Florida Department of Transportation

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GOVERNOR

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STEPHANIE KOPELOUSOS
SECRETARY

August 1, 2008

Dr. Leslie McCarthy, PhD, P.E.
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section 102
Proposed Specification: **1020200.D01, Maintenance of Traffic**

Dear Dr. McCarthy:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.
Please review and transmit your comments, if any, within four weeks. Comments should be sent via Email to ST986RP or rudy.powell@dot.state.fl.us.

If you have any questions relating to this specification change, please call Rudy Powell, State Specifications Engineer at 414-4110.

Sincerely,

Rudy Powell, Jr., P.E.
State Specifications Engineer

RP/dr
Attachment
cc: Gregory Jones, General Counsel
Florida Transportation Builders' Assoc.
State Construction Engineer

MAINTENANCE OF TRAFFIC.
(REV *8-1*~~6-6-~~08)

ARTICLE 102-2 (of the Supplemental Specifications) is deleted and the following substituted:

102-2 Materials.

Meet the following requirements:

Bituminous Adhesive.....Section 970
Work Zone Pavement Markings ..... 971-1 and 971-3
Paint .....Section 971
Glass Spheres.....Section 971
~~Removable Tape ..... 990-5~~
~~Raised Retro-reflective Pavement Markers ..... 990-6~~
Temporary Traffic Control Device Materials.....Section 990
Retroreflective and Nonreflective Sheeting
for Traffic Control Devices.....Section 994

ARTICLE 102-9 (of the Supplemental Specifications) is deleted and the following substituted:

102-9 Temporary Traffic Control Devices.

102-9.1 Installation and Maintenance: Install and maintain ~~adequate traffic~~*temporary traffic* control devices~~, warning devices and barriers~~ as detailed in the plans, Index 600 of the Design Standards and when applicable, in accordance with the approved vendor drawings, as provided on the QPL. Erect the required ~~traffic~~*temporary traffic* control devices~~, warning devices and barriers~~ to prevent any hazardous conditions and in conjunction with any necessary traffic re-routing to protect the traveling public, workers, and to safeguard the work area. Use only those devices that are ~~included~~ on the Qualified Products List (QPL) *or the Approved Products List (APL)*. Immediately remove or cover any devices ~~or barriers~~ that do not apply to existing conditions.

All ~~QPL approved safety~~ *temporary traffic control* devices must meet the requirements of National Cooperative Highway Research Program Report 350 (NCHRP 350) and current FHWA directives. Manufacturers seeking evaluation must furnish certified test reports showing that their product meets all test requirements set forth by NCHRP 350. Manufacturers seeking evaluation of Category I devices for inclusion on the QPL shall include the manufacturer's self-certification letter. Manufacturer's seeking evaluation of Category II and III devices for inclusion on the QPL shall include the FHWA WZ numbered acceptance letter with attachments and vendor drawings of the device in sufficient detail to enable the Engineer to distinguish between this and similar devices. For devices requiring field assembly or special site preparation, vendor drawings shall include all field assembly details and technical information necessary for proper application and installation and must be signed and sealed by a Professional Engineer registered in the State of Florida. Manufacturers seeking evaluation of Category IV devices for inclusion on the QPL must comply with

the requirements of Section 990 and include detailed vendor drawings of the device along with technical information necessary for proper application, field assembly and installation.

Ensure that the QPL number is permanently marked on the device at a readily visible location.

Notify the Engineer of any scheduled operation, which will affect traffic patterns or safety, sufficiently in advance of commencing such operation to permit his review of the plan for the proposed installation of ~~traffic~~*temporary traffic* control devices~~, warning devices or barriers.~~.

Ensure an employee is assigned the responsibility of maintaining the position and condition of all ~~traffic~~*temporary traffic* control devices~~, warning devices and barriers~~ throughout the duration of the Contract. Keep the Engineer advised at all times of the identification and means of contacting this employee on a 24-hour basis.

