

## Rockwerx NaturalRock Climbing Walls

**Rockwerx' Natural Rock Climbing Walls** are the ultimate attempt to recreate the beauty and aesthetics of outdoor climbing through engineered climbing wall structures. Every climbing wall is custom designed and handmade. The undulating curves, corners, and cracks of Natural Rock's unique climbing wall composition gives the appearance of a true natural product. The absence of panel lines and artificial edges provide a seamless experience. The non-leaching, non-fading characteristics of Rockwerx composite polymer fabrications make them the product of choice for facility owners looking for low-maintenance, high-realism rock and plant installations.

**Natural Terrain with Modular Options:** Rockwerx Natural Rock walls can be climbed using built in features alone, but every wall is also designed with t-nut placements to attach a variety of modular holds. Their functional climbing terrain will be enjoyable for beginner and expert climbers alike.

**Strength in Sculpture:** Natural Rock framed wall systems feature a free-standing and self-supporting steel frame, allowing the climbing wall to take on any shape, at any angle, at any height.

**Natural Rock Panels:** Molded from real rock texture, Natural Rock panels provide the real life experience of climbing on rock, while offering wall owners increased affordability and versatility. Each panel is cast from molds that mimic the same features found on granite, limestone, or sandstone rock formations. Each panel can have up to 6 inches of relief, creating a superior sculpted real rock form on a base panel. This relief makes the paneled system function like seamless climbing terrain, offering diverse foot and hand placements over a variable surface.

**Extreme Strength and Durability:** Natural Rock is comprised of an outer composite polymer resin bonded to an internal glass fiber lining—providing a lightweight, strong product. Natural Rock has withstood the test of time in tough climates, and is not affected by freeze/thaw cycles or extreme temperatures. Its surface replicates the look of rock down to fine details. The organic pigments are infused throughout the resin so touch up or repainting is never required. Natural Rock is UV stable and does not fade when exposed to sunlight. It resists soil buildup and discoloration from algae. Chemicals, rain, and water minerals do not affect the surface, and it will not leach lime or display calcium buildup. Natural Stone conforms to ASTM E84 Class 1 Rating for fire safety.

**Safe and Environmentally Friendly:** Natural Rock products are certified by IPEMA (playground rating), ASTM (fire rating), and CWA (safety and performance rating). These certifications ensure that Natural Rock products are not only manufactured to fit into nature, but are safe and environment friendly.

**5 Year Warranty:** Rockwerx backs the durability, wearability, and integrity of Natural Rock products with a 5-year warranty. Rockwerx's climbing wall designers work with architects to detail and customize artificial climbing wall features through their turnkey 3-D design services, creating both virtual and physical models of proposed installations. Rockwerx brings over 15 years of combined wall building experience and over 1000 completed walls in various facility types. Their designs and engineering methods have stood the test of time, maintaining a reputation for revolutionary and reliable builds. Their projects range from some of the largest competition climbing venues in the world to recreational or multi-use facility climbing walls, and to unique climbing adventures in residential backyards.

Rockwerx provides complete design, engineering, fabrication, and installation services to help customers create next generation climbing walls. Their post-construction services include staff and operational trainings and route setting packages, along with continuing consulting for climbing wall operators.

For more information, contact Rockwerx at (877)595-4155, [info@Rockwerxstone.com](mailto:info@Rockwerxstone.com), [www.Rockwerxstone.com](http://www.Rockwerxstone.com).

## SECTION 11 66 00.01 – CLIMBING WALLS

### PART 1 - GENERAL

#### 1.1 SECTION INCLUDES

- A. Composite polymer-cast [interior] [exterior] artificial climbing wall systems [with internal structural support system], including design, engineering, fabrication, and installation based upon schematic system design indicated.

Specifier: If retaining Related Requirements article, edit to suit project requirements.

#### 1.2 RELATED REQUIREMENTS

- A. Section 01 10 00 "Summary" for loose climbing equipment provided by Owner.
- B. Section 01 12 00 "Allowances" for description of Work in this Section affected by allowances.
- C. Section 32 18 16 "Playground Protective Surfacing" for protective surfacing materials located at base of artificial climbing walls.
- D. Section 32 39 35 "Artificial Plants" for cast polymer artificial plant materials installed in conjunction with artificial climbing walls.

