

DIVISION 100

Delete Division 100 of the 1998 Standard Specifications for Highway Construction (SSHC), except for Section 109-1.02 Measurement of Quantities.

Add Division 100 of the 2004 SSHC, except for Section 109-1.02 Measurement of Quantities. (Specifications not attached, use published 2004 SSHC book)

Within Division 100 of the 2004 SSHC make the following changes from english to metric units:

**101-1.03 DEFINITIONS.**

Within definition of Bridge replace: "20 feet" with: 6.1 meters

Delete definition of Station in its entirety and replace with:

STATION. (1) A distance of 1000 meters measured horizontally, usually along centerline.

**105-1.06 UTILITIES.**

Within Item 4.c.(1)(b) delete text in its entirety and replace with: The utility was field located by the utility owner or operator, and the field locate is accurate within 615 horizontal millimeters if the utility is buried 3.0 meters deep or less, or the field locate is accurate within 770 horizontal millimeters if the utility is buried deeper than 3.0 meters;

Within Item 4.c.(2)(a) delete text in its entirety and replace with: The field locate by the owner or operator of a buried utility erred by more than 615 horizontal millimeters if the utility is buried 3.0 meters deep or less, or more than 770 horizontal millimeters if the utility is buried deeper than 3.0 meters;

**107-1.11 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE.**

Within Items 3.d. replace: "100 feet" with: 30 meters

Within Division 100 of the 2004 SSHC make the following language changes:

**101-1.03 DEFINITIONS.** Delete definition of SUBGRADE and replace with:

**SUBGRADE.** The soil or embankment upon which the pavement structure is constructed.

**102-1.04 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND WORK SITE.** Delete the second paragraph and replace with:

The records of geotechnical investigations including boring logs, test results, geology data reports, soil reports, material site reports, and geotechnical reports included in a bid package or made accessible to bidders or contractors, are for information purposes only. These records are not part of the Contract. These records indicate subsurface conditions only at specific locations and times, and only to the depths penetrated. They do not necessarily reflect variations in soil, rock or groundwater conditions that may exist between or outside such locations. Actual conditions may differ from what is shown in the records. Material sources referenced in these records may not contain materials of sufficient quantity or quality to meet project requirements. The accessibility of these records does not constitute approval, nor guarantee suitability of soils or sources, or the rights to use sources for this project, except as specifically provided in Subsections 106-1.02.4.b Mandatory Sources and 106-1.02.4.c Designated Sources. The records shall not substitute for independent investigation, interpretation, or judgment of the bidder or contractor. The Department is not responsible for any interpretation or conclusion drawn from its records by the bidder or Contractor.

Bidders and contractors shall examine Subsection 106-1.02 Material Sources for further information about material source development.

**102-1.05 PREPARATION OF BID.**

Modify the second sentence in the third paragraph, after: "If a bidder is a corporation, the bid must be signed by a corporate officer" add: or agent

**105-1.16 FINAL ACCEPTANCE AND RECORD RETENTION.**

Modify the first paragraph, Item 4., after: "DOLWD" add: and State Department of Revenue

**106-1.02 MATERIAL SOURCES.**

1.a. General. Within Item a. delete text and replace with:

Utilize Useable Excavation according to Subsection 104-1.04 before using material sources listed in Subsection 106-1.02.4. When there is insufficient useable excavation furnish additional required materials from sources of the Contractor's choice, except that the Contractor shall use a mandatory source when identified in the Contract;

4. Type of Sources. Delete the first paragraph and replace with:

The Contractor shall utilize Useable Excavation according to Subsection 104-1.04 before using material sources listed in this Subsection. When there is insufficient Useable Excavation, the Contractor shall furnish additional required materials from sources of the Contractor's choice, except that the Contractor shall use a mandatory source when identified in the Contract.

When there is insufficient Useable Excavation, the Contractor shall supply additional required material from the following sources:

4.d. Available Sources. Delete the second paragraph and replace with:

When the Department furnishes copies of existing boring logs, test results, or other data in its possession concerning Available Sources, the Contractor is responsible for determining the accuracy and completeness of this data, for any assumptions the Contractor makes based on this data, and for exploring all Available Sources to the Contractors satisfaction.

4.e. Excluded Material Sources. Delete the paragraph and replace with:

Some material sources may not be considered acceptable regardless of location or ownership. The bid documents may identify some material sources excluded from use. The Department reserves the right to exclude any material source or any portion of a material source, at any time after Contract award, that is determined by material testing to be unsuitable for use on the project.

