A. RESPONSIBILITY OF THE CONTRACTOR FOR STABILITY OF THE STRUCTURE DURING DECONSTRUCTION / DEMOLITION

1. It is the responsibility of the Contractor to provide all required fencing during demolition to maintain the safety and structural stability of all structural elements during the demolition process.

B. DEFINITIONS

1. Removal: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstated.

C. MATERIAL OWNERSHIP

1. Existing items or materials indicated to be removed, salvaged, or otherwise indicated to remain on Owner's property, demolished materials shall become Owner's property and shall be removed from Project site. Owner's materials shall be disposed in a proper and legal manner per federal/local regulations.

D. QUALITY ASSURANCE

1. Demolition Firm Qualifications: An experienced firm shall have a proven track record in demolishing similar work in material and extent to that indicated for the Project.

2. Regulatory Requirements: Comply with governing Owner, local, state, federal, and EPA notifications and regulations before beginning selective demolition or deconstruction. Comply with building and disposal regulations of authorities having jurisdiction.

E. PROJECT CONDITIONS

1. Conduct selective demolition so Owner's operations will not be disrupted. Provide not less than 24-hour notice to Owner of activities that will affect Owner's operations.

2. Maintain access to existing walkways, corridors, and stairwells not currently occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or unused facilities without written permission from authorities having jurisdiction.

3. Owner assumes no responsibility for condition of areas to be selectively demolished:
   a. Conditions existing at time of inspection for bidding purposes will be maintained by Owner as is.
   b. Before selective demolition, Owner will remove items within spaces as needed.

F. SECURITY

1. Contractor shall maintain access to and walk stairs at all times. Fire alarms and smoke detection systems shall remain operational at all times. Protect smoke detectors as required and in accordance to local codes and local authorities.

2. Temporary Facilities: Provide temporary barrier and protective cover to prevent injury to people and damage to adjacent buildings and facilities.

3. Contractor to provide all necessary traffic control and safety measures as required.

4. POLLUTION CONTROLS

1. Refer to Division 01 sections for requirements to control, disposal, and cleaning of demolished material.

2. E. EXECUTION OF SELECTIVE DEMOLITION

1. General: Demolish existing construction as indicated, use methods required to complete the Work within limitations of governing regulations and as follows:
   a. Use a planing method (like a planing mill) to damage construction to remove or adjusting construction.
   b. Use a cutting broaching until wood saw is clear of formwork. At concealed spaces very confining and contents of hidden space before starting flame-cutting operations. Maintain good workmanship and compile the supervision devices during flame-cutting operations.
   c. Use flame-protected welding when using cutting torches.
   d. Locate selective demolition equipment and count the debris and materials so as not to leave any loose debris and materials on supporting walls, slabs, or stairways.
   e. Comply with designated areas and material promptly.

2. Existing Facilities:
   a. Comply with Owner's requirements for using and protecting other building facilities during selective demolition operations.

3. DISPOSAL OF DEMOLISHED MATERIALS

1. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

2. Burning: Do not burn demolished materials.

3. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

A. CONCRETE REPAIR MATERIALS

1. All concrete shall conform to the requirements as specified in Specification Section "Concrete Repair Materials."

B. REMOVING STEEL

1. All reinforcing steel shall be ASTM A 615
2. Grade 60 unless noted otherwise on the drawings or in these notes.

C. PLACEMENT OF WELDED WIRE REINFORCEMENT

1. Whenever welded wire reinforcement is specified, it will be continuous across the entire concrete surface and property per ACI 318, 12.8 and 12.9.

D. REMOVING STEEL COVERAGE

1. Reinstalling steel should conform to the requirements specified on the drawings. Cover these notes otherwise on the drawings, structural steel shall be as follows:
   a. L-Shapes: ASTM A 36
   b. Tubing Steel: ASTM A 516

E. WELDING

1. Unless noted otherwise, electrodes for welding shall conform to ER70S-6 (E7018).
Part VIII - Miscellaneous (continued)

2. Contractor shall fully and properly implement the engineering controls, work practices, and respiratory protection against toxic and hazardous substances as required by the Occupational Safety and Health Administration, OSHA.

3. Contractor shall comply with all applicable state and local laws, rules, and regulations, including without limitation, those relating to permits, liens, and other legal or administrative obligations.

4. Contractor shall ensure that all construction activities are performed in accordance with the approved construction plans and specifications.

5. Contractor shall submit monthly progress reports to the Engineer.

6. Contractor shall ensure that all construction activities are performed in accordance with the approved construction plans and specifications.

7. Contractor shall ensure that all construction activities are performed in accordance with the approved construction plans and specifications.

8. Contractor shall ensure that all construction activities are performed in accordance with the approved construction plans and specifications.

9. Contractor shall ensure that all construction activities are performed in accordance with the approved construction plans and specifications.

10. Contractor shall ensure that all construction activities are performed in accordance with the approved construction plans and specifications.

B. CONFLICTS IN STRUCTURAL REQUIREMENTS

1. Where conflict exists among the various parts of the repair contract documents, repair drawings, general specifications, and other contract documents, as indicated by the Engineer, shall govern.

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10. Where conflict exists among the various parts of the repair contract documents, repair drawings, general specifications, and other contract documents, as indicated by the Engineer, shall govern.

C. CONTRACTOR SUBSTITUTIONS

1. Any material or product submitted for approval that is different from the material or products specified in the approved project documents shall not be considered for approval only if the following criteria are satisfied:

   a. A cost savings to the Owner is documented and submitted with the request.

   b. The material or product has been approved by the International Code Council (ICC) and the ICC report is submitted with the request.

2. The ICC report shall be submitted under which the project is permitted.

3. Submittals not satisfying the above criteria will not be considered.
NOTES:
1. REMOVE CONCRETE SURROUNDING STEEL COLUMN AND CONTACT ENGINEER TO PERFORM INSPECTION OF COLUMN CONDITION PRIOR TO REPAIRING CONCRETE.
VARIES
CHIP, GRIND OR SAW CUT AROUND PATCH PERIMETER FOR AT LEAST 1/2" BEYOND SPALL/DELAMINATION OR UP TO SOUND CONCRETE. GRINDING OR SAW CUTTING SHALL BE PERPENDICULAR TO SURFACE (TYP).

REMOVAL LIMITS

EXIST CONCRETE WITHIN SHADED SECTION SHOWN

EXIST BRICK FACADE

ORIGINAL CURB SURFACE

CURB THICKNESS

CHIP, GRIND OR SAW CUT PATCH PERIMETER FOR AT LEAST 1/2" BEYOND THE SPALL/DELAMINATION OR UP TO SOUND CONCRETE. GRINDING OR SAW CUTTING SHALL BE PERPENDICULAR TO SURFACE (TYP).

NOTES:
1. PROTECT EXISTING REINFORCEMENT FROM DAMAGE DURING CHIPPING, GRINDING OR SAW CUTTING FOR SPALL/DELAMINATION REPAIR.
2. REFER TO SECTION "SURFACE PREPARATION FOR PATCHING" FOR CLEANING AND COATING ALL EXPOSED REINFORCEMENT.
3. PROVIDE 3/4" CLEARANCE AROUND ALL EXPOSED REINFORCEMENT WHERE REQUIRED AS SPECIFIED IN SECTION "SURFACE PREPARATION FOR PATCHING."
4. WHERE REINFORCEMENT THAT IS EXPOSED DURING SURFACE PREPARATION IS FOUND TO BE SEVERELY CORRODED OR HAS LOST 10% OR MORE OF ITS CROSS SECTIONAL AREA, SUPPLEMENTARY REINFORCEMENT MAY BE REQUIRED. REPORT TO ENGINEER FOR REVIEW AND DESIGN OF SUPPLEMENTARY REINFORCEMENT.
5. NEW PATCH SHALL MATCH EXISTING FINISH. PAINT PATCH TO MATCH EXISTING COLOR.

TYPICAL - CONCRETE CURB REPLACEMENT
(TASK ITEM 2.6)

PARTIAL DEPTH SLAB REPAIR AT METAL DECK
(TASK ITEM 2.3)
NOTES:

1. PROTECT EXISTING REINFORCEMENT FROM DAMAGE DURING CHIPPING, GRINDING OR SAW CUTTING FOR SPALL/DELAMINATION REPAIR.

2. REFER TO SECTION "SURFACE PREPARATION FOR PATCHING" FOR CLEANING AND COATING ALL EXPOSED REINFORCEMENT.

3. PROVIDE 3/4" CLEARANCE AROUND ALL EXPOSED REINFORCEMENT WHERE REQUIRED AS SPECIFIED IN SECTION "SURFACE PREPARATION FOR PATCHING."

