

Inspector Quantlist Report 20220824

Diary Number: \_\_\_\_\_ Inspector Name: \_\_\_\_\_

TRACS Number: \_\_\_\_\_ Date: \_\_\_\_\_

Division X:           **Materials**  
 Title:                 **Concrete Class S or B**

Station:
Offset:
Product Code:
Concrete Supplier:
Plant Designation:
Required PSI:
Concrete Class:
Structure Number or Item Description:
Additives used in the concrete:

No	Compliance	Narrative	Reference
0.		All stakeholders have participated in the pre-activity meeting (can be combined with other pre-activity).  <a href="https://azdot.gov/node/5338">https://azdot.gov/node/5338</a>	Construction Bulletin 11-07
1.		A copy of the mix design, approved by the Regional Materials Engineer is on file and available to the inspectors.  Standard Specifications 1006-3.03 Page 1162 Web Site <a href="https://azdot.gov/node/5347">https://azdot.gov/node/5347</a>	Standard Specifications 2021 1006-3.03
2.		Documentation is on file indicating that failing concrete because of improper slump, concrete temperature, and air content was allowed to remain in place subject to acceptance by compressive strength.  Standard Specifications 1006-7.01 Page 1185	Standard Specifications 2021 1006-7.01

Inspector Quantlist Report 20220824

3.		<p>The project office has checked with the Materials Group (Structural Material Testing Section) to assure that hydraulic cement, fly ash, and natural pozzolan are from an approved source. Website for Approved sources <a href="https://azdot.gov/node/5347">https://azdot.gov/node/5347</a></p> <p>Standard Specifications 1006-2.01 (D) Page 1151</p>	<p>Standard Specifications 2021 1006-2.01(D)</p>
4.		<p>Air-entraining admixtures shall conform to the requirements of ASTM C260. The project office has verified that the air entraining admixtures shown on the mix design are also on the ADOT's Approved Products List.</p> <p>Standard Specifications 1006-2.04 (B) Page 1155 Approved Products List <a href="https://azdot.gov/business/engineering-and-construction/product-evaluation-program">https://azdot.gov/business/engineering-and-construction/product-evaluation-program</a> APL 1006-2</p>	<p>Standard Specification 2021 1006-2.04(B)</p>
5.		<p>The mixer has a manufacturer's plate showing the gross volume and recommended speeds for mixing and for agitating.</p> <p>Standard Specifications 1006-4.04 (C) Page 1171</p>	<p>Standard Specifications 2021 1006-4.04(C)</p>
6.		<p>The concrete truck is certified within the past 12 months and has an ADOT sticker or Arizona Rock Products Association sticker in a clearly visible location inside of the driver's side door of the truck or a National Ready Mixed Concrete Association Card shall be available. Truck mixers shall be inspected annually at a minimum and may be inspected at any time.</p> <p>Standard Specifications 1006-4.04 (C) Page 1170</p>	<p>Standard Specifications 20211006-4.04(C)</p>
7.		<p>The truck mixer is equipped with an electrically or mechanically activated revolution counter to verify drum revolutions.</p> <p>Standard Specifications 1006-4.04 (C) Page 1171</p>	<p>Standard Specifications 2021 1006-4.04(C)</p>
8.		<p>The concrete in the truck mixers is mixed between 70 and 100 revolutions at mixing speed after all materials have been loaded into the drum (maximum revolutions of 100 may be increased with approval of the Engineer).</p> <p>Standard Specifications 1006-4.04 (C) Page 1171</p>	<p>Standard Specifications 2021 1006-4.04(C)</p>
9.		<p>After the 70 to 100 revolutions, any revolving of the drum beyond the maximum number of revolutions is done at the agitating speed (unless water was added).</p> <p>Standard Specifications 1006-4.04 (C) Page 1171</p>	<p>Standard Specifications 2021 1006-4.04(C)</p>
10.		<p>When water is added at the site, concrete in transit mixers is mixed for a minimum of 30 revolutions after the water has been added. Addition of water at the site is monitored and recorded on the delivery ticket.</p> <p>Standard Specifications 1006-7.03 (A) (3) Page 1191 Standard Specifications 1006-4.03 (D) Page 1168</p>	<p>Standard Specifications 2021 1006-7.03(A)(3)</p>
11.		<p>The Contractor has furnish a delivery ticket for each batch of concrete, the minimum information to be shown on the delivery ticket: Date, Time batched, Truck ID number, Name or plant ID number , Contractor name, Name and location of project, Quantity of concrete, product code and amount of permissible additional water to meet the design water-cement ratio.</p> <p>Standard Specifications 1006-4.03 (D) Page 1168</p>	<p>Standard Specifications 2021 1006-4.03 (D)</p>

