01731 - CUTTING AND PATCHING

SUMMARY
A. Section Includes:
1. Requirements and limitations for cutting and patching Work.
2. Products for patching and extending Work.
3. Transitions and adjustments.
4. Repair of damaged surfaces, finishes, and cleaning.

ENVIRONMENTAL REQUIREMENTS
A. Minimize dust emissions or provide equipment that suppresses dust.

PERFORMANCE REQUIREMENTS
A. Cutting and patching shall be performed as required for cutting into existing construction to provide for installation or performance of other work and subsequent fitting and patching required for restoration of surfaces to their original condition.
B. Cut into or partially remove portions of the existing building as required for new construction. Include such work as:
1. Cutting, moving or removal of items shown to be cut, moved or removed.
2. Cutting, moving or removal of items not shown to be cut, moved, or removed, but which must be cut, moved, or removed to allow for new construction. Work or items which are to remain in the finished work shall be patched or reinstalled after cutting, moving, or removal, and joints and finishes shall match adjacent or similar work.
3. Removal of abandoned items and removal of items rendered no longer required resulting from alterations such as abandoned piping and electrical conduits to nearest J-boxes.
4. Repair or removal of dangerous or unsanitary conditions resulting from alterations work.
C. Structural Work:
1. Do not cut and patch structural work in manner resulting in reduction of load-carrying capacity or load and deflection ratio.
D. Operational Limitations:
1. Do not cut and patch in manner resulting in decreased performance, shortened useful life, or increased maintenance.
E. Quality Limitations:
1. Do not cut and patch work exposed to view (exterior and interior) in manner resulting in noticeable reduction of aesthetic qualities and similar qualities, as determined by the Architect.
F. Limitation on Acceptance: Architect's acceptance to proceed with cutting and patching shall not waive right to later require removal or replacement of work found to be cut and patched in unsatisfactory manner as determined by the Architect.

MATERIALS
A. Use materials for cutting and patching that are identical to existing materials. If identical materials are not available or cannot be used, use materials that match existing adjacent surfaces to fullest extent possible with regard to visual effect. Use materials for cutting and patching that will result in equal or better performance characteristics.

EXAMINATION
A. Examine surfaces to be cut and patched and conditions under which work is to be performed before cutting. Take corrective action before proceeding with work if unsafe or otherwise unsatisfactory conditions are encountered.

PREPARATION
A. Temporary Support: Provide temporary support of work to be cut to prevent failure.
B. Protection:
1. Protect other work during cutting and patching to prevent damage.
2. Provide protection from adverse weather conditions for that part of project that may be exposed during cutting and patching operations.
3. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
4. Take precautions not to cut existing pipe, conduit, or duct serving building but scheduled to be relocated until provisions have been made to bypass them.

CUTTING AND PATCHING
A. Remove, cut and patch work in a manner to minimize damage and to provide means of restoring products, materials, and finishes to match original condition.
B. Cutting and removal work shall be performed so as not to cut or remove more than is necessary and that are least likely to damage work to be retained or adjoining work.
C. Conduct work in such a manner as to minimize noise and to minimize accumulation and spread of dirt and dust.
D. Where cutting cured concrete or masonry is required, use saws equipped with integrated water delivery systems that continuously feed water to the blade, or a HEPA-rated filter dust collection vacuum system recommended by the manufacturer to maintain dust emissions below the permissible level.
E. Where core drilling or grinding concrete is required, use power tools equipped with HEPA-rated filter dust collection vacuum system recommended by the manufacturer to maintain dust emissions below the permissible level.
F. To avoid marring existing finished surfaces, cut and drill from exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.
G. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. Use HEPA-rated filter vacuums to clean holes and slots.
H. Dispose of construction waste in accordance with the requirements of Section 01351.
I. Patch with seams that are durable and as invisible as possible. Comply with specified tolerances for work.
J. If the surrounding surface cannot be matched, repaint or recoat the entire surface to nearest corner or transition point.

TRANSITIONS
A. Where new work abuts or aligns with existing work, provide a smooth and even transition. Patched work shall match existing adjacent work in texture and appearance.
B. Where finished surfaces are cut in such a way that a smooth transition with new work is not possible, terminate the existing surface along a straight line at a natural line of division.
C. Where two or more spaces are indicated to become one space, reconstruct ceilings to provide horizontal planes without breaks, steps or bulkheads.
D. In cases of extreme change of ceiling or floor, obtain instructions from Hutton Design team as to method of making an acceptable transition.

