2. PRODUCTS
   A. TILE:
      1) TILE TYPES: AS LISTED ON THE MATERIALS AND FINISH LEGEND.
      2) FURNISH TILE MANUFACTURED IN ACCORDANCE WITH ANSI A137.1.
      3) SPECIAL SHAPES: UNLESS OTHERWISE INDICATED OR SPECIFIED, FURNISH SPECIAL SHAPES AS STANDARD WITH THE TILE MANUFACTURER FOR UNIFORM TRANSITIONS AND CONCEALED EDGES IN THE FINISHED INSTALLATION. SPECIAL SHAPES INCLUDE BULLNOSES, DOUBLE BULLNOSES, CORNER BULLNOSES, AND COVE ASSEMBLIES.
   B. ACCESSORY MATERIALS: AS FOLLOWS, UNLESS OTHERWISE RECOMMENDED BY THE TILE MANUFACTURER.
      1) CLEAVAGE MEMBRANE:
         A) IN ACCORDANCE WITH ANCI A108.02 – 3.8.
         B) ROOFING FELT, REINFORCED ASPHALT PAPER, OR POLYETHYLENE SHEETING.
      2) REINFORCING MESH:
         A) IN ACCORDANCE WITH ANCI A108.1A.
         B) 2" X 2" X 16/16 GAGE WELDED WIRE MESH OR APPROVED.
      3) TILE WATERPROOFING MEMBRANE: ONE OF THE FOLLOWING.
         A) BOSTIK "HYDROMENT ULTRA-SET."
         B) MAPEI CORP. "PRP 315."
         C) LATICRETE INTERNATIONAL "9235."
      4) TILE SETTING MATERIALS:
         A) THINSET MORTAR: IN ACCORDANCE WITH ANSI A118.4; PORTLAND CEMENT WITH 100 PERCENT ACRYLIC LATEX ADDITIVE
         B) THINSET MORTAR: "KERABOND" WITH "UNIVERSAL KERALASTIC" BY MAPEI CORP., "211 CRETE FILLER POWDER" WITH 4237 LATEX THIN-SET MORTAR ADDITIVE," BY LATICRETE INTERNATIONAL, INC., HYDROMENT"TILE-MATE PREMIUM" WITH "447 FLEX-A-LASTIC" BY BOSTIK, OR APPROVED.
         C) RAPID-SET THIN BED MORTAR: "GRANI/RAPID" WITH "KER 318" FLEXIBLE ADMIXTURE" BY MAPEI CORP., HYDROMENT "SINGLE FLEX FS," BY BOSTIK, OR "211 CRETE FILLER POWDER" WITH "4237 LATEX THIN-SET MORTAR ADDITIVE" AND "101 RAPID SET LATEX"(PROPORTIONS AS RECOMMENDED BY THE MANUFACTURER FOR THE SETTING TIME REQUIRED)," BY LATICRETE INTERNATIONAL, INC.
         D) MEDIUM BED MORTAR: "GRANI/RAPID" BY MAPEI CORP., HYDROMENT "MEDIUM BED MORTAR" BY BOSTIK, OR "226 THICK BED MORTAR MIX" WITH "3701 LATEX MORTAR ADMIX," BY LATICRETE INTERNATIONAL, INC., OR APPROVED.
         E) RAPID SET MEDIUM BED MORTAR: "GRANI/RAPID" BY MAPEI CORP., OR "211 CRETE FILLER POWDER" WITH "3701 LATEX MORTAR ADMIX" AND "101 RAPID SET LATEX"(PROPORTIONS AS RECOMMENDED BY THE MANUFACTURER FOR THE SETTING TIME REQUIRED), BY LATICRETE INTERNATIONAL, INC., OR APPROVED.
         F) THICK BED MORTAR: NON-PROPRIETARY:
            (1) CEMENT: ASTM C150, TYPE I.
            (2) HYDRATED LIME: ASTM C206, TYPE S, OR ASTM C207, TYPE S.
            (3) SAND: ASTM C144.
            (4) WATER: CLEAN AND FREE FROM AMOUNTS OF MATTER DELETERIOUS TO SETTING BED MATERIALS.
            (5) PROPORTIONING: IN ACCORDANCE WITH TCNA HANDBOOK.
         G) ORGANIC ADHESIVES: ANSI A136.1, TYPE I; PROVIDE PRIMER/SEALER AS RECOMMENDED BY THE ADHESIVE MANUFACTURER.
      5) CEMENTITIOUS GROUT: ONE OF THE FOLLOWING; COLOR MATCH AS SCHEDULED ON THE DRAWINGS.
         A) MAPEI CORP "ULTRACOLOR PLUS" OR "KERACOLOR S."
         B) BOSTIK "HYDROMENT CERAMIC TILE GROUT."
         C) LATICRETE INTERNATIONAL INC. "LATACRETE PERMACOLOR."
