SECTION 04855

CUT STONE ASSEMBLIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Wall Panels.

B. Arches.

C. Trim.

D. Cornices.

E. Quoins.

F. Columns.

1.2 RELATED SECTIONS

A. Section 02950 - Landscape Stone.

B. Section 02780 - Exterior Stone Pavers.

C. Section 03300 - Cast-In-Place Concrete: Concrete Foundations.

D. Section 03300 - Cast-In-Place Concrete: Concrete supporting wall.

E. Section 04810 - Unit Masonry Assemblies: Masonry supporting wall.

F. Section 04852 - Thin Veneer Stone Assemblies: Thin cut veneer stone masonry.

G. Section 04853 - Mortar Placed Stone Assemblies: Solid base supported natural full stone veneer.

H. Section 05120 - Structural Steel.

I. Section 05400 - Cold-Formed Metal Framing: Formed steel framed supporting wall.

J. Section 05500 - Metal Fabrications: Shelf angles, structural supports, anchors and other built-in components for building into stone veneer masonry by this section.

K. Section 06112 - Framing and Sheathing: Wood frame supporting wall.

L. Section 07620 - Sheet Metal Flashing and Trim.

M. Section 07650 - Flexible Flashing.

N. Section 07900 - Joint Sealers: Sealant for perimeter and control joints.

O. Section 09380 - Interior Stone Tiles.

1.3 REFERENCES

A. ASTM A 36 -. ASTM A36/A36M - Standard Specification for Carbon Structural Steel.

B. ASTM A 123 ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

C. ASTM A 153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

D. ASTM A 307 ASTM A307 - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength.

E. ASTM A 325 ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.

F. ASTM A 490 ASTM A490 - Standard Specification for Structural Bolts, Alloy Steel, Heat Treated, 150 ksi Minimum Tensile Strength.

G. ASTM A 666 - Standard Specification for Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.

H. ASTM C 91 - Standard Specification for Masonry Cement.

I. ASTM C 97 - Standard Specification for Absorption and Bulk Specific Gravity of Dimension Stone.

J. ASTM C 99 - Standard Test Method for Modulus of Rupture of Dimension Stone.

K. ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes.

L. ASTM C 241- Abrasion Resistance of Stone Subjected to Foot Traffic.

M. ASTM C 144 - Aggregate for Masonry Mortar.

N. ASTM C 150 - Standard Specification for Portland Cement.

O. ASTM C 170 - Standard Specification for Compressive Strength of Dimension Stone.

P. ASTM C 270 - Mortar for Unit Masonry.
Q. ASTM C 321 - Standard Test Method for Bond Strength of Chemical-Resistant Mortars.

R. ASTM C 568 - Standard Specification for Limestone Dimension Stone.

S. ASTM D 570 - Standard Test Method for Water Absorption of Plastics
T.
U. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.

V. ASTM D 695 - Standard Test Method for Compressive Properties of Rigid Plastics.

W. ASTM D 1706 - Indentation Hardness of Plastics by Means of a Durometer.

X. ASTM D5312 - Standard Test Method for Evaluation and Durability of Rock for Erosion Control under Freezing and Thawing Conditions.

Y. ASTM D5313 Standard Test Method for Evaluation and Durability of Rock for Erosion Control under Wetting & Drying Conditions.

Z. ACI 530/ASCE 5/TMS 402 - Building Code Requirements for Masonry Structures.

AA. ACI 530.1/ASCE 6/TMS 602 - Specifications for Masonry Structures.

BB. ACI 530.1/ASCE 6/TMS 602

CC. AISC Specification for Structural Steel Buildings Allowable Stress Design, and Plastic Design.

DD. AWS D1.1 - Structural Welding Code - Steel.

1.4 SYSTEM DESCRIPTION

A. Design foundations, supports, anchorages, spans, fastening, and joints under direct supervision of Professional Engineer experienced in design of this Work and licensed at Project location. Engineer shall provide shop drawings and engineering calculations with professional engineers stamp or seal.

B. Design, fabricate, and install stonework to withstand normal loads from wind, gravity, movement of building structure, and thermally induced movement, as well as to resist deterioration under conditions of normal use including exposure to weather, without failure.

