

SECTION 12 15 20

ART PROGRAM

PART 1 - GENERAL

1.1 DESCRIPTION

The Work of this Section consists of coordination, design integration, fabrication and installation of artwork, artwork light boxes and artwork lighting. All artworks are structures integral to the customer environment and shall be designed by Metro Art contracted artists. Depending on the artwork material, Metro Art shall either provide artist designs to the Contractor for fabrication and installation, or furnish the fabricated artwork for installation by the contractor. All artworks shall be installed by Contractor.

1.2 STATEMENT OF WORK ARTWORK – GENERAL

- A. Artwork for the project shall comply with Section 6.3 of the Metro Rail Design Criteria and the Metro Art Guidelines for Materials and Finishes.
- B. Metro Art manages and oversees all aspects of artist contracts through project completion and is responsible for all aspects of artwork implementation to ensure adherence with the aesthetic and qualitative integrity of Metro Art approved artwork design. Metro Art staff is highly familiar with the demands of the art-in-transit environment, and ongoing Metro operational and customer needs.
- C. Metro Art shall coordinate the artwork with the Contractor. There is no Contractor requirement for artist or art consultant management services as part of this scope.
- D. Contractor shall incorporate original, artist-designed artwork as commissioned by Metro Art, at each station, and/or station area within Metro property rights.
- E. Contractor shall include in his base construction costs the following elements:
 - 1. Procurement and installation of the architectural glass and curtain wall framing system, stainless steel fencing panels, light boxes and all artwork lighting.
 - 2. Any required engineering for artwork attachments to install the artwork.
 - 3. Storage and security of all artwork on site prior to installation.
 - 4. Installation of all artwork including Metro furnished and fabricated artworks in ceramic tile and/or glass mosaic.
- F. Contractor shall use the Provisional Sum provided in SECTION 6 – PRICE PROPOSAL FORM Item 6: Schedule C of Schedule Of Quantities and Prices Form for fabricating Metro Art furnished artwork designs, including digitally enhanced architectural glass, sculptural metal fencing. Procurement and fabrication of the porcelain enamel steel panels using Metro Art furnished artwork designs shall also use the Provisional Sum. See TABLE 1 - REGIONAL CONNECTOR ART PROGRAM: Application of Provisional Sum at the end of this Section.

- G. Metro Art furnished artwork design and/or fabrication shall be contracted between Metro Art and the artist or the artwork fabricator.

1.3 ARTWORK – RESPONSIBILITIES

A. Metro Art Responsibilities

1. Management: All aspects of artist contracts and artwork development through project completion to ensure adherence with the aesthetic and qualitative integrity of Metro approved artwork design. Metro Art staff is highly familiar with the demands of the art-in-transit environment, and ongoing Metro operational and customer needs.
2. Coordination: Work with Contractor to implement the artwork. There is no Contractor requirement for artist or art consultant management services as part of this scope.
3. Communications: Plan, schedule, coordinate and facilitate any meetings, presentations and community outreach as determined for public communication of the overall Art Program and the specific public art projects. This includes directing communications with artists, specialized art fabricators and engineers under contract with Metro Art, and providing input to others under contract with the Contractor, associated with planning, scheduling, fabrication, delivery and installation of the artworks.
4. Identify Artwork Locations: At stations, within Metro property, in keeping with Metro standards for durability, maintenance, station environment and customer engagement.
5. Design: Provide artwork final designs for each station or station area location for incorporation by the Contractor into the construction drawings and specifications, including general dimensions and weights.
6. Review: Coordinate and interface with Metro departments as necessary to obtain appropriate reviews and approvals for artwork locations and materials. Comment on all phases of Contractor construction drawing and specification submittals, Requests for Information, shop drawings, samples and mock ups and other pertinent constructability and technical reviews.
7. Engineering: Provide input on requirements associated with the individual artwork to the Contractor; i.e. material(s), size, weight, means and methods for attachment/installation, or any other special requirements.
8. Value Engineering: Participate in any value engineering processes or any modification reviews affecting the architecture and aesthetics of the station or station area due to possible effects on the artwork locations and materials and its

impact to the Art Program.

9. **Costs:** Review Contractor's costs and vendor selection for use of the Provisional Sum to be allocated for the specific artwork installations. Upon Metro Art's agreement as to these cost allocations, a modification will be issued by Metro for use of the Provisional Sum amounts for each artwork by individual station.
10. **Delivery:** Coordinate delivery of Metro Art furnished artworks, and provide input on delivery of Contractor furnished artworks within the Contractor's construction schedule, to minimize risk of damage to artworks being delivered and/or installed too far in advance of revenue testing and project (Line) opening. Inspect artworks at the time of delivery to the Contractor project site, assess artworks and document conditions.
11. **Installation:** Provide oversight during installation phase to ensure that artworks are installed as approved by Metro Art and to ensure installation per artist's aesthetic design.
12. **Punch List:** Provide Contractor with artwork related punch list(s) reports for implementation and follow-through until final resolution.

