



INVITATION TO BID NO: 10-X-2216652

STATE OF ALABAMA
DEPARTMENT OF FINANCE
DIVISION OF PURCHASING

REQ. AGENCY : 999999
PURCHASING DIVISION
AGENCY REQ. NO. :
T-NUMBER : TA156
DATE ISSUED : 03/10/10
VENDOR NO. :
VENDOR PHONE NO. :
SNAP REQ. NO. : 1436295
BUYER NAME : CRIST WATTS

INVITATION TO BID

FOR: TAG SHEETING FOR ACI

BUYER PHONE NO. : (334) 242-4291-
PURCHASING PHONE NO: (334) 242-7250

BID MUST BE RECEIVED BEFORE:
DATE: 03/31/10 TIME: 5:00 PM

BIDS WILL BE PUBLICLY OPENED:
DATE: 04/01/10 TIME: 10:00 AM

TO BE COMPLETED BY VENDOR

INFORMATION IN THIS SECTION SHOULD BE PROVIDED, AS APPROPRIATE. BID RESPONSE MUST BE IN INK OR TYPED WITH ORIGINAL SIGNATURE AND NOTARIZATION.

1. DELIVERY: CAN BE MADE _____ DAYS OR _____ WEEKS AFTER RECEIPT OF ORDER
2. TERMS: _____(DISCOUNTS ARE TAKEN WITHOUT REGARD TO DATE OF PAYMENT.)
3. PRICE VALID FOR ACCEPTANCE WITHIN _____ DAYS.
4. VENDOR QUOTATION REFERENCE NUMBER, IF ANY: _____
(THIS NUMBER WILL APPEAR ON THE PURCHASE ORDER.)
5. E-MAIL ADDRESS: _____
INTERNET WEBSITE: _____
6. GENERAL CONTRACTOR'S LICENSE NO: _____
TYPE OF G.C. LICENSE: _____

***** IMPORTANT NOTE: *****

BIDDERS MUST COMPLY WITH ALL "BID RESPONSE INSTRUCTIONS" ON PAGE 2, TO INCLUDE ITEM 7 - COPY REQUIREMENT.

RETURN INVITATION TO BID:

US MAIL

COURIER

STATE OF ALABAMA
DEPARTMENT OF FINANCE
DIVISION OF PURCHASING
P O BOX 302620
MONTGOMERY, AL 36130-2620

STATE OF ALABAMA
DIVISION OF PURCHASING
RSA UNION BUILDING
100 N. UNION ST., SUITE 192
MONTGOMERY, AL 36104

SIGNATURE AND NOTARIZATION REQUIRED

I HAVE READ THE ENTIRE BID AND AGREE TO FURNISH EACH ITEM OFFERED AT THE PRICE QUOTED. I HERBY AFFIRM I HAVE NOT BEEN IN ANY AGREEMENT OR COLLUSION AMONG BIDDERS IN RESTRAINT OF FREEDOM OF COMPETITION BY AGREEMENT TO BID AT A FIXED PRICE OR TO REFRAIN FROM BIDDING.

SWORN TO AND

FEIN OR SSN

AUTHORIZED SIGNATURE (INK)

SUBSCRIBED BEFORE ME THIS

COMPANY NAME

TYPE/PRINT AUTHORIZED NAME

_____ DAY OF _____

MAIL ADDRESS

TITLE

NOTARY PUBLIC

CITY, STATE, ZIP

TOLL FREE NUMBER

TERM EXP: _____

PHONE INCLUDING AREA CODE

FAX NUMBER

STANDARD TERMS & CONDITIONS

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AUTHORITY:

THE DEPARTMENT OF FINANCE CODE OF ADMINISTRATIVE PROCEDURE, CHAPTER 355-4-1 EFFECTIVE DECEMBER 20, 2001 IS INCORPORATED BY REFERENCE AND MADE A PART OF THIS DOCUMENT. TO RECEIVE A COPY CALL (334)242-7250, OR OUR WEBSITE WWW.PURCHASING.ALABAMA.GOV .

INFORMATION AND ASSISTANCE TO MINORITY AND WOMEN-OWNED BUSINESSES IN ACQUIRING M/WBE CERTIFICATION MAY BE OBTAINED FROM THE OFFICE OF MINORITY BUSINESS ENTERPRISE, 1-800-447-4191.

BID (ITB) RESPONSE INSTRUCTIONS REV: 01/14/10

1. TO SUBMIT A RESPONSIVE BID, READ THESE INSTRUCTIONS, ALL TERMS, CONDITIONS AND SPECIFICATIONS.
2. BID ENVELOPES/PACKAGES/BOXES MUST BE IDENTIFIED ON FRONT, PREFERABLY LOWER LEFT CORNER AND BE VISIBLE WITH THE BID NUMBER AND OPENING DATE. EACH INDIVIDUAL BID (IDENTIFIED BY A UNIQUE BID NUMBER) MUST BE SUBMITTED IN A SEPARATE ENVELOPE. RESPONSES TO MULTIPLE BID NUMBERS SUBMITTED IN THE SAME ENVELOPE/COURIER PACKAGE, THAT ARE NOT IN SEPARATE ENVELOPES PROPERLY IDENTIFIED, WILL BE REJECTED. THE DIVISION OF PURCHASING DOES NOT ASSUME RESPONSIBILITY FOR LATE BIDS FOR ANY REASON INCLUDING THOSE DUE TO POSTAL, OR COURIER SERVICE. BID RESPONSES MUST BE IN THE DIVISION OF PURCHASING OFFICE PRIOR TO THE "RECEIVE DATE AND TIME" INDICATED ON THE BID.
3. BID RESPONSES (PAGE 1, PRICE SHEET AND ADDENDUMS (WHEN SIGNATURE IS REQUIRED)) MUST BE IN INK OR TYPED ON THIS DOCUMENT. OR EXACT FORMAT WITH SIGNATURES BEING HANDWRITTEN ORIGINALS IN INK (PERSON SIGNING BID, NOTARY, AND NOTARY EXPIRATION), OR THE BID WILL BE REJECTED. UNLESS INDICATED IN THE BID, ALL PRICE PAGES MUST BE COMPLETED AND RETURNED. IF AN ITEM IS NOT BEING BID, IDENTIFY IT AS NB (NO-BID). PAGES SHOULD BE SECURED. THE DIVISION OF PURCHASING DOES NOT ASSUME RESPONSIBILITY FOR MISSING PAGES. FAXED BID RESPONSES WILL NOT BE ACCEPTED.
4. THE UNIT PRICE ALWAYS GOVERNS REGARDLESS OF THE EXTENDED AMOUNT. A UNIT PRICE CHANGE ON A LINE MUST BE INITIALED BY THE PERSON SIGNING THE BID, OR THAT LINE WILL BE REJECTED. THIS INCLUDES A CROSS-OUT, STRIKE-OVER, INK-OVER, WHITE-OUT, ERASURE, OR ANY OTHER METHOD CHANGING THE PRICE.
5. A "NO BID" MUST BE RETURNED TO REMAIN ON A CLASS/SUBCLASS. RETURN PAGE 1 OR NOTIFICATION PAGE MARKED "NO-BID". IDENTIFY IT ON THE ENVELOPE AS A "NO-BID". FAILING TO RESPOND TO 3 ITB'S WITHIN THE SAME CLASS/SUBCLASS WILL AUTOMATICALLY PURGE THE VENDOR FROM THAT CLASS/SUBCLASS. RESPONDING WITH 6 "NO-BIDS" WITHIN THE SAME CLASS/SUBCLASS WILL AUTOMATICALLY PURGE THE VENDOR FROM THAT CLASS/SUBCLASS. A "NO-BID" RECEIVED LATE IS CONSIDERED A NO RESPONSE.
6. THE DIVISION OF PURCHASING IS NOT RESPONSIBLE FOR MISINTERPRETATION OF DATA FAXED FROM THIS OFFICE.
7. THE DIVISION OF PURCHASING REQUIRES AN ORIGINAL AND A MINIMUM OF ONE COMPLETE EXACT COPY (TO INCLUDE SIGNATURE AND NOTARY) OF THE INVITATION-TO-BID RESPONSE. THE ORIGINAL AND THE COPY SHOULD BE SUBMITTED TOGETHER AS A BID PACKAGE. FAILURE TO MARK RESPONSES AS "ORIGINAL" AND/OR "COPY" COULD RESULT IN THE ENTIRE BID RESPONSE BEING REJECTED.
8. AN IMPROPERLY SUBMITTED BID, LATE BID, OR BID THAT IS CANCELLED ON OR BEFORE THE OPENING DATE WILL BE HELD FOR 90 DAYS AND THEN DESTROYED. THE BID MUST BE RETRIEVED DURING REGULAR WORK HOURS, MONDAY - FRIDAY, EXCEPT STATE HOLIDAYS. AFTER THE BID IS DESTROYED, THE DIVISION OF PURCHASING ASSUMES NO RESPONSIBILITY FOR THE DOCUMENT.