C. All steel shapes, plates and straps shall be designed to carry the design loads with safety factors and allowable stresses in accordance with the American Institute of Steel Construction (AISC) except that steel supports carrying gravity loads shall be stressed not more than 50 percent of the yield stress in bending. Expansion bolts,

straps, hooks, anchors, and other devices shall be designed to carry the design loads with appropriate safety factors.

D. Design to carry the design loads with safety factors or allowable stresses as a minimum, in accordance with the following:
   1. Welds: Structural Welding Code (AWS D1.1 and AISC).
   2. Expansion Bolts: Per ICBO evaluation report for the specific bolt to be used.
   3. Design Loads: Design all panel and panel attachments to carry the following design loads with appropriate safety factors:
      a. Wind Loads: In accordance with the applicable code.
      b. Seismic Loads: In accordance with the applicable code.
      c. Vertical Loads:
         1) Dead Loads: Actual computed weight of panels and other stone work.
         2) Live Loads: In accordance with the applicable code.

E. Design, detail and fabricate connections to provide allowance for fabrication tolerances, erection tolerances, and structural deflections for Concrete Work and Structural Steel.

F. Design to include provisions to prevent galvanic and other forms of corrosion by insulating metals and other materials from direct contact with non-compatible materials, or by suitable coating.

1.5 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Cleaning methods.

C. Shop Drawings: Include accurate dimensions including sections and profiles of stones, method anchorage, horizontal and vertical jointing of stone panels, indicate locations of each stone unit on the setting drawings with number designation corresponding to number marked on each unit. Submit together with engineering calculations including:
   1. Stone loads, stresses, and safety factors.
   2. Support and anchorage loads, stresses, safety factors, design loads, and allowable loads.
   3. Stone thicknesses.
   4. Support and anchorage sizes.

D. Selection Samples: For each stone product specified, submit three samples, minimum size 12 inches (305 mm) square, representing actual product, color, and texture.

E. Samples: Submit samples of mortar representing actual mortar color range.

F. Quarrier's Certificate: Certify stone properties conform to specified requirements.

1.6 QUALITY ASSURANCE

A. Stone Materials: Stone shall be standard grade, free of crack or seam which may impair its structural integrity or function and shall comply with industry standards and practices specified.

B. Mock-Up: Provide a sample panel for evaluation of construction techniques, finishes, color ranges and workmanship.
   1. Provide in location designated by Architect.
   2. Size: 8 feet by 8 feet (2.4 m by 2.4 m)
   3. Include stone types and sizes to be used and include a typical corner condition with special shapes and joint treatment.
   4. Clean the sample panel using the same materials and tools as planned for the final stone masonry construction.
   5. Do not proceed with remaining work until workmanship and color is approved by Architect.
   6. Sample panel will be used as a standard for the balance of the work.
   7. Remove sample panel at the completion of the work.
   8. Sample panel may be incorporated into the work.

C. Preconstruction Meetings: Conduct preconstruction meetings including the Architect, Contractor, stone masonry subcontractor, and the flashing subcontractor to verify project requirements, substrate conditions, manufacturer's installation instructions and other requirements. Comply with Division 1 requirements.

1.7 QUALIFICATIONS

A. Stone Quarrier: Company specializing in fabricating natural stone products specified in this section with minimum ten years documented experience and sufficient capacities to quarry, cut, and deliver the stonework required on schedule.

B. Carving: All carving shall be done by skilled carvers in a correct and artistic manner, in strict accordance with the spirit and intent of the approved shaded drawings, or from models furnished or approved by the Architect.

C. Stone Masonry Company: Company specializing in performing Work of this section with minimum ten years documented experience.

D. Qualify welding operators in accordance with AWS "Standard Qualification Procedure." Provide certification that each welder employed in the work is qualified for welding processes involved by having satisfactorily passed AWS qualification tests and, if applicable, by undergoing recertification.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Store products in fabricator's unopened packaging until ready for installation.

