



PUBLIC WORKS DEPARTMENT

**SPECIAL PROVISIONS
FOR**

**MIRACLE MILE PARKING LOTS
RESURFACING**

PROJECT NO. WC21021

BID OPENING: Thursday, March 28, 2024 @ 2:00 p.m.

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DIVISION I – GENERAL PROVISIONS

SECTION 1 – GENERAL

1-1.01 TERMS AND DEFINITIONS

Wherever in the Standard Specifications, Special Provisions, Notice to Contractors, Proposal, Contract, or other contract documents the following terms are used; the intent and meaning shall be interpreted as follows:

City or Owner -	City of Stockton
Director -	Director of Public Works, City of Stockton
Standard Specifications -	City of Stockton, Standard Plans and Specifications, and any amendments or revisions thereto (Revised 9/27/16)
Caltrans Specifications -	Current and latest State of California, Department of Transportation, and any amendments or revisions thereto.
Laboratory -	City of Stockton's Department of Public Works or consultant laboratory
Department -	Department of Public Works, City of Stockton
Engineer -	City Engineer, City of Stockton, acting either directly or through properly authorized Engineer agents and consultants
MUTCD -	Latest edition of California Manual on Uniform Traffic Control Devices (MUTCD), and any amendments and revisions thereto

1-1.02 SPECIFICATIONS

The work described herein shall be done in accordance with the current City of Stockton, Department of Public Works Standard Specifications and Plans, and the latest Editions of the State of California, Department of Transportation Standard Specifications and Standard Plans, California MUTCD, as referenced therein, and in accordance with the following Special Provisions. To the extent the California Department of Transportation Standard Specifications implements the STATE CONTRACT ACT, they shall not be applicable since the City of Stockton is not subject to said ACT.

In case of conflict or discrepancy between any of the Contract Documents, the order of documents listed below shall be the order of precedence, with the first item listed having the highest precedence.

- a. Contract Change Order
- b. Contract
- c. Project Special Provisions
- d. Project Plans
- e. City's Standard Specifications
- f. City's Standard Drawings
- g. Revised Caltrans Standard Specifications
- h. Caltrans Standard Specifications
- i. Revised Caltrans Standard Plans
- j. Caltrans Standard Plans
- k. Supplemental Project Information

With regards to discrepancies or conflicts between written dimensions given on drawings and the scaled measurements, the written dimensions shall govern.

With regards to discrepancies or conflicts between large-scale drawings and small-scale drawings, the larger scale shall govern.

With regards to discrepancies or conflicts between detailed drawings and referenced standard drawings or plans, the detailed drawings shall govern.

In the event where provisions of codes, safety orders, contract documents, referenced manufacturer's specifications or industry standards are in conflict, the more restrictive and higher quality shall govern.

Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in these specifications, the special provisions, or the plans, the Contractor shall apply to the Engineer in writing for such further explanations as may be necessary and shall conform to them as part of the contract. All responses from the Engineer shall be in writing. In the event of any doubt or question arising respecting the true meaning of these specifications, the special provisions or the plans, reference shall be made to the Engineer, whose decision thereon shall be final.

The Contractor shall examine carefully the site of the work and the plans and specifications therefore. He/She shall investigate and satisfy himself/herself as to conditions to be encountered, the character, quality and quantity of surface, subsurface materials or obstacles to be encountered, the work to be performed, materials to be furnished, and as to the requirements of the bid, plans and specifications of the contract.

1-1.03 PLANS

The bidder's attention is directed to the provisions in Section 1-1.01, "Definitions" of the Standard Specifications and Section 1-1.07 of the Caltrans Specifications.

See Instructions to Bidders for complete instructions and documentation forms.

SECTION 2 – BIDDING

2-1.01 GENERAL

The bidder's attention is directed to the "Notice to Contractors" for the date, time and location of the mandatory pre-bid meeting, if applicable. Refer to the City of Stockton's Bid Flash webpage: <http://www.stocktongov.com/services/business/bidflash/default.html>

The bidder's attention is directed to the provisions in Section 2, "Bidding," of the Standard Specifications and these special provisions for the requirements and conditions which the bidder must observe in the preparation for the submission of the bid.

The Bidder's Bond form mentioned in the last paragraph in Section 2-1.34, "Bidder's Security," of the Standard Specifications will be found following the signature page of the Proposal.

In conformance with Public Contract Code Section 7106, a Non-collusion Affidavit is included in the Proposal. Signing the Proposal shall also constitute a signature of the Non-collusion Affidavit.

The contractor, sub-recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of Title 49 CFR (Code of Federal Regulations) part 26 in the award and administration of US DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate. Each subcontract signed by the bidder must include this assurance.

2-1.02 BID PROTEST

In case of Bid protests, attention is directed to the provisions in Section 2-1.51, "Bid Protests" of the Standard Specifications. The party filing the protest must have submitted a bid for the work. A subcontractor of a bidder may not submit a bid protest.

A copy of bid protests is to be sent to the following address:

Attention: Adriana Garibay
City of Stockton
Public Works Department
1465 South Lincoln Street
Stockton, CA 95206

SECTION 3 – CONTRACT AWARD AND EXECUTION

3-1.01 CONTRACT AWARD

The bidder's attention is directed to the provisions in Section 3, "Contract Award and Execution," of the Standard Specifications and these special provisions for the requirements and conditions concerning award and execution of the contract.

Bid protests are to be delivered to the following address: Department of Public Works, 1465 South Lincoln Street, Stockton, CA 95206, Attn: *Thinh Phan*. The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed.

3-1.02 CONTRACT EXECUTION

The contract shall be executed by the successful bidder and shall be returned, together with the contract bonds, to the Agency so that it is received within 10 days, not including Saturdays, Sundays and legal holidays, after the bidder has received the contract for execution. Failure to do so shall be just cause for forfeiture of the proposal guaranty. The executed contract documents shall be delivered to:

City of Stockton
Public Works Department
Attn: *Adriana Garibay*
1465 South Lincoln Street
Stockton, CA 95206

3-1.03 CONTRACT BONDS

Contract Bonds shall conform to the requirements set forth in Section 3-1.05, "Contract Bonds", of the Standard Specifications, except for the second paragraph which shall be replaced with the following:

"The Faithful Performance bond will be retained by the City of Stockton for twelve (12) months following recordation of the Notice of Completion (or partial completion) to guarantee the correction of failure attributed to workmanship and materials. Upon recordation of the Notice of Completion (or partial completion), the amount of the Faithful Performance bond may be reduced to **ten percent (10%)** of the actual cost of the constructed improvements".

SECTION 4 – SCOPE OF WORK

4-1.01 DIFFERING SITE CONDITIONS

Attention is directed to the provisions in Section 4-1.06, "Differing Site Conditions," of the Caltrans Specifications and the Standard Specifications. Contractor shall notify the Engineer if he/she finds physical conditions differing materially from contract documents.

4-1.01 EXTRA WORK

Section 4-1.05, "Changes and Extra Work" of the Caltrans Specifications is amended by adding the following between the second and third paragraphs:

"If, in the opinion of the Engineer, such work cannot reasonably be performed concurrently with other items of work, and if a controlling item of work is delayed thereby, an adjustment of contract time will be made."

4-1.02 CLEANUP

The Contractor's attention is directed to Section 4-1.13, "Cleanup," of the Caltrans Specifications.

The Contractor shall conduct and cause all working forces at the site to maintain the site in a neat orderly manner throughout the construction operations. The work shall be conducted in a manner that will control the dust. When ordered to provide dust control, the Contractor shall use water to reduce the dusty conditions all to the satisfaction of the Engineer. During construction, the Contractor shall remove all rubbish and debris as it is generated. Upon completion of the work, the Contractor shall remove all equipment, debris, and shall leave the site in a neat, clean condition all to the satisfaction of the Engineer.

SECTION 5 – CONTROL OF WORK

5-1.01 PERMITS

The Contractor's attention is directed to Sections 5-1.20B, "Permits, Licenses, Agreements, and Certifications," of the Caltrans Specifications and these Special Provisions.

The following is not an all-inclusive list of the required permits and/or licenses, if applicable:

- Contractor's License. A valid California Class A Contractor License.
- Business License. The contractor shall possess prior to the execution of the contract and maintain throughout the duration of the contract, a valid City of Stockton business license.
- City of Stockton Encroachment Permit – The contractor shall obtain a City of Stockton encroachment permit and submit all required documents associated with the permit. Encroachment permit will be paid by the contractor.
- Construction Notification, dust control – The Contractor is responsible for the preparation and submittal of the San Joaquin Valley Air Pollution Control District Construction Notification Form. More information can be found at the following web site: <http://www.valleyair.org>.
- Construction Water – The Contractor is responsible for obtaining a permit and pay fees for the water meter from California Water Service or City of Stockton, as applicable, for construction water obtained from a City hydrant. This permit shall be approved by the City of Stockton Fire Department.

Full compensation for conforming to the provisions in this section including applicable permit fees shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.02 SUBMITTALS

The following is a list of anticipated submittals for the project. The list is provided to aid the Contractor in determining the scope of work, but is not intended to be all-inclusive and additional submittals may be required:

- DAS-140 & DAS-142
- Local Hire Employment Ordinance – Good Faith Effort
- Monthly Local Employment Ordinance Compliance Report

- Water Pollution Control Program (WPCP) by a QSD, Best Management Practices
- Emergency Contacts/Authorized Representatives
- Traffic Control Plan
- Project Schedule (Critical Path Method)
- City of Stockton Construction and Demolition Debris Recycling Report
- City of Stockton Encroachment Permit
- City of Stockton Business License
- Public Notifications (Flyer, News Release letter, etc)
- Staging Agreements with Private Property Owner (if applicable)
- 3rd Party License Material Testing Lab Caltrans Certifications
- HMA Mix Design (1/2" Aggregate, Type A, PG64-10)
- City of Stockton Survey Monument Preservation form

The Contractor shall transmit each submittal to the Engineer for review and approval. Submittals shall be sequentially numbered on the submittal list form. Resubmittals shall be identified with the original number and a sequential resubmittal suffix letter. The original submittal shall be numbered X. The first resubmittal shall be numbered X-a and so on. Identify on the form the date of the submittal, and Contractor, Subcontractor or supplier. Any incomplete submittals will be returned for resubmittal.

