FAA Specification Revision Process

July 24, 2015

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Item P-152 Excavation, Subgrade, and Embankment

DESCRIPTION

152-1.1 This item covers excavation, disposal, placement, and compaction of all materials within the limits of the work required to construct safety areas, runways, taxiways, aprons, and intermediate areas as well as other areas for drainage, building construction, parking, or other purposes in accordance with these specifications and in conformity to the dimensions and typical sections shown on the plans.

152-1.2 Classification. All material excavated shall be classified as defined below:

a. Unclassified excavation. Unclassified excavation shall consist of the excavation and disposal of all material, regardless of its nature, which is not otherwise classified and paid for under one of the following items.

b. Rock excavation. Rock excavation shall include all solid rock in ledges, in bedded deposits, in unstratified masses, and conglomerate deposits which are so firmly cemented they cannot be removed without blasting or using rippers. All boulders containing a volume of more than 1/2 cubic yard (0.4 m³) will be classified as "rock excavation."

c. Muck excavation. Muck excavation shall consist of the removal and disposal of deposits or mixtures of soils and organic matter not suitable for foundation material. Muck shall include materials that will decay or produce subsidence in the embankment. It may consist of decaying stumps, roots, logs, humus, or other material not satisfactory for incorporation in the embankment.

d. Drainage excavation. Drainage excavation shall consist of all excavation made for the primary purpose of drainage and includes drainage ditches, such as intercepting, inlet or outlet ditches; temporary levee construction; or any other type as shown on the plans.

e. Borrow excavation. Borrow excavation shall consist of approved material required for the construction of embankments or for other portions of the work in excess of the quantity of usable material available from required excavations. Borrow material shall be obtained from areas designated by the Engineer within the limits of the airport property but outside the normal limits of necessary grading, or from areas outside the airport boundaries.

All material excavated shall be considered "unclassified" unless the Engineer specifies other classifications in the project specifications.

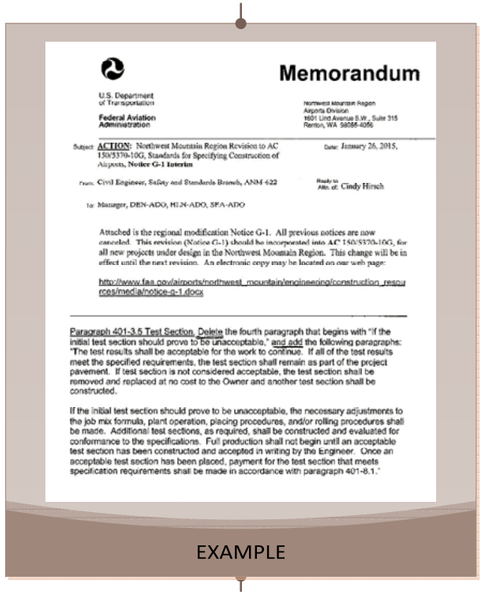
Delete the classifications not applicable to a project.

EXAMPLE

AC Engineer Note Example

All material excavated shall be considered "unclassified" unless the Engineer specifies other classifications in the project specifications.

Delete the classifications not applicable to a project.



U.S. Department of Transportation
Federal Aviation Administration

Memorandum

Northwest Mountain Region
Airports Division
1601 Lind Avenue S.W., Suite 315
Renton, WA 98057-3356

Subject: **ACTION:** Northwest Mountain Region Revision to AC 150/5370-10G, Standards for Specifying Construction of Airports, Notice G-1 Interim

Date: January 26, 2015

From: Civil Engineer, Safety and Standards Branch, ANM-622

Reply to Attn. of: Cindy Hirsch

To: Manager, DEN-ADO, RENO-ADO, SPA-ADO

Attached is the regional modification Notice G-1. All previous notices are now canceled. This revision (Notice G-1) should be incorporated into AC 150/5370-10G, for all new projects under design in the Northwest Mountain Region. This change will be in effect until the next revision. An electronic copy may be located on our web page:

http://www.faa.gov/airports/northwest_mountain/engineering/construction_resources/media/notice-g-1.docx

Paragraph 401-3.5 Test Section. Delete the fourth paragraph that begins with "If the initial test section should prove to be unacceptable," and add the following paragraphs: "The test results shall be acceptable for the work to continue. If all of the test results meet the specified requirements, the test section shall remain as part of the project pavement. If test section is not considered acceptable, the test section shall be removed and replaced at no cost to the Owner and another test section shall be constructed.

