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GENERAL NOTES:

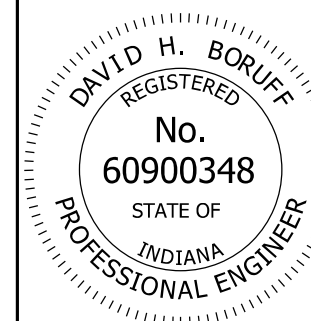
1. Road surface pavement condition shall meet ASTM E 1318 requirements.
2. Pavement shall be free of bumps or transitions for at least 200 ft before and at least 100 ft after the automated traffic count station
3. Pavement on either side of any sensor shall be free of joints and cracks for at least 2 ft.
4. The Contractor shall contact the ITS Engineering Division for approval before installing at any location where the conditions in notes 1, 2, or 3 above are not met.
5. If the median is paved and has a concrete crash barrier, each inside shoulder shall have one communications handhole and one power handhole.
6. All conduits shall include one tracer wire #14 gauge or larger.
7. Conduits shall be schedule 80 PVC unless otherwise specified and under-bored when crossing the roadway.
8. Electric power wires shall have dedicated separate conduits and shall not run in conduits with sensor or communication wires.
9. See Standard Drawing E 809-ICCF series for additional cabinet details.
10. Cables shall be protected by PVC sleeves where they cross pavement joints or cracks.
11. Direct 120/240VAC, 60Hz power shall be delivered to the following components: ATR Cabinet
12. Wire splices shall not be used with electric power wires nor with piezoelectric, temperature, or axle weight sensor wires.
13. Inductive loop wires shall be spliced to the lead-in wires and sealed for waterproofing in the detector housing.
14. Cables crossing the pavement or shoulder transition shall cross perpendicular to the joint and continue for at least 6 ft before making a turn.

