CITY OF MORGAN HILL

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Addendum No. 4

DATE: **April 22, 2024**

TO: **ALL PLANHOLDERS OF THE 2024 PAVEMENT REHABILITATION PROJECT**

FROM: **YAT CHO – PROJECT ENGINEER**

RE: **CLARIFICATION**

1. **Under Technical Specification, Replace Section 12 Asphalt Concrete with 12R Asphalt Concrete.**
2. **Under Technical Specification, Replace Section 13 with Section 13R.**
3. **Under Technical Specification, Replace Section 20 with Section 20R.**
4. **Replace Bid Schedule II Revised in Addendum No. 2 with Attached Bid Schedule II 2nd Revised.**

Questions and Response from http:www.publicpurchase.com

1. For the East Dune Portion of this job. Please clarify material for the 2" Overlay & 6" Deep lift.
   - For final 2" overlay portion of East Dunne Avenue, 1/2" mix, no RAP, per specifications - Rubberized Hot Mix Asphalt (RHMA).
   - For 6" deeplift, use 3/4" mix, RAP allowed, final 2" will be RHMA.
2. Please confirm there is no RHMA mix on bid schedule 2. Paving plan & Roadway quantities call for 2" RHMA. Is this a error?
   - Checked with our consultant and RHMA is required for East Dunne Avenue portion of the work. Will be issuing an addendum to clarify.
3. Bid Schedule 2:
   Please clarify the unit for Item #12 as CF, not SF.
   Please clarify the quantity of Item #15.
   - Item #12 Concrete sidewalk is in square foot
   - Item #15, Concrete Curb and Gutter will be paid per Linear foot

ADDENDUM ACKNOWLEDGMENT

Bidder acknowledges receipt of this addendum, which shall be attached to the proposal.

_____ _____
Contractor's Representative Date

THIS DOCUMENT SHALL BECOME A PART OF THE PROJECT SPECIFICATIONS

12.0R ASPHALT CONCRETE

* Note: No percentage of RAP (Reclaimed Asphalt Pavement) Shall be permitted in the asphalt concrete placed as the final lift/wearing course on any of the City streets to be overlayed with this project.

a. Description: Asphalt concrete shall be used as an overlay and full depth AC pavement repair and the fill portion of work after milling of asphalt concrete. New pavement shall be furnished, placed, and compacted in accordance with Section 39 "Asphalt Concrete" of the CSS. Asphalt Concrete shall be compacted to a minimum 95 percent of Maximum Theoretical Density as determined by American Society of Testing Materials (ASTM) D-2041. Finished asphalt concrete pavements, which do not conform *to the specified*

In-Place Relative Compaction	*Pay Factor*
95% or greater	*100%*
90-94.9%	*20% Reduction in unit price*
89.9% or less	*Remove & Replace as directed*

b. Materials: The asphalt concrete for overlay and fill shall be Type A, 12.5 mm (1/2") medium maximum gradation. The asphalt concrete for full depth AC pavement repair and 6" Full Depth Asphalt Concrete shall be Type A, 19 mm (3/4") medium maximum gradation.

Asphalt binder shall be PG 64-10.

Asphalt shall conform to these Technical Provisions and not Section 92, "Asphalts," of the CSS.

Asphalt shall consist of refined petroleum or a mixture of refined liquid asphalt and refined solid asphalt, prepared from crude petroleum. Asphalt shall be:

a. Free from residues caused by the artificial distillation of coal, coal tar, or paraffin.
b. Free from water.
c. Homogeneous.

The Contractor shall furnish asphalt in conformance with Caltrans' "Certification Program for Suppliers of Asphalt." Caltrans maintains the program requirements, procedures, and a list of approved suppliers at:

http://www.dot.ca.gov/hq/esc/Translab/ormt/fpmcoc.htm

The Contractor shall ensure the safe transportation, storage, use, and disposal of asphalt. The Contractor shall prevent the formation of carbonized particles caused by overheating asphalt during manufacturing or construction.

