CITY OF MISSION
SOLICITATION, OFFER AND AWARD FORM

SOLICITATION INFORMATION
REQUEST FOR BIDS (RFB)

1. BID NO.: 20-159-02-19

2. ISSUE DATE: February 05, 2020

3. FOR INFORMATION CONTACT: (No collect calls)
NAME: Crissy Cantu, Buyer
TELEPHONE: (956) 580-8667 **FAX:** (956) 580-8798
E-MAIL: ccantu@missiontexas.us

4. BRIEF DESCRIPTION:

Hot & Cold Mix Asphalt

***5.* PRE-BID CONFERENCE/GENERAL CONTRACTORS MEETING:**
(Highly Recommended)
*** There will be a conference. ***
LOCATION: City of Mission
City Hall
1201 E. 8th Street
Mission, TX 78572
DATE: Thursday, February 12, 2020
TIME: 10:00 AM CST

6. ADVERTISING DATES:

1st Week of Advertisement Date: __02__/__05__/_20___

2nd Week of Advertisement Date: __02__/__12__/_20___

7. SUBMIT OFFER TO:

Mailing/Hand/Commercial Courier Delivery

City of Mission
Purchasing Department
1201 E. 8th Street Room # R-101
Mission, TX 78572
Bid # 20-159-02-19

8. OFFER SUBMISSION DUE DATE AND TIME:

DATE: February 19, 2020
TIME: 2:00 PM CST

9. No Facsimiles or late arrivals will be accepted. Any bids received after offer submission due date and time will not be opened and will be returned. City of Mission Purchasing Department time stamp clock will be the governing time for acceptability of bids. Overnight mail must also be properly labeled on the outside of the express envelope or package in reference to RFB.

10. SUBMIT WITH OFFER: Original offer and 2 photocopies including documents and attachments so indicated on Page 2 of this form.

11. Offers submitted in response to an RFB will be opened publicly by The City of Mission Purchasing Department, immediately after the submission due date and time. Offers submitted in response to an RFP will NOT be publicly opened.

12. FIRM OFFER PERIOD: Offers submitted shall remain firm for a period of 60 calendar days from the final due date for bids.

13. NOTE: For Invitation for Bids, "offer" and "offeror" mean "bid" and "bidder".

OFFER
(To be completed by Offeror)

14. In compliance with the above, the undersigned agrees, if this offer is accepted within the period specified in Block 12, above, to furnish any or all items, or provide the service(s), upon which prices are offered in the Schedule at the price set opposite each item or service, and to deliver the item(s) and or perform the service(s) at the designated location(s) within the time specified.

15. BIDDERS NAME, ADDRESS: (Type or Print)

TELEPHONE: **E-MAIL:**
CELL PHONE: **FAX:**

16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN THE OFFER: (Type or Print)

17. BIDDERS SIGNATURE & DATE:

AWARD
(To be completed by City of Mission)

18. TOTAL AMOUNT OF AWARD:

19. PURCHASING AGENT SIGNATURE & DATE OF AWARD:

Name: Signature: _____ Date: ____/____/____

SOLICITATION INDEX

20. CONTENTS: ***(DOCUMENTS WITH A YES ARE TO BE SUBMITTED WITH OFFER)***

	NAME	FORM DESCRIPTION	SUBMIT WITH OFFER?
●	Cover Sheet	Solicitation, Offer and Award Form **(Complete in its entirety to include Sign and Date)**	**YES**
●	Instructions to Bidders	General Terms & Conditions	**YES**
		Bid Bond of 5% of Total Amount of Bid	**YES**
		Delivery Terms	**YES**
		Payment & Performance Bonds	**NO**
		Insurance Certificate	**YES**
●	Non-Collusive Bidding Certificate	Vendor Acknowledgement Form (**Signed & Executed)**	**YES**
●	Pricing Schedule	Signed and Completed (**Signed & Executed)**	**YES**
●	Addenda Checklist	Confirmation Receipt of Addendum(s) **(Signed & Executed)**	**YES**
●	Bidder's General Questionnaire	General Questions (Supporting Documentations) **(Signed & Executed)**	**YES**
●	CIQ Questionnaire	Conflict of Interest Questionnaire **This form will be requested before Award of Contract (Signed and Executed)**	**NO**
●	Specifications/Scope of Work	Description of Hot & Cold Mix Asphalt	**YES**

21. ACKNOWLEDGMENT OF ADDENDUMS:	**ADDENDUMS #**	**DATE**	**ADDENDUMS #**	**DATE**
Offeror acknowledges receipt of the following addendum(s) to the solicitation:				
(Identify addendum number and date of each.)				

******Firm name and authorized signature must appear on each page that calls For this information. Failure to do so may disqualify your Bid ******

City of Mission
Instructions to Bidder – General Terms & Conditions
Bid Name/No.: Hot and Cold Mix Asphalt / 20-159-02-19

Please read your specifications thoroughly and be sure that the offered complies with all requirements. Any variation from the specifications will not be allowed. If you are the successful bidder, it will be required that **"Hot and Cold Mix Asphalt"** be provided as specified.

(1) Sealed bids will be received for **"Hot and Cold Mix Asphalt"** in accordance with the specifications attached hereto.

(2) The item(s) under this proposal shall be new and unused. All specifications shown are minimum requirements. There is no intention to disqualify any bidder who can meet these specifications.

(3) **One (1) original and two (2) copies** of RFB **must** be enclosed in a **sealed envelope with vendor's name and return address clearly typed/printed on upper left hand corner and proper notation clearly type/printed on the lower left hand corner "Request for Bids" – "Hot and Cold Mix Asphalt - Bid No. 20-159-02-19"** and delivered to City of Mission Purchasing Department, 1201 East 8th Street, R-101, Mission, Texas 78572 on or before 2:00 p.m., Wednesday, February 19, 2020. **No Facsimiles or late arrivals will be accepted. Any RFB received after that time will not be opened and will be returned. Overnight mail must also be properly labeled on the outside of express envelope or package in reference to RFB.**

(4) Bids must give full firm name and address of bidder, and be manually signed. Failure to do so will disqualify your bid. Person signing bid must show title or **AUTHORITY TO BIND HIS FIRM IN A CONTRACT.** ***Firm name and authorized signature must appear on each page that calls for this information.***

(5) Interest of Public Officials

The offeror represents and warrants that no employee, official, or member of the Council (Executive Committee) of the City is or will be peculiarly interested in or benefited directly or indirectly as a result of this contract.

(6) Covenant Against Gratuities

The offeror represents as part of its offer that neither it nor any of its employees, representatives or agents have offered or given gratuities (in the form of entertainment, gifts or otherwise) to any director, officer or employee of the City with the view toward securing favorable treatment in the awarding, amending, or the making of any determination with respect to the performing of the contract.

(7) Preparation of Bids

(a)Bidders are expected to examine the Pricing Schedule, General Terms & Conditions, all drawings, specifications, the statement of work, and all other provisions of, and attachments to, the solicitation, whether incorporated by reference or otherwise, prior to the submission of bids. Failure to do so will be at the bidder's risk.

(b)Each bidder shall furnish the information required by the solicitation. Bids shall be submitted on the bid form contained in the solicitation. Bidders shall sign and print or type their name on the bid form and each continuation sheet on which they make an entry. Erasures or other changes must be initialed by the person signing the bid. Bids signed by an agent of the bidder (other than an officer or a partner of the bidder) are to be accompanied by evidence of the agent's authority (unless such evidence has been previously furnished to the City).

(c)All blanks on the bid form shall be filled in by typewriter or printed in ink with a firm fixed unit price for items bid. Unit prices shall include packing unless otherwise specified. In case of any discrepancy between a unit price and any extended or total price required by the bid form, the unit price will be presumed to be correct, subject, however, to correction to the same extent and in the same manner as any other mistake.

(d)Bids for property or services other than those specified in the Schedule will not be considered unless specifically authorized in the solicitation. Any condition, qualification, or limitation of the bid may be a basis for rejection of the bid as nonresponsive.

(e)The bidder must state a definite time for delivery of property or for performance of services unless otherwise specified in the solicitation. All measurements shall be in the system of weights and measures in common usage in the United States, and pricing shall be in U.S. dollars.

(8) Submission of Bids

(a) Bids and modifications thereof shall be enclosed in sealed envelopes or sealed cartons and submitted to the Buyer of the City of Mission at the address specified in the solicitation. The bidder shall show the hour and date specified in the solicitation for receipt of bids, the solicitation number, and the bidder's name, address, and telephone number on the face of the envelope or carton.

(b) Telegraphic bids will not be considered unless authorized by the solicitation; however, bids may be modified or withdrawn by written or telegraphic notice, provided such notice is received prior to the hour and date specified for receipt of bids.

(c) Samples of items, when required, must be submitted within the time specified and, unless otherwise specified in the solicitation, at no expense to the City. If not destroyed by testing, samples will be returned at the bidder's request and expense, unless otherwise specified in the solicitation.

(d) Each copy of the bid shall include the legal name of the bidder and a statement whether the bidder is a sole proprietorship, a corporation, or any other legal entity. A bid for a corporation shall further give the state of incorporation and have the corporate seal affixed to it.

(9) Explanation to Bidders

Any explanation desired by a bidder regarding the meaning or interpretation of the solicitation, drawings, specifications, etc., must be requested in writing from the City's authorized representative and with sufficient time allowed for a reply to reach bidders before the submission of bids. **Any communication held with city employees, council members, or representatives other than the purchasing staff may be subject to rejection of bid.** Oral explanations or instructions given before the award of any contract, at any pre-bid conferences or otherwise, will not be binding on the City. Any information given to a bidder concerning an interpretation of the solicitation will be furnished to all bidders as an addendum to the solicitation, if such information is necessary to bidders in submitting bids on the solicitation or if the lack of such information would be prejudicial to uninformed bidders.

(10) <u>Acknowledgment of Addendums to Invitation for Bids</u>

(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

(b) Bidders shall acknowledge receipt of any addendums to this solicitation: (1) by signing and returning the addendums; or (2) by identifying the addendums number and date in the space provided for this purpose on the bid form; or (3) by letter or telegram. The City must receive the acknowledgment by the time and at the place specified for receipt of bids.