INDIANA DEPARTMENT OF TRANSPORTATION

ITS TRAFFIC COUNT STATIONS INDEX
AND GENERAL NOTES

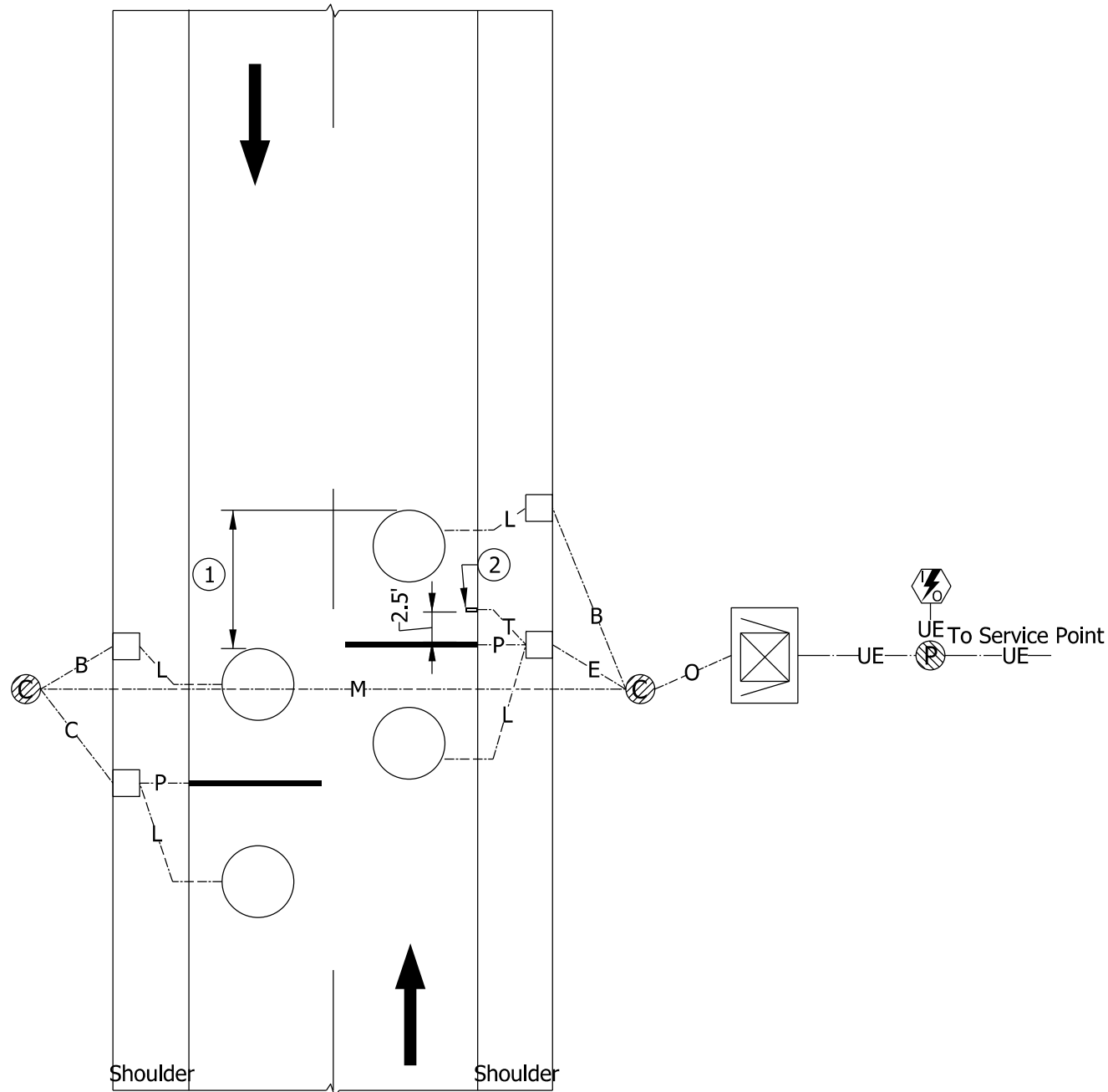
SEPTEMBER 2023

STANDARD DRAWING NO. E 809-ITCS-01



David H. Boruff 05/04/23
DESIGN STANDARDS ENGINEER DATE

[Signature] 05/12/2023
CHIEF ENGINEER DATE



NOTES:

- ① The offset of piezo sensors from one lane to the next shall be 11.5 ft or as directed by the Engineer.
- ② Temperature sensor

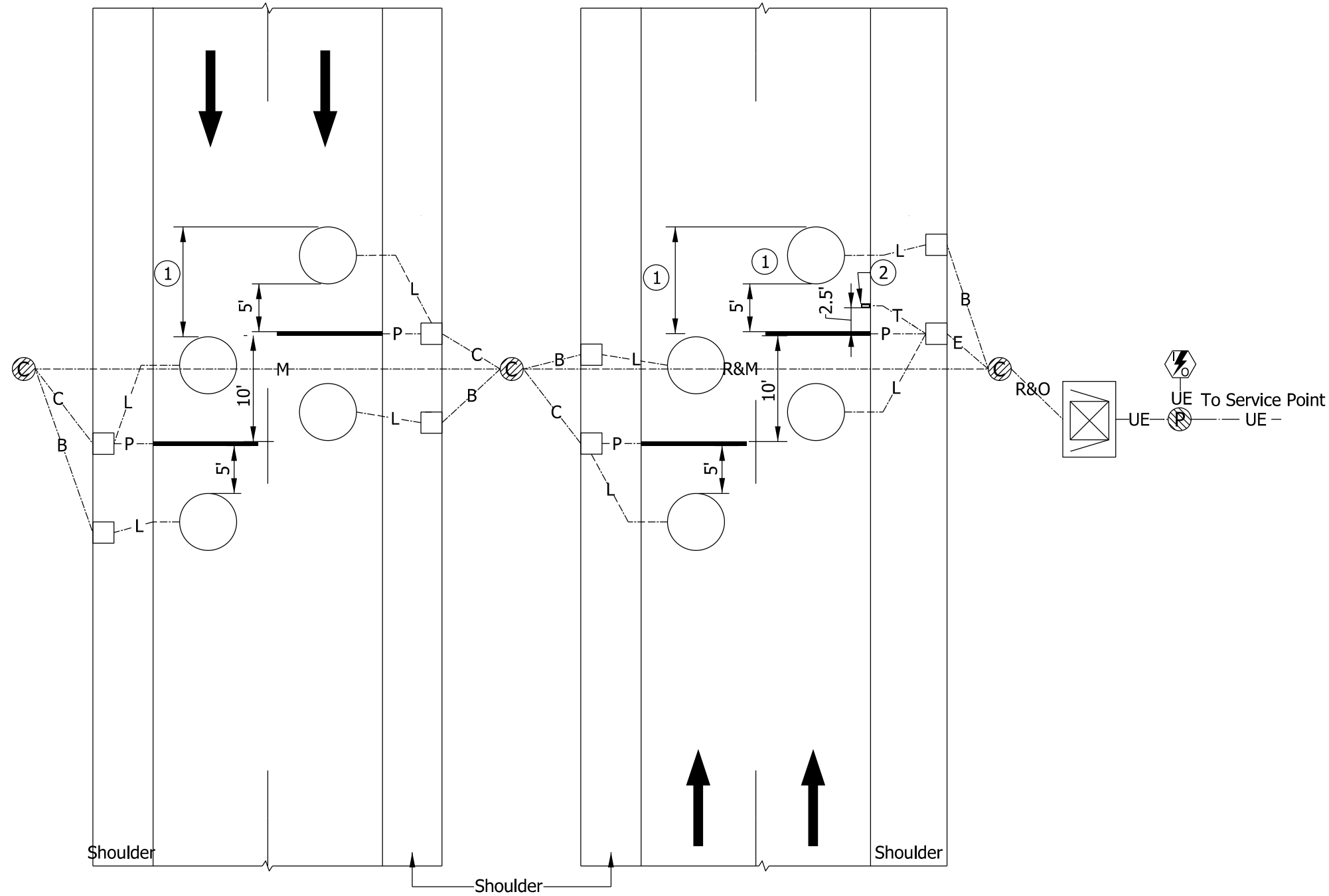
CONDUIT KEY:

- B--- 2 in. Conduit with 1 Loop Lead
- C--- 2 in. Conduit with 1 Loop Lead and 1 Piezo Lead
- E--- 2 in. Conduit with 1 Loop Lead, 1 Piezo Lead, and 1 Temperature Lead
- L--- Loop Lead
- M--- 3 in. Conduit with 2 Loop Leads, 1 Piezo Lead, and 1 Pull Line
- O--- 3 in. Conduit with 4 Loop Leads, 2 Piezo Leads, 1 Temperature Lead, and 1 Pull Line
- P--- Piezoelectric Sensor Lead
- T--- Temperature Sensor Lead
- UE--- Electric Conduit 120 / 240 VAC

LEGEND

- Temperature Sensor
- Detector Housing
- Class-1 Piezoelectric Sensor (11' in Length)
- Round Inductive Loop (6' Diameter)
- Communications Handhole
- Power Handhole (120/240VAC)
- Cabinet and Concrete Base
- Direction of Traffic Arrow
- Remote Disconnect

INDIANA DEPARTMENT OF TRANSPORTATION	
TWO LANE AUTOMATIC TRAFFIC RECORDER (ATR) STATIONS	
SEPTEMBER 2023	
STANDARD DRAWING NO.	E 809-ITCS-02
	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> DESIGN STANDARDS ENGINEER </div> <div style="text-align: right;"> 05/04/23 DATE </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div style="text-align: center;"> CHIEF ENGINEER </div> <div style="text-align: right;"> 05/12/2023 DATE </div> </div>



NOTES:

- ① The offset of piezo sensors from one lane to the next shall be 11.5 ft or as directed by the Engineer.
- ② Temperature sensor

CONDUIT KEY:

- B--- 2 in. Conduit with 1 Loop Lead
- C--- 2 in. Conduit with 1 Loop Lead and 1 Piezo Lead
- E--- 2 in. Conduit with 1 Loop Lead, 1 Piezo Lead, and 1 Temperature Lead
- L--- Loop Lead
- M--- 3 in. Conduit with 2 Loop Leads, 1 Piezo Lead, and 1 Pull Line
- O--- 3 in. Conduit with 4 Loop Leads, 2 Piezo Leads, 1 Temperature Lead, and 1 Pull Line
- P--- Piezoelectric Sensor Lead
- R--- 3 in. Conduit with 4 Loop Leads, 2 Piezo Leads, and 1 Pull Line
- T--- Temperature Sensor Lead
- UE--- Electric Conduit 120 / 240 VAC

LEGEND

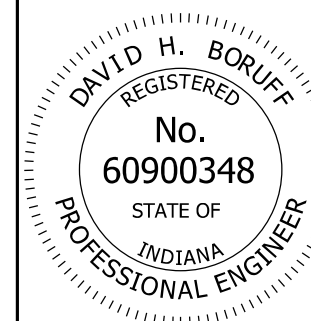
- Temperature Sensor
- Detector Housing
- Class-1 Piezoelectric Sensor (11' in Length)
- Round Inductive Loop (6' Diameter)
- ⊗ Communications Handhole
- ⊗ Power Handhole (120/240VAC)
- ⊗ Cabinet and Concrete Base
- ➔ Direction of Traffic Arrow
- ⚡ Remote Disconnect

