Addendum #4 to SJPC-22-49 (BMT Rail Rehabilitation): August 29, 2022

Answers to Potential Bidders' Questions

Q1. Regarding Insurance, please advise whether the scope of work requires: Builders risk coverage, Owners Protective and Installation Floater

A1. This project does not require Builders risk coverage or an Owners Protective and Installation Floater.

Q2. Please advise whether work will involve any hazardous materials or environmentally regulated substances.

A2. SJPC does not have any available records indicating there is a presence of hazardous materials or environmentally regulated substances.

Q3. Are there any test pits or existing As-Built drawings that might indicate existing asphalt depth?

A3. Test pits have not been performed nor are there any available as-builts to determine pavement depths.

Q4. As per Addendum #1 the contract is to be complete within 540 calendar days (approx. 18 months) from award. We spoke with one of the special trackwork suppliers and they advised that the minimum lead time on the 4 double tongue turnouts and the crossing diamonds will be 12 months and could be as much as 18 months. We expect similar lead times from all suppliers and will have a more definitive answer later in the bid process once they have had time to review the plans and specs and consult with their engineers and fabrication shops. Based on this the phasing as shown and the final completion date from award cannot be met. Please advise how the special trackwork lead time will be addressed in the contract.

A4. The time for completion has been changed to read 660 calendar days from award.

Q5. Please provide historical drawings or shop drawings for the existing crossing frogs to be replaced. There isn't enough information on the contract documents to obtain accurate pricing.

A5. There are no existing drawings on file. Contractor to make all measurements to duplicate the existing crossing frogs. A new drawing has been issued T-27 that shows the design intent of the new frog.

Q6. Reference Track Drawing T-2 – There are notes in the vicinity of the separation of Berth 3 & 4 which indicate that all existing track on Berth 4 is wood tie on ballasted track and all existing track to the north and east on Berths 2 & 3 are direct fixation including the turnouts. Please confirm.

A6. The location, limits, details, and methods of construction of existing track as depicted on the project drawings were developed based on information provided by the SJPC in the form of record documents consisting of historical plans and drawings that were reviewed by the Engineer. This information was supplemented with other information collected during field inspections and interviews with SJPC personnel at the Balzano Marine Terminal conducted by the Engineer during the winter of 2021 and spring of 2022. The compiled information is believed to be accurate as of the date of preparation of these plans however, neither the SJPC or the Engineer guarantee 100% accuracy of this information and assume no liability resulting from any such inaccuracies, inconsistencies, errors or omissions relating to information contained in or referenced by the project documents relative to the location, limits, details, and methods of the existing track.

Q7. Please advise regarding the RFI's below on the Proposed Material Plans:

a. Drawing C-401 – The West and East Berth Tracks are shown in concrete from the south limit of work to a point just north of the new double tongue turnout #1.
    i. What is the station of the north limit of the concrete shown on the plan?
    ii. What is the proposed surface material from this ending station to double tongue turnout #2. Both tracks are to be removed and reinstalled.
b. Drawings C-402 thru C-404 – The majority of the tracks on these plans indicate track in asphalt only. There is no detail on Drawing T-20 for track in asphalt only. Please provide.

A7. Refer to nomenclature as defined on sheet G-02 for delineation of "Limits of concrete for proposed fully embedded track" and as defined by the long dash short dash linestyle within limits depicted on sheets T-1 thru T-3.

1. **Specific track construction methods depicted by Details 2/T-26 and 3/T-26 shall apply to locations where demolition and replacement of existing concrete embedded track and tongue and mate turnouts fall on the pile supported concrete deck portion of the Marine Terminal Ship Berths. Refer to sheets EX-0 to EX-3 for further information.**
    i. Track construction methods depicted by Detail 3/T-20 shall be applicable for construction of concrete embedded track and turnouts at locations OTHER than on the pile supported concrete deck portion of the Marine Terminal Ship Berths. Refer to sheets EX-0 to EX-3 for further information.

2. **Track indicated to be constructed with Bituminous Concrete (Asphalt) pavement surface shall be in accordance with detail 1/T-20 or 2/T-20 for all other locations. At all locations where track construction transitions from fully embedded concrete construction to ballasted construction, details 1/T-23 and 2/T-23 shall apply.**

Q8. Drawing T-20 – There are 4 typical cross sections consisting of ballasted track on wood ties, ballasted track on steel ties, concrete embedded track on steel ties and concrete embedded track on fabricated jacking ties. Please provide the track locations and stationing of the various types of installations.

A8. Refer to Answer 16 for limits and details of track to be constructed fully embedded in concrete. Contractor may propose to construct track fully embedded in concrete as noted above where applicable with either option of design of steel crosstie as indicated in detail 3/T-20 but should not mix the two configurations along any given portion of track alignment.

Q9. The specification for the Restraining Rail requires they be precurved to match the running rail. There is no mention of a minimum radius for precurving of the running rail. Please advise.

A9. Limits of track alignment requiring installation of precurved rail are depicted on drawing T-3 between Sta. -1+86.03 and Sta. 1+60.00. Please note the negative beginning station.

Q10. On Transit Shed #1, what is the composition of the roof that is to be disposed of? Is it possible it is hazardous material? Can SJ Port do testing? How would the contractor be reimbursed for removal and disposal?

A10. The canopy roof that is to be removed is corrugated metal sheeting.

Q11. Plan Sht. S-103 Section 6A shows a gutter as “Optional”. Should we include it in our price?

A11 Gutter is to be eliminated.

Q12. Please indicate the locations of the two contract hydrant resets;

A12. On sheet C-203, the Storage Building and the island between Shed #2 and Building C each have a removed fire hydrant (total 2). On sheet C-203, new fire hydrants will be installed at Building B and Building C (total 2).

Q13. Regarding the OH Doors, the Bid-form indicates in Item 20 a Qty. of 1 door. Plan Sheet S-101 Section 1 shows 2 doors to be installed. Plan Sheet E001 Note 6 calls for hook up to two doors. Please clarify.

A13. Bid includes 2 new doors at Shed one and the bid alternate included 2 new doors at Building A. Note 6 on E-001 indicates that similar electrical requirements are to be provided at both Shed 1 and Building A.

Q14. Sheet S103 Section 6 calls for the canopy to be “Shop primed and painted”. Spec Section 051200.2.3 calls for blast cleaning and galvanizing. There is however no paint spec provided. Please provide a paint spec.

A14. Paint Specs for structural steel has been added to Section 099000 of the specification.

Q15. Plan Sheet S104 Section 13 shows an alternate detail to be used if the Loading Dock piles are rotted. Please set up an alternate pay item in the event that detail is to be used.

A15. Alternate pay item has been created.

Q16. In Section 011000 bullet 8 on page 3, it states that the contractor is to design, fabricate, supply, and install two (2) Flange Bearing Solid Manganese Steel 132RE to 135CR rail crossing frogs for direct fixation installation to replace those removed as noted in Item 4 above.

Please provide an as-built sketch, detail or shop drawing showing the angles and dimensions of the existing/proposed rail crossing frog.

A16. Refer to answer to Question 5.

Q17. Please provide the size and type of each proposed storm pipe run and invert elevations for each proposed/existing drainage structures (manholes/inlets/headwalls/outfall), as shown on plans sheets C-201 through C-206. This work cannot be figured without all of this information.

A17. Existing drainage information has been provided. Contractor to determine proposed storm pipe sizes during construction based on downstream and connecting existing pipe sizes. Storm system is being treated as replaced in-kind with the ductile iron equivalents.

Q18. Please provide the size and type of the existing pipes to be abandoned. Having this information is critical for determining the flowable fill quantity.

A18. Existing drainage information has been provided.

Q19 Will the existing water main be shut down for the tie-ins or are wettaps required?

A19. Water will be shut down, no wet taps will be allowed. Shut down and duration to be coordinated SJPC.

Q20. Please provide information regarding the existing utilities, such as their size, locations and depth. Having this information is critical to figuring proposed utility and drainage runs.

A20. Existing drainage information has been provided.

Q21. It appears there are missing proposed pipe runs from on plans sheet C-202 in between existing Inlet 12, 13 and the outfall. Please confirm.

A21. Existing drainage information has been provided.

Q22. Please provide a detail for the connection of proposed pipe runs into exiting pipe. Plan sheet C-201 through C-202 have multiple instances of connecting to the existing drainage pipes with various size and types of proposed pipes without a detail on the connection.

A22. Plan sheets have been modified to include a doghouse manhole or saddle connection. Details have been added for each.

Q23. Please identify on the plan sheets the pipe runs and structures to be inspected and cleaned pursuant to specification 330130.11. Additionally, please provide bid items with the length/size of pipe and size/type of structures to be cleaned.

A23. Refer to specification section 330130.11, 1.7 for details defining limits.

Q24. Do the existing headwalls/outfalls draining into the Delaware River have flap gates or any means of preventing the river water from entering the pipes? If not, how do we prevent river debris from clogging the pipes after they are cleaned.

A24. There are existing flap gates on the openings to the river.

Q25. Please provide a detail and method of payment if 18” of vertical separation cannot be maintained between the proposed and existing utility.

A25. Each case is utility dependent, contractor to notify engineer of conflicts.

Q26. Please provide soil boring logs detailing the existing soils and groundwater elevation within the site.

A26. Soil boring logs are not available.

Q27. On the Additions and Deletions portion of the Bid Form, Item A has a quantity of “–". Please confirm if we are to provide a unit price for this work. If we are to provide a unit price, please change this quantity to 1.

A27. This has been updated to show a Quantity of 1.

Q28. Will IQ rail be acceptable?

A28. IQ (Industrial Quality) Rail may be acceptable for installation in lieu of rail conforming to Project Specification Section 341110, Part 2.1, A, 1 for Standard Strength Carbon Steel rails, and subject to the following conditions:

1. A metallurgical analysis shall be provided for each heat of steel used in the manufacture of all IQ grade rail supplied.
2. Steel shall be hot rolled from blooms cast by a continuous casting process.
3. All rails shall be vacuum degassed and/or control cooled in accordance with current AREMA specifications.
4. All rails shall be ultrasonically tested for internal imperfections subject to the provisions listed in current AREMA specifications and must meet those requirements. Results of tests to be provided.
5. The chemical analysis of steel used in the manufacture of the IQ rails shall be within the following limits (%):
    a. Carbon: 0.65 – 0.92
    b. Manganese 0.65 – 1.30
    c. Phosphorus Max. 0.040
    d. Sulfur Max. 0.050
    e. Silicon 0.10 – 0.70
    f. Chromium Max.0.40
    g. Vanadium Max. 0.15

IQ rails are not acceptable for use in fabrication or as components of products furnished in accordance with the requirements of Specification Section 341123 - Special Trackwork.

Q29. Are all turnouts getting embedded in concrete? If not can timber tie package be used?

A29. All turnouts to be supplied and installed are to be fully embedded in concrete.

Q30. In the revised Addendum #2 Technical Specifications, Section 334200-Part 4 A, 341129-1.3, indicates that storm water conveyance and track work will be measured and paid for. However, the bid form only has lump sum item for this work.

Please clarify if these items will be measured and paid for.

A30. This item will be lump sum as there is no additional conveyance piping anticipated.

Q31. Are the proposed storm sewer castings required to be ductile iron or cast iron?

A31. Ductile iron airport castings. Details and specification has been updated accordingly.

Q32. We have the following questions regarding the track work detailed on plan sheets T-1 through T-26:

- Are steel or wood ties required? If there is a mix of steel and wood ties, please provide the location of the desired ties on a plan view within the contract documents.
- Please provide spacing required for the desired tie.
- Does the project currently have any grooved rail installed? If so, please identify the location on the plan documents. As well as any proposed locations.
- Please provide rail size for existing running rail and crane rail.

A32. Steel crossties are required for all track to be fully embedded in concrete and as defined by limits and locations shown on drawing sheets T-1 thru T-3.

Crosstie spacing for track to be constructed at locations in accordance with details 1/T-20 and 2/T-20 shall be as follows:

Tangents	24”
Curves $< 4^o$	24”
Curves $\geq 4^o \leq 12^o$	22”
Curves $> 12^o$	20”

The contractor may choose to construct track incorporating treated timber crossties in accordance with detail 1/T-20, or with steel crossties in accordance with detail 2/T-20, at locations where the construction of track fully embedded in concrete is not specifically called out on the plan sheets. However, intermixing of treated timber and steel crossties is prohibited.