Schedule submittals to expedite the Project, and deliver to Engineer at the Engineer's office, see Section 10-1.01, "Order of Work," of these Special Provisions.

For each submittal for review, allow 15 calendar days excluding delivery time to and from the Contractor.

When revised for resubmission, identify all changes made since the previous submission.

Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

Within 10 calendar days after Notice of Award submit a complete list of all submittals to be submitted and the dates when they will be submitted. **All submittals shall be submitted within 30 calendar days from the date the Notice of Award; otherwise project working days will commence, with or without the issuance of the Notice to Proceed.**

Wherever called for in the Contract Documents, or where required by the Engineer, the Contractor shall furnish to the Engineer for review, 1 set, plus one reproducible copy, of each shop drawing submittal. The term "Shop Drawings" as used herein shall be understood to include detail design calculations, shop drawings, fabrication and installation drawings, erection drawings, lists, graphs, catalog sheets, datasheets, and similar items. Whenever the Contractor is required to submit design calculations as part of a submittal, such calculations shall bear the signature and seal of an engineer registered in the appropriate branch and in the state of California, unless otherwise directed.

Normally, a separate submittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of submittal of various items using a

single form will be permitted only when the items are taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole. A multi-page submittal shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the Engineer.

Except as may otherwise be indicated herein, the Engineer will return prints of each submittal to the Contractor with their comments noted on the submittal. The Contractor shall make complete and acceptable submittals to the Engineer by the second submission of a submittal item. The City reserves the right to withhold monies due to the Contractor to cover additional costs of the Engineer's review beyond the second submittal.

If a submittal is returned to the Contractor marked "NO EXCEPTIONS TAKEN", formal revision and resubmission of said submittal will not be required.

If a submittal is returned to the Contractor marked "MAKE CORRECTIONS NOTED", formal revision and resubmission of said submittal will not be required.

5-1.03 RECORDS

The Contractor's attention is directed to Sections 5-1.27, "Records," of the Caltrans Specifications.

The cost accounting records for the contract shall be maintained separately from other contracts, during the life of the contract, and for a period of not less than 3 years after the date of acceptance of the contract. If the Contractor intends to file claims against the City, the Contractor shall keep the cost accounting records specified above until the complete resolution of all claims has been reached.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.04 JOB SITE APPEARANCE

The Contractor shall maintain a neat appearance to the work.

Debris developed during construction shall be disposed of concurrently with its generation. The Contractor shall pay to the City of Stockton the sum of Two Hundred Fifty Dollars (\$250) for every calendar day where debris has remained on the job site overnight.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed, therefore.

5-1.05 PROPERTY PRESERVATION/EXISTING FACILITIES

The Contractor's attention is directed to Sections 5-1.36, "Property and Facility Preservation," and Section 15, "Existing Facilities," of the Caltrans Specifications.

The Contractor's attention is directed to the existence of certain underground facilities that may require special precautions to be taken by the Contractor to protect the health, safety, and welfare of workers and of the public. Facilities requiring special precautions include, but are not

limited to, conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases, natural gas in pipelines six (6) inches or greater in diameter, or pipelines operating at pressures greater than 60 psi (gage); underground electric supply system conductors or cables with potential to ground of more than 300 V, either directly buried or in duct or conduit, which do not have concentric grounded or other effectively grounded metal shields or sheaths.

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least two (2) working days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire, or other structure. Regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert – Northern California (USA)	811
	(800) 227-2600

Immediately upon encountering unknown existing facilities, the Contractor shall notify the Engineer in writing of the situation, request coverage of the work as extra work, and aid the Engineer in determining due diligence. Failure to do so may result in forfeiture of any rights to receive extra work compensation under Section 8-1.07, “Delays,” of the Caltrans Specifications. Should the Contractor stop work, no compensation will be made for any "downtime" prior to written notifications being received by the Engineer or his representative.

Delays due to encountering unexpected facilities shall be determined and compensated in accordance with the provisions of Section 8-1.07, “Delays,” of the Caltrans Specifications, and as herein modified. Delays due to encountering unexpected facilities shall be compensated as additional contract working days to the contractor. Contractor shall submit a written request to the Engineer requesting a time extension due to the delay. No other compensation is allowed.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.06 REQUEST FOR INFORMATION

The Contractor’s attention is directed to Sections 5-1.42, “Request for Information” of the Caltrans Specifications.

Contractor shall submit a request for information upon recognition of any event or question of fact arising under the contract. The Engineer shall respond to the request for information within 5 working days.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.07 NOTICE OF POTENTIAL CLAIM

The Contractor shall not be entitled to the payment of any additional compensation for any cause, or for the happening of any event, thing or occurrence, including any act or failure to act, by the Engineer, unless he has given the Engineer due written notice of potential claim as herein specified, provided, however, that compliance with this section shall not be a prerequisite for matters within the scope of the protest provisions under "Changes and Extra Work", "Time of Completion" or within the notice provisions in "Liquidated Damages" not to any claim which is based on differences in measurements of errors of computation as to Contract quantities. The written notice of potential claim shall set forth the items and reasons which the Contractor believes to be eligible for additional compensation, the description of work, the nature of the additional costs and the total amount of the potential claim. If based on an act or failure to act by the Engineer, written notice for potential claim must be given to the Engineer prior to the Contractor commencing work; in all other cases, written notice for potential claims must be given to the Engineer within 15 days after the happening of the event, thing or occurrence giving rise to the potential claim.

It is the intention of this Section that potential differences between the parties of this Contract be brought to the attention of the Engineer at the earliest possible time appropriate action may be taken and settlement may be reached. The Contractor hereby agrees that he shall have no right to additional compensation for any claim that may be based on any act or failure by the Engineer or any event, thing or occurrence for which no written notice of potential claim was filed.

5-1.08 INSPECTIONS

All work under this contract shall be under the control and inspection of the City Engineer or his/her appointed representative. The Contractor shall notify the City of Stockton Public Works Department forty-eight (48) hours in advance of any construction. Contractor shall pay for overtime for inspection during City holidays, weekends and non-business hours.

5-1.09 RIGHTS IN LAND

The following is added to Section 5-1.32, "Areas for Use" of the Caltrans Specifications:

"All work, equipment parking, or any other activity associated with the project shall be confined to the project limits within the street rights-of-way. The Contractor's use of any other property exclusively in connection with this project shall be by a written agreement between the property owner and the Contractor. A certified copy of any such agreement shall be furnished to the Engineer prior to the use of such property by the Contractor."

Full compensation for conforming to the provisions in this section shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.10 STAGING AREA (If Applicable)

Attention is directed to the requirements specified in Section 5-1.32, "Areas for Use" of the Caltrans Specifications and these Special Provisions.

The street right-of-way shall be used only for activities that are necessary to perform the required work. The Contractor shall not occupy the right-of-way or allow others to occupy the right-of-way for material storage or other purposes that are not necessary to perform the required work.

The Contractor shall secure at his own expense any area required for plant sites, storage of equipment or materials, or for other purposes.

Full compensation for conforming to the provisions in this section shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

5-1.11 PRESERVATION AND PERPETUATION OF EXISTING SURVEY MONUMENTS

Action by:	Action:
<i>Contractor's Land Surveyor</i>	<ol style="list-style-type: none"> 1. Identifies existing survey monuments. 2. Lists all existing survey monuments. 3. Ties out/performs construction staking of survey monuments. 4. Indicates survey monuments on construction plans. 5. Files all pre-construction Corner Records or Records of Survey with San Joaquin County. The Corner Records or Record of Survey will show monuments within the area of construction reasonably subject to removal or disturbance not shown on a recent record document (i.e. a filed survey map or corner record document completed with acceptable modern survey methods that includes survey ties from monuments within the construction area to monuments outside of the construction area). 6. Submits copies of pre-construction Corner Records or Records of Survey filed with San Joaquin County to City Engineer/Project Manager.
<i>Contractor</i>	<ol style="list-style-type: none"> 7. Preserves/perpetuates all survey monumentation during construction, including, but not limited to, those listed. 8. Restores survey monuments disturbed by construction.
<i>Contractor's Land Surveyor</i>	<ol style="list-style-type: none"> 9. Files all post-construction Corner Records and Records of Survey with San Joaquin County. 10. Submits copies of Corner Records or Records of Survey filed with San Joaquin County to City Engineer/Project Manager.

Monuments set shall be sufficient in number and durability and efficiently placed so as not to be readily disturbed, to assure, together with monuments already existing, the perpetuation or facile reestablishment of any point or line of the survey.

When monuments exist that control the location of subdivisions, tracts, boundaries, roads, streets, or highways, or provide horizontal or vertical survey control, the monuments shall be located and referenced by or under the direction of a licensed land surveyor or registered civil engineer prior to the time when any streets, highways, other rights-of-way, or easements are improved, constructed, reconstructed, maintained, resurfaced, or relocated, and a corner record or record of survey of the references shall be filed with the county surveyor. They shall be reset in the surface of the new construction, a suitable monument box placed thereon, or permanent

witness monuments set to perpetuate their location if any monument could be destroyed, damaged, covered, or otherwise obliterated, and a corner record or record of survey filed with the county surveyor prior to the recording of a certificate of completion for the project. Sufficient controlling monuments shall be retained or replaced in their original positions to enable property, right-of-way and easement lines, property corners, and subdivision and tract boundaries to be reestablished without devious surveys necessarily originating on monuments differing from those that currently control the area. It shall be the responsibility of the governmental agency or others performing construction work to provide for the monumentation required by this section. It shall be the duty of every land surveyor or civil engineer to cooperate with the governmental agency in matters of maps, field notes, and other pertinent records. Monuments set to mark the limiting lines of highways, roads, streets or right-of-way or easement lines shall not be deemed adequate for this purpose unless specifically noted on the corner record or record of survey of the improvement works with direct ties in bearing or azimuth and distance between these and other monuments of record.