**109-1.08 FINAL PAYMENT.** Add the following sentence to the first paragraph:

The Department will not process the final estimate until the Contractor completes Items 1 through 4 in the first paragraph of Subsection 105-1.16.

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**SECTION 608**

**SIDEWALKS**

**608-3.03 SIDEWALK RAMPS.** *Delete heading and text of Subsection in its entirety and replace with the following:*

**608-3.03 CURB RAMPS.** Construct curb ramps according to the details and the locations shown on the Plans. Follow the construction requirements of Subsection 608-3.01. Give the exposed concrete surface a coarse broom finish. Install detectable warnings.

*Add new subsection:*

**608-3.04 DETECTABLE WARNINGS.** Construct detectable warnings according to the details and the locations shown on the Plans. Install detectable warning tile by embedding tile flanges into cast in place concrete construction so there are no vertical changes in grade exceeding 6 mm or horizontal gaps exceeding 12 mm. Align pattern on a square grid in the predominant direction of travel. Install Armor-Tile ADA-C Series tactile detectable warning tile made of composite materials, safety yellow color, slip resistant surface, full length flanges on bottom, and truncated dome pattern, or approved equal.

Detectable warnings shall be manufactured and installed in accordance with Americans with Disabilities Act Accessibility Guidelines.

**608-4.01 METHOD OF MEASUREMENT.** *Delete entire subsection and replace with the following:*  
Measure per Section 109 and as follows:

Concrete Sidewalk. By the square meter of finished surface, including curb ramps.

Asphalt Sidewalk. By the megagram of asphalt mixture placed or by the square meter of finished surface, including curb ramps.

Bed Course Material. By the megagram per Subsection 109-1.02, or by the cubic meter measured in final position.

Curb Ramp. By each installation, complete in place, including detectable warnings, ramp runs, flares, and landings necessary to provide a single street-level access.

**608-5.01 BASIS OF PAYMENT.** *Replace Item:* "608(6) Sidewalk Ramp" *with:* 608(6) Curb Ramp

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SECTION 615

STANDARD SIGNS

**615-2.01 MATERIALS.** Delete first paragraph of Item 2, including subitems a., b. and c., and replace with:

2. Sign Fabrication. Use Type IV reflective sheeting (for lettering, symbols, borders, and background) on sheet aluminum panels for all signs except the following:

a. Orange Background Signs:

On projects advertised before 1/1/07: Use either Type II or Type III orange reflective sheeting, or use Type VIII or Type IX fluorescent orange reflective sheeting. For temporary installations place reflective sheeting on sheet aluminum, plastic, or plywood panels.

On projects advertised after 1/1/07: Use Type VIII or Type IX fluorescent orange reflective sheeting. For temporary installations place reflective sheeting on sheet aluminum, plastic, or plywood panels.

b. Railroad Crossbucks and Vertical Crossbuck Supports: Use white Type VIII or Type IX reflective sheeting for background of sign and all strips.

c. Non-Illuminated Overhead Signs with White Legends on Green Backgrounds: Use Type IX reflective sheeting for legends and background. Create the legend in one of the following ways:

(1) Cut border and legend from white Type IX reflective sheeting and adhere them to a green Type IX background, or

(2) Cut stencil of border and legend out of green transparent acrylic film and use transparent adhesive to overlay the film on a white Type IX reflective background.

d. Fluorescent Yellow-Green School Area Signs: Use Type VIII or Type IX reflective sheeting for background.

Add the following paragraph:

Reflective Sheeting Warranty. Supply manufacturer's warranty for reflective sheeting, including retention of fluorescent yellow-green (measured in accordance with ASTM E 2301) for ten years according to the following criteria:

Minimum Fluorescent Luminance Factor  $Y_F$ : 20%

Minimum Total Luminance Factor  $Y_T$ : 35%

The warranty shall stipulate that: If the sheeting fails to meet the minimum fluorescence values within the first 7 years from the date of fabrication, the manufacturer shall, at the manufacturer's expense, restore the sign surface to its original effectiveness. If the reflective sheeting fails to meet the minimum fluorescence values within the 8<sup>th</sup> through 10<sup>th</sup> year from the date of fabrication, the manufacturer shall, at the manufacturer's expense, provide enough new replacement sign sheeting to the Department to restore the sign surface to its original effectiveness.