**Inspector Quantlist Report 20220824**

12.		<p>An authorized representative of the contractor shall be responsible for each delivery ticket and shall sign each delivery ticket accepting the contractor's responsibility for the concrete. The representative shall furnish a copy of the delivery ticket to the Engineer after discharge of the concrete is complete.</p> <p>Standard Specifications 1006-4.03 (D) Page 1168</p>	<p>Standard Specifications 2021 1006-4.03 (D)</p>
13.		<p>The concrete is placed and consolidated by methods that will not cause harmful segregation and will result in a dense, homogeneous concrete free of honeycomb or voids.</p> <p>Standard Specifications 601-3.03 (A) Page 578 Standard Specifications 1006-7.02 (B) Page 1188</p>	<p>Standard Specifications 2021 601-3.03(A)</p>
14.		<p>Discharge from the truck mixer or truck agitator shall be completed within 90 minutes from batching. The Engineer may allow concrete placement to continue in excess of the 90 minutes if the concrete is of such slump, workability, and/or temperature that it can be placed without the addition of water to the batch.</p> <p>Standard Specifications 1006-7.03 (A) (1) Page 1190</p>	<p>Standard Specifications 2021 1006-7.03(A)(1)</p>
15.		<p>Additional discharge time shall also be allowed provided a hydration stabilizing admixture is shown on the approved mix design and has been included in the batch.</p> <p>Standard Specifications 1006-7.03 (A) (1) Page 1190</p>	<p>Standard Specifications 2021 1006-7.03(A)(1)</p>
16.		<p>When additional discharge time is needed, a hydration stabilizing admixture is shown on the approved mix design and has been included in the batch and noted on concrete ticket: The concrete remains of sufficient slump and workability to facilitate adequate consolidation during placement.</p> <p>Standard Specifications 1006-7.03 (A) (1) Page 1190</p>	<p>Standard Specifications 2021 1006-7.03(A)(1)</p>
17.		<p><b>For Hot Weather Concreting:</b> The forms, sub grade, and reinforcing steel are sprinkled with cool water prior to starting concrete placement.</p> <p>Standard Specifications 1006-5.02 (D) Page 1177</p>	<p>Standard Specifications 2021 1006-5.02</p>
18.		<p><b>For Hot Weather Concreting:</b> Chilled mix water or well crushed ice (substituted as a part of the mix water on a pound for pound basis) may be used to control the concrete temperature and is noted on the ticket.</p> <p>Standard Specifications 1006-5.02 (D) Page 1178</p>	<p>Standard Specifications 2021 1006-5.02</p>
19.		<p><b>For Hot Weather Concreting:</b> The concrete shall be rejected if the temperature of the concrete mixture immediately before placing is over 90 degrees F unless approved by the Engineer or stated in the Mix Design.</p> <p>Standard Specifications 1006-7.03 (A) (2) Page 1191</p>	<p>Standard Specifications 2021 1006-7.03(A)(2)</p>