Some portions of existing track slated to be removed were constructed utilizing Grooved (Girder) rail. New track construction does not require use of Grooved rail.

Existing record documents referenced on Drawing sheets EX-1 and EX-2 indicate weights and locations of existing rail siding and STS Crane rail sections.

Q33. To clarify a previous question (RCC RFI #1 - 11AUG22) regarding existing Storm Pipe diameter, please note for example on plan sheet C202 that the run of pipe between Inlet #s 12 and 13 is shown as 10” ACP. But that is the only notation on those runs of pipe. So are we to price the CLSM quantity as to fill all the pipe as 10” diameter? Similarly, Sheet C203 is also unclear about both the new and the existing pipe (to be removed) diameters.

A33. See response to #17 above.

Q34. Do Shed #1 and Bldg A both have full access available inside for trucks and equipment?

A34. Shed 1 and A- Building are in operational use. For required work to be performed in the buildings, coordination with the SJPC will be required.

Q35. Is rail car delivery acceptable? If so, please advice on the railroad interchange / yard to use.

A35. Yes, rail car delivery is acceptable using Conrail, Pavonia Yard, Camden, NJ. Loads shall be unloaded immediately.

Q36. Turnout – Would a foreign frog with Domestic Rail be acceptable? (Lead times on Domestic Frogs are out over a year)

A36 As long as material conforms to the project specs.

Q37. Are Hook Twin Tie plates requires under frog and behind heel?

A37 Twin Hook Tie Plates are used in conjunction with wood switch ties. Wood switch ties are not acceptable for use with turnouts to be installed for this project.

Q38. What kind of switch rod shall be used? Vertical or std 1-1/4 x 2-1/2" rods? Insulated or Non

A38. Refer to Specification 347205, Part 2.1H for applicable switch rods to be used with Flush Mount Parallel Throw Switch Stands and Double Tongue turnouts.

Q39. The concrete grade crossing found on plan sheet T-7 shows it to be 80 TF long. Please confirm that there is nothing additional required beyond the immediate limits of this crossing.

A39. Scope includes ancillary work required to provide a complete installation including but not limited to the following:

1. Removal and replacement of any existing adjacent pavement beyond the immediate limits of the new concrete panels as necessary to permit installation and compaction of new subgrade material in accordance with the track section shown on the plans;
2. Removal of any existing adjacent length of rail, less than 18 feet in length to the next nearest existing bolted rail joint, on either rail at either end, beyond the limits of

proposed concrete panels, that remains following removal of existing track necessary to perform the installation.

3. Cropping a sufficient length of the end(s) of the adjacent bolted rail joint, to remove the bolt holes in accordance with the Specifications.

Supply and installation of any required additional length of new 136#RE CWR to replace the combined lengths of existing rail removed as noted above, including all necessary additional welding required in accordance with the project Specifications.

Q40. Please confirm that the turnout at Sta. 2+45 on sheet T-3 is to have the diverging side to be removed.

A40. Existing Turnout at Station 2+45 on sheet T-3 is to remain. Contractor to clean and adjust as noted on drawing.

Q41. On sheet C-401, there is an approximate 570 TF gap between concrete track at West Berth and East Berth. Please advise the scope of work for the track within this gap.

A41. The contractor may choose to construct that section of track incorporating treated timber crossties in accordance with detail 1/T-20, or with steel crossties in accordance with detail 2/T-20, where the construction of track fully embedded in concrete is not specifically called out on the plan sheets. However, intermixing of treated timber and steel crossties through the limits of that contiguous section of track is prohibited.

Q42. Although the legend provides hatching to indicate ballasted track, we cannot locate any such hatching, namely, no ballasted track appears to be required. Please either confirm our understanding or direct us to where ballasted track is required.

A42. Stated legend could not be located.

Q43. Section 033000 page 8 states that fiber reinforcement shall be used in all concrete embedded track, however Drawing Sheet T-20 shows rebar being required. Please clarify the reinforcing required.

A43. Both types of reinforcing are to be included in all concrete embedded track.

Q44. Stormwater Notes on sheet C-201 to C-206 Note 1 states “Where new stormwater pipes are to be installed the contractor is to field verify existing down stream stormwater pipe size. New stormwater pipe to be installed is to match the downstream size.” The Contractor is not going

to be able to field verify prior to the bid for pipe sizing and the plans do not have any existing sizes shown. Can pipe sizing be provided so Contractor can determine the correct cost to furnish and install the new drainage pipe?

A44. Existing drainage information has been provided.

Q45: Does the existing track consist of any steel ties?

A45: This is unknown.

Q46: Will owner allow Timber Ties per AREMA specs?

A46: Yes, see responses to previous questions.

Q47: Please confirm if the existing track embedded in concrete in front of transit shed #2 and shed #1 is getting replaced with track embedded in asphalt or concrete?

A47: Embedment into asphalt should be included in the base bid. Price for embedment into concrete shall be provided as an Add Alternate.

Q48: Reference Plan Sheet C203 – Is the downspout piping and the storm pipe installation and removal in front of Bldg. A to be performed if the Alternate track work is not chosen?

A48: Downspout piping and the storm pipe installation and removal in front of Bldg. A will only be performed if the Alternate A-Building track work is included. Therefore, do not include this work in the base bid.

Q49: Plan Sheet T-24 shows the precast grade crossing at 8 ft width. Spec section 341134 calls for the width to be between 10 and 12 LF. Please clarify.

A49: Use a minimum of 10-ft wide panel.

Q50: Regarding plan sheet T-24 Detail 2, please advise where this detail will be used and the size of the utilities. If the locations cannot be determined, please include this work in an allowance or take out of the base bid.

A50: This detail is to be used wherever there is a pressurized pipe crossing under the track alignment. Know crossings have been provided on the drawings and supplementary attachments. See Specification 341193.13 for further information.

Please see the attached revisions to the bid specifications:

- 000000 - Schedule of Qtys - Bid Addendum
- 099000.00 - Painting and Coating - 2022-08-24 Bid Addendum
- 334200.00 - Stormwater Conveyance -2022-08-24 Bid Addendum
- Civil - 2022-08-24 Bid Addendum
- S-103 - 2022-08-24 Bid Addendum
- T-13
- T-14
- T-27

SCHEDULE OF QUANTITIES, PRICES, AND TOTAL BID

Item No.	Quantity	Units	Bid Item	Unit Price	Total
1	1	LS	MOBILIZATION / DEMOBILIZATION	$	$
2	1	LS	SURVEY & LAYOUT	$	$
3	1	LS	MISCELLANEOUS DEMOLITION	$	$
4	1	LS	REMOVAL OF EXISTING PAVEMENT, CONCRETE AND RR TRACK FOR CONSTRUCTION OF NEW RR TRACK ON SOIL	$	$
5	1	LS	SELECT CONCRETE DEMOLITION AND REMOVAL OF RAIL TRACK ON DOCK	$	$
6	1	LS	EXCAVATION AND GRADING FOR PLACEMENT OF NEW TRACK ON SOIL	$	$
7	1	LS	PLACEMENT OF NEW RR TRACK ON SOIL, INCLUDING SUB-BALLAST, BALLAST, TIES & NEW RAILROAD TRACK	$	$
8	1	LS	PLACEMENT OF NEW RR TRACK ON DOCK EMBEDDED IN CONCRETE	$	$
9	4	EA	NO. 8 DOUBLE TONGUE TURNOUT	$	$
10	1	LS	TRACK CONCRETE TRANSITION SLAB AND ENCASEMENT	$	$
11	1	LS	PRECAST GRADE CROSSING	$	$
12	2	EA	CRANE RAIL CROSSING FROGS	$	$
13	1	EA	RAIL TRACK BUMPER RELOCATION	$	$
14	2	EA	RAIL DERAILS	$	$
15	1	LS	REMOVE & ABANDONED STORM WATER INFRASTRUCTURE	$	$
16	1	LS	STORMWATER INFRASTRUCTURE INCLUDING EXCAVATION, INLETS, STORM PIPING AND ASSOCIATED WORK	$	$
17	2	EA	REMOVE AND RELOCATE EXISTING FIRE HYDRANTS & NEW BOLLARDS	$	$
18	1	LS	PAVING, INCLUDING GRADING, SUB-BASE, BASE COURSES AND WEARING COURSE	$	$
19	1	LS	REMOVE EXISTING LOADING DOCK & CONSTRUCT NEW LOADING DOCK AT SHED 1	$	$
20	2	EA	ROLL UP DOORS, INCLUDING REQUIRED DEMOLITION FOR NEW DOORS	$	$
21	1	LS	ELECTRICAL AT SHED 1 FOR DOORS AND LIGHTS	$	$
22	1	LS	CONCRETE SLABS AT DOORS IN SHED 1	$	$
23	1	LS	REMOVAL OF ROOF DECKING AT SHED 1	$	$
24	1	LS	CREDIT FOR SALVAGE VALUE OF EXISITNG RAIL	$	$

TOTAL BID	**$**

SCHEDULE OF QUANTITIES, PRICES, AND TOTAL BID

NOTES:

1. All Bid Items shall include the descriptions as defined within Section 012000 - Price and Payment Procedures.
2. The total of the Items above shall constitute the Total Bid for the Contract.
3. The following Suplementray Bid Items are only applicable for changes to the Scope of Work and to not constitute part of the Total Bid amount.

ADDITIONS AND DELETIONS					
Item No.	**Quantity**	**Units**	**Supplementary Bid Item**	**Unit Price**	**Total**
A	1	LS	NEW TRACK ALIGNMENT TO BUILDING A, INCLUDING IMPROVEMENTS IN BUILDING A	$	$
B	2	EA	ROLL UP DOORS, INCLUDING REQUIRED DEMOLITION FOR NEW DOORS AT BUILDING A	$	$
C	2	EA	CANOPY AT BUILDING A	$	$
D	1	LS	ELECTRICAL AT BUILDING A FOR DOORS AND LIGHTS	$	$
E	1	LS	CONCRETE SLABS AT DOORS IN BUILDING A	$	$
F	1	EA	RAIL TRACK BUMPER RELOCATION AT BUILDING A	$	$
G	1	LS	CREDIT FOR NOT EMBEDDING TRACK IN ASPHALT	$	$
H	1	LS	EMBED TRACK IN PCC PAVEMENT RATHER THAN ASPHALT	$	$
I	10	EA	ALTERNATE PILE REPAIR DETAIL PER SHEET S104 SECTION 13	$	$

SECTION 099000 – PAINTING AND COATING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Surface preparation and field application of paints, and other coatings.

B. Related Requirements:

1. Section 321723 - Pavement Markings: For traffic paint used for parking area stall delineations and other pavement marking.

2. Section 323913 – Bollards and Bollard Covers: For paint used on steel pipe protection bollards for yard hydrants and fire hydrants.

3. Section 331419 – Valves and Hydrants for Water Utility Service: Color coding and painting of Fire Hydrants and Yard Hydrants.

1.2 DEFINITIONS

A. Refer to ASTM D16 for definitions of terms used in this Section.

1.3 REFERENCE STANDARDS

A. American Society of Testing Materials (ASTM): Conform to ASTM D16 for interpretation of terms used in this Section.

B. National Paint and Coatings Association (NPCA): Guide to U.S. Government Paint Specifications.

C. Painting and Decorating Contractors of America (PDCA): Painting - Architectural Specifications Manual.

D. Steel Structures Painting Council (SSPC): Steel Structures Painting Manual.

E. ANSI A13.1: Scheme for Identification of Piping System.

F. OSHA safety color regulation.

1.4 SEQUENCING

A. Section 011000 - Summary: Requirements for sequencing.

1.5 SUBMITTALS

A. Section 013300 - Submittal Procedures: Requirements for submittals.

B. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Indicate VOC content.

1.6 QUALITY ASSURANCE

A. MPI Standards:

1. Comply with indicated MPI standards.

2. Products: Listed in MPI - Approved Products List.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Delivery:

1. Schedule delivery of materials at the site at such time as required for proper coordination of the work. Receive materials in manufacturer's unopened packages and bearing manufacturer's label.

