

PART IN-512 - CONSTRUCTION

SUBPART C - EVALUATION OF CONSTRUCTION MATERIALS

IN-512.21 Evaluation Procedures

(e) Shop drawings

- (1) Definition - The term “shop drawings” includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by a contractor to explain in detail specific portions of the work required by the plans. It is furnished to provide details of fabrication and/or installation, or to indicate the specific commercially fabricated item to be furnished to meet the requirements of the plans. “Shop drawings” for some items are indicated as being required by the drawings or specifications. Work requiring shop drawings shall not be installed until the shop drawings have been properly approved.
- (2) When shop drawings are furnished, the contractor must coordinate all such drawings, and review them for accuracy, completeness, and compliance with contract requirements. For drawings larger than 11 x 17 inches, the contractor shall submit a minimum of 5 copies. If shop drawings show variations from the contract requirements, the contractor must indicate such variations at the time of submission. Approval of the shop drawings does not relieve the contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of the contract.
- (3) The designer (i.e., the person who designed the item for which the shop drawings is being submitted) should review shop drawings.
- (4) Shop drawings shall be approved by the incumbent in the same position as that which approved the plans.
- (5) When construction is performed under a federal or federally-assisted contract:
  - (i) The State Conservation Engineer, or someone acting for him, will approve shop drawings for plans approved by him, except that a Project Engineer (PE)/Government Representative (GR)/Contracting Officer’s Representative (COR) may approve shop drawings for any item that meets all of the following requirements: (a) is not buried, (b) is not permanently below the water surface, (c) is not embedded in concrete, and (d) is not part of a facility designed by a consultant engineer. Representative items for which shop drawings may be reviewed and approved by a PE/GR/COR are fence gates, trash racks and guard rails, and forming plans. Representative items for which shop drawings must be reviewed by the designer and approved by the State Conservation Engineer include reinforced concrete pipe details, and details of items designed or specified by a consulting engineer.
  - (ii) The PE/GR/COR shall review the shop drawings submitted by the contractor to see if they appear to meet the contract requirements. If they do not appear to meet the contract requirements, the shop drawings shall be returned to the contractor (through the contracting officer in federally assisted contracts) with an explanation of why they will not be reviewed further.

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- (iii) If the shop drawings appear to meet the contract requirements, and the PE/GR/COR has approval authority as indicated above, he shall (a) review the shop drawings, (b) make appropriate comments or corrections, as necessary, (c) approve the drawings, if appropriate, subject to any necessary corrections, (d) return the marked shop drawings to the contractor (through the contracting officer in federally-assisted contracts), and (e) send a marked copy to the State Office Engineering Staff as reference for those plans approved by the State Conservation Engineer.
- (iv) If the shop drawings appear to meet the contract requirements, and the PE/GR/COR does not have approval authority as indicated above, he shall send the shop drawings with any comments to the State Conservation Engineer. The State Conservation Engineer will have the shop drawings reviewed and approved, if appropriate, with comments and corrections as necessary. One marked copy will be returned to the PE/GR/COR and one marked copy will be retained for reference. If a consultant is involved, the State Conservation Engineer will submit a copy to the consultant for review and comment.
- (v) The marked copy returned to the PE/GR/COR becomes the official Service copy, and shall be filed in the GR/COR contract file.
- (vi) The GR/COR shall indicate NRCS approval on a copy, along with corrections and comments as necessary, and return it to the contractor (through the contracting officer in federally-assisted contracts). Additional marked copies shall be made and distributed as necessary.

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SUBPART E – EQUIPMENT, RECORDS, AND COORDINATION

IN-512.41 (c) Construction Documentation will include the following:

- (7) The list of forms on Exhibit A identifies forms to be used by field construction offices in Indiana. Appropriate forms shall be used and distributed as indicated.

