HOTRA

10 DEC -9 PH 12: 39

Remittance Address

Transcore PO Box 933493 Atlanta, GA 31193-3493

voice Number:

10-07310

Invoice Date: 11/30/2010

II To: HARRIS COUNTY TOLL RD AUTHORITY ACCOUNTS PAYABLE 330 MEADOWFERN, SUITE 200 HOUSTON, TX 77067

istomer Number:

H0013

ıstomer PO Number: (

VES Maint Techs

LL SCHEDULE ITEMS

P149763

oject Number:

1100007

oject Name:

Maint VES Project 1300153

rms: je Date: NET 30 12/30/2010 Billing Period From: 11/01/2010

To: 11/30/2010

Billing Currency: USD

Current Amount 58,333.33 58,333.33

58,333.33

voice Total

HCTRA Monthly VES Maintenance Report - NOV10

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Monday, November 01, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 01, 2010	ALL	ALL	Completed morning image checks of all lanes	
Monday, November 01, 2010	ALL	ALL	Continued review of bad OCR data	
Monday, November 01, 2010	ALL	ALL	Worked on bench testing removed VES computers/LEDs and preparing them to return to service	
Monday, November 01, 2010	Airport Connector	ALL	Intermittant comm issue on some of the lanes, went and swapped octopus cable and confirmed proper	
			operation	
Monday, November 01, 2010	NEBW8 Work	John Ralston	VESC configuration/installation	
Monday, November 01, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Tuesday, November 02, 2010	ALL	ALL	Reviewed ATTLAS image report	
Tuesday, November 02, 2010	ALL	ALL	Completed morning image checks of all lanes	
Tuesday, November 02, 2010	ALL	ALL	Continued review of bad OCR data	
Tuesday, November 02, 2010	Fallbrook Exit	ALL	Video quality issue when checking images, went to site and replaced video digitizer card and confirmed	
1003009, 11040111001 02, 2010	I dibrook Exit	, nere	proper operation. Will bench test old card to confirm issue,	
Tuesday, November 02, 2010	Almeda Exit	ALL	Power issue caused fiber converters to be turned off. Waited on site for power to be restored and confirmed	
Tuesday, November 02, 2010	Almeda Exit	ALL		
Tuesday Navesbar 02 2040	NEBW8 Work	John Ralston	proper operation of all equipment.	
Tuesday, November 02, 2010			VESC configuration/installation	
Tuesday, November 02, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Tuesday, November 02, 2010	Ship Channel Bridge	ELPAC3	Issues related to comm during image checks, verified newest comm driver was installed and restarted	
			system. Verified proper operation.	
Tuesday, November 02, 2010	Cullen Exit	ALL	Issues related to comm during image checks, verified newest comm driver was installed and restarted	
			system. Verified proper operation.	
Tuesday, November 02, 2010	I-10 TP1	NRT2	This system was not accessible remotely, rebooted with netbooter and confirmed proper operation.	
Wednesday, November 03, 2010	ALL	ALL	Reviewed ATTLAS image report	
Wednesday, November 03, 2010	ALL	ALL	Completed morning image checks of all lanes	
Wednesday, November 03, 2010	ALL	ALL	Continued review of bad OCR data	
Wednesday, November 03, 2010	Ship Channel Bridge	ELPAC3	Issues related to comms during image checks again. Went to site and replaced comm board and confirmed proper operation.	
Wednesday, November 03, 2010	Almeda Exit	ALL	Power issue again, found bad comm card. Replaced comm card and confirmed proper operation.	
Wednesday, November 03, 2010	NEBW8 Work	John Ralston	VESC configuration/installation	
Wednesday, November 03, 2010	ALL	ALL	Completed afternoon image checks of all lanes	3.70
Thursday, November 04, 2010	ALL	ALL	Reviewed ATTLAS image report	
Thursday, November 04, 2010	ALL	ALL	Completed morning image checks of all lanes	
Thursday, November 04, 2010	ALL	ALL	Continued review of bad OCR data	
Thursday, November 04, 2010	NEBW8 Work	John Ralston	VESC configuration/installation	
Thursday, November 04, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Friday, November 05, 2010	ALL	ALL	Reviewed ATTLAS image report	
Friday, November 05, 2010	ALL	ALL	Completed morning image checks of all lanes	
Friday, November 05, 2010	ALL	ALL	Continued review of bad OCR data	
Friday, November 05, 2010	I-10 TP3	NRT1	Unable to connect to this NRT remotely, rebooted using netbooter and verified proper operation.	
Friday, November 05, 2010	ALL	ALL	Worked on bench testing removed VES computers/LEDs and preparing them to return to service	
Saturday, November 06, 2010	ALL	ALL	Reviewed ATTLAS image report	1 1 1 A A A A A A A A A A A A A A A A A
Sunday, November 07, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 08, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 08, 2010	ALL	ALL .	Completed moming image checks of all lanes	
Monday, November 08, 2010	ALL	ALL	Continued review of bad OCR data	
Monday, November 08, 2010	Sam Central	NRT	Unable to connect to this NRT remotely, rebooted using netbooter and verified proper operation.	111111111111111111111111111111111111111
Monday, November 08, 2010	WPT Hwy 6	ALL	Issue related to comms during image checks. Confirmed latest comm driver was installed, restarted system	
A CONTROL OF THE CONT	24/4-10/16/2016	10.000	and confirmed proper operation.	
Monday, November 08, 2010	WestPark Extension	ALL	Checked and reported incandecent bulb outages	
Monday, November 08, 2010	Fort Bend Parkway	ALL	Checked and reported incandecent bulb outages	
Monday, November 08, 2010	NEBW8 Work	Wilson Rd.	VESC configuration/installation	
Monday, November 08, 2010	ALL	ALL	Completed afternoon image checks of all lanes	

