

ADDENDUM NO. 4

November 11, 2022

**LIBERTY ELEMENTARY SCHOOL RENOVATIONS
Chesterton, IN 46304**

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated October 17, 2022 by Gibraltar Design. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Page ADD 4-1 and Specification Sections 11 40 00 - Foodservice Equipment, 32 12 16 - Asphaltic Concrete Paving, 32 17 23 - Roadway and Paving Marking, and 39 Drawings as referenced in but omitted from Addendum No. 3.

SECTION 11 40 00

FOODSERVICE EQUIPMENT

PART 1 - GENERAL REQUIREMENTS

1.01 DESCRIPTION OF WORK

- A. The Food Facility Consultant (FFC) for this project is Reitano Design Group. In the event it is necessary to communicate questions, clarifications, and comments, from prior to bid award through final purchase, contact the FFC at the following:

Reitano Design Group
302 North East Street, Studio One
Indianapolis, Indiana 46202
Phone: 317-637-3204

- B. Kitchen Equipment Contractor (KEC) means the company or corporation who will contract completion of work specified herein.

1.02 RELATED DIVISIONS / WORK BY OTHER TRADES

- A. Refer to General Conditions, Supplementary Conditions, and applicable provisions of Division 1 for additional instructions.
- B. Refer to Mechanical/Plumbing Divisions for applicable provisions and sections regarding mechanical services necessary to complete final connections to individual items as specified in this section. This work to include, but not be limited to, the following:
1. Rough-in all required services for all equipment specified and shown on drawings.
 2. Furnish and install all piping, traps, tailpieces, vents, stops, valves, and other related items necessary for final connections.
 3. Install all items provided loose by the KEC per specifications such as, but not limited to, faucets, vacuum breakers, solenoid valves and control panels.
 4. Final mechanical and ventilating connections to equipment.
- C. Refer to Electrical Divisions for applicable provisions and sections regarding electrical services necessary to complete final connections to individual items as specified in this section. This work to include, but not be limited to, the following:
1. Rough-in all required services for all equipment specified and shown on drawings.
 2. Furnish and install all disconnects, conduit, wire, cover plates, starters, cord sets and other related items necessary for final connections.
 3. Install all items provided loose by the KEC per specifications such as, but not limited to, control panels, starters and disconnects.
 4. Final electrical connections to equipment.



5. Furnish and install all control wiring and/or power wiring between electrical components as specified such as, but not limited to, exhaust/make-up air fans and the ventilation hood control panel, walk-in cooler/freezer coils and their respective compressors and the walk-in cooler/freezer lights.
- D. Work included in other Divisions – provision of all wall, floor, and/or ceiling/roof openings, recesses, sleeves, and/or conduits; and equipment pads, and sealing thereof, as necessary for installation of items included in this section.
- E. Work included in other Divisions – disconnection of existing equipment to be relocated and/or reused; and removal of existing equipment which will not be reused, as determined, and designated by the Architect in other divisions. (Applicable to project with existing equipment.)
- F. Work referenced by other trades is not for the purpose of assigning work to a specified trade, but rather to clarify the coordination between the KEC and all other trades. All assignments of work by others are to be directed by Division 1 of the written specifications.

1.03 DEFINITIONS

- A. Furnish – supply and deliver to project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- B. Install (set in place) – operations at project site including actual unloading, unpacking, assembly, erecting, placing, anchoring, applying, finishing, curing, protecting, cleaning, and similar operations, ready for final utility connections by other divisions as appropriate.
- C. Provide – furnish and install complete, ready for intended use.

1.04 ABBREVIATIONS

- A. FFC – Food Facility Consultant
- B. KEC – Kitchen Equipment Contractor
- C. GD – General Division
- D. ED – Electrical Division
- E. MD – Mechanical Division

1.05 LAWS, ORDINANCES, REGULATIONS AND STANDARDS

- A. Comply with the following.
 1. Air Conditioning and Refrigeration Institute (A.R.I.): applicable regulations and references of the latest edition of standards for remote refrigeration system(s), components, and installation.
 2. American Gas Association (A.G.A.): standards for gas heated equipment and provide equipment with the A.G.A. seal. Automatic safety pilots to be provided on all equipment, where available. (Canada Gas Association or alternate testing lab's seals accepted if acceptable to local code jurisdictions.)
 3. American National Standards Institute (A.N.S.I.): Z21-Series for gas-burning equipment. Provide labels indicating name and testing agency.

4. American National Standards Institute (A.N.S.I.): B57.1 for compressed gas cylinder connections, and with applicable standards of the Compressed Gas Association for compressed gas piping.
5. American National Standards Institute (A.N.S.I.): A40.4 and A40.6 for water connection air gaps and vacuum breakers.
6. American Society of Heating, Refrigeration and Air Conditioning Engineers (A.S.H.R.A.E.): applicable regulations and references of the latest edition of standards for remote refrigeration system(s), components, and installation.
7. American Society of Mechanical Engineers (A.S.M.E.): Boiler Code requirements for steam generating and steam heated equipment and provide A.S.M.E. inspection stamp and registration with National Board.
8. American Society for Testing and Materials (A.S.T.M.): C1036 for flat glass.
9. American Society for Testing and Materials (A.S.T.M.): C1048 for heat-treated flat glass – Kind HS, Kind FT coated and uncoated glass.
10. American Society for Testing and Materials (A.S.T.M.): F232-03 for pre-rinse spray units, and in compliance with Energy Policy Act of 2005 (EPAct).
11. American Welding Society (A.W.S.): D1.1 structural welding code.
12. Energy Policy Act of 2005 (EPAct 2005): water savings pre-rinse spray valves.
13. National Electric Code (N.E.C.); N.F.P.A. Volume 5 for electrical wiring and devices included with foodservice equipment, A.N.S.I. C2 and C73, and applicable N.E.M.A. and N.E.C.A. standards.
14. National Electrical Manufacturers Association (N.E.M.A.): LD3 for high-pressure decorative laminates.
15. National Fire Protection Association (N.F.P.A.): applicable sections for exhaust hoods, ventilators, duct and fan materials, hoods fire suppression systems, wheel placement systems, construction, and installation; in addition to local codes and standards.
16. National Sanitation Foundation (NSF): latest Standards and Revisions, and as accredited by ANSI, IAS, NELAC, ISO, OSHA, and SCC. Provide NSF Seal of Approval on all standard manufactured items included in this project and listed in any NSF Certified Food Equipment Products Category, and on all items of custom fabricated work included in this project. (UL Sanitation approval and seal accepted if acceptable to local code jurisdictions).
17. Sheet Metal and Air Conditioning Contractor's National Association (S.M.A.C.N.A.): latest edition of guidelines for seismic restraint of kitchen equipment, as applicable to project location.
18. Underwriters Laboratories (U.L.): as applicable for electrical components and assemblies. Provide either U.L. labeled products or, where no labeling service is available, "recognized markings" to indicate listing in the U.L. "Recognized Component Index". (Canadian Standards Association or alternate testing lab's seals accepted if acceptable to local code jurisdictions.)
19. UL 300 Standard: for wet chemical fire suppression systems for exhaust hoods/ventilators.
20. American with Disabilities Act (ADA): as applicable to this project.

21. Refrigeration Service Engineers Society (R.S.E.S.): applicable regulations and references of the latest edition of standards for remote refrigeration system(s), components, and installation.
22. All refrigerants used for any purpose is to comply with the 1995 and 2010 requirements of the Montreal Protocol Agreement, and subsequent revisions and amendments. No CFC or HCFC refrigerants will be permitted on this project.
23. All refrigeration components installation, repairs, and/or associated work on any refrigeration system, is to be performed by a Certified Refrigeration Mechanic thoroughly familiar with this type of commercial foodservice installation.
24. ETL and other national and international recognized Testing and Listing Agencies labels and certifications are acceptable in lieu of Listing Agencies indicated in these documents, if acceptable to the local code jurisdictions.
25. All applicable local codes, standards, and regulations.
26. All special local codes, standard, and regulations, such as (examples only) California Energy Commissions Regulations, Dade County requirements for walk-in cooler(s) and/or freezer(s).
27. For detention facilities projects (as applicable): applicable Correctional Standards. Verify the level of security and construction required with the Architect and provide all items in compliance.

1.06 BIDDING

- A. This specification and the accompanying contract drawings must be considered together. Any work called for in one or on the other, together with such work as can reasonably be considered a part of the installation and necessary to complete same, shall be included.
- B. KEC is responsible for verifying and coordinating all items provided in this section, with the drawings, specifications, manufacturer's requirements, submittals, actual site conditions, adjacent items, and associated (Sub-) Contractors; to assure that there are no discrepancies or conflicts. This is to include, but not be limited to, quantities, dimensions, clearances required, direction of operation, door swings, utilities, fabrication details and methods, installation requirements, etc.
- C. The submitting of a bid shall constitute full evidence that the KEC has viewed and examined the site and all contract documents necessary pertaining to same and that the KEC is therefore, fully cognizant of the conditions under which the work must be conducted.
- D. Where discrepancies are discovered between the drawings and the specifications, regarding quality or quantity, the higher quality or the greater quantity is to be included in the Bid Proposal. KEC to notify the Architect and FFC, in writing, of any discrepancies discovered; and await written clarification prior to proceeding with the items or areas in question.
- E. Unless otherwise instructed by Division 1 bidding instructions, the Bidder shall provide pricing, listing quantity, manufacturer, and model number on the attached unit price form with separate total prices for delivery and installation. Any and all city, state, occupational and government taxes, which are applicable to this project, shall be included and added as a

separate charge. KEC shall be bound to supply the manufacturer and model number listed on their bid form. Bids shall be valid for thirty (30) days after bid deadline date and shall indicate same. Failure to comply with the above may be cause for rejection of the bid. Owner reserves the right to delete any item from the bid form.