#### 1.3 DEFINITIONS

- A. Artificial Climbing Wall: Sports equipment exclusively designed and originally built for climbing. Artificial climbing walls may be designed and used for lead climbing, top rope climbing, and bouldering.
- B. Route: Climbable surface approximately five feet ( m) wide that extends vertically from the base of the wall. The number of potential routes on a climbing wall is normally determined by the width of the wall at a height of five feet ( m) from its base.
- C. Anchor Point: Used to belay climbers during their ascent or to lower them during their descent.
- D. Top Rope Climbing: A style of climbing where the climber is safeguarded by a rope that passes through a belay anchor at the top of the climb. The climber always remains below the anchor as they climb.
- E. Lead Climbing: A style of climbing where the climber is safeguarded by a rope that is passed through an anchor point as the climber progresses up the artificial climbing wall. The climber must clip the rope into each anchor point as they progress up the artificial climbing wall so that they are safeguarded from ground falls while ascending to the final anchor points at the top. Typically lead climbing anchor points are placed at spacing of 4 to 5 feet ( to m) to prevent a long fall.
- F. Bouldering: A style of climbing where the climber remains close to the ground and does not use a rope to safeguard their progress. A fall while bouldering would result in the climber landing on the ground, but is not likely to result in injury due to the short distance of the fall. A suggested limit on the maximum height for bouldering is 12 feet ( m) above the ground. A

padded landing surface (mats, pads, or loose granular material) is used at the base of the bouldering wall to decrease the chance of injuries occurring during landings.

- G. Top Rope Belay Anchor: Located just above the top of the wall, this anchor system consists of two fixed ring type anchors mounted to a plate extending 4 to 6 inches ( to mm) out from the face of the climbing surface. Climbing rope is secured by running through both rings. Used almost exclusively to belay climbers using the Top Rope method and lower them back to the ground.
- H. Floor Anchor: Floor attachments placed at the base of the artificial climbing wall, used to secure that belayer while either belaying or lowering a climber. The attachments can either be fixed or moveable.
- I. Belay Station: Usually placed part way up a larger artificial climbing wall or at a ledge used for teaching or rappelling. Used to stop and belay a partner up so that they continue climbing from that point. A belay station usually consists of at least two distinct anchor points, linked by a chain (or webbing) in a "V" with a ring (or locking carabineer) in its interior part.
- J. Automatic Belay: The Automatic Belay is a controlled descent device designed specifically for the climbing wall and climbing gym industry. The Auto Belay provides a hands free belay for the climber, thereby eliminating the need for an additional climber or attendant to serve as belayer. As the climber ascends, the slack rope is pulled taut. Once at the top, or whenever the climber lets go of the wall, the device gently lowers them to the ground.

Specifier: If retaining Reference Standards article, edit to reflect standards that remain once section has been edited.

#### 1.4 REFERENCE STANDARDS

- A. American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI):
  - 1. ASCE/SEI 7: Minimum Design Loads for Buildings and Other Structures.
- B. American Welding Society (AWS):
  - 1. AWS D1.1/D1/1M – Structural Welding Code – Steel.
- C. ASTM International (ASTM):
  - 1. ASTM A 36/A 36M - Standard Specification for Carbon Structural Steel.
  - 2. ASTM A 123/A 123M - Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
  - 3. ASTM A 153/A 153M - Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
  - 4. ASTM A 500 - Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes.
  - 5. ASTM A 513 - Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing.
  - 6. ASTM A 653/A 653M - Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
  - 7. ASTM A 666 - Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.

8. ASTM D 256 - Standard Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics.
9. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.
10. ASTM D 695 - Standard Test Method for Compressive Properties of Rigid Plastics.
11. ASTM D 790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
12. ASTM D 2583 - Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.
13. ASTM D 4329 - Standard Practice for Fluorescent UV Exposure of Plastics.
14. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
15. ASTM E 662 - Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.

