



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

November 2, 2005

SUBJECT: FAS Route 1317
Project ACRS-ACBRS-1317(103)
Section 109BR,N
Kankakee County
Contract No. 66410
Item No. 11, November 11, 2005 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Added sheet 23A to the Plans.
2. Revised page ii of the Table of Contents to the Special Provisions.
3. Added pages 137-140 to the Special Provisions.

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bidding proposal.

Bidders using computer-generated bids are cautioned to reflect any and all Schedule of Prices changes, if involved, into their computer programs.

Very truly yours,

Michael L. Hine
Engineer of Design
and Environment

A handwritten signature in cursive script, reading "Ted B. Walschleger P.E." with a small "P.E." to the right.

By: Ted B. Walschleger, P. E.
Engineer of Project Management

cc: Gregg Mounts, Region 2, District 3; Roger Driskell;
R. E. Anderson; Estimates; Design & Environment File

MS/cab

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 SLIPFORM PARAPET 137

Revised 11/1/05

SLIPFORM PARAPET

Effective February 25, 2005

Revised October 19, 2005

The following shall replace Article 503.17(e)(1) of the Standard Specifications.

- (1) Slipforming. At the option of the Contractor, concrete parapets may be constructed by slipforming in lieu of the conventional forming methods. The slipform machine shall have automatic horizontal and vertical grade control and be approved by the Engineer.

The concrete mix design may combine two or more coarse aggregate sizes, consisting of CA-7, CA-11, CA-13, CA-14, and CA-16, provided a CA-7 or CA-11 is included in the blend in a proportion approved by the Engineer.

The slipform machine speed shall not exceed 1.2 m (4 feet) per minute. Any section of parapet placed with the slipform machine moving in excess of the maximum allowed speed will be rejected. The contractor shall schedule concrete delivery to maintain a uniform delivery rate of concrete into the slipform machine. If delivery of concrete into the slipforming machine is interrupted by more than 15 minutes, the portion of the wall within the limits of the slipform machine will be rejected. Any portion of the parapet where the slipforming operation is interrupted or stopped within the 15 minute window may be subject to coring to verify acceptance.

If the Contractor elects to slipform, the parapet cross-sectional area and reinforcement bar clearances may be revised according to the detail for Concrete Parapet Slipforming Option.

For parapets adjacent to the watertable, the Contractor shall use the alternate reinforcement as shown in the detail for Concrete Parapet Slipforming Option at no additional cost to the Department. For parapets at other locations or for median barriers on bridge decks, the Contractor may propose alternate reinforcement and stiffening details subject to the approval of the Engineer.

The use of cast-in-place anchorage devices for attaching appurtenances and/or railings to the parapets will not be allowed in conjunction with slipforming of parapets. Alternates means for making these attachments shall be as detailed on the plans or as approved by the Engineer.

All reinforcement bar intersections within the parapet cross section shall be 100 percent tied to maintain rigidity during concrete placement. At pre-planned sawcut joints in the parapet, Glass Fiber Reinforced Polymer (GFRP) reinforcement shall be used to maintain the rigidity of the reinforcement cage across the proposed joints (See Detail for Concrete Parapet Slipforming Option).

Glass Fiber Reinforced Polymer (GFRP) reinforcement shall be subject to approval by the Engineer. Other non-ferrous reinforcement may be proposed for use but shall be subject to approval by the Engineer.

Added 11/1/05

For projects with plan details specifying parapet joints spaced greater than 6 meters (20 feet) apart, additional sawcut joints, spaced between 3 meters (10 feet) and 6 meters (20 feet), shall be placed as directed by the Engineer. The horizontal reinforcement extending through the proposed joints shall be precut to provide a minimum of 100 mm (4 inch) gap, centered over the joint, between rebar ends. The ends of the reinforcement shall be repaired according to Article 508.05.

After the slipform machine has been set to proper grade and prior to concrete placement, the clearance between the slipform machine inside faces and reinforcement bars shall be checked during a dry run by the Contractor in the presence of the Engineer. The dry run shall not begin until the entire reinforcing cage has been tied and the Engineer has verified and approved the placement and tying of the reinforcing bars. Any reinforcement bars found to be out of place by more than 13 mm (½ in.), or any dimensions between bars differing from the plans by more than 13 mm (½ in.) shall be re-tied to the plan dimensions.

During the dry run and in the presence of the Engineer, the Contractor shall check the clearance of the reinforcement bars from the inside faces of the slipform mold. In all locations, the Contractor shall ensure the reinforcement bars have the minimum cover distance shown on the plans. This dry run check shall be made for the full distance that is anticipated to be placed in the subsequent pour. Reinforcement bars found to have less than the minimum clearance shall be adjusted and the dry run will be performed again, at least in any locations that have been readjusted.