**SUBPART E – ENGINEERING EQUIPMENT, RECORDS, AND COORDINATION**

**EXHIBIT A - LIST OF FORMS USED BY FIELD CONSTRUCTION OFFICE**

**(DISTRIBUTION – NUMBER OF COPIES)**

Form No.	Title of Form	Date	DISTRIBUTION						Due Date
			State Admin. Officer	State Cons. Engr.	Gov. Rep.	Insp.	Cont. Local Org.	Contr.	
SCS-AS 2	Log of Documentary Photographs	12-71				1			End of con
SCS-AS 45	Final Inspection and Certification of Completion	04-72	1	1	1				End of con
SCS-AS 46	Work Commencement Notice	12-80	1						Beginning
SCS-AS 48	Suspend and Resume Work Order	08-70	1		1		1	1	As needed
SCS-AS 49 & 49b	Contract Pay Estimate and Construction Progress Report	02-70	3		1			1	By 3 <sup>rd</sup> of e
SCS-AS 49a & 49b	Contract Pay Estimate and Construction Progress Report	12-69	2		1		1	1	By 3 <sup>rd</sup> of e
SCS-AS 50	Contract Modifications	03-70	1		1		1	1	As needed
	Modification Justification Statement		1		1				As needed
SCS-AS 50	Schedule of Operations and Construction	03-72			1		1	1	Prior to aw
SCS-AS 93	Certification of Materials	02-70			1				Use this fo for before
IN-AS 6	Quantity and Cost Changes	10-77	1		1				As needed payment
IN-AS 4	Suspend and Resume Work Order Summary Sheet	11-74	1		1				As needed
SF-270	Request for Advance or Reimbursement	07-76	1		1				By 3 <sup>rd</sup> of e pay estimat
SCS-B&F 96	Report of Contractor's Earnings-to-date	08-69	1		1				By 3 <sup>rd</sup> of e or 49a is no
SCS-ENG-361	Worksheet for Atterburg Limits	02-71			1				As needed
SCS-ENG-59	Report of Concrete Test Specimens	02-80				1			Use this fo each concr
SCS-ENG-191B	Engineering Field Book (Duplicating)	02-77			1				As needed
SCS-ENG-310	Job Diary	02-76			1				Daily entry starting day showing...
SCS-ENG-352	Compaction and Penetration Resistance	02-80				1			As needed
SCS-ENG-353	Soil Classification	02-80				1			As needed
SCS-ENG-	Work Sheet for Compaction and	02-80				1			As needed

359	Penetration Resistance								
SCS-ENG-525	Mobile Crane Test	03-71				1			Prior to use

**SUBPART E – ENGINEERING EQUIPMENT, RECORDS, AND  
COORDINATION**

**EXHIBIT A (cont.) - LIST OF FORMS USED BY FIELD CONSTRUCTION  
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Form No.	Title of Form	Date	DISTRIBUTION						Due Date
			St. Admin Officer	St. Cons. Engr.	Gov. Rep.	Insp.	Cont. Local Org.	Contr.	
SCS-ENG-528	Earthwork Computation	02-80			1				As needed
SCS-ENG-530A	Bulk Sand Density Determination	02-80				1			As needed
SCS-ENG-530B	In Place Moisture – Density Sand Cone Specified Fraction	02-80				1			As needed
SCS-ENG-528	Earthwork Computation	02-80			1				As needed
SCS-ENG-530A	Bulk Sand Density Determination	02-80				1			As needed
SCS-ENG-530B	In Place Moisture – Density Sand Cone Specified Fraction	02-80				1			As needed
SCS-ENG-530C	In Place Moisture –Density Sand Cone Mass Density	02-80				1			As needed
SCS-ENG-530D	In Place Moisture – Density Rubber Balloon	02-80				1			As needed
SCS-ENG-530E	In Place Moisture – Density Calibrated Cylinder	02-80				1			As needed
SCS-ENG-530F	In Place Moisture – Density Kerosene	02-80				1			As needed
SCS-ENG-530G	In Place Moisture –Density Rapid Compaction - Sand	02-80				1			As needed
SCS-ENG-530H	In Place Moisture – Density Rapid Compaction – Rubber Balloon	02-80				1			As needed
SCS-ENG-530i	In Place Moisture – Density Template Plastic Liner	02-80				1			As needed
SCS-ENG-531	Moisture Content Determination	02-80							Optional
SCS-ENG-532	Weekly Summary of Density Determination	02-80		1	1				End of con
SCS-ENG-535	Sieve Analysis	02-80				1			As needed
SCS-ADS-053	Progress Sheet Computations of Contract Pay Items	02-80				1			Completed checked
SCS-ENG-537	Construction Report	11-69							Optional
SCS-ENG-541	Rapid Method of Determining Density and Moisture	02-74				1			As needed
SCS-ENG-542	Visual Soil Classification	02-80							Optional

**SUBPART E – ENGINEERING EQUIPMENT, RECORDS, AND  
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**EXHIBIT A (cont.) - LIST OF FORMS USED BY FIELD CONSTRUCTION  
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			St. Admin. Officer	St. Cons. Engr	Gov. Rep.	Insp.	Cont. Local Org.	Contr.	
SCS-ENG-543	Bulk specific Gravity and Moisture Determination	02-80				1			As needed
SCS-ENG-544	Daily Concrete Batching Report	02-80							Optional
SCS-ENG-545	Pile Driving Record	02-80				1			As needed
SCS-ENG-549	Table of Forms Used by Field Construction Office	02-80							Optional
SCS-ENG-550	Embankment Construction Report	02-80							Optional
SCS-ENG-551	Concrete Materials and Job Mix.	02-80		1	1				Prior to place concrete
SCS-ENG-552	Concrete Batch Delivery Ticket					1			Use this form with ticket with
SCS-ENG-553	Concrete Trial Mix Data	02-80							Optional