The decision to file either the required corner record or a record of survey pursuant to subdivision shall be at the election of the licensed land surveyor or registered civil engineer submitting the document.

Full Compensation for conforming to the requirements of this section shall be considered as included in the prices paid for various contract items of work involved and no additional compensation will be allowed therefore.

Full compensation for pre-construction/post-construction Corner Records of Survey and restoration of survey monuments disturbed by construction of this section shall be included in the contract price "Survey Monument Restoration" per each occurrence, and no additional compensation will be allowed.

SECTION 6 – CONTROL OF MATERIALS

Attention is directed to the provisions in Section 6, "Control of Materials," of the Standard Specifications, and these Special Provisions.

6-1.01 CITY-FURNISHED MATERIALS

There are no City-furnished materials for this project.

6-1.02 STATE-FURNISHED MATERIALS

There are no State-furnished materials for this project.

6-1.03 BUY AMERICA REQUIREMENTS

Does not apply to this project.

6-1.04 QUALITY ASSURANCE PROGRAM

Refer to Instructions to Bidders document.

6-1.05 TESTING

Testing of materials and work shall conform to the provisions in Section 6, "Control of Materials" of the Caltrans Specifications and these special provisions. Whenever the provisions of Section 6 of the Caltrans Standard Specifications refer to tests or testing, it shall mean tests to assure the quality and to determine the acceptability of the materials and work. Contractor's attention is directed to the City's Quality Assurance Program in Instructions to Bidder Package.

Contractor shall hire a certified, independent from contractor's company, laboratory to conduct compaction and material testing. Testing includes and not limited to compaction testing and material testing. A relative compaction of 95% is expected on AC overlay, roadway sub grade and sidewalk areas.

Compaction testing will be required for subsoil, AB, and hot mix asphalt. For AB, sieve analysis, cleanness value, and R value may be provided by the vendor if the source is consistent.

For Asphalt Concrete, certificate of compliance, one sieve analysis, and one oil content test per day is required from supplier.

For concrete, certificate of compliance for Curb Gutter/Sidewalk, driveway, and ADA ramp or ASTM C39 compaction test, 4 cylinders per day, with a required 28 day strength of 3,000 psi is required.

Full compensation for performing the work in these specifications shall be included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefore.

SECTION 7 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

7-1.01 PUBLIC CONVENIENCE

Contractor's attention is directed to Section 12-1.01, "Maintaining Traffic" of these Special Provisions.

The Contractor shall notify San Joaquin Regional Transit District (SJRTD) (dispatcher (209) 948-0642) a minimum of five (5) working days prior beginning Work. Contractor shall coordinate with SJRTD if any bus stops and bus routes are affected.

The Contractor shall inform the City Fire Department, City Police Department, City Traffic Department, Municipal Utilities Department (MUD), Stockton Unified School District, and all affected utilities no later than seventy-two (72) hours before work is to begin. The Contractor shall provide the City with the name and telephone number (business, home, and mobile) of three (3) representatives available at all times during the duration of the contract. Said names and telephone numbers shall be provided to the City of Stockton Public Works, Fire and Police Departments.

The Contractor shall circulate printed form letters, approved by the Engineer, explaining the project to be constructed and the length of time inconvenience will be caused by the project and deliver same to the residents and businesses to be affected at least seventy-two (72) hours before work is to commence. In addition, the Contractor shall provide temporary "No Parking" signs posted seventy-two (72) hours in advance of the work. Such signs shall be placed no further than fifty (50) feet apart. The additional "No-Parking" signs shall be removed on completion of

the work and the opening of the street to traffic. The Contractor is responsible for the removal of any vehicles obstructing his operations.

Full compensation for conforming to the provisions in this section shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

7-1.02 PUBLIC SAFETY

The Contractor's attention is directed to Section 12-1.02, "Maintaining Traffic" of these Special Provisions. Nothing in the specifications voids the Contractor's public safety responsibilities.

All safety devices, their maintenance, and use shall conform to the latest requirements of OSHA and shall conform to the applicable provisions of Part 6 "Temporary Traffic Control", latest MUTCD California Supplement, the current edition of the "Manual on Uniform Traffic Control Devices (MUTCD)" and the latest "Work Area Traffic Control Handbook (WATCH)". It shall be the complete responsibility of the Contractor to protect persons from injury and to avoid property damage. Adequate barricades, construction signs, flashers, and other such safety devices, as required, shall be placed and maintained during the progress of the construction work, until the project is completed. Whenever required, flagmen shall be provided to control traffic.

The Contractor shall provide for the proper routing of vehicles, bicyclists, and pedestrians in a manner that will hold congestion and delay of such traffic to practicable minimum by furnishing, installing, and maintaining all necessary temporary signs, barricades, and other devices and facilities, as approved by the City Traffic Engineer. As the work progresses, the Contractor shall relocate, subject to the City Traffic Engineer's approval, such devices and facilities as necessary to maintain proper routing. The Contractor shall maintain Americans with Disabilities Act (ADA) compliance through the work site (or approved alternate route) at all times during all phases of construction. The Contractor shall notify the City Traffic Engineer via the inspector a minimum of three (3) working days prior to the relocation of any traffic control devices.

Full compensation for furnishing, installing, moving, and removing of all necessary traffic control devices including, but not limited to, signing, striping, barricades, arrow boards, CMS, and flagging shall be included in the contract prices for "Traffic Control" and no additional compensation will be allowed, therefore. Section 12-1.04, "Payment," of the Caltrans Specifications is deleted.

7-1.03 PUBLIC NOTIFICATION

The Contractor shall circulate printed form letters/door hangers, approved by the Engineer, explaining the project to be done and the length of time inconvenience will be caused by the project and deliver same to the residents and/or businesses to be affected no earlier than 72 hours, nor later than 48 hours, before work is to commence. The Contractor shall install "Road Closed," arrows, Detour signs, and barricades as necessary.

The Contractor shall notify all residents and businesses affected by the construction, Utilities, School Districts, Sunrise Sanitation, Stockton Scavenger, and San Joaquin Regional Transit District at least 48 -72 hours prior to starting the work. Any changes to the original schedule/notification would

prompt the re-notification by the Contractor. A list of agencies with the contact information is available below.

The Contractor shall inform the City Fire Comm, (209) 464-4648, no later than twenty-four (24) hours before work is to begin. Any changes in the Contractor's original schedule/notification shall be promptly reported to the City Fire Comm, so that they are fully informed at all times of the locations of street closures/construction.

Full compensation for conforming to the provisions in this section shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

SECTION 8 – PROSECUTION AND PROGRESS

8-1.01 SCHEDULE

Attention is directed to Section 8-1.02, "Schedule" of the Caltrans Specifications. The Contractor shall submit a schedule of construction to the City Engineer within five (5) working days following the Notice to Proceed.

The Contractor's construction schedule must be approved before any construction may commence.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

8-1.02 PRE-CONSTRUCTION CONFERENCE

The City of Stockton Public Works Department will schedule a pre-construction meeting with the Contractor following award of the contract and prior to commencing work (*Thin Phan and 209-937-8885*). This meeting will be held in the City of Stockton, Public Works Department.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

8-1.03 POST CONSTRUCTION CONFERENCE

The Contractor shall attend a post-construction meeting that will be arranged by the Public Works Department (*Thin Phan and 209-937-8885*) after completion of work and prior to acceptance and final payment. The project engineer and the project Inspector will also attend this meeting. The purpose of the meeting will be to discuss the project and any related issues that can help improve future Public Works construction projects. This meeting will be held in the City of Stockton, Public Works Department.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

8-1.04 TIME OF COMPLETION

Attention is directed to the provisions in Section 8-1.05, "Time," of the Caltrans Specifications and these Special Provisions.

The contract for the performance of the work and the furnishing of materials shall commence within ten (10) days from the Notice to Proceed date and shall be diligently prosecuted to completion before the expiration of the working days specified in this section from the date of said commencement.

The Contractor shall diligently prosecute the contract work to completion within twenty (20) working days. The days to finish the punch list, provided by the City, are included in the Original Working Days.

Should the Contractor choose to work on a Saturday, Sunday, or on a City Holiday recognized by the labor unions, the Contractor shall reimburse the City of Stockton the actual cost of engineering, inspection, testing, superintendent, and/or other overhead expenses, which are directly chargeable to the contract. The approximate cost is \$100 per hour. Should such work be undertaken at the request of the City, reimbursement will not be required.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

8-1.05 LIQUIDATED DAMAGES

Attention is directed to the provisions in Section 8-1.10, "Liquidated Damages," of the Caltrans Specifications and these Special Provisions.

The Contractor shall pay liquidated damages to the City of Stockton in the amount of **\$3,600.00 (three thousand six hundred dollars)** per day for each and every calendar day that the work, with the exception of the plant establishment and maintenance period, remains incomplete after expiration of the contract working days specified in these Special Provisions.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

SECTION 9 – PAYMENT

9-1.01 GENERAL

Attention is directed to Section 9 of the Standard Specifications, Section 9, "Payment," of the Caltrans Specifications, and these Special Provisions. All measurements and payments for this work shall conform to all applicable provisions on Section 9 of the Caltrans Specifications.

All materials designated to be removed shall become the property of the Contractor, unless otherwise noted, and shall be disposed in accordance with local, state, and federal laws and ordinances.

Full compensation for performing the work in these specifications shall be included in the prices paid for the various contract items of work and no additional compensation will be allowed, therefore.

9-1.02 PAYMENTS

Attention is directed to Sections 9-1.16, "Progress Payments," and 9-1.17, "Payment After Contract Acceptance," of the Caltrans Specifications, and Sections 9-1.16A, "Progress Payments - General," and 9-1.17D, "Final Payment and Claims," of the Standard Specifications. No partial payment will be made for any materials that are furnished on hand, but not yet installed or incorporated in the work.