      6) CEMENTITIOUS UNSANDED GROUT; COLOR MATCH AS SCHEDULED ON THE DRAWINGS.
         A) MAPEI CORP. "KERACOLOR U."
         B) LATICRETE INTERNATIONAL, INC. "1600 SERIES UNSANDED GROUT" WITH "1776 GROUT ADMIX PLUS."
         C) BOSTIK HYDROMENT "CERAMIC TILE GROUT /JOINT FILLER" WITH "425 FLEXIBLE GROUT ADMIXTURE."
      7) METAL SCREED: AS MANUFACTURED BY SCHLÜTER SYSTEMS, INC. (800-225-8902), OR CERAMIC TOOL COMPANY, (800-236-5230); CLEAR ANODIZED ALUMINUM TILE EDGING TRIM; SIZES AS REQUIRED FOR INSTALLATION OF TOP OF SCREED FLUSH WITH TOP OF TILE, AS DETAILED.
      8) SOLID SURFACING THRESHOLD: AS SCHEDULED ON THE DRAWINGS.
      9) SILOXANE TYPE TILE SEALER: MIRACLE SEALANTS "511-H20" BY MIRACLE SEALANTS AND ABRASIVES COMPANY (800-350-1901).

3. EXECUTION
   A. TILE WATERPROOF MEMBRANE INSTALLATION
      1) INSTALL WATERPROOF MEMBRANES IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND IN ACCORDANCE WITH ANSI A108.13.
      2) INSTALL WATERPROOF MEMBRANESAT FLOORS IN ALL ROOMS WITH FLOOR DRAINS SCHEDULED TO RECEIVE TILE.
      3) AT ABOVE GRADE LOCATIONS, INSTALL WATERPROOF MEMBRANE COMPLETELY OVER FLOOR SURFACES INDICATED, AND UP THE WALL.
      4) WHERE THE WATERPROOF MEMBRANE IS EXTENDED UP THE WALL, EXTEND TO ONE TILE HEIGHT. DO NOT EXPOSE THE WATERPROOF MEMBRANE TO VIEW.
      5) PROTECT WATERPROOF MEMBRANE FROM DAMAGE UNTIL AFTER TILE INSTALLATION IS COMPLETE.
      6) INSTALL WATERPROOF MEMBRANE INTO CLAMPING RING OF FLOOR DRAIN.
   B. INSTALLATION OF TILE:
      1) INTERIOR FLOOR APPLICATION: ONE OF THE FOLLOWING AS APPLICABLE TO FIELD CONDITIONS.
         A) THICKSET CEMENT MORTAR , WATERPROOF MEMBRANE, CLEAVAGE MEMBRANE OVER CONCRETE SUBSTRATE:
            (1) TCNA SYSTEM: F121.
            (2) INSTALLATION STANDARD: ANSI A108.1A.
            (3) CEMENT MORTAR BED WITH MESH REINFORCING OVER CLEAVAGE MEMBRANE; 1-1/4 INCH MINIMUM THICKNESS; 2 INCH MAXIMUM THICKNESS.
            (4) WATERPROOF MEMBRANE.
            (5) BOND COAT: THINSET MORTAR OVER THICKSET MORTAR BED; 3/32 INCH MINIMUM THICKNESS.
            (6) MESH REINFORCING MANDATORY.
         B) THINSET OVER WATERPROOF MEMBRANE OVER CONCRETE SUBSTRATE.
            (1) TCA SYSTEM: SIMILAR TO F113.
            (2) INSTALLATION STANDARD: ANSI A108.5.
            (3) SETTING MATERIALS: THINSET MORTAR; 3/32 INCH MINIMUM THICKNESS.
      2) WALL APPLICATION - GYPSUM BOARD SUBSTRATE:
         A) THINSET MORTAR SYSTEM:
            (1) TCA SYSTEM: SIMILAR TO W243.
            (2) INSTALLATION STANDARD: ANSI A108.5.
            (3) SETTING MATERIALS: THINSET MORTAR.
            (4) LOCATION: RESTROOM WALL TILE.
      3) JOINT PATTERN:
         A) LAY OUT TILE PATTERN PRIOR TO COMMENCING TILE INSTALLATION.
         B) ACCURATELY LOCATE GROUT JOINTS ON LINES INDICATED; WHERE NOT INDICATED, ADJUST GROUT JOINTS WITHIN SPECIFIED TOLERANCES TO MINIMIZE USE OF CUT TILES AT FIELD EDGES.
         C) WHERE CUT TILES ARE NECESSARY, POSITION TILE SUCH THAT CUT TILE AT EACH EDGE OF EACH RECTILINEAR FIELD IS NOT LESS THAN HALF OF A FULL SIZE UNIT, UNLESS INDICATED OTHERWISE.
      4) TILES SHALL BE BLENDED AS REQUIRED TO AVOID PATTERN REPEATS AND "PATCHES" OF ADJOINING TILES OF DISTINCTIVE COLOR OR CHARACTER WITHIN EACH FIELD AREA.
