Evolution Panels™

PART 1 – GENERAL

1.1 SUMMARY

This document contains the specifications for a modular paneled artificial climbing wall with a real rock look and feel and minimal install time.

1.2 REFERENCES

-CWA/CWIG – Standards for Artificial Climbing Walls
- Uniform Building Code (UBC) – 1994 Edition
- Manual of Steel Construction, Allowable Stress Design, 9th Edition, AISC

1.3 SYSTEM DESCRIPTION

A modular paneled artificial climbing wall with a real rock look and feel, manufactured off-site that can be removed and rearranged to a new topography.

1.4 QUALITY

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. Climbing wall manufacturer must be the installer no sub contracted installation accepted. The Steel Subcontractor (if used) shall provide quality control procedures to the extent that he deems necessary to assure that all work is performed in accordance with the drawings provided by the climbing wall manufacturer. In addition material and workmanship at all times may be subject to inspection by the climbing wall manufacturer. Material or workmanship not in reasonable conformance with the specification may be rejected at any time during the project.

1.5 SUBMITTALS

Climbing wall Manufacturer will provide submittals and product data as a part of the engineering package. All engineering data, reaction load data, and primary structure reinforcing information are a part of the engineering package.

Submittals:

-Product data including climbing wall manufacturer's specifications, standard details and installation drawings.
-Submit 2 samples of climbing wall material, minimum 12 inches by 12 inches, showing color and finish.
-Shop drawings indicating layout of climbing wall, dimensions of materials and parts, fastening and anchoring methods, and detail and location of joints.
-Certificate of Insurance
-Submit modular climbing handhold

1.6 SHIPPING

Climbing wall manufacturer will protect products during transit, and handling to prevent damage and deformation of the climbing wall.

1.7 WARRANTY

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.

1.8 COORDINATION

The Climbing wall manufacturer will coordinate installation with the General Contractor and Owner, to ensure climbing wall achieves the specific requirements.

1.9 PROJECT CONDITIONS

- Building shall be enclosed and capable of maintaining a minimum temperature of 55 degrees F. Climbing wall

The 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.

- 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

Nicros, Inc. 845 Phalen Blvd, St Paul, MN. 55106 Phone (651) 778-1975, Fax (651) 778-8080 or others as approved by Owner.

2.2 ARTIFICIAL CLIMBING WALL MATERIALS

-Modular Evolution climbing wall system manufactured by Nicros Inc.

2.3 CLIMBING WALL COMPONENTS

- Evolution Panels shall be made of a corn soy based fiberglass concrete using a closed molding technique.
- Panel system must be modular and capable of achieving various panel orientations and configurations including overhangs, vertical faces, below vertical slabs, arêtes and dihedrals.
- Panel system shall incorporate the ability to achieve monolithic three-dimensional rock like appearance.
- Panel system shall provide molded rock features as climbing holds along with modular climbing hold attachment points for 3/8”-16 threaded fasteners.
- Color: as selected by Architect, from manufacture’s standard color selection.
- The support structure shall be modular in nature and capable of transferring all applied design loads back to the primary vertical support structure
- Major components of the Evolution Panel support structure are as follows:
    - Pinch pipe members shall be fabricated from steel pipe, ASTM A53 Grade A, with both ends press formed.
    - Panel corner brackets shall be fabricated from steel. Corner brackets shall be attached to the Evolution Panels via a 3/8” bolt on each of the panel corners
    - Pinch pipe to channel rail connections shall be connected with angle clips fabricated from angle steel ASTM A36.
    - Unistrut P1000 Strut shall be attached to primary support structure columns as shown in drawings by Nicros Inc. Primary support members will be sized and detailed by engineering calculations carried out by Larson Engineering and supplied by Nicros Inc.

