

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
PROPRIETARY PRODUCT CERTIFICATION

630-020-07
SPECIFICATION
08/14

To: Annette Brennan, P.E.
Design Engineer

Date: 3/9/2015

Financial Project ID: 435529-1-54-01 New Const. RRR

Federal Aid Number: 4043-139C

Project Name: Orange County ATMS Phase 3 - Purchase of Adaptive Traffic Control System, Signal Controllers, Controller Assemblies, and UPS Assemblies

State Road Number: 426 and 434 Co. / Sec. / Sub.: Orange

Begin Project MP: _____ End Project MP: _____

Full Federal Oversight: No Yes Note: If Yes, submit to FHWA Director.

A justification and all supporting documents must be attached to this document.

Mark the appropriate certification:

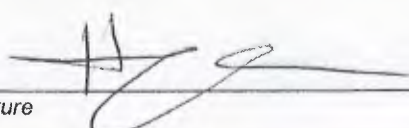
"I, Hazem El-Assar, P.E., Chief Engineer, of the Orange County,
Print Name of Initiator Position Title Name of Agency

do hereby certify that in accordance with the requirements of 23 CFR 635.411(a)(2),

Mark appropriately (choose only one option):

- that this patented or proprietary item is essential for synchronization with existing highway facilities.
 that no equally suitable alternative exists for this patented or proprietary item."

Signature



3/9/2015
Date

For Department Use Only

"I, RICHARD B. MORROW, DISTRICT TRAFFIC OPERATIONS ENG.,
Print Name Position Title

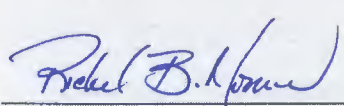
of the Florida Department of Transportation, do hereby approve this certification request made in accordance with the requirements of 23 CFR 635.411(a)(2),

Mark appropriately (choose only one option):

- that this patented or proprietary item is essential for synchronization with existing highway facilities.
 that no equally suitable alternative exists for this patented or proprietary item."

Identify any conditions and limitations:

Signature



4/2/15
Date

Financial Project ID: 435529-1-54-01

Name of Initiator: Hazem El-Assar, P.E.

ITEM	Patented or Proprietary Item is Essential for Synchronization with Existing Highway Facilities	No Equally Suitable Alternative Exists for this Patented or Proprietary Item	APPROVED	NOT APPROVED	IN SEMP
Advance Traffic Signal Control System	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Signal Controllers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Controller Assemblies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
UPS Assemblies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Field Ethernet Switch	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



Richard B. Morrow, P.E.

District Traffic Operations Engineer



PUBLIC WORKS DEPARTMENT ▪ TRAFFIC ENGINEERING DIVISION

RUBY DEMPSEY ROZIER, Manager

4200 South John Young Parkway ▪ Orlando, Florida 32839-9205

407-836-7890 ▪ Fax 407-836-7869

www.orangecountyfl.net

March 9, 2015

Ms. Annette Brennan, P.E.
FDOT District 5 Design Engineer
719 S. Woodland Blvd
DeLand, FL 32720

Subject: Justification for Preferred Use of Proprietary Products for Adaptive Traffic Control System, Signal Controllers, Controller Assemblies, and UPS Assemblies - Orange County Advanced Traffic Management System Phase 3 – FPN: 435529-1-54-01

Dear Ms. Brennan:

The subject project includes instrumenting 41 existing traffic signals along four corridors within Orange County with Adaptive Traffic Control Systems (ATCS). ATCS's are to be incorporated along portions of: Alafaya Tl (SR 434), Lake Underhill Rd, University Bv, and Aloma Av (SR 426). The objective of these ATCS's is to upgrade the existing traffic signal systems with a state-of-the-art, fully functioning ATCS, which will dynamically modify signal timings based upon real time traffic conditions. These ATCS's will be operated and maintained by Orange County after installation and acceptance. The ATCS will feature:

- ✓ ATCS Processing Units
- ✓ Video Detection System (VDS) cameras - provided as part of the ATCS processor package; and/or other physics based detection systems
- ✓ Ancillary mounts/cables

Given the current infrastructure and complexity of these signalized corridors, Orange County would like to specify the "InSync" ATCS as justified here. The use of InSync ATCS will provide significant operational and safety benefits to the County, as indicated below:

- ✓ InSync is the only ATCS compatible with the various brands of signal system controller(s) and cabinet(s) equipment, regardless of manufacturer. As Orange County continues to advance its ATCS, InSync's robust open architecture affords the County tremendous flexibility to freely select software and devices based upon functionality as opposed to compatibility. This will become critically important in moving the County forward. InSync provides critical synchronization without the obligation of selecting and being locked-in with a proprietary system as a foundation.
- ✓ Project corridors often have railroad/emergency preemption, transit signal priority and/or significant pedestrian activities which occur on a frequent basis. InSync is the only product that reduces/eliminates signal cycle transitioning, thereby not losing coordination nor be seriously impacted by these signal phase disruptions, as is the case with all other signal systems.

