**TECHNICAL SPECIFICATIONS**

**PROJECT DESCRIPTION**

Project Owner: **KANSAS CITY AREA TRANSPORTATION AUTHORITY**

Project Title: **CNG FUELING STATION AREA REPAIRS**

 **Kansas City, Missouri**

**PROJECT DESCRIPTION:**

The proposed projects generally include:

CNG Fueling Station Area Preparation

Mill 1-1/2” from designated concrete pavement area and place approximately 1,150 square yards of 1-1/2” asphalt pavement overlay. Work also includes placement of approximately 620 square yards of sod.

All work shall conform to these specifications and the specifications issued by the Kansas City Metropolitan Chapter of the American Public Works Association and such modifications as may be required by the City. In case of discrepancy, these specifications shall govern.

This project will be known as: **CNG FUELING STATION AREA REPAIRS**

The successful bidder shall furnish all necessary labor, materials, equipment, supplies, tools and supervision to accomplish the work called for in the contract in accordance with the plans and documents herein.

The project shall be accomplished under a single Unit Price Contract. Required work is not necessarily limited to the unit price items listed in the bid form. It is the intent of the drawings and specifications that the resulting improvements be fully completed, functional and ready for operation. The cost of work not specifically identified by a bid form unit price shall be included in provided unit price items.

KCATA reserves the right to add to or reduce the scope of work if it determines it is in the best interest of the KCATA. Scope change may be accomplished by addition/reduction of quantities or otherwise addition/elimination of work items in their entirety. Contractor shall obtain approval from the KCATA prior to ordering of equipment and materials.

**2.1 PROJECT SPECIAL PROVISIONS**

1. SUMMARY

This Section is included for the purpose of summarizing the work, establishing a working relationship, and detail general and special work or programs which may be required. Some of the specifications or statements in this section may also be addressed elsewhere in the Project Manual. Any interpretation of conflicting statements will be adjudicated by the Project Manager.

Bids must be submitted on the Proposal or Bid Form provided. Each line item shall be bid using the listed units and quantities. It is intended the cost of all work, required to complete the entire project, be included in the Proposal form. All required work not provided a specific bid item shall be included in other bid items.

**THIS PROJECT MUST BE COMPLETED IN ACCORDANCE WITH THE FEDERAL DAVIS-BACON ACT. ALL FIELD WORK MUST MEET CURRENT PREVAILING WAGE REQUIREMENTS.**

1. STANDARD SPECIFICATIONS & DRAWINGS

The following standard specifications are hereby made part of these technical specifications by reference. All referenced specifications can be viewed, downloaded and/or ordered through the Kansas City Chapter of the American Public Works Association web site located at **kcmetro.apwa.net**. Copies of the referenced specifications can also be made available to any prospective bidder upon request through the KCATA.

**The Standard Technical Specifications for this Project shall be the following sections of the *DIVISION II*** *CONSTRUCTION AND MATERIAL SPECIFICATIONS* as printed in the latest version of the Kansas City Metropolitan Chapter of the American Public Works Association’s *STANDARD SPECIFICATIONS AND DESIGN CRITERIA* unless otherwise indicated on the plans.

Adjust list below to suit Project.

 Section 1100 – GENERAL CONDITIONS (if not included in contract)

 Section 2000 – GENERAL

 Section 2100 – GRADING AND SITE PREPARATION

 Section 2150 – EROSION AND SEDIMENT CONTROL

 Section 2200 – PAVING

 Section 2300 – INCIDENTAL CONSTRUCTION

 Section 2400 – SEEDING AND SODDING

 Section 2500 – SANITARY SEWERS

 Section 2600 – STORM SEWERS

 Section 2700 - STRUCTURES

 Section 2900 - WATERLINES

Standard Drawings for this Project shall be the Kansas City Metropolitan Chapter of the American Public Works Association’s latest *DIVISION III STANDARD DRAWINGS* unless otherwise indicated on the plans.

1. PERMITS & BONDS
	1. Permits - NONE

This is a minor pavement repair and sod replacement project. No permits shall be required.

* 1. Bonds
		1. Bid Bond - NONE
		2. 100% Payment Bond Required
		3. Maintenance Bond - NONE
1. OWNER PROVIDED SERVICES AND PRODUCTS
2. Contractor shall be required to water new sod for 2 weeks only. KCATA shall be responsible for watering after 2 weeks.
3. PROJECT IMPROVEMENTS & BID ITEMS

THE FOLLOWING SCOPE OR BID ITEMS MAY NOT BE INCLUDED IN THE PROPOSAL OR BID FORM. THE ONLY BID ITEMS FOR THIS PROJECT ARE AS INDICATED IN THE BID FORM. The cost of ALL work necessary to complete the project as indicated in the plans and SPECIFICATIONS shall be included in the items LISTED IN THE BID FORM.

The following special provisions are intended to clarify technical specifications and/OR delineate additional work that may be required.