1.07 APPROVED SUBSTITUTIONS AND/OR LISTED ALTERNATES

- A. The basis of design for all drawings, specifications, and detail references is the first manufacturer and model listed. If another listed manufacturer is chosen by the KEC, it is the responsibility of the KEC to provide a model that is equal in production capabilities, capacity, and performance to the first manufacturer and model listed. The KEC is also to verify, coordinate, and allow for proper installation of equipment, taking into account possible revisions for utility connections, loads, and physical sizes. In the event there are any additional costs or change orders by other trades as a result of the KEC submitting another listed manufacturer, those charges shall be the sole responsibility of the KEC.
- B. If an alternate manufacturer does not comply with the primary manufacturer's specification, the alternate manufacturer must modify their product to comply with quality, physical, and functional characteristics of the primary manufacturer and the model listed in the specification.
- C. The successful contractor will be bound to furnish equipment in strict accordance with the specifications. Where a single manufacturer is listed, it is not the intention to discriminate against any equal product of another manufacturer but is intended that a definite stringent standard be established.
- D. Any request for substitution of a manufacturer not listed in the specifications shall be submitted at least ten (10) business days prior to the bid opening. Requests are required to be submitted in writing to the Architect with an additional copy sent to the FFC for review. The request shall include complete information with the manufacturer's name, model number, utility information, and all other appropriate data. If approved, the Architect will issue an addendum to all bidders of record.
- E. Should a request for substitution be accepted and the substitute item proves to be defective or otherwise unsatisfactory for the service intended, the KEC shall replace the item with the product that was originally specified. This shall be done within the guarantee period and with no cost to the Owner.
- F. Substitution of non-approved items on the base bid may constitute grounds for rejection of bid.

1.08 SUBMITTALS

- A. General Note: KEC to submit rough-in drawings, equipment brochure books, and manufacturers shop drawings at one time. The submittals will be reviewed as a complete package.
- B. Provide all submittals for review by the FFC per one of the following options:
 - 1. Electronic Format: FFC will print one (1) hardcopy for their records and will return reviewed submittals electronically through the proper channels.

2. Hardcopy Format: KEC to submit five (5) sets of submittals and FFC will keep one (1) set for their records and will return the balance of the reviewed submittals through the proper channels.
- C. KEC to review all submittals for compliance with the Contract Documents prior to submitting to the FFC for review.
- D. Equipment Plan and Rough-In Drawings:
 1. Submit ½" scale drawings. These drawings are to include complete information on the work included in this contract, with references to equipment as provided by others; and are to provide sufficient information for associated trades, contractors, and/or sub-contractors to complete their division of work associated with food service equipment included in this contract. They are to be dimensioned; showing locations of ducts, stubs, floor, and wall sleeves, for ventilation, plumbing, steam, electrical, refrigeration lines, and concrete base and curb dimensions, as required for equipment so supported, and any additional information pertinent to the installation of this equipment.
 2. Drawings to also include equipment plan(s) with detailed equipment list, similar to Foodservice Equipment Plans included in the Contract Documents. Item numbers are to be the same as shown in the contract documents and are to include spare numbers and associated items as provided by others.
- E. Product Data Submittal Manuals:
 1. Equipment brochure books shall be provided in a 3-ring binder or GBC bound and shall include the KEC's name, address, phone number, e-mail address, project name and location.
 2. Each project item shall be referenced and accounted for in the equipment brochure book regardless of utility requirements and supplier, and shall include:
 - a. Manufacturers catalog sheet
 - b. Line drawings as available
 - c. Plumbing and/or wiring schematics as available
 - d. Data/cover sheet showing:
 - (1) Item number
 - (2) Manufacturer
 - (3) Model number
 - (4) All plumbing information
 - (5) All electrical information
 - (6) All ventilating information
 - (7) All accessories.
 3. All refrigerated devices shall include:
 - a. Data sheet showing:
 - (1) BTUH
 - (2) Type of refrigerant
 - (3) Amount of charge
- F. Shop Drawings:
 1. Submit shop drawings for items of custom fabrication included in this contract. Shop drawings are to be submitted at ¾" and/or 1-1/2" scale and are to show dimensions, materials, details of construction, installation and relation of adjoining work requiring cutting or close fitting. Shop

drawings are to also indicate reinforcements, anchorage and related work required for the complete installation of fixtures.

2. Submit shop drawings for any equipment requiring field assembly, including but not limited to, cooking suite assemblies, pulper/extractor assemblies, remote refrigeration systems, walk-in coolers and/or freezers, exhaust hoods/ventilators, fire suppression system, utility distribution systems, pot/utility/ware washing assemblies/machines and conveyors.
 3. Before proceeding with the fabrication or manufacture of any item, KEC is responsible for verifying and coordinating all dimensions and details, with site dimensions, conditions, and adjacent equipment.
- G. FFC's review of submittal drawings, shop details, product data brochures, and operation and maintenance manuals are for general conformance with the design concept and contract documents. Review markings or comments are not to be construed as relieving the KEC from compliance with the contract documents, or departures there from. The KEC remains responsible for details and accuracy, confirming and correlating all quantities and dimensions, selecting fabrication processes, techniques of assembly, and performing their work in a safe, satisfactory, and professional manner.
- H. Commencement of purchasing or fabrication by the KEC, of any item(s) included in this contract, prior to receipt of reviewed submittals from the FFS, shall be at the KEC's own risk; unless specifically instructed to do so in writing by the Owner, including the specific item numbers requested.

1.09 OPERATION & MAINTENANCE DATA MANUALS

- A. Three (3) bound sets of manuals are to be furnished for items of standard manufacture on/or before the date of the first event to occur of the following: demo/start-up, start-up for intended use by the Owner/Operator, completion of installation of kitchen equipment contract package, or final acceptance of installation by Owner. Manuals are to be in alphabetical order according to manufacturer and are to include each individual piece of equipment's serial number as applicable. Manufacturer's info is to include Technical Services telephone number, e-mail, and web site address, where available.
- B. Provide a complete list of authorized local service agencies for included manufacturers, complete with address, telephone number, e-mail, and web site addresses, where available. List to include warranty information per each piece of equipment.
- C. Provide video tapes and/or CDs for maintenance, training, operation, etc., where available from the manufacturer.

1.10 AS BUILT / RECORD DOCUMENTS (WHEN APPLICABLE TO PROJECT)

- A. Maintain one (1) record set of Foodservice Equipment plans with any related corrections, revisions, additions, deletions, changes, etc. noted during construction and installation. Provide an "as-built" set in reproducible transparency form and electronic computer disk form.
- B. Provide one (1) final set of Product Data Submittal Manual with any related corrections, revisions, additions, deletions, changes, etc. noted during construction and installation as a specification record set.
- C. These documents are to be provided at the same time as the O&M Data Manuals.

1.11 PRODUCT HANDLING

- A. Deliver materials (except bulk materials) in manufacturer's containers, fully identified with manufacturer's name, trade name, type, class, grade, size, color, item number, area, etc.
- B. KEC is responsible for receiving and warehousing equipment and fixtures, until ready for installation. Store materials, equipment, and fixtures in sealed containers, where possible. Store off the ground and under cover, protected from damage.
- C. KEC to verify and coordinate conditions at the building site, particularly door and/or wall openings, and passages, to assure access for all equipment. Pieces too bulky for existing facilities are to be hoisted or otherwise handled with apparatus as required. All special handling equipment charges will be arranged for and paid for by the KEC.

1.12 PRODUCT PROTECTION

- A. To the best of their abilities, KEC is to protect their equipment against theft or damage, until final acceptance by the Owner.
- B. Use all means reasonable to protect the materials of this section before, during, and after installation; and to protect the associated work and materials of the other trades.
- C. Prefabricated walk-in coolers/freezers are not to be used as general storage; and should be locked before leaving the site daily. Damage and theft resulting from failure to secure units will be repaired or replaced at the KEC's expense.
- D. No architectural walls, ceilings, décor, structural components, or any other details may be physically attached to, into, or rest on any walk-in wall, ceiling panel(s), or component thereof. KEC is responsible for coordinating this requirement with other Contractors.

1.13 WARRANTY

- A. Unless otherwise noted in Related Divisions / Work by Other Trades (Section 1.02), items furnished are to be fully guaranteed against defects in workmanship, materials, and functionality for one (1) full year from the first full day of operation for the food service facility.
 - 1. Date of regular operation is defined as the first full day of operation for this food service facility.
 - 2. Full warranty shall cover all parts, labor, and travel expenses.
 - 3. There shall be no cost to the Owner on matters that are "under warranty".
 - 4. Manufacturer warranties that extend longer than one (1) year shall be started on the date of regular operation and extend for the full term as prescribed by their specific warranty policy.
- B. Additional Refrigeration Warranty: in addition to one-year warranty requirements as stated above, provide start-up and parts and labor for the first year; plus, additional four-year extended warranty on compressors. Extended warranty is for provision of replacement compressor, determined to be defective by a certified refrigeration mechanic. However, verification of