      5) INSTALL TILES ALIGNED WITH ADJACENT FINISHES, WHERE INDICATED. PROVIDE MORTAR FILL AS NECESSARY FOR PROPER ALIGNMENT.
      6) EXCEPT AS OTHERWISE INDICATED, INSTALL BULLNOSE TILES AT EXPOSED TILE EDGES, INCLUDING EDGES ADJACENT TO CARPET, EDGES OF PLANTERS, EXTERNAL CORNERS, AND TOPS OF BASES.
      7) CERAMIC TILE: INSTALL COVED TRANSITION PIECES TO MATCH HORIZONTAL SURFACE TILE COLORS IN RESTROOMS, AT INTERSECTIONS OF FLOOR TILE WITH WALLS. INSTALL TILE FOR SQUARE CORNERS AT VERTICAL INSIDE CORNERS.
      8) CLEAN JOINTS OF MORTAR TO MINIMUM DEPTH OF 1/4 INCH TO ALLOW SUBSEQUENT GROUT INSTALLATION.
      9) PROVIDE TEMPORARY SETTING BUTTONS AND SHIMS AS NECESSARY TO MAINTAIN WALL TILES IN POSITION UNTIL SETTING MORTAR HAS SET.
      10) TOLERANCES:
         A) JOINT WIDTH VARIATION: PLUS OR MINUS 25% OF THE PROPOSED JOINT WIDTH.
         B) TAPER: PLUS OR MINUS 25% FROM ONE END TO THE OTHER.
         C) NO PORTION OF A TILE SURFACE SHALL VARY MORE THAN 1/32 INCH ABOVE OR BELOW AN ADJACENT TILE SURFACE.
         D) INSTALL TILE FIELDS LEVEL TO WITHIN TOLERANCE SPECIFIED FOR FINISHED SUBSTRATE.
   C. SCREED INSTALLATION:
      1) INSTALL SCREEDS AT TILE FIELD EDGES AT THE LOCATIONS INDICATED.
      2) ACCURATELY CUT TO LENGTH FOR FLUSH TIGHTLY BUTTED JOINTS. PROVIDE MITER CUT ANGLE JOINTS. REMOVE BURRS AT FIELD CUTS.
      3) INSTALL IN LONGEST POSSIBLE LENGTHS, EXCEPT THAT NO SCREED SECTION SHALL BE LONGER THAN 12 FEET OR SHORTER THAN 4 FEET IN LENGTH FOR CONTINUOUS RUNS GREATER THAN 16 FEET.
      4) INSTALL SCREEDS FREE FROM WAVES AND VARIATIONS IN HEIGHT, FLUSH WITH TOP OF ADJACENT TILE SURFACES.
      5) SET SCREEDS DIRECTLY IN SETTING BED AS THE TILE INSTALLATION PROCEEDS. COMPLY WITH SCREED MANUFACTURER'S INSTRUCTIONS TO ACHIEVE MORTAR TIGHTLY COMPACTED BETWEEN SCREED AND TILE EDGE.
      6) GRIND SCREED JOINTS AS NECESSARY TO CORRECT MINOR MISALIGNMENT AND TO EASE SHARP OUTSIDE CORNERS.
   D. SOLID SURFACING THRESHOLDS:
      1) INSTALL AT TILE FIELD EDGE AT DOOR OPENINGS INDICATED.
      2) ADHERE SOLID SURFACING THRESHOLDS DIRECTLY TO SOLID WOOD BLOCKING AS DETAILED ON THE DRAWINGS.
      3) POSITION SOLID SURFACING THRESHOLD TO MAINTAIN ADA COMPLIANCE FOR DOOR THRESHOLDS.
   E. EXPANSION JOINTS:
      1) PLACE EXPANSION JOINTS AT CONTROL AND EXPANSION JOINTS IN CONCRETE SLABS, AND AT INTERSECTIONS WITH WALLS AND COLUMNS.
      2) JOINT SIZES: SET TO MATCH WIDTH OF TYPICAL GROUTED JOINT; BUT IN NO CASE LESS THAN 1/4".
      3) LEAVE EXPANSION JOINTS FREE OF MORTAR.
      4) SEALANT MATERIALS AND INSTALLATION ARE SPECIFIED IN SECTION 079200.
   F. GROUTING:
      1) COMPLY WITH PROVISIONS OF ANSI A108.10.
      2) MIX GROUTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
      3) GROUT ALL JOINTS, EXCEPT EXPANSION JOINTS, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. FLOAT JOINTS TO A SLIGHTLY CONCAVE PROFILE.
      4) REMOVE EXCESS GROUT FROM TILE SURFACES IN ACCORDANCE WITH THE GROUT AND TILE MANUFACTURER'S RECOMMENDATIONS. DO NOT USE EXCESS AMOUNTS OF WATER.
