

BID SOLICITATION



City of Chattanooga
101 East 11th Street, Suite G13
Chattanooga TN 37402

BID OPENING DATE AND TIME:
09/24/2008 2:00 PM
BID NUMBER: B0005488

BUYER: Hipp, Geoffrey
PHONE #: (423) 757 - 4758 ext.
DELIVERY REQUIRED: 09/24/2008 2:00 PM

M City of Chattanooga
A 101 East 11th Street, Suite G13
I Chattanooga TN 37402
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SEALED BIDS

Mail or submit two (2) signed copies of bid form to this office in the enclosed envelope. Retain one copy for your file.

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Item	Class-Item	Quantity	Unit	Unit Price	Total
	Requisition No.: R0112985 Ordering Dept.: Traffic Operations Buyer: Geoffrey Hipp 423-757-4758 DESCRIPTION: This shall be a twenty-four (24) month requirements contract for the supply and delivery of Waterborne Traffic Paint for the Traffic Operations Division. The contract may be renewed for one (1) additional twelve (12) month term under the same Terms and Conditions by Mutual Agreement. The City of Chattanooga and the Contractor may bilaterally extend the contract by Written Confirmation by both parties at least 30 days prior to the contract's current expiration date into any successive term as provided herein. ATTACHMENTS: - Specifications - Affirmative Action Plan - Standard Terms and Conditions: (http://www.chattanooga.gov/Finance/66_StandardTermsandCondition or call for copy) * *** BIDS MUST BE RECEIVED NO LATER THAN *** ***** 2:00 PM ON SEPTEMBER 24, 2008 ***** * PLEASE SUBMIT BIDS IN DUPLICATE NOTE: All bids received are subject to the terms and conditions contained herein and as listed in the above referenced website. The undersigned Bidder acknowledges having received, reviewed, and agrees to be bound to these terms and conditions, unless specific written exceptions are otherwise stated.				

NOTE: ALL BIDS RECEIVED ARE SUBJECT TO THE TERMS AND CONDITIONS.

ALL BIDS MUST BE SIGNED: The undersigned offers the above quoted prices under the conditions contained herein.

The City is Exempt from all Federal and State Tax.
Bids will be received at the above mentioned address.

COMPANY: _____

SIGNATURE: _____

NAME AND TITLE: _____

TERMS OF PAYMENT: _____

TELEPHONE NUMBER: _____

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Item	Class-Item	Quantity	Unit	Unit Price	Total
	<p>The City of Chattanooga reserves the right to reject any and/or all bids, waive any informalities in the bids received, and to accept any bid which in its opinion may be for the best interest of the city.</p> <p>The City of Chattanooga will be non-discriminatory in the purchase of all goods and services on the basis of race, color, or national origin.</p> <p>PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION:</p> <p>Company Name _____</p> <p>Address _____</p> <p>Phone/Toll-Free No. _____</p> <p>Fax No. _____</p> <p>E-Mail Address _____</p> <p>Contact Person's Name _____</p> <p>Estimated Delivery _____</p> <p>Minority-Owned Business ___ Small Business ___ Veteran ___</p> <p>Minority Woman Owned Business ___ Disabled Veteran ___</p> <p>Women-Owned Business ___</p> <p>***** ALL ITEMS MUST BE QUOTED F.O.B. DESTINATION ****</p>				
1.0	630-66 Non-Reflectorized White Waterborne Traffic Paint, maximum 45 second dry (Per 55 gallon drum)	1.00	DM		
2.0	630-66 Non-Reflectorized Yellow Waterborne Traffic Paint, maximum 45 second dry (Per 55 gallon drum)	1.00	DM		
				TOTAL:	

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TELEPHONE NUMBER: _____

SPECIFICATIONS

- 1.2. This specification describes the system which consists of an acrylic, high build, fast drying, white and yellow waterborne traffic marking paint; bonded core elements; and glass beads that can be used on bituminous and Portland cement concrete pavements
- 1.3. The waterborne traffic marking paint shall be applied by spray method onto asphalt cement concrete and Portland cement concrete surfaces and immediately followed by application of bonded core reflective elements and glass beads. Upon drying, the resulting traffic marking shall be adherently reflectorized and capable of resisting deformation by traffic.

