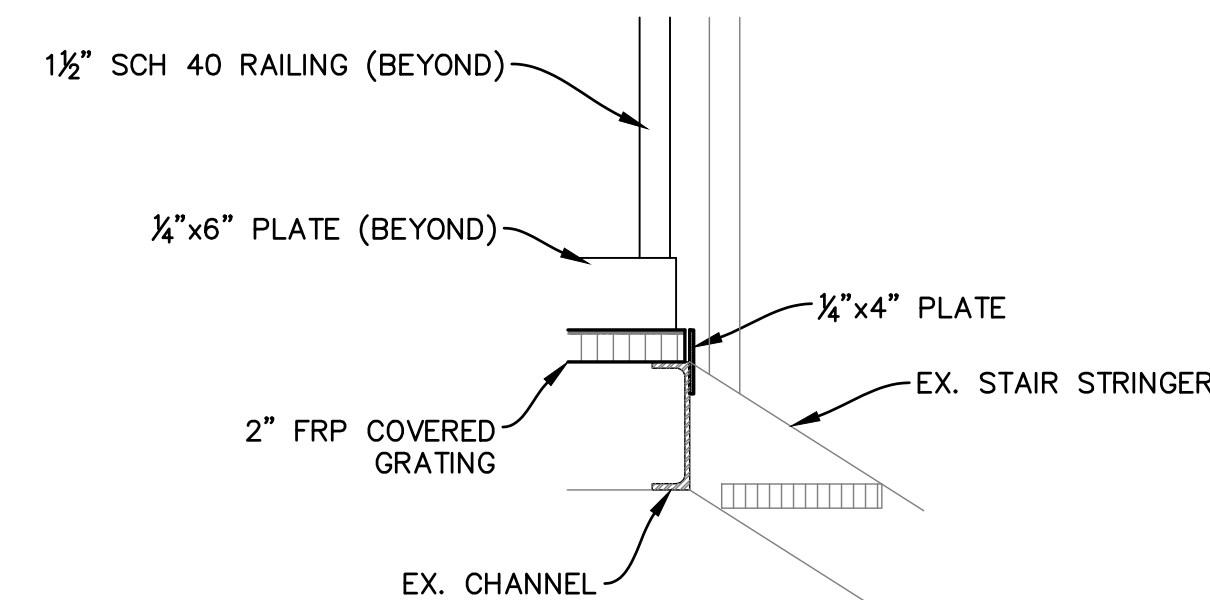


SECTION A - A  
SCALE: 1"=1'-0"



SECTION B - B  
SCALE: 1"=1'-0"

NOTES

1. CONTRACTOR SHALL REMOVE & REINSTALL EXISTING CONDUIT, CONTROL PANEL, LIGHT, CHEMICAL PIPING, & SUPPORTS AS NEEDED TO COMPLETED THE WORK.
2. EXISTING RAILING COMPONENTS MAY BE REUSED AT THE CONTRACTOR'S DISCRETION.
3. ALL NEW WELDED CONNECTIONS SHALL BE SEAL WELDED ON ALL SIDES TO ELIMINATE CREVICES THAT CANNOT BE COATED.



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CONSULTANT

DATE

REVISIONS/COMMENTS

NO.

CONTRACT SET

CLIENT/PROJECT

TOWN OF MANY  
SABINE PARISH, LOUISIANA

WATER SECTOR PROGRAM  
WATER TREATMENT PLANT IMPROVEMENTS  
REPLACEMENT OF CONTROL SYSTEM

SEAL



DESIGNED

DRAWN

JMM

ETA

PROJECT NO.

A8-21062-DB

DATE

MARCH, 2024

SCALE

NONE

SHEET TITLE

PLATFORM DETAILS

SHEET NO.

MC11.0

**TECHNICAL PROVISIONS**  
**SECTION 755**  
**FIBERGLASS REINFORCED COVERED GRATING**

**755-1      GENERAL**

**755-1.1    SCOPE**

The Contractor shall furnish and install replacement fiberglass reinforced grating, fasteners, and accessories as required to provide walkway and equipment access systems.

**755-1.2    QUALITY ASSURANCE**

Molded gratings shall be as manufactured by Fibergrate Composite Structures, Inc., or approved equal, manufacturer meeting the following minimum requirements:

- A. All items to be provided under this Section shall be furnished only by manufacturers having a minimum of ten (10) years' experience in the design and manufacture of similar products and systems. Additionally, if requested, a record of at least five (5) previous, separate, similar successful installations in the last five (5) years shall be provided.
- B. Manufacturer shall offer a 3 year limited warranty on all FRP products against defects in materials and workmanship.
- C. Manufacturer shall be certified to the ISO 9001-2008 standard.
- D. Manufacturer shall provide proof of certification from at least two other quality assurance programs for its facilities or products (DNV, ABS, USCG, AARR).
- E. Manufacturer shall provide proof, via independent testing, that materials proposed as a solution do not contain heavy metals in amounts greater than that allowed by current EPA requirements.

**755-1.3    SHOP DRAWINGS**

After receipt of the Notice of Award, the manufacturer shall furnish the Engineer a minimum of six (6) sets of shop drawings detailing the items to be furnished including dimensional data and materials of construction. The Engineer shall promptly review this data, and return two (2) copies to the manufacturer as approved, or approved as noted. Upon receipt of accepted shop drawings, the manufacturer shall proceed with order entry and fabrication of the materials.