      5) PROTECT ADJACENT SURFACES FROM DAMAGE CAUSED BY CLEANING AGENTS. DO NOT USE CLEANERS WHICH WOULD DAMAGE TILE OR GROUT SURFACES.
      6) DO NOT GROUT JOINTS INDICATED TO RECEIVE SEALANTS, INCLUDING INSIDE RIGHT ANGLE CORNER JOINTS BETWEEN FLOORS AND WALLS OF COLUMN BASES. GROUT JOINTS PERPENDICULAR TO EXPANSION JOINTS SHALL BE FINISHED FLUSH WITH TILE EDGES.
      7) CURED GROUT JOINTS SHALL BE MADE FREE OF EFFLORESCENCE, PRIOR TO SEALING.
   G. CURING: CURE INSTALLATION IN ACCORDANCE WITH THE GROUT MANUFACTURER'S RECOMMENDATIONS. PROTECT TILE AND GROUT DURING CURING OPERATIONS.
   H. PROTECTION:
      1) PROTECT TILE INSTALLATIONS FROM DAMAGE.
      2) REPLACE ALL DAMAGED TILES.
   I. CLEANING:
      1) IN ACCORDANCE WITH SECTION 015000 AND SECTION 017700.
      2) COORDINATE FINAL CLEANING WITH WORK OF SECTION 079200. DO NOT BEGIN CLEANING OPERATIONS UNTIL TILE EXPANSION JOINTS SEALANTS ARE FULLY CURED.
      3) WASH AND THOROUGHLY RINSE ALL TILE. LEAVE ALL TILE SURFACES CLEAN.
   J. TILE SEALING:
      1) APPLY STAIN REPELLENT SEALER TO ALL FLOOR TILE AND FLOOR AND WALL TILE GROUT, INCLUDING THOSE WITH PREVIOUS TREATMENTS, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS TO ACHIEVE MAXIMUM PENETRATION INTO TILE BODY AND GROUTS.
      2) APPLY SEALER AT EARLIEST POSSIBLE DATE ALLOWED BY GROUT AND SEALER MANUFACTURER.
      3) WIPE TILE SURFACES AFTER APPLICATION AS NECESSARY TO REMOVE ALL VISIBLE SEALER RESIDUE.

096429 - WOOD FLOORING

1. GENERAL
   A. SECTION INCLUDES:
      1) UNDERLAYMENT.
      2) MOISTURE BARRIER.
      3) WOOD STRIP FLOORING.
      4) WOOD FLOOR FINISHING.
      5) ALTERNATE SLAB WATERPROOFING.
   B. ALTERNATES: PORTIONS OF THE WORK SPECIFIED IN THIS SECTION IS BY ALTERNATE ONLY.
   C. REFERENCES:
      1) NATIONAL WOOD FLOORING ASSOCIATION (NWFA) - HARDWOOD FLOORING INSTALLATION MANUAL.
      2) AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):
         A) F1869 - STANDARD TEST METHOD FOR MEASURING MOISTURE VAPOR EMISSION RATE OF CONCRETE SUBFLOOR USING ANHYDROUS CALCIUM CHLORIDE.
         B) F2170 - STANDARD TEST METHOD FOR DETERMINING RELATIVE HUMIDITY IN CONCRETE FLOOR SLABS USING IN SITU PROBES.
   D. SUBMITTALS:
      1) PRODUCT DATA: SUBMIT PRODUCT DATA FOR FINISHING SYSTEM.
   E. QUALITY ASSURANCE:
      1) INSTALLER QUALIFICATIONS:
         A) MINIMUM OF 5 YEARS EXPERIENCE IN THE INSTALLATION AND FINISHING OF HARDWOOD STRIP FLOORING WITH PROJECTS SIMILAR TO THE WORK OF THIS CONTRACT.
         B) USE ONLY SKILLED AND EXPERIENCED WOOD FLOORING INSTALLERS FOR PREPARATION OF SUBSTRATE AND ACTUAL INSTALLATION OF HARDWOOD FLOORING.
   F. DELIVERY STORAGE AND HANDLING:
      1) PROTECT WOOD FLOORING FROM EXCESSIVE MOISTURE IN STORAGE, HANDLING, AND INSTALLATION.
      2) DO NOT DELIVER MATERIALS TO BUILDING UNTIL "WET WORK" SUCH AS CONCRETE, PLASTER AND DRYWALL HAVE BEEN COMPLETED AND CURED TO A CONDITION OF EQUILIBRIUM.
      3) PROVIDE PERMANENT HEAT, LIGHT, AND VENTILATION PRIOR TO INSTALLATION.
      4) ROOM TEMPERATURE: MAINTAIN ROOM TEMPERATURE OF A MINIMUM OF 65 DEGREES F AND A MAXIMUM OF 80 DEGREES F. (18 DEGREES C) FOR PERIOD OF 7 DAYS PRIOR TO DELIVERY OF MATERIALS, DURING INSTALLATION AND AFTER INSTALLATION.
