SECTION 01113

CONSTRUCTION OPERATIONS AND SITE UTILIZATION PLAN

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings

B. Book 1: Project Information, Instructions to Bidders, and Execution Documents

C. Book 2: Standard Terms and Conditions for Construction Contracts

D. Book 2A: Standard Terms and Conditions Procedures Manual

1.2 SUMMARY

A. The Construction Operations Plan provides a coordinated construction environment to ensure an orderly, secure and safe operation within the entire property, consequently forming the basis for the Site Utilization Plan prepared by the General Contractor.
   1. The PBC Authorized Representative will administer the operations plan activities. All Construction Operating issues shall be channeled through and require approval by the PBC Authorized Representative.
   2. The Construction Operations Plan has been prepared based on the requirements of the project. The elements of this plan required for incorporation into the Site Utilization Plan are included in this section.

1.3 SUBMITTALS

A. Site Utilization Plan: Submit five (5) copies of the site Utilization Plan required in Part 3.
   1. Submit proposed revisions as deemed necessary

1.4 CONSTRUCTION OPERATIONS PLAN

A. Area of Work

In order to minimize disruption during construction, the Work will be performed in accordance with the designated Areas of Work listed below, along with durations for each.

1. **Area of Work I – West and East of Constance Aveneue**:
   - All Work associated with the park site improvements west and east of Constance Avenue, work shall commence upon issuance of the NTP and be completed by no later than October 12, 2012.

- All Work associated with the furnishing and installation of utility services west and east of Constance Avenue shall commence upon issuance of the NTP and be completed by no later than October 12, 2012.
- All Work associated with the park site improvements and furnishing and installation of utility services within the area of the existing electrical vault shall commence after June 30, 2012 and be completed by no later than October 12, 2012.

2. <u>Area of Work II – Constance Avenue Vacation:</u>

- All Work associated with the park site improvements in the right-of-way vacation of Constance Avenue, work shall commence after June 30, 2012 and be completed by no later than October 12, 2012.
- All Work associated with the furnishing and installation of utility services in the right-of-way vacation of Constance Avenue, work shall commence after June 30, 2012 and be completed by no later than October 12, 2012.

1.5 GENERAL REQUIREMENTS

A. General Contractor shall review and be familiar with the site conditions through site visits.

B. General Contractor to provide all temporary and permanent driveway apron and alley permits for the duration of the construction if required. The General Contractor is to pay all fees required for processing permits and is to contact and comply with all authorities and jurisdiction required for permitting.

C. General Contractor shall provide snow removal and clear all debris within project limits, and adjacent public right of way.

D. General Contractor is to provide all required permits for street access for truck delivery from the local and state jurisdiction.

E. General Contractor will be required to coordinate all phases of construction and complete the work within the milestone completion date(s) for the work. The General Contractor shall be also held responsible for meeting all related provisions as described within this section.

F. Upon issuance of the Notice to Proceed (NTP) the General Contractor shall survey the site and photograph the area of construction operations and surrounding/adjacent areas. Upon completion of the work the Contractor is to restore the area to the documented condition prior to the start of work or as otherwise indicated in the Contract Documents.

G. General Contractor shall coordinate and maintain all exit egress during construction as required by the City of Chicago code, other entities with jurisdiction, and as directed by PBC Authorized Representative. The General Contractor shall provide and maintain all materials and labor including barricades and construction fence. All costs for this work shall be included in the Contract Base Bid regardless of whether it is indicated in the Contract Documents or not.

H. The Contractor is to set up and stage the entire project within the boundaries of the Contract Limits. The General Contractor is responsible for maintaining and modifying the fence as necessary and as approved in the Site Utilization Plan for the life of the project. Removal and disposal of the fence at the conclusion of the project is the responsibility of the General Contractor.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SITE UTILIZATION PLAN

A. After a Notice of Award and prior to Notice to Proceed the General Contractor is to prepare and submit to the PBC Authorized Representative for approval a Preliminary Site Utilization Plan based on the Construction Operations requirements outlined in this section. Mobilization on-site is not to occur until approval of the Site Utilization Plan is obtained. If requested by the Contractor, a preliminary meeting to review site elements and Construction Operations with the PBC Authorized Representative prior to submission of the Site Utilization Plan shall be held.

