SCOPE OF WORK AND MATERIALS:

GENERAL:

Work Covered By Contract Documents:

- Bus Lane. The removal and/or grinding, re-grade and replacement of asphalt concrete paving. Installation of 4" hot asphalt in 2 2" lifts over 6" base, seal coat and re-stripe all lines and symbols (as applicable).
- Front Parking Lots. The removal existing soil, re-grading and replacement of asphalt concrete paving. Installation of 3" hot asphalt in 1 lift over 6" compacted native subgrade base, seal coat and re-stripe all lines and symbols (as applicable). New asphalt to match grade of existing asphalt
- Asphalt crack repair and seal.
- Asphalt Seal Coat
- Pavement Markings
- For the purpose of this contract, the terms Owner, District, Architect, Engineer shall mean Madera Unified School District.

MINIMUM TECHNICAL SPECIFICATIONS

CONTRACTOR'S RESPONSIBILTIES:

Except as specifically noted otherwise, provide and pay for:

- Labor, materials and equipment.
- Tools, materials and machinery.
- Facilities and services necessary for proper execution of the work.
- Legally required sales, consumer and use taxes.
- Permits, fees and licenses.

Give Required Notices

Comply with codes, ordinances, rules, regulations, order and other legal requirements of public authorities that bear on performance of the work.

Promptly submit written notice of observed variances of contract documents from code requirements.

Enforce strict discipline and good order among employees. Do no employ persons unskilled in the assigned task.

SITE IMPROVEMENTS

PART 1 -GENERAL

DESCRIPTION:

The new asphalt is a replacement of existing asphalt surfaces at MUSD school sites. Construction includes but is not necessarily limited to grinding or removal of existing asphalt concrete pavement, stockpile of existing aggregate base materials, asphalt surfacing materials, placement of aggregate base and asphalt concrete, seal coat of all asphalt surfaces, crack repair and pavement markings.

QUALITY ASSURANCE:

Standard requirements: insofar as is consistent with project requirements, conform to applicable requirements of State of California, Business and Transportation Agency, Department of Transportation, STANDARD SPECIFICATIONS, latest edition, hereinafter referred to as STANDARD SPECIFICATIONS and incorporated by reference.

Qualifications of Workers: Provide at least one person who is thoroughly trained and experienced in the skills required and who shall be completely familiar with the design and application of work required by this section and who shall be present at all times during progress of the work of this section and shall direct all work performed under this section. For actual finishing of asphalt concrete surfaces and operation of the required equipment, use only personnel who are thoroughly trained and experienced in the skills required.

SUBGRADE PREPARTIONS

The area to be paved shall be true to line and grade, having a smooth dry, compacted surface prior to the start of paving operations. The area to be paved shall be free from all loose asphalt and foreign material. All underground utilities should be protected or relocated before grading. All topsoil should be removed. Low-quality soil may be improved by adding granular materials, lime, asphalt, or other mixtures to stabilize the existing soils.
The area to be paved should have all rock, debris, and vegetation removed. The area will be treated with a soil sterilant by the Owner to inhibit future vegetative growth. Grading and compaction of the area should be completed so as to eliminate yielding or pumping of the soil.
The subgrade should be compacted to a uniform density of 95 percent of the maximum density. This should be determined in accordance with Standard or Modified Proctor density (ASTM D698 or ASTM D 1557) as appropriate to the soil type. When finished, the graded subgrade should not deviate from the required grade and cross section by more than one half inch in ten feet. If the subgrade is a fine-grained silt or clay, a separation fabric should be considered for use to prevent the finer material in the subgrade from inundating the more open-graded layers to be placed as a part of the pavement section.The new asphalt is a replacement of exising surface of soil. The Owner or his representative shall inspect the grade through the use of string line, straightedge, levels, or any other means necessary. Upon determining the grade that has been proposed for paving is in conformance with the Specifications, the Owner will provide authorization for the Contractor to proceed with the paving. The Contractor shall not initiate paving prior to receiving authorization to proceed. Construction includes but is not necessarily limited to removal of existing surface, stockpile of existing aggregate base materials, asphalt surfacing materials, placement of asphalt concrete, seal coat of asphalt surfaces and pavement markings.