Performance graded (PG) asphalt binder shall conform to the following:

Performance Graded Asphalt Binder

Property	AASHTO Test Method	Specification Grade				
		PG 58-22 [a]	PG 64-10	PG 64-16	PG 64-28	PG 70-10
Original Binder						
Flash Point, Minimum °C	T48	230	230	230	230	230
Solubility, Minimum % [b]	T44	99	99	99	99	99
Viscosity at 135°C, [c] Maximum, Pa·s	T316	3.0	3.0	3.0	3.0	3.0
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T315	58 1.00	64 1.00	64 1.00	64 1.00	70 1.00
RTFO Test [e], Mass Loss, Maximum, %	T240	1.00	1.00	1.00	1.00	1.00
RTFO Test Aged Binder						
Dynamic Shear, Test Temp. at 10 rad/s, °C Minimum G*/sin(delta), kPa	T315	58 2.20	64 2.20	64 2.20	64 2.20	70 2.20
Ductility at 25°C Minimum, cm	T51	75	75	75	75	75
PAV [f] Aging, Temperature, °C	R28	100	100	100	100	110
RTFO Test and PAV Aged Binder						
Dynamic Shear,	T315	22 [d] 5000	31 [d] 5000	28 [d] 5000	22 [d] 5000	34 [d] 5000
Test Temp. at 10 rad/s, °C Minimum G*sin(delta), kPa						

Creep Stiffness, Test Temperature, °C Maximum S-value, MPa Minimum M-value	T313	 -12 300 0.30 0	 0 300 0.30 0	 -6 300 0.30 0	 -18 300 0.30 0	 0 300 0.30 0

Notes:

a. For use as asphalt rubber base stock for high mountain and high desert area.
b. The Engineer will waive this specification if the supplier is a Quality Supplier as defined by the Caltrans' "Certification Program for Suppliers of Asphalt."
c. The Engineer will waive this specification if the supplier certifies the asphalt binder can be adequately pumped and mixed at temperatures meeting applicable safety standards.
d. Test the sample at 3°C higher if it fails at the specified test temperature. G*sin(delta) shall remain 5000 kPa maximum.
e. "RTFO Test" means the asphaltic residue obtained using the Rolling Thin Film Oven Test, AASHTO Test Method T240 or ASTM Designation: D 2827.
f. "PAV" means Pressurized Aging Vessel.

Performance based asphalt (PBA) binder shall conform to the following:

Performance Based Asphalt Binder

Property	AASHTO Test Method	Specification Grade			
		PBA 6a	PBA 6a(mod)	PBA 6b	PBA 7
Absolute Viscosity (60°C), Pa·s(x10^{-1}) [a]	T202				
Original Binder, Minimum RTFO Test Aged Residue [b], Minimum		2000 5000	2000 5000	2000 5000	1100 3000
Kinematic Viscosity (135°C), m^2/s(x10^{-} Original Binder, Maximum RTFO Test Aged Residue, Minimum	T201	2000 275	2000 275	2000 275	2000 275
Absolute Viscosity Ratio (60°C), Maximum RTFO Test Visc./Orig. Visc.	—	4.0	4.0	4.0	4.0
Flash Point, Cleveland Open Cup, °C Original Binder, Minimum	T48	232	232	232	232
Mass Loss After RTFO Test, %	T240	0.60	0.60	0.60	0.60
Solubility in Trichloroethylene, % [c] Original Binder, Minimum	T44	Report	Report	Report	Report

Ductility (25°C, 5 cm/min), cm RTFO Test Aged Residue [b], Minimum	T51	60	60	60	75
On RTFO Test Aged Residue, °C 1 to 10 rad/sec: SSD [e] □ 0 and Phase Angle (at 1 rad/sec) < 72°	[f]	—	35	—	—
On Residue from: PAV [g] at temp., °C Or Residue from Tilt Oven[t] (@113°C), Hours	R28	100 36	100 36	100 36	110 72
[e] SSD □ -115(SSV)-50.6, °C	[f]	—	—	—	25
Stiffness, Test Temperature, °C Maximum S-value, MPa Minimum M-value	T313	-24 300 0.300	-24 300 0.300	-30 300 0.300	-6 300 0.300