Inspector Quantlist Report 20220824

20.		<p><b>For Cold Weather Concreting:</b> The temperature of the concrete mixture immediately before placement shall not be less than 50 degrees F nor greater than 90 degrees F unless approved by the Engineer or stated in the Mix Design.</p> <p>Standard Specifications 1006-7.03 (A) (2) Page 1191</p>	<p>Standard Specifications 2021 1006-7.03(A)(2)</p>
21.		<p><b>For Cold Weather Concreting:</b> Concrete shall not be placed on or against ice-coated forms, reinforcing steel, structural steel, conduits or construction joints, nor on or against snow, ice, or frozen earth materials.</p> <p>Standard Specifications 1006-5.03 Page 1178</p>	<p>Standard Specifications 2021 1006-5.03</p>
22.		<p><b>For Cold Weather Concreting:</b> Concrete operations shall be discontinued when a descending ambient temperature in the shade and away from artificial heat falls below 40 degrees F. Concrete operations shall not be resumed until an ascending ambient temperature in the shade and away from artificial heat exceeds 35 degrees F unless otherwise approved by the Engineer.</p> <p>Standard Specifications 1006-5.03 Page 1178</p>	<p>Standard Specifications 2021 1006-5.03</p>
23.		<p><b>For Cold Weather Concreting:</b> The surfaces of concrete are protected and the temperature is maintained above 50 degrees F. for a period of 72 hours after placement.</p> <p>Standard Specifications 1006-5.03 Page 1179</p>	<p>Standard Specifications 2021 1006-5.03</p>
24.		<p><b>For Cold Weather Concreting:</b> After the 72 hours, the surface of the concrete is maintained at 40 degrees F. or higher for another 96 hours.</p> <p>Standard Specifications 1006-5.03 Page 1179</p>	<p>Standard Specifications 2021 1006-5.03</p>
25.		<p>Rejection of concrete delivered to the site may occur due to failure to satisfy or achieve the specified criteria including, but not limited to: improper temperature, slump, air content.</p> <p>Standard Specifications 1006-7.01 Page 1185</p>	<p>Standard Specifications 2021 1006-7.01</p>
26.		<p>When concrete is pumped, samples for consistency will be taken as the concrete leaves the mixer and at the pump hose discharge. The Engineer finds a correlation between the results to be consistency; the Engineer may discontinue sampling from both sources. If a correlation is not maintained, the contractor will employ corrective measures acceptable to the Engineer and continue testing from both sources.</p> <p>Standard Specifications 1006-7.03 (A) (3) Page 1191</p>	<p>Standard Specifications 2021 1006-7.03(A)(3)</p>
27.		<p>For Class S concrete with a compressive strength requirement less than 4000 psi, a sample of concrete shall be taken on a daily basis for each 100 cubic yards, or fraction thereof, of continuously placed concrete from each batch plant.</p> <p>Standard Specifications 1006-7.04 (A) Page 1194</p>	<p>Standard Specifications 2021 1006-7.04(A)</p>
28.		<p>For Class S concrete with a compressive strength requirement equal to or greater than 4000 psi, a sample of concrete shall be taken on a daily basis for each 50 cubic yards, or fraction thereof, of continuously placed concrete from each batch plant.</p> <p>Standard Specifications 1006-7.04 (A) Page 1194</p>	<p>Standard Specifications 2021 1006-7.04(A)</p>