REPAIR OF DAMAGED SURFACES
A. Patch or replace portions of existing surfaces which are damaged, discolored, or showing imperfections. Repair substrate prior to patching finish.
B. Restore existing work that is damaged during construction to a condition equal to its condition at the time of the start of the Work.
C. At locations in existing areas where partitions are removed, patch the floors, walls and ceilings with finish materials to match new finishes.
D. Where plumbing is removed and capped below finish floor, core drill concrete floor as required using proper dust control methods as specified herein. Cap a minimum of 8 " below floor. Patch hole with new concrete to match existing floor.

REMOVAL AND REPLACEMENT OF EXISTING WORK
A. Remove existing items, services, finishes or surfaces as required for installation of new construction.
B. Repair, re-route, and extend services, piping and conduit of existing items and equipment as required during construction operations for installation and operation of new items and equipment. When existing equipment to remain is removed or relocated, re-install as required for proper operation.

01740 – CLEANING

SUMMARY
A. Section Includes:
1. Cleaning of building and site premises included in the scope of contractual construction work.

ENVIRONMENTAL REQUIREMENTS
A. Dispose of construction and universal waste in accordance with requirements of Section 01351 and local, state, and Federal regulatory codes and regulations.
1. Store volatile waste in covered metal containers and remove from premises daily. Prevent accumulation of wastes which create hazardous conditions.
2. Do not burn or bury rubbish and waste materials on the project site.
3. Adhere to volatile fluid waste disposal and wastewater regulations.
B. Minimize dust emissions or provide equipment that suppresses dust.

CLEANING MATERIALS
A. Verify that selected cleaning products are manufactured according to local, state, and Federal regulations and that manufacturers are regularly engaged in the production of such products.
B. Verify that materials are clearly labeled.
C. Use solutions and products specifically formulated and recommended for cleaning the surfaces without damage to either the primary or adjacent surfaces.
1. Use only cleaning materials recommended by the manufacturer of the surface to be cleaned.
2. Use cleaning products only on surfaces recommended by cleaning product material manufacturer.
D. Use products that are not toxic or caustic to metal or acoustic surfaces.

GENERAL
A. Coordination and Scheduling:
1. Perform cleaning as necessary throughout the work day to maintain a safe work environment.
2. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly-painted surfaces.
3. Perform cleaning duties as directed by Contractor.
B. Continually inspect equipment to ensure equipment is operating optimally and safely.
1. Verify equipment is adequately diapered, hose connections are tight, and fasteners are secure. Repair leaks and provide maintenance where required.
C. Each day, clear work and access areas. Maintain premises free from accumulations of waste, debris, and rubbish caused by each sub contractor or trades construction operations.
D. Segregate and sort waste materials by type and class as directed by local, state, and Federal regulations.
E. Do not leave cleaning materials unattended while not in use.

FIELD QUALITY CONTROL
A. Subcontractors will conduct an inspection of their work areas with General Contractor immediately after completion of their scope of work on site to confirm all necessary clean up has been perform prior to leaving the job site.
1. Any non-conformance conditions deemed as such by General Contractor will be corrected immediately prior to the subcontractor leaving the site,
B. Prior to Owner possession, conduct an inspection of entire premises with General Contractor team to verify conformance with the requirements herein.

03314 - CAST-IN-PLACE CONCRETE SLABS (INTERIOR)

SUMMARY
A. Section Includes:
1. Replacement of cast-in-place concrete slabs including slabs on grade for the following:
a. Interior floor slabs.
b. Freezer floor slab.
2. Aggregate base below slab.
3. Finishing.

ENVIRONMENTAL REQUIREMENTS
A. Minimize dust emissions and provide equipment that suppresses dust.