- ✓ InSync has shown to significantly improve traffic flow and safety. While reducing individual intersection movement delay by virtue of its unique attributes of dynamically adapting signal phasing, sequencing, green time allocation, cycle lengths and green bandwidths.
- ✓ InSync is able to incorporate existing vehicle detection equipment or a combination of detection systems, allowing for full use of the investment of the existing infrastructure, thereby reducing capital costs on a project.
- ✓ InSync includes pedestrian modules to help optimize high pedestrian activity and enhance overall signal system operations.
- ✓ InSync is currently the only Adaptive Product approved on the Florida Department of Transportation's Approved Products List (APL).

For the above reasons, the County recommends InSync as a unique product with no suitable alternatives for this project.

In addition, the project will include replacement of existing signal controllers, controller assemblies and addition of UPS assemblies. We would like to specify Siemens Controller Assemblies and the Clary UPS Assemblies, since they meet the following Synchronization criteria:

- 1) Function: The proprietary products are necessary for the satisfactory operation of the existing facility. All existing traffic signals in Orange County are equipped with these controllers and several are equipped with these UPS's
- 2) Logistics: Both the Siemens Controller assemblies and the Clary UPS assemblies are interchangeable with products in our maintenance inventory.
- 3) Lifecycle: The Controller Assemblies have an expected life expectancy of 15 to 20 years and are replacing assemblies that are very close to their expected end of life.
- 4) Field technicians have been trained and certified to install and maintain the Siemens Controller Assemblies and the Clary UPS's.

The proposed controller assemblies and UPS's have been used throughout the County for approximately 20 years. The controller assemblies being installed are backward compatible with our existing signal system. The UPSs will protect the intersection equipment from power issues, clean input power and keep the intersection operational for up to four and a half hours during a power outage.

Orange County respectfully requests the Department's approval for a sole proprietary use of the InSync ATCS package, Siemens Controllers, Siemens Controller Assemblies, and Clary UPS Assemblies for this project for the above reasons. Attached is the Proprietary Product Certification Form related to this request.

If you have any questions regarding this request, please do not hesitate to contact me by telephone at 407-836-7866 or email at hazem.el-assar@ocfl.net .

Sincerely,



Hazem El-Assar, P.E.
Chief Engineer

Attachment



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March 9, 2015

Ms. Annette Brennan, P.E.

FDOT District 5 Design Engineer

719 S. Woodland Blvd

DeLand, FL 32720

Subject: Justification for Preferred Use of Proprietary Products for Managed Field Ethernet Switches - Orange County Advanced Traffic Management System Phase 3 – FPN: 435529-1-54-01

Dear Ms. Brennan:

The subject project includes instrumenting 41 existing traffic signals along four corridors within Orange County with Adaptive Traffic Control Systems (ATCS). ATCS's are to be incorporated along portions of Alafaya Tl (SR 434), Lake Underhill Rd, University Bv, and Aloma Av (SR 426). The objective of these ATCS's is to upgrade the existing traffic signal systems with a state-of-the-art, fully functioning ATCS, which will dynamically modify signal timings based upon real time traffic conditions. These ATCS's will be operated and maintained by Orange County after installation and acceptance. The project includes purchase of Managed Field Ethernet Switches (MFES) to provide communication between signal cabinets and the Traffic management Center. The project also includes instrumenting 120 additional intersections with these MFES's throughout the county.

Given the current infrastructure and complexity of these signalized corridors, and to allow for better management, reliability and future growth of our network, Orange County would like to specify ITS Express MFES as justified here. The use of ITS Express MFES will provide significant operational benefits to the County, since it is the only product that has all of the following features:

- ✓ 4x 100 or 1000 Dual Speed Hybrid Fiber SF Ports.
- ✓ 8 Port 10/100/1000TX Copper Ports ~ 56 GBPS Back-Plane.
- ✓ Support 100M/1G/10G optical bypass function of 2 port duplex or 4 port simplex fiber connection, which protects from network failures due to power loss.
- ✓ S-Flow network monitoring.
- ✓ Listed on FDOT's Approved Products List (APL).

For the above reasons, the County recommends ITS Express MFES as a unique product with no suitable alternatives for this project and we respectfully request the Department's approval for a Proprietary Product Certification. Attached is the Proprietary Product Certification Form.

If you have any questions regarding this request, please do not hesitate to contact me by telephone at 407-836-7866 or email at hazem.el-assar@ocfl.net.

Sincerely,

A handwritten signature in black ink, appearing to read "Hazem El-Assar", written over a horizontal line.

Hazem El-Assar, P.E., Chief Engineer

Attachments