Tuesday, November 09, 2010	ALL	ALL	Reviewed ATTLAS image report	
Tuesday, November 09, 2010	ALL	ALL	Completed morning image checks of all lanes	
Tuesday, November 09, 2010	ALL	ALL	Continued review of bad OCR data	
Tuesday, November 09, 2010	Telephone Rd Exit	ALL	Issue related to comms during image checks. Confirmed latest comm driver was installed, restarted system,	
raesday, revember 00, 2010	relephone Na Exit	rice.	same issue. Went to site and replaced comm card, same issue. Issue appears to be software related.	
			Replaced system and confirmed proper operation, will re-image removed system.	
Tuesday, November 09, 2010	NEBW8 Work	Wilson Rd.	VESC configuration/installation	
Tuesday, November 09, 2010	ALL	ALL		
Wednesday, November 10, 2010	ALL		Completed afternoon image checks of all lanes Reviewed ATTLAS image report	
Wednesday, November 10, 2010 Wednesday, November 10, 2010		ALL		
	ALL	ALL	Completed morning image checks of all lanes Continued review of bad OCR data	
Wednesday, November 10, 2010	ALL	ALL		
Wednesday, November 10, 2010	NEBW8 Work	Wilson Rd.	VESC configuration/installation	
Wednesday, November 10, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Thursday, November 11, 2010	ALL	ALL	Reviewed ATTLAS image report	
Thursday, November 11, 2010	ALL	ALL	Completed morning image checks of all lanes	
Thursday, November 11, 2010	ALL	ALL	Continued review of bad OCR data	
Thursday, November 11, 2010	Lake Olympia	ALL	Previously replaced VESC at this location with ELPAC, re-wired to send RS422 comms directly from the lane	
			controller to the ELPAC and eliminate the RS232 to 422 convertor.	
Thursday, November 11, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Friday, November 12, 2010	ALL	ALL	Reviewed ATTLAS image report	7010
Friday, November 12, 2010	ALL	ALL	Completed morning image checks of all lanes	
Friday, November 12, 2010	ALL	ALL	Continued review of bad OCR data	
Friday, November 12, 2010	ALL	ALL	Worked on bench testing removed VES computers/LEDs and preparing them to return to service	
Friday, November 12, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Saturday, November 13, 2010	ALL	ALL	Reviewed ATTLAS image report	
Sunday, November 14, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 15, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 15, 2010	ALL	ALL	Completed morning image checks of all lanes	
Monday, November 15, 2010	ALL	ALL	Continued review of bad OCR data	
Monday, November 15, 2010	Cullen Exit	ALL	No triggers during morning image checks, LCA says lane controller was not working and they were in	
Monday, November 13, 2010	Cullett Exit	ALL	process of replacing it.	
Monday, November 15, 2010	I-10 TP2	NRT	Unable to connect to this NRT remotely, rebooted using netbooter and verified proper operation.	
Monday, November 15, 2010 Monday, November 15, 2010	NEBW8 Work	West Lake	VESC configuration/installation	
Monday, November 15, 2010	IAEDAAD AAGIK		VESC Consignation visitation	
Manday Navambar 45 2040	ATT	Houston	Completed offerences image shocks of all larges	
Monday, November 15, 2010	ALL	ALL	Completed afternoon image checks of all lanes Reviewed ATTLAS image report	
Tuesday, November 16, 2010				
Tuesday, November 16, 2010	ALL	ALL	Completed morning image checks of all lanes	
Tuesday, November 16, 2010	ALL	ALL	Continued review of bad OCR data	
Tuesday, November 16, 2010	Telephone Rd Exit	ALL	Issue related to comms during image checks. Confirmed latest comm driver was installed, restarted system	
			and confirmed proper operation.	
Tuesday, November 16, 2010	NEBW8 Work	West Lake	VESC configuration/installation	
		Houston		
Tuesday, November 16, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Wednesday, November 17, 2010	ALL	ALL	Reviewed ATTLAS image report	
Wednesday, November 17, 2010	ALL	ALL	Completed morning image checks of all lanes	
Wednesday, November 17, 2010	ALL	ALL	Continued review of bad OCR data	
Wednesday, November 17, 2010	Telephone Rd Exit		Issue related to comms during image checks. Went to site and changed comm ports on the ELPAC and	
444	CAMPAGE CARRIED STATE STATE	a v eg nuoceanne	confirmed proper operation	A STATE OF THE STA
Wednesday, November 17, 2010	Airport Connector	NRT	NRT pre-production test passes	
Wednesday, November 17, 2010	Little York Ent	NRT	NRT pre-production test passes	
Wednesday, November 17, 2010	Little York Exit	NRT	NRT pre-production test passes	
Wednesday, November 17, 2010	Aldine Mail Route Exit	NRT	NRT pre-production test passes	
Wednesday, November 17, 2010	NEBW8 Work	West Lake	VESC configuration/installation	
		Houston		
Wednesday, November 17, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
		ALL	Reviewed ATTLAS image report	
Thursday, November 18, 2010	ALL	ALL		