(11) Bids **<u>cannot</u>** be altered or amended after opening time. Alterations made before opening time must be initialed by bidder guaranteeing authenticity. No bid may be withdrawn after opening time without acceptable reason in writing and only after approval by the City of Mission.

(12) <u>STATE SALES TAX MUST NOT BE INCLUDED IN BID.</u> Contractors are not tax exempt.

(13) No substitutions or cancellations permitted without written approval of the City of Mission.

(14) Any additions, deletions, or variations from the following specifications will not be allowed. Any parts not specifically mentioned which are necessary for the work to be complete and for <u>use</u> or which are normally furnished as standard equipment shall be furnished by the successful bidder and shall confirm in strength, quality, and workmanship to the accepted standard of the industry.

(15) Evaluation and Basis for Award

(A) Award of Contract

(a) If the competitive sealed bidding requirement applies to the contract for goods or services, the contract must be awarded to the lowest responsible bidder or to the bidder who provides goods or services at the best value for the municipality.

(b) In determining the best value for the municipality, the municipality may consider:

1) the purchase price;
2) the reputation of the bidder and of the bidder's goods or services;
3) the quality of the bidder's goods or services;
4) the extent to which the goods or services meet the municipality's needs;
5) the bidder's past relationship with the municipality;
6) the impact on the ability of the municipality to comply with laws and rules relating to contracting with historically underutilized businesses and nonprofit organizations employing persons with disabilities;
7) the total long-term cost to the municipality to acquire the bidder's goods or services; and
8) any relevant criteria specifically listed in the request for bids or proposals.

(B) Item Pricing/One Award

Offerors may provide pricing for any one or more-line items. One award is anticipated for this contract. As such, multiple contract awards may not be made. It is the intent of the City of Mission to award the bid to the lowest responsive and responsible bidder or to the bidder who provides goods or services at the best value for the municipality. Upon the City's issuing an award of this bid, this bid shall be countersigned by an authorized representative of the City which will result in a binding contract without further action by either party.

(C) Estimated Quantities

The quantities specified in the Schedule are estimates only, are used as a basis for determining award of the contract. Purchases will be made in amounts needed and on an as needed basis.

(D) Unit and Extended Pricing

Offerors shall insert the unit price and extended amount for each line item offered on the price schedule. If a line item is offered at "No Cost," enter "No Cost" in the unit price column. Additionally, offerors shall calculate and insert the total price in the space provided on the price schedule. In the event of discrepancies in extended price, unit prices will govern. Cost for delivery is to be included in the unit and extended price. Bids subject to unlimited price increase will not be considered.

(E) Delivery Terms

Show guaranteed exact cost to deliver in unit price. Bid in units of quantity specified extend and show total. In the event of discrepancies in extended price, unit prices will govern. Bids subject to unlimited price increase will not be considered.

(16) Sample Requirements

Upon request, the bidder agrees to supply at no cost to City samples of the products proposed for testing prior to contract award. Samples will be available and submitted to City within five (5) days of request, oral and written, by City and will be returned at bidder's cost only on request from the vendor after testing is complete. Parts returned may not be in the same condition as originally sent to and received by City. Function test (if required) is verification that the parts meet the manufacturers' specification and/or performance requirements.

(17) When delay can be foreseen, bidder shall give prior notice to the City of Mission. Bidder must keep City of Mission advised at all times of status of order. Default in promised delivery (without acceptable reasons) or failure to meet specifications, authorizes the City of Mission to purchase such deliver/service **"Hot and Cold Mix Asphalt"** off contract**.** The contractor will be liable for any increase in cost incurred due to defaulting for **"Hot and Cold Mix Asphalt".**

a. Acceptable reasons for delayed delivery(ies) are as follows; Act of God (floods, tornadoes, hurricanes, etc.), acts of government, fire strikes, war. Actions beyond the control of the successful bidder.

(18) Quote F.O.B. Mission, Texas. If not quoting, show guaranteed exact cost to deliver. Bid in units of quantity specified extend and show total.

(19) The City may hold bids **60 days** after bid opening without taking action. Bidders are required to hold their bids firm for same period of time.

(20) The City of Mission reserves the right to reject any or all bids, to waive any or all formalities or technicalities, and to make such awards of contract as may be deemed to be the best and most advantageous to the City of Mission.

(21) Unless otherwise specified, any catalog or manufacturer's reference or brand name used in describing an item is merely descriptive, and not restrictive, and is used only to indicate type, style or quality of material desired. If a bidder quotes on an article other than the one specified, which he/she considers comparable, the name and grade of said article must be specified in the bid and sufficient specifications and descriptive date must accompany same to permit thorough evaluation. In the absence of these qualifications, he/she will be expected to furnish the article called for.

(22) The bidder agrees to indemnify and save harmless the City, the Purchasing Agent and any assistants from all suits and actions of every nature and descriptive brought against them or any of them, for or on account of the use of patented appliances, products or processes, and he/she shall pay all royalties and charges which are legal and equitable. Evidence of such payment or satisfaction shall be submitted upon request of the Purchasing Agent, as a necessary requirement in connection with the final estimate for payment in which such patented appliance, products or processes are used.

(23) **Bidder shall carefully examine the bid forms, general terms and conditions, and specifications.** Should the bidder find discrepancies in, or omissions from bid forms, general terms and conditions, specifications, or other documents, or should he/she be in doubt as to their meaning, he/she should at once notify the Purchasing Agent (Mission City Hall, (956) 580-8667) and obtain clarification by addendum prior to submitting any bid.

(24) BILLING AND PAYMENT INSTRUCTIONS:

Invoices must include:

a. Name and address of successful vendor
b. Name and address of receiving department or official
c. Purchase Order Number (if any)
d. Notation - **"Hot and Cold Mix Asphalt "**
e. Descriptive information as to the items or services delivered, including product code, item number, quantity etc.

The City of Mission will execute payment by mail within thirty (30) working days found. No other method of payment will be considered.

(25) Funds for this procurement have been provided through the City budget for this fiscal year only. City, on an annual basis, has the right to reconsider a contract during the budget process for the ensuing years if financial resources of City are insufficient to meet the liabilities of said contract. The award of a bid or contract hereunder will not be construed to create a debt of the City which is payable out of funds beyond the current fiscal year.

(26) The bidder is specifically advised that the bid must be accompanied by a bid bond from a reliable surety company licensed to operate in the State of Texas, totaling five percent (5%) of the total amount of the bid, as a guaranty that if awarded the bid, the bidder shall meet all specification requirements and delivery date(s). A certified cashier's check will be allowed in lieu of a bid bond for five (5%) of the total amount for the project.

a) Bidder's failure to comply with specification requirements and delivery date(s) shall forfeit the check(s) or bid bond(s) as identified in this paragraph of these general terms and conditions to bidders. Such check(s) or bid bond(s) will be returned to all except three lowest bidders within ten(10) business days after opening of bids, and the remaining check(s) or bid bond(s) to exclude the successful bidders will be returned promptly after an official awarded of contract.

b) Certified cashier's check or bid bond from a reliable surety company of the awarded bidder shall be returned upon receipt of final delivery/acceptance of said goods or services along with payment/performance bond(s) by the Owner. If no award has been made within (60) days after opening of bids, check(s) and/or bid bond(s) will be returned accordingly.

(27) The geographical location(s) of bidder's facilities referenced **"Hot and Cold Mix Asphalt "** given due consideration in determining the lowest responsible bidder. All items will be evaluated and awarded individually or in any combination thereof.

(28) Bidders are advised that any part of the specifications that are not met within the time of completion/delivery regardless of how major or minor it might be shall be grounds for none acceptance of delivery and forfeiture of bid bond.

(29) The City of Mission reserves the right to waive or take exception to any part of the specifications when in the best interest of the City of Mission.

(30) **LIQUIDATED DAMAGES FOR DELAY:** And the CONTRACTOR agrees that time is the essence of this contract, and that for each day of delay beyond the number of working days herein agreed upon for the completion of the work herein specified and contracted for (after due allowance for such extension of time as is provided for under Extension of Time herein) above the OWNER may withhold permanently for the CONTRACTOR'S total compensation, the sum of two hundred fifty dollars per day Dollars $250.00/day) as stipulated damages for such delay.

(31) Bidders must comply with all applicable federal, state and local laws, rules, regulations and ordinances and statutes relating to purchasing in the State of Texas in addition to the requirements of this form.

(32) Bidders are advised that they must be in compliance with the below mentioned law:

CHAPTER 176 OF THE TEXAS LOCAL GOVERNMENT CODE

Effective January 1, 2006, Chapter 176 of the Texas Local Government Code requires that any vendor or person considering doing business with a local government entity disclose in the Questionnaire Form CIQ, the vendor or person's affiliation or business relationship that might cause a conflict of interest with a local government entity. By law, this questionnaire must be filed with the records administrator of the City of Mission not later than the 7th business day after the date the person becomes aware of facts that require the statement be filed. See Section 176.006, Local Government Code. A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

For more information or to obtain Questionnaire CIQ go to the Texas Ethics Commission web page at www.ethics.state.tx.us/forms/CIQ.pdf.

IF YOU HAVE ANY QUESTIONS ABOUT COMPLIANCE, PLEASE CONSULT YOUR OWN LEGAL COUNSEL. COMPLIANCE IS THE INDIVIDUAL RESPONSIBILITY OF EACH PERSON OR AGENT OF A PERSON WHO IS SUBJECT TO THE FILING REQUIREMENT. AN OFFENSE UNDER CHAPTER 176 IS A CLASS "C" MISDEMEANOR.

(33) Insurance Requirements for Supply/Services and/or Construction

(a) Required Coverage. The Contractor shall, at all times during the term of this contract and extended terms thereof, provide and maintain the following types of insurance protecting the interests of the City of Mission and the Contractor with limits of liability not less than those specified below.