Full compensation for all labor, equipment, tools, materials, services, travel, and incidentals and for doing all the work and all other items required to complete the work in conformity with the Contract Documents will be included in the prices paid for the various contract items of work and no additional work compensation will be allowed, therefore. No other compensation will be made except for the items listed in the Bid Proposal. Work for which no separate payment has been provided will be considered as a subsidiary obligation of the Contract.

Schedule of Measurement and Payment:

1. Mobilization: paid by lump sum, shall include but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site.
2. Traffic Control: paid by lump sum, shall include preparatory work and operations, including, but not limited to, designing, furnishing, installing, and maintaining traffic control and pedestrian access. Traffic Control Plans shall be signed and stamped by a licensed civil or traffic engineer and be submitted to the City for review and approval. Traffic control necessary for other various bid items of work shall be included in this bid item for payment.
3. Temporary Erosion Control: paid by lump sum, shall include providing all labor, materials, tools equipment, work involved in implementing best management practices, DI protection and concrete washouts, as well as work involved in placing, maintaining, and removing the temporary drain inlet protection measures as described in Section 13 of the Caltrans Standard Specifications and these Special Provisions.
4. Cold Plane (2"): paid by square yard, Cold Planing to the depth specified shall be measured. Work shall include removing asphalt material, pavement fabric, and handhole, pavement markers, stripes and markings, disposal, and other incidentals.
5. Hot Mix Asphalt (Type A): paid by ton and shall including supplying the HMA to the site, paving, and compacting as described in these Special Provision, complete in place. Payment of tack coat is included in pavement for Hot Mix Asphalt (Type A).
6. Pavement Repair: paid by square yard and shall include providing all labor, materials, tools equipment, incidentals, and for doing all the work involved in removal 6 inches of saturated

material and recompact aggregate base, as described in these Special Provision and directed by the Engineer.

7. Parking Lot Striping (Includes Curb Paint): paid by lump sum, includes providing all labor, materials, tools, equipment, incidentals, and for doing all the work involved in replacing existing striping and curb paint that is damaged or removed during construction, as indicated on the Plans and described in these Special Provisions.
8. Survey Monument Restoration: paid by each, includes providing all labor, materials, tools, equipment, incidentals, and for doing all work involved in survey monument restoration, as described in these Special Provisions and as directed by the Engineer.
9. Adjust Drain Inlets to Grade: paid by each, includes providing all labor, materials, tools, equipment, incidentals, and for doing all work involved in adjusting the draining inlet to new pavement grade, as described in these Special Provisions and as directed by the Engineer.
10. Concrete Driveway Apron Removal and Replacement: paid per square foot. Removal, disposal and replacement of concrete up to 8" thick including saw cutting; removal of existing concrete and debris, cutting and removal of tree roots under the concrete; excavating existing base to install concrete driveway apron and compacted aggregate base per City Standard Specifications and Plans drawing no. R-58; installation of dowels; saw cutting and removal of existing asphalt pavement and dirt to fit wood forms; and repair of damaged landscape and sprinkler due to construction work.
11. Concrete Sidewalk Removal and Replacement: paid per square foot. Includes saw cutting; removal and disposal of existing concrete and debris, cutting and removal of tree roots under the sidewalk; excavating existing base to install 6" thick of concrete sidewalk and 4" thick of compacted aggregate base per City Standard Specifications and Plans drawing no. R-50; installation of dowels; saw cutting of existing asphalt pavement and dirt to fit wood forms; and repair of damaged landscape and irrigation sprinklers due to the construction work. Damaged sprinklers shall be repaired immediately by the Contractor to the satisfaction of the Engineer. Work also includes backfilling, grading and compacting material (95%) at back of sidewalks to be flush with back of sidewalk.
12. Vertical Curb and Gutter Removal and Replacement: paid per linear foot. Includes saw cutting; removal and disposal of existing concrete and debris, cutting and removal of tree roots under the gutter; excavating existing base to install concrete curb, gutter and compacted aggregate base per c; installation of dowels; saw cutting and removal and replacement of existing asphalt pavement (1 foot from the gutter lip and 8" inches deep) and dirt to fit wood forms; and repair of damaged landscape and sprinkler due to construction work.
13. Accessible Parking Signs: paid by each, includes compensation for removing existing signs and providing all labor, tools, equipment, and incidentals for furnishing the materials, complete

in place, as indicated on the plans to install new sign, as specified in Section 56 of the Caltrans Standard Specifications, and described in these Special Provisions.

14. Decomposed Granite (DG): paid by lump sum, includes providing all the labor, material, tools, equipment, and incidentals for installing decomposed granite, as described in these Special Provisions and as directed by the Engineer.
15. Remove Steel Bollard: paid by each, includes all labor, materials, tools equipment, and incidentals for removing the steel bollards, as described in these Special Provisions and as directed by the Engineer.
16. Remove Metal Plate and Install Under sidewalk Drain: paid by each, includes compensation for removing existing metal plates within the sidewalk, disposing of them and providing all labor, tools, equipment, and incidentals for furnishing the materials, complete in place, as indicated on the plans to install under sidewalk drains per City Standard Specifications and Plans drawing no. D-11 , as described in these Special Provisions and directed by the Engineer.

9-1.03 INCREASE OR DECREASE QUANTITIES

The City reserves the right to make such alterations, deviations, additions to, or omissions from the plans and specifications, including the right to increase or decrease the quantity of any item or portion of the work or to omit any item or portion of the work, as may be deemed by the Engineer to be necessary or advisable and to require such extra work as may be determined by the Engineer to be required for the proper completion or construction of the whole work contemplated, without adjustment in the unit price as bid. Section 9-1.06B and Section 9-1.06C of the Caltrans Specifications shall not apply.

Any such changes will be set forth in a contract change order, which will specify, in addition to the work to be done in connection with the change made, adjustment of contract time, if any, and the basis of compensation for such work. A contract change order will not become effective until approved by the Public Works Director. City Manager and/or City Council approval may be necessary depending on the amount of the change order.

9-1.04 MOBILIZATION

Mobilization shall conform to the provisions in Section 9-1.16D, "Mobilization," of the Caltrans Standard Specifications and these Special Provisions.

Full compensation for any costs required to comply with the provisions in this section shall be considered to be included in the "Mobilization" price paid for on the contract items of work and no additional compensation will be allowed, therefore.

9-1.05 STOP NOTICE

Section 9-1.16E(4), "Stop Notice Withholds," of the Caltrans Specifications is amended to read as follows:

At its option, the Department of Public Works may at any time retain from the amounts due to the Contractor sufficient amount to cover claims which are filed pursuant to *Section 3179 et seq of the Code of Civil Procedures*.

9-1.06 QUANTITIES

The following estimate of the quantities of work to be done and materials to be furnished are **approximate only**, and are intended as a basis for the comparison of bids. The City does not expressly or by implications agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work without increase or decrease in the unit price bid or to omit portions of the work that may be deemed necessary or expedient by the Engineer.

ITEM NO.	DESCRIPTION	UNIT	ESTIMATED QUANTITY
1	Mobilization	LS	1
2	Traffic Control	LS	1
3	Temporary Erosion Control	LS	1
4	Cold Plane (2")	SY	2,300
5	Hot Mix Asphalt (Type A)	TON	285
6	Pavement Repair (6 Inches Deep Lift – Removed Saturated Material and Recompact Aggregate Base)	SY	75
7	Parking Lot Striping (Includes Curb Paint)	LS	1
8	Survey Monument Restoration	EA	2
9	Adjust Drain Inlets to Grade	EA	8
10	Concrete Driveway Apron Removal and Replacement up to 8" depth (All Work Complete In-Place)	SF	1,090
11	Concrete Sidewalk Removal & Replacement (All Work Complete in-Place)	SF	250
12	Vertical Curb and Gutter Removal & Replacement (All Work Complete In-Place)	LF	65
13	Accessible Parking Signs – R99C (CA)	EA	3
14	Decomposed Granite (DG) at Tree Well	LS	1
15	Remove Steel Bollard	EA	3
16	Remove Metal Plates and Install Under Sidewalk Drain	EA	4

Each bidder shall bid each item on the Bid Schedule. Failure to bid an item shall be just cause for considering the bid as non-responsive. The City reserves the right to include or delete any Schedule or portion thereof, or to reject all bids.

Official bid documents, including plans and specifications, are available on the City of Stockton website at: <http://www.stocktongov.com/services/business/bidflash/default.html>

All bids submitted for this project must conform to the requirements of the official bid documents, including plans and specifications.

DIVISION II – GENERAL CONSTRUCTION

SECTION 10 – GENERAL

10-1.01 ORDER OF WORK

The order of work shall conform to the Contractor's approved project schedule described in Section 8-1.01, "Schedule" of these Special Provisions.

Contractor's attention is directed to the Public Safety, Public Convenience, and Maintaining Traffic sections of these Special Provisions. Nothing in this section shall be construed as to relieve the Contractor of the responsibility to stage the work in a manner that complies with the requirements of these sections.

All permits and approvals as may be required for this project shall be secured or ordered immediately after award of the contract or their acquisition timing determined, such that the same is not a cause for delay. The cost of the permits shall be included in the total bid costs.

Minor deviations from these requirements may be allowed by the Engineer, if in the opinion of the Engineer, the prosecution of the contract will be better served and the work expedited. Any Contractor request for such deviations shall not be adopted without the Engineer's prior written approval.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

10-1.02 PRE-CONSTRUCTION SURVEY

The Contractor shall perform pre-construction and post-construction survey of all existing structures, pavements and other above ground facilities within the project limits prior to beginning any work, noting their condition by means of dated photographs and video.