DISQUALIFIED/CANCELLED BID

BIDS THAT ARE IMPROPERLY SUBMITTED OR RECEIVED LATE WILL BE A RESPONSE FOR RECORD, BUT WILL NOT BE RETURNED OR A NOTIFICATION MAILED.

THE FOLLOWING IS A PARTIAL LIST WHEREBY A BID RESPONSE WILL BE DISQUALIFIED:

- BID NUMBER NOT ON FACE OF ENVELOPE/COURIER PACKAGE/BOX
- RESPONSES TO MULTIPLE BID NUMBERS IN SAME ENVELOPE NOT PROPERLY IDENTIFIED
- BID RECEIVED LATE
- BID NOT SIGNED/NOT ORIGINAL SIGNATURE
- BID NOT NOTARIZED/NOT ORIGINAL SIGNATURE OF NOTARY AND/OR NO NOTARY EXPIRATION
- NOTARIZED OWN SIGNATURE
- REQUIRED INFORMATION NOT SUBMITTED WITH BID
- FAILURE TO SUBMIT THE ORIGINAL BID AND A COMPLETE EXACT COPY

CERTIFICATION PURSUANT TO ACT NO. 2006-557

ALABAMA LAW (SECTION 41-4-116, CODE OF ALABAMA 1975) PROVIDES THAT EVERY BID SUBMITTED AND CONTRACT EXECUTED SHALL CONTAIN A CERTIFICATION THAT THE VENDOR, CONTRACTOR, AND ALL OF ITS AFFILIATES THAT MAKE SALES FOR DELIVERY INTO ALABAMA OR LEASES FOR USE IN ALABAMA ARE REGISTERED, COLLECTING, AND REMITTING ALABAMA STATE AND LOCAL SALES, USE, AND/OR LEASE TAX ON ALL TAXABLE SALES AND LEASES INTO ALABAMA. BY SUBMITTING THIS BID, THE BIDDER IS HEARBY CERTIFYING THAT THEY ARE IN FULL COMPLIANCE WITH ACT NO. 2006-557, THEY ARE NOT BARRED FROM BIDDING OR ENTERING INTO A CONTRACT PURSUANT TO 41-4-116, AND ACKNOWLEDGES THAT THE AWARDING AUTHORITY MAY DECLARE THE CONTRACT VOID IF THE CERTIFICATION IS FALSE.

SPECIAL TERMS & CONDITIONS

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INVITATION TO BID

INTENT TO AWARD

EFFECTIVE MAY 1, 2008, THE STATE OF ALABAMA - DIVISION OF PURCHASING WILL ISSUE AN 'INTENT TO AWARD' BEFORE A FINAL AWARD IS MADE. THE 'INTENT TO AWARD' WILL CONTINUE FOR A PERIOD OF FIVE (5) CALENDAR DAYS, AFTER WHICH A PURCHASE ORDER WILL BE PRODUCED. UPON FINAL AWARD, ALL RIGHTS TO PROTEST ARE FORFEITED. A DETAILED EXPLANATION OF THIS PROCESS MAY BE REVIEWED IN THE ALABAMA ADMINISTRATIVE CODE - CHAPTER 355-4-1(14).

ALTERNATE BID RESPONSE

UNLESS STATED ELSEWHERE IN THIS INVITATION-TO-BID (ITB) THE STATE OF ALABAMA WILL ACCEPT AND EVALUATE ALTERNATE BID SUBMITTALS ON ANY ITB'S. ALTERNATE BID RESPONSES WILL BE EVALUATED ACCORDING TO THE REQUIREMENTS AS ALL OTHER RESPONSES TO THIS ITB.

INTERNET WEBSITE LINK'S

INTERNET AND/OR WEBSITE LINKS WILL NOT BE ACCEPTED IN BID RESPONSES AS A MEANS TO SUPPLY ANY REQUIREMENTS STATED IN THIS ITB (INVITATION-TO-BID).

PRODUCT DELIVERY, RECEIVING AND ACCEPTANCE

IN ACCORDANCE WITH THE UNIVERSAL COMMERCE CODE (CODE OF ALABAMA, TITLE 7), AFTER DELIVERY, THE STATE OF ALABAMA HAS THE RIGHT TO INSPECT ALL PRODUCTS BEFORE ACCEPTING. THE STATE WILL INSPECT PRODUCTS IN A REASONABLE TIMEFRAME. SIGNATURE ON A DELIVERY DOCUMENT DOES NOT CONSTITUTE ACCEPTANCE BY THE STATE. THE STATE WILL ACCEPT PRODUCTS ONLY AFTER SATISFACTORY INSPECTION.

SALES TAX EXEMPTION

PURSUANT TO THE CODE OF ALABAMA, 1975, TITLE 40-23-4 (A) (11), THE STATE OF ALABAMA IS EXEMPT FROM PAYING SALES TAX. AN EXEMPTION LETTER WILL BE FURNISHED UPON REQUEST.

INVOICES

INQUIRIES CONCERNING PAYMENT AFTER INVOICES HAVE BEEN SUBMITTED ARE TO BE DIRECTED TO THE RECEIVING AGENCY, NOT THE DIVISION OF PURCHASING

BID RESPONSES AND BID RESULTS

UNEVALUATED BID RESPONSES (NOT BID RESULTS) ARE AVAILABLE ON OUR WEB SITE AT WWW.PURCHASING.ALABAMA.GOV. BID RESULTS WILL BE MADE AVAILABLE FOR REVIEW IN THE DIVISION OF PURCHASING OFFICE, BUT ONLY AFTER THE BID HAS BEEN AWARDED. WE DO NOT FAX OR MAIL COPIES OF BID RESULTS. IF A VENDOR WISHES TO REVIEW BID RESULTS IN OUR OFFICE, THEY SHOULD FAX THEIR REQUEST TO REVIEW THE BID TWO DAYS IN ADVANCE TO THE "BID REVIEW CLERK" AT (334) 242-4419. BE SURE TO REFERENCE THE BID NUMBER.

FOREIGN CORPORATION - CERTIFICATE OF AUTHORITY

ALABAMA LAW PROVIDES THAT A FOREIGN CORPORATION (AN OUT-OF-STATE COMPANY/FIRM) MAY NOT TRANSACT BUSINESS IN THE STATE OF ALABAMA UNTIL IT OBTAINS A CERTIFICATE OF AUTHORITY FROM THE SECRETARY OF STATE. SECTION 10-2B-15.01, CODE OF ALABAMA 1975. TO OBTAIN FORMS FOR A CERTIFICATE OF AUTHORITY, CONTACT THE SECRETARY OF STATE, CORPORATIONS DIVISION, (334) 242-5324. THE CERTIFICATE OF AUTHORITY DOES NOT KEEP THE VENDOR FROM SUBMITTING A BID.

BID IDENTIFICATION

REFERENCE PAGE 2, ITEM 2. DUE TO THE POSTAL SERVICE PUTTING BAR CODE LABELS ON ENVELOPES, IT CONCEALS THE BID NUMBER AND DATE IF THE VENDOR HAS WRITTEN THEM OTHER THAN THE LOWER LEFT CORNER, THEREFORE THE BID WOULD BE REJECTED FOR NOT BEING PROPERLY IDENTIFIED.

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INVITATION TO BID

MINIMUM ORDER AMOUNT:
MINIMUM ORDER AMOUNT IS NOT APPLICABLE TO THIS INVITATION TO BID.
MINIMUM ORDER AMOUNT WILL BE ONE OF ANY UNIT OF MEASURE UNLESS OTHERWISE INDICATED.

AWARD:
AWARD WILL BE MADE "ALL OR NONE" TO THE LOWEST RESPONSIBLE BIDDER MEETING ALL SPECIFICATIONS.

DELIVERY TIME FRAME:
ALL ITEMS ORDERED MUST BE DELIVERED TO THE "SHIP TO" ADDRESS SHOWN ON THE P.O. WITHIN FORTY-FIVE (45) CALENDAR DAYS OF VENDOR'S RECEIPT OF ORDER.

RETURN FREIGHT & STORAGE CHARGES:
THE VENDOR IS RESPONSIBLE FOR ANY STORAGE AND/OR RETURN FREIGHT CHARGES INCURRED BY THE STATE AS A RESULT OF VENDOR'S FAILURE TO CONFORM TO PRODUCT SPECIFICATIONS.

FREIGHT:
BID IS F.O.B. DESTINATION. ANY FREIGHT CHARGES MUST BE INCLUDED IN THE BID PRICES.