4. WHERE REINFORCEMENT THAT IS EXPOSED DURING SURFACE PREPARATION IS FOUND TO BE SEVERELY CORRODED OR HAS LOST 10% OR MORE OF ITS CROSS SECTIONAL AREA, SUPPLEMENTARY REINFORCEMENT MAY BE REQUIRED. REPORT TO ENGINEER FOR REVIEW AND DESIGN OF SUPPLEMENTARY REINFORCEMENT.

5. PROVIDE SHORING AS SPECIFIED BY ENGINEER PRIOR TO COMMENCEMENT OF ANY CONCRETE REMOVAL WORK.

6. NEW PATCH SHALL MATCH EXISTING FINISH.

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**EXPANSION JOINT REPLACEMENT - ADHERED**

(TASK ITEM 6.1)

**TYPICAL - CONCRETE WALL REPAIR**

(TASK ITEM 4.1)

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#### Table: Level and System Size

<table>
<thead>
<tr>
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</tr>
<tr>
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<td>120</td>
</tr>
<tr>
<td>4</td>
<td>2&quot;</td>
<td>120</td>
</tr>
</tbody>
</table>
STEP 1: EXISTING JOINT

STEP 2: REMOVE POINTING MORTAR

STEP 3: POINT LIFTS

STEP 4: FINISH JOINT

STEPS:
1. REMOVE LOOSE/DEBONDED MORTAR FROM JOINT UNTIL SOUND BONDED MORTAR IS FOUND.
2. REMOVE ADDITIONAL MORTAR TO 2 1/2 TIMES THE JOINT WIDTH OF 3/4" DEEP, WHICHEVER IS GREATER.
3. INSTALL REPOINTING MORTAR IN 1/4" DEEP LIFTS, ALLOW MORTAR TO BECOME THUMBPRINT HARD PRIOR TO INSTALLING NEXT LIFT.
4. FINISH AND TOOL JOINT CONCAVE TO MATCH EXISTING MORTAR JOINTS.

NOTES:
1. REMOVE EXISTING JOINT SEALANT MATERIAL IF PRESENT.
2. CLEAN ROUTED CRACK BEFORE FILLING WITH SEALANT SUCH THAT THERE ARE NO OLD RESIDUAL MATERIALS, DUST AND CONTAMINANTS.
3. DO NOT OVERFILL THE ROUTED CAVITY.
4. USE MAGNETIC REBAR LOCATOR OR OTHER NON-DESTRUCTIVE METHOD TO DETERMINE LOCATION OF REINFORCEMENT. NOTIFY ENGINEER IF DEPTH OF ROUTED JOINT INTERFERES WITH REINFORCEMENT PRIOR TO ROUTING THE CRACK. DO NOT NICK OR CUT EXISTING REINFORCEMENT.
5. REFER TO SPECIFICATIONS FOR SEALANT TYPE AND OTHER REQUIREMENTS.
NOTES:
1. REFER TO SPECIFICATIONS FOR PROCEDURE AND MATERIALS TO CLEAN AND COAT STEEL.

ELEVATION OF CRACKS IN BRICK

REPLACE DAMAGE BRICK UNITS OR RESET DISPLACED UNITS

REPOINT CRACKED MORTAR JOINTS SEE DETAIL 1/S2.2

CLEAN AND COAT STEEL ANGLE 
(TASK ITEM 10.5A)

BRICK MASONRY CRACK REPAIR
(TASK ITEM 8.3)
NOTES:
1. REFER TO SPECIFICATIONS FOR PROCEDURE AND MATERIALS TO CLEAN AND COAT STEEL.

NOTES:
1. REFER TO SPECIFICATIONS FOR PROCEDURE AND MATERIALS TO CLEAN AND COAT STEEL.

2. CLEAN AND COAT STEEL DECK
   NO SCALE
   (TASK ITEM 10.5D)

1. CLEAN AND COAT STEEL BEAM
   NO SCALE
   (TASK ITEM 10.5B)
NOTES:
1. HANDRAIL REPLACEMENT MAY OCCUR AT TOP OR MIDDLE HANDRAIL.
2. NEW STEEL TUBING SHALL BE WELDED USING GAS METAL ARC WELDING (GMAW) PROCESS TO PROPERLY PREPARED EXISTING SOUND TUBING NEAR THE SUPPORT TO RESTORE INTENDED APPEARANCE AND FUNCTION OF THE HANDRAIL.
3. COAT WELDMENT AND UNCOATED STEEL IN THE VICINITY OF THE REPAIR WITH COLD GALVANIZING PAINT.

NOTES:
1. REFER TO SPECIFICATIONS FOR PROCEDURE AND MATERIALS TO CLEAN AND COAT STEEL.
2. ALL PORTIONS OF JOIST ARE TO BE CLEANED AND COATED INCLUDING TOP CHORD, BOTTOM CHORD, WEB MEMBERS AND BRIDGING.

CORRODED HANDRAIL REPAIR
(TASK ITEM 10.7)

CLEAN AND COAT STEEL JOIST
(TASK ITEM 10.5J)
NOTES:
1. FIELD VERIFY ANGLE DIMENSIONS PRIOR TO FABRICATION TO ENSURE NEW ANGLE DOES NOT INTERFERE WITH THE EXISTING LIGHT POST.
2. COAT WELDMENT AND UNCOATED STEEL IN THE VICINITY OF THE REPAIR WITH PROTECTIVE COATING, PER THE SPECIFICATION REQUIREMENTS.

1. LIGHT POST CONNECTION REPAIR

(TASK ITEM 12.1)
TECHNICAL SPECIFICATIONS AND DRAWINGS

FOR

UTHEALTH
UTHSC STUDENT HOUSING GARAGE REPAIRS
HOUSTON, TEXAS

WALTER P. MOORE AND ASSOCIATES, INC.
1301 McKinney Street, Suite 1100
Houston, Texas 77010
713-630-7300

D03.16134.01
PROJECT: UTHHealth
UTHSC Student Housing Garage Repairs
1885 El Paseo Street
Houston, Texas

PROJECT NUMBER: Walter P Moore Project No. D03.16134.01

1301 McKinney Street, Suite 1100
Houston, Texas 77010
Phone: 713-630-7300

Project Manager
Matt Heringer, P.E.
Walter P. Moore and Associates, Inc.
Phone: 713-630-7315

Project Engineer
Benjamin Dow
Walter P. Moore and Associates, Inc.
Phone: 713-630-7360

END OF SECTION 00 01 05
I HEREBY CERTIFY THAT THESE PLANS AND TECHNICAL SPECIFICATIONS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF TEXAS.

Matthew Heringer, P.E.  111461
Walter P Moore and Associates, Inc
TBPE Firm Registration No. 1856
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  Section 01 10 00 – Task Items

DIVISION 03 – CONCRETE
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  Section 05 01 10 – Steel Field Re-Coating

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  Section 07 95 13 – Expansion Joints

END OF SECTION 00 01 10

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General Conditions and Division 01 Specification sections, apply to work of this section.

1.2 TASK ITEM (T.I.) DESCRIPTION

T.I. 1.1 PROJECT MOBILIZATION AND DEMOBILIZATION

A. Scope of Work

1. Work consists of coordinating, scheduling, obtaining and assembling at construction site all equipment, materials, permits, supplies, manpower and other essentials and incidentals necessary to perform Work defined in this Contract.

2. Upon completion of the work and fulfillment of all project requirements to perform Work defined in its Contract the Contractor shall demobilize and make the site ready for Owner’s occupancy.

T.I. 2.3 PARTIAL DEPTH CONCRETE FLOOR REPAIR

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, staging, formwork, supervision, and incidentals necessary to locate existing spalls, locate and remove full delaminated and unsound concrete from concrete on metal deck, prepare cavities, and install repair materials to restore concrete floor slab to original condition and appearance. Refer to Detail 1/S2.0 for specific requirements. Refer to Plan Sheets for location of work.

B. Materials

1. Material for repair areas shall be as specified in Section “Concrete Repair Materials.”

C. Execution

1. Contractor shall locate and mark all work areas as specified in Section “Surface Preparation for Patching.” Marking will be done with methods approved by Engineer and Owner. Contractor shall identify all critical repair work areas before starting the work.

2. Procedure for delaminated, spalled, and unsound concrete removal shall be as specified in Section “Surface Preparation for Patching.”
3. All steel exposed within cavities shall be cleaned to bare metal by abrasive methods or other approved methods as specified in Section “Surface Preparation for Patching.”

4. Following removal of concrete and cleaning of steel, contact engineer to visually evaluate condition of steel column prior to proceeding with patching.

5. Exposed steel shall be epoxy coated with an approved epoxy product as specified in Section “Surface Preparation for Patching.”