B. Contractor Responsibilities

1. **Project Delivery:** Incorporate the artwork into the base construction, utilizing the artwork designs and/or fabricated artworks furnished by Metro Art. The Contractor has no coordination, overview or management responsibility with Metro Art selected project artists.
2. **Review:** Participate in meetings as required to plan the engineering, construction documents and installation of the artworks at the station or station area locations. Include Metro Art in submittals for contractually stated project design review and comment phases through Approved for Construction (AFC) documents, as well as informal "over-the-shoulder reviews," fabrication shop drawings, samples and mock ups.
3. **Engineering:** Provide artwork related constructability reviews and interface with Metro Art to arrive at mutually agreeable artwork attachment and installation details for incorporation into the Contractor construction drawings. Attachment and installation details shall be in keeping with the artistic design of the artworks. Provide California licensed professional engineer reviews to engineering calculations, drawings and attachments as required.
4. **Value Engineering:** Notify, coordinate and interface with Metro Art on any value engineering processes or any modifications affecting the architecture and aesthetics of the station or station area due to possible effects on the artwork locations and materials and its impact to the Art Program.
5. **Construction Documents:** Incorporate artwork location and installation references to accurately reflect artwork final designs provided by Metro Art into the construction drawings and specifications. Work with Metro Art to determine final location of signs, sprinklers and fire systems equipment, security cameras or

other life/safety or operations equipment and cabinets that may conflict with the overall artwork aesthetic. Reasonable options shall be explored and be in keeping with all applicable codes and regulatory requirements for the project. Artwork installation work plans shall include methods, materials, installation drawings, plans, sections, axonometric views, attachment details and embedded or concealed mechanical, structural or seismic requirements as required.

6. Fabrication: Contract with specialized studios with proven expertise in artwork production. Provide shop drawings indicating layout, elevations, sizes, dimensions, materials, anchorage and fastening, supports and other details such as anchorages embedded in concrete, shop welds or fastenings to steel structures. Show large scale details of edge conditions and typical conditions. Work with specialized studios and artists to prepare graphic files as required for fabrication. Provide scale samples and/or mock ups of all Contractor fabricated artwork for Metro Art review and approval prior to start of fabrication.
7. Delivery: Work with Metro Art to schedule the delivery of artworks. Provide delivery schedule and storage plans for each station or station area artworks to minimize risk of damage by artworks being delivered too far in advance of installation. Provide twenty-four (24) month advance notice to Metro Art for delivery of artworks to the Contractor's project site.
8. Storage and Protection: Receive and off-load artworks and provide safe, secure and crated, wrapped and/or covered storage from delivery until Final Acceptance of the Project or Revenue Operation Date, whichever comes first and as officially determined between Metro and the Contractor. Contractor shall be responsible for the cost of replacement or repairs to artworks, and any associated scheduling delay, should loss or damage occur while under their purview, from delivery and installation, and until time of official acceptance of the project by Metro. Contractor will work with Metro Art to determine the best method of artwork storage and protection.
9. Installation: Provide materials, equipment, tools, and skilled trades as required to install all artworks. Provide installation plans for each station or station area artworks to minimize risk of damage by artworks being delivered too far in advance of revenue testing and project opening. Provide twenty-four (24) month advance notice to Metro Art for installation of Metro Art furnished ceramic tile/glass mosaic and 12 months notice for all other artwork items.
10. Punch List: Review and implement Metro provided artwork punch list reports and coordinate with Metro Art through resolution and final completion.

1.4 SUBMITTALS

- A. Refer to Sections 01 33 00, Submittal Procedures
- B. Design Drawings – Concept and construction documents including visualization.
- C. Lighting Design - Concept and construction documents including visualization. Lighting for the purposes of highlighting or illuminating artwork and its components shall be designed by a professional lighting designer. Scope shall include design,

calculations and notation of light fixtures and bulb types in the lighting and electrical drawings. Specifications to also be provided for the light fixtures.

- D. Shop Drawings – Based on approved design drawings, the Contractor shall show layout, elevations, sizes, dimensions, materials, anchorage, sections and profiles, arrangement and provision for jointing, anchoring and fastening, supports and other installation details. Show large scale details of edge conditions and typical conditions.
- E. Calculations - Engineering calculations, structural framing, finish component support and anchoring details shall be provided by a professional civil or structural engineer licensed in the State of California.
- F. Specifications including warranty information and certificates.
- G. Samples
- H. Mock-ups.

1.5 QUALITY CONTROL

Comply with Section 01 43 10, Project Quality Program Requirements – Design/Build.