* 1. 1-1/2” Concrete Pavement Coldmilling
		1. Demolition & Removals shall be paid Lump Sum.
		2. Milling & Overlay shall be completed in accordance with the specifications. Contractor shall notify the KCATA prior to beginning work.
	2. 1-1/2” Asphalt Overlay (Type 5)
		1. Asphalt Overlay shall be paid per Ton and provided as detailed and specified.
		2. Asphalt Overlay shall include all necessary work including but not limited to all materials, milling (unless included in other bid items), tack coat, asphalt placement, protection, clean-up, etc.
	3. Sodding
		1. Sodding shall be paid per Square Yard.
		2. Sodding shall be provided as detailed and specified.
		3. Sodding shall include all necessary work including but not limited to topsoil, fertilizer, sod, watering, protection, clean-up, etc.
	4. Force Account
		1. Force Account (FA) or Contingency Allowance (CA) is a method of payment to the contractor for additional work outside the scope of the original contract, whereby reimbursement is made 1) on a monitored and confirmed time and materials basis, 2) to account for quantity overruns on unit price contract items, or 3) to offset additional costs of negotiated work. The Force Account or Contingency Allowance may be included in the total bid price by line item in the bid form or payment schedule. Force Account or Contingency Allowance amounts included in the contract shall not be construed as “not-to-exceed” amounts. Additional work approved by KCATA exceeding FA or CA amounts shall be reimbursed by accompanying change orders.
		2. The contractor shall not assume any benefit from or assign any project costs to the Force Account or Contingency Allowance. It shall only be employed at the sole discretion of the KCATA. Any unused Force Account shall be removed from the contract by Change Order at the end of the project.
1. COOPERATIVE WORK WITH OTHER CONTRACTORS & OTHER KCATA ACTIVITY
2. The KCATA may have other third party construction contracts underway or other needs simultaneously in the project area. The following is a list of known work or needs in the area:
	* + 1. Final construction work on the CNG fueling station may be ongoing.
			2. KCATA buses regularly pull out of Building 2 (Bus Barn) on the east side. Contractor shall always make way for buses and allow them maneuvering room
			3. Contractors mill & overlay activities shall be restricted to 7:00am – 1:00pm weekdays.

1. CONSTRUCTION SCHEDULE REQUIREMENTS
	1. Schedule limitations and considerations (if applicable) are identified below.
		* 1. **Schedule Considerations: All mill & overlay operations shall be restricted to 7:00am – 1:00pm.**
			2. **All work shall be completed no later than August 22, 2014**
2. CONSTRUCTION TESTING REQUIREMENTS
	1. NONE
3. CONSTRUCTION Site Saftey
	1. Contractor shall be responsible for construction site safety at all times.
	2. The Contractor shall have a construction safety plan which shall be present on site at all times. This plan shall identify hazards and what measures will be taken to protect workers and the public. In addition, a safety officer will be designated by the Contractor. This safety officer will be responsible for enforcing the safety plan. The safety officer shall notify the Project Manager when modifications to the safety plan are made.

 CONTRACT CONSIDERATIONS

# PART 1 GENERAL

## 1.1 SECTION INCLUDES

### A. Schedule of values

### B. Application for payment

### C. Change procedures

### D. Defect Assessment

### E. Alternates

## 1.2 RELATED SECTIONS

## 1.3 SCHEDULE OF VALUES

### A. Submit a printed schedule on AIA Form G703 - Application and Certificate for Payment Continuation Sheet. Contractor's standard form or electronic media printout will be considered.

### B. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

### C. Format: Utilize the Bid Form of this Project Manual. Identify each line item with number and title of the major specification Section. Identify site mobilization including bonds and insurance.

### D. Include in each line item, the amount of Allowances specified in this Section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by the unit cost to achieve the total for the item.

### E. Include separately from within each line item, a direct proportional amount of Contractor's overhead and profit.

### F. Revise schedule to list approved Change Orders, with each Application For Payment.

## 1.4 APPLICATIONS FOR PAYMENT

### A. Submit three copies of each application on AIA Form G702 - Application and Certificate for Payment and AIA G703 - Continuation Sheet.

### B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.

### C. Payment Period: One Month.

### D. When Architect/Engineer requires substantiating information, submit data justifying dollar amounts in question.

### E. Provide one copy of data with cover letter for each copy of submittal. Show application number and date, and line item by number and description.

### F. Include the following with the application:

#### 1. Partial Conditional release of liens including all major subcontractors and vendors. (ATA Form)

 2. Payroll records for all contractors for previous month. (Contractor standard)

#### 3. Contractor Utilization Form (ATA Form)

#### 4. Affidavits attesting to off-site stored products. (ATA Form)

#### 5. Updated construction progress schedules, revised and current.

## 1.5 CHANGE PROCEDURES

1. Construction adjustments requiring time or cost changes to the contract must be processed in two steps. The first step is execution of a Construction Field Directive form. A complete description of the changes along with backup documentation (if appropriate) shall be provided. Once signed by authorized KCATA personnel, Contractor may commence with the work. Step two shall be formal incorporation of Field Directive changes into the contract by preparation and execution of a formal Change Order. Payments for Field Directive changes may be authorized as Force Account payments if a Force Account is part of the contract.