- defective compressor, installation of replacement compressor, recharging and repairs of system will be the responsibility of the Owner. This includes all items with built-in or remote refrigeration system.
- C. Periodic routine maintenance, servicing, adjustments, cleaning, etc., as required by the manufacturers included in this project, are the responsibility of the Owner.
 - D. Any and all parts or requirements for manufacturer's warranties to be in effect, whether or not noted in the itemized specifications, are to be provided or complied with by the KEC. This is to include, but not be limited to, particular parts, accessories, or installation; installation supervision, start-up, and/or follow-up inspections required by factory trained certified, and/or authorized personnel. Factory training, certification, and/or authorization are to be in effect at the time of bidding, installation, start-up, and warranty period of this project.
 - E. Manufacturer's warranties which comply with the requirements of this warranty article 1.13 are to be provided in lieu of KEC's own warranties, where available. Copies of the written warranties are to be included in the O&M Manuals.
 - F. The KEC shall be the Owner's only contact for any service on any equipment under warranty.
 - G. Owner shall have use of defective item until the KEC can deliver and install a replacement.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Metals:
 - 1. Stainless steel shall be type 304/302, extra low carbon, nonmagnetic, austenitic, corrosion-resisting alloy steel. Composition to be minimum of 18% chromium, minimum 8% nickel and maximum 0.2% carbon. Mill finish of not less than 150 grit on one side and not less than 80 grit on the backside. All stainless-steel sheets shall bear manufacturer trademark, designation of type and heat number and shall be stretcher leveled.
 - 2. Galvanized iron shall be an approved grade of either low carbon steel or copper bearing steel. Zinc coating shall be applied after fabrication (brake or die forming, drilling, fitting, welding, or other operations). Finish of galvanized iron to be two coats of epoxy based gray hammer tone paint on prime undercoat over thoroughly cleaned surfaces.
 - 3. All gauges for sheet iron and sheet steel shall be U.S. standard gauges and shall not vary from standard thickness by more than 5%.
- B. Plastic Laminate: NEMA LD3, Type 2, 0.050" thick, except Type 3, 0.042" for post-forming smooth (non-textured). Color and texture as selected by Architect/Interior Designer and/or Owner.
 - 1. Comply with N.S.F. Standard No. 35.
 - 2. Veneered with approved waterproof and heat proof cement. Rubber base adhesives are no acceptable.
 - 3. Applied directly over close grained plywood, such as solid Mahogany or solid Birch, of selected, smooth, sanded stock to ensure a smooth ripple-free laminated surface; or commercial grade furniture particle board, Cortron or equal.

4. Exposed faces and edges are to be faced with 1/16" thick material. Corresponding backs are to be covered with approved backing and balancing sheet material.
- C. Millwork: No unfinished millwork, plywood/particle board or wood framing (including backs, undersides, and all surfaces concealed from view) will be permitted. All unfinished surfaces or openings cut through finished surfaces are to be sealed to be water resistant; with excess plastic laminate material, Cortron (Melamine) material, backing materials, sealers, primers, finish paint, etc., to blend with specified finish materials.
- D. Hardwood Work Surfaces: Laminated edge grained hard maple (*Acer saccharum*), NHLA First Grade with knots, holes and other blemishes culled out, kiln dried at 8 percent or less moisture, waterproof glue, machined, sanded, and finished with N.S.F. approved oil-sealer.
- E. Solid Surface Material (SSM): As indicated, provide DuPont Corian ½" thick 100% homogeneous filled acrylic material meeting ANSI Z124.6 Type 6; or DuPont Zodiaq ¾" thick quartz material, unless otherwise specified or selected. Colors and patterns as selected by Architect/Interior Designer and/or Owner. The following guidelines and general requirements apply to DuPont SSM, in addition to granite, marble, or any other solid surface materials specified or selected; except fabricator and installer are to be thoroughly experienced and certified in commercial foodservice installation of granite, marble, or other solid surface material specified or selected.
 1. Comply with N.S.F. Standard No. 51.
 2. Acrylic adhesive is to be used for all joints.
 3. Install directly over ¾" thick (minimum) substrate of close-grained plywood, such as solid Mahogany or solid Birch, of selected, smooth, sanded stock to ensure a smooth ripple-free surface; or commercial grade furniture particle board, Cortron or equal. Additional bracing and support to be provided as required by the SSM manufacturer.
 4. Fabricator to be trained by DuPont factory authorized training personnel and certified as a Commercial Corian/Zodiaq Fabricator; or equivalent by other SSM manufacturers. If no commercial certification program is available from other manufacturer specified or selected, then fabricator is to be certified as Commercial Corian/Zodiaq Fabricator.
 5. Installer to be trained by DuPont factory authorized training personnel and certified as a Commercial Corian/Zodiaq Installer; or equivalent by other SSM manufacturers. If no commercial certification program is available from other manufacturer specified or selected, then installer is to be certified as Commercial Corian/Zodiaq Installer.
 6. All fabrication and installation of Corian/Zodiaq, and all components attached to or installed in or through Corian/Zodiaq are to be in compliance with manufacturer's instructions and the DuPont Corian/Zodiaq Commercial Food Service Installation bulletins. Of particular concern are the sections, details, and instructions on the installation of drop-in or built-in hot or cold components. The DuPont Corian/Zodiaq Food Service Installation bulletins requirements are to also apply to any other SSM, in addition to that manufacturer's instructions.
 7. KEC to verify and coordinate overhead heat lamps and/or food warmers to be installed in accordance with manufacturer's recommendations

over solid surface materials and solid surface materials manufacturer's recommendations.

8. All surfaces are to be non-porous or cleaned and sealed, in compliance with local health codes, such as with 511 Impregnator by Miracle Sealants for granite.

2.02 QUALITY ASSURANCE

- A. It is required that all fabricated equipment described in specifications and designated on drawings shall be manufactured by one equipment manufacturer which has engineering personnel and plant facilities to design, detail and fabricate the highest quality equipment in strict compliance with appropriate standards of National Sanitation Foundation.
- B. All exposed surfaces shall be free from bolt, screw, and rivet heads. When bolts are required, they shall be of concealed type and be of similar composition as the metal to which they are applied. Where bolt or screw threads on the interior of fixtures are visible or may come in contact with heads or wiping cloth, they must be capped with a stainless-steel acorn nut with a stainless-steel lock washer.
- C. Where screw threads are not visible or readily accessible, they may be capped with a standard lock washer and steel nut treated to prevent rusting or corroding. Where bolts or screws are welded to the underside of trim or tops, the reverse side of the weld shall be neatly finished uniform with the adjoining surface of the trim or the top. Depressions at these points will not be acceptable. Rivets shall not be used as a method of fastening in any location.
- D. All welds, bolts, screws, nuts, washers, and rivets shall be steel except where brass or stainless steel is fastened, in which case they shall be brass or stainless steel, respectively. Where dissimilar metals are fastened, the fastenings shall be of higher-grade metal. Spacing and extend of welds, bolts, screws, and rivets shall insure suitable fastenings and prevent bulging of metals fastened.
- E. All exposed, welded joints shall be suitably ground flush with adjoining material and neatly finished to harmonize therewith. Wherever material has been sunken or depressed by welding operation, such depressions shall be suitable hammered and peened flush with the adjoining surface and, if necessary, again ground to eliminate low spots. In all cases the grain of rough grinding shall be removed by successive fine polishing operations. All stainless steel shall have a No. 4 finish on all exposed surfaces and a No. 2 finish on all concealed surfaces.
- F. All unexposed welded joints on undershelves of tables or counters in stainless steel construction shall be suitable coated at the factory by means of metallic base paint to prevent possible corrosion at such locations.
- G. After galvanized iron members have been welded, all welds and areas where galvanizing has been damaged shall be re-coated to prevent oxidation. Submit a sample of re-coated area complete with a detailed explanation of the method to be used for approval before proceeding.
- H. Butt joints and contract joints, wherever they occur, shall be close fitting and shall not require solder as filler. Wherever break bends occur they shall be free of undue exudence and shall not be flaky, scaly, or cracked in appearance of the material all such marks shall be removed by suitable grinding, polishing, and finishing. Wherever sheared edges occur they shall be free of burrs, fins or

irregular projections and shall be finished to obviate all danger of cutting or laceration when the hand is drawn over such sheared edges. In no case are overlapping materials to be acceptable where miters of bull-nosed corners occur.

- I. The grain of polishing shall run in the same direction on all horizontal and on all vertical surfaces of each individual item of fabricated equipment, except in the case where table or sink tops join at right angles, where the finish of the horizontal sections of each terminating in a mitered edge shall be acceptable. Where sinks and adjacent drainboards are equipped with splash back, the grain of polishing shall be consistent in direction throughout the length of the splash back and sink compartment.
- J. Where stainless steel surfaces are distributed by the fabricating process, such surfaces shall be finished to match the adjoining surfaces.
- K. Final Polishing: At the completion of the installation work, all stainless steel shall be gone over with a portable polishing machine and buffed to perfect surfaces. All painted surfaces shall be carefully gone over and retouched as required.

2.03 FABRICATION COMPONENTS

A. Hardware:

1. General: Manufacturer's standard, but not less than ANSI 156.9 Type 2 (institutional), satin finish stainless steel or dull chrome finish on brass, bronze, or steel.
2. Metal Hinged Door Hardware: Doors to be mounted on Component Hardware Group model M75-5003, or equal, stainless steel, heavy duty, lift-off flag hinge that is 3" long and NSF approved with a swedged knuckle design. Door to be fitted with Component Hardware Group model P63-1012, or equal, stainless steel full grip type with frame beveled edge pull. Catches to be heavy-duty magnetic type, except as otherwise indicated.
3. Sliding Door Hardware: Doors to be mounted on large, quiet ball bearing rollers in 14-gauge stainless steel overhead tracks and be removable without the use of tools. Bottom of cabinet to have stainless steel guide-pins and not channel tracks for doors.
4. Millwork Hinged Door Hardware: Doors to be mounted with Blum 95-degree CLIP top thick door all metal hinges, nickel plated, with 3-dimensional adjustment, or equal; or as per individual itemized specifications.
5. Drawer Hardware: Slides to be Component Hardware Group series S52, or equal, with 200 pounds minimum capacity per pair, 201 or 300 series stainless steel, full extension, side-mounting, self-closing type, with stainless steel ball-bearings, and positive stops. Drawer front to be fitted with Component Hardware Group model P63-1012, or equal, stainless steel full grip type with frame beveled edge pull.
6. All hardware to be identified with manufacturer's name and number, so that broken or worn parts may be replaced.