INDIANA DEPARTMENT OF TRANSPORTATION

FOUR LANE AUTOMATIC TRAFFIC RECORDER (ATR) STATIONS

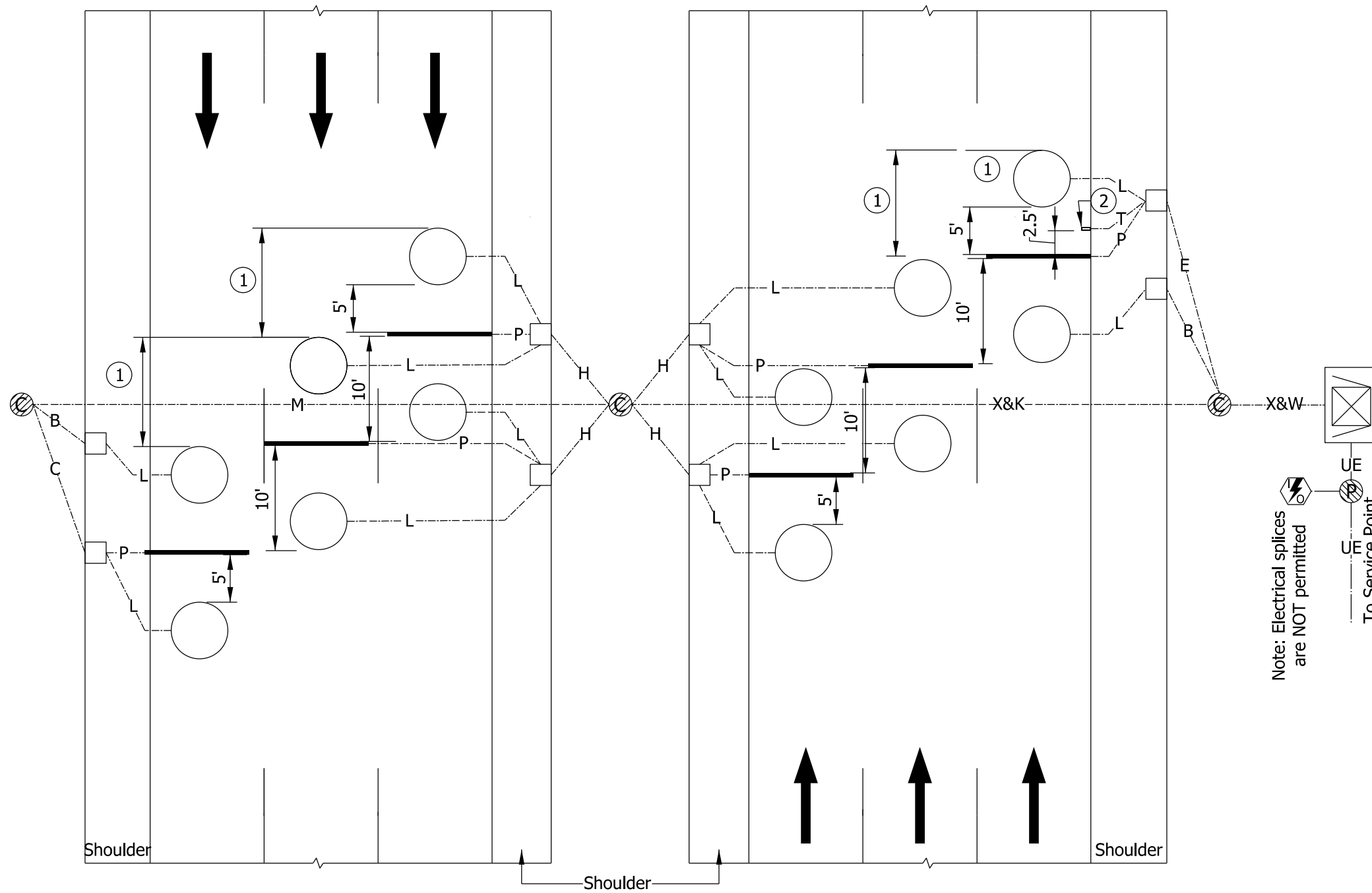
SEPTEMBER 2023

STANDARD DRAWING NO. E 809-ITCS-03



David H. Boruff 05/04/23
DESIGN STANDARDS ENGINEER DATE

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NOTES:

- ① The offset of piezo sensors from one lane to the next shall be 11.5 ft or as directed by the Engineer.
- ② Temperature sensor

CONDUIT KEY:

- B--- 2 in. Conduit with 1 Loop Lead
- C--- 2 in. Conduit with 1 Loop Lead and 1 Piezo Lead
- E--- 2 in. Conduit with 1 Loop Lead, 1 Piezo Lead, and 1 Temperature Lead
- H--- 2 in. Conduit with 2 Loop Leads and 1 Piezo Lead
- K--- 2 in. Conduit with 4 Loop Leads, 2 Piezo Leads, and 1 Pull Line
- L--- Loop Lead
- M--- 3 in. Conduit with 2 Loop Leads, 1 Piezo Lead, and 1 Pull Line
- T--- Temperature Sensor Lead
- UE--- Electric Conduit 120 / 240 VAC
- W--- 3 in. Conduit with 6 Loop Leads, 3 Piezo Leads, 1 Temperature Lead, and 1 Pull Line
- X--- 3 in. Conduit with 6 Loop Leads, 3 Piezo Leads, and 1 Pull Line

LEGEND

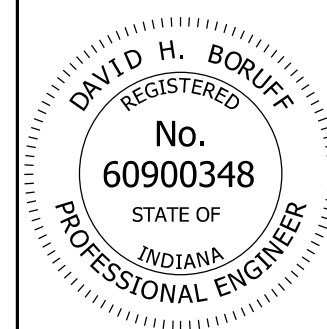
- Temperature Sensor
- Communications Handhole
- Direction of Traffic Arrow
- Detector Housing
- Power Handhole (120/240VAC)
- Remote Disconnect
- Class-1 Piezoelectric Sensor (11' in Length)
- Round Inductive Loop (6' Diameter)
- Cabinet and Concrete Base

