

ROAD COMMISSION FOR OAKLAND COUNTY

SPECIAL PROVISION
FOR
CONCRETE FOR TRAFFIC SIGNAL WORK

RCOC/TOC

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RCOC20SP818C

ORG:05-07-2021

REV: 03-01-25

a. Description

This work consists of constructing concrete according to the plans and the Standard Specifications for Construction except as herein provided.

b. Materials

1. Concrete mix designs and Concrete Quality Control Plans are required to be submitted and approved prior to the start of construction.
2. The contractor is responsible for all Quality Control per section 1002 of the Standard Specifications for Construction and at a minimum must provide one 7 day and two 28-day cylinder tests per truck load. Cylinder tests must be either 6 inches x 12 inches or 4 inches x 8 inches as approved by the Engineer. Quality Assurance testing will be as per section 1003 of the Standard Specifications for Construction.
3. RCOC reserves the right to verify or test concrete and testing procedures as directed by the Engineer.
4. High early strength concrete shall not be permitted on any traffic signal related items. The use of non-chloride accelerators, accelerators, calcium chloride concrete accelerators, water-reducer accelerator (non-chloride), additional cement, and other additives as determined by the engineer shall not be used on traffic signal related items.

c. Construction

1. Concrete Quality Control

Concrete Field-Testing Reports signed by the certified (MCA certified Michigan Concrete Technician Level I or Level II) concrete technician must be submitted to the project engineer within 24 hours of each field test.

Cylinder Break Reports signed by the certified testing technician shall be submitted to the project engineer within 24 hours of the cylinder break. Before installing poles, provide cylinder break reports to engineer to verify strength requirements per subsection 820.03. 1 of the Standard Specifications for Construction.

Concrete Quality Control Technician must be on site for the entire concrete pour.

Concrete Quality Control Technician must have approved concrete mix design on site. Prior to pouring, the Quality Control Technician must verify that the correct mix is being used.

2. RCOC Concrete Producer's Certificate

RCOC Concrete Producer's Certificate will be given to the RCOC Inspector at the time of concrete placement.

3. Foundations

All foundations must be poured in a single pour.

4. Curing Period

Before installing poles, cure foundation concrete until concrete attains at least 75% of its required minimum 28-day compressive strength.

5. Cold Weather Protection

All signal related concrete must be protected from freezing. When cold weather (air temperature has fallen to, or is expected to fall below 40 degrees Fahrenheit) within 7 calendar days of anticipated concrete placement, the contractor must submit a separate detailed cold weather protection plan including, but not limited to:

- A. Producing, transporting, placing
- B. Protecting
- C. Curing
- D. Temperature monitoring / measurements of concrete during cold weather by contractor (provide daily results to engineer)
- E. Action plan if concrete temperatures are not being maintained during curing period
- F. Temperature monitoring and warming of metal surfaces prior to concrete placement. Include method of warming foundation excavation, steel reinforcement signal cage, signal casing, etc.
- G. Procedures for accommodating abrupt changes in weather conditions

H. Quality Control early break cylinders

(1) The contractor must plan for number and interval for breaks to verify concrete has gained enough strength during curing period before cold weather protection can be removed.

(2) Include plan for curing cylinders

(early break cylinders shall be placed as close to and as close to the same conditions that is being used to protect the concrete, early break cylinders shall not be lab cured).

(3) Results must be forwarded to Traffic Signal Engineer.

I. Curing period (cold weather)

The curing period for cold weather protection is defined as when concrete attains at least 75 percent of the required minimum 28-day compressive strength and for at least 15 calendar days after concrete placement.

J. The plan must include:

(1) Blanket insulation, plastic, and forms all being in place for the entire curing period.

(2) The cold weather protection must maintain a concrete temperature above 40 degrees Fahrenheit for the entire curing period.

(3) The cold weather protection may only be removed after the curing period if early break cylinders results are submitted to the Traffic Signal engineer for review.

K. Corrective action plan

L. Water-reducer retarder shall not be used during cold weather.

M. The contractor must have all material and equipment required for protection available at the project site before commencing cold weather concrete placement.

Complete this work in accordance with subsection 706.03. J. of the Standard Specifications for Construction. If there is a conflict with subsection 706.03. J, the information provided within this Special Provision takes precedence.

The contractor must not commence placement until the cold weather plan is approved by the Project Engineer. The cold weather plan must be a separate document from the concrete QC plan.

Any costs for cold weather protection, heating materials, winter plant start up, and plant operation shall not be paid for separately.

d. Measurement and Payment

All costs associated with this work are included in the unit prices for the relevant concrete items and will not be paid separately.

ROAD COMMISSION FOR OAKLAND COUNTY
CONCRETE
PRODUCER'S CERTIFICATE

GENERAL NAME OF PROJECT		
PRODUCER'S NAME		
PLANT LOCATION	MDOT PLANT NO.	
CONTRACTOR		
CEMENT SOURCE	TYPE	LBS/CYD
SLAG CEMENT or FLY ASH	TYPE	LBS/CYD
FINE AGGREGATE SOURCE		
FA PIT NUMBER	SPECIFICATION	LBS/CYD
COARSE AGGREGATE SOURCE		
CA PIT NUMBER	SPECIFICATION	LBS/CYD
CA TYPE: <input type="checkbox"/> LIMESTONE <input type="checkbox"/> NATURAL <input type="checkbox"/> SLAG		
INTERMEDIATE AGGREGATE SOURCE		
IA PIT NUMBER	SPECIFICATION	LBS/CYD
IA TYPE: <input type="checkbox"/> LIMESTONE <input type="checkbox"/> NATURAL <input type="checkbox"/> SLAG		
NAME OF A.E. AGENT		OZ/CWT.
NAME OF WATER REDUCER		OZ/CWT.
NAME OF RETARDER		OZ/CWT.
OTHER ADDITIVE		OZ/CWT. OR LBS/CYD
WATER BATCHED (LBS/CYD)	%FA MOISTURE	% CA MOISTURE
WEIGHTS SHOWN ARE: <input type="checkbox"/> ACTUAL <input type="checkbox"/> SSD		
PRODUCER'S AGENT		
SIGNATURE		DATE

This certifies that all materials in this concrete meet the specifications of the Road Commission for Oakland County; that BATCH WEIGHTS are as shown above, and that all concrete shipped this date to this project will meet these specifications within allowable tolerances, NO Recertification will be required for any changes in mix proportions.