2.4 PRIMARY SUPPORT STRUCTURE FABRICATION

- All structural steel and structural steel work shall conform to Division 5and to the specifications for design, fabrication and erection of structural steel for buildings of the American Institute of Steel Construction (AISC) Code of Standard Practice, and to the requirements of local building codes.
- Steel shall consist of A36, A500B for tube steel and Schedule 40, A53, Type S, Grade B for Standard weight structural pipe unless noted otherwise.
- All welding shall conform to the AISC and the American Welding Society (AWS) Standard Code for Arc and Gas Welding in Building Construction. All welding shall be performed by AWS certified welders.

2.5 FASTENERS

- Evolution Panel attachment shall be 3/8" –16, Grade 5 flat head bolts with 3/8" flat washers under bolt and hardened, Grade C locknuts.
- Modular handhold attachment point shall be 3/8" – 16 socket head cap screws or flat head cap screws of appropriate length as suggested by the manufacturer.
- Climbing Protection/Anchors:
    - Lead bolts are U.I.A.A. approved bolt hangers shall be attached through the Evolution panel into the corner brackets using a 3/8" Grade-8 button head cap screw. The 3/8" button head cap screw shall be of sufficient length to extend through the corner bracket and backup with a 3/8" locknut.
- Belay anchors shall consist of two (2) U.I.A.A. approved bolt hangers attached to two horizontally adjacent corner brackets as per "Lead Bolts" above.

PART 3 - EXECUTION

3.1 PRE-CONSTUCTION INSPECTION (optional)

If climbing wall manufacturer needs to verify that all surfaces are ready to receive work and are within specified tolerances, and verify that the layout of the materials or equipment will not interfere with installed climbing wall, this must be done at the manufacturer's expense.

3.2 INSTALLATION

- Erection of the primary steel, if installed by steel sub contractor, shall be in accordance with manufacturer's recommendations. Installation of the climbing wall must be preformed by the climbing wall manufacturer.
- Erection of the climbing wall system shall be in accordance with manufacturer's recommendations. Erection shall be accomplished by a fully trained; factory authorized installer or the manufacturer. Complete wall shall comply with specified tolerances and shop drawing requirements.

3.3 TOLERANCES

- Evolution Panel bow tolerance max. 0.8% of panel dimension in width and length.
- Evolution Panel dimensions shall be ± 1/8" of dimensions shown on shop drawings.
- Evolution Panel edges shall be sharp, true and vary less than 1/16" from a straight line.
- The face of the strut may be displaced no more than 1/8" from the flush face plane. Maximum displacement between extreme forward and aft displaced shall not exceed 1/4".
- Center to center spacing of strut shall be displaced no more than 1/8" from established dimensions shown on the drawings. Maximum displacement between extreme (outside) struts shall not vary more than 1/4" from established dimensions.

3.4 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.

PART 4- TECHNICAL GEAR

4.1. CLIMBING ROPES

- Dynamic ropes, unless otherwise specified: 1 per 6 linear feet of wall in sufficient length for wall height.
- Product: Standard with the climbing wall manufacturer.
- Manufacturer: Sterling or approved equal that meets UIAA standards.

4.2. CLIMBING HARNESSES

- As indicated, or if not indicated, 2 harnesses per top anchor.
- Adjustable with double pass through buckles and gear loops.
- Manufacturer: Edelweiss, Misty Mountain, or approved equal

4.3. BELAY DEVICES

- Tube style, manufactured by DMM, Trango, Petzl or approved equal

4.4. LOCKING CARABINERS

- Aluminum, large D ring, 25Kn major axis, 7Kn minor axis, manual locking, as manufactured by Petzl AMD, DMM Boa, or approved equal

4.5. QUICKDRAWS

- Quicklink: 3/8" Quicklink.
- Carabiners: Stainless Steel, wire or bent gate, 23Kn major axis, manufactured by Fixe, USA
- Sling: 4" sling as manufactured by Petzl or equal that meets UIAA standards

4.6. MODULAR HANDHOLDS

- Composed of polyester resin.
- Acceptable Manufacturers: Nicros, PM Climbing or approved equal.
- Handhold selection shall be made based on strong functionality of the potential user base and shall include:
    - 20% Large Holds
    - 40% Medium Holds