

SECTION 04200UNIT MASONRYPART 1 - GENERAL1.1 SECTION INCLUDES

- A. Concrete Masonry Units (with core insulation inserts)
- B. Masonry Unit Channel Bond Beam
- C. Masonry Unit Lintel
- D. "A" Blocks
- E. Bullnosed Concrete Masonry Units
- F. Split-face Concrete Masonry Units (with core insulation inserts)
- G. Peastone Fill for Exterior Wall Cavities
- H. Mortar
- I. Grout Fill for CMU Lintels/Bond Beams and Reinforced CMU Cores
- J. Mortar Color and Admixtures
- K. Reinforcement, Anchorage, and Accessories
- L. Control Joints
- M. Compressible Joint Filler
- N. Accessories
- O. Thru-wall Flashing and Accessories
- P. Modifications and/or Repairs to Masonry

1.2 PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION

- A. Section 03300 - Cast-in-Place Concrete: Vertical and horizontal deformed bar reinforcing in masonry walls.
- B. Section 05500 - Metal Fabrications: Placement of loose steel lintels.
- C. Section 07150 - Dampproofing: Cavity Dampproofing and Above Grade Dampproofing.
- D. Section 08110 - Steel Doors and Frames: Placement of jamb anchors and grouting of steel frames.
- E. Section 15092 - Pipe Sleeves and Seals

1.3 RELATED SECTIONS

- A. Section 01050 - Coordination
- B. Section 01340 - Submittals
- C. Section 01400 - Quality Control
- D. Section 01710 - Project Cleaning
- E. Section 03300 - Concrete
- F. Section 05500 - Metal Fabrications
- G. Section 07150 - Dampproofing
- H. Section 07270 - Firestopping
- I. Section 07900 - Joint Sealers
- J. Section 08110 - Steel Doors and Frames
- K. Section 09900 - Painting
- L. Division 15 - Mechanical

M. Division 16 - Electrical

1.4 REFERENCES

- A. ASTM A82 - Cold-Drawn Steel Wire for Concrete Reinforcement
- B. ASTM A153 - Specification for Zinc-Coating (Hot Dip) on Iron and Steel Hardware.
- C. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- D. ASTM A641 - Specification for Zinc-Coated (Galvanized) Carbon Steel Wire
- E. ASTM C62 - Building Brick
- F. ASTM C67 - Sampling and Testing Brick and Structural Clay Tile
- G. ASTM C90 - Hollow Load-Bearing Concrete Masonry Units
- H. ASTM C91 - Masonry Cement
- I. ASTM C109 - Sampling and Testing Grout
- J. ASTM C140 - Sampling and Testing Concrete Masonry Units
- K. ASTM C150 - Portland Cement
- L. ASTM C207 - Hydrated Lime for Masonry Purposes
- M. ASTM C216 - Facing Brick
- N. ASTM C270 - Mortar for Unit Masonry
- O. ASTM C315 - Clay Flue Linings
- P. ASTM C476 - Grout for Masonry
- Q. ASTM C1019 - Standard Method of Sampling and Testing Grout.
- R. ASTM D1056 - Expansion Joint
- S. ASTM D2240 - Test Method for Rubber Property - Durometer Hardness
- T. FS SS-C-153 - Plastic Bituminous Cement
- U. ASTM E447 - Compressive Strength of Masonry Prisms.
- V. AC1 530 - Building Code Requirements for Concrete Masonry Structures
- W. AC1 530.1 Specification for Concrete Masonry Construction
- X. BOCA National Mechanical Code

1.5 SUBMITTALS

- A. Submit product data for each item under provision of Section 01340.
- B. Decorative Concrete Masonry Units - Color chart or color samples showing color range.
- C. Mason shall provide a dowel reinforcing layout for dowel placement in reinforced concrete foundation walls.
- D. Cold Weather Construction Procedures as specified.
- E. Hot Weather Construction Procedures as specified.
- F. Mortar and Grout Mix Design.
- G. Contractor shall submit verification from the manufacturer that the concrete masonry units have been properly cured to obtain the design strength specified and have sufficiently stabilized so that the units will not shrink after installation [OR] test results conducted by an independent laboratory verifying that the materials manufactured specifically for the project meet the specified requirements. Testing of units shall be at no additional expense to the Owner.
- H. Submit masonry contractor's qualifications.