The aluminum cracker plates as detailed in the plans shall be securely tied in place and shall be coated or otherwise treated to minimize their potential reaction with wet concrete. In lieu of chamfer strips at horizontal and vertical edges, radii may be used. Prior to slipforming, the Contractor shall verify proper operation of the vibrators using a mechanical measuring device subject to approval by the Engineer.

The top portion of the joint shall be sawcut as shown in Detail for Concrete Parapet Slipforming Option. Sawing of the joints shall commence as soon as the concrete has hardened sufficiently to permit sawing without excessive raveling. All joints shall be sawed to the full thickness before uncontrolled shrinkage cracking takes place but no later than 8 hours after concrete placement. The sawcut shall be approximately 10 mm (3/8 in.) wide and shall be performed with a power circular concrete saw. The joints shall be sealed with an approved polysulfide sealant, conforming to Article 1050.03, to a minimum depth of 12 mm (1/2 in.), with surface preparation and installation according to the manufacturer's written instructions. Cork, hemp or other compressible material may be used as a backer. The sawcut will not require chamfered edges.

Ends of the parapet shall be formed and the forms securely braced. Parapets at light standards, shall be formed for a minimum distance of 1.2 m (4 ft) on each side of the exception.

For acceptance and rejection purposes a parapet section shall be defined as the length of parapet between adjacent vertical parapet joints.

Added 11/1/05

The maximum variance of actual to proposed longitudinal alignment shall not exceed ± 20 mm (3/4 in.) with no more than 6 mm in 3 m (1/4 in. in 10 ft). Notwithstanding this tolerance, abrupt variance in actual alignment of 13 mm in 3 m (1/2 in. in 10 ft) will be cause for rejection of the parapet section.

In addition, all surfaces shall be checked with a 3 m (10 ft) straight edge furnished and used by the Contractor as the concrete is extruded from the slipform mold. Continued variations in the barrier surface exceeding 6 mm in 3 m (1/4 in. in 10 ft) will not be permitted and remedial action shall immediately be taken to correct the problem.

The use of equipment or methods which result in dimensions outside the tolerance limits shall be discontinued. Parapet sections having dimensions outside the tolerance limits will be rejected.

Any visible indication that less than specified cover of concrete over the reinforcing bars has been obtained, or any cracking or tearing of the plastic concrete, or any location showing diagonal or horizontal cracking will be cause for rejection of the parapet section in which they are found.

The vertical surfaces at the base of the barrier within 75 mm (3 inches) of the deck surface shall be trowelled true after passage of the slipform machine. Any deformations or bulges remaining after the initial set shall be removed by grinding after the concrete has hardened. Hand finishing of minor sporadic surface defects may be allowed at the discretion of the Engineer. Otherwise the parapets shall receive a normal finish as specified in Article 503.16(a) as directed by the Engineer.

Slipformed parapets shall be cured according to either Article 1020.13(a)(3) or Article 1020.13(a)(5). For either method, a soaker hose shall be placed on the top surface of the parapet, and the curing material kept wet with a continuous supply of water for the entire curing period. The cotton mats or burlap covering shall be held in place with brackets or other method approved by the Engineer.

A maximum of three random 100 mm (4 in.) diameter cores per 30 m (100 feet) of parapet shall be taken as directed by the Engineer, but no less than three random cores shall be taken for each parapet pour. Separate parapets poured on the same date shall be considered separate pours. Random cores will not be measured for payment.

The Engineer will mark additional locations for cores where, in the sole opinion of the Engineer, the quality of the slipformed parapet is suspect.

Any cores showing voids of any size adjacent to the reinforcement bars, or showing voids not adjacent to reinforcement bars of 160 square millimeters (1/4 square inch) in area or more, or showing signs of segregation, or showing signs of cracking shall be considered failures and the parapet section from which it was taken will be rejected.

Added 11/1/05

Rejected parapet sections shall be removed and replaced for the full depth cross-section of the parapet. The minimum length of parapet removed and replaced shall be 1 m (3 feet). Additional cores may be required to determine the longitudinal extent of removal and replacement if it can not be determined and agreed upon by other means (i.e. visual, sounding, non-destructive testing, etc.).

Any parapet section with more than one half of its length rejected or with remaining segments less than 3m (10 feet) in length shall be removed and replaced in its entirety.

If reinforcement bars are damaged during the removal and replacement, additional removal and replacement shall be done, as necessary, to ensure minimum splice length of replacement bars. Any damage to epoxy coating of bars shall be repaired according to Article 508.05.

All core holes will be filled with a non-shrink grout meeting the requirements of Section 1024.

Added 11/1/05