Commercial General Liability insurance or its equivalent, **listing City of Mission as an additional insured**, providing limits of not less than $500,000 for bodily injury and property damage per occurrence, consistent with potential exposure to City under the Texas Tort Claims Act. Coverage should include injury to or death of persons and property damage claims arising out of the services, construction, etc. provided with a general aggregate of $1,000,000, and a products and completed operations aggregate of $1,000,000. Coverage should include: Damaged to rented premises at a minimum of $100,000 per occurrence. There shall not be any policy exclusions or limitations for the following as well:

Contractual Liability covering Contractor's obligations herein
Personal Injury Advertising Liability
Medical Payments
Fire Damage Legal Liability
Broad Form Property Damage

Liability for Independent Contractors

(b) Automobile liability insurance policy with combined single limit of at least Five Hundred Thousand Dollars ($500,000.00) per occurrence, consistent with potential exposure to City under the Texas Tort Claims Act.

(c) Uninsured/Underinsured motorist coverage in an amount equal to the bodily injury limits set forth immediately above;

(d) A Five Hundred Thousand Dollar ($500,000.00) Comprehensive General Liability insurance policy providing additional coverage to all underlying liabilities of City consistent with potential exposure of City under the Texas Tort Claims Act;

(e) Workers' Compensation and Employers' Liability- insurance is equivalent to State of Texas Workers' Compensation Statutory Limits, providing limits of not less than $1,000,000 for each accident, each disease per employee $1,000,000, and policy limit of no less than $1,000,000. There shall not be any policy exclusions or limitations.

(f) Certificates of Insurance. Before commencing execution of this contract, and within 7 calendar days from date of award of contract, the Contractor shall furnish Original proof of insurance via Certificates of Insurance satisfactory to the City of Mission at the following addresses,

City of Mission
Crissy Cantu, Buyer
1201 E. 8th Street, R-101
Mission, TX 78572
Bid # 20-159-02-19

evidencing that insurance as required by paragraph (a) above is in force, stating policy number dates of expiration and limits of liability thereunder. All copies of policies and Certificates of Insurance submitted to the City shall be in a form and content acceptable to the City.

(g) Approval of Forms and Companies. All coverage described in this contract shall be in a form and content satisfactory to the Purchasing Agent. No party subject to the provisions of this contract shall violate or knowingly permit to be violated any of the provisions of the policies of insurance described herein. All insurance should be provided by insurance companies with a Best's rating of A- or better. Please include proof of such rating with your coverage documents.

(h) Additional Insured Endorsement. The policy or policies providing Commercial General Liability, and as otherwise required above, shall be endorsed to name City of Mission, their directors, officers, representatives, agents, and employees as Additional Insurers with respects to operations performed by or on behalf of the Contractor in the performance of this contract via ISO endorsements CG 2037 or its equivalent. The policy shall also be endorsed to name other interests as directed by City of Mission.

(i) Notice of Cancellation or Material Changes. Policies and/or Certificates shall **specifically** provide that a thirty (30) day notice of cancellation, non-renewal, or material change be sent to the City.

(j) Multiple Policies. The limits of liability as required above may be provided by a single policy of insurance or a combination of primary, excess, or umbrella liability policies. But in no event shall the total limit of liability of any one occurrence or accident be less that the amount shown above.

(k) Deductibles. Companies issuing the insurance policies and the Contractor shall have no recourse against the City for payment of any premiums or assessments for any deductibles, as all such premiums and deductibles are the sole responsibility and risk of the Contractor.

(l) Subcontractors. If any part of the work is sublet, the Contractor shall require any and all subcontractors performing work under this contract to carry General Liability and Products, and Construction Liability Insurance, with limits of liability that Contractor shall deem appropriate and adequate to protect the interests of the City. In the event a subcontractor is unable to furnish insurance in accordance to section (a) above, the Contractor shall endorse the

subcontractor as an Additional Insured. Insurance certificates for subcontractors shall be furnished to the City of Mission upon request.

(m) No Release. The carrying of the above-described coverage shall in no way be interpreted as relieving the Contractor of any other responsibility or liability under this agreement, or any applicable law, statute, regulation, or order.

(34) Disclosure of Interested Parties

Contractor is to comply with Government Code Section 2252.908 enacted by H.B. 1295, which prohibits a government entity or state agency from entering into certain contracts with a business entity unless the business entity submits a disclosure of interested parties. For more information, go to the Texas Ethics Commission web page at: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

(35) Termination of Contract: The City of Mission reserves the right to terminate the contract if, in the opinion of the City of Mission, the successful vendor's and/or contractors performance is not acceptable, if the City is being repeatedly overcharged, improperly charged, no funds available, or if the City wishes, without cause, to discontinue this contract. Termination will be in written form allowing a **30-day notice**.

(36) Warranty: specify terms and conditions. Bidders will be required to submit written documentation referenced manufacturer warranty along with their bid(s).

(37) Appeal Process

An appeal may be brought by the lowest bidder deemed to have been non-responsive and/or not responsible. Appeals are limited to the following:

1. Matters of bias, discrimination, or conflict of interest
2. Computing errors and alleged improprieties or ambiguities in bid specifications; and
3. Non-compliance with procedures described in solicitation or City Policy.

The appeal must be in writing and shall be filed with the Purchasing Director at:

City of Mission
1201 E. 8th Street, Room R-101
Mission, Texas 78572

Appeals must include the following information:

a. Name, address, email, telephone and fax number of appellant;
b. Bid identification number;
c. A detailed description of the legal and factual basis of the appeal (include any and all relevant documents, diagrams, photos, etc.);
d. The desired outcome/solution;
e. Signed and dated

All appeals must be filed within three (3) working days from the date of award by City Council. Untimely appeals will not be considered. Upon receipt of the appeal, the Purchasing Director will have three (3) working days to attempt to clarify or resolve any issues addressed in the request for appeal.

If the appeal is not resolved with the Purchasing Director, then it shall be considered at a public hearing at the next City Council meeting. All determinations made by the City Council are final.

City Of Mission
Specifications
Bid Name/No.: "Hot and Cold Mix Asphalt"/ 20-159-02-19

I. **Scope of Work:** The City of Mission is accepting bids for the Hot and Cold Mix Asphalt for the Public Works Department.

II. **Specifications:** Please read your specifications thoroughly and be sure that the Hot and Cold Mix Asphalt offered complies with all requirements. It is the intention of these specifications to describe the purchase of approximately 3,000 tons of Hot Mix Asphalt Type "D" and approximately 1,000 tons of Cold Mix Asphalt Type "D". An alternate of 3,000 tons of Hot Mix Asphalt Type "D" has been included as well. The material shall meet the requirements of the Texas Department of Transportation Specifications Item 334 and Item 340.

Texas Department of Transportation Specifications Item 334 and Item 340 are included in solicitation and are available by contacting Crissy Cantu at (956) 580-8667.

III. **Delivery:** The City of Mission is requiring delivery of Cold Mix to 2801 North Holland, Mission, Texas, within 24 hours of order being placed. It is also requiring delivery of Hot Mix to job locations within Mission City limits within 24 hours of order being placed.

City Of Mission
Pricing Schedule
Bid Name/No.: "Hot and Cold Mix Asphalt"/ 20-159-02-19

For any questions directly regarding the **"Hot and Cold Mix Asphalt - Bid No. 20-159-02-19"**, please call or email:
Crissy Cantu, Buyer: ccantu@missiontexas.us
Telephone: (956) 580-8667

NOTE: For invitations for Bids the terms "Offer" and "Offeror" shall mean "Bid" and "Bidder", respectively; and for Requests for Proposal terms "Bid" and "Bidder" shall mean "Offer" and "Offeror", respectively, in this solicitation and any associated exhibits. Bids must be submitted on all quantities specified on this schedule.

The Offeror is required to Sign and Date Each Page of the Schedule
Submit All Pages with the Offer.

ITEM NO.	BASE TERM (ONE YEAR) DESCRIPTION	UOM	QTY.	UNIT PRICE $	EXTENDED PRICE $
1.	Hot Mix Asphalt Type "D"	Ton	3,000		
2.	Cold Mix Asphalt Type "D"	Ton	1,000		
HOT MIX ALTERNATE BID - Hot mix without delivery:					
3.	Hot Mix Asphalt Type "D"	Ton	3,000		

Renewal Terms: The City of Mission shall reserve the option to renew this order for an additional two (2) consecutive, one (1) year period at the end of the service period. A bidder may offer a fixed maximum percentage of escalation for the one (1) year renewal. The term of this contract shall be one (1) year from contract award date. The amount of escalation will be taken into consideration in evaluation of the bid. State maximum percentage of escalation as follows:

*_____% 1st year renewal total option term

*_____% 1st year renewal total option term for alternate

*_____% 2nd year renewal total option term

*_____% 2nd year renewal total option term for alternate

***IF NO PERCENTAGE OF ESCALATION IS INCLUDED A ZERO PERCENTAGE WILL BE ASSUMED.**

Company Name: _____
Owner or President Name: _____
Company Address: _____
City, State, Zip Code: _____
Telephone Number: _____
Fax Number: _____
Email: _____
Federal ID or SS# Number: _____

_____ _____
**Company Authorized Representative's Signature Date

_____ _____
Company Representative's Name (Please Print) Company Representative's Title

**Signature on this form indicates agreement with "Instructions to Bidder-General Terms and Conditions, Pricing, and Specifications"

City Of Mission
Vendor Acknowledgment Form - Non-Collusive Bidding Certification
Bid Name/No.: "Hot and Cold Mix Asphalt"/ 20-159-02-19

I/We have read instructions to bidder and specifications. My/Our bid conforms to all bid specifications, conditions, and instructions as outlined by *CITY OF MISSION*.

Signing the Acknowledgment Form confirms that our company will enter into a binding contract with CITY OF MISSION for item(s) awarded to our company. I/We have read instructions to bidder and specifications.