Thursday, November 18, 2010	ALL	ALL	Continued review of bad OCR data	
Thursday, November 18, 2010	Moore West	ALL	No triggers during morning image checks, LCA says the issue is related to loops and HCTRA will address	
			the issue	
Thursday, November 18, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Friday, November 19, 2010	ALL	ALL	Reviewed ATTLAS image report	
Friday, November 19, 2010	ALL	ALL	Completed morning image checks of all lanes	
Friday, November 19, 2010	ALL	ALL	Continued review of bad OCR data	
Friday, November 19, 2010	Airport Connector	ALL	Issues with video quality during morning image checks, went to site and replaced ground isolation	
			transformers and confirmed proper operation.	
Friday, November 19, 2010	Hardy Tidwell Ent	ALL	Issues with video quality during morning image checks, went to site and replaced ground isolation	***************************************
			transformers and confirmed proper operation.	
Friday, November 19, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Saturday, November 20, 2010	ALL	ALL	Reviewed ATTLAS image report	
Sunday, November 21, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 22, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 22, 2010	ALL	ALL	Completed morning image checks of all lanes	
Monday, November 22, 2010	ALL	ALL	Continued review of bad OCR data	
Monday, November 22, 2010	ALL	ALL	Installed windows XP patch on specific list of systems as requested by HCTRA IT team	
Monday, November 22, 2010	NEBW8 Work	Garrett Rd.	VESC configuration/installation	
Monday, November 22, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Tuesday, November 23, 2010	ALL	ALL	Reviewed ATTLAS image report	
Tuesday, November 23, 2010	ALL	ALL	Completed morning image checks of all lanes	1995-0620-5
Tuesday, November 23, 2010	ALL	ALL	Continued review of bad OCR data	30:
Tuesday, November 23, 2010	NEBW8 Work	Garrett Rd.	Help with testing per HCTRA request	
Monday, November 22, 2010	Red Bluff Exit	ALL	Issue related to comms during image checks. Confirmed latest comm driver was installed, restarted system.	772-31-3/3
Monday, November 22, 2010	Ned Didit Ext	, Act	confirmed proper operation	
Monday, November 22, 2010	Spencer Hwy Exit	ALL	Issue related to comms during image checks. Confirmed latest comm driver was installed, restarted system,	
Monday, November 22, 2010	Spericer riwy Exit	ALL	confirmed proper operation	
Monday, November 22, 2010	Beltway 8 Exchange	ALL ·	Issue related to comms during image checks. Confirmed latest comm driver was installed, restarted system,	
Monday, November 22, 2010	Bellway o Exchange	ALL.	confirmed proper operation	
Tuesday, November 23, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Wednesday, November 24, 2010	ALL	ALL	Reviewed ATTLAS image report	
Wednesday, November 24, 2010	ALL	ALL	Completed morning image checks of all lanes	
Wednesday, November 24, 2010	ALL	ALL	Continued review of bad OCR data	
Wednesday, November 24, 2010	NEBW8 Work	Wilson Rd.	Help with testing per HCTRA request	
Wednesday, November 24, 2010	NEBW8 Work	Garrett Rd.	VESC configuration/installation	
Thursday, November 25, 2010	ALL	ALL	Holiday	
Friday, November 26, 2010	ALL	ALL	Holiday	
Saturday, November 27, 2010	ALL	ALL	Reviewed ATTLAS image report	
Saturday, November 27, 2010	Sam North	ALL	Alerts from NRT systems being down and not getting triggers. Unable to connect to some NRTs. Went to	
Galdiday, November 27, 2010	Sam Horus	ALL	site and found breaker on UPS was tripped, reset breaker and all equipment recovered.	
Sunday, November 28, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 29, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 29, 2010 Monday, November 29, 2010	ALL	ALL	Completed morning image checks of all lanes	
Monday, November 29, 2010	ALL	ALL	Continued review of bad OCR data	
Monday, November 29, 2010	ALL NEBWa Work	ALL	Worked on bench testing removed VES computers/LEDs and preparing them to return to service	
Monday, November 29, 2010	NEBW8 Work	Winfield	VESC configuration/installation	
Monday, November 29, 2010 Tuesday, November 30, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Tuesday, November 30, 2010 Tuesday, November 30, 2010	ALL		Reviewed ATTLAS image report	
		ALL	Completed morning image checks of all lanes	
Tuesday, November 30, 2010	ALL	ALL	Continued review of bad OCR data	
Tuesday, November 30, 2010	ALL NEDWA Work	ALL	Worked on bench testing removed VES computers/LEDs and preparing them to return to service	
Tuesday, November 30, 2010	NEBW8 Work	Winfield	VESC configuration/installation	
Tuesday, November 30, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Tuesday, November 30, 2010	ALL	ALL	Work with HCTRA to complete VESC user password conversion and check every VES related system to	
			ensure they are working properly	

Tuesday, November 30, 2010	WPT Royalton Ent	ALL	System did not come back up after password conversion, went onsite to reboot. Confirmed proper operation	
Tuesday, November 30, 2010	Airport Connector	ALL	Comm issues with this system after password conversion, went to site to resolve issues, confirmed proper operation.	
Tuesday, November 30, 2010	Sam East	PIC	System did not come back up after password conversion, went onsite to reboot. Confirmed proper operation	

Repaired Equipment

题Equipment测	Serial Number	Problem	Resolution
LED Illuminator	00557M	4 LED BANKS NOT WORKING	REPLACED 4 BANKS AND TESTED
LED Illuminator	01034M	CONTROLLER BOARD BURNED	REPLACED CONTROLLER BOARD AND TESTED
LED Illuminator	00504M	CONTROLLER BOARD HAS NO POWER	REPLACED CONTROLLER BOARD AND TESTED
LED Illuminator	00910M	ISSUE SWITCHING TO DAY NIGHT MODE	RESET CONTROLLER BOARD, REPROGRAMMED AND TESTED
LED Illuminator	00616M	CONTROLLER BOARD HAS NO POWER	REPLACED CONTROLLER BOARD AND TESTED
LED Illuminator	0201	CONTROLLER BOARD HAS NO POWER	REPLACED CONTROLLER BOARD AND TESTED
LED Illuminator	00421M	CONTROLLER BOARD BURNED	REPLACED CONTROLLER BOARD AND TESTED
LED Illuminator	01047M	1 LED BANK NOT WORKING	REPLACED 1 BANK AND TESTED
LED Illuminator	0353M	5 LED BANKS OUT	REPLACED CONTROLLER BOARD AND 5 LED BANKS AND TESTED
LED Illuminator	00389M	CONTROLLER BOARD HAS NO POWER	REPLACED CONTROLLER BOARD AND TESTED