B. Casters:

1. Type and size as recommended by caster manufacturer, N.S.F. approved for the type and weight of equipment supported; normally 5" diameter heavy-duty, ball-bearing, solid or disc wheel with non-marking grease

- proof rubber, neoprene or polyurethane tire, unless otherwise specified. Minimum width of tread to be 1-3/16". Minimum capacity per caster to be 250 pounds, unless otherwise noted in itemized specifications.
2. Solid material wheels to be provided with stainless steel rotating wheel guard.
 3. To be sanitary, have sealed wheel and swivel bearings and polished plate finish per N.S.F.
 4. Unless otherwise indicated, equip each item with two (2) swivel-type casters and two (2) fixed casters, with foot brakes on two (2) casters.
 5. Unless item is equipped with another form of all-around protective bumper, provide circular rotating bumper above each caster, 5" diameter tire of light grey synthetic rubber (hollow or closed-cell) on cadmium-plated disc.
- C. Plumbing Fittings, Trim & Accessories:
1. General: Where exposed or semi-exposed, provide bright chrome plated brass or polished stainless-steel units. Provide copper or brass where not exposed.
 2. Vacuum Breakers: Provide with foodservice equipment as listed in the itemized specifications.
 3. Water Outlets: At sinks and at other locations where water is supplied (by manual, automatic or remote control), furnish commercial quality faucets, valves, dispensers or fill devices, of the type and size indicated, and as required to operate as indicated.
 4. Waste Fittings: Except as otherwise indicated, furnish 2" NPS twist handle drains with overflow assembly and crumb cup strainer, similar to Component Hardware Group #D53-7215.
 5. Also refer to article 2.04 for additional information.
- D. Electrical Materials:
1. General: Provide standard materials, devices and components as recommended by the manufacturer or fabricator, selected, and installed in accordance with N.E.M.A. standards and recommendations; and as required for safe and efficient use and operation of the foodservice equipment, without sanitation problems.
 2. Components to bear the U.L. label or be approved by the prevailing authority.
 3. Where light fixtures are specified or detailed as part of counters, cases, or fixtures; light fixtures with lamps to be furnished and installed. Warm white lamps to be provided, unless otherwise specified. If fluorescent light fixtures are specified, ballasts and tubes to be provided. Shields to be provided for all light fixtures.
 4. Convenience and Power Outlets: Make cutouts and install appropriate boxes or outlets in fabricated fixtures, complete with wiring, conduit, outlet, and stainless-steel cover plate. Outlets and plugs to conform to N.E.M.A. standards. Electrical outlets and devices to be first quality "Specification Grade". GFCI outlets to be furnished where adjacent to sink compartments, as per the National Electrical Code.
 5. Plugs & Cords: Where cords and plugs are provided, they are to comply with N.E.M.A. requirements. Indicate N.E.M.A. configuration for each applicable item.

6. Power Characteristics: Refer to Electrical Divisions specifications for project power characteristics. Also, refer to individual equipment requirements for loads and ratings.
7. All electrical components (J-boxes, conduit, outlets, switches, cover plates, light fixtures, panels, etc.) built into or on any equipment provided by the KEC, other than standard buy-out factory manufactured equipment, are to be vapor or watertight type. Provide buy-out equipment with vapor or watertight electrical components wherever available.

2.04 FABRICATED PRODUCTS

- A. General Fabrication Requirements:
 1. Except as otherwise indicated, provide framing of minimum 1" pipe-size round pipe or tube members, with mitered and welded joints and gusset plates, ground smooth. Provide 14-gauge stainless steel tube for exposed framing, and galvanized steel pipe for concealed framing.
 2. Reinforce metal at locations of hardware, anchorages, and accessory attachments wherever metal is less than 14 gauge or requires mortised application. Conceal reinforcements to the greatest extent possible. Weld in place, on concealed faces.
 3. Provide removable panels for access to mechanical and electrical service connections, which are concealed behind or within foodservice equipment, buy only where access is not possible and not indicated through other work.
 4. Where ends of fixtures, splash backs, shelves, etc., are open, fill by forming the metal or welding sections, if necessary, to close entire opening flush to walls or adjoining fixtures.
 5. Rolled edges are to be as detailed, with corners bull nosed, ground and polished.
 6. Equipment to have $\frac{3}{4}$ " or larger radius coves in horizontal and vertical corners, and intersections, per N.S.F. standards.
- B. Metal & Gauges:
 1. Except as otherwise indicated, fabricate exposed metalwork of stainless steel; and fabricate the following components from the gauge of metal indicated, and other components from not less than 20-gauge metal:

| | |
|--|----------------------------|
| a. Table & counter tops: | 14 gauge |
| b. Sinks & drainboards: | 14 gauge |
| c. Shelves: | 16 gauge |
| d. Front drawer & door panels: | 18 gauge (double-pan type) |
| e. Single pan doors and drawer fronts: | 16 gauge |
| f. Enclosed base cabinets: | 16 gauge |
| g. Enclosed wall cabinets: | 16 gauge |
| h. Exhaust hoods & ventilators: | 18 gauge |
| i. Pan-type insets & trays: | 16 gauge |
| j. Removable covers & panels: | 18 gauge |
| k. Skirts and enclosure panels: | 18 gauge |
| l. Closure & trim strips over 4" wide: | 18 gauge |
| m. Hardware reinforcement: | 12 gauge |
| n. Gusset plates: | 10 gauge |
- C. Worktable Tops:



1. Construct worktable of 14-gauge stainless steel, one-piece, welded construction, including field joints.
 2. Secure to a full perimeter, 4"x1"x 12-gauge, galvanized steel channel frame with channel running front to back at each leg. Two (2) channels lengthwise on worktables up to 30" wide and channels spaced no more than 18" on center for over 30" wide. Fasten top with stud bolts and combination of zinc plated locknut with rubber seal.
 3. Where worktables abut wall or other equipment, backsplash or side splashes shall be 6" high, with return to wall of 1" and turn down of 1", unless otherwise specified. Secure backsplash to wall with "Z" clips and enclosed all exposed ends.
- D. Dish Tabletops:
1. Construct dish tables of 14-gauge stainless steel with all intersections meeting in a spherical section.
 2. Secure to a full perimeter, 4"x1"x 12-gauge, galvanized steel channel frame with channel running front to back at each leg. Two (2) channels lengthwise on dish tables up to 30" wide and channels spaced no more than 18" on center for over 30" wide. Fasten top with stud bolts and combination of zinc plated locknut with rubber seal.
 3. Where dish tables abut wall or other equipment, backsplash or side splashes shall be 10" high with 45-degree return to wall of 2" and turn down of 1", unless otherwise specified. Secure backsplash to wall with "Z" clips and enclose all exposed ends.
 4. Slope dish tables to dish machine, sinks, troughs, cones or drainers at a minimum of 1/8" per foot. Where dish tables lip into dish machine fasten securely with stainless steel fasteners and seal to insure no water leakage.
 5. Where applicable to project, pass thru shelves, sills or other configurations are to be welded and constructed integral to dish table.
- E. Edges & Corners: (See detail on first page of elevations)
1. Edges to be die-formed and integral with top.
 2. Where indicated, flange rear and end edges up to form splashes integrally with top, with vertical and horizontal corners coved of not less than 3/4" radius, die formed. Turn back splashes 1" to wall across top and ends with rounded edge on break, unless otherwise specified.
 3. For standard flat edge, turn down 1-1/2" on outside and back at 45 degree angle another 1/2" along return.
 4. For marine splash edge, turn up 1/2" at a 45-degree angle, out 1", turn down 2" and back at a 45 degree angle another 1/2" along return.
 5. For rolled rim edge, turn up 3" with 3/4" coved radius and roll out semi-circle to 3/4" radius.
 6. For rolled edge, roll down semi-circle to 3/4" radius.
 7. For rounded corners, form to 1" radius, weld, and polish to original finish.
- F. Field Joints: For any field joint required because of size of fixture; butt-joint, reinforce on underside with angles of same material, bolt together with non-corrosive bolts and nuts, field weld, grind, and polish.
- G. Pipe Bases: Construct pipe bases of 1-5/8" diameter 18-gauge stainless steel tubing. Fit legs with polished stainless steel sanitary adjustable bullet feet to provide for adjustment of approximately 1-1/2", without exposing threads. Space legs to provide ample support for tops, precluding any possibility of buckling or sagging, and in no case more than 6'-0" centers.

H. Legs & Cross Rails:

1. Equipment legs and cross rails to be 1-5/8", 16-gauge stainless steel tubing.
2. Welds at cross rails to be continuous and ground smooth. Tack welds will not be acceptable. Top of cross rail to be 10" above finished floor.
3. Bottom of legs to be swedged inward and fitted with a stainless-steel bullet-type foot with not less than 2" adjustment.
4. Free standing legs to be pegged to floor with 1/4" stainless steel rod or provided with bolt down type flanged feet anchored to the floor, depending on expected severity of use and/or abuse.
5. Components:
 - a. Stainless Steel Gusset: Stainless steel exterior to fit 1-5/8" tubing, with Allen screw for fastening and adjustment. Not less than 3" diameter at top and 3-3/4" long. Outer shell 16-gauge stainless steel, reinforced with 12-gauge mild steel insert welded interior shell, or approved equal.
 - b. Stainless Steel Low Counter Legs: Stainless steel exterior 5-3/4" minimum, 7" maximum length with stainless steel 3-1/2" square plate with four counter-sunk holes, welded to top for fastening.
 - c. Stainless Steel Adjustable Foot: Stainless steel 1-1/2" diameter tapered at bottom to 1" diameter, fitted with threaded cold rolled rod for minimum 1-1/2" diameter x 3/4" threaded bushing plug welded to legs, or approved equal. Push-in foot not acceptable.
6. Legs to be fastened to equipment with gussets as follows:
 - a. Sinks: Reinforced with bushings and set screw.
 - b. Metal Top Tables & Dish Tables: Welded to galvanized steel channels, 14 gauge or heavier, anchored to top with screws through slotted holes.
 - c. Wood Top Tables: Welded to stainless steel channels, 14 gauge or heavier, anchored to top with screws through slotted holes.