1.6 QUALIFICATIONS

- A. Masonry Subcontractor: Company specializing in performing the work of this Section with a minimum of five years experience.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store cementitious materials off the ground, under cover and in a dry location.  
B. Store aggregates such that grading and other required characteristics can be maintained and contamination avoided.

1.8 SEQUENCING AND SCHEDULING

- A. Coordinate work under provisions of Section 01050.

PART 2 - PRODUCTS

2.1 CONCRETE MASONRY UNITS

- A. Interior and Back-up Concrete Masonry Units: Normal weight hollow concrete masonry units, ASTM C90, Grade N, Type I - Moisture controlled.  
B. Decorative block units: ASTM C90, Grade N, Type I - Moisture controlled; color(s) as selected by Engineer to the following design:  
1. Split face design.  
2. Smooth face units.  
3. Decorative concrete masonry units shall contain the recommended amount of DRY-BLOCK Admixture as manufactured by Forrer Industries, Inc., Milwaukee, Wisconsin.  
C. Open top concrete masonry channel bond beam and lintel block: ASTM C90, Knock-out type blocks are not acceptable.  
D. Bullnosed Concrete Masonry Units: ASTM C90, Grade N, Type I - Moisture Controlled.  
E. All units indicated for use in fire rated assemblies shall be tested and approved for the hour ratings indicated on the Drawings.  
F. Insulation inserts will be molded polystyrene insulation installed at the factory and as manufactured by KORIFILLOR or equivalent.

2.2 REINFORCEMENT AND ANCHORAGE

- A. Single wythe joint reinforcement: Ladder type; hot dip galvanized, ASTM A153 with a minimum coating thickness of 1.5 oz/ft. of wire, cold-drawn steel conforming to ASTM A82, nine (9) GA. side rods with nine gage cross ties.  
B. ZEE wire tie: Hot dip galvanized, ASTM A153, 3/16 inch diameter wire with two inch bends by length as shown on Drawings.  
C. Vee wall ties: Hot dip galvanized, ASTM A153, 3/16 inch diameter wire, size as shown on Drawings.  
D. Cavity wall joint reinforcement: Ladder type; Hot dip galvanized ASTM A153 with a minimum coating thickness of 1.5 oz/ft. of wire, cold-drawn steel conforming to ASTM A82, 9 gage side rods and nine gage cross ties, prefabricated continuous joint reinforcement and adjustable tie system with 3/16 inch diameter wall tie eye

sections welded on at 16 inches on center and 3/16 inch rectangular adjustable wall tie pintle sections.

- E. Corrugated ties: Corrugated, 16 GA., hot dip galvanized to ASTM A123 finish, 7/8 inch wide, of sufficient length to penetrate at least four inches into masonry or three inches into the veneer.
- F. Strap anchors: Hot dip galvanized, 1-1/2 inch wide by 1/8 inch thick by 12 inches long with 2 inch bends.
- G. Deformed reinforcement shall be ASTM A615, Grade 60.

### 2.3 ACCESSORIES

- A. Preformed Control Joints: Rapid Control Joint Rubber Compound Durometer 70-80, ASTM D2240, Regular Tee as manufactured by Dur-O-Wal, Inc., or equal.
- B. Control Joint Filler: Closed cell neoprene; Type D/A 2015 ASTM D2056 as manufactured by Dur-O-Wal, Inc. or equal.
- C. Expansion Joint Filler: Cork Board by W.R. Grace or Equal, size as indicated on the Drawings.
- D. Compressible Filler - closed cell neoprene, Type D/A 2015 ASTM D2056 as manufactured by Dur-O-Wal, Inc. or equal.
- E. Building paper: 15 pound asphalt saturated felt.
- F. Weep holes: Preformed plastic tubes.
- G. Cleaning solutions: Sure Klean No. 600 as manufactured by ProSoCo, Inc. or equal.
- H. Wall Plug: Wall plug mortar inserts, 26 gauge galvanized as manufactured by AA Wire Products Company or equal.
- I. Peastone: Washed stone, uniformly graded to 3/8 - 1/2 inch.
- J. Ties for masonry backed by concrete and for ends of masonry abutting vertical concrete surfaces shall be hot-dipped galvanized, corrugated, dovetail anchors, 16 ga., one inch wide, of sufficient length to penetrate at least four inches into masonry or three inches into the veneer.
- K. Weephole Ventilators - Aluminum grill type vent as manufactured by AA Wire Products Company or equal.
- L. Rebar Positioner: Rebar positioner shall be nine gage hot dip galvanized, Type D/A 810, as manufactured by Dur-O-Wal, Inc. or equal.