10 DEC -9 PH 12: 39

Reputtain e Address

hansone 17) Box 933494 Atlanta, CA 11194-4493

Invoice Number:

10-07310

Invoice Date: 11/30/20:0

Bill To:

HARRIS COUNTY TOLL RD AUTHORITY ACCOUNTS PAYABLE 330 MEADOWFERN, SUITE 200 HOUSTON, TX 77057

Customer Number

H0013

Customer PO Number: (

Project Number:

Project Name: Terms: Due Date:

P149763 1100007 Maint VES Project 13001E3

NET 30 12/30/2010 Billing Pariod From: 11/01/2010 To: 11/30/2010

Billing Currency: USD

5 VES Maint Techs BILL SCHEDULE ITEMS

Invoice Total

Current Amount 58,333.33

58,333.33

58,333.33

700,000 - 12= 58,333.33

2010 DEC 28

Page: 1

HCTRA Monthly VES Maintenance Report - NOV10

Date	. Location	Lane LF.	Service Performed	Original Equipment Install Date
Monday, November 01, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 01, 2010	ALL	ALL	Completed morning image checks of all lanes	
Monday, November 01, 2010	ALL	ALL	Continued review of bad OCR data	
Monday, November 01, 2010	ALL	ALL	Worked on bench testing removed VES computers/LEDs and preparing them to return to service	
Monday, November 01, 2010	Airport Connector	ALL	Intermittant comm issue on some of the lanes, went and swapped octopus cable and confirmed proper operation	
Monday, November 01, 2010	NEBW8 Work	John Ralston	VESC configuration/installation	
Monday, November 01, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Tuesday, November 02, 2010	ALL	ALL	Reviewed ATTLAS image report	
Tuesday, November 02, 2010	ALL	ALL .	Completed morning image checks of all lanes	
Tuesday: November 02, 2010.	ALL	ALL	Continued review of bad OCR data	
Tuesday, November 02, 2010	Fallbrook Exit	ALL	Video quality issue when checking images, went to site and replaced video digitizer card and confirmed proper operation. Will bench test old card to confirm issue.	
Tuesday, November 02; 2010	Almeda Exit	ALL -	Power issue caused fiber converters to be turned off. Waited on site for power to be restored and confirmed proper operation of all equipment.	
Tuesday, November 02, 2010	NEBW8 Work	John Ralston	VESC configuration/installation	
Tuesday, November 02, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Tuesday, November 02, 2010	Ship Channel Bridge	ELPAC3 .	Issues related to comm during image checks, verified newest comm driver was installed and restarted system. Verified proper operation.	
Tuesday, November 02, 2010	Cullen Exit	ALL	Issues related to comm during image checks, verified newest comm driver was installed and restarted system. Verified proper operation.	
Tuesday, November 02, 2010	I-10 TP1	NRT2	This system was not accessible remotely, rebooted with netbooter and confirmed proper operation.	
Vednesday, November 03, 2010	ALL	ALL	Reviewed ATTLAS image report	
Vednesday, November 03, 2010	ALL	ALL	Completed morning image checks of all lanes	
Vednesday, November 03, 2010	ALL	ALL	Continued review of bad OCR data	
Vednesday, November 03, 2010	Ship Channel Bridge	ELPAC3	Issues related to comms during image checks again. Went to site and replaced comm board and confirmed proper operation.	
Nednesday, November 03, 2010	Almeda Exit	ALL	Power issue again, found bad comm card. Replaced comm card and confirmed proper operation.	
Vednesday, November 03, 2010	NEBW8 Work	John Ralston	VESC configuration/installation	
Vednesday, November 03, 2010	ALL	ALL	Completed atternoon image checks of all lanes	
Thursday, November 04, 2010	ALL	ALL	Reviewed ATTLAS image report	
Thursday, November 04, 2010	ALL	ALL	Completed morning image checks of all lanes	
Thursday, November 04, 2010	ALL	ALL	Continued review of bad OCR data	
Thursday, November 04, 2010	NEBW8 Work	John Ralston	VESC configuration/installation	
Thursday, November 04, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Friday, November 05, 2010	ALL	ALL	Reviewed ATTLAS image report	
Friday, November 05, 2010	ALL	ALL	Completed morning image checks of all lanes	
Friday, November 05, 2010	ALL	ALL	Continued review of bad OCR data	
Friday, November 05, 2010	I-10 TP3	NRT1	Unable to connect to this NRT remotely, rebooted using netbooter and verified proper operation.	
Friday, November 05, 2010	ALL	ALL	Worked on bench testing removed VES computers/LEDs and preparing them to return to service	
Saturday, November 06, 2010	ALL	ALL	Reviewed ATTLAS image report	
Sunday, November 07, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 08, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 08, 2010	ALL	ALL	Completed morning image checks of all lanes	
Monday, November 08, 2010	ALL	ALL	Continued review of bad OCR data	
Monday, November 08, 2010	Sam Central	NRT	Unable to connect to this NRT remotely, rebooted using netbooter and verified proper operation.	
Monday, November 08, 2010	WPT Hwy 6	ALL	Issue related to comms during image checks. Confirmed latest comm driver was installed, restaned system and confirmed proper operation.	
Monday, November 08, 2010	WestPark Extension	ALL	Checked and reported incandecent bulb outages	,
Monday, November 08, 2010	Fort Bend Parkway	ALL	Checked and reported incandecent bulb outages	
Monday, November 08, 2010	NEBW8 Work	Wilson Rd.	VESC configuration/installation	
Monday, November 08, 2010	ALL	ALL	Completed afternoon image checks of all lanes	