PART 2 - PRODUCTS

2.1 STATION ARTWORK DESIGN

A. Materials

1. Architectural Glass (Metro Art furnished design. Contractor fabricated and installed).
 - a. Artwork shall consist of artist designed glass for the station pavilions as produced by specialized, reputable glass studio/s with expertise in working with renowned contemporary artists and shall be in keeping with artist's aesthetic design and as approved by Metro Art.
 - b. Metro Art shall contract directly with all artists and provide final designs to the Contractor for integration into the pavilions.
 - c. Contractor shall contract with reputable glass studio/s with expertise in working with renowned contemporary artists. Studios with proven expertise and highly skilled artisans shall be as noted below.
 - 1) General Glass International (GGI) www.generalglass.com,
Spencer Raymond, (800) 431 2042 x 231
 - 2) Glass Pro, www.glas-pro.com
Tim Meinhart (800) 776 2368

- 3) Viracon www.viracon.com
Bob Paal (949) 294 1975
 - 4) Pulp Studio www.pulpstudio.com
(310) 815 4999
 - 5) Old Castle Glass www.oldcastlebe.com
(866) 653 2278
- d. Metro Art shall review and approve glass studio samples submittal for aesthetic quality considerations, including expertise in fabricating artworks and working with artists, prior to final selection of proposed studios by the Contractor.
 - e. Glass treatment techniques (color ceramic printed, silk screened, sandblasted, back painted, hand painted, fused, air brushed, dichroic, ceramic frit, acid etched, graphic interlayer or combination of treatments) shall be explored during the artwork design development stages and determined by Metro Art. In all cases artist designed glass shall comply and be compatible with requirements for laminated, tempered glass as required by Metro for safety and durability.
 - f. The mode of image making must be UV suitable, and resistant to fading utilizing proven technology suitable for long term exterior display.
 - g. Each station's art glass shall be unique, and a different studio technique may be required at each individual station, meaning that the Contractor may be required to contract with more than one art glass studio.
 - h. Artwork may incorporate multiple colors, half tone or single color.
 - i. The artwork may be a single image spread over many panels per elevation or a series of images repeated on various tiles.
 - j. Contractor shall provide a sample glass pavilion structural assembly so that Metro can test the visual accuracy of the selected artwork technique/s.
 - k. Metro Art shall review and approve full scale final artwork control samples submittal prior to fabrication for aesthetic quality considerations.
 - l. Contractor shall provide shop drawings for glass assembly, indicating all panel sizes, framing, joints and installation mark numbers.
 - m. Metro Art will supply artist designs as high resolution, professionally scanned and color corrected files. The Contractor will ultimately be capable of working with the glass studio and the artist on any final formatting required to prepare the artist designs into ready-to-print high resolution graphic files.
 - n. Cutting to overall dimensions, edgework, drilled holes, notching and grinding shall be performed prior to artwork application.

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- o. Contractor shall fabricate and install finished glass panels in curtain wall assemblies designed to meet Metro's requirements for structural integrity, vandalism and overall architectural design.
 - p. Only non-acidic neutral cure silicones can be used with the art glass.
 - q. Provisional Sum for the artwork shall cover the cost differential between the architectural glass and artist embellished sections. Artwork integration and installation shall be covered by Contractor's base construction costs.
2. Sculptural Metal Fence Panels (Metro furnished design. Contractor fabricated and installed).
- a. Artwork shall consist of stainless steel fabrications as produced by a specialized, reputable workshop with expertise in working with renowned contemporary artists and in keeping with artist's aesthetic design and as approved by Metro Art.
 - b. Metro Art shall contract directly with the artist and provide final designs to the Contractor.
 - c. Contractor shall contract with reputable metal studio with expertise in working with renowned contemporary artists. Studios with proven expertise and highly skilled artisans shall be as noted below:
 - 1) Kreysler & Associate, www.kreysler.com (707) 552 3500
 - 2) Zahner, www.handsoftheartist.com (816) 474 8882
 - 3) JunoWorks, www.junoworks.com (303) 291 0255
 - 4) Dri-Design www.dri-design (616) 355-2970
 - 5) Pollich Tallix www.polichtallix.com/installation/ (845) 567-9464
 - d. Metro Art shall review and approve metal studio submittal for aesthetic quality considerations, including expertise in fabricating artworks and working with artists, prior to final selection of proposed studio by the Contractor.
 - e. Metro Art shall review and approve full scale final artwork control samples submittal prior to fabrication for aesthetic quality considerations.
 - f. Contractor shall work with Metro Art to engineer attachment and connection details.
 - g. Contractor shall provide shop drawings for fence assembly, indicating all panel sizes and installation mark numbers, and be ultimately capable of working with the metal studio and the artist to prepare the artist designs into ready-to-fabricate high resolution graphic files.
 - h. Contractor shall fabricate and install finished sculptural metal panels in fence

