

Use with approval of the District Traffic Operations Engineer.

0071107 Preservation of Property – Intelligent Transportation Systems
COMMENTS FROM INTERNAL/INDUSTRY REVIEW



Eddy L. Scott
District Specifications/Plans Processing Manager
FDOT District 2 Program Management
1109 S. Marion Ave - MS 2014
office 386.961.7831
fax 386.758.3701
eddy.scott@dot.state.fl.us

Comments: (5-2-12)

- It was my understanding that Department Facilities were not part of Sunshine One as the Department was not a member. Has this changed recently? Could something like this also be considered for Traffic Signals, Lighting, and Signing (Lighted)? You may not want to go toward damage recovery for these components except in the case for Traffic Signals.
- Could you give an idea as to what the usage note would be for this spec? All jobs, All jobs with ITS facilities present, All ITS jobs? The reason I'm asking is unless you have an ITS Contractor already present or maybe on call it would seem to me that the allowable times may be difficult to meet.

Response:

The references to Sunshine One Call/811 have been removed. As for usage, the intent is for this to be a special provision that is able to be applied on all jobs with ITS facilities present that could be adversely impacted by construction. The Department has the right to repair damage using in-house forces or contract maintenance in the event of need.



Gordon Wheeler, PE
Assistant State Utilities Engineer
Florida DOT
605 Suwannee St, MS 32
Tallahassee FL 32399-0450
850-414-4366

Comments: (5-2-12)

Sunshine One Call has been changed to Sunshine 811. <http://www.callsunshine.com/>
You may want to update all references to Sunshine State One Call of Florida. The spec implies that Sunshine One Call/Sunshine 811 locates the ITS facilities. Sunshine 811 does not locate underground facilities.

I suggest changing the 3rd sentence in 7-11.7 to read:

“Notify Sunshine 811 to have all underground infrastructure located by their owners within the construction limits.”

I suggest replacing the second half of the sentence with: “Record the location of all underground facilities that are not installed according to the plans.”

First subsection should be 7-11.7.1, not 711-7.1.

Use with approval of the District Traffic Operations Engineer.

Missing period after first sentence of 4th paragraph of section 7-11.7.1.
Second subsection should be 7-11.7.2, not 711-7.2.

Response:
The references and instructions relating specifically to Sunshine 811 have been removed.

Marty Humphries
(386)961-7180

Comments: (5-3-12)
This specification looks odd since the Departments facilities are not part of Sunshine one call.
We typically locate our facilities for contractors.

Response:
Specific references to Sunshine 811 have been removed.

Ray Haverty Jr.
Florida Department of Transportation
Office of Maintenance
Senior Contract & Agreement Manager
605 Suwannee St. Mail Station 52
Tallahassee, Fl. 32399-0450
Phone Number 850.410.5531
Fax Number 850.410.5511
Work Hours 7:00 AM until 5:30 PM Off Friday's
ray.haverty@dot.state.fl.us

Comments: (5-4-12)
I have reviewed this proposed specification change and have a concern from the wording in 711-7.1 (see the section of concern) here: Whenever actions of a third party cause the Department's ITS or related components to fail or cause a disruption of normal operation, as determined by the Engineer, either restore the Department's ITS and related components to their previous condition and normal operation or provide access and coordinate with the Department's Maintenance Contractor in accordance with 8-4.4 as directed by the Engineer.
*I would propose the wording have a small addition as shown here: Whenever actions of a third party cause the Department's ITS or related components to fail or cause a disruption of normal operation, as determined by the Engineer, either restore the Department's ITS and related components to their previous condition and normal operation or provide access and coordinate with the Department's **ITS** Maintenance Contractor in accordance with 8-4.4 as directed by the Engineer.*

Response:
In all likelihood, this will be an "ITS Maintenance Contractor". However, the engineer may designate any contractor with the appropriate skills and scope. The draft has been modified to require coordination with the contractor designated by the Engineer.

Use with approval of the District Traffic Operations Engineer.

Steve Branson
District 7 PS&E Manager
813-975-6799
Stephen.Branson@dot.myflorida.com

Comments: (5-4-12)

Regarding the subject proposed Special Provision, I noticed the only \$\$ amount provided was a cap on damages over a 24-hr period (\$25,000). The table listing the particular ITS Components and related damage amounts is left blank. Does that mean that the component amounts will be determined on a per project basis??