Tuesday, November 09, 2010"" "	·- · ALL	ALL	Reviewed ATTLAS image report	
Tuesday, November 09, 2010	ALL	ALL	Completed marring image checks of all lanes	
Tuesday, November 09, 2010	ALL	ALL	Continued review of bad OCR data	
Tuesday, November 09, 2010	Telephone Rd Exit	ALL	tssue related to comms during image checks. Confirmed latest comm driver was installed, restarted system, same issue. Went to site and replaced comm card, same issue. Issue appears to be software related, Replaced system and confirmed proper operation, will re-image removed system.	
Tuesday, November 09, 2010	NEBW8 Work	Wilson Rd.	VESC configuration/installation	
Tuesday, November 09, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Wednesday, November 10, 2010	ALL .	ALL	Reviewed ATTLAS image report	
Wednesday, November 10, 2010	ALL	ALL	Completed morning image checks of all lanes	
Wednesday, November 10, 2010	ALL	ALL	Continued review of bad OCR data	
Wednesday, November 10, 2010	NEBW8 Work	Wilson Rd.	VESC configuration/installation	
Wednesday, November 10, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Thursday, November 11, 2010	ALL	ALL	Reviewed ATTLAS image report	
Thursday, November 11, 2010 .	ALL	ALL	Completed morning image checks of all larres	
Thursday, November 11, 2010	ALL	ALL	Continued review of bad OCR data	
Thursday, November 11, 2010	Lake Olympia	ALL	Previously replaced VESC at this location with ELPAC, re-wired to send RS422 comms directly from the lane	
			controller to the ELPAC and eliminate the RS232 to 422 convertor.	
Thursday, November 11, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Friday, November 12, 2010	ALL	ALL	Reviewed ATTLAS image report	
Friday, November 12, 2010	ALL	ALL	Completed morning image checks of all lanes	
Friday, November 12, 2010	, ALL	ALL	Continued review of bad OCR data	
Friday, November 12, 2010	ALL	ALL	Worked on bench testing removed VES computers/LEDs and preparing them to return to service	
Friday, November 12, 2010	ALL	ALL	Completed attemoon image checks of all lanes	
Saturday, November 13, 2010	ALL .	ALL	Reviewed ATTLAS image report	
Sunday, November 14, 2010	ALL .	ALL	Reviewed ATTLAS image report	
Monday, November 15, 2010	ALL	ALL	Reviewed ATTLAS image report	
Monday, November 15, 2010	ALL	ALL	Completed morning image checks of all lanes	
Monday, November 15, 2010	ALL	ALL	Continued review of bad OCR data	
Monday, November 15, 2010	Cullen Exit	ALL	No triggers during morning image checks, LCA says lane controller was not working and they were in process of replacing it.	
Monday, November 15, 2010	1-10 TP2	NRT	Unable to connect to this NRT remotely, rebooted using netbooter and ventiled proper operation.	
Monday, November 15, 2010	NEBW8 Work	West Lake Houston	VESC configuration/installation	
Monday, November 15, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Tuesday, November 15, 2010	ALL	ALL	Reviewed ATTLAS image report	
Tuesday, November 16, 2010	ALL	ALL	Completed morning image checks of all lanes	
Tuesday, November 16, 2010	ALL	ALL	Continued review of bad OCR data	
	Telephone Rd Exit	ALL	Issue related to comms during image checks. Confirmed latest comm driver was installed, restarted system	
Tuesday, November 16, 2010			and confirmed proper operation.	
Tuesday, November 16, 2010	NEBW8 Work	West Lake Houston	VESC configuration/installation	
Tuesday, November 16, 2010	ALL	ALL	Completed afternoon image checks of all lanes	
Wednesday, November 17, 2010	ALL	ALL	Reviewed ATTLAS image report	
Wednesday, November 17, 2010	ALL	ALL	Completed morning image checks of all lanes	
Wednesday, November 17, 2010	ALL	ALL	Continued review of bad OCR data	
Wednesday, November 17, 2010	Telephone Rd Exit		Issue related to comms during image checks. Went to site and changed comm ports on the ELPAC and confirmed proper operation	
Wednesday, November 17, 2010	Airport Connector	NRT	NRT pre-production test passes	
Wednesday, November 17, 2010	Little York Ent	NRT	NRT pre-production test passes	
Wednesday, November 17, 2010	Little York Exit	NRT	NRT pre-production test passes	
Wednesday, November 17, 2010	Aldine Mail Route Exit	NRT	NRT pre-production test passes	
Wednesday, November 17, 2010 Wednesday, November 17, 2010	NEBW8 Work	West Lake	VESC configuration/installation	
		Houston	C. Lindahara dan dan dan dan dan dan dan dan dan da	
Wednesday, November 17, 2010	ALL.	ALL	Completed afternoon image checks of all lanes	
Thursday, November 18, 2010	ALL	ALL	Reviewed ATTLAS image report	
Thursday, November 18, 2010	ALL	ALL	Completed morning image checks of all lanes	