PERFORMANCE GUARANTEE:
VENDOR WILL FURNISH WITHIN TEN STATE WORKING DAYS AFTER NOTIFICATION OF AWARD, A PERFORMANCE SECURITY IN THE AMOUNT SPECIFIED BELOW AS A GUARANTEE TO PROVIDE GOODS OR SERVICES SPECIFIED IN THE BID. IT SHALL BE MADE PAYABLE TO THE STATE OF ALABAMA AND CAN BE A CASHIER'S CHECK, OTHER TYPE BANK CERTIFIED CHECK (PERSONAL/COMPANY CHECKS UNACCEPTABLE) MONEY ORDER, AN IRREVOCABLE LETTER OF CREDIT, OR SURETY BOND ISSUED BY A COMPANY AUTHORIZED TO DO BUSINESS WITHIN ALABAMA. REFERENCE THE BID NUMBER ON THE GUARANTEE. THE DIVISION OF PURCHASING WILL BE THE CUSTODIAN OF THE PERFORMANCE GUARANTEE. THE PERFORMANCE GUARANTEE WILL BE RETURNED UPON COMPLETION OF THE CONTRACT.

PERFORMANCE GUARANTEE AMOUNT: \$1,000,000.00

CONTRACT PERIOD:
ESTABLISH A 12 MONTH CONTRACT WITH AN OPTION TO EXTEND FOR A SECOND, THIRD, FOURTH, AND FIFTH 12 MONTH PERIOD WITH THE SAME PRICING, TERMS AND CONDITIONS. THE SECOND, THIRD, FOURTH, OR FIFTH 12 MONTH PERIOD, IF AGREED BY BOTH PARTIES, WOULD BEGIN THE DAY AFTER THE FIRST, SECOND, THIRD, OR FOURTH 12 MONTH PERIOD EXPIRES. ANY SUCCESSIVE EXTENSION MUST HAVE WRITTEN APPROVAL OF BOTH THE STATE AND VENDOR NO LATER THAN 30 DAYS PRIOR TO EXPIRATION OF THE PREVIOUS 12 MONTH PERIOD.

FIRM PRICING:
ALL PRICES QUOTED MUST BE FIRM FOR A PERIOD OF ONE (1) YEAR FROM THE VENDOR'S NOTIFICATION OF AWARD.

ALL PRICES FOR THE REFLECTIVE TAG SHEETING MUST INCLUDE THE PRICE FOR THE OVER-LAMINATE MATERIAL.

PURPOSE:
TO ESTABLISH A SOURCE OF SUPPLY FOR REFLECTIVE SHETTING MATERIAL TO TO BE USED BY ALABAMA CORRECTIONAL INDUSTRIES. ALL BIDS MUST BE IN ACCORDANCE WITH ALL SPECIFICATIONS AND TERMS AND CONDITIONS OF THIS INVITATION TO BID.

ALL ART WORK MUST BE APPROVED BY THE STATE. SAMPLES OF ART WORK MUST BE FURNISHED WITHOUT CHARGE TO THE STATE.

QUANTITY:
THE EXACT QUANTITY OF EACH ITEM IS UNKNOWN. THE DIVISION OF PURCHASING DOES NOT GUARANTEE THE STATE WILL BUY ANY AMOUNT. ORDERS WILL BE PLACED BY AGENCIES AS NEEDED AND GIVE COMPLETE SHIPPING INSTRUCTIONS.

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INVITATION TO BID

SUMMARY RESPONSIBILITIES:
UPON REQUEST CONVERSION OF ART WORK AND GENERATION OF SAMPLE TAG MUST
BE SUPPLIED TO ACI AT NO COST TO THE AGENCY.

SAMPLES:
AFTER THE BID IS OPENED, THE LOW VENODR MAY BE REQUIRED TO SUBMIT
SAMPLES. SAMPLES ARE TO BE FURNISHED AT VENDOR'S EXPENSE WITHIN FIVE
(5) CALENDAR DAYS AFTER REQUEST NOTIFICATION. IF NOT DESTROYED DURING
EVALUATION, SAMPLES WILL BE RETURNED PROVIDED A REQUEST FOR RETURN
ACCOMPANIES THE SAMPLE AND INCLUDES UPS PICKUP SLIP OR OTHER MODEL OF
RETURN. INDIVIDUAL SAMPLES SHOULD BE LABELED WITH VENDOR NAME, ITB
NUMBER, ITEM REFERENCE NUMBER, MANUFACTURER AND STOCK NUMBER. FAILURE
TO FURNISH SAMPLES OF THE REQUESTED ITEM WILL RESULT IN THE BID BEING
REJECTED.

PRICE SHEET

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INVITATION TO BID

LINE NO.	COMMODITY/SERVICE DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED AMOUNT
UNLESS SPECIFIED OTHERWISE BELOW: SHIP TO: R1 / STATEWIDE					
----- --- BEGIN GROUPING LINES: 00001 -----					
00001	COMMODITY CODE: 550-44-063985 SHEETING, TAG, REFLECTIVE, 5-YEAR ISSUE, BEGINNING DATE WITH CURRENT STATE STANDARD DESIGN, 11.9375" X 300 YDS PER ATTACHED SPECIFICATIONS FOR PRE- CLEARED LICENSE PLATE SHEETING. CURRENT DESIGN: 2 COLORS ON WHITE BACK- GROUND; SAMPLE AVAILABLE BY CONTACTING NATHAN CLARK @ 251-368-8173 EXT 321. MFR _____ MODEL _____ 3M 9250T OR EQUAL	1	RL		
----- ---END GROUPING LINES: 00001 - 00001 -----				GRP TOTAL	
----- --- BEGIN GROUPING LINES: 00002 -----					
00002	COMMODITY CODE: 550-44-073433 SHEETING, TAG REFLECTIVE MULTI-YEAR, 11.9375" X 300 YDS PER ATTACHED SPECIFI- CATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: WHITE BACKGROUND - NO GRAPHIC MFR _____ MODEL _____ 3M 9250T OR EQUAL	1	RL		
00003	COMMODITY CODE: 550-44-048128 SHEETING, TAG, REFLECTIVE, MULTI-YEAR, 11.9375" X 300 YARDS PER ATTACHED SPECIF- ICATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: WHITE BACKGROUND WITH ONE COLOR GRAPHICS. SPECIFY COLOR: _____ SET-UP CHARGE YES: _____ NO: _____ MFR _____ MODEL _____ 3M 9250T OR EQUAL	1	RL		
00004	COMMODITY CODE: 550-44-048121 SHEETING, TAG, REFLECTIVE, MULTI-YEAR, 11.9375" X 300 YDS PER ATTACHED SPECIFI- CATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: WHITE BACKGROUND WITH TWO COLOR GRAPHICS. SPECIFY COLORS: _____ SET-UP CHARGE YES: _____ NO: _____	1	RL		
PAGE TOTAL					

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LINE NO.	COMMODITY/SERVICE DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED AMOUNT
	MFR _____ MODEL _____ 3M 9250T OR EQUAL				
00005	COMMODITY CODE: 550-44-048125 SHEETING, TAG, REFLECTIVE, MULTI-YEAR, 11.9375" X 300 YDS PER ATTACHED SPECIFI- CATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: WHITE BACKGROUND WITH THREE COLOR GRAPHICS. SPECIFY COLORS: _____ SET UP CHARGE YES: _____ NO: _____ MFR _____ MODEL _____ 3M 9250T OR EQUAL	1	RL	_____	_____
00006	COMMODITY CODE: 550-44-076456 SHEETING, TAG, REFLECTIVE, MULTI-YEAR, 11.9375" X 300 YDS PER ATTACHED SPECIFI- CATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: WHITE BACKGROUND WITH FOUR COLOR GRAPHICS. SPECIFY COLORS: _____ SET-UP CHARGE YES _____ NO _____ MFR _____ MODEL _____ 3M 9250T OR EQUAL	1	RL	_____	_____
00010	COMMODITY CODE: 550-44-076461 SHEETING, TAG, REFLECTIVE, MULTI-YEAR, 11.9375" X 300 YDS PER ATTACHED SPECIFI- CATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: COLORED BACKGROUND - NO GRAPHIC SPECIFY COLOR: _____ SET-UP CHARGE YES _____ NO _____ MFR _____ MODEL _____ 3M 9250T OR EQUAL	1	RL	_____	_____
----- ---END GROUPING LINES: 00002 - 00010 -----				----- GRP TOTAL	_____
----- --- BEGIN GROUPING LINES: 00025 -----				-----	-----
00025	COMMODITY CODE: 550-44-048134 SHEETING, TAG, REFLECTIVE, MULTI-YEAR, 6.9375" X 900 FT., TICK MARK 3.97" PER ATTACHED SPECIFICATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: WHITE BACKGROUND - NO GRAPHICS MFR _____ MODEL _____ 3M 9250T OR EQUAL	1	RL	_____	_____
PAGE TOTAL					_____