2. REQUIREMENTS — PAINT ONLY

2.1. General

The markings shall be comprised of a durable, low VOC, fast drying, white and yellow waterborne traffic paint with an acrylic polymer emulsion and with reflective media adhered to the paint. The reflective media shall consist of glass beads as well as bonded core reflective elements.

2.2. Composition

2.2.1 Waterborne Traffic Marking Paint

The finished paint shall be formulated and manufactured from first-grade materials and shall be a fast drying, water based, acrylic resin type paint capable of withstanding air and roadway temperatures without bleeding, staining, discoloring, or deforming.

2.2.1.1 Condition in the Container

The paint, as received, shall show no evidence of; biological growth, corrosion of the container, livering or hard settling. The paint shall be returned to a smooth and homogeneous consistency, which is free from; gel structures, persistent foam or air bubbles - using only hand mixing.

2.2.1.2 Shelf life

When stored in a three-quarters filled can for a period of thirty days, the paint shall be in a homogeneous state with no skinning, curdling, hard settling or caking that cannot be readily remixed

2.2.1.3 Degree of Settling, minimum, ASTM D869

<u>White</u>	<u>Yellow</u>
7	7

A 500 ml (1 pint) paint can is filled with a well mixed sample. The can is capped and allowed to set undisturbed at ¹standard conditions for 14 days. The settling is then determined as specified in ASTM D869. The 1-quart laboratory samples of each batch, as received, shall also pass this test.

2.2.1.4 Nonvolatile Content, Weight %, ASTM D2369

<u>White</u>	<u>Yellow</u>
77	76
±2.0	±2.0

¹ Standard conditions are defined here as: 23±2°C and 50±5% relative humidity.

	<u>White</u>	<u>Yellow</u>
2.2.1.5 Pigment Content, Weight %, ASTM D3723	60 ±2.0	58 ±2.0

	<u>White</u>	<u>Yellow</u>
2.2.1.6 % Nonvolatile in Vehicle (%NVV), Weight %, minimum	42	42

Calculated as: % NVV = $\frac{\% \text{Nonvolatile Content} - \% \text{Pigment}}{100 - \% \text{Pigment}} \times 100$

	<u>White</u>	<u>Yellow</u>
2.2.1.7 Density, g/ml at 25°C, ASTM D1475	1.68 +/- 0.04 (14.0 lbs/gallon)	1.63 +/- 0.04 (13.6 lbs/gallon)

	<u>White</u>	<u>Yellow</u>
2.2.1.8 Consistency, K.U. at 25 ±1°C ASTM D562A	80-95	80-95

	<u>White</u>	<u>Yellow</u>
2.2.1.9 Fineness of Dispersion, Hegman, minimum, ASTM D1210	3.0	3.0

	<u>White</u>	<u>Yellow</u>
2.2.1.10 Dry to No Pick-Up Time, without beads, minutes, maximum, ASTM D711	10	10

	<u>White</u>	<u>Yellow</u>
2.2.1.11 Dry Through, at 90% Relative Humidity, minutes, maximum ASTM D1640	120	120

A 15 mil wet film of the candidate paint placed immediately in a humidity chamber maintained at 72.5°F ± 2.5°F and 90% ± 3 relative humidity shall have a "dry-through" time less than, equal to, or up to 15 minutes longer than the specifier's laboratory reference paint when run at or close to the same time. Alternatively, 120 minutes maximum dry through can be used. The dry through time must be tested in accordance with ASTM D1640, except that the pressure exerted will be the minimum needed to maintain contact between the thumb and film.

	<u>White</u>	<u>Yellow</u>
2.2.1.12 Volatile Organic Compounds (VOC), grams per liter of paint, excluding water, maximum.	150	150

Use ASTM D3960 or other approved method in effect at the time of paint manufacture to determine the VOC level and water content of the paint.

	<u>White</u>	<u>Yellow</u>
2.2.1.13 Flashpoint, °C, minimum, ASTM D93 Method A	60	60

	<u>White</u>	<u>Yellow</u>
2.2.1.14 Flexibility, ASTM D522 Method B	Pass	Pass

Use 100x150 mm tin-plated steel panels 250µm thick. Prepare the panel by lightly buffing one side with Grade 0 (medium-fine) steel wool, followed by cleaning with toluene and drying. Draw down the paint on the buffed side of the panel to a wet film thickness of 130µm. Air dry the panels for 24 hours at standard conditions, then bake for 5 hours at

105±2°C and finally condition the panel for 30 minutes at standard conditions. Bend the panel 180° over a 13 mm mandrel in 1 second, then examine under a magnification of 10 diameters. The paint film shall not; crack, chip or flake when the panel is bent around the mandrel.