Keep ~~traffic~~*temporary traffic* control devices~~, warning devices, safety devices and barriers~~ in the correct position, properly directed, clearly visible and clean, at all times. ***Ensure that all traffic control devices meet acceptable standards as outlined in American Traffic Safety Services Association (ATSSA's) "Quality Standards for Work Zone Traffic Control Devices".*** **Immediately repair, replace or clean damaged, defaced or dirty devices~~ or barriers~~.**

102-9.2 Work Zone Signs: Provide signs in accordance with the plans and Design Standards. Meet the requirements of 700-2.6 and 700-5.5. *Provide Federal Highway Administration's (FHWA) accepted sign substrate for use with accepted sign stands on the National Highway System (NHS) under the provisions of the National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."*

102-9.3 Business Signs: Provide and place signs in accordance with the plans and Design Standards. Meet the sign background sheeting requirements of Section 700. Furnish signs having a Type III reflectorized blue background with a 4 inches series B white legend and a white border. The maximum sign size is 24 by 36 inches.

Use signs with specific business names on each sign. Install logos provided by business owners and approved by the Engineer. Standard Business entrance signs meeting the requirements of Index 17355 without specific business names may be used only with the approval of the Engineer.

102-9.4 High Intensity Flashing Lights: Furnish Type B lights in accordance with the plans and Design Standards.

102-9.5 Warning/Channelizing Devices: Furnish warning/channelizing devices in accordance with the plans and Design Standards.

102-9.5.1 Reflective Collars for Traffic Cones: Use cone collars at night designed to properly fit the taper of the cone when installed. Place the upper 6 inches collar a uniform 3 1/2 inch distance from the top of the cone and the lower 4 inch collar a uniform 2 inch distance below the bottom of the upper 6 inch collar. Ensure that the collars are capable of being removed for temporary use or attached permanently to the cone in accordance with the manufacturer's recommendations. Provide a white sheeting having a smooth outer surface and that ~~essentially~~ has the property of a retroreflector over

its entire surface.

102-9.5.2 Barrier Wall (Temporary): Furnish, install, maintain, remove and relocate a temporary barrier wall in accordance with the plans. *Ensure that* ~~T~~*t*emporary concrete barrier wall~~,~~ for use on roadway sections, ~~will be in accordance~~ *complies* with Index No. 415 or 414 as specified in the plans. *Ensure that temporary concrete barrier wall for use on bridge and wall sections, complies with Index No. 414 as specified in the plans. Ensure that t*~~T~~emporary water filled barrier wall used on roadway sections ~~shall~~ conform*s* to the requirements of the pre-approved alternatives listed on the ~~Department's Qualified Products List (~~QPL~~)~~, unless otherwise called for in the plans. *Ensure that p*~~P~~roprietary barrier walls for use on roadway sections ~~must~~ meet NCHRP Report 350 criteria and be identified on the QPL. ~~*Provide t*Temporary concrete barrier wall for use on bridge and wall sections, will be in accordance *that complies* with Index No. 414.~~ Barriers meeting the requirements of Index No. 415 or temporary water filled barriers on the QPL will not be accepted as an alternate to barriers meeting the requirements of Index No. 414.

102-9.5.3 Glare Screen (Temporary): Furnish, install, maintain, remove and relocate glare screen systems in conjunction with temporary barrier wall at locations identified in the plans.

Ensure the anchorage of the glare screen to the barrier is capable of safely resisting an equivalent tensile load of 600 lb/ft of glare screen, with a requirement to use a minimum of three fasteners per barrier section.

When glare screen is utilized on temporary barrier wall, warning lights will not be required.