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LINE NO.	COMMODITY/SERVICE DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED AMOUNT
00026	COMMODITY CODE: 550-44-027988 SHEETING, TAG, REFLECTIVE, MULTI-YEAR, 6.9375" X 900 FT., TICK MARK 3.97" PER ATTACHED SPECIFICATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: WHITE BACKGROUND WITH ONE COLOR GRAPHIC. SPECIFY COLOR: _____ SET-UP CHARGE YES _____ NO _____ MFR _____ MODEL _____ 3M 9250T OR EQUAL	1	RL	_____	_____
00027	COMMODITY CODE: 550-44-044627 SHEETING, TAG, REFLECTIVE, MULTI-YEAR, 6.9375" X 900 FT., TICK MARK 3.97" PER ATTACHED SPECIFICATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: WHITE BACKGROUND WITH TWO COLOR GRAPHIC. SPECIFY COLOR: _____ SET-UP CHARGE YES _____ NO _____ MFR _____ MODEL _____ 3M 9250T OR EQUAL	1	RL	_____	_____
00033	COMMODITY CODE: 550-44-027984 SHEETING, TAG, REFLECTIVE, MULTI-YEAR, 6.9375" X 900 FT. TICK MARK 3.97" PER ATTACHED SPECIFICATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: COLORED BACKGROUND - NO GRAPHIC SPECIFY COLOR _____ MFR _____ MODEL _____ 3M 9250T OR EQUAL	1	RL	_____	_____
00037	COMMODITY CODE: 550-44-027985 SHEETING, TAG, REFLECTIVE, ANNUAL, 6.9375" X 900 FT. TICK MARK 3.97" PER ATTACHED SPECIFICATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: COLORED BACKGROUND - NO GRAPHIC SPECIFY COLOR: _____ SET-UP CHARGE YES _____ NO _____ MFR _____ MODEL _____ 3M 9250 SERIES OR EQUAL	1	EA	_____	_____
00038	COMMODITY CODE: 550-44-044699 SHEETING, TAG, REFLECTIVE, ANNUAL, 6.9375" X 900 FT. TICK MARK 3.97" PER ATTACHED SPECIFICATIONS FOR PRE-CLEARED LICENSE PLATE SHEETING. DESIGN: COLORED BACKGROUND WITH ONE COLOR GRAPHIC. SPECIFY COLOR _____	1	EA	_____	_____

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	SET-UP CHARGE YES _____ NO _____				
	MFR _____ MODEL _____ 3M 9250T OR EQUAL				
----- ---END GROUPING LINES: 00025 - 00038 -----				----- GRP TOTAL	_____
----- --- BEGIN GROUPING LINES: 00039 -----				-----	-----
00039	COMMODITY CODE: 906-40-054218 SET-UP CHARGE, ONE COLOR	1	EA	_____	_____
00040	COMMODITY CODE: 906-40-054220 SET-UP CHARGE, TWO COLORS	1	EA	_____	_____
00041	COMMODITY CODE: 906-40-054221 SET-UP CHARGE, THREE COLORS	1	EA	_____	_____
00042	COMMODITY CODE: 906-40-054219 SET-UP CHARGE, FOUR COLORS	1	RL	_____	_____
----- ---END GROUPING LINES: 00039 - 00042 -----				----- GRP TOTAL	_____
----- --- BEGIN GROUPING LINES: 00046 -----				-----	-----
00046	COMMODITY CODE: 550-44-044923 SHEETING, REFLECTIVE, W SECURITY MARKS FOR 5 YEAR VALIDATION STICKERS. 9-1/4" X 12-1/4" SHEETS PER ATTACHED SPECIFICATIONS FOR THERMAL TRANSFER PRINTABLE VALIDATION SHEETING. ENCLOSED LENS TO INCL ALL INKS, CLEAR COATING, AND THINNERS NECESSARY. SHEET- ING TO MEET ATTACHED SPEC INCL TECH SVC. DELIVERY TO BE 30 DAYS ARO MFR _____ MODEL _____ 3M OR EQUAL	1	EA	_____	_____
00047	COMMODITY CODE: 550-44-084334 SHEETING, REFLECTIVE VALIDATION, PRINTABLE THERMAL TRANSFER PER ATTACHED SPECIFICATIONS FOR THERMAL TRANSFER PRINTABLE VALIDATION SHEETING. EACH ROLL TO YIELD 2800 DECALS. DECAL SIZE: 1.5" X 1". VARIOUS COLORS. SPECIFY COLOR: _____ MFR _____ MODEL _____ 3M VP55500 OR EQUAL	1	RL	_____	_____
00048	COMMODITY CODE: 550-44-044689 SHEETING, REFLECTIVE VALIDATION, (IRP) PRINTABLE THERMAL TRANSFER PER ATTACHED SPECIFICATIONS FOR THERMAL TRANSFER PRINTABLE VALIDATION SHEETING. EACH ROLL TO YIELD 2400 DECALS. DECAL SIZE: 2.5" X 1" WITH 0.125 RADIUS CORNERS AND .375	1	RL	_____	_____
PAGE TOTAL					_____

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INVITATION TO BID

LINE NO.	COMMODITY/SERVICE DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED AMOUNT
	STAPLE TAP (NO BACK PRINT). VARIOUS COLORS. SPECIFY COLOR: _____ MFR _____ MODEL _____ 3M VP5566AL OR EQUAL				
00049	COMMODITY CODE: 550-44-044690 SHEETING, REFLECTIVE VALIDATION, (IFTA) PRINTABLE THERMAL TRANSFER PER ATTACHED SPECIFICATIONS FOR THERMAL TRANSFER PRINTABLE VALIDATION SHEETING. EACH ROLL TO YIELD 1000 DECALS. DECAL SIZE: 3" X 3" WITH 0.125 RADIUS CORNERS AND .375 STAPLE TAP (NO BACK PRINT). VARIOUS COLORS. SPECIFY COLOR: _____ MFR _____ MODEL _____ 3M VP5566AL OR EQUAL	1	RL	_____	_____
00050	COMMODITY CODE: 550-44-044691 DECAL, PLAYING CARD FAB FROM 3750ALE SHEETING, DECAL SIZE: 0.625" X 0.75" RECTANGLE WITH 1.25C RADIUS. 10 DECALS BETWEEN PERFS. EACH SHEET YIELDS 100 DECALS WITH NUMBER TAB FOR EACH SHEET. VARIOUS COLORS. SPECIFY COLOR: _____ MFR _____ MODEL _____ 3M VP5566AL OR EQUAL	1	RL	_____	_____
00051	COMMODITY CODE: 550-44-063986 SHEETING REFLECTIVE, VALIDATION, MONTHLY DECALS, PRINTABLE THERMAL TRANSFER PER ATTACHED SPECIFICATIONS FOR THERMAL TRANSFER PRINTABLE VALIDATION SHEETING. EACH ROLL TO YIELD 2,800 DECALS, DECAL SIZE 1.5" X 1", VARIOUS COLORS. SPECIFY COLOR _____ MFR _____ MODEL _____ 3M VP72AL OR EQUAL	1	RL	_____	_____
----- ---END GROUPING LINES: 00046 - 00051 -----				GRP TOTAL	_____

PAGE TOTAL _____

BID TOTAL _____

SPECIFICATION

LICENSE PLATE SHEETING,
THERMAL TRANSFER RIBBONS
AND PROTECTIVE CLEAR FILM
FOR DIGITAL LICENSE PLATE PRODUCTION

Digital License Plate Reflective License Plate Sheeting Series 9250T

March 2010

SECTION I - GENERAL

This specification shall cover the materials, performance characteristics, quality, and testing of retroreflective sheeting and support services necessary to produce digitally printed license plates.

A. DESCRIPTION:

1. The retroreflective license plate shall consist of retroreflective (hereinafter referred to as "reflective" only) sheeting that is digitally printed with thermal transfer ribbons and then laminated to a specified aluminum substrate according to the sheeting manufacturer's recommendations.
2. The reflective sheeting shall consist of lens elements enclosed within a transparent resin and shall have a pre-coated pressure sensitive adhesive backing protected by a removable liner.
3. The reflective sheeting, when applied to the license plate substrate and blanked to finished size, shall contain:
 - a. Identifying marks for purposes of on-vehicle traceability, warranty enforcement and anti-counterfeiting in accordance with these specifications. The warranty marks shall be buried below the sheeting surface for durability and shall incorporate the manufacturer's production run number that designates the source of manufacture, year of manufacture, and specific lot from which the material was supplied. The warranty marks shall not interfere or detract from the graphic design or reduce sheeting brightness and shall be durable for the service life of the license plate.
 - b. A three-dimensional security mark that runs from the top to the bottom of the plate or from the left to the right side of the plate. The security image shall consist of a double sine wave pattern where one wave appears to float above and one wave appears to float below the directional warranty image of the reflective sheeting. The virtual security thread shall be durable for the service life of the license plate.
4. Pre-printed reflective sheeting shall conform to the design, colors and sheeting type as approved by the state and reflective sheeting manufacturer.

