shown on the Drawings.

D. Securely attached to end section.

PART 3 EXECUTION

3.01 PREPARATION

A. Trench Excavation and Backfill shall conform to Section 33 05 05.

B. By-Pass Pumping: Contractor responsible for all items required to maintain sewer flows during construction of the new storm sewer. All Work and costs for by-pass pumping is considered incidental to the Project, unless otherwise specified.

3.02 INSTALLATION

A. Connect to Existing Structure
1. Connect to existing structure at location shown on the Drawings.
2. Core the hole in the structure and saw cut the pipe flush with the inside wall of the structure.
3. Bulkhead void between outside wall of pipe and edge of opening with mortar and brick.
4. Reconstruct manhole bench/invert.

B. Connect to End of Existing Pipe
1. Connect to existing pipe at locations shown on the Drawings.
2. Locate and expose end of existing pipe.
3. Remove existing bulkhead or plug and dispose of off Site.
   a. Take care not to damage existing pipe.
   b. Any segment of pipe damaged by Contractor shall be replaced with new materials at no expense to the Project.
4. Utilize standard bell and spigot joint with rubber O-ring gasket if possible.
5. If butt connection must be made to existing pipe, construct concrete collar around joint. Collar shall be minimum 12-inches thick in all locations and shall extend a minimum of 12-inches each way of the joint.

C. Pipe Installation
1. Lay and maintain pipe appurtenances to the alignment, grade, and location shown on the Drawings and/or staked in the field. No deviation from the Drawing and/or

staked alignment, grade, or location is allowed, unless approved by Engineer. Deviation from grade in excess of 0.05 percent may be cause for removal and relaying pipe at the Contractor's expense.

2. General Pipe Installation Procedures
    a. Wipe joints clean; apply the manufacturer's recommended lubricant compound over the entire joint surface; center spigot in bell and push spigot home; take care to prevent dirt from entering the joint space; bring pipe to proper line and grade, and secure pipe in place by properly bedding.
3. Lay pipe upgrade with spigot ends pointing in the direction of flow.
4. All joints must be watertight.
5. Remove all foreign matter or dirt from inside the pipe. Keep the bell and spigot clean during and after installation. Take care to prevent dirt from entering the joint space. Remove any superfluous material from inside the pipe after pipe installation by means of an approved follower or scraper.
6. Where cut-ins make it impossible to construct bell and spigot joints or when dissimilar pipe materials are joined, a reinforced concrete collar shall be placed completely surrounding the joint or the connection shall be made by using an approved adapter.
7. Any pipe which has been disturbed after being laid must be taken up, the joint cleaned and properly re-laid as directed by the Engineer.
8. Where a sewer line outlets to grade or where the line is terminated with a flared end section:
    a. Fasten at least the last 3 joints together using 2 "U" bolt fasteners per joint approved and as recommended by the pipe manufacturers.

D. Structures and Appurtenances Installation
1. Furnish and install structures in accordance with the Drawings.
2. Excavate to depth and size as shown in the Drawings.
3. Poured in place bases must be acceptably cured before manhole sections are placed on the hardened slab. Poured in place bases must be approved by Owner.
4. Preformed inverts are not allowed.
5. Pour inverts shaped to the half section of equivalent size pipe conforming to the inlet and outlet pipe so as to allow for a free, uninterrupted flow with all surfaces sloping to the flow line.
6. All concrete pipes entering manholes must be cut with a concrete saw.
7. Steps
    a. Locate on the downstream side, except for pipe 24-inches in diameter or greater. Install in the most appropriate place, to provide suitable access.
    b. Secure and neatly mortar in place 15-inches on center spacing.
8. Position vertical wall of the eccentric cone on the downstream side.
9. On structures with a build that contains more than 1 barrel section, the section immediately below the precast top slab shall be maximum 16-inch height.
10. Lift holes neatly mortared up.
11. Install Adjustment Rings and Adjust Casting: Conforming to Section 33 05 17.

E. Construct Manhole Over Existing Pipe
1. Construct manhole over existing pipe at locations shown on the Drawings.
2. Saw cut existing pipe to fit flush with inside wall of new structure.
3. Seal any openings in manhole.

F. Riprap
1. General: Conform to Section 33 47 24.

G. Bulkhead Pipe
   1. Bulkhead pipe at locations shown on Drawings with brick, non-shrink concrete grout, or concrete block masonry 8-inches thick.
   2. Precast concrete plugs may be used in lieu of bulkhead. Plug must fit snugly into pipe opening and be watertight.

H. Bentonite Collar
   1. Construct at location indicated on Drawings.
   2. Construct per Detail on Drawings.

3.03 FIELD QUALITY CONTROL

A. Scope
   1. All pipeline testing is considered incidental to the Bid cost of the pipe.
   2. Engineer to observe and verify that all tests and visual inspections have been completed prior to final acceptance.

B. Cleaning
   1. Consists of Cleaning the Pipe and Structures
      a. If newly installed mains and structures are kept clean during construction, cleaning will not be required.
      b. If newly installed mains and/or structures become dirty due to negligence of the Contractor, cleaning will be performed at the sole expense of the Contractor.
   2. The bailing or flushing method of cleaning pipe is acceptable only if adequate provisions acceptable to the Engineer for keeping dirt and debris out of the existing sewer system or ponds are employed. Jetting may be required.
   3. Complete prior to final inspection for acceptance.

C. Required Tests and Inspections
   1. Infiltration
      a. To determine the amount of ground water infiltration into the sewers.
      b. Test waived if no visible infiltration is observed during the lamping inspection.
      c. Measurement made by means of 90-degree v-notch weirs placed in the lines as directed by the Engineer.
      d. Measurements taken at the points where in the Engineer's opinion the flow of water in the sewer is greater than the maximum allowable leakage.
      e. Maximum Allowable Rate of Leakage: Not more than 100 gallons per mile per inch diameter per day.
      f. Tests may be taken between individual manholes and the infiltration in any given line must not exceed the specified maximum allowable rate.
      g. Method of Measurement: Measurement of time for a predetermined volume of flow to occur.
   2. Lamping
      a. Verify installation is to true line and grade.
      b. Verify installed pipe is structurally sound.
      c. Verify there are no broken or deflective pipes.
      d. Verify that joints are all home.
      e. Verify structures conform to specified requirements.
   3. Mandrel Test: (If using PVC or HDPE Storm Sewer Pipe)
      a. Perform on PVC or HDPE main after installation has been completed.

b. Minimum waiting period of 30 days after completion of installation prior to performing test.
c. Contractor to furnish the mandrel and all labor, materials, and equipment necessary to perform the test.
d. Engineer must be present during pulling of the mandrel.
e. Deflection of inside diameter of pipe in excess of 5 percent shall be considered failure of the test.
f. Contractor shall repair/replace any failing segment of main, such that it successfully passes the test. All costs for such work, including but not limited to excavation, new materials, and restoration of surface to existing condition, shall be the sole expense of the Contractor.
g. Owner reserves right to measure deflection of PVC pipe at any time during the warranty period.