Response:

Yes. The plan is for District Construction offices to have responsibility for assisting with the determination of user costs, etc. for the table at the request of the DTOE. Instruction and documentation will be issued if/when this specification is implemented.

Chris R. Birosak
ITS Program Manager
District One, Florida Department of Transportation
801 N. Broadway Ave.
Post Office Box 1249
Bartow, Florida 33831-1249
Phone (863) 519-2507
Fax (863) 534-0915
email - chris.birosak@dot.state.fl.us

Comments: (5-27-12)

I reviewed the proposed specification revision for 0071107 Preservation of Property – Intelligent Transportation Systems and I have the following comments:

Section 7-11.7, second sentence reads, *“The Department will not require the Contractor to provide routine repairs or maintenance.”* I suggest adding the follow words to the end of the sentence, *“unless otherwise indicated in the contract documents.”* Generally, the contractor is not required to perform routine repairs or maintenance but there are occasions when a project requires the relocation or re-designing of the ITS infrastructure. Maintenance of the ITS through the project limits may be turned over to the contractor under this circumstance.

Section 7-11.7, third sentence reads, *“Coordinate with Sunshine One Call to locate all ITS underground infrastructure within the construction limits from the issuance of notice to proceed, and register with Sunshine One Call for all temporary and permanent ITS underground infrastructure installed by the contractor.”* This sentence only calls for coordination with Sunshine One Call and does not make the contractor responsible for locating the existing

Use with approval of the District Traffic Operations Engineer.

underground ITS infrastructure through the project limits. This will result in multiple calls by the contractor during project construction to Sunshine One Call which will have to be answered by our ITS Maintenance Contractor. Typically, we have experienced contractors placing a call for locates monthly for their entire project limits regardless of whether work is going on in an area or near our ITS devices. This makes our ITS Maintenance Contractor responsible for locating the underground infrastructure multiple times during construction which we do not have sufficient budget for. The intent of this specification should be for the contractor to *locate and protect* the existing ITS infrastructure throughout the project limits so repairs are limited.

Table 1, What Damage Recovery and User Costs are being considered for the table? I suggest the table be fixed so there is uniformity across the state. I suggest the telecommunications, DMS, power systems and HAR carry a higher cost. The loss of these items would impact the public the most. Regarding the allowable time, I suggest HAR be changed to 12 hours, camera systems be changed to 24 hours, and road weather information systems be changed to 48 hours.

I want to thank you for considering my comments.

Response:

This is expected to be implemented as a special provision. The governing order of documents can accommodate some degree of customization between the special provision and other contract documents. However, routine maintenance or repairs are not typically assigned in this manner. Therefore, we have chosen not to include “unless otherwise indicated in the contract documents.”

The contractor is not responsible for taking ownership responsibility for locates. However, they are responsible for protecting all Department ITS and related components from damage. Specific references to Sunshine 811 have been removed.

The plan is for district construction offices to have responsibility for assisting with the determination of user costs, etc. for the table at the request of the DTOE. Instruction and documentation will be issued if/when this specification is implemented. The duration in the table have been reviewed and vetted multiple times. Our desire is to implement the table and monitor usage for potential future modifications. However, the duration for RWIS has been increased in accordance with the comment.

Wayne "Bert" Woerner II, P.E.
District Construction Consultant Manager
719 South Woodland Blvd.
Deland, FL 32720
bert.woerner@dot.state.fl.us
386.943.5351

Comments: (5-29-12)

District 5 has reviewed the subject industry review and would like to submit the following

comments:

1. The ITS system trailblazers and DMS signs in our area usually have the "Click it or ticket" messages running, with the "Dial 511" messages back and forth. I know the wavetronics sensors are up there as well as the cameras along the routes, and they both provide needed data in case of an emergency, but if there isn't an emergency during an unintended down time, then how much has it really hurt the Department?