B. PREQUALIFICATION

Before any bid is considered, the vendor shall meet the following criteria:

1. To assure high quality license plate performance, durability and service, the successful sheeting manufacturer shall provide the state with proof of

successful L/P manufacturing in other states. The successful bidder shall provide the following documentation with the bid:

- a. Show evidence of successful manufacture of reflective sheeting, thermal transfer ribbons and protective clear overlamine, as parts of a totally integrated license plate system.
 - b. Provide a list and qualifications of experienced, full-time graphic design, customer service, technical service and sales service personnel.
 - c. Submit a plan for providing expert on-site technical service within 48 hours and immediate toll-free call-in technical service.
 - d. Submit a plan for next day delivery of stocked equipment parts; provide the using agency with a detailed list of stocked parts.
 - e. Provide independent test lab data demonstrating that the bidder's products conform to all performance requirements of this specification as specified in Section II. Additional testing will be conducted by the State's designated test lab.
 - f. Properly warrant the plates produced from the manufacturer's sheeting by posting a \$1,000,000 product bond during the duration of this issue. The sheeting manufacturer shall also provide buried directional warranty mark in the sheeting in accordance with Section IV.B, which facilitates on-vehicle traceability and warranty enforcement.
 - g. Supply sample rolls of sheeting printed with graphic designs to be designated by the State to demonstrate the supplier's production capability to providing general issue designs.
 - h. Supply evidence of successfully supplying reflective sheeting and digital license plate production systems to another state with comparable production volume.
2. The sheeting manufacturer will provide all necessary samples for the agency or their designated testing facility to certify the material compliance with these specifications. At the request of the agency, the sheeting supplier may also be required to compensate the agency or their testing agents for the cost of any material testing.
 3. A corporate officer shall certify that all license plate sheeting thermal transfer ribbons and protective clear laminate purchased by the state are covered by the sheeting manufacturer ISO 9001 Registration.
 4. The supplier shall submit technical data exhibiting characteristics of all materials proposed. Information submitted shall include detailed processing conditions for each phase of license plate manufacture.

5. Vendors failing to conform to any of these prequalification requirements shall be disqualified.

C. PERIODIC EVALUATION:

The state reserves the right to periodically evaluate the performance of materials. Samples for periodic evaluation of performance will be selected at random from materials submitted on state purchase orders. Failure of materials to comply with the requirements of this specification shall be cause for removal.

D. TECHNOLOGICAL IMPROVEMENTS

The sheeting manufacturer may, with agreement of the state, incorporate technological improvements that better optimize the license plate production process and/or license plate performance.

SECTION II – PERFORMANCE STANDARDS
REFLECTIVE SHEETING FOR DIGITAL LICENSE PLATE PRODUCTION

1. Substrate

The sheeting shall be laminated to aluminum substrate recommended by the sheeting manufacturer.

2. Diffuse Daytime Color

Through instrumental color testing, the diffuse daytime color of the reflective sheeting shall conform to color requirements as determined spectrophotometrically in accordance with ASTM E-1164 and E-1349, utilizing either 45/0 or 0/45 degree illumination/viewing conditions as described in E-1164 and E-1349 for retroreflective materials. Chromaticity and the Luminance Factor based on CIE tristimulus values for the 2° observer and illuminant D65 shall be calculated in accordance with ASTM E-308.

The color specification limits for white license plate sheeting are listed on the following chart.

COLOR SPECIFICATION
 Chromaticity Coordinates

Pairs	White Corner Points		Luminance Factor
	x	y	Y%
1	.303	.287	42 min.
2	.368	.353	
3	.340	.380	
4	.274	.316	

3. Adhesive and Protective Liner:

- a. The precoated adhesive shall form a durable bond to flat conversion coated license plate surfaces as recommended by the reflective sheeting manufacturer.
- b. The protective liner attached to the adhesive shall be removable by peeling without soaking in water or other solvents and shall be easily removed after accelerated conditioning for four hours at 150°F (66°C) under weight of 2.5 lbs. per square inch (1.14KG per 6.45 sq. cm). The liner shall be non-printed to permit reuse.

4. Thermal Transfer Printing

- a. The reflective sheeting shall be printable with thermal transfer ribbons supplied by the sheeting manufacturer.
- b. The sheeting manufacturer shall provide a complete line of thermal transfer ribbons, in process and spot colors that allow the license plate shop to print the graphic designs and variable information required by the state.

5. Protective Clear Overlamine

The sheeting manufacturer shall provide a protective clear film that will be laminated to the sheeting in-line with the thermal transfer printing process. Printed sheeting with the protective clear film shall pass all performance tests as delineated in Section II.B.

6. Inventory Control

To assist the license plate shop with inventory control problems, the sheeting manufacturer shall mark the sheeting with an integral, directional image that incorporates the lot number so that the tag shop can employ first in - first out principles.

B. FINISHED LICENSE PLATES

Test panels shall be prepared in accordance with Section III, Para. A.

1. Retroreflective Characteristics

- a. The coefficient of retroreflection for the sheeting shall be measured on flat, clean, finished license plate test panels prepared per Section III and shall have the following minimum values at 0.2° observation angle, expressed as candelas per lux per square meter of material. Measurements shall be conducted in accordance with ASTM E-810, "Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting". Measurements on reflective sheeting with a preprinted graphic design shall be taken in an unprinted sheeting area.

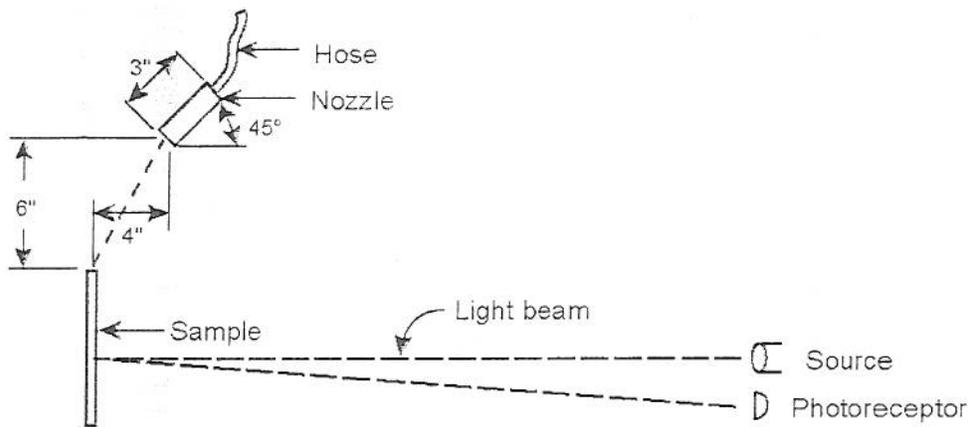
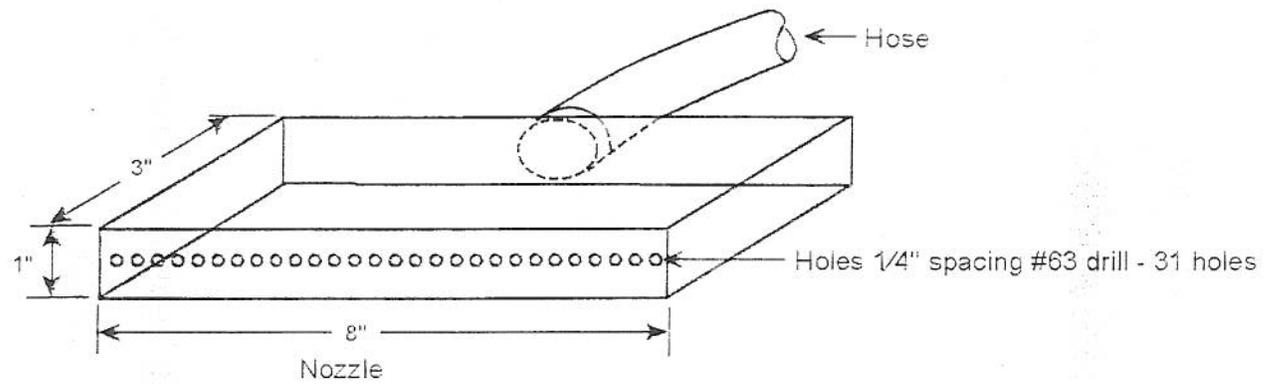
Color	Entrance Angle	
	-4°	40°
White	50	16

2. Resistance to Accelerated Weathering.

- a. The sheeting shall be weather resistant and show no appreciable discoloration, crazing, cracking, blistering, lifting or dimensional change and the surface shall continue to be essentially smooth to provide direct application of validation stickers, determined after the following accelerated weathering tests:
- b. Laboratory testing – 2,000 hours in Xenon arc weatherometer using ASTM G 155 -Type BH, Method A. Samples shall maintain 70% of retroreflective table values shown in II, B. 1.
- c. Outdoor accelerated testing – Samples shall be placed in a 24 month unprotected outdoor exposure, facing the equator and positioned vertically. Retroreflective measurements, taken after cleaning, shall result in 70% or more retention of the table values shown in II, B. 1.

