6950000 TRAFFICE MONITORING SITE EQUIPMENT AND MATERIALS
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

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Comments: (6-25-21, Internal)

I met with Eric, Missy, Sarah, and I discussed the following 695 spec modifications:

1. Consistency is needed between how the product types are named in 695 and 997.
2. When the APL is refenced for products that are not in 997, the spec and correct product type name needs to be included.
3. Identified some products that will not be furnished by the contractor.

I have included the Comments on the attached document.

→ **695-2.3 Notification:** Notify the Engineer 10 days prior to beginning work in the area of the TMS to coordinate the removal of existing TMS equipment.¶
→ → A TMS Inspector must be onsite during TMS installation. Notify the Engineer 10 days prior to installation of the TMS to coordinate the scheduling of a TMS Inspector.¶
→ **695-2.4 Poles for Cabinets, Non-Intrusive Sensors and Solar Panels:**¶
→ → **695-2.4.1 Requirements:** Meet the requirements of Section 646 for aluminum poles.¶
→ → **695-2.4.2 Installation:** Use cabinets that meet the requirements of Section 676 and are listed on the Department's Approved Product List (APL). Install cabinets in accordance with Section 676. Install the weather head and ground the pole in accordance with Section 620 and Standard Plans, Index 695-001.¶
→ **695-2.5 Manufacturer's Warranty Provisions:**¶
→ → **695-2.5.1 General:** Secure all warranties provided by the equipment manufacturer for the specific equipment included in the Contract. Ensure that all warranties are fully transferable from the Contractor to the Department. Transfer warranties upon final acceptance in accordance with 5-11. Document all warranties and warranty transfers and submit to the Engineer. The Engineer will submit warranty forms received from the Contractor to the Transportation Data and Analytics Office (TDA) ~~Transportation Statistics Office (TranStat)~~ TMS Manager.¶

Byram, Karen June 25, 2021
Are solar panels appropriate at this section? Is this redundant to 695-6 or is this a general reference applicable to all?¶
Reply Resolve

Byram, Karen
Is there a specific type of cabinet or will any type work?¶

→ → **695-3.2.1 Installation:** Install sensors in accordance with the requirements of this Section and Standard Plans, Index 695-001. Ensure axle sensors are installed in the roadway and secured using an adhesive bonding material listed on the APL.¶
→ → → Install axle sensors in the right-hand wheel-path midway between the leading and trailing loops as detailed in Standard Plans, Index 695-001. Install axles sensors in the left-hand wheel-path when no paved shoulder exists and sensor lead exit windows are installed at the right-hand edge of the roadway surface or in a lane which is to the left of and adjacent to an open lane of traffic.¶

Byram, Karen
What is the specification reference for this APL? Is this a S660 loop sealant? If it is manufacturer recommendation, reference that.¶

additional charge to the Department.¶
→ **695-3.3 Non-Intrusive Vehicle Sensors (Off-Roadway):**¶
→ → **695-3.3.1 General:** Install wireless (radar or microwave) vehicle sensors on a pole as shown in the Plans. Use vehicle detection systems that meet the requirements of Section 997 and are listed on the Department's Approved Product List (APL).¶

Byram, Karen
This term is not in 997. If this is non-Intrusive or non-Motorized sensor, then the names have to be the same for reference.¶

→ **695-4.2 Materials:**¶
→ → **695-4.2.1 General:** Use a vehicle speed/classification unit listed on the Department's APL meeting the requirements of 997 and compatible with the other components installed at the TMS. Ensure that the vehicle speed/classification unit and equipment cables are compatible and constructed in accordance with the Standard Plans.¶

Byram, Karen
This will not be on the APL, please remove. Per EG Add-install the one provided and remove the word 'furnish'.¶

with 695-2.2 and the markings are visible after installation.¶
→ → **695-4.2.2 Vehicle Speed/Classification Unit Requirements:** Provide an electronics unit that outputs data compatible with the Department's polling computer system or furnish a software module that converts the data into a format compatible with the Department's polling computer system.¶

Byram, Karen
Remove if the contractor is not providing the unit.¶

¶
→ → **695-4.2.7 Cables and Connectors:** Furnish all cables and connectors for a complete and functional installation of each electronics unit in accordance with Standard Plans, Index 695-001.¶
→ → → Ensure that the cables are properly terminated for the prescribed use without further modification by the Department.¶

Byram, Karen
Needs to remain because the contractor is furnish and install.¶
Note: The standard plan language to notify the TDA office 10 days in advance, belong in this specification.¶

→ → Payment will be made under:¶
Item No. 695-3- → TMS Vehicle Speed/Classification Unit - per assembly.¶

695-5 Weigh-In-Motion Electronic Sensor.¶

→ **695-5.1 General:** Install Traffic Monitoring Site (TMS) Weigh-In-Motion Electronic Sensor in the configuration shown on the Standard Plans, Index 695-001, and meet the requirements in Section 997.¶

→ **695-5.2 Materials:** Use Weigh-In-Motion Electronic Sensors that meet the requirements of Section 997 and are listed on the Department's Approved Products List (APL).¶

Use bonding agents listed on the APL and which are compatible with the Weigh-In-Motion sensor being installed.¶

→ **695-5.3 Installation Requirements:**¶

→ → **695-5.3.1 General:** The installer must have a valid certification from the manufacturer for installing the Weigh-In-Motion Electronics Sensors.¶

free of any dust, dirt, or other debris and completely dry prior to the installation.¶

→ **695-5.4 Bending Plate: Install two weigh pads adjacent to each other or in each wheel path in a staggered array to cover a 12-foot lane in the roadway. Connect the weigh pads to an interface processor.¶**