The undersigned Bidder, by signing and executing this bid, certifies and represents to the CITY OF MISSION that Bidder has not been offered, conferred or agreed to confer any pecuniary benefit, as defined by §1.07(a)(6) of the Texas Penal Code, or any other thing of value as consideration for the receipt of information or any special treatment or advantage relating to this bid; the Bidder also certifies and represents that Bidder has not offered, conferred or agreed to confer any pecuniary benefit or other things of value as consideration for the recipient's decision, opinion, recommendation, vote or other exercise of discretion concerning this bid; the Bidder certifies and represents that Bidder has neither coerced nor attempted to influence the exercise of discretion by any officer, trustee, agent of employee of the CITY OF MISSION concerning this bid on the basis of any consideration not authorized by law; the Bidder also certifies and represents that Bidder has not received any information not available to other bidders so as to give the undersigned a preferential advantage with respect to this bid; the Bidder further certifies and represents that Bidder has not violated any state, federal or local law, regulation or ordinance relating to bribery, improper influence, collusion or the like and that Bidder will not in the future offer, confer, or agree to confer any pecuniary benefit or other thing of value to any officer, trustee, agent or member of the CITY OF MISSION in return for the person having exercised the person's official discretion, power or duty with respect to this bid; the Bidder certifies and represents that it has not now and will not in the future offer, confer, or agree to confer a pecuniary benefit or other thing of value to any officer, trustee, agent or member of CITY OF MISSION in connection with information regarding this bid, the submission of this bid, the award of this bid or the performance, delivery or sale pursuant to this bid.

Date: _____

Company Name: _____

Signature: _____

Title: _____

Note: This form, along with the Execution of Offer, must be filled in and submitted with the sealed bid.

City of Mission
Addenda Checklist
Bid Name/No.: Hot and Cold Mix Asphalt / 20-159-02-19

Bid of: _____
(Bidder Company Name)

To: City of Mission
Ref.: "Hot and Cold Mix Asphalt"/ 20-159-02-19

Ladies and Gentlemen:

The undersigned Bidder hereby acknowledges receipt of the following Addenda to the captioned RFB (initial if applicable).

No. 1 _____ No. 2 _____ No. 3 _____ No. 4 _____ No. 5 _____

Respectfully submitted,

Bidder: _____

By: _____

(Authorized Signature for Bidder)

Name: _____

Title: _____

Date: _____

City of Mission

GENERAL BUSINESS QUESTIONNAIRE

(SUPPLIES, SERVICES AND CONSTRUCTION)

This questionnaire, the requested list of references and the authorization to release financial information are used in part to assist in determining a potential contractor's responsibility. Offerors shall submit the General Business Questionnaire information within two (2) work days from the date of notification by the City, or with the offer, if so indicated in the Table of Contents page 2 of the Solicitation, Offer and Award Form. All information must be current and traceable. Each venturer of a joint venture must submit a separate signed form.

City of Mission reserves the right to make additional inquiries based on information submitted, or the lack thereof. Questions concerning this questionnaire or the authorization form should be directed to the contact person identified on the Solicitation, Offer and Award Form. In cases where a question does not apply or if unable to respond, offeror should refer to the item number, repeat the question, and indicate N/A (Not Applicable) or N/R (No Response), as appropriate. Offeror will explain the reason when responding N/A or N/R.

1. Name of Offeror ("Business"): _____

2. List name(s) and business address of officers and directors for corporations, partners for partnerships, and venturers for joint ventures (attach additional pages as necessary).

   _____
   _____
   _____

3. Number of years in business under present business name: _____

4. If applicable, list all other names under which the Business identified above operated in the last 5 years.

   _____
   _____
   _____

5. Annual Gross Revenue (Past year): (M represents millions, K represents thousands)
   ☐ $100K or less ☐ $100K-$500K ☐ $500K-$1M ☐ $1M-$5M ☐ $5M-$10M
   ☐ $10M-$16M ☐ $16M or Over

6. Will bidder/proposer provide a copy of its financial statements for the past two (2) years, if requested by City of Mission? ☐ Yes ☐ No

7. Number of current employees: _____

8. Has the Business, or any officer or partner thereof, failed to complete a contract? ☐ Yes ☐ No

9. Is any litigation pending against the Business? ☐ Yes ☐ No

10. Is offeror currently for sale or involved in any transaction to expand or to become acquired by another business entity? If yes, offeror needs to explain the expected impact, both in organizational and directional terms. ☐ Yes ☐ No

    _____
    _____
    _____

11. Has the Business ever been declared "not responsible" for the purpose of any governmental agency contract award? ☐Yes ☐No

12. Has the Business been debarred, suspended, proposed for debarment, declared ineligible, voluntarily excluded, or otherwise disqualified from bidding, proposing, or contracting?
☐Yes ☐No

13. Are there any proceedings pending relating to the Business' responsibility, debarment, suspension, voluntary exclusion, or qualification to receive a public contract?
☐Yes ☐No

14. Has the government or other public entity requested or required enforcement of any of its rights under a surety agreement on the basis of a default or in lieu of declaring the Business in default?
☐Yes ☐No

15. Is the Business in arrears on any contract or debt? ☐Yes ☐No

16. Has the Business been a defaulter, as a principal, surety, or otherwise? ☐Yes ☐No

17. Have liquidated damages or penalty provisions been assessed against the Business for failure to complete work on time or for any other reason? ☐Yes ☐No

18. Does offeror have a contingency plan or disaster recovery plan in the event of a disaster? If so, then Bidder will provide a copy of the plan. ☐Yes ☐No

19. Does offeror have quality assurance program? If yes, offeror will describe its quality assurance program, its quality requirements, and how they are measured. ☐Yes ☐No

20. If a "yes" response is given under questions 9 through 19, please provide a detailed explanation including dates, reference to contract information, contacts, etc. (attach additional pages as necessary).

_____
_____
_____
_____
_____
_____

I, individually and on behalf of the business named in this Business Questionnaire, do by my signature below, certify that the information provided in this questionnaire is true and correct. I understand that any false statements or misrepresentations regarding the Business named above may result in: 1) termination of any or all contracts which City of Mission has or may have with the Business; 2) disqualification of the Business from consideration for contracts; 3) removal of the Business from City of Mission's vendors' list; or/and 4) legal action(s) applicable under federal, state, or local law.

Name: _____ Title: _____

Signature: _____ Date: _____
(Owner, CEO, President, Majority Stockholder or Designated Representative)

LIST OF REFERENCES FOR SIMILAR PROJECTS

Use additional pages as necessary.

1. Project:
   Date of Completion (if applicable):
   Contact Person:
   Company Name:
   Address:
   Telephone Number:
   Fax Number:
   E-mail Address:

2. Project:
   Date of Completion (if applicable):
   Contact Person:
   Company Name:
   Address:
   Telephone Number:
   Fax Number:
   E-mail Address:

3. Project:
   Date of Completion (if applicable):
   Contact Person:
   Company Name:
   Address:
   Telephone Number:
   Fax Number:
   E-mail Address:

4. Project:
   Date of Completion (if applicable):
   Contact Person:
   Company Name:
   Address:
   Telephone Number:
   Fax Number:
   E-mail Address:

CITY OF MISSION
SPECIFICATIONS

BID NAME/NO.:

Hot & Cold Mix Asphalt / 20-159-02-19

“See Attached TxDot Specifications”

ITEM 334
HOT-MIX COLD-LAID ASPHALT CONCRETE PAVEMENT

334.1. Description. Construct a cold-laid pavement layer composed of a compacted mixture of aggregate and asphalt material mixed hot in a mixing plant.

This Item governs mixtures designed for cold placement, defined as placement temperatures below 175°F. If the mixture placement temperature is greater than 175°F, then design, produce, place, and compact the mixture in accordance with the applicable hot-mix asphalt specification.

334.2. Materials. Furnish uncontaminated materials of uniform quality that meet the requirements of the plans and specifications.

Notify the Engineer of all material sources. Notify the Engineer before changing any material source or formulation. When the Contractor makes a source or formulation change, the Engineer will verify that the specification requirements are met and may require a new laboratory mixture design, trial batch, or both. The Engineer may sample and test project materials at any time during the project to assure specification compliance.

A. Aggregate. Furnish aggregates from sources that conform to the requirements shown in Table 1 and on the plans. Unless otherwise directed, the Engineer will obtain the aggregate samples from materials produced for the project and perform the tests in Table 1. Mechanically crushed gravel or stone aggregates must meet the definitions in Tex-100-E. The Engineer will designate the plant or the quarry as the sampling location, and will determine aggregate gradations for mixture design and production testing based on the washed sieve analysis given in Tex-200-F, Part II. Do not add material to an approved stockpile from sources that do not meet the aggregate quality requirements of the Department's *Bituminous Rated Source Quality Catalog* (BRSQC) unless otherwise approved.

1. **Coarse Aggregate.** Coarse aggregate stockpiles must have no more than 20% material passing the No. 8 sieve. Provide aggregates from sources listed in the BRSQC. Provide nonlisted sources only when tested by the Engineer and approved before use. Allow 30 calendar days for the Engineer to sample, test, and report results for nonlisted sources.

   Provide coarse aggregate with at least the minimum surface aggregate classification (SAC) shown on the plans. SAC requirements apply only to aggregates used on the surface of travel

lanes, unless otherwise shown on the plans. The SAC for sources on the Department's Aggregate Quality Monitoring Program (AQMP) is listed in the BRSQC.

Class B aggregate meeting all other requirements in Table 1 may be blended with a Class A aggregate in order to meet requirements for Class A materials. When blending Class A and B aggregates to meet a Class A requirement, ensure that at least 50% by weight of the material retained on the No. 4 sieve comes from the Class A aggregate source. Blend by volume if the bulk specific gravities of the Class A and B aggregates differ by more than 0.300. When blending, do not use Class C or D aggregates.

2. **Fine Aggregate.** Fine aggregates consist of manufactured sands, screenings, and field sands. Fine aggregate stockpiles must meet the gradation requirements in Table 2. Supply fine aggregates that are free from organic impurities. The Engineer may test the fine aggregate in accordance with Tex-408-A to verify that the material is free from organic impurities. No more than 15% of the total aggregate may be field sand or other uncrushed fine aggregate. With the exception of field sand, use fine aggregate from coarse aggregate sources that meet the requirements shown in Table 1, unless otherwise approved.

   If 10% or more of the stockpile is retained on the No. 4 sieve, test the stockpile and verify that it meets the requirements in Table 1 for coarse aggregate angularity (Tex-460-A) and flat and elongated particles (Tex-280-F).