3. Rainfall Performance

- a. The Coefficient of Retroreflection of the same finished license plate test panels, measured on the same flat area of the test panels, totally wet by rain, shall not be less than 90 percent of the values specified above. The photometric performance during rainfall shall be determined as follows:
 - 1) Test set-up for rainfall performance:



Place source and photoreceptor in horizontal plane

- 2) Place the test panel in an upright position 6 inches (15.2 cm) below and 4 inches (10.1 cm) in front of the nozzle as shown below:
- 3) Apply sufficient water pressure so that the upper surface of the spray envelope strikes the top of the panel.
- 4) With water falling on the panel, measure the coefficient of retroreflection. Wet performance measurements shall be conducted at 0.2° observation and -4° entrance angles in accordance with ASTM E-810.

4. Daytime/Nighttime Color

To assist in positive daytime/nighttime identification of license plates, the color of the reflective background of the sheeting's, including any pre-printed design or digitally printed design, shall be similar in daylight and by illumination at night.

5. Flexibility - Embossing

- a. The sheeting shall, when correctly applied to treated aluminum, conform to the minimum/maximum tolerances for an embossed rim or flange as used by the manufacturing facility that supplies finished plates to the state and as recommended by the sheeting manufacturer.
- b. Finished license plates shall show no appreciable wrinkling, cracking, or squirming at or around the embossed rim or flange.

6. Cleanability.

- a. Finished license plates, manufactured in accordance with the recommendations of the reflective sheeting manufacturer, shall be easily cleansed of normal dirt accumulation by washing with water and mild detergent. A test panel shall be sprayed with water-suspended soils collected from the underside of vehicle fenders, mixed with water in the proportion of five pounds (2.27 kg) of soil to one gallon (3.78 liters) of water, and poured through a paint strainer.
- b. The mixture shall then be sprayed onto the panel while particles are in suspension. After the panel is thoroughly dry, it shall be cleaned by washing with a mixture of water and mild detergent, rinsed with clean water and wiped dry for examination. The panel shall show no appreciable difference when compared to a new clean panel.

7. Solvent Resistance

- a. License plate panels prepared per III.A shall be sufficiently solvent resistant to withstand exposure to mineral spirits and turpentine in accordance with the test method described in this section without wrinkling, puckering or edge lifting.
- b. Test panels shall be 1 inch x 6 inch strips cut from license plate blanks. Strips of the license plate shall be exposed as follows: mineral spirits and turpentine - submerged in a container with 4 inches of solvent for 10 minutes.
- c. Samples shall be allowed to dry and be examined for any wrinkling, puckering, blistering, or edge lifting. Failure of samples shall be cause for rejections.

SECTION III - TEST PANELS AND QUALITY CONFORMANCE

A. TEST PANELS

Finished license plate test panels 6" x 12" (15.2cm x 30.5cm) must be provided for testing and evaluation within ten (10) calendar days if required by the state, and shall be produced of the same materials, on the same equipment and by the same general processes of substrate preparation as the production plates, in accordance with the sheeting manufacturer's recommendations. Test panels shall be provided with and without thermal transfer printed graphics and variable information as required by the state.

B. QUALITY CONFORMANCE

Failure of the reflective sheeting to meet any requirement specified herein shall be cause for refusal to accept materials until evidence has been provided by the manufacturer that corrective action has been taken to eliminate deficiencies.

SECTION IV - PERFORMANCE LIFE & WARRANTIES

A. PERFORMANCE LIFE

1. Reflective sheeting applied and processed into finished license plates according to the sheeting manufacturer's instruction shall be considered to perform effectively for the service life specified (excluding those plates showing mechanical damage) if:
 - a. The plates show no fading, cracking, blistering or peeling which will significantly impair the intended visibility or legibility of the plate, and if
 - b. The clean rear plate retains at least 9 candlepower per foot-candle per plate (.84 candelas per lux per plate) for the length of the intended issue being bid. (up to a period of 5 years). Measurements shall be taken in clean, white, unprinted areas of rear plates.
2. Measurements shall be conducted at 0.2° observation angle and -4° entrance angle. Coefficient of Luminous Intensity shall be measured using the test method outlined in ASTM E-810 except that the coefficient of luminous intensity shall be determined in accordance with ASTM E-808-01 Para. 3.2.2 and ASTM E-809-02 Para. 12.3. Note: Reflective license plates with a digitally printed graphic design may not meet this requirement as large graphic printed areas may affect the reflectivity levels of the finished license plates.

B. WARRANTY PROVISIONS

1. The sheeting shall be imaged with a directional, integral warranty mark, so as to be traceable to the specific manufacturer's production run numbers from which the material originated. If at any time during the specified performance life of the reflective material provided, a one half of one percent sample of clean, rear plates produced from a given production run (identified by the integral warranty mark) reveals that 10 percent or more of that sample are found to be defective in visual or brightness performance requirements as defined herein, the vendor shall be responsible for replacement of all plates manufactured from that specific lot of material.
2. The sheeting manufacturer shall be responsible for all replacement costs associated with a specific lot; a maximum liability assessment of \$5.00 per plate will be invoked for failed plates associated with a specific lot. Reimbursement of the State shall be in dollars and/or materials equal to the assessed damage, at the State's discretion.
3. To assure effective identification, the warranty marks shall be approximately 1.125 inches in diameter on standard 6" x 12" plates and shall be of a design mutually agreed upon by the State and the sheeting manufacturer. The manufacturer may vary the number, design and placement of the marks for motorcycle or smaller license plate sizes.
4. The warranty marks shall be verifiable on a license plate once properly affixed to the vehicle's designated mounting area, from an approximate head-on distance of six (6) feet; warranty marks shall not be observable at 2 feet or 20 feet or when the viewer steps to one side from the head-on viewing position so as not to compete or conflict with vital plate information.
5. The warranty marks shall be verifiable under both ambient light and retroreflected light at night, shall not interfere or conflict with the plate design or aesthetics, and shall not alter sheeting colors or reduce sheeting brightness below specified levels.

C. Three-dimensional Security Mark

1. The retroreflective sheeting shall also have a three-dimensional security mark that runs vertically or horizontally through standard vehicle registration plates for purposes of security and anti-counterfeiting in accordance with these specifications. The three-dimensional security mark shall be buried beneath the surface of the sheeting and shall consist of two sinusoidal waves where one wave appears to float above and one wave appears to float below the warranty marks of the retroreflective sheeting. The three-dimensional security mark shall be durable for the service life of the license plate.

2. The three-dimensional security mark shall be verifiable under both daylight and retroreflected light, shall not interfere or conflict with the plate legibility, and shall not reduce sheeting brightness below minimum specified brightness levels when measured in accordance with ASTM E 808 and ASTM E 809.
3. The three-dimensional security mark shall be visible in the unprinted areas of the plate from within a standard police vehicle under high beam headlight illumination, as well as outside of the vehicle, on a license plate properly affixed to the vehicle's designated mounting area, from an approximate distance of 0 to 40 feet (0 to 12 meters) at a head-on viewing angle. The two sinusoidal wave images shall be visibly distinct from an approximate distance of 0 to 20 feet (0 to 6 meters). The three-dimensional security mark shall not be visible when viewed at an angle greater than 45 degrees from the head-on viewing position.

SECTION V - PACKAGING AND SHIPPING

To ensure easy access and proper inventory control, the reflective sheeting shall be shipped in bulk packages. To prevent roll damage, each pallet of bulk packages shall be designed to prevent double stacking by the shipper. Production run sequence numbers shall be affixed to the outside of each shipping package that corresponds to the materials contained therein. Each roll shall be additionally designated by a core identifier stamped or affixed with a permanent label to the inside of each roll core. A shipping or packaging list shall be affixed to one box on a pallet identifying all production runs contained within the shipment.

SECTION VI - DELIVERY SCHEDULE

All deliveries shall be provided F.O.B. to the state's designated point of delivery. The first expected delivery of reflective sheeting shall be not later than 45 days following official notification of contract award, initial order and receipt of state approved artwork. All subsequent orders shall be F.O.B. destination with expected delivery within 30 days after receipt.

SECTION VII - ACCOUNTABILITY

The manufacturer shall be accountable for all sheeting from the place of manufacture to the point of delivery. All over-run materials remaining in the manufacturer's possession after discontinuation of any design or the contract's cancellation, shall be destroyed and used for no other purpose.