Color photographs shall be taken with a digital camera at locations (property sites) that are appropriate to show pre-existing conditions and after constructed conditions. Each photograph shall show the date and time the photograph was taken and clearly be labeled showing the location, viewing direction, and any special features noted. Digital copies of photographs and videos shall be submitted to the City prior to approval of project.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

10-1.03 MONUMENTS

The Contractor shall preserve and perpetuate existing monuments, property pins, chiseled cross, etc. affected by the work included in this project in accordance with the most current edition of the Professional Land Surveyors Act (Business and Professions Code §§ 8700-8805), Sections 8771.

The Contractor shall perform a survey to preserve any existing survey monuments such as chiseled cross, survey iron pipe, etc. that may be present on the pavement, round corners, and

concrete flat work to be improved by this project. Monument preservation shall be done by or under the supervision of a Licensed Land Surveyor. Contractor shall complete and sign City of Stockton Monument Preservation form (located in Appendix E of these Specifications. The Contractor shall notify the Engineer immediately if any monument is disturbed. The Contractor shall be responsible for hiring a Licensed Land Surveyor to reset any survey monument disturbed by his/her operations. A new record of survey shall be filed with the San Joaquin County Surveyor's office, which copies shall be submitted to the Engineer. Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

SECTION 11 – BLANK

SECTION 12 – TEMPORARY TRAFFIC CONTROL

12-1.01 MAINTAINING TRAFFIC

Attention is directed to Sections 7-1.03, "Public Convenience," 7-1.04, "Public Safety," and 12, "Temporary Traffic Control," of the Caltrans Specifications, 10.01, "Order of Work," of these Special Provisions. Nothing in these Special Provisions shall be construed as relieving the Contractor from the responsibilities specified in these sections.

The Contractor shall furnish, and maintain in good working order, all barricades, arrow boards, CMS, and flashers, and provide flaggers as necessary to protect pedestrians and vehicular traffic.

The Contractor shall furnish and maintain all barricades, arrow boards, CMS, flashers, and any detour signs twenty-four (24) hours a day, including covering or removing signs during non-construction hours.

The Contractor shall provide adequate and continuous ingress and egress for all adjacent properties, except for the limited period of time it is necessary to perform work at a specific property. The Contractor shall diligently prosecute all work directly impacting businesses to completion. The Contractor shall coordinate limited closures with tenants or owners, as required by these Special Provisions, and as directed by the Engineer.

The Contractor shall submit to the City Engineer a detailed "Temporary Traffic Control Plan" for review and approval. The "Temporary Traffic Control Plan" shall be submitted no later than five (5) working days following the Notice to Proceed date and prior to commencing any work which requires implementation of any component of the "Traffic Control Plan." The plan shall be approved by the Engineer prior to its implementation by the Contractor.

The "Traffic Control Plan" shall conform to the typical traffic control details included in the requirements of Section 12-1.02, "Traffic Control System for Lane and Road Closure," of these Special Provisions. The Temporary Traffic Control Plan shall include, but not be limited to, detailed requirements for the following:

- Traffic control devices, including signs and markings.
- Construction detour routes, phasing and/or staging of both the roadway and sidewalk areas.
- Employee, Customer, and Business/Delivery access to adjacent property.
- Emergency vehicles access.
- Bus, refuse collection, and mail delivery access.
- Any parking zones to be removed on a temporary basis.
- Any temporary "No Parking" zones.
- Pedestrian and bicyclist access.

The "Temporary Traffic Control Plan" shall consider the impacts of changes in traffic volumes and capacities related to the construction activities, and their impact on vehicular and bicycle traffic and pedestrian operations, on roadway pavements, including provisions to restore construction-damaged pavements.

Traffic Lane and Sidewalk Closures

Lanes and sidewalks may be closed only as indicated in this section, "Maintaining Traffic," of these Special Provisions. Except for work required under Sections 7-1.03, "Public Convenience" and 7-1.04, "Public Safety" of Caltrans Specifications, work that interferes with public traffic shall be performed only as indicated. Traffic lane and sidewalk closures shall conform to the following requirements:

Lane closure, a maximum of one lane in each direction of travel and not more than twelve (12) feet wide, shall be permitted only between the hours of 8:30 a.m. and 4:30 p.m. Any extended working hours require the approval of the Engineer. The Engineer may restrict or alter the hours of work on a street due to high traffic or other considerations.

Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders, including any section closed to public traffic.

Adequate ingress and egress shall be maintained throughout the project limits for fire, police, and other emergency vehicles. The Contractor shall provide adequate ingress and egress for residences, property owners, and abutting business owners to their respective properties except when performing work at their specific locations.

Also, the Contractor shall provide adequate signing, barricades and flashers or portable flashing beacons, flaggers, and other equipment and personnel necessary to adequately control and direct traffic in a safe manner. The Contractor shall maintain all barricades, flashers and detour signs twenty-four (24) hours a day, including covering signs during non-construction hours. The Contractor shall also provide the City with the names and telephone numbers of three (3) representatives available at all times.

Whenever Contractor's vehicles or equipment are parked within six (6) feet of a traffic lane, the area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the traffic lane at twenty-five (25) foot intervals to a point not less than twenty-five (25) feet past the last vehicle or piece of equipment. A minimum of nine (9) cones or portable delineators shall be used for the taper. A

W20-1 (Road Work Ahead) sign shall be mounted on a portable sign stand with flags. The sign shall be placed where directed by the Engineer.

Except as otherwise allowed by the Engineer, "long term" and temporary closures shall be removed, and the full width of the traveled way shall be open for use by public traffic when construction operations are not actively in progress during the working period or successive working periods.

The Contractor shall provide for pedestrian and wheelchair access to at least one (1) intersection corner within each block and the abutting sidewalk facilities along each block, at all times. Simultaneous closure of both intersection corners to pedestrian traffic within the same block is not allowed.

The Contractor shall maintain at least one (1) north/south crosswalk and one (1) east/west crosswalk open to pedestrian and wheelchair access, where it exists, at each intersection at all times.

Attention is directed to Part 6 of the California MUTCD. Nothing in these Special Provisions shall be construed as relieving the Contractor from his responsibility as provided in Part 6 of California MUTCD.

Full compensation for furnishing, installing, moving, removing, and all the necessary traffic control devices including, but not limited to, the necessary signs, striping, barricades, and flagging shall be included in the contract prices paid for the various items of work of the bid schedule, and no additional compensation will be allowed, therefore.

Maintaining Pedestrian Access

Means of passage of pedestrian traffic around and through the work area shall be provided at all times. Path of travel shall comply with Americans with Disabilities Act (ADA) regulations.

The Contractor shall cause the least possible disruption to the affected properties and restore suitable pedestrian access immediately following completion of the active work in progress.

At least one (1) continuous ADA accessible walkway along one (1) side of the street shall be available at all times. At locations where work is actively in progress, the pedestrian walkway within a single block may temporarily be closed at one (1) end of the block along one (1) side of the street. Pedestrians shall be rerouted to the walkway on the opposite side of the street.

Minor deviations from the requirements of this section, which do not significantly change the cost of the work, maybe permitted upon the written request of the Contractor if, in the opinion of the Engineer, public traffic will be better served and the work expedited. These deviations shall not be adopted by the Contractor until the Engineer has approved them in writing. All other modifications will be made by contract change order.

Full compensation for furnishing a temporary traffic control plan, furnishing, installing, maintaining, and removing all components of the required traffic control system, traffic lane and sidewalk closures, temporary pavement delineation, maintaining driveway and pedestrian traffic, and for maintaining traffic as specified in the plans and these Special Provisions, and as directed

by the Engineer, shall be included in the contract prices for "Traffic Control" and no additional compensation will be allowed, therefore.

12-1.02 TRAFFIC CONTROL SYSTEM FOR LANE AND ROAD CLOSURE

A traffic control system shall consist of closing traffic lanes and ramps in accordance with the provisions of Section 12, "Temporary Traffic Control," of the Caltrans Specifications, the provisions under "Public Safety," "Maintaining Traffic," and "Construction Area Signs" elsewhere in these Special Provisions.

The provisions in this section will not relieve the Contractor from the responsibility to provide additional devices or take the measures that may be necessary to comply with the provisions in Section 7-1.04, "Public Safety," of the Caltrans Specifications and these Special Provisions.

Traffic shall be controlled with stationary type lane closures. The Contractor's attention is directed to the provisions in section 81-3, "Pavement Markers," of the Caltrans Specifications. If any component in the traffic control system is displaced or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the component to its original condition or replace the component and shall restore the component to its original location.

When lane closures are made for work periods only, at the end of each work period, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way shall be removed from the traveled way and shoulder. If the Contractor so elects, the components may be stored at selected central locations, approved by the Engineer, within the limits of the highway right-of-way.

Each vehicle used to place, maintain, and remove components of a traffic control system shall be equipped with a Type II flashing arrow sign, which shall be in operation when the vehicle is being used for placing, maintaining, or removing the components. Vehicles equipped with Type II flashing arrow signs not involved in placing, maintaining, or removing the components when operated within a stationary type lane closure shall only display the caution display mode. The sign shall be controllable by the operator of the vehicle while the vehicle is in motion. The flashing arrow sign shown on the plans shall not be used on the vehicles which are doing the placing, maintaining, and removing of components of a traffic control system, and shall be in place before a lane closure requiring its use is completed.

Section 12-1.04, "Payment" of the Caltrans Specifications is amended as follows: "The Contractor shall pay fully the cost of furnishing all flaggers, including transporting flaggers, to provide for passage of public traffic."

Attention is directed to Part 6, "Temporary Traffic Control," of the California MUTCD.

Nothing in these Special Provisions shall be construed as relieving the Contractor from his responsibility as provided in Part 6 of California MUTCD.

Full compensation for furnishing all labor (including flagging costs), materials, signs, arrow boards, CMS, tools, equipment, and incidentals, and for doing all the work involved in lane closures, including placing, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of the traffic control system as specified in the Caltrans

Specifications and these Special Provisions and as directed by the Engineer, shall be included in the contract "Traffic Control", and no additional compensation will be allowed, therefore.