INDIANA DEPARTMENT OF TRANSPORTATION

SIX LANE AUTOMATIC TRAFFIC RECORDER (ATR) STATIONS

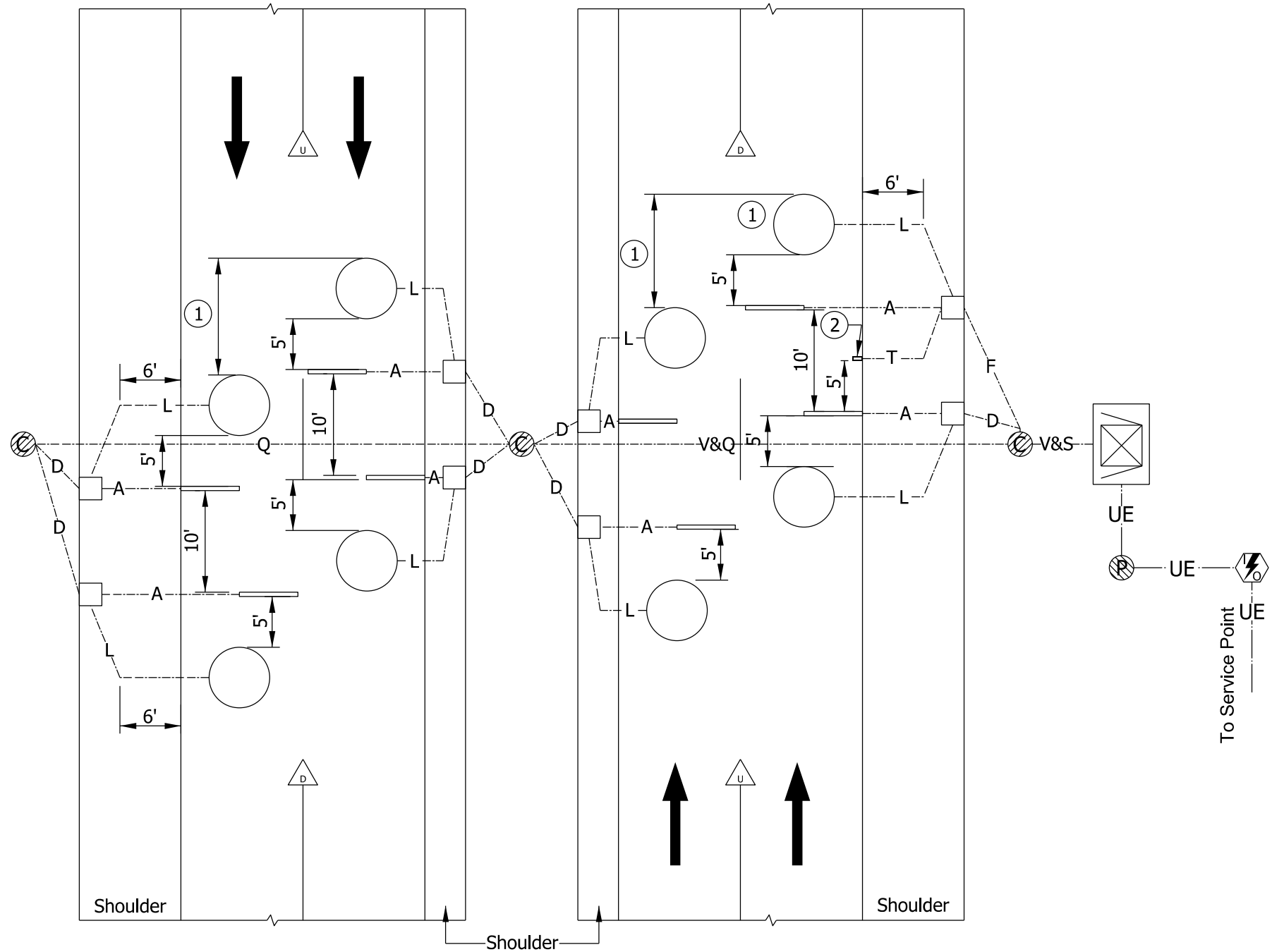
SEPTEMBER 2023

STANDARD DRAWING NO. E 809-ITCS-04



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NOTES:

- ① The offset of axle sensors from one lane to the next shall be 11.5 ft or as directed by the Engineer.
- ② Temperature sensor

CONDUIT KEY:

- A--- Axle Sensor Lead
- D--- 2 in. Conduit with 1 Loop Lead and 1 Axle Lead
- F--- 2 in. Conduit with 1 Loop Lead, 1 Axle Lead, and 1 Temperature Lead
- L--- Loop Lead
- Q--- 3 in. Conduit with 2 Loop Leads, 2 Axle Leads, and 1 Pull Line
- S--- 3 in. Conduit with 4 Loop Leads, 4 Axle Leads, 1 Temperature Lead, and 1 Pull Line
- T--- Temperature Sensor Lead
- UE--- Electric Conduit 120 / 240 VAC
- V--- 3 in. Conduit with 4 Loop Leads, 4 Axle Leads, and 1 Pull Line

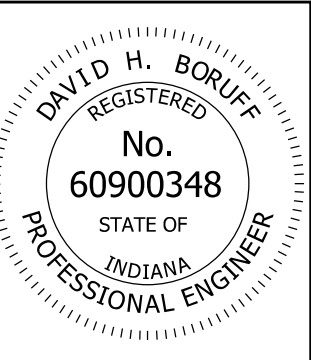
LEGEND

- Temperature Sensor
- Detector Housing
- Round Inductive Loop (6' Diameter)
- ⊗ Communications Handhole
- ⊗ Power Handhole (120/240VAC)
- Axle Weight Sensor (5.74' in length)
- ▲ Upstream Pavement Conditions: See General Notes
- ▼ Downstream Pavement Conditions: See General Notes
- ⚡ Remote Disconnect
- ⊞ Cabinet and Concrete Base
- ➔ Direction of Traffic Arrow