Table 1
Aggregate Quality Requirements

Property	Test Method	Requirement
Coarse Aggregate		
SAC	AQMP	As shown on the plans
Deleterious material, %, max	Tex-217-F, Part I	1.5
Decantation, %, max	Tex-217-F, Part II	1.5
Micro-Deval abrasion, %, max	Tex-461-A	Note 1
Los Angeles abrasion, %, max	Tex-410-A	40
Magnesium sulfate soundness, 5 cycles, %, max	Tex-411-A	30[2]
Coarse aggregate angularity, 2 crushed faces, %, min	Tex-460-A, Part I	85[3]
Flat and elongated particles @ 5:1, %, max	Tex-280-F	10
Fine Aggregate		
Linear shrinkage, %, max	Tex-107-E	3
Combined Aggregates[4]		
Sand equivalent, %, min	Tex-203-F	45

1. Not used for acceptance purposes. Used by the Engineer as an indicator of the need for further investigation.
2. Unless otherwise shown on the plans.
3. Unless otherwise shown on the plans. Only applies to crushed gravel.
4. Aggregates, without added mineral filler or additives, combined as used in the job-mix formula (JMF).

Table 2
Gradation Requirements for Fine Aggregates

Sieve Size	% Passing by Weight or Volume
3/8"	100
#8	70–100
#200	0–15

B. Mineral Filler. Mineral filler consists of finely divided mineral matter such as agricultural lime, crusher fines, hydrated lime, cement, or fly ash. Mineral filler is allowed unless otherwise shown on the plans. Do not use more than 2% hydrated lime or cement, unless otherwise shown on the plans. The plans may require or disallow specific mineral fillers. When used, provide mineral filler that:

- is sufficiently dry, free-flowing, and free from clumps and foreign matter;
- does not exceed 3% linear shrinkage when tested in accordance with Tex-107-E; and
- meets the gradation requirements in Table 3.

Table 3
Gradation Requirements for Mineral Fillers

Sieve	% Passing by Weight or Volume
#8	100
#200	55–100

C. **Baghouse Fines.** Fines collected by the baghouse or other dust-collecting equipment may be reintroduced into the mixing drum.

D. **Binder Material.** Furnish asphalt, primer, additives, and water, unless otherwise shown on the plans.

1. **Asphalt.** Provide the asphalt shown on the plans, meeting the requirements of Item 300, "Asphalts, Oils, and Emulsions."
2. **Primer.** Provide an approved asphalt primer consisting of a blend of asphalt cement and hydrocarbon volatiles.
3. **Water.** Provide water that meets the requirements of Item 204, "Sprinkling."
4. **Additives.** When shown on the plans, use the type and rate of additive specified. Other additives that facilitate mixing or improve the quality of the mixture may be allowed when approved.

   If lime or a liquid antistripping agent is used, add in accordance with Item 301, "Asphalt Antistripping Agents." Do not add lime directly into the mixing drum of any plant where lime is removed through the exhaust stream unless the plant has a baghouse or dust collection system that reintroduces the lime back into the drum.

E. **Tack Coat.** Unless otherwise shown on the plans or approved, furnish CSS-1H, SS-1H, or a performance-graded (PG) binder with a minimum high-temperature grade of PG 58 for tack coat in accordance with Item 300, "Asphalts, Oils, and Emulsions." Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use. The Department may sample the tack coat to verify specification compliance.

334.3. Equipment. Provide required or necessary equipment in accordance with Item 320, "Equipment for Asphalt Concrete Pavement."

334.4. Construction. Design, produce, store, transport, place, and compact the specified paving mixture in accordance with the requirements of this Item. Unless otherwise shown on the plans, provide the mix design. The Department will perform quality assurance (QA) testing. Provide quality control (QC) testing as needed to meet the requirements of this Item.

A. Mixture Design.

1. **Design Requirements.** Unless otherwise shown on the plans, use the typical weight design example given in Tex-204-F, Part I, to design a paving mixture that consists of a uniform mixture of aggregate, asphalt material, primer, additives, and water if allowed, which meets the requirements shown in Tables 4 and 5. Ensure that the mixture leaves the plant in a workable condition. Provide materials that remain workable in a stockpile for at least 6 mo.

   At any time during the project, the Contractor may submit a new mixture design. The Engineer must approve all mixture designs before the Contractor can begin production.

2. **Job-Mix Formula Approval.** The job-mix formula (JMF) is the combined aggregate gradation and target asphalt percentage used to establish target values for mixture production. JMF1 is the original laboratory mixture design used to produce the trial batch. The Engineer will verify JMF1 based on plant-produced mixture from the trial batch unless otherwise approved. The Engineer may accept an existing mixture design previously used on a Department project and may waive the trial batch to verify JMF1. Provide the Engineer with split samples of the mixtures and blank samples used to determine the ignition oven correction factors. The Engineer will determine the aggregate and asphalt correction factors from the ignition oven using Tex-236-F.

Table 4
Master Gradation Bands (% Passing by Weight or Volume) and Volumetric Properties

Sieve Size	A Coarse Base	B Fine Base	C Coarse Surface	D Fine Surface	F Fine Mixture
1-1/2"	98.0–100.0	–	–	–	–
1"	78.0–94.0	98.0–100.0	–	–	–
3/4"	64.0–85.0	84.0–98.0	95.0–100.0	–	–
1/2"	50.0–70.0	–	–	98.0–100.0	–
3/8"	–	60.0–80.0	70.0–85.0	85.0–100.0	98.0–100.0
#4	30.0–50.0	40.0–60.0	43.0–63.0	50.0–70.0	80.0–86.0
#8	22.0–36.0	29.0–43.0	32.0–44.0	35.0–46.0	38.0–48.0
#30	8.0–23.0	13.0–28.0	14.0–28.0	15.0–29.0	12.0–27.0
#50	3.0–19.0	6.0–20.0	7.0–21.0	7.0–20.0	6.0–19.0
#200	2.0–7.0	2.0–7.0	2.0–7.0	2.0–7.0	2.0–7.0
Design VMA[1], % Minimum					
–	12.0	13.0	14.0	15.0	16.0
Plant-Produced VMA[1], % Minimum					
–	11.0	12.0	13.0	14.0	15.0

1. Voids in mineral aggregates.

Table 5
Laboratory Mixture Design Properties

Property	Test Method	Requirement
Target laboratory-molded density, %[1]	Tex-207-F	92.5 ±1.5
Hveem stability, min	Tex-208-F	35
Hydrocarbon-volatile content, %, max	Tex-213-F	0.6
Moisture content, %, max[2]	Tex-212-F	1.0
Boil test, %, max[3]	Tex-530-C	10

1. Unless otherwise shown on the plans.
2. Unless otherwise approved.
3. Limit may be increased or eliminated when approved by the Engineer.

B. Production Operations. Perform a new trial batch when the plant or plant location is changed. Take corrective action and obtain approval to proceed after any production suspension for noncompliance to the specification.

1. **Stockpiling of Aggregates.** Provide a smooth and well-drained area, cleared of trash, weeds, and grass. Build stockpiles in a manner that will minimize aggregate degradation and segregation. Avoid contamination and mixing of stockpiles. Provide aggregate stockpiles for a minimum of 2 days' production before beginning

plant operations. Maintain at least a 2-day aggregate supply through the course of the project unless otherwise directed. Stockpile aggregate for each source and type separately. The Engineer may reject stockpiled materials that come in contact with the earth or other objectionable material.

2. **Storage and Heating of Asphalt Materials.** Provide enough asphalt material storage capacity to meet the requirements of the plant. Do not heat the asphalt binder above the temperatures specified in Item 300, "Asphalts, Oils, and Emulsions," or from the manufacturer's recommended values. Keep all equipment used in the storage and handling of asphalt material clean at all times and operate the equipment in a manner that will prevent contamination with foreign matter.
3. **Storage of the Asphalt Mixture.** Store the asphalt mixture in a surge-storage system or in a stockpile. If the asphalt mixture is stored in a stockpile, provide a smooth and well-drained area, cleared of trash, weeds, and grass. Build stockpiles in a manner that will minimize aggregate degradation and segregation. Avoid contamination and mixing of stockpiles.
4. **Mixing and Discharge of Materials.** Produce the mixture at a discharge temperature between 145°F and 275°F, as directed. Do not allow the temperature to vary from the selected temperature by more than 25°F. The Department will not pay for or allow placement of any mixture produced at more than 300°F.
5. **Moisture Content.** Furnish the mixture at a moisture content of at most 1% by weight when discharged from the mixer, unless otherwise shown on the plans or approved. Cease operations at moisture contents above 1% until corrective actions reduce moisture content.

C. **Hauling Operations.** Before use, clean all truck beds to ensure mixture is not contaminated. When a release agent is necessary to coat truck beds, use a release agent on the approved list maintained by the Construction Division.

D. **Placement Operations.** Prepare the surface by removing raised pavement markers and objectionable material such as moisture, dirt, sand, leaves, and other loose impediments from the surface before placing mixture. Remove vegetation from pavement edges. Place mixture on the road below 175°F. Place the mixture to produce a smooth, finished surface with a uniform appearance and texture that meet typical section requirements. Offset longitudinal joints of

successive courses of mixture by at least 6 in. Place mixture so longitudinal joints on the surface course coincide with lane lines, or as directed. Ensure that all finished surfaces will drain properly.

Unless otherwise shown on the plans, the asphalt mixture may be dumped in a windrow and then placed in the finishing machine with windrow pickup equipment. Prevent the windrow pickup equipment from contaminating the mixture.

After placing the paving mixture, defer compaction, as directed by the Engineer, to allow for volatilization. When placing more than 1 pavement course, allow the previous course to dry and cure before placing the next course. Unless otherwise directed, the course will be considered cured if the hydrocarbon volatile content of the mixture is 0.4% or less by weight of the mixture when tested according to Tex-213-F.

When shown on the plans or as approved, a motor grader may be used to spread the mixture. Thoroughly aerate the mixture and spread into place with a power motor grader in a uniform layer. Placement in narrow strips or small irregular areas may require hand spreading.