Inspector Quantlist Report 20220824

29.		<p>For Class B concrete, a sample of concrete shall be taken for each 100 cubic yards placed from each batch plant.</p> <p>Standard Specifications 1006-7.04 (A) Page 1194</p>	<p>Standard Specifications 2021 1006-7.04(A)</p>
30.		<p>The slump test is performed in accordance with ASTM C-143.</p> <p>Standard Specifications 1006-7.02 (A) Page 1186 Standard Specifications Table 1006-9 Page 1187</p>	<p>Standard Specifications 2021 1006-7.02 (A)</p>
31.		<p>The contractor shall have the slump shown on the approved mix design, with a permissible variation of <math>\pm 1</math> inch when the slump shown on the mix design is 4 inches or less [However, when an approved high range water reducing chemical admixture (ASTM C494, Type F or Type G) is used, the permissible variation will be <math>\pm 2</math> inches, unless otherwise required by the Special Provisions].</p> <p>Standard Specifications 1006-7.03 (A) (3) Page 1191</p>	<p>Standard Specifications 2021 1006-7.03(A)(3)</p>
32.		<p>Concrete that fails to conform to the slump requirements is rejected and recorded in the diary.</p> <p>Standard Specifications 1006-7.03 (A) (3) Page 1191</p>	<p>Standard Specifications 2021 1006-7.03(A)(3)</p>
33.		<p>For Class S or Class B concrete placed at elevations of 3,000 feet or above, air content testing shall be performed for each 50 cubic yards placed.</p> <p>Standard Specifications 1006-7.04 (A) Page 1194</p>	<p>Standard Specifications 2021 1006-7.04(A)</p>
34.		<p>The air test is performed in accordance with ASTM C231 or C173.</p> <p>Standard Specifications 1006-7.02 (A) Page 1186 Standard Specifications Table 1006-9 Page 1187</p>	<p>Standard Specifications 2021 1006-7.02 (A)</p>
35.		<p>Class S &amp; B Concrete: Two cylinders for concrete with a compressive strength less than 4,000 psi are fabricated and tested for the 28-day acceptance test.</p> <p>Standard Specifications 1006-7.02 (B) Page 1189</p>	<p>Standard Specifications 2021 1006-7.02(B)</p>
36.		<p>Class S: Three cylinders for Class S concrete with a compressive strength equal to or greater than 4,000 psi are fabricated and tested for the 28-day acceptance test.</p> <p>Standard Specifications 1006-7.02 (B) Page 1189</p>	<p>Standard Specifications 2021 1006-7.02 (B)</p>
37.		<p>Cylinders have been made, cured (for at least 8 hours before transporting), protected and transported in accordance with AASHTO T23 or ASTM C31.</p> <p>Standard Specifications 2021 1006-7.02 (A) Page 1188 ASTM C31-19 11.1 AASHTO T 23-14 11.</p>	<p>Standard Specifications 2021 1006-7.02(A)</p>
38.		<p>Cylinders will be maintained at the required temperature and moisture conditions specified in ASTM C31. Cylinders moved to the initial curing location no later than 15 minutes and stored no longer than 48 hours before removing the molds for final curing &amp; shall be shielded from direct exposure to sunlight &amp; radiant heating devices.</p> <p>Standard Specifications 2021 1006-7.02 (A) Page 1188 ASTM C31-19 10.1.1 ASTM C31-19 10.1.2 ASTM C31-19 10.1.2.2</p>	<p>Standard Specifications 2021 1006-7.02(A)</p>

**Inspector Quantlist Report 20220824**

39.		<p>Cylinders, Initial Curing: For concrete mixtures with a specified strength less than 6,000 psi, maintain the initial curing temperature between 60 and 80°F. Record the minimum and maximum temperatures achieved for each set of specimens during the initial curing period.</p> <p>Standard Specifications 2021 1006-7.02 (A) Page 1188 ASTM C31-19 10.1.2.1</p>	Standard Specifications 2021 1006-7.02 (A)
40.		<p>Cylinders, Initial Curing: For concrete mixtures with a specified strength less than 6,000 psi or greater, maintain the initial curing temperature between 68 and 78°F. Record the minimum and maximum temperatures achieved for each set of specimens during the initial curing period.</p> <p>Standard Specifications 2021 1006-7.02 (A) Page 1188 ASTM C31-19 10.1.2.1</p>	Standard Specifications 2021 1006-7.02 (A)
41.		<p>Cylinders shall be transported in a cylinder rack or wrapped to protect from damage and transportation time shall not exceed 4 hours.</p> <p>Standard Specifications 2021 1006-7.02 (A) Page 1188 ASTM C31-19 11.1</p>	Standard Specifications 2021 1006-7.02(A)
42.		<p>Curing the concrete shall begin immediately after finishing operations.</p> <p>Standard Specifications 2021 1006-6.01 (A) Page 1180</p>	Standard Specifications 2021 1006-6.01(A)
43.		<p>Appropriate action shall be taken if rain is encountered.</p> <p>Standard Specifications 2021 1006-5.01 Page 1177</p>	Standard Specifications 2021 1006-5.01
44.		<p>Was a Concrete Curing Quantlist completed?</p>	Construction Bulletin 07-01
45.		<p>Quantlist Minimum Frequency is being followed, Once a week.</p>	Construction Bulletin 07-01