6. Contractor shall prepare cavities for repair placement as specified in Section “Surface Preparation for Patching.”

7. Patch installation procedures shall be in accordance with referenced specifications for selected material.

T.I. 2.6 CONCRETE CURB REPAIR BELOW BRICK WALL

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, staging, formwork, supervision, and incidentals necessary to locate existing spalls, locate and remove full delaminated and unsound concrete from curbs, prepare cavities, and install repair materials to restore concrete curb to original condition and appearance. Refer to Detail 2/S2.0 for specific requirements. Refer to Plan Sheets for location of work.

B. Materials

1. Material for repair areas shall be as specified in Section “Concrete Repair Materials.”

C. Execution

1. Contractor shall locate and mark all work areas as specified in Section “Surface Preparation for Patching.” Marking will be done with methods approved by Engineer and Owner. Contractor shall identify all critical repair work areas before starting the work.

2. Procedure for delaminated, spalled, and unsound concrete removal shall be as specified in Section “Surface Preparation for Patching.”

3. All steel exposed within cavities shall be cleaned to bare metal by abrasive methods or other approved methods as specified in Section “Surface Preparation for Patching.”

4. Exposed steel shall be epoxy coated with an approved epoxy product as specified in Section “Surface Preparation for Patching.”

5. Contractor shall prepare cavities for repair placement as specified in Section “Surface Preparation for Patching.”

6. Patch installation procedures shall be in accordance with referenced specifications for selected material.
T.I. 4.1 CONCRETE WALL REPAIR

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, staging, and incidentals necessary to locate and remove unsound concrete from walls, prepare cavities, and install patching materials to restore walls to original condition and appearance. Refer to Detail 1/S2.1 Refer to Plan Sheets for location of work.

B. Materials

1. Material for repairs shall be as specified in Section “Concrete Repair Materials.”

C. Execution

1. Contractor shall locate and mark all work areas as specified in Section “Surface Preparation for Patching.” Contractor shall identify all critical repair work areas before starting the work.

2. Procedure for delaminated, spalled, and unsound concrete removal shall be as specified in Section “Surface Preparation for Patching.”

3. All steel exposed within cavities shall be cleaned to bare metal by abrasive methods as specified in Section “Surface Preparation for Patching.”

4. Exposed steel shall be epoxy coated with an approved epoxy product as specified in Section “Surface Preparation for Patching.”

5. Contractor shall prepare cavities for repair placement as specified in Section “Surface Preparation for Patching.”

6. Patch installation procedures shall be in accordance with referenced specifications for selected material.

T.I. 6.1 EXPANSION JOINT REPLACEMENT – ADHERED

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, traffic controls, scaffolding, shoring, and incidentals necessary to remove existing expansion joint system, repair existing concrete blockout to receive new expansion joint in accordance with manufacturer’s recommendations, and furnish and install a new adhered extruded rubber expansion joint sealant system. Refer to Detail 2/S2.1 for specific requirements. Refer to Plan Sheets for location of work.

B. Materials

1. Material for expansion joint system shall be as specified in Section “Expansion Joints” and Detail 2/S2.1.

2. Material for concrete repairs shall be as specified in Section “Concrete Repair Materials.”
C. Execution

1. Contractor shall locate and mark all work areas. Contractor shall identify all critical repair work areas and coordinate work and lane closures before starting the work.

2. Coordinate this task item with owner representative in order to produce minimum disruptions to the patrons.

3. Contractor shall remove existing expansion joint materials in manner that minimizes damage to adjacent concrete and steel. Alterations and repairs to existing expansion joint blockout required for installation of new expansion joint system shall be performed in accordance with manufacturer recommendations and Section “Surface Preparation for Patching” and are incidental to this Task Item.

4. Contractor shall remove any interfering materials (i.e. PVC conduits). Contractor shall ensure that interfering materials are not operational or functional (i.e. conduits feeding electrical power) before removal.

5. Installation procedures shall be in accordance with referenced specifications for selected material.

T.I. 7.1 CRACK REPAIR

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to locate, prepare, rout and seal random cracks in concrete floor slab. Refer to Detail 1/S2.2 for specific requirements. Refer to Plan Sheets for location of work.

B. Materials

1. Approved materials to be used in this Work are specified in Section “Joint Sealants.”

C. Execution

1. Contractor shall thoroughly inspect concrete slabs for cracks in the areas shown in the drawings. Those identified as either greater than 1/32 in. wide or showing evidence of water and/or salt staining on ceiling below shall be sealed.

2. All cracks identified for repair shall be marked to aid in precision routing. Obtain depths to top reinforcing bars in area of repair by use of non-destructive methods.

3. Determine depth of electrical conduit (if applicable). Do not exceed ½ of this depth of routing where the crack to be repaired crosses the embedded items. Damage to embedded items will require repair or replacement at no cost to the Owner.

4. Cracks shall be ground or saw-cut to an adequate width and depth as required by Detail. Routing shall be performed by mechanized device that has positive mechanical control over depth and alignment of cut.
5. Cavities shall be thoroughly cleaned by either abrasive methods or grinding to remove all laitance, unsound concrete and curing compounds which may interfere with adhesion. Groove shall be air blasted to remove remaining debris.

6. Sealant materials and associated reference specifications are listed in Section “Joint Sealants.” Sealant installation procedures shall be in accordance with referenced specifications for selected material.

T.I. 7.3 JOINT SEALANT REPLACEMENT

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to locate, remove, prepare, and re-seal joints in concrete floor slab and other concrete members. Refer to Detail I/S2.2 for specific requirements. Refer to Plan Sheets for location of work.

B. Materials

1. Approved materials to be used in this Work are specified in Section “Joint Sealants.”

2. Closed cell backer rod as required.

C. Execution

1. Contractor shall locate and identify all location of work.

2. Remove existing joint sealant with minimal damage to adjacent concrete surfaces.

3. Determine depth of electrical conduit (if applicable). Do not exceed ½ of this depth of routing where the crack to be repaired crosses the embedded items. Damage to embedded items will require repair or replacement at no cost to the Owner.

4. Cavities shall be thoroughly cleaned by either abrasive methods or grinding to remove all laitance, unsound concrete and curing compounds which may interfere with adhesion. Groove shall be air blasted to remove remaining debris.

5. Install backer rod at wide joints in strict accordance with manufacturer’s instructions.

6. Sealant materials and associated reference specifications are listed in Section “Joint Sealants.” Sealant installation procedures shall be in accordance with referenced specifications for selected material.
T.I. 8.1 BRICK REPOINTING

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to repoint defective, cracked, broken or eroded joints in existing brick work. Refer to Detail 2/S2.2 for specific requirements. Refer to Plan Sheets for location of work.

B. Materials

3. Hydrated Lime: ASTM C207, Type S.
4. Aggregate for Mortar: ASTM C 144
6. Mortar shall match existing cured color.

C. Execution

1. Contractor shall locate and mark all work areas.
2. All joints and all vertical side joints and top masonry joints shall be repointed.
3. Joints to be repointed shall be cut back to depth of 3/4 in. to full depth of deterioration. Use mechanically operated blades only to perform cutting. Joint at back of cut shall have a square shoulder. Remove all mortar from upper and lower surfaces and sides of mortar being prepared.
4. Contractor shall flush all mortar joints thoroughly with air under pressure prior to repointing to remove all dust, dirt, and laitance.
5. Repointing shall be performed using Type N mortar. Mortar shall be dry and mixed thoroughly prior to adding sand. Add one-half required mixing water and allow to stand 1 hour, then add balance of mixing water.
6. Press mortar into prepared joint using pointing tool 0.125 in. smaller than width of joint until joint is packed full. Finish point joint with pointing tool at least 0.125 in. wider than prepared joint.
7. Prior to initial set of mortar, tool joints to match existings.
8. Allow 3 to 7 days for mortar to harden prior to cleaning brick wall.
9. Dispose of all accumulated material and leave premises in clean condition.
10. Masonry surfaces that become dirty or smeared during joint cutting and repointing of joint surfaces shall be cleaned with bristle brushes and plain water.
11. Unnecessary damage to surrounding brick shall be repaired by contractor at not cost to owner.

12. Damage to landscape (grass, bushes, tree, etc.) sidewalk, asphalt surfaces, canopies, etc. shall be repaired by contractor at no cost to owner.

T.I.  8.3  BRICK REPLACEMENT

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, staging, supervision, and incidentals necessary for local brick removal and replacement due to fractures, cracks, broken, and unsound brick. Refer to Detail 1/S2.3 for specific requirements. Refer to Elevation Sheets for location of work.

B. Materials

1. Brick shall be as specified in General Notes.

1. Mortar shall be as specified in Task Item 8.1.

C. Execution

1. Contractor shall locate and mark all bricks to be replaced. Engineer shall verify replacement locations prior to start of work.

2. Contractor shall locate all existing bricks with a crack width exceeding 1/32”, spalls, all structurally unsound brick, and brick damaged during removal work.