B. All stone shall be received and unloaded at the site with necessary care in handling to avoid damaging or soiling.

C. Store stone materials on non-staining pallets on a dry level surface. Pallets shall not be stacked and shall be covered with non-staining tarps.

D. Store mortar materials under cover and in an area where temperature is maintained between 4 degrees C (40 degrees F) to 43 degrees C (110 degrees F).

E. Lift stone with wide-belt type slings where possible; do not use wire rope or ropes containing tar or other substances which might cause staining.

1.9 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within ACI recommended limits for optimum results. Do not install products under environmental conditions outside fabricator's absolute limits.

B. Hot and Cold Weather Requirements: In accordance with ACI 530.1/ASCE 6/TMS 602 Specifications for Masonry Structures.

C. Units shall not be assembled when the stone temperature and the surrounding air temperatures are below 50 degrees F or above 95 degrees F. Assembly of units below 50 degrees F is permitted when the temperature of the stone units and adhesive is raised by heating to a temperature above 50 degrees F. After the units have been joined, heat should continue to be applied to the stone adjacent to the joint area to give the adhesive the curing temperature above 50 degrees F.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Eden-Valders Stone Inc. 318 W. Washington Street, Valders, WI 54245. ASD. Tel: (920) 775-4151. Contact: Scott Balliew; Vice President of Sales – Valders Division E-mail: scott@evstone.net Web: www.evstone.net

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

D. Single Source Responsibility for Stone: Obtain limestone from a single quarry source with resources to provide the quantity of materials required in the specified consistent quality.

2.2 APPLICATIONS/SCOPE

A. The Drawings and Specifications establish requirements for aesthetics and performance of cut stone assemblies. Aesthetics are indicated by dimensions, color range, arrangement, alignment and profiles of components and assemblies as they relate to sight lines and relationships to one another and to adjoining work. Performance is indicated by requirements specified.

B. Aesthetics are subject to the Architect's approval and only to the extent exclusively needed to comply with performance requirements. Where modifications are proposed, submit data to the Architect for review and approval.

2.3 STONE

A. Stone Materials: Stone shall be standard grade, free of crack or seam which may impair its function and shall comply with industry standards and practices specified.

B. Limestone Building Stone: Valders Dolomite Limestone conforming to ASTM C 568, Classification: Category III, High Density. Stone shall be provided with the following physical properties:
   1. Absorption: ASTM C 97, 2.0 percent maximum.
   2. Density: ASTM C 97, 150 lbs per CF minimum.
   3. Modulus of Rupture: ASTM C 99, 1,000 psi minimum.
   4. Compressive Strength: ASTM C 170, 15,000 psi average.
   5. Abrasion Resistance: ASTM C 241, R12.0 minimum.
   6. Freeze Thaw Durability: ASTM D 5312, mass loss after 35 cycles, 0 percent.
   7. Wetting and Drying Durability: ADSM D 5313, mass loss after 80 cycles, 0 to 1/10th of 1 percent.

C. Valders Limestone:
   1. Finish:
      a. Honed.
      b. High Polish.
      c. Sandblast.
      d. Flamed (Thermal)*.
      e. Flamed and Brushed*.
      f. Bushhammered (minimum 2 inch/ 51mm thick).
      g. Other: _____.

      **Not available for River Bluff*

      ***It is always a good practice to contact Valders Stone & Marble, Inc. with questions about custom combinations, color/finish availability, etc.*

   2. Color:
      a. Dovewhite.
      b. Dovewhite Blush.
      c. Buff.
      d. Gray.
      e. Platinum.

f. River Bluff.
g. Other: _____.

2.4 MORTAR

A. Masonry Cement: Complying with ASTM C 91:
1. Type S.
2. Color, gray.
3. Color, white.
4. Color _____.

B. Portland Cement: Complying with ASTM C150:
1. Type I.
2. Type __.
3. Color, gray.
4. Color, white.
5. Color _____.

C. Mortar Aggregate: Complying with ASTM C144, standard masonry type. For joints narrower than 1/4 inch (6 mm), use aggregate graded with 100 percent passing the No. 8 sieve and 95 percent the No. 16 sieve.