B. The Site Utilization Plan shall be submitted within 15 calendar days of issuance of the NTP and shall be provided in a full-size graphic drawing format (36" x 48"). The final Site Utilization Plan must be approved before any direct construction activities take place on the site. Provide a plan for the entire site. The Contractor is required to prepare and secure approvals of a separate Site Utilization Plan for each phase of the work. Modifications to the format and sheet size will be permitted if pre-approved by the PBC Authorized Representative and if proposed modifications will facilitate preparation, presentation and review of the Site Utilization Plan. Electronic copies of the Contract Document drawings as appropriate will be provided for this purpose upon request. The Site Utilization Plan shall at a minimum include the following elements:

1. Title block information including Park Name, Contract Number, General Contractor, and current plan date.
2. All denotations shall be illustrated in a legend on each Site Utilization Plan.
3. Denotation of construction limits by area of work with commencement and completion dates for each.
4. Both new and existing park improvements, athletic fields, artificial turf, playground, landscaping, paving, drainage structures, fencing and other important site features.
5. Traffic patterns for both construction and non-construction vehicles.
6. Denotation of the limits of construction and required construction fencing including any existing fencing to remain.
7. Denotation of required covered construction barricade walkways.
8. Denotation of areas allowed for staging purposes: construction personnel parking, material storage, and construction trailer(s). Such activities are to only take place in areas designated and approved by the PBC Authorized Representative.
9. Denotation of any specific site conditions required to be observed such as keeping alleys clear next to adjacent properties, and any other issues listed on the Construction Operations Site Plan.
10. Denotation of areas allowed for site access and equipment including but not limited to gates, cranes, scaffold, trailers, dumpster, wheel washers, storage and existing utility poles.
11. Denotation of all required temporary utilities, including but not limited to AT&T, Peoples Gas, and ComEd.
12. Construction worker ingress/egress, material staging areas in the existing building.
13. Denotation of all temporary exits and path of travel by pedestrians and vehicular traffic.
14. Denotation of commencement and completion of the work for systems tie-ins to existing services including but not limited to water, sewer, and electrical.

3.2 SITE UTILIZATION PLAN UPDATES

A. The General Contractor is required to submit for approval updated Site Utilization Plans whenever conditions in the current approved plan have changed. Approval is required prior to proceeding on any changed conditions not previously approved. Requirements for updating include the following:

1. In coordination with the project schedule provide detailed information regarding site improvements including phasing, vacation of existing in-use areas, and any other information requested by the PBC Authorized Representative.
2. Revision to the site plan to reflect changing conditions regarding construction fencing, ingress and egress, construction deliveries, areas of stored materials, parking, and any other construction facility revisions.

END OF SECTION

SECTION 02210

TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes excavation, bedding, and backfill for all buried utilities including removal and replacement of sidewalk, pavement, or other surface materials.

1.1 RELATED DOCUMENTS

A. Drawings
B. Book 1: Project Information, Instructions to Bidders, and Execution Documents
C. Book 2: Standard Terms and Conditions for Construction Contracts
D. Book 2A: Standard Terms and Conditions Procedures Manual

1.3 REFERENCES

A. Performance and material requirements shall meet specific Reference Standards as referred to hereinafter under individual items, as follows:

1. ASTM American Society for Testing and Materials Standards
2. IDOT Illinois Department of Transportation "Standard Specifications for Road and Bridge Construction, January, 2012".
3. CDOT Chicago Department of Transportation "Standard Specifications for Openings in the Public Way"
4. Enviromental report.
5. Geotechnical report.