3. Internal steel exposed during removal process shall be wire-brushed to bare metal, primed, and coated with one coat of zinc chromate primer prior to brick replacement.

4. New brick shall be laid in a full bed of mortar. All brick repair shall be flush with existing.

5. New brick is to be toothed into existing brick work.

6. Adequate weather protection shall be installed over all areas left open at completion of each day’s work.

7. Allow 3 to 7 days for mortar to cure before applying any coating to the wall.

8. Dispose of all accumulated material and leave premises in clean condition.

9. Masonry surfaces that become dirty or smeared during joint cutting and repointing of joint surfaces shall be cleaned with bristle brushes and plain water.

10. Unnecessary damage to surrounding brick shall be repaired by Contractor at no cost to Owner.

11. Contractor shall provide protection for landscaping.
T.I. 10.5A CLEAN AND COAT CORRODED STEEL ANGLES

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, staging, and incidentals necessary to clean corroded steel angles. Provide surface preparation by abrasive blasting of steel angles, and apply a protective coating. See Plan Sheet for location of work.

B. Materials

1. Materials shall be as specified in Section “Steel Field Re-Coating”.

C. Execution

1. Prepare surfaces in strict accordance with manufacture’s specifications. Steel surfaces to be coated shall be clean, i.e. devoid of grease, oil, mill scale, oxidation, loosely adherent rust, paint, etc. Abrasive blast steel surfaces to SSPC-SP6.

2. Apply protective coating system (primer, intermediate, and finish coat) in strict accordance with manufacturer’s specifications.

T.I. 10.5B CLEAN AND COAT CORRODED STEEL BEAMS

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, staging, and incidentals necessary to clean corroded steel beams. Provide surface preparation by abrasive blasting of steel beams, and apply a protective coating. See Plan Sheet for location of work.

B. Materials

1. Materials shall be as specified in Section “Steel Field Re-Coating”.

C. Execution

1. Prepare surfaces in strict accordance with manufacture’s specifications. Steel surfaces to be coated shall be clean, i.e. devoid of grease, oil, mill scale, oxidation, loosely adherent rust, paint, etc. Abrasive blast steel surfaces to SSPC-SP6.

2. Apply protective coating system (primer, intermediate, and finish coat) in strict accordance with manufacturer’s specifications.
T.1. 10.5C CLEAN AND COAT CORRODED STEEL COLUMNS

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, staging, and incidentals necessary to clean corroded steel columns. Provide surface preparation by abrasive blasting of steel columns, and apply a protective coating. See Plan Sheet for location of work.

B. Materials

1. Materials shall be as specified in Section “Steel Field Re-Coating”.

C. Execution

1. Prepare surfaces in strict accordance with manufacture’s specifications. Steel surfaces to be coated shall be clean, i.e. devoid of grease, oil, mill scale, oxidation, loosely adherent rust, paint, etc. Abrasive blast steel surfaces to SSPC-SP6.

2. Apply protective coating system (primer, intermediate, and finish coat) in strict accordance with manufacturer’s specifications.

T.I. 10.5D CLEAN AND COAT CORRODED STEEL DECK

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, staging, and incidentals necessary to clean corroded steel deck. Provide surface preparation by abrasive blasting of steel deck, and apply a cold galvanizing repair paint. See Plan Sheet for location of work.

B. Materials

1. ZRC Galavalite Repair Paint

C. Execution

1. Prepare surfaces in strict accordance with manufacture’s specifications. Steel surfaces to be coated shall be clean, i.e. devoid of grease, oil, mill scale, oxidation, loosely adherent rust, paint, etc.

2. Apply cold-galvanizing repair paint in strict accordance with manufacturer’s specifications.
T.I. 10.5J CLEAN AND COAT CORRODED STEEL JOISTS

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, staging, and incidentals necessary to clean corroded open-web steel joists. Provide surface preparation by power washing of steel joists and localized cleaning of joists with loosely adhered materials to SSPC-SP3 Power Tool Cleaning, and applying a protective coating. See Plan Sheet for location of work.

B. Materials

1. Materials shall be as specified in Section “Steel Field Re-Coating”.

C. Execution

1. Prepare surfaces in strict accordance with coating manufacture’s specifications. Steel surfaces to be coated shall be clean, i.e. devoid of grease, oil, and loosely adherent rust, paint, etc. Abrasively clean the localized areas of loosely adhered material to SSPC-SP3 Power Tool Cleaning.

2. High pressure water wash joists to be coated with a minimum 3000 – 5000 psi at the tip with the nozzle not more than 12 inches from the surface being cleaned at a rate of 3 – 5 gallons per minute, utilizing an orbital tip. Finish with a clean water rinse.

3. Apply protective coating system consisting of primer at bare metal areas only and finish coat over prepared painted and primed surfaces in strict accordance with manufacturer’s specifications.

T.I. 10.7 REPLACE CORRODED HANDRAIL SECTION

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to locate handrails with corrosion induced section loss, remove the segment of handrail, and replace with a new piece of tube steel. Refer to detail 2/S2.5 for additional information.

B. Materials

1. Materials shall be as specified in the General Notes and in detail 2/S2.5

2. ZRC Galavalite Repair Paint

C. Execution

1. Ensure that location below handrail is barricaded to ensure that no facility patrons enter the space below the area of work.

2. Remove the corroded section of handrail from vertical post to vertical post.
3. Install new tube steel cut to length of created opening.
4. Weld new tube steel into place in accordance with detail 2/S2.5.
5. Apply cold-galvanizing repair paint at all welds or damaged galvanized coating on the new handrail section.

T.I. 12.1 LIGHT POST CONNECTION REPAIR

A. Scope of Work

1. Work consists of furnishing all labor, materials, equipment, supervision, and incidentals necessary to locate light post with missing anchor bolt and provide a new steel angle to provide additional strength. Refer to detail 1/S2.6 for additional information.

B. Materials

1. Materials shall be as specified in the General Notes and in detail 1/S2.5
2. Coating Materials shall be as specified in Section “Steel Field Re-Coating”.

C. Execution

1. Prepare the surface of the existing light post base plate and steel closure angle to accept new weld material.
2. Install new steel angle by welding to the light post base plate and steel closure angle
3. Apply protective coating to new steel angle and adjacent uncoated surfaces. Refer to section “Steel Field Re-Coating” for additional information.

END OF SECTION 00 10 15
SECTION 03 01 01 - SURFACE PREPARATION FOR PATCHING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the provisions of all labor, materials, supervision and incidentals required to locate and remove all delaminated and unsound concrete, including preparation of cavities created by removal to receive patching material and preparation of existing surface spalls to receive patching material.

B. Related Sections include the following:

1. Division 03 Section “Concrete Repair Materials.”

C. Contractor shall fully acquaint himself with the existing job site conditions and discuss the accessibility of the work areas with the Owner.

D. Provide barricades around the work area with appropriate signage to keep non-construction people from entering work area.

E. Contractor shall provide all traffic cones or barriers to direct traffic during the repair of the facility. This work shall be done in consultation with the Owner.

1.2 REFERENCES

A. Applicable Standards:

1. American Concrete Institute (ACI), latest version:
   a. ACI 301 Specifications for Structural Concrete
   b. ACI 546.1R Guide for Repair of Concrete Bridge Structures
   c. ACI 546R Concrete Repair Guide

2. International Concrete Repair Institute (ICRI):
   a. ICRI 310.1R Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion
   b. ICRI 310.2R Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair
   c. ICRI 320.2R Guide for Selecting and Specifying Materials for Repair of Concrete Surfaces

PART 2 - PRODUCTS AND MANUFACTURERS

A. Cementitious epoxy coating for existing exposed non-prestressed steel reinforcement:

   1. BASF: MasterEmaco P 124
2. Sika Chemical Corporation: Armatec 110 EpoCem
3. Euclid Chemical: Duralprep A.C.

2.2 SUBSTITUTIONS

A. Substitutions may be considered provided complete technical information and job references are furnished to the Owner/Engineer and approved prior to commencement of work.

B. Changes in products required to suit temperature and environmental conditions at the time of material application shall be specified as separate line items by the Contractor showing credit or additions to the price for the various tasks.

C. In using the above products, follow strictly the manufacturer's specifications and directions for mixing and application. Also heed all label warnings by manufacturer. Make application in accordance with applicable safety laws.

PART 3 - EXECUTION

3.1 INSPECTION

A. Horizontal Surfaces

1. Contractor shall sound all designated floor areas for delaminations.

B. Vertical and Overhead Surfaces

1. Contractor shall sound only vertical and overhead surfaces in designated areas that show evidence of cracking and/or staining. Cracks, usually horizontal in orientation along beam faces, and vertical in orientation near column corners are indicators of delaminated concrete.