We need to have available something along the lines of the Statewide Averages that are used to determine costs when we prepare our work orders. I think the ITS folks should have cost/impacts documentation of past incidents in a format similar to the statewide averages tables. At least then we would have documentation supporting the "damages" to the Department. If the Contractor isn't actively working on a timely repair, that is on them, but the determination of the amount of the damages being based on a "best estimate" is ambiguous. As is, I believe the language below to be unfair.

711-7.1 Damage Recovery/User Cost: By execution of the Contract, both parties acknowledge and agree that failure to timely restore any Department ITS and related component that has failed or has a disruption in operation with regard to their previous condition and normal operation will result in damages being suffered by the Department and/or the traveling public which are difficult to ascertain with certainty. Parties further acknowledge and agree that the amount of damage recovery/user cost is a best estimate of the actual damages that would be suffered and is a reasonable amount based on the best available information.

2. Should the highlighted sentence after or part of paragraph 5 be indented as a new paragraph or should the sentence be moved up next to "Contractor by the department."?

apply and will not end until the system and all components are properly operating The Department will have the right to apply as payment on such damages any money, which is due to the Contractor by the Department.

Intelligent Transportation System Component Failures and disruption of normal operation include, but are not limited to the following:

Response:

The plan is for this to be implemented as a special provision and included at the request of the DTOE. District construction offices will have responsibility for assisting with the determination of user costs, etc. for the table at the request of the DTOE. Instruction and documentation will be issued if/when this specification is implemented. Our desire is to implement this special provision and monitor usage for potential future modifications. This document originated largely from D5 MSP requests and the text referenced (along with its location) was recommended by CO FDOT Legal.

Use with approval of the District Traffic Operations Engineer.

William Reynolds
D7

Comments: (5-29-12)

This paragraph is leaving a concern. As I understand, the FDOT does not subscribe to "Sunshine 811". This requirement is law for conventional utilities locates, but the Cities, Counties, and State do not fall within its guidelines. Also, "Sunshine 811" does not locate. they notify the utility owner so the the owner can locate the existing facilities.

7-11.7 Intelligent Transportation Systems (ITS): Protect all Department ITS and related components from damage causing failure or disruption of normal operation. The Department will not require the Contractor to provide routine repairs or maintenance. Coordinate with Sunshine One Call to locate all ITS underground infrastructure within the construction limits from the issuance of notice to proceed, and register with Sunshine One Call for all temporary and permanent ITS underground infrastructure installed by the contractor.

Response:
Specific references to Sunshine 811 have been removed.

Eric J. Leach, PE
Telecommunications Engineer, ITS
Atkins
482 South Keller Road, Orlando, FL 32810
407-806-4196, Fax: 407-806-4500
Cell: 386-747-3200
Eric.Leach@atkinglobal.com

Comments: (5-30-12)

Included below are the collective comments from The Florida's Turnpike review of the proposed changes to PRESERVATION OF PROPERTY – INTELLIGENT TRANSPORTATION SYSTEMS 7-11.7.

1. Section 7-11.7: Turnpike ITS is not located through Sunshine State One Call of Florida. It is the responsibility of the Contractor to locate and designate any Turnpike owned utilities. In the third sentence, please clarify if it is the Contractor's responsibility to locate and designate existing ITS infrastructure within the project limits or only the temporary or permanent ITS infrastructure proposed within the Contractor's scope of work.

Specific references to Sunshine 811 have been removed.

Use with approval of the District Traffic Operations Engineer.

2. Section 711-7.1 (2nd paragraph): Is the intent of the vandalism repair requirements to include all ITS within the project limits, or to include only the ITS components impacted by Contracted Work? It is the Turnpike's recommendation that the contractor should be responsible for vandalism only to ITS components impacted by Contracted Work.

The ITS components impacted by contracted work will be within the project limits and the contractor will be responsible for repairing any damage due to vandalism that impacts the normal operation of the system. No change is required at this time.

3. Section 711-7.1 (2nd paragraph): This paragraph does not provide the option for restoration by the Department. Suggest including the following from FTE's proposed preservation language at the end of this paragraph: *"In the case of failure on the part of the Contractor to repair the ITS to normal operations, the Engineer may proceed to repair and enforce the provisions of FDOT Specifications Subarticle 7-11.2. Lack of manpower or parts will not be considered as items beyond the Contractor's control."*

We believe the current language is sufficient and 7-11.2 applies. No additional reference is needed.