Notes:

a. Absolute viscosity (60°C) will be determined at one sec^{-1} using ASTM Designation: D 4957 with Asphalt Institute vacuum capillary viscometers.
b. "RTFO Test Aged Residue" means the asphaltic residue obtained using the Rolling Thin Film Oven Test (RTFO Test), AASHTO Test Method T240 or ASTM Designation: D 2827.
c. There is no requirement; however results of the test shall be part of the copy of test results furnished with the Certificate of Compliance.
d. "Residue from Tilt Oven " means the asphalt obtained using California Test 374, Method B, "Method for Determining Asphalt Durability Using the California Tilt-Oven Durability Test."
e. "SSD" means Shear Susceptibility of Delta; "SSV" means Shear Susceptibility of Viscosity.
f. California Test 381.
g. "PAV" means Pressurized Aging Vessel.

The Contractor shall provide a sampling device in the asphalt feed line connecting the plant storage tanks to the asphalt weighing system or spray bar. The sampling device shall be accessible between 600 and 750 mm above the platform. The Contractor shall provide a receptacle for flushing the sampling device.

The sampling device shall include a valve:

1. With a diameter between 10 and 20 mm.
2. Manufactured in a manner that a one-liter sample may be taken slowly at any time during plant operations.
3. Maintained in good condition.
4. The Contractor shall replace failed valves.

In the presence of the Engineer, the Contractor shall take 2 one-liter samples per operating day. The Contractor shall provide round friction top containers with one-liter capacity for storing samples.

Unless otherwise specified, the Contractor shall heat and apply asphalt in conformance with the provisions in Section 93, "Liquid Asphalts."

The Contractor shall apply paving asphalt at a temperature between 120°and 190°C. The Engineer will determine the exact temperature of paving asphalt.

a. Paint Binder (Tack Coat): Paint binder shall be applied to all horizontal and vertical surfaces to receive asphalt concrete surfacing. Paint binder shall be furnished and applied in accordance with Section 39-4.01, "Subgrade", Section 93 "Liquid Asphalts", and Section 94 "Asphaltic Emulsions".

b. Measurement and Payment: Full compensation for asphalt concrete shall be considered as included in the contract prices paid for "2" Fill (1/2" Asphalt Concrete),, 2" Fill (1/2" Rubberized Hot Mix Asphalt (RHMA), "3" Fill (1/2" Asphalt Concrete), "2" Asphalt Concrete Overlay", and "6" Full Depth Asphalt Concrete Pavement Repair (Revokable)", "4" Full Depth Asphalt Concrete Pavement Repair", "6" Full Depth Asphalt Concrete Replace" and "15" Deep Full Depth Asphalt Concrete" and no additional payment will be madetherefor.

13.0R 2" Fill ½" Asphalt Concrete, 2" Fill (1/2" Rubberized Hot Mix Asphalt (RHMA), 3" Fill ½" Asphalt Concrete, 2" Asphalt Concrete Overlay, and Asphalt Concrete 3/8" mix (for Raising all Utility Lids/Vaults)

a. Description: The edges of the existing road or where designated shall be wedge and conform ground to their specified depths, then overlain with asphalt concrete; thickness for overlay shall be 50 mm (2" or .17'), 2" for 2" Fill ½", 3" for 3" Fill ½" and 2" for 2" Asphalt Concrete Overlay. See "Pavement Milling" section for technical specifications on milling.