B. Storage:

1. General: Store materials in a dry and properly ventilated separate structure not less than 50 feet - 0 inch from any other structure on the site. Adequately protect from damage and exposure to the elements.

2. Temperature: Maintain minimum of 45 degrees F and a maximum of 90 degrees F.

3. Fire Prevention: Take necessary precautions to prevent fire; remove paint-soiled rags and waste from building each day or store in metal containers with covers in the paint storage structure.

1.8 AMBIENT CONDITIONS

A. Section 015000 - Temporary Facilities and Controls: Requirements for ambient condition control facilities for product storage and installation.

B. Storage Conditions:

1. Minimum Ambient Temperature: 45 degrees F.
2. Maximum Ambient Temperature: 90 degrees F

C. Application Conditions:

1. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint manufacturer.
2. Do not apply exterior coatings during rain or snow, when relative humidity is outside humidity ranges, or when moisture content of surfaces exceeds those required by paint manufacturer.
3. Minimum Application Temperatures for Latex Paints: 45 degrees F for interiors and 50 degrees F for exteriors, unless otherwise indicated by manufacturer instructions.

PART 2 - PRODUCTS

A. PAINT, GENERAL

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.

2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

C. Materials:

1. Coatings:

a. Ready mixed, except field-catalyzed coatings.

b. Capable of drying or curing free of streaks or sags.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that surfaces are ready to receive Work as recommended by product manufacturer.

B. Examine surfaces scheduled to be finished prior to commencement of Work, and report conditions capable of affecting proper application to Architect/Engineer.

C. Test shop-applied primer for compatibility with subsequent cover materials.

3.2 PREPARATION

A. Prepare coatings as follows:

1. To soft paste consistency, capable of being readily and uniformly dispersed to homogeneous coating.

2. For smooth flow and brushing properties.

B. Defects:

1. Correct defects and clean surfaces capable of affecting Work of this Section.

C. Asphalt, Creosote, or Bituminous Surfaces Scheduled for Paint application:

1. Remove foreign particles to permit adhesion of finishing materials.

D. Concrete and Unit Masonry Surfaces Scheduled to Receive Paint Finish:

1. Remove dirt, loose mortar, scale, salt or alkali powder, and other foreign matter.

2. Remove oil and grease with solution of tri-sodium phosphate, rinse well, and allow to dry.

3. Remove stains caused by weathering of corroding metals with solution of sodium metasilicate after thoroughly wetting with water, and allow to dry.

E. Uncoated Steel and Iron Surfaces:

1. Remove grease, mill scale, weld splatter, dirt, and rust.

2. If heavy coatings of scale are evident, remove by wire brushing or by sandblasting.

3. Clean by washing with solvent.

4. Apply treatment of phosphoric acid solution, ensuring that weld joints, bolts, and nuts are similarly cleaned.

5. Spot-prime paint after repairs.

F. Shop-Primed Steel Surfaces:

1. Sand and scrape to remove loose primer and rust.

2. Feather edges to make touch-up patches inconspicuous.

3. Clean surfaces with solvent.

4. Prime bare steel surfaces.

G. Existing Work:

1. Extend existing paint and coatings installations using materials and methods compatible with existing installations and as specified.

3.3 APPLICATION

A. Comply with MPI - Architectural Painting Manual.

B. Do not apply finishes to surfaces that are not dry.

C. Apply each coat to uniform appearance.

D. Apply each coat of paint slightly darker than preceding coat, unless specified otherwise.

E. Finishing Protection Bollards

1. Section 323913 – Bollards and Bollard Covers includes requirements for paint and primer used on concrete filled steel pipe protection bollards for installation at yard hydrants and fire hydrants.

F. Restoration of Traffic Markings

1. Section 321723 - Pavement Markings, includes requirements for traffic paint used for restoration or replacement of pavement markings removed or rendered illegible as a direct or indirect result of Contractors activities.

2. Restore existing pavement markings following the completion of water line installation, including testing, backfill, compaction and repaving where installation occurred through existing pavements. Restoration shall include pavement markings on areas immediately adjacent to excavations or where existing pavement markings have been rendered illegible as a result of contractor’s activities.

G. Fire Hydrants and Sanitary Yard Hydrants

1. Section 331419 – Valves and Hydrants for Water Utility Service includes requirements for paint and color coding of Fire Hydrants and Sanitary Yard Hydrants.

2. Paint shop-primed hydrants.

3. Where manufacturer applied finishes have been damaged during handling or installation, repaint as follows;

   a. Where manufacturers applied finish color complies project specifications, prepare damaged surface area(s), reapply primer and paint affected area to match original finish color.

   b. Where manufacturer applied finish color does not meet specified color(s), prepare damaged surface area(s), apply primer to affected area, and apply finish color(s) to entire hydrant complying with project specifications.

4. Color-Coding:

   a. Color-code equipment according to indicated requirements.

H. Structural Steel

1. Paint color for all exposed structural steel shall be Sherwin William s Tircorn Black (SW 6258) or Owner approved equal.

2. General

   a. Slightly vary the color of succeeding coats. Do not apply additional coats until the completed coat has been inspected and approved. Only the inspected and approved coats of paint will be considered in determining the number of coats applied.

   b. Sand and dust between enamel coats to remove all defects visible to the unaided eye from a distance of five feet.

   c. On all removable panels and all hinged panels, paint the back sides to match the exposed sides.

   d. Prime all blasted surfaces as soon as possible within the same working day and before any visual rusting, blushing, or blooming occurs. Should any of these conditions develop before the paint is applied, these areas must be reblasted.

3. Drying

a. Allow sufficient drying time between coats. Modify the period as recommended by the material manufacturer to suit adverse weather conditions.

b. Oil-base and oleo-resinous solvent-type paints shall be considered dry for recoating when the paint feels firm, does not deform or feel sticky under moderate pressure of the thumb, and the application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.

4. Brush Application

a. Brush out and work all brush coats onto the surfaces in an even film. Cloudiness, spotting, laps, brush marks, runs, sags, and other surface imperfections will not be acceptable.

5. Spray Application

a. Confine spray application to metal framework and similar surfaces where hand brush work would be inferior.

b. Wherever spray application is used, apply each coat to provide the equivalent hiding of brush applied coats. Do not double back with spray equipment for the purpose of building up film thickness of two coats in one pass.

6. Completed Work

a. Shall match the approved Samples for color, texture, and coverage. Remove, refinish, or repaint all work not in compliance with specified requirements.

7. Finish Paint

a. Finish paint on all structural steel shall be accomplished in the shop prior to shipment to the job site. Touch up all abrasions, welds, connections and other bare metals with primer and finish coats after erection.

8. Overspray

a. Overspray will not be permitted. Should overspray occur, remove the overspray with a stiff wire brush or by sanding. Air-blow the affected area to remove all traces of overspray and repaint as necessary.

9. PAINTING SCHEDULE

   a. Provide a three coat system, prime coat of compatible Zinc Primer, 3 to 5 mils total dry thickness.

   b. Provide an Intermediate epoxy coat of 3 to 5 mils total dry thickness.

   c. Provide a finish coat of acrylic urethane with a minimum total dry film thickness of 2 to 4 mils.

3.4 FIELD QUALITY CONTROL

A. Section 017300 - Execution: Requirements for testing, adjusting, and balancing.

B. Inspecting and Testing: Comply with MPI - Architectural Painting Manual.

3.5 CLEANING

A. Section 017300 - Execution: Requirements for cleaning.

B. Collect waste material that may constitute fire hazards, place in closed metal containers, and remove daily from Site.

- END OF SECTION -

SECTION 334200 - STORMWATER CONVEYANCE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Stormwater drainage piping.
2. Manholes.
3. Catch basins (Inlets).
4. Cleanouts.
5. Underdrains.
6. Bedding and cover materials.

B. Related Requirements:

1. Division 03, Section 033000 “Cast-in-Place Concrete”: Concrete type for inlet or manhole base pad construction.
2. Division 31, Section 310516.00 “Aggregates for Earthwork”: Aggregate for backfill in trenches.
3. Division 31, Section 312316.13 “Trenching”: Execution requirements for trenching as required by this Section.
4. Division 33, Section 330597.00 “Identification and Signage for Utilities”: Underground pipe markers.

1.2 DEFINITIONS

A. ABS: Acrylonitrile butadiene styrene.

B. NBR: Acrylonitrile Butadiene Rubber. (Buna-N)

1.3 REFERENCE STANDARDS

A. American Association of State Highway and Transportation Officials:

1. AASHTO M252 - Standard Specification for Corrugated Polyethylene Drainage Pipe.
2. AASHTO M288 - Standard Specification for Geotextile Specification for Highway Applications.
3. AASHTO M294 - Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter.
4. AASHTO T 180 - Standard Method of Test for Moisture-Density Relations of Soils Using a 4.54-kg Rammer and a 457-mm Drop.

B. ASTM International:

1. ASTM A74 - Standard Specification for Cast Iron Soil Pipe and Fittings.
2. ASTM A123/.
3. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
4. ASTM A746 - Standard Specification for Ductile Iron Gravity Sewer Pipe.
5. ASTM C76 - Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe.
6. ASTM C443 - Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
7. ASTM C564 - Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings.
8. ASTM D698 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft3 (600 kN-m/m3).
9. ASTM D1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3).
10. ASTM D2235 - Standard Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings.
11. ASTM D2321 - Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.
12. ASTM D2564 - Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems.
13. ASTM D2680 - Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Composite Sewer Piping.
14. ASTM D2729 - Standard Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
15. ASTM D2855 - Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets.
16. ASTM D3034 - Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
17. ASTM D6938 - Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
18. ASTM F405 - Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings.
19. ASTM F477 - Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
20. ASTM F667/F667M - Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings.

C. New Jersey, Department of Transportation (NJDOT):

1. Standard Specifications for Road and Bridge Construction, 2019.

1.4 COORDINATION

A. Division 01, Section 013100 “Project Management and Coordination”: Requirements for coordination.

B. Coordinate Work of this Section with termination of storm sewer connections outside building, trenching, and connections to existing stormwater collection system.

1.5 SUBMITTALS

A. Division 01, Section 013300 “Submittal Procedures”: Requirements for submittals.

B. Product Data: Submit manufacturer information describing pipe, pipe accessories, manholes, manhole accessories, pipe seals, cleanouts and utility castings.

C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

D. Manufacturer Instructions: Submit special procedures required to install specified products.

E. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.

F. Qualifications Statement:

1. Submit qualifications for manufacturer.

1.6 CLOSEOUT SUBMITTALS

A. Division 01, Section 017700 “Closeout Procedures”: Requirements for submittals.

B. Project Record Documents: Record actual locations of pipe runs, connections, catch basins, cleanouts, and rim and invert elevations.

C. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.7 QUALITY ASSURANCE

A. Perform Work according to NJDOT Specifications.

1.8 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum five years' documented experience and approved by:
   1. New Jersey, Department of Transportation:

1.9 DELIVERY, STORAGE, AND HANDLING

A. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.

B. Store materials according to manufacturer instructions.

C. Protection:

   1. Protect materials from damage, moisture and dust by storing in clean, dry location remote from construction operations areas.
   2. Provide additional protection according to manufacturer instructions.

1.10 EXISTING CONDITIONS

A. Field Measurements:

   1. Verify field measurements prior to installation.
   2. Indicate field measurements on Record Drawings.

PART 2 - PRODUCTS

2.1 STORM DRAINAGE PIPING

A. Ductile-Iron Piping:

   1. Pipe:

      a. Comply with ANSI/AWWA Standards C151/A21.51, Class 56.
      b. Type: Service.
      c. Inside Nominal Diameter: as noted on the plans.
      d. Ends: Bell and spigot with push on or mechanical joints - gasketed.

   2. Fittings:

      a. Ductile Iron Fittings shall conform to ANSI/AWWA Standards C110/A21.10 or ANSI/AWWA Standards C153/A21.53.

   3. Joints and Joint Components:

a. Ductile Iron in accordance with the requirements of ANSI/AWWA Standards C111/A21.11
b. Gaskets: Nitrile (Buna-N) Rubber gasket.