I. Shelves:

1. Construct solid shelves under pipe base tables of 16-gauge stainless steel, with 1-1/2" turned down and back 1/2" at 45-degree angle on exposed sides, and 2" turn up against walls or equipment. Fully weld to pipe legs at 10" above finished floor.
2. In fixtures with enclosed bases, turn up shelves on back and sides with 1/4" (minimum) radius and feather slightly to ensure a tight fit to enclosure panels.
3. Construct wall shelves of 16-gauge stainless steel, with 1-1/2" turned down and back at 45-degree angle on exposed sides, and 1-1/2" turn up against walls or equipment. Support wall shelves with 14-gauge stainless steel triangle brackets secured to wall with stainless steel fasteners.

J. Sinks:

1. Construct sinks of 14-gauge stainless steel with No. 4 finish inside and outside.
2. Form back, bottom and front of one piece, with ends and partitions welded into place. Partitions: double thickness, 1" minimum space between walls. Multiple compartments to be continuous on the exterior, without applied facing strips or panels.



3. Cove interior vertical and horizontal corners of each tub not less than $\frac{3}{4}$ " radius, die formed. Outer ends of drainboards to have roll rim risers not less than 3" high.
 4. Drill faucet holes in splashes 2-1/2" below top edge. Verify center spacing with faucet specified.
 5. Sink inserts to be drawn of 14 gauge, or heavier, polished stainless steel. Weld into sink drainboards with 1-1/2" x 1-1/2" x 14-gauge stainless steel angle brackets; securely welded to sills and galvanized cross angles spot welded to underside of drainboards to form an integral part of the installation.
 6. The bottom of each compartment is to be creased such as to ensure complete drainage to waste opening. Slope bottom of sink bowls toward outlet.
- K. Drains, Wastes & Faucets:
1. Furnish and install Component Hardware Group #D63-4590, or equal, twist handle box pattern drains with overflow assembly, with chrome finish, in die-drawn inset type sinks and Bain Marie sinks.
 2. Other custom fabricated sinks to be furnished with Component Hardware Group #D53-7215, or equal, twist lever handle waste outlet with overflow assembly and crumb cup strainer. Waste connection to have 2" external thread size, with 1-1/2" internal thread size.
 3. Twist Lever Handle: Of sufficient length to extend to front edge of sink. No riveting, screws or soldering permitted to fit drains to sinks, with all parts of drains easily removable for servicing and replacement. Furnish stainless steel twist lever handle support for each drain.
 4. All faucets furnished with equipment included in this Section to be lead free and comply with N.S.F. Standard #61, Section #9; such as manufacturer by Fisher, Chicago, or T&S Brass.
 5. Faucets and pre-rinse spray assemblies furnished with equipment included in this Section, are to have a maximum GPM flow rate in compliance with the Energy Policy Act of 2005 (EPA Act) and later updates; or local requirements, whichever is lower. EPA Act / local requirements are to be applicable to all faucets and pre-rinses, except for pre-rinse type assemblies used at glass icing/fill stations, fill hose/faucet assemblies at high water usage cooking equipment such as kettles, tilt fry pans, etc., and fill faucets at high volume/usage sinks such as pot and prep sinks, etc. are to have flow rates of approximately 5 gpm flow minimum.
 6. All flex hose type faucet assemblies, such as pre-rinses, kettle fill hoses, etc. to have an inline pressure type back flow preventer in the hose assembly, as required by local codes.
 7. All equipment provided by the KEC, which discharges liquid waste exceeding 140 degrees F, is to be provided with a cold water drain tempering assembly per local codes.
- L. Workmanship:
1. Best quality in the trade. Field verify dimensions before fabricating; conform all items to dimensions of building; neatly fit around pipes, offsets, and other obstructions.
 2. Fabricate only in accordance with approved shop drawings, showing pipes, obstructions to be built around, and location of utilities and services.

M. Casework:

1. Enclosure: except as otherwise indicated, provide each unit of casework (base, wall, overhead and free-standing) with a complete-enclosure metal cabinet, including fronts, backs, tops, bottoms, and sides.
2. Bases to be made of 16-gauge stainless steel sheets reinforced by forming the metal.
3. Unexposed backs and structural members may be galvanized, unless otherwise noted.
4. Vertical ends and partitions to be stainless steel fully enclosed and completely vermin proof with a 2" face and ¾" return.
5. Sides and through partitions are flush with bottom rail, welded at intersections.
6. Shelves: Provide adjustable standards for positioning and support of shelves in casework; except bottom shelf of cabinet mounted on legs or as specified. Turn back of shelf units up 2" and hem. Turn other edges down to form open channel. Reinforce shelf units to support 40 pounds per square foot loading, plus 100 percent impact loading.
7. Bottom front rail of bases set on masonry platform to be continuously closed and sealed to platform.

N. Doors:

1. Metal doors to be double-cased stainless steel. Outer pans to be 18-gauge stainless steel and inner pans to be 20-gauge stainless steel fitted tightly into outer pan with a sound deadening, moisture proof, fireproof, and vermin proof material used as a core. The two pans to be tack welded together and joints solder fitted. All corners to be welded, ground smooth and polished.
2. Metal doors to finish approximately ¾" thick and be fitted with Component Hardware Group #P63-1012, or equal, stainless steel full grip type with frame beveled edge door pull.
3. Hinged doors to be mounted on Component Hardware Group #M75-5003, or equal, stainless-steel heavy-duty lift-off flag hinge. Hinge to be 3" long, NSF approved with swedged knuckle design.
4. All doors to be furnished with stainless steel faced, disc tumbler, utility lock. All locks to be keyed alike.
5. All doors to be easily removable without the use of tools.

O. Drawer Assemblies:

1. Assemblies to consist of removable drawer body mounted in a ball bearing slide assembly with fully enclosed housing. Assembly to have unibody fully welded construction throughout.
2. Slide assembly consists of one pair of 200-pound capacity stainless steel roller bearing full extension slides, with side and back enclosure panels, front spacer angle, two drawer carrier angles, secured to slides and stainless-steel front.
3. Drawers intended for tools and general non-food products storage are to have 20" x 20" x 5" deep, 18-gauge minimum stainless-steel drawer pans.
4. Drawers intended to hold food products are to have 12" x 20" x 5" deep, 18-gauge stainless steel food pans.
5. All drawer pans to be easily removable without tools or disassembly of any drawer assembly components.



6. Drawer fronts are double cased, $\frac{3}{4}$ " thick, with 16-gauge stainless steel welded and polished front pan. Steel back pan is tightly fitted, and tack welded. Sound deaden with rigid insulation material.
7. Provide drawers with replaceable soft neoprene bumpers or for refrigerated drawers, a full perimeter replaceable refrigerator gasket.
8. All drawers to be finished with stainless steel faced, disc tumbler, utility lock. All locks to be keyed alike.
- P. Closed Base: Where casework is indicated to be located on a raised-floor base, prepare casework for support without legs, and for anchorage and sealant application, as required for a completely enclosed and concealed base.
- Q. Support from Floor: Equip floor supported mobile units with casters, and equip items indicated as roll-out units, with manufacturer's standard one-directional rollers. Otherwise, and except for closed-base units, provide pipe or tube legs, with adjustable bullet-design feet for floor supported items of fabricated metalwork. Provide 1-1/2" adjustment of feet (concealed threading).
- R. Shop Painting:
 1. Clean and prepare metal surfaces to be painted; remove rust and dirt. Apply treatment to zinc coated surfaces, which have not been mill phosphatized. Coat welded and abraded areas of zinc coated surfaces, with galvanize repair paint.
 2. Apply 1.5 mil (dry film thickness) metal primer coating, followed by 2, 1.0 mil (dry film thickness) metal enamel finish coatings.
 3. Bake primer and finish coatings in accordance with paint manufacturer's instructions for a baked enamel finish.
- S. Sound Deadening:
 1. Sound deaden underside of metal tops, drainboards, undershelves, cabinet interior shelves, etc., above the underbracing/reinforcing/framing only.

2.05 MILLWORK

- A. All products shall be of first or best quality and conform to "custom grade" as specified by The Architectural Woodwork Institute.
- B. Flame spread rating of Class II per the ASTM e-84 where specified.
- C. Plastic laminate cabinets to conform to Custom Grade per Section 400b AWI unless otherwise specified.
 1. Cabinet body to be $\frac{3}{4}$ " thick plywood with plastic laminate on all exposed interior and exterior surfaces.
 2. Doors and drawer fronts to be $\frac{3}{4}$ " plywood with plastic laminate on all exposed interior and exterior surfaces. Drawer box to have $\frac{1}{2}$ " hardwood sides. Drawer bottom to be $\frac{1}{4}$ " plywood with plastic laminate where exposed. Drawer corners to be lock shoulder joined, glued, and screwed. Drawer bottom set in groove cut into all side pieces and glued. Attach drawer box to front with screws from box side, independent of drawer pulls.
 3. Shelves to be adjustable on Knappe and Vogt KV255AL/KV256AL standards and supports and constructed of $\frac{3}{4}$ " plywood with plastic laminate on all surfaces.