Thursday, November 18, 2010 Thursday, November 18, 2010 ALL ALL ALL Completed afternoon image checks, LCA says the issue is related to loops and HCTRA will address the issue is related to loops and HCTRA will address the issue is related to loops and HCTRA will address the issue is related to loops and HCTRA will address the issue is related to loops and HCTRA will address the issue Completed morning image checks of all lanes Friday, November 19, 2010 ALL ALL Completed morning image checks of all lanes Friday, November 19, 2010 ALL ALL Continued review of bad OCR data Issues with video quality during morning image checks, went to site and replaced ground isolation transformers and confirmed proper operation. Friday, November 19, 2010 ALL ALL Completed morning image checks, went to site and replaced ground isolation transformers and confirmed proper operation. Friday, November 19, 2010 ALL ALL Completed afternoon image checks of all lanes Salurday, November 20, 2010 ALL ALL Reviewed ATTLAS image report Monday, November 22, 2010 ALL ALL Reviewed ATTLAS image report Monday, November 22, 2010 ALL ALL Reviewed ATTLAS image report Monday, November 22, 2010 ALL ALL Completed morning image checks of all lanes Completed morning image checks of all lanes Completed morning image checks of all lanes Monday, November 22, 2010 ALL ALL Confirmed proper operation. NEBW8 Work Garrett Rd. VESC configuration/installation NeBW8 Work Garrett Rd. ALL Completed morning image checks of all lanes Completed morning image checks of all lanes Monday, November 23, 2010 ALL ALL Completed morning image checks of all lanes Completed morning image checks of all lanes Monday, November 23, 2010 ALL ALL Completed morning image checks of all lanes Completed morning image checks of all lanes Morning image checks of all lanes Completed morning image checks of all lanes Morning image checks of all lanes Morning image checks of all lanes Completed morning image checks of all lanes Mo	
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confirmed proper operation	
Monday, November 22, 2010 Beltway 8 Exchange ALL Issue related to comms during image checks. Confirmed latest comm driver was installed restarted system.	
confirmed proper operation	
Tuesday, November 23, 2010 ALL ALL Completed afternoon image checks of all lanes	
Wednesday, November 24, 2010 ALL ALL Reviewed ATTLAS image report	
Wednesday, November 24, 2010 ALL ALL Completed morning image checks of all lanes	-
Wednesday, November 24, 2010 ALL ALL Continued review of bad OCR data	
Wednesday, November 24, 2010 NEBW8 Work Wilson Rd. Help with testing per HCTRA request	
Wednesday, November 24, 2010 NEBW8 Work Garrett Rd. VESC configuration/installation	
Thursday, November 25, 2010 ALL ALL Holiday	
Friday, November 26, 2010 ALL ALL Holiday	
Saturday, November 27, 2010 ALL ALL Reviewed ATTLAS image report	
Saturday, November 27, 2010 Sam North ALL Alerts from NRT systems being down and not getting triggers. Unable to connect to some NRTs. Went to site and found breaker on UPS was tripped, reset breaker and all equipment recovered.	
Sunday, November 28, 2010 ALL ALL Reviewed ATTLAS image report	
Monday, November 29, 2010 ALL ALL Reviewed ATTLAS image report	
Monday, November 29, 2010 ALL ALL Completed morning image checks of all lanes	
Monday, November 29, 2010 ALL ALL Continued review of bad OCR data	rane and a second
Monday, November 29, 2010 ALL Worked on bench testing removed VES computers/LEDs and preparing them to return to service	
Monday, November 29, 2010 NEBW8 Work Winfield VESC configuration/installation	
Monday, November 29, 2010 ALL ALL Completed afternoon image checks of all lanes	
Tuesday, November 30, 2010 ALL ALL Reviewed ATTLAS image report	
Tuesday, November 30, 2010 ALL ALL Completed morning image checks of all lanes	
Tuesday, November 30, 2010 ALL ALL Continued review of bad OCR data	
Tuesday, November 30, 2010 ALL ALL Continued review of bad OCR data Tuesday, November 30, 2010 ALL ALL Worked on bench testing removed VES computers/LEDs and preparing them to return to service	
	
Tuesday, November 30, 2010 ALL ALL Completed atternoon image checks of all lanes Tuesday, November 30, 2010 ALL ALL Work with HCTRA to complete VESC user password conversion and check every VES related system to	
ensure they are working properly	

Tuesday, November 30, 2010 .	WPT Royalton Ent	ALL	System did not come back up after password conversion, went onsite to reboot. Confirmed proper operation	
Tuesday, November 30, 2010	Airport Connector	ALL	Comm issues with this system after password conversion, went to site to resolve issues, confirmed proper operation.	
Tuesday, November 30, 2010	Sam East	PIC	System did not come back up after password conversion, went onsite to reboot. Confirmed proper operation	

Repaired Equipment

-₄Equipment-	Serial Number	Problem Andrew	Resolution:	
LED Illuminator	00557M	4 LED BANKS NOT WORKING	REPLACED 4 BANKS AND TESTED	
LED Illuminator	01034M	CONTROLLER BOARD BURNED	REPLACED CONTROLLER BOARD AND TESTED	
LED Illuminator	00504M	CONTROLLER BOARD HAS NO POWER	REPLACED CONTROLLER BOARD AND TESTED	
LED Illuminator	00910M	ISSUE SWITCHING TO DAY NIGHT MODE	RESET CONTROLLER BOARD, REPROGRAMMED AND TESTED	
			:	
LED:Illuminator	00616M	CONTROLLER BOARD HAS NO POWER	REPLACED CONTROLLER BOARD AND TESTED	
LED Illuminator	0201	CONTROLLER BOARD HAS NO POWER	R REPLACED CONTROLLER BOARD AND TESTED	
LED-Illuminator	00421M	CONTROLLER BOARD BURNED	REPLACED CONTROLLER BOARD AND TESTED	
LED Illuminator	01047M	1 LED BANK NOT WORKING	REPLACED 1 BANK AND TESTED	
LED Illuminator	0353M	5 LED BANKS OUT	REPLACED CONTROLLER BOARD AND 5 LED BANKS AND TESTED	
LED Illuminator	00389M	CONTROLLER BOARD HAS NO POWER	REPLACED CONTROLLER BOARD AND TESTED	