- assemblies designed to meet Metro's requirements for structural integrity, vandalism and overall architectural design.
- i. Exact locations shall be determined as part of the 60% design submittal stage in coordination with the Contractor.
 - j. Panels shall be uniform in size and provided units measuring 10ft high and 4ft wide and fabricated from T-316 stainless steel sheets with a random orbital (DA) finish at 100 grit with a minimum thickness of 7 gauge unless otherwise indicated. Artwork images shall be water-jet cut. All exposed edges shall be ground smooth to remove burrs, snags and sharp edges. Seaming or 'oil canning' will not be accepted.
 - k. All anchors and fasteners shall be 316 alloy and tamper-resistant where exposed and designed to withstand design loads, with at least 7/16 inch diameter head and neoprene washer.
 - l. All fencing panel accessories including railings, trim, copings, fascia, mullions, sills, corner units, flashings, and similar items shall match stainless steel material and finish of panels unless otherwise indicated.
 - m. All partitions shall be field inspected prior to installation to ensure that the support structure is rigid, plumb, straight and level.
 - n. Stainless steel with iron contamination will not be accepted. Dies for forming components shall be stainless steel or chrome-plated to prevent embedment of iron particles. All stainless-steel work including welds shall be passivated and cleaned after fabrication and installation to prevent corrosion. In the event of iron contamination, it shall be removed by passivation using nitric acid and shall be performed in the fabrication shop only. Welds shall require additional passivation to remove corrosion if no other cleaning method is effective.
 - o. Panels shall be prefabricated and preassembled in factory shop where practicable and shall be wrapped with a durable plastic film for protection during shipping and storage prior to installation.
 - p. Provisional Sum for the artwork shall cover the cost differential between the architectural fencing (solid stainless steel panels) and artist embellished sections. Artwork integration and installation shall be covered by Contractor's base construction costs.
3. Porcelain Enamel Steel (Metro Art furnished design. Contractor furnished, fabricated and installed).
- a. Artwork shall consist of artist designed porcelain enamel steel panels as produced by a specialized, reputable porcelain enamel steel studio with expertise in working with renowned contemporary artists and shall be in keeping with artist's aesthetic design and as approved by Metro Art. Studios with proven expertise and highly skilled artisans shall be as noted below.

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1) KVO Industries, Inc, kvoindustries.com, (707) 573-6868
steve@kvoindustries.com

2) Winsor Fireform. winsorfireform.com, (360) 786-8200
sales@winsorfireform.com

- b. Metro Art shall contract directly with the artist and provide final designs to the Contractor.
 - c. Panels shall measure 3 ft. in height and 6 ft. in width and shall be attached with a concealed stainless steel cleat system to be approved by Metro Art.
 - d. Metro Art shall review and approve porcelain enamel steel studio submittal for aesthetic quality considerations, including expertise in fabricating artworks and working with artists, prior to final selection of proposed Studio by the Contractor.
 - e. Metro Art shall review and approve full scale final artwork control samples submittal prior to fabrication for aesthetic quality considerations.
 - f. Contractor shall provide shop drawings for panel assembly, indicating all panel sizes and installation mark numbers, and be ultimately capable of working with the porcelain enamel studio and the artist to prepare the artist designs into ready-to-fabricate high resolution graphic files.
 - g. Contractor to install finished panels in assemblies designed to meet Metro's requirements for structural integrity, and permanent installation on the trainroom walls.
4. Provisional sum for the artwork shall cover the cost of the porcelain panels with the artist embellished sections and installation. Ceramic Tile & Glass Tile/Panels/Mosaics (Metro Art furnished designs and fabricated artwork. Contractor installed.)
- a. Artwork shall consist of ceramic tile and/or glass tile/panels/mosaic as produced by a specialized, reputable ceramic tile/glass mosaic studio company with expertise in working with renowned contemporary artists and in keeping with artist's aesthetic design and as approved by Metro Art.
 - b. Metro Art shall contract with reputable ceramic tile and/or glass tile/panels/mosaic studio fabrication studio with expertise in working with renowned contemporary artists for fabrication of artwork and shall contract with fabricator to deliver the completed artwork to the project site at an agreed to date between Contractor and Metro for installation by the Contractor. Contractor shall work with Metro Art to engineer attachment and connection details.
 - c. Artwork shall be preassembled into sections and coded, with backing materials when required and shall be compatible with structural wall assemblies as required by Metro for safety and durability.

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- d. Metro Art shall deliver artwork to the project site for secure storage and installation by Contractor.
 - e. Glass panels may require a stainless steel attachment system.
 - f. Artwork integration and installation shall be covered by Contractor's base construction costs.
5. Photographic Light Boxes Assemblies (Contractor furnished and installed)
- a. Each photographic light box assembly consist of three (3) custom built boxes at two stations as follows:
 - 1) Black powder coated finish.
 - 2) LED edge-lit illumination comparable to Lattice LED matrix lighting system by Bitro Specialized Lighting & Display Solutions, www.bitrogroup.com.
 - b. Each box shall be 5 ft. x 7ft. including frame, with locked and hinged door on the 5 ft. side.
 - c. Polycarbonate front face sheets, 0.25 in. thickness, comparable to Makrolon LF or approved equal.
 - d. Slim profile frame is desirable, with frame depth to accommodate LED.
 - e. Premium grade, suitable for transit environment and long term durability.
 - f. Hardwired with no exposed conduits.
 - g. Internal transformer, if required.
 - h. Contractor shall contract with specialty fabricator with proven expertise as noted below:
 - 1) Bitro, bitrogroup.com. (201) 641 1004
 - 2) Blue River Digital, blueriverdigital.com/lightboxes, (800) 706 4276
 - 3) DSA, dsaphototech.com (877) 305 4911
 - i. Metro Art shall review and approve specialty fabricator submittals for aesthetic quality considerations prior to final selection of specialty fabricator by the Contractor and shall review shop drawings during fabrication stages.
 - j. Contractor shall contract with fabricator to deliver the completed metal box housings, and any assembly components, including interior illumination, polycarbonate sheets, etc., to the project site for installation by the Contractor at locations noted in the construction drawings and approved by Metro Art.