SUBMITTALS
A. Submittal Procedures: Unless otherwise specified herein, submit in accordance with procedures specified in Section 01330.
1. Submit all submittal items required within this section in a single submittal. Do not submit submittals of this section together with submittals in section 03310 or any other section. Identify submittals explicitly in accordance with Procedures paragraphs in Section 01330.
B. Sieve Analysis for Aggregate Base: Submit current sieve analysis report, sampled and tested within the last 60 days of submittal date, for aggregate base and choker material.
C. Concrete Mix Design: Submit only one form indicating same mix design proportions for all interior slabs concrete.
D. Submit the following as attachments to be included with the Concrete Mix Design:
1. Cement materials mill test reports for the following:
a. Portland cement
2. Designation, type, quality, and source (natural or manufactured) of coarse and fine aggregate materials.
3. Sieve Analysis Reports: Provide separate sieve analysis of percentages passing for coarse and fine aggregate. Show values for each sieve size shown on the mix design form. Do not leave any line blank. Sieve analysis sampling and testing for each aggregate source shall be conducted within 60 days of concrete submittal date.
4. Aggregate Supplier Statement:
a. Stating if aggregate is possibly alkali-reactive, based on tests or past service
b. Stating if aggregate can possibly cause pop-outs, "D" cracking, or other disruptions due to moisture gain, freezing, or other mechanisms, based on tests or past service.
5. Product data for the following concrete materials admixtures:
a. Liquid color
b. Water reducing
c. Set retarding
d. Set accelerating
e. Data indicating chloride ion content information for each admixture
6. Concrete compressive strength data as required by ACI 301.
7. Chloride-Ion Content (For reinforced slabs only): Measured water-soluble chloride-ion content (percent by weight of cement materials) in accordance with ASTM C 1218.
E. Slab Reinforcing Bar Shop Drawings:
1. Complete information for installing reinforcing, including placement plans, bar bending diagrams, splice lengths and locations, bar spacing, concrete cover, support devices and accessories.
2. Conform to ACI SP 66.
3. Perimeter foundation tie reinforcing submittals as specified in Section 03310.
F. Product Data: Brand name, chemical composition, installation directions and certificates of compliance with required standards for the following products:
1. Doweling system for construction joints
2. Doweling system for sawed contraction joints (if required)
3. Temporary film forming curing compound
4. Vapor retarder with a minimum thickness of 10 mils (If required) and tape
G. Slab Joint and Placement Plan:
1. Provide a pour plan identifying the following:
a. Exterior walls and column grid locations.
b. Extent of pours including width, length, slab placement area and volume.
c. Locations of construction joints.
d. Location of sawed contraction joints if different from those shown or if not shown on the drawings.
2. Slab joint and placement plan shall be developed and submitted on a full-sized copy of the Architectural Floor Plan.

QUALITY ASSURANCE
A. Tolerances:
1. Conform to most stringent requirements of ACI 117 and ACI 301 except as specified herein.
a. Interior Floor Slabs: Specified Overall Value (SOV) FF 35 / FL 25 and Minimum Local Value (MLV) FF 24 / FL 17 tolerance for troweled floors in accordance with ACI 117.

AGGREGATE BASE MATERIALS
A. Aggregate Base Material:
1. Upon removal of the existing concrete slab, the existing base material shall be inspected. Only remove and replace existing material if it does not conform to the following requirements.
2. Material passing the No. 200 sieve shall be clean granular fill with less than 3% clay and/or friable particles.
3. Gradations shall be one of the following.
a. Material conforming to the General Requirements and of the Gradation "A", "C", or "D" requirements (with the modified allowance of 5% to 12% passing the No. 200 sieve) as defined by ASTM D 1241.
b. Any state DOT approved road base material meeting the following gradation:

Standard Sieve Size	Percent Passing
1-1/2"	100
No. 4	15-55
No. 200	3-12

AGGREGATE CHOKER MATERIALS
A. Aggregate Choker Material: Clean granular fill with less than 3% clay and/or friable particles. Use one of the following gradations:
1. ASTM 448 No. 10 with 6% to 12% passing No. 200 sieve.
2. Material meeting the following gradation:

Standard Sieve Size	Percent Passing
No. 4	85-100
No. 8	75-95
No. 16	55-75
No. 50	22-45
No. 100	10-30
No. 200	6-12

CONCRETE MATERIALS
A. Cement: ASTM C150, Type IL. Use only one brand throughout project.
B. Aggregates:
1. ASTM C33 with following requirements:
a. No coal or lignite in concrete that will not be covered by building materials or soil.
b. Fine aggregate grading requirements as defined in section 6.1 of ASTM C 33 shall be strictly met without deviation unless approved by the Structural Engineer.
2. Coarse Aggregate Size:
a. Nominal maximum coarse aggregate size shall be 3/4 inch for slabs less than 5 inches thick. Nominal maximum coarse aggregate size shall be 1 inch for slabs greater than 5 inches thick.
b. The nominal maximum size of an aggregate is the smallest sieve size through which the major portion of the aggregate must pass, with a minimal amount retained on the maximum sieve size. Maximum 4% shall be retained on the nominal maximum size sieve.
3. Adjust proportions of coarse, intermediate, and fine aggregates to provide the following material proportioning characteristics unless otherwise approved:
a. Coarseness Factor of 60 to 75%.
• The Coarseness Factor (CF) is the percent of combined aggregate retained on the #8 sieve that is also retained on the 3/8 " sieve.
• The Coarseness Factor is calculated as follows: CF=Aggregate retained on 3/8 " sieve / Aggregate retained on #8 sieve.
b. Adjusted Workability Factor
• The Workability Factor (WF) is the percent of combined aggregate that passes the #8 sieve.
• The Adjusted Workability Factor (Adj-WF) is calculated as follows:
• Adj-WF =WF+[(Cement Material -564 lbs)/37.6]
c. The range of accepted Adj-WF for a given CF is as follows:
• Adj-WF = [(11.25 - .15 CF) + 36] +- 2.5.
4. Gradation requirement of ASTM C33 may be waived in order to meet ranges specified.
C. Water: ASTM C 1602 Standard Specification for Mixing Water Used in the Production of Hydraulic Cement Concrete.