### 2.4 LOOSE FILL MASONRY INSULATION

- A. Granular insulation shall be an inert, inorganic, lightweight, and waterproof. Insulation shall conform to ASTM C-516 and Federal Specification HH-1-585C.

### 2.5 MORTAR AND GROUT MATERIALS

- A. Portland cement: ASTM C150, Type I or Type II, gray color.
- B. Masonry Cement: ASTM C91, Type S.
- C. Mortar aggregate: ASTM C144, standard masonry type.
- D. Grout aggregate: ASTM C476, Fine Grout.
- E. Hydrated lime: ASTM C207, Type S.
- F. Water: Clean and potable.

### 2.6 MORTAR COLOR AND ADMIXTURES

- A. Pre-measured mineral pigment; color as selected by Engineer. Mortar for CMU shall match that of existing mortar.
- B. Mortar for decorative CMU units shall contain DRY-BLOCK II Admixture as manufactured by Fournier Industries, Inc., Milwaukee, Wisconsin.

2.7 MORTAR MIXES

- A. Mortar shall be: ASTM C270, Type S with a minimum 28 day compressive strength of 1800 PSI.

2.8 GROUT MIXES

- A. Grout for bond beams, lintels and reinforced CMU cores shall have 2000 PSI compressive strength at 28 days; mixed in accordance with ASTM C476 fine grout.

2.9 THRU-WALL FLASHING

- A. A factory manufactured product furnished in the required width and consisting of a full sheet of electrosheet copper weighing three ounces per square foot permanently bonded top and bottom by heavy asphalt with waterproofed, three ounce creped kraft paper, reinforced with glass fibers.
- B. Manufacturers: York Manufacturing, Inc., Sandell Manufacturing Co., Inc.; AFCO Products, Inc.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that field conditions are acceptable and are ready to receive work.
- B. Verify items provided by other sections of work are properly sized and located.
- C. Verify that built-in items are in proper location, and ready for roughing into masonry work.
- D. Request inspection of spaces to be grouted.
- E. Beginning of installation means installer accepts existing conditions.

3.2 PREPARATION

- A. Direct and coordinate placement of metal anchors supplied in other sections.
- B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.
- C. Install mortar and grout to requirements of the specific masonry sections.
- D. Work grout into masonry cores to eliminate voids.
- E. Do not displace reinforcement while placing grout.
- F. Remove grout spaces of excess mortar.
- G. Cover and protect the top of the masonry walls at the end of each work day and during inclement weather. Cover partially completed masonry when construction is not in progress.
  - 1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.

2. Where one wythe of multi wythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches down face next to unconstructed wythe and hold cover in place.
- H. Stain Prevention: Prevent grout, mortar and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar and soil that come in contact with such masonry.
1. Protect base of walls from rain-splashed mud and mortar splatter by covering spread on ground and over wall surface.
  2. Protect sills, ledges and projections from mortar droppings.
  3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
  4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt on completed masonry.

### 3.3 MORTAR MIXING

- A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270:
1. Proportions by volume for Portland cement-lime-sand mixture:
    - a. 2 parts Portland cement
    - b. 1 part hydrated lime
    - c. 9 parts masonry sand
  2. Properties by volume for masonry cement - sand mixture:
    - a. 2 parts masonry cement
    - b. 6 parts masonry sand
- B. Add mortar color in accordance with manufacturer's instructions. Provide uniformity of mix and coloration.
- C. Add DRY-BLOCK II Admixture to mortar for decorative CMU. The sequence for mixing mortar containing DRY-BLOCK Mortar Admixture is:
1. Add 2/3 of the water to the mixer.
  2. Add the admixture to the mixer.
  3. Add sand to the mixer.
  4. Add cement and lime to the mixer.
  5. Add additional water as necessary.
  6. Mix a minimum of 5 additional minutes after all materials have been added to the mixer.
- D. Do not use anti-freeze compounds to lower the freezing point of mortar.
- E. If water is lost by evaporation, retemper only within two hours of mixing.
- F. Use mortar within two hours after mixing at temperatures of 80 degrees F, or 2½ hours at temperatures under 50 degrees F.