C. Delaminated areas: Once located by Contractor, Contractor shall further sound and mark them to define limits.

D. Spalls: Contractor shall locate spalls by visual inspection, and mark boundaries.

E. Engineer may mark additional unsound concrete for removal.

F. Areas to be removed shall be rectangular to provide adequate appearance.

G. Contractor shall locate and determine the depth of all embedded reinforcement, electrical conduit, post-tensioned tendons, in repair area and mark these locations for reference during concrete removal. Do not cut any embeds unless approved by Engineer.

3.2 ABRASIVE BLASTING

A. Necessary approvals shall be obtained by the Contractor from authorizing governmental or other agencies prior to abrasive-blasting. Abrasive-blasting operations shall comply with the
3.3 REPAIR PREPARATION

A. Contractor shall review all marked removal and preparation areas and request clarification by Engineer of shoring requirements in questionable areas. Shores shall be in place prior to concrete removal and cavity preparation in any area requiring shores.

B. All delaminated, spalled and unsound concrete shall be removed from within marked boundary to minimum depth of 3/4 inch (19mm) using 15 lb air hammers equipped with chisel point bits. When directed by Engineer, chipping hammers less than 15 lb shall be used to minimize damage to sound concrete. If delaminations exist beyond minimum removal depth, chipping shall continue until all unsound and delaminated concrete has been removed from cavity.

C. Where embedded reinforcement, anchorages, or electrical conduit is exposed by concrete removal, proceed with caution to avoid damaging it during removal of unsound concrete. If bond between exposed embedded reinforcement/anchorages and adjacent concrete is impaired by Contractor’s removal operation, Contractor shall perform additional removal around and beyond perimeter of reinforcement for minimum of 3/4 inch (19mm) along entire length affected at no cost to owner.

D. If rust is present on embedded reinforcement where it enters sound concrete, additional removal of concrete along and beneath reinforcement will be required. Additional removal shall continue until non-rusted reinforcement is exposed, or may be terminated per Engineer’s instructions.

E. Removal of concrete for repair requires saw cutting 3/4 inch (19mm) into floor slab of the perimeter of the removal, unless a more stringent criteria applies. For vertical and overhead surfaces marked areas shall be saw-cut, ground, or chipped to depth of 1/2 inch (12 mm) to existing concrete, measured from original surface.

F. Edges of patch areas shall be dressed perpendicular to member face to eliminate feather edges. All edges shall be straight and patch areas square or rectangular-shaped. Do not overcut patch corners during sawcutting, chipping, or grinding.

G. Contractor shall exercise extra caution during saw cutting to avoid damaging existing reinforcement particularly post-tensioned tendons, sheathing, electrical conduit and any other embedded items near surface of concrete. Any damage to existing embedded items shall be repaired by Contractor with Engineer’s approved methods at no additional cost to Owner.

3.4 INSPECTION OF REPAIR PREPARATION

A. After removals are complete, but prior to final cleaning, cavity and exposed reinforcement shall be inspected by Contractor and subject to verification by Engineer for compliance with requirements of this Section.

B. Contractor shall inspect embedded reinforcement and conduits exposed within cavity for defects due to corrosion or damage resulting from removal operations. Contractor shall notify Engineer
of all defective and damaged reinforcement or conduits. Replacement of damaged or defective reinforcement/conduits shall be performed in accordance to the requirements of this Section.

3.5 CLEANING OF REINFORCEMENT

A. All exposed reinforcing steel shall be cleaned and free of rust and other contaminants. Cleaning shall be accomplished by abrasive methods. Cleaning shall be completed immediately before patch placement to insure that base metal is not exposed to elements and further rusting for extended periods of time. Use powered wire brushes in locations where reinforcing steel cannot be cleaned by abrasive-blasting or water-blasting.

B. All exposed reinforcing steel shall be coated with a corrosion inhibiting product specified in Part 2 of this specification prior to mortar application. Protect prepared surfaces from damage prior to and during patch placement.

3.6 REINFORCEMENT IN REPAIR AREAS

A. All embedded reinforcement exposed during surface preparation that has lost more than 10% of original cross-sectional area due to corrosion shall be considered defective. Defective reinforcement shall be supplemented in accordance to Engineer’s instructions and shall be paid for by Owner.

B. Damaged reinforcement caused during removals made by Contractor shall be supplemented in accordance to Engineer’s instructions and shall be paid for by Contractor.

C. Supplement defective or damaged embedded reinforcement of equal diameter with a Class B splice in accordance to ACI–318 beyond damaged portion of reinforcement. Secure new reinforcement to existing reinforcement with approved anchors. Supplemental steel shall be A615 Grade 60 steel except where more stringent requirements apply in drawings and/or details.

D. Loose reinforcement exposed during surface preparation shall be securely anchored prior to patch placement. Loose reinforcement shall be adequately secured with wire ties to bonded reinforcement or with drilled-in anchors. Drilled-in anchors shall be TW-1400 anchors by ITW Ramset/Red Head, Tie-Wire Wedge-All anchors by Simpson Strong-Tie, or approved equal. Engineer will determine adequacy of wire ties and anchors. Securing loose reinforcement is incidental to surface preparation.

E. Minimum of 1-1/2 inch concrete cover shall be provided over all new/existing reinforcement except where more stringent requirements apply in drawings and/or details.

3.7 PREPARATION OF CAVITY FOR PATCH PLACEMENT

A. Cavities will be examined prior to commencement of patching operations. Sounding surface shall be part of examination. Delaminations noted during sounding shall be removed as specified in this Section.

B. All debris shall be removed from site prior to commencement of patching.

END OF SECTION 03 01 01
PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the provisions of all labor, materials, supervision and incidentals required to prepare deteriorated or damaged concrete surfaces and install patching materials to restore original surface condition and integrity.

B. Related Sections include the following:

1. Division 03 Section “Surface Preparation for Patching.”

C. Contractor shall fully acquaint himself with the existing job site conditions and discuss the accessibility of the work areas with the Owner.

D. Contractor shall ensure that there is adequate ventilation in areas where repair work is being performed and that no work results in nauseating, annoying or toxic fumes and odors from entering occupied areas. Provide barricades around the work area with appropriate signage to keep non-construction people from entering work area.

E. Contractor shall provide all traffic cones or barriers to direct traffic during the repair of the facility. This work shall be done in consultation with the Owner.

1.3 REFERENCES

A. Applicable Standards:

1. American Concrete Institute (ACI), latest version:
   - ACI 301R Specifications for Structural Concrete
   - ACI 305R Hot Weather Concreting
   - ACI 306R Cold Weather Concreting
   - ACI 308R Guide to Curing Concrete
   - ACI 318R Building Code Requirements for Structural Concrete
   - ACI 548.1R Guide for Use of Polymers in Concrete

1.4 INFORMATION SUBMITTALS

A. Make submittals in accordance with requirements of Division 01 and as specified in this Section.

1.5 ACTION SUBMITTALS

A. Proposed Means and Methods:

1. Contractor shall submit procedures to protect fresh resurfacing, patches, and concrete from weather and traffic.

1.6 QUALITY ASSURANCE

A. Work shall conform to requirements of the American Concrete Institute (ACI) as applicable except where more stringent requirements are shown on Drawings or specified in this Section. Qualifications

1. Manufacturer's Qualifications: Companies furnishing the repair materials shall have a proven track record of at least five years. Furthermore, they shall have in existence a program of training, certifying, and supporting a nationally organized program of approved contractors. Evidence of this shall be made available to the Engineer/Owner upon request.

2. Contractor's Qualifications: Contractor performing the work shall be an approved contractor by the manufacturer furnishing the repair materials, and shall have no less than five years of experience in the various types of work required in this project. Upon request by the Engineer, a notarized certification from the manufacturer attesting to the training shall be submitted to the Engineer/Owner.

3. Applicator’s Qualifications:
   a. Repair work shall only be performed by contractors who have successfully used this process on at least three similar structural repairs of equal scope which have performed successfully for a minimum period of five years.
   b. Only adequately trained and experienced personnel shall be used on the job.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS FOR POLYMER MODIFIED CEMENTITIOUS MORTARS

A. Mortar used for bonding, patching, and resurfacing in exposed or exterior environmental conditions with large cyclic temperature changes shall have the following properties:

1. Mortar shall be non-sagging.
2. Acceptable materials shall have minimum 3-day compressive strength of 3,000 psi, and 5,000 psi at 28 days as certified by manufacturer.

3. Coefficient of thermal expansion shall be comparable with that of concrete (5.5 x 10^-6 in/in/°F).

4. Sand used in preparing mortar shall be graded oven dry quartzite furnished in bags.

5. The mortar patch material shall match the existing texture and color of existing exposed/cured concrete without giving a blotchy appearance. A test patch shall be applied for approval prior to final acceptance of the mortar. Size of test patch shall be approximately equal to the size of the average mortar patch to be used on the project.