The adjustment provisions in Section 4-1.05A, "Changes and Extra Work - General," of the Standard Specifications shall not apply to the item of traffic control system. Adjustments in compensation for traffic control system will be made only for an increased or decreased traffic control system required by changes ordered by the Engineer and will be made on the basis of the cost of the increased or decreased traffic control necessary. The adjustment will be made on a force account basis as provided in Section 9-1.04, "Force Account," of the Caltrans Specifications for increased work and estimated on the same basis in the case of decreased work.

Traffic control system required by work, which is classed as extra work, as provided in Section 4-1.05," Changes and Extra Work," of the Caltrans Specifications, will be paid for as a part of the extra work.

SECTION 13 – WATER POLLUTION CONTROL

13-1.01 WATER POLLUTION CONTROL

Water pollution control shall conform to the requirements in Section 13, "Water Pollution Control," of the Caltrans Specifications, these Special Provisions, and as directed by the Engineer.

The Contractor shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP), which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off site into receiving waters. The Contractor shall inspect and maintain all BMPs.

Full compensation for furnishing, installing, maintaining, and removing all components of the required water pollution control devices as specified in the plans and these Special Provisions, and as directed by the Engineer, shall be included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

SECTION 14 – ENVIRONMENTAL STEWARDSHIP

14-1.01 HAZARDOUS WASTE AND CONTAINMENT

When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and the Contractor encounters materials which the Contractor reasonably believes to be asbestos or a hazardous substance as defined in Section 25914.1 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, the Contractor may continue work in unaffected areas reasonably believed to be safe. The Contractor shall immediately cease work in the affected area and report the condition to the Engineer in writing.

In conformance with Section 25914.1 of the Health and Safety Code, removal of asbestos or hazardous substances including exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract.

If delay of work in the area delays the current controlling operation, the delay will be considered a right of way delay and the Contractor will be compensated for the delay in conformance with the provisions in Section 8-1.07, "Delays," of the Caltrans Specifications.

14-1.02 DUST CONTROL

Dust control shall conform to any requirements set forth in the San Joaquin Valley Air Pollution Control District Construction Notification Form, the provisions in Section 10-5, "Dust Control" of the Caltrans Specifications and these Special Provisions. Section 10-5 of the Caltrans Specifications shall be amended to include the following sentences:

"Use of water except for recycled, reclaimed, or other non-potable water for the purpose of dust control or other construction uses unless for health or safety purposes is prohibited. All dust control operations shall be performed by the Contractor at the time, location and in the amount ordered by the Engineer. The application of either water or dust palliative shall be under the control of the Engineer at all times."

Watering shall conform to the provisions of Section 10-6, "Watering," of the Caltrans Specifications and these Special Provisions.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

14-1.03 NOISE CONTROL REQUIREMENTS

Noise control shall conform to the provisions in Section 14-8.02, "Noise Control," of the Caltrans Specifications and these Special Provisions. Nothing in the Caltrans Specifications or these Special Provisions voids the Contractor's public safety responsibilities or relieves the Contractor from the responsibility to comply with other ordinances regulating noise level.

The Contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract.

The noise level requirement shall apply to the equipment on the job or related to the job, including, but not limited to, trucks, transit mixers, or transient equipment that may or may not be owned by the Contractor. The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

SECTION 39 – HOT MIX ASPHALT

39-1.01 GENERAL

This work includes furnishing and placing ½" nominal maximum aggregate size Type A HMA, PG64-10 to be used for Base Failure repair. Comply with Section 39, "Hot Mix Asphalt," of the Caltrans Standard Specifications.

39-1.02 ASPHALT

Asphalt shall conform to Section 92, "Asphalt Binders," of the Caltrans Standard Specifications.

Only Caltrans-approved asphalt suppliers who currently hold a Certificate of Compliance are eligible to supply bitumen for this project. The Contractor shall ensure the safe transportation, storage, use, and disposal of asphalt. The Contractor shall prevent the formation of carbonized particles caused by overheating asphalt during manufacturing or construction.

39-1.03 APPLYING ASPHALT

The Contractor shall apply paving asphalt at a temperature between 250°F and 375°F. The Engineer will determine the exact temperature of paving asphalt.

39-1.04 ASPHALT GRADE

PG 64-10 bitumen shall conform to Section 92-1.02(B) of the Caltrans Specifications. A certificate of compliance and test results performed by bitumen supplier shall accompany with each load and be presented to the Engineer.

Use of Reclaimed Asphalt Pavement (RAP)

The use of RAP in HMA mix is allowed for up to 15% of the total mix by weight at the option of Contractor.

Requirements for RAP are as follows:

- 100% of RAP material must pass one (1) inch sieve;
- No deleterious materials are allowed in the RAP mix;
- No particle in the mixture made with RAP should exceed the maximum aggregate size at the time of discharge in the transport vehicle;
- The specific gravity of the virgin binder should be used as the specific gravity of the binder in the RAP for mixture design;
- The effective specific gravity of the aggregate in the RAP should be determined and used as the bulk specific gravity of the RAP aggregate for calculation purposes. When the RAP contains highly absorptive materials, the amount of absorbed asphalt should be estimated based on experience and used to back calculate the bulk specific gravity of the aggregate.

Requirements for aggregate properties, gradation and volumetric properties must be met by the blend of virgin and reclaimed materials.

The gradation of the aggregate in the RAP shall be used in calculation of the mix gradation and fractured faces. RAP is treated like a stockpile of aggregate during analysis. Fine aggregate angularity, sand equivalent and flat and elongated particles are not measured on the RAP aggregate.

The percentage of asphalt in the RAP should be considered when determining the trial asphalt content. The trial asphalt content is calculated during the trial blend analysis. The amount of asphalt contained in the RAP should be considered when determining how much virgin asphalt is required.

39-1.05 AGGREGATE

Aggregate and combined aggregate shall conform to the quality and gradation provisions in these Special Provisions. Aggregates shall be clean and free from decomposed or organic materials and other deleterious substances.

Coarse aggregate is material retained on the #4 (4.75-mm) sieve, fine aggregate is material passing the #4 (4.75-mm) sieve, and supplemental fine aggregate is added fine material passing the #30 (600- μ m) sieve, including, but not limited to, lime, cement and stored fines from dust collectors. Fractured faces of the aggregate shall be obtained by crushing. Fine aggregate shall not contain more than ten (10) percent of natural (non-manufactured) sand by mass of the total aggregate.

The Contractor shall design a HMA mixture using a blend of aggregates with 1/2" (12.7 mm) NMA. The target value for the percent passing each designated sieve size for the aggregate blend used in the proposed hot mix asphalt mix design shall be determined by the Contractor.

1/2 inch

Sieve size	Target value limit	Allowable tolerance
3/4"	100	--
1/2"	95-98	TV \pm 5
3/8"	72-95	TV \pm 5
No. 4	52-69	TV \pm 5
No. 8	35-55	TV \pm 5
No. 30	15-30	TV \pm 4
No. 200	2.0-8.0	TV \pm 2.0

* The percent passing the 75- μ m sieve shall be reported to the first decimal place (tenths).

Nominal Maximum Aggregate Size is defined as "one sieve size larger than the first sieve to retain more than 10% of the material."

In the table above, the symbol "X" is the gradation which the Contractor proposes to furnish for the specific sieve (Job Mix Formula).

Hot mix asphalt shall be Type-A conforming to the Caltrans Standard Specifications for half-inch (1/2") Nominal Maximum Aggregate Size.

For each hot mix asphalt mix proposed to be used, the Contractor shall submit a plot of the gradation of the aggregate on a Federal Highway Administration 0.45-power gradation chart. It is recommended that the proposed aggregate gradation should not vary from the low limit on one sieve size to the high limit on the adjacent sieve size, or vice versa, and should be free of any "sand hump." A sand hump is defined as a deviation of more than 3% upward from a straight line drawn from the origin of a 0.45-power gradation chart to the point at which the gradation line crosses the #4 (4.75-mm) sieve line.

During hot mix asphalt production, aggregate gradation shall be within the limits specified in the tables above. The combined aggregate shall conform to the following quality requirements prior to the addition of the bitumen:

Aggregate Quality Requirements

Quality	Test	Quality Requirement
Percent of Crushed Particles 1 (Min.) Coarse Aggregate	AASHTO T 335	95%
Fine Aggregate (Passing no.4 sieve, Retained on no. no. 8)		70%
Fine Aggregate Angularity 1 (Min.)	AASHTO T 304 Method A	45%
Los Angeles Rattler 1	AASHTO T 96	12%
Loss at 100 Rev. (Max.)		40%
Loss at 500 Rev. (Max.)		
Sand Equivalent 1 (Min.)	AASHTO T 176	47
Flat and elongated particles (%max. by weight @5:1)	ASTM D4791	10

Notes:

1. Reported value shall be the average of three (3) tests from a single split sample.

Changes in aggregate source shall be considered a change in mix design and shall require a new mix design proposal before work can proceed.

Aggregates shall be treated in conformance with the provisions in "Anti-Strip Treatment" of these Special Provisions.

39-1.06 CONTRACTOR MIX DESIGN PROPOSAL

Mix designs shall conform with Section 39-1.03, "Hot Mix Asphalt Mix Design Requirements", of the Caltrans Standard Specifications and these Special Provisions.

The Contractor shall submit for the Engineer's review a proposed hot mix asphalt mix design for each hot mix asphalt mixture to be used at least fourteen (14) days prior to production of that hot mix asphalt mixture. A laboratory (or laboratories) whose proficiency has been reviewed and qualified in conformance with the Caltrans' Independent Assurance Program shall prepare the hot mix asphalt mix design.

Aggregate quality and hot mix asphalt design test results shall be no more than twelve (12) months old when production of the hot mix asphalt starts. The mix design shall indicate the target values (X) proposed for gradation, asphalt content, percent air voids, and Percent Voids in Mineral Aggregate. This submittal shall include test results for aggregate and asphalt mixture quality; plots of the combined gradings showing the production tolerances; plots of unit weight, stability, and percent air voids versus asphalt content for the asphalt contents considered in the design process. In addition, this submittal shall include test results for stability, percent air voids, and swell for three (3) briquettes constructed using the submitted aggregate and asphalt blended at the proposed target values for each hot mix asphalt to be used.