RELATED MATERIALS
A. Vapor Retarder: ASTM E1745, Class A or B, sheet membrane material, not less than 10 mils thick.
1. Tape and Adhesive: Tape and adhesives for sealing laps, punctures, tears and penetrations shall be pressure-sensitive, waterproof adhesive tape, 2 inches minimum width and compatible with retarder.
B. Foundation Perimeter Insulation: Specified in Section 07210.
C. Provide any other material for completion of work for compliance with Construction Documents.

03314 - CAST-IN-PLACE CONCRETE SLABS (INTERIOR): Cont'd

CONCRETE MIX
A. General:
1. Use only materials and their proportions included on Concrete Mix Design Submittal Forms included at the end of this section.
2. Measure and mix ingredients in accordance with most stringent requirements of ASTM C94.
3. Ready Mix supplier may proportion materials by field experience or proportion concrete materials by laboratory trial batches per ACI 301 for strength compliance.
4. Submit copies of data and test results to Architect and Contractor for review to verify mix designs.
B. Strength: Minimum compressive strength (F'c) at the end of 28 days shall be 4,000 psi for all cast-in-place interior concrete slabs, unless indicated otherwise on the drawings.
C. Workability: Concrete shall be of a consistency to be worked readily into forms and around reinforcement without segregation, voids, or excessive bleeding.
D. Minimum Cement Content:
1. 560 lbs/cy for materials used in placements less than 5,000 square feet.
2. 520 lbs/cy for materials used in placements 5,000 square feet and larger.
E. Water/Cement Materials Ratio:
1. Interior Floor Slabs: 0.53 maximum
F. Slump at the point of placement shall not exceed 6 inches. Maximum slump variance shall be ±1 inch.
G. Admixtures:
1. Water-reducing admixture may be added to improve workability for desired minimal water content.
2. Use admixtures in accordance with manufacturer's recommendation.
H. Calcium Chloride Admixture:
1. Calcium chloride (Type L) conforming to ASTM D 98 may be used in solution form as part of the mixing water to accelerate concrete setting and early-strength development.
2. Amount of calcium chloride added shall not be more than necessary to produce the desired results and shall not exceed 1% by weight of cement.
3. Calcium chloride shall not be used in the following applications unless approved by Structural Engineer:
a. concrete containing embedded dissimilar metals or aluminum
b. slabs supported on permanent galvanized steel forms
c. concrete exposed to deicing chemicals
d. prestressed or post-tensioned concrete
e. concrete containing aggregates with potentially deleterious reactivity
f. concrete exposed to soil or water containing sulfates.
4. Use calcium chloride in accordance with manufacturer's recommendation.
5. When using calcium chloride or other admixtures containing chlorides, measure water-soluble chloride-ion content (percent by weight of cement materials) per ASTM C 1218. Sample shall be from concrete representing the submitted mix design and maximum chloride dosage anticipated for the project.
6. Chloride-ion Concentration: Maximum water-soluble chloride-ion concentrations in hardened concrete at ages from 28 to 42 days contributed from the ingredients including water, aggregates, cement materials, and admixtures shall not exceed the following limits unless approved by the Structural Engineer:

Type of Member	Maximum water-soluble chloride ion (Cl-) content in concrete (percent by weight of cement)
Prestressed concrete	0.06
Reinforced concrete exposed to chloride in service	0.15
Reinforced concrete that will be dry or protected from moisture in service	1.00
Other reinforced concrete construction	0.30

MIXING
A. Ready-Mixed Concrete: Mix and transport in accordance with ASTM C94 and ACI 301 except as specified.