3.04 PROTECTION

A. Plug all entrances and openings to the system promptly and before suspension of operations at the end of working day.

B. Secure manholes and structures immediately after completion or before suspension of operations at the end of working day with castings or suitable alternative device.

C. Mark all structures to avoid being hit by construction or vehicular traffic.

D. Mark each plug location with 4-inch by 4-inch timbers to above grade to aid in marking the future connection.

E. Establish erosion control measures as per Section 01 57 13.

END OF SECTION

SECTION 35 59 33

CAST STEEL BOLLARDS

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes
   1. This specification consists of supply and installation of the cast steel mooring bollards as shown on the drawings.

B. Related Sections
   1. Section 03 10 00 – Concrete Formwork.
   2. Section 03 20 00 – Concrete Reinforcement.
   3. Section 03 30 10 – Reinforced Cast-In-Place Concrete.
   4. Section 03 35 00 – Concrete Finishes.
   5. Section 32 42 13.19 - Steel Piles.

1.02 PRICE AND PAYMENT PROCEDURES

A. Measurement and Payment
   1. A bid item has been provided for **Cast Steel Bollards**. Measurement will be by each individual item acceptably completed. The work to be performed under this item shall consist of furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in constructing the item, complete in place, as shown on plans, as specified in these special provisions, and as directed by the Engineer.
      a. Item includes pavement removals, excavation, backfilling and dewatering.
      b. Item includes bolting of bollard to embedded anchors, grouting of base, filling bollard with concrete, filling of bolt holes with grout and constructing reinforced concrete bases.
      c. Item includes rigid insulation.
      d. Steel Piles will be measured and paid for separately in accordance with Section 32 42 13.19 - Steel Piles.

1.03 REFERENCES

A. ASTM A 27 (1991) Steel Castings, Carbon, for General Application.

B. ASTM A 53 (1997) Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.

C. ASTM A 123 (1989) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

D. ASTM A 449 (1993) Quenched and Tempered Steel Bolts and Studs.

1.04 SUBMITTALS

A. Pre-Manufacture. Contractor to submit the following manufacturer's information for approval prior to manufacturing of bollards and hardware.
   1. Shop drawings for bollard.

2. Design calculations demonstrating proposed bollard meets loading requirements of Section 2.1 signed by a licensed professional engineer.
3. Grout.
4. Bolts, Nuts, & Washers.
5. Coating system data sheets.
6. Pipe Sleeves.

B. Post-Manufacture. Contractor to submit the following information after manufacture of bollards and hardware.
1. Certified weight tag for each bollard verifying bollard is greater than minimum weight.
2. Mill test certificates.
3. Certificate of conformance for line pull rating.

PART 2 PRODUCTS

2.01 BOLLARDS

A. Bollard shall be a new staghorn cast steel bollard as shown on the drawings
1. Bollards shall be Schoellhorn-Albrecht Model #S1309, 100-ton bollard, or equivalent.

2.02 ANCHORAGE HARDWARE

A. The proposed bollard shall be anchored to the concrete with a minimum of seven 1 1/4 inch diameter bolts conforming to ASTM F1554 Gr 105. Bollard anchor hardware to be supplied by the bollard manufacturer to ensure proper fit. All anchorage hardware shall be hot dipped galvanized to ASTM A123. If used, pipe sleeves shall conform to ASTM A53 and be hot dipped galvanized.

B. Bollard manufacturer is responsible to size the anchor diameters to adequately resist the mooring loads for the bollard

2.03 GROUT

A. Grout used for around base and inside of bollard shall have a minimum 5000 psi compressive strength and a maximum aggregate size of 3/8 inch.

B. Contractor shall follow all manufacturers' recommendations of pot life and temperature requirements during mixing and placing of product.

C. Water used in mixture shall be potable and free of oil, grease, and debris.

D. Follow the manufacturer's recommendations for the use of admixtures.

E. Fine aggregates shall meet the requirements of ASTM C33.

F. Surfaces must be cleaned of all oils, greases, dirt, wax solutions, and old coatings.

G. Metal surfaces shall be cleaned to a bare metal surface and concrete surfaces shall be free of weak and loose concrete by chipping down to sound concrete.

H. Grout shall be air entrained 6% ± 1.5%.

2.04 FINISH

A. Bollard shall be blasted to SSPC-SP10 and cleaned of any grease or other foreign matter with suitable degreaser before applying any coatings. Bollard shall be finished with (2), 2 Mil DFT coats of Dura-plate 235 PW epoxy primer & (1), 2 Mil DFT coat of Acrolon 218 HS Acryl- ic polyurethane by Sherwin Williams. Bollards shall be Sherwin Williams Safety Yellow SW4084 or approved equal.

2.05 CONCRETE BOLLARD BASE

A. See Section 03 30 10 – Reinforced Cast-In-Place Concrete for products.

2.06 BACKFILL

A. Furnish backfill material of a quality acceptable to the engineer and free from frozen lumps, wood, or other extraneous or perishable material. The contractor may use engineer-approved material obtained from excavation.

PART 3 EXECUTION

3.01 BOLLARDS

A. Anchor bolts and sleeves shall be held in place with templates that match specified bolt pat- tern in construction drawings. Templates shall ensure proper location of bolts and sleeves during placement of concrete. Bollards shall be leveled using leveling nuts on exposed bolts and secured to bolts using additional nuts and washers within bollard base. Nuts shall be hand tight before grouting of base. After grouting has cured for seven days nuts shall be tightened to the snug condition. Areas around nuts in bollard base shall be filled with epoxy so as to prevent standing water. To prevent damage to vessel mooring lines, no sharp edges around bolting area shall exist after installation.

