

Proposed Specification Revisions
December 2015/January 2016

The CAS Bureau is proposing revisions to 6 Standard Specifications. These proposed revisions will be out for comment during the months of December 2015/January 2016.

- | | | | |
|----|---------------|---------------------------------|----------------------------|
| 1. | 104.05 | Roadway Maintenance | Road User Fee |
| 2. | 107.11.8 | Protection of Aquatic Resources | |
| 3. | 108.07/101.03 | Contract Time | Cleanup Language |
| 4. | 401.02.5 | RAP | Binder Replacement |
| 5. | 555/711 | Reinforcing Steel | QPL Reference |
| 6. | Section 558 | Drilled Shafts | Cleanup Language, Air Lift |

104.05.2 Failure to Properly Maintain Roadway or Structure

The Project Manager will immediately notify the Contractor if it fails to maintain the project. Failure to begin to remedy unsatisfactory maintenance within 4 hours of notification may result in:

- The Department performing the required repair. The cost of the repair will be deducted from monies due or to become due to the Contractor, or otherwise be billed to the Contractor.
- Contract time being charged. Contract time will be charged starting on the day of the Department's initial notification and will continue until the repairs are made and the Project Manager approves the repairs.
- A \$500 per day road user fee charged for each day maintenance is not complete.

104.05.4 Maintenance for Traffic During Work Suspensions

B. Winter Suspension.

The Contractor may request that the Department furnish all resources to perform snowplowing, sanding, and de-icing during winter suspension. If this request is accepted, this work will be detailed in a written agreement. Be responsible for all maintenance, traffic control, and other work not detailed in the agreement. Reimburse the Department, under an accounts receivable, for all Department plowing, sanding, and de-icing expenses according to the terms of the signed agreement.

Deleted: and

Deleted: T

Deleted: would

Deleted: or

107.11.8 Protection of Aquatic Resources

Unless permitted or authorized, do not impact any aquatic resources located adjacent to the project. Avoid all equipment traffic, fill material, staging activities and other disturbances to all aquatic resources. When working above aquatic resources, employ positive means to protect aquatic resources below.

In areas adjacent to any water body including streams or irrigation ditches crossing the highway, and any wetland areas; or in areas immediately adjacent to the highway susceptible to sediment transport, conduct construction, staging and paving operations in a manner to prevent materials from entering these areas.

Any impacts to these areas and associated consequences, without the proper permitting, are the responsibility of the Contractor. The Contractor must secure the appropriate permits or authorizations prior to working in these areas. If complete avoidance of these areas is not possible, contact the Project Manager who will coordinate the permitting effort with the District Biologist or the District Environmental Engineering Specialist.

Deleted: avoid

Deleted: placement of

Deleted: in

101.03 DEFINITIONS

CALENDAR DAY

Every day shown on the calendar, beginning and ending at midnight.

For calendar day contracts, all days are assessed except no work days and days on which the Contractor is specifically required by the contract to suspend construction operations.

Calendar days will be assessed during no work days for each day construction activities occur that have any impact on the traveling public, exclusive of traffic flowing unimpeded on approved detours.

Deleted: charged

Deleted: or emergency and maintenance repairs to the project, when the time requirements under Subsection 104.05.2 are met

Deleted: N

Deleted: or

NO WORK DAYS

For calendar day contracts, no work days are holidays, Sundays, and during the winter shutdown.

For working day contracts, no work days are holidays, Saturdays, Sundays, and during the winter shutdown.

Work on holidays or Sundays must be approved by the Engineer. Travelway maintenance in accordance with Subsection 104.05.2, stormwater BMP maintenance, and providing protection for the public are exempt work items and may be accomplished on no work days without assessment of contract time.

Deleted: and this

Do not work after 12:00 noon on Friday, or on Saturday and Sunday prior to Memorial Day (last Monday in May) and Labor Day (first Monday in September). Do not work after 12:00 noon on Friday, or on Saturday or Sunday prior to Independence Day (July 4th) when July 4th is on a Saturday, Sunday, or Monday. Contract time will not be assessed on these days when these requirements are met. When July 4th falls on alternate days, contract time assessment will be as directed by the Construction Engineer.

WORKING DAY

All days are considered working days except no work days, and days on which the Contractor is specifically required by the contract to suspend construction operations. Working days will be assessed during winter shutdown for each day construction activities occur that have any impact on the traveling public, exclusive of traffic flowing unimpeded on approved detours.

Deleted: Saturdays,

Deleted: charged

Deleted: no work days

Deleted: or emergency and maintenance repairs to the project, when the time requirements under Subsection 104.05.2 are met.

108.07.1 Completion Date Contracts

The actual completion date is the date the Project Manager approves the Contractor's Certificate of Work Complete form in accordance with Subsection 105.17.2.

