

SECTION 040310 - HISTORIC MASONRY CLEANING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes historic treatment work consisting of cleaning historic clay brick terra cotta and stone masonry surfaces.
- B. Related Requirements:
 - 1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.

1.2 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."

1.3 DEFINITIONS

- A. Low-Pressure Spray:
 - 1. Pressure: 100 to 400 psi.
 - 2. Flow Rate: 4 to 6 gpm.
- B. Medium-Pressure Spray:
 - 1. Pressure: 400 to 800 psi.
 - 2. Flow Rate: 4 to 6 gpm.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference by online meeting.
 - 1. Review minutes of Preliminary Historic Treatment Conference that pertain to masonry historic treatment and cleaning.
 - 2. Review methods and procedures related to cleaning historic masonry.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.6 QUALITY ASSURANCE

- A. Historic Treatment Specialist Qualifications: A qualified historic masonry cleaning specialist. Experience cleaning new masonry work is insufficient experience for historic treatment work.
- B. Mockups: Prepare mockups of cleaning on existing surfaces to demonstrate aesthetic effects and to set quality standards for materials and execution.
 - 1. Cleaning: Clean an area approximately 25 sq. ft. for each type of masonry and surface condition.
- C. Do not use spray cleaner techniques unless it can be demonstrated that the overspray will not harm adjacent buildings or present a human health hazard.

PART 2 - PRODUCTS

2.1 PAINT REMOVERS

- A. Covered or Skin-Forming Alkaline Paint Remover: Manufacturer's standard covered or skin-forming, alkaline paste or gel formulation for removing paint from masonry; containing no methylene chloride.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Building Restoration Products, Inc.
 - b. Diedrich Technologies, Inc.; a Hohmann & Barnard company.
 - c. Dumond Chemicals, Inc.
- B. Solvent-Type Paste Paint Remover: Manufacturer's standard water-rinsable, solvent-type paste or gel formulation for removing paint from masonry.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Diedrich Technologies, Inc.; a Hohmann & Barnard company.
 - b. PROSOCO, Inc.
- C. Low-Odor, Solvent-Type Paste Paint Remover: Manufacturer's standard low-odor, water-rinsable, solvent-type paste, gel, or foamed emulsion formulation for removing paint from masonry; containing no methanol or methylene chloride.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Cathedral Stone Products, Inc.
 - b. PROSOCO, Inc.

2.2 CLEANING MATERIALS

- A. Water: Potable.
- B. Hot Water: Water heated to a temperature of 140 to 160 deg F.
- C. Detergent Solution, Job Mixed: Solution prepared by mixing 2 cups of tetrasodium pyrophosphate (TSPP), 1/2 cup of laundry detergent, and 20 quarts of hot water for every 5 gal. of solution required.
- D. Mold, Mildew, and Algae Remover, Job Mixed: Solution prepared by mixing 2 cups of tetrasodium pyrophosphate (TSPP), 5 quarts of 5 percent sodium hypochlorite (bleach), and 15 quarts of hot water for every 5 gal. of solution required.
- E. Nonacidic Gel Cleaner: Manufacturer's standard gel formulation, with pH between 6 and 9, that contains detergents with chelating agents and is specifically formulated for cleaning masonry surfaces.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Cathedral Stone Products, Inc.
 - b. PROSOCO, Inc.
- F. Nonacidic Liquid Cleaner: Manufacturer's standard mildly alkaline liquid cleaner formulated for removing mold, mildew, and other organic soiling from ordinary building materials, including polished stone, brick, aluminum, plastics, and wood.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Cathedral Stone Products, Inc.
 - b. PROSOCO, Inc.

PART 3 - EXECUTION

3.1 PROTECTION

- A. Remove gutters and downspouts and associated hardware adjacent to immediate work area and store during masonry cleaning. Reinstall when masonry cleaning is complete.
 - 1. Provide temporary rain drainage during work to direct water away from building.
- B. Protect ornamental metals on the building from the harmful effects of cleaning chemicals.

3.2 CLEANING MASONRY, GENERAL

- A. Have cleaning work performed only by qualified historic treatment specialist.

- B. Proceed with cleaning in an orderly manner; work from top to bottom of each scaffold width and from one end of each elevation to the other. Ensure that dirty residues and rinse water do not wash over dry, cleaned surfaces.
- C. Use only those cleaning methods indicated for each masonry material and location.
 - 1. Brushes: Do not use wire brushes or brushes that are not resistant to chemical cleaner being used.
 - 2. Spray Equipment: Use spray equipment that provides controlled application at volume and pressure indicated, measured at nozzle. Adjust pressure and volume to ensure that cleaning methods do not damage masonry, adjacent buildings or present a human health hazard.
 - a. Equip units with pressure gauges.
 - b. For chemical-cleaner spray application, use low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with nozzle having a cone-shaped spray.
 - c. For water-spray application, use fan-shaped spray that disperses water at an angle of 25 to 50 degrees.
 - d. For heated water-spray application, use equipment capable of maintaining temperature between 140 and 160 deg F at flow rates indicated.
- D. Perform each cleaning method in a manner that results in uniform coverage of all surfaces, including corners, moldings, and interstices, and that produces an even effect without streaking or damaging masonry surfaces.
 - 1. Keep wall wet below area being cleaned to prevent streaking from runoff.
- E. Water-Spray Application Method: Unless otherwise indicated, hold spray nozzle at least 6 inches from masonry surface, and apply water in horizontal back-and-forth sweeping motion, overlapping previous strokes to produce uniform coverage.
- F. Chemical-Cleaner Application Methods: Apply chemical cleaners to masonry surfaces according to chemical-cleaner manufacturer's written instructions; use brush or spray application. Do not spray apply at pressures exceeding 50 psi. Do not allow chemicals to remain on surface for periods longer than those indicated or recommended in writing by manufacturer.
- G. Rinse off chemical residue and soil by working upward from bottom to top of each treated area at each stage or scaffold setting. Periodically during each rinse, test pH of rinse water running off of cleaned area to determine that chemical cleaner is completely removed.
 - 1. Apply neutralizing agent and repeat rinse if necessary to produce tested pH of between 6.7 and 7.5.

3.3 PRELIMINARY CLEANING

- A. Removing Plant Growth: Completely remove visible plant, moss, and shrub growth from masonry surfaces. Carefully remove plants, creepers, and vegetation by cutting at roots and allowing remaining growth to dry as long as possible before removal. Remove loose soil and plant debris from open masonry joints to whatever depth they occur.

- B. Preliminary Cleaning: Before beginning general cleaning, remove extraneous substances that are resistant to planned cleaning methods. Extraneous substances include paint, caulking, asphalt, and tar.
 - 1. Carefully remove heavy accumulations of rigid materials from masonry surface with sharp chisel. Do not scratch or chip masonry surface.
 - 2. Remove paint and caulking with alkaline paint remover.
 - a. Comply with requirements in "Paint Removal" Article.
 - b. Repeat application up to two times if needed.
 - 3. Remove asphalt and tar with solvent-type paste paint remover.
 - a. Comply with requirements in "Paint Removal" Article.
 - b. Apply paint remover only to asphalt and tar by brush without prewetting.
 - c. Allow paint remover to remain on surface for 10 to 30 minutes.
 - d. Repeat application if needed.

3.4 PAINT REMOVAL

- A. Paint-Remover Application, General: Apply paint removers according to paint-remover manufacturer's written instructions. Do not allow paint removers to remain on surface for periods longer than those indicated or recommended in writing by manufacturer.
- B. Paint Removal with Covered or Skin-Forming Alkaline Paint Remover:
 - 1. Remove loose and peeling paint using low-pressure water spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
 - 2. Apply paint remover to dry, painted surface with trowel, spatula, or as recommended in writing by manufacturer.
 - 3. Apply cover according to manufacturer's written instructions.
 - 4. Allow paint remover to remain on surface for period recommended in writing by manufacturer.
 - 5. Scrape off paint and remover.
 - 6. Rinse with hot water applied by low-pressure spray to remove chemicals and paint residue.
 - 7. Apply acidic cleaner or manufacturer's recommended afterwash to surface, while surface is still wet, using low-pressure spray equipment or soft-fiber brush. Let cleaner or afterwash remain on surface as a neutralizing agent for period recommended in writing by chemical-cleaner or afterwash manufacturer.
 - 8. Rinse with cold water applied by low-pressure spray to remove chemicals and soil.
- C. Paint Removal with Solvent-Type Paste Paint Remover:
 - 1. Remove loose and peeling paint using low-pressure water spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
 - 2. Apply thick coating of paint remover to painted surface with natural-fiber cleaning brush, deep-nap roller, or large paint brush. Apply in one or two coats according to manufacturer's written instructions.
 - 3. Allow paint remover to remain on surface for period recommended in writing by manufacturer.

4. Rinse with hot water applied by low-pressure spray to remove chemicals and paint residue.

D. Paint Removal with Covered, Solvent-Type Paste Paint Remover:

1. Remove loose and peeling paint using low-pressure water spray, scrapers, stiff brushes, or a combination of these. Let surface dry thoroughly.
2. Apply paint remover to dry, painted surface with trowel, spatula, or as recommended in writing by manufacturer.
3. Apply cover according to manufacturer's written instructions.
4. Allow paint remover to remain on surface for period recommended in writing by manufacturer.
5. Scrape off paint and remover.
6. Rinse with hot water applied by low-pressure spray to remove chemicals and paint residue.

3.5 CLEANING BRICKWORK

A. Detergent Cleaning:

1. Wet surface with hot water applied by low-pressure spray.
2. Scrub surface with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet.
3. Rinse with hot water applied by low-pressure spray to remove detergent solution and soil.
4. Repeat cleaning procedure, where needed to produce cleaning effect established by mockup.

B. Mold, Mildew, and Algae Removal:

1. Wet surface with hot water applied by low-pressure spray.
2. Apply mold, mildew, and algae remover by brush or low-pressure spray.
3. Scrub surface with medium-soft brushes until mold, mildew, and algae are thoroughly dislodged and can be removed by rinsing. Use small brushes for mortar joints and crevices. Dip brush in mold, mildew, and algae remover often to ensure that adequate fresh cleaner is used and that surface remains wet.
4. Rinse with hot water applied by low-pressure spray to remove mold, mildew, and algae remover and soil.
5. Repeat cleaning procedure, where needed to produce cleaning effect established by mockup.

C. Nonacidic Gel Chemical Cleaning:

1. Wet surface with hot water applied by low-pressure spray.
2. Apply gel cleaner in 1/8-inch thickness by brush, working into joints and crevices. Apply quickly and do not brush out excessively, so area is uniformly covered with fresh cleaner and dwell time is uniform throughout area being cleaned.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer.
4. Remove bulk of gel cleaner.
5. Rinse with hot water applied by low-pressure spray to remove chemicals and soil.

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6. Repeat cleaning procedure, where needed to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

D. Nonacidic Liquid Chemical Cleaning:

1. Wet surface with hot water applied by low-pressure spray.
2. Apply cleaner to surface in two applications by brush or low-pressure spray.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer.
4. Rinse with hot water applied by low-pressure spray to remove chemicals and soil.
5. Repeat cleaning procedure, where needed to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

3.6 CLEANING GLAZED TERRA COTTA

A. Detergent Cleaning:

1. Wet surface with hot water applied by low-pressure spray.
2. Scrub surface with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet.
3. Rinse with hot water applied by low-pressure spray to remove detergent solution and soil.
4. Repeat cleaning procedure, where needed to produce cleaning effect established by mockup.

B. Nonacidic Gel Chemical Cleaning:

1. Wet surface with hot water applied by low-pressure spray.
2. Apply gel cleaner in 1/8-inch thickness by brush, working into joints and crevices. Apply quickly and do not brush out excessively, so area is uniformly covered with fresh cleaner and dwell time is uniform throughout area being cleaned.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer.
4. Remove bulk of gel cleaner.
5. Rinse with hot water applied by low-pressure spray to remove chemicals and soil.
6. Repeat cleaning procedure, where needed to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

C. Nonacidic Liquid Chemical Cleaning:

1. Wet surface with hot water applied by low-pressure spray.
2. Apply cleaner to terra cotta in two applications.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer.
4. Rinse with hot water applied by low-pressure spray to remove chemicals and soil.

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5. Repeat cleaning procedure, where needed to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

3.7 CLEANING UNPOLISHED STONework

A. Detergent Cleaning:

1. Wet surface with hot water applied by low-pressure spray.
2. Scrub surface with detergent solution using medium-soft brushes until soil is thoroughly dislodged and can be removed by rinsing. Use small brushes to remove soil from mortar joints and crevices. Dip brush in solution often to ensure that adequate fresh detergent is used and that surface remains wet.
3. Rinse with hot water applied by low-pressure spray to remove detergent solution and soil.
4. Repeat cleaning procedure, where needed to produce cleaning effect established by mockup.

B. Mold, Mildew, and Algae Removal:

1. Wet surface with hot water applied by low-pressure spray.
2. Apply mold, mildew, and algae remover by brush or low-pressure spray.
3. Scrub surface with medium-soft brushes until mold, mildew, and algae are thoroughly dislodged and can be removed by rinsing. Use small brushes for mortar joints and crevices. Dip brush in mold, mildew, and algae remover often to ensure that adequate fresh cleaner is used and that surface remains wet.
4. Rinse with hot water applied by low-pressure spray to remove mold, mildew, and algae remover and soil.
5. Repeat cleaning procedure, where needed to produce cleaning effect established by mockup.

C. Nonacidic Gel Chemical Cleaning:

1. Wet surface with hot water applied by low-pressure spray.
2. Apply gel cleaner in 1/8-inch thickness by brush, working into joints and crevices. Apply quickly and do not brush out excessively, so area is uniformly covered with fresh cleaner and dwell time is uniform throughout area being cleaned.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer.
4. Remove bulk of gel cleaner.
5. Rinse with hot water applied by low-pressure spray to remove chemicals and soil.
6. Repeat cleaning procedure, where needed to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

D. Nonacidic Liquid Chemical Cleaning:

1. Wet surface with hot water applied by low-pressure spray.
2. Apply cleaner to surface in two applications by brush or low-pressure spray.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer.
4. Rinse with hot water applied by low-pressure spray to remove chemicals and soil.

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5. Repeat cleaning procedure, where needed to produce cleaning effect established by mockup. Do not repeat more than once. If additional cleaning is required, use steam cleaning.

E. One-Part Limestone Chemical Cleaning:

1. Wet surface with hot water applied by low-pressure spray.
2. Apply cleaner to surface by brush or low-pressure spray.
3. Let cleaner remain on surface for period recommended in writing by chemical-cleaner manufacturer.
4. Immediately repeat application of one-part limestone cleaner as indicated above over the same area.
5. Rinse with hot water applied by medium-pressure spray to remove chemicals and soil.

3.8 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage paint-remover manufacturer's and chemical-cleaner manufacturer's factory-authorized service representatives for consultation and Project-site inspection and provide on-site assistance when requested by Architect. Have paint-remover manufacturer's and chemical-cleaner manufacturer's factory-authorized service representatives visit Project site not less than twice to observe progress and quality of the Work.

END OF SECTION 040310

SECTION 040322 - HISTORIC BRICK UNIT MASONRY REPAIR

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes historic treatment work consisting of repairing historic clay brick masonry.
- B. Related Requirements:
 - 1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.
 - 2. Section 024296 "Historic Removal and Dismantling" for historic removal and dismantling work.

1.2 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."

1.3 DEFINITIONS

- A. Low-Pressure Spray:
 - 1. Pressure: 100 to 400 psi.
 - 2. Flow Rate: 4 to 6 gpm.
- B. Rebuilding (Setting) Mortar: Mortar used to set and anchor masonry in a structure, distinct from pointing mortar installed after masonry is set in place.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference using an online service.
 - 1. Review minutes of Preliminary Historic Treatment Conference that pertain to masonry historic treatment and repair.
 - 2. Review methods and procedures related to repairing historic brick masonry.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, and locations of masonry repair work on the structure.

2. Show full-size patterns with complete dimensions for new molded brick shapes and brick arches and their jointing, showing relationship of existing units to new units.
3. Show provisions for expansion joints or other sealant joints.
4. Show replacement and repair anchors. Include details of anchors

C. Samples: For each exposed product and for each color and texture specified.

1.6 INFORMATIONAL SUBMITTALS

A. Preconstruction test reports.

1.7 QUALITY ASSURANCE

A. Historic Treatment Specialist Qualifications: A qualified historic brick masonry repair specialist. Experience installing standard unit masonry is insufficient experience for masonry historic treatment work.

1. Historic Treatment Worker Qualifications: When bricks are being patched, assign at least one worker per crew who is trained and certified by manufacturer of patching compound to apply its products.

B. Mockups: Prepare mockups of historic treatment to demonstrate aesthetic effects and to set quality standards for materials and execution and for fabrication and installation.

1. Masonry Repair: Prepare sample areas for each type of masonry material indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than two adjacent whole units or approximately 48 inches in least dimension. Construct sample areas in locations in existing walls where directed by Architect unless otherwise indicated. Demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:
 - a. Replacement: Four brick units replaced.
 - b. Patching: Three small holes at least 1 inch in diameter Insert size for each type of brick indicated to be patched, so as to leave no evidence of repair.

PART 2 - PRODUCTS

2.1 MASONRY MATERIALS

A. Face Brick: Units, including molded, ground, cut, or sawed shapes as required to complete masonry repair work.

1. Brick Matching Existing: Units with colors, color variation within units, surface texture, size, and shape that match existing brickwork.

- a. For existing brickwork that exhibits a range of colors or color variation within units, provide brick that proportionally matches that range and variation rather than brick that matches an individual color within that range.
 - b. For Architect's sample that exhibits a range of colors or color variation within units, provide brick that proportionally matches that range rather than brick that matches an individual color within that range.
- 2. Special Shapes:
 - a. Provide molded, 100 percent solid shapes for applications where core holes or "frogs" could be exposed to view or weather when in final position, and where shapes produced by sawing would result in sawed surfaces being exposed to view.
 - b. Provide specially ground units, shaped to match patterns, for arches and where indicated.
 - c. Mechanically chopping or breaking brick, or bonding pieces of brick together by adhesive, are unacceptable procedures for fabricating special shapes.
- B. Building Brick: ASTM C62, Grade SW where in contact with earth, Grade SW, MW, or NW for concealed backup; of same vertical dimension as face brick, for masonry work concealed from view.

2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or Type II; white or gray or both where required for color matching of mortar.
 - 1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C114.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Mortar Sand: ASTM C144 unless otherwise indicated.
 - 1. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
 - 2. Colored Mortar: Natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
 - 3. For exposed mortar, provide sand with rounded edges.
- D. Mortar Pigments: ASTM C979/C979M, compounded for use in mortar mixes, and having a record of satisfactory performance in masonry mortars.
- E. Water: ASTM C270, potable.

2.3 MANUFACTURED REPAIR MATERIALS

- A. Brick Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching brick masonry.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Cathedral Stone Products, Inc.
 - b. Edison Coatings, Inc.
2. Use formulation that is vapor and water permeable (equal to or more than the brick), exhibits low shrinkage, has lower modulus of elasticity than the bricks being repaired, and develops high bond strength to all types of masonry.
3. Formulate patching compound used for patching brick in colors and textures to match each unit being patched. Provide not less than three colors to enable matching the color, texture, and variation of each unit.

2.4 ACCESSORY MATERIALS

- A. Setting Buttons and Shims: Resilient plastic, nonstaining to masonry, sized to suit joint thicknesses and bed depths of bricks, less the required depth of pointing materials unless removed before pointing.

2.5 MORTAR MIXES

- A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
- B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
 1. Mortar Pigments: Where mortar pigments are indicated, do not add pigment exceeding 10 percent by weight of the cementitious or binder materials, except for carbon black which is limited to 2 percent, unless otherwise demonstrated by a satisfactory history of performance.
- C. Do not use admixtures in mortar unless otherwise indicated.
- D. Mixes: Mix mortar materials in the following proportions:
 1. Pointing Mortar for Brick:
 - a. The repointing mortar shall match the original in color, grain size and texture. The compressive strength of the repointing mortar shall be equal or less than the compressive strength of the original mortar and surrounding brick or stone. The replacement mortar shall contain approximately the same ingredient proportions of the original mortar.
 - b. All replacement mortar ingredients and mortar formulations will be established from test data gathered from the original materials sampled from site for each type of mortar on the building.

- c. Mortar Testing Contact: U.S. Heritage Group, Inc., 3516 North Kostner Ave. Chicago, IL 60641 Phone: 773-286-2100 Fax: 773-286-1852.
 - d. Add mortar pigments to produce mortar colors required.
2. Rebuilding (Setting) Mortar: Same as pointing mortar.

PART 3 - EXECUTION

3.1 PROTECTION

- A. Prevent mortar from staining face of surrounding masonry and other surfaces.
- B. Remove gutters and downspouts and associated hardware adjacent to immediate work area, and store during masonry repair work. Reinstall when repairs are complete.
 - 1. Provide temporary rain drainage during work to direct water away from building.

3.2 MASONRY REPAIR, GENERAL

- A. Have repair work performed only by qualified historic treatment specialist.

3.3 BRICK REMOVAL AND REPLACEMENT

- A. At locations indicated, remove bricks that are damaged, spalled, or deteriorated. Carefully remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
- B. Support and protect remaining masonry that surrounds removal area.
- C. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.
- D. Notify Architect of unforeseen detrimental conditions, including voids, cracks, bulges, loose masonry units in existing backup, rotted wood, rusted metal, and other deteriorated items.
- E. Remove in an undamaged condition as many whole bricks as possible. Remove mortar and sealant from surfaces of removed units.
- F. Clean masonry surrounding removal areas by removing mortar, dust, and loose particles in preparation for brick replacement.
- G. Replace removed damaged brick with other removed brick in good condition, where possible, matching existing brick. Do not use broken units unless they can be cut to usable size.
- H. Install replacement brick into bonding and coursing pattern of existing brick. If cutting is required, use a motor-driven saw designed to cut masonry with clean, sharp, unchipped edges.
 - 1. Maintain joint width for replacement units to match existing joints.

2. Use setting buttons or shims to set units accurately spaced with uniform joints.
- I. Lay replacement brick with rebuilding (setting) mortar and with completely filled bed, head, and collar joints. Butter ends with sufficient mortar to fill head joints and shove into place. Wet both replacement and surrounding bricks that have ASTM C67 initial rates of absorption (suction) of more than 30 g/30 sq. in. per min. Use wetting methods that ensure that units are nearly saturated but surface is dry when laid.
 1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing brickwork.
 2. Rake out mortar used for laying brick before mortar sets according to Section 040323 "Historic Brick Unit Masonry Repointing." Point at same time as repointing of surrounding area.
 3. When mortar is hard enough to support units, remove shims and other devices interfering with pointing of joints.
- J. Curing: Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.
 1. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

3.4 BACKUP MASONRY REMOVAL AND REPLACEMENT

- A. Where backup masonry is fractured or unstable and at locations indicated, remove mortar and masonry units that are broken or deteriorated and rebuild with whole, new brick or whole salvaged backup masonry units. Carefully remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
- B. Perform backup masonry removal and replacement according to requirements in "Brick Removal and Replacement" Article.

3.5 BRICK MASONRY PATCHING

- A. Patch the following bricks unless another type of repair or replacement is indicated:
 1. Units indicated to be patched.
 2. Units with holes.
 3. Units with chipped edges or corners. Patch chipped edges or corners measuring more than 3/4 inch in least dimension.
 4. Units with small areas of deep deterioration. Patch deep deteriorations measuring more than 3/4 inch in least dimension and more than 1/4 inch deep.
- B. Patching Bricks:
 1. Remove loose material from masonry surface. Carefully remove additional material so patch does not have feathered edges but has square or slightly undercut edges on area to be patched and is at least 1/4 inches thick, but not less than recommended in writing by patching compound manufacturer.

2. Mask adjacent mortar joint or rake out for repointing if patch extends to edge of brick.
3. Mix patching compound in individual batches to match each unit being patched. Combine one or more colors of patching compound, as needed, to produce exact match.
4. Rinse surface to be patched and leave damp, but without standing water.
5. Brush-coat surfaces with slurry coat of patching compound according to manufacturer's written instructions.
6. Place patching compound in layers as recommended in writing by patching compound manufacturer, but not less than 1/4 inch or more than 2 inches thick. Roughen surface of each layer to provide a key for next layer.
7. Trowel, scrape, or carve surface of patch to match texture and surrounding surface plane or contour of the brick. Shape and finish surface before or after curing, as determined by testing, to best match existing brick.
8. Keep each layer damp for 72 hours or until patching compound has set.

3.6 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, applied by low-pressure spray.
 1. Do not use metal scrapers or brushes.
 2. Do not use acidic or alkaline cleaners.

END OF SECTION 040322

SECTION 040323 - HISTORIC BRICK UNIT MASONRY REPOINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes historic treatment work consisting of repointing brick masonry joints.
- B. Related Requirements:
 - 1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.

1.2 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."

1.3 DEFINITIONS

- A. Low-Pressure Spray:
 - 1. Pressure: 100 to 400 psi.
 - 2. Flow Rate: 4 to 6 gpm.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference using an online service.
 - 1. Review methods and procedures related to repointing historic brick masonry.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

1.6 QUALITY ASSURANCE

- A. Historic Treatment Specialist Qualifications: A qualified historic masonry repointing specialist. Experience in pointing or repointing only new or nonhistoric masonry is insufficient experience for masonry historic treatment work.
- B. Mockups: Prepare mockups of historic treatment on existing surfaces to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Repointing: Rake out joints in two separate areas, each approximately 36 inches high by 48 inches wide for each type of repointing required, and repoint one of the areas.

PART 2 - PRODUCTS

2.1 MORTAR MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or Type II; white or gray or both where required for color matching of mortar.
 1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C114.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Mortar Sand: ASTM C144 unless otherwise indicated.
 1. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
 2. Color: Natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
 3. Provide sand with rounded edges.
- D. Mortar Pigments: ASTM C979/C979M, compounded for use in mortar mixes, and having a record of satisfactory performance in masonry mortars.
- E. Water: ASTM C270, potable.

2.2 MORTAR MIXES

- A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
 1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.
- B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
 1. Mortar Pigments: Where mortar pigments are indicated, do not add pigment exceeding 10 percent by weight of the cementitious or binder materials, except for carbon black, which is limited to 2 percent, unless otherwise demonstrated by a satisfactory history of performance.

- C. Do not use admixtures in mortar unless otherwise indicated.
- D. Mixes: Mix mortar materials in the following proportions:
 - 1. Pointing Mortar for Brick:
 - a. The repointing mortar shall match the original in color, grain size and texture. The compressive strength of the repointing mortar shall be equal or less than the compressive strength of the original mortar and surrounding brick or stone. The replacement mortar shall contain approximately the same ingredient proportions of the original mortar.
 - b. All replacement mortar ingredients and mortar formulations will be established from test data gathered from the original materials sampled from site for each type of mortar on the building.
 - c. Mortar Testing Contact: U.S. Heritage Group, Inc., 3516 North Kostner Ave. Chicago, IL 60641 Phone: 773-286-2100 Fax: 773-286-1852.
 - d. Add mortar pigments to produce mortar colors required.
 - 2. Rebuilding (Setting) Mortar: Same as pointing mortar.
- E.

PART 3 - EXECUTION

3.1 PROTECTION

- A. Prevent mortar from staining face of surrounding masonry and other surfaces.
- B. Remove gutters and downspouts and associated hardware adjacent to immediate work area and store during masonry repointing work. Reinstall when repointing is complete.
 - 1. Provide temporary rain drainage during work to direct water away from building.

3.2 MASONRY REPOINTING, GENERAL

- A. Have repointing work performed only by qualified historic treatment specialist.