B. Bollard shall be primed & painted in accordance with section 2.4 above after installation is complete.

C. Approved manufactures for bollards and hardware include:

Schoellhorn-Albrecht Machine Co. Inc.
1141 Reco Avenue

St. Louis, MO 63126
PHONE: 314-965-3339

FAX: 314-965-3341

Email: brianpav@schoellhorn-albrecht.com

3.02 EXCAVATION AND BACKFILLING

A. Excavate material of whatever nature encountered. Remove logs, stumps, and other materials and obstructions necessary to place the foundations and structure. Dispose of material obtained from excavation in accordance to the materials management plan. Backfill, compact, shape, slope, and clean the site.

B. Construct, and subsequently remove, necessary cofferdams and cribs or well-point systems, and the necessary sheeting, shoring, bracing, draining, and pumping to allow constructing the substructure, above the seal, in the dry.

C. The elevation of the bottoms of footings, as the plans show, is approximate only. The engineer may order, in writing, changes in dimensions or elevation of footings necessary to secure a satisfactory foundation.

D. Do not place backfill against any portion of any substructure unit until completing the required curing, surface preparation, dampproofing, and waterproofing of the work to be backfilled.

E. Backfill spaces excavated and not occupied by the new structure to the elevation and section existing before excavation. Do not place backfill above the required section for the finished work. If placing backfill, provide allowance for settlement

F. Unless specified otherwise, place backfill in continuous horizontal layers no more than 8 inches thick. If practicable, uniformly raise layers on all sides of each substructure unit or culvert. Surround the stone used in backfilling by finer material. Compact each layer, before placing the next layer, by using engineer-approved rollers or portable mechanical or pneumatic tampers or vibrators.

3.03 DEWATERING

A. If possible, dewater foundation excavations before depositing concrete within. Dewater in accordance to the erosion and sediment control plan.

B. Pump from the interior of foundation enclosures in a manner to preclude, if practicable, removing foundation material or concrete ingredients.

3.04 CONCRETE BOLLARD BASE

1. See Section 03 30 10 – Reinforced Cast-In-Place Concrete

END OF SECTION

SECTION 35 42 13.19

STEEL PILING

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Steel Sheet Piles.
2. Steel H-Piles.
3. Steel Round Piles.

B. Related Sections
1. Section 35 42 13.21 - High Performance Coatings.

1.2 PRICE AND PAYMENT PROCEDURES

A. Measurement and Payment
1. A Bid Item has been provided for **Steel Sheet Piles**. Measurement will be by the square foot of sheet pile area projected horizontally and perpendicular to the driveline, acceptably completed. The unit price shall include labor and equipment necessary to furnish and install the steel pile for the owner as shown on the plans.
2. A Bid Item has been provided for **Steel H-Piles.** Measurement will be by the Lineal foot of steel pile acceptably completed. The unit price shall include labor and equipment necessary to furnish and install the steel pile for the owner as shown on the plans.
3. The work of this Section is affected as follows:
   a. Additional payment for material in excess of that indicated, and credit for less than that indicated will be calculated at unit prices stated in the Contract.
   b. Unit prices include labor, specialty connectors, tools, equipment, and incidentals for furnishing, driving, cutting off, filing pile and furnishing and installing pile connectors and reinforcing as detailed.
   c. No payment will be made for piles driven out of tolerance vertically, horizontally or piles damaged during handling or driving. Contractor shall inspect all piling delivered to site prior to start of construction.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For steel piling, show fabrication and installation details as necessary to install piling and fabricate specialty connectors.

C. Qualification Data: For qualified Installer.

D. Mill Test Reports: Provided by contractor and signed by manufacturer.

E. Pile-Driving Equipment Data: Include type, make, and rated energy range, size, and properties of hammer.

F. Pile-Driving Records: Submit within three days of driving each sheet, piling, and H piling.

G. Field quality-control reports.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Authorized representative who is trained and approved for installation of units required for this Project.

B. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."

C. Pre-installation Conference: Conduct conference at Project site.

D. Refer to Section 01 41 00 for Special Inspection Requirements.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Delivery of piles and storage at Project site will be contractor's responsibility. Contractor shall store piles at Project site to prevent buckling or physical damage.
   1. Coated Piles: Contractor will be responsible for all transporting, storage, and handling of the steel piling. Touch up coating damage due to handling before driving piles

1.6 PROJECT CONDITIONS

A. Protect structures, underground utilities, and other construction from damage caused by pile driving.

B. Site Information: A geotechnical report has been prepared for this Project and is included in of this specification as a reference document.

C. Preconstruction Photographs: Inventory and record the condition of adjacent structures, underground utilities, and other construction. Provide photographs of conditions that might be misconstrued as damage caused by pile driving.

PART 2 PRODUCTS

2.1 STEEL SHEET PILE

A. NZ 22 OR EQUIVALENT "Hot Rolled" sheet pile structural section (Minimum Section Modulus 41.47 in^3/ft and Minimum flange thickness of 0.48 inches and Minimum web thickness of 0.48 inches) ASTM A572, Grade 50.

2.2 STEEL H-PILES

A. HP 14 x 73 (See Plan for Locations) ASTM A572 Grade 50.

2.3 PILE ACCESSORIES: N/A.

2.4 COATING

A. Coating: See High Performance Coating Specification Section.

2.5 FABRICATION: N/A.

PART 3 EXECUTION

3.1 EXAMINATION

A. Site Conditions: Work from the top of the existing dock site by use of crane or excavator is prohibited within 30 feet of the dock edge due to dock deterioration. General site conditions and the existing dock are currently stable, but vibration from driving equipment could cause the existing docks to move creating additional sink holes or failures.

B. Existing dock alignments and reference points shown have been surveyed and should be set at the site by contractor to maintain proper dock alignments prior to the start of construction.

3.2 DRIVING PILES

A. General: Continuously drive piles to elevations indicated. Establish and maintain axial alignment of leads and piles before and during driving.

B. Driving Tolerances: Drive piles without exceeding the following tolerances, measured at pile heads:
   1. Location: Within 2 inches from baseline indicated on plans after driving completed.
   2. Plumb: Maintain 1/8 inch per foot out of plumb within either plane.