2.2 CONCRETE REPAIR MATERIALS

A. Polymer Modified Mortar for Horizontal Repairs:
   1. MasterEmaco T 310 CI (formerly EMACO R310 CI) by BASF
   2. SikaTop 122 Plus by Sika
   3. Eucocrete Supreme by Euclid Chemical Company

B. Polymer Modified Mortar for Overhead/Vertical Repairs:
   1. MasterEmaco N 425 (formerly Gel Patch) by BASF
   2. SikaTop 123 Plus by Sika
   3. Verticoat Supreme by Euclid Chemical Company

C. Substitutions may be considered provided complete technical information and job references are furnished to the Owner/Engineer and approved prior to commencement of work.

D. Changes in products required to suit temperature and environmental conditions at the time of material application shall be specified as separate line items by the Contractor showing credit or additions to the price for the various tasks.

E. In using the above products, follow strictly the manufacturer's specifications and directions for mixing and application. Also read all label warnings by manufacturer. Make application in accordance with applicable safety laws.

PART 3 - EXECUTION

3.1 PATCHING WITH REPAIR MORTAR

A. Surface Preparation
   1. Concrete surface to which the mortar is to be applied shall be exposed parent concrete free of loose and unsound materials. Preparation of cavity to receive new mortar shall be in accordance to Section “Surface Preparation for Patching” and manufacturer’s instructions.
2. Ensure that the surface and ambient temperature is at least 45°F and rising at the time of application.

B. Bonding Grout
   1. Apply grout in strict accordance with manufacturer’s recommendations.
   2. If bonding grout dries, cavity shall not be patched until it has been re-cleaned and prepared as indicated in Section “Surface Preparation for Patching.” Grout shall not be applied to more cavities than can be patched within 15 min. by available manpower.
   3. Patching materials shall be placed immediately following grout application in strict accordance with manufacturer’s instructions.

C. Mortar Application
   1. Condition polymer mortar material to 65°F-80°F (18°C-26°C) unless otherwise recommended by the manufacturer. Materials beyond this range of temperature shall not be used.
   2. Mix the two components in a clean container free of contaminants as recommended by the manufacturer.
   3. Thoroughly blend components and aggregates with portable mixers to a uniform and homogenous mixture. Small batches of one quart or less may be mixed by spatulas, palette knives or similar devices.
   4. Mixing should be accomplished within three minutes when using Jiffy mixer or five minutes when mixed by hand.
   5. Apply mortar by means suitable for the consistency of the mortar mix.
   6. Use appropriate forms as required for retaining mortar if mixed to a flowable consistency.
   7. Consolidate the mortar thoroughly to remove entrapped air.
   8. Supplemental wire mesh shall be required for delamination and spall repairs greater than 2” in depth. Fresh bonding grout is required between successive lifts of patching material.
   9. Finish surface of mortar to match the texture and contours of existing concrete.

3.2 CURING
   A. Immediately after finishing, keep patch material continually moist for at least 24 hrs. Continue curing for first 7 days after patch placement. During initial and final curing periods maintain patch material above 50 °F.
   B. Prevent rapid drying at end of curing period.
   C. Provide additional curing as required by manufacturer’s recommendations.
3.3 CLEANUP
   A. Protect surfaces surrounding the work areas against spillage.
   B. Material spillage shall be cleaned before they set and become difficult to remove.
   C. Cleanup all portions of the existing structure that are soiled or stained in the process of mortar repair work.

3.4 FIELD QUALITY CONTROL
   A. Engineer will hammer sound patches.
   B. Contractor shall replace all patches which are delaminated, cracked, or debonded.

END OF SECTION 03 01 05
 PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK
   A. Furnish all labor, materials, services, equipment and appliances required in conjunction with or related to the re-coating of concealed structural steel lintels.
   B. Furnish all labor, materials, services, equipment and appliances required in conjunction with or related to the re-coating of exposed structural steel architectural features.

1.3 QUALITY ASSURANCE
   The Contractor is responsible for quality control, including workmanship and materials furnished by his subcontractors and suppliers.
   A. Codes and Standards: Comply with provisions of following, except as otherwise indicated. Certain sections in this specification contain requirements that are more restrictive and/or different than contained in the standards listed. In such cases, the requirements of this specification shall control.

1.4 SUBMITTALS
   A. Product Data: Submit producer's or manufacturer's specifications and installation instructions for following products; include laboratory test reports and other data to show compliance with specifications (including the specified standards):
      1. Structural steel protective paint system, including primer, intermediate, and finish products.
   B. Qualification Data:
      1. Submit qualification data for firms and persons specified in Article 1.04 “Qualifications” to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of engineers and owners, and other information specified.
1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to site at such intervals to ensure uninterrupted progress of work.

B. Furnish all fuel, maintenance, and equipment required for hoisting and placement of materials under this contract.

PART 2 - PRODUCTS

2.1 PRODUCTS, MANUFACTURERS, AND SUBSTITUTIONS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the products specified.

2. Products: Subject to compliance with requirements, provide one of the products specified.

B. Substitutions: Where specific products or services are specified, Contractor may request a substitution to be reviewed and approved or rejected by Owner and Engineer, following the procedures outlined in Section “Product Substitution Procedures”.

2.2 MATERIALS

A. Exposed Structural Steel (Task Items 10.5A, 10.5B, 10.5C, and 12.1)

1. Approved Products:

   a. ICI Devoe Coatings, www.devoecoatings.com

      Primer Coat: Pre-Prime 167
      Intermediate Coat: Devran 224HS High Build Epoxy
      Finish Coat: Devthane 379H Aliphatic Urethane Enamel


      Primer Coat: Macropoxy 920 Pre-Prime
      Intermediate Coat: Macropoxy HS High Solids Epoxy
      Finish Coat: Acrolon 218 HS Acrylic Polyurethane

   c. Tnemec, www.tnemec.com

      Primer Coat: Series 27 F. C. Typoxy Polyamide Epoxy
      Intermediate Coat: Series 66 | Hi-Build Epoxoline
      Finish Coat: Series 73 | Endurashield
d. Approved Equal Paint Systems (with similar performance characteristics to specified painting systems)

- Primer Coat: Epoxy Primer
- Intermediate Coat: Hi-Build Epoxy Coating
- Finish Coat: Aliphatic Acrylic Polyurethane Enamel

B. Steel Joists (Task Items 10.5J)

1. Approved Products:
   a. ICI Devoe Coatings, www.devoecoatings.com
      - Primer Coat: Devprime 1405 (bare metal areas only)
      - Finish Coat: Devlac 1432 Alkyd
      - Primer Coat: Kem Bond HS Primer (bare metal areas only)
      - Finish Coat: Pro Industrial Urethane Alkyd Enamel
   c. Tnemec, www.tnemec.com
      - Primer Coat: Series 37H | Chem-Prime H.S. (bare metal areas only)
      - Finish Coat: Series 82HS | Versatone
   d. Approved Equal Paint Systems (with similar performance characteristics to specified painting systems)
      - Primer Coat: Alkyd Primer (bare metal areas only)
      - Finish Coat: Exterior Grade Alkyd Enamel

2.3 SURFACE PREPARATION

A. Specification: Surface preparation, paint, and painting practices shall conform to the "Steel Structures Painting Manual", Volumes 1 and 2, as published by the Society for Protective Coatings (formerly the Steel Structures Painting Council (SSPC)).

1. Unless recommended otherwise by primer manufacturer, minimum level of clean for existing structural steel surfaces except for joists shall be SSPC-SP 6/NACE No. 3, “Commercial Blast Cleaning”.

2. Unless recommended otherwise by primer manufacturer, minimum level of cleaning for existing steel for joists shall be pressure washing in accordance with the requirements of Task Item 10.5J and removal of all loosely adhered materials i.e. loosely adhered rust and paint to SSPC-SP3, “Power Tool Cleaning”. Joist Steel shall be dry before primer is applied to bare steel surfaces or finish coat is applied over existing paint.
B. Surface Preparation and Coating Coordination:

1. Surface Preparation: Prepare the surface of all steel specified to be field painted as required by the paint manufacturer or the Society for Protective Coatings specifications.

2. Primer Coat: Apply a test patch to confirm compatibility of primer with existing coating systems prior to applying primer to all cleaned surfaces. Allow primer to dry one week before testing adhesion.

Immediately after surface preparation, apply primer to all structural steel specified to be field primed in strict accordance with manufacturer’s instructions and the Society for Protective Coatings specifications. Apply paint at a rate to conform to the manufacturer’s written instructions to achieve minimum dry film thickness given above. Use coating methods that result in full coverage of joints, corners, edges, welds, and all exposed surfaces.

3. Intermediate Coat: Coordinate primer coat requirements with intermediate coat requirements, including minimum cure time and any between-coat surface preparation. The primer coat selected must be compatible with any specified intermediate and/or finish coats.