Harris County Production PO Reference Report

ORGANIZATION NAME H/C TOLL ROAD	P149763	
VENIOR NO. 251730334	05/20/2010	REQUEST NO R283707
VGROCE		EST DELIVERY DATE

VENDOR ADDRESS:

SHIP TO:

BILL TO:

TRANSCORE

"HC TOLL AUTHORITY

2705 WEST SAM HOUSTON PKWY 1 CENTRAL SUPPLY

HOUSTON, TX 77043

. 14640 HENRY ROAD

HOUSTON, TX 770605623

CONTACT:

713 355 3628

1TEMNO 0001		DESCRIPTION NEW PURCHASE ORDER IN FUND 5710 FOR 6 MONTHS OF PROJECTED ENPENDITURES DUE TO THE UNAVAILABILITY OF COMMERICAL PAPER PROCEEDS IN FUND 5950. PURCHASE ORDER PL34547 WILL BE REDUCED BY \$750,000,00. VES CAMERAS & ASSOCIATED EQUIPMENT FOR HCTRA, ALL IN ACCORDANCE WITH AGREEMENT HERETO REFERRED AND MADE PART	UNIT PRICE 1.00	750,000,00 \$
		HEREOF AS IF ATTACHED.		
		CANAL RESPONDED COLUMN ADDITIONAL		
		COMMISSIONERS COURT APPROVED 1/22/08		
*				
0002.	4,000,000.00 LOT	ADDENDUM R285456-1, DATED 12/29/08.	1.00	4,000,000.00
		TO ADD FUNDS TO PURCHASE ORDER P149763 IN FUND 5710 FOR 6 MONTHS OF		
	•	PROJECTED EXPENDITURES DUE TO THE		
		UNAVAILABILITY OF COMMERCIAL PAPER		
		PROCEEDS IN FUND 5950, PURCHASE ORDER P134547 WILL BE REDUCED BY		
		\$4,000,000.		
1. 756				
		VES CAMERAS & ASSOCIATED EQUIPMENT		
		FOR HCTRA, ALL IN ACCORDANCE WITH AGREEMENT HERITO REFERRED AND MADE		
		PART HEREOF AS IF ATTACHED.		
0003	2,544,550.00 LOT	ADDENDUM TO INCREASE P149763 BY	1,00	2,544,550,00
		\$2544,550.68 WHICH REPRESENTS THE REMAINING BALANCE ON THE RELATED PO.		
		P134547.		
		MATERIALS & LABOR; VIOLATION ENFORCEMENT SYSTEM CAMERAS & ASSOCIATED EQUIPMENT		
		FOR HCTRA, ALL, IN ACCORDANCE WITH		
		AGREEMENT HERETO REFERRED AND MADE PART		
		HEREOF AS'ÎF ATTACHED.		
0004	700,000.00 LOT	ADDENDUM TO INCREASE P149763 BY \$700,000 FOR THE SECOND YEAR RENEWAL OF THE ANNUAL MAINTENANCE.	1.00	700,060.00
		FIRST YEAR, 1/22/08-1/21/09		
/		SECOND YEAR: 1/22/09-1/21/10		
0005	700,000.00 LOT	ADDENDUM R323293, DATED 5/13/10, TO INCREASE	1.00	700,000.00
		P149763 BY \$700,000 FOR THE RENEWAL OF MAINTENANCE FOR VIOLATION ENFORECEMENT SYSTEM		1
		SIGNATION OF THE TOTAL THE ENTORICE COREST STOTEM		-

User: ·CKIRKPAT - Kirkpatrick, Connic

Report: PO_FORMAT_HC - Purchase Order Report Format

Page: 01/03/2011 :Current Date 09:39:04 :Current Time

Kirkpatrick, Connie (Auditors)

From:

Fischer, Felita (HCTRA) (Toll Road Authority)

Sent:

Friday, January 07, 2011 2:40 PM

To:

Cross, Sheila (HCTRA) (Toll Road Authority)

Cc:

Kirkpatrick, Connie (Auditors)

Subject:

Transcore Invoice # 10-07310--\$58,333.33

Sheila/Connie,

Please pay Transcore invoice # 10-07310--\$58,333.33 on PO # P156924.

Please let me know if you have any questions.

Thank you,

Felita Fischer Maintenance

Harris County Toll Road Authority 7701 Wilshire Place Drive Houston, Texas 77040

::0. 713-587-7913 Office * 281-875-1592 Fax

: . !

felita.fischer@hetra.org

* PLEASE NOTE NEW TELEPHONE NUMBER

RECEIVING FORM

Date:	08/04/10		LT PAY THIS INVOI PURCHASE ORDER	S INVOICE ON TWO E ORDERS			
Section/Person Res			-Maintenance/Felita	Fischer			
Purchase Order #:	P149763\$278,384 P156924\$22,197			Approved			
Vendor Name:	TransCore			Date <u>8-23-16</u> Batch <u>AK 8/7 (K)</u>			
Invoice #:	19330			Batch <u>AK 8/7 (K)</u>			
Invoice Amount:	\$300,581.67			CC Date			
. Description:		allation (Labo	r & Materials) and L	re, Software Licenses, Lane Closures from			

			,				
		24					
	P 1497 ORG KEY: \$188	, 282.04	OBJECT CODE:	- 623000-LINE ITEM #3 ON PO # P149763\$278,384.00			
	P.O. BALANCE:\$7	6924 ,733,811.01	OBJECT CODE:	PO # P156924\$22,197.67			
Approved for Payme							
& Carle	redi.	810	110	Section Approval			