D. Hydrated Lime: Complying with ASTM C207:
1. Type S.
2. Type SA.

E. Water: Clean and potable.

2.5 SPECIAL SHAPES

A. Provide special sawn veneer shapes as indicated on the Drawings and as follows:
1. Quoins.
2. Door and Window Surrounds.
3. Keystones.
4. Caps.
5. Cornerstones.
6. Sills.
7. Banding/Belt Course.
8. Medallions
9. Other _____.

B. Stone shall be furnished in sizes indicated plus or minus 1/2 inch (12.5 mm). Materials shall conform to the properties specified for the materials specified.

C. Color shall be:
1. Match the veneer stone.
2. Dovewhite.
3. Dovewhite Blush.

4. Platinum
5. Buff.
6. _____.

D. Finish shall be:
1. Honed.
2. Sandblast.
3. Thermal/flamed.
4. _____.

2.6 ACCESSORIES

A. Stone Anchors and Attachments: Threaded stud bolts and other anchoring devices shall be stainless steel. Stainless steel shall be used where anchors come directly in contact with stone.

B. Provide anchors and attachments of type and size required to support the stonework fabricated from the following metals for conditions indicated below:
1. Stainless Steel, AISI Type 304 or 316, for anchors and expansion bolts embedded within the stone.
2. Hot-Dip Galvanized malleable iron for adjustable inserts embedded in the concrete structure.
3. Anchor bolts, nuts and washers not in direct contact with stone; comply with ASTM A 307,
4. Grade A, for material and ASTM C 153, Class C, for galvanizing.
5. Welding Materials: AWS D1.1; type required for materials being welded.
6. Galvanized Steel plates, shapes and bars not in direct contact with stone: Comply with ASTM A 36. Galvanizing in conformance with ASTM A 123 with a minimum galvanizing coating thickness of 1.0 oz/sq ft (320 g/sq m).
7. Galvanized steel angles stone supports: Comply with ASTM A 36. Galvanizing in conformance with ASTM A 123 with a minimum galvanizing coating thickness of 2.3 oz/sq ft (705 g/sq m).
8. For expansion bolts not in direct contact with stone use zinc plated or cadmium plated bolts with stainless steel expansion clips.
9. Supports protected with one shop coat of inorganic zinc-rich paint, and one job coat of similar, compatible paint, may be used at the discretion of the architect.

C. Dovetail Slots: Where required, furnish dovetail slots, with filler strips, of slot size required to receive anchors provided, fabricated from 0.0336 (22-gage) galvanized sheet steel complying with ASTM A 446, G90.

D. Adhesive: Two-component epoxy consisting of epoxy resin and hardener. Adhesive shall meet the following minimum property value requirements after a 7-day cure at 75 degrees F.
1. Tensile Bond Strength: Cohesive failure in stone ASTM C 321
2. Tensile Elongation: 2.5 percent ASTM D 638
3. Tensile Strength: 3,500 psi ASTM D 638
4. Compressive Double Shear: 400 psi MMM G 650A

5. Compressive Strength: 6,000 psi ASTM D 695
6. Shore “D” Hardness: 75 ASTM D 1706
7. Water Absorption (24 hours): 0.50 percent ASTM D 570

E. Setting Shims: Stainless steel, or plastic shims, non-staining to stone, sized to suit joint thicknesses and bed depths of stonework involved without intruding into required depths of joint sealants.

F. Concealed Sheet Metal Flashing: Fabricate from stainless steel or other material complying with requirements specified in Division 7 and in thicknesses indicated but not less than 0.015 inch (4 mm) thick.

G. Plastic Tubing Weeps: Medium density polyethylene, outside diameter of 1/4 inch (6 mm) and of length required to extend between exterior face of stone and cavity behind.

H. Sealants: Provide in accordance with Section 07900.

2.7 MIXES

A. Mortar Mixes:
1. Mortar for Structural Masonry: Complying with ASTM C 270, using Proportion Specification.
a. Type S.

B. Mortar Mixing:
1. Mix mortar ingredients in accordance with ASTM C 270. Mix only in quantities needed for immediate use.
5. Do not use anti-freeze compounds to lower freezing point of mortar.