4. Section 711-7.1 (2nd paragraph): Since two options are acceptable as the starting point of the allowable time (either or), suggest including "whichever is earliest" (or similar statement) at the end of this sentence. The concern is that the contractor may hit something and not notice it until the Department notifies the Engineer and the Engineer notifies the Contractor.

We have updated the draft to clarify our intent is to use the earliest point.

5. Section 711-7.1 (2nd paragraph): FTE's busiest toll plazas collect between \$25,000 and \$130,000 per day. Suggest inserting *"plus any toll revenue lost"* after \$25,000.00

Collection of lost revenue is not considered to be within the scope of this special provision at this time. No change is required at this time.

6. Section 711-7.1 (3rd paragraph): Conflicting information. Earlier sentence states costs will not be assessed, and later sentence states costs will not be assessed at the discretion of the Engineer. Suggest consolidating it with at the discretion of the Engineer to avoid confusion.

The statements are intended to apply to different scenarios. We do not believe they are in conflict. We have re-arranged the text for clarity.

7. Section 711-7.1 (4th paragraph): This may only cover the repair costs of one system. Suggest replacing it with: *"..., damage recovery/user cost will be assessed for each affected system and...."*

Use with approval of the District Traffic Operations Engineer.

These requirements are not intended to recover repair costs. Rather, they identify and assess damages in a manner based upon user costs that is similar to other assessments. Any repairs must be made at no cost to the Department.

8. Section 711-7.1 (4th paragraph): The location of the following sentence may imply it only applies when multiple systems are impacted. Suggest making this sentence a separate paragraph immediately below its current location: *(The Department will have the right to apply as payment on such damages any money, which is due to the Contractor by the Department.)*

We have edited and re-arranged the text as suggested.

9. Section 711-7.1 (4th paragraph): Recommend including tolls communications, revenue, wireless links, Telephone data lines (T-1, T-3, Metro E, etc), and leased lines as part of the ITS system and Telecommunications bullet.

Based on consultation and involvement from the CO legal department, we feel that the general description is sufficient at this time. Our plan is to implement the special provision and monitor usage for potential future modifications. No change is required at this time.

10. Section 711-7.1 (Vehicle Detection System bullet): In addition to a Vehicle Detection System, the Turnpike has a Travel Time System that should be included. The Vehicle Detection System section could be expanded to include the Travel Time System.

We feel that the general description is sufficient at this time. The travel time system is already understood and considered to be a type of Vehicle Detection System. In addition, it will be included as one of many types in an upcoming update to section 660. No change is required at this time.

11. Section 711-7.1 (Power Systems bullet): recommend including telecommunications, travel time systems, DMS, and HAR.

We feel that the general description is sufficient at this time. No change is required at this time.

12. Section 711-7.1 (Table 1): Are the recovery/user costs to be determined by the individual districts at their own discretion or will values be provided? It is the Turnpike's preference not to enforce a recovery/user cost. It is anticipated that Contractors would consider damages/recovery costs and include these in their bids and incur overall project cost increases.

The plan is for this to be implemented as a special provision and included at the request of the DTOE. The usage note has been revised for clarification. District construction offices will have responsibility for assisting with the determination of user costs, etc. for

Use with approval of the District Traffic Operations Engineer.

the table at the request of the DTOE. Other FDOT documents will be updated and communicated to the Districts as needed.

13. Section 711-7.1 (Table 1): Include Travel Time Systems

We believe the current definition for Vehicle Detection System is sufficient. No change is required at this time.

14. Section 711-7.1 (Table 1): The Turnpike has the following recommended allowable response times based on the sensitivity of toll collection communications and prior experience with response times: Telecommunications → 24 hours; Camera System, VDS / Travel Time System, DMS, and HAR → 48 Hours; Power systems → 24 hours. The Turnpike does not require an additional time period column as shown in Table 1. It is the Turnpike's experience that shorter response times are not realistic for the extent of repairs that may be needed.

Baseline values were captured in this draft based upon stakeholder input to date in order to foster consistency statewide. Our plan is to implement the special provision and monitor usage for potential future modifications.