Authorized Signature

Date

Revised 10/2/06

INVOICE TRANSCORE. P / 49 7 12 - 42 78 384.00 HCTRA Purchase Order No. P156924 - \$22,197.67 Inv Invoice No. 19330 Invoice Date: 7/22/10 Due Date: 8/22/10 Vendor No. 251730334 TransCore Project No. 1309121 Customer No.: +10013 Name of Project: HCTRA VES UPGRADE Name of Contractor: TransCore Bill to: Harris County Toll Road Authority TransCore Holdings, Inc. 7701 Wilshire Place Drive, 5th floor 36120 Treasury Center Houston, TX 770-10 Chicago, IL 60694-6100 Attention: Chuck Sanders SUMMARY OF WORK FOR WHICH PAYMENT IS REQUIRED Total Previous Contract Total Contract Previous Amount Unit Contract Current Month Quantity Month Quantity Invoiced Amount Amount Invoiced Quantity Amount VIES Camera 1,067,400.00 1,072,737.00 600 1,779.00 603 VES Comera Housing 360 2,228.00 801,360 00 360 801,360.00 Camera Junction (so- (1 camera/lane) 302 3,190 00 963,380.00 340 1,084,600,00 Carneta Junction Box (2 currentane) 3,945 DO 366,885.00 95 374,775.00 a. LEO #umicator 500 2,919 00 1,459,500.00 500 1,450,500.00 b. No Charge LED Illuminator 39 a. LED Numinator Bracket 500 130.00 65,000.00 500 65,000.00 0 b. No Charge LED Huminator Bracket 39 D 1,744.00 LED Illuminator Junction Box 0 VES Controller (1-4 cameras) 40 8,354.00 334,160.00 57 476.178.00 VES Controller (1-8 cameras) 65 9,101.00 591,565.00 75 682,575.00 54,606.00 Plaza knage Computer 9,677.00 9,677.00 67,739.00 0 a. OCR System Hardward 5,894.00 82,728.00 55,152.00 4,080 00 44,880.00 32,640.00 u. OCR System Sonware License OCR Tuning 30,936.00 Initial Commissioning and Testing 12,410.02 Subtotal - Materials 5,786,535.00 2608 6,010,725 00 210,137.00 Mainhow Lane Installation (Labor • Materials) 9,615.00 67,305.00 0 Other Lane instellation (Labor - Materials) 22,749 00 8,872,110.00 72 1,637,928.00 68,247.00 16 Single Lane/Ramp Closure - TransCore Worl 1,117.73 14 15,648.22 17 Two-Lane Closure - TransCore Work 1,309.89 5 6,548,45 18 Single Lane Ramp Closure - Others Work 1,775.00 0 1wp-Lane Closura - Others Work 2,125.55 0 Public Hostication - West 675.00 Subtotal - Labor 8,872,110.00 90,444.67 1,705,233.00 Current Invoice Amount 300,581.67 Roy Tour 8,022,539.67 Total Amount Invoiced to Date \$ 14,658,645.00 Submitted By: Date: 7/22/2010 Amount Remaining \$ 6,636,105.33

> SPILT PAY ON TWO P.O.'S P149763- \$278,384.00 P156924- \$22,197.67

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ONTOPAN CONTENTO



May/June/July Lane Closures

Date	Location	Туре	Quantity	Price	Date Invoiced	Issue
5/13/2010	249 Entrance Lanes 31,32	Single Lane/Ramp Closure	1	\$1,117.73		Camera in lane 31 image is tilted to the left
5/20/2010	Bellaire Exit Lanes 68,69	Single Lane/Ramp Closure	1	\$1,117.73		Swap FSJ4 to LDF4 per HCTRA
5/25/2010	West Rd Evit Lanes 58,59	Single Lane/Ramp Closure	1	\$1,117.73		Camera in lane 59 has dark images
5/26/2010	Bellaire Entrance 60,61	Single Lane/Ramp Closure	,	\$1,117.73		Camera in Lane 61 has dark images
6/1/2010	Sam South Lanes 7,8	Two-Lane Closure	1	\$1,309.89		Center camera in lane 7 has dark
6/1/2010	Sam South Lane 9	Single Lane/Ramp Closure	1	\$1,117.73	F	images. Right camera in lane 8
6/10/2010	Sam Southwest Lane 1	Single Lane/Ramp Closure	1	\$1,117.73		On-Retro LED illuminator not working
6/10/2010	Moore West Shoulder Lane	Single Lane/Ramp Closure	1	\$1,117.73		Damage caused by vehicle accident
6/11/2010	Moore West Lanes 1,2	Two-Lane Closure	1	\$1,309.89		Test all VES lighting and replace
	Moore West Lane 3	Single Lane/Ramp Closure	1	51,117.73		light bulbs and sockets after
6/14/2010	Moore West Lanes 1,2	Two-Lane Closure	1	51,309.89		Found bulbs out when powering up entire system.
6/16/2010	Sam North Lane 3	Single Lane/Ramp Closure	1	\$1,117.73		Loop damage caused by vehicle accident
6/17/2010	Sam North Lane 6,7	Two-Lane Closure	1	\$1,309.89		Center camera in lane 7 has dark images.
6/23/2010	Bellaire Exit Lanes 68,69	Single Lane/Ramp Closure	1	\$1,117.73		Camera in lane 68 has dark images
6/29/2010	Rankin Entrance Lane 70	Single Lane/Ramp Closure	1	\$1,117.73		Camera in Lane 70 was fuzzy and out of focus.

6/28/2010	Westheimer Entrance Lanes 40,41	Single Lane/Ramp Closure	1	\$1,117.73	Install lane control signal in lane 42	In pr
7/5/2010	Sam North Lanes 5,6	Two-Lane Closure	1	[\$1,309.89]	Center camera in lane 7 has dark	C
7/5/2010	Sam North Lane 7	Single Lane/Ramp Closure	1	\$1,117.73	images	re
7/19/2010	Sam South Lane 4	Single Lane/Ramp Closure	1	\$1,117.73	Carnera showing video out on ELPAC	ROV