3.3 REPOINTING

- A. Rake out and repoint joints to the following extent:
 - 1. All joints in areas indicated.
 - 2. Joints indicated as sealant-filled joints. Seal joints according to Section 079200 "Joint Sealants."
 - 3. Joints at locations of the following defects:

- a. Holes and missing mortar.
 - b. Cracks that can be penetrated 1/4 inch or more by a knife blade 0.027 inch thick.
 - c. Cracks 1/16 inches or more in width and of any depth.
 - d. Hollow-sounding joints when tapped by metal object.
 - e. Eroded surfaces 1/4 inch or more deep.
 - f. Deterioration to point that mortar can be easily removed by hand, without tools.
 - g. Joints filled with substances other than mortar.
- B. Do not rake out and repoint joints where not required.
- C. Rake out joints as follows, according to procedures demonstrated in approved mockup:
 1. Remove mortar from joints to depth of 2-1/2 times joint width not less than 3/4 inch and not less than that required to expose sound, unweathered mortar. Do not remove unsound mortar more than 2 inches deep; consult Architect for direction.
 2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
 3. Do not spall edges of bricks or widen joints. Replace or patch damaged bricks as directed by Architect.
 - a. Cut out mortar by hand with chisel and resilient mallet. Do not use power-operated grinders without Architect's written approval based on approved quality-control program.
 - b. Cut out center of mortar bed joints using angle grinders with diamond-impregnated metal blades. Remove remaining mortar in bed joints and mortar in head joints by hand with chisel and resilient mallet. Strictly adhere to approved quality-control program.
- D. Notify Architect of unforeseen detrimental conditions, including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items.
- E. Pointing with Mortar:
 1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
 2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than [3/8] <Insert dimension> inch(es) until a uniform depth is formed. Fully compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.
 3. After deep areas have been filled to same depth as remaining joints, point joints by placing mortar in layers not greater than 3/8 inches. Fully compact each layer and allow it to become thumbprint hard before applying next layer. Where existing brick have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar beyond joint edges onto exposed masonry surfaces or to feather edge the mortar.
 4. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
 5. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.

- a. Acceptable curing methods include covering with wet burlap and plastic sheeting, periodic hand misting, and periodic mist spraying using system of pipes, mist heads, and timers.
 - b. Adjust curing methods to ensure that pointing mortar is damp throughout its depth without eroding surface mortar.
- 6. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Remove mortar and repoint.
- F. Where repointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.

3.4 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed masonry surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water, applied by low-pressure spray.
 - 1. Do not use metal scrapers or brushes.
 - 2. Do not use acidic or alkaline cleaners.

END OF SECTION 040323

SECTION 040342 - HISTORIC STONE MASONRY REPAIR

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes historic treatment work consisting of repairing historic stone assemblies.
- B. Related Requirements:
 - 1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.
 - 2. Section 024296 "Historic Removal and Dismantling" for historic removal and dismantling work.
 - 3. Section 040345 "Historic Stone Consolidation Treatment" for repair of stone using chemical consolidation.

1.2 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."

1.3 DEFINITIONS

- A. Low-Pressure Spray:
 - 1. Pressure: 100 to 400 psi.
 - 2. Flow Rate: 4 to 6 gpm.
- B. Rebuilding (Setting) Mortar: Mortar used to set and anchor masonry in a structure, distinct from pointing mortar installed after masonry is set in place.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference on historic masonry repair and repointing using online service.
 - 1. Review methods and procedures related to repairing historic stone masonry.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, and locations of stone repair work on the structure.

2. Indicate complete dimensions for new stone units and their jointing, showing relation of existing to new units.
3. Indicate setting number of each new stone unit and its location on the structure in annotated plans and elevations.
4. Show provisions for expansion joints or other sealant joints.
5. Show replacement and repair anchors, including drilled-in pins.

C. Samples: For each exposed product and for each color and texture specified.

1.6 INFORMATIONAL SUBMITTALS

A. Preconstruction Test Reports: For replacement stone types.

1.7 QUALITY ASSURANCE

A. Historic Treatment Specialist Qualifications: A qualified historic stone repair specialist. Experience installing standard unit masonry or new stone masonry is insufficient experience for stone historic treatment work.

1. Historic Treatment Worker Qualifications: When stone units are being patched, assign at least one worker per crew who is trained and certified by manufacturer of patching compound to apply its products.

B. Mockups: Prepare mockups of historic treatment to demonstrate aesthetic effects and to set quality standards for materials and execution and for fabrication and installation.

1. Stone Repair: Prepare sample areas for each type of stone indicated to have repair work performed. If not otherwise indicated, size each mockup not smaller than two adjacent whole units or approximately 48 inches in least dimension. Construct sample areas in locations in existing walls where directed by Architect unless otherwise indicated. Demonstrate quality of materials, workmanship, and blending with existing work. Include the following as a minimum:
 - a. Replacement: Four stone units replaced.
 - b. Partial Stone Replacement: Two partial stone replacements (dutchman repairs).
 - c. Stone Plug Repair: Two stone plug repairs for each type of stone indicated to be plugged.
 - d. Patching: Three small holes at least 1 inch in diameter for each type of stone indicated to be patched, so as to leave no evidence of repair.

1.8 PRECONSTRUCTION TESTING

A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on stone masonry as follows:

1. Replacement Stone: Test each proposed type of replacement stone, according to ASTM C170/C170M for compressive strength, wet and dry, perpendicular and parallel to

rift; ASTM C99/C99M for modulus of rupture, wet and dry, perpendicular and parallel to rift; and ASTM C97/C97M for absorption and bulk specific gravity.

PART 2 - PRODUCTS

2.1 MASONRY MATERIALS

- A. Stone Matching Existing: Natural building stone of variety, color, texture, grain, veining, finish, size, and shape that match existing stone.
 - 1. Physical Properties for Limestone:
 - a. Compressive Strength: according to ASTM C170/C170M.
 - b. Modulus of Rupture: according to ASTM C99/C99M.
 - c. Absorption: according to ASTM C97/C97M.
 - d. Bulk Specific Gravity: according to ASTM C97/C97M.
 - 2. For existing stone that exhibits a range of colors, textures, grains, veining, finishes, sizes, or shapes, provide stone that proportionally matches that range rather than stone that matches an individual color, texture, grain, veining, finish, size, or shape within that range.

2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or Type II; white or gray, or both, where required for color matching of mortar.
 - 1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C114.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Mortar Sand: ASTM C144 unless otherwise indicated.
 - 1. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
 - 2. Colored Mortar: Natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
 - 3. For exposed mortar, provide sand with rounded edges.
- D. Mortar Pigments: ASTM C979/C979M, compounded for use in mortar mixes, and having a record of satisfactory performance in masonry mortars.
- E. Water: ASTM C270, potable.

2.3 MANUFACTURED REPAIR MATERIALS

- A. Stone-Patching Compound: Factory-mixed cementitious product that is custom manufactured for patching stone.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Cathedral Stone Products, Inc.
 - b. Edison Coatings, Inc.
 2. Use formulation that is vapor and water permeable (equal to or more than the stone), exhibits low shrinkage, has lower modulus of elasticity than the stone units being repaired, and develops high bond strength to all stone types.
 3. Formulate patching compound in colors, textures, and grain to match stone being patched. Provide sufficient number of colors to enable matching each piece of stone.
- B. Stone-to-Stone Adhesive: Two-part polyester or epoxy-resin stone adhesive with a 15- to 45-minute cure at 70 deg F, recommended in writing by adhesive manufacturer for type of stone repair indicated, and matching stone color.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
 - a. Edison Coatings, Inc.

2.4 ACCESSORY MATERIALS

- A. Stone Anchors and Pins: Type and size indicated or, if not indicated, to match existing anchors in size and type. Fabricate from Type 304 stainless steel.
- B. Stone panel anchors – replace existing corroded metal anchors: CTP Stone-Grip Tie, 2LD, as manufactured by CTP Construction Tie Products.
- C. Setting Buttons and Shims: Resilient plastic, nonstaining to stone, sized to suit joint thicknesses and bed depths of stone units, less the required depth of pointing materials unless removed before pointing.

2.5 MORTAR MIXES

- A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
- B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.
 1. Mortar Pigments: Where mortar pigments are indicated, do not add pigment exceeding 10 percent by weight of the cementitious or binder materials, except for carbon black, which is limited to 2 percent, unless otherwise demonstrated by a satisfactory history of performance.
- C. Do not use admixtures in mortar unless otherwise indicated.

- D. Mixes: Mix mortar materials in the following proportions:
1. Pointing Mortar for Brick:
 - a. The repointing mortar shall match the original in color, grain size and texture. The compressive strength of the repointing mortar shall be equal or less than the compressive strength of the original mortar and surrounding brick or stone. The replacement mortar shall contain approximately the same ingredient proportions of the original mortar.
 - b. All replacement mortar ingredients and mortar formulations will be established from test data gathered from the original materials sampled from site for each type of mortar on the building.
 - c. Mortar Testing Contact: U.S. Heritage Group, Inc., 3516 North Kostner Ave. Chicago, IL 60641 Phone: 773-286-2100 Fax: 773-286-1852.
 - d. Add mortar pigments to produce mortar colors required.
 2. Rebuilding (Setting) Mortar: Same as pointing mortar.

PART 3 - EXECUTION

3.1 PROTECTION

- A. Prevent mortar from staining face of surrounding stone and other surfaces.
- B. Remove gutters and downspouts and associated hardware adjacent to immediate work area and store during stone repair work. Reinstall when repairs are complete.
 1. Provide temporary rain drainage during work to direct water away from building.

3.2 STONE REPAIR, GENERAL

- A. Have repair work performed only by qualified historic treatment specialist.

3.3 STONE REMOVAL AND REPLACEMENT

- A. At locations indicated, remove stone that has deteriorated or is damaged beyond repair or is to be reused. Carefully remove entire units from joint to joint, without damaging surrounding masonry, in a manner that permits replacement with full-size units.
- B. Support and protect remaining masonry that was supported by removed stone.
- C. Maintain flashing, reinforcement, lintels, and adjoining construction in an undamaged condition.

- D. Notify Architect of unforeseen detrimental conditions, including voids, cracks, bulges, loose masonry units in existing stone or unit masonry backup, rotted wood, rusted metal, and other deteriorated items.
- E. Remove in an undamaged condition as many whole stone units as possible. Remove mortar and sealant from surfaces of removed stones.
- F. Clean masonry surrounding removal areas by removing mortar, dust, and loose particles in preparation for stone replacement.
- G. Replace removed damaged stone with other removed stone in good condition, where possible, matching existing stone. Do not use broken units unless they can be cut to usable size.
- H. Rift: Do not allow face bedding of stone. Before setting, inspect to verify that each stone has been cut so that, when it is set in final position, the rift or natural bedding planes are predominantly horizontal, except for arches, where bedding planes are predominantly radial or vertical, but perpendicular to the wall. Reject stone with vertical bedding planes, except as required for arches, lintels, and copings.
- I. Install replacement stone into bonding and coursing pattern of existing stone. If cutting is required, use a motor-driven saw designed to cut stone with clean, sharp, unchipped edges. Finish edges to blend with appearance of edges of existing stone.
 - 1. Maintain joint width for replacement stone to match existing joints.
 - 2. Use setting buttons or shims to set stone accurately spaced with uniform joints.
- J. Set replacement stone with rebuilding (setting) mortar and with completely filled bed, head, and collar joints. Butter vertical joints for full width before setting, and set units in full bed of mortar unless otherwise indicated. Replace existing anchors with new anchors of size and type indicated.
 - 1. Tool exposed mortar joints in repaired areas to match joints of surrounding existing stonework.
 - 2. Rake out mortar used for laying stone before mortar sets according to Section 040343 "Historic Stone Masonry Repointing." Point at same time as repointing of surrounding area.
 - 3. When mortar is hard enough to support units, remove shims and other devices interfering with pointing of joints.
- K. Curing: Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.
 - 1. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Completely remove such mortar and repoint.

3.4 PARTIAL STONE REPLACEMENT

- A. Remove defective portion of existing stone unit (backing stone). Carefully remove defective portion of stone by making vertical and horizontal saw cuts at face of backing stone and removing defective material to depth required for fitting partial replacement (dutchman).

1. Make edges of backing stone at cuts smooth and square to each other and to finished surface; essentially rectangular. Make back of removal area flat and parallel to stone face.
 2. Do not overcut at corners and intersections. Hand trim to produce clean sharp corners with no rounding and no damage to existing work to remain.
 3. If backing stone becomes further damaged, remove damaged area and enlarge partial replacement as required.
- B. Cut and trim partial replacement to accurately fit area where material was removed from backing stone. Fabricate to size required to produce joints between partial replacement and backing stone of no more than 1/16 inches width, and to produce joints between partial replacement and other stones that match existing joints between stones.
- C. Pinning: Before applying adhesive, prepare for mechanical anchorage consisting of 1/4-inch-diameter, plain or threaded stainless-steel pins set into 1/4-inch-diameter holes drilled at a 45-degree downward angle through face of partial replacement and into backing stone.
1. Center and space pins between **3 and 5 inches** apart and at least **2 inches** from any edge. Insert pins at least **2 inches** in backing stone and **2 inches** in partial replacement, with end countersunk at least **3/4 inch** from exposed face of partial replacement.
- D. Concealed Pinning: Before applying adhesive, prepare for concealed mechanical anchorage consisting of 1/4-inch-diameter, plain or threaded stainless-steel pins set into 1/4-inch-diameter holes drilled into backing stone and into, but not through, the partial replacement.
1. Center and space pins between **3 and 5 inches** apart and at least **2 inches** from any edge. Insert pins at least **2 inches** in backing stone and **2 inches** in partial replacement, but no closer than **3/4 inch** from exposed face of partial replacement.
- E. Apply stone-to-stone adhesive according to adhesive manufacturer's written instructions. Coat bonding surfaces of backing stone and partial replacement, completely filling all crevices and voids.
- F. Apply partial replacement while adhesive is still tacky, and hold securely in place until adhesive has cured. Use shims, clamps, wedges, or other devices as necessary to align face of partial replacement with face of backing stone.
- G. Clean adhesive residue from exposed surfaces and patch chipped areas[**and exposed drill holes**] as specified in "Stone Patching" Article.

3.5 STONE PLUG REPAIR

- A. Remove cylindrical piece of damaged stone by core-drilling perpendicular to stone surface.
- B. Prepare a replacement plug by core-drilling replacement stone. Use a drill sized to produce a core that fits into hole drilled in damaged stone, with only minimum gap necessary for adhesive.
- C. Apply stone-to-stone adhesive according to adhesive manufacturer's written instructions. Coat bonding surfaces of existing stone and plug, completely filling all crevices and voids.

- D. Apply plug flush with surrounding stone while adhesive is still tacky, and hold securely in place until adhesive has cured.
- E. Clean adhesive residue from exposed surfaces.

3.6 STONE-FRAGMENT REPAIR

- A. Carefully remove cracked or fallen stone fragment indicated to be repaired. Reuse only stone fragment that is in sound condition.
- B. Remove soil, loose particles, mortar, and other debris or foreign material from fragment surfaces to be bonded and from parent stone where fragment had broken off, by cleaning with stiff-fiber brush.
- C. Pinning: Before applying adhesive, prepare for mechanical anchorage consisting of 1/4-inch-diameter, plain or threaded stainless-steel pins set into 1/4-inch-diameter holes drilled at a 45-degree downward angle through face of fragment and into parent stone.
 - 1. Center and space pins **3 to 5 inches** apart and at least **2 inches** from any edge. Insert pins at least **2 inches** in parent stone and **2 inches** in fragment, with end countersunk at least **3/4 inch** from exposed face of fragment.
- D. Concealed Pinning: Before applying adhesive, prepare for concealed mechanical anchorage consisting of 1/4-inch-diameter, plain or threaded stainless-steel pins set into 1/4-inch-diameter holes drilled into parent stone and into, but not through, the fragment.
 - 1. Center and space pins **3 to 5 inches** apart and at least **2 inches** from any edge. Insert pins at least **2 inches** in parent stone and **2 inches** in fragment, but no closer than **3/4 inch** from exposed face of fragment.
- E. Apply stone-to-stone adhesive according to adhesive manufacturer's written instructions. Coat bonding surfaces of fragment and parent stone, completely filling all crevices and voids.
- F. Fit stone fragment onto parent stone while adhesive is still tacky, and hold fragment securely in place until adhesive has cured. Use shims, clamps, wedges, or other devices as necessary to align face of fragment with face of parent stone.
- G. Clean adhesive residue from exposed surfaces and patch chipped areas and exposed drill holes as specified in "Stone Patching" Article.

3.7 STONE PATCHING

- A. Patch the following stone units unless another type of repair or replacement is indicated:
 - 1. Units indicated to be patched.
 - 2. Units with holes.
 - 3. Units with chipped edges or corners. Patch chipped edges or corners measuring more than 3/4 inch in least dimension.

4. Units with small areas of deep deterioration. Patch deep deteriorations measuring more than 3/4 inch in least dimension and over 1/4 inch deep.
 - B. Remove deteriorated material, and remove adjacent material that has begun to deteriorate. Carefully remove additional material so patch does not have feathered edges but has square or slightly undercut edges on area to be patched and is at least [1/4] <Insert dimension> inch thick, but not less than as recommended in writing by patching compound manufacturer.
 - C. Mask adjacent mortar joint or rake out for repointing if patch extends to edge of stone unit.
 - D. Mix patching compound in individual batches to match each stone unit being patched. Combine one or more colors of patching compound, as needed, to produce exact match.
 - E. Brush-coat stone surfaces with slurry coat of patching compound according to manufacturer's written instructions.
 - F. Place patching compound in layers as recommended in writing by patching compound manufacturer, but not less than 1/4 inch or more than 2 inches thick. Roughen surface of each layer to provide a key for next layer.
 1. Simple Details: Trowel, scrape, or carve surface of patch to match texture and surrounding surface plane or contour of the stone. Shape and finish surface before or after curing, as determined by testing, to best match existing stone.
 2. Carved Details: Build patch up 1/4 inch above surrounding stone, and carve surface to match adjoining stone after patching compound has hardened.
 - G. Keep each layer damp for 72 hours or until patching compound has set.
 - H. Remove and replace patches with hairline cracks or that show separation from stone at edges, and those that do not match adjoining stone in color or texture.
- 3.8 FINAL CLEANING
- A. After mortar has fully hardened, thoroughly clean exposed stone surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water applied by low-pressure spray.
 1. Do not use metal scrapers or brushes.
 2. Do not use acidic or alkaline cleaners.

END OF SECTION 040342

SECTION 040343 - HISTORIC STONE MASONRY REPOINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes historic treatment work consisting of repointing stone masonry joints.
- B. Related Requirements:
 - 1. Section 013591 "Historic Treatment Procedures" for general historic treatment requirements.

1.2 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Section 012200 "Unit Prices."

1.3 DEFINITIONS

- A. Low-Pressure Spray:
 - 1. Pressure: 100 to 400 psi
 - 2. Flow Rate: 4 to 6 gpm.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference on historic masonry repair and repointing using online service.
 - 1. Review methods and procedures related to repointing historic stone masonry.

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

1.6 QUALITY ASSURANCE

- A. Historic Treatment Specialist Qualifications: A qualified historic masonry repointing specialist. Experience in pointing or repointing only new or nonhistoric masonry is insufficient experience for masonry historic treatment work.

- B. Mockups: Prepare mockups of historic treatment on existing surfaces to demonstrate aesthetic effects and to set quality standards for materials and execution.
 - 1. Repointing: Rake out joints in two separate areas, each approximately 36 inches high by 48 inches wide for each type of repointing required, and repoint one of the areas.

PART 2 - PRODUCTS

2.1 MORTAR MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type I or Type II; white or gray or both, where required for color matching of mortar.
 - 1. Provide cement containing not more than 0.60 percent total alkali when tested according to ASTM C114.
- B. Hydrated Lime: ASTM C207, Type S.
- C. Mortar Sand: ASTM C144 unless otherwise indicated.
 - 1. Match size, texture, and gradation of existing mortar sand as closely as possible. Blend several sands if necessary to achieve suitable match.
 - 2. Color: Natural sand or ground marble, granite, or other sound stone of color necessary to produce required mortar color.
 - 3. Provide sand with rounded edges.
- D. Mortar Pigments: ASTM C979/C979M, compounded for use in mortar mixes, and having a record of satisfactory performance in masonry mortars.
- E. Water: ASTM C270, potable.

2.2 MORTAR MIXES

- A. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
 - 1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again, adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not retemper or use partially hardened material.
- B. Colored Mortar: Produce mortar of color required by using specified ingredients. Do not alter specified proportions without Architect's approval.

1. Mortar Pigments: Where mortar pigments are indicated, do not add pigment exceeding 10 percent by weight of the cementitious or binder materials, except for carbon black, which is limited to 2 percent, unless otherwise demonstrated by a satisfactory history of performance. Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.
- C. Do not use admixtures in mortar unless otherwise indicated.
- D. Mixes: Mix mortar materials in the following proportions:
 1. Pointing Mortar for Brick:
 - a. The repointing mortar shall match the original in color, grain size and texture. The compressive strength of the repointing mortar shall be equal or less than the compressive strength of the original mortar and surrounding brick or stone. The replacement mortar shall contain approximately the same ingredient proportions of the original mortar.
 - b. All replacement mortar ingredients and mortar formulations will be established from test data gathered from the original materials sampled from site for each type of mortar on the building.
 - c. Mortar Testing Contact: U.S. Heritage Group, Inc., 3516 North Kostner Ave. Chicago, IL 60641 Phone: 773-286-2100 Fax: 773-286-1852.
 - d. Add mortar pigments to produce mortar colors required.
 2. Rebuilding (Setting) Mortar: Same as pointing mortar.

PART 3 - EXECUTION

3.1 PROTECTION

- A. Prevent mortar from staining face of surrounding stone and other surfaces.
- B. Remove gutters and downspouts and associated hardware adjacent to immediate work area and store during stone repointing work. Reinstall when repointing is complete.
 1. Provide temporary rain drainage during work to direct water away from building.

3.2 STONE REPOINTING, GENERAL

- A. Have repointing work performed only by qualified historic treatment specialist.

3.3 REPOINTING

- A. Rake out and repoint joints to the following extent:

1. All joints in areas indicated.
 2. Joints indicated as sealant-filled joints. Seal joints according to Section 079200 "Joint Sealants."
 3. Joints at locations of the following defects:
 - a. Holes and missing mortar.
 - b. Cracks that can be penetrated 1/4 inch or more by a knife blade 0.027 inch thick.
 - c. Cracks 1/16 inch or more in width and of any depth.
 - d. Hollow-sounding joints when tapped by metal object.
 - e. Eroded surfaces 1/4 inch or more deep.
 - f. Deterioration to point that mortar can be easily removed by hand, without tools.
 - g. Joints filled with substances other than mortar.
- B. Do not rake out and repoint joints where not required.
- C. Rake out joints as follows, according to procedures demonstrated in approved mockup:
1. Remove mortar from joints to depth of 2-1/2 times the joint width not less than 3/4 inch and not less than that required to expose sound, unweathered mortar. Do not remove unsound mortar more than 2 inches deep; consult Architect for direction.
 2. Remove mortar from stone surfaces within raked-out joints to provide reveals with square backs and to expose stone for contact with pointing mortar. Brush, vacuum, or flush joints to remove dirt and loose debris.
 3. Do not spall edges of stone units or widen joints. Replace or patch damaged stone units as directed by Architect.
 - a. Cut out mortar by hand with chisel and resilient mallet. Do not use power-operated grinders without Architect's written approval based on approved quality-control program.
 - b. Cut out center of mortar bed joints using angle grinders with diamond-impregnated metal blades. Remove remaining mortar in bed joints and mortar in head joints by hand with chisel and resilient mallet. Strictly adhere to approved quality-control program.
- D. Notify Architect of unforeseen detrimental conditions, including voids in mortar joints, cracks, loose stone, rotted wood, rusted metal, and other deteriorated items.
- E. Pointing with Mortar:
1. Rinse joint surfaces with water to remove dust and mortar particles. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen joint surfaces before pointing.
 2. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Fully compact each layer thoroughly, and allow it to become thumbprint hard before applying next layer.
 3. After deep areas have been filled to same depth as remaining joints, point joints by placing mortar in layers not greater than 3/8 inch. Fully compact each layer, and allow it to become thumbprint hard before applying next layer. Where existing stone has worn or rounded edges, slightly recess finished mortar surface below face of stone to avoid widened joint

- faces. Take care not to spread mortar beyond joint edges onto exposed stone surfaces or to featheredge the mortar.
- 4. When mortar is thumbprint hard, tool joints to match original appearance of joints as demonstrated in approved mockup. Remove excess mortar from edge of joint by brushing.
- 5. Cure mortar by maintaining in thoroughly damp condition for at least 72 consecutive hours, including weekends and holidays.
 - a. Acceptable curing methods include covering with wet burlap and plastic sheeting, periodic hand misting, and periodic mist spraying using system of pipes, mist heads, and timers.
 - b. Adjust curing methods to ensure that pointing mortar is damp throughout its depth without eroding surface mortar.
- 6. Hairline cracking within the mortar or mortar separation at edge of a joint is unacceptable. Remove mortar and repoint.
- F. Where repointing work precedes cleaning of existing stone, allow mortar to harden at least 30 days before beginning cleaning work.

3.4 FINAL CLEANING

- A. After mortar has fully hardened, thoroughly clean exposed stone surfaces of excess mortar and foreign matter; use wood scrapers, stiff-nylon or -fiber brushes, and clean water applied by low-pressure spray.
 - 1. Do not use metal scrapers or brushes.
 - 2. Do not use acidic or alkaline cleaners.

END OF SECTION 040343

April 16, 2019

Mr. Kenny Jackson
Browning Day Mullins Dierdorf
626 North Illinois Street
Indianapolis, Indiana 46204

Re: Kansas City Embassy Suites – Grand Reserve Building

Dear Kenny:

As a follow up to our phone conversation of April, 16, 2019, we are recommending that the stone and terra cotta joints on the south and west faces of the Grand Reserve building in Kansas City be cleaned of all existing sealant material and be re-pointed with an appropriately designed mortar. The current condition of the sealant appears to be poor in many locations and it will continue to deteriorate. As the sealant deteriorates, it will allow water to penetrate into the joints. This can cause corrosion of the support steel behind the stone panels and result in damage to the stone. It appears that this has already happened in some areas.

Our facade repair drawings will call out 100% re-pointing of stone and terra cotta joints on the south and west faces of the building as Alternate #1. This will allow for a separate cost to be provided by the masonry restoration contractors for this repair item.

If you have any questions, please call.