1. **Weather Conditions.** Place the mixture when the roadway surface temperature is 60°F or higher unless otherwise approved. Unless otherwise shown on the plans, place mixtures only when weather conditions and moisture conditions of the roadway surface are suitable in the opinion of the Engineer.
2. **Tack Coat.** Clean the surface before placing the tack coat. Unless otherwise approved, apply tack coat uniformly at the rate directed by the Engineer. The Engineer will set the rate between 0.04 and 0.10 gal. of residual asphalt per square yard of surface area. Apply a thin, uniform tack coat to all contact surfaces of curbs, structures, and joints. Prevent splattering of the tack coat when placed adjacent to curb, gutter, and structures. Roll the tack coat with a pneumatic-tire roller when directed. The Engineer may use Tex-243-F to verify that the tack coat has adequate adhesive properties. The Engineer may suspend paving operations until there is adequate adhesion.

E. **Compaction.** Furnish the type, size, and number or rollers required for compaction, as approved. Furnish at least 1 medium pneumatic-tire roller (minimum 12-ton weight). Use the control strip method given in Tex-207-F, Part IV, to establish rolling patterns that achieve maximum compaction. Follow the selected rolling pattern unless changes that affect compaction occur in the mixture or placement conditions. When

such changes occur, establish a new rolling pattern. Compact the pavement to the cross section of the finished paving mixture meeting the requirements of the plans and specifications. Unless otherwise directed, operate vibratory rollers in static mode when not compacting, when changing directions, or when the plan depth of the pavement mat is less than 1-1/2 in.

When rolling with the 3-wheel tandem or vibratory rollers, start by first rolling the joint with the adjacent pavement and then continue by rolling longitudinally at the sides. Proceed toward the center of the pavement, overlapping on successive trips by at least 1 ft., unless otherwise directed. Make alternate trips of the roller slightly different in length. On superelevated curves, begin rolling at the low side and progress toward the high side unless otherwise directed.

Avoid displacement of the mixture. If any displacement occurs, correct to the satisfaction of the Engineer. Ensure pavement is fully compacted before allowing rollers to stand on the pavement. Unless otherwise directed, use only water or an approved release agent on rollers, tamps, and other compaction equipment. Keep diesel, gasoline, oil, grease, and other foreign matter off the mixture.

Use tamps to thoroughly compact the edges of the pavement along curbs, headers, and similar structures and in locations that will not allow thorough compaction with the rollers. The Engineer may require rolling with a trench roller on widened areas, in trenches, and in other limited areas.

Allow the compacted pavement to cool to 160°F or lower before opening to traffic unless otherwise directed. When directed, sprinkle the finished mat with water or limewater to expedite opening the roadway to traffic.

F. **Production Testing and Operational Tolerances.** The aggregate gradation and the asphalt binder content of the produced mixture must not vary from the JMF by more than the percentage point tolerances shown in Table 6. The gradation of the produced mixture may fall outside the master grading limits for any of the sieve sizes from the 1-1/2 in. through the No. 50 sieve if it is within the JMF tolerances. The aggregate gradation of the No. 200 sieve may not exceed the master gradations shown in Table 4. Any sieve size shown in Table 4 with 100% passing requirements will be allowed a 2% tolerance before the material is considered out of specification.

If the aggregate mineralogy is such that Tex-236-F does not yield reliable results, the Engineer may allow alternate methods for

determining the asphalt content and aggregate gradation. Unless otherwise allowed, the Engineer will require the Contractor to provide evidence that results from Tex-236-F are not reliable before permitting an alternate method. If an alternate test method is allowed, use the applicable test procedure as directed.

If during production, 3 consecutive tests indicate that the material produced exceeds the tolerances shown in Table 6 for any individual sieve or for laboratory-molded density, cease production until corrective actions are taken and the results approved. If 2 consecutive tests indicate that the asphalt binder content tolerances shown in Table 6 are exceeded, cease production until corrective actions are taken and the results approved.

If the Hveem stability shown in Table 5 is not met for 3 consecutive tests, cease production until corrective actions are taken and the results approved.

Table 6
Operational Tolerances

Property	Test Method	Operational Tolerance From JMF
Individual % retained for sieve sizes smaller than 1-1/2" and larger than #8	Tex-200-F	±5.0
Individual % retained for sieve sizes smaller than #8		±3.0
Asphalt binder content, %	Tex-236-F	±0.3
Laboratory-molded density, %	Tex-207-F	±1.0

G. **Irregularities.** Immediately take corrective action if surface irregularities, including but not limited to segregation, rutting, raveling, flushing, fat spots, mat slippage, color, texture, roller marks, tears, gouges, streaks, or uncoated aggregate particles, are detected. The Engineer may suspend production or placement operations until the problem is corrected.

At the expense of the Contractor and to the satisfaction of the Engineer, remove and replace any mixture that does not bond to the existing pavement or that has other surface irregularities identified above.

H. **Ride Quality.** Use Surface Test Type A to evaluate ride quality in accordance with Item 585, "Ride Quality for Pavement Surfaces," unless otherwise shown on the plans.

334.5. Measurement. This Item will be measured by the by the ton of composite asphalt concrete mixture of the type used in the completed and accepted work.

Measurement will be made on scales in accordance with Item 520, "Weighing and Measuring Equipment."

For mixture produced by a weigh-batch plant or a modified weigh-batch plant, measurement will be determined on the batch scales unless surge-storage or stockpiling is used. Keep records of the number of batches, batch design, and the weight of the composite asphalt concrete mixture. The composite asphalt concrete mixture is defined as the asphalt, primer, aggregate, additives, and any residual moisture that is not designated to be deducted. Where surge-storage or stockpiling is used, measurement of the material taken from the surge-storage bin or stockpile will be made on truck scales or suspended hopper scales.

334.6. Payment. The work performed and materials furnished in accordance with this Item and measured as provided under Article 334.5, "Measurement," will be paid for at the unit price bid for "Hot-Mix Cold-Laid Asphalt Concrete Pavement" of the type, surface aggregate classification, and asphalt binder specified.

This price is full compensation for surface preparation, materials including tack coat, placement, equipment, labor, tools, and incidentals.

Pay adjustment for ride quality, when required, will be determined in accordance with Item 585, "Ride Quality for Pavement Surfaces."

ITEM 340

DENSE-GRADED HOT-MIX ASPHALT (METHOD)

340.1. Description. Construct a pavement layer composed of a compacted, dense-graded mixture of aggregate and asphalt binder mixed hot in a mixing plant.

340.2. Materials. Furnish uncontaminated materials of uniform quality that meet the requirements of the plans and specifications.

Notify the Engineer of all material sources. Notify the Engineer before changing any material source or formulation. When the Contractor makes a source or formulation change, the Engineer will verify that the requirements of this Item are met and may require a new laboratory mixture design, trial

batch, or both. The Engineer may sample and test project materials at any time during the project to verify compliance.

A. **Aggregate.** Furnish aggregates from sources that conform to the requirements shown in Table 1, and as specified in this Section, unless otherwise shown on the plans. Provide aggregate stockpiles that meet the definition in this Section for either coarse aggregate or fine aggregate. When reclaimed asphalt pavement (RAP) is allowed by plan note, provide RAP stockpiles in accordance with this Section. Aggregate from RAP is not required to meet Table 1 requirements unless otherwise shown on the plans. Supply mechanically crushed gravel or stone aggregates that meet the definitions in Tex-100-E. The Engineer will designate the plant or the quarry as the sampling location. Samples must be from materials produced for the project. The Engineer will establish the surface aggregate classification (SAC) and perform Los Angeles abrasion, magnesium sulfate soundness, and Micro-Deval tests. Perform all other aggregate quality tests listed in Table 1. Document all test results on the mixture design report. The Engineer may perform tests on independent or split samples to verify Contractor test results. Stockpile aggregates for each source and type separately. Determine aggregate gradations for mixture design and production testing based on the washed sieve analysis given in Tex-200-F, Part II. Do not add material to an approved stockpile from sources that do not meet the aggregate quality requirements of the Department's *Bituminous Rated Source Quality Catalog* (BRSQC) unless otherwise approved.

   1. **Coarse Aggregate.** Coarse aggregate stockpiles must have no more than 20% material passing the No. 8 sieve. Provide aggregates from sources listed in the BRSQC. Provide aggregate from nonlisted sources only when tested by the Engineer and approved before use. Allow 30 calendar days for the Engineer to sample, test, and report results for nonlisted sources.

      Provide coarse aggregate with at least the minimum SAC shown on the plans. SAC requirements apply only to aggregates used on the surface of travel lanes, unless otherwise shown on the plans. The SAC for sources on the Department's AQMP is listed in the BRSQC.

      Class B aggregate meeting all other requirements in Table 1 may be blended with a Class A aggregate in order to meet requirements for Class A materials. When blending Class A and B aggregates to meet a Class A requirement, ensure that at least 50% by weight of

the material retained on the No. 4 sieve comes from the Class A aggregate source. Blend by volume if the bulk specific gravities of the Class A and B aggregates differ by more than 0.300. When blending, do not use Class C or D aggregates. For blending purposes, coarse aggregate from RAP will be considered as Class B aggregate.

2. **RAP.** RAP is salvaged, milled, pulverized, broken, or crushed asphalt pavement. Crush or break RAP so that 100% of the particles pass the 2-in. sieve.

   RAP from either Contractor- or Department-owned sources, including RAP generated during the project, is permitted only when shown on the plans. Department-owned RAP, if allowed for use, will be available at the location shown on the plans. When RAP is used, determine asphalt content and gradation for mixture design purposes. Perform other tests on RAP when shown on the plans.

   When RAP is allowed by plan note, use no more than 30% RAP in Type A or B mixtures unless otherwise shown on the plans. For all other mixtures, use no more than 20% RAP unless otherwise shown on the plans.

   Do not use RAP contaminated with dirt or other objectionable materials. Do not use the RAP if the decantation value exceeds 5% and the plasticity index is greater than 8. Test the stockpiled RAP for decantation in accordance with the laboratory method given in Tex-406-A, Part I. Determine the plasticity index using Tex-106-E if the decantation value exceeds 5%. The decantation and plasticity index requirements do not apply to RAP samples with asphalt removed by extraction.

   Do not intermingle Contractor-owned RAP stockpiles with Department-owned RAP stockpiles. Remove unused Contractor-owned RAP material from the project site upon completion of the project. Return unused Department-owned RAP to the designated stockpile location.