SECTION VIII - PROCESSING

The reflective sheeting processing shall be in accordance with the recommendations of the manufacturer. All processing procedures for reflective material, thermal transfer ribbons and clear protective laminate must be compatible, or made compatible at the vendor's expense, with equipment and procedures currently employed by the state.

SPECIFICATION FOR THERMAL TRANSFER
PRINTABLE VALIDATION SHEETING

March 2010

(T7000 Series)

SPECIFICATIONS FOR THERMAL TRANSFER PRINTABLE VALIDATION SHEETING

SECTION I - GENERAL

This specification shall cover the equipment, materials, performance characteristics, quality, testing and support services for retroreflective sheeting with verifiable directional security marks to produce thermal transfer printed validation stickers for license plates.

A. Description

The retroreflective (hereafter referred to as "reflective") sheeting shall consist of lens elements enclosed within a transparent resin and shall have either two pre-coated pressure sensitive adhesives separated by a liner or a single adhesive layer, depending on customer requirements. The first layer assures maximum adhesion to the license plate, while the second layer, piggyback coated on the liner of the first adhesive, facilitates sheeting and card-stock processing through the manufacturer's thermal transfer printing system.

The sheeting shall display protective directional security marks that are visible only at a specific viewing position and are extremely difficult to counterfeit. These security marks shall facilitate visual verification of authenticity.

The reflective sheeting shall have a smooth weather resistant surface, which is receptive to durable thermal transfer resin colorants. The surface shall enable high quality thermal transfer imaging. The reflective stickers shall be processed according to the sheeting manufacturer's recommendations.

B. Prequalification

Prospective bidders who desire to prequalify materials governed by this specification, should submit technical data exhibiting characteristics and processing parameters of the sheeting, adhesives, thermal transfer printing colorants, and equipment systems for the production of completed validation stickers. If a review of the technical data indicates that the proposed materials and equipment comply with the requirements of this specification, the prospective bidder or supplier shall be so notified.

The successful bidder will be required to provide all equipment, computer software programming, and operator training to produce validation stickers.

SECTION II - REQUIREMENTS

A. Retroreflective Characteristics

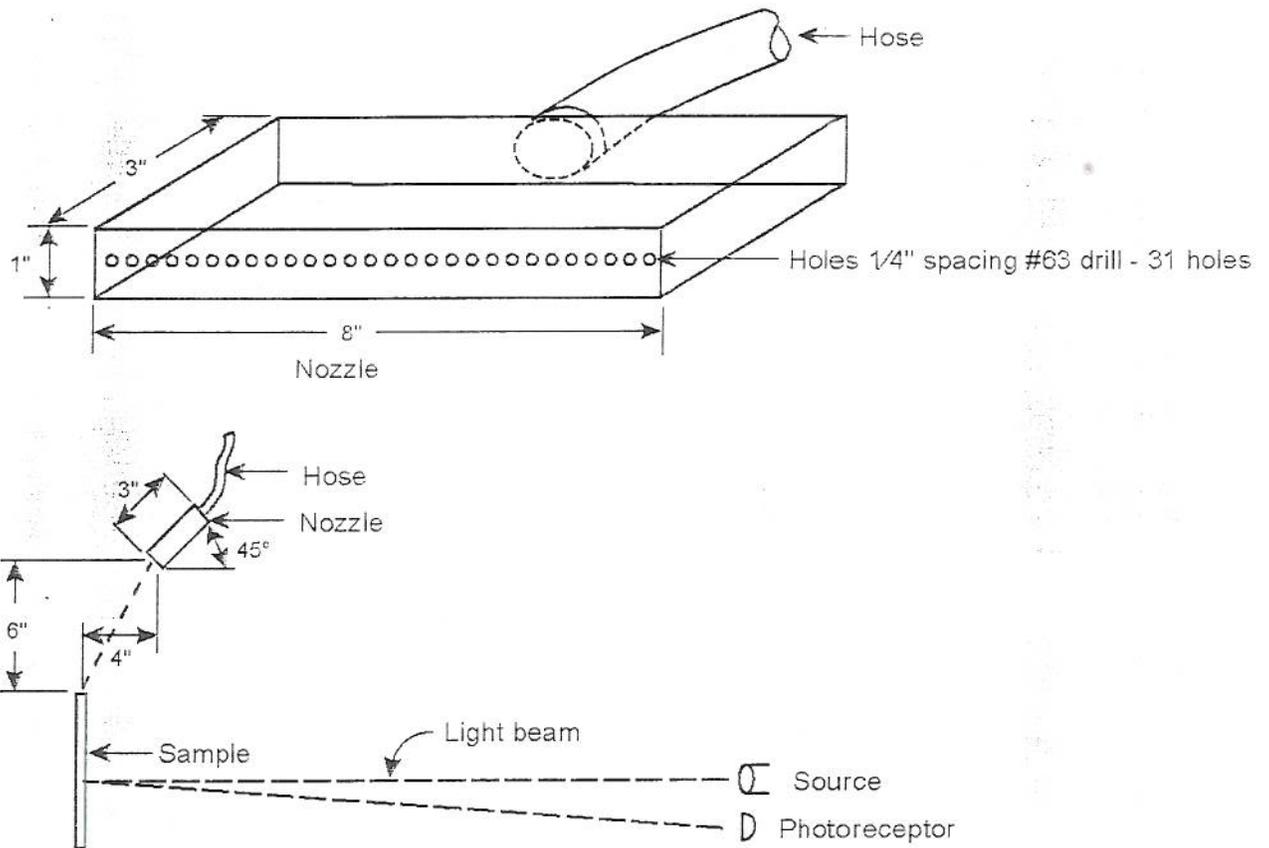
1. The unprinted reflective sheeting shall have the following minimum coefficients of retroreflection expressed as candlepower per foot candle per square foot of material (candelas per lux per square meter). Test samples shall be oriented as specified in the manufacturer's instructions. The coefficient of retroreflection shall be measured in accordance with ASTM E-810, "Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting," except that only one reading shall be taken at each position; the sample shall not be rotated 90 degrees.

White	Observation Angle
Entrance Angles	0.2°
-4°	50.0
40°	15.0

See Appendix I for Retroreflective Characteristics of other colors.

2. Rainfall Performance

- a. The coefficient of retroreflection of the same sheeting, totally wet by rain, shall not be less than 90% of the above values. The photometric performance during rainfall shall be determined as follows:
 - 1) Test set-up for rainfall performance:



Place source and photoreceptor in horizontal plane

- 2) Place the test panel in an upright position 6 inches (15.2 cm) below and 4 inches (10.1 cm) in front of the nozzle as shown below:
- 3) Apply sufficient water pressure so that the upper surface of the spray envelope strikes the top of the panel.
- 4) With water falling on the panel, measure the coefficient of retroreflection. Wet performance measurements shall be conducted at 0.2° observation and -4° entrance angles in accordance with ASTM E-810.

B. Adhesive and Protective Liner

1. The first pre-coated pressure-sensitive adhesive shall form a durable, vandal resistant bond to clean, dry, properly painted or reflective sheeting license plate surfaces or sticker surfaces of the same material.
2. Adhesive No. 2, if required for a piggyback construction and applied to the backside of adhesive No. 1's liner, shall hold retroreflective stickers on a temporary support liner prior to release and tipping onto card-stock.

3. The adhesive shall not exude from sheeting edges when processed into finished stickers so as to cause pieces to stick together during printing, handling or while packaged in shipment and distribution.
4. The protective liner of adhesive No. 1 shall be removed by peeling without soaking in water or other solvents and shall be easily removed after storage for four hours at 150 degrees F. (66 degrees C.) under a weight of 2.5 lbs. per sq. in. (0.17 kg/cm squared).

C. Diffuse Daytime Color

Through instrumental color testing, the diffuse daytime color of the reflective sheeting shall conform to color requirements as determined spectrophotometrically in accordance with ASTM E-1164 and E-1349, utilizing either 45/0 or 0/45 degree illumination/viewing conditions as described in E-1164 and E-1349 for retroreflective materials. Chromaticity and the Luminance Factor based on CIE tristimulus values for the 2° observer and Illuminant D65 shall be calculated in accordance with ASTM E-308.

Chromaticity Coordinate Corner Points			
Color	x	y	Luminance Factor Y (%)
White	.303	.290	35 min.
	.365	.354	
	.340	.378	
	.278	.316	

See Appendix II for color specification requirements of other colors.