Sincerely,



Michael J. Lawson
Professional Engineer

cc:

z:\1851 the grand reserve\documents\1851 facade mortar joints 041619.docx

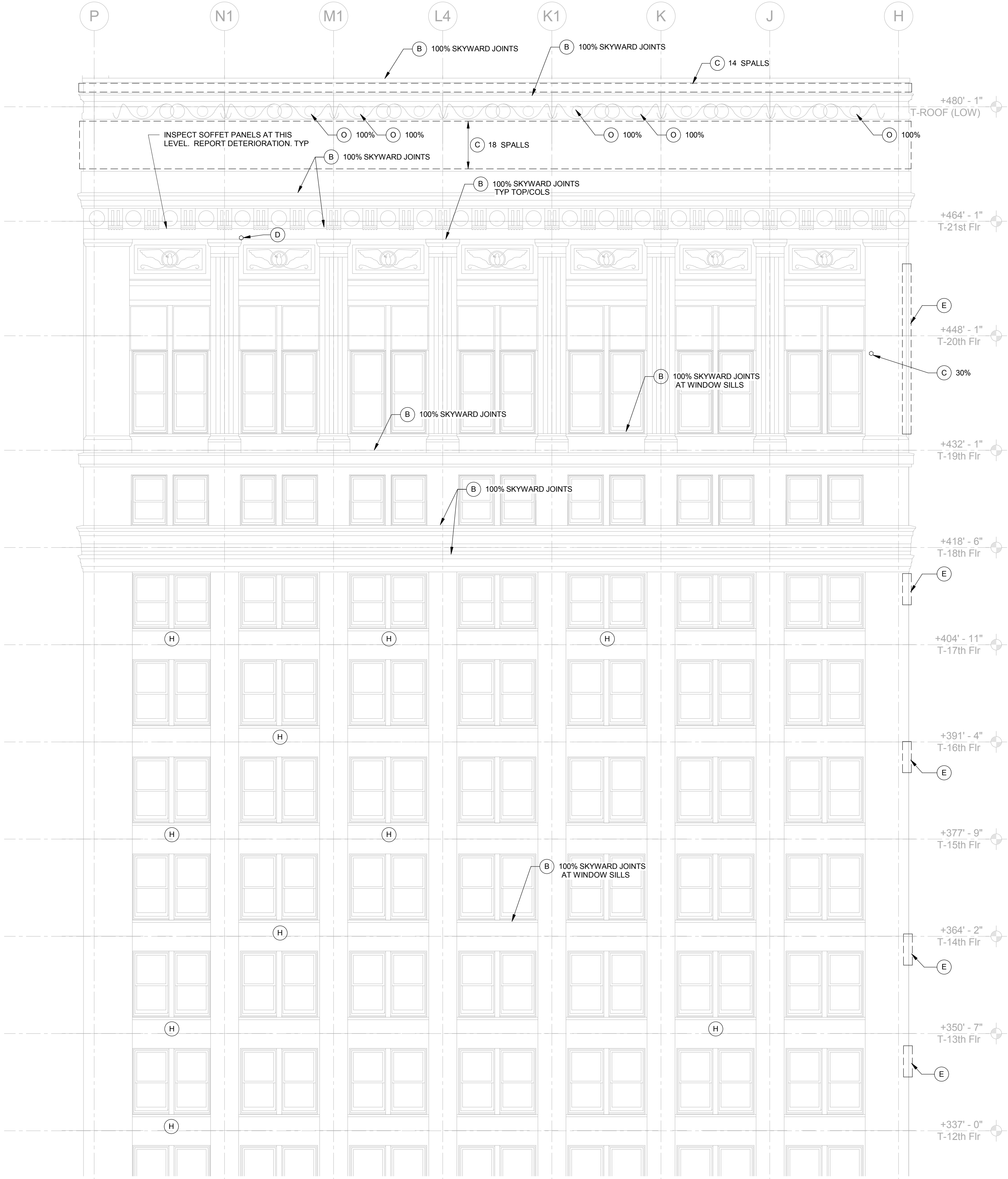
650 E. Carmel Dr. Suite 150
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5/3/2019 2:26:18 PM



UPPER SOUTH ELEVATION

1/8" = 1'-0"

SOUTH ELEVATION

- CLEAN AND REPOINT JOINTS 100% WITH NEW MORTAR ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.
- CLEAN THE LIMESTONE AND TERRA COTTA MASONRY SURFACES 100%.
- CLEAN AND RECAULK SKYWARD JOINTS 100%.

MASONRY REPAIR GENERAL NOTES

GENERAL SCOPE OF THE EXTERIOR MASONRY REPAIRS

THE ELEVATION DRAWINGS SHOW REPAIR PROCEDURES FOR THE VARIOUS MASONRY DETERIORATION ON THE EXTERIOR FACADE OF THE BUILDING. THIS INCLUDES REPAIR OF BRICK MASONRY, STONE, AND TERRA COTTA. THE DATA USED TO PREPARE THESE DRAWINGS WAS GATHERED FROM THE GROUND USING TELEPHOTO PHOTOGRAPHY. CONTRACTOR SHALL DETERMINE THE SCOPE OF THE VARIOUS REPAIRS INDICATED ON THE ELEVATIONS BY MEANS OF AN ARMS-LENGTH SURVEY OF THE ENTIRE EXTERIOR OF THE BUILDING USING AN AERIAL LIFT OR SWING STAGE PLATFORM OR OTHER MEANS AS DETERMINED BY THE CONTRACTOR. SUBMIT THE RESULTS OF THE SURVEY TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO THE START OF THE REPAIR WORK.

CONTRACTOR SHALL DOCUMENT MASONRY DETERIORATION DISCOVERED DURING THE COURSE OF THE WORK AND MAKE REPAIRS AS NEEDED WHETHER SHOWN OR NOT. FOLLOWING THE REPAIR PROCEDURES INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. REPORT SUCH AREAS TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.

MASONRY REPAIR GENERAL NOTES

1. REMOVE EXTRANEOUS METAL ATTACHMENTS, AND UTILITY CONDUITS AND PIPING. ENSURE THAT EXTRANEOUS UTILITY ATTACHMENTS ARE ABANDON BEFORE REMOVAL. DO NOT REMOVE WALL ANCHORS THAT SECURE BUILDING COMPONENTS. FIELD VERIFY THE LOCATION OF SUCH ANCHORS BEFORE WORK BEGINS.

2. CLEAN THE MASONRY LIMESTONE ON THE SOUTH AND WEST ELEVATIONS IN THEIR ENTIRETY. USE THE MILDEST CLEANING SOLUTION THAT WILL ACCOMPLISH THE CLEANING TO A SATISFACTORY RESULT. REFER TO THE WRITTEN SPECIFICATIONS FOR CLEANING INFORMATION. PROVIDE A MOCK-UP OR APPROVAL OF A TYPICAL LIMESTONE CLEANING PROCEDURE PRIOR TO THE START OF WIDESPREAD CLEANING. DO NOT USE SPRAY TECHNIQUES UNLESS IT CAN BE DEMONSTRATED THAT THE OVERSPRAY WILL NOT HARM ADJACENT BUILDINGS OR PRESENT A HUMAN HEALTH HAZARD. PROTECT ORNAMENTAL METAL ON THE BUILDING AGAINST DAMAGE FROM CLEANING CHEMICALS.

NOTE THAT THIS BUILDING HAS A SIGNIFICANT BIRD POPULATION ROOSTING ON OUTWARD PROJECTIONS AND ON THE ROOF. CLEAN ALL BIRD DROPPINGS AND NESTING MATERIAL PRIOR TO GENERAL FACADE CLEANING. TREAT THE BIRD DROPPINGS AS A HEALTH HAZARD AS REQUIRED.

3. CLEAN AREAS AFTER RE-POINTING AND MASONRY REPLACEMENT WORK IS COMPLETE. PROTECT ADJACENT AREAS OF MASONRY FROM THE CLEANING CHEMICALS AS REQUIRED. BLEND TO MATCH EXISTING ADJACENT MASONRY.

4. PREPARE MOCK-UPS FOR THE FOLLOWING WORK ITEMS:
- MORTAR JOINT CLEANING AND REMOVAL OF OLD MORTAR AND SEALANT FOR EACH JOINT TYPE.
- MORTAR JOINT RE-POINTING WITH REPLACEMENT MORTAR MIX FOR EACH JOINT TYPE.
- BRICK REPLACEMENT.
- DUTCHMAN STONE REPAIR.

REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MOCK-UPS. WORK SHALL PROCEED ONLY AFTER MOCK-UPS ARE APPROVED. ARCHITECT/ENGINEER MAY STOP WORK IF IT IS DETERMINED THAT WORK IS NOT BEING PERFORMED IN ACCORDANCE WITH THE APPROVED MOCK-UPS.

5. PROVIDE SAMPLES OF REPLACEMENT BRICK, STONE AND EACH RE-POINTING MORTAR PRIOR TO THE START OF WORK.

6. CONTRACTOR SHALL HAVE TESTS PERFORMED ON REPRESENTATIVE MORTAR SAMPLES TAKEN FROM THE EXISTING MORTAR JOINTS FOR EACH MORTAR TYPE. TESTS SHALL BE MADE TO DETERMINE THE COMPONENTS AND PROPORTIONS OF THE EXISTING MORTAR FOR MATCHING OF NEW MORTAR TO EXISTING. REFER TO THE WRITTEN SPECIFICATIONS FOR THE TESTING REQUIREMENTS.

7. PROTECT THE BUILDING FROM THE DELETERIOUS EFFECTS OF CLEANING CHEMICALS DURING THE COURSE OF THE WORK. DO NOT DAMAGE EXISTING PORTIONS OF THE BUILDING THAT REMAIN.

8. THE SIDEWALKS AND ALLEYS AROUND THIS BUILDING WILL BE CLOSED TO PEDESTRIAN TRAFFIC THROUGHOUT THE COURSE OF THIS PROJECT. HOWEVER, ROADWAYS WILL LIKELY BE LEFT OPEN. CONTRACTOR SHALL PROVIDE FOR THE PROTECTION AND SAFETY OF THE PUBLIC FOR THE DURATION OF THE PROJECT. OVERHEAD PROTECTION SHALL BE PROVIDED AT ALL TIMES. CONTRACTOR SHALL SUBMIT AN OVERHEAD PROTECTION PLAN PRIOR TO THE START OF WORK.

9. PLANTINGS AND TREES AROUND THESE BUILDING SHALL BE PROTECTED ACCORDING TO THE REQUIREMENTS PROVIDED BY THE OWNER.

10. REMOVE AND REPLACE BRICK OR STONE THAT IS INADVERTENTLY DAMAGED IN THE EXECUTION OF THE MASONRY RESTORATION WORK, AT NO ADDITIONAL EXPENSE TO OWNER.

11. CLEAN, PREPARE, PRIME AND REPAINT EXISTING STEEL AS INDICATED ON THE ELEVATIONS. REPORT SEVERELY DETERIORATED STEEL TO THE ENGINEER BEFORE REPAINTING. NOTE THAT THE EXISTING PAINT ON THE LINTELS MAY CONTAIN LEAD. PRECAUTIONS SHALL BE TAKEN IN REMOVING AND DISPOSING OF THE EXISTING PAINT DURING PREPARATION OF THE LINTELS FOR REPAINTING.

12. THE ELEVATION DRAWINGS SHOW THE GENERAL LAYOUT OF THE FACADE OF THE BUILDING. IT SHOULD BE ANTICIPATED THAT SOME SLIGHT VARIATIONS WILL BE ENCOUNTERED BETWEEN THE DRAWN ELEVATIONS AND THE ACTUAL BUILDING FACADE ELEMENTS. FIELD VERIFY AS REQUIRED TO VERIFY THE EXACT SCOPE OF THE FACADE MASONRY. FIELD VERIFY THE EXACT MASONRY MATERIALS FOUND ON THE BUILDING INCLUDING BRICK, STONE, TERRA COTTA. REPORT MATERIALS THAT MAY DIFFER FROM THE ELEVATIONS DRAWINGS.

13. CONTRACTOR SHALL TAKE ALL MEANS NECESSARY TO PROTECT THE BUILDINGS WITHIN AND AROUND THE PROJECT SITE, INCLUDING PROVIDING APPROPRIATE FILTER MEDIA ON ALL AIR INTAKES ON THE BUILDING AND THE ROOF. REPORT TO THE PROJECT MANAGER AND ENGINEER THAT ALL AIR INTAKES HAVE BEEN IDENTIFIED AND PROTECTED AGAINST THE INTRUSION OF DUST AND DEBRIS.

14. GRINDING, SANDING AND ANY DUST GENERATING EQUIPMENT SHALL BE EQUIPPED WITH A DUST COLLECTION SYSTEM AT ALL TIMES DURING THE COURSE OF THE WORK TO PREVENT AIRBORNE DUST AND DEBRIS IN AND AROUND THE PROJECT SITE. PROJECT MANAGER OR ENGINEER MAY STOP THE WORK IF DUST COLLECTION IS DEEMED INADEQUATE.

15. WHERE THE EXISTING MASONRY IS COVERED WITH CEMENT BASED PARING AND REPOINTING OR UNIT REPLACEMENT IS REQUIRED, REPAIR THE REPAIRED AREA TO MATCH EXISTING. REPAINT WITH COLOR TO MATCH EXISTING.

MASONRY REPAIR KEY NOTES

A. STONE JOINT RE-POINTING. THIS NOTE SHALL APPLY TO STONE TO STONE JOINTS AND STONE TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE STONE UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING SEALANT AND MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS.

B. JOINT SEALANT REPLACEMENT. CLEAN AND PREPARE JOINTS AS INDICATED TO RECEIVE NEW JOINT SEALANT. PLACE CLOSED CELL FOAM BACKER ROD BEHIND THE JOINT AND APPLY SEALANT ACCORDING TO THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. WHERE THE ELEVATION KEY NOTES INDICATE CLEANING AND RECAULKING SKYWARD JOINTS, THE CAULK SHALL EXTEND TO THE EDGE OF THE HORIZONTAL LENGTH OF THE JOINT AND SHALL EXTEND DOWN THE VERTICAL LENGTH OF THE JOINT TO THE BOTTOM EDGE OF THE JOINT.

C. "SMILE" STONE SPALL REPAIR. QUANTITIES INDICATED ARE AN ESTIMATE. CONTRACTOR SHALL FIELD VERIFY THE EXACT QUANTITY AND REPAIR ALL SPALLS IDENTIFIED. REMOVE LOOSE AND SPALLED STONE MATERIAL. CLEAN AND BLAST EXPOSED AREA OF THE STEEL TIE BEHIND THE SPALL. COAT THE CLEANED STEEL TIE WITH ANTI-CORROSION AND PRIMER AND THEN PREPARE STONE AND APPLY STONE PATCH MATERIAL ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE WRITTEN SPECIFICATIONS.

WHERE MORE THAN 20% OF THE EXISTING STEEL TIE IS LOST TO CORROSION, PROVIDE TWO REPLACEMENT ANCHOR ON EACH SIDE OF SPALL TO TIE THE STONE PANEL BACK TO THE SUBSTRATE BEHIND IT. USE THE POST-INSTALLED ANCHOR "CTP STONE-GRIP TIE" TYPE 2LD. PATCH HOLE AFTER INSTALLATION. FIELD VERIFY THE BACK-UP MATERIAL AND TEST FOR LOAD CAPACITY OF NEW STONE TIE ANCHORS PRIOR TO INSTALLING. SEE SPECIFICATIONS.

D. STONE PATCHING. CLEAN AND PATCH REPAIR THE EXISTING STONE WITH THE APPROVED STONE PATCHING MATERIAL AS INDICATED IN THE WRITTEN SPECIFICATIONS TO A WEATHER-TIGHT CONDITION.

E. STONE REPLACEMENT. REMOVE THE EXISTING DETERIORATED STONE UNIT AND REPLACE WITH A NEW FULL SIZE STONE UNIT. MATCH THE EXISTING STONE UNIT IN SIZE, COLOR, TEXTURE AND CONFIGURATION. RE-POINT WITH MORTAR AROUND THE NEW STONE UNIT AS REQUIRED TO INTEGRATE IT WITH THE SURROUNDING MASONRY. SUBMIT A SAMPLE OF THE NEW STONE MATERIAL PRIOR TO INSTALLATION AS INDICATED IN THE WRITTEN SPECIFICATIONS. ANCHOR THE NEW STONE UNIT TO THE STRUCTURE WITH STAINLESS STEEL ANCHORS TO MATCH THE EXISTING ANCHORS.

F. STONE CRACK REPAIR. ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

G. STONE DUTCHMAN REPAIR. REMOVE DAMAGED STONE MATERIAL TO A SQUARE OR RECTANGULAR SHAPE AND REPLACE THE REMOVED PORTION WITH A NEW STONE PIECE CUT AND SHAPED TO FIT THE REMOVED SHAPE AS TIGHTLY AS POSSIBLE WITH THE SMALLEST GLUE LINE POSSIBLE. GLUE THE DUTCHMAN IN PLACE WITH EPOXY ADHESIVE ACCORDING TO THE WRITTEN SPECIFICATIONS. IF THE REMOVED AREA IS LARGER THAN 4" BY 4", ANCHOR THE SIDES OF THE DUTCHMAN WITH 3/8" MINIMUM STAINLESS STEEL PINS. DUTCHMAN SHALL MATCH THE ADJACENT STONE IN COLOR, TEXTURE AND THICKNESS.

H. STONE SPANDREL CRACK REPAIR. REMOVE ONE SPANDREL PANEL WITH CRACKS AND PROVIDE PHOTOS AND NOTES ON THE EXISTING ANCHORAGE AND THE CONDITION OF THE SUPPORT ANGLES AT EACH END. REPORT FINDINGS TO THE ARCHITECT.

I. CORROSION OF STONE SHELF ANGLE REPAIR. REMOVE A PORTION OF THE STONE PANEL WHERE INDICATE AND WHERE STEEL CORROSION OF THE SUPPORTING SHELF ANGLE HAS DAMAGED THE STONE OR THE JOINTS. PROVIDE TEMPORARY SUPPORT OF THE ADJACENT STONE PANELS AROUND AND ABOVE THE REPAIR AREA DURING THE REPAIR PROCESS. REMOVE ENOUGH STONE TO FULLY ACCESS THE CORRODED STEEL ANGLE. MAKE CLEAN STRAIGHT HORIZONTAL AND VERTICAL CUTS THAT MEET AT A 90 DEGREE ANGLE AT INTERSECTIONS. SALVAGE THE STONE PORTION FOR LATER REPLACEMENT ONCE THE STEEL IS REPLACED.

REMOVE AND REPLACE THE CORRODED STEEL ANGLE AND PAINT WITH GALVANIZED PAINT. REPLACE THE SALVAGED STONE PORTION AND ANCHOR SIMILAR TO A DUTCHMAN REPAIR WITH STAINLESS STEEL PINS. CAULK OPEN JOINTS AROUND THE REPLACED PORTION OF STONE AS REQUIRED.

J. BRICK JOINT RE-POINTING/REPLACEMENT. THIS NOTE SHALL APPLY TO BRICK TO BRICK JOINTS AND BRICK TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE BRICK UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS. REPLACE BRICK UNITS THAT HAVE LOST MORE THAN 10% OF THE SURFACE. REPAIR AND/OR REPAINT BRICK TO MATCH EXISTING AT REPAIR AREAS.

K. BRICK MASONRY CRACK REPAIR. ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

L. ORNAMENTAL EAGLE. CLEAN PAINT AND GRIM FROM THE EXISTING ORNAMENTAL EAGLES LOCATED ON THE ROOF. INSPECT THE CLEANED EAGLES FOR SIGNS OF CORROSION OR DETERIORATION. REPORT FINDINGS TO THE ARCHITECT. REPAIR AS DIRECTED. AFTER REPAIRS, APPLY PRIME COAT AND PAINT, COATINGS AS SPECIFIED BY ARCHITECT. COLOR TO BE DETERMINED BY ARCHITECT AND OWNER.

M. STEEL ANGLE LINTEL REPAIR. REMOVE BRICK AS REQUIRED TO CLEAN AND PAINT EXISTING STEEL LINTEL. PAINT LINTEL WITH ZINC PAINT AFTER CLEANING CORROSION. REPLACE BRICK AND PAINT TO MATCH ADJACENT COLOR. REPLACE LINTEL WITH SAME SIZE AND CONFIGURATION IF MORE THAN 20% OF THE EXISTING CROSS-SECTION HAS BEEN LOST TO CORROSION.

N. ORNAMENTAL METAL REPAIR. REMOVE ALL DROPPINGS, BIRD NESTING MATERIAL AND DEBRIS TRAPPED BEHIND THE GRILLES. DROPPINGS MAY BE CONSIDERED HAZARDOUS AND SHOULD BE TREATED APPROPRIATELY. CLEAN, REPAIR AND PAINT ORNAMENTAL GRILLES AT EACH WINDOW ON THE SOUTH AND WEST ELEVATIONS. APPLY PRIMER AND FINISH COAT AS DIRECTED BY THE MANUFACTURER'S INSTRUCTIONS. INSPECT EACH EXISTING ANCHORS AND REPLACE WITH HILTI ADHESIVE ANCHORS IF REQUIRED. PAINT COLOR TO BE SELECTED BY ARCHITECT/OWNER. PROTECT ADJACENT SURFACES DURING CLEANING AND PAINTING WORK.

O. TERRA COTTA CRACK REPAIR. ROUT THE EXISTING TERRA COTTA CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

BROWNING DAY MULLINS DIERDORF

LEADERSHIP + DESIGN®

Browning Day Mullins Dierdorf Architects

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Planning
Interior Design

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Civil Engineer's Name

Civil Engineer

Street Number and Name

City, State and Zip

Phone: (012) 345-6789

Website: www.website.com

CERTIFICATION

TOWER FACADE MAINTENANCE PACKAGE

The Grand Reserve

925 Grand Boulevard
Kansas City, MO 64198

Project No.: LEI #1851

Drawn By: MJL

Checked By:

Scale: See Drawing

Issue Date: May 3, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

UPPER SOUTH ELEVATION

MASONRY REPAIR

S601-T

Browning Day Mullins Dierdorf Architects

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Civil Engineer's Name
Civil Engineer

Street Number and Name
City, State and Zip
Phone: (012) 345-6789
Website: www.website.com

CERTIFICATION

TOWER FACADE
MAINTENANCE PACKAGE

The Grand Reserve

925 Grand Boulevard
Kansas City, MO 64198

Project No.: LEI #1851
Drawn By: MJL
Checked By:
Scale: See Drawing
Issue Date: May 3, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

LOWER SOUTH ELEVATION
MASONRY REPAIR
S602-T

MASONRY REPAIR GENERAL NOTES

GENERAL SCOPE OF THE EXTERIOR MASONRY REPAIRS

THE ELEVATION DRAWINGS SHOW REPAIR PROCEDURES FOR THE VARIOUS MASONRY DETERIORATION ON THE EXTERIOR FACADE OF THE BUILDING. THIS INCLUDES REPAIR OF BRICK MASONRY, STONE, AND TERRA COTTA. THE DATA USED TO PREPARE THESE DRAWINGS WAS GATHERED FROM THE GROUND USING TELEPHOTO PHOTOGRAPHY. CONTRACTOR SHALL DETERMINE THE SCOPE OF THE VARIOUS REPAIRS INDICATED ON THE ELEVATIONS BY MEANS OF AN ARMS-LENGTH SURVEY OF THE ENTIRE EXTERIOR OF THE BUILDING USING AN AERIAL LIFT OR SWING STAGE PLATFORM OR OTHER MEANS AS DETERMINED BY THE CONTRACTOR. SUBMIT THE RESULTS OF THE SURVEY IN GRAPHICAL FORM TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO THE START OF THE REPAIR WORK.

CONTRACTOR SHALL DOCUMENT MASONRY DETERIORATION DISCOVERED DURING THE COURSE OF THE WORK AND MAKE REPAIRS AS NEEDED WHETHER SHOWN OR NOT, FOLLOWING THE REPAIR PROCEDURES INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. REPORT SUCH AREAS TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.

MASONRY REPAIR GENERAL NOTES

1. REMOVE EXTRANEIOUS METAL ATTACHMENTS, AND UTILITY CONDUITS AND PIPING. ENSURE THAT EXTRANEIOUS UTILITY ATTACHMENTS ARE ABANDON BEFORE REMOVAL. DO NOT REMOVE WALL ANCHORS THAT SECURE BUILDING COMPONENTS. FIELD VERIFY THE LOCATION OF SUCH ANCHORS BEFORE WORK BEGINS.

2. CLEAN THE MASONRY LIMESTONE ON THE SOUTH AND WEST ELEVATIONS IN THEIR ENTIRETY. USE THE MILDEST CLEANING SOLUTION THAT WILL ACCOMPLISH THE CLEANING TO A SATISFACTORY RESULT. REFER TO THE WRITTEN SPECIFICATIONS FOR CLEANING INFORMATION. PROVIDE A MOCK-UP OR APPROVAL OF A TYPICAL LIMESTONE CLEANING PROCEDURE PRIOR TO THE START OF WIDESPREAD CLEANING. DO NOT USE SPRAY TECHNIQUES UNLESS IT CAN BE DEMONSTRATED THAT THE OVERSPRAY WILL NOT HARM ADJACENT BUILDINGS OR PRESENT A HUMAN HEALTH HAZARD. PROTECT ORNAMENTAL METAL ON THE BUILDING AGAINST DAMAGE FROM CLEANING CHEMICALS.

NOTE THAT THIS BUILDING HAS A SIGNIFICANT BIRD POPULATION ROOSTING ON OUTWARD PROJECTIONS AND ON THE ROOF. CLEAN ALL BIRD DROPPINGS AND NESTING MATERIAL PRIOR TO GENERAL FACADE CLEANING. TREAT THE BIRD DROPPINGS AS A HEALTH HAZARD AS REQUIRED.

3. CLEAN AREAS AFTER RE-POINTING AND MASONRY REPLACEMENT WORK IS COMPLETE. PROTECT ADJACENT AREAS OF MASONRY FROM THE CLEANING CHEMICALS AS REQUIRED. BLEND TO MATCH EXISTING ADJACENT MASONRY.

4. PREPARE MOCK-UPS FOR THE FOLLOWING WORK ITEMS:
- MORTAR JOINT CLEANING AND REMOVAL OF OLD MORTAR AND SEALANT FOR EACH JOINT TYPE
- MORTAR JOINT RE-POINTING WITH REPLACEMENT MORTAR MIX FOR EACH JOINT TYPE
- BRICK REPLACEMENT
- DUTCHMAN STONE REPAIR

REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MOCKUPS. WORK SHALL PROCEED ONLY AFTER MOCKUPS ARE APPROVED. ARCHITECT/ENGINEER MAY STOP WORK IF IT IS DETERMINED THAT WORK IS NOT BEING PERFORMED IN ACCORDANCE WITH THE APPROVED MOCK-UPS.

5. PROVIDE SAMPLES OF REPLACEMENT BRICK, STONE AND EACH RE-POINTING MORTAR PRIOR TO THE START OF WORK.

6. CONTRACTOR SHALL HAVE TESTS PERFORMED ON REPRESENTATIVE MORTAR SAMPLES TAKEN FROM THE EXISTING MORTAR JOINTS FOR EACH MORTAR TYPE. TESTS SHALL BE MADE TO DETERMINE THE COMPONENTS AND PROPORTIONS OF THE EXISTING MORTAR FOR MATCHING OF NEW MORTAR TO EXISTING. REFER TO THE WRITTEN SPECIFICATIONS FOR THE TESTING REQUIREMENTS.

7. PROTECT THE BUILDING FROM THE DELETERIOUS EFFECTS OF CLEANING CHEMICALS DURING THE COURSE OF THE WORK. DO NOT DAMAGE EXISTING PORTIONS OF THE BUILDING THAT REMAIN.

8. THE SIDEWALKS AND ALLEYS AROUND THIS BUILDING WILL BE CLOSED TO PEDESTRIAN TRAFFIC THROUGHOUT THE COURSE OF THIS PROJECT. HOWEVER, ROADWAYS WILL LIKELY BE LEFT OPEN. CONTRACTOR SHALL PROVIDE FOR THE PROTECTION AND SAFETY OF THE PUBLIC FOR THE DURATION OF THE PROJECT. OVERHEAD PROTECTION SHALL BE PROVIDED AT ALL TIMES. CONTRACTOR SHALL SUBMIT AN OVERHEAD PROTECTION PLAN PRIOR TO THE START OF WORK.

9. PLANTINGS AND TREES AROUND THESE BUILDING SHALL BE PROTECTED ACCORDING TO THE REQUIREMENTS PROVIDED BY THE OWNER.

10. REMOVE AND REPLACE BRICK OR STONE THAT IS INADVERTENTLY DAMAGED IN THE EXECUTION OF THE MASONRY RESTORATION WORK, AT NO ADDITIONAL EXPENSE TO OWNER.