INDIANA DEPARTMENT OF TRANSPORTATION

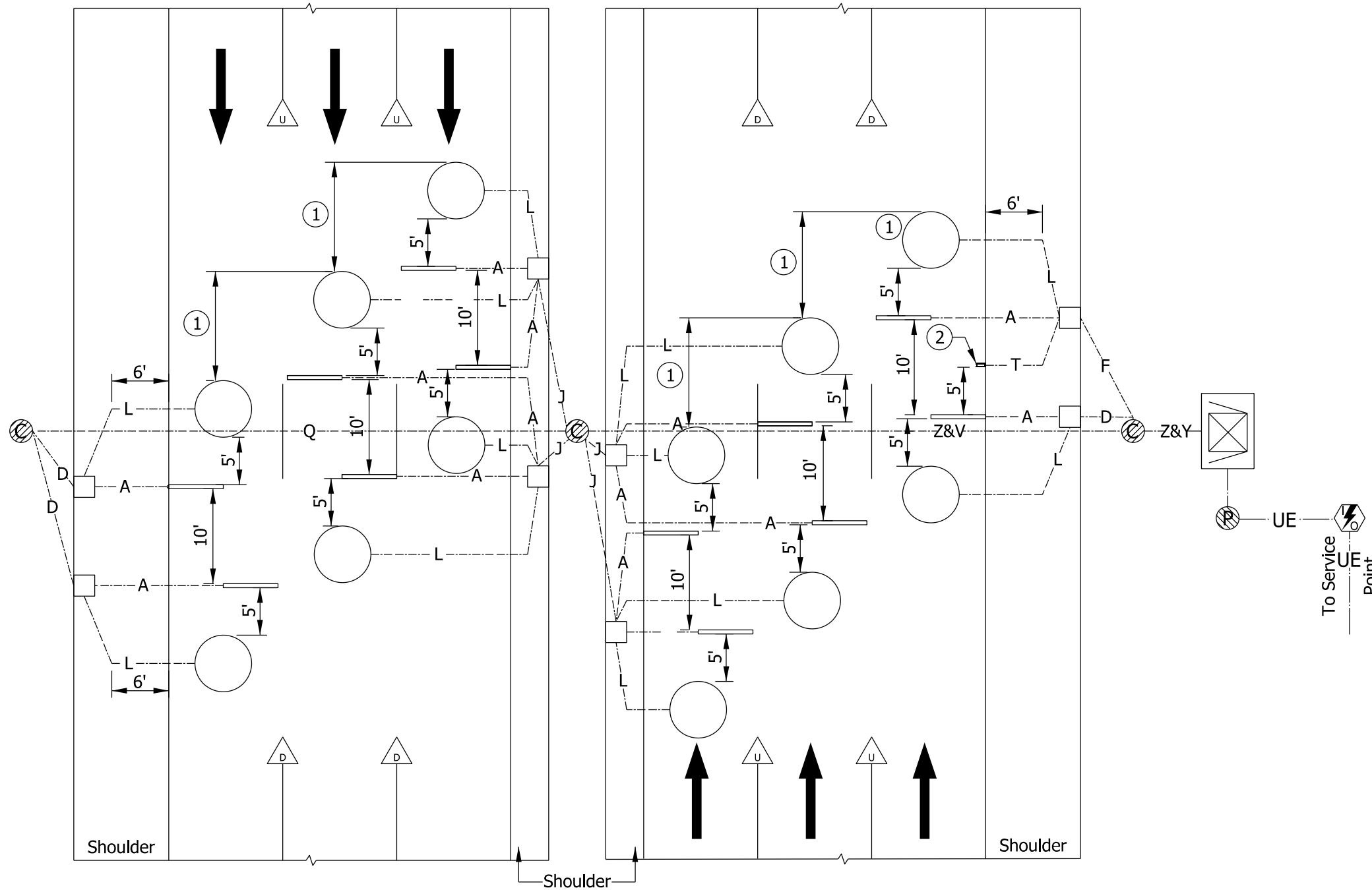
FOUR LANE WEIGH-IN-MOTION (WIM) STATIONS
SEPTEMBER 2023

STANDARD DRAWING NO. E 809-ITCS-05



David H. Boruff 05/04/23
DESIGN STANDARDS ENGINEER DATE

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CHIEF ENGINEER DATE



NOTES:

- ① The offset of axle sensors from one lane to the next shall be 11.5 ft or as directed by the Engineer.
- ② Temperature sensor

CONDUIT KEY:

- A--- Axle Sensor Lead
- D--- 2 in. Conduit with 1 Loop Lead and 1 Axle Lead
- F--- 2 in. Conduit with 1 Loop Lead, 1 Axle Lead, and 1 Temperature Lead
- J--- 2 in. Conduit with 2 Loop Leads and 2 Axle Leads
- L--- Loop Lead
- Q--- 3 in. Conduit with 2 Loop Leads, 2 Axle Leads, and 1 Pull Line
- T--- Temperature Sensor Lead
- UE--- Electric Conduit 120 / 240 VAC
- V--- 3 in. Conduit with 4 Loop Leads, 4 Axle Leads, and 1 Pull Line
- Y--- 3 in. Conduit with 6 Loop Leads, 6 Axle Leads 1 Temperature Lead, and 1 Pull Line
- Z--- 3 in. Conduit with 6 Loop Leads, 6 Axle Leads and 1 Pull Line

LEGEND

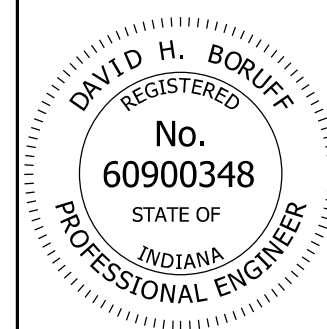
- Temperature Sensor
- Detector Housing
- Round Inductive Loop (6' Diameter)
- ⊗ Communications Handhole
- ⊗ Power Handhole (120/240VAC)
- Axle Weight Sensor (5.74' in length)
- ➔ Direction of Traffic Arrow
- △ Upstream Pavement Conditions: See General Notes
- △ Downstream Pavement Conditions: See General Notes
- ⚡ Remote Disconnect
- ⊞ Cabinet and Concrete Base