**755-2      MATERIALS**

**755-2.1    GENERAL**

Grating materials shall meet the following general requirements:

- A. All FRP items furnished under this Section shall be composed of fiberglass reinforcement and resin in qualities, quantities, properties, arrangements, and dimensions as necessary to meet the design requirements and dimensions as specified in the Contract Documents.

- B. Fiberglass reinforcement shall be continuous roving in sufficient quantities as needed by the application and/or physical properties required.
- C. Resin shall be Polyester with chemical formulations as necessary to provide the corrosion resistance, strength, and other physical properties as required.
- D. All finished surfaces of FRP items and fabrications shall be smooth, resin-rich, free of voids and without dry spots, cracks, crazes, or unreinforced areas. All glass fibers shall be well covered with resin to protect against their exposure due to wear or weathering.
- E. All mechanical grating clips shall be manufactured of Type 316SS (stainless steel).

#### 755-2.2 GRATING FABRICATION

The Contractor shall coordinate closely with the manufacturer to fabricate the grating to meet the specific dimensions and shapes for the structure.

- A. Grating supplied shall meet the dimensional requirements and tolerances as shown or specified. The Contractor shall provide and/or verify all measurements in the field for work fabricated to fit field conditions as required by grating manufacturer to complete the work. Contractor shall determine correct size and locations of required holes or cutouts from field dimensions before grating fabrication.
- B. Manufacturer to provide openings and holes where located on the contract drawings. Grating openings which fit around protrusions (pipes, cables, machinery, etc.) shall be discontinuous at approximately the centerline of opening so each section of grating is readily removable.
- C. All shop fabricated grating cuts shall be coated with vinyl ester resin to provide maximum corrosion resistance. All field fabricated grating cuts shall be coated similarly by the Contractor in accordance with the manufacturer's instructions.
- D. Type 316 stainless steel hold-down clips shall be provided and spaced at maximum of four feet apart with a minimum of four per piece of grating, or as recommended by the manufacturer.

#### 755-2.3 MOLDED FRP GRATING

Grating shall be molded FRP grating meeting the following minimum requirements.

- A. All grating shall be covered RFP grating consisting of a FPR gritted plate cover secondarily affixed to a molded grating panel.

Molded grating panel shall be of a one-piece molded construction with tops and bottoms of bearing bars and cross bars in the same plane. Grating shall have a square mesh pattern providing bidirectional strength. Grating shall be reinforced with continuous rovings of equal number of layers in each direction. The top layer of reinforcement shall be no more than 1/8" below the top surface of the grating so as to provide maximum stiffness and prevent resin chipping of unreinforced surfaces. Percentage of glass (by weight) shall not exceed 35% so as to achieve maximum corrosion resistance, and as required to maintain the structural requirements.

After molding, no dry glass fibers shall be visible on any surface of bearing bars or cross bars. All bars shall be smooth and uniform with no evidence of fiber orientation irregularities, interlaminar voids, porosity, resin rich or resin starved areas.

- B. Grating bar intersections are to be filleted to a minimum radius of 1/16" to eliminate local stress concentrations and the possibility of resin cracking at these locations.
- C. Resin system: The resin system used in the manufacture of the grating shall be Corvex®, or approved equal.
- D. Manufacturer may be required to submit corrosion data from tests performed on actual grating products in standard chemical environments. Corrosion resistance data of the base resin from the manufacturer is not a true indicator of grating product corrosion resistance and shall not be accepted.
- E. Color shall be selected by the Owner from the manufacturer's standard options.
- F. Depth: 2" with a tolerance of plus or minus 1/16".
- G. Load/Deflection: Grating design loads shall be less than manufacturers published maximum recommended loads. Maximum recommended loads shall be determined by acoustic emission testing. Grating shall be designed for a uniform load of 100 psf or concentrated load of 300 lb. Deflection is not to exceed 0.28" or L/D = 120, whichever is less, for the maximum spans shown on the Drawings.
- H. Panel width shall be limited such that each grating panel shall not exceed 150 lbs.
- I. The manufacturer shall certify that the stiffness of all panels manufactured are never more than 2.5% below the published load-deflection values.

### **755-3      INSTALLATION**

#### **755-3.1      EXAMINATION**

Contractor shall off-load materials and equipment at installation site using equipment of sufficient size and design to prevent injury or damage. Material/equipment manufacturer shall provide written instruction for proper handling. Immediately after off-loading, Contractor shall inspect all components and appurtenances for shipping damage or missing parts. Any damage or discrepancy shall be noted in written claim with shipper prior to accepting delivery. Validate all parts lists with shipping documentation. Notify the manufacturer's representative of any unacceptable conditions noted with shipper.

#### **755-3.2      INSTALLATION**

Contractor shall install gratings in accordance with manufacturer's assembly drawings. Fasten grating panels securely in place with hold-down fasteners as specified herein. Field cut and drill fiberglass reinforced plastic products with carbide or diamond tipped bits and blades. Seal cut or drilled surfaces in accordance with manufacturer's instructions. Follow manufacturer's instructions when cutting or drilling fiberglass products or using resin products; provide adequate ventilation.

Abutting edges of molded grating panels shall be supported by structural members or fastened together using "F" style clips at a maximum spacing of 24" on center.

755-3.3 MANUFACTURER'S WARRANTY

The manufacturer shall warrant all components to be of quality construction, free of defects in material and workmanship for a minimum period of one year after the date of Substantial Completion.

**755-4 MEASUREMENT & PAYMENT**

Unless specifically listed in the Bid Form, separate payment will not be made for the materials and works described in this section. Their cost will be included in the particular unit or lump sum prices in the Bid Form to which they most nearly relate.