### 3.4 GROUT MIXING

- A. Thoroughly mix grout ingredients in quantities needed for immediate use in accordance with ASTM C476:
1. Proportions by volume:
    - a. 1 part Portland cement
    - b. 1/10 part hydrated lime

- c. 3 parts sand
- B. Do not use anti-freeze compounds to lower freezing point of grout.

### 3.5 COURSING

- A. Establish lines, levels, and coursing indicated. Protect from displacement.
- B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness to provide a neat, uniform appearance.
- C. Lay concrete masonry units in running bond. Course one unit and one mortar joint to equal eight inches. Form concave mortar joints to provide a neat, uniform appearance.
- D. Lay decorative units to coursing of one unit and one mortar joint to equal eight inches. Form concave mortar joints to provide a neat, uniform appearance.

### 3.6 PLACING AND BONDING

- A. Lay hollow masonry units with face shell bedding on head and bed joints.
- B. Buttering corners of joints or excessive furrowing of mortar joints are not permitted.
- C. Remove excess mortar which has splashed or been smeared on finished surfaces with stiff bristle brushes as work progresses.
- D. Place full mortar bed around each core that is to be grouted.
- E. Interlock intersections and external corners.
- F. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.
- G. Perform jobsite cutting of masonry units with electrically operated carborundum saws to provide straight, clean, unchipped edges. Prevent broken masonry unit corners or edges. Do not break units with hammers or other tools, except at corners of the split face veneer.
- H. Cut mortar joints flush where ceramic tile is scheduled.
- I. Isolate masonry partitions from vertical structural framing members with a control joint.
- J. Isolate top joint of masonry partitions from horizontal structural framing members and slabs or decks with compressible joint filler.
- K. Install bullnose concrete masonry units at all external corners, doors, window, and louver jambs as detailed on Drawings.
- L. Use open top channel blocks for the bond beam located at the top of the walls.

### 3.7 WEEPS AND VENTS

- A. Install weep holes 32 inches on center horizontally at bottom of concrete masonry walls.
- B. Install weep holes 16 inches on center horizontally above all concrete masonry wall openings.
- C. Install weephole ventilator at top of each cavity space at same spacing as bottom of wall.

3.8 CAVITY WALL

- A. Do not permit mortar to drop or accumulate into cavity air space or to plug weep holes.
- B. Build inner wythe ahead of outer wythe to receive cavity damproofing. After back-up units have been installed, apply two (2) brush coats of Damproofing at the rate 30-35 square feet per gallon, for each coat to all surfaces of back-up masonry and bond beams. Fill all air pockets and voids, and eliminate air bubbles as the work progresses.
- C. Install cavity insulation on erected back-up masonry. Apply adhesive as recommended by the manufacturer. Cut insulation closely to all penetrations and seal.

3.9 INSULATED MASONRY UNITS

- A. Insulation inserts shall be installed in the cores of the blocks at the block producers plant using specified materials according to manufacturer's instructions.

3.10 REINFORCEMENT AND ANCHORAGES

- A. Install horizontal joint reinforcement as shown on Drawings.
- B. Place masonry joint reinforcement in first horizontal joints above and below openings. Extend minimum 16 inches each side of opening.
- C. Place joint reinforcement continuous in first joint below top of walls.
- D. Lap joint reinforcement ends minimum six inches.
- E. Embed anchors attached to structural steel members. Embed anchorages in every second block joint.
- F. Install eye and pintle type reinforcing at cavity walls.
- G. Install horizontal joint reinforcing at 16" on center at all interior masonry walls.
- H. Reinforce wall intersections with strap anchors 16 inches on center.
- I. Install specified dovetail anchors for masonry abutting or backed by concrete surfaces, spacing the anchors not more than 16 inches on centers, vertically, and not more than 16 inches on centers, horizontally.
- J. Set wall plugs flush in jamb joints for openings as previously specified.

3.11 THRU-WALL FLASHING INSTALLATION

- A. All surfaces receiving through-wall flashing shall be thoroughly dry, free from loose material and reasonably smooth. There shall be slopes such that will not form pockets or prevent free drainage of water to the exterior surfaces of the walls.
- B. Flashing for all horizontal masonry surfaces shall be laid in a slurry of fresh mortar and be topped with a fresh full bed of mortar. Vertical surfaces shall be sufficiently spotted with asphalt mastic (selected petroleum asphalt meeting ASTM D449 - Type II to hold it in place until the masonry is set. Mortar for setting flashing in masonry work will be furnished and installed by the trade responsible for erecting the walls.
- C. When necessary to join flashing together, joints shall be made either by splicing, (pulling back the fabric covering from ends to the spliced, lapping copper to copper four inch and overlapping fabric, coating contacting surfaces with plastic cement),



or by direct overlap of sheets (not less than four inches) and bedding the lap in plastic cement.