11. CLEAN, PREPARE, PRIME AND REPAINT EXISTING STEEL AS INDICATED ON THE ELEVATIONS. REPORT SEVERELY DETERIORATED STEEL TO THE ENGINEER BEFORE REPAINTING. NOTE THAT THE EXISTING PAINT ON THE LINTELS MAY CONTAIN LEAD. PRECAUTIONS SHALL BE TAKEN IN REMOVING AND DISPOSING OF THE EXISTING PAINT DURING PREPARATION OF THE LINTELS FOR REPAINTING.

12. THE ELEVATION DRAWINGS SHOW THE GENERAL LAYOUT OF THE FACADE OF THE BUILDING. IT SHOULD BE ANTICIPATED THAT SOME SLIGHT VARIATIONS WILL BE ENCOUNTERED BETWEEN THE DRAWN ELEVATIONS AND THE ACTUAL BUILDING FACADE ELEMENTS. FIELD VERIFY AS REQUIRED TO VERIFY THE EXACT SCOPE OF THE FACADE MASONRY. FIELD VERIFY THE EXACT MASONRY MATERIALS FOUND ON THE BUILDING INCLUDING BRICK, STONE, TERRA COTTA. REPORT MATERIALS THAT MAY DIFFER FROM THE ELEVATIONS DRAWINGS.

13. CONTRACTOR SHALL TAKE ALL MEANS NECESSARY TO PROTECT THE BUILDINGS WITHIN AND AROUND THE PROJECT SITE, INCLUDING PROVIDING APPROPRIATE FILTER MEDIA ON ALL AIR INTAKES ON THE BUILDING AND THE ROOF. REPORT TO THE PROJECT MANAGER AND ENGINEER THAT ALL AIR INTAKES HAVE BEEN IDENTIFIED AND PROTECTED AGAINST THE INTRUSION OF DUST AND DEBRIS.

14. GRINDING, SANDING AND ANY DUST GENERATING EQUIPMENT SHALL BE EQUIPPED WITH A DUST COLLECTION SYSTEM AT ALL TIMES DURING THE COURSE OF THE WORK TO PREVENT AIRBORNE DUST AND DEBRIS IN AND AROUND THE PROJECT SITE. PROJECT MANAGER OR ENGINEER MAY STOP THE WORK IF DUST COLLECTION IS DEEMED INADEQUATE.

15. WHERE THE EXISTING MASONRY IS COVERED WITH CEMENT BASED PARKING AND REPOINTING OR UNIT REPLACEMENT IS REQUIRED. RE-PARGE THE REPAIRED AREA TO MATCH EXISTING. REPAINT WITH COLOR TO MATCH EXISTING.

MASONRY REPAIR KEY NOTES (X)

A. STONE JOINT RE-POINTING. THIS NOTE SHALL APPLY TO STONE TO STONE JOINTS AND STONE TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE STONE UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING SEALANT AND MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS.

B. JOINT SEALANT REPLACEMENT. CLEAN AND PREPARE JOINTS AS INDICATED TO RECEIVE NEW JOINT SEALANT. PLACE CLOSED CELL FOAM BACKER ROD BEHIND THE JOINT AND APPLY SEALANT ACCORDING TO THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. WHERE THE ELEVATION KEY NOTES INDICATE CLEANING AND RECAULKING SKYWARD JOINTS, THE CAULK SHALL EXTEND TO THE EDGE OF THE HORIZONTAL LENGTH OF THE JOINT AND SHALL EXTEND DOWN THE VERTICAL LENGTH OF THE JOINT TO THE BOTTOM EDGE OF THE JOINT.

C. "SMILE" STONE SPALL REPAIR. QUANTITIES INDICATED ARE AN ESTIMATE. CONTRACTOR SHALL FIELD VERIFY THE EXACT QUANTITY AND REPAIR ALL SPALLS IDENTIFIED. REMOVE LOOSE AND SPALLED STONE MATERIAL. CLEAN AND BLAST EXPOSED AREA OF THE STEEL TIE BEHIND THE SPALL. COAT THE CLEANED STEEL TIE WITH ANTI-CORROSION AND PRIMER AND THEN PREPARE STONE AND APPLY STONE PATCH MATERIAL ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE WRITTEN SPECIFICATIONS.

WHERE MORE THAN 20% OF THE EXISTING STEEL TIE IS LOST TO CORROSION, PROVIDE TWO REPLACEMENT ANCHOR ON EACH SIDE OF SPALL. TO THE STONE PANEL BACK TO THE SUBSTRATE BEHIND IT. USE THE POST-INSTALLED ANCHOR "CTP STONE-GRIP TIE" TYPE 2LD. PATCH HOLE AFTER INSTALLATION. FIELD VERIFY THE BACK-UP MATERIAL, AND TEST FOR LOAD CAPACITY OF NEW STONE TIE ANCHORS PRIOR TO INSTALLING. SEE SPECIFICATIONS.

D. STONE PATCHING. CLEAN AND PATCH REPAIR THE EXISTING STONE WITH THE APPROVED STONE PATCHING MATERIAL AS INDICATED IN THE WRITTEN SPECIFICATIONS TO A WEATHER-TIGHT CONDITION.

E. STONE REPLACEMENT. REMOVE THE EXISTING DETERIORATED STONE UNIT AND REPLACE WITH A NEW FULL SIZE STONE UNIT. MATCH THE EXISTING STONE UNIT IN SIZE, COLOR, TEXTURE AND CONFIGURATION. RE-POINT WITH MORTAR AROUND THE NEW STONE UNIT AS REQUIRED TO INTEGRATE IT WITH THE SURROUNDING MASONRY. SUBMIT A SAMPLE OF THE NEW STONE MATERIAL PRIOR TO INSTALLATION AS INDICATED IN THE WRITTEN SPECIFICATIONS. ANCHOR THE NEW STONE UNIT TO THE STRUCTURE WITH STAINLESS STEEL ANCHORS TO MATCH THE EXISTING ANCHORS.

F. STONE CRACK REPAIR. ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

G. STONE DUTCHMAN REPAIR. REMOVE DAMAGED STONE MATERIAL TO A SQUARE OR RECTANGULAR SHAPE AND REPLACE THE REMOVED PORTION WITH A NEW STONE PIECE CUT AND SHAPED TO FIT THE REMOVED SHAPE AS TIGHTLY AS POSSIBLE WITH THE SMALLEST GLUE LINE POSSIBLE. GLUE THE DUTCHMAN IN PLACE WITH EPOXY ADHESIVE ACCORDING TO THE WRITTEN SPECIFICATIONS. IF THE REMOVED AREA IS LARGER THAN 4" BY 4", ANCHOR THE STONE WITH 3/8" MINIMUM STAINLESS STEEL PINS. DUTCHMAN SHALL MATCH THE ADJACENT STONE IN COLOR, TEXTURE AND THICKNESS.

H. STONE SPANDREL CRACK REPAIR. REMOVE ONE SPANDREL PANEL WITH CRACKS AND PROVIDE PHOTOS AND NOTES ON THE EXISTING ANCHORAGE AND THE CONDITION OF THE SUPPORT ANGLES AT EACH END. REPORT FINDINGS TO THE ARCHITECT.

I. CORROSION OF STONE SHELF ANGLE REPAIR. REMOVE A PORTION OF THE STONE PANEL WHERE INDICATE AND WHERE STEEL CORROSION OF THE SUPPORTING SHELF ANGLE HAS DAMAGED THE STONE OR THE JOINTS. PROVIDE TEMPORARY SUPPORT OF THE ADJACENT STONE PANELS AROUND AND ABOVE THE REPAIR AREA DURING THE REPAIR PROCESS. REMOVE ENOUGH STONE TO FULLY ACCESS THE CORRODED STEEL ANGLE. MAKE CLEAN STRAIGHT HORIZONTAL AND VERTICAL CUTS THAT MEET AT A 90 DEGREE ANGLE AT INTERSECTIONS. SALVAGE THE STONE PORTION FOR LATER REPLACEMENT ONCE THE STEEL IS REPLACED.

REMOVE AND REPLACE THE CORRODED STEEL ANGLE AND PAINT WITH GALVANIZED PAINT. REPLACE THE SALVAGED STONE PORTION AND ANCHOR SIMILAR TO A DUTCHMAN REPAIR WITH STAINLESS STEEL PINS. CAULK OPEN JOINTS AROUND THE REPLACED PORTION OF STONE AS REQUIRED.

J. BRICK JOINT RE-POINTING/REPLACEMENT. THIS NOTE SHALL APPLY TO BRICK TO BRICK JOINTS AND BRICK TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE BRICK UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS. REPLACE BRICK UNITS THAT HAVE LOST MORE THAN 10% OF THE SURFACE. RE-PARGE AND/OR REPAINT BRICK TO MATCH EXISTING AT REPAIR AREAS.

K. BRICK MASONRY CRACK REPAIR. ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

L. ORNAMENTAL EAGLE. CLEAN PAINT AND GRIM FROM THE EXISTING ORNAMENTAL EAGLES LOCATED ON THE ROOF. INSPECT THE CLEANED EAGLES FOR SIGNS OF CORROSION OR DETERIORATION. REPORT FINDINGS TO THE ARCHITECT. REPAIR AS DIRECTED. AFTER REPAIRS, APPLY PRIME COAT AND PAINT, COATINGS AS SPECIFIED BY ARCHITECT. COLOR TO BE DETERMINED BY ARCHITECT AND OWNER.

M. STEEL ANGLE LINTEL REPAIR. REMOVE BRICK AS REQUIRED TO CLEAN AND PAINT EXISTING STEEL LINTEL. PAINT LINTEL WITH ZINC PAINT AFTER CLEANING CORROSION. REPLACE BRICK AND PAINT TO MATCH ADJACENT COLOR. REPLACE LINTEL WITH SAME SIZE AND CONFIGURATION IF MORE THAN 20% OF THE EXISTING CROSS-SECTION HAS BEEN LOST TO CORROSION.

N. ORNAMENTAL METAL REPAIR. REMOVE ALL DROPPINGS, BIRD NESTING MATERIAL AND DEBRIS TRAPPED BEHIND THE GRILLES. DROPPINGS MAY BE CONSIDERED HAZARDOUS AND SHOULD BE TREATED APPROPRIATELY. CLEAN, REPAIR AND PAINT ORNAMENTAL GRILLES AT EACH WINDOW ON THE SOUTH AND WEST ELEVATIONS. APPLY PRIMER AND FINISH COAT AS DIRECTED BY THE MANUFACTURER'S INSTRUCTIONS. INSPECT EACH EXISTING ANCHORS AND REPLACE WITH HILTI ADHESIVE ANCHORS IF REQUIRED. PAINT COLOR TO BE SELECTED BY ARCHITECT/OWNER. PROTECT ADJACENT SURFACES DURING CLEANING AND PAINTING WORK.

O. TERRA COTTA CRACK REPAIR. ROUT THE EXISTING TERRA COTTA CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

LOWER SOUTH ELEVATION

1/8" = 1'-0"

SOUTH ELEVATION

- CLEAN AND REPOINT JOINTS 100% WITH NEW MORTAR ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.
- CLEAN THE LIMESTONE AND TERRA COTTA MASONRY SURFACES 100%.
- CLEAN AND RECAULK SKYWARD JOINTS 100%.

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CERTIFICATION

TOWER FACADE
MAINTENANCE PACKAGE

The Grand Reserve

925 Grand Boulevard
Kansas City, MO 64198

Project No.: LEI #1851
Drawn By: MJL
Checked By:
Scale: See Drawing
Issue Date: May 3, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

UPPER EAST ELEVATION
MASONRY REPAIR

S603-T

MASONRY REPAIR GENERAL NOTES

GENERAL SCOPE OF THE EXTERIOR MASONRY REPAIRS

THE ELEVATION DRAWINGS SHOW REPAIR PROCEDURES FOR THE VARIOUS MASONRY DETERIORATION ON THE EXTERIOR FACADE OF THE BUILDING. THIS INCLUDES REPAIR OF BRICK MASONRY, STONE, AND TERRA COTTA. THE DATA USED TO PREPARE THESE DRAWINGS WAS GATHERED FROM THE GROUND USING TELEPHOTO PHOTOGRAPHY. CONTRACTOR SHALL DETERMINE THE SCOPE OF THE VARIOUS REPAIRS INDICATED ON THE ELEVATIONS BY MEANS OF AN ARMS-LENGTH SURVEY OF THE ENTIRE EXTERIOR OF THE BUILDING USING AN AERIAL LIFT OR SWING STAGE PLATFORM OR OTHER MEANS AS DETERMINED BY THE CONTRACTOR. SUBMIT THE RESULTS OF THE SURVEY IN GRAPHICAL FORM TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO THE START OF THE REPAIR WORK.

CONTRACTOR SHALL DOCUMENT MASONRY DETERIORATION DISCOVERED DURING THE COURSE OF THE WORK AND MAKE REPAIRS AS NEEDED WHETHER SHOWN OR NOT, FOLLOWING THE REPAIR PROCEDURES INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. REPORT SUCH AREAS TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.

MASONRY REPAIR GENERAL NOTES

1. REMOVE EXTRANEOUS METAL ATTACHMENTS, AND UTILITY CONDUITS AND PIPING. ENSURE THAT EXTRANEOUS UTILITY ATTACHMENTS ARE ABANDON BEFORE REMOVAL. DO NOT REMOVE WALL ANCHORS THAT SECURE BUILDING COMPONENTS. FIELD VERIFY THE LOCATION OF SUCH ANCHORS BEFORE WORK BEGINS.
2. CLEAN THE MASONRY LIMESTONE ON THE SOUTH AND WEST ELEVATIONS IN THEIR ENTIRETY. USE THE MILDEST CLEANING SOLUTION THAT WILL ACCOMPLISH THE CLEANING TO A SATISFACTORY RESULT. REFER TO THE WRITTEN SPECIFICATIONS FOR CLEANING INFORMATION. PROVIDE A MOCK-UP OR APPROVAL OF A TYPICAL LIMESTONE CLEANING PROCEDURE PRIOR TO THE START OF WIDESPREAD CLEANING. DO NOT USE SPRAY TECHNIQUES UNLESS IT CAN BE DEMONSTRATED THAT THE OVERSPRAY WILL NOT HARM ADJACENT BUILDINGS OR PRESENT A HUMAN HEALTH HAZARD. PROTECT ORNAMENTAL METAL ON THE BUILDING AGAINST DAMAGE FROM CLEANING CHEMICALS. NOTE THAT THIS BUILDING HAS A SIGNIFICANT BIRD POPULATION ROOSTING ON OUTWARD PROJECTIONS AND ON THE ROOF. CLEAN ALL BIRD DROPPINGS AND NESTING MATERIAL PRIOR TO GENERAL FACADE CLEANING. TREAT THE BIRD DROPPINGS AS A HEALTH HAZARD AS REQUIRED.
3. CLEAN AREAS AFTER RE-POINTING AND MASONRY REPLACEMENT WORK IS COMPLETE. PROTECT ADJACENT AREAS OF MASONRY FROM THE CLEANING CHEMICALS AS REQUIRED. BLEND TO MATCH EXISTING ADJACENT MASONRY.
4. PREPARE MOCK-UPS FOR THE FOLLOWING WORK ITEMS:
 - MORTAR JOINT CLEANING AND REMOVAL OF OLD MORTAR AND SEALANT FOR EACH JOINT TYPE.
 - MORTAR JOINT RE-POINTING WITH REPLACEMENT MORTAR MIX FOR EACH JOINT TYPE.
 - BRICK REPLACEMENT.
 - DUTCHMAN STONE REPAIR.

REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MOCK-UPS. WORK SHALL PROCEED ONLY AFTER MOCK-UPS ARE APPROVED. ARCHITECT/ENGINEER MAY STOP WORK IF IT IS DETERMINED THAT WORK IS NOT BEING PERFORMED IN ACCORDANCE WITH THE APPROVED MOCK-UPS.

5. PROVIDE SAMPLES OF REPLACEMENT BRICK, STONE AND EACH RE-POINTING MORTAR PRIOR TO THE START OF WORK.
6. CONTRACTOR SHALL HAVE TESTS PERFORMED ON REPRESENTATIVE MORTAR SAMPLES TAKEN FROM THE EXISTING MORTAR JOINTS FOR EACH MORTAR TYPE. TESTS SHALL BE MADE TO DETERMINE THE COMPONENTS AND PROPORTIONS OF THE EXISTING MORTAR FOR MATCHING OF NEW MORTAR TO EXISTING. REFER TO THE WRITTEN SPECIFICATIONS FOR THE TESTING REQUIREMENTS.
7. PROTECT THE BUILDING FROM THE DELETERIOUS EFFECTS OF CLEANING CHEMICALS DURING THE COURSE OF THE WORK. DO NOT DAMAGE EXISTING PORTIONS OF THE BUILDING THAT REMAIN.
8. THE SIDEWALKS AND ALLEYS AROUND THIS BUILDING WILL BE CLOSED TO PEDESTRIAN TRAFFIC THROUGHOUT THE COURSE OF THIS PROJECT, HOWEVER, ROADWAYS WILL LIKELY BE LEFT OPEN. CONTRACTOR SHALL PROVIDE FOR THE PROTECTION AND SAFETY OF THE PUBLIC FOR THE DURATION OF THE PROJECT. OVERHEAD PROTECTION SHALL BE PROVIDED AT ALL TIMES. CONTRACTOR SHALL SUBMIT AN OVERHEAD PROTECTION PLAN PRIOR TO THE START OF WORK.
9. PLANTINGS AND TREES AROUND THESE BUILDING SHALL BE PROTECTED ACCORDING TO THE REQUIREMENTS PROVIDED BY THE OWNER.
10. REMOVE AND REPLACE BRICK OR STONE THAT IS INADVERTENTLY DAMAGED IN THE EXECUTION OF THE MASONRY RESTORATION WORK, AT NO ADDITIONAL EXPENSE TO OWNER.
11. CLEAN, PREPARE, PRIME AND REPAINT EXISTING STEEL AS INDICATED ON THE ELEVATIONS. REPORT SEVERELY DETERIORATED STEEL TO THE ENGINEER BEFORE REPAINTING. NOTE THAT THE EXISTING PAINT ON THE LINTELS MAY CONTAIN LEAD. PRECAUTIONS SHALL BE TAKEN IN REMOVING AND DISPOSING OF THE EXISTING PAINT DURING PREPARATION OF THE LINTELS FOR REPAINTING.
12. THE ELEVATION DRAWINGS SHOW THE GENERAL LAYOUT OF THE FACADE OF THE BUILDING. IT SHOULD BE ANTICIPATED THAT SOME SLIGHT VARIATIONS WILL BE ENCOUNTERED BETWEEN THE DRAWN ELEVATIONS AND THE ACTUAL BUILDING FACADE ELEMENTS. FIELD VERIFY AS REQUIRED TO VERIFY THE EXACT SCOPE OF THE FACADE MASONRY. FIELD VERIFY THE EXACT MASONRY MATERIALS FOUND ON THE BUILDING INCLUDING BRICK, STONE, TERRA COTTA. REPORT MATERIALS THAT MAY DIFFER FROM THE ELEVATIONS DRAWINGS.
13. CONTRACTOR SHALL TAKE ALL MEANS NECESSARY TO PROTECT THE BUILDINGS WITHIN AND AROUND THE PROJECT SITE, INCLUDING PROVIDING APPROPRIATIVE FILTER MEDIA ON ALL AIR INTAKES ON THE BUILDING AND THE ROOF. REPORT TO THE PROJECT MANAGER AND ENGINEER THAT ALL AIR INTAKES HAVE BEEN IDENTIFIED AND PROTECTED AGAINST THE INTRUSION OF DUST AND DEBRIS.
14. GRINDING, SANDING AND ANY DUST GENERATING EQUIPMENT SHALL BE EQUIPPED WITH A DUST COLLECTION SYSTEM AT ALL TIMES DURING THE COURSE OF THE WORK TO PREVENT AIRBORNE DUST AND DEBRIS IN AND AROUND THE PROJECT SITE. PROJECT MANAGER OR ENGINEER MAY STOP THE WORK IF DUST COLLECTION IS DEEMED INADEQUATE.
15. WHERE THE EXISTING MASONRY IS COVERED WITH CEMENT BASED PARKING AND REPOINTING OR UNIT REPLACEMENT IS REQUIRED, RE-PARGE THE REPAIRED AREA TO MATCH EXISTING. REPAINT WITH COLOR TO MATCH EXISTING.

MASONRY REPAIR KEY NOTES

A. STONE JOINT RE-POINTING. THIS NOTE SHALL APPLY TO STONE TO STONE JOINTS AND STONE TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE STONE UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING SEALANT AND MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS.

B. JOINT SEALANT REPLACEMENT. CLEAN AND PREPARE JOINTS AS INDICATED TO RECEIVE NEW JOINT SEALANT. PLACE CLOSED CELL FOAM BACKER ROD BEHIND THE JOINT AND APPLY SEALANT ACCORDING TO THE MANUFACTURER'S WRITTEN RECOMMENDATIONS, WHERE THE ELEVATION KEY NOTES INDICATE CLEANING AND RECAULKING SKYWARD JOINTS, THE CAULK SHALL EXTEND TO THE EDGE OF THE HORIZONTAL LENGTH OF THE JOINT AND SHALL EXTEND DOWN THE VERTICAL LENGTH OF THE JOINT TO THE BOTTOM EDGE OF THE JOINT.

C. SMILE® STONE SPALL REPAIR. QUANTITIES INDICATED ARE AN ESTIMATE. CONTRACTOR SHALL FIELD VERIFY THE EXACT QUANTITY AND REPAIR ALL SPALLS IDENTIFIED. REMOVE LOOSE AND SPALLED STONE MATERIAL. CLEAN AND BLAST EXPOSED AREA OF THE STEEL TIE BEHIND THE SPALL. COAT THE CLEANED STEEL TIE WITH ANTI-CORROSION AND PRIMER AND THEN PREPARE STONE AND APPLY STONE PATCH MATERIAL ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE WRITTEN SPECIFICATIONS. WHERE MORE THAN 20% OF THE EXISTING STEEL TIE IS LOST TO CORROSION, PROVIDE TWO REPLACEMENT ANCHOR ON EACH SIDE OF SPALL TO TIE THE STONE PANEL BACK TO THE SUBSTRATE BEHIND IT. USE THE POST-INSTALLED ANCHOR "CTIP STONE-GRIP TIE" TYPE 2LD. PATCH HOLE AFTER INSTALLATION. FIELD VERIFY THE BACK-UP MATERIAL AND TEST FOR LOAD CAPACITY OF NEW STONE TIE ANCHORS PRIOR TO INSTALLING. SEE SPECIFICATIONS.

D. STONE PATCHING. CLEAN AND PATCH REPAIR THE EXISTING STONE WITH THE APPROVED STONE PATCHING MATERIAL AS INDICATED IN THE WRITTEN SPECIFICATIONS TO A WEATHER-TIGHT CONDITION.

E. STONE REPLACEMENT. REMOVE THE EXISTING DETERIORATED STONE UNIT AND REPLACE WITH A NEW FULL SIZE STONE UNIT. MATCH THE EXISTING STONE UNIT IN SIZE, COLOR, TEXTURE AND CONFIGURATION. RE-POINT WITH MORTAR AROUND THE NEW STONE UNIT AS REQUIRED TO INTEGRATE IT WITH THE SURROUNDING MASONRY. SUBMIT A SAMPLE OF THE NEW STONE MATERIAL PRIOR TO INSTALLATION AS INDICATED IN THE WRITTEN SPECIFICATIONS. ANCHOR THE NEW STONE UNIT TO THE STRUCTURE WITH STAINLESS STEEL ANCHORS TO MATCH THE EXISTING ANCHORS.

F. STONE CRACK REPAIR. ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

G. STONE DUTCHMAN REPAIR. REMOVE DAMAGED STONE MATERIAL TO A SQUARE OR RECTANGULAR SHAPE AND REPLACE THE REMOVED PORTION WITH A NEW STONE PIECE CUT AND SHAPED TO FIT THE REMOVED AREA AS TIGHTLY AS POSSIBLE WITH THE SMALLEST GLUE LINE POSSIBLE. GLUE THE DUTCHMAN IN PLACE WITH EPOXY ADHESIVE ACCORDING TO THE WRITTEN SPECIFICATIONS. IF THE REMOVED AREA IS LARGER THAN 4" BY 4", ANCHOR THE SIDES OF THE DUTCHMAN WITH 3/8" MINIMUM STAINLESS STEEL PINS. DUTCHMAN SHALL MATCH THE ADJACENT STONE IN COLOR, TEXTURE AND THICKNESS.

H. STONE SPANDREL CRACK REPAIR. REMOVE ONE SPANDREL PANEL WITH CRACKS AND PROVIDE PHOTOS AND NOTES ON THE EXISTING ANCHORAGE AND THE CONDITION OF THE SUPPORT ANGLES AT EACH END. REPORT FINDINGS TO THE ARCHITECT.

I. CORROSION OF STONE SHELF ANGLE REPAIR. REMOVE A PORTION OF THE STONE PANEL WHERE INDICATE AND WHERE STEEL CORROSION OF THE SUPPORTING SHELF ANGLE HAS DAMAGED THE STONE OR THE JOINTS. PROVIDE TEMPORARY SUPPORT OF THE ADJACENT STONE PANELS AROUND AND ABOVE THE REPAIR AREA DURING THE REPAIR PROCESS. REMOVE ENOUGH STONE TO FULLY ACCESS THE CORRODED STEEL ANGLE. MAKE CLEAN STRAIGHT HORIZONTAL AND VERTICAL CUTS THAT MEET AT A 90 DEGREE ANGLE AT INTERSECTIONS. SALVAGE THE STONE PORTION FOR LATER REPLACEMENT ONCE THE STEEL IS REPLACED. REMOVE AND REPLACE THE CORRODED STEEL ANGLE AND PAINT WITH GALVANIZED PAINT. REPLACE THE SALVAGED STONE PORTION AND ANCHOR SIMILAR TO A DUTCHMAN REPAIR WITH STAINLESS STEEL PINS. CAULK OPEN JOINTS AROUND THE REPLACED PORTION OF STONE AS REQUIRED.

J. BRICK JOINT RE-POINTING/REPLACEMENT. THIS NOTE SHALL APPLY TO BRICK TO BRICK JOINTS AND BRICK TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE BRICK UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS. REPLACE BRICK UNITS THAT HAVE LOST MORE THAN 10% OF THE SURFACE. RE-PARGE AND/OR REPAINT BRICK TO MATCH EXISTING AT REPAIR AREAS.

K. BRICK MASONRY CRACK REPAIR. ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

L. ORNAMENTAL EAGLE. CLEAN PAINT AND GRIM FROM THE EXISTING ORNAMENTAL EAGLES LOCATED ON THE ROOF. INSPECT THE CLEANED EAGLES FOR SIGNS OF CORROSION OR DETERIORATION. REPORT FINDINGS TO THE ARCHITECT. REPAIR AS DIRECTED. AFTER REPAIRS, APPLY PRIMER COAT AND PAINT, COATINGS AS SPECIFIED BY ARCHITECT. COLOR TO BE DETERMINED BY ARCHITECT AND OWNER.

M. STEEL ANGLE LINTEL REPAIR. REMOVE BRICK AS REQUIRED TO CLEAN AND PAINT EXISTING STEEL LINTEL. PAINT LINTEL WITH ZINC PAINT AFTER CLEANING CORROSION. REPLACE BRICK AND PAINT TO MATCH ADJACENT COLOR. REPLACE LINTEL WITH SAME SIZE AND CONFIGURATION IF MORE THAN 20% OF THE EXISTING CROSS-SECTION HAS BEEN LOST TO CORROSION.

