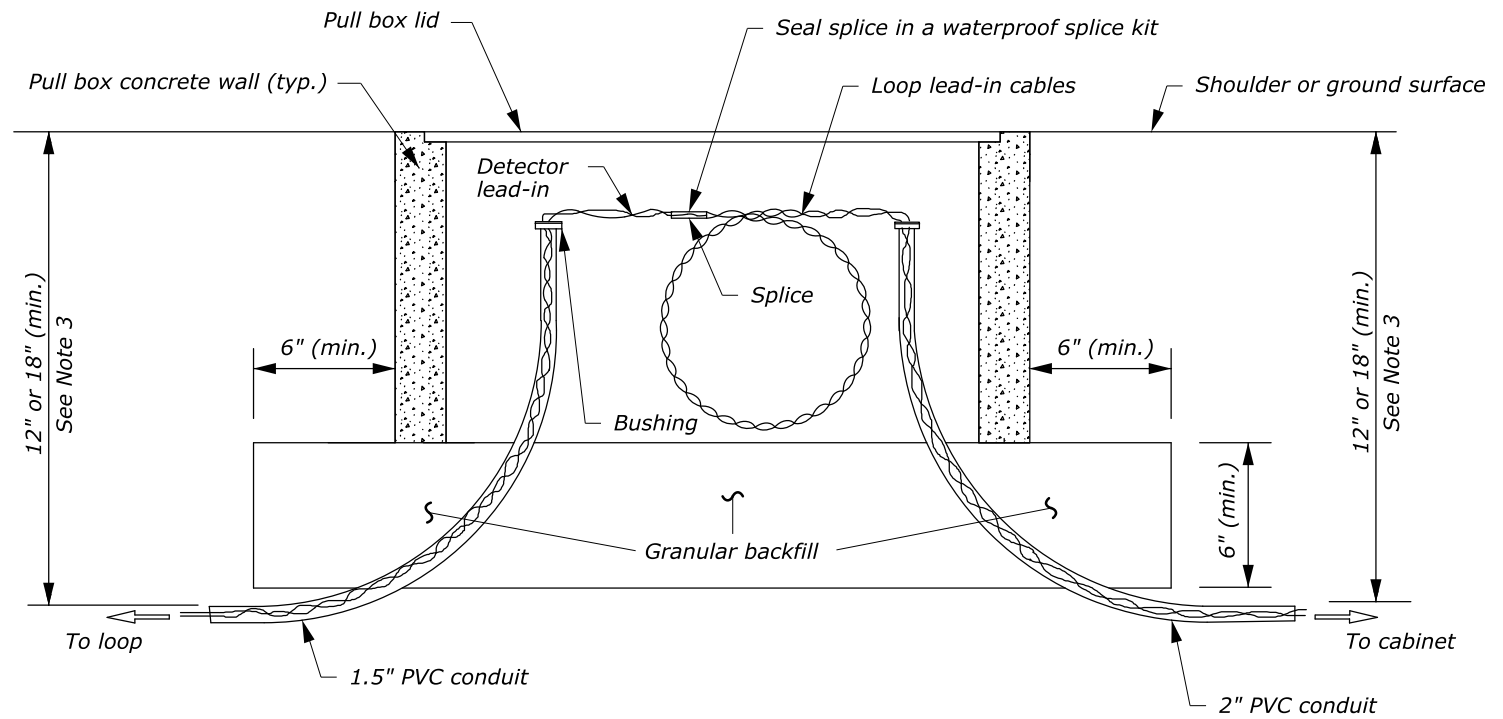


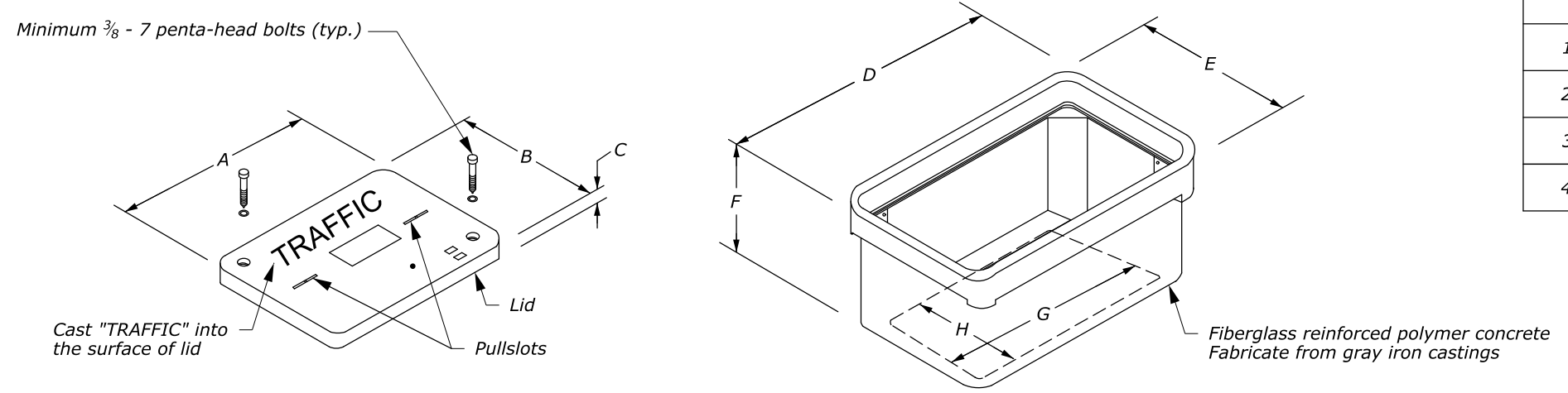
NOTES:

1. Install pull boxes flush with the shoulder surface. Restore the disturbed area around the pull box and conduit installations.
2. On long runs, install pull boxes such that each box is separated by no more than 150 feet.
3. If cabinet is located more than 30 feet from the edge of travelway, provide a minimum cover of 12 inches. Otherwise, provide a minimum cover of 18 inches.
4. Terminate stranded conductors smaller than #14 AWG with crimp style terminal lugs.
5. Size pull box according to the National Electric Code (NEC) as approved by the CO.
6. Ensure splices occur only in pull box nearest to the inductive loops.
7. Plug conduits and bushings with steel wool to prevent rodent entry and with a water resistant material to prevent moisture entry.