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SECTION 640

MOBILIZATION AND DEMOBILIZATION

**640-1.01 DESCRIPTION** *Add the following paragraphs:*

Comply with the Alaska Department of Labor and Workforce Development (DOLWD) requirements for Worker Meals and Lodging, or Per Diem; as described in their July 25, 2005 memo WHPL #197 (A2) and the State Laborer's and Mechanic's Minimum Rates of Pay (current issue).

Ensure subcontractors comply with the DOLWD requirements.

Ensure facilities meet the Alaska Administrative Code 8 AAC 61.1010 and 8 AAC 61.1040 *Occupational Safety and Health Standards*, 18 AAC 31 *Alaska Food Code*, and U. S. Code of Federal Regulations 29 CFR Section 1910.142 *Temporary Labor Camps*.

Do not consider the cost of Meals and Lodging, or Per Diem in setting wages for the worker or in meeting wage requirements under AS 23.10.065 or AS 36.05.

**640-2.01 METHOD OF MEASUREMENT.** *Delete Items 3 and 4 and substitute the following:*

3. The remaining balance of the amount bid for Mobilization and Demobilization will be paid after all submittals required under the Contract are received and approved.
4. Progress payments for Worker Meals and Lodging, or Per Diem will be computed as equivalent to the percentage, rounded to the nearest whole percent, of the original contract amount earned.

**640-3.01 BASIS OF PAYMENT.** *Add the following pay item:*

Pay Item	Pay Unit
640(4) Worker Meals and Lodging, or Per Diem	Lump Sum

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SECTION 643

TRAFFIC MAINTENANCE

**643-1.04 WORKSITE TRAFFIC SUPERVISOR.** Item 1. Qualifications, delete the last paragraph and replace it with the following:

Renew certification no less frequently than every 4 years, and be able to show their certification anytime they are on the project.

Delete Item 2.b. and replace it with the following:

b. Physically inspect the condition and position of all traffic control devices used on the project at least once each day and once each night. Ensure that traffic control devices work properly, are clean and visible, and conform to the approved TCP. Complete and sign a detailed written report of each inspection on the form provided by the Engineer within 24 hours.

Delete item 2.h. and replace it with the following:

h. Certify that all flaggers are certified as required by Subsection 643-3.04.4. Submit a copy of all flagger certifications to the Engineer.

**643-2.01 MATERIALS.** Delete this Subsection in its entirety and substitute the following: Provide traffic control devices conforming to the following requirements:

1. Signs. Use signs, including sign supports, that conform to Section 615, the ATM and ASDS.
  - a. Construction Signs: Use regulatory, guide, or construction warning signs designated in the ASDS.
  - b. Permanent Construction Signs: As designated on the Plans or on an approved TCP.
  - c. Special Construction Signs: All other signs are Special Construction Signs. Clearly and neatly mark the size of each sign on the back in 75-mm black numerals.
2. Portable Sign Supports. Use wind-resistant sign supports with no external ballasting. Use sign supports that can vertically support a 1.2 m X 1.2 m traffic control sign at the height above the adjacent roadway surface required by the ATM.
3. Barricades and Vertical Panels. Use barricades and vertical panel supports that conform to the ATM. Use Type III Barricades at least 2.4 m long. Use reflective sheeting that meets AASHTO M 268 Type II or III.
4. Portable Concrete Barriers. Use portable concrete barriers that conform to the Plans. For each direction of traffic, equip barriers with at least two side-mounted retroreflective reflectors or a continuous longitudinal stripe of preformed retroreflective pavement marking tape mounted 150 mm below the top of each barrier section. Use yellow reflectors or tape if you use barriers at centerline. Use white reflectors or tape if you use barriers on the roadway shoulder.
5. Warning Lights. Use Type A (low intensity flashing), Type B (high intensity flashing) or Type C (steady burn) warning lights that conform to the ATM.
6. Drums. Use plastic drums that conform to the requirements of the ATM. Use reflective sheeting that meets AASHTO M 268 Type II or III.