      5) CONDITIONING: DELIVER IN UNOPENED BUNDLES AND STORE IN A DRY PLACE WITH ADEQUATE AIR CIRCULATION. PLACE WOOD FLOOR AND UNDERLAYMENT MATERIAL IN THE ROOM OR SPACES TO BE FLOORED; OPEN SEALED PACKAGES AND CRIB STACK MATERIAL TO PERMIT NATURAL ADJUSTMENT OF MOISTURE CONTENT AND TEMPERATURE FOR A MINIMUM OF SEVEN DAYS IN ADVANCE OF THE START OF INSTALLATION.
      6) REPLACEMENT: IN THE EVENT OF DAMAGE DURING INSTALLATION, IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO THE APPROVAL OF THE ARCHITECT.

2. PRODUCTS
   A. MATERIALS:
      1) WOOD FLOORING: AS LISTED ON THE MATERIALS AND FINISH LEGEND.
      2) UNDERLAYMENT (AT BASE BID AND ALTERNATE BID 'B'): PLYWOOD APA EXT A-C, 1/2 INCH THICK, 2 LAYERS;, KILN DRIED TO 15% MAXIMUM MOISTURE CONTENT.
      3) UNDERLAYMENT (AT ALTERNATE BID 'A'): PLYWOOD APA EXT A-C, 3/4 INCH THICK, KILN DRIED TO 15% MAXIMUM MOISTURE CONTENT.
      4) MOISTURE BARRIER: 10 MIL MINIMUM, CLEAR POLYETHYLENE FILM, OR APPROVED.
      5) SUB-FLOOR FILLER: PREMIX LATEX REQUIRING WATER ONLY TO PRODUCE CEMENTITIOUS PASTE.
      6) FINISH MATERIALS:
         A) SEALER: BONAKEMI BONASEAL.
         B) TRANSPARENT FINISH: BONAKEMI BONATECH TRAFFIC SATIN FINISH.
      7) FASTENERS:
         A) UNDERLAYMENT FASTENERS:
            (1) AT CONCRETE FLOORS: USE POWDER DRIVEN TYPE, OF SUITABLE LENGTH FOR ANCHORING UNDERLAYMENT TO CONCRETE SUBSTRATE.
            (2) AT POST TENSIONED CONCRETE ELEVATED SLABS: USE FASTENERS OR ANCHORS APPROVED BY THE LANDLORD. INSTALL IN ACCORDANCE WITH LANDLORDS REQUIREMENTS TO PROTECT INTEGRITY OF POST TENSION TENDONS.
         B) FLOORING FASTENERS: BLIND NAILS, 1-3/4 INCH LENGTH, AS RECOMMENDED BY THE FLOORING MANUFACTURER.
      8) CONDITIONING PADS: BONA CONDITIONING PADS.
      9) RUBBER PERIMETER GASKETS: "SANTOPRENE," SILICONE, OR EPDM GLAZING BEADS; PREMOLDED OR WELDED CORNERS; BLACK; FOR FLOORING EDGES AT STRUCTURAL COLUMNS, AS INDICATED.
      10) WOOD FILLER: MINWAX "HIGH PERFORMANCE WOOD FILLER", OR AS RECOMMENDED BY FLOORING MANUFACTURER; COLOR AS SCHEDULED; VOC COMPLIANT.,
      11) SLAB WATERPROOFING: (AT ALTERNATE BID 'B' ONLY): FRANKLIN INTERNATIONAL, COLUMBUS OH (800-669-4583); "TITEBOND 531 PLUS MOISTURE CONTROL SYSTEM".

3. EXECUTION
   A. MOISTURE TESTING OF CONCRETE SLABS: PERFORM MOISTURE TESTS IN ACCORDANCE WITH ASTM F1869/F2170 TO DETERMINE THE VAPOR EMISSION RATE FROM CONCRETE FLOORS. NOTIFY THE ARCHITECT OF READINGS IN EXCESS OF 3 LBS PER 1000 SQ. FT. IN A 24 HOUR PERIOD, OR 75% RELATIVE HUMIDITY (RH).
   B. PREPARATION:
      1) USE LATEX FILLER TO PATCH CRACKS, SMALL HOLES, AND FOR MINOR LEVELING. ENSURE FLOOR SURFACE IS SMOOTH AND FLAT TO PLUS OR MINUS 1/8 INCH/10 FEET.
      2) SUBSTRATES SHALL BE SOUND, DRY, SMOOTH, LEVEL, CLEAN; AND FREE OF CRACKS, VOIDS, RIDGES, FOREIGN MATERIALS AND SUBSTANCES.
      3) POWER VACUUM SUBSTRATE SURFACE IMMEDIATELY PRIOR TO INSTALLATION.
      4) AT ALTERNATE B ONLY, INSTALL SLAB WATERPROOFING DIRECT TO SLAB IN ACCORDANCE WITH MANUFACTURERS DIRECTIONS.