102-9.6 Temporary Vehicle Impact Attenuator (Crash Cushion) (Redirect/Inertia): Furnish, install, maintain and subsequently remove temporary vehicular impact attenuators in accordance with the details and notes shown in the plans, the Design Standards, and requirements of the pre-approved alternatives listed on the ~~Department's~~ QPL. Maintain the attenuators until their authorized removal. Repair all attachment scars to permanent structures and pavements after attenuator removal. Make necessary repairs due to defective material, work, or Contractor operations at no cost to the Department. Restore attenuators damaged by the traveling public within 24 hours after notification as authorized by the Engineer.

102-9.7 Guardrail (Temporary): Furnish guardrail (temporary) in accordance with the plans and Design Standards. Meet the requirements of Section 536.

102-9.8 Advance Warning Arrow Panel: Furnish advance warning panel*s that meet the requirements of Section 990* ~~in accordance with~~ *as required by* the plans and Design Standards ~~*meeting the requirements of Section 990. Specification 990 establishes the physical display and operational requirements for Advance Warning Arrow Panel used*~~ *to advise approaching traffic of lane closures or shoulder work.*

102-9.9 Portable Changeable (Variable) Message Sign (PCMS): Furnish changeable (variable) message sign*s that meet the requirements of Section 990* ~~in accordance with~~ *as required by* the plans and Design Standards ~~.~~

~~*meeting the requirements of Section 990 Specification 990 establishes the physical display and operational requirements for PCMS* The 7 foot by 10 foot PCMS as defined in 990-4.3 may be used *to describe a variety of advanced warning messages* as advanced~~

~~warning maintenance of traffic devices and~~ to supplement other ~~traffic~~*temporary traffic* control devices used in work zones.

~~The 5 foot by 8 foot PCMS as defined in 990-4.3 may be used as alternates to either type A or type B arrow board on advanced warning vehicles or to supplement other traffic control devices used in a work zone.~~

~~A 5 foot by 8 foot~~ *truck mounted* PCMS may be used as a stand alone maintenance of traffic device only when used for accident or incident management situations as defined in the MUTCD *and is listed on the APL*.

102-9.10 Portable Regulatory Signs *(PRS)*: ~~Provide~~ *Furnish* portable regulatory signs *that meet the requirements of 990 as required by* ~~in accordance with~~ the plans and Design Standards.~~.~~

~~This s~~*Specification 990* ~~establishes the physical display and operational requirements for solar powered portable regulatory signs~~ *used meeting the requirements of Section 990 to inform motorist of the regulatory speed when lights are flashing*~~.~~ ~~Ensure all portable regulatory signs meet the physical display and operational requirements as described in the Federal Highway Administration's MUTCD.~~

~~The portable regulatory sign must be~~ *A*~~a~~ctivate~~d~~ *portable regulatory signs* only during active work activities and deactivate~~d~~ when no work is being performed. ~~The sign must be protected by a security code.~~

~~Manufacturers seeking approval for Portable Regulatory Signs must submit an application, Material Safety Data Sheet (MSDS) and certification in accordance with 6-1.~~

~~Only use Portable Regulatory Signs listed on the QPL.~~

~~Manufacturers providing the signs must provide a certified test report to the Engineer indicating that the signs meet these specification requirements.~~

102-9.11 Radar Speed Display Unit *(RSDU)*: Furnish radar speed display unit*s that meet the requirements of Section 990 as required by* ~~in accordance with~~ the plans and Design Standards ~~*meeting the requirements of Section 990*~~ .

~~This Specification *990* establishes the physical display and operational requirements for solar powered, Radar Speed Display Units used in active work zones~~ to inform motorists of the posted speed and their actual speed.

~~Ensure the radar speed display is~~ *A*~~a~~ctivate~~d~~ *the radar speed display unit* only during active work activities and deactivate~~d~~ when no work is being performed.~~ The display unit must be protected by a security code.~~

~~Manufacturers seeking approval for a Radar Speed Display Unit must submit an application, MSDS and certification in accordance with 6-1.~~

~~Only use Radar Speed Display Units listed on the QPL.~~

~~Manufacturers providing the device described herein must provide a certified test report to the Engineer indicating the device meets these specification requirements.~~

102-9.12 Temporary Traffic Control Signals: Furnish, install and operate temporary traffic control signals as indicated in the plans. Temporary traffic control signals will consist of either portable or fixed traffic signals.