4. Hinges to be Grass System #1200 or equal. Pulls to be polished chrome wire. Drawer slides to be full extension, ball bearing 75#/pair capacity Knappe and Vogt #1300 or equal.
 5. Counter tops shall be fabricated of $\frac{3}{4}$ " plywood with plastic laminate or solid polymer surface as specified. Edges shall be 1-1/2" high and covered with matching finish surface material as laminate tops. Edges of solid polymer tops shall be chemically attached to top with adhesive as recommended by the manufacturer, sanded smooth for an invisible joint and of the size shown. Backsplash where shown also to be covered with a finish matching top surface material.
 6. Counters to be fabricated of one piece unless top is larger than can be cut from a standard sheet of material. Where splines are required, joints shall touch throughout the length and be flush to within tolerance of .005". Field assemblies with bolt-up type fasteners. Splines shall not be made at cutouts.
 7. Provide material samples and/or mock-up as required.
 8. General construction to be of AWI grade birch hardwood framing and $\frac{3}{4}$ " APA A-B hardwood or marine grade plywood. Fiberboard, pressboard or equal will not be acceptable.
 9. Plastic laminate to be suede or matte finish high wear .050 general purposes as manufactured by Formica, Wilson-Art, and Nevamar or as specified.
- D. Adhesive as recommended by manufacturer. Solid polymer to be cast, filled acrylic (not coated, laminated or of composite construction) meeting ANSI Z-124-1980 Type 6, of thickness as specified and manufactured by E.I. Dupont de Nemours and Company/Corian, Wilson Art International/Gibraltar or Formica/Surrell. Fabricator certified in writing by the solid polymer material manufacturer shall do fabrication and installation. Work to be done in such a manner as to ensure compliance with the manufacturer's warranty and assure a quality installation. Utilize manufacturer's two-part joint adhesive kit to create inconspicuous, non-porous joints.

2.06 MISCELLANEOUS MATERIALS & FABRICATION

- A. Nameplates: Whenever possible, locate nameplates and labels on manufactured items, in accessible position, but not within customer's normal view. Do not apply name plates or labels on custom fabricated work, except as required for compliance with governing regulations, insurance requirements, or operator performance.
- B. Manufactured Equipment Items: Furnish items as scheduled or herein specified. Verify dimensions, spaces, rough-in and service requirements, and electrical characteristics, before ordering. Provide trim, accessories, and miscellaneous items for complete installation.
- C. Insert Pans:
 1. General: Cut-outs, openings, drawers, or equipment specified or detailed to hold stainless steel insert pans to be provided with a full complement of pans as follows:
 - a. One (1) stainless steel, 20-gauge minimum, solid insert pan for each space, sized per plans, details, or specifications.

- b. Where pan sizes are not indicated in plans, details, or specifications, provide one full-size pan for each opening.
 - c. Provide maximum depth pan to suit application and space.
 - 2. Provide 18-gauge removable stainless-steel adapter bars where applicable.
 - 3. All cut-outs and openings, or equipment specified or detailed to hold stainless steel insert pans, shall be provided with a hinged stainless-steel removable night cover.
- D. Tray Slides: Before fabrication of counters with tray slides, verify:
 - 1. Size and shape of tray with Owner/Operator. Edge of tray should not overhang outer support/slider by more than 2". If edge of tray exceeds this dimension, notify Architect, in writing, for evaluation and adjustment, if necessary.
 - 2. Configuration of corners, turns, and shape of tray slides for proper support and safe guidance of trays.
 - 3. Tray slide to be capable of supporting 200 pounds per linear foot, live load.
- E. Self-leveling Dispensers: Verify type, make dimensions and weight of ware with Owner/Operator; and submit to the dispenser manufacturer, for proper sizing and calibration of dispensers.
- F. Carbon Dioxide (CO₂) Equipment: Where equipment requires connection with compressed CO₂ cylinder for operation, provide 2-cylinder manifold and control system (integral with equipment) with proper connectors for Department of Transportation (DOT) approved type cylinders, complete with cylinder safety devices and supports. Applicable to projects with CO₂ equipment included in Contractor's specified equipment.
- G. Reasonable quietness of operation of equipment is a requirement, and Contractor will be required to replace or repair any equipment producing out of the ordinary intolerable noise. This also includes providing and installing bumpers and gaskets for doors and drawers on fabricated and standard manufactured items and sound insulation where feasible.
- H. Gas Pressure Regulator: All gas fired equipment included with this Section is to be provided with a gas pressure regulating valve with a built-in vent limiting device. Contractor is responsible for coordinating this requirement with their manufacturers and suppliers.

PART 3 - EXECUTION

3.01 SUPERVISION

- A. A competent supervisor, representing the KEC, is to be present at all times during progress of the KEC's work.
- B. The KEC is responsible for coordinating all general and specific requirements included in Parts 1, 2, and 3 of this Section 114000 general condition, with their manufacturers, fabricators, and suppliers.

3.02 SITE EXAMINATION

- A. Verify site conditions under the provisions of the General Conditions, Supplementary Conditions, and applicable provisions of Division 1 Sections. Notify the Architect, in writing, of unsatisfactory conditions for proper installation of foodservice equipment.



- B. Verify wall, column, door, window, and ceiling locations and dimensions. Fabrication and installation should not proceed until dimensions and conditions have been verified and coordinated with fabrication details.
- C. Verify that wall reinforcement or backing has been provided and is correct for wall supported equipment. Coordinate placement dimensions with wall construction section.
- D. Verify that ventilation ducts are of the correct characteristics, and in the required locations.
- E. Verify that utilities are available, of the correct characteristics, and in the required locations.

3.03 INSTALLATION

- A. Sequence installation and erection to ensure correct mechanical and electrical utility connections are achieved.
- B. Install items in accordance with manufacturer's instructions.
- C. Set each item of non-mobile and non-portable equipment securely in place, leveled and adjusted to correct height. Anchor to supporting substrate where indicated, and where required for sustained operation and use without shifting or dislocation. Conceal anchorages wherever possible. Adjust counter tops and other work surfaces to a level tolerance of 1/16" (maximum offset, and plus or minus on dimension, and maximum variation in 24" run from level or indicated slope). Provide anchors, supports, bracing, clips, attachments, etc., as required to comply with the local seismic restraint requirements. The Guidelines for Seismic Restraint of Kitchen Equipment, as prepared for the Sheet Metal Industry Fund of Los Angeles and endorsed by S.M.A.C.N.A., is to be followed.
- D. Complete field assembly joints in the work (joints which cannot be completed in the shop) by welding, bolting-and-gasketing, or similar methods as indicated and specified. Grind welds smooth and restore finish. Set or trim flush, except for "T" gaskets as indicated.
- E. Provide closure plates and strips where required, with joints coordinated with units of equipment.
- F. Provide sealants and gaskets all around each unit to make joints airtight, waterproof, vermin-proof, and sanitary for cleaning purposes.
- G. Joints up to 3/8" wide, to be stuffed with backer rod, to shape sealant bead properly, at 1/4" depth.
- H. At internal corner joints, apply sealant or gaskets to form a sanitary cover, of not less than 3/8" radius.
- I. Shape exposed surfaces of sealant slightly concave, with edges flush with faces of materials at joint.
- J. Provide sealant filled or gasketed joints up to 3/8" joint width. Wider than 3/8", provide matching metal closure strips, with sealant application each side of strips. Anchor gaskets mechanically, or with adhesives to prevent displacement.
- K. Treat enclosed spaces, inaccessible after equipment installation, by covering horizontal surfaces with powdered borax at a rate of 4 ounces per square foot.
- L. Insulate to prevent electrolysis between dissimilar metals.

- M. Cut and drill components for service outlets, fixtures, piping, conduit, and fittings.
- N. Verify and coordinate the mounting heights of all wall shelves and equipment, with equipment located below them, for proper clearances.
- O. Coordinate with Plumbing and Electrical Divisions and provide holes in food service equipment for plumbing and electrical service to and through the fixtures, as required. This includes welded sleeves, collars, ferrules, or escutcheons. These services are to be located so that they do not interfere with intended use and/or servicing of the fixture.
- P. All equipment provided by this Section, which requires light bulb(s), are to be provided with heavy-duty, energy efficient, extra-long-life bulbs with a minimum life expectancy of 5000 hours, and as required by the local Jurisdictions. All light bulbs in and/or above foodservice equipment and/or areas are to be coated or provided with shields in compliance with local health codes.
- Q. All equipment provided by this Section, shall include any and all parts, components, options, accessories, etc. necessary to provide a completely functional item for its intended use under normal conditions; and if appropriate, after the final utility connections are completed by other Divisions. This shall generally apply to equipment such as soda systems, beer systems, and remote refrigeration systems, any type of remote system or equipment, or ice machines; but shall also apply to any equipment provided by this Section.

3.04 ADJUSTING

- A. Test and adjust equipment, controls, and safety devices to ensure proper working order and conditions.
- B. Repair or replace equipment, which is found to be defective in its operation, including units which are below capacity or operating with excessive noise or vibration.

3.05 CLEANING AND RESTORING FINISHES

- A. After completion of installation, and completion of other major work in foodservice areas, remove protective coverings and clean foodservice equipment, internally and externally.
- B. Restore exposed and semi-exposed finishes, to remove abrasions and other damages; polish exposed metal surfaces and touch-up painted surfaces. Replace work, which cannot be successfully restored.
- C. Polish glass, plastic, hardware and accessories, fixtures, and fittings.
- D. Wash and clean equipment and leave in a condition ready for the Owner to sanitize and use.

3.06 TESTING, START-UP, AND INSTRUCTIONS

- A. Delay the start-up of equipment until service lines have been tested, balanced, and adjusted for pressure, voltage, and similar considerations; and until water and steam lines have been cleaned and treated for sanitation.