   C. INSTALLATION:
      1) INSTALL AND FINISH WOOD FLOORING IN ACCORDANCE WITH NWFA STANDARDS AND AS SPECIFIED BELOW.
      2) FLOATING SUBFLOOR (AT BASE BID AND ALTERNATE BID 'B' ONLY):
         A) AT BASE BID, SET MOISTURE BARRIER IN FULL COVERAGE OF ADHESIVE. LAP SHEETS A MINIMUM OF 6 INCHES AND TAPE.
         B) INSTALL FIRST LAYER OF PLYWOOD OVER VAPOR BARRIER OR WATERPROOFING WITH STAGGERED END JOINTS PARALLEL TO DIRECTION OF FINISHED FLOORING
         C) SPACE ADJOINING SHEETS 1/8" APART. SPACE 3/4" FROM WALLS AND ALL VERTICAL OBSTRUCTIONS.
         D) LAY SECOND LAYER AT 90 DEGREES TO FIRST LAYER WITH STAGGERED END JOINTS. OFFSET SEAMS BETWEEN FIRST AND SECOND LAYER.
         E) ATTACH LAYERS OF PLYWOOD TOGETHER AT 12" O. C. WITH STAPLES OR SCREWS. DO NOT PENETRATE VAPOR BARRIER.
      3) PLYWOOD UNDERLAYMENT (AT ALTERNATE BID A):
         A) ACCURATELY CUT AND LOOSE LAY PLYWOOD UNDERLAYMENT OVER MOISTURE BARRIER.
         B) LAY WITH LONG DIMENSION OF PLYWOOD PARALLEL TO LONG DIMENSION OF FLOORING FIELD, END JOINTS STAGGERED.
         C) LEAVE 1/4 INCH TO 1/2 INCH GAP BETWEEN PANELS; LEAVE 3/8 INCH GAP AT CASEWORK AND AT LINE OF ADJOINING TILE EDGE; LEAVE 3/4 INCH GAP AT WALLS.
         D) WHEN ALL UNDERLAYMENT PANELS ARE IN PLACE, FASTEN TO CONCRETE SLAB WITH POWDER ACTUATED FASTENERS. FASTEN CENTER OF UNDERLAYMENT PANEL FIRST, THEN WORK TOWARDS EDGES. SPACE FASTENERS UNIFORMLY OVER THE SHEET, USING A MINIMUM OF 12 FASTENERS PER 4 X 8 SHEET.
      4) FLOORING INSTALLATION:
         A) INSTALL FINISH FLOORING OVER UNDERLAYMENT WITH NAILS IN STRICT COMPLIANCE WITH MANUFACTURER'S INSTRUCTIONS AND NWFA SPECIFICATIONS.
         B) PATTERN: LAY FLOORING IN WITH STRIPS ARRANGED AS INDICATED ON THE DRAWINGS. LAY FLOORING SYMMETRICAL ABOUT ROOM CENTER LINE. FIT NEATLY TO VERTICAL INTERRUPTIONS.
         C) TONGUE AND GROOVE MATCH OR SPLINE SIDE TO END JOINTS.
   D. FINISHING:
      1) SANDING:
         A) PROVIDE LOCAL LIGHT MACHINE SANDING USING FINE GRIT ONLY TO REMOVE CONSTRUCTION MARKS AND OFFSETS, WITHOUT REMOVING FACTORY TEXTURES AND "DEFECTS". HAND SAND TO REMOVE SANDER MARKS AND BLEND TO SURROUNDING FINISH.
         B) TAKE PRECAUTIONS TO CONTAIN DUST CAUSED BY SANDING OPERATIONS. POWER VACUUM CLEAN.
         C) ALLOW NO TRAFFIC ON FLOOR UNTIL FINISHING IS COMPLETE, OR, COVER SANDED FLOOR WITH PROTECTIVE PAPER IF THERE ARE TO BE DELAYS IN FINISHING.
      2) TRANSPARENT FINISH:
         A) APPLY ONE COAT OF TRANSPARENT SEALER IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND AS SPECIFIED BELOW.
         B) ABRADE THE CURED SEALER COAT WITH CONDITIONING PAD.
         C) VACUUM AND TACK THOROUGHLY AFTER ABRADING.
         D) APPLY THREE COATS OF TRANSPARENT FINISH IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND AS SPECIFIED BELOW.
         E) APPLY SECOND AND THIRD COAT BY ALLOWING PREVIOUS COAT TO DRY THEN BUFF WITH CONDITIONING PAD TO REMOVE IRREGULARITIES.
         F) APPLY WOOD FILLER TO ALL HOLES LARGER THAN 3/8 INCH DIAMETER PRIOR TO FINAL COAT OR FINISH.
         G) REMOVE DUST BY VACUUM AND DAMP CLOTH IMMEDIATELY BEFORE APPLYING EACH COAT.