2.2 CATCH BASINS (INLETS)

A. Shaft and Top Section:

1. Material: Reinforced precast or cast-in-place concrete.
2. Joints: Lipped male/female.
3. Nominal Dimensions:
   a. Circular – 48 inches minimum interior.
   b. Rectangular or Square – 30 inches minimum interior.
4. Top Section: Concentric, Eccentric or Flat Top as noted on the plans.

B. Grates and Frames:

1. Manufacturers:
   a. Barry Pattern & Foundry, Birmingham, AL
   b. Campbell Foundry, Harrison, NJ
   c. East Jordan Iron Works, East Jordan, MI
   d. Emporia Foundry, Emporia, VA
   e. Neenah Foundry, Neenah, WI

2. Materials:
   a. Ductile Iron, ASTM A536

3. Cover or Grate:
   a. Design: As indicated on plans.
   b. Load Rating: Heavy Duty (HS-20), unless noted otherwise on plans.

4. Nominal Cover and Frame Size:
   a. As noted on plans.

C. Base Pad:

1. Material: Cast-in-place concrete, as specified in Division 03, Section 033000 “Cast-in-Place Concrete”.

2.3 MATERIALS

A. Bedding and Cover:

1. Refer to Specification Division 31, Section 312316.13 “Trenching”.

2.4 FINISHES

A. Steel Galvanizing:

1. Comply with ASTM A123/A123M.
2. Hot-dip galvanized after fabrication.

B. Galvanizing for Nuts, Bolts, and Washers: Comply with ASTM A153/A153M.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Division 01, Section 017700 “Closeout Procedures”: Requirements for installation examination.

B. Verify that excavation base is ready to receive Work of this Section.

C. Verify that excavations, dimensions, and elevations are as indicated on Drawings.

3.2 PREPARATION

A. Correct over-excavation with AASHTO No. 57 stone bedding.

B. Remove large stones and other hard matter that could damage piping or impede consistent backfilling or compaction.

3.3 INSTALLATION

A. Excavation and Bedding:

1. Excavate trench to depth below pipe invert, hand trim excavation for accurate placement of piping to indicated elevations and place bedding material at trench bottom as specified in Division 31, Section 312316.13 “Trenching”.

B. Pipe, Fittings, and Accessories:

1. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground piping. Location and arrangement of piping layout take design considerations into account. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

2. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for using lubricants, cements, and other installation requirements.
3. Install manholes for changes in direction, unless fittings are indicated. Use fittings for branch connections, unless direct tap into existing sewer is indicated.
4. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
5. Install gravity-flow, nonpressure, drainage piping according to the following:
   a. Install piping pitched down in direction of flow, at minimum slope of 1 percent, unless otherwise indicated.
   b. Install piping at depths indicated on the plans.
   c. Install hub-and-spigot, ductile-iron piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook."
6. Clear interior of piping and manholes of dirt and superfluous material as work progresses. Maintain swab or drag in piping, and pull past each joint as it is completed. Place plug in end of incomplete piping at end of day and when work stops.
7. Backfilling and Compaction:
   a. Do not displace or damage pipe while compacting.

C. Catch Basins (Inlets) and Cleanouts:

1. Form bottom of excavation clean and smooth, and to indicated elevation.
2. Form and place cast-in-place concrete base pad, with provision for storm sewer pipe end sections.
3. Level top surface of base pad.
4. Sleeve concrete shaft sections to receive storm sewer pipe sections.
5. Establish elevations and pipe inverts for inlets and outlets as indicated on Drawings.
6. Mount lid and frame level in grout, secured to top section to indicated elevation.

3.4 TOLERANCES

A. Division 01, Section 014000 “Quality Requirements”: Requirements for tolerances.

B. Maximum Variation from Indicated Pipe Slope: 1/8 inch in 10 feet.

3.5 FIELD QUALITY CONTROL

A. Division 01, Section 014000 “Quality Requirements”: Requirements for testing, adjusting, and balancing.

B. Inspection:

1. Request inspection by Engineer prior to and immediately after placing aggregate cover over pipe.

C. Testing:

1. Compaction Test:

a. Comply with ASTM D1557.
b. Testing Frequency: in accordance with Division 31, Section 312316.13 “Trenching”.

2. If tests indicate that Work does not meet specified requirements, remove Work, replace, and retest.

3.6 PROTECTION

A. Division 01, Section 015000 “Temporary Facilities and Controls”: Requirements for protecting finished Work.

B. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.

PART 4 – MEASUREMENT AND PAYMENT

A. Pay item shall be measured and paid for on a per foot basis for each diameter of pipe to be installed. Tying new piping into an existing manhole is considered incidental to this work.

- END OF SECTION -

DELAWARE RIVER

EBB
FLOOD

RESET INLET TO MATCH PROPOSED GRADE

GANTRY CRANE RAIL (TYP.)

STORM INLET RIM = 6.66

EDGE OF DOCK

A

REFER TO TRACK DRAWINGS FOR SWITCH DRAIN

RESET INLET TO MATCH PROPOSED GRADE

UNK. MH RIM: 7.38'

UNK. MH RIM: 7.42'

UNK. MH RIM: 7.67'

FLATE

WATER QUALITY CHAMBER

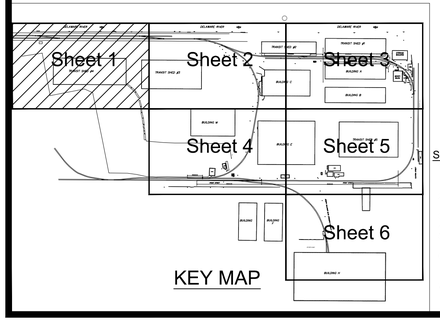
ASPHALT

RESET INLET TO MATCH PROPOSED GRADE

SHEET 2

TRANSIT SHED #4

MATCH LINE



KEY MAP

STORMWATER NOTES:

1. WHERE NEW STORMWATER PIPES ARE TO BE INSTALLED THE CONTRACTOR IS TO FIELD VERIFY EXISTING DOWNSTREAM STORMWATER PIPE SIZE. NEW STORMWATER PIPE TO BE INSTALLED IS TO MATCH THE DOWNSTREAM SIZE.
2. NEW STORMWATER PIPE INVERTS MUST MATCH OR BE BETWEEN UPSTREAM AND DOWNSTREAM PIPE INVERTS WHILE MAINTAINING MINIMUM SLOPE PER NOTE #3.
3. CONTRACTOR TO MAINTAIN MINIMUM 0.50% SLOPE, IN A DOWNSTREAM DIRECTION, ON STORMWATER PIPES.
4. NEW STORMWATER PIPES SHALL MAINTAIN 18" MINIMUM COVER TO CROWN OF PIPE.
5. ALL STORMWATER PIPES SHALL BE CONNECTED TO STORMWATER CONVEYANCE NETWORK AS SHOWN AND SHALL DRAIN TO EXISTING OUTLETS AND OUTFALLS.
6. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO INSTALLATION OF NEW STORMWATER PIPE TO AVOID POTENTIAL CONFLICTS. WHERE UTILITY/PIPE CROSSINGS ARE REQUIRED, CONTRACTOR TO NOTIFY ENGINEER.
7. CONTRACTOR TO INSPECT AND CLEAR ALL EXISTING DOWNSTREAM PIPES IN ACCORDANCE TO SPECIFICATION 330130,11, TELEVISION INSPECTION OF SEWERS.

N

30 0 15 30 60

GRAPHIC SCALE
1 inch = 30 feet

REV	BY	DATE	DESCRIPTION
A	GJB	8/24/2022	ADDENDUM #4

ISSUED FOR BID

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: CAMDEN, NJ

TITLE: SJPC BALZANO MARINE TERMINAL RAIL INFRASTRUCTURE REHABILITATION PROPOSED STORM & WATER 1

DWN	GJB	PROJ #	2021500064.000	DRAWING NUMBER
CHK	MJT	DATE	06/24/2022	C-201

X:\2021500064.000 - SJPC Balzano Rail Rehab\Technical\Civil\DWG\Sheets\SHT-C200-STORM.dwg

DELAWARE RIVER

EBB
FLOOD

SHEET 1

SHEET 3

MATCH LINE

TRANSIT SHED #3

REFER TO TRACK DRAWINGS FOR SWITCH DRAIN

STORM INLET RIM = 6.84

RESET INLET TO MATCH PROPOSED GRADE

EDGE OF DOCK

GANTRY CRANE RAIL (TYP.)

ASPHALT

REFER TO TRACK DRAWINGS FOR SWITCH DRAIN

RESET EXISTING STORM INLET GRATE RIM: 5.72'

AREA LIGHT

REFER TO TRACK DRAWINGS FOR SWITCH DRAIN

SADDLE CONNECTION

PROPOSED STORM MANHOLE RIM: 4.95'

NEW STORM PIPE, CONNECT INVERTS

REMOVE EXISTING STORM INLET

STORM INLET 17 TYPE "E" GRATE = 3.85 BOTTOM = -1.53

PROPOSED STORM INLET RIM: 4.30'

EXISTING LINE TO BE ABANDONED IN PLACE, CUT FROM INLET, FILLED, & CAPPED

REFER TO TRACK PLANS FOR TRACK DRAIN INLET LOCATIONS AND DETAILS

PROPOSED STORM INLET OVER EXISTING LINE RIM: 4.40'

EXISTING LINE TO BE ABANDONED IN PLACE, CUT FROM INLET, FILLED, & CAPPED

RESET INLET TO MATCH PROPOSED GRADE

STORM INLET 13 TYPE "A" GRATE = 5.23 INV(1) = -1.02 INV(2) = -1.19 INV(3) = 0.40 INV (4) = -0.31

STORM INLET 16 BOTTOM = -5.53* * DEPTH FROM TOP OF GRATE

EXISTING LINE TO BE ABANDONED IN PLACE, CUT FROM INLET, FILLED, & CAPPED

PROPOSED STORM INLET OVER EXISTING LINE RIM: 6.87'

REMOVE EXISTING STORM INLET

STORM INLET 15 RIM = 7.07 INV(1) = 0.99 INV(2) = 0.90 INV(3) = 0.65

EXISTING LINE SECTION TO BE REMOVED

CONFIRM ASSUMED EXISTING STORM INLET LOCATION UNDER PAVEMENT. REMOVE INLET AND ASSOCIATED LINE.

REFER TO TRACK PLANS FOR TRACK DRAIN INLET LOCATIONS AND DETAILS

NEW STORM PIPE, CONNECT INVERTS

REMOVE EXISTING STORM INLET

PROPOSED STORM MANHOLE RIM: 4.70'

STORM INLET 8 (NOT ACCESSIBLE)

STORM INLET (NOT FOUND)

PROPOSED STORM INLET RIM: 4.45'

MATCH REPLACED PIPE SIZE

RESET INLET TO MATCH PROPOSED GRADE

STORM INLET 12 INV(1) = 4.83* INV(2) = 0.92* INV(3) = 3.58*

STORM INLET (14) (NOT FOUND)

STORM INLET 9 INV(1) = -2.25* INV(2) = -2.25*

RESET INLET TO MATCH PROPOSED GRADE

RESET INLET TO MATCH PROPOSED GRADE

EXTEND EXISTING DOWNSPOUTS TO NEW LINE

PROVIDE 22.5° CONNECTION MIN. (TYP)

EXISTING LINE TO BE ABANDONED IN PLACE, CUT FROM INLET, FILLED, & CAPPED

RESET INLET TO MATCH PROPOSED GRADE

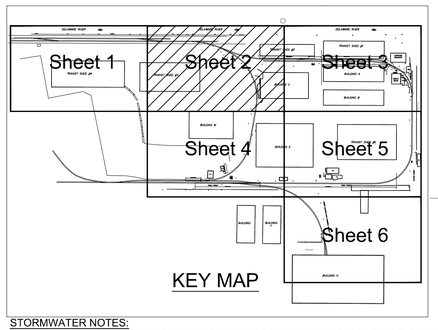
CONTRACTOR TO VERIFY LOCATION OF WATERLINE AND PROVIDE MIN. 18" VERTICAL CLEARANCE BETWEEN UTILITIES

STORM INLET 11 (NO RIM ELEVATION) INV(1) = -4.92* INV(2) = -4.67* * DEPTH FROM TOP OF GRADE

ISSUED FOR BID

SHEET 4

MATCH LINE



KEY MAP

STORMWATER NOTES:

1. WHERE NEW STORMWATER PIPES ARE TO BE INSTALLED THE CONTRACTOR IS TO FIELD VERIFY EXISTING DOWNSTREAM STORMWATER PIPE SIZE. NEW STORMWATER PIPE TO BE INSTALLED IS TO MATCH THE DOWNSTREAM SIZE.
2. NEW STORMWATER PIPE INVERTS MUST MATCH OR BE BETWEEN UPSTREAM AND DOWNSTREAM PIPE INVERTS WHILE MAINTAINING MINIMUM SLOPE PER NOTE #3.
3. CONTRACTOR TO MAINTAIN MINIMUM 0.50% SLOPE, IN A DOWNSTREAM DIRECTION, ON STORMWATER PIPES.
4. NEW STORMWATER PIPES SHALL MAINTAIN 18" MINIMUM COVER TO CROWN OF PIPE.
5. ALL STORMWATER PIPES SHALL BE CONNECTED TO STORMWATER CONVEYANCE NETWORK AS SHOWN AND SHALL DRAIN TO EXISTING OUTLETS AND OUTFALLS.
6. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO INSTALLATION OF NEW STORMWATER PIPE TO AVOID POTENTIAL CONFLICTS. WHERE UTILITY/PIPE CROSSINGS ARE REQUIRED, CONTRACTOR TO NOTIFY ENGINEER.
7. CONTRACTOR TO INSPECT AND CLEAR ALL EXISTING DOWNSTREAM PIPES IN ACCORDANCE TO SPECIFICATION 330130,11, TELEVISION INSPECTION OF SEWERS.