PROJECT CLOSEOUT

PART 1 ‑ GENERAL

* 1. RELATED DOCUMENTS
		1. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.
	2. SUMMARY
		1. This Section specifies administrative and procedural requirements for project closeout, including but not limited to:
			+ 1. Substantial Completion and Final Payment.
				2. Lien Waivers.
				3. Final Cleaning.
				4. Final Accounting of Amounts Paid to Subcontractors and Suppliers
				5. Prime Contractor Weekly Payroll Records
				6. All Subcontractor’s Weekly Payroll Records
				7. Prime Contractor Prevailing Wage Affidavit
				8. Subcontractor Prevailing Wage Affidavits
				9. Prime Contractor’s Unconditional Lien Waivers Totaling Full Contract Amount
				10. Subcontractor’s Unconditional Lien Waivers Totaling Full Amount Paid to Subcontractor
				11. Additional documentation as may be required by the KCATA to verify compliance with contract and/or project requirements.
		2. Closeout requirements for specific construction activities are included in the appropriate sections of the specifications.
	3. SUBSTANTIAL COMPLETION AND FINAL PAYMENT
		1. The Contractor and each Subcontractor shall carefully and regularly check their work for conformance as the work is being done. Unsatisfactory work shall be corrected as the work progresses and not be permitted to remain and become a part of the punch list.
		2. Notify the Architect, in writing, when each work element at the site is ready for the punch list inspection. Prepare and submit with the notification a list of items to be corrected or completed.
			1. The Architect will make arrangements for his punch list inspection at the earliest possible date.
		3. Transmittal of the punch list to the Contractor shall set the date for reinspection prior to issuance of a Certificate of Substantial Completion. Upon receipt of the punch list, the Contractor shall within seven (7) days advise the Architect of any questions that he or any of his Subcontractors may have concerning the requirements of the punch list.
		4. When advised by the Contractor that the punch list items have been completed, the Architect shall conduct a reinspection with the Contractor, any needed Subcontractors, and the Owner's Representative where applicable, to determine whether the Certificate of Substantial Completion can be issued.
			1. If, upon the first reinspection, it is found that punch list items are not sufficiently complete that a Certificate of Substantial Completion can be issued, the Contractor shall be responsible for the Owner's costs for additional Professional Services for preparation of a new punch list and any subsequent reinspections and administrative services prior to issuance of the Certificate of Substantial Completion. The Owner's costs for such additional Architectural Services will be charged to the Contractor through an appropriate Change Order at the rate of $150.00 per hour, plus applicable reimbursable expenses.
		5. When issued, the Certificate of Substantial Completion shall name the date, triggering the beginning of the warranty period, with any items to have a later starting date specifically noted. The Certificate shall also have attached to it the uncompleted punch list items, and shall name the date for their completion.
		6. Acknowledgement of the Date of Substantial Completion by the signature of all parties on the Certificate implies possession of the premises by the Owner, and completion of incomplete punch list items by the Contractor and the Subcontractors at the Owner's convenience. The Owner shall cooperate in permitting the Contractors access to the work for the completion of punch list items.
		7. Upon issue of the Certificate of Substantial Completion, a semi‑final Certificate of Payment shall be issued by the Architect bringing the total of payments up to the full payment less an amount which the Architect reasonably estimates would be required to cover more than the cost of any incomplete items of work.
		8. Upon written notice by the Contractor that the remaining punch list items are completed, the Architect shall verify this by inspection and shall issue to the Owner a final Certificate of Payment stating that, to the best of his knowledge, information, and belief, the Work has been completed in accordance with the terms and conditions of the Contract Documents, and that the entire balance found to be due the Contractor, and noted in said Final Certificate of Payment, is due and payable. The Owner shall make payments as stated in the Owner‑Contractor Agreement.
		9. If, after Substantial Completion, final completion is delayed for more than thirty (30) days through no fault of the Owner or Architect, the Contractor shall be responsible for the Owner's costs for additional professional services. During this 30‑day period, the Architect will make only one inspection to verify completion of punch list items. Any additional inspections required and related administrative services will be considered additional professional services. The Owner's costs for additional professional services will be charged to the Contractor through an appropriate Change Order at a rate of $150.00 per hour, plus applicable reimbursable expenses.
	4. PROJECT RECORD DOCUMENTS
		1. At least 14 days prior to the punch list inspection, prepare and submit to the Architect one complete set of blue line, ozalid type prints of project drawings, and one complete set of bound specifications. Documents shall be neatly marked in red to show an accurate "as built" record of construction.
		2. Carefully mark drawings during construction to accurately locate items of construction that will be concealed when the project is completed. Carefully measure and show dimensions of all concealed work including, but not limited to, buried piping, buried or concealed electrical services, utility entrances, cables, conduit and piping.
			1. Accurately show the location of capped pipes by two dimensions, depth below grade, additional valves, drains, cleanouts, changes in conduit routing, changes in wiring, changes in pull or junction boxes, etc., and the changes covered by any Change Orders issued during construction.
		3. Neatly mark specifications to reflect names of manufacturers and products incorporated in the Work.
		4. Final payment will not be made until project record documents are submitted to and approved by the Architect.
	5. OPERATIONS AND MAINTENANCE MANUALS
		1. At least 14 days before the punch list inspection, prepare and submit to the Architect two complete sets of information describing the operation and maintenance of all systems, equipment, and finishes provided in this project. Information shall be presented in three‑ring, loose leaf binders with the words "Operation and Maintenance Manual" and the names and addresses of the Project, Owner, Contractor, Architect and Mechanical Engineer neatly and permanently marked on the cover.
		2. Information shall be logically organized and subdivided in sections on the basis of operation without regard to construction trades, Subcontractors or specification sections. Each section shall be neatly tabbed and identified for easy reference.
		3. Information required includes, but is not limited to:
			1. Complete list of Subcontractors, noting applicable specification section, item of work, Subcontractor's name, address, telephone number and the name of the person to contact.
			2. Schedule of Values of Construction work incorporating costs of any Change Orders.
			3. Manufacturer's recommendations for operation and maintenance of all equipment and systems including charts, diagrams, performance curves, catalog data and maintenance manuals.
			4. Manufacturer's recommendations for use and maintenance of all finish materials.
			5. Duplicate copies of all warranties, guarantees and bonds.
	6. FINAL CLEANING
		1. General: General cleaning during construction is required by the General Conditions, Paragraph 3.15, and individual sections of the specification.
		2. Clean the site of rubbish, litter and other foreign substances caused by construction.
		3. Finished Surfaces: Remove marks, fingerprints and other soil and dirt from painted, glazed, decorated, stained or otherwise finished surfaces, including ceilings. Remove construction dust from horizontal and vertical surfaces. Repaint or refinish as required to restore surfaces to "as new" quality.
		4. Fixtures and Equipment: Remove stains, paint droppings, spots, dirt, etc., from electrical fixtures, plumbing fixtures, mechanical and electrical equipment, etc.
		5. Concrete and Masonry: Remove paint, stains, dirt and other foreign materials from all exposed surfaces.
		6. Removal of Protection: Remove temporary protection and facilities installed for protection of the work during construction.
		7. At completion of the work, remove all temporary facilities, trash and debris from the site. Leave the site and building clean, neat, and ready for occupancy.
		8. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.
	7. CONTRACTOR'S AFFIDAVIT AND INDEMNITY
		1. Submit three completed and notarized copies of AIA Form G706 "Contractor's Affidavit of Payment of Debts and Claims" and AIA Form G707 "Consent of Surety Company to Final Payment" with request for Final Payment.