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- k. Contractor shall provide electrical stub outs at appropriate locations to direct wire the photo light boxes and avoid exposed electrical conduits and coordinate with specialty fabricator to that effect.
- l. Photo light boxes shall receive Duratrans Archive art work images. Duratrans Archive material, image content and installation within the photo light boxes shall be furnished by Metro Art.
- m. Procurement and installation costs to be part of the base construction.

B. Location - 2nd/Hope Street Station

1. Architectural Glass

- a. Artist designed glass shall be located at the Pavilion enclosure glass wall at the plaza level. Glass wall is 12 ft. high and 26 ft. wide. Glass panels sit in frames that are 4 ft. wide and 8 ft. high. Glass area is approximately 310 square feet.
- b. The total minimum coverage of 310 square feet for the enclosure glass wall is intended as an approximate order of magnitude based on a completed installation. Actual glass square footage may vary due to test mock ups and sample production runs.

2. Ceramic Tile/ Glass Tile/Panels/Mosaic

- a. Artist designed ceramic tile and/or glass mosaic artwork furnished by Metro shall be located as follows:
 - 1) East wall concourse elevator lobby: Approximately 20 ft. in width and 64 ft. in height.
 - 2) The total minimum coverage of 1,280 ft. is intended as an approximate order of magnitude based on a completed installation. Actual square footage may vary due to test mock-ups and production runs.

3. Photographic Light Boxes

- a. Internally illuminated photographic light boxes shall be surface wall mounted as follows:
 - 1) North wall Concourse Level: One (1) photo light box assembly comprised of three (3) individual boxes of 5 ft. in height by 7 ft.in width each.
 - 2) South wall Concourse level stair landing (stair no. 1 and no. 2): Two (2) photo light box assemblies comprised of three (3) individual boxes of 5 ft. in height by 7 ft.in width each.
- b. The design intent is for each assembly is have three (3) photo light boxes to

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be grouped (butted) together to arrive at an overall dimensional configuration of 5 ft.in height by 21 ft.in width.

- c. Exact locations within the Concourse walls shall be determined during final design stage in coordination with the Contractor (Design Builder).
- d. Photo light boxes shall receive Duratrans Archive art work images. Duratrans Archive material, image content and installation within the photo light boxes shall be provided by Metro Art.

4. Porcelain Enamel Steel Panels

- a. Artist designed porcelain enamel steel panels shall be located above the east and west platform walls. Each wall measures approximately 20 ft. high and 25 ft. wide. The panels will be installed in a recess sufficient to keep the panels from projecting from the wall and to allow adjustments during installation. The attachment system shall be stainless steel.
- b. Artwork fabrication shall comply with all applicable regulatory codes.
- c. The total minimum coverage of 1,000 sq.ft.is intended as an approximate order of magnitude based on a completed installation. Actual square footage may vary due to test mock-ups and production runs.
- d. Exact locations within the platform walls shall be determined during final design stage in coordination with the Contractor.

C. LOCATION - 2nd/Broadway Station – Base Design

1. Architectural Glass

- a. Artist designed glass shall be located at the Pavilion enclosure glass walls at the plaza level. Glass walls are 12 ft. high, with two walls 34 ft. wide and another wall 32 ft. wide. Glass panels sit in frames that are 4 ft. wide and 8 ft. high. Glass area is approximately 1,200 square feet.
- b. The total minimum coverage of 1,200 square feet for the enclosure glass walls is intended as an approximate order of magnitude based on a completed installation. Actual glass square footage may vary due to test mock ups and sample production runs.

2. Sculptural Metal Fence

- a. Artist designed sculptural metal fence art work shall be located at the Plaza level at the perimeter of the Paid and the Unpaid area, on a one foot concrete curb.

1) North elevation: 10 ft. ht. by 32 ft. (320 sq. ft.)