- B. Prior to demonstration, the KEC shall arrange for every item to be started-up, checked out, properly calibrated, and adjusted by an authorized service agency.
 - C. Make arrangements for demonstration of foodservice equipment operation and maintenance, in advance with the Owner/Operator. KEC shall notify the FFC and Architects so that they may be present.
 - D. Demonstrate foodservice equipment, to familiarize the Owner and the Operator on operation and maintenance procedures, including periodic preventative maintenance measures required. Include an explanation of service requirements and simple on-site service procedures, as well as information concerning the name address and telephone number of qualified local source of service. The individual(s) performing the demonstration are to be knowledgeable of operating and service aspects of the equipment. KEC to be onsite for all demonstrations.
 - E. Provide a written report of the demonstration, to the Owner, outlining the equipment demonstrated and any malfunctions or deficiencies noted. Indicate individuals present at the demonstration. Notify the FFC and Architect in writing that demonstrations/instructions have been completed with statement from Owner and the Operator that proper demonstrational instruction has satisfactorily been completed. Once this has been completed final jobsite inspection will be performed.
 - F. Final Cleaning: After testing and start-up, clean the foodservice equipment, and leave in a condition ready for the Owner to sanitize and use.
 - G. All keys for all locks provided with equipment provided under this Section, are to be gathered up, individually tagged with the equipment they belong to, put into a single box, and handed over to the Owner's authorized representative. A list of the keys and their associated equipment item numbers is to be provided with the O&M Manuals, along with a copy of the list, signed by the Owner's representative, acknowledging receipt of the keys.
- 3.07 CLEAR AWAY
- A. Throughout the progress of their work, the KEC is to keep the working area free from debris and remove rubbish from premises resulting from work being done by them. At the completion of their work, the KEC is to leave the premises in a clean and finished condition.
- 3.08 EXISTING EQUIPMENT (Applicable to projects with reused existing equipment)
- A. The KEC is responsible for identifying, tagging, and/or removing all existing equipment, which will be reused. Verify and coordinate specific equipment with these plans and specifications, and the Owner. This includes items existing, and the associated work necessary, at the time of the signing of the Contract for the foodservice equipment section; and does not include any items added, changed, or damaged (by other than the KEC) after the signing; except to the extent of work which would have been included with the original existing items.
 - B. Remove from existing locations, clean, and renovate as noted below, store and re-install existing equipment to be reused, in the new locations as shown on plans, ready for utility connections, as appropriate. Existing equipment to

be reused, with utility connections, to be removed after disconnection as noted in paragraph J below.

- C. Do work in cooperation with Owner, so that normal functioning of services is minimally interrupted. Coordinate all removal and replacement scheduling with the Construction Scheduling Manager (or similar responsible party), to ensure adequate time to complete the necessary work. If adequate time to properly relocate and reset the existing items and complete all cleaning and repair will not be available, due to continuing use of the existing items, or the allotted construction time; contact the Owner and obtain a written agreement as to what work is to be deleted or delayed, such as cleaning, repainting, or repairs.
- D. All surface dirt, grease, oil, food residues, ingredients, extraneous matter, and other soiling materials is to be removed in order to obtain minimum acceptable sanitation and food service standards. Thorough final rinsing of all cleaning agents to be at a minimum temperature of 180 degrees Fahrenheit where possible without damage to equipment or controls. Otherwise, use USDA approved cleaning agents and/or cleaning agents, which are acceptable for use with commercial food service equipment. This includes all exterior surfaces of the existing equipment to be reused, and interior work surfaces such inside oven compartments, fryer vats, ware washers, etc.
- E. All painted items with major paint blemishes to be sanded, primed, and repainted to match the original color and type paint. Primer and paint to be of a type approved for use with commercial food service equipment. All controls, lights, view windows, non-painted parts, etc. to be protected as recommended by the Manufacturer. Minor paint blemishes can be touched-up in a professional manner. This work is to be included in the bid submittal, as a separate line cost, at the end of the bid submittal.
- F. Replace and/or repair minor broken parts to produce a cleanable and functional item. Repairs and/or parts are for minor required items such as control knobs, handles, pilot lamps, belts, oil changes, minor adjustments, and recalibrations, etc. This does not include addition or replacement of any wearing components such as cutters, blades, etc.; or any accessory components such as mixer beaters, hooks, whips, etc., except for presently existing accessory components which are broken and non-functional, or as noted in the itemized specifications.
- G. Where required by local code authorities, provide additional parts and/or modifications to comply with code requirements in place at the time of this project.
- H. Where required, remove reused existing equipment from the premises for repairs, alterations, and cleaning.
- I. Refer to schedule on the foodservice drawings and to the itemized specifications at the end of this section, for reused existing equipment.
- J. Disconnection of existing equipment to be relocated and/or reused and disconnection and removal/disposal of existing equipment, which will not be reused, is work as designated by the Architect, and not included in this section. (see page 114000-1, 1.02.E)
- K. Cost estimates for any repairs and/or parts more than the minor items stated above, or repairs requiring significant disassembling of the item, should be submitted to the Owner, for consideration and approval as an addition to the



Contract. In general, this would be considered as any repairs and/or parts amounting to an estimate up to 10% of the cost of a comparable new item.

- L. The Owner has salvage rights to all existing equipment. Existing equipment that is not to be reused, or claimed by the Owner, shall be removed by the General Contractor, and disposed of as directed by the Architect/Owner.

3.09 ITEMIZED SPECIFICATIONS TO FOLLOW

**ITEMIZED SPECIFICATIONS**

Note: Per 1.07 'A' of this section the basis of design for all drawings, specifications, and detail references is the first manufacturer and model listed. If another listed manufacturer is chosen by the KEC, it is the responsibility of the KEC to provide a model that is equal in production capabilities, capacity, and performance to the first manufacturer and model listed. The KEC is also to verify, coordinate, and allow for proper installation of equipment, taking into account possible revisions for utility connections, loads, and physical sizes. In the event there are any up charges or change orders by other trades as a result of the KEC submitting another listed manufacturer, those charges shall be the sole responsibility of the KEC.

ITEM #1 Walk-In Cooler

MFGR: Nor-Lake or Approved Equal

MODEL: KLB7788-C

Provide and set-in place one (1) only Walk-In Cooler per plan. Complete with all standard accessories.

Consisting of:

- a. ENVIROCONTROL Enviro-Control Electronic Cooler with demand defrost and superheat control
- b. 30"W door hinged RIGHT
- c. #127226 Exterior Kick Plate 30"W x 30"H aluminum diamond tread
- d. #103025 Strip Curtain
- e. SSG88-4 Shelving package for 8x8 cooler coated shelves

ITEM #2 Walk-In Freezer

MFGR: Nor-Lake or Approved Equal

MODEL: KLB7768-C

Provide and set-in place one (1) only Walk-In Freezer per plan. Complete with all standard accessories.

Consisting of:

- a. ENVIROCONTROL Enviro-Control Electronic Cooler with demand defrost and superheat control
- b. 30"W door hinged RIGHT
- c. #127226 Exterior Kick Plate 30"W x 30"H aluminum diamond tread
- d. #103025 Strip Curtain
- e. SSG68-4 Shelving package for 6x8 freezer coated shelvings

ITEM #3 SHELVING UNIT

MFGR: Metro, Advance Tabco, John Boos, or Approved Equal

MODEL: Super Erecta

QUANTITY: Five (5)

Provide and set in place five (5) only shelving units per plan. To include:

- a. Twenty (20) only PR2148NC shelves.
- b. Five (5) only PR2142NC shelves.
- c. Twenty (20) only 86P posts.

ITEM #4
COMBI OVEN (6 PAN) W/STAND & VENTLESS HOOD

MFGR: Rational, Alto-Shaam, Convothem, or Approved Equal
 MODEL: ICC-6 FULL ELECTRIC VENTLESS
 QUANTITY: One (1)

Provide and set in place one (1) only combi oven w/stand & ventless hood per plan. To include:

- a. One (1) only Rational certified installation program including installation kit.
- b. One (1) only Chef Assistance Program.
- c. Provide unit with Rational cleaning solutions for one-year of normal use per manufacturer's recommendation.
- d. One (1) only 60.31.090 stationary oven stand.
- e. One (1) only 60.76.178 UltraVent plus recirculating condensation hood including installation.
- f. Five (5) additional 6010.2101 shelves.
- g. Six (6) only 6019.1150 wire fry baskets.
- h. Two (2) independently controlled dynamic reversing fan propellers constantly monitoring air flow throughout the cabinet.
- i. One (1) only 1900.1154US water filter system.

ITEM #5
COMBI OVEN (6 PAN) W/STAND & VENTLESS HOOD

MFGR: Rational, Alto-Shaam, Convothem, or Approved Equal
 MODEL: ICC-6 FULL ELECTRIC VENTLESS
 QUANTITY: One (1)

Provide and set in place one (1) only combi oven w/stand & ventless hood per plan. To include:

- a. One (1) only Rational certified installation program including installation kit.
- b. One (1) only Chef Assistance Program.
- c. Provide unit with Rational cleaning solutions for one-year of normal use per manufacturer's recommendation.
- d. One (1) only 60.31.090 stationary oven stand.
- e. One (1) only 60.76.178 UltraVent plus recirculating condensation hood including installation.
- f. Five (5) additional 6010.2101 shelves.
- g. Six (6) only 6019.1150 wire fry baskets.
- h. Two (2) independently controlled dynamic reversing fan propellers constantly monitoring air flow throughout the cabinet.



- i. One (1) only 1900.1154US water filter system.