PART 2 ‑ PRODUCTS (Not Applicable)

PART 3 ‑ EXECUTION (Not Applicable)

END OF SECTION

**2.4 ASPHALT MATERIALS**

A. Asphalt materials used in this project may be either Hot Mixed Asphalt Material (HMA), or Warm mixed Asphalt Material (WMA) at the option of the contractor.

B. The Surface Asphalt Mix shall be APWA Type 5-01 with the following changes.

1. The asphalt mix design shall be modified to include not less than 40% of the plus 4 material to be chat, crushed sandstone, crushed gravel, crushed steel slag or crushed porphyry (rhyolite, basalt, granite and iron mountain traprock are examples of crushed porphyry).

2. The asphalt material may include not more than 25% recycled asphalt material (RAP) or reclaimed asphalt material. (RAM)

C. The Base Asphalt Mix shall be APWA Type 1-01 with the following changes.

1. The asphalt mix design shall be modified to include not less than 30% of the plus 4 material to be chat, crushed sandstone, crushed gravel, crushed steel slag or crushed porphyry (rhyolite, basalt, granite and iron mountain trap rock are examples of crushed porphyry).

2. The asphalt material may include not more than 35% recycled asphalt material (RAP) or reclaimed asphalt material. (RAM)

D. The KCATA makes no guarantee on quantities or quality of the milled materials to be generated. The Contractor will make his own calculations of milled material to be generated based on the square yards to be cold milled. If cold milled streets are added or deleted, changing square yards of cold milling thereby affecting quantities of milled materials, and appropriate change order will be prepared.

E. The Contractor will be expected to lay the quantity of recycled mix used in the proposal regardless of the percent composition used. The Contractor will obtain reclaimed material from another source, at no cost to the KCATA, or lay virgin material at the recycled unit bid price if no reclaimed material remains from the supply generated by this contract.

F. Materials Evaluation: The RAP and/or RAM shall have the following tests performed in addition to the usual Marshall procedures.

1. A sieve analysis shall be performed on the RAP and/or RAM in accordance with ASTM C117, Test Method for Material Finer than No. 200 Sieve in Mineral Aggregate by Washing and ASTM C136, Method for Sieve Analysis of Fine and Coarse Aggregates.