1.4 SUBMITTALS

A. Certified Test Reports: Prior to construction, submit certified test reports for all contractor-supplied materials.

1.5 QUALITY CONTROL

A. Testing and Inspection Service provided by owner. Contractor to coordinate Testing Agency as required.

1. Laboratory Tests

a. Test "Granular Bedding and Backfill" materials for gradation prior to use. Do not use site materials for bedding and / or backfill. Provide all materials complying with Section 02318 and the following test at least one sample for each material source.

b. Test "Granular Bedding and Backfill" materials for maximum compacted density and optimum moisture content in accordance with ASTM D1557.
c. After testing, the testing laboratory will inform the Owner's Representative in writing of their recommendations for compaction of the soil samples submitted for testing. One copy of each report will be sent to the Contractor and Owner's representative. The Contractor shall comply with such recommendations.

B. Field Control Tests

1. Perform in-place density tests in randomly selected locations and in accordance with ASTM D1556 (sand cone method) or ASTM D2922 and ASTM D3017 (nuclear methods) as follows:

Material Type	Test Frequency
Bedding	One per lift per 150 lineal feet of line
Granular Backfill	One per lift per 150 lineal feet of line

1.6 DELIVERY AND STORAGE

A. Deliver and store materials in a manner to prevent contamination or segregation.

1.7 SITE CONDITIONS

A. Site Information

1. Examine the site to ascertain the state and conditions under which the work is to be done.

2. Examine the enviromental report to determine where contaminated materials will be in encountered. All contaminated soils will need to be disposed of and capped per the recommendation in the environmental report.

3. Geotechnical Report has been included as part of the Contract Documents.

a. The data on indicated subsurface conditions are not intended as representations or warranties of the accuracy or continuity between soil borings. It is expressly understood that the Owner will not be responsible for interpretations of conclusions drawn therefrom by the Contractor.
b. Additional test borings and other exploratory operations may be made by the Contractor at no cost to the Owner.

4. The Contractor shall assume full responsibility for interpreting boring data and for the conclusions drawn from the information furnished and from inspection of available information at the site.

B. Protection of Persons and Property:

1. Barricade open excavations occurring as part of this work, and post with warning lights or other warning devices as required by authorities having jurisdiction.
2. Protect utilities, pavements, and other facilities from damages caused by settlement, lateral movements, undermining, washout, and other hazards created by excavation operations.

PART 2 - MATERIALS

2.1 SOIL MATERIALS

A. Soil materials shall, in general, be free of debris; roots; wood; scrap material; vegetable matter; refuse; soft, unsound particles; frozen, deleterious, or objectionable materials.

2.2 AGGREGATE MATERIALS

A. Granular Bedding: Shall be material supplied by the Contractor. This material shall be gravel or crushed stone meeting IDOT specifications for CA-7, CA-8, CA-11, CA-13 or as indicated on the drawings.

1. Shall be in accordance with Section 2207.

B. Granular Backfill: Shall be material supplied by the Contractor. This material shall meet the IDOT gradation specifictations for FA-6, CA-6, CA-7, CA-11, CA-13 or as indicated on the drawings.

PART 3 - EXECUTION

3.1 SHORING AND SHEETING

A. Provide temporary shoring, bracing, cribbing, or sheeting as required to prevent undermining of structures, utilities, pavements, and slabs and to provide a safe work area in accordance with OSHA safety regulations. The Contractor is responsible for the design of all shoring and sheeting including utility supports.

3.2 EXCAVATION

A. Make trench sides as nearly vertical as practicable except where sloping of sides is allowed. Sides of trenches shall not be sloped from the bottom of the trench up to the elevation of top of the pipe, conduit, duct.

B. Excavate large rock, boulders, or hard material to an overdepth at least four (4) inches below the bottom of the pipe, conduit, duct and appurtenances unless otherwise indicated or specified.

C. Use bedding material to refill overdepths to the proper grade and place in six (6) inch maximum layers. At the option of the Contractor the excavations may be cut to an overdepth of not less than four (4) inches and refilled to required grade as specified.