	<u>White</u>	<u>Yellow</u>
2.2.1.14 Appearance	Pass	Pass

Draw down a 330µm thick wet film of the paint on a glass plate and allow to dry for 24 hours at standard conditions. The paint shall produce a film which is smooth, uniform, and free from; grit, undispersed particles, craters, pinholes and cracking.

	<u>White</u>	<u>Yellow</u>
2.2.1.15 Dry Opacity, minimum	0.93	0.87

On a black-white Leneta chart, Form 2C-Opacity, draw down a uniform 130µm (± 5µm) thick wet film of paint covering both the black and white portions of the chart. Measure the wet film thickness with an appropriate gauge. Dry for 24 hours at standard conditions. Use a BYK-Gardner "Color-Guide" Spectrophotometer to measure the opacity according to the manufacturer's instructions. Calibrate the spectrophotometer according to the manufacturer's instructions using; 2° Observer/Illuminant "C" measurement conditions, and the (Y, x, y) color system.

	<u>White</u>	<u>Yellow</u>
2.2.1.16 Yellowness Index, maximum	8	-

Draw down a 330µm thick wet film of the white paint on two 75x150 mm chromate treated aluminum panels (i.e.: Q Panel Co., type AL). Dry for 24 hours at standard conditions. Save one panel for the Accelerated Weathering test (section 2.2.1.19). Using a BYK-Gardner "Color-Guide" Spectrophotometer, follow the manufacturer's instructions, and measure the Yellowness Index of the white paint film using the ASTM E313 mode.

	<u>White</u>	<u>Yellow</u>
2.2.1.17 Daylight Luminous Reflectance	≥87	47-60

Using the draw down panels prepared in sections 2.2.1.15, measure the reflectance of the white and yellow paint films using the BYK-Gardner "Color-Guide" Spectrophotometer. Follow the manufacturer's instructions to obtain the Reflectance or "Y" value

2.2.1.18 Yellow Color

Draw down the yellow paint on two chromate treated aluminum panels as described in section 2.2.1.16. One panel should be used for the Accelerated Weathering test (section 2.2.1.19). Retain the other yellow panel as a control and for the Reflectance test. The yellow color shall match Federal Standard 595b, color #33538

2.2.1.19 Accelerated Weathering Test

Ultraviolet Light and Condensate Exposure, 300 hours total,
ASTM; G154 and G151.

Prepare samples of the white and yellow paints as described in sections 2.2.1.16 and 2.2.1.18 Alternately expose the samples to; eight hours of UV exposure at 60°C; followed by four hours condensate exposure at 50°C - in a QUV Accelerated Weathering Tester. Type UVA-340 bulbs are used at an irradiance level of 0.77 watts per square meter per nm. at 340 nm., as measured at the sample surface during the UV cycle. After 300 hours total exposure the paint samples shall meet the requirements below.

White - Yellowness Index after weathering, maximum, 12
Yellow - Must pass Yellow Color test after weathering

	<u>White</u>	<u>Yellow</u>
2.2.1.20 Scrub Resistance, cycles, minimum	800	800

Follow the procedure in ASTM D2486. Prepare a panel using an appropriate bird doctor blade that will produce a uniform dry film thickness of paint between 80 and 100µm. Dry the panel for 7 days at standard conditions. The panel shall require more than 800 cycles to remove the paint film in one continuous line across the width of the shimmed area.

	<u>White</u>	<u>Yellow</u>
2.2.1.21 Lead, mg/kg in dried paint, maximum, ASTM D3335	20	20

The white & yellow paints shall be free of lead, mercury, cadmium, hexavalent chromium and other toxic heavy metals as defined by the United States Environmental Protection Agency.

	<u>White</u>	<u>Yellow</u>
2.2.1.22 Chromium, mg/kg in dried paint, maximum, ASTM D3718	5	5

	<u>White</u>	<u>Yellow</u>
2.2.1.23 Thick Application Cracking Resistance	Pass	Pass

On a black-white Leneta chart, Form 2C-Opacity, draw down a stripe of the paint 75 mm wide and at least 150 mm long and having a $1530 \pm 130 \mu\text{m}$ wet film thickness. Allow the paint to dry for 48 hrs. at standard conditions on a horizontal surface. After 48 hrs. the paint film shall not contain any cracks.