If the initial test section should prove to be unacceptable, the necessary adjustments to the job mix formula, plant operation, placing procedures, and/or rolling procedures shall be made. Additional test sections, as required, shall be constructed and evaluated for conformance to the specifications. Full production shall not begin until an acceptable test section has been placed, payment for the test section that meets specification requirements shall be made in accordance with paragraph 401-8.1.'

EXAMPLE

401-3.5 Test section. [Prior to full production, the Contractor shall prepare and place a quantity of HMA according to the JMF. The amount of HMA shall be sufficient to construct a test section [ ]long and[ ]wide, placed in two lanes, with a longitudinal cold joint, and shall be of the same depth specified for the construction of the course which it represents. A cold joint for this test section is an exposed construction joint at least four (4) hours old or whose mat has cooled to less than 160°F (71°C). The cold joint must be cut back using the same procedure that will be used during production in accordance with 401-4.19. The underlying grade or pavement structure upon which the test section is to be constructed shall be the same as the remainder of the course represented by the test section. The equipment used in construction of the test section shall be the same type and weight to be used on the remainder of the course represented by the test section.

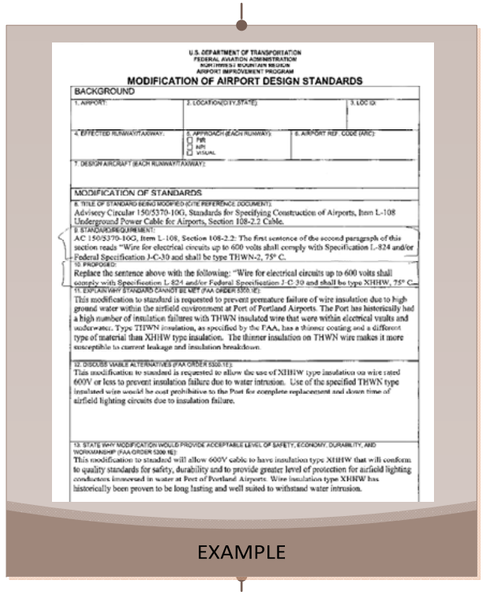
The test section shall be evaluated for acceptance as a single lot in accordance with the acceptance criteria in paragraph 401-5.1 and 401-5.2. The test section shall be divided into equal sublots. As a minimum the test section shall consist of three (3) sublots.

The test section shall be considered acceptable if (1) [ ], (2) gradation and asphalt content are within the action limits specified in paragraphs 401-6.5a and 5b, and (3) the voids in the mineral aggregate are within the limits of Table 2.

If the initial test section should prove to be unacceptable, the necessary adjustments to the JMF, plant operation, placing procedures, and/or rolling procedures shall be made. A second test section shall then be placed. If the second test section also does not meet specification requirements, both sections shall be removed at the Contractor's expense. Additional test sections, as required, shall be constructed and evaluated for conformance to the specifications. Any additional sections that are not acceptable shall be removed at the Contractor's expense. Full production shall not begin until an acceptable test section has been constructed and accepted in writing by the Engineer. Once an acceptable test section has been placed, payment for the initial test section and the section that meets specification requirements shall be made in accordance with paragraph 401-8.1.

Job mix control testing shall be performed by the Contractor at the start of plant production and in conjunction with the calibration of the plant for the JMF. If aggregates produced by the plant do not satisfy the gradation requirements or produce a mix that meets the JMF, it will be necessary to reevaluate and redesign the mix using plant-produced aggregates. Specimens shall be prepared and the optimum asphalt content determined in the same manner as for the original JMF tests.