Deleted: under

108.07.2 Calendar Day Contracts

Work on no work days will be considered chargeable and assessed against the contract time.

Deleted: a

Deleted: day

Contract time assessment will cease when the Project Manager approves the Contractor's Certificate of Work Complete form in accordance with Subsection 105.17.2.

Deleted: unless the work is an exempt work item defined in Subsection 101.03

Deleted: under

108.07.3 Working Day Contracts

Work on no work days will be considered chargeable and assessed against the contract time unless the work is an exempt work item in accordance with Subsection 101.03.

Deleted: a

Deleted: day

Deleted: defined in

Chargeable or non-chargeable working days will be determined daily by the Project Manager. Except during the winter shutdown, the Project Manager will furnish a weekly report every Monday showing the number of working days:
Contract time assessment will cease when the Project Manager approves the Contractor's Certificate of Work Complete form in accordance with Subsection 105.17.2.

Deleted: A working day will not be assessed against the contract for work performed up until 12:00 noon on Friday prior to Memorial Day, Labor Day or Independence Day (July 4th). ¶

Deleted: under

401.02.5 Binder Replacement

A portion of the asphalt binder may be obtained from either RAP and/or recycled asphalt shingles (RAS). Do not use RAS when producing warm mix. Inclusion of recycled materials will be evaluated by percent binder replacement, the ratio of the recycled binder to the total binder. Meet the requirements of the following table.

MAXIMUM ALLOWABLE PERCENT BINDER REPLACEMENT

<u>Recycled Material</u>	<u>Replacement Allowed</u>	
	<u>Lower Layers</u>	<u>Upper Layer (top 0.15-foot)</u>
<u>RAS (used alone)</u>	<u>15</u>	<u>15</u>
<u>RAP</u>	<u>35</u>	<u>25</u>
<u>RAP and RAS (combination)¹</u>	<u>25</u>	<u>25</u>

Note 1: When using RAS in combination with RAP, ensure the RAS does not exceed 3% by weight of the total aggregate blend.

If binder replacement is included in the job mix formula and the final mix, meet all of the plant mix requirements. Utilize separate stockpiles and feeds for each recycled component.

It is recommended that at least 2 separate RAP stockpiles be produced.

Furnish RAS in accordance with AASHTO MP 23-145. The specific gravity of the RAS may be obtained in accordance with AASHTO PP 78. If RAS is used, meet the following requirements:

TABLE OF GRADATIONS - RAS

<u>Percentage By Weight Passing Square Mesh Sieves</u>	
<u>Sieve Size</u>	<u>Percent Passing</u>
<u>3/8-inch (9.5 mm)</u>	<u>100</u>
<u>No. 4 (4.75 mm)</u>	<u>93</u>

401.03.1 Mix Design

For mix designs using binder replacement, furnish the asphalt content and gradation of each recycled component and furnish the total asphalt content and Job Mix Formula gradation including the RAP/RAS. Furnish all specific gravities.

Deleted: Recycled Asphalt Pavement (RAP)

Deleted: Up to 15% RAP by weight may be incorporated into mix used in the top 0.15-foot (45 mm) and up to 30% RAP by weight may be incorporated into mix used in lower lifts.

Deleted: RAP

Deleted: RAP

Deleted: the RAP

501.02.2 Reinforcing Steel

Furnish all reinforcing steel in accordance with [Section 555 and](#) Subsection 711.01.

501.02.3 Dowel Bars and Sleeves

Furnish Grade 40 plain round dowel bars, [listed on the QPL, and](#) in accordance with AASHTO M 31.

552.02 MATERIALS

Furnish materials in accordance with the following section and subsection:

Reinforcing Steel and Structural Steel [555 and](#) 711

553.02.2 Reinforcing Steel

Furnish reinforcing steel in accordance with [Section 555 and](#) Subsection 711.01.1.

[558.02.3 Reinforcing Steel](#)

[Furnish all reinforcing steel in accordance with Section 555 and Subsection 711.01.](#)

[562.02.1 Reinforcing Steel](#)

[Furnish all reinforcing steel in accordance with Section 555 and Subsection 711.01.](#)

604.02.3 Reinforcing Steel

Furnish reinforcing steel in accordance with [Section 555 and](#) Subsection 711.01.

608.02 MATERIALS

Furnish materials in accordance with the following section and subsection requirements:

Reinforcing Steel [555 and](#) 711.01

711.01.1 Bar Reinforcing

Furnish the specified reinforcing steel in accordance with AASHTO M 31.