PULL BOX INSTALLATION

PULL BOX DIMENSIONS TABLE								
TYPE	MINIMUM DIMENSIONS INCH							
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
1	15 3/8	10	1 3/4	17 5/8	12 3/8	12	13 5/8	8 3/8
2	12 7/8	12 7/8	1 3/4	14 3/4	14 3/4	12	12	12
3	18 1/8	11 1/4	1 3/4	20 1/4	13 3/8	12	15 3/4	8 7/8
4	23 1/4	13 3/4	2	25	15 1/2	12	19 1/4	9 3/4



PULL BOX ISOMETRIC VIEW

U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 OFFICE OF FEDERAL LANDS HIGHWAY

EFLHD DETAIL

**INDUCTIVE LOOP
 PULL BOX**

DETAIL APPROVED FOR USE
 APPROVED: MARCH 2015
 REVISED: SEPTEMBER 2020

DETAIL
 E636-04

NO SCALE



NOTES TO THE DESIGNER NPS Traffic Counter Details

August 10, 2017

General Information

According to version 2 of the NPS *Guidance and Specifications for the Installation of Permanent Inductive Loop Systems for Continuous Traffic Counting Purpose*, these details drawings describe installation procedures for inductive loop systems for the purpose of motorized vehicle traffic counting. The details are intended for use by the National Park Service (NPS) to improve the accuracy and operating reliability of continuous traffic monitoring systems within the NPS units throughout the U.S. Other federal land management agencies (FLMA) may choose to use these details, in whole or in part, where roadway and site conditions are similar to those experienced in NPS units.

Some of these details may not be applicable to all projects. The Designer must consult with the Safety Engineer and/or PM before using these details on a project.

Guidance

1. Details E636-01 and E636-02 may or may not be used together depending on the project. Consult with the PM or Traffic Engineer or determine during scoping trip if single loop, dual loops, or both are needed for the project.
2. Include Detail E636-03 on projects that have traffic detector wire loops pay item regardless of the loops being single or dual.
3. If there are existing loops on your project, consult with the Pavement Engineer and Traffic Engineer to determine if the type of proposed pavement treatment (mill and overlay, full depth reconstruction, or pavement preservation) will affect the existing wire loops and if they will need to be replaced. Include applicable 636 Details.
4. For projects where existing wire loops will be replaced and connected to the existing system; or where the wire loops are to be connected to a cabinet installed by others:
 - Include only Details E636-01, E636-03, and E636-04 for single loops configuration;
 - Include only Details E636-02, E636-03, and E636-04 for dual loops configuration; or
 - Include all four Details if both configurations apply to the project.
5. Include all 636 Details on projects where NPS has decided to replace (upgrade) the existing traffic counting system with a new one, or when a new system is to be installed for the first time. Consult with the PM and Traffic Engineer in this regard.
6. For Note 5 on Details E636-01 and E636-02, the directional boring may be used for mill & overlay and pavement preservation projects, while open trench would be suitable for full depth reconstruction projects. Designers are encouraged to discuss with the COE for best approach and update the SCRs as necessary.

7. For Detail E636-04, consult with the PM and Traffic Engineer to determine the type of pull box to be used (to be decided by NPS).
 8. For Detail E636-04, Note 6, if more splices are needed to repair older installations, consult with the PM and Traffic Engineer to determine if additional pull boxes are needed.
 9. For Detail E636-06, consult with the PM and Traffic Engineer for the need of Solar Panel (To be decided by NPS) and add the requirements to the SCRs and pay item description.
 10. For Details E636-06 and E636-07, consult with the PM and Traffic Engineer to determine the pole height to use (To be decided by NPS). E636-06 is the standard pole height, and E636-07 may be used where a lower mounting height is desired.
 11. For Details E636-06 and E636-07, consult with the PM and Traffic Engineer for the need of optional fan (To be decided by NPS) and add the requirements to the SCRs and pay item description.
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Applicable SCRs

1. Section 636 TRAFFIC SIGNAL, TRAFFIC COUNTER, LIGHTING, AND ELECTRICAL SYSTEMS (See LOS instructions for which clauses to include).
 2. Section 721 ELECTRICAL AND ILLUMINATION MATERIAL (See LOS instructions for which clauses to include).
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Typical Pay Item Used:

63601-6000 System Installation, Traffic Detector System, LPSM

This pay item may be used when only one traffic detector system is to be installed for the project. All items that are needed for the installation of the system (electrical material, conduits, pull boxes, etc...) are incidental to this pay item. If more than one system is to be installed, then pay item 63602-6000 should be used instead as explained below.

63602-6000 System Installation, Traffic Detector System, EACH

This pay item may be used when more than one system is to be installed in a single project. In this case also, all items that are needed for the installation of each system (electrical material, conduits, pull boxes, etc...) are incidental to the pay item for each system.

63602-6020 System Installation, Traffic Detector Wire Loop, EACH

This pay item may be used when only the wire loops in the ground are to be replaced and be connected to the existing system. This is a typical application for a mill and overlay or full depth projects where the wire loops get damaged during milling or pavement removal operations.

Other 636 pay items are also available when paying for traffic detector items (pull box, pole, wires, conduits etc...) individually.