INDIANA DEPARTMENT OF TRANSPORTATION

SIX LANE WEIGH-IN-MOTION (WIM) STATIONS

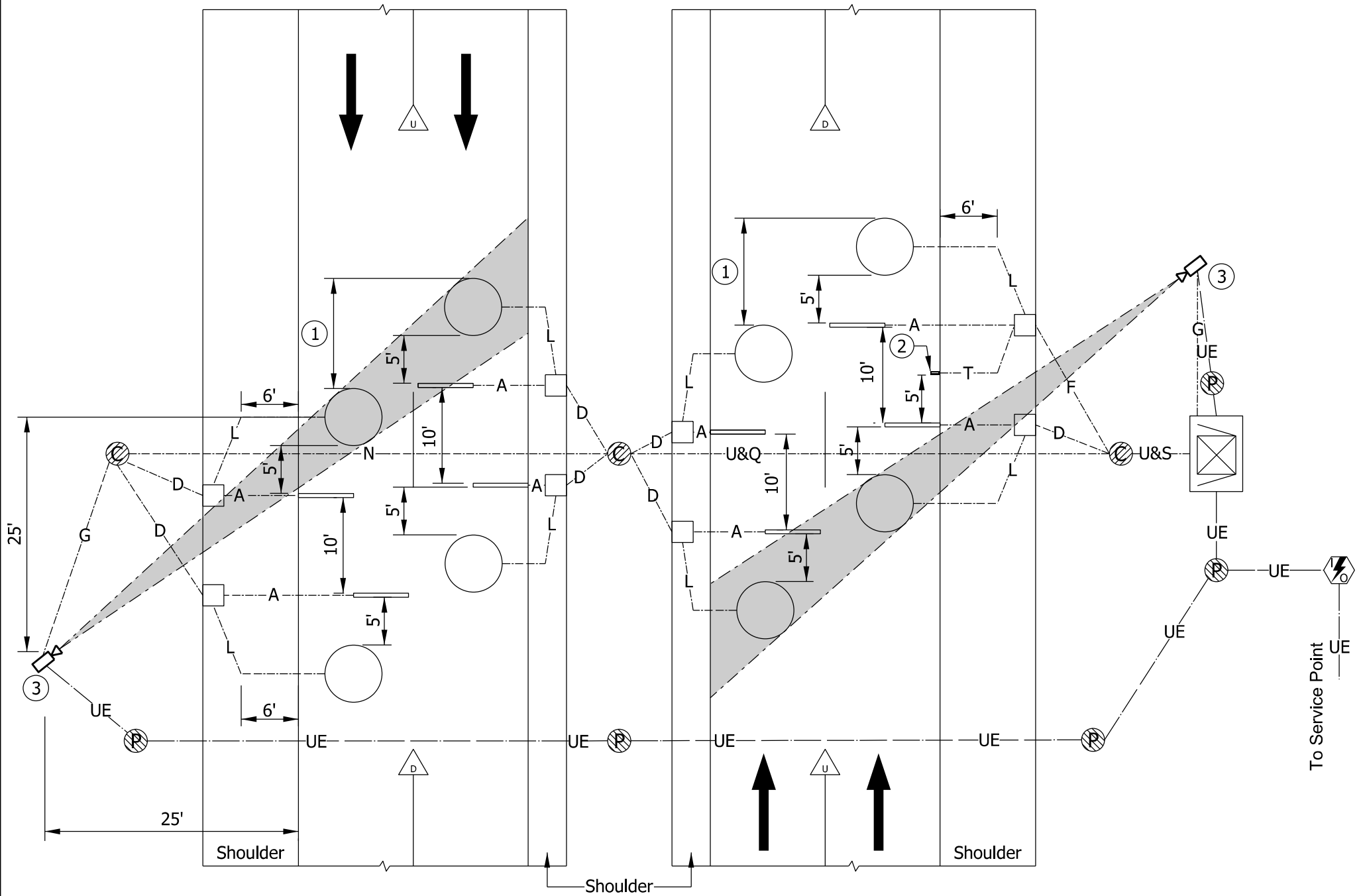
SEPTEMBER 2023

STANDARD DRAWING NO. E