→ → Install the bending plate sensors in accordance with the manufacturer's installation procedures and in the presence of the manufacturer's representative. Ensure that the procedures are approved by the Engineer.¶

→ **695-5.5 Piezoelectric Weigh-In-Motion Axle Sensor:** Install piezoelectric sensors in concrete or asphaltic concrete roadways. Install two 6-foot piezoelectric Weigh-In-Motion sensors (Class I) in each pathway per lane, in a staggered array in accordance with Standard Plans, Index 695-001. Place the leading Piezoelectric Weigh-In-Motion sensor (Class I) onto the right side edge of the driving lane perpendicular to the flow of the traffic, covering half of the lane width (6 feet). Place the trailing Piezoelectric Weigh-In-Motion Sensor (Class I) onto the left side edge of the driving lane (6 feet). Orient all lead-in cables and connectors toward the nearest pull box, beyond the outside travel lanes. Ensure that the end of the sensor element or channel is centered on the lane stripe.¶

→ → Install a temperature sensor in the roadway or paved shoulder to monitor pavement temperature to compensate for temperature variation.¶

→ → Install piezoelectric Weigh-In-Motion axle sensors in accordance with the manufacturer's installation procedures and in the presence of the manufacturer's representative.¶

→ → **695-5.5.1 Piezoelectric Weigh-In-Motion Axle Sensor (Class I):** Install the unencapsulated piezoelectric Weigh-In-Motion sensor (Class I) by sawing a slot into the pavement perpendicular to the flow of traffic, equal to the length of the sensor plus 4 inches, by 3/4 inch wide, and by 1 inch deep. Sawcut a 1 inch wide by 2 inches deep cable run slot from the end of the sensor slot to the edge of the pavement shoulder.¶

→ → → Suspend the sensor within the slot with jigs. Prepare and apply bonding agent in accordance with the sensor manufacturer instructions, ensuring that there are no voids around the sensor. Ensure that the bonding agent is fully cured and ready for traffic within four hours of application. Remove the jigs after the bonding agent has cured.¶

→ → → Route the sensor lead-in cables to the pull box and through the conduit to the traffic monitoring site cabinet. Mark the sensor lead-in cables at the pull boxes and at the point of termination within the traffic monitoring site cabinet with an indelible marker, numbering the lanes as specified in the Plans and in accordance with the Standard Plans, Index 695-001.¶

695-7 Inductive Loop Assembly.¶

→ **695-7.1 General:** Install TMS inductive loop assembly at the locations shown in the Plans meeting the requirements of this specification. Ensure that all materials furnished, assembled, or installed are new products.¶

→ **695-7.2 Materials:** Furnish and install inductive loop assembly components listed on the Department's APL that are compatible with the other components installed at the location.¶

→ → **695-7.2.1 Loop Wire:** Use loop wire in accordance with Standard Plans, Index 695-001.¶

→ → **695-7.2.2 Shielded Lead-In Cable:** Use shielded lead-in cable in accordance

the pull box located adjacent to the roadway.¶

→ **695-7.3.4 Loop Sealant:** Use loop sealant in accordance with Section 660. Prepare and apply the sealant in accordance with the manufacturer's instructions. Remove excess sealant from the roadway surface. Ensure that the loop sealant has cured completely before allowing vehicular traffic to travel over the sealant.¶

695-8 Site Cabinet.¶

→ **695-8.1 General:** Install Type III, IV or V TMS cabinets in accordance with Section 676 and Standard Plans, Index 695-001.¶

→ **695-8.2 Materials:¶**

Byram, Karen
If FDOT is providing, does this pay item need to be blocked going forward?¶

Byram, Karen
The language needs be consistent with 997. 997 calls this weight sensors (In-Roadway)¶

Byram, Karen
What is the spec refence? Or if manufacturer's recommendation, then add that and remove APL reference.

Byram, Karen
unbold¶

Byram, Karen
language needs to match 997¶

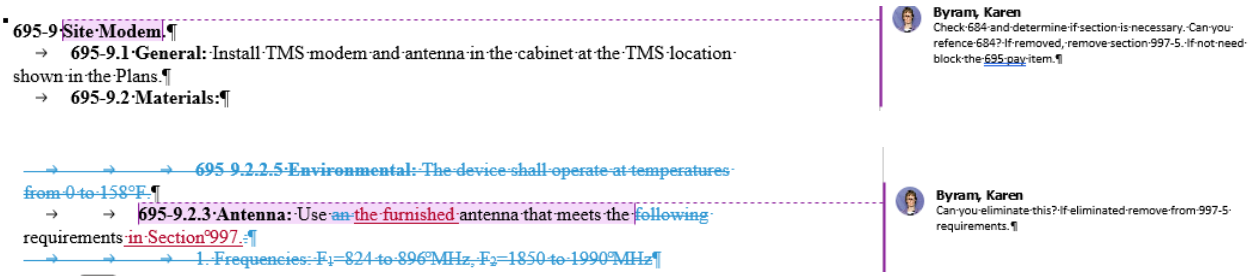
Byram, Karen
if we are not using it yet, take it out. Would also need to be removed from 997-3.3. If you need to add strain gauge here, you also need to add it to 997.¶

Byram, Karen
Need to add APL refence with the spec 660 and product type. Pre-Formed Loop Assembly¶

Byram, Karen
Move note language from the Standard plan sheet.¶

Byram, Karen
Do you want it to be on the APL?¶

Byram, Karen
Which type of cabinet?¶



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Response: The comments were addressed prior to Industry Review.

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Ashley Anderson
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Comments: (7-1-21, Industry)

Consider changing the Method of Measurement to say: "The contract unit price for each [...]"

Response: Thank you for your comment. The changes were made.

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