D. Grade bottom of trenches accurately to provide uniform bearing and support for each section of pipe, conduit, duct, structure on undisturbed soil, or bedding material as indicated or specified at every point along its entire length except for portions where it is necessary to excavate for bell holes and for making proper joints. Dig bell holes and depressions for joints after trench has been graded and dimension as required for properly making the particular type of joint to ensure that the bell does not bear on the bottom of the excavation. Dimensions shall be as shown on the Drawings.

3.3 BEDDING

A. Bedding for utility lines and utility line structures shall be of the materials and depths indicated on the Drawings.

B. Place bedding in six (6) inch maximum loose lifts. Provide uniform and continuous support for each section of structure except at bell holes or depressions necessary for making proper joints. No frozen bedding material is to be used.

3.4 BACKFILLING

A. Surround pipes, conduits, or ducts with bedding or backfill as indicated. Ensure that backfill is placed completely under pipe haunches. No frozen backfill is to be used. Ensure that no damage is done to structures or protective coatings thereon.

B. Place Granular Backfill in six (6) inch maximum loose lifts to twelve (12) inches above pipe or other utility unless otherwise specified. Bring up evenly on each side and for the full length of the structure.

C. Place General Site Backfill in eight (8) inch maximum loose lifts unless otherwise specified.

D. Compact each loose lift as specified in Paragraph "Compaction" before placing the next lift.

F. Do not backfill in freezing weather, where the material in the trench is already frozen or is muddy, except as authorized.

G. Where unacceptable settlements occur in trenches and pits due to improper compaction, excavate to the depth necessary to rectify the problem, then backfill and compact the excavation as specified herein and restore the surface to the required elevation.

H. Coordinate backfilling with testing of utilities. Testing for the following shall be complete before final backfilling: water distribution, storm drainage, and electric.

3.5 COMPACTION

A. Use hand-operated plate-type vibrator or other suitable hand tampers in areas not accessible to larger rollers or compactors. Be careful to avoid damage to utilities and protective coatings. Compaction shall be in accordance with the following unless otherwise specified:

1. Compaction of Bedding: Compact to 95 percent of ASTM D1557 maximum density.
2. Compaction of Granular Backfill: Surrounding pipes, cables, conduits, or ducts shall be to 95 percent of ASTM D1557 maximum density.
3. Compaction of General Site Backfill: General site backfill shall be compacted to 90 percent of ASTM D1557 maximum density.

3.6 SPECIAL EARTHWORK REQUIREMENTS

A. Manholes and Other Appurtenances: Provide at least twelve (12) inches clear from outer surfaces to the embankment or shoring. Remove unstable soil that is incapable of supporting the structure to an overdepth of twelve (12) inches and refill with compacted bedding material to the proper elevation.

B. Roads, Streets, Walkways, and Other Areas to be Paved: Place backfill in six (6) inch maximum loose lifts. Compact bedding and granular backfill surrounding pipes, ducts, conduits, and other structures as specified above. Granular Backfill is to be used for the entire excavation up to the subbases (no site backfill unless site material meets Granular Backfill requirements). Backfill in a manner to permit the rolling and compacting of the completed excavation with the adjoining material to provide the specified density so that paving of the area can proceed immediately after backfilling has been completed.

1. Comply with CDOT requirements on public way

3.7 PAVEMENT AND WALK REMOVAL AND / OR REPLACEMENT

A. Where construction requires cutting and replacing of pavement and / or walks, cutting shall be accomplished so that the remaining exposed edges shall conform vertically and horizontally to a straight line. The full depth of surface and binder course shall be removed to a minimum width required to accomplish shoring and excavation without damage to the exposed edges of the existing pavement to remain, with a straight saw cut on those edges. After backfill and compaction the Contractor shall replace all removed pavement with concrete and / or bituminous concrete pavement of the same total thickness of the removed section. All concrete work shall conform to Section 02520. Waste materials shall be disposed off site in accordance with Section 02316.