ITEM #6 PREP TABLE WITH TWO SINKS

MFGR: EXISTING
MODEL: RELOCATED
QUANTITY: One (1)

RELOCATED PREP SINK TO ADJACENT WALL; KEC TO REVIEW QUALITY OF EXISTING FAUCET TO DETERMINE IF REPLACEMENT IS REQUIRED

ITEM #7 EXPANDED DISH DROP WINDOW

MFGR: CUSTOM
MODEL: FABRICATED
QUANTITY: One (1)

TO INCLUDE:

- A. EXPANSION OF DISH DROP WINDOW PER ARCHITECTURAL DETAIL – APPROXIMATELY 4'W X 4'H
- B. KEC TO PROVIDE WINDOW FRAME TRIM TO MATCH SIZING OF EXPANDED WINDOW AROUND ALL SIDES, FULLY SEALED
- C. KEC TO MODIFY EXISTING DISH DROP TABLE TO ACCOMMODATE NEW DROP WINDOW SIZING
- D. KEC TO FIELD VERIFY FINISHED WINDOW EXPANSION AND PROVIDE SHOP DRAWING DETAILS FOR REVIEW PRIOR TO FABRICATION

ITEM #8 THREE COMPARTMENT SINK WITH FAUCETS

MFGR: ADVANCED TABCO, JOHN BOOS, OR PRE-APPROVED ALTERNATE
MODEL: 93-83-60-24RL
QUANTITY: One (1)

TO INCLUDE:

- A. TWO (2) T&S BIG-FLO FAUCETS #B-0290
- B. Three (3) only Component Hardware Group #D53-7215 twist handle waste drains.

ITEM #9 DISH SHELVING UNIT

MFGR: Metro, Eagle, Advance Tabco, or Approved Equal
MODEL: Super Erecta PRO
QUANTITY: ONE (2)

Provide and set in place four (1) only DISH shelving units per plan. To include:

- a. Five (5) only 2130NK3 shelves.
- b. Four (4) only 86PK3 posts.

ITEM #10 WALL MOUNT HAND SINK



MFGR: John Boos, Advance Tabco, Eagle, or Approved Equal
MODEL: PBHS-W-1410-SSLR
QUANTITY: One (1)

Provide and set in place one (1) only wall mount hand sinks per plan. To Include:
a. One (1) only T&S Brass B-1146-04-CR Hand Sink Faucet

ITEM #11 SINGLE DOOR ROLL IN HEATED CABINET

MFGR: True, Victory, Traulsen, or Approved Equal
MODEL: STA1HRI-1S
QUANTITY: One (1)

Provide and set in place one (1) only single door roll-in heated cabinets per plan. To include:

- a. Door hinged as shown on plan.

ITEM #12 TWO DOOR REACH-IN REFRIGERATOR

MFGR: EXISTING
MODEL: RELOCATED
QUANTITY: One (1)

ITEM #13 PREP TABLES

MFGR: EXISTING
MODEL: RELOCATED
QUANTITY: TWO (2)



UNIT PRICE FORM:
****LIBERTY ELEMENTARY SCHOOL****

Note: This form, completely filled in, shall be submitted with the bid.

Note: Electronic fillable form available upon request. Email kimm@reitanodesigngroup.com with request.

All items in this form shall be filled in and shall be bid as specified. The Bidder is required to list all manufacturers and model numbers of buy-out equipment and the specific fabricator and suppliers of all custom pieces for this project. The successful bidder agrees to supply all items on this bid form as specifically listed. No variations of this form will be accepted without written approval by the Foodservice Consultant.

The amount listed for new items shall include the cost of the item, applicable taxes, and installation of that piece of equipment.

| ITEM | QTY | DESCRIPTION | MRF. /MODEL | UNIT PRICE | TOTAL |
|------|-----|---|-------------|-------------------------|-------|
| 1 | 1 | Walk-In Cooler | | | |
| 2 | 1 | Walk-In Freezer | | | |
| 3 | 5 | Dry Storage Units | | | |
| 4 | 1 | Ventless Combi Oven | | | |
| 5 | 1 | Ventless Combi Oven | | | |
| 6 | 1 | Prep Table With Sinks – Existing Relocated | | | |
| 7 | 1 | Expanded Dish Drop Window s/s Trim | | | |
| 8 | 1 | Three Compartment Sink With Faucets | | | |
| 9 | 1 | Dish Shelving | | | |
| 10 | 1 | Hand Wink With Faucet | | | |
| 11 | 1 | Roll-In Heated Cabinet | | | |
| 12 | 1 | Two Door Reach In Refrigerator – Existing Relocated | | | |
| 13 | 2 | Prep Tables – Existing Relocated | | | |
| | | | | Total Bid Amount | |

ACKNOWLEDGEMENT AND ACCEPTANCE:



By signing this document, we acknowledge that we have read the complete specification section. Furthermore, we agree to use factory authorized installers and/or supervisors as specifically noted for specialty equipment in this specification section. These systems include, but are not limited to, walk-in cooler/freezers (including refrigeration systems), exhaust systems, and utility distribution systems.

Corporate Name of Bidder: _____

Individual Responsible for this Project: _____

Signature: _____

Date: _____

END OF SECTION

SECTION 32 12 16

ASPHALTIC CONCRETE PAVING

1 General

1.1 Section Includes

- A. Asphaltic concrete paving.

1.2 Related Sections

- A. Section 32 17 23 - Roadway and Paving Marking: Pavement markings.

1.3 References

- A. INDOT Standards – Latest edition of Indiana Department of Transportation Standard Specifications, including Supplements.

1.4 Quality Assurance

- A. Perform work in accordance with INDOT standards.
- B. Mixing Plant: Conform to INDOT standards.
- C. Approval of Materials: Conform to INDOT Section 402.03.

1.5 Regulatory Requirements

- A. Conform to applicable INDOT standards for paving work on public property within the right-of-way.

1.6 Tests

- A. Testing organization will take samples and perform tests in accordance Division 1.
- B. Test asphalt for correct thickness.
- C. Test asphalt temperature at time of placement.
- D. Perform two extraction tests per day per course.
- E. Provide nuclear density testing in accordance with Indiana Test Method No. 577.

1.7 Submittals

- A. Submit product data under provisions of Division 1.
- B. Submit manufacturers' instructions under provisions of Division 1.

- C. Submit proposed mix design of each class of mix for review prior to commencement of work.
- D. Provide product data and Certificate of Conformance for surface sealer.

1.8 Environmental Requirements

- A. Do not place asphalt when air or base temperature is less than 45 degrees F when or during other unfavorable weather conditions.
- B. Conform to INDOT 404.04 for seal coat placement.

1.9 Warranty

- A. Extended Warranty: Warrant completed work for two (2) years.
- B. Repair or replace any pavement failure other than that due to normal wear and tear or abuse during guarantee period.

2 Products

2.1 Materials

- A. Bituminous Surface, Leveling Courses: INDOT, Section 402.03.
- B. Tack Coat: INDOT, Section 406.02.**
- C. Asphalt Cement: INDOT, Section 904.01.
- D. Aggregate for Surface Course Mix: INDOT, Section 904.02, except that a minimum of 85 percent shall be crushed.
- E. Aggregate for Leveling Course Mix: INDOT, Section 904.02
- F. Mixing Plant: Conform to INDOT 408.02, except that requirements for plant scales and plant laboratory are optional.
- G. Hauling Equipment: Conform to INDOT 408.03b.
- H. Pavers and Rollers: Conform to INDOT 408.03c and 408.03d.
- I. Seal Coat: Conform to INDOT 402.03, 402.04, 402.05, 402.07.

2.2 Asphalt Paving Mix

- A. Refer to INDOT, Sections 904.01 and 904.02.
- B. Surface - #11 and #9.
- C. Leveling - #12.

3 Execution

3.1 Inspection

- A. Notify Construction Manager forty-eight (48) hours prior to starting work.

- B. Inspect the site in company with the Architect's Field Representative prior to starting work.
- C. Verify gradients and elevations of base are correct.
- D. Beginning of installation means acceptance of substrate.

3.2 Preparation

- A. Coat exposed surfaces of manhole catch basin frames with oil to prevent bond with asphalt paving.

3.3 Placing Asphalt Pavement

- A. Do not haul mixture in excess of 50 miles.
- B. Surface, Leveling Courses: INDOT, Sections 402.09, 402.10, 402.11, 402.12, 402.13, 404.06, 404.07, 404.08.
- C. Weather Limitations: INDOT 404.04, 405.04.

3.4 Tolerances

- A. Flatness: Maximum variation of 1/8-inch measured with 10 foot straight edge parallel to the center line of the lay, and no more than 1/4 inch in any direction.
- B. Compacted Thickness: Within 1/4-inch of design thickness.
- C. Variation from True Elevation: Within 1/2-inch.

3.5 Field Quality Control

- A. Field inspection and testing will be performed under provisions of Division 1.

3.6 Protection

- A. Immediately after placement, protect pavement under provisions of Division 1 from mechanical injury for 5 days.

END OF SECTION

SECTION 32 17 23

ROADWAY AND PAVING MARKING

1 General

1.1 Section Includes

- A. Mark parking spaces.
- B. Mark handicapped ramps.
- C. Mark handicapped symbols.

1.2 Related Sections

- A. Section 32 12 16 - Asphaltic Concrete Paving: Surface to receive markings.

1.3 References

- A. INDOT Standards - Indiana Department of Transportation Standard Specifications, including Supplements.

1.4 Submittals

- A. Submit paint product data under provisions of Division 1.

2 Products

2.1 Materials

- A. Paint: Quick drying yellow and white paint conforming to INDOT Standard Specifications Section 909.05.
 - 1. Handicapped symbols: Standard blue.

3 Execution

3.1 Preparation

- A. Allow asphaltic concrete pavement to cure for at least one week.
- B. Clean surface of dirt, grease, oil, acid, or any foreign matter.

3.2 Installation

- A. Delineate parking spaces by lines parallel to length and one line at forward end as indicated on Drawings.
 - 1. Adjacent spaces may share a common line.
 - 2. End and side lines are not required at pavement edges.

- B. Pressure spray lines 4 inches wide with true and even edges.
 - 1. Apply paint at rate of 300 lineal feet of line per gallon of paint.
- C. Paint handicapped symbols in center of parking space.
 - 1. Symbol shall be the International Symbol of Accessibility in accordance with ANSI A117.1.

END OF SECTION