N. ORNAMENTAL METAL REPAIR. REMOVE ALL DROPPINGS, BIRD NESTING MATERIAL AND DEBRIS TRAPPED BEHIND THE GRILLES. DROPPINGS MAY BE CONSIDERED HAZARDOUS AND SHOULD BE TREATED APPROPRIATELY. CLEAN, REPAIR AND PAINT ORNAMENTAL GRILLES AT EACH WINDOW ON THE SOUTH AND WEST ELEVATIONS. APPLY PRIMER AND FINISH COAT AS DIRECTED BY THE MANUFACTURER'S INSTRUCTIONS. INSPECT EACH EXISTING ANCHORS AND REPLACE WITH HILTI ADHESIVE ANCHORS IF REQUIRED. PAINT COLOR TO BE SELECTED BY ARCHITECT/OWNER. PROTECT ADJACENT SURFACES DURING CLEANING AND PAINTING WORK.

O. TERRA COTTA CRACK REPAIR. ROUT THE EXISTING TERRA COTTA CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.



EAST ELEVATOR PH
N.T.S.

UPPER EAST ELEVATION

1/8" = 1'-0"

EAST ELEVATION

1. CLEAN AND RECAULK SKYWARD JOINTS 100%.

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MASONRY REPAIR GENERAL NOTES

GENERAL SCOPE OF THE EXTERIOR MASONRY REPAIRS

THE ELEVATION DRAWINGS SHOW REPAIR PROCEDURES FOR THE VARIOUS MASONRY DETERIORATION ON THE EXTERIOR FACADE OF THE BUILDING. THIS INCLUDES REPAIR OF BRICK MASONRY, STONE, AND TERRA COTTA. THE DATA USED TO PREPARE THESE DRAWINGS WAS GATHERED FROM THE GROUND USING TELEPHOTO PHOTOGRAPHY. CONTRACTOR SHALL DETERMINE THE SCOPE OF THE VARIOUS REPAIRS INDICATED ON THE ELEVATIONS BY MEANS OF AN ARMS-LENGTH SURVEY OF THE ENTIRE EXTERIOR OF THE BUILDING USING AN AERIAL LIFT OR SWING STAGE PLATFORM OR OTHER MEANS AS DETERMINED BY THE CONTRACTOR. SUBMIT THE RESULTS OF THE SURVEY IN GRAPHICAL FORM TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO THE START OF THE REPAIR WORK.

CONTRACTOR SHALL DOCUMENT MASONRY DETERIORATION DISCOVERED DURING THE COURSE OF THE WORK AND MAKE REPAIRS AS NEEDED. WHETHER SHOWN OR NOT, FOLLOWING THE REPAIR PROCEDURES INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. REPORT SUCH AREAS TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.

MASONRY REPAIR GENERAL NOTES

1. REMOVE EXTRANEIOUS METAL ATTACHMENTS, AND UTILITY CONDUITS AND PIPING. ENSURE THAT EXTRANEIOUS UTILITY ATTACHMENTS ARE ABANDON BEFORE REMOVAL. DO NOT REMOVE WALL ANCHORS THAT SECURE BUILDING COMPONENTS. FIELD VERIFY THE LOCATION OF SUCH ANCHORS BEFORE WORK BEGINS.
2. CLEAN THE MASONRY LIMESTONE ON THE SOUTH AND WEST ELEVATIONS IN THEIR ENTIRETY. USE THE MILDEST CLEANING SOLUTION THAT WILL ACCOMPLISH THE CLEANING TO A SATISFACTORY RESULT. REFER TO THE WRITTEN SPECIFICATIONS FOR CLEANING INFORMATION. PROVIDE A MOCK-UP OR APPROVAL OF A TYPICAL LIMESTONE CLEANING PROCEDURE PRIOR TO THE START OF WIDESPREAD CLEANING. DO NOT USE SPRAY TECHNIQUES UNLESS IT CAN BE DEMONSTRATED THAT THE OVERSPRAY WILL NOT HARM ADJACENT BUILDINGS OR PRESENT A HUMAN HEALTH HAZARD. PROTECT ORNAMENTAL METAL ON THE BUILDING AGAINST DAMAGE FROM CLEANING CHEMICALS.
NOTE THAT THIS BUILDING HAS A SIGNIFICANT BIRD POPULATION ROOSTING ON OUTWARD PROJECTIONS AND ON THE ROOF. CLEAN ALL BIRD DROPPINGS AND NESTING MATERIAL PRIOR TO GENERAL FACADE CLEANING. TREAT THE BIRD DROPPINGS AS A HEALTH HAZARD AS REQUIRED.
3. CLEAN AREAS AFTER RE-POINTING AND MASONRY REPLACEMENT WORK IS COMPLETE. PROTECT ADJACENT AREAS OF MASONRY FROM THE CLEANING CHEMICALS AS REQUIRED. BLEND TO MATCH EXISTING ADJACENT MASONRY.
4. PREPARE MOCK-UPS FOR THE FOLLOWING WORK ITEMS:
 - MORTAR JOINT CLEANING AND REMOVAL OF OLD MORTAR AND SEALANT FOR EACH JOINT TYPE
 - MORTAR JOINT RE-POINTING WITH REPLACEMENT MORTAR MIX FOR EACH JOINT TYPE
 - BRICK REPLACEMENT
 - DUTCHMAN STONE REPAIR

REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MOCK-UPS. WORK SHALL PROCEED ONLY AFTER MOCK-UPS ARE APPROVED. ARCHITECT/ENGINEER MAY STOP WORK IF IT IS DETERMINED THAT WORK IS NOT BEING PERFORMED IN ACCORDANCE WITH THE APPROVED MOCK-UPS.

5. PROVIDE SAMPLES OF REPLACEMENT BRICK, STONE AND EACH RE-POINTING MORTAR PRIOR TO THE START OF WORK.
6. CONTRACTOR SHALL HAVE TESTS PERFORMED ON REPRESENTATIVE MORTAR SAMPLES TAKEN FROM THE EXISTING MORTAR JOINTS FOR EACH MORTAR TYPE. TESTS SHALL BE MADE TO DETERMINE THE COMPONENTS AND PROPORTIONS OF THE EXISTING MORTAR FOR MATCHING OF NEW MORTAR TO EXISTING. REFER TO THE WRITTEN SPECIFICATIONS FOR THE TESTING REQUIREMENTS.
7. PROTECT THE BUILDING FROM THE DELETERIOUS EFFECTS OF CLEANING CHEMICALS DURING THE COURSE OF THE WORK. DO NOT DAMAGE EXISTING PORTIONS OF THE BUILDING THAT REMAIN.
8. THE SIDEWALKS AND ALLEYS AROUND THIS BUILDING WILL BE CLOSED TO PEDESTRIAN TRAFFIC THROUGHOUT THE COURSE OF THIS PROJECT, HOWEVER, ROADWAYS WILL LIKELY BE LEFT OPEN. CONTRACTOR SHALL PROVIDE FOR THE PROTECTION AND SAFETY OF THE PUBLIC FOR THE DURATION OF THE PROJECT. OVERHEAD PROTECTION SHALL BE PROVIDED AT ALL TIMES. CONTRACTOR SHALL SUBMIT AN OVERHEAD PROTECTION PLAN PRIOR TO THE START OF WORK.
9. PLANTINGS AND TREES AROUND THESE BUILDING SHALL BE PROTECTED ACCORDING TO THE REQUIREMENTS PROVIDED BY THE OWNER.
10. REMOVE AND REPLACE BRICK OR STONE THAT IS INADVERTENTLY DAMAGED IN THE EXECUTION OF THE MASONRY RESTORATION WORK, AT NO ADDITIONAL EXPENSE TO OWNER.
11. CLEAN, PREPARE, PRIME AND REPAINT EXISTING STEEL AS INDICATED ON THE ELEVATIONS. REPORT SEVERELY DETERIORATED STEEL TO THE ENGINEER BEFORE REPAINTING. NOTE THAT THE EXISTING PAINT ON THE LINTELS MAY CONTAIN LEAD. PRECAUTIONS SHALL BE TAKEN IN REMOVING AND DISPOSING OF THE EXISTING PAINT DURING PREPARATION OF THE LINTELS FOR REPAINTING.
12. THE ELEVATION DRAWINGS SHOW THE GENERAL LAYOUT OF THE FACADE OF THE BUILDING. IT SHOULD BE ANTICIPATED THAT SOME SLIGHT VARIATIONS WILL BE ENCOUNTERED BETWEEN THE DRAWN ELEVATIONS AND THE ACTUAL BUILDING FACADE ELEMENTS. FIELD VERIFY AS REQUIRED TO VERIFY THE EXACT SCOPE OF THE FACADE MASONRY. FIELD VERIFY THE EXACT MASONRY MATERIALS FOUND ON THE BUILDING INCLUDING BRICK, STONE, TERRA COTTA. REPORT MATERIALS THAT MAY DIFFER FROM THE ELEVATIONS DRAWINGS.
13. CONTRACTOR SHALL TAKE ALL MEANS NECESSARY TO PROTECT THE BUILDINGS WITHIN AND AROUND THE PROJECT SITE, INCLUDING PROVIDING APPROPRIATIVE FILTER MEDIA ON ALL AIR INTAKES ON THE BUILDING AND THE ROOF. REPORT TO THE PROJECT MANAGER AND ENGINEER THAT ALL AIR INTAKES HAVE BEEN IDENTIFIED AND PROTECTED AGAINST THE INTRUSION OF DUST AND DEBRIS.
14. GRINDING, SANDING AND ANY DUST GENERATING EQUIPMENT SHALL BE EQUIPPED WITH A DUST COLLECTION SYSTEM AT ALL TIMES DURING THE COURSE OF THE WORK TO PREVENT AIRBORNE DUST AND DEBRIS IN AND AROUND THE PROJECT SITE. PROJECT MANAGER OR ENGINEER MAY STOP THE WORK IF DUST COLLECTION IS DEEMED INADEQUATE.
15. WHERE THE EXISTING MASONRY IS COVERED WITH CEMENT BASED PARKING AND RE-POINTING OR UNIT REPLACEMENT IS REQUIRED, RE-PARGE THE REPAIRED AREA TO MATCH EXISTING. REPAINT WITH COLOR TO MATCH EXISTING.

MASONRY REPAIR KEY NOTES

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11.2T 10T 9.5T 8.8T

8 7.5T 7 4C

+337' - 0"
T-12th Flr

+323' - 5"
T-11th Flr

+309' - 10"
T-10th Flr

+296' - 3"
T-9th Flr

+282' - 7 7/8"
T-8th Flr

+269' - 1"
T-7th Flr

+255' - 6"
T-6th Flr

+239' - 6"
T-5th Flr

+229' - 0"
T-4th Flr

+219' - 0"
T-3B

+209' - 0 3/16"
T-2B

LOWER EAST ELEVATION

1/8" = 1'-0"

EAST ELEVATION

1. CLEAN AND RECAULK SKYWARD JOINTS 100%.

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Civil Engineer

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CERTIFICATION

TOWER FACADE
MAINTENANCE PACKAGE

The Grand Reserve

925 Grand Boulevard
Kansas City, MO 64198

Project No.: LEI #1851
Drawn By: MJL
Checked By:
Scale: See Drawing
Issue Date: May 3, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

SOUTHEAST ELEVATION
MASONRY REPAIR
S605-T

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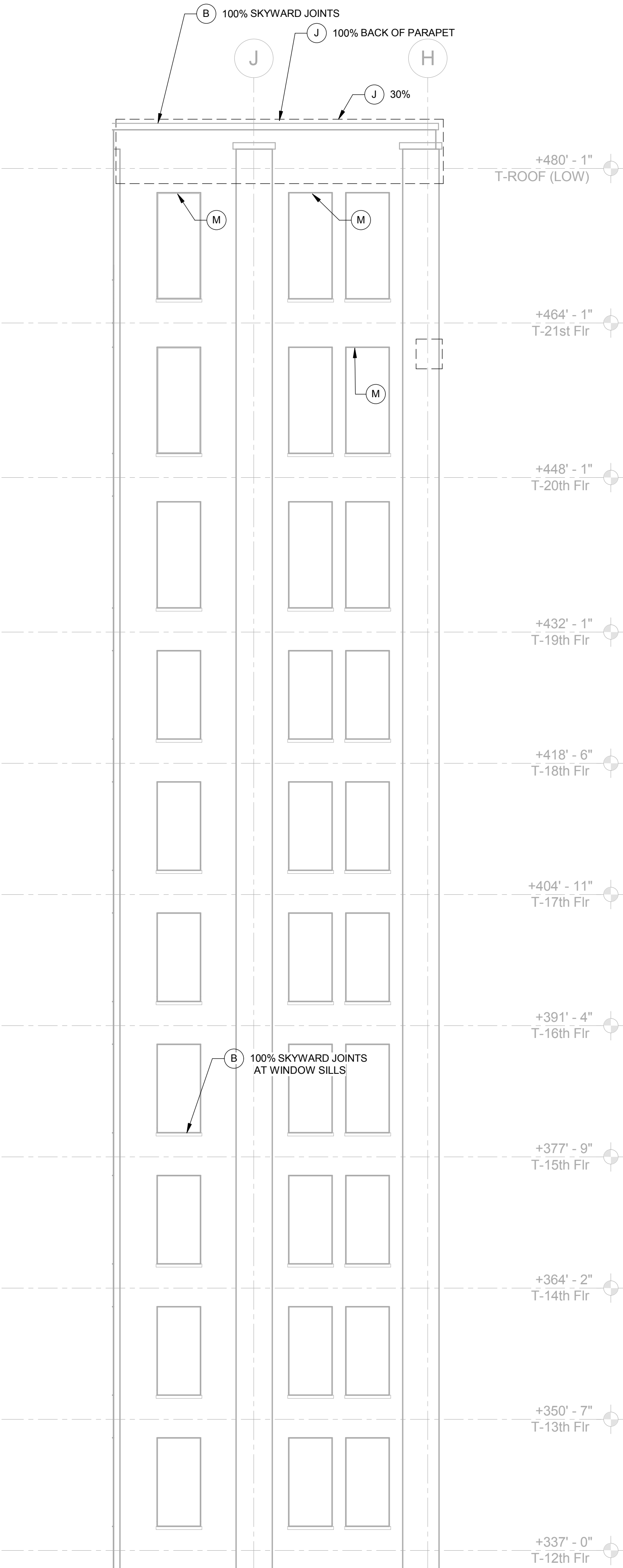
CONTRACTOR SHALL DOCUMENT MASONRY DETERIORATION DISCOVERED DURING THE COURSE OF THE WORK AND MAKE REPAIRS AS NEEDED WHETHER SHOWN OR NOT, FOLLOWING THE REPAIR PROCEDURES INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. REPORT SUCH AREAS TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.

MASONRY REPAIR GENERAL NOTES

1. REMOVE EXTRANEUS METAL ATTACHMENTS, AND UTILITY CONDUITS AND PIPING. ENSURE THAT EXTRANEUS UTILITY ATTACHMENTS ARE ABANDON BEFORE REMOVAL. DO NOT REMOVE WALL ANCHORS THAT SECURE BUILDING COMPONENTS. FIELD VERIFY THE LOCATION OF SUCH ANCHORS BEFORE WORK BEGINS.
2. CLEAN THE MASONRY LIMESTONE ON THE SOUTH AND WEST ELEVATIONS IN THEIR ENTIRETY. USE THE MILDTEST CLEANING SOLUTION THAT WILL ACCOMPLISH THE CLEANING TO A SATISFACTORY RESULT. REFER TO THE WRITTEN SPECIFICATIONS FOR CLEANING INFORMATION. PROVIDE A MOCK-UP OR APPROVAL OF A TYPICAL LIMESTONE CLEANING PROCEDURE PRIOR TO THE START OF WIDESPREAD CLEANING. DO NOT USE SPRAY TECHNIQUES UNLESS IT CAN BE DEMONSTRATED THAT THE OVERSPRAY WILL NOT HARM ADJACENT BUILDINGS OR PRESENT A HUMAN HEALTH HAZARD. PROTECT ORNAMENTAL METAL ON THE BUILDING AGAINST DAMAGE FROM CLEANING CHEMICALS. NOTE THAT THIS BUILDING HAS A SIGNIFICANT BIRD POPULATION ROOSTING ON OUTWARD PROJECTIONS AND ON THE ROOF. CLEAN ALL BIRD DROPPINGS AND NESTING MATERIAL PRIOR TO GENERAL FACADE CLEANING. TREAT THE BIRD DROPPINGS AS A HEALTH HAZARD AS REQUIRED.
3. CLEAN AREAS AFTER RE-POINTING AND MASONRY REPLACEMENT WORK IS COMPLETE. PROTECT ADJACENT AREAS OF MASONRY FROM THE CLEANING CHEMICALS AS REQUIRED. BLEND TO MATCH EXISTING ADJACENT MASONRY.
4. PREPARE MOCK-UPS FOR THE FOLLOWING WORK ITEMS:
 - MORTAR JOINT CLEANING AND REMOVAL OF OLD MORTAR AND SEALANT FOR EACH JOINT TYPE
 - MORTAR JOINT RE-POINTING WITH REPLACEMENT MORTAR MIX FOR EACH JOINT TYPE
 - BRICK REPLACEMENT
 - DUTCHMAN STONE REPAIR.

REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MOCK-UPS. WORK SHALL PROCEED ONLY AFTER MOCK-UPS ARE APPROVED. ARCHITECT/ENGINEER MAY STOP WORK IF IT IS DETERMINED THAT WORK IS NOT BEING PERFORMED IN ACCORDANCE WITH THE APPROVED MOCK-UPS.

5. PROVIDE SAMPLES OF REPLACEMENT BRICK, STONE AND EACH RE-POINTING MORTAR PRIOR TO THE START OF WORK.
6. CONTRACTOR SHALL HAVE TESTS PERFORMED ON REPRESENTATIVE MORTAR SAMPLES TAKEN FROM THE EXISTING MORTAR JOINTS FOR EACH MORTAR TYPE. TESTS SHALL BE MADE TO DETERMINE THE COMPONENTS AND PROPORTIONS OF THE EXISTING MORTAR FOR MATCHING OF NEW MORTAR TO EXISTING. REFER TO THE WRITTEN SPECIFICATIONS FOR THE TESTING REQUIREMENTS.
7. PROTECT THE BUILDING FROM THE DELETERIOUS EFFECTS OF CLEANING CHEMICALS DURING THE COURSE OF THE WORK. DO NOT DAMAGE EXISTING PORTIONS OF THE BUILDING THAT REMAIN.
8. THE SIDEWALKS AND ALLEYS AROUND THIS BUILDING WILL BE CLOSED TO PEDESTRIAN TRAFFIC THROUGHOUT THE COURSE OF THIS PROJECT. HOWEVER, ROADWAYS WILL LIKELY BE LEFT OPEN. CONTRACTOR SHALL PROVIDE FOR THE PROTECTION AND SAFETY OF THE PUBLIC FOR THE DURATION OF THE PROJECT. OVERHEAD PROTECTION SHALL BE PROVIDED AT ALL TIMES. CONTRACTOR SHALL SUBMIT AN OVERHEAD PROTECTION PLAN PRIOR TO THE START OF WORK.
9. PLANTINGS AND TREES AROUND THESE BUILDING SHALL BE PROTECTED ACCORDING TO THE REQUIREMENTS PROVIDED BY THE OWNER.
10. REMOVE AND REPLACE BRICK OR STONE THAT IS INADVERTENTLY DAMAGED IN THE EXECUTION OF THE MASONRY RESTORATION WORK. AT NO ADDITIONAL EXPENSE TO OWNER.
11. CLEAN, PREPARE, PRIME AND REPAINT EXISTING STEEL AS INDICATED ON THE ELEVATIONS. REPORT SEVERELY DETERIORATED STEEL TO THE ENGINEER BEFORE REPAINTING. NOTE THAT THE EXISTING PAINT ON THE LINTELS MAY CONTAIN LEAD. PRECAUTIONS SHALL BE TAKEN IN REMOVING AND DISPOSING OF THE EXISTING PAINT DURING PREPARATION OF THE LINTELS FOR REPAINTING.
12. THE ELEVATION DRAWINGS SHOW THE GENERAL LAYOUT OF THE FACADE OF THE BUILDING. IT SHOULD BE ANTICIPATED THAT SOME SLIGHT VARIATIONS WILL BE ENCOUNTERED BETWEEN THE DRAWN ELEVATIONS AND THE ACTUAL BUILDING FACADE ELEMENTS. FIELD VERIFY AS REQUIRED TO VERIFY THE EXACT SCOPE OF THE FACADE MASONRY. FIELD VERIFY THE EXACT MASONRY MATERIALS FOUND ON THE BUILDING INCLUDING BRICK, STONE, TERRA COTTA. REPORT MATERIALS THAT MAY DIFFER FROM THE ELEVATIONS DRAWINGS.
13. CONTRACTOR SHALL TAKE ALL MEANS NECESSARY TO PROTECT THE BUILDINGS WITHIN AND AROUND THE PROJECT SITE, INCLUDING PROVIDING APPROPRIATIVE FILTER MEDIA ON ALL AIR INTAKES ON THE BUILDING AND THE ROOF. REPORT TO THE PROJECT MANAGER AND ENGINEER THAT ALL AIR INTAKES HAVE BEEN IDENTIFIED AND PROTECTED AGAINST THE INTRUSION OF DUST AND DEBRIS.
14. GRINDING, SANDING AND ANY DUST GENERATING EQUIPMENT SHALL BE EQUIPPED WITH A DUST COLLECTION SYSTEM AT ALL TIMES DURING THE COURSE OF THE WORK TO PREVENT AIRBORNE DUST AND DEBRIS IN AND AROUND THE PROJECT SITE. PROJECT MANAGER OR ENGINEER MAY STOP THE WORK IF DUST COLLECTION IS DEEMED INADEQUATE.
15. WHERE THE EXISTING MASONRY IS COVERED WITH CEMENT BASED PARING AND REPOINTING OR UNIT REPLACEMENT IS REQUIRED, REPAIR THE REPAIRED AREA TO MATCH EXISTING. REPAINT WITH COLOR TO MATCH EXISTING.



UPPER SOUTHEAST ELEVATION

1/8" = 1'-0"

EAST ELEVATION

1. CLEAN AND RECAULK SKYWARD JOINTS 100%.

LOWER SOUTHEAST ELEVATION

1/8" = 1'-0"

EAST ELEVATION

1. CLEAN AND RECAULK SKYWARD JOINTS 100%.

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CERTIFICATION

TOWER FACADE
MAINTENANCE PACKAGE

The Grand Reserve

925 Grand Boulevard
Kansas City, MO 64198

Project No.: LEI #1851
Drawn By: MJL
Checked By:
Scale: See Drawing
Issue Date: May 3, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

NORTHEAST ELEVATION
MASONRY REPAIR
S606-T

MASONRY REPAIR GENERAL NOTES

GENERAL SCOPE OF THE EXTERIOR MASONRY REPAIRS

THE ELEVATION DRAWINGS SHOW REPAIR PROCEDURES FOR THE VARIOUS MASONRY DETERIORATION ON THE EXTERIOR FACADE OF THE BUILDING. THIS INCLUDES REPAIR OF BRICK MASONRY, STONE, AND TERRA COTTA. THE DATA USED TO PREPARE THESE DRAWINGS WAS GATHERED FROM THE GROUND USING TELEPHOTO PHOTOGRAPHY. CONTRACTOR SHALL DETERMINE THE SCOPE OF THE VARIOUS REPAIRS INDICATED ON THE ELEVATIONS BY MEANS OF AN ARMS-LENGTH SURVEY OF THE ENTIRE EXTERIOR OF THE BUILDING USING AN AERIAL LIFT OR SWING STAGE PLATFORM OR OTHER MEANS AS DETERMINED BY THE CONTRACTOR. SUBMIT THE RESULTS OF THE SURVEY IN GRAPHICAL FORM TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO THE START OF THE REPAIR WORK.

CONTRACTOR SHALL DOCUMENT MASONRY DETERIORATION DISCOVERED DURING THE COURSE OF THE WORK AND MAKE REPAIRS AS NEEDED. WHETHER SHOWING OR NOT, FOLLOWING THE REPAIR PROCEDURES INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. REPORT SUCH AREAS TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.

MASONRY REPAIR GENERAL NOTES

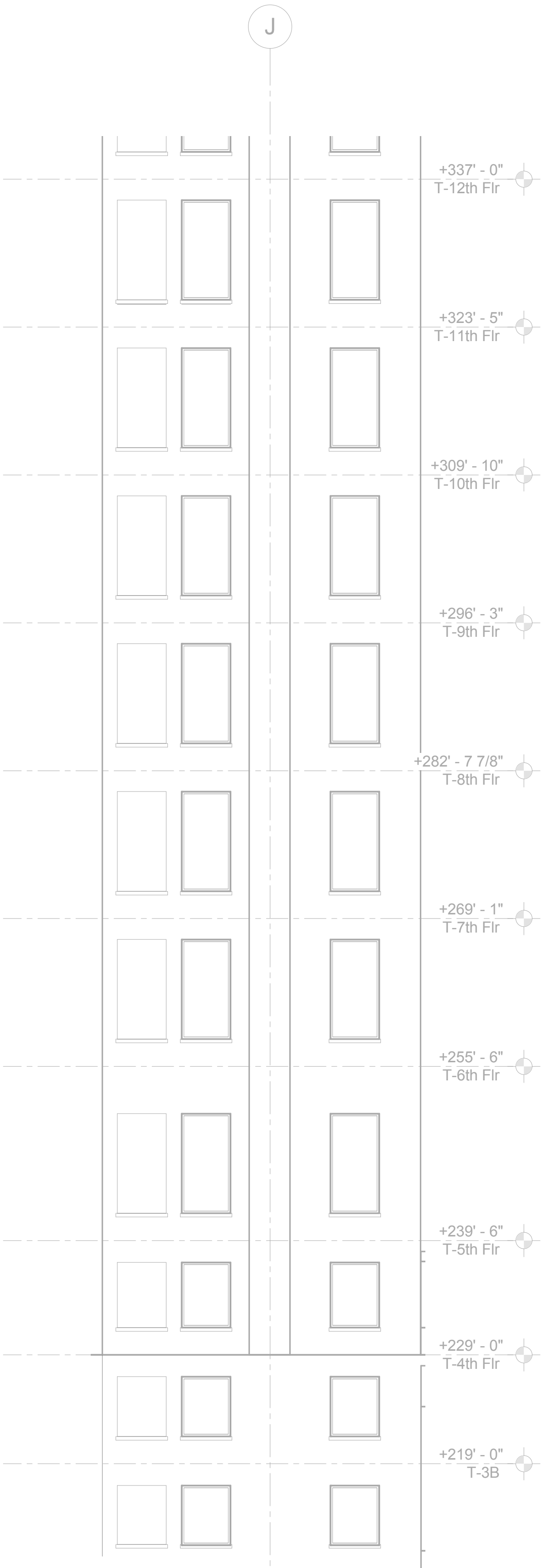
1. REMOVE EXTRANEOUS METAL ATTACHMENTS, AND UTILITY CONDUITS AND PIPING. ENSURE THAT EXTRANEOUS UTILITY ATTACHMENTS ARE ABANDON BEFORE REMOVAL. DO NOT REMOVE WALL ANCHORS THAT SECURE BUILDING COMPONENTS. FIELD VERIFY THE LOCATION OF SUCH ANCHORS BEFORE WORK BEGINS.
2. CLEAN THE MASONRY LIMESTONE ON THE SOUTH AND WEST ELEVATIONS IN THEIR ENTIRETY. USE THE MILDTEST CLEANING SOLUTION THAT WILL ACCOMPLISH THE CLEANING TO A SATISFACTORY RESULT. REFER TO THE WRITTEN SPECIFICATIONS FOR CLEANING INFORMATION. PROVIDE A MOCK-UP OR APPROVAL OF A TYPICAL LIMESTONE CLEANING PROCEDURE PRIOR TO THE START OF WIDESPREAD CLEANING. DO NOT USE SPRAY TECHNIQUES UNLESS IT CAN BE DEMONSTRATED THAT THE OVERSPRAY WILL NOT HARM ADJACENT BUILDINGS OR PRESENT A HUMAN HEALTH HAZARD. PROTECT ORNAMENTAL METAL ON THE BUILDING AGAINST DAMAGE FROM CLEANING CHEMICALS.
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REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MOCK-UPS. WORK SHALL PROCEED ONLY AFTER MOCK-UPS ARE APPROVED. ARCHITECT/ENGINEER MAY STOP WORK IF IT IS DETERMINED THAT WORK IS NOT BEING PERFORMED IN ACCORDANCE WITH THE APPROVED MOCK-UPS.