4. Finish Coat: Coordinate intermediate coat requirements with finish coat requirements, including minimum cure time and any between-coat surface preparation. The intermediate coat selected must be compatible with any specified finish coats.

Where structural steel is exposed, the finish coat color shall be per Owner’s selection from coating manufacturer’s standard colors.

PART 3 - EXECUTION

3.1 APPLICATION

A. Steel Field Re-coating:

1. Steel surfaces to be coated shall be clean, i.e. devoid of grease, oil, mill scale, oxidation, loosely adherent rust, paint, etc.
2. Clean steel surfaces as specified above.
3. Mix different coatings per manufacturer’s directions.
4. Use air spray, 1/4-inch synthetic woven nap rollers, or high quality natural bristle brushes to apply coatings.
5. Prepare surfaces and apply specified primer paint. Apply coating by brush or spray at sufficient wet film thickness to achieve a minimum dry film build as given above, using manufacturer’s recoat time directions.
6. Apply intermediate coat at sufficient wet film thickness to achieve a minimum dry film build as given above.
7. Apply specified finish coat. Apply coating by brush or spray at sufficient wet film thickness to achieve a minimum dry film build as given above.
8. The Contractor shall ensure that, at the substantial completion of the project, all structural steel required to be painted shall have all necessary steel surfaces painted (including touch-up painting as required) to prevent corrosion bleeding.

B. Clean Up: Clean up all debris caused by the Work of this Section, keeping the premises neat and clean at all times.

END OF SECTION 05 01 10
PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. Drawings and general provisions of Contract, including General and Supplementary Conditions
      and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
   A. This Section includes the provisions of all labor, materials, supervision and incidentals required
      to install joint sealants and associated materials.
   B. Contractor shall fully acquaint himself with the existing job site conditions and discuss the
      accessibility of the work areas with the Owner.
   C. Contractor shall ensure that there is adequate ventilation in areas where repair work is being
      performed and that no work results in nauseating, annoying or toxic fumes and odors from
      entering occupied areas. Provide barricades around the work area with appropriate signage to
      keep non-construction people from entering work area.
   D. Contractor shall provide all traffic cones or barriers to direct traffic during the repair of the
      facility. This work shall be done in consultation with the Owner.

1.3 REFERENCES
   A. Applicable Standards:

1.4 INFORMATION SUBMITTALS
   A. Make submittals in accordance with requirements of Division 01 and as specified in this
      Section.
   B. Product Data: Product data sheets, Material Safety Data Sheets/Safety Data Sheets (MSDS/SDS), and installation instructions for each product proposed for use on the project.
   C. Material Certificates: Where product data does not indicated material compatibility of
      independent products that form a system assembly; provide a written statement of material
      compatibility from the system assembly manufacturer. System assembly shall include:
      1. Substrate Cleaning Solvents
2. Backer Materials
3. Primers
4. Sealant Materials

D. Environmental Certification:

1. Certification that products and installation comply with applicable EPA, OSHA, and VOC requirements regarding health and safety hazards.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project Site in original unopened containers, or bundles with labels informing about manufacturer, product name and designation, color, expiration period for use, pot life, curing time and mixing instructions for multicomponent materials.

B. Store and handle materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.

1.6 PROJECT CONDITIONS

A. Environmental Conditions: Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealant manufacturers.
2. When joint substrates are wet due to rain, frost, condensation or other causes.
3. Joint Width Conditions: Do not proceed with installation of joint sealants when joint widths are less than allowed by sealant manufacturer for application indicated.

1.7 QUALITY ASSURANCE

A. Single Source Responsibility for Joint Sealant Materials: Obtain joint sealant materials from a single manufacturer for each different product required. Provide one year warranty on installation and materials.

B. Contractor's Qualifications: Contractor performing the work shall be an approved contractor by the manufacturer furnishing the materials, and shall have no less than three years experience in related work required in this project. Upon request by the Engineer, a notarized certification from the manufacturer attesting to the training shall be submitted to the Engineer/Owner.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS

A. General requirements for traffic grade Polyurethane Sealants
1. Primer: Provide type recommended by joint sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint sealant-substrate and field tests.

2. Self-leveling polyurethane sealants require tooling in accordance with project details.

3. Compounds used for sealants shall not stain concrete or masonry. Aluminum pigmented compounds not acceptable.

4. The color of sealants shall match adjacent surfaces.

B. Polyurethane Sealant For Horizontal, Non-Cove Joints: Two-component, non-sagging, polyurethane based, elastomeric sealant meeting the requirements of ASTM C920, Type M, Grade P, Class 25, Use T.

1. BASF Construction Chemicals
   a. Primer: MasterSeal P 173
   b. Sealant: MasterSeal SL 2

2. Sika Corporation
   a. Primer: Sikaflex 260, 429 or 449
   b. Sealant: Sikaflex-2c NS TG

2.2 ACCESSORY PRODUCTS

A. Cleaners for Nonporous Surfaces: Provide non-staining, chemical cleaner of type acceptable to manufacturer of sealant and sealant backing materials which are not harmful to substrates and adjacent nonporous materials.

B. Backer Materials

1. General: Provide sealant backings of material and type which are non-staining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

2. Plastic Foam Joint-Fillers: Preformed, compressible, resilient, non-waxing, non-extruding strips of plastic foam of material indicated below, and of size, shape and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

3. Backer Rod: Either flexible, open cell polyurethane foam or non-gassing, closed-cell polyethylene foam, unless otherwise indicated, subject to approval of sealant manufacturer.

4. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing bond between sealant and joint filler or other materials at back surface of joint. Provide self-adhesive taper where applicable.
C. Masking Tape: Provide non-staining, non-absorbent type compatible with joint sealants and to surfaces adjacent to joints.

2.3 SUBSTITUTIONS

A. Product substitutions are not permitted for this project.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Require installer to inspect joints indicated to receive joint sealants for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealant performance. Obtain installer’s written report listing any condition detrimental to performance of joint sealant work. Do not allow joint sealant work to proceed until unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with recommendations of joint sealant manufacturers and the following requirements:

1. Remove all foreign material from joint substrates which could interfere with adhesion of joint sealant, including dust; paint, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; oil; grease; waterproofing; water repellants; water; surface dirt and frost.

2. Clean concrete, substrate surfaces, by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.

3. Remove laitance from concrete.

B. Joint Priming: Prime all joint substrates where indicated or where recommended by joint sealant manufacturer based on preconstruction joint sealant-substrate tests or prior experience. Apply primers to areas of joint sealant bond. Do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.
3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint sealant manufacturers’ printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.

B. Elastomeric Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Installation of Sealant Backings: Install sealant backings to comply with the following requirements:

1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths which allow optimum sealant movement capability.

2. Do not leave gaps between ends of joint-fillers.

3. Do not stretch, twist, puncture or tear joint-fillers.

4. Remove absorbent joint-fillers which have become wet prior to sealant application and replace with dry material.

5. Install bond breaker tape between sealants and joint-fillers, compression seals or back of joint where required to prevent third-side adhesion of sealant to back of joint.

D. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability. Do not smear sealant onto adjacent surfaces.

E. Tooling of Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants in concave joint configuration per ASTM C 1193, unless otherwise indicated to form smooth, uniform beads of configuration indicated, to eliminate air pockets and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.

3.4 PROTECTION AND CLEANING

A. Protect joint sealants during and after curing period from contact with contaminating substances or from damage resulting from construction operations. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and reseal joints with new materials to produce sealant installations with repaired areas indistinguishable from original work.

B. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by the manufacturer of the sealants and of the products used in the joints.

END OF SECTION 07 92 00
SECTION 07 95 13 - EXPANSION JOINTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS
   A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY
   A. Contractor shall fully acquaint himself with the existing job site conditions and discuss the accessibility of the work areas with the Owner.
   B. Contractor shall ensure that there is adequate ventilation in areas where repair work is being performed and that no work results in nauseating, annoying or toxic fumes and odors from entering occupied areas. Provide barricades around the work area with appropriate signage to keep non-construction people from entering work area.
   C. Contractor shall provide all traffic cones or barriers to direct traffic during the repair of the facility. This work shall be done in consultation with the Owner.

1.3 INFORMATION SUBMITTALS
   A. Make submittals in accordance with requirements of Division 01 and as specified in this Section.
   B. Product Data: Product data sheets, Material Safety Data Sheets/Safety Data Sheets (MSDS/SDS), and installation instructions for each product proposed for use on the project.
   C. Material Test Reports:
      2. Submit test reports from accredited laboratory attesting to joint systems’ movement capability and ADA compliance.