C. Withdraw damaged or defective piles and piles that exceed driving tolerances and install new piles within driving tolerances.
   1. Contractor is responsible for replacement of damaged piling due to improper driving and or handling of piling during the driving process. Contractor will be allowed to re-drive piles not damaged during extraction after inspection and approval by Engineer.

D. Cutting Off: Cut off tops of driven piles square with pile axis and at elevations indicated.
   1. Sheets driven to final plan elevation and not requiring being cut off shall have holes plugged. Plugs shall be welded watertight, and coating made according to paragraph 3.4 Touchup Coating.

E. Pile-Driving Records: Maintain accurate driving records for each H-pile & sheet piling installed. Include the following data:
   1. Project name and number.
   2. Name of Contractor.
   3. Pile location.
   4. Sequence of driving.
   5. Pile dimensions.
   6. Ground elevation.
   7. Elevation of tips after driving.
   8. Final tip and cutoff elevations of piles after driving pile group.
   9. Records of re-driving.
   10. Type, make, model, and rated energy of hammer.
   11. Weight and stroke of hammer.
   12. Pile-driving start and finish times, and total driving time.
   13. Unusual occurrences during pile driving.

3.3 FIELD QUALITY CONTROL

A. Special Inspections: Engineer or owners representative will perform special inspections as necessary to observe for proper installation of piling.

3.4 TOUCHUP COATING

A. Clean field welds, splices, and abraded coated areas and field-apply according to SSPC-PA 1 and coating manufacture's recommendations. Use coating paint and apply same number of coats as specified for original coating.
   1. Apply touchup coating before driving piles to surfaces that will be immersed or inaccessible after driving.

3.5 DISPOSAL

A. Remove withdrawn piles that are not re-useable and cutoff sections of piles from site and legally dispose of them off Owner's property.

END OF SECTION

SECTION 35 42 34.30

TIEROD ANCHORS

PART 1 GENERAL

A. Summary
   1. This specification establishes the material, fabrication, handling and testing of Permanent Threaded Reinforcing Bar Tie-rod Anchors.

B. Related Sections
   1. Section 03 10 00 – Concrete Formwork
   2. Section 03 20 00 – Concrete Reinforcement
   3. Section 03 30 10 – Reinforced Cast-in-Place Concrete
   4. Section 03 35 00 – Concrete Finishes

1.02 PRICE AND PAYMENT PROCEDURES

A. Measurement and Payment
   1. A Bid Item has been provided for **Tierod Anchors**. Measurement will be by each individual item acceptably completed. The work to be performed under this item shall consist of furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing the tie-rods (including stressing), complete in place, as shown on plans, as specified in these special provisions, and as directed by the Engineer.
      a. Item includes pavement removals, excavation, backfilling and dewatering.
      b. Item includes constructing continuous reinforced concrete beam.

1.03 REFERENCES

A. ASTM Standards
   1. ASTM A615 "Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement".

B. Other Standards
   1. "Guide Specification for Post-Tensioning Materials and Rock and Soil Anchors"; Post-Tensioning Manual, 5th Edition.

1.04 SUBMITTALS

A. The Contractor shall furnish evidence that they have been engaged in successful installation, supply and testing of similar projects for at least five years.

B. The Contractor shall also submit the following samples and date:
   1. One five-foot length of anchor having Corrosion Protection System (CP) indicated on the drawings.
   2. Certified mill certifications for tie-rod and bearing plate steel.
      a. A shop drawing detail made by Williams Form Engineering Corp. or approved equal with the following information:
         1) Plan, Section, and Elevation details.
         2) Corrosion protection system used.

3) Anchorage (bearing plate).
4) Drilled or formed hole size.
5) Any revision to structure details necessary to accommodate the tie-rod system intended for use.
6) Total length of the tie-rod.
7) The grout mix design and procedures for placing the grout.
8) Thread bar physical properties, maximum design, test and lock-off load.

1.05 QUALITY ASSURANCE

A. Tie-rod Manufacturer
   1. Tie-rod shall be corrosion protected as manufactured by Williams Form Engineering Corp. or approved equal.
   2. The anchor shall be manufactured according to this specification and approved shop-drawing details made by Williams Form Engineering Corp. or approved equal.

B. After shop drawing approval, the Engineer must approve any detail modifications.

C. Refer to Section 01 41 00 for Special Inspection Requirements for Concrete Reinforcement for Inspection of Tierod Anchors.

PART 2 PRODUCTS / MATERIALS

2.01 MATERIALS

A. Tie-rod Steel:
   1. The tie-rod steel shall be Threaded Reinforcing Bar, Grade 75 ksi conforming to ASTM Designation ASTM A-615. Minimum yield stress to be 75 ksi. Minimum ultimate stress to 100 ksi at 7 percent elongation within 8-inch length.

B. Anchorages and Splices:
   1. Splices and anchorages shall be capable of developing 100 percent of the ultimate tensile strength of the pre-stressing steel and shall conform to the static strength requirements of the PTI "Guide Specification for Post-Tensioning Materials".
      a. A Williams Form Engineering Anchor Nut or approved equal shall fit into the countersunk hole in the bearing plate. Anchor nuts shall be heavy-duty type with an integral spherical seat, as per thread bar manufacturer's specifications.

C. Bearing Plate Criteria:
   1. The bearing plate shall be fabricated from mild steel conforming to ASTM A36 and shall effectively distribute the design force to the supporting concrete or structural steel element.
   2. Unless specified, bearing plate dimension shall be designed for 100 percent of the minimum ultimate tensile strength (UTS) of the pre-stressing steel. The concrete or structural steel support bearing stress shall not exceed allowable limits shown in the contract specifications and drawings. Bending stress of the bearing plate shall not exceed specified allowable yield strength (FY) of the steel material.

D. Bearing Plate Assembly:
   1. The bearing plate shall be fabricated from mild steel conforming to ASTM A36.

E. Continuous Reinforced Concrete Beam:
   1. See Section 03 20 00 – Concrete Reinforcement for products.

2. See Section 03 30 10 – Reinforced Cast-in-Place Concrete for products.

PART 3 EXECUTION

3.01 PRODUCT HANDELING AND STORAGE

A. Handling, shipping, and storage shall be such that the material is properly identifiable and protected against mechanical damage, corrosion, chemical attack, and dirt. Materials stored at the site shall be placed above ground on a well-supported platform and covered with plastic or other approved material.