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15. WHERE THE EXISTING MASONRY IS COVERED WITH CEMENT BASED PARKING AND REPOINTING OR UNIT REPLACEMENT IS REQUIRED. REPAIR THE REPAIRED AREA TO MATCH EXISTING. REPAINT WITH COLOR TO MATCH EXISTING.

MASONRY REPAIR KEY NOTES (X)

- A. STONE JOINT RE-POINTING** THIS NOTE SHALL APPLY TO STONE TO STONE JOINTS AND STONE TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE STONE UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING SEALANT AND MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS.
- B. JOINT SEALANT REPLACEMENT** CLEAN AND PREPARE JOINTS AS INDICATED TO RECEIVE NEW JOINT SEALANT. PLACE CLOSED CELL FOAM BACKER ROD BEHIND THE JOINT AND APPLY SEALANT ACCORDING TO THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. WHERE THE ELEVATION KEY NOTES INDICATE CLEANING AND RECAULKING SKYWARD JOINTS, THE CAULK SHALL EXTEND TO THE EDGE OF THE HORIZONTAL LENGTH OF THE JOINT AND SHALL EXTEND DOWN THE VERTICAL LENGTH OF THE JOINT TO THE BOTTOM EDGE OF THE JOINT.
- C. SMILE® STONE SPALL REPAIR** QUANTITIES INDICATED ARE AN ESTIMATE. CONTRACTOR SHALL FIELD VERIFY THE EXACT QUANTITY AND REPAIR ALL SPALLS IDENTIFIED. REMOVE LOOSE AND SPALLED STONE MATERIAL. CLEAN AND BLAST EXPOSED AREA OF THE STEEL TIE BEHIND THE SPALL. COAT THE CLEANED STEEL TIE WITH ANTI-CORROSION AND PRIMER AND THEN PREPARE STONE AND APPLY STONE PATCH MATERIAL ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE WRITTEN SPECIFICATIONS.
WHERE MORE THAN 20% OF THE EXISTING STEEL TIE IS LOST TO CORROSION, PROVIDE TWO REPLACEMENT ANCHORS ON EACH SIDE OF SPALL TO TIE THE STONE PANEL BACK TO THE SUBSTRATE BEHIND IT. USE THE POST-INSTALLED ANCHOR "CIP STONE-GRIP TIE" TYPE 2LD. PATCH HOLE AFTER INSTALLATION. FIELD VERIFY THE BACK-UP MATERIAL AND TEST FOR LOAD CAPACITY OF NEW STONE TIE ANCHORS PRIOR TO INSTALLING. SEE SPECIFICATIONS.
- D. STONE PATCHING** CLEAN AND PATCH REPAIR THE EXISTING STONE WITH THE APPROVED STONE PATCHING MATERIAL AS INDICATED IN THE WRITTEN SPECIFICATIONS TO A WEATHER-TIGHT CONDITION.
- E. STONE REPLACEMENT** REMOVE THE EXISTING DETERIORATED STONE UNIT AND REPLACE WITH A NEW FULL SIZE STONE UNIT. MATCH THE EXISTING STONE UNIT IN SIZE, COLOR, TEXTURE AND CONFIGURATION. RE-POINT WITH MORTAR AROUND THE NEW STONE UNIT AS REQUIRED TO INTEGRATE IT WITH THE SURROUNDING MASONRY. SUBMIT A SAMPLE OF THE NEW STONE MATERIAL PRIOR TO INSTALLATION AS INDICATED IN THE WRITTEN SPECIFICATIONS. ANCHOR THE NEW STONE UNIT TO THE STRUCTURE WITH STAINLESS STEEL ANCHORS TO MATCH THE EXISTING ANCHORS.
- F. STONE CRACK REPAIR** ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.
- G. STONE DUTCHMAN REPAIR** REMOVE DAMAGED STONE MATERIAL TO A SQUARE OR RECTANGULAR SHAPE AND REPLACE THE REMOVED PORTION WITH A NEW STONE PIECE CUT AND SHAPED TO FIT THE REMOVED SHAPE AS TIGHTLY AS POSSIBLE WITH THE SMALLEST GLUE LINE POSSIBLE. GLUE THE DUTCHMAN IN PLACE WITH EPOXY ADHESIVE ACCORDING TO THE WRITTEN SPECIFICATIONS. IF THE REMOVED AREA IS LARGER THAN 8" BY 4", ANCHOR THE SIDES OF THE DUTCHMAN WITH 3/8" MINIMUM STAINLESS STEEL PINS. DUTCHMAN SHALL MATCH THE ADJACENT STONE IN COLOR, TEXTURE AND THICKNESS.
- H. STONE SPANDREL CRACK REPAIR** REMOVE ONE SPANDREL PANEL WITH CRACKS AND PROVIDE PHOTOS AND NOTES ON THE EXISTING ANCHORAGE AND THE CONDITION OF THE SUPPORT ANGLES AT EACH END. REPORT FINDINGS TO THE ARCHITECT.
- I. CORROSION OF STONE SHELF ANGLE REPAIR** REMOVE A PORTION OF THE STONE PANEL WHERE INDICATE AND WHERE STEEL CORROSION OF THE SUPPORTING SHELF ANGLE HAS DAMAGED THE STONE OR THE JOINTS. PROVIDE TEMPORARY SUPPORT OF THE ADJACENT STONE PANELS AROUND AND ABOVE THE REPAIR AREA DURING THE REPAIR PROCESS. REMOVE ENOUGH STONE TO FULLY ACCESS THE CORRODED STEEL ANGLE. MAKE CLEAN STRAIGHT HORIZONTAL AND VERTICAL CUTS THAT MEET AT A 90 DEGREE ANGLE AT INTERSECTIONS. SALVAGE THE STONE PORTION FOR LATER REPLACEMENT ONCE THE STEEL IS REPLACED.
REMOVE AND REPLACE THE CORRODED STEEL ANGLE AND PAINT WITH GALVANIZED PAINT. REPLACE THE SALVAGED STONE PORTION AND ANCHOR SIMILAR TO A DUTCHMAN REPAIR WITH STAINLESS STEEL PINS. CAULK OPEN JOINTS AROUND THE REPLACED PORTION OF STONE AS REQUIRED.
- J. BRICK JOINT RE-POINTING/REPLACEMENT** THIS NOTE SHALL APPLY TO BRICK TO BRICK JOINTS AND BRICK TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE BRICK UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS. REPLACE BRICK UNITS THAT HAVE LOST MORE THAN 10% OF THE SURFACE. REPAIR AND/OR REPAINT BRICK TO MATCH EXISTING AT REPAIR AREAS.
- K. BRICK MASONRY CRACK REPAIR** ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.
- L. ORNAMENTAL EAGLE** CLEAN PAINT AND GRIM FROM THE EXISTING ORNAMENTAL EAGLES LOCATED ON THE ROOF. INSPECT THE CLEANED EAGLES FOR SIGNS OF CORROSION OR DETERIORATION. REPORT FINDINGS TO THE ARCHITECT. REPAIR AS DIRECTED. AFTER REPAIRS, APPLY PRIMER COAT AND PAINT COATINGS AS SPECIFIED BY ARCHITECT. COLOR TO BE DETERMINED BY ARCHITECT AND OWNER.
- M. STEEL ANGLE LINTEL REPAIR** REMOVE BRICK AS REQUIRED TO CLEAN AND PAINT EXISTING STEEL LINTEL. PAINT LINTEL WITH ZINC PAINT AFTER CLEANING CORROSION. REPLACE BRICK AND PAINT TO MATCH ADJACENT COLOR. REPLACE LINTEL WITH SAME SIZE AND CONFIGURATION IF MORE THAN 20% OF THE EXISTING CROSS-SECTION HAS BEEN LOST TO CORROSION.
- N. ORNAMENTAL METAL REPAIR** REMOVE ALL DROPPINGS, BIRD NESTING MATERIAL AND DEBRIS TRAPPED BEHIND THE GRILLES. DROPPINGS MAY BE CONSIDERED HAZARDOUS AND SHOULD BE TREATED APPROPRIATELY. CLEAN, REPAIR AND PAINT ORNAMENTAL GRILLES AT EACH WINDOW ON THE SOUTH AND WEST ELEVATIONS. APPLY PRIMER AND FINISH COAT AS DIRECTED BY THE MANUFACTURER'S INSTRUCTIONS. INSPECT EACH EXISTING ANCHORS AND REPLACE WITH HILTI ADHESIVE ANCHORS IF REQUIRED. PAINT COLOR TO BE SELECTED BY ARCHITECT/OWNER. PROTECT ADJACENT SURFACES DURING CLEANING AND PAINTING WORK.
- O. TERRA COTTA CRACK REPAIR** ROUT THE EXISTING TERRA COTTA CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

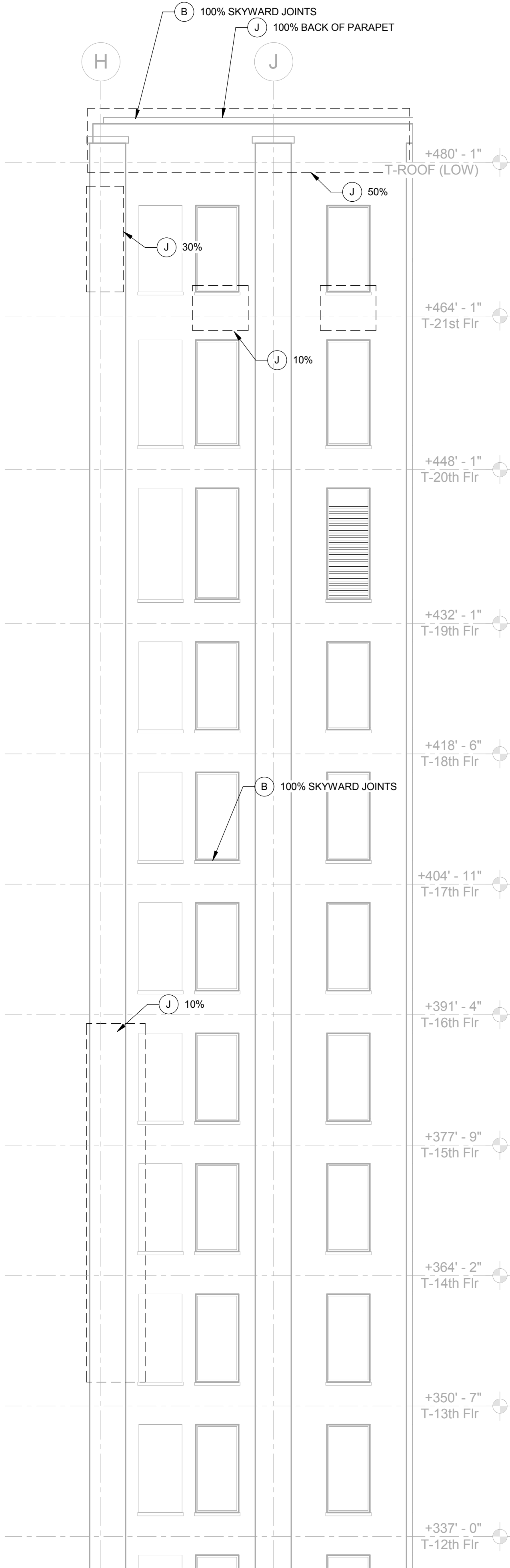


LOWER NORTHEAST ELEVATION

1/8" = 1'-0"

EAST ELEVATION

1. CLEAN AND RECAULK SKYWARD JOINTS 100%.



UPPER NORTHEAST ELEVATION

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CERTIFICATION

TOWER FACADE
MAINTENANCE PACKAGE

The Grand Reserve

925 Grand Boulevard
Kansas City, MO 64198

Project No.: LEI #1851
Drawn By: MJL
Checked By:
Scale: See Drawing
Issue Date: May 3, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

UPPER NORTH ELEVATION
MASONRY REPAIR
S607-T

MASONRY REPAIR GENERAL NOTES

GENERAL SCOPE OF THE EXTERIOR MASONRY REPAIRS

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CONTRACTOR SHALL DOCUMENT MASONRY DETERIORATION DISCOVERED DURING THE COURSE OF THE WORK AND MAKE REPAIRS AS NEEDED WHETHER SHOWN OR NOT, FOLLOWING THE REPAIR PROCEDURES INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. REPORT SUCH AREAS TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.

MASONRY REPAIR GENERAL NOTES

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2. CLEAN THE MASONRY LIMESTONE ON THE SOUTH AND WEST ELEVATIONS IN THEIR ENTIRETY. USE THE MILDEST CLEANING SOLUTION THAT WILL ACCOMPLISH THE CLEANING TO A SATISFACTORY RESULT. REFER TO THE WRITTEN SPECIFICATIONS FOR CLEANING INFORMATION. PROVIDE A MOCK-UP OR APPROVAL OF A TYPICAL LIMESTONE CLEANING PROCEDURE PRIOR TO THE START OF WIDESPREAD CLEANING. DO NOT USE SPRAY TECHNIQUES UNLESS IT CAN BE DEMONSTRATED THAT THE OVERSPRAY WILL NOT HARM ADJACENT BUILDINGS OR PRESENT A HUMAN HEALTH HAZARD. PROTECT ORNAMENTAL METAL ON THE BUILDING AGAINST DAMAGE FROM CLEANING CHEMICALS.

NOTE THAT THIS BUILDING HAS A SIGNIFICANT BIRD POPULATION ROOSTING ON OUTWARD PROJECTIONS AND ON THE ROOF. CLEAN ALL BIRD DROPPINGS AND NESTING MATERIAL PRIOR TO GENERAL FACADE CLEANINGS. TREAT THE BIRD DROPPINGS AS A HEALTH HAZARD AS REQUIRED.

3. CLEAN AREAS AFTER RE-POINTING AND MASONRY REPLACEMENT WORK IS COMPLETE. PROTECT ADJACENT AREAS OF MASONRY FROM THE CLEANING CHEMICALS AS REQUIRED. BLEND TO MATCH EXISTING ADJACENT MASONRY.

4. PREPARE MOCK-UPS FOR THE FOLLOWING WORK ITEMS:
- MORTAR JOINT CLEANING AND REMOVAL OF OLD MORTAR AND SEALANT FOR EACH JOINT TYPE.
- MORTAR JOINT RE-POINTING WITH REPLACEMENT MORTAR MIX FOR EACH JOINT TYPE.
- BRICK REPLACEMENT.
- DUTCHMAN STONE REPAIR.

REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MOCK-UPS. WORK SHALL PROCEED ONLY AFTER MOCK-UPS ARE APPROVED. ARCHITECT/ENGINEER MAY STOP WORK IF IT IS DETERMINED THAT WORK IS NOT BEING PERFORMED IN ACCORDANCE WITH THE APPROVED MOCK-UPS.

5. PROVIDE SAMPLES OF REPLACEMENT BRICK, STONE AND EACH RE-POINTING MORTAR PRIOR TO THE START OF WORK.

6. CONTRACTOR SHALL HAVE TESTS PERFORMED ON REPRESENTATIVE MORTAR SAMPLES TAKEN FROM THE EXISTING MORTAR JOINTS FOR EACH MORTAR TYPE. TESTS SHALL BE MADE TO DETERMINE THE COMPONENTS AND PROPORTIONS OF THE EXISTING MORTAR FOR MATCHING OF NEW MORTAR TO EXISTING. REFER TO THE WRITTEN SPECIFICATIONS FOR THE TESTING REQUIREMENTS.

7. PROTECT THE BUILDING FROM THE DELETERIOUS EFFECTS OF CLEANING CHEMICALS DURING THE COURSE OF THE WORK. DO NOT DAMAGE EXISTING PORTIONS OF THE BUILDING THAT REMAIN.

8. THE SIDEWALKS AND ALLEYS AROUND THIS BUILDING WILL BE CLOSED TO PEDESTRIAN TRAFFIC THROUGHOUT THE COURSE OF THIS PROJECT. HOWEVER, ROADWAYS WILL LIKELY BE LEFT OPEN. CONTRACTOR SHALL PROVIDE FOR THE PROTECTION AND SAFETY OF THE PUBLIC FOR THE DURATION OF THE PROJECT. OVERHEAD PROTECTION SHALL BE PROVIDED AT ALL TIMES. CONTRACTOR SHALL SUBMIT AN OVERHEAD PROTECTION PLAN PRIOR TO THE START OF WORK.

9. PLANTINGS AND TREES AROUND THESE BUILDING SHALL BE PROTECTED ACCORDING TO THE REQUIREMENTS PROVIDED BY THE OWNER.

10. REMOVE AND REPLACE BRICK OR STONE THAT IS INADVERTENTLY DAMAGED IN THE EXECUTION OF THE MASONRY RESTORATION WORK, AT NO ADDITIONAL EXPENSE TO OWNER.

11. CLEAN, PREPARE, PRIME AND REPAINT EXISTING STEEL AS INDICATED ON THE ELEVATIONS. REPORT SEVERELY DETERIORATED STEEL TO THE ENGINEER BEFORE REPAINTING. NOTE THAT THE EXISTING PAINT ON THE LINTELS MAY CONTAIN LEAD. PRECAUTIONS SHALL BE TAKEN IN REMOVING AND DISPOSING OF THE EXISTING PAINT DURING PREPARATION OF THE LINTELS FOR REPAINTING.

12. THE ELEVATION DRAWINGS SHOW THE GENERAL LAYOUT OF THE FACADE OF THE BUILDING. IT SHOULD BE ANTICIPATED THAT SOME SLIGHT VARIATIONS WILL BE ENCOUNTERED BETWEEN THE DRAWN ELEVATIONS AND THE ACTUAL BUILDING FACADE ELEMENTS. FIELD VERIFY AS REQUIRED TO VERIFY THE EXACT SCOPE OF THE FACADE MASONRY. FIELD VERIFY THE EXACT MASONRY MATERIALS FOUND ON THE BUILDING INCLUDING BRICK, STONE, TERRA COTTA. REPORT MATERIALS THAT MAY DIFFER FROM THE ELEVATIONS DRAWINGS.

13. CONTRACTOR SHALL TAKE ALL MEANS NECESSARY TO PROTECT THE BUILDINGS WITHIN AND AROUND THE PROJECT SITE, INCLUDING PROVIDING APPROPRIATIVE FILTER MEDIA ON ALL AIR INTAKES ON THE BUILDING AND THE ROOF. REPORT TO THE PROJECT MANAGER AND ENGINEER THAT ALL AIR INTAKES HAVE BEEN IDENTIFIED AND PROTECTED AGAINST THE INTRUSION OF DUST AND DEBRIS.

14. GRINDING, SANDING AND ANY DUST GENERATING EQUIPMENT SHALL BE EQUIPPED WITH A DUST COLLECTION SYSTEM AT ALL TIMES DURING THE COURSE OF THE WORK TO PREVENT AIRBORNE DUST AND DEBRIS IN AND AROUND THE PROJECT SITE. PROJECT MANAGER OR ENGINEER MAY STOP THE WORK IF DUST COLLECTION IS DEEMED INADEQUATE.

15. WHERE THE EXISTING MASONRY IS COVERED WITH CEMENT BASED PARKING AND REPOINTING OR UNIT REPLACEMENT IS REQUIRED, REPAIR THE REPAIRED AREA TO MATCH EXISTING. REPAINT WITH COLOR TO MATCH EXISTING.

MASONRY REPAIR KEY NOTES

A. STONE JOINT RE-POINTING. THIS NOTE SHALL APPLY TO STONE TO STONE JOINTS AND STONE TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE STONE UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING SEALANT AND MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS.

B. JOINT SEALANT REPLACEMENT. CLEAN AND PREPARE JOINTS AS INDICATED TO RECEIVE NEW JOINT SEALANT. PLACE CLOSED CELL FOAM BACKER ROD BEHIND THE JOINT AND APPLY SEALANT ACCORDING TO THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. WHERE THE ELEVATION KEY NOTES INDICATE CLEANING AND RECAULKING SKYWARD JOINTS, THE CAULK SHALL EXTEND TO THE EDGE OF THE HORIZONTAL LENGTH OF THE JOINT AND SHALL EXTEND DOWN THE VERTICAL LENGTH OF THE JOINT TO THE BOTTOM EDGE OF THE JOINT.

C. "SMILE" STONE SPALL REPAIR. QUANTITIES INDICATED ARE AN ESTIMATE. CONTRACTOR SHALL FIELD VERIFY THE EXACT QUANTITY AND REPAIR ALL SPALLS IDENTIFIED. REMOVE LOOSE AND SPALLED STONE MATERIAL. CLEAN AND BLAST EXPOSED AREA OF THE STEEL TIE BEHIND THE SPALL. COAT THE CLEANED STEEL TIE WITH ANTI-CORROSION AND PRIMER AND THEN PREPARE STONE AND APPLY STONE PATCH MATERIAL ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE WRITTEN SPECIFICATIONS. WHERE MORE THAN 20% OF THE EXISTING STEEL TIE IS LOST TO CORROSION, PROVIDE TWO REPLACEMENT ANCHOR ON EACH SIDE OF SPALL TO TIE THE STONE PANEL BACK TO THE SUBSTRATE BEHIND IT. USE THE POST-INSTALLED ANCHOR "OTP STONE-GRIP TIE" TYPE 2LD. PATCH HOLE AFTER INSTALLATION. FIELD VERIFY THE BACK-UP MATERIAL AND TEST FOR LOAD CAPACITY OF NEW STONE TIE ANCHORS PRIOR TO INSTALLING. SEE SPECIFICATIONS.

D. STONE PATCHING. CLEAN AND PATCH REPAIR THE EXISTING STONE WITH THE APPROVED STONE PATCHING MATERIAL AS INDICATED IN THE WRITTEN SPECIFICATIONS TO A WEATHER-TIGHT CONDITION.

E. STONE REPLACEMENT. REMOVE THE EXISTING DETERIORATED STONE UNIT AND REPLACE WITH A NEW FULL SIZE STONE UNIT. MATCH THE EXISTING STONE UNIT IN SIZE, COLOR, TEXTURE AND CONFIGURATION. RE-POINT WITH MORTAR AROUND THE NEW STONE JOINT AS REQUIRED TO INTEGRATE IT WITH THE SURROUNDING MASONRY. SUBMIT A SAMPLE OF THE NEW STONE MATERIAL PRIOR TO INSTALLATION AS INDICATED IN THE WRITTEN SPECIFICATIONS. ANCHOR THE NEW STONE UNIT TO THE STRUCTURE WITH STAINLESS STEEL ANCHORS TO MATCH THE EXISTING ANCHORS.

F. STONE CRACK REPAIR. ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

G. STONE DUTCHMAN REPAIR. REMOVE DAMAGED STONE MATERIAL TO A SQUARE OR RECTANGULAR SHAPE AND REPLACE THE REMOVED PORTION WITH A NEW STONE PIECE CUT AND SHAPED TO FIT THE REMOVED SHAPE AS TIGHTLY AS POSSIBLE WITH THE SMALLEST GLUE LINE POSSIBLE. GLUE THE DUTCHMAN IN PLACE WITH EPOXY ADHESIVE ACCORDING TO THE WRITTEN SPECIFICATIONS. IF THE REMOVED AREA IS LARGER THAN 4" BY 4", ANCHOR THE SIDES OF THE DUTCHMAN WITH 3/8" MINIMUM STAINLESS STEEL PINS. DUTCHMAN SHALL MATCH THE ADJACENT STONE IN COLOR, TEXTURE AND THICKNESS.

H. STONE SPANDREL CRACK REPAIR. REMOVE ONE SPANDREL PANEL WITH CRACKS AND PROVIDE PHOTOS AND NOTES ON THE EXISTING ANCHORAGE AND THE CONDITION OF THE SUPPORT ANGLES AT EACH END. REPORT FINDINGS TO THE ARCHITECT.

I. CORROSION OF STONE SHELF ANGLE REPAIR. REMOVE A PORTION OF THE STONE PANEL WHERE INDICATE AND WHERE STEEL CORROSION OF THE SUPPORTING SHELF ANGLE HAS DAMAGED THE STONE OR THE JOINTS. PROVIDE TEMPORARY SUPPORT OF THE ADJACENT STONE PANELS AROUND AND ABOVE THE REPAIR AREA DURING THE REPAIR PROCESS. REMOVE ENOUGH STONE TO FULLY ACCESS THE CORRODED STEEL ANGLE. MAKE CLEAN STRAIGHT HORIZONTAL AND VERTICAL CUTS THAT MEET AT A 90 DEGREE ANGLE AT INTERSECTIONS. SALVAGE THE STONE PORTION FOR LATER REPLACEMENT ONCE THE STEEL IS REPLACED.

REMOVE AND REPLACE THE CORRODED STEEL ANGLE AND PAINT WITH GALVANIZED PAINT. REPLACE THE SALVAGED STONE PORTION AND ANCHOR SIMILAR TO A DUTCHMAN REPAIR WITH STAINLESS STEEL PINS. CAULK OPEN JOINTS AROUND THE REPLACED PORTION OF STONE AS REQUIRED.

J. BRICK JOINT RE-POINTING/REPLACEMENT. THIS NOTE SHALL APPLY TO BRICK TO BRICK JOINTS AND BRICK TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE BRICK UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS. REPLACE BRICK UNITS THAT HAVE LOST MORE THAN 10% OF THE SURFACE. REPAIR AND/OR REPAINT BRICK TO MATCH EXISTING AT REPAIR AREAS.

K. BRICK MASONRY CRACK REPAIR. ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

L. ORNAMENTAL EAGLE. CLEAN PAINT AND GRIM FROM THE EXISTING ORNAMENTAL EAGLES LOCATED ON THE ROOF. INSPECT THE CLEANED EAGLES FOR SIGNS OF CORROSION OR DETERIORATION. REPORT FINDINGS TO THE ARCHITECT. REPAIR AS DIRECTED. AFTER REPAIRS, APPLY PRIME COAT AND PAINT, COATINGS AS SPECIFIED BY ARCHITECT. COLOR TO BE DETERMINED BY ARCHITECT AND OWNER.

M. STEEL ANGLE LINTEL REPAIR. REMOVE BRICK AS REQUIRED TO CLEAN AND PAINT EXISTING STEEL LINTEL. PAINT LINTEL WITH ZINC PAINT AFTER CLEANING CORROSION. REPLACE BRICK AND PAINT TO MATCH ADJACENT COLOR. REPLACE LINTEL WITH SAME SIZE AND CONFIGURATION IF MORE THAN 20% OF THE EXISTING CROSS-SECTION HAS BEEN LOST TO CORROSION.

N. ORNAMENTAL METAL REPAIR. REMOVE ALL DROPPINGS, BIRD NESTING MATERIAL AND DEBRIS TRAPPED BEHIND THE GRILLES. DROPPINGS MAY BE CONSIDERED HAZARDOUS AND SHOULD BE TREATED APPROPRIATELY. CLEAN, REPAIR AND PAINT ORNAMENTAL GRILLES AT EACH WINDOW ON THE SOUTH AND WEST ELEVATIONS. APPLY PRIMER AND FINISH COAT AS DIRECTED BY THE MANUFACTURER'S INSTRUCTIONS. INSPECT EACH EXISTING ANCHORS AND REPLACE WITH HLT-1 ADHESIVE ANCHORS IF REQUIRED. PAINT COLOR TO BE SELECTED BY ARCHITECT/OWNER. PROTECT ADJACENT SURFACES DURING CLEANING AND PAINTING WORK.