The surface, when compacted, shall be smooth, dense, well bonded, and of uniform texture and appearance. The compacted surface course of asphalt concrete shall be free from ruts, humps, depressions or irregularities. When a straightedge 3.6 meters (12 feet) long is laid on the finished surface and parallel with the centerline of the road or driveway, the surface shall not vary more than .006 meters (0.02 foot) from the lower edge of the straightedge. The transverse slope of the finished surface shall be uniform to a degree such that no depressions greater than 0.02 foot are present when tested with a straight-edge, 12 foot long, laid in a direction transverse to the center line and extending from edge to edge of a 3.05 meter (10 foot) pass.

Any ridges, indentations or other objectionable marks left in the surface of the asphalt concrete shall be eliminated by rolling or other means. The use of any equipment that leaves ridges, indentations or other objectionable marks in the asphalt concrete shall be discontinued. Asphalt concrete pavement shall include the application of a paint binder.

In addition to the requirements in Section 39-5.01, "Spreading Equipment," of the CSS, asphalt-paving equipment shall be equipped with automatic screed controls and a sensing device or devices. When placing asphalt concrete the automatic controls shall control the longitudinal grade and transverse slope of the screed. Grade and slope references shall be furnished, installed and maintained by the Contractor. Ski devices shall be a minimum length of at least 30 feet with a rigid one-piece unit whereby the entire length activates the sensor.

When placing contiguously with previously placed mats, the end of the screed adjacent to the previously placed mat shall be controlled by a sensor that responds to grade of the previously placed mat and will reproduce the grade in the new mat within a 0.01- foot tolerance.

Should the method and equipment furnished by the Contractor fail to produce a layer of asphalt concrete conforming to the above requirements, including straightedge tolerance of Section 39-6.03, the paving operations shall be discontinued upon notice of the Engineer, and the Contractor shall modify his equipment or furnish substitute equipment within three (3) working days of such notice of the Engineer.

The area to which paint binder has been applied shall be closed to public traffic. All possible care shall be taken to avoid tracking binder material onto existing pavement surfaces beyond the limits of construction. A drop-off of more than 0.10-foot will not be allowed at any time between adjacent lanes open to public traffic.

The Contractor shall be responsible for temporary pavement delineation and markings as required by the Engineer for the maintenance of a safe traveled way. The Contractor shall be responsible for providing a safe and well-marked roadway. This shall include providing temporary striping during evening and weekend hours if specified by the Engineer.

The Contractor will be required to have a qualified quality control personnel on site during the paving operation and will be required to furnish compaction testing results to the City.

- ***When paving any roadway without backed edges, the contractor will be responsible to add a new aggregate base edge or asphalt sweeping (up to 4' wide) from street sweeping operation***

Materials: The asphalt concrete for overlay shall be Type A, 12.5 mm (½") medium maximum gradation, in accordance with CSS. Asphalt binder shall be PG 64-10. **Note: No percentage of RAP (Reclaimed Asphalt Pavement) Shall be permitted in the asphalt concrete placed as the final lift/wearing course on any of the City streets to be overlayed with this project**

b. Paint Binder (Tack Coat): Paint binder shall be applied to all horizontal and vertical surfaces to receive asphalt concrete surfacing. Paint binder shall be furnished and applied in accordance with Sections 39-4.01 "Subgrade", and Section 93 "Liquid Asphalts", and Section 94 "Asphaltic Emulsions".

c. Measurement and Payment: The contract unit prices paid per ton "2" Fill ½" Asphalt Concrete", **2" Fill (1/2" Rubberized Hot Mix Asphalt (RHMA),** "3" Fill ½" Asphalt Concrete", and "2" Asphalt Concrete Overlay", shall be measured by the ton compacted in place in accordance with Section 39-8.01 "Measurement" of the CSS. No payment shall be made for materials placed outside of the limits marked by the Engineer. for compensation for furnishing all labor, material, equipment, tools, and incidentals and for doing all work involved in installing asphalt concrete, complete in place, including staged construction, temporary conforms, traffic control, flagging, temporary striping and delineation, prime coats, tack coats and paint binders as described above, as shown on the plans, as specified herein and as directed by the Engineer.