      3) PROTECTION: PROVIDE AND MAINTAIN AS REQUIRED, PROTECTION OF FINISHED HARDWOOD FLOORING DURING REMAINDER OF CONSTRUCTION PERIOD TO PREVENT DAMAGE OR DETERIORATION TO FLOORING AND FINISH PRIOR TO TIME OF FINAL ACCEPTANCE.

096800 - CARPETING

1. GENERAL
   A. SECTION INCLUDES: BROADLOOM CARPETING; GLUE DOWN.
   B. REFERENCES:
      1) AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM):
         A) F1869 - STANDARD TEST METHOD FOR MEASURING MOISTURE VAPOR EMISSION RATE OF CONCRETE SUBFLOOR USING ANHYDROUS CALCIUM CHLORIDE.
         B) F2170 - STANDARD TEST METHOD FOR DETERMINING RELATIVE HUMIDITY IN CONCRETE FLOOR SLABS USING IN SITU PROBES.
   C. SUBMITTALS
      1) LAYOUT DRAWINGS: SHOW FIELD CONDITIONS, SEAM LAYOUT, LAY OF THE PILE, TRIM LOCATIONS, AND MATERIALS FOR TRANSITION TO OTHER FLOORING MATERIALS.
      2) SAMPLES: SUBMIT CARPET SAMPLES, 8 INCHES X 10 INCHES, MINIMUM; AND THREE SAMPLES OF EACH TYPE OF CARPET EDGE STRIP, THREE INCHES MINIMUM;
   D. CARPET INSTALLER: MINIMUM OF 3 YEARS EXPERIENCE IN CARPET INSTALLATIONS OF SIMILAR SIZE AND SCOPE. ABLE TO SHOW EVIDENCE OF EXPERIENCE WHEN REQUESTED BY THE ARCHITECT.
   E. SITE CONDITIONS:
      1) SPACE SHALL BE MAINTAINED AT MINIMUM 68 DEGREES F FOR AT LEAST 72 HOURS PRIOR TO CARPET INSTALLATION.
      2) HVAC SYSTEM SHALL BE PERMANENTLY IN OPERATION.
   F. GUARANTEE/WARRANTY
      1) INSTALLATION: 1 YEAR AFTER SUBSTANTIAL COMPLETION. PERFORM GUARANTEE WORK AT A TIME CONVENIENT TO THE OWNER.
      2) FURNISH MANUFACTURER'S STANDARD 5-YEAR WARRANTY AGAINST WEAR AND DETERIORATION.
   G. MAINTENANCE MATERIALS: SUPPLY A MINIMUM OF 5% NEW STOCK TO THE OWNER OF EACH TYPE AND COLOR OF CARPET USED IN THE PROJECT. OVERAGES SHALL BE IN FULL MANUFACTURED WIDTHS.

2. PRODUCTS
   A. CARPET: AS LISTED ON THE MATERIALS AND FINISH LEGEND.
   B. ADHESIVES:
      1) USE ADHESIVES AS APPROVED BY THE CARPET MANUFACTURERS. WHEN NONE IS RECOMMENDED, USE ADHESIVES AS RECOMMENDED BY ONE OF THE FOLLOWING ADHESIVE MANUFACTURERS FOR THE APPLICATION:
         A) ROBERTS, A QEP COMPANY (HENDERSON, NV; 800-423-6545.
         B) PARA-CHEM (SIMPSONVILLE SC; 864-967-7691)
         C) WF TAYLOR (FONTANA CA; 800-397-4583)
      2) ADHESIVES SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ASTM D5116, AND SHALL HAVE CRI/IAQ "GREEN LABEL."
   C. LATEX UNDERLAYMENT: PORTLAND CEMENT/LATEX PATCHING AND LEVELING COMPOUND; ONE OF THE FOLLOWING, OR AS OTHERWISE RECOMMENDED BY THE FLOORING ADHESIVE MANUFACTURER.
      1) DEPENDABLE CHEMICAL COMPANY, INC. (HTTP://WWW.FLOORPREP.COM/TROWEL.HTM), "DEPENDABLE SKIMCRETE."
      2) THE W.W. HENRY COMPANY "#345 MILKLESS FLOORING UNDERLAYMENT POWDER."
   D. EDGE STRIPS: VINYL REDUCER STRIPS; SIZE AND CONFIGURATION AS APPROPRIATE FOR CONDITIONS; COLOR AS SELECTED BY ARCHITECT FROM MANUFACTURERS STANDARD LINE.

3. EXECUTION
   A. EXAMINATION
      1) ENSURE THAT CONCRETE FLOORS ARE FREE FROM SCALING, AND EXHIBIT ACID NEUTRALITY.
      2) MOISTURE TESTING OF CONCRETE SLABS:
         A) TEST AT ALL NEW CONCRETE SLABS INDICATED TO RECEIVE GLUED DOWN CARPETING, TO DETERMINE THE VAPOR EMISSION RATE.