3.8 FINISH OPERATIONS

A. Grading: Shall be to finished grades indicated within one-tenth of a foot for utility trenches or except in other circumstances. Grade areas to drain water away from structures. Existing grades which are to remain but are disturbed by the Contractor's operations shall be graded as directed.

B. Dispostion of Material: Remove excavated materials in accordance with Section 02316.

C. Protection of Surfaces: Protect newly graded areas from traffic, erosion, and settlements that may occur. Repair or reestablish damaged grades, elevations, or slopes.

END OF SECTION 02210

SECTION 02830

TEMPORARY CHAIN LINK FENCE

PART ONE - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings
B. Book 1: Project Information, Instructions to Bidders, and Execution Documents
C. Book 2: Standard Terms and Conditions for Construction Contracts
D. Book 2A: Standard Terms and Conditions Procedures Manual

1.1 SUMMARY

A. Furnish and install eight (8') foot chain link fence and gates for temporary access to the site and maintain throughout the construction period as specified herein. At the completion of the construction period the chain link will be disassembled and removed from the site by the contractor.

1.2 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for fencing shown on the Drawings in relation to the proposed park improvements. Verify dimensions by field measurements.

1.3 VIOLATIONS, FINES, AND DAMAGE LIABILITY

A. Violations

1. A violation is any action, or consequence of an action, by the Contractor or any of the Contractor's subcontractors or agents which violates any of the provisions of the Contract.
2. Failure to comply with any of the provisions set forth in the General Conditions or other portions of the contract documents will be considered a violation of the Contractor's Contract with the Park District.
3. Examples of violations include, but are not limited to:
    a. General violations:
        1) Failure to erect and/or maintain construction or "Emergency" signage
        2) Failure to erect and/or maintain security fencing
        3) Using areas outside the area defined in the contract documents for staging or other work related activities
        4) Using egress and ingress routes other than those designated in the contract documents

B. Fines

1. The Commission may assess fines against the Contractor in response to a documented violation.
2. Generally, fines are assessed at $ 500.00 per violation per day.
3. Violations which are ongoing will be fined at a rate of $500 per violation per day until resolved to the satisfaction of the Park District.

C. Damage Liability

1. When damage to Park District property has been documented, the Commission may assess monetary damages against the Contractor in an amount which represents the estimated cost to the Park District, as determined by the Commission, to repair, replace or otherwise remediate damage done to Park District property by the Contractor. This assessment is in addition to any fines assessed for the same violation.

PART TWO - PRODUCTS

2.1 MATERIALS

A. All fencing material shall bear a registered *Quality Seal* of the Chain Link Fencing Manufacturer's Institute guaranteeing that the fence meets or exceeds the requirements of the National Standard for Quality chain link fence. Manufacturers' standard items shall be furnished insofar as applicable to the type of fence specified. In general, materials shall conform to the applicable requirements of the following standard specifications, and as approved by the Chain Link Fence Institute.

B. All ferrous metals used in the construction of the fence, including fabric, shall be galvanized.

C.	Fencing, wire, and post, metal (gates, chain link fabric, and accessories)	Fed. Spec. RR-F-191j/GEN
D.	Fence post and accessories	Fed. Spec RR-F-221

PART THREE - EXECUTION

3.1 INSTALLATION

A. Fencing shall be eight (8') foot high and consist of fabric panels and frame work of top rail, bottom rail, and tubular line posts of tubular gate and terminal posts and rails.

B. Fabric shall be chain link type, 2-inch mesh of 11.5 gauge wire, top and bottom edges of chain link fabric. Shall have knuckle top and bottom; the top edge of fabric shall project above top rail of the fence frame.

C. Posts with diagonal bracing rails shall be provided on each side of the openings, at all corners, angles, and changes in direction; intermediate line posts shall be spaced not more than ten (10) feet on center. Post shall be a minimum 2 ½".

D. Gates shall be of the swinging type with frame of tubular members and shall be provided with diagonal truss rods with turn buckle. Gates shall be provided complete with heavy duty hinges and approved type locking device adaptable for padlocking and accessories from both sides of the gate.