2) West elevation: None

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- 3) South elevation: None
 - 4) East elevation: 10 ft. ht. by 32 ft. (320 sq. ft.)
 - b. Sculptural metal fence art work fabrication shall comply with all applicable regulatory codes.
 - c. The total 64 minimum linear feet of metal fencing is intended as an approximate order of magnitude based on completed installation of fencing. Actual linear feet of fencing may vary due to test mock ups and samples.
3. Ceramic Tile & Glass Tile/Panels/Mosaic
- a. Artist designed ceramic tile and/or glass mosaic artwork furnished by Metro shall be located at one (1) location as follows:
 - 1) North wall of Concourse Level: (approximately 98 ft. width by 10 ft. height).
 - 2) The total minimum coverage of 980 sq. ft. is intended as an approximate order of magnitude based on a completed installation. Actual square footage may vary due to test mock-ups and production runs.
4. Photographic Light Boxes
- a. Internally illuminated photographic light boxes shall be surface wall mounted as follows:
 - 1) West Plenum level wall stair landing (stair no. 1 and no. 2): One (1) photo light box assembly (1) comprised of three (3) individual boxes of 5 ft. by 7 ft. each.
 - b. Each assembly is three (3) photo light boxes to be grouped (butted) together to arrive at an overall dimensional configuration of 5 ft. height by 21 ft. width.
 - c. Exact locations within the plenum walls shall be determined during final design stage in coordination with the Contractor.
 - d. Photo light boxes shall receive Duratrans Archive artwork images. Duratrans Archive material, image content and installation within the photo light boxes shall be furnished by Metro Art.
5. Porcelain Enamel Steel Panels
- a. Artist designed porcelain enamel steel panels shall be located above the station signage band on both sides of the platform. The panels will be installed in a recess sufficient to keep the panels from projecting from the wall and to allow adjustments during installation. The attachment system shall be stainless steel.
 - b. Artwork fabrication shall comply with all applicable regulatory codes.

- c. 1,260 minimum sq. ft. of porcelain enamel is as an approximate order of magnitude based on completed installation. Actual area of coverage may vary due to test mock ups and samples.
- d. Exact locations within the platform walls shall be determined during final design stage in coordination with the Contractor.

D. LOCATION - 2nd/Broadway Station – Option B

1. Architectural Glass

- a. West Pavilion: Artist designed glass shall be located at the Pavilion enclosure glass walls at the plaza level. Glass walls are 8 ft. high, with one wall 20 ft. wide, a second wall 32 ft. wide and third wall 34 ft. wide. Glass panels sit in frames that are 4 ft. wide and 8 ft. high. Glass area is approximately 688 square feet.
- b. West Pavilion: The total minimum coverage of 688 square feet for the enclosure glass walls is intended as an approximate order of magnitude based on a completed installation. Actual glass square footage may vary due to test mock ups and sample production runs.
- c. East Pavilion: Artist designed glass shall be located at the Pavilion enclosure glass walls at the plaza level. Glass walls are 8 ft. high, with one wall 32 ft. wide and another wall 42 ft. wide. Glass panels sit in frames that are 4 ft. wide and 8 ft. wide. Glass area is approximately 592 square feet.
- d. East Pavilion: The total minimum coverage of 592 square feet for the enclosure glass walls is intended as an approximate order of magnitude based on a completed installation. Actual glass square footage may vary due to test mock ups and sample production runs.

2. Sculptural Metal Fence

- a. West Pavilion: Artist designed sculptural metal fence art work shall be located at the Plaza level at the perimeter of the Paid and the Unpaid area, on a one foot concrete curb:
 - 1) North elevation: 8 ft. ht. by 39 ft. (312 sq. ft.)
 - 2) West elevation: None
 - 3) South elevation: 8 ft. ht. by 31 ft. (248 sq. ft.)
 - 4) East elevation: None
- b. East Pavilion: Artist designed sculptural metal fence art work shall be located at the Plaza level at the perimeter of the Paid and the Unpaid area, on a one foot concrete curb:
 - 1) North elevation: None

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- 2) West elevation: None
- 3) South elevation: None
- 4) East elevation: 8 ft. ht. by 42 ft. (336 sq. ft.)

3. Ceramic Tile & Glass Tile/Panels/Mosaic

- a. Artist designed ceramic tile and/or glass mosaic artwork shall be located at one (1) location as follows:
 - 1) North wall of Concourse Level: (approximately 98 ft. width by 10 ft. height).
 - 2) The total minimum artwork coverage of 980 sq. ft. is intended as an approximate order of magnitude based on a completed installation. Actual square footage may vary due to test mock-ups and production runs.

4. Photographic Light Boxes

- a. Internally illuminated photographic light boxes shall be surface wall mounted as follows:
 - 1) East Plenum level wall stair landing (stair no. 1 and no. 2): One (1) photo light box assembly (1) comprised of three (3) individual boxes of 5 ft. by 7 ft. each.
- b. Each assembly is three (3) photo light boxes to be grouped (butted) together to arrive at an overall dimensional configuration of 5 ft. height by 21 ft. width.
- c. Exact locations within the plenum walls shall be determined during final design stage in coordination with the Contractor.
- d. Photo light boxes shall receive Duratrans Archive artwork images. Duratrans Archive material, image content and installation within the photo light boxes shall be furnished by Metro Art.