20.0R CONCRETE SIDEWALK, CURB, CURB & GUTTER, AND ADA RAMP

A. Description: This work consists of the removal and replacement of concrete sidewalk and the removal and replacement of concrete curb, concrete curb and gutter, and ADA ramp installation.

Sidewalk replacement Work includes: sawcutting, removal and disposal of existing sidewalk, sawcutting, expansion joints if required, score joints, removal/replacement & compaction of base material, formwork, curing compound, rebar doweling, and fine grading behind sidewalk to blend with existing landscaping per 2007 City Standard Details, to the dimensions at the locations listed in these special provisions or as directed by the Engineer and in conformance with Section 73 A Concrete

Curbs and Sidewalks@, Section 15 Existing Highway Facilities@ of the CSS and the City's Standard Details for construction.

Curb and Curb and gutter replacement work includes, removal and disposal of existing curb and gutter, saw-cutting, expansion joint if required, score joints, removal/replacement & compaction of base material, formwork, curing compound, and rebar doweling and asphalt removal and replacement, per 2007 City Standard Details, to the dimensions at the locations listed in these special provisions or as directed by the Engineer and in conformance with Section 73 Concrete Curbs and Sidewalks@, Section 15 Existing Highway Facilities@, and Section 90 "Portland Cement Concrete" of the CSS and the 2007 City Standard Details for Construction.

1. Submittals: Concrete mix design, concrete curing compound, asphalt mix design, and aggregate baserock mix design

2. Order of Work: Contractor shall demo concrete sidewalk or curb & gutter. Contractor shall perform demo and replacement of sidewalk and all incidentals at each location within 10 working days.

3. Materials:

   Portland Cement Concrete: Portland cement concrete shall be in conformance with Section 90 "Portland Cement Concrete" of the CSS for Class B Concrete.

   Curing Compound: shall be in conformance with Section 90 "Portland Cement Concrete" of the CSS.

   Asphalt Concrete: Asphalt concrete used shall be Type A, 1/2" medium in accordance with Section 39 of the CSS.

   Aggregate base: AB shall be Class 2, 3/4" maximum grading, and shall conform to the provisions in Section 26, "Aggregate Bases", of the Standard Specifications and these special provisions.

   Measurement and Payment: The contract linear foot price paid under "Remove Curb and Gutter" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in compliance with the CSS and these Technical Provisions.

   The contract linear foot price paid under "Remove Sidewalk and Curb Ramp" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in compliance with the CSS and these Technical Provisions.

   The contract square foot price paid under "Concrete Sidewalk" and "Concrete Curb Ramp" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in compliance with the CSS and these Technical Provisions.

   The contract linear foot price paid under "Concrete Curb (Type A1)" and "Curb and Gutter (Type A2)" shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all work involved in compliance with the CSS and these Technical Provisions.

BID SCHEDULE II 2nd REVISED – EAST DUNNE AVENUE OVERPASS

2024 PAVEMENT REHABILITATION PROJECT

This Bid Schedule must be completed in ink and included with the sealed Bid Proposal. Pricing must be provided for each Bid Item as indicated. Items marked "(SW)" are Specialty Work that must be performed by a qualified Subcontractor. The lump sum or unit cost for each item must be inclusive of all costs, whether direct or indirect, including profit and overhead. The sum of all amounts entered in the "Extended Total Amount" column must be identical to the Base Bid price entered in Section 1 of the Bid Proposal Form. Quantities shown are required for bid purposes and may or may not be final pay quantities. Actual quantities, if different, must be substantiated during the Project by the Contractor (either by field measurement, trucking tags, or other means acceptable to the Engineer).

AL = Allowance CF = Cubic Feet CY = Cubic Yard EA = Each LB = Pounds
LF = Linear Foot LS = Lump Sum SF = Square Feet TON = Ton (2000 lbs.)