E. Fence shall be anchored sufficient to resist wind loads of 30 pounds per square foot without deflections of more than three (3) inches between top and bottom of fence.

F. Contractor shall inspect fence daily and immediately repair all breaks, tears in fabric, and graffiti in or on the fence.

G. To conform to the City of Chicago requirements, all panels, including gates, shall be covered with a secured green woven polyurethane dust control fabric. Such fabric meshing shall be capable of allowing air to pass but impervious to dust and dirt. The fabric meshing shall be fineness such that no material over 1/8 inch in size or material splatters, laitance or other products of the construction operation shall pass through the mesh. Such fabric shall be the full height of the fence and cover the entire length of the fence including any gated openings. The fabric meshing and fence shall not contain any advertisements. Secure with metal ties, minimum one (1) per two (2) linear feet.

H. Contractor is responsible for keeping windscreen attached to fence frame and shall repair immediately.

3.2 GROUNDING

A. All fence grounding shall meet the requirements of the current Municipal Code of Chicago relating to Electrical Inspection. All fencing shall be grounded at end. The connections to the ground shall be made to the fence fabric, bottom selvage. Gates shall be grounded to the gate posts by means of jumpers. All connections shall be made by means of cable connection at least six inches below the ground. All connections between the gate, fence, and ground rod shall be installed where shown or required and shall be made of copper or copper clad steel, not less than ¾" diameter and length or number of rods shall have a resistance to ground not to exceed 25 ohms. Ground rods to be installed vertically.

3.3 REMOVING AND SALVAGING

A. After completion of all construction work and when directed, the Contractor shall remove the fence. All concrete footings shall be demolished and completely removed from the Chicago Park District property. Voids resulting from the fence removal shall be repaired and restored as necessary.

END OF SECTION

SECTION 13120

EXTERIOR BLEACHERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings
B. Book 1: Project Information, Instructions to Bidders, and Execution Documents
C. Book 2: Standard Terms and Conditions for Construction Contracts
D. Book 2A: Standard Terms and Conditions Procedures Manual

1.2 SUMMARY

A. Section Includes: Design, fabrication and erection of exterior bleachers in accordance with the Contract Documents and the requirements of the Chicago Building Code.

B. Description: Provide semi-closed plank bleacher system including mounting, angle frame understructure system, anodized aluminum seating foot boards, and riser boards.
   1. Number or Rows: 3 rows
   2. ADA seating: 2 spaces integrated into the center of the front row
   3. Overall Length: 21 feet
   4. Rise Per Row: 10 inches
   5. Depth Per Row: 28 inches
   6. Footboard Decking System: Semi-closed plank
   7. Footboard Extrusions: Nominal 1-3/4 inches thick
   8. Seat Board Extrusions: Nominal 1-3/4 inches thick

1.3 SUBMITTALS

A. Product Data: Submit complete printed data identifying components to be provided, demonstrating compliance with Contract Documents.
   1. Submit color charts for selections by the Architect.

B. Shop Drawings: Submit complete layout, fabrication, and shop drawings

1.4 QUALITY ASSURANCE

A. Manufacturer: Regularly engaged in the design and fabrication of bleacher systems for a minimum of ten (10) years.

B. Installer: Experience in the installation of bleacher systems of the type required for a minimum of ten (10) years and approved by the system manufacturer.

C. Regulatory Requirements:
   1. Comply with requirements for access of the American’s with Disabilities Act, Illinois Environmental Act and City of Chicago Accessibility Requirements.
   2. Comply with requirements of authorities having jurisdiction.