- D. Flashing shall be carried through or up the walls, as indicated on the Drawings. Flashings shall extend six inches beyond each side of openings. Terminate outer edges of flashings as shown on Drawings.
- E. Completely seal all joints with plastic cement.
- F. Where membrane through-wall flashing is in combination with solid metal flashing, membrane flashing shall be placed over the metal flashing.
- G. Place peastone in cavities to a depth of approximately six inches over membrane flashing wherever flashing penetrates wall, as far as practicable.

### 3.12 LINTELS

- A. Install loose steel lintels over openings as shown on Drawings.
- B. Install precast concrete lintels over openings as shown on Drawings.
- C. Install reinforced unit masonry lintels as shown on Drawings.
- D. Install reinforced unit masonry lintels over openings exceeding 16 inches, where steel or precast concrete lintels are not scheduled. Provide reinforcing as required to span the opening.
- E. Use full length reinforcing bars only.
- F. Support and secure reinforcing bars from displacement. Maintain position within ½ inch of dimensioned position.
- G. Place and consolidate grout fill without displacing reinforcing.
- H. Maintain minimum eight inch bearing on each side of opening.
- I. Use "A" type blocks to tie vertical reinforcing into the horizontal reinforcing at masonry lintels.
- J. Allow masonry lintels to attain specified strength before removing temporary supports.

### 3.13 GROUTED COMPONENTS

- A. Reinforce channel bond beam and lintel block with two bars, placed continuously, size as shown on the Drawings.
- B. Lap splices in vertical reinforcing minimum 48 bar diameters.
- C. Support and secure reinforcing bars from displacement. Maintain position within ½ inch of dimensioned position.
- D. Place and consolidate grout fill without displacing reinforcing.
- E. At bearing locations, fill masonry cores with grout for a minimum 16 inches either side of opening.
- F. Grouting:
  - 1. Provide cleanout opening no less than four inches high at the bottom of each cell to be grouted by cutting one face shell of masonry unit.
  - 2. Clean out masonry cells with high pressure water spray. Permit complete water drainage.
  - 3. Request the Engineer to inspect the cells. Allow three days advance notice of inspection.
  - 4. After cleaning and cell inspection, seal openings with masonry units.

5. Place grout into spaces. Maintain water content in grout to intended slump without aggregate segregation.
6. Limit grout lift to 48 inches, stop each lift at least one inch below the top of a masonry unit and rod for grout consolidation. Wait 30 to 60 minutes before placing next lift.

### 3.14 PLACING REINFORCING STEEL

- A. Mason shall coordinate dowel placement.
- B. Prior to placing grout, clean all reinforcement of loose, flaky rust; scale; grease; mortar; grout; or other coating which might destroy or reduce its bond with grout. The details of reinforcement shall conform to ACI 315. Do not bend or straighten reinforcing. Do not use bars with kinks or bends not shown on the Drawings. Placement of reinforcement shall be inspected by the Engineer prior to placing grout.
- C. Position vertical bars accurately at the centerline of the reinforced wythe within a tolerance of 1/2 inch. Maintain a minimum clearance between the bars and masonry units of 1/2 inch and between parallel bars of one diameter of the reinforcement. Hold vertical reinforcing in place using metal supports, centering clips, spacers, or caging-devices located near the ends of each bar and at intermediate intervals of not more than 160 diameters of the reinforcement. Wire column and pilaster ties in position around the vertical steel, laying ties in mortar joints will not be permitted.
- D. Locate splices only where shown on the Drawings. Stagger splices in adjacent bars. Lay bars a minimum of 48 diameters of the reinforcement or two feet which ever is greater. Welded or mechanical connections shall develop the full strength of the reinforcement.
- E. Vertical reinforcing shall extend into the bond beam located at the top of the wall. The open top channel block shall be drilled to accommodate the vertical reinforcing.