3. **Fine Aggregate.** Fine aggregates consist of manufactured sands, screenings, and field sands. Fine aggregate stockpiles must meet the gradation requirements in Table 2. Supply fine aggregates that are free from organic impurities. The Engineer may test the fine aggregate in accordance with Tex-408-A to verify the material is free from organic impurities. At most 15% of the total aggregate may be field sand or other uncrushed fine aggregate. With the

exception of field sand, use fine aggregate from coarse aggregate sources that meet the requirements shown in Table 1, unless otherwise approved.

If 10% or more of the stockpile is retained on the No. 4 sieve, test the stockpile and verify that it meets the requirements in Table 1 for coarse aggregate angularity (Tex-460-A) and flat and elongated particles (Tex-280-F).

Table 1
Aggregate Quality Requirements

Property	Test Method	Requirement
Coarse Aggregate		
SAC	AQMP	As shown on plans
Deleterious material, %, max	Tex-217-F, Part I	1.5
Decantation, %, max	Tex-217-F, Part II	1.5
Micro-Deval abrasion, %, max	Tex-461-A	Note 1
Los Angeles abrasion, %, max	Tex-410-A	40
Magnesium sulfate soundness, 5 cycles, %, max	Tex-411-A	30[2]
Coarse aggregate angularity, 2 crushed faces, %, min	Tex 460-A, Part I	85[3]
Flat and elongated particles @ 5:1, %, max	Tex-280-F	10
Fine Aggregate		
Linear shrinkage, %, max	Tex-107-E	3
Combined Aggregate[4]		
Sand equivalent, %, min	Tex-203-F	45

1. Not used for acceptance purposes. Used by the Engineer as an indicator of the need for further investigation.
2. Unless otherwise shown on the plans.
3. Unless otherwise shown on the plans. Only applies to crushed gravel.
4. Aggregates, without mineral filler, RAP, or additives, combined as used in the job-mix formula (JMF).

Table 2
Gradation Requirements for Fine Aggregate

Sieve Size	% Passing by Weight or Volume
3/8"	100
#8	70–100
#200	0–30

B. Mineral Filler. Mineral filler consists of finely divided mineral matter such as agricultural lime, crusher fines, hydrated lime, cement, or fly ash. Mineral filler is allowed unless otherwise shown on the plans. Do not use more than 2% hydrated lime or cement, unless otherwise shown on the plans. The plans may require or disallow specific mineral fillers. When used, provide mineral filler that:

- is sufficiently dry, free-flowing, and free from clumps and foreign matter;
- does not exceed 3% linear shrinkage when tested in accordance with Tex-107-E; and
- meets the gradation requirements in Table 3.

Table 3
Gradation Requirements for Mineral Filler

Sieve Size	% Passing by Weight or Volume
#8	100
#200	55–100

C. Baghouse Fines. Fines collected by the baghouse or other dust-collecting equipment may be reintroduced into the mixing drum.

D. Asphalt Binder. Furnish the type and grade of performance-graded (PG) asphalt binder specified on the plans in accordance with Section 300.2.J, "Performance-Graded Binders."

E. Tack Coat. Unless otherwise shown on the plans or approved, furnish CSS-1H, SS-1H, or a PG binder with a minimum high-temperature grade of PG 58 for tack coat binder in accordance with Item 300, "Asphalts, Oils, and Emulsions."

Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use. If required, verify that emulsified asphalt proposed for use meets the minimum residual asphalt percentage specified in Item 300, "Asphalts, Oils, and Emulsions."

The Engineer will obtain at least 1 sample of the tack coat binder per project and test it to verify compliance with Item 300. The Engineer will obtain the sample from the asphalt distributor immediately before use.

F. Additives. When shown on the plans, use the type and rate of additive specified. Other additives that facilitate mixing or improve the quality of the mixture may be allowed when approved.

If lime or a liquid antistripping agent is used, add in accordance with Item 301, "Asphalt Antistripping Agents." Do not add lime directly into the mixing drum of any plant where lime is removed through the exhaust stream unless the plant has a baghouse or dust collection system that reintroduces the lime back into the drum.

340.3. Equipment. Provide required or necessary equipment in accordance with Item 320, "Equipment for Asphalt Concrete Pavement."

340.4. Construction. Design, produce, store, transport, place, and compact the specified paving mixture in accordance with the requirements of this Item. Unless otherwise shown on the plans, provide the mix design. The Department will perform quality assurance (QA) testing. Provide quality control (QC) testing as needed to meet the requirements of this Item.

A. Mixture Design.

1. **Design Requirements.** Use a Level II specialist certified by a Department-approved hot-mix asphalt certification program to develop the mixture design. Have the Level II specialist sign the design documents. Unless otherwise shown on the plans, use the typical weight design example given in Tex-204-F, Part I, to design a mixture meeting the requirements listed in Tables 1 through 6. Use an approved laboratory to perform the Hamburg Wheel test and provide results with the mixture design, or provide the laboratory mixture and request that the Department perform the Hamburg Wheel test. The Construction Division maintains a list of approved laboratories. Furnish the Engineer with representative samples of all materials used in the mixture design. The Engineer will verify the mixture design. If the design cannot be verified by the Engineer, furnish another mixture design.

   The Contractor may submit a new mixture design at anytime during the project. The Engineer will approve all mixture designs before the Contractor can begin production.

   Provide the Engineer with a mixture design report using Department-provided software. Include the following items in the report:
   - the combined aggregate gradation, source, specific gravity, and percent of each material used;
   - results of all applicable tests;
   - the mixing and molding temperatures;
   - the signature of the Level II person or persons who performed the design;
   - the date the mixture design was performed; and
   - a unique identification number for the mixture design.

Table 4
Master Gradation Bands (% Passing by Weight or Volume) and Volumetric Properties

Sieve Size	A Coarse Base	B Fine Base	C Coarse Surface	D Fine Surface	F Fine Mixture
1-1/2"	98.0–100.0	–	–	–	–
1"	78.0–94.0	98.0–100.0	–	–	–
3/4"	64.0–85.0	84.0–98.0	95.0–100.0	–	–
1/2"	50.0–70.0	–	–	98.0–100.0	–
3/8"	–	60.0–80.0	70.0–85.0	85.0–100.0	98.0–100.0
#4	30.0–50.0	40.0–60.0	43.0–63.0	50.0–70.0	80.0–86.0
#8	22.0–36.0	29.0–43.0	32.0–44.0	35.0–46.0	38.0–48.0
#30	8.0–23.0	13.0–28.0	14.0–28.0	15.0–29.0	12.0–27.0
#50	3.0–19.0	6.0–20.0	7.0–21.0	7.0–20.0	6.0–19.0
#200	2.0–7.0	2.0–7.0	2.0–7.0	2.0–7.0	2.0–7.0
Design VMA[1], % Minimum					
–	12.0	13.0	14.0	15.0	16.0
Plant-Produced VMA, % Minimum					
–	11.0	12.0	13.0	14.0	15.0

1. Voids in Mineral Aggregates.

Table 5
Laboratory Mixture Design Properties

Property	Test Method	Requirement
Target laboratory-molded density, %	Tex-207-F	96.0[1]
Tensile strength (dry), psi (molded to 93% ±1% density)	Tex-226-F	85–200[2]
Boil test[3]	Tex-530-C	–

1. Unless otherwise shown on the plans.
2. May exceed 200 psi when approved and may be waived when approved.
3. Used to establish baseline for comparison to production results. May be waived when approved.

Table 6
Hamburg Wheel Test Requirements[1]

High-Temperature Binder Grade	Minimum # of Passes[2] @ 0.5" Rut Depth, Tested @ 122°F
PG 64 or lower	10,000
PG 70	15,000
PG 76 or higher	20,000

1. Tested in accordance with Tex-242-F.
2. May be decreased or waived when shown on the plans.

B. Job-Mix Formula Approval. The job-mix formula (JMF) is the combined aggregate gradation and target asphalt percentage used to establish target values for mixture production. JMF is the original

laboratory mixture design used to produce the trial batch. The Engineer and the Contractor will verify JMF based on plant-produced mixture from the trial batch unless otherwise approved. The Engineer may accept an existing mixture design previously used on a Department project and may waive the trial batch to verify JMF. If the JMF is not verified by the Engineer from the trial batch, adjust the JMF or redesign the mix and produce as many trial batches as necessary to verify the JMF.

Provide the Engineer with split samples of the mixtures and blank samples used to determine the ignition oven correction factors. The Engineer will determine the aggregate and asphalt correction factors from the ignition oven using Tex-236-F.

The Engineer will use a Texas gyratory compactor calibrated in accordance with Tex-914-F in molding production samples.

The Engineer will perform Tex-530-C and retain the tested sample for comparison purposes during production. The Engineer may waive the requirement for the boil test.

C. **JMF Field Adjustments.** Produce a mixture of uniform composition closely conforming to the approved JMF.

If, during initial days of production, the Contractor or Engineer determines that adjustments to the JMF are necessary to achieve the specified requirements, or to more nearly match the aggregate production, the Engineer may allow adjustment of the JMF within the tolerances of Table 7 without a laboratory redesign of the mixture.

The Engineer will adjust the asphalt content to maintain desirable laboratory density near the optimum value while achieving other mix requirements.

Table 7
Operational Tolerances

Description	Test Method	Allowable Difference from JMF Target
Individual % retained for #8 sieve and larger	Tex-200-F or Tex-236-F	±5.0[1]
Individual % retained for sieves smaller than #8 and larger than #200		±3.0[1]
% passing the #200 sieve		±2.0[1]
Asphalt content, %	Tex-236-F	±0.3[1]
Laboratory-molded density, %	Tex-207-F	±1.0
VMA, %, min		Note 2

1. When within these tolerances, mixture production gradations may fall outside the master grading limits; however, the percent passing the #200 sieve will be considered out of tolerance when outside the master grading limits.
2. Test and verify that Table 4 requirements are met.

D. Production Operations. Perform a new trial batch when the plant or plant location is changed. The Engineer may suspend production for noncompliance with this Item. Take corrective action and obtain approval to proceed after any production suspension for noncompliance.