O. TERRA COTTA CRACK REPAIR. ROUT THE EXISTING TERRA COTTA CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

UPPER NORTH ELEVATION

1/8" = 1'-0"

NORTH ELEVATION

- CLEAN AND RECAULK SKYWARD JOINTS 100%.

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CERTIFICATION

TOWER FACADE
MAINTENANCE PACKAGE

The Grand Reserve

925 Grand Boulevard
Kansas City, MO 64198

Project No.: LEI #1851
Drawn By: Mjl
Checked By:
Scale: See Drawing
Issue Date: May 3, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

LOWER NORTH ELEVATION
MASONRY REPAIR
S608-T

MASONRY REPAIR GENERAL NOTES

GENERAL SCOPE OF THE EXTERIOR MASONRY REPAIRS

THE ELEVATION DRAWINGS SHOW REPAIR PROCEDURES FOR THE VARIOUS MASONRY DETERIORATION ON THE EXTERIOR FACADE OF THE BUILDING. THIS INCLUDES REPAIR OF BRICK MASONRY, STONE, AND TERRA COTTA. THE DATA USED TO PREPARE THESE DRAWINGS WAS GATHERED FROM THE GROUND USING TELEPHOTO PHOTOGRAPHY. CONTRACTOR SHALL DETERMINE THE SCOPE OF THE VARIOUS REPAIRS INDICATED ON THE ELEVATIONS BY MEANS OF AN ARMS-LENGTH SURVEY OF THE ENTIRE EXTERIOR OF THE BUILDING USING AN AERIAL LIFT OR SWING STAGE PLATFORM OR OTHER MEANS AS DETERMINED BY THE CONTRACTOR. SUBMIT THE RESULTS OF THE SURVEY IN GRAPHICAL FORM TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO THE START OF THE REPAIR WORK.

CONTRACTOR SHALL DOCUMENT MASONRY DETERIORATION DISCOVERED DURING THE COURSE OF THE WORK AND MAKE REPAIRS AS NEEDED WHETHER SHOWN OR NOT. FOLLOWING THE REPAIR PROCEDURES INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. REPORT SUCH AREAS TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.

MASONRY REPAIR GENERAL NOTES

1. REMOVE EXTRANEOUS METAL ATTACHMENTS, AND UTILITY CONDUITS AND PIPING. ENSURE THAT EXTRANEOUS UTILITY ATTACHMENTS ARE ABANDON BEFORE REMOVAL. DO NOT REMOVE WALL ANCHORS THAT SECURE BUILDING COMPONENTS. FIELD VERIFY THE LOCATION OF SUCH ANCHORS BEFORE WORK BEGINS.
2. CLEAN THE MASONRY LIMESTONE ON THE SOUTH AND WEST ELEVATIONS IN THEIR ENTIRETY. USE THE MILDEST CLEANING SOLUTION THAT WILL ACCOMPLISH THE CLEANING TO A SATISFACTORY RESULT. REFER TO THE WRITTEN SPECIFICATIONS FOR CLEANING INFORMATION. PROVIDE A MOCK-UP OR APPROVAL OF A TYPICAL LIMESTONE CLEANING PROCEDURE PRIOR TO THE START OF WIDESPREAD CLEANING. DO NOT USE SPRAY TECHNIQUES UNLESS IT CAN BE DEMONSTRATED THAT THE OVERSPRAY WILL NOT HARM ADJACENT BUILDINGS OR PRESENT A HUMAN HEALTH HAZARD. PROTECT ORNAMENTAL METAL ON THE BUILDING AGAINST DAMAGE FROM CLEANING CHEMICALS. NOTE THAT THIS BUILDING HAS A SIGNIFICANT BIRD POPULATION ROOSTING ON OUTWARD PROJECTIONS AND ON THE ROOF. CLEAN ALL BIRD DROPPINGS AND NESTING MATERIAL PRIOR TO GENERAL FACADE CLEANING. TREAT THE BIRD DROPPINGS AS A HEALTH HAZARD AS REQUIRED.
3. CLEAN AREAS AFTER RE-POINTING AND MASONRY REPLACEMENT WORK IS COMPLETE. PROTECT ADJACENT AREAS OF MASONRY FROM THE CLEANING CHEMICALS AS REQUIRED. BLEND TO MATCH EXISTING ADJACENT MASONRY.
4. PREPARE MOCK-UPS FOR THE FOLLOWING WORK ITEMS:
 - MORTAR JOINT CLEANING AND REMOVAL OF OLD MORTAR AND SEALANT FOR EACH JOINT TYPE.
 - MORTAR JOINT RE-POINTING WITH REPLACEMENT MORTAR MIX FOR EACH JOINT TYPE.
 - BRICK REPLACEMENT.
 - DUTCHMAN STONE REPAIR.

REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MOCK-UPS. WORK SHALL PROCEED ONLY AFTER MOCK-UPS ARE APPROVED. ARCHITECT/ENGINEER MAY STOP WORK IF IT IS DETERMINED THAT WORK IS NOT BEING PERFORMED IN ACCORDANCE WITH THE APPROVED MOCK-UPS.

5. PROVIDE SAMPLES OF REPLACEMENT BRICK, STONE AND EACH RE-POINTING MORTAR PRIOR TO THE START OF WORK.
6. CONTRACTOR SHALL HAVE TESTS PERFORMED ON REPRESENTATIVE MORTAR SAMPLES TAKEN FROM THE EXISTING MORTAR JOINTS FOR EACH MORTAR TYPE. TESTS SHALL BE MADE TO DETERMINE THE COMPONENTS AND PROPORTIONS OF THE EXISTING MORTAR FOR MATCHING OF NEW MORTAR TO EXISTING. REFER TO THE WRITTEN SPECIFICATIONS FOR THE TESTING REQUIREMENTS.
7. PROTECT THE BUILDING FROM THE DELETERIOUS EFFECTS OF CLEANING CHEMICALS DURING THE COURSE OF THE WORK. DO NOT DAMAGE EXISTING PORTIONS OF THE BUILDING THAT REMAIN.
8. THE SIDEWALKS AND ALLEYS AROUND THIS BUILDING WILL BE CLOSED TO PEDESTRIAN TRAFFIC THROUGHOUT THE COURSE OF THIS PROJECT, HOWEVER, ROADWAYS WILL LIKELY BE LEFT OPEN. CONTRACTOR SHALL PROVIDE FOR THE PROTECTION AND SAFETY OF THE PUBLIC FOR THE DURATION OF THE PROJECT. OVERHEAD PROTECTION SHALL BE PROVIDED AT ALL TIMES. CONTRACTOR SHALL SUBMIT AN OVERHEAD PROTECTION PLAN PRIOR TO THE START OF WORK.
9. PLANTINGS AND TREES AROUND THESE BUILDING SHALL BE PROTECTED ACCORDING TO THE REQUIREMENTS PROVIDED BY THE OWNER.
10. REMOVE AND REPLACE BRICK OR STONE THAT IS INADVERTENTLY DAMAGED IN THE EXECUTION OF THE MASONRY RESTORATION WORK, AT NO ADDITIONAL EXPENSE TO OWNER.
11. CLEAN, PREPARE, PRIME AND REPAINT EXISTING STEEL AS INDICATED ON THE ELEVATIONS. REPORT SEVERELY DETERIORATED STEEL TO THE ENGINEER BEFORE REPAINTING. NOTE THAT THE EXISTING PAINT ON THE LINTELS MAY CONTAIN LEAD. PRECAUTIONS SHALL BE TAKEN IN REMOVING AND DISPOSING OF THE EXISTING PAINT DURING PREPARATION OF THE LINTELS FOR REPAINTING.
12. THE ELEVATION DRAWINGS SHOW THE GENERAL LAYOUT OF THE FACADE OF THE BUILDING. IT SHOULD BE ANTICIPATED THAT SOME SLIGHT VARIATIONS WILL BE ENCOUNTERED BETWEEN THE DRAWN ELEVATIONS AND THE ACTUAL BUILDING FACADE ELEMENTS. FIELD VERIFY AS REQUIRED TO VERIFY THE EXACT SCOPE OF THE FACADE MASONRY. FIELD VERIFY THE EXACT MASONRY MATERIALS FOUND ON THE BUILDING INCLUDING BRICK, STONE, TERRA COTTA. REPORT MATERIALS THAT MAY DIFFER FROM THE ELEVATIONS DRAWINGS.
13. CONTRACTOR SHALL TAKE ALL MEANS NECESSARY TO PROTECT THE BUILDINGS WITHIN AND AROUND THE PROJECT SITE, INCLUDING PROVIDING APPROPRIATE FILTER MEDIA ON ALL AIR INTAKES ON THE BUILDING AND THE ROOF. REPORT TO THE PROJECT MANAGER AND ENGINEER THAT ALL AIR INTAKES HAVE BEEN IDENTIFIED AND PROTECTED AGAINST THE INTRUSION OF DUST AND DEBRIS.
14. GRINDING, SANDING AND ANY DUST GENERATING EQUIPMENT SHALL BE EQUIPPED WITH A DUST COLLECTION SYSTEM AT ALL TIMES DURING THE COURSE OF THE WORK TO PREVENT AIRBORNE DUST AND DEBRIS IN AND AROUND THE PROJECT SITE. PROJECT MANAGER OR ENGINEER MAY STOP THE WORK IF DUST COLLECTION IS DEEMED INADEQUATE.
15. WHERE THE EXISTING MASONRY IS COVERED WITH CEMENT BASED PARKING AND REPOINTING OR UNIT REPLACEMENT IS REQUIRED, RE-PARGE THE REPAIRED AREA TO MATCH EXISTING. REPAINT WITH COLOR TO MATCH EXISTING.

MASONRY REPAIR KEY NOTES (X)

- A. STONE JOINT RE-POINTING.** THIS NOTE SHALL APPLY TO STONE TO STONE JOINTS AND STONE TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE STONE UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING SEALANT AND MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS.
- B. JOINT SEALANT REPLACEMENT.** CLEAN AND PREPARE JOINTS AS INDICATED TO RECEIVE NEW JOINT SEALANT. PLACE CLOSED CELL FOAM BACKER ROD BEHIND THE JOINT AND APPLY SEALANT ACCORDING TO THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. WHERE THE ELEVATION KEY NOTES INDICATE CLEANING AND RECAULKING SKYWARD JOINTS, THE CAULK SHALL EXTEND TO THOSE OF THE HORIZONTAL LENGTH OF THE JOINT AND SHALL EXTEND DOWN THE VERTICAL LENGTH OF THE JOINT TO THE BOTTOM EDGE OF THE JOINT.
- C. "SMILE" STONE SPALL REPAIR.** QUANTITIES INDICATED ARE AN ESTIMATE. CONTRACTOR SHALL FIELD VERIFY THE EXACT QUANTITY AND REPAIR ALL SPALLS IDENTIFIED. REMOVE LOOSE AND SPALLED STONE MATERIAL. CLEAN AND BLAST EXPOSED AREA OF THE STEEL TIE BEHIND THE SPALL. COAT THE CLEANED STEEL TIE WITH ANTI-CORROSION AND PRIMER AND THEN PREPARE STONE AND APPLY STONE PATCH MATERIAL ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE WRITTEN SPECIFICATIONS. WHERE MORE THAN 20% OF THE EXISTING STEEL TIE IS LOST TO CORROSION, PROVIDE TWO REPLACEMENT ANCHORS ON EACH SIDE OF SPALL TO TIE THE STONE PANEL BACK TO THE SUBSTRATE BEHIND IT. USE THE POST-INSTALLED ANCHOR "CTP STONE-GRIP TIE" TYPE 2LD PATCH HOLE AFTER INSTALLATION. FIELD VERIFY THE BACK-UP MATERIAL AND TEST FOR LOAD CAPACITY OF NEW STONE TIE ANCHORS PRIOR TO INSTALLING. SEE SPECIFICATIONS.
- D. STONE PATCHING.** CLEAN AND PATCH REPAIR THE EXISTING STONE WITH THE APPROVED STONE PATCHING MATERIAL AS INDICATED IN THE WRITTEN SPECIFICATIONS TO A WEATHER-TIGHT CONDITION.
- E. STONE REPLACEMENT.** REMOVE THE EXISTING DETERIORATED STONE UNIT AND REPLACE WITH A NEW FULL SIZE STONE UNIT. MATCH THE EXISTING STONE UNIT IN SIZE, COLOR, TEXTURE AND CONFIGURATION. RE-POINT WITH MORTAR AROUND THE NEW STONE UNIT AS REQUIRED TO INTEGRATE IT WITH THE SURROUNDING MASONRY. SUBMIT A SAMPLE OF THE NEW STONE MATERIAL PRIOR TO INSTALLATION AS INDICATED IN THE WRITTEN SPECIFICATIONS. ANCHOR THE NEW STONE UNIT TO THE STRUCTURE WITH STAINLESS STEEL ANCHORS TO MATCH THE EXISTING ANCHORS.
- F. STONE CRACK REPAIR.** ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.
- G. STONE DUTCHMAN REPAIR.** REMOVE DAMAGED STONE MATERIAL TO A SQUARE OR RECTANGULAR SHAPE AND REPLACE THE REMOVED PORTION WITH A NEW STONE PIECE CUT AND SHAPED TO FIT THE REMOVED POPE AS TIGHTLY AS POSSIBLE WITH THE SMALLEST GLUE LINE POSSIBLE. GLUE THE DUTCHMAN IN PLACE WITH EPOXY ADHESIVE ACCORDING TO THE WRITTEN SPECIFICATIONS. IF THE REMOVED AREA IS LARGER THAN 4" BY 4", ANCHOR THE SIDES OF THE DUTCHMAN WITH 3/8" MINIMUM STAINLESS STEEL PINS. DUTCHMAN SHALL MATCH THE ADJACENT STONE IN COLOR, TEXTURE AND THICKNESS.
- H. STONE SPANDREL CRACK REPAIR.** REMOVE ONE SPANDREL PANEL WITH CRACKS AND PROVIDE PHOTOS AND NOTES ON THE EXISTING ANCHORAGE AND THE CONDITION OF THE SUPPORT ANGLES AT EACH END. REPORT FINDINGS TO THE ARCHITECT.
- I. CORROSION OF STONE SHELF ANGLE REPAIR.** REMOVE A PORTION OF THE STONE PANEL WHERE INDICATE AND WHERE STEEL CORROSION OF THE SUPPORTING SHELF ANGLE HAS DAMAGED THE STONE OR THE JOINTS. PROVIDE TEMPORARY SUPPORT OF THE ADJACENT STONE PANELS AROUND AND ABOVE THE REPAIR AREA DURING THE REPAIR PROCESS. REMOVE ENOUGH STONE TO FULLY ACCESS THE CORRODED STEEL ANGLE. MAKE CLEAN STRAIGHT HORIZONTAL AND VERTICAL CUTS THAT MEET AT A 90 DEGREE ANGLE AT INTERSECTIONS. SALVAGE THE STONE PORTION FOR LATER REPLACEMENT ONCE THE STEEL IS REPLACED. REMOVE AND REPLACE THE CORRODED STEEL ANGLE AND PAINT WITH GALVANIZED PAINT. REPLACE THE SALVAGED STONE PORTION AND ANCHOR SIMILAR TO A DUTCHMAN REPAIR WITH STAINLESS STEEL PINS. CAULK OPEN JOINTS AROUND THE REPLACED PORTION OF STONE AS REQUIRED.
- J. BRICK JOINT RE-POINTING/REPLACEMENT.** THIS NOTE SHALL APPLY TO BRICK TO BRICK JOINTS AND BRICK TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE BRICK UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS. REPLACE BRICK UNITS THAT HAVE LOST MORE THAN 10% OF THE SURFACE. RE-PARGE AND/OR REPAINT BRICK TO MATCH EXISTING AT REPAIR AREAS.
- K. BRICK MASONRY CRACK REPAIR.** ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.
- L. ORNAMENTAL EAGLE.** CLEAN PAINT AND GRIM FROM THE EXISTING ORNAMENTAL EAGLES LOCATED ON THE ROOF. INSPECT THE CLEANED EAGLES FOR SIGNS OF CORROSION OR DETERIORATION. REPORT FINDINGS TO THE ARCHITECT. REPAIR AS DIRECTED. AFTER REPAIRS, APPLY PRIME COAT AND PAINT, COATINGS AS SPECIFIED BY ARCHITECT. COLOR TO BE DETERMINED BY ARCHITECT AND OWNER.
- M. STEEL ANGLE LINTEL REPAIR.** REMOVE BRICK AS REQUIRED TO CLEAN AND PAINT EXISTING STEEL LINTEL. PAINT LINTEL WITH ZINC PAINT AFTER CLEANING CORROSION. REPLACE BRICK AND PAINT TO MATCH ADJACENT COLOR. REPLACE LINTEL WITH SAME SIZE AND CONFIGURATION IF MORE THAN 20% OF THE EXISTING CROSS-SECTION HAS BEEN LOST TO CORROSION.
- N. ORNAMENTAL METAL REPAIR.** REMOVE ALL DROPPINGS, BIRD NESTING MATERIAL AND DEBRIS TRAPPED BEHIND THE GRILLES. DROPPINGS MAY BE CONSIDERED HAZARDOUS AND SHOULD BE TREATED APPROPRIATELY. CLEAN, REPAIR AND PAINT ORNAMENTAL GRILLES AT EACH WINDOW ON THE SOUTH AND WEST ELEVATIONS. APPLY PRIMER AND FINISH COAT AS DIRECTED BY THE MANUFACTURER'S INSTRUCTIONS. INSPECT EACH EXISTING ANCHORS AND REPLACE WITH HILTI ADHESIVE ANCHORS IF REQUIRED. PAINT COLOR TO BE SELECTED BY ARCHITECT/OWNER. PROTECT ADJACENT SURFACES DURING CLEANING AND PAINTING WORK.
- O. TERRA COTTA CRACK REPAIR.** ROUT THE EXISTING TERRA COTTA CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

LOWER NORTH ELEVATION

1/8" = 1'-0"

NORTH ELEVATION

1. CLEAN AND RECAULK SKYWARD JOINTS 100%.

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CERTIFICATION

TOWER FACADE
MAINTENANCE PACKAGE

The Grand Reserve

925 Grand Boulevard
Kansas City, MO 64198

Project No.: LEI #1851
Drawn By: MJL
Checked By: MJL
Scale: See Drawing
Issue Date: May 3, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

UPPER WEST ELEVATION
MASONRY REPAIR
S609-T

MASONRY REPAIR GENERAL NOTES

GENERAL SCOPE OF THE EXTERIOR MASONRY REPAIRS

THE ELEVATION DRAWINGS SHOW REPAIR PROCEDURES FOR THE VARIOUS MASONRY DETERIORATION ON THE EXTERIOR FACADE OF THE BUILDING. THIS INCLUDES REPAIR OF BRICK MASONRY, STONE, AND TERRA COTTA. THE DATA USED TO PREPARE THESE DRAWINGS WAS GATHERED FROM THE GROUND USING TELEPHOTO PHOTOGRAPHY. CONTRACTOR SHALL DETERMINE THE SCOPE OF THE VARIOUS REPAIRS INDICATED ON THE ELEVATIONS BY MEANS OF AN ARMS-LENGTH SURVEY OF THE ENTIRE EXTERIOR OF THE BUILDING USING AN AERIAL LIFT OR SINGING STAGE PLATFORM OR OTHER MEANS AS DETERMINED BY THE CONTRACTOR. SUBMIT THE RESULTS OF THE SURVEY IN GRAPHICAL FORM TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO THE START OF THE REPAIR WORK.

CONTRACTOR SHALL DOCUMENT MASONRY DETERIORATION DISCOVERED DURING THE COURSE OF THE WORK AND MAKE REPAIRS AS NEEDED WHETHER SHOWN OR NOT, FOLLOWING THE REPAIR PROCEDURES INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. REPORT SUCH AREAS TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.

MASONRY REPAIR GENERAL NOTES

1. REMOVE EXTRANEOUS METAL ATTACHMENTS, AND UTILITY CONDUITS AND PIPING. ENSURE THAT EXTRANEOUS UTILITY ATTACHMENTS ARE ABANDON BEFORE REMOVAL. DO NOT REMOVE WALL ANCHORS THAT SECURE BUILDING COMPONENTS. FIELD VERIFY THE LOCATION OF SUCH ANCHORS BEFORE WORK BEGINS.
2. CLEAN THE MASONRY LIMESTONE ON THE SOUTH AND WEST ELEVATIONS IN THEIR ENTIRETY. USE THE MILDEST CLEANING SOLUTION THAT WILL ACCOMPLISH THE CLEANING TO A SATISFACTORY RESULT. REFER TO THE WRITTEN SPECIFICATIONS FOR CLEANING INFORMATION. PROVIDE A MOCK-UP OR APPROVAL OF A TYPICAL LIMESTONE CLEANING PROCEDURE PRIOR TO THE START OF WIDESPREAD CLEANING. DO NOT USE SPRAY TECHNIQUES UNLESS IT CAN BE DEMONSTRATED THAT THE OVERSPRAY WILL NOT HARM ADJACENT BUILDINGS OR PRESENT A HUMAN HEALTH HAZARD. PROTECT ORNAMENTAL METAL ON THE BUILDING AGAINST DAMAGE FROM CLEANING CHEMICALS.
NOTE THAT THIS BUILDING HAS A SIGNIFICANT BIRD POPULATION ROOSTING ON OUTWARD PROJECTIONS AND ON THE ROOF. CLEAN ALL BIRD DROPPINGS AND NESTING MATERIAL PRIOR TO GENERAL FACADE CLEANING. TREAT THE BIRD DROPPINGS AS A HEALTH HAZARD AS REQUIRED.
3. CLEAN AREAS AFTER RE-POINTING AND MASONRY REPLACEMENT WORK IS COMPLETE. PROTECT ADJACENT AREAS OF MASONRY FROM THE CLEANING CHEMICALS AS REQUIRED. BLEND TO MATCH EXISTING ADJACENT MASONRY.
4. PREPARE MOCK-UPS FOR THE FOLLOWING WORK ITEMS:
 - MORTAR JOINT CLEANING AND REMOVAL OF OLD MORTAR AND SEALANT FOR EACH JOINT TYPE.
 - MORTAR JOINT RE-POINTING WITH REPLACEMENT MORTAR MIX FOR EACH JOINT TYPE.
 - BRICK REPLACEMENT.
 - DUTCHMAN STONE REPAIR.

REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MOCK-UPS. WORK SHALL PROCEED ONLY AFTER MOCK-UPS ARE APPROVED. ARCHITECT/ENGINEER MAY STOP WORK IF IT IS DETERMINED THAT WORK IS NOT BEING PERFORMED IN ACCORDANCE WITH THE APPROVED MOCK-UPS.

5. PROVIDE SAMPLES OF REPLACEMENT BRICK, STONE AND EACH RE-POINTING MORTAR PRIOR TO THE START OF WORK.
6. CONTRACTOR SHALL HAVE TESTS PERFORMED ON REPRESENTATIVE MORTAR SAMPLES TAKEN FROM THE EXISTING MORTAR JOINTS FOR EACH MORTAR TYPE. TESTS SHALL BE MADE TO DETERMINE THE COMPONENTS AND PROPORTIONS OF THE EXISTING MORTAR FOR MATCHING OF NEW MORTAR TO EXISTING. REFER TO THE WRITTEN SPECIFICATIONS FOR THE TESTING REQUIREMENTS.
7. PROTECT THE BUILDING FROM THE DELETERIOUS EFFECTS OF CLEANING CHEMICALS DURING THE COURSE OF THE WORK. DO NOT DAMAGE EXISTING PORTIONS OF THE BUILDING THAT REMAIN.
8. THE SIDEWALKS AND ALLEYS AROUND THIS BUILDING WILL BE CLOSED TO PEDESTRIAN TRAFFIC THROUGHOUT THE COURSE OF THIS PROJECT. HOWEVER, ROADWAYS WILL LIKELY BE LEFT OPEN. CONTRACTOR SHALL PROVIDE FOR THE PROTECTION AND SAFETY OF THE PUBLIC FOR THE DURATION OF THE PROJECT. OVERHEAD PROTECTION SHALL BE PROVIDED AT ALL TIMES. CONTRACTOR SHALL SUBMIT AN OVERHEAD PROTECTION PLAN PRIOR TO THE START OF WORK.
9. PLANTINGS AND TREES AROUND THESE BUILDING SHALL BE PROTECTED ACCORDING TO THE REQUIREMENTS PROVIDED BY THE OWNER.
10. REMOVE AND REPLACE BRICK OR STONE THAT IS INADVERTENTLY DAMAGED IN THE EXECUTION OF THE MASONRY RESTORATION WORK, AT NO ADDITIONAL EXPENSE TO OWNER.
11. CLEAN, PREPARE, PRIME AND REPAINT EXISTING STEEL AS INDICATED ON THE ELEVATIONS. REPORT SEVERELY DETERIORATED STEEL TO THE ENGINEER BEFORE REPAINTING. NOTE THAT THE EXISTING PAINT ON THE LINTELS MAY CONTAIN LEAD. PRECAUTIONS SHALL BE TAKEN IN REMOVING AND DISPOSING OF THE EXISTING PAINT DURING PREPARATION OF THE LINTELS FOR REPAINTING.
12. THE ELEVATION DRAWINGS SHOW THE GENERAL LAYOUT OF THE FACADE OF THE BUILDING. IT SHOULD BE ANTICIPATED THAT SOME SLIGHT VARIATIONS WILL BE ENCOUNTERED BETWEEN THE DRAWN ELEVATIONS AND THE ACTUAL BUILDING FACADE ELEMENTS. FIELD VERIFY AS REQUIRED TO VERIFY THE EXACT SCOPE OF THE FACADE MASONRY. FIELD VERIFY THE EXACT MASONRY MATERIALS FOUND ON THE BUILDING INCLUDING BRICK, STONE, TERRA COTTA. REPORT MATERIALS THAT MAY DIFFER FROM THE ELEVATIONS DRAWINGS.
13. CONTRACTOR SHALL TAKE ALL MEANS NECESSARY TO PROTECT THE BUILDINGS WITHIN AND AROUND THE PROJECT SITE, INCLUDING PROVIDING APPROPRIATE FILTER MEDIA ON ALL AIR INTAKES ON THE BUILDING AND THE ROOF. REPORT TO THE PROJECT MANAGER AND ENGINEER THAT ALL AIR INTAKES HAVE BEEN IDENTIFIED AND PROTECTED AGAINST THE INTRUSION OF DUST AND DEBRIS.
14. GRINDING, SANDING AND ANY DUST GENERATING EQUIPMENT SHALL BE EQUIPPED WITH A DUST COLLECTION SYSTEM AT ALL TIMES DURING THE COURSE OF THE WORK TO PREVENT AIRBORNE DUST AND DEBRIS IN AND AROUND THE PROJECT SITE. PROJECT MANAGER OR ENGINEER MAY STOP THE WORK IF DUST COLLECTION IS DEEMED INADEQUATE.
15. WHERE THE EXISTING MASONRY IS COVERED WITH CEMENT BASED PARPING AND REPOINTING OR UNIT REPLACEMENT IS REQUIRED, RE-PARGE THE REPAIRED AREA TO MATCH EXISTING. REPAIR WITH COLOR TO MATCH EXISTING.