2. The Asphalt content shall be determined for the RAP using method A of ASTM Designation D2172, Test Method for Quantitative Extraction of Bitumen form Bituminous Paving Mixtures where the RAP content exceeds 30%. For Mixtures with RAP contents less than 30%, asphalt content may be determined using ASTM D6307.

3. The asphalt used shall be determined as follows:

* For RAP contents of up to 20%, the asphalt grade shall be as specified in the mix design.
* For RAP contents from 20% up to 30% the asphalt grade shall be decreased one temperature range.
* For RAP contents from 30% to 50%, the asphalt grade of the new asphalt shall be determined using the procedures outlined in MS-2, 6th Edition, Appendix A.

4. All sources of RAP and/or RAM shall be approved by the Engineer.

G. Material Requirements:

1. New asphalt cements added to the aged asphalt shall meet the requirements of section 2205.2A of the

 “Standard Construction and Materials Specifications”.

1. Recycling Agents, if used, shall meet ASTM D 4552, Standard Practice for Classifying HOT MIX Recycling Agents.
2. The blend of RAP and/or RAM and virgin aggregates shall be checked for resistance to stripping. Using an accepted water sensitivity test and the same asphalt chosen for the project, determine if an anti-stripping agent is needed. The immersion compression test, ASTM D 1075, Effect of water on Cohesion of Compacted Bituminous Mixtures shall be performed for the compacted mixtures. The retained strength shall exceed 75 percent.

4. The RAP and /or RAM stockpiled at the plant site shall be maintained if adequate space is available, in numerous

 stockpiles separated on the basis of mix type - surface, binder and base. The RAP and/or RAM shall be processed such

 that 100% will pass the 1 ½ inch sieve and 90% will pass the 1 inch sieve.

5. The RAP and /or RAM stockpiles shall be free or foreign matter (e.g., old planer teeth, concrete, broken sewer casting,

 loop detector wire, protective membranes, rubberized joint filler materials and thermoplastic turn and lane markers.

H. Compaction:

1. General: Rolling equipment for use in compacting mixes shall meet the requirements of Section 2205.7B of the “Standard Construction and Materials Specification”, entitled “Rollers”. Unless otherwise approved by the KCATA representative at least three (3) rollers shall be required at all times. Additional rollers shall be used as necessary to provide specified pavement density. Asphaltic concrete surface density shall be 97 percent of maximum density and asphaltic concrete base shall be 95 percent of maximum density obtained by the Marshall Method.

2. Breakdown Rolling: Breakdown rolling shall immediately follow the rolling of the longitudinal joint and edges. The roller shall be operated as close to the paver as necessary to obtain adequate density without causing undue displacement. The breakdown roller shall be operated with the drive wheel nearest the finishing machine. Exceptions may be made by the KCATA representative when working on steep slopes or super-elevated curves.

3. Intermediate Rolling: Pneumatic-tired rollers shall be used for intermediate rolling. The intermediate rolling shall follow the breakdown rolling as close as possible and while the paving mix is still of a temperature that will result in maximum density from this operation.

Pneumatic-tired rolling shall be continuous after the initial rolling until all of the mix placed has been compacted to the required density. Turning of pneumatic-tired rollers on the hot paving mix which causes displacement shall not be permitted.

4. Finish Rolling: The finish rolling shall be accomplished while the material is still warm enough for the removal of roller marks. All roller marks shall be removed by the finish rolling operation.

All rolling operations shall be conducted in close sequence. In places inaccessible for the operations of standard rollers as specified the compaction shall be performed by trench rollers or others meeting the requirements of Section 2204.7B entitled “Rollers”. The trench roller shall be operated until the course is thoroughly compacted. Hand tamping, manual or mechanical may be used in such areas, if operations will provide the required density.

I. Spot Patching:

All soft areas in the existing pavement shall be repaired by spot patching prior to paving. A soft area is defined as an area of existing pavement of one square yard or less. Larger areas shall be repaired under the requirements of Base Repairs.

Whenever a soft area is encountered in a street to be paved, the soft area shall be repaired by the following procedure:

 1. Remove all soft materials from the area.

 2. Compact the area to a minimum of 95% of standard proctor prior to placing of any asphalt.

 3. Place asphalt in the area in lifts of six (6) inches maximum depth to the surface. Compact each lift to a

 minimum of 96% of standard density prior to placing any additional lift.

No separate payment will be made for spot patching. All costs shall be included in the unit bid pricing for other items.

J. Paving Restrictions: All paving shall be completed during the daylight hours. No paving shall begin before sunrise. All paving shall cease a minimum of thirty (30) minutes before sunset to allow rolling to be completed during daylight hours.

**2.5 ASPHALT PAVING**

**1-1/2 INCH OR 2 INCH ASPHALT SURFACE OVERLAY**

 **10 INCH ASPHALT BASE COURSE**

A. All work in this section shall conform to the APWA Section 2200 Paving.

B. The asphalt surface pavement mix shall be Type 5-01 and shall conform to the requirements of Section titled “Asphalt Materials”, of these documents.