COMPACTION

Immediately after the asphalt mixture has been spread, struck off and surface irregularities adjusted, it shall be thoroughly and uniformly compacted by rolling. The surface shall be rolled when the mixture is in the proper condition and when the rolling does not cause undue displacement, cracking, or shoving. Initial rolling shall be done with a steel-drum roller with the drive roll operating toward the paver, and/or a suitable pneumatic tired roller. Initial rolling shall be completed while the bituminous mat temperature is above two hundred twenty-five degrees (225º) Fahrenheit. Following the initial rolling at least three coverages of the pavement shall be completed with a pneumatic tired roller, while the mat temperature is above one hundred seventy-five degrees (175º) Fahrenheit.
Final rolling shall be completed with a steel–drum roller and shall continue until roller marks and further compression are not evident in the pavement and specified density has been achieved. Unless otherwise directed, rolling shall begin at the sides and proceed longitudinally parallel to the road center line, each trip overlapping one-half the roller width, gradually progressing to the crown of the road. When paving in echelon or abutting a previously placed lane, the longitudinal joint should be rolled first followed by the regular rolling procedure. On superelevated curves the rolling shall begin at the low side and progress to the high side by overlapping of longitudinal trips parallel to the centerline. Any displacement occurring as result of the reversing of the direction of a roller, or from other causes, shall be corrected at once by the use of rakes and addition of fresh mixture when required. Care shall be exercised in rolling not to displace the line and grade of the edges of the asphalt mixture. To prevent adhesion of the mixture to the rollers, the wheels shall be kept properly moistened with water or water mixed with very small quantities of detergent or other approved material. Excess liquid will not be permitted. Along forms, curbs, headers, walls, and other places not accessible to the rollers, the mixture shall be thoroughly compacted with hot hand tampers, smoothing irons, or with mechanical tampers. On depressed areas, a trench roller may be used or cleated compression strips may be used under the roller to transmit compression to the depressed area. Rollers or other vehicles shall not be parked or left standing on pavement that has not cooled sufficiently to prevent indentation by wheels.

WEATHER LIMITATIONS

Asphalt concrete mixture shall not be placed when it is raining or when rain is imminent, on a saturated surface, on an unstable/yielding roadbed, when the base material is frozen, or when weather conditions prevent proper handling or finishing of the mixture. Asphalt concrete mixture shall not be placed unless the surface temperature is forty-five degrees (45º) Fahrenheit or warmer and the ambient air is at least thirty-two degrees (32º) Fahrenheit and not descending. Air temperature shall be measured in the shade away from heat sources at the paving site.

PRODUCT HANDLING

Protection: use all means necessary to protect the material of this section before, during and after installing and to protect the work of other trades.

Replacements: In the event of damage, immediately make all repairs and replacements necessary to the satisfaction of the Project Manager at no additional cost to the Owner.

SUBMITTALS:

- Certificate of Compliance: Upon completion of all work, submit certificate signed by the material supplier attesting that the material, sources, grading, etc., are as specified.

- Import material for replacement of saturated sub-grade shall be tested by a Geotechnical laboratory to certify that the R-value is 50 or greater. Submit certification to District prior to import of material.

Best management Practice (BMPs)

- are scheduling of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures and practices to control site runoff, spillage or leaks, sludge or waste disposal or drainage from raw material storage.
- The contractor shall exercise every reasonable precaution and shall conduct and schedule operations so as to protect all storm drain systems, storm water retention/detention basins, irrigation canals or natural streams located within adjacent to or in any way connected with the Project from pollution with mud, silt, fuels, oils bitumen's, calcium chloride, pesticides, herbicides, and any other harmful materials whether emanating from storm runoff or non-storm water discharge.

DUST CONTROL

- Dust control shall be provided in accordance with Section 14-9.03 of the State Standard Specifications and as specified herein. The Contractor shall maintain dust control about the site of the work, including any haul roads to or from the sites, by whatever means are necessary, such as watering, sweeting or oiling so as to cause the least possible dust nuisance to the public. Any dust control measure ordered by the Engineer shall be promptly and immediately carried out.
- The contractor shall make his own arrangements for and shall provide himself with a satisfactory water supply, except as the otherwise set forth in the Special Provisions.
- The Contractor shall furnish his own equipment for transporting and applying water. Such equipment shall meet the approval of the District. Water for the work may be taken from the City water system, but only after obtaining a meter from the City utilities Division and payment of any deposit required therefore. Where the Contractor is allowed to utilize the public water supply, if the City furnished meters is not so equipped, the Contractor shall provide an approved backflow prevention device between the public water supply and his equipment for applying or transporting water when the District determines that a backflow condition could be caused by the method or equipment used to draw water from the public supply
- Contractor shall obtain a permit from the San Joaquin Valley Air Pollution Control District whenever such permit is required.
- Full compensation for dust control shall be included in the lump sum about bid therefore. Where no bid item is provided for dust control, the cost therefore shall be included in the various bid items of work and no separate payment will be made therefore.