N

GRAPHIC SCALE
30 0 15 30 60
1 inch = 30 feet

REV	BY	DATE	DESCRIPTION
A	GJB	8/24/2022	ADDENDUM #4

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA. 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: CAMDEN, NJ

TITLE: SJPC BALZANO MARINE TERMINAL RAIL INFRASTRUCTURE REHABILITATION
PROPOSED STORM & WATER 2

DWN GJB | PROJ # 2021500064.000 | DRAWING NUMBER C-202
CHK MJT | DATE 06/24/2022

DELAWARE RIVER

EBB
FLOOD

SHEET 2

MATCH LINE

TRANSIT SHED #1

BUILDING A

BUILDING B

MAINT. BLDG.

SHIPPING CONTAINERS

CLINTON STREET

REMOVE EXISTING STORM INLETS AND ASSOCIATED LINES

CONFIRM ASSUMED EXISTING STORM INLET LOCATION UNDER PAVEMENT. REMOVE & CONNECT INVERTS. 7 LF OF 18" DIP

CONFIRM ASSUMED EXISTING STORM INLET LOCATION UNDER PAVEMENT. REMOVE INLET AND ASSOCIATED LINE.

STORM INLET 6 (NOT FOUND)

STORM INLET (NOT FOUND)

PROPOSED STORM INLET RIM: 4.45'

EXISTING CONCRETE ISLAND TO BE REMOVED. UTILITIES TO BE RELOCATED

RESET INLET TO MATCH PROPOSED GRADE

CONTRACTOR TO VERIFY LOCATION OF WATERLINE AND PROVIDE MIN. 18" VERTICAL CLEARANCE BETWEEN UTILITIES AT PROPOSED CROSSING.

PROPOSED FIRE HYDRANT AND 25' LATERAL OFF OF EXISTING 8" FIRE WATER LINE.

STORM INLET 7 INV(1) = -2.25* INV(2) = -2.33* INV(3) = -2.21*

CONTRACTOR TO VERIFY LOCATION OF WATER LINE AND PROVIDE MIN. 18" VERTICAL CLEARANCE BETWEEN UTILITIES AT PROPOSED CROSSINGS.

STORM INLET 5 RIM = 3.97 INV(1) = 1.22 INV(2) = 1.22

STORM INLET RIM = 3.77

PROPOSED STORM INLETS RIM: 4.45'

REMOVE EXISTING STORM INLETS AND ASSOCIATED LINES.

EXISTING CONCRETE STAIRS TO BE REMOVED

STORM INLET RIM = 4.66

CONTRACTOR TO VERIFY LOCATION OF SANITARY LINE AND PROVIDE MIN. 18" VERTICAL CLEARANCE BETWEEN UTILITIES AT PROPOSED CROSSINGS.

REMOVE EXISTING STORM INLETS AND ASSOCIATED LINES.

PROPOSED STORM INLET RIM: 4.45'

REMOVE EXISTING STORM INLET

EXISTING LINE TO BE REMOVED

PROPOSED STORM INLET TO MATCH PROPOSED GRADE

PROTECT EXISTING SANITARY LINE WITHIN CONSTRUCTION AREA

CONTRACTOR TO VERIFY LOCATION OF DOWNSPOUTS AND MAKE SURFACE CONNECTIONS AND RUN PROPOSED SUBSURFACE TO THE NEAREST DOWNSTREAM STORM STRUCTURE/PIPE.

RESET INLET TO MATCH PROPOSED GRADE

STORM INLET 3 RIM = 4.13 INV(1) = 1.09 INV(2) = 1.13

PROPOSED STORM INLET RIM: 4.40'

STORM INLET 4 RIM = 4.347 INV(1) = 1.22 INV(2) = 1.56

REMOVE EXISTING STORM INLETS AND ASSOCIATED LINES

REMOVE EXISTING CONCRETE PLATFORM AND RELOCATE STEEL PLATFORM AS DIRECTED BY THE OWNER.

CONTRACTOR TO VERIFY LOCATION OF SANITARY LINE AND PROVIDE MIN. 18" VERTICAL CLEARANCE BETWEEN UTILITIES AT PROPOSED CROSSINGS.

REMOVE EXISTING STORM INLET NEW STORM PIPE. CONNECT INVERTS

PROPOSED STORM INLET RIM: 3.70'

RESET EXISTING STORM INLET GRATE RIM: 3.88'

REMOVE EXISTING STORM INLETS. ASSOCIATED LINES TO BE REPLACED.

PROPOSED STORM INLET RIM: 3.64'

PROPOSED FIRE HYDRANT AND 40' LATERAL OFF OF EXISTING 8" FIRE WATER LINE.

STORM INLET 2 INV(1) = -4.00* INV(2) = -4.00* * DEPTH FROM TOP OF GRATE

RESET INLET TO MATCH PROPOSED GRADE

REFER TO TRACK PLANS FOR TRACK DRAIN INLET LOCATIONS AND DETAILS

STORM INLET 1 RIM = 3.42 INV(1) = 2.09 INV(2) = 2.09

REMOVE EXISTING FIRE HYDRANT

RESET EXISTING STORM INLET GRATE RIM: 4.20'

STORM INLET RIM = 3.42 INV(1) = 1.67 INV(2) = 1.54

STORM INLET BOTTOM = -4.08* * DEPTH FROM TOP OF GRATE

RESET EXISTING STORM INLET GRATE RIM: 5.48'

PROPOSED STORM INLET RIM: 4.45'

STORM INLET "A" GRATE = 8.32

10" CLF, W BARBED WIRE

Sheet 1 Sheet 2 Sheet 3 Sheet 4 Sheet 5 Sheet 6

KEY MAP

STORMWATER NOTES:

1. WHERE NEW STORMWATER PIPES ARE TO BE INSTALLED THE CONTRACTOR IS TO FIELD VERIFY EXISTING DOWNSTREAM STORMWATER PIPE SIZE. NEW STORMWATER PIPE TO BE INSTALLED IS TO MATCH THE DOWNSTREAM SIZE.
2. NEW STORMWATER PIPE INVERTS MUST MATCH OR BE BETWEEN UPSTREAM AND DOWNSTREAM PIPE INVERTS WHILE MAINTAINING MINIMUM SLOPE PER NOTE #3.
3. CONTRACTOR TO MAINTAIN MINIMUM 0.50% SLOPE, IN A DOWNSTREAM DIRECTION, ON STORMWATER PIPES.
4. NEW STORMWATER PIPES SHALL MAINTAIN 18" MINIMUM COVER TO CROWN OF PIPE.
5. ALL STORMWATER PIPES SHALL BE CONNECTED TO STORMWATER CONVEYANCE NETWORK AS SHOWN AND SHALL DRAIN TO EXISTING OUTLETS AND OUTFALLS.
6. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING UTILITIES PRIOR TO INSTALLATION OF NEW STORMWATER PIPE TO AVOID POTENTIAL CONFLICTS. WHERE UTILITY/PIPE CROSSINGS ARE REQUIRED, CONTRACTOR TO NOTIFY ENGINEER.
7. CONTRACTOR TO INSPECT AND CLEAR ALL EXISTING DOWNSTREAM PIPES IN ACCORDANCE TO SPECIFICATION 330130.11, TELEVISION INSPECTION OF SEWERS.

MATCH LINE

SHEET 5

GRAPHIC SCALE
30 0 15 30 60
1 inch = 30 feet

REV	BY	DATE	DESCRIPTION
A	GJB	8/24/2022	ADDENDUM #4

ISSUED FOR BID

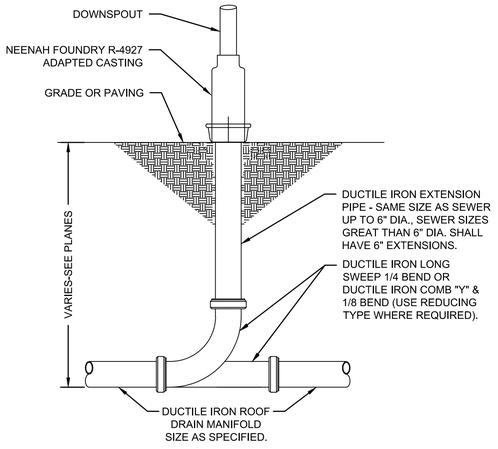
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: CAMDEN, NJ

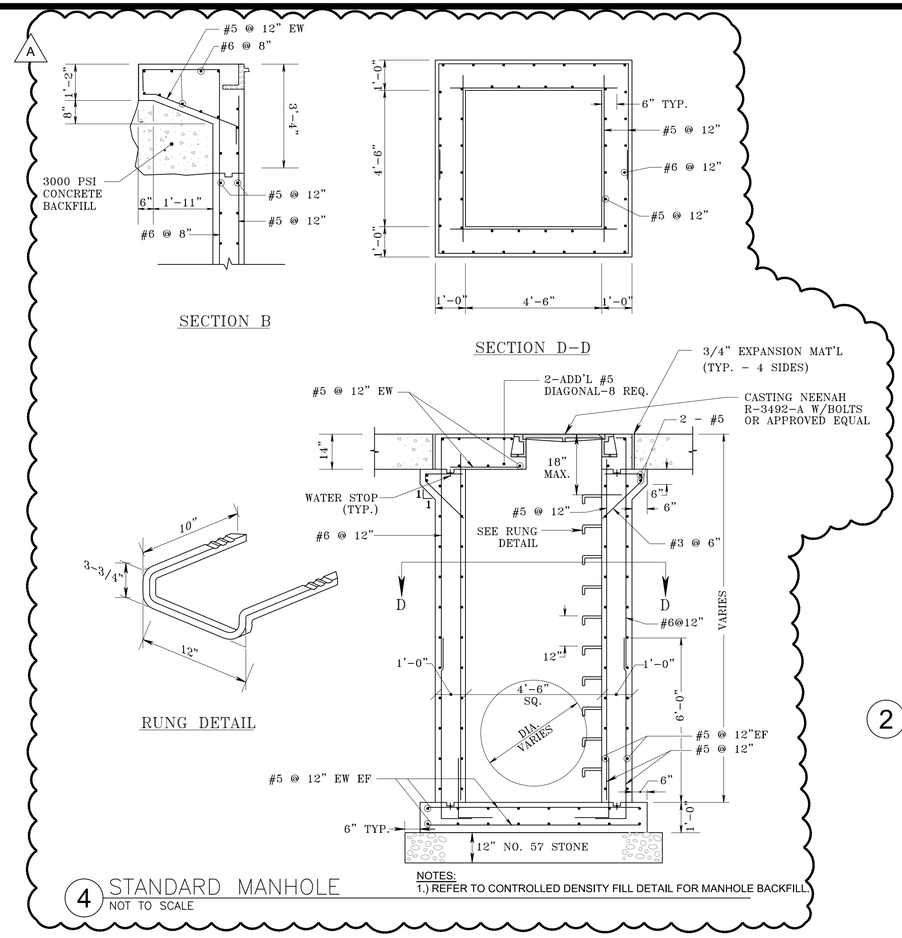
TITLE: SJPC BALZANO MARINE TERMINAL RAIL INFRASTRUCTURE REHABILITATION PROPOSED STORM & WATER 3