3.02 TIE-ROD INSTALLATION

A. The tie-rod anchor installation method selected by the Contractor shall be sufficient to achieve the loadings specified by contract plans. Tie-rod shall be inserted in such a manner that they are not damaged, and the corrosion protection remains intact. Bearing plate at each end should be placed normal to tie-rod axis. Couplers will be used as shown on the shop drawing details.

3.03 TIE-ROD STRESSING

A. Tie Rods are not required to be pre-stressed and can be installed to a snug-tight fit.

3.04 CONTINUEOUS REINFORCED CONCRETE BEAM

A. See Sections 03 10 00, 03 20 00 and 03 30 10 for execution and as modified herein:
   1. Joints are allowed, at the discretion of the Contractor, to prevent a finished element without unacceptable drying shrinkage within casting lengths.
   2. Normal lap lengths are acceptable with cold joints.
   3. Expansion joints are not included with this finished cast beam as it is to be integral with the existing upland crane rail in the finished condition.

END OF SECTION

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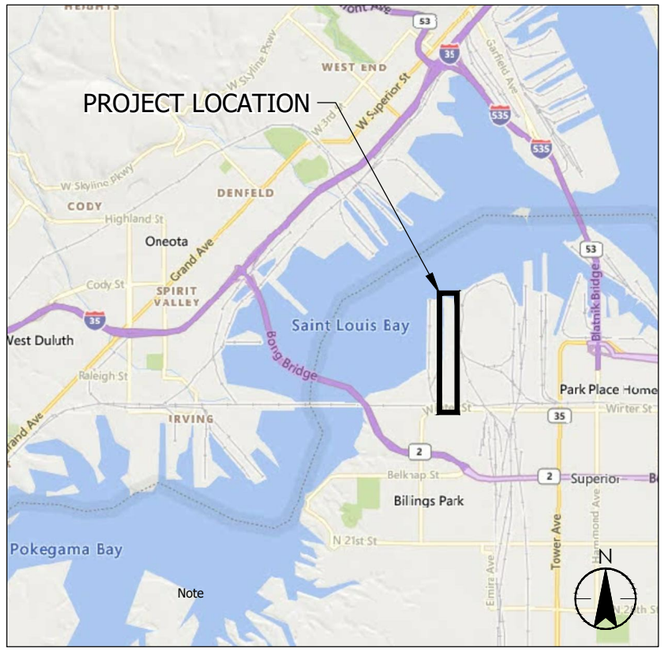
C. REISS DOCK

C. REISS COMPANY, LLC

ST. LOUIS BAY, SUPERIOR, WISCONSIN

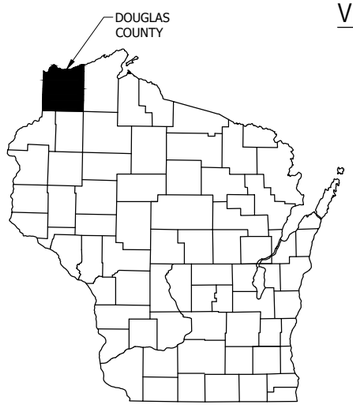


VICINITY MAP

NO SCALE

LOCATION MAP

NO SCALE



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CIVIL PLANS

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C0.01-C0.04	EXISTING CONDITIONS AND DEMO
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AB102	MEZZANINE FLOOR PLAN
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MECHANICAL

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M402	ENLARGED STRUCTURAL PLANS
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M502	SECTIONS & DETAILS
M503	SECTIONS & DETAILS

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CIVIL PLANS
G0.01 - C8.03

WISCONSIN — BRUCE P. PAULSON — A-6354 — ST. PAUL, MN — ARCHITECT

CIVIL PLANS
BUILDING SHEETS
A001 - AB601
PLUMBING
P001 - P601

WISCONSIN — DANIEL F. WESTON — 42026-6 — MINNEAPOLIS, MN — PROFESSIONAL ENGINEER

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STRUCTURAL SHEETS
S001 - SB301