~~Provide certification that the p~~*Provide p*ortable traffic signals ~~-~~*that* meet the requirements of the Design Standards~~, and~~ 603-2 *and are listed on the APL.*~~.~~ The Engineer may approve used signal equipment if it is in acceptable condition.

102-9.13 Temporary Traffic Detection Technology: Furnish, install and operate Temporary Traffic Detection Technology listed on the Department's APL and approved by the Engineer to restore detection capabilities.

102-9.14 Trucks and Truck Mounted Impact Attenuators: Furnish, install and maintain only those attenuators ~~that have been certified as~~ *that* meet~~ing~~ the requirements of NCHRP 350~~ and have been properly maintained~~. Include the cost of trucks and truck mounted impact attenuators in MOT.

Use Truck Mounted Attenuators (TMA), when called for in the Design Standards. Limit TMA's to those items listed on the QPL.

Use truck mounted attenuator systems designed and installed in accordance with the manufactures recommendations.

Equip the TMA cartridge with lights and reflectors in compliance with applicable Florida motor vehicle laws, including turn signals, dual tail lights, and brake lights. Ensure that lights are visible in both the raised and lowered positions if the unit is capable of being raised.

Ensure that the complete unit is painted DOT yellow (Fed. Std. 595 b, No. 13538). Stripe the rear facing of the cartridge in the operating position with the alternating 6 inch white and 6 inch safety orange 45 degree striping to form an inverted "V" at the center of the unit and slope down and toward the outside of the unit, in both directions from the center. Ensure the bottom of the cartridge has the same pattern, covering the entire bottom, with 6 inch white and 6 inch safety orange stripes. Use Type III reflectorized sheeting for striping.

The trucks and truck mounted impact attenuators will not be paid for separately, but will be included in the cost of Maintenance of Traffic. Payment includes all costs, including furnishing, maintaining and removal when no longer required, and all materials, labor, tools, equipment and incidentals required for attenuator maintenance.

MAINTENANCE OF TRAFFIC.
(REV 8-1-08)

ARTICLE 102-2 (of the Supplemental Specifications) is deleted and the following substituted:

102-2 Materials.

Meet the following requirements:

Bituminous Adhesive	Section 970
Work Zone Pavement Markings	971-1 and 971-3
Paint	Section 971
Glass Spheres	Section 971
Temporary Traffic Control Device Materials	Section 990
Retroreflective and Nonreflective Sheeting for Traffic Control Devices	Section 994

ARTICLE 102-9 (of the Supplemental Specifications) is deleted and the following substituted:

102-9 Temporary Traffic Control Devices.

102-9.1 Installation and Maintenance: Install and maintain temporary traffic control devices as detailed in the plans, Index 600 of the Design Standards and when applicable, in accordance with the approved vendor drawings, as provided on the QPL. Erect the required temporary traffic control devices to prevent any hazardous conditions and in conjunction with any necessary traffic re-routing to protect the traveling public, workers, and to safeguard the work area. Use only those devices that are on the Qualified Products List (QPL) or the Approved Products List (APL). Immediately remove or cover any devices that do not apply to existing conditions.

All temporary traffic control devices must meet the requirements of National Cooperative Highway Research Program Report 350 (NCHRP 350) and current FHWA directives. Manufacturers seeking evaluation must furnish certified test reports showing that their product meets all test requirements set forth by NCHRP 350. Manufacturers seeking evaluation of Category I devices for inclusion on the QPL shall include the manufacturer's self-certification letter. Manufacturer's seeking evaluation of Category II and III devices for inclusion on the QPL shall include the FHWA WZ numbered acceptance letter with attachments and vendor drawings of the device in sufficient detail to enable the Engineer to distinguish between this and similar devices. For devices requiring field assembly or special site preparation, vendor drawings shall include all field assembly details and technical information necessary for proper application and installation and must be signed and sealed by a Professional Engineer registered in the State of Florida. Manufacturers seeking evaluation of Category IV devices for inclusion on the QPL must comply with the requirements of Section 990 and include detailed vendor drawings of the device along with technical information necessary for proper application, field assembly and installation.