5. Porcelain Enamel Steel Panels

- a. Artist designed porcelain enamel steel panels shall be located above the station signage band on both sides of the platform. The panels will be installed in a recess sufficient to keep the panels from projecting from the wall and to allow adjustments during installation. The attachment system shall be stainless steel.
- b. Artwork fabrication shall comply with all applicable regulatory codes.
- c. 1,260 minimum sq. ft. of porcelain enamel is as an approximate order of magnitude based on completed installation. Actual area of coverage may vary due to test mock ups and samples.

- d. Exact locations within the platform walls shall be determined during final design stage in coordination with the Contractor.

E. LOCATION - 1st/Central Station

1. Architectural Glass

- a. Artist designed glass shall be located on north and south sides of the pavilion enclosure glass walls flanking both stairs and escalators. Each artwork area measures 32 ft. x 8 ft. The glass panels each measure 8 ft. x 4 ft. contained within an aluminum curtain wall assembly. The configuration of the glass panels shall be determined during final design.
- b. The total minimum coverage of 1,024 sq.ft. is an approximate order of magnitude based on a completed installation. Actual glass square footage may vary due to test mock-ups and sample production runs.

2. Porcelain Enamel Steel

- a. Artist designed porcelain enamel steel panels shall be located above the station signage band on both sides of the platform. The panels will be installed in a recess sufficient to keep the panels from projecting from the wall and to allow adjustments during installation. The attachment system shall be stainless steel.
- b. Artwork fabrication shall comply with all applicable regulatory codes.
- c. 2,700 minimum sq. ft. of porcelain enamel is as an approximate order of magnitude based on completed installation. Actual area of coverage may vary due to test mock ups and samples.
- d. Exact locations within the platform walls shall be determined during final design stage in coordination with the Contractor.
- e. Artist designed porcelain enamel steel panel shall be located at upper part of the Elevator & Vent Shaft north elevation as indicated. The panel to be flush with the architectural wall panel surface. Artwork area measures 17'-8"x6'-0".

2.2 ARTWORK LIGHTING

- A. Lighting for the purposes of illuminating or providing accent lighting to artworks shall be in keeping with Section 7.13 (Lighting) and Section 7 (Appendix A Lighting System) of the Metro Rail Design Criteria.
- B. Lighting for the purposes of highlighting or illuminating art works shall be designed by a professional lighting design firm as part of base construction services provided by the Contractor team. Scope shall include design, calculations and notation of light fixtures and bulb types in the lighting and electrical drawings.
- C. Light fixtures and bulb types specified for the purpose of artwork illumination shall

be within the range of fixtures specified for the overall station project and not unique, specialty products without proven track record and shall be subject to approval by Metro Traction & Power.

- D. The aesthetic design intent for illumination of artwork locations is as follows:
1. Glass: Ambient with fixture locations and types that will provide the glass art elements to be clearly illuminated and viewed by persons in the surrounding urban area. The illuminated glass shall function as a welcoming station element. Targeted luminance value shall be no less than 30 foot-candles.
 2. Sculptural Metal Fence: Lighting of perimeter fence requires no additional targeted lighting, beyond that provided for within the Paid and Unpaid area.
 3. Ceramic Tile/Glass Mosaic: Consistent, even wash of light for art work tile for full width and height without obvious hot spots. Targeted luminance value shall be no less than 50 foot-candles.
 4. Porcelain Enamel Steel Panels: Consistent, even wash of light for artwork panels for full width and height without obvious hot spots. Targeted luminance value shall be no less than 50 foot-candles.
 5. Use of fixtures embedded within interior or exterior paving are unsuitable for illumination of artworks.
 6. Contractor's base construction costs shall cover the specific design integration, procurement and installation of the artwork lighting at each station.

2.3 CONSTRUCTION DRAWINGS REQUIREMENTS

- A. Artist designed glass shall be noted on the construction drawings as "Artist designed glass. Artwork designs provided by Metro Art and artwork fabricated and installed by Design Builder."
- B. Artist designed sculptural metal fence art work at perimeter of Paid and Unpaid area at the Plaza level shall be noted on the construction drawings as "Artist designed fence. Artwork designs provided by Metro Art and artwork fabricated and installed by Design Builder."
- C. Artist designed porcelain enamel steel at the platform level shall be noted on the construction drawings as "Artist designed porcelain enamel steel. Artwork designs provided by Metro Art and artwork fabricated and installed by Design Builder."
- D. Artist designed ceramic tile and glass Tile/Panels/Mosaic art work shall be noted on the construction drawings as "Artist designed mosaic/tile artwork furnished by Metro Art and installed by Design Builder."
- E. Photographic light boxes shall be noted on the construction drawings as "Furnished and installed by Design Builder." Light Boxes require electrical supply for lighting purposes, notation on electrical plans and schedules and coordination with associated trades. Duratrans shall be furnished and installed by Metro Art.

- F. Architectural lighting to illuminate art works shall be located and noted in appropriate plans, elevations, sections, details and schedules.