2.8 FABRICATION

A. Fabricate stonework in sizes and shapes required to comply with the requirements as shown on approved shop drawings.

B. Cut and drill sinkages and holes in stones for anchors, fasteners, supports and lifting devices as indicated or needed to set stonework securely in place; shape beds to fit supports.

C. Cut stones accurately to size, shape and dimensions and full to the square, with jointing as shown on Drawings. All exposed faces shall be dressed true. Beds and joints shall be at right angles to the face, and joints shall have a uniform thickness of 3/8 inch (9.5 mm) unless otherwise shown on Drawings.

D. Thickness of Exterior Stone: Provide stone thicknesses required to comply with performance requirements but not less than shown on Drawings.

E. Control depth of stones and back-checks to maintain a clearance between backs of stones and surfaces or projections of structural members, fireproofing (if any), backup walls and other work behind stones.

F. Cut joints (bed and vertical) straight and at 90 degree angle to face, unless otherwise indicated.

G. Quirk-miter corners, unless otherwise indicated; shall provide for cramp anchorage in top and bottom bed joints of corner pieces.

H. Provide chases, reveals, reglets, openings and similar features as required to accommodate contiguous work.

I. Fabricate work, including washes and drips, to produce stone shapes having a uniform profile throughout their entire length and with precisely formed shapes slightly eased to prevent snipping, and matched at joints between units.

J. Carve and cut decorative surfaces and inscriptions to conform with shaded drawings or models approved by architect. Use skilled stone carvers experienced in the successful performance of work required.

K. Finish exposed faces and edges of stones to comply with requirements indicated for finish under each type and application of stone required and to match approved samples and field-constructed mockups.

L. Reglets for flashing shall be cut in the stone where indicated on the drawings.

M. Molded work shall be carefully executed from full size details, and must match satisfactorily at joints. All exposed arrises shall be in true alignment and slightly eased to prevent snipping.

N. Stones bearing on structural work shall have beds shaped to fit the supports as required. Maintain a minimum of 1 inch (25 mm) between stone backs and adjacent structure.

O. Expansion anchor holes shall be drilled at jobsite by mason or erector to facilitate alignment.

P. Any miscellaneous cutting and drilling of stone necessary to accommodate other trades will be done by the cut stone fabricator if shown on the approved shop drawings.

Q. Mix and apply adhesives in strict accordance with the adhesive manufacturer's instructions. Use suitable clamps or bracing shall be used to keep the stone in proper alignment until the adhesive sufficiently hardens. Include all shims needed to insure proper alignment.

R. Assembled limestone units shall not be moved until the adhesive has reached the required hardness. Remove excess adhesive after it has taken its initial hardening. Any excessive adhesive on smooth finish may be removed after complete hardening with the use of power sanders.

S. Fabricate and assemble structural framing in shop to comply with AISC Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings, including “Commentary” and Supplements thereto as issued, and as indicated on final shop drawings.

T. Weld or bolt connections to comply with the following requirements:

U. Install high strength threaded fasteners to comply with AISC Specifications for Structural Joints using ASTM A-325 or A-490 bolts approved by the Research Council on Riveted and Bolted Structural Joints of the Engineering Foundation.

V. Weld connections to comply with AWS D1.1 Structural Welding Code—Steel.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until surfaces to receive stonework have been properly prepared.

B. Verify locations of weld-plates and embeds for connection of stone skin or its system.

C. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods conforming to best industry practices for achieving the best result for the substrate under the project conditions.

C. Clean stone surfaces which are dirty or stained prior to setting. Clean stones by scrubbing with fiber brushes and drenching with clear water. Use only mild cleaning compounds that contain no acid, caustic or abrasives

3.3 INSTALLATION

A. Erect stone in accordance with industry standards and approved shop drawings. Setting and handling shall be done by competent setter, riggers, and handlers, thoroughly experienced in work of this type and scope.

B. Set stone in accordance with approved setting drawings. Provide anchors, supports, fasteners and other attachments shown or necessary to secure stonework in place and keep stone in level, plumb and square position with uniform joints.