7. Traffic Cones and Tubular Markers. Use reflectorized traffic cones and tubular markers that conform to the requirements of the ATM. Use traffic cones and tubular markers at least 710 mm high. Use reflective sheeting that meets AASHTO M 268 Type II or III.
8. Interim Pavement Markings. Apply markings according to Section 670 and the manufacturer's recommendations. Use either:
  - a. Paint conforming to Subsection 708-2.03 with glass beads conforming to Subsection 712-2.08,
  - b. Preformed marking tape (removable or non-removable) conforming to Subsection 712-2.14, or
  - c. Temporary raised pavement markers conforming to Subsection 712-2.15 or 712-2.16, as appropriate.
9. High-Level Warning Devices. Use high-level warning devices that conform to the ATM.
10. Temporary Crash Cushions. Use approved temporary crash cushions conforming to the ATM. Use reflective sheeting that meets AASHTO M 268 Type II or III. Do not use permanent crash cushions as temporary crash cushions. Use sand or water filled crash cushions only when the forecasted temperature during their use is above 5 °C.
11. Sequential Arrow Panels. Use Type A (610 X 1220 mm), Type B (762 X 1524 mm) or Type C (1220 X 2438 mm) panels that conform to the ATM.
12. Portable Changeable Message Board Signs. Use truck or trailer mounted portable changeable message board signs with a self contained power supply for the sign and with the following features:
  - a. Message sign panel large enough to display 3 lines of 229 mm high characters.
  - b. Eight character display per message line.
  - c. Fully programmable message module.
  - d. The capacity to create, preview, and display new messages and message sequences.
  - e. A waterproof, lockable cover for the controller keyboard.
  - f. An operator's manual, a service manual, and a wiring diagram.
  - g. Quick release attachments on the display panel cover.
  - h. Variable flash and sequence rates.
  - i. Manual and automatic dimming capabilities on lamp bulb matrix models.
  - j. Locate the bottom of the sign panel at least 2.1 m above the pavement.
  - k. Operate with a battery pack a minimum of 2 hours under full load.
13. Plastic Safety Fence. Use 1.2-m high construction orange fence manufactured by one of the following companies, or an approved equal:
  - a. "Safety Fence" by Services and Materials Company, Inc., 2200 South "J" Street, Elwood, Indiana, 46036. Phone (800) 428-8185.
  - b. "Flexible Safety Fencing" by Carsonite, 1301 Hot Springs Road, Carson City, Nevada, 89706. Phone (800) 648-7974.

- c. "Warning Barrier Fence" by Plastic Safety Systems, Inc. P.O. Box 20140, Cleveland, Ohio, 44120. Phone (800) 662-6338.
14. Temporary Sidewalk Surfacing. Provide temporary sidewalk surfacing as required by an approved TCP and the following:
- Use plywood at least 12 mm thick for areas continuously supported by subgrade. Use plywood at least 25 mm thick for areas that are not continuously supported.
  - Do not use unsupported 25-mm plywood longer than 750 mm.
  - Use plywood with regular surfaces. Do not overlap plywood joints higher than 25 mm.
  - Use a method that will withstand 40 km/h wind velocities to hold temporary surfacing in place.
15. Temporary Guardrail. Use temporary guardrail that meets Section 606, except that posts may require placement under special conditions, such as in frozen ground.
16. Flagger Paddles. Use flagger paddles with 600 mm wide by 600 mm high sign panels, 200 mm Series C lettering (see ASDS for definition of Series C), and otherwise conform to the ATM. Use reflective sheeting that meets AASHTO M 268 Type VIII or IX. Use background colors of fluorescent orange on one side and red on the other side.

*Add the following Subsection:*

**643-2.02 CRASHWORTHINESS.** Submit documentation, by the method indicated, that the following devices comply with the requirements of National Cooperative Highway Research Program (NCHRP) Report 350 (Test Level 3) on the given schedule.

<b>Work Zone Traffic Control Device Compliance with NCHRP 350</b>				
<b>Category</b>	<b>Devices</b>	<b>Compliance Required for New Devices*</b>	<b>Full Compliance Required**</b>	<b>Method of Documentation</b>
1	Cones, candles, drums w/o attachments, delineators	10/1/98	1/1/02	Manufacturer's Certification for devices exceeding height and weight limits
2	Barricades, portable sign supports, drums w/lights, other devices weighing less than 45 kg but not included in category 1.	10/1/00	1/1/04	FHWA approval letter
3	Truck mounted attenuators and portable crash cushions.	10/1/98	1/1/02	FHWA approval letter
	Portable concrete barriers	10/1/02	1/1/08	FHWA approval letter

\* All devices purchased after this date.