Ensure that the QPL number is permanently marked on the device at a readily visible location.

Notify the Engineer of any scheduled operation, which will affect traffic patterns or safety, sufficiently in advance of commencing such operation to permit his review of the plan for the proposed installation of temporary traffic control devices.

Ensure an employee is assigned the responsibility of maintaining the position and condition of all temporary traffic control devices throughout the duration of the Contract. Keep the Engineer advised at all times of the identification and means of contacting this employee on a 24-hour basis.

Keep temporary traffic control devices in the correct position, properly directed, clearly visible and clean, at all times. Ensure that all traffic control devices meet acceptable standards as outlined in American Traffic Safety Services Association (ATSSA's) "Quality Standards for Work Zone Traffic Control Devices". Immediately repair, replace or clean damaged, defaced or dirty devices.

102-9.2 Work Zone Signs: Provide signs in accordance with the plans and Design Standards. Meet the requirements of 700-2.6 and 700-5.5. Provide Federal Highway Administration's (FHWA) accepted sign substrate for use with accepted sign stands on the National Highway System (NHS) under the provisions of the National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

102-9.3 Business Signs: Provide and place signs in accordance with the plans and Design Standards. Meet the sign background sheeting requirements of Section 700. Furnish signs having a Type III reflectorized blue background with a 4 inches series B white legend and a white border. The maximum sign size is 24 by 36 inches.

Use signs with specific business names on each sign. Install logos provided by business owners and approved by the Engineer. Standard Business entrance signs meeting the requirements of Index 17355 without specific business names may be used only with the approval of the Engineer.

102-9.4 High Intensity Flashing Lights: Furnish Type B lights in accordance with the plans and Design Standards.

102-9.5 Warning/Channelizing Devices: Furnish warning/channelizing devices in accordance with the plans and Design Standards.

102-9.5.1 Reflective Collars for Traffic Cones: Use cone collars at night designed to properly fit the taper of the cone when installed. Place the upper 6 inches collar a uniform 3 1/2 inch distance from the top of the cone and the lower 4 inch collar a uniform 2 inch distance below the bottom of the upper 6 inch collar. Ensure that the collars are capable of being removed for temporary use or attached permanently to the cone in accordance with the manufacturer's recommendations. Provide a white sheeting having a smooth outer surface and that has the property of a retroreflector over its entire surface.

102-9.5.2 Barrier Wall (Temporary): Furnish, install, maintain, remove and relocate a temporary barrier wall in accordance with the plans. Ensure that temporary concrete barrier wall for use on roadway sections, complies with Index No. 415 or 414 as specified in the plans. Ensure that temporary concrete barrier wall for use on bridge and wall sections, complies with Index No. 414 as specified in the plans. Ensure that temporary water filled barrier wall used on roadway sections conforms to the

requirements of the pre-approved alternatives listed on the QPL, unless otherwise called for in the plans. Ensure that proprietary barrier walls for use on roadway sections meet NCHRP Report 350 criteria and be identified on the QPL. Barriers meeting the requirements of Index No. 415 or temporary water filled barriers on the QPL will not be accepted as an alternate to barriers meeting the requirements of Index No. 414.

102-9.5.3 Glare Screen (Temporary): Furnish, install, maintain, remove and relocate glare screen systems in conjunction with temporary barrier wall at locations identified in the plans.

Ensure the anchorage of the glare screen to the barrier is capable of safely resisting an equivalent tensile load of 600 lb/ft of glare screen, with a requirement to use a minimum of three fasteners per barrier section.