D. Design Loads:

Dead Load	6 psf	Seat and foot boards, risers, steel frame, etc.
Live Load	100 psf	to structural member
	120 plf	seat and foot boards
Wind	30 psf	on project surface
Sway	24 plf	parallel per ft. of seat parallel to seat run
	10 plf	Perpendicular per ft. of seat

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Subject to compliance with Drawing and Specification requirements; one of the following:
1. All Star Bleachers
2. Dant-Clayton Corp
3. E & D Specialty Stands
4. Southern Bleacher
5. Sturdisteel
6. GT Ultraplay
7. Approved Equal

2.2 MATERIALS

A. Structural Steel:
1. Structural steel (galvanized angle frame understructure) ASTM A 36, hot dipped galvanized after fabrication.
2. Bolts: ASTM A 307 and ASTM A 325
3. Threaded Rod: ASTM A 36 hot dipped galvanized.
4. Electrodes: E70XX.

B. Extrusions:
1. Seats: 6063-T6 extruded anodized aluminum with a fluted surface and a wall thickness of .078”.
2. Foot boards and tow boards: 6063-T6 of .078” anodized aluminum.
3. Riser boards: 6063-T6 extruded anodized aluminum.
4. Tack weld all aluminum components to the frame.

C. Stairs, Ramps and Platforms:
1. Frames: Galvanized angle frame understructure, ASTM A 36, hot dipped galvanized after fabrication.
2. Treads: 6063-T6 extruded aluminum with a fluted surface and a wall thickness of .078”.
3. Tack weld all aluminum components to the frame.

D. Hardware:
1. Bolts: Galvanized.
2. End Caps:
   a. Seatboard end caps: 6063-T6 extruded anodized aluminum
   b. Walkway, Footboard and Aisle Board End Caps: One-piece mill finish anodized aluminum channel design and shall be riveted to the underside of the plank.
3. Tack weld all aluminum components to the frame.

2.3 FINISHES

A. Steel:
   1. Provide a zinc coating after fabrication of all elements, as follows:
      a. ASTM A 153 for galvanizing iron and steel hardware.
      b. ASTM A 123 for galvanizing rolled, pressed and forged steel shapes, plates, bars.
   2. Fabricate joints, which will be exposed to weather in a manner to exclude water or provide weep holes where water may accumulate.

B. Corrosion Protection: Coat concealed surfaces, which will be in contact with concrete, masonry, wood, or dissimilar metals, in exterior work and work to be built into exterior and below grade walls and decks, with a heavy coat of bituminous paint. Do not extend coating onto exposed surfaces.

C. Provide anodized aluminum finish for all components.
   1. Provide finish complying with NAAMM Specifications AA-M10/12C22A41 (medium matte, non-directional; minimum 0.7 mil clear anodized).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine the areas and the conditions under which all items are to be installed and notify the Owner in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the contractor.

3.2 PREPARATION

A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages such as anchor bolts and miscellaneous items having integral anchor which are to be embedded in concrete. Coordinate delivery of such items to project site.

B. Field Measurements: Take field measurements prior to preparation of shop drawings and fabrication, where possible. Do not delay progress. Allow for adjustments during installation where taking field measurements before fabrication might delay work.

3.3 INSTALLATION

A. Fit exposed connections accurately together to form tight, hairline joints.

B. Perform cutting, drilling, and fitting required for installation of site furnishings. Set work accurately in location, alignment and elevation plumb, level, true, non-rocking and free of rack, measured from established lines and levels. Do not weld, cut, or abrade surfaces of components which have been coated or finished after fabrication, and are intended for field connection by mechanical means without further cutting or fitting.

C. Field Welding (if necessary): Comply with applicable AWS Specification for procedures of manual shielded metal-arc welding, for appearance and quality of welds made, and for methods used in correcting welding work. Weld connections which are not to be left as exposed joints

but can not be shop welded because of shipping size limitations. Grind exposed joints smooth and touch up shop paint coat.

D. Set bleachers on level clean approved concrete slab as indicated on the plans.

E. Anchor bleachers to concrete slab as recommended by the manufacturer.

3.4 CLEANING

A. Clean all surfaces according to the manufacturer's recommendations.

B. Legally remove all packing materials and construction debris in accordance with Section 02316.

END OF SECTION