DWN GJB | PROJ # 2021500064.000 | DRAWING NUMBER C-203
CHK MJT | DATE 06/24/2022

X:\2021500064.000 - SJPC Balzano Rail Rehab\Technical\Civil\DWG\Sheets\SHT-C200-STORM.dwg

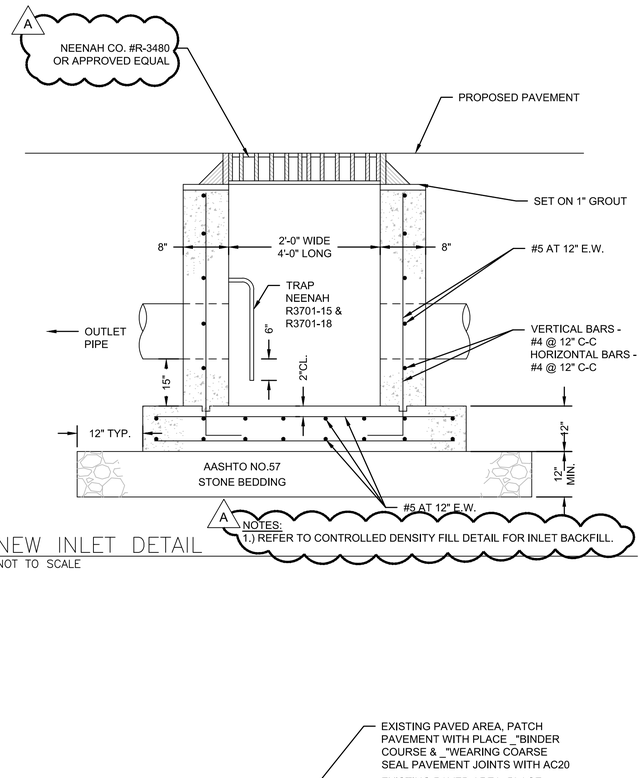


6 DOWNSPOUT MANIFOLD RISER
NOT TO SCALE

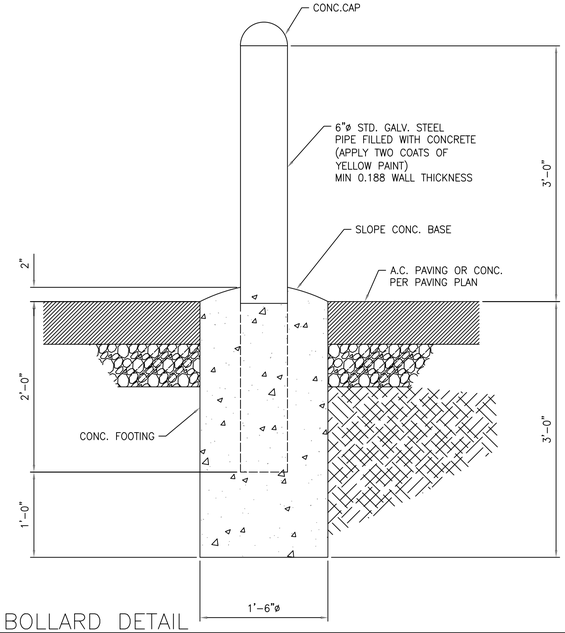


NOTES:
1.) REFER TO CONTROLLED DENSITY FILL DETAIL FOR MANHOLE BACKFILL.

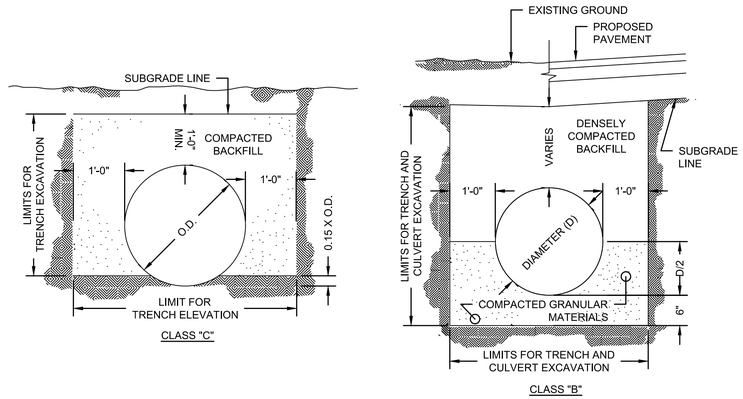
4 STANDARD MANHOLE
NOT TO SCALE



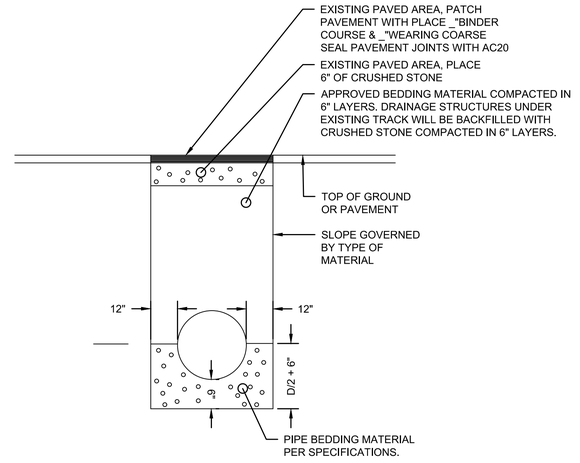
2 NEW INLET DETAIL
NOT TO SCALE



5 PIPE BOLLARD DETAIL
NOT TO SCALE



3 CIRCULAR PIPE TRENCH BEDDING
NOT TO SCALE



1 UTILIITY TRENCHING
NOT TO SCALE

ISSUED FOR BID

REV	BY	DATE	DESCRIPTION
A	GJB	8/24/2022	ADDENDUM #4

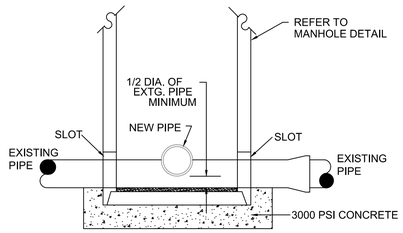
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: CAMDEN, NJ

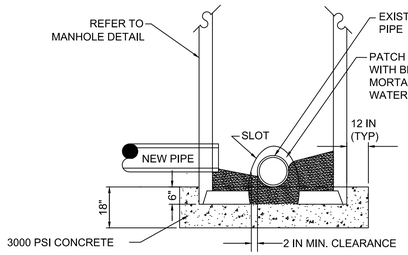
TITLE: SJPC BALZANO MARINE TERMINAL RAIL INFRASTRUCTURE REHABILITATION
PROPOSED SITE DETAILS 1

DWN	PROJ #	DRAWING NUMBER
GJB	2021500064.000	C-501
CHK MJT	DATE 06/24/2022	

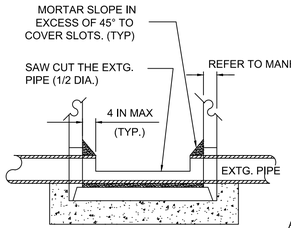
X:\2021500064.000 - SJPC Balzano Rail Rehab\Technical\Civil\DWG\Sheets\SHT-C500-DTL.dwg



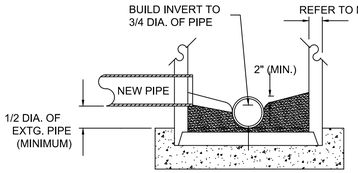
ELEVATION ALONG PIPE



ELEVATION THRU PIPE



SECTION ALONG PIPE

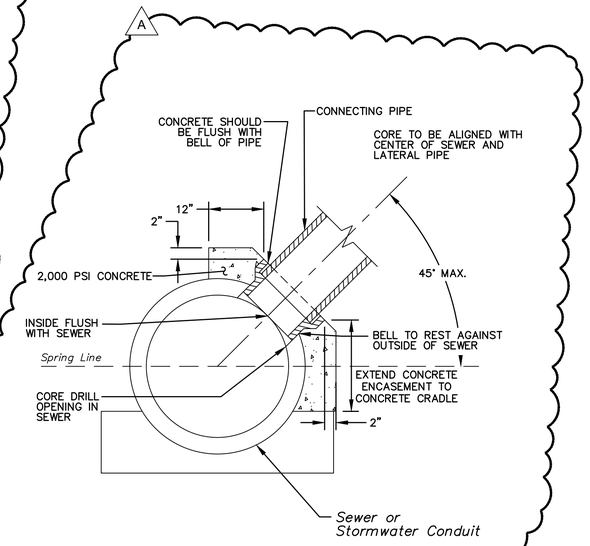


SECTION THRU MANHOLE

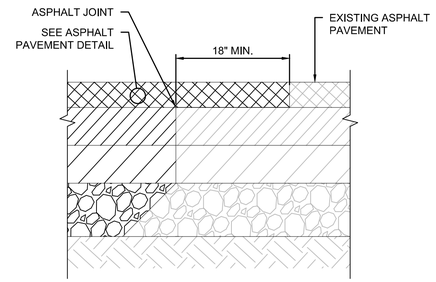
ALTERNATIVE METHOD:

REMOVE 10 FT (MIN) SECTION OF EXISTING MAIN AND INSTALL STANDARD MANHOLE AND LENGTH OF NEW PIPE. AS WITH DOGHOUSE TYPE MANHOLES, THE NEW PIPE WILL HAVE TO BE CUT INSIDE THE MANHOLE TO RECEIVE THE FLOWS FROM THE NEW SYSTEM EXTENSION.

6 DOGHOUSE MANHOLE BASE
NOT TO SCALE

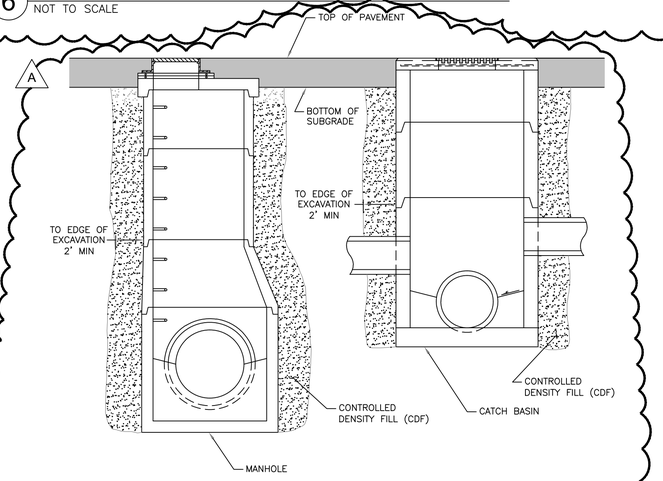


4 SADDLE CONNECTION
NOT TO SCALE



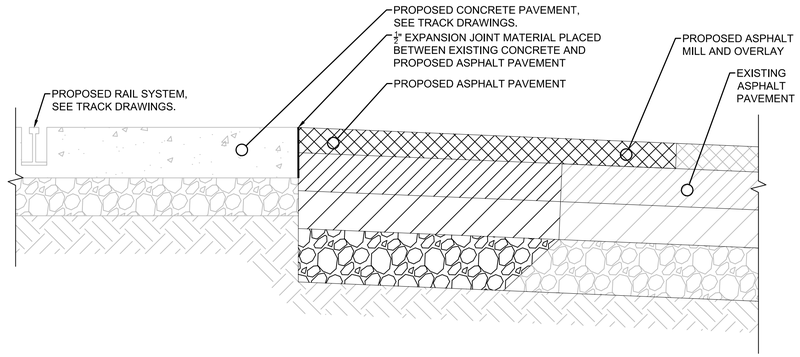
NOTES:
1.) SAW CUT AND MILL 18" MIN. OF EXISTING ASPHALT. TIE INTO EXISTING PATH BY OVERLAY OF WEARING COURSE ONTO EXISTING ASPHALT.