MASONRY REPAIR KEY NOTES (X)

- A. STONE JOINT RE-POINTING.** THIS NOTE SHALL APPLY TO STONE TO STONE JOINTS AND STONE TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE STONE UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING MORTAR AND MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS.
- B. JOINT SEALANT REPLACEMENT.** CLEAN AND PREPARE JOINTS AS INDICATED TO RECEIVE NEW JOINT SEALANT. PLACE CLOSED CELL FOAM BACKER ROD BEHIND THE JOINT AND APPLY SEALANT ACCORDING TO THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. WHERE THE ELEVATION KEY NOTES INDICATE CLEANING AND RECAULKING SKYWARD JOINTS, THE CAULK SHALL EXTEND TO THE EDGE OF THE HORIZONTAL LENGTH OF THE JOINT AND SHALL EXTEND DOWN THE VERTICAL LENGTH OF THE JOINT TO THE BOTTOM EDGE OF THE JOINT.
- C. "SMILE" STONE SPALL REPAIR.** QUANTITIES INDICATED ARE AN ESTIMATE. CONTRACTOR SHALL FIELD VERIFY THE EXACT QUANTITY AND REPAIR ALL SPALLS IDENTIFIED. REMOVE LOOSE AND SPALLED STONE MATERIAL. CLEAN AND BLAST EXPOSED AREA OF THE STEEL TIE BEHIND THE SPALL. COAT THE CLEANED STEEL TIE WITH ANTI-CORROSION AND PRIMER AND THEN PREPARE STONE AND APPLY STONE PATCH MATERIAL ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE WRITTEN SPECIFICATIONS.
WHERE MORE THAN 20% OF THE EXISTING STEEL TIE IS LOST TO CORROSION, PROVIDE TWO REPLACEMENT ANCHOR ON EACH SIDE OF SPALL TO THE STONE PANEL BACK TO THE SUBSTRATE BEHIND IT. USE THE POST-INSTALLED ANCHOR "CTP STONE-GRIP TIE" TYPE 2LD. PATCH HOLE AFTER INSTALLATION. FIELD VERIFY THE BACK-UP MATERIAL AND TEST FOR LOAD CAPACITY OF NEW STONE TIE ANCHORS PRIOR TO INSTALLING. SEE SPECIFICATIONS.
- D. STONE PATCHING.** CLEAN AND PATCH REPAIR THE EXISTING STONE WITH THE APPROVED STONE PATCHING MATERIAL AS INDICATED IN THE WRITTEN SPECIFICATIONS TO A WEATHER-TIGHT CONDITION.
- E. STONE REPLACEMENT.** REMOVE THE EXISTING DETERIORATED STONE UNIT AND REPLACE WITH A NEW FULL SIZE STONE UNIT. MATCH THE EXISTING STONE UNIT IN SIZE, COLOR, TEXTURE AND CONFIGURATION. RE-POINT WITH MORTAR AROUND THE NEW STONE UNIT AS REQUIRED TO INTEGRATE IT WITH THE SURROUNDING MASONRY. SUBMIT A SAMPLE OF THE NEW STONE MATERIAL PRIOR TO INSTALLATION AS INDICATED IN THE WRITTEN SPECIFICATIONS. ANCHOR THE NEW STONE UNIT TO THE STRUCTURE WITH STAINLESS STEEL ANCHORS TO MATCH THE EXISTING ANCHORS.
- F. STONE CRACK REPAIR.** ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.
- G. STONE DUTCHMAN REPAIR.** REMOVE DAMAGED STONE MATERIAL TO A SQUARE OR RECTANGULAR SHAPE AND REPLACE THE REMOVED PORTION WITH A NEW STONE PIECE CUT AND SHAPED TO FIT THE REMOVED SHAPE AS TIGHTLY AS POSSIBLE WITH THE SMALLEST CUT LINE POSSIBLE. GLUE THE DUTCHMAN IN PLACE WITH EPOXY ADHESIVE ACCORDING TO THE WRITTEN SPECIFICATIONS. IF THE REMOVED AREA IS LARGER THAN 4" BY 4", ANCHOR THE SIDES OF THE DUTCHMAN WITH 3/8" MINIMUM STAINLESS STEEL PINS. DUTCHMAN SHALL MATCH THE ADJACENT STONE IN COLOR, TEXTURE AND THICKNESS.
- H. STONE SPANDREL CRACK REPAIR.** REMOVE ONE SPANDREL PANEL WITH CRACKS AND PROVIDE PHOTOS AND NOTES ON THE EXISTING ANCHORAGE AND THE CONDITION OF THE SUPPORT ANGLES AT EACH END. REPORT FINDINGS TO THE ARCHITECT.
- I. CORROSION OF STONE SHELF ANGLE REPAIR.** REMOVE A PORTION OF THE STONE PANEL WHERE INDICATE AND WHERE STEEL CORROSION OF THE SUPPORTING SHELF ANGLE HAS DAMAGED THE STONE OR THE JOINTS. PROVIDE TEMPORARY SUPPORT OF THE ADJACENT STONE PANELS AROUND AND ABOVE THE REPAIR AREA DURING THE REPAIR PROCESS. REMOVE ENOUGH STONE TO FULLY ACCESS THE CORRODED STEEL ANGLE. MAKE CLEAN STRAIGHT HORIZONTAL AND VERTICAL CUTS THAT MEET AT A 90 DEGREE ANGLE AT INTERSECTIONS. SALVAGE THE STONE PORTION FOR LATER REPLACEMENT ONCE THE STEEL IS REPLACED.
REMOVE AND REPLACE THE CORRODED STEEL ANGLE AND PAINT WITH GALVANIZED PAINT. REPLACE THE SALVAGED STONE PORTION AND ANCHOR SIMILAR TO A DUTCHMAN REPAIR WITH STAINLESS STEEL PINS. CAULK OPEN JOINTS AROUND THE REPLACED PORTION OF STONE AS REQUIRED.
- J. BRICK JOINT RE-POINTING/REPLACEMENT.** THIS NOTE SHALL APPLY TO BRICK TO BRICK JOINTS AND BRICK TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE BRICK UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS. REPLACE BRICK UNITS THAT HAVE LOST MORE THAN 10% OF THE SURFACE. RE-PARGE AND/OR REPAINT BRICK TO MATCH EXISTING AT REPAIR AREAS.
- K. BRICK MASONRY CRACK REPAIR.** ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.
- L. ORNAMENTAL EAGLE.** CLEAN PAINT AND GRIM FROM THE EXISTING ORNAMENTAL EAGLES LOCATED ON THE ROOF. INSPECT THE CLEANED EAGLES FOR SIGNS OF CORROSION OR DETERIORATION. REPORT FINDINGS O THE ARCHITECT. REPAIR AS DIRECTED. AFTER REPAIRS, APPLY PRIME COAT AND PAINT. COATINGS AS SPECIFIED BY ARCHITECT. COLOR TO BE DETERMINED BY ARCHITECT AND OWNER.
- M. STEEL ANGLE LINTEL REPAIR.** REMOVE BRICK AS REQUIRED TO CLEAN AND PAINT EXISTING STEEL LINTEL. PAINT LINTEL WITH ZINC PAINT AFTER CLEANING CORROSION. REPLACE BRICK AND PAINT TO MATCH ADJACENT COLOR. REPLACE LINTEL WITH SAME SIZE AND CONFIGURATION IF MORE THAN 20% OF THE EXISTING CROSS-SECTION HAS BEEN LOST TO CORROSION.
- N. ORNAMENTAL METAL REPAIR.** REMOVE ALL DROPPINGS, BIRD NESTING MATERIAL AND DEBRIS TRAPPED BEHIND THE GRILLES. DROPPINGS MAY BE CONSIDERED HAZARDOUS AND SHOULD BE TREATED APPROPRIATELY. CLEAN, REPAIR AND PAINT ORNAMENTAL GRILLES AT EACH WINDOW ON THE SOUTH AND WEST ELEVATIONS. APPLY PRIMER AND FINISH COAT AS DIRECTED BY THE MANUFACTURER'S INSTRUCTIONS. INSPECT EACH EXISTING ANCHORS AND REPLACE WITH HILTI ADHESIVE ANCHORS IF REQUIRED. PAINT COLOR TO BE SELECTED BY ARCHITECT/OWNER. PROTECT ADJACENT SURFACES DURING CLEANING AND PAINTING WORK.
- O. TERRA COTTA CRACK REPAIR.** ROUT THE EXISTING TERRA COTTA CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

UPPER WEST ELEVATION

1/8" = 1'-0"

WEST ELEVATION

1. CLEAN AND REPOINT JOINTS 100% WITH NEW MORTAR ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.
2. CLEAN THE LIMESTONE AND TERRA COTTA MASONRY SURFACES 100%.
3. CLEAN AND RECAULK SKYWARD JOINTS 100%.

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CERTIFICATION

TOWER FACADE
MAINTENANCE PACKAGE

The Grand Reserve

925 Grand Boulevard
Kansas City, MO 64198

Project No.: LEI #1851
Drawn By: Mjl
Checked By:
Scale: See Drawing
Issue Date: May 3, 2019

REVISION SCHEDULE		
Rev. #	Revision Description	Issue Date

LOWER WEST ELEVATION
MASONRY REPAIR
S610-T

MASONRY REPAIR GENERAL NOTES

GENERAL SCOPE OF THE EXTERIOR MASONRY REPAIRS

THE ELEVATION DRAWINGS SHOW REPAIR PROCEDURES FOR THE VARIOUS MASONRY DETERIORATION ON THE EXTERIOR FACADE OF THE BUILDING. THIS INCLUDES REPAIR OF BRICK MASONRY, STONE, AND TERRA COTTA. THE DATA USED TO PREPARE THESE DRAWINGS WAS GATHERED FROM THE GROUND USING TELEPHONE PHOTOGRAPHY. CONTRACTOR SHALL DETERMINE THE SCOPE OF THE VARIOUS REPAIRS INDICATED ON THE ELEVATIONS BY MEANS OF AN ARMS-LENGTH SURVEY OF THE ENTIRE EXTERIOR OF THE BUILDING USING AN AERIAL LIFT OR SWING STAGE PLATFORM OR OTHER MEANS AS DETERMINED BY THE CONTRACTOR. SUBMIT THE RESULTS OF THE SURVEY IN GRAPHICAL FORM TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO THE START OF THE REPAIR WORK.

CONTRACTOR SHALL DOCUMENT MASONRY DETERIORATION DISCOVERED DURING THE COURSE OF THE WORK AND MAKE REPAIRS AS NEEDED WHETHER SHOWN OR NOT. FOLLOWING THE REPAIR PROCEDURES INDICATED IN THESE DRAWINGS AND SPECIFICATIONS. REPORT SUCH AREAS TO THE ARCHITECT IMMEDIATELY UPON DISCOVERY.

MASONRY REPAIR GENERAL NOTES

1. REMOVE EXTRANEOUS METAL ATTACHMENTS, AND UTILITY CONDUITS AND PIPING. ENSURE THAT EXTRANEOUS UTILITY ATTACHMENTS ARE ABANDON BEFORE REMOVAL. DO NOT REMOVE WALL ANCHORS THAT SECURE BUILDING COMPONENTS. FIELD VERIFY THE LOCATION OF SUCH ANCHORS BEFORE WORK BEGINS.

2. CLEAN THE MASONRY LIMESTONE ON THE SOUTH AND WEST ELEVATIONS IN THEIR ENTIRETY. USE THE MILDEST CLEANING SOLUTION THAT WILL ACCOMPLISH THE CLEANING TO A SATISFACTORY RESULT. REFER TO THE WRITTEN SPECIFICATIONS FOR CLEANING INFORMATION. PROVIDE A MOCK-UP OR APPROVAL OF A TYPICAL LIMESTONE CLEANING PROCEDURE PRIOR TO THE START OF WIDESPREAD CLEANING. DO NOT USE SPRAY TECHNIQUES UNLESS IT CAN BE DEMONSTRATED THAT THE OVERSPRAY WILL NOT HARM ADJACENT BUILDINGS OR PRESENT A HUMAN HEALTH HAZARD. PROTECT ORNAMENTAL METAL ON THE BUILDING AGAINST DAMAGE FROM CLEANING CHEMICALS.

NOTE THAT THIS BUILDING HAS A SIGNIFICANT BIRD POPULATION ROOSTING ON OUTWARD PROJECTIONS AND ON THE ROOF. CLEAN ALL BIRD DROPPINGS AND NESTING MATERIAL PRIOR TO GENERAL FACADE CLEANING. TREAT THE BIRD DROPPINGS AS A HEALTH HAZARD AS REQUIRED.

3. CLEAN AREAS AFTER RE-POINTING AND MASONRY REPLACEMENT WORK IS COMPLETE. PROTECT ADJACENT AREAS OF MASONRY FROM THE CLEANING CHEMICALS AS REQUIRED. BLEND TO MATCH EXISTING ADJACENT MASONRY.

4. PREPARE MOCK-UPS FOR THE FOLLOWING WORK ITEMS:
- MORTAR JOINT CLEANING AND REMOVAL OF OLD MORTAR AND SEALANT FOR EACH JOINT TYPE.
- MORTAR JOINT RE-POINTING WITH REPLACEMENT MORTAR MIX FOR EACH JOINT TYPE.
- BRICK REPLACEMENT.
- DUTCHMAN STONE REPAIR.

REFER TO THE WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MOCK-UPS. WORK SHALL PROCEED ONLY AFTER MOCK-UPS ARE APPROVED. ARCHITECT/ENGINEER MAY STOP WORK IF IT IS DETERMINED THAT WORK IS NOT BEING PERFORMED IN ACCORDANCE WITH THE APPROVED MOCK-UPS.

5. PROVIDE SAMPLES OF REPLACEMENT BRICK, STONE AND EACH RE-POINTING MORTAR PRIOR TO THE START OF WORK.

6. CONTRACTOR SHALL HAVE TESTS PERFORMED ON REPRESENTATIVE MORTAR SAMPLES TAKEN FROM THE EXISTING MORTAR JOINTS FOR EACH MORTAR TYPE. TESTS SHALL BE MADE TO DETERMINE THE COMPONENTS AND PROPORTIONS OF THE EXISTING MORTAR OR MATCHING OF NEW MORTAR TO EXISTING. REFER TO THE WRITTEN SPECIFICATIONS FOR THE TESTING REQUIREMENTS.

7. PROTECT THE BUILDING FROM THE DELETERIOUS EFFECTS OF CLEANING CHEMICALS DURING THE COURSE OF THE WORK. DO NOT DAMAGE EXISTING PORTIONS OF THE BUILDING THAT REMAIN.

8. THE SIDEWALKS AND ALLEYS AROUND THIS BUILDING WILL BE CLOSED TO PEDESTRIAN TRAFFIC THROUGHOUT THE COURSE OF THIS PROJECT, HOWEVER, ROADWAYS WILL LIKELY BE LEFT OPEN. CONTRACTOR SHALL PROVIDE FOR THE PROTECTION AND SAFETY OF THE PUBLIC FOR THE DURATION OF THE PROJECT. OVERHEAD PROTECTION SHALL BE PROVIDED AT ALL TIMES. CONTRACTOR SHALL SUBMIT AN OVERHEAD PROTECTION PLAN PRIOR TO THE START OF WORK.

9. PLANTINGS AND TREES AROUND THESE BUILDING SHALL BE PROTECTED ACCORDING TO THE REQUIREMENTS PROVIDED BY THE OWNER.

10. REMOVE AND REPLACE BRICK OR STONE THAT IS INADVERTENTLY DAMAGED IN THE EXECUTION OF THE MASONRY RESTORATION WORK, AT NO ADDITIONAL EXPENSE TO OWNER.

11. CLEAN, PREPARE, PRIME AND REPAINT EXISTING STEEL AS INDICATED ON THE ELEVATIONS. REPORT SEVERELY DETERIORATED STEEL TO THE ENGINEER BEFORE REPAINTING. NOTE THAT THE EXISTING PAINT ON THE LINTELS MAY CONTAIN LEAD. PRECAUTIONS SHALL BE TAKEN IN REMOVING AND DISPOSING OF THE EXISTING PAINT DURING PREPARATION OF THE LINTELS FOR REPAINTING.

12. THE ELEVATION DRAWINGS SHOW THE GENERAL LAYOUT OF THE FACADE OF THE BUILDING. IT SHOULD BE ANTICIPATED THAT SOME SLIGHT VARIATIONS WILL BE ENCOUNTERED BETWEEN THE DRAWN ELEVATIONS AND THE ACTUAL BUILDING FACADE ELEMENTS. FIELD VERIFY AS REQUIRED TO VERIFY THE EXACT SCOPE OF THE FACADE MASONRY. FIELD VERIFY THE EXACT MASONRY MATERIALS FOUND ON THE BUILDING INCLUDING BRICK, STONE, TERRA COTTA. REPORT MATERIALS THAT MAY DIFFER FROM THE ELEVATIONS DRAWINGS.

13. CONTRACTOR SHALL TAKE ALL MEANS NECESSARY TO PROTECT THE BUILDINGS WITHIN AND AROUND THE PROJECT SITE, INCLUDING PROVIDING APPROPRIATIVE FILTER MEDIA ON ALL AIR INTAKES ON THE BUILDING AND THE ROOF. REPORT TO THE PROJECT MANAGER AND ENGINEER THAT ALL AIR INTAKES HAVE BEEN IDENTIFIED AND PROTECTED AGAINST THE INTRUSION OF DUST AND DEBRIS.

14. GRINDING, SANDING AND ANY DUST GENERATING EQUIPMENT SHALL BE EQUIPPED WITH A DUST COLLECTION SYSTEM AT ALL TIMES DURING THE COURSE OF THE WORK TO PREVENT AIRBORNE DUST AND DEBRIS IN AND AROUND THE PROJECT SITE. PROJECT MANAGER OR ENGINEER MAY STOP THE WORK IF DUST COLLECTION IS DEEMED INADEQUATE.

15. WHERE THE EXISTING MASONRY IS COVERED WITH CEMENT BASED PARKING AND REPOINTING OR UNIT REPLACEMENT IS REQUIRED. REPAIR THE REPAIRED AREA TO MATCH EXISTING. REPAIR WITH COLOR TO MATCH EXISTING.

MASONRY REPAIR KEY NOTES (X)

A. STONE JOINT RE-POINTING. THIS NOTE SHALL APPLY TO STONE TO STONE JOINTS AND STONE TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE STONE UNITS WITHIN THE EXISTING MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING SEALANT AND MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS.

B. JOINT SEALANT REPLACEMENT. CLEAN AND PREPARE JOINTS AS INDICATED TO RECEIVE NEW JOINT SEALANT. PLACE CLOSED CELL FOAM BACKER ROD BEHIND THE JOINT AND APPLY SEALANT ACCORDING TO THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. WHERE THE ELEVATION KEY NOTES INDICATE CLEANING AND RECAULKING SKYWARD JOINTS, THE CAULK SHALL EXTEND TO THE EDGE OF THE HORIZONTAL LENGTH OF THE JOINT AND SHALL EXTEND DOWN THE VERTICAL LENGTH OF THE JOINT TO THE BOTTOM EDGE OF THE JOINT.

C. SMILE STONE SPALL REPAIR. QUANTITIES INDICATED ARE AN ESTIMATE. CONTRACTOR SHALL FIELD VERIFY THE EXACT QUANTITY AND REPAIR ALL SPALLS IDENTIFIED. REMOVE LOOSE AND SPALLED STONE MATERIAL. CLEAN AND BLAST EXPOSED AREA OF THE STEEL TIE BEHIND THE SPALL. COAT THE CLEANED STEEL TIE WITH ANTI-CORROSION AND PRIMER AND THEN PREPARE STONE AND APPLY STONE PATCH MATERIAL ACCORDING TO THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE WRITTEN SPECIFICATIONS.

WHERE MORE THAN 20% OF THE EXISTING STEEL TIE IS LOST TO CORROSION, PROVIDE TWO REPLACEMENT ANCHORS ON EACH SIDE OF SPALL TO TIE THE STONE PANEL BACK TO THE SUBSTRATE BEHIND IT. USE THE POST-INSTALLED ANCHOR "CTP STONE-GRIP" TYPE 2LD. PATCH HOLE AFTER INSTALLATION. FIELD VERIFY THE BACK-UP MATERIAL AND TEST FOR LOAD CAPACITY OF NEW STONE TIE ANCHORS PRIOR TO INSTALLING. SEE SPECIFICATIONS.

D. STONE PATCHING. CLEAN AND PATCH REPAIR THE EXISTING STONE WITH THE APPROVED STONE PATCHING MATERIAL AS INDICATED IN THE WRITTEN SPECIFICATIONS TO A WEATHER-TIGHT CONDITION.

E. STONE REPLACEMENT. REMOVE THE EXISTING DETERIORATED STONE UNIT AND REPLACE WITH A NEW FULL SIZE STONE UNIT. MATCH THE EXISTING STONE UNIT IN SIZE, COLOR, TEXTURE AND CONFIGURATION. RE-POINT WITH MORTAR AROUND THE NEW STONE UNIT AS REQUIRED TO INTEGRATE IT WITH THE SURROUNDING MASONRY. SUBMIT A SAMPLE OF THE NEW STONE MATERIAL PRIOR TO INSTALLATION AS INDICATED IN THE WRITTEN SPECIFICATIONS. ANCHOR THE NEW STONE UNIT TO THE STRUCTURE WITH STAINLESS STEEL ANCHORS TO MATCH THE EXISTING ANCHORS.

F. STONE CRACK REPAIR. ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

G. STONE DUTCHMAN REPAIR. REMOVE DAMAGED STONE MATERIAL TO A SQUARE OR RECTANGULAR SHAPE AND REPLACE THE REMOVED PORTION WITH A NEW STONE PIECE CUT AND SHAPED TO FIT THE REMOVED SHAPE AS TIGHTLY AS POSSIBLE WITH THE SMALLEST GLUE LINE POSSIBLE. GLUE THE DUTCHMAN IN PLACE WITH EPOXY ADHESIVE ACCORDING TO THE WRITTEN SPECIFICATION. IF THE REMOVED AREA IS LARGER THAN 4" BY 4", ANCHOR THE SIDES OF THE DUTCHMAN WITH 3/8" MINIMUM STAINLESS STEEL PINS. DUTCHMAN SHALL MATCH THE ADJACENT STONE IN COLOR, TEXTURE AND THICKNESS.

H. STONE SPANDREL CRACK REPAIR. REMOVE ONE SPANDREL PANEL WITH CRACKS AND PROVIDE PHOTOS AND NOTES ON THE EXISTING ANCHORAGE AND THE CONDITION OF THE SUPPORT ANGLES AT EACH END. REPORT FINDINGS TO THE ARCHITECT.

I. CORROSION OF STONE SHELF ANGLE REPAIR. REMOVE A PORTION OF THE STONE PANEL WHERE INDICATE AND WHERE STEEL CORROSION OF THE SUPPORTING SHELF ANGLE HAS DAMAGED THE STONE OR THE JOINTS. PROVIDE TEMPORARY SUPPORT OF THE ADJACENT STONE PANELS AROUND AND ABOVE THE REPAIR AREA DURING THE REPAIR PROCESS. REMOVE ENOUGH STONE TO FULLY ACCESS THE CORRODED STEEL ANGLE. MAKE CLEAN STRAIGHT HORIZONTAL AND VERTICAL CUTS THAT MEET AT A 90 DEGREE ANGLE AT INTERSECTIONS. SALVAGE THE STONE PORTION FOR LATER REPLACEMENT ONCE THE STEEL IS REPLACED. REMOVE AND REPLACE THE CORRODED STEEL ANGLE AND PAINT WITH GALVANIZED PAINT. REPLACE THE SALVAGED STONE PORTION AND ANCHOR SIMILAR TO A DUTCHMAN REPAIR WITH STAINLESS STEEL PINS. CAULK OPEN JOINTS AROUND THE REPLACED PORTION OF STONE AS REQUIRED.

J. BRICK JOINT RE-POINTING/REPLACEMENT. THIS NOTE SHALL APPLY TO BRICK TO BRICK JOINTS AND BRICK TERRA COTTA JOINTS. RAKE AND CLEAN THE EXISTING MORTAR JOINTS AROUND THE BRICK UNITS WITHIN THE EXTERIOR MASONRY WALLS. REMOVE 100 PERCENT OF THE EXISTING MORTAR MATERIAL. RAKE AND RE-POINT 100% OF THE STONE JOINTS WITH APPROVED MORTAR. SEE THE WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING RE-POINTING STONE MORTAR JOINTS. NOTE THAT THE EXISTING MORTAR IN THE STONE TO STONE JOINTS MAY BE DIFFERENT FROM THE MORTAR IN THE STONE TO BRICK JOINTS. REPLACE BRICK UNITS THAT HAVE LOST MORE THAN 10% OF THE SURFACE. REPAIR AND/OR REPAINT BRICK TO MATCH EXISTING AT REPAIR AREAS.

K. BRICK MASONRY CRACK REPAIR. ROUT THE EXISTING STONE CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

L. ORNAMENTAL EAGLE. CLEAN PAINT AND GRIM FROM THE EXISTING ORNAMENTAL EAGLES LOCATED ON THE ROOF. INSPECT THE CLEANED EAGLES FOR SIGNS OF CORROSION OR DETERIORATION. REPORT FINDINGS TO THE ARCHITECT. REPAIR AS DIRECTED. AFTER REPAIRS, APPLY PRIMER COAT AND PAINT, COATINGS AS SPECIFIED BY ARCHITECT. COLOR TO BE DETERMINED BY ARCHITECT AND OWNER.

M. STEEL ANGLE LINTEL REPAIR. REMOVE BRICK AS REQUIRED TO CLEAN AND PAINT EXISTING STEEL LINTEL. PAINT LINTEL WITH ZINC PAINT AFTER CLEANING CORROSION. REPLACE BRICK AND PAINT TO MATCH ADJACENT COLOR. REPLACE LINTEL WITH SAME SIZE AND CONFIGURATION IF MORE THAN 20% OF THE EXISTING CROSS-SECTION HAS BEEN LOST TO CORROSION.

N. ORNAMENTAL METAL REPAIR. REMOVE ALL DROPPINGS, BIRD NESTING MATERIAL AND DEBRIS TRAPPED BEHIND THE GRILLES. DROPPINGS MAY BE CONSIDERED HAZARDOUS AND SHOULD BE TREATED APPROPRIATELY. CLEAN, REPAIR AND PAINT ORNAMENTAL GRILLES AT EACH WINDOW ON THE SOUTH AND WEST ELEVATIONS. APPLY PRIMER AND FINISH COAT AS DIRECTED BY THE MANUFACTURER'S INSTRUCTIONS. INSPECT EACH EXISTING ANCHORS AND REPLACE WITH HILTI ADHESIVE ANCHORS IF REQUIRED. PAINT COLOR TO BE SELECTED BY ARCHITECT/OWNER. PROTECT ADJACENT SURFACES DURING CLEANING AND PAINTING WORK.

O. TERRA COTTA CRACK REPAIR. ROUT THE EXISTING TERRA COTTA CRACK ALONG ITS ENTIRE LENGTH AND FILL WITH CLOSED CELL FOAM BACKER ROD AND SEALANT. USE SEALANT THAT MATCHES THE SURROUNDING STONE AS CLOSELY AS POSSIBLE. SUBMIT A COLOR SAMPLE OF THE SEALANT FOR REVIEW. SEE ALSO NOTE 'B' ABOVE REGARDING JOINT SEALANT.

LOWER WEST ELEVATION
1/8" = 1'-0"

WEST ELEVATION

- CLEAN AND REPOINT JOINTS 100% WITH NEW MORTAR ACCORDING TO THE DRAWINGS AND SPECIFICATIONS.
- CLEAN THE LIMESTONE AND TERRA COTTA MASONRY SURFACES 100%.
- CLEAN AND RECAULK SKYWARD JOINTS 100%.