2.4 CONTRACTOR-FURNISHED MATERIALS

- A. The following shall be included unless otherwise noted.
- B. Steel Anchor Assemblies - Fabricate assemblies from carbon steel plates and shapes complying with ASTM A36.
- C. Epoxy Grout - ASTM C881, Type I, Grade 3, Class B or C.
- D. Expansion Bolts - FS FF-S-325, toothed steel or lead shield expansion devices of type and size required, with galvanized steel bolts, except do not use lead shields for overhead anchorage.
- E. Non-Shrink Grout - As specified in Section 03 60 00, Grout.
- F. Stainless Steel Panels and Anchor Assemblies for Sculptural Metal Fence and Porcelain Enamel Panels- Fabricate assemblies from 316 Alloy stainless steel plates and shapes complying with ASTM A-240 or approved equal.
- G. All metal assemblies to avoid galvanic action where subject to weather or Metro Art's normal maintenance program.
- H. Other materials that may be required to any artwork installations subject to Metro Art's review and approval.

2.5 METRO ART-FURNISHED ARTWORK DESIGNS

- A. The following shall be included unless otherwise noted.
- B. Metro Art shall provide artwork designs for enhanced architectural glass, sculptural metal fencing and porcelain enamel steel..
- C. Refer to Section 1.4.A. Metro Art Program Responsibilities.

2.6 METRO ART-FURNISHED AND FABRICATED ARTWORK

- A. The following shall be included unless otherwise noted.
- B. Metro Art shall provide ceramic tile/ glass Tile/Panels/Mosaic artwork per Section 2.1.A.5 Ceramic Tile and Glass Tile/Panels/Mosaic.
- C. Refer to Section 1.4.A. Metro Art Program Responsibilities.

2.7 CONTRACTOR-FURNISHED ARTWORK AND ARTWORK ELEMENTS

- A. The following shall be included unless otherwise noted.

Regional Connector Transit Corridor Project

- B. Contractor shall furnish and install artist designed glass, per Section 2.1.A.1. Architectural Glass. The Contractor shall fabricate the glass based on a software design provided by Metro.
- C. Contractor shall furnish and install artist designed stainless steel metal fencing, per Section 2.1.A.2. Sculptural Metal Fencing.
- D. Contractor shall furnish and install porcelain enamel steel panels per Section 2.1.A.3 Porcelain Enamel Steel
- E. Contractor shall furnish and install photographic light boxes, per section 2.1.A.6 Photographic Light Boxes.
- F. Contractor to install all artwork. Refer to Section 1.4.B. Contractor Responsibilities.
- G. Contractor to furnish and install all lighting required to enhance artwork.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examine all supporting substrates to receive artwork. Verify all field dimensions of in-place and subsequent construction.

3.2 INSTALLATION

- A. Refer to Sections 1.4.A Metro Art Program Responsibilities and 1.4.B Contractor Responsibilities for installation and coordination requirements.

3.3 CLEANING AND PROTECTION

- A. Refer to Section 1.4.B Contractor Responsibilities for cleaning and protection requirements.
- B. All cleaning and protection means and methods shall be approved by Metro Art.

TABLE 1 - REGIONAL CONNECTOR ART PROGRAM: Application of Provisional Sum

| BASE | ARTWORK | 2nd/Hope | 2nd/Broadway | 2nd/Broadway (Opt) | 1st/Central | Use of Provisional Sum | Remarks |
|------------------------------|-------------------------------|-------------------------------------|-----------------------------------|-----------------------------------|--------------|---|---|
| GLASS CURTAIN WALL | ARCHITECTURAL GLASS | 310 sq.ft | 1,200 sq.ft | 1,280 sq.ft | 1,280 sq.ft. | Digital enhancement during fabrication | Artwork design furnished by Metro |
| STAINLESS STEEL FENCE PANELS | SCULPTURAL METAL FENCE | N/A | 640 sq.ft | 900 sq.ft | N/A | Digital enhancement during fabrication | Artwork design furnished by Metro |
| N/A | PORCELAIN ENAMEL STEEL PANELS | 1,000 sq.ft | 1,260 sq.ft | 1,260 sq.ft | 2,810 sq.ft. | Procurement, fabrication and attachment to concrete (without ribbing) | Artwork design furnished by Metro |
| INSTALLATION | CERAMIC or GLASS TILE/MOSAIC | 1,280 sq.ft | 980 sq.ft | 980 sq.ft | N/A | N/A | Artwork design, fabrication & delivery furnished by Metro |
| PHOTOGRAPHIC LIGHTBOXES | DURATRANS | 3 Assemblies (3 boxes per assembly) | 1 Assembly (3 boxes per assembly) | 1 Assembly (3 boxes per assembly) | N/A | N/A | Duratrans furnished & installed by Metro |
| ARTWORK LIGHTING | N/A | N/A | N/A | N/A | N/A | N/A | TBD by DB |

Notes: All quantities listed are based on Project Definition Drawings for reference purposes only.

Actual quantities to be determined by Contractor based on advancement of Final Design

Metro approval required before Contractor proceeds with implementation

END OF SECTION