D. Directional Security Marks

The sheeting shall have protective directional security marks, which are an integral part of the sheeting, and which make unauthorized sticker reproduction extremely difficult. The security marks shall be of a design mutually agreed upon by the state and the sheeting manufacturer and shall meet the following additional requirements:

1. Stickers (25 inches - 64 cm - from the ground) properly applied to a vertically-mounted license plate shall provide effective visual verification by exhibiting the following:
 - a. The marks shall be visible to a 6 ft. (180 cm) tall viewer directly facing the sticker's surface at 30 degrees above the perpendicular to the sticker.
 - b. The marks shall not be visible to the viewer standing 2 ft. (.6m) and 20 ft. (6.1m) from and directly facing the sticker;
 - c. The marks shall not be visible when viewed at an angle greater than 45 degrees to the left or right side of the sticker.
2. The security marks shall: a) be verifiable in diffuse daylight and by retroreflected light at night; b) be visible on a sticker when held at arm's length and slightly tilted. These same marks shall not be visible when rotated 90 degrees from the first viewing position;

c) not alter sheeting colors or reduce sheeting brightness below specified levels; and d) not be removable by chemical or physical means from the sheeting or finished validation sticker, applied or unapplied, without irreparable damaged to the reflective system.

E. Processability

The successful bidder shall furnish a matched component system inclusive of all sheetings, adhesives, thermal transfer colorants, and equipment needed to produce license plate validation stickers meeting the requirements of this application.

All components shall be compatible with all procedures and equipment used by the state, to manufacture license plate validation stickers. Verification of compatibility will be required by the state's sticker manufacturing facility prior to initiating the production of validation stickers of each size and color specified; the components shall be submitted to the appropriate agency for visual examination and testing. Print quality of finished stickers shall meet commonly accepted industry standards to include machine-readable symbology, when required.

F. Production Equipment

The sticker sheeting manufacturer shall provide all equipment required on a bailment agreement to manufacture finished validation stickers to include the printer, printer control device, and printer/driver software.

The state shall be responsible for development of the interface software between the printing equipment and the state's database(s).

The state shall not utilize the thermal transfer printer for other non-reflective sticker printing without the expressed permission from the reflective sheeting manufacturer.

The equipment shall be removed from the state's manufacturing facility within 30 days of contract expiration and non-renewal.

G. Cleanability

The sheeting processed into finished stickers and applied in accordance with the recommendations of the reflective sheeting manufacturer, shall be readily cleansed of normal dirt accumulation by washing with water and mild detergent.

The surface shall also be sufficiently solvent-resistant to permit cleaning with solvents commonly used to clean vehicle finishes. Accordingly, the surface printed colorant shall show no wear after exposure to 25 cycle rubs (one cycle equals one rub back and forth) with a "Q-tip" type cotton swab with gasoline, methyl alcohol, kerosene, mineral spirits, VM & P naphtha, 409 cleaner, window cleaners, and other common cleaners used to clean automotive paint finishes. See Appendix II for the test method.

H. Wet Abrasion Resistance

Finished stickers shall show good wet abrasion resistance after 1000 cycles of "Wet Scrub" testing. No appreciable wear shall be observed. See Appendix III for the test method.

I. Performance Life

Finished stickers including surface printed colorants shall remain clear and durable and shall provide a compatible surface for direct application of additional annual validation stickers of the same material.

J. General and Dimensional Requirements

The sheeting shall be furnished as die cut stickers in roll form to the size and shape specified. Rolls shall be wound to provide proper orientation of the security mark.

K. Technical Service

The printing equipment vendor shall provide the validation sticker manufacturing shop with competent technical service and product information until the site operating personnel are able to manufacture quality validation stickers in keeping with the state's requirements and according to the manufacturer's recommendations. A listing of the technical service personnel and their qualifications shall be provided.

In the event production difficulties are experienced with the successful bidder's materials, the sheeting manufacturer shall provide telephone toll-free technical service call-in consultation. Telephone technical service shall be furnished by the sheeting manufacturer at no additional cost until such times as the difficulties are resolved.

L. Packaging and Delivery

All reflective sheeting and other materials shall be packaged in accordance with accepted commercial standards.

APPENDIX I

VALIDATION SHEETING RETROREFLECTIVE CHARACTERISTICS

The coefficient of Retroreflection shall be measured on flat, clean Validation Sheeting and shall have the following minimum values at 0.2° observation angle, expressed as candlepower per foot-candle per square foot (candelas per lux per square meter) of material. Measurements shall be conducted in accordance with ASTM E-810, "Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting".

Color	Entrance Angle	
	-4°	40°
White	50	15
Yellow	30	8
Lemon-Yellow	28	11
Green	28	8
Blue	14	5
Red	10	3
Orange	6	2
Gold	30	10
Yellow-Green	24	8
Magenta	12	3

APPENDIX II

Color Specification

	Color	Chromaticity Coordinate Corner Points		Luminance Factor
		X	Y	Y (%)
1.	White	.303 .365 .340 .278	.290 .354 .378 .316	35 Min.
2.	Lemon Yellow	.403 .440 .504 .455	.508 .550 .457 .462	34 – 46.5
3.	Yellow	.447 .480 .536 .500	.472 .512 .456 .420	29 – 43
4.	Orange	.502 .573 .627 .535	.398 .425 .368 .360	18 – 30
5.	Red	.552 .630 .695 .601	.358 .370 .305 .310	6 – 13
6.	Blue	.105 .232 .240 .180	.240 .250 .200 .140	8 – 19
7.	Green	.115 .200 .297 .242	.300 .490 .360 .265	14 – 26
8.	Gold	.415 .415 .458 .458	.390 .455 .455 .390	19 – 26
9.	Yellow-Green	.180 .180 .280 .280	.320 .500 .460 .360	18 – 25
10.	Magenta	.465 .465 .520 .520	.235 .285 .285 .235	9 – 14

Appendix III

TESTING OF THERMAL TRANSFER PRINTED VALIDATION DECALS

These testing procedures cover the testing of thermal transfer printed validation stickers for abrasion resistance and resistance to cleaners and solvents. Note: Only cleaners and solvents commonly used on or around vehicle paint finishes need be tested.

1. Wet Scrub Abrasion Resistance

References: Federal Test Method Standard 141a, Method 6142; Gardner Laboratory Bulletin WG 2000

Equipment:

The test used here is a modification of the Federal Test Standard No. 141a, Method 6142, "Scrub Resistance". An apparatus such as Gardner Model M-105 or the Gardner Straight Line Washability and Abrasion Tester No. 1364 is required.

Sample Preparation:

Prepare samples by adhering two test decals to conversion-coated aluminum weathering panels available from The Q-Panel Co., 26200 First St., Cleveland, Ohio 44145 (216-835-8700). Panels measure 11" x 2.75". After applying the decals, roll them down firmly with a small wallpaper rubber roller (approx. 1.5" dia).

Allow samples to stand for 48 hours in a constant temperature/humidity room before testing.

Procedure:

1. After conditioning the brush in lukewarm water for 30 minutes, shake out the excess water. Then condition the brush in a 0.5 percent detergent ("Dreft") solution for 5 minutes. Place the Chinese hogs bristle brush in the brush holder.
2. Mount the test panel in the test apparatus. The test apparatus may need to be modified slightly to accommodate the 11" x 2.75" test panel.
3. Turn on the machine and allow 1,000 scrub cycles to pass before stopping the machine. During the test period, a 0.5% detergent ("Dreft") solution is dripped on the test panel at the approximate rate of 12 drops per minute through a titration column or just enough to keep the panel wet.
4. Rinse and dry the test panel.

Results:

If the decal print does not show sufficient wear so that the tester can see the substrate sheeting, the sample decal passes the test.

2. Resistance to Solvents and Cleaners

Printed stickers may be tested on the card stock or on the liner.

Test Solvents” methyl alcohol, mineral spirits, kerosene, VM & P naphtha, and gasoline. (Note: Solvents that damage automobile paint or lacquer finishes should not be used as a test solvent).

Test Cleaners: “409”, window glass, ammonia, bug and tar (with petroleum distillates or mineral spirits)

Procedure:

Wet a “Q-tip” type cotton swab (mounted on the end of a stick) with the respective solvent or test cleaner.

The tester holds the swab at a 45-degree angle to the test sticker and with approximately 40 grams of pressure, wipes the wet swab back and forth across the printed sticker for 10 cycles (one cycle is once across the sample and back). The tester conducts the same test on a second sample for 25 cycles.

Results:

The sample passes if the solvent or cleaner does not solvate the print sufficiently to wear through to the substrate.

3. Daytime and Nighttime Reflectivity

This test procedure ensures that the colors of the imaged stickers remain the same when viewed under daylight and retroreflected light.

Procedure:

Bring stickers into a room that can be darkened enough to simulate nighttime viewing conditions. Note sticker colors before beginning test. Position stickers vertically on wall, board or in standing position on table. Turn on flashlight before turning off room lights. Hold flashlight at tip of nose and note color of stickers under retroreflective light.

Results:

The color of the non-imaged area and imaged area should be the same as viewed with room lights on. If imaged area looks black under retroreflective light, opaque colorants have been used. If non-imaged area shows a diminished reflectivity, a coating has been applied to the sheeting that alters the appearance of the stickers under retroreflective light.