Bid Item No.	Description of Bid Item	Estimated Quantity/Unit of Measure	Unit Price	Extended Total Amount
1	Mobilization (Up to 5%)	LS	$	$
2	Mobilization for Cattracking and Striping	1 EA	$	$
3	Traffic Control Systems	LS	$	$
4	Remove Pavement Striping, Markings, and Makers	LS	$	$
5	4" Full Depth Pavement Repair	3000 SF	$	$
6	**6" Full Depth Asphalt Concrete Removal (20' wide Grind – 6" Deep) and Replace**	**3750 SF**	**$**	**$**
7	2" Full Pavement Grind/Mill	167,000 SF	$	$
8	**2" Fill (1/2" Rubberized Hot Mix Asphalt (RHMA) and No Reclaimed Asphalt Pavement)**	2,200 Tons	$	$
9	Type II Slurry Seal	2625 SY	$	$
10	Remove Curb and Gutter	140 LF	$	$

11	Remove Sidewalk and Curb Ramp	1275 SF	$	$
12	Concrete Sidewalk	330 SF	$	$
13	Concrete Curb Ramp	405 SF	$	$
14	Concrete Curb (Type A1)	98 LF	$	$
15	Concrete Curb and Gutter (Type A2)	**140 LF**	$	$
16	15” Deep Full Depth Asphalt Concrete	35 Tons	$	$
17	Detectable Warning Surface	180 SF	$	$
18	Locate, Lower and Raise Hand Hole Box and Cover	11 EA	$	$
19	Locate, Lower and Raise Water Valve Box and Cover	10 EA	$	$
20	Locate Lower and Raise Manhole Frame and Cover	13 EA	$	$
21	Type E Traffic Detection Loops	58 EA	$	$
22	Type E (Modified) Traffic Detection Loops	16 EA	$	$
23	8” Striping White	45 LF	$	$
24	12” Striping White	110 LF	$	$
25	Caltrans Detail 9	5813 LF	$	$
26	Caltrans Detail 25	3341 LF	$	$
27	Caltrans Detail 27B	407 LF		
28	Caltrans Detail 37B	392 LF		
29	Caltrans Detail 38	1312 LF	$	$
30	Caltrans Detail 39	3064 LF	$	$
31	Caltrans Detail 39A	269 LF	$	
32	Bike Lane Symbol with Person and Bike Lane Arrow	3 EA	$	$
33	Type I (24’-0”) Arrow	6 EA	$	$
34	Type I (10’ -0”) Arrow	2 EA	$	$
35	Type III (L) Arrow	2 EA	$	$
36	Type III (R) Arrow	4 EA		
37	Type IV (L) Arrow	8 EA	$	$
38	Type IV (R) Arrow	2 EA	$	$

39	Type VII (R) Arrow	2 EA		
40	Yield Line Triangles	8 EA	$	$
41	Preformed Green Thermoplastic Markings (Detail A)	1860 SF	$	$
42	Preformed Green Thermoplastic Markings (Detail B)	1680 SF	$	$
43	Preformed Green Thermoplastic Markings (Detail C)	450 SF	$	$
44	New Signage with Post, including Foundation	12 EA	$	$
45	Remove and Relocate Signage with New Post, including Foundation	5 EA	$	$
46	Yield Line Triangles	8 EA	$	$
47	High Visibility X-Walk Striping (Thermo) 12" White	952 LF	$	$
48	High Visibility X-Walk Striping (Thermo) 24" White	900 LF	$	$
49	Caltrans Encroachment Permit	LS	$	$

Bid Schedule II Total	

END OF BID SCHEDULE II

***Final Pay Quantity**

TOTAL BASE BID: Bid Schedule I Total + Bid Schedule II Total inclusive:
$_____

Note: The amount entered as the "Total Base Bid" should be identical to the Base Bid amount entered in Section 1 of the Bid Proposal form.