PART 2 –PRODUCTS

SOURCE OF SUPPLY

- Provide paving materials from sources generally acceptable to California Department of Transportation. Prior to commencing work furnish Project Manager written information as to source of supply.

MATERIALS

- PAVEMENT:
  Aggregate Base: Class 2, ¾" maximum, in accordance to Section 26, Standard Specifications. Existing pavement recycled for use as aggregate base shall comply with Class 2 standards for aggregate base.
  Paint Binder (tack coat): as defined in Section 39-4.02 and Section 94, Standard Specification.
  Surface Course: Type B Asphalt, ½" maximum for final lift, ¾" maximum for lower lift(s) per Section 39, Standard Specifications. Asphalt Binder Grade PG64-10, Design Information Bulletin Number 86, California Department of Transportation.

- SEAL COAT:
  Pavement shall be sealed with an asphalt-based emulsion with selected mineral fillers and blended binders.

  "Huntseal" as manufactured by Industrial Asphalt, Irwindale, California.
  "Plush-Tex" as manufactured by Koppers Company, Fontana, California

  "Guardtop" as manufactured by Vulcan materials Company, Fresno California
  ***__**or District approved equal.**__

  - CRACK SEAL:
    Cracks larger that 1/4" shall be sealed with Hot-Applied, Polymetric Sealant. Hot-applied sealant must be a premium-quality, single-component joint sealing compound. Sealant shall be formulated with a balanced blend of 100% polymer, asphalt, plasticizers and inert, reinforcing fillers to produce a hot-pour joint sealant with excellent bonding properties, high resiliency, ductility and resistance to degradation from weathering. It will not become brittle at low temperatures and will not flow or migrate from the joint at temperatures up to 140º F (60º C).

    HI-SPEC – Hot-Applied Polymeric Pavement Joint Sealant
    HE093 Duroflex Hot Pour Crack Sealant
    Crafco hot-applied asphaltic crack sealant
    HI-SPEC – Hot-Applied Polymeric Pavement Joint Sealant
    ***__**or District Approved Equal**__

- PAINT:
  Quick drying high visibility water-soluble acrylic stripping paint, Stripe-Master, Wikel Manufacturing Company or similar by Sherwin-Willian, J.E. Bauer, PPG or ICI Paint World Group or equivalent.

__PART 3–EXECUTION__

CONSTRUCTION:

- Subgrade: Prepare subgrade in accordance with Section 19, Standard Specification to 95% relative compaction.
- Aggregate Base: Spread and compact to 95% relative compaction and uniform thickness in accordance with Section 26, Standard Specification.
- Grinding: Shall conform to the provisions of Section 42, Standard Specifications
- Asphalt Concrete: Mixed, spread and compacted in accordance with Section 39, Standard Specification.

ASPHALT SEAL COAT:

Do not commence application of seal coat for a period of twenty calendar days after asphalt concrete has been completed, unless otherwise directed by the District.

- Inspection: Examine the areas and conditions under which sealer is to be applied. Correct conditions detrimental to the timely and proper completion of the work. Do not proceed until unsatisfactory conditions have been corrected.
- Preparation: Paved areas shall be thoroughly cleaned. Brooms and power blowers are to be used simultaneously.
- Application:
  After placement of asphalt concrete pavement, wait a minimum of twenty (10) calendar days prior to placing sealer. Apply two(2) coats of asphalt based seal coat to pavement surface. As soon as first coat is dry enough to walk on without picking up, apply the second coat. If manufacturer indicates that the product may be diluted it may be done so up to maximum 20

percent by volume with clean fresh water. The total application rate shall be a minimum of 20 gallons of undiluted product per 1,000 square feet, as directed by the Project Manager. The finished surface shall be smooth and uniform.
Apply sealer by six-foot spread squeegee. Mixtures shall be continuously agitated. Trim edges of pavement by hand using squeegee blades.

- Pavement Markings:

  Preparation: Thoroughly clean the areas where pavement markings will be applied.
  Painting: Apply the painting in accordance with the manufacturer's published recommendations, using all means necessary to protect the paint surfaces until dry
  All pavement striping and messages shall receive a minimum of two (2) coats of paint.
  Paint: paint shall conform to specification for Type P-64 paint as specified in Section 09900 of Standard Specification.

DISPOSAL OF REMOVED MATERIALS:

- All material specified for removal shall be removed from the site and disposed of off-site in Accordance with Federal, State and Local ordinances and regulations. Material to be disposed of off-site must be removed from the site immediately after demolition. Contractor shall be responsible for all fee and perm