15. Section 711-7.1 (Table 1): It should be noted that the recovery/user costs do not include actual revenue lost from toll collection. Recovery/user cost should also include provisions to recover actual lost toll revenue data as a result of damages/loss of telecommunications to toll revenue data.

These requirements are not intended to recover lost revenue. No change is required at this time.

16. Section 711-7.1 or -7.2: Recommend the follow text be included: *"In the case of failure on the part of the Contractor to respond to damage, provide a repair plan or repair the ITS to normal operations, the Engineer may proceed to repair and enforce the provisions of FDOT Specifications 7-11. Lack of manpower or parts will not be considered as items beyond the Contractor's control. Repairs and responses must be performed by FDOT prequalified contractors in work class Intelligent Transportation Systems."*

We believe the current language is sufficient and 7-11.2 applies. No additional reference or content is needed. No change is required at this time.

17. Section 711-7.2: The plan should contain the resumes and required certifications of the qualified personnel that will be performing the repairs, particularly telecommunications and power system repairs

Minimum content for the repair plan was based upon the content in multiple, successful MSPs that have been approved and used on prior projects. No change is required at this time.

Use with approval of the District Traffic Operations Engineer.

18. Section 711-7.2: Unless this is automatically covered, suggest including language to indicate that all temporary and permanent repair work shall meet the FDOT Standard Specifications for Roadway and Bridge Construction, including but not limited to ITS Specification 783, which includes testing methodology and acceptance requirements.

We believe the current language is sufficient and any work performed must meet FDOT minimum requirements. No change is required at this time.

19. Section 711-7.2: Permanent repairs are mentioned, but temporary repairs are not. **Section 711-7.1 Damage Recovery/User Cost** requires restoration to previous condition and normal operation, which could be interpreted as permanently repaired condition. Suggest revisiting permanent and temporary repair allowances throughout spec. If temporary repairs are allowed, suggest including the following for Telecommunications repairs: *“Temporary fusion splices may be used to temporarily reconnect any broken fibers. Mechanical splices are not permitted. After any temporary splices are added to the system and prior to final acceptance of the project in accordance with FDOT Specifications Article 5-11, permanent repair to ITS fiber optic cable shall be completed.”*

Document modified for clarification concerning allowances for temporary repairs.

20. Section 711-7.2: Insert before Paragraph 2: *“The Contractor shall schedule and perform an acceptable communication degradation test on the existing system within the limits of the contract improvements to establish a pre-construction service level. The Contractor shall conduct the initial fiber optic cable test of 12 strands through the project at the start of the project before breaking ground using a test procedure approved by a representative of the CE&I and the Department’s ITS Group. The fiber strand tests shall be uni-directional tests at a single wavelength using an Optical Time Domain Reflectometer (OTDR). The fiber strands to be tested shall be determined by the Department and shall not exceed 12. The proposed test procedures shall be submitted to the CE&I at the Preconstruction Meeting and requires approval and monitoring by the CE&I and Department.*

After Substantial Completion but prior to Final Acceptance, the Contractor will perform the same testing procedure on the same 12 fiber strands as performed at the preconstruction degradation tests. The Contractor shall repair any damage or excessive degradation (as defined below) found at no cost to the Department. This fiber optic testing shall include the fiber optic cable to the nearest master hub beyond the project limits in both directions.

The ITS fiber optic network shall not experience a communication degradation greater than 0.2 dB between any two master hub switches due to unnecessary splicing of the backbone fiber optic cable as a result of the work being performed by the Contractor and its sub-contractors. Any dB loss greater than 0.2 dB between any two master hub switches will result in the Contractor being required to replace a section of the fiber optic cable to remove unnecessary splices and bring the communication loss back within

Use with approval of the District Traffic Operations Engineer.

the tolerance identified above. The section of fiber optic cable to be replaced will be from and to the nearest butt end splice point on either side of the section experiencing high loss. This new fiber optic cable shall be housed in the same color conduit as the existing fiber optic cable and shall include the re-splicing of the fiber optic drop cables within the section. The Contractor shall be limited to installing only one new fiber optic splice between two existing fiber optic splice vaults”.