EXAMPLE



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
NORTHWEST MOUNTAIN REGION
AIRPORT IMPROVEMENT PROGRAM

MODIFICATION OF AIRPORT DESIGN STANDARDS

BACKGROUND

1. AIRPORT: 2. LOCATION(CITY,STATE) 3. LOC ID:

4. EFFECTED RUNWAY(S,AWAY): 5. APPROACH (EACH RUNWAY) ☐ PAR ☐ NPA ☐ VISUAL 6. AIRCRAFT REF. CODE (ARC):

7. DESIGN AIRCRAFT (EACH RUNWAY,AWAY):

MODIFICATION OF STANDARDS

8. TITLE OF STANDARD BEING MODIFIED (OR REFERENCE DOCUMENT):
Advisory Circular 150/5370-10G, Standards for Specifying Construction of Airports, Item L-108 Underground Power Cable for Airports, Section 108-2.2 Cable.

9. STANDARD REQUIREMENT:
AC 150/5370-10G, Item L-108, Section 108-2.2: The first sentence of the second paragraph of this section reads "Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Federal Specification J-C-30 and shall be type THWN-2, 75° C.

10. PROPOSED:
Replace the sentence above with the following: "Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Federal Specification J-C-30 and shall be type XHHW, 75° C.

11. JUSTIFICATION (CANNOT BE VERY FAA ORDER 5300.1E):
This modification to standard is requested to prevent premature failure of wire insulation due to high ground water within the airfield environment at Port of Portland Airports. The Port has historically had a high number of insulation failures with THWN insulated wire that were within electrical vaults and underwater. Type THWN insulation, as specified by the FAA, has a thinner coating and a different type of material than XHHW type insulation. The thinner insulation on THWN wire makes it more susceptible to current leakage and insulation breakdown.

12. DISCUSS USAGE ALTERNATIVES (FAA ORDER 5300.1E):
This modification to standard is requested to allow the use of XHHW type insulation on wire rated 600V or less to prevent insulation failure due to water intrusion. Use of the specified THWN type insulated wire would be cost prohibitive to the Port for complete replacement and down time of airfield lighting circuits due to insulation failure.

13. STATE HOW MODIFICATION WOULD PROVIDE ACCEPTABLE LEVEL OF SAFETY, ECONOMY, DURABILITY, AND WORKMANSHIP (FAA ORDER 5300.1E):
This modification to standard will allow 600V cable to have insulation type XHHW that will conform to quality standards for safety, durability and to provide greater level of protection for airfield lighting conductors immersed in water at Port of Portland Airports. Wire insulation type XHHW has historically been proven to be long lasting and well suited to withstand water intrusion.

EXAMPLE

108-2.2 Cable. Underground cable for airfield lighting facilities (runway and taxiway lights and signs) shall conform to the requirements of AC 150/5345-7, Specification for L-824 Underground Electrical Cable for Airport Lighting Circuits latest edition. Conductors for use on 6.6 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #8 American wire gauge AWG), L-824 [Type B, Type C] 5,000 volts, nonshielded, with [ethylene propylene insulation, cross-linked polyethylene insulation]. Conductors for use on 20 ampere primary airfield lighting series circuits shall be single conductor, seven strand, #6 AWG, L-824 [Type B, Type C] 5,000 volts, nonshielded, with [ethylene propylene insulation, cross-linked polyethylene insulation]. L-824 conductors for use on the L-830 secondary of airfield lighting series circuits shall be sized in accordance with the manufacturer's recommendations. All other conductors shall comply with FAA and National Electric Code (NEC) requirements. Conductor sizes noted above shall not apply to leads furnished by manufacturers on airfield lighting transformers and fixtures.

Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Federal Specification J-C-30 and shall be type ~~THWN-2, 75°C~~ XHHW, 75°C. Conductors for parallel (voltage) circuits shall be sized and installed in accordance with NFPA-70, National Electrical Code.

Unless noted otherwise, all 600-volt and less non-airfield lighting conductor sizes are based on a 75°C, THWN-2, 600 volt insulation, copper conductors, not more than three single insulated conductors, in raceway, in free air. The conduit/duct sizes are based on the use of THWN-2, 600 volt insulated conductors. The Contractor shall make the necessary increase in conduit/duct sizes for other types of wire insulation. In no case shall the conduit/duct size be reduced. The minimum power circuit wire size shall be #12 AWG.

Conductor sizes may have been adjusted due to voltage drop or other engineering considerations. Equipment provided by the Contractor shall be capable of accepting the quantity and sizes of conductors shown in the Contract Documents. All conductors, pigtails, cable step-down adapters, cable step-up

EXAMPLE