C. The asphalt base pavement mix shall be Type 1-01 and shall conform to the requirements of Section titled “Asphalt Materials”, of these documents.

D. Asphalt materials will be measured and paid at the contract unit price as listed in the bidding documents. Such payment and price shall constitute full compensation for all labor, materials and equipment necessary to complete the item.

E. One and one half inch or two inch asphalt surface Type 5-01 will be paid at the contract unit price as shown on the bid form for asphalt in place and shall cover the entire cost of labor, materials and equipment.

F. Ten inch asphalt base Type 1-01 will be paid at the contract unit price as shown on the bid form for asphalt in place and shall cover the entire cost of labor, materials and equipment.

**2.9 COLDMILL (EDGEMILL) EXISTING PAVEMENT**

A.This item shall consist of cold milling the existing pavement surface with equipment which shall mill or shave the surface irregularities out of the existing pavements to produce a smooth surface and in some case to cut the pavement down to a pre-determined depth.

All cold milling work and equipment shall conform to Section 2207, Planing of the Standard Construction and Materials Specification.

B. Before milling, the Contractor shall clean all dirt, trash and debris from the street. This material shall not be mixed with the milled material. After the street has been milled, all loose asphalt and debris shall be removed to the satisfaction of the KCATA Representative. The Contractor shall remove all pavement material and debris left in the gutter and any material and debris that adhere to the curb and gutter. Final measurements for each segment of street will not be made until said cleanup has been approved by the KCATA Representative. All milled materials are to be considered the property of the Contractor.

C. One and one half (1-1/2”) Inch or two inch (2”) Cold Milling or Edge Milling of existing pavement will be measured, length by width to the nearest foot and converted to the nearest square yard for payment. Cold Milling/Edge Milling will be paid at the Contract Unit Price as listed in the Contract Bid Form.

D. If applicable, Cold Milling for placement of Concrete Inlays or Bus Stopping Pads will not be measured and compensation for milling or other demolition shall be included in the contract unit pricing for those items.

**2.12 DEMOLITION DISPOSAL**

All demolition materials, including cold millings, become the property of the Contractor and shall be disposed of in accordance with City and State laws.

A. Demolition is defined as hard surfaces and may include asphalt and concrete materials for sidewalks, curbs, roadways, drainage structures and other miscellaneous materials.

B. All demolition materials shall be disposed of at a legal demolition landfill or at a site where dumping of such materials is allowed under federal, state and local laws.

C. Soil, rock and gravel are not considered to be demolition debris and can be placed at properly permitted locations. Obtain grading permits, erosion control permits and floodplain certificates as required from the City. Broken concrete with some reinforcing closely trimmed and removed may be placed in some earthen landfills subject to approval by the Owner.

D. At the pre-construction conference the Contractor shall submit the proposed sites for disposal of demolition debris and earthen material in writing to KCATA. Once work starts, all substitute sites shall be submitted in writing to the KCATA Representative. Submittals shall include a copy of the permit authorizing each site. The Contractor shall not utilize such sites until proper authorization is given by the KCATA.

E. Failure to abide by these contract requirements to use on approved demolition disposal sites, whether intentional or inadvertent, is deemed to be a major violation of the contract. In the event of such violation the KCATA shall have two (2) special remedies, in addition to local ordinance penalties. It may at it’s sole option:

1. Direct that the material which has been dumped be moved to the appropriate site, and that the unapproved dumping site be restored to its previous condition, or

2. Terminate the contract immediately by written notice to the Contractor, in which case the Contractor shall have no right to cure its default.

The Contractor shall be entitled to be paid for the completed portion of the contract, less the expense to remedy the unauthorized dumping is larger. Such payment shall be made only after the work is complete and all costs are finally determined.

F. Before either of such remedies is invoked, the Contractor will be given five (5) working days written notice of the alleged violation. During the five (5) day period, the Contractor may submit information for consideration by the KCATA. Due to the nature of illegal dumping, the KCATA need not have proof positive; “alleged” is herewith adjudged sufficient evidence to terminate the contact.

G. No separate payment will be made for this item, unless specifically listed. All costs pertaining thereto shall be included in the Contract Unit Price(s) for other items.

**2.13 GENERAL DEMOLITION REQUIREMENTS**

A. All demolition shall conform to local building codes. Codes are available at City Hall.

B. The demolition Contractor shall be properly licensed in the City where work is being done.

C. The removed debris shall be disposed of off-site in accordance with all regulations and ordinances of the City.

D. It is the Contractors responsibility to protect all existing utilities, drainage structures, paving, trees to remain, and trees adjacent to project limits. Damage shall be repaired at the Contractor’s expense.

E. Where existing asphalt or concrete surface is to be removed and adjacent asphalt or concrete surface is to remain, the existing surface shall be cut along neat lines (full depth saw cut).