2 ASPHALT MILL AND OVERLAY
NOT TO SCALE

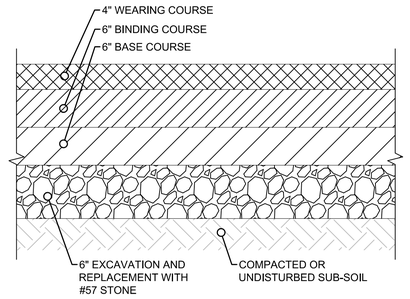


NOTES:
1. CDF CONSISTS OF A FLOWABLE MIXTURE OF PORTLAND CEMENT, FLY ASH AND/OR SAND FOR BACKFILLING TRENCHES UNDER VARIOUS COMBINATIONS OF PAVEMENT.
2. MIX PROPORTIONING SHALL BE BASED ON MAINTAINING THE TOTAL ABSOLUTE VOLUME AND PROPORTIONING SHALL THE UNCONFINED COMPRESSIVE STRENGTH AT 90 DAYS DOES NOT EXCEED 150 PSI AND IS NOT LESS THAN 50 PSI.
3. TO PRODUCE A FLOWABLE MIXTURE IT MAY BE NECESSARY TO MAKE ONE OR MORE CUBIC YARD TRIAL BATCHES AT DIFFERENT WATER CONTENTS. MIXTURE IS TOO DRY WHEN CRACKS DEVELOP IN THE MIXTURE AS IT FLOWS INTO PLACE.
4. A TEST FOR THE FLOW CONSISTS OF FILLING A 3 INCH DIAMETER BY 6 INCH HIGH OPEN–ENDED CYLINDER, ON A SMOOTH LEVEL SURFACE, TO THE TOP WITH THE FLOWABLE MIXTURE. PULL THE CYLINDER STRAIGHT UP, WITHIN 5 SECONDS, AND MEASURE THE APPROXIMATE SPREAD OF THE MIXTURE. THE DIAMETER OF THE MATERIAL SPREAD SHALL BE AT LEAST 8 INCHES.

5 CONTROLLED DENSITY FILL (CDF)
NOT TO SCALE



3 TYPICAL PAVEMENT SECTION
NOT TO SCALE



1 ASPHALT PAVEMENT
NOT TO SCALE

ISSUED FOR BID

REV	BY	DATE	DESCRIPTION
A	GJB	8/24/2022	ADDENDUM #4

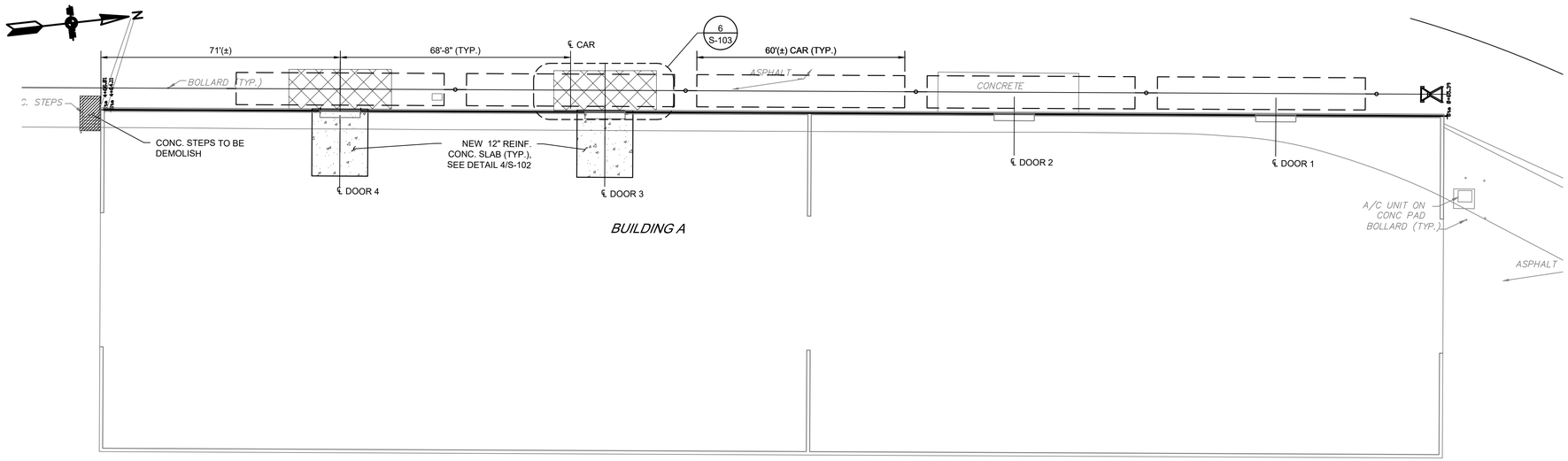
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: CAMDEN, NJ

TITLE: SJPC BALZANO MARINE TERMINAL RAIL INFRASTRUCTURE REHABILITATION
PROPOSED SITE DETAILS 3

DWN	PROJ #	DRAWING NUMBER
GJB	2021500064.000	C-503
CHK MJT	DATE 06/24/2022	

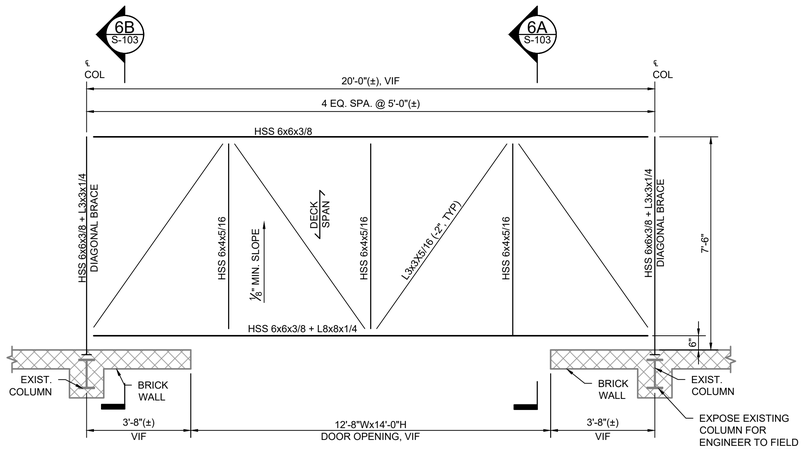
X:\2021500064.000 - SJPC Balzano Rail Rehab\Technical\Civil\DWG\Sheets\SHT-C500-DTL.dwg



5 CANOPY PLAN AT BUILDING A

Scale: 1" = 20'-0"

GRAPHIC SCALE 0 20' 40'

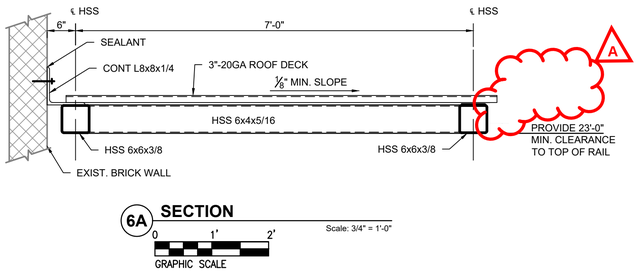


6 TYPICAL CANOPY FRAMING PLAN

Scale: 3/8" = 1'-0"

GRAPHIC SCALE 0 1' 2' 4'

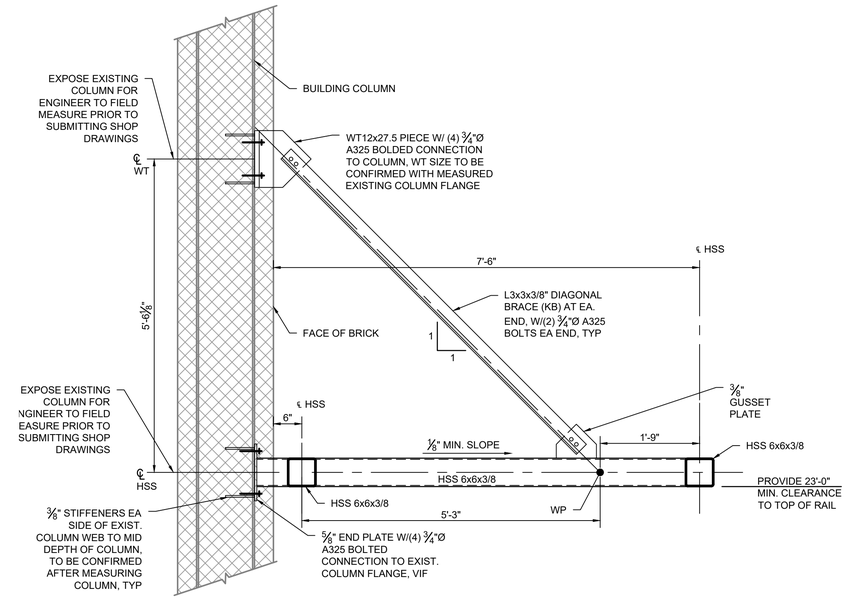
ALL NEW CANOPY STEEL SHALL BE SHOP PRIMED AND PAINTED, UNO



6A SECTION

Scale: 3/4" = 1'-0"

GRAPHIC SCALE 0 1' 2'



6B SECTION

Scale: 3/4" = 1'-0"

GRAPHIC SCALE 0 1' 2'

NOTES

1. SEE STRUCTURAL GENERAL NOTES SHEET S-000.
2. ALL WORK ON THIS SHEET ASSOCIATED WITH ADD ALTERNATE #1.

LEGEND

NEW ROLL-UP DOOR AND CANOPY

60' BOX CAR

ISSUED FOR BID

REV	BY	DATE	DESCRIPTION
A	MGW	08/24/2022	BID ADDENDUM #4

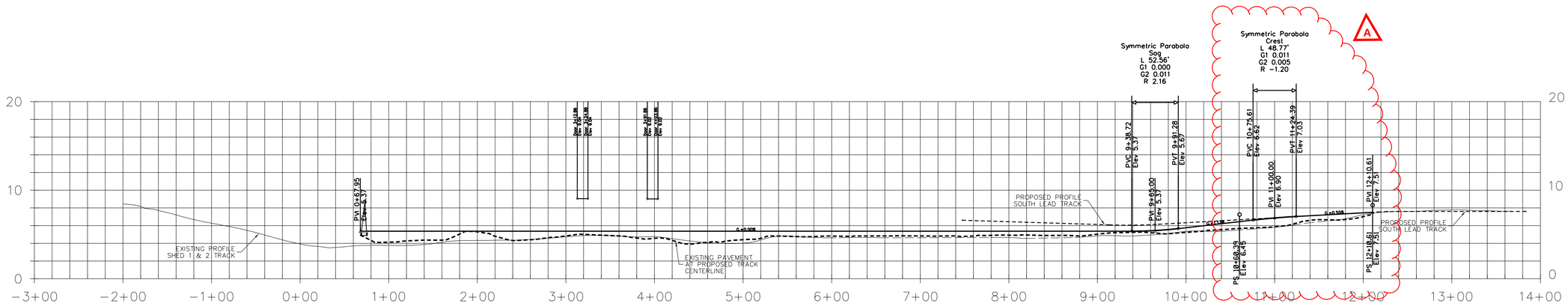
URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: CAMDEN, NJ

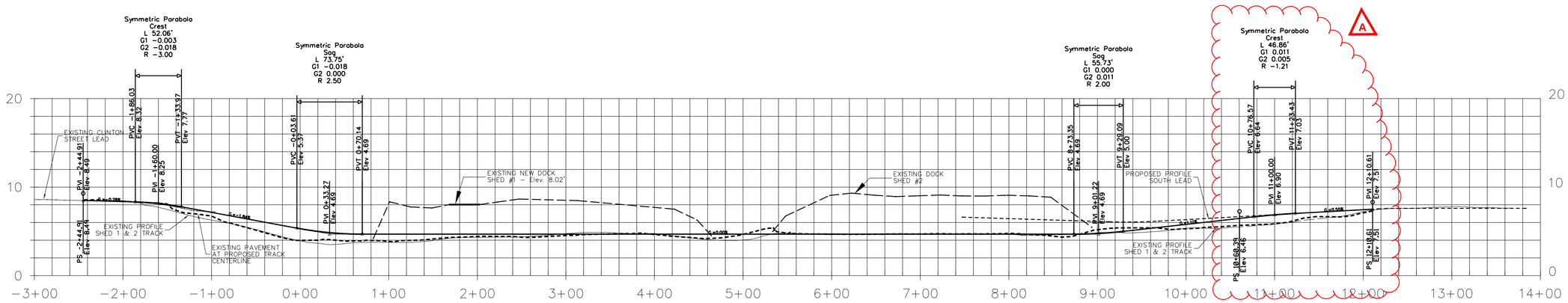
TITLE: SJPC BALZANO MARINE TERMINAL
RAIL INFRASTRUCTURE REHABILITATION
CANOPY FRAMING PLAN AT BUILDING A
AND SECTIONS

DWN: FYC | PROJ #: 2021500064.000 | DRAWING NUMBER: S-103
CHK: MGW | DATE: 06/24/2022

X:\2021500064.000 - SJPC Balzano Rail Rehab\Technical\Structural\S-103 CANOPY FRAMING PLAN AT BUILDING A AND SECTIONS.dwg



Pr-Building A Track



Pr-Shed 1-2

REV	BY	DATE	DESCRIPTION
A	FST	08/24/2022	BID ADDENDUM #4

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: CAMDEN, N.J.