We agree in principle with the recommended approach to characterize the pre-existing conditions. However, we believe that this is beyond the general scope of this specification. We suggest that these details could be coordinated and required during the project-by-project development and acceptance of the repair plan which is subject to the Engineer’s approval.

21. Section 711-7.2 (2nd paragraph): Please clarify the meaning of the “termination point to termination point” requirement. Is the intent to be from the nearest existing butt splice in each direction, or just the nearest splice point? Suggest including a definition in the provision of “termination point”

The text regarding cable replacement has been removed. The desire is that these details would be identified, negotiated, accepted, etc. in the repair plan submitted and reviewed by the Engineer.

22. Section 711-7.2 (2nd paragraph). Turnpike suggests that the permanent repair language be modified from “within 90 days of the temporary repairs” to “prior to final acceptance of the project.” This allows the Contractor an opportunity to provide one final repair for potentially multiple damages near the end of the project rather than providing multiple final repairs for multiple damages.

Text has been clarified. We feel the current duration is reasonable and achievable. Our plan is to implement the special provision and monitor usage for potential future modifications.

23. Section 711-7.1: Is special coordination language necessary to address how ITS will be repaired if the repair spans over multiple project limits?

We feel the current content is sufficient and no additional language is necessary. No change is required at this time.

24. Turnpike has the following recommended response time and response personnel qualifications. This language provides the FDOT CEIs an intermediate step/benchmark in the repair process to ensure the Contractor is providing an adequate response to the damage and that the repair is adequately assessed prior to the repair: *If damage to the system or disruption to normal operations occurs, notify the Engineer immediately for inspection. Respond to the site of damage with qualified personnel who have experience in repairing ITS within the allowable response times in Table 2 at no expense to the Department. For damaged telecommunication sites, respond to the site with a certified*

Use with approval of the District Traffic Operations Engineer.

fiber optic technician that is trained and certified by a reputable organization (Corning Cable Systems, Lucent, The Light Brigade, ADC Fiber, Fujitsu, AT&T, or equal). At a minimum, the technician's hands-on training must include fiber splicing, fiber termination, fiber testing, splice closures and patch panel terminations. For damaged power systems, respond to the site with an Electrical Journeyman. For damaged ITS field components, respond to the site with a Certified Electronics Technician.

Allowable Response Time & Response Personnel

<u>Item</u>	<u>Allowable Response Time</u>	<u>Response Personnel</u>
Telecommunications	4 hours	Certified Fiber Optic Technician
Camera System	4 hours	Certified Electronics Technician
Vehicle Detection / Travel Time System	4 hours	Certified Electronics Technician
Dynamic Message System	4 hours	Certified Electronics Technician
Highway Advisory Radio System	4 hours	Certified Electronics Technician
Power Systems	4 hours	Electrical Journeyman

We believe that this is beyond the general scope of this specification. We suggest that these details could be coordinated and required during the project-by-project development and acceptance of the repair plan which is subject to the Engineer's approval.

- 25. For any questions or clarifications on the above comments, please contact Eric Leach at Eric.Leach@atkinsglobal.com or 407.806.4196 Thank you.

Response:
See Individual responses embedded in original comments.

L. K. Nandam
863-519-2490
Fax: 863-534-0915
l.nandam@dot.state.fl.us

Comments: (5-31-12)

Text: Locates are part of maintenance of a facility, particularly when the facilities are related to ITS and Traffic Signal System infrastructure. The responsibility of locates of a facility should be tied to the date of transfer of maintenance of a device or traffic signal. If the work in the project includes relocation of underground facility and/or work on a traffic signal or ITS device then, responsibility for locates should be transferred to the contractor along with maintenance of the facility. If it not, then the department or the agency contracted to maintain the facility should be responsible for locates. The specification as written places the responsibility of locates from the point of installation or relocation of the device to the end of the contract. Recommendation is to

Use with approval of the District Traffic Operations Engineer.

change it to the date of transfer of maintenance of the facility, which per Spec 102-11.18 is the start of the contract. A separate pay item for locates should be considered in this situation.

Response:

Specific references to underground utility location and instructions relating Sunshine 811 have been removed.