D. Climbing Wall Association (CWA):

1. General Specification for Design and Engineering of Artificial Climbing Structures.
2. Specification for the Structural Inspection of Artificial Climbing Structures.

E. European Standards Commission (CEN)/International Competitive Climbing Commission (ICCC):

1. EN 12572 - Artificial Climbing Structures.

F. Forest Stewardship Council (FSC):

1. FSC-STD-01-001 – FSC Principles and Criteria for Forest Stewardship.

1.5 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Coordinate artificial climbing walls with related Work specified in other Sections.

Specifier: Retain below for larger or more complex projects. Edit options for type of conference required. On site conferences add to project cost. Consult with Rockwerx representative.

- B. Preinstallation Conference: Conduct preinstallation [ teleconference] [ conference at Project site].

1.6 ACTION SUBMITTALS

- A. Product Data: For each type of artificial climbing wall product, including anchors, fasteners, and other hardware.

- B. LEED Submittals:

Specifier: Credit MR 4 may apply for steel items utilized for structural supports as well as use of certain polymers containing recycled content. Consult Rockwerx for availability and percentages.

1. Credit MR 4: Submit documentation indicating percentages by weight of postconsumer and preconsumer recycled content. Include cost statement for each product.

Specifier: Credit MR 6 may apply for cast polymer products utilizing bio-based polymer resins in lieu of petroleum-based resins. Consult Createk for availability and percentages.

2. Credit MR 6: Submit documentation indicating percentages of rapidly renewable material in product. Include cost statement for each product.

C. Shop Drawings:

1. Include [three-dimensional model,] plans, elevations, sections, and attachment details.
2. Include details of climbing wall surface panels including the following:
  - a. Number and location of climbing routes.
  - b. Wall surface climbing features.
  - c. Belay anchor system components and locations.
  - d. Modular hold attachments.
  - e. Access hatch locations.
  - f. Rappel ledge locations.
3. Indicate dimensions, methods of field assembly, and components.
4. Detail fabrication and assembly of concealed structure, including sizes, dimensions, locations, and connections for structural members, base plates, and bracing.
5. Extent of surface systems and use zones for artificial climbing walls.
6. Indicate [dead loads] [superimposed loads] [and] [live loads] for artificial climbing walls.
7. Demonstrate compliance with artificial climbing wall design standard.

- D. Samples: For each exposed artificial climbing wall product and for each color and texture specified.

- E. Delegated-Design Submittal: Analysis data signed and sealed by qualified professional engineer responsible for preparation of calculations and shop drawings. Indicate direction and magnitude of reactions resulting from installation of artificial climbing walls. Analyze building structural system to verify loading resulting from artificial climbing walls will be adequately supported by building structural elements.

1. Certificate: Submit certificate indicating design complies with specified design standard.
2. Compliance Review: Review and approve submittals and field quality-control reports for compliance with design.

#### 1.7 INFORMATIONAL SUBMITTALS

- A. Qualification Statements: For manufacturer and installer.
- B. Material certificates: For cast polymer used in artificial climbing walls.
- C. Welding certificates.
- D. Sample warranty.

#### 1.8 CLOSEOUT SUBMITTALS

- A. Maintenance data for artificial climbing walls.

#### 1.9 QUALITY ASSURANCE

Specifier: Paragraph below provides specific requirements for requests for approval or substitution of products for this section.

- A. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum [5] years experience in the manufacture and assembly of cast polymer artificial climbing walls used in similar applications. Manufacturers seeking approval must submit the following in accordance with Instructions to Bidders and Division 01 General Requirements:
  - 1. Product data, including descriptive information and test data from qualified independent testing agency indicating compliance with requirements.
  - 2. Samples of each product specified.
  - 3. List of successful installations of similar products available for evaluation by Architect.
- B. Professional Engineer's Qualifications: Qualified professional engineer, experienced in design of artificial climbing walls similar to those required for Project, and licensed in the Project state.

Specifier: For more complex projects and projects with a high degree of human contact, Rockwerx recommends requiring installation by manufacturer.

- C. Installer Qualifications: [Manufacturer of products] [Experienced in installations of this type with a record of satisfactory performance, and approved by manufacturer].
- D. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code – Steel."

Specifier: Retain one of the following two paragraphs. For large scale and complex installations, it is common practice to assemble artificial climbing walls at the manufacturer's facility for approval by the owner or architect prior to shipping to jobsite.

- E. Manufacturer's Mock-ups: Construct mockup of artificial climbing walls at manufacturer's facility to establish quality standards for installation. Coordinate schedule for mockup construction with Architect.
  - 1. Construct complete installation including [structural support system] [integrated water feature] [lighting system].
  - 2. Upon approval by Architect, disassemble and prepare installation for shipping.

#### 1.10 PRODUCT STORAGE AND HANDLING

- A. Provide wall panels, frames, and related materials properly packaged and protected during shipping, handling, and storage to prevent damage.
- B. Store materials indoors under cover on raised platforms, fully protected from dirt and moisture.

#### 1.11 WARRANTY

- A. Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace components of artificial climbing walls that fail in materials or workmanship within specified warranty period.
  - 1. Failure includes delamination or excessive surface cracking, wear of artificial climbing wall finish.
  - 2. Warranty Period: [5] year(s) from date of Substantial Completion.
  - 3. Color Retention Warranty: [10] years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide **Natural Rock Climbing Walls by Rockwerx**, Barre MA, (877)595-4155, [info@rockwerx.com](mailto:info@rockwerx.com), [www.rockwerxclimbing.com](http://www.rockwerxclimbing.com)[, or comparable products meeting requirements and approved by Architect prior to bid].

### 2.2 PERFORMANCE AND DESIGN CRITERIA

- A. Delegated Design: Design artificial climbing walls, including comprehensive engineering analysis of structural framework, supports, and connections by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance: Artificial climbing walls shall withstand the effects of gravity loads, wind loads, and live loads determined according to ASCE/SEI 7 and requirements of authorities having jurisdiction.

Specifier: Retain and edit requirement in paragraph below if project site is subject to seismic design requirements.

- C. Seismic Performance: Artificial climbing walls shall withstand the effects of earthquake motions determined according to ASCE/SEI 7 and requirements indicated.
- D. Design Standard: Design artificial climbing walls in compliance with [CWA Standard] [and] [EN 12572] and requirements of authorities having jurisdiction.

Specifier: Retain and edit requirement in paragraph below for exterior projects.

- E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes for temperature change of 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- F. Surface-Burning Characteristics:
  - 1. Flame-Spread Index, ASTM E 84: 25 or less.
  - 2. Smoke-Developed Index, ASTM E 84: [450] or less.

### 2.3 ARTIFICIAL CLIMBING WALLS

- A. Artificial Climbing Walls, General: Fabricated cast polymer and glass fiber composite artificial rocks, UV-resistant, through-colored, molded and finished to appear and climb like real rock, bolted in place for permanent site installation[, with structural support system]. Climbing wall shall match approved submittals developed in collaboration with Owner and Architect, and be erected as permanent site installation.
  - 1. Climbing Wall Surface: Fiberglass molded castings with hand sculpted grout joints which combined provide a seamless, realistic climbing wall system.
  - 2. Wall Surface Climbing Features: Cast embedded climbing hand features, including edges, pockets, and cracks in climbing wall surface, located per approved submittals.

- B. Panelized Artificial Climbing Walls:
1. Custom profile cast polymer panels in up to 4 by 8 foot (1219 by 2438 mm) segments with 6 inch (152 mm) relief depth, in configuration indicated on approved shop drawings.
  2. Color: [Grey] [Sandy Brown] [Brown] [Match Architect's custom color].
- C. Playground Boulder Artificial Climbing Walls:
1. Size: [8 by 12 by 8 feet high (2438 by 3658 by 2438 mm) high] [6 by 8 by 6 feet high (1829 by 2438 by 1829 mm) high] [5 by 6 by 4.5 feet high (1524 by 1829 by 1372 mm) high] [3 by 6 by 3 feet high (914 by 1829 by 914 mm) high] [Custom configuration as indicated on drawings].
  2. Thickness: Not less than 3/4 inch (19 mm).
  3. Color: [Grey] [Sandy Brown] [Brown] [Match Architect's custom color].
- D. Belay Anchor System: Place belay anchor system components in locations and number indicated or scheduled:
1. Automatic Belay: 41 foot (12.5 m) descent capacity, fall-safe design with self-regulating, non-wearing magnetic braking mechanism, self-adjusting for user weight, with webbing suspension, equipped with internal automatic backup braking [and wall mounting bracket and hardware]. Unit to provide sound indication to alert for descending climber. Include manufacturer re-certification at end of first year of service. **Rockwerx, TRUBLUE Auto Belay.**
  2. Top Rope Belay Bars: 3 inch ( mm) steel friction belay bar, configured to prevent rope jump, with wall mounting plate and hardware, **Rockwerx, Top Rope Bar.**
  3. Lead Anchors:
    - a. Wedge Bolts: Grade VIII, designed for rock climbing, formed from [zinc plated steel] [A304 stainless steel] rod with stamped threads, 3/8 inch ( mm) diameter, with matching nut and washer and rubber washer. **Fixe Hardware, [www.fixeusa.com](http://www.fixeusa.com), #140.**
    - b. Bolt Hangers: Accommodate two carabiners, formed to prevent spinning; 4-mm-thick [zinc plated steel] [A304 stainless steel]; 40 kN capacity; 4 mm hole; located as indicated on approved submittals. **Fixe Hardware, #038.**
    - c. Top Anchors: Designed for installation in pairs at top of climbing route, 11 kN rating, [zinc plated steel] [A304 stainless steel] , 3/8 inch ( mm); **Fixe Hardware, Super Shut #166.**
    - d. Belay Stations: Double bolt hangers connected with climbing industry standard quality chain and rappel ring apparatus, 35 kN rating, [zinc plated steel] [A304 stainless steel]; 10 mm bolt hole. **Fixe Hardware, V-Anchor and DRACO Carabiner #363.**
- E. Access Hatches: Construct access hatches from material matching climbing wall components, capable of supporting weight of functional climbing including attachment of modular holds. Provide complete access to each climbing wall utilizing lockable, hinged access hatches located to coordinate with design of supporting structure.

Specifier: Rappel Ledge and Top of Bouldering Wall are optional features available for climbing walls.

- F. Rappel Ledge: Provide functional rappel ledge and belay ledge designed for teaching purposes at location indicated. Finish outer ledge with smooth texture.

- G. Top of Bouldering Wall: Construct and finish to match climbing wall, free of climbing features and modular holds.

Specifier: Rockwerx' X-Nuts are a specialized evolution of T-Nuts designed specifically for the rigors of artificial rock wall climbing over the past 10 years: <http://www.rockwerxclimbing.com/4962.xml>

- H. Modular Hold Anchors: T-nut-type threaded sleeves, 3/8 by 1 inch (9.5 by 25 mm) No. 16 [zinc plated steel] [A304 stainless steel], designed for hydraulic press installation into climbing wall surface, at 1.0 placements per square foot. **Rockwerx, X-Notes.**
- I. Modular Climbing Hold Package: Removable climbing holds with internal threading, at 1 placements per 3 square feet (1 per 0.3 m) [color to match rock surface] [colors as selected from manufacturer's full range].
1. 10 percent footholds.
  2. 30 percent small climbing holds.
  3. 40 percent medium climbing holds.
  4. 20 percent climbing holds.

## 2.4 MATERIALS

- A. Polyester Composite: Color impregnated, UV stabilized, non-mold-supporting, formed from corrosion-resistant polyester resin, with the following characteristics:
1. Strength Characteristics:
    - a. Flexural Strength, ASTM D 790: 12,000 psi (83 MPa), minimum.
    - b. Tensile Strength, ASTM D 638: 8,500 psi (58 MPa), minimum.
    - c. Compressive Strength, ASTM D 695: 17,000 psi (117 MPa), minimum.
    - d. Barcol Hardness, ASTM D 2583: 40 minimum.

Specifier: Retain one or both of the following paragraphs and edit as required to stipulate minimum polymer content meeting sustainability requirements. Bio-based material requirement is related to both Federal project sustainability mandates and LEED rapidly renewable materials credits. Recycled content requirement is related to both Federal project sustainability mandates and LEED recycled content credits. Consult with Createk regarding availability of bio-based or recycled content polymers, which vary due to project design and color requirements. Requirements below will affect product cost.

1. Bio-Based Material Content of Polymer Fabrications: Provide cast polymer fabrications utilizing bio-based polymer resins[ meeting requirements of Division 01 Section "Sustainable Design Requirements"].
2. Recycled Content of Polymer Fabrications: Provide cast polymer fabrications utilizing post-consumer recycled content plus one-half of preconsumer recycled content of not less than [25] percent.

Specifier: Retain one of two paragraphs below if internal structural supports are required due to installation size. Consult with Rockwerx representative. Retain paragraph below if steel structural supports are required.

- B. Steel Structural Supports:
1. Steel Structural Tubing: ASTM A 500, Grade B, hot-dip galvanized according to ASTM A 123/A 123M.

2. Steel Mechanical Tubing: ASTM A 513, welded steel mechanical tubing, hot-dip galvanized according to ASTM A 123/A 123M.
  3. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Artificial Rock Unit Fasteners: Manufacturer's standard; corrosion-resistant; hot-dip galvanized or plated steel and iron, or stainless steel; permanently capped, and theft resistant.
- D. Anchorages: Anchor bolts, hot-dip galvanized according to ASTM A 153/A 153M.

Specifier: Retain below for exterior installations requiring concrete foundations.

- E. Concrete for Artificial Rock Installation Foundations: Minimum compressive strength 3000 psi/28 days. Refer to requirements of Division 03 Section "Cast-in-Place Concrete."

## 2.5 CLIMBING WALL FABRICATION

- A. Fabrication, General: Assemble artificial climbing walls in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

Specifier: Retain paragraph below if structural support is required due to size or loading conditions. Consult Rockwerx representative.

- B. Structural Supports: Fabricate structural supports with cross-section profile and dimensions as indicated on approved Shop Drawings.

Specifier: Retain paragraph below if utilizing steel structural supports.

1. Fabricate frame members, bracing, and connections from steel materials specified.
  - a. Comply with AWS recommended practices for shop welding.
  - b. Provide weep holes where water may accumulate.
  - c. Provide necessary rebates, lugs, and brackets to assemble units and to attach to other work.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verification of Conditions: Examine areas where artificial climbing walls are to be installed, with Installer present. Verify compliance with requirements for installation tolerances and other conditions affecting installation and performance.
1. Verify conditions meet requirements for tolerances[, site preparation,] and other requirements of manufacturer.
  2. Correct unsatisfactory conditions prior to proceeding with installation.

### 3.2 FOUNDATION

Specifier: Retain and edit Foundation Article if required for Project.

- A. Install concrete footings and anchors for artificial climbing walls in accordance with approved submittals and requirements of Division 03 Section "Cast-in-Place Concrete."

### 3.3 ERECTION OF ARTIFICIAL CLIMBING WALLS

- A. General: Comply with manufacturer's written instructions and approved Shop Drawings. Support, anchor, and fasten components securely using anchors and fasteners indicated and recommended by manufacturer for application.
  - 1. Comply with requirements of artificial climbing wall design standard.
- B. Erection of Structural Supports: Erect structural supports in accordance with approved submittals. Anchor and fasten using fasteners indicated. Utilize structural components furnished by manufacturer; do not modify components in field without manufacturer approval.
- C. Installation of Climbing Wall Surface: Securely attach climbing wall surface components to each other [and to structural supports] using fasteners furnished by manufacturer.
- D. Belay Anchor System: Install belay anchor system fixed components in locations indicated in accordance with anchor system manufacturer's written recommendations.

### 3.4 CLEANING

- A. Repair or replace defective work as directed by Architect upon inspection.
- B. Clean installed unit surfaces. Touch up, refinish, or replace damaged components in a manner acceptable to Architect.

END OF SECTION