F. Where existing structures, paving or roadways are to be removed which are adjacent to walls or structures to remain, the Contractor shall provide shoring as needed to protect and not damage structures or roadway to remain.

G. For sidewalks, unless otherwise noted, saw cut to nearest construction or expansion joint, remove sidewalk for new construction.

H. Dimensions given are approximate and may require adjustment to accommodate actual field conditions. Contractor is responsible for removing all quantities required allowing for new construction.

I. The Contractor shall be responsible for locating and protecting all surface and below grade utilities within the project area during construction. The Contractor shall notify and coordinate with utility companies prior to commencing required work in the vicinity of such utilities.

J. It is the Contractor’s responsibility to control storm water, silt, and erosion onsite during construction.

K. Contractor shall adjust as necessary, all manhole lids, valve boxes, etc. to remain.

L. Contractor shall maintain access to all businesses and bus operations during working hours.

M. The Contractor shall inform the Public Works department at least one week prior to any street or lane closure. It is the Contractor’s responsibility to obtain a lane closure permit from the city.

N. The Contractor shall provide traffic control and maintenance (marking, signs and devices for detours and local traffic controls) in accordance with and approval of the City and the engineer. The Contractor shall obtain a city approved traffic (detour) control plan prior to beginning construction. The duration for the traffic closure permit must be equal to the street duration permit.

O. Except for items indicated to remain, contractor shall remove from project site and dispose (in authorized disposal sites) of all existing site improvements within the limit of demolition as shown. Removal items will include (but not limited too) paving, curbs, trees, fences, retaining walls, buildings, structures, utilities, etc.

P. The owner is responsible for removal of existing metro blade sign (blue posts), shelters, and litter receptacles on site. The contractor shall coordinate removal with owner.

Q. If an underground vault is determined to exist within or immediately adjacent to the improvement area, no demolition or construction may take place without the explicit approval of the vaults owner9s) / user(s).

R. All city owned streetlighting equipment conflicts or repairs must be coordinated with the City Public Works Dept. Contractor will be responsible for all removal and relocation costs.

**2.15 SAW CUTTING**

A. Where parts of the existing concrete curb, sidewalk, driveways, and asphaltic or Portland cement concrete pavement is to be removed at locations other than contraction or isolation joints, the existing concrete or asphalt shall be sawed with a concrete saw to the full depth of the existing slab or curb. Water shall be used as required to control dust during sawing operations. In order to provide true alignment and a vertical face against which the new concrete will be placed a greater depth of cut may be necessary. If the remaining concrete or asphalt is chipped or cracked during sawing or removal, it shall be re-sawed beyond the limits of the chip or crack, along a line parallel to or perpendicular with the nearest joint and/or as directed by KCATA’s Representative to assure uniform appearance.

B. No separate payment will be made for concrete or asphalt sawing, pavement removal or new construction joints. All costs pertaining thereto shall be included in the Contract Unit Prices for other items.

**2.20 FORCE ACCOUNT**

Force Account (FA) is a method of payment to the contractor for non-sole source additional work and unanticipated tasks necessary to complete the contract work, whereby reimbursement is made based substantially on terms of the original contract. Reimbursement may be in accordance with one or more of the following: 1) Unit Prices included in the contract, 2) on a time and materials basis utilizing hourly rates and pricing previously established in contract unit prices or other contract pricing and cost allowances established below, or 3) for negotiated work where price can be reasonably determined from the terms of the original contract and verified via cost analysis as determined by KCATA.

The Force Account may be included in the total bid price by line item in the bid form or payment schedule. Force Account Allowance amounts included in the contract shall not be construed as “not-to-exceed” amounts. Additional work approved by KCATA exceeding FA amounts shall be reimbursed by accompanying change orders.

The contractor shall not assume any benefit from or assign any project costs to the Force Account. It shall only be employed at the sole discretion of the KCATA in accordance with Federal contracting guidelines including but not limited to FTA Circular 4220.1F.

When time and material procedures are initiated, it is the intent to reimburse the contractor for the actual costs of the work, plus overhead and profit to avoid a negative impact to the KCATA and contractor. All markups shall include overhead and profit. No additional markups shall be allowed.

The compensation as herein provided shall be received by the Contractor as payment in full for Extra Work done on a Force Account basis, in which the markup which is allowed on labor cost, material cost, and equipment cost, and when applicable the markups on subcontractor work, is being made and accepted to cover all administration, general superintendents, other overhead, bonds, insurance, anticipated profit and use of small tools and equipment for which no direct compensation is allowed.  All costs for Extra Work done on a Force Account basis shall be agreed to by the contractor and KCATA.  Should the Contractor refuse to prosecute the work as directed or should he refuse to submit full and complete backup documentation as required, then KCATA may withhold payment of all estimates until the issue is resolved.