EXAMINATION
A. Conform to manufacturer's printed instructions for materials and equipment.

PREPARATION
A. Preplacement Inspection: All trades and participants involved shall verify that preparations are in conformance with Contract documents.
B. Ensure that all work is properly coordinated:
1. Structural Drawings and Specifications with those of other disciplines.
2. Use final approved/corrected Shop Drawings, placing Drawings and material/equipment Drawings
C. Verify anchors, seats, plates, reinforcement, and other items to be cast into concrete are accurately placed, held securely, and will not cause difficulty in placing concrete.

VAPOR RETARDER INSTALLATION
A. Install vapor retarder in accordance with ASTM E 1643 except that Paragraph 10 – Slab Moisture Content provisions shall not apply.
B. Install 10 mils thick minimum vapor retarder only under slabs where shown on drawings.
C. Lap vapor retarder not less than 6 inches with top lap placed in direction of placing concrete.
D. Seal laps continuously with specified tape.
E. Seal punctures and tears in membrane caused by bar chair feet, screed anchors, or utility penetrations with specified tape.

PLACING CONCRETE
A. Unless otherwise specified, place concrete in accordance with the requirements of ACI 301.
B. The concrete supplier shall have a quality control representative at site for concrete placements.
C. Concrete Floor Subcontractor representative shall be on site during placement of the concrete.
D. The concrete supplier shall have a quality assurance representative at the site for the entire duration of each concrete slab placement as a resource to Contractor.
E. Supervision for the Concrete Floor Subcontractor shall be on site for the entire duration of each concrete slab placement.
F. After concrete placement, adjust forms and bracing as necessary to maintain proper alignment and eliminate leakage of cement paste.

FLOOR SLAB FINISHING PROCEDURES
A. General:
1. Do not add water to any slab surface during finishing operations.
2. Do not add cement to any slab surface during finishing operations.
3. Perform no finishing operation while water is present on slab surface.
B. Initial Leveling:
1. Complete bull floating, darbying and straight-edging before any bleed water is present on slab surface.
2. Use a checkrod or highway straightedge 10 feet wide minimum for initial and later leveling instead of bull float where overall floor tolerances specified are greater than FF 20 / FL15.
C. Pitch to drains: Form 18 inch radius around floor drains and pitch concrete surface to drains at rate of 1/4 inch per foot nominal, unless noted otherwise in Drawings.

DENSIFIER APPLICATION
A. Area to be Treated: Apply densifier to all interior concrete floors except floors exposed to floors with color textured concrete finishes and floors to receive other final floor finish such as epoxy resin, or resilient flooring.
1. Application of reactive surface colorant densifier and subsequent polishing, for slabs are specified in Section 03363, 03364, 03931 respectively.

FIELD QUALITY CONTROL
A. Field quality control shall be the responsibility of the General Contractor in accordance with Section 01452. Except as specified as mandatory, field quality control testing and inspection shall be at the discretion of the General Contractor as necessary to assure compliance with Contract requirements.

CONCRETE PROTECTION
A. Slab Protection will be the responsibility of all Subcontractor or Trades performing work on site:
1. Subcontractor and Trades will provide finished concrete floor protection in their immediate area of work to prevent damage due to their respective construction traffic and activities.
a. Contractor will determine/define immediate area of work as deem adequate for finished concrete floor protection.
b. Any damage to the finished concrete floor will be repair to original condition by offending subcontractor or trade as require and approve as acceptable repair by Architect and Contractor.
2. Protect concrete slabs from staining, gouges and scratching.
3. Diaper hydraulic powered equipment.
4. Place drop cloths or other breathable slab protection under parked vehicles.
5. Do not store structural steel or metal fabrications on slab.
6. Do not allow pipe cutting machine on slab.
7. Adequately protect concrete inserts and other embedded items from movement, mechanical injury, or from damage by elements.
8. Coordinate with Contractor locations of access ramps of compacted earth or other means along exposed concrete edges of floor slabs to prevent equipment and machinery from impacting edges. Barricade all other exposed edges to vehicular traffic which may damage edges.
B. Dispose of construction waste in accordance with the requirements of Section 01351 Regulatory Compliance Supplement.

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REGISTERED ARCHITECT
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STATE OF ARKANSAS
04/20/2026

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Project Number: 260050
HOMEGROWN
417 MLK JR BLVD
FAYETTEVILLE, AR

Issue:
FOR PERMIT
Date:
04.20.26

REVISIONS

#	Description	Date

SP.1
SPECIFICATIONS