

SECTION 13120 - 1

CLIMBING WALLS

PART 1 - GENERAL

1.1 SUMMARY

- A. This section includes the following:
 - 1. Custom Climbing Wall.
- B. Related Sections
 - 1. Section "Structural Steel"
 - 2. Section "Rough Carpentry"
 - 3. Finishes

1.2 REFERENCES

- A. CWA – Standards for Artificial Climbing Walls(2009)
- B. International Building Code (IBC) 2000 Edition or code of local conformance.
- C. Manual of Steel Construction, Allowable Stress Design, 9th Edition, AISC

1.3 SYSTEM DESCRIPTION

- A. Climbing wall to be constructed of Impact resistant, 18mm plywood panels. Texture on panels to be coated with a non-aggressive pigmented resin friction coating. Cementitious coatings over plywood will not be accepted.

1.4 QUALITY ASSURANCE

- A. Climbing wall manufacturer shall be as specified and shall have a minimum of 10 years experience in the manufacturing of artificial climbing walls. No substitutions will be permitted.
- B. Fabricator/Installer shall be acceptable to the climbing wall manufacturer.
- C. Installer shall have a minimum of two years experience with manufacturer's materials or be supervised by manufacturer's representative.
- D. Fabrication shop visit: Notify Architect at on-set of fabrication.

1.5 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of the Contract and General Conditions.
- B. Product data including climbing wall manufacturer's specifications, standard details and installation drawings.
- C. Submit 2 samples of climbing wall material, minimum 12 inches by 12 inches, showing color and finish.

- D. Shop drawings indicating layout of climbing wall, dimensions of materials and parts, fastening and anchoring methods, and detail and location of joints.

1.6 BID SUBMITTALS

- A. Submit 2 samples of climbing wall material, minimum 12 inches by 12 inches, showing color and finish.
- B. Submit line item costs and specific climbing wall materials with associated square footages.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Protect products during transit, delivery, storage and handling to prevent damage, soiling and deterioration.
- B. Protect climbing wall finish and edges in accordance with manufacture's recommendations.
- C. Store climbing wall components in accordance with manufacture's recommendations

1.8 WARRANTY

- A. Climbing wall manufacturer shall warrant to the original purchaser for one year from the date of completion that its products are free from defects in materials and workmanship.

1.9 COORDINATION

- A. Coordinate installation of climbing wall so large wall sections can be craned into place without obstructions.
- B. The Owner shall have direct contact with the Climbing Wall manufacturer in the design phase of the climbing wall to achieve specific programmatic requirements set forth by the Owner.

1.10 PROJECT CONDITIONS

- A. Building shall be enclosed and capable of maintaining a minimum temperature of 55 degrees F. Climbing wall area shall be supplied with an artificial light source by the General Contractor for duration of climbing wall installation. Lighting shall be of sufficient quantity and brightness to perform detailed work.
- B. General Contractor shall provide multiple temporary power outlets (110V) , at various locations around climbing wall area for operation of power tools.

PART 2 - PRODUCTS

2.1 CLIMBING WALL MANUFACTURER

- A. Entre Prises USA 20512 Nels Anderson Place, Bend, Oregon 97701 (541) 388-5463, (541) 388-3248 fax, or others as approved by Owner.

2.2 ARTIFICIAL CLIMBING WALL MATERIALS

- A. Mozaik climbing wall system from Entre Prises is the basis of design.
- B. Climbing wall to be constructed of Impact resistant, 18mm plywood panels. Texture on panels to be coated with a non-aggressive pigmented resin friction coating. Cementitious coatings over plywood will not be accepted.