When glare screen is utilized on temporary barrier wall, warning lights will not be required.

102-9.6 Temporary Vehicle Impact Attenuator (Crash Cushion) (Redirect/Inertia): Furnish, install, maintain and subsequently remove temporary vehicular impact attenuators in accordance with the details and notes shown in the plans, the Design Standards, and requirements of the pre-approved alternatives listed on the QPL. Maintain the attenuators until their authorized removal. Repair all attachment scars to permanent structures and pavements after attenuator removal. Make necessary repairs due to defective material, work, or Contractor operations at no cost to the Department. Restore attenuators damaged by the traveling public within 24 hours after notification as authorized by the Engineer.

102-9.7 Guardrail (Temporary): Furnish guardrail (temporary) in accordance with the plans and Design Standards. Meet the requirements of Section 536.

102-9.8 Advance Warning Arrow Panel: Furnish advance warning panels that meet the requirements of Section 990 as required by the plans and Design Standards to advise approaching traffic of lane closures or shoulder work.

102-9.9 Portable Changeable (Variable) Message Sign (PCMS): Furnish changeable (variable) message signs that meet the requirements of Section 990 as required by the plans and Design Standards to supplement other temporary traffic control devices used in work zones.

A truck mounted PCMS may be used as a stand alone maintenance of traffic device only when used for accident or incident management situations as defined in the MUTCD and is listed on the APL.

102-9.10 Portable Regulatory Signs (PRS): Furnish portable regulatory signs that meet the requirements of 990 as required by the plans and Design Standards.

Activate portable regulatory signs only during active work activities and deactivate when no work is being performed.

102-9.11 Radar Speed Display Unit (RSDU): Furnish radar speed display units that meet the requirements of Section 990 as required by the plans and Design Standards to inform motorists of the posted speed and their actual speed.

Activate the radar speed display unit only during active work activities and deactivate when no work is being performed.

102-9.12 Temporary Traffic Control Signals: Furnish, install and operate temporary traffic control signals as indicated in the plans. Temporary traffic control signals will consist of either portable or fixed traffic signals.

Provide portable traffic signals that meet the requirements of the Design Standards, 603-2 and are listed on the APL. The Engineer may approve used signal equipment if it is in acceptable condition.

102-9.13 Temporary Traffic Detection Technology: Furnish, install and operate Temporary Traffic Detection Technology listed on the Department's APL and approved by the Engineer to restore detection capabilities.

102-9.14 Trucks and Truck Mounted Impact Attenuators: Furnish, install and maintain only those attenuators that meet the requirements of NCHRP 350. Include the cost of trucks and truck mounted impact attenuators in MOT.

Use Truck Mounted Attenuators (TMA), when called for in the Design Standards. Limit TMA's to those items listed on the QPL.

Use truck mounted attenuator systems designed and installed in accordance with the manufactures recommendations.

Equip the TMA cartridge with lights and reflectors in compliance with applicable Florida motor vehicle laws, including turn signals, dual tail lights, and brake lights. Ensure that lights are visible in both the raised and lowered positions if the unit is capable of being raised.

Ensure that the complete unit is painted DOT yellow (Fed. Std. 595 b, No. 13538). Stripe the rear facing of the cartridge in the operating position with the alternating 6 inch white and 6 inch safety orange 45 degree striping to form an inverted "V" at the center of the unit and slope down and toward the outside of the unit, in both directions from the center. Ensure the bottom of the cartridge has the same pattern, covering the entire bottom, with 6 inch white and 6 inch safety orange stripes. Use Type III reflectorized sheeting for striping.

The trucks and truck mounted impact attenuators will not be paid for separately, but will be included in the cost of Maintenance of Traffic. Payment includes all costs, including furnishing, maintaining and removal when no longer required, and all materials, labor, tools, equipment and incidentals required for attenuator maintenance.