The Contractor shall submit the following for each hot mix asphalt mixture proposed.

- A. Aggregate and mineral filler:
 - 1. Target values for percent passing each sieve size for the aggregate blend.
 - 2. Results of tests for aggregate quality requirements.
 - 3. Source of each aggregate to be used, including producer, location and California Mine Identification number.
 - 4. Percentage of each aggregate stockpile, cold feed or hot bin to be used.
 - 5. Gradation of each aggregate stockpile, cold feed or hot bin to be used.
 - 6. Plots of Power 45 curve for representative sample.
- B. Bitumen:
 - 1. Bitumen source and target value.
 - 2. Results of the bitumen quality tests conforming to the provisions in Section 92, "Asphalts," of the Standard Specifications.
 - 3. Certificate of compliance from the bitumen supplier certifying conformance with the requirements of the requirements for the type and grade of binder.
 - 4. Material Safety Data Sheets. The proposed hot mix asphalt mix design submittal will be considered complete only when the mix design letter, test results, plots, and samples have been received by the Engineer.

39-1.07 ENGINEER REVIEW OF HOT-MIX ASPHALT DESIGN

The Engineer, in consultation with the Contractor, shall decide the optimum bitumen content (after considering stability of mix and other factors) and acceptable tolerance during production. The production tolerance shall not exceed +0.45 and -0.45 from approved optimum bitumen content. Certification from the asphalt plant, periodic inspection of plant during production, and supervision and documentation of all quality control test results performed at the plant shall be provided to the Engineer. All records of production and quality control must be kept for at least two (2) years.

39-1.08 HOT MIX ASPHALT PAVING

A maximum of three (3") inch compacted thickness of hot mix asphalt (HMA) shall be installed in one lift. Quantities shown on the bidding schedule are approximate and are given for estimating purposes only.

Pay quantities for hot mix asphalt will be based on the gross weight less the tare weight of each loaded vehicle delivering said material to the job site, provided the gross weight does not exceed the legal weight limit for the particular vehicle being used. No payment will be made for the quantity in excess of the legal gross weight limit for each load of material delivered to the job site.

It is the Contractor's responsibility to accurately estimate the required HMA on the days paving work is scheduled. Excess HMA at the end of the workday will be considered as waste and will not be compensated.

39-1.09 MEASUREMENT AND PAYMENT

HMA will be measured and paid for by the ton in the same manner specified for hot-mix asphalt in Section 39-6, "Payment," of the Caltrans Standard Specifications.

The contract price paid per ton of hot-mix asphalt shall include full compensation for traffic control, multiple mobilizations, furnishing all labor, materials, tack coat, tools, equipment and incidentals, and for doing all the work involved in placement, compactions, quality control, and acceptance testing of hot-mix asphalt as shown on the plans, as specified in Caltrans Standard Specifications and these Special Provisions, and as directed by the Engineer.

The contract price paid per square area of base-failure repairs shall include full compensation for dig-out of damaged areas, multiple move-ins and traffic control, furnishing all labor, materials, tack coat, tools, equipment and incidentals, and for doing all the work involved in preparing the area for the placement of hot- mix asphalt, as specified in Caltrans Standard Specifications and these Special Provisions, and as directed by the Engineer.

SECTION 39-2 – COLD PLANING ASPHALT CONCRETE PAVEMENT

39-2.01 GENERAL

Section 39-3.04 includes specifications for cold planning asphalt concrete pavement.

Existing asphalt concrete pavement shall be cold planed at the locations and to the depths as shown on the Plans and/or as directed by the Engineer. Notify the Engineer for inspection after the existing pavement is cold planed to the require depth. The Engineer will determine if additional cold plane is required.

Cold planning asphalt concrete pavement includes the removal of pavement markers, traffic stripes, pavement markings and traffic detector loop and handhole within the area of cold planning.

Schedule cold planing activities such that the pavement is cold planed, the HMA is placed, and the area is opened to traffic during the same work shift.

HMA for temporary tapers must be of the same quality that is used for the HMA overlay or comply with the specifications for minor HMA in section 39-2.07.

39-2.02 CONSTRUCTION

General

Do not use a heating device to soften the pavement.

The cold planing machine must be:

1. Equipped with a cutter head width that matches the planing width unless a wider cutter head is authorized.
2. Equipped with automatic controls for the longitudinal grade and transverse slope of the cutter head and:

2.1. If a ski device is used, it must be at least 30 feet long, rigid, and a 1-piece unit. The entire length must be used in activating the sensor.

2.2. If referencing from existing pavement, the cold planing machine must be controlled by a self-contained grade reference system. The system must be used at or near the centerline of the roadway. On the adjacent pass with the cold planing machine, a joint-matching shoe may be used.

3. Equipped to effectively control dust generated by the planing operation.

4. Operated such that no fumes or smoke is produced.

5. Capable of completely pulverizing pavements to produce grinding passing the 2" sieve.

Replace broken, missing, or worn machine teeth.

If you do not complete placing the HMA surfacing before opening the area to traffic, you must:

1. Construct a temporary HMA taper to the level of the existing pavement.

2. Place HMA during the next work shift.

3. Submit a corrective action plan that shows you will complete cold planing and placement of HMA in the same work shift. Do not restart cold planing activities until the corrective action plan is authorized.

Pavement fabric is present in the pavement areas to be cold planed (or excavated) and it must all be removed.

Pavement fabric exposed by this operation shall be completely removed. All planed material from cold planing shall become the property of the Contractor and be disposed outside the limits of the project. A cold planed roadway surface must be re-paved within 5 days from the date cold planing has started. Public Traffic shall not be allowed on a cold planed surface till the roadway has been properly delineated. All detector loops, conduits and hand-holes must be installed prior to final paving. All existing utilities shall be lowered prior to final paving. No additional compensation will be allowed for cold planing based on the presence of paving fabric and for the complete removal of the fabric.

Provide transition tapers at all approaching streets to intersections. Transition tapers shall be at a minimum 1:12 slopes to provide a smooth transition between existing pavement and cold planed surfaces.

Contractor shall post all precautionary signs required due to differential elevations in pavement surface. Contractor shall place and maintain warning signs and temporary HMA patch material to serve as "ramps" at all pedestrian and vehicular crossings over the entire length of cold planing.

It is the Contractor's responsibility to ascertain the location of, and avoid damage to, all manholes, water valves, survey monument covers and adjacent concrete improvements. Traffic loop detectors and home runs shall be protected unless called for replacement on the plans or otherwise directed by the Engineer. All improvements damaged by the cold planing operation shall be replaced at the Contractor's expense.

The material wedge ground from the roadway surface, including material deposited in existing gutters or on the adjacent travel way, shall be immediately removed from the work site and disposed of in a legal and proper manner. The planer shall pick up the material as it progresses, or a removal crew shall follow within 50 feet of the cold planing operations to pick up the material.

Grade Control and Surface Smoothness

Install and maintain grade and transverse slope references.

The final cut must result in a neat and uniform surface.

The completed surface of the planed pavement must not vary more than 0.02 foot when measured with a 12-foot straightedge parallel with the centerline. With the straightedge at right angles to the centerline, the transverse slope of the planed surface must not vary more than 0.03 foot.

Where lanes are open to traffic, the drop-off of between adjacent lanes must not be more than 0.15 foot.

Notify the engineer for the corrective action if the existing pavement is heaving potentially due to the tree root. The engineer may authorize Base Failure Repair after the existing pavement is cold planed.

Planed Material

Remove cold planed material concurrently with planing activities such that the removal does not lag more than 50 feet behind the planer.

Temporary HMA Tapers

If a drop-off between the existing pavement and the planed area at transverse joints cannot be avoided before opening to traffic, construct a temporary HMA taper.

Completely remove temporary tapers before placing permanent surfacing.

39-2.03 PAYMENT

The contract price paid per square yard for cold planing to the depth specified shall include full compensation for furnishing all labor, material, tools, equipment and incidentals and for doing all the work involved in cold planing existing asphalt concrete pavement as specified in these Special Provisions and as directed by the Engineer.

SECTION 84 – PAVEMENT STRIPING

84-1.01 GENERAL

Section 84-1 includes general specifications for applying and constructing markings.

Markings must comply with the CA MUTCD.

84-2 TRAFFIC STRIPES AND PAVEMENT MARKINGS

84-2.01 GENERAL

84-2.01A Summary

Section 84-2 includes specifications for applying traffic stripes and pavement markings.

Traffic stripes and pavement markings must comply with ASTM D6628 for daytime and nighttime color.

Retroreflectivity must be measured under ASTM E1710 and the sampling protocol specified in ASTM

D7585.

84-2.01 B Definitions

pavement marking: Transverse marking which includes shoulder or gore marking, traffic island marking, word or numeral or symbol marking, arrow, limit line, stop line, yield line, crosswalk marking, speed measurement marking, speed reduction marking, speed hump marking, parking space marking, and route shield marking.

traffic stripe: Longitudinal centerline or lane line used for separating traffic lanes in the same direction of travel or in the opposing direction of travel or a longitudinal edge line marking the edge of the traveled way or the edge of a lane at a gore area separating traffic at an exit or entrance ramp. A traffic stripe is shown as a traffic line.

84-2.01 C Submittals

For each lot or batch of traffic stripe material, primer, and glass beads, submit:

1. Certificate of compliance, including the material name, lot or batch number, and manufacture date
2. METS notification letter stating that the material is authorized for use, except for thermoplastic and primer
3. SDS
4. Manufacturer's Instructions

84-2.02 MATERIALS

84-2.02A General

Reserved

84-2.02B Glass Beads

Each lot of glass beads must comply with EPA Test Method 3052 and 6010B or 6010C. Glass beads must contain less than 200 ppm each of arsenic and lead.

Type 1 glass beads must comply with AASHTO M 247.