WISCONSIN — MICHAEL T. FITZPATRICK — E-44773 — ST. PAUL, MN — PROFESSIONAL ENGINEER

CIVIL PLANS
ELECTRICAL SHEETS
E0.01 - E6.01

WISCONSIN — SCOTT T. STEMPIHAR — E-40888 — SUPERIOR WI — PROFESSIONAL ENGINEER

RAILROAD PLANS
R001 - R602

WISCONSIN — LAURAN B. LARSON — E-28805 — EAU CLAIRE, WI — PROFESSIONAL ENGINEER

BULKHEAD WALL IMPROVEMENTS
M001 - M503

WISCONSIN — JEROMY L. REED — E-45580 — ST. PAUL MN — PROFESSIONAL ENGINEER

CIVIL PLANS
MECHANICAL
M001 - MB102

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

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TITLE SHEET

C. REISS DOCK
C. REISS COMPANY, LLC
ST. LOUIS BAY, SUPERIOR, WI

DATE OF ISSUANCE
MARCH 10, 2023

NO	REVISION	DATE
3	ADDENDUM	4-18-23

SURVEY	JN
DRAWN	AJR
DESIGNED	AJR
CHECKED	CJB
APPROVED	CMM
PROJ. NO.	193707141

SHEET NUMBER
G0.01

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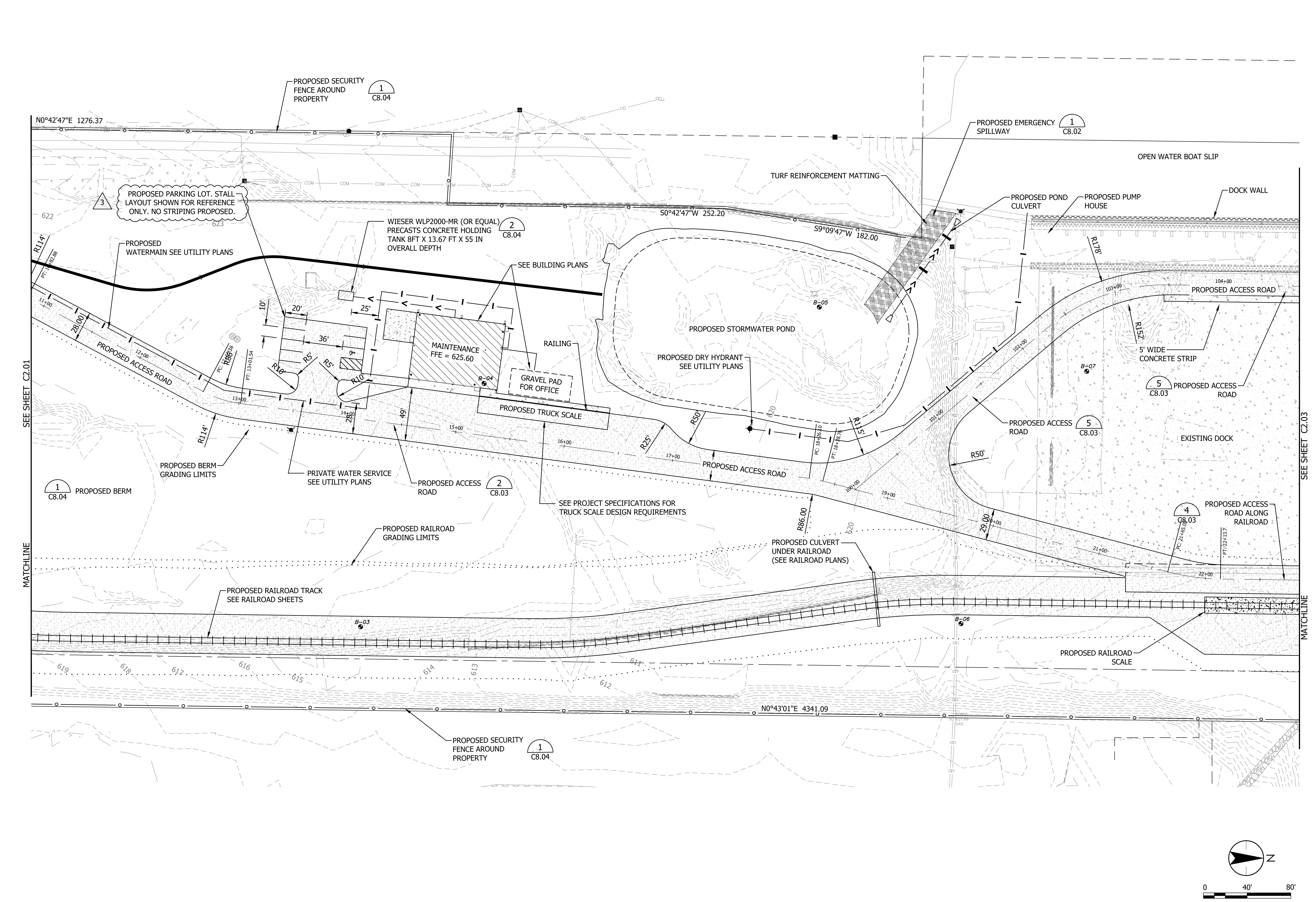

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SITE PLAN

C. REISS DOCK
C. REISS COMPANY, LLC
ST. LOUIS BAY, SUPERIOR, WI

DATE OF ISSUANCE		
MARCH 10, 2023		
NO	REVISION	DATE
3	ADDENDUM	4-18-23

SURVEY	JN
DRAWN	AJR
DESIGNED	AJR
CHECKED	AJR
APPROVED	AJR
PROJ. NO.	193707141

SHEET NUMBER
C2.02

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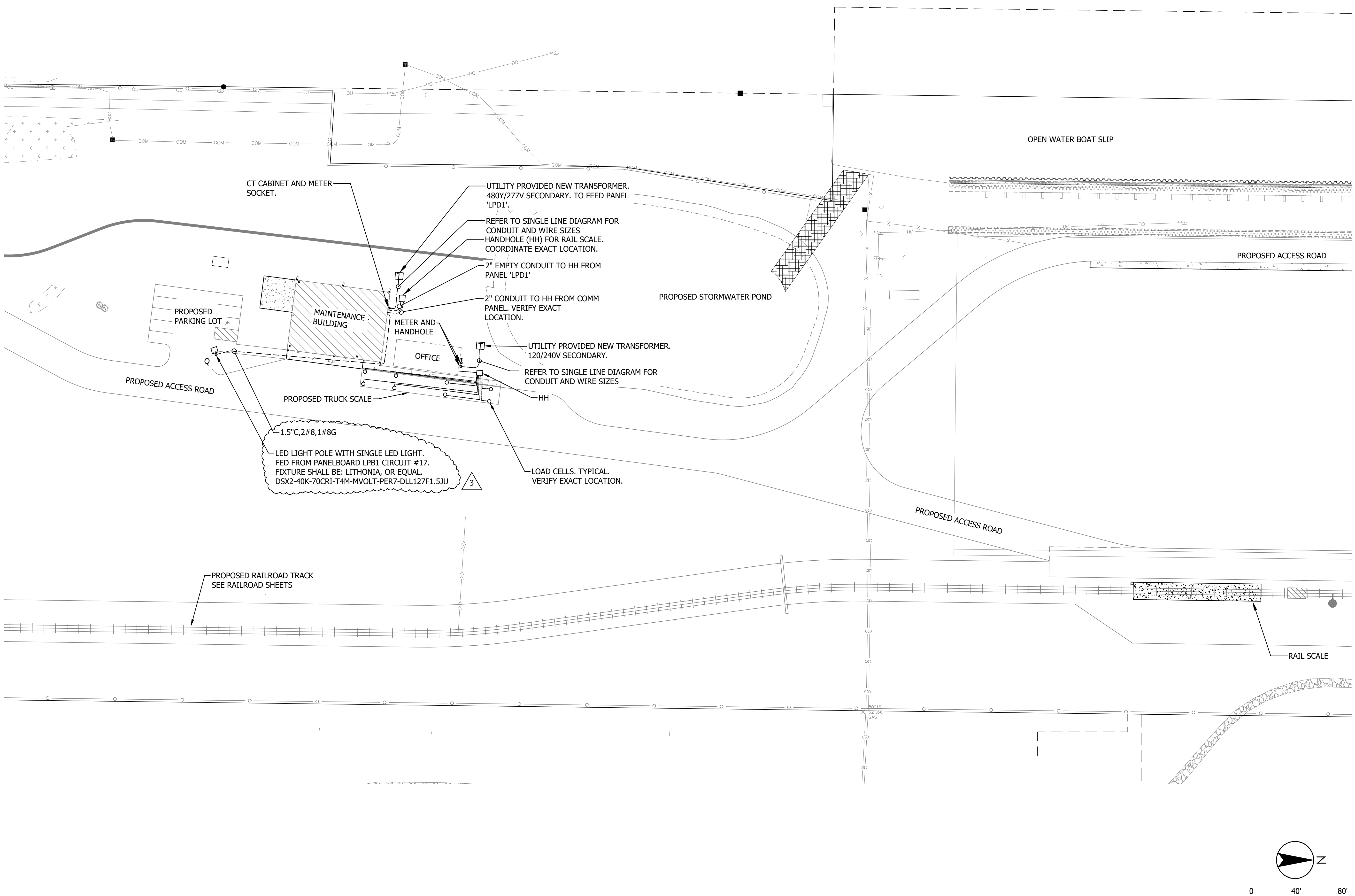