TITLE: S.J.P.C. BALZANO MARINE TERMINAL
RAIL INFRASTRUCTURE REHABILITATION
PROPOSED TOP OF RAIL PROFILES - 1 OF 2

DWN	PROJ #	DRAWING NUMBER
FST	2021500064.000	T-13
CHK ADC	DATE 06/24/2022	

T-13.dgn 8/25/2022 4:28:10 PM

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

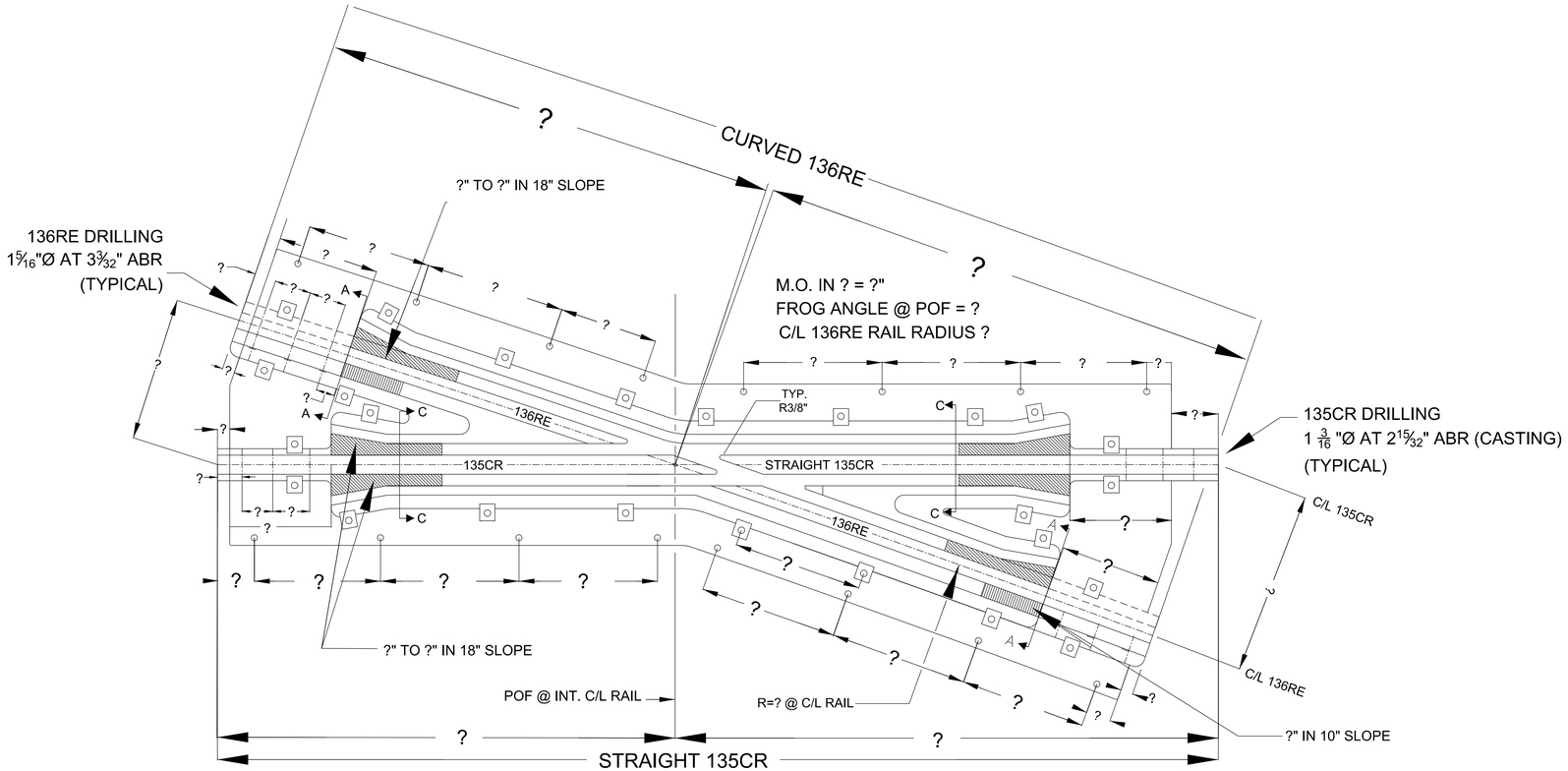
LOCATION: CAMDEN, N.J.

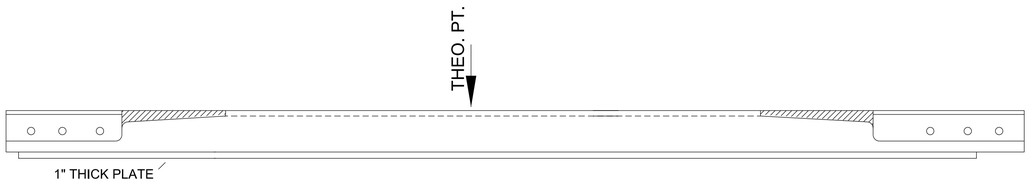
TITLE: S.J.P.C. BALZANO MARINE TERMINAL
RAIL INFRASTRUCTURE REHABILITATION
PROPOSED TOP OF RAIL PROFILES - 2 OF 2

REV	BY	DATE	DESCRIPTION
A	FST	08/24/2022	BID ADDENDUM #4

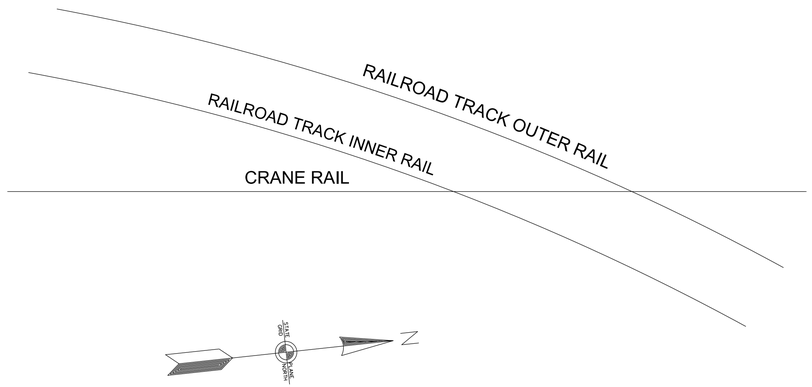
DWN FST | PROJ # 2021500064.000 | DRAWING NUMBER T-14
CHK ADC | DATE 06/24/2022

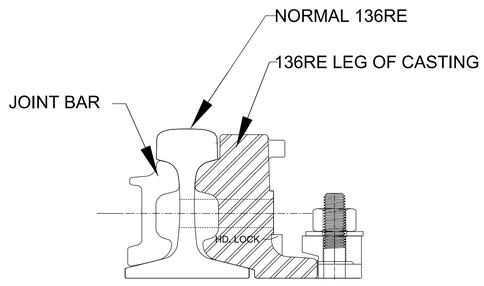
T-14.dwg 8/25/2022 4:30:03 PM



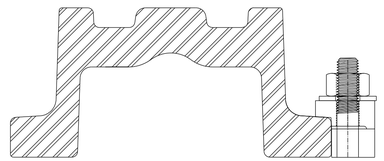


ELEVATION OF 135CR SIDE VIEW





SECTION A-A



SECTION C-C

GENERAL NOTES:

1. THIS DRAWING DEPICTS BASIC CONFIGURATION AND GENERAL ARRANGEMENT OF THE STS CRANE RUNWAY AND RAILROAD SIDETRACK CROSSING FROGS.
2. CONTRACTOR/FABRICATOR SHALL PERFORM A DETAILED INSPECTION OF EXISTING FIELD CONDITIONS, INCLUDING A SURVEY OF THE CROSSING FROG GEOMETRY, MEASUREMENTS OF THE STS CRANE WHEEL PROFILES AND OTHER RELEVENT FIELD CONDITIONS REQUIRED TO ACCOMPLISH THE REQUIRED DESIGN AND FABRICATION PROCESS.
3. ALL SHOP DRAWINGS MUST INCLUDE, AT MINIMUM, ALL OF THE DIMENSIONS WHERE NOTED ABOVE BY "?" ON THIS DRAWING.
4. THE CONTRACTOR/FABRICATOR SHALL PREPARE AND SUBMIT A SEPERATE DRAWING SET FOR EACH FROG TO BE FABRICATED AND SUPPLIED.
5. THE CONNECTING RAIL SECTIONS SHALL BE 136RE & 135CR AND CONFIGURED AS NOTED ABOVE. ALL JOINT BARS, TRACK BOLTS, NUT LOCKS AND DRILLING FOR RAIL CONNECTIONS SHALL CONFORM TO CURRENT A.R.E.M.A. SPECIFICATIONS. GRADE 8 BOLTS, NUTS AND NUT LOCKS SHALL BE USED FOR ALL OTHER ASSEMBLY HARDWARE.
6. ALL BOLT AND FASTENER HOLES TO BE CHAMFERED 1/16" MIN. OR AS DEFINED BY THE APPLICABLE A.R.E.M.A. SPECIFICATIONS.
7. CASTINGS SHALL BE AUSTENITIC MANGANESE STEEL ASTM A-128 GRADE A. AND TESTED IN ACCORDANCE WITH REQUIREMENTS AS SHOWN ON A.R.E.M.A. PLAN #1013.
8. THE CONNECTING LEGS OF THE CROSSING FROGS SHALL BE BEVELLED IN ACCORDANCE WITH THE REQUIREMENTS OF A.R.E.M.A. PLAN #1005.
9. TRACK GAUGE AND FLANGEWAYS EMPLOYEDIN THE DESIGN OF THE CROSSING FROGS SHALL COMPLY WITH THE REQUIREMENTS OF A.R.E.M.A. PLANS #790, #791 & #792 AS APPLICABLE.TO INSTALLATION AT THE INTENDED LOCATION AND TRACK GEOMETRY.

GENERAL ARRANGEMENT OF
CRANE RAIL CROSSING FROGS
NO SCALE

1
T-27

REV	BY	DATE	DESCRIPTION

URBAN ENGINEERS, INC.
530 Walnut Street
Philadelphia, PA 19106
(215) 922-8080 Fax (215) 922-8082

LOCATION: CAMDEN, N.J.

TITLE: S.J.P.C. BALZANO MARINE TERMINAL
RAIL INFRASTRUCTURE REHABILITATION
CRANE RAIL CROSSING FROGS
GENERAL ARRANGEMENT

DWN	PROJ #	DRAWING NUMBER
FST	2021500064.000	T-27
CHK ADC	DATE 06/24/2022	

T-27 DRAFT.dwg 8/25/2022 3:41:00 PM