Type 2 glass beads must comply with AASHTO M 247. At least 75 percent of the beads by count must be true spheres that are colorless and do not exhibit dark spots, air inclusions, or surface scratches when viewed under 20X magnification.

High-performance glass beads must be on the Authorized Material List for high-performance glass beads.

Large-gradation glass beads must be on the Authorized Material List for two component traffic paint.

Glass beads for methyl methacrylate must be on the Authorized Material List for methyl methacrylate traffic striping and pavement marking.

Glass beads for paint must comply with State Specification 8010-004.

Glass beads must be surface treated, according to the bead and the material manufacturer's instructions, to promote adhesion with the specified material.

84-2.02D Methyl Methacrylate

Methyl methacrylate traffic paint must:

1. Be on the Authorized Material List for methyl methacrylate traffic striping and pavement marking
2. Be Category 2

84-2.02E Traffic Striping and Pavement Marking Tape

Traffic striping and pavement marking tape must be on the Authorized Material List for signing and delineation materials.

White tape must have an initial retroreflectivity of a minimum 700 mcd/m².

Yellow tape must have an initial retroreflectivity of a minimum 500 mcd/m².

When contrast is required for traffic striping and pavement marking tape, the tape must be pre-formed and retroreflective, consisting of a white film with retroreflective beads and a contrasting black film border. The contrasting black border must be a nonreflective film bonded on each side of the white film to form a continuous roll. Each black border must be a minimum of 2 inches wide. The width of the tape must be at least 4 inches wider than the stripe width.

84-2.02F Two-Component Paint

Two-component traffic paint must be on the Authorized Material List for two component traffic paint.

84-2.02G Paint

Paint must comply with the requirements shown in following table:

Paint Specifications

Paint Type	Color	Specification
Waterborne traffic line	White, yellow, and black	State specification PTWB-01R2
Waterborne traffic line for the international symbol of accessibility and other curb markings	Blue, red, and green	Federal Specification TT-P-1952F

84-2.03 CONSTRUCTION

84-2.03A General

Establish the alignment for traffic stripes and the layouts for pavement markings with a device or method that will not conflict with other traffic control devices.

Protect existing retroreflective pavement markers during work activities.

Remove existing pavement markers that are coated or damaged by work activities and replace with an equivalent marker on the Authorized Material List for signing and delineation materials.

A completed traffic stripe or pavement marking must:

1. Have well defined edges
2. Be uniform
3. Be free from runs, bubbles, craters, drag marks, stretch marks, and debris

A completed traffic stripe must:

1. Be straight on a tangent alignment
2. Be a true arc on a curved alignment
3. Not deviate from the width shown by more than:
 - 3.1. 1 /4 inch on a tangent alignment
 - 3.2. 1/2 inch on a curved alignment

The length of the gaps and individual stripes that form a broken traffic stripe must not deviate by more than 2 inches from the lengths shown. The gaps and stripes must be uniform throughout the entire length of the traffic stripe.

Protect newly placed traffic stripes and pavement markings from traffic and work activities until the traffic stripes and pavement markings are dry or hard enough to bear traffic.

Use mechanical methods to remove dirt, contaminants, and loose material from the pavement surface before applying the traffic stripe or pavement marking.

Use abrasive blast cleaning to remove laitance and curing compound from the surface of new concrete pavement before applying the traffic stripe or pavement marking.

Construct recesses as shown in the following table:

Recess Depth Requirements

Material	Requirement	
	Depth (mils)	Depth (in)
Thermoplastic	375	3/8
Two component traffic paint	250	1/4
Methyl methacrylate traffic paint	250	1/4

Construct recesses for double traffic stripes in a single pass.

Before applying the traffic stripes and pavement markings:

1. Allow wet ground recesses to dry a minimum of 24 hours
2. Remove all powdery residue from dry recess
3. Keep the recesses dry and free from debris

Apply traffic stripes and pavement markings before the end of the same work shift.

84-2.03B Application of Traffic Stripes and Pavement Markings

84-2.038(1) General

Apply material for a pavement marking with a stencil or a preformed marking.

Immediately remove drips, overspray, improper markings, or material tracked by traffic, using an authorized method.

Apply a traffic stripe or a pavement marking only to a clean, dry surface during a period when the pavement surface temperature is above 50 degrees F.

Apply traffic stripe or pavement marking and glass beads in a single pass. You may apply the glass beads by hand on pavement markings.

Embed glass beads to a depth of 1/2 their diameters.

Distribute glass beads uniformly on traffic stripe and pavement markings.

Glass beads with integral color must match the color of the stripe or pavement marking.

Apply glass beads with two separate applicator guns when two gradations are specified.

Allow enough overlap distance between new and existing striping patterns to ensure continuity at the start and end of the transition.

The retroreflectivity of applied traffic stripes and pavement markings must comply with the requirements shown in the following table:

Retroreflectivity Requirements

Traffic stripe material	White (min, mcd·m ⁻² ·lx ⁻¹)	Yellow (min, mcd·m ⁻² ·lx ⁻¹)
Paint	250	125

Thermoplastic	250	125
Thermoplastic with wet night enhanced visibility	700	500
Two component	250	125
Methyl methacrylate	500	300
Tape	700	500

84-2.038(3) Methyl Methacrylate

Apply the methyl methacrylate when the pavement surface and atmospheric temperatures are from 40 to 104 degrees F.

Apply methyl methacrylate paint at a minimum thickness of 0.090 inch.

Apply recessed methyl methacrylate paint at a minimum thickness of 0.200 inch.

Apply the glass beads recommended by the methyl methacrylate manufacturer.

84-2.038(4) Traffic Striping and Pavement Marking Tape

Do not use traffic stripe and pavement marking tape on existing open graded friction course or chip seal.

Prepare pavement surface and use primer under the traffic tape manufacturer's written instructions. Apply tape to clean and dry pavement surface. Roll or tamp the traffic tape in place.

84-2.038(5) Two-Component Paint

Apply a two-component painted traffic stripe or pavement marking in a single pass and in the following order:

1. Coat of two-component paint
2. Application of large gradation glass beads recommended by the two-component paint manufacturer
3. Application of Type 1 glass beads

Apply two-component paint when the pavement surface temperature is above 39 degrees F and the atmospheric temperature is above 36 degrees F. The temperature of the paint must comply with the paint manufacturer's instructions.

Apply two-component paint and glass beads at a maximum speed of 10 mph.

Apply large-gradation glass beads at a minimum rate of 11.7 lb of beads per gallon of paint.

Apply Type 1 glass beads at a minimum rate of 8.3 lb of beads per gallon of paint.

Apply two-component paint for the traffic stripes and pavement markings at the thickness and application rates shown in the following table:

Type of pavement	Stripe thickness (min, in)	Application rate (min, sq ft/gal)
HMA open grade/chip seal	0.025	64
HMA dense graded	0.020	80
Concrete	0.020	80

Apply recessed two-component paint at a thickness between 0.020 and 0.025 inch.

84-2.038(6) Paint

Do not apply paint if:

1. Fresh paint could become damaged by rain, fog, or condensation
2. Atmospheric temperature could drop below 50 degrees F during the drying period

Do not thin paint.

Use mechanical means to paint traffic stripes and pavement markings and to apply glass beads for traffic stripes.

The striping machine must be capable of superimposing successive coats of paint on the 1st coat and on existing stripes at a minimum speed of 5 mph.

Where the configuration or location of a traffic stripe is such that the use of a striping machine is not practicable, you may apply the traffic paint and glass beads by other methods and equipment if authorized.

Apply traffic stripes and pavement markings in 1 coat on existing pavement surfaces, at an approximate rate of 107 sq ft/gal.

Apply traffic stripes and pavement markings in 2 coats on a new pavement surface. The 1st coat of paint must be dry before applying the 2nd coat.

Apply 2-coat paint at the approximate rate of 215 sq ft/gal for each coat.

Paint a 1-coat, 3-inch-wide black stripe between the two 6-inch-wide yellow stripes of a double traffic stripe. If the two 6-inch-wide yellow stripes are applied in 2 coats, apply the black stripe concurrently with the 2nd coat of the yellow stripes.

On 2-lane highways:

1. If the 1st coat of the centerline stripe is applied in the same direction as increasing post miles, use the right-hand spray gun of the 3 spray guns to apply a single yellow stripe
2. If the 1st coat of the centerline stripe is applied in the same direction as decreasing post miles, use the left-hand spray gun of the 3 spray guns to apply a single yellow stripe
3. Apply the 2nd coat of centerline striping in the opposite direction of the 1st coat

Apply glass beads at an approximate rate of 5 lb of beads per gallon of paint.

Verify the application rate of paint by stabbing the paint tank with a calibrated rod. If the striping machine has paint gauges, the Engineer may measure the volume of paint using the gauges instead of stabbing the paint tank with a calibrated rod.

84-9 EXISTING MARKINGS

84-9.01 GENERAL

84-9.01A Summary

Section 84-9 includes specifications for removing existing markings.

84-9.01 B Definitions

Reserved

84-9.01 C Submittals

Submit your proposed method for removing traffic stripes and pavement markings at least 7 days before starting the removal work. Allow 2 business days for the review.

84-9.01 D Quality Assurance

Reserved

84-9.02 MATERIALS

Not Used

84-9.03 CONSTRUCTION

84-9.03A General

Remove existing traffic stripes before making any changes to the traffic pattern.

Remove existing traffic stripes and pavement markings before applying the following materials:

1. Traffic stripe and pavement marking tape
2. Two component traffic stripes and pavement markings
3. Methyl methacrylate traffic stripes and pavement markings

Remove contrast stripes, traffic stripes and pavement markings, including any paint in the gaps, by methods that do not remove pavement to a depth of more than 1/8 inch.

Remove pavement markings such that the old message cannot be identified. Make any area removed by grinding rectangular. Water must not puddle in the ground areas. Fog seal ground areas on asphalt concrete pavement.

Sweep up or vacuum any residue before it can (1) be blown by traffic or wind, (2) migrate across lanes or shoulders, or (3) enter a drainage facility.