### 3.15 CONTROL AND EXPANSION JOINTS

- A. Do not continue horizontal joint reinforcement through control and expansion joints. Stop control joint under the bond beam at the top of the wall. Rake and caulk the control joint at the top bond beam.
- B. Joints shall extend through intermediate reinforcing and bond beams.
- C. Install preformed control joint device in continuous lengths. Seal butt and corner joints in accordance with manufacturer's instructions.
- D. Form control and expansion joints as detailed on Drawings.
- E. Joints at tops of interior non-bearing masonry partitions and in other locations as shown on Drawings, install specified compressible filler, maintaining a 3/4 inch distance back to edges of filler from both faces of partition.

### 3.16 BUILT-IN WORK

- A. As work progresses, build in metal door and glazed metal frames, wood nailing strips, plates and other items furnished by other sections.
- B. Build in items plumb and level.
- C. Bed anchors of metal door and glazed frames in adjacent mortar joints. Fill frame voids solid with grout or batt insulation as shown on the Drawings.

D. Do not build in organic materials subject to deterioration.

3.17 TOLERANCE

- A. Maximum variation from alignment of columns and pilasters: 1/4 inch.
- B. Maximum variation from unit to adjacent unit: 1/32 inch.
- C. Maximum variation from plane of wall: 1/4 inch in 10 feet and 1/2 inch in 20 feet or more.
- D. Maximum variation from plumb: 1/4 inch per story non-cumulative; 1/2 inch in two stories or more.
- E. Maximum variation from level coursing: 1/8 inch in three feet and 1/4 inch in 10 feet; 1/2 inch in 30 feet.
- F. Maximum variation of joint thickness: 1/8 inch in three feet.
- G. Maximum variation from cross sectional thickness of walls: 1/4 inch.

3.18 CUTTING AND FITTING

- A. Cut and fit for chases, pipes, conduit, sleeves, grounds and other penetrations. Coordinate with other sections of work to provide correct size, shape, and location.
- B. Obtain Engineer approval prior to cutting or fitting masonry work not indicated or where appearance or strength of masonry work may be impaired.

3.19 MODIFICATIONS OR REPAIRS TO MASONRY

- A. Remove and replace all masonry units that are loose, chipped, broken, stained or otherwise damaged or if units do not match adjoining units. Install new units to match adjoining units; install in fresh mortar or grout, pointed to eliminate evidence of replacement.
- B. Demolition of existing masonry shall be done in a careful manner to minimize damage to adjacent masonry that is not affected by the work. Provide protection, barriers, dust screens, etc. to minimize disruption to interior spaces.
- C. Rehabilitation and repointing of existing masonry in the areas indicated on the Drawings.
  - 1. Remove all weakened, damaged, or disintegrated mortar to sound mortar or a depth of 1 inch, whichever is greater.
  - 2. Lightly wet the mortar and brick work surface prior to placing pointing.
  - 3. Use mortar mixing as described in 3.3 of this section.
  - 4. Face finishing of the re-pointed joints shall be rodded (concave faced).
  - 5. Cleaning and construction procedure as described elsewhere in this section.

3.20 CLEANING

- A. Clean work under provisions of Section 01710.
- B. Remove excess mortar and mortar smears.
- C. Replace defective mortar. Match adjacent work.
- D. Clean soiled surfaces of unpainted surfaces with cleaning solution.
- E. Use non-metallic tools in cleaning operations.

3.21 COLD WEATHER CONSTRUCTION PROCEDURE

- A. Where ambient temperatures are below 40 degrees F or anticipated to drop below 40°F within 24 hours, provide an enclosure for the masonry under construction and use heat sources to maintain temperatures above 40 degrees F within the enclosure. Maintain the heated enclosure for a minimum of 24 hours after construction.
- B. Heat mortar sand or mixing water to produce mortar temperatures between 40 degrees F and 90 degrees F at the time of mixing. Maintain mortar above freezing until used in masonry.
- C. Temperature of stored masonry units shall not be less than 20 degrees F when laid in the masonry. Remove visible ice on masonry units before the unit is laid in the masonry.

3.22 HOT WEATHER CONSTRUCTION PROCEDURE

- A. When the ambient temperature exceeds 90 degrees F:
  - 1. Lightly wet the mortar bedding surface areas.
  - 2. Keep mortar moist, and do not string out on the wall so far ahead of units being placed that drying will take place prior to placement of units.
  - 3. After the units are in place, a very light fog spray shall be applied sufficient times during the first 24 hours for proper curing.

END OF SECTION