1. **Operational Tolerances.** During production, do not exceed the operational tolerances in Table 7. Stop production if testing indicates tolerances are exceeded on:
   - 3 consecutive tests on any individual sieve,
   - 4 consecutive tests on any of the sieves, or
   - 2 consecutive tests on asphalt content.

   Begin production only when test results or other information indicate, to the satisfaction of the Engineer, that the next mixture produced will be within Table 7 tolerances.

2. **Storage and Heating of Materials.** Do not heat the asphalt binder above the temperatures specified in Item 300, "Asphalts, Oils, and Emulsions" or outside the manufacturer's recommended values. On a daily basis, provide the Engineer with the records of asphalt binder and hot-mix asphalt discharge temperatures in accordance with Item 320, "Equipment for Asphalt Concrete Pavement." Unless otherwise approved, do not store mixture for a period long enough to affect the quality of the mixture, nor in any case longer than 12 hr.

3. **Mixing and Discharge of Materials.** Notify the Engineer of the target discharge temperature and produce the mixture within 25°F of the target. Monitor the temperature of the material in the truck

before shipping to ensure that it does not exceed 350°F. The Department will not pay for or allow placement of any mixture produced at more than 350°F. Control the mixing time and temperature so that substantially all moisture is removed from the mixture before discharging from the plant.

E. **Hauling Operations.** Before use, clean all truck beds to ensure mixture is not contaminated. When a release agent is necessary to coat truck beds, use a release agent on the approved list maintained by the Construction Division.

F. **Placement Operations.** Prepare the surface by removing raised pavement markers and objectionable material such as moisture, dirt, sand, leaves, and other loose impediments from the surface before placing mixture. Remove vegetation from pavement edges. Place the mixture to meet the typical section requirements and produce a smooth, finished surface with a uniform appearance and texture. Offset longitudinal joints of successive courses of hot mix by at least 6 in. Place mixture so longitudinal joints on the surface course coincide with lane lines, or as directed. Ensure that all finished surfaces will drain properly. Place mixture within the compacted lift thickness shown in Table 8, unless otherwise shown on the plans or allowed.

Table 8
Compacted Lift Thickness and Required Core Height

Mixture Type	Compacted Lift Thickness	
	Minimum (in.)	Maximum (in.)
A	3.00	6.00
B	2.50	5.00
C	2.00	4.00
D	1.50	3.00
F	1.25	2.50

1. **Weather Conditions.** Place mixture when the roadway surface temperature is 60°F or higher unless otherwise approved. Measure the roadway surface temperature with a handheld infrared thermometer. Unless otherwise shown on the plans, place mixtures only when weather conditions and moisture conditions of the roadway surface are suitable in the opinion of the Engineer.

2. **Tack Coat.** Clean the surface before placing the tack coat. Unless otherwise approved, apply tack coat uniformly at the rate directed by the Engineer. The Engineer will set the rate between 0.04 and 0.10 gal. of residual asphalt per square yard of surface area. Apply

a thin, uniform tack coat to all contact surfaces of curbs, structures, and all joints. Prevent splattering of tack coat when placed adjacent to curb, gutter, and structures. Roll the tack coat with a pneumatic-tire roller when directed. The Engineer may use Tex-243-F to verify that the tack coat has adequate adhesive properties. The Engineer may suspend paving operations until there is adequate adhesion.

G. Lay-Down Operations.

1. **Minimum Mixture Placement Temperatures.** Use Table 9 for suggested minimum mixture placement temperatures.
2. **Windrow Operations.** When hot mix is placed in windrows, operate windrow pickup equipment so that substantially all the mixture deposited on the roadbed is picked up and loaded into the paver.

Table 9
Suggested Minimum Mixture Placement Temperature

High-Temperature Binder Grade	Minimum Placement Temperature (Before Entering Paver)
PG 64 or lower	260°F
PG 70	270°F
PG 76	280°F
PG 82 or higher	290°F

H. Compaction. Use air void control unless ordinary compaction control is specified on the plans. Avoid displacement of the mixture. If displacement occurs, correct to the satisfaction of the Engineer. Ensure pavement is fully compacted before allowing rollers to stand on the pavement. Unless otherwise directed, use only water or an approved release agent on rollers, tamps, and other compaction equipment. Keep diesel, gasoline, oil, grease, and other foreign matter off the mixture. Unless otherwise directed, operate vibratory rollers in static mode when not compacting, when changing directions, or when the plan depth of the pavement mat is less than 1-1/2 in.

Use tamps to thoroughly compact the edges of the pavement along curbs, headers, and similar structures and in locations that will not allow thorough compaction with the rollers. The Engineer may require rolling with a trench roller on widened areas, in trenches, and in other limited areas.

Allow the compacted pavement to cool to 160°F or lower before opening to traffic unless otherwise directed. When directed, sprinkle the finished mat with water or limewater to expedite opening the roadway to traffic.

1. **Air Void Control.** Compact dense-graded hot-mix asphalt to contain from 5% to 9% in-place air voids. Do not increase the asphalt content of the mixture to reduce pavement air voids.
    a. **Rollers.** Furnish the type, size, and number or rollers required for compaction, as approved. Use a pneumatic-tire roller to seal the surface, unless otherwise shown on the plans. Use additional rollers as required to remove any roller marks.
    b. **Air Void Determination.** Unless otherwise shown on the plans, obtain 2 roadway specimens at each location selected by the Engineer for in-place air void determination. The Engineer will measure air voids in accordance with Tex-207-F and Tex-227-F. Before drying to a constant weight, cores may be predried using a Corelok or similar vacuum device to remove excess moisture. The Engineer will use the average air void content of the 2 cores to calculate the in-place air voids at the selected location.
    c. **Air Voids Out of Range.** If the in-place air void content in the compacted mixture is below 5% or greater than 9%, change the production and placement operations to bring the in-place air void content within requirements. The Engineer may suspend production until the in-place air void content is brought to the required level, and may require a test section as described in Section 340.4.H.1.d, "Test Section."
    d. **Test Section.** Construct a test section of 1 lane-width and at most 0.2 mi. in length to demonstrate that compaction to between 5% and 9% in-place air voids can be obtained. Continue this procedure until a test section with 5% to 9% in-place air voids can be produced. The Engineer will allow only 2 test sections per day. When a test section producing satisfactory in-place air void content is placed, resume full production.
2. **Ordinary Compaction Control.** Furnish the type, size, and number or rollers required for compaction, as approved. Furnish at least 1 medium pneumatic-tire roller (minimum 12-ton weight). Use the control strip method given in Tex-207-F, Part IV, to establish rolling patterns that achieve maximum compaction.

Follow the selected rolling pattern unless changes that affect compaction occur in the mixture or placement conditions. When such changes occur, establish a new rolling pattern. Compact the pavement to meet the requirements of the plans and specifications.

When rolling with the 3-wheel, tandem or vibratory rollers, start by first rolling the joint with the adjacent pavement and then continue by rolling longitudinally at the sides. Proceed toward the center of the pavement, overlapping on successive trips by at least 1 ft., unless otherwise directed. Make alternate trips of the roller slightly different in length. On superelevated curves, begin rolling at the low side and progress toward the high side unless otherwise directed.

I. **Irregularities.** Immediately take corrective action if surface irregularities, including but not limited to segregation, rutting, raveling, flushing, fat spots, mat slippage, color, texture, roller marks, tears, gouges, streaks, or uncoated aggregate particles, are detected. The Engineer may suspend production or placement operations until the problem is corrected.

At the expense of the Contractor and to the satisfaction of the Engineer, remove and replace any mixture that does not bond to the existing pavement or that has other surface irregularities identified above.

J. **Ride Quality.** Use Surface Test Type A to evaluate ride quality in accordance with Item 585, "Ride Quality for Pavement Surfaces," unless otherwise shown on the plans.

340.5. Measurement. Hot mix will be measured by the ton of composite hot mix, which includes asphalt, aggregate, and additives. Measure the weight on scales in accordance with Item 520, "Weighing and Measuring Equipment."

340.6. Payment. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Dense-Graded Hot-Mix Asphalt (Method)" of the type, surface aggregate classification, and binder specified. These prices are full compensation for surface preparation, materials including tack coat, placement, equipment, labor, tools, and incidentals.

Trial batches will not be paid for unless they are incorporated into pavement work approved by the Department.

Pay adjustment for ride quality, when required, will be determined in accordance with Item 585, "Ride Quality for Pavement Surfaces."

ITEM 341
DENSE-GRADED HOT-MIX ASPHALT (QC/QA)

341.1. Description. Construct a pavement layer composed of a compacted, dense-graded mixture of aggregate and asphalt binder mixed hot in a mixing plant.

341.2. Materials. Furnish uncontaminated materials of uniform quality that meet the requirements of the plans and specifications.

Notify the Engineer of all material sources. Notify the Engineer before changing any material source or formulation. When the Contractor makes a source or formulation change, the Engineer will verify that the specification requirements are met and may require a new laboratory mixture design, trial batch, or both. The Engineer may sample and test project materials at any time during the project to verify specification compliance.

A. **Aggregate.** Furnish aggregates from sources that conform to the requirements shown in Table 1, and as specified in this Section, unless otherwise shown on the plans. Provide aggregate stockpiles that meet the definition in this Section for either a coarse aggregate or fine aggregate. When reclaimed asphalt pavement (RAP) is allowed by plan note, provide RAP stockpiles in accordance with this Section. Aggregate from RAP is not required to meet Table 1 requirements unless otherwise shown on the plans. Supply mechanically crushed gravel or stone aggregates that meet the definitions in Tex-100-E. The Engineer will designate the plant or the quarry as the sampling location. Samples must be from materials produced for the project. The Engineer will establish the surface aggregate classification (SAC) and perform Los Angeles abrasion, magnesium sulfate soundness, and Micro-Deval tests. Perform all other aggregate quality tests listed in Table 1. Document all test results on the mixture design report. The Engineer may perform tests on independent or split samples to verify Contractor test results. Stockpile aggregates for each source and type separately. Determine aggregate gradations for mixture design and production testing based on the washed sieve analysis given in Tex-200-F, Part II. Do not add material to an approved stockpile from sources that do not meet the aggregate quality requirements of the Department's