2.3 CLIMBING WALL COMPONENTS

- A. Mozaik Plywood Panels.
1. Material: 18mm hardwood faced plywood with 3/8" T-nuts for hand hold attachments.
 2. Installation of Mozaik plywood panels as shown in drawings by climbing wall manufacturer.
 3. Color: as selected by Architect, from manufacture's standard color selection.
- B. Integrated Primary Support structure - Steel Support Frames (supplied by Climbing wall Manufacturer)
1. The support structure shall be pre-fabricated steel support frames, capable of transferring all applied design loads back to the slab or building attachment(s).
 2. Major components of the steel support structure are as follows:
 - a. ASTM A36 Steel
 3. Finish on above strut shall be the following: (Architect to specify paint color)
 - a. Steel primer paint – 2 coats.
 4. Primary Steel support frames will be sized and detailed by engineering calculations carried out by an engineering consultant to the climbing wall manufacturer. The engineering calculations will outline the reactions generated by the climbing wall.
 5. Anchorage details for the primary steel support frames attaching to building will be provided by the Engineer of record for the building.
- C. Integrated modular support structure
6. The support structure shall be modular in nature and capable of transferring all applied design loads back to the primary vertical support structure that lie parallel to the projected plane of the climbing surface.
 7. Integrated modular support structure shall be made of pinch pipe members capable of transferring all design loads from the Imprint panels to the primary support structure via a linear attachment channel strut as manufactured by Unistrut, Globe or equal (supplied and installed by Steel Subcontractor).
 8. Major components of the modular support structure are as follows:
 - b. Pinch pipe members shall be fabricated from steel pipe, ASTM A53 Grade A, with both ends press formed.
 - c. Panel corner brackets shall be fabricated from steel. Corner brackets shall be attached to the Imprint panel via a 3/4" stud on the panel corner. Corner bracket shall be secured with a 3/4" nut and lock washer behind. Avoid overtightening the nut.
 - d. Pinch pipe to channel rail connections shall be connected with angle clips fabricated from 2-1/2" angle steel ASTM A36.
- D. Unistrut P1000. Include 220 compatible channel nuts (supplied by Steel Subcontractor)
1. Strut shall be attached to primary support structure columns as shown in drawings by Entre Prises, USA.
 2. Finish on above strut shall be the following: (Architect to specify paint color)
 - b. Paint

- E. Primary support structure (supplied and installed by Steel Subcontractor)
 - 1. Primary support members will be sized and detailed by engineering calculations carried out by Froelich Engineering Consultants and supplied by Entre Prises, USA. The engineering calculations will outline the reactions generated by the climbing wall.
 - 2. Anchorage details for the primary support structure and floor anchors will be provided by Structural Consultants.
 - 3. Finish on above primary support structure shall be the following: (Architect to specify paint color)
 - a. Paint

F. Steel Plates, Angle and Bars: ASTM A36

2.4 CLIMBING WALL FABRICATION

A. Composition

- 1. 18mm faced hardwood

B. Texture: Finish on climbing wall shall be the following:

- 1. Pigmented resin friction coating by EP

C. Average surface material weight = 2.2 lbs./sq. ft.

2.5 PRIMARY SUPPORT STRUCTURE FABRICATION

C. Dimensions: Dimensions given in Drawings prepared by the climbing wall manufacturer are final fabricated dimensions.

D. Quality Control

- 1. Rejections: Material or workmanship not in reasonable conformance with the provisions of this Specification may be rejected at any time during the progress of work.

2.6 FASTENERS

A. Mozaik Plywood:

- 1. Modular handhold attachment system on the climbing panels shall consist of heavy duty steel T-Nuts or backer plates that accept 3/8"-16 threaded fasteners.

B. Modular Hand Hold:

- 1. Shall be 3/8" – 16 socket head cap screws or flat head cap screws of appropriate length as suggested by the manufacturer.
- 2. Handholds shall be composed of Polyurethane

C. Climbing Protection/Anchors:

- 1. Lead Bolts:

- a. U.I.A.A. approved bolt hangers shall be attached through the panel into the corner hardware using, minimum, a 3/8" Grade-8 button head cap screw.
 - b. The 3/8" button head cap screw shall be of sufficient length to extend through the corner hardware and through a backup locknut behind the hardware.
2. Belay Anchors(if top rope wall):
- a. Each belay anchor shall consist of two (2) U.I.A.A. approved bolt hangers attached to two horizontally adjacent corner brackets as per "Lead Bolts" above.
 - b. Minimum horizontal distance between bolt hangers shall be 6 inches.

PART 3 - EXECUTION

3.1 PRE-INSTALLATION INSPECTION-OPTIONAL

- A. Verify that all surfaces are ready to receive work and are within specified tolerances.
- B. Beginning of installation means installer accepts conditions of existing surfaces.
- C. Verify that layout of the materials or equipment will not interfere with installed climbing wall.

3.2 INSTALLATION

- A. Erection of the climbing wall system shall be in accordance with manufacturer's recommendations.
- B. Erection shall be accomplished by a fully trained, factory authorized erector in accordance with Section 1.4.
- C. Complete wall shall comply with specified tolerances and shop drawing requirements.

3.4 CLEAN-UP

- A. Clean area of debris from installation of climbing panels.

3.5 INSPECTION

- A. The completed climbing wall shall undergo a full complete final inspection by a duly trained representative of the manufacturer and shall be certified by the manufacturer that the finish product has been manufactured and erected in accordance with the manufacturer's approved installation drawings and these contract documents.
- B. The completed climbing wall shall undergo a full and complete final inspection by the Owner or Owners representative at the completion of climbing wall installation.

3.6 PROTECTION

- A. Protect climbing wall from damage during erection.
- B. General Contractor to provide final protection in a manner acceptable to the Owner or Owners representative that insures the climbing wall will be without damage or deterioration at time of substantial completion.

END OF SECTION