All Extra Work done on a time and material Force Account basis will be paid in the following manner:

|  |  |
| --- | --- |
| Cost Item | Allowable Percent Markup |
| Direct Labor (GC and Subcontractor) | 25 |
| Insurance and Taxes (GC and Subcontractor) | 25 |
| Materials (GC and Subcontractor) | 15 |
| Owned Equipment (GC and Subcontractor) | 10 |
| Rental Equipment (GC and Subcontractor) | 10 |
| GC Markup on Subcontractor Work | 10 (for first $10,000) |
| GC Markup on Subcontractor Work | 5 (work in excess of $10,000) |
|  |  |
|  |

Costs shall be calculated in accordance with the following or as otherwise agreed to by KCATA and the contractor:

**A. LABOR**-For all Labor, including equipment operators and foreman in direct charge of the specific operation, the Contractor will receive the current local rate of wage per hour for each and every hour that said laborers and foreman are actually engaged in such work, plus identified markup.  Wages or benefits for personnel connected with the contractor's forces above the classification of foreman and having only general supervisory responsibility for the force account work will not be allowed.

The direct labor charges shall be the actual payroll rate of wages per hour and actual fringe benefits paid.  The fringe benefits would be those included on a prevailing minimum wage predetermination, if applicable, which are actually paid.  This would include health and welfare, apprentice training, supplemental unemployment benefits and pension plans but does not include profit sharing plans.

**B. INSURANCE AND TAXES -** The contractor will receive the actual cost paid for social security tax; Medicare tax; unemployment taxes at the effective rate; worker’s compensation insurance; contractor’s public liability insurance at the policy percentage rate; contractor’s property damage liability insurance at the policy percentage rate, additional bond, plus markup for overhead and profit identified above.

**C. MATERIALS** - For all materials furnished and used, the Contractor will receive the actual cost of such materials, including freight charges, as shown by original paid bills, to which the approved markup shall be added. Sales tax shall not be an acceptable cost.

**D. EQUIPMENT**- For any machinery, trucks or equipment (exclusive of operators), except small tools and equipment (less than $1,000 replacement value) for which no compensation is allowed, which may be deemed by the KCATA to be necessary or desirable to use, the KCATA will allow the Contractor a reasonable rate of hire for rental prices for machinery, trucks, or equipment, which shall include fuel and lubricants, for each and every hour that such machinery, truck, or equipment is in use on such work, and to which markup will be added as indicated above.

The maximum rental rates which the KCATA will allow shall be computed in the following manner:

For owned equipment, an hourly rate will be determined using the weekly rental rates, including applicable adjustment factors, taken from the current edition (including updated supplements) of the Rental Rate Blue Book for Construction Equipment or a current rental publication and dividing by Forty (40).  An allowance will be made for operating cost for every hour the machinery or equipment is operating, in accordance with rates listed in the Rental Rate Blue Book.  If machinery or equipment is required at the work site but is not operating, compensation will be at the hourly rate exclusive of operating costs.

For rented equipment, actual rental rates shall apply unless they exceed Blue Book rates by more than 10 percent in which case a maximum of Blue Book rates plus 10 percent will be paid. An allowance will be made for operating cost for every hour the machinery or equipment is operating, in accordance with rates listed in the Rental Rate Blue Book.  If machinery or equipment is required at the work site but is not operating, compensation will be at the hourly rate exclusive of operating costs.

In the case of equipment not in the Rental Rate Blue Book for Construction Equipment, a weekly rate shall be computed on the basis of One and One Half Percent (1½%) of the manufacturer’s list price for new equipment.  The hourly rate shall be determined by dividing the weekly rate by Forty (40) for equipment actually operating and dividing by Forty-Four (44) for equipment required at the work site but not operating.

Mobilization of equipment for Force Account work will be paid on the basis of labor and equipment rates in accordance with this subsection.

Sales tax shall not be an acceptable cost.

**E. SUBCONTRACTS** - Payment for work performed by subcontractors will be based upon actual labor, materials, and equipment supplied and computed as specified herein.  The markup includes the overhead and profit of the subcontractor.  The prime Contractor will be allowed an additional markup as identified above.  Subcontractors on a lump sum basis may be accepted as a component of Force Account work if, in the opinion of the KCATA, the subcontractor proposal is reasonable.

**F. Payments –** To receive payment for Force Account work, Contractor shall provide the following in itemized statements:

1. Name, classification, date, daily hours, total hours, rate, and amount for all labor.
2. Designation, dates, daily hours, total hours of actual operation and stand-by operation, rental rate, and amount for each unit of equipment, or the applicable hourly equipment expense rate for each truck or other unit of machinery and equipment. Include the manufacturer's name or trademark, model number, and year of manufacture with the designation.
3. Quantities of materials and prices.
4. Transportation charges on materials, f.o.b. at job site.
5. Documentation showing payment for all invoiced work.
6. Documentation for insurance, taxes and bonding expenses.
7. If materials are taken from contractor’s stock and original receipted invoices for the materials and transportation charges cannot be provided, provide an affidavit and certify the following:
	1. The materials were taken from the contractor’s stock.
	2. The quantity shown was actually used for the force account work.
	3. The price and transportation costs represent the actual cost to the contractor.