	<u>White</u>	<u>Yellow</u>
2.2.1.24 pH minimum ASTM E70	9.9	9.9

2.2.2. Acrylic Polymer Emulsion

The paint shall consist of a commercial high-build acrylic polymer emulsions.

2.2.3. Reflective Media

The reflective media shall be made up of reflective bonded core elements and glass beads for drop-on application and shall conform to the following requirements:

NOT PART OF
THIS PURCHASE

3. Characteristics of Finished Traffic Marking

Because of normal variances in road surfaces, application processes, and measurement, the properties of markings made from the materials specified herein will vary from one installation to the next. When the materials are applied according to the specifications in Section 3, they shall be capable of forming markings with the following reproducibility of properties:

3.1 Skid Resistance

The average initial skid resistance shall be 45 BPN or greater when tested according to ASTM E303.

3.2 Retro-Reflectance

The initial retro-reflectance averaged over many installations shall be at least the values in the following table:

Retroreflectivity	(mcd(ft ²)(fc ⁻¹)) {metric equivalent mcd(m ⁻²)(lux ⁻¹)}	
	White	Yellow
Dry	350	275
Wet recovery (ASTM 2177)	350	275
Wet continuous (ASTM 2176)	100	75

The initial retroreflectance of a single installation shall be the average value determined according to the measurement and sampling procedures outlined in ASTM D 6359, using a 30-meter (98.4 feet) retroreflectometer. The 30-meter retroreflectometer shall measure the coefficient of retroreflected luminance, R_L , at an observation angle of 1.05 degrees and an entrance angle of 88.76 degrees. R_L shall be expressed in units of millicandelas per square foot per foot-candle [(mcd(ft²)(fc⁻¹)). The metric equivalent shall be expressed in units of millicandelas per square meter per lux [mcd(m²)(lux⁻¹)).

Initial performance of pavement markings shall be measured within 7 days after application.

3.3 On-the-road Track-Free Time:

When installed at 77° F and at a wet film thickness of 25±2 mils, the markings shall reach a no-track condition in less than 5 minutes. Track-free shall be considered as the condition where no visual deposition of the traffic paint marking to the pavement surface is observed when viewed from a distance of 50 feet, after a free-rolling traveling vehicle's tires have passed over the line. The track-free time shall not increase substantially with decreasing temperature.

3.4 Color after Application

The color of the applied white and yellow stripes and markings (with beads) shall conform to the daytime and nighttime color requirements in ASTM Designation: D 6628.

Affirmative Action Plan

The City of Chattanooga is an equal opportunity employer and during the performance of this Contract, the Contractor agrees to abide by the equal opportunity goals of the City of Chattanooga as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or handicap.
3. The Contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice advising said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. In all construction contracts or subcontracts in excess of \$10,000 to be performed for the City of Chattanooga, any contractor and/or subcontractor is further required to file in duplicate within ten (10) days of being notified that it is the lowest responsible bidder, an affirmative action plan with the EEO Director of the City of Chattanooga. This plan shall state the Contractor's goals for minority and women utilization as a percentage of the work force on this project.
5. This Plan or any attachments thereto shall further provide a list of all employees annotated by job function, race, and sex who are expected to be utilized on this project. This plan or attachment thereto shall further describe the methods by which the Contractor or Subcontractor will utilize to make good faith efforts at providing employment opportunities for minorities and women.

During the term of this contract, the Contractor upon request of the City, will make available for inspection by the City of Chattanooga copies of all payroll records, personnel documents and similar records or documents that may be used to verify the Contractor's compliance with these Equal Opportunity provisions.

6. The Contractor will include the portion of the sentence immediately preceding paragraph 1 and the provisions of paragraph 1 through 6 in every subcontract so that such provisions will be requested of each subcontractor. The Contractor agrees to notify the City of Chattanooga of any subcontractor who refuses or fails to comply with these equal opportunity provisions. Any failure or refusal to comply with these provisions by the contractor and/or subcontractor shall be a breach of this contract.

(Signature of Contractor)

(Title and Name of Company)

(Date)