         B) PERFORM MOISTURE TESTS IN ACCORDANCE WITH ASTM F1869 (ANHYDROUS CALCIUM CHLORIDE TEST) OR ASTM F2170 (RH TEST).
         C) NOTIFY THE ARCHITECT IF TESTS RESULTS SHOW A VAPOR EMISSION RATE WHICH EXCEEDS 5 LBS PER 1000 SF IN A 24 HOUR PERIOD, OR RELATIVE HUMIDITY OF 80% OR ABOVE..
   B. PREPARATION
      1) CLEAN FLOORS OF DUST, DIRT, AND OTHER SUBSTANCES WHICH WOULD BE DETRIMENTAL TO THE PROPER PERFORMANCE OF ADHESIVE AND CARPET.
      2) INSTALL SUBFLOOR FILLER TO FILL LOW SPOTS, CRACKS, CONSTRUCTION JOINTS, HOLES AND OTHER DEFECTS, AND AS REQUIRED TO ADJUST LEVEL TO MEET ADJACENT FINISHES. FEATHER TO MAXIMUM SLOPE OF 1/8 INCH IN 1 FOOT; FLOAT TO SMOOTH, FLAT, HARD SURFACE. PROHIBIT TRAFFIC OVER FILLER.
   C. INSTALLATION
      1) CARPET INSTALLATION SHALL BE TIGHT AND FLAT TO THE SUBFLOOR, SECURELY BONDED IN POSITION, AND SHALL PRESENT A UNIFORM APPEARANCE. PROVIDE COLOR, PATTERN, AND TEXTURE MATCH WITHIN EACH AREA. SEAMS SHALL BE STRONG, TIGHTLY BUTTED, AND FLAT.
      2) INSTALL CARPETS IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
      3) CARPET SHALL BE GLUE MOUNTED.
      4) VERIFY MATCHING OF CARPET PRIOR TO CUTTING AND ENSURE THAT THERE IS NO VISIBLE VARIATION BETWEEN DYE LOTS.
      5) CUT CARPET, WHERE REQUIRED IN A MANNER TO ALLOW PROPER SEAM AND PATTERN MATCH. ENSURE CUTS ARE STRAIGHT AND TRUE AND UNFRAYED.
      6) MAKE SEAMS STRAIGHT AND UNIFORM.
      7) SEAMING SHALL BE BY HAND SEWING OR WITH HOT MELT TAPE METHODS.
      8) DO NOT CHANGE RUN OF PILE IN ANY ONE ROOM.
      9) ENSURE MONOLITHIC COLOR, PATTERN AND TEXTURE MATCH WITHIN EACH DISTINCT ROOM.
      10) INSTALL EDGING STRIPS WHERE CARPET TERMINATES AT OTHER FLOOR COVERINGS. USE FULL LENGTH PIECES ONLY. BUTT TIGHT TO VERTICAL SURFACES. WHERE SPLICING CANNOT BE AVOIDED, BUTT ENDS TIGHT, FLUSH, AND ACCURATELY ALIGNED.
   D. REMNANTS: UPON COMPLETION OF THE INSTALLATION, CONTACT THE ARCHITECT FOR SELECTION OF CARPET REMAINING AFTER TRIMMING. CAREFULLY WRAP AND MARK SEPARATELY THE SELECTED REMNANTS. REMOVE AND DISPOSE OF REMAINDER AT A LEGAL OFF-SITE LOCATION.. DELIVER TO A LOCATION ON SITE AS DIRECTED. REMOVE AND DISPOSE OF REMAINDER.
   E. CLEANUP:
      1) THE PREMISES SHALL BE KEPT FREE FROM UNNECESSARY ACCUMULATION OF TOOLS, EQUIPMENT AND SURPLUS MATERIALS DURING THE PROGRESS OF THE WORK.
      2) REMOVE THREADS WITH SHARP SCISSORS. REMOVE SPOTS WITH MANUFACTURER'S RECOMMENDED SPOT REMOVER.
      3) THOROUGHLY POWER VACUUM ENTIRE SURFACE USING EQUIPMENT WITH MOTOR DRIVEN BRUSHES.
      4) PROTECT CARPET FROM DAMAGE DURING REMAINDER OF CONSTRUCTION AND MOVE-IN PERIOD.

097733 - FRP WALL PANELS

1. GENERAL
   A. SECTION INCLUDES: FIBERGLASS REINFORCED POLYESTER (FRP) WALL PANEL SYSTEM.

2. PRODUCTS
   A. APPROVED MANUFACTURERS:
      1) CRANE KEMLITE, JOLIET IL
      2) LASCO PANEL PRODUCTS, FLORENEE, KY.
      3) MARLITE, DOVER, OH.
   B. MATERIALS:
      1) FIBERGLASS REINFORCED POLYESTER PANEL:
         A) DESCRIPTION: COMPOSITE PANEL CONSISTING OF UNIFORM FIBERGLASS GLASS FIBERS E