1.4 ACTION SUBMITTALS
   A. Shop Drawings:
1. An expansion joint system is detailed on Drawings. Shop drawings shall include temperature adjustment table with expansion joint opening calculated at 10°F (5°C) increments. Shop drawing submittal shall show that proposed joint system is of similar gland configuration, capable of equal individual and combined movements in each direction when installed at designated temperature shown on drawings.

2. Manufacturer and Applicator shall review and approve all details before construction. Submit confirmation for this review in writing to Engineer along with the shop drawings.

3. Installation and Phasing Plans: Large scale details showing all conditions including, but not limited to, splices, terminations, and change in section or alignment.

B. Where installation temperature is other than specified temperature, submittal shall include calculations showing joint is capable of movement within design temperature range (supplied by Engineer) for “other” temperature, and that design and installation follow manufacturer’s recommendations. Design temperature range is -30°F (-34°C) to 130°F (54°C). Material samples.

C. Other information required to define joint placement or installation.

D. Quality Assurance Plan: Contractor setting expansion joint opening will require a temperature adjustment table to properly size joint gap at time of concrete pour or precast erection.

1. Caution: The expansion joint movement capability and the actual joint gap movement may not coincide if Quality Assurance measure not followed.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages and containers with seals unbroken and bearing manufacturer's labels showing the following information:

1. Manufacturer's brand name.
2. Type of material.
3. Directions for storage.
4. Date of manufacture and shelf life.
5. Lot or batch number.
6. Mixing and application instructions.
7. Color.

B. Store materials in a clean, dry location protected from exposure to direct sunlight. In storage areas, maintain environmental conditions within range recommended in writing by manufacturer.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Install expansion joint systems within the range of ambient and substrate temperatures recommended in writing by manufacturer.
1.7 QUALITY ASSURANCE

A. Source Limitations: Use materials for work governed by this section from a single manufacturer.

B. Qualifications:

1. Manufacturer's Qualifications: Companies furnishing the materials shall have a proven track record of at least five years. Furthermore, they shall have in existence a program of training, certifying, and supporting a nationally organized program of approved contractors. Evidence of this shall be made available to the Engineer and Owner upon request.

2. Contractor's Qualifications: Contractor performing the work shall be an approved contractor by the manufacturer furnishing the materials, and shall have no less than five year experience in related work required in this project. Upon request by the Engineer, a notarized certification from the manufacturer attesting to the training shall be submitted to the Engineer and Owner.

3. Applicator's Qualifications: Only adequately trained and experienced personnel shall be used on the job.

C. Pre-Installation Coordination

1. Applicator shall coordinate services with related Work including layout of joint system and approval of methods for providing joints.

2. Applicator shall inspect site to insure proper joint configuration in field.

3. Expansion joint blockouts shall be floated and troweled before final cure to remove all air pockets, voids and spalls caused by form work.

4. Expansion joint surface areas two feet on each side of joint gap shall be finish graded perpendicular to joint gap creating flush slab-to-slab transition. Elevations on each side shall be identical.

1.8 WARRANTY

A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

1. Special Warranty: Written warranty, signed by expansion joint manufacturer agreeing to repair or replace expansion joint systems that do not comply with requirements or that deteriorate during the specified warranty period.

B. Warranty Period: Five years from date of acceptance of work, jointly executed by Manufacturer and Applicator.
C. If material surface shows any of defects listed above, supply labor and material to repair all defective areas and to repaint all damaged line stripes.

D. Perform any repair under this guarantee at no cost to Owner

E. Vandalism and abnormally abrasive maintenance equipment, are not normal traffic use and are exempted from warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General:
   2. Surfaces accessible to pedestrian traffic: anti-slip construction.
   3. Material shall be applied in lengths no shorter than 20 ft, with no joints in the drive aisle.

2.2 EXPANSION JOINT SYSTEMS

A. Adhered extruded rubber expansion joint sealant system. Acceptable systems:
   1. BASF - Watson Bowman Acme Corp.; Jeene Structural Sealing Joint System FW Series
   2. MM Systems Corporation; Epoxy Bonded Sealing System – EBS Series

PART 3 - EXECUTION

3.1 EXAMINATION

A. Inspect surfaces to receive Work and report immediately in writing to Engineer any deficiencies in surface which render it unsuitable for proper execution of Work.

B. Coordinate and verify that related Work meets following requirements:
   1. Concrete surfaces are finished as acceptable for system to be installed.
   2. Curing compounds used on concrete surfaces are compatible with Work to be installed.
   3. Concrete surfaces have completed proper curing period for system selected.

C. Acid etching: Prohibited.
D. All openings to occupied space shall be sealed to prevent cleaning materials, solvents and fumes from infiltration. All protective measures and/or ventilating systems required to prevent infiltration are incidental to this Work.

3.2 PREPARATION

A. General Contractor: Correct unsatisfactory conditions in manner acceptable to installer before installing expansion joint system. All honeycombs and air voids in blockouts shall be patched as acceptable to Engineer prior to installation of Expansion Joint Sealant system.

B. Coordinate expansion joint system with other related Work before installation of expansion joint.

C. Check adhesion to substrates and recommend appropriate preparatory measures.

D. Proceed with expansion joint system only after unsatisfactory conditions have been corrected in manner acceptable to installer and product manufacturer.

E. Clean joints thoroughly in accordance with manufacturer's instructions to remove all laitance, unsound concrete and curing compounds which may interfere with adhesion.

F. Cease installation of expansion joints under adverse weather conditions, or when temperatures are outside manufacturer's recommended limitations for installation.

G. Prepare for installation of extruded expansion joint systems in accordance with manufacturer's recommendations.

H. Cease installation if expansion joint blockouts and/or openings exhibit cracked edges, voids or spalls. Repair with accepted material prior to installation of expansion joint.

I. Check elevations on each side of expansion joint gap utilizing metal straight edge to ensure flush slab-to-slab transition. Present discrepancies to Engineer.

J. Check anticipated or actual minimum and maximum joint openings with Engineer. Compare to manufacturer’s movement specifications and make joint sizing recommendations.

3.3 INSTALLATION

A. Install extruded expansion joint system in accordance with manufacturer's instructions.

B. Areas adjacent to the joint must be masked with tape to assure clean joint lines.

3.4 CLEANING

A. Clean off excess material and material smears adjacent to joints as work progresses using methods and materials approved by manufacturers.
3.5 PROTECTION

A. Protect the Expansion Joint System during construction. Heavy construction vehicles will not be permitted to cross the joint without specific and written permission by the Engineer. Subsequent damage to the expansion joint system shall be repaired at the contractor’s expense.

3.6 FIELD QUALITY CONTROL

A. Responsibilities

1. Manufacturer’s Responsibility: Manufacturer’s field representation shall be responsible for periodically performing quality control reviews when required by Part 1 “Quality Assurance” in the Specification Section.

2. Contractor’s Responsibility: Contractor is responsible for performing continuous field quality control during the progress of work.

B. Minimum Quality Control Requirements

1. Water Testing: Prior to opening to traffic, Contractor shall test joint seal for leaks by maintained the joint continuously wet for 12 hours. Repair leaks revealed by examination of seal underside. Repeat test and repairs until all leaks stopped for full 12 hours. Coordinate testing with the Engineer, Owner, Owner’s Inspection Agency, and Joint Manufacturer’s field representation for witnessing the water testing.

3.7 FIELD QUALITY ASSURANCE

A. Responsibilities

1. Owner’s Responsibility

   a. Owner shall retain the Testing Agency under separate contract in accordance with the referenced building code for the project.

   b. Cost associated with retesting shall be paid for by the Owner.

   c. Testing Agency shall be an agency acceptable to the Owner and Engineer.

2. Contractor’s Responsibility

   a. It is the Contractors responsibility to request and schedule all testing required by this Section.

   b. Schedule all testing with the Owner’s Testing Agency at least 7 days prior to performing the work.

   c. Notify Owner and Engineer of work schedule at least 7 days in advance.

   d. When the Testing Agency reports testing or inspection results that are not in conformance with the project requirements or manufacturer’s requirements the
Engineer and Owner reserve the right to amend the rate of testing, amend the rate of inspections, request additional testing, and request additional inspections.

1) Contractor shall reimburse the Owner for the cost of all re-testing, re-inspection, additional testing, and additional inspections.

2) The cost of repair, rework, and/or replacement shall be borne by the Contractor.

3. Testing Agency’s Responsibility

   a. Testing Agency is responsible for conducting, monitoring, and reporting results of all tests required under this Section.

   b. Testing Agency has authority to reject materials and work not meeting Specifications.

B. Inspections

1. Periodically inspect joint during the Contractor’s 12 hour quality control water test. Document any sign of joint leaking.

C. Testing

1. Testing Agency shall test Shore A hardness in accordance with ASTM D2240.

2. Testing Agency shall test to ensure upward buckling is limited to 1/4 inch (6.4 mm) or less to comply the ADA regulations.

END OF SECTION 07 95 13