\*\* All devices used after this date.

**Category 1** devices that exceed the following weights and heights require certification that they meet the evaluation criteria of NCHRP Report 350, Test Level 3. This certification may be a one-page affidavit signed by the vendor. Documentation supporting the certification (crash tests and/or engineering analysis) must be kept on file by the certifying organization. No certification is required for devices within the weight and height limitations.

Device                      Composition                      Weight                      Height

Cones	Rubber	9 kg	920 mm
	Plastic	9 kg	1220 mm
Candles	Rubber	6 kg	920 mm
	Plastic	6 kg	920 mm
Drums	Hi Density Plastic	35 kg	920 mm
	Lo Density Plastic	35 kg	920 mm
Delineators	Plastic or Fiberglass	N/A	1220 mm

**Category 2** and the listed **category 3** devices may be documented by submitting an official letter from the Federal Highway Administration stating that the device meets NCHRP 350 Test Level 3 requirements. FHWA acceptance letters for many devices may be found on the FHWA's web site (<http://www.fhwa.dot.gov/>), under FHWA Programs, Safety, NCHRP Report 350 - Roadside Hardware.

Submit documentation of compliance to the Engineer before using devices on the project.

**643-3.01 GENERAL CONSTRUCTION REQUIREMENTS.** *Add the following:*

Immediately notify the Engineer of any traffic related accident that occurs within the project limits as soon as you, an employee, or a subcontractor becomes aware of the accident.

**643-3.02 ROADWAY CHARACTERISTICS DURING CONSTRUCTION.** *In the fourth paragraph, third sentence, change "crossings" to "closures".*

**643-3.04 TRAFFIC CONTROL DEVICES.** Delete the sixth paragraph and replace it with the following: Use only traffic control devices that meet the requirements of the "Acceptable" category in ATTSA "Quality Standards for Work Zone Traffic Control Devices".

*Item 4. Flagging, delete the sixth paragraph and replace it with the following:*

Renew flagger training and certification no less frequently than every 4 years. Flaggers must be able to show their flagger certification anytime they are on the project.

*Add the following new Subsection:*

**643-3.11 HIGH VISIBILITY GARMENTS.** Ensure all workers within project limits wear outer garments that are highly visible and comply with the following requirements:

1. **Tops.**  
Wear fluorescent orange-red vests, jackets, or coverall tops at all times. Furnish each vest, jacket, and coverall top with at least one 360-degree horizontal retroreflective band around the torso; and with two vertical retroreflective bands that begin at the horizontal band or lower in front, reach over the shoulder, and end at the horizontal band or lower in back. Furnish each jacket and coverall top with two horizontal retroreflective bands on each sleeve; one above and one below the elbow.
2. **Bottoms.**  
Wear fluorescent orange-red pants or coverall bottom during nighttime work (sunset to sunrise). Flaggers wear fluorescent orange-red pants or coverall bottom at all times. Furnish each pants or coverall bottom with two horizontal retroreflective bands on each leg.
3. **Raingear.**  
Raingear tops and bottoms, when worn as the outer visible garment, conform to the requirements listed in this Subsection 643-3.11.
4. **Exceptions.**  
When workers are inside an enclosed compartment of a vehicle, they are not required to wear high visibility garments.

5. Standards.

All high visibility garments conform to the requirements of ANSI/ISEA 107-2004, Class 2 for tops or Class E for bottoms, and Level 2 retroreflective material.

Retroreflective bands are made of material conforming to either:

- a. A two inch wide strip, fluorescent yellow-green color, made of retroreflective microprisms; or
- b. A two inch wide strip, silver color, made of retroreflective lenses bonded to a durable cloth backing; and on two long edges apply one inch wide strips, fluorescent yellow-green color, made of durable cloth material. Total width of band is 4 inch.

6. Labeling.

Garments are labeled in conformance with Section 11.2 of ANSI/ISEA 107-2004; except you may use garments labeled in conformance with ANSI/ISEA 107-1999 until 1/1/08.

7. Condition.

Furnish and maintain all vests, jackets, coveralls, rain gear, hard hats, and other apparel in a neat, clean, and presentable condition. Maintain retroreflective material to Level 2 standards.

**643-4.01 Method of Measurement.** Add the following:

Payment for high visibility garments for workers is subsidiary to other items.

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