[Furnish bar reinforcing from a source audited by the NTPEP Reinforcing Steel/Welded Wire Reinforcement Audit Program and listed on the QPL.](#)

711.01.3 Wire and Wire Mesh

Furnish bar mats in accordance with AASHTO M 54. [Furnish wire, wire mesh, and bar mats from a source audited by the NTPEP Reinforcing Steel/Welded Wire Reinforcement Audit Program and listed on the QPL.](#)

Deleted: The Project Manager may accept small lots of reinforcing steel subject to it passing the bending test specified in AASHTO M 31.

558.03.1 Submittals

A. Drilled Shaft ASC and WN outlining:

3. Methods to clean shaft excavation including details for air-lift systems.

558.03.4 Shaft Excavation

Use excavation methods that provide contact with firm, undisturbed soil or rock with the sides and bottom of the drilled shaft. Do not excavate holes larger than the outside diameter of permanent casings.

Deleted: shaft concrete when the temporary casing is removed.

558.03.7 Permanent Casing

- B. Limit the excavation in advance of the casing tip to no more than 10 feet (3 m) unless synthetic slurry is being used.

Deleted: Temporary Casing

558.03.8 Excavation Stability

Do not use slurry construction methods as an alternative to or in conjunction with temporary casing unless specified in the contract. Use casings to facilitate shaft construction and prevent sloughing and caving of the shaft sidewalls. Elsewhere, the contract may specify temporary casing minimum elevations. Place the temporary casing(s) deeper if necessary to prevent material from entering the shaft excavation.

Deleted: temporary

Deleted: Place temporary casing to a minimum elevation as shown in the contract.

558.03.10 Cleaning

Remove all loose or disturbed material from the bottom of the shaft excavation immediately prior to placing reinforcing steel and concrete. After cleaning, no more than 1-inch (25 mm) of loose or disturbed material is permitted in the bottom of the shaft.

For wet shafts not founded in sand or gravel, use an air lift to demonstrate that the shaft is clean. Use an air-lift system meeting the following requirements:

1. Sufficient length to discharge outside of the shaft;
2. Minimum of 4 inches (100 mm) diameter;
3. Compressed air input line located within 12 inches (300 mm) of the bottom of the lift pipe.
4. Air compressor capable of producing 100 psi (185 CFM at 6.9 bar).

During final cleanout and until concrete placement is complete, maintain the fluid level within the shaft at a level of 5 feet (2 m) or more higher than the water level present outside of the shaft.

Deleted: M

Deleted: a

Deleted: sufficient level of fluid to counteract external hydrostatic pressures but no less than 5 feet (1.5 m) of positive head.

558.03.11 Installation of Cross-hole Sonic Logging (CSL) Tubes

Use 1½-inch (38 mm) nominal diameter schedule 40 PVC CSL access tubes. Provide an end plug at the lower end of the pipe and make all joints watertight. Install the CSL access tubes evenly spaced around the reinforcing cage and inside of hoops and spiral reinforcing steel shown in the contract, using connectors that will allow the tubes to slide through them when force is applied. Position the connectors so that couplings will not prevent the tubes from sliding.

Moved (insertion) [1]

Moved (insertion) [2]

Deleted: all

Deleted: , as shown in the

Ensure tubes extend to the shaft bottom. After inserting the shaft reinforcing steel, drive each tube down until contact is made with the shaft bottom.

Moved up [1]: Use 1½-inch (38 mm) nominal diameter schedule 40 PVC CSL access tubes.

Moved up [2]: Provide an end plug at the lower end of the pipe and make all joints watertight.

558.03.12 Reinforcing Steel

Use non-corroding, roller-type spacers or other non-corroding devices as approved by the Project Manager along the steel cage length and around the steel cage perimeter to align and maintain clearance from reinforcing cage to edge of casing during concrete placement. Begin placing the drilled shaft concrete immediately after the Project Manager has inspected and approved the location and alignment of the cage within the drilled shaft. Remove the steel cage and re-inspect the excavation as directed by the Project Manager if the concrete placement is not started within 3 hours of placing the steel cage in position.

Deleted: corrosive

Deleted: corrosive

558.04.6 CSL Tubes and Testing

Pay for all costs associated with coring, engineering design, cost required to correct the defect and any construction delay costs, if a defect is found based on the CSL drilled shaft testing, coring or other physical investigation. Pay the costs of CSL drilled shaft retesting of the repaired drilled shafts. If no defect is found in the drilled shaft based on the physical investigation, the investigation will be considered extra work, and paid for in accordance with Subsection 109.04, and considered for time adjustment in accordance with Subsection 108.07.

Deleted: or

Deleted: coring

Deleted: Department will pay all costs of coring

Deleted: under

Deleted: any delays necessitated by the coring

Deleted: under

Deleted: .4

Deleted: .

Deleted: ¶

558.05 BASIS OF PAYMENT

Payment for obstruction removal will be made on a force account basis.

Air-lifting is not measured separately for payment. Include costs for all airlifting in the Drilled Shaft Item.