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ELECTRICAL SITE PLAN

C. REISS DOCK
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ST. LOUIS BAY, SUPERIOR, WI

DATE OF ISSUANCE		
MARCH 10, 2023		
NO	REVISION	DATE
3	ADDENDUM	4-18-23

SURVEY	JN
DRAWN	KEL
DESIGNED	KEL
CHECKED	MTF
APPROVED	MTF
PROJ. NO.	193707141

SHEET NUMBER
E101

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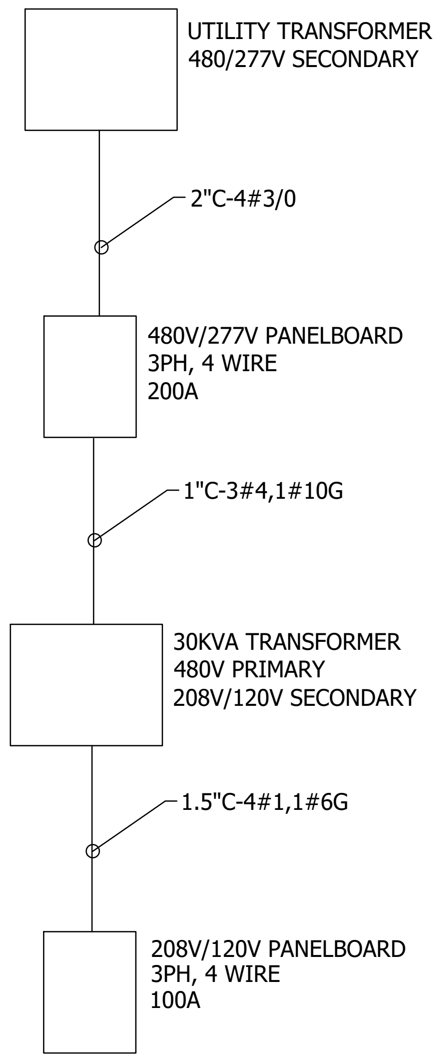
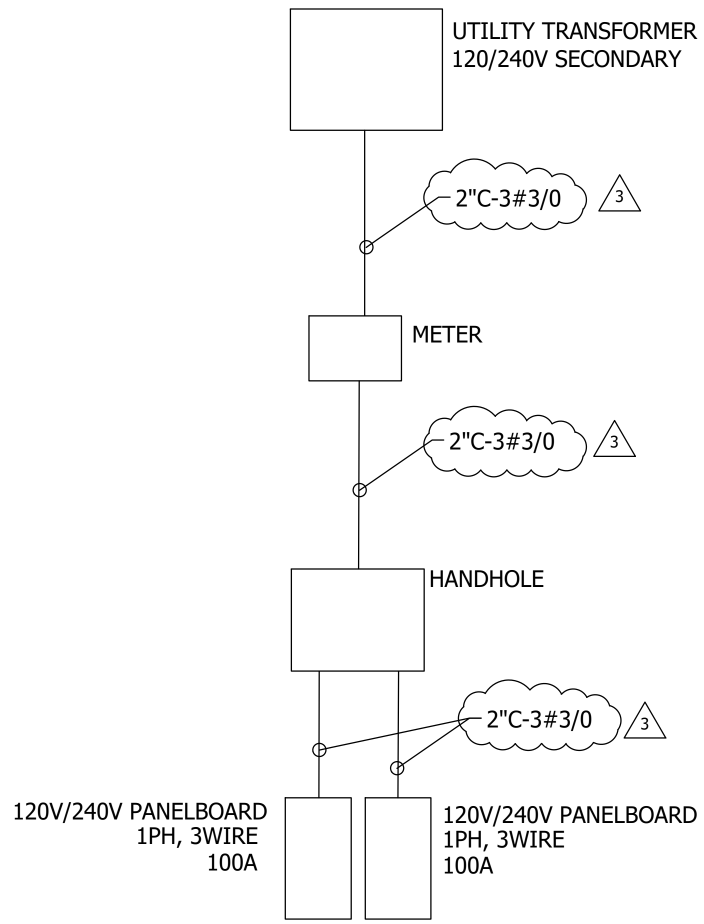


MAINTENANCE BUILDING SINGLE LINE DIAGRAM
NOT TO SCALE



OFFICE BUILDING SINGLE LINE DIAGRAM
NOT TO SCALE

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Name:	LPD1	Volts:	480/277	Mains Type:	MCB	Type:	SURFACE MOUNTED
Location:	MECH/ELEC ROOM	Phases:	3	Main Bus Rating:	225 A	A.I.C. Rating:	42 kA
Supply From:	UTILITY TRANSFORMER	Wires:	4	MCB Rating:	200 A	Mounting:	SURFACE
Serves:	MAINTANANCE BAY			Lugs:	NA	Enclosure:	NEMA 1

Notes:

CKT	Circuit Description	Trip	Poles	CB	A		B		C		CB	Poles	Trip	Circuit Description	CKT
1				--	4988						--	2	20A	SPARE	2
3	T1	100A	3	--			4620				--				4
5				--					5376		--	1	20A	SPARE	6
7				--	902						--	1	20A	SPARE	8
9	MAU-1	20	3	--			902				--	1	20A	SPARE	10
11				--					902		--	1	20A	SPARE	12
13	RAIL SCALE	60A	1	--	1500						--	1	20A	SPARE	14
15	SPARE	20A	1	--							--	1	20A	SPARE	16
17	SPARE	20A	1	--							--	1	20A	SPARE	18
19	SPARE	20A	1	--							--	1	20A	SPARE	20
21	SPARE	20A	1	--							--	1	20A	SPARE	22
23	SPARE	20A	1	--							--	1	20A	SPARE	24
25	SPARE	20A	1	--							--	1	20A	SPARE	26
27	SPARE	20A	1	--							--	1	20A	SPARE	28
29	SPARE	20A	1	--							--	1	20A	SPARE	30
31	SPARE	20A	1	--							--	1	20A		32
33	SPARE	20A	1	--							--	1	20A		34
35	SPARE	20A	1	--							--	1	20A		36
37	SPARE	20A	1	--							--	1	20A		38
39	SPARE	20A	1	--							--	1	20A		40
41	SPARE	20A	1	--							--	1	20A		42
				Total Load:	7.39 kVA		5.52 kVA		6.28 kVA						
				Total Amps:	26.68 Amps		19.94 Amps		22.66 Amps						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting (L)	0 VA	100%	0 VA		
Power (P)	16484 VA	100%	16484 VA	Total Conn. Load:	19.19 KVA
Receptacle (R)	0 VA	100%	0 VA	Total Conn. Load:	23.09 A
Kitchen (K)	0 VA	80%	0 VA	Total Est. Demand:	19.19 KVA
HVAC (H)	2706 VA	100%	2706 VA	Total Est. Demand:	23.09 A
A/C (A)	0 VA	100%	0 VA		
Power Equipment (E)	0 VA	100%	0 VA		

CB Legend (blank = circuit breaker):
G = GFCI S = Shunt Trip D = Switching Duty A = AFCI H = HID Rated C = HACR Rated † = Existing Circuit ‡ = Revised Circuit

Stantec

Name:	LPB1	Volts:	208/120	Mains Type:	MCB	Type:	SURFACE MOUNTED
Location:	MECH/ELEC ROOM	Phases:	3	Main Bus Rating:	225 A	A.I.C. Rating:	22 kA
Supply From:	T1	Wires:	4	MCB Rating:	100A	Mounting:	SURFACE
Serves:	MAINTANANCE BAY			Lugs:	NA	Enclosure:	NEMA 1

Notes:

CKT	Circuit Description	Trip	Poles	CB	A		B		C		CB	Poles	Trip	Circuit Description	CKT
1	MAINTANANCE BAY LIGHTING	20A	1	--	500	500					--	2	20A	MAINTENANCE SPECIAL RECEPS	2
3	RESTROOM /BREAKROOM/MECH/ELECH LTG	20A	1	--			500	0			--				4
5	EXTERIORLTG	20A	1	--					500	1572	--	1	20A	MAINTANANCE BAY GARAGE DOORS	6
7	MAINTANANCE BAY REPS	20	1	--	360	1572					--	1	20A	MAINTANANCE BAY GARAGE DOORS	8
9	BREAK /LUBE/ ELEC ROOM RECEPS	20A	1	--			720	900			--	1	20A	MAINTANANCE BAY REPS	10
11	BREAK /LUBE/ ELEC ROOM RECEPS	20A	1	--					720	1584	--	1	20A	EXHAUST FAN B1,B3,B5	12
13	FACP PANEL	20A	1	--	500	1056					--	1	20A	EXHAUST FAN B2,B4	14
15	UH-B1,B2,B3,B4,B5	20A	1	--			1500	500			--	2	30A	CU-B1	16
17	PARKING LOT LIGHTING POLE	20A	1	--					500	500	--				18
19	AHU-B1	20A	2	--	500	0					--	1	20A	SPARE	20
21				--			500	0			--	1	20A	SPARE	22
23	SPARE	20A	1	--					0	0	--	1	20A	SPARE	24
25	SPARE	20A	1	--	0	0					--	1	20A	SPARE	26
27	SPARE	20A	1	--			0	0			--	1	20A	SPARE	28
29	SPARE	20A	1	--					0	0	--	1	20A	SPARE	30
31	SPARE	20A	1	--	0	0					--	1	20A	SPARE	32
33	SPARE	20A	1	--			0	0			--	1	20A	SPARE	34
35	SPARE	20A	1	--					0	0	--	1	20A	SPARE	36
37	SPARE	20A	1	--	0	0					--	1	20A	SPARE	38
39	SPARE	20A	1	--			0	0			--	1	20A	SPARE	40
41	SPARE	20A	1	--					0	0	--	1	20A	SPARE	42
				Total Load:	4.99 kVA		4.62 kVA		5.38 kVA						
				Total Amps:	41.57 Amps		38.50 Amps		44.80 Amps						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting (L)	2000 VA	100%	2000 VA		
Power (P)	3644 VA	100%	3644 VA	Total Conn. Load:	14.48 KVA
Receptacle (R)	3200 VA	100%	3200 VA	Total Conn. Load:	40.23 A
Kitchen (K)	0 VA	80%	0 VA	Total Est. Demand:	14.48 KVA
HVAC (H)	5640 VA	100%	5640 VA	Total Est. Demand:	40.23 A
A/C (A)	0 VA	100%	0 VA		
Power Equipment (E)	0 VA	100%	0 VA		

CB Legend (blank = circuit breaker):
G = GFCI S = Shunt Trip D = Switching Duty A = AFCI H = HID Rated C = HACR Rated † = Existing Circuit ‡ = Revised Circuit

Notes:

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ST. LOUIS BAY, SUPERIOR, WI

DATE OF ISSUANCE
MARCH 10, 2023

NO	REVISION	DATE
3	ADDENDUM	4-18-23

SURVEY	
DRAWN	
DESIGNED	
CHECKED	
APPROVED	
PROJ. NO.	193707141
SHEET NUMBER	

Plot Date: 04/18/2023 - 5:19pm
Drawing name: V:\1937\active\193707141\05_report_deliv\drawings_design\cad_fig\193707141-E601.dwg
Xrefs: 193707141-BDR