C. Completely fill holes, slots and other sinkages for anchors with mortar or caulking during setting of stone.

D. Use skilled mechanics and skilled stone fitters at the site to do necessary field cutting as stones are set. Use power saws to cut stones; for exposed edges, produce edges which are cut straight and true. Mallet and chisel cutting will be permitted provided craftsmen are skilled in their use.

E. Provide chases, reveals, reglets, openings and other spaces as indicated for accommodating contiguous work. Close up openings in stonework after other work is in place with stonework which matches that already set.

F. Set stones to comply with requirements indicated on drawings and shop drawings. Install anchors, supports, fasteners and other attachments indicated or necessary to secure stonework in place.

G. Shim and adjust anchors, supports and accessories to set stones accurately in locations indicated with uniform joints of widths indicated and with edges and faces aligned according to established relationships and indicated tolerances.

H. For stones supported on clip or continuous angles, set stones on non-corrosive and non-staining shim material in sufficient area to support the load. Mortar may be used in lieu of shims provided that setting pads are provided to maintain joint sizes if stone weight squeezes out mortar.

I. Place setting buttons of adequate size, in sufficient quantity, and of same thickness as indicated joint width, to prevent mortar from squeezing out and to maintain uniform joint widths. Hold buttons back from face of stone to provide space for backer rope and sealant.

J. The joint between bottom of relieving angles and top surface of stones below angles shall be free of mortar or shims to avoid load transfer.

K. Install concealed flashing at continuous shelf angles, lintels, ledges and similar obstructions to the downward flow of water to divert water to the exterior.

L. Keep cavities open where unfilled space is indicated between back of stone veneer and backup wall; do not fill cavities with mortar or grout.

M. Place weepholes/vents in joints where moisture may accumulate including base of cavity walls, above shelf angles and flashing. Locate weepholes/vents at intervals not exceeding 2 feet and those serving as vents only, at intervals not exceeding 5 feet horizontally and 20 feet vertically.

N. Provide expansion joints, control joints and pressure-relieving joints of widths and at locations indicated or required.

O. Joint sealants and backing materials are specified in Section 07900. Rake out mortar from joints to depths required to receive sealants and sealant backings.

3.4 TOLERANCES

A. Variation from Plumb: For lines and surfaces of columns, walls and arrises, do not exceed 1/4 inches in 10 feet, 3/8 inch in a story height or 20 feet maximum, or 1/2 inch in 40 feet or more. For external corners, expansion joints and other conspicuous lines, do not exceed 1/4 inch in any story or 20 feet maximum, or 1/2 inch in 40 feet or more.

B. Variation from Level: For grades indicated for exposed lintels, sills, parapets, horizontal grooves and other conspicuous lines, do not exceed 1/2 inch in any bay or 20 feet maximum, or 3/4 inch in 40 feet or more.

C. Variation of Linear Building Line: For position shown in plan and related portion of columns, walls and partitions, do not exceed 1/2 inch in any bay or 20 feet maximum, or 3/4 inch in 40 feet or more.

D. Variation in Cross-Sectional Dimensions: For columns and thickness of walls from dimensions indicated, do not exceed minus 1/4 inch, nor plus 1/2 inch.

3.5 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

C. Cover top of walls with non-staining waterproof sheeting at end of each day's work. Cover partially completed structures when work is not in progress.

D. Extend cover a minimum of 24 inches down both sides and hold securely in place.

E. Prevent staining of stone from mortar, grout, sealants, and other sources. Immediately remove such materials from stone without damage to the stonework.

F. Protect base of walls from rain-splashed mud and mortar splatter by means of coverings spread on ground and over wall surface.

G. Protect sills, ledges and projections from droppings of mortar and sealants.

3.6 CLEANING

A. Clean exposed faces to remove dirt and stains which may be on units after erection and completion of joint treatments. Do not use cleaners containing Muriatic acid or Hydrochloric Acid.

B. Wash and rinse thoroughly in accordance with stone panel manufacturer's instruction.

C. Do not use cleaning materials or processes which could change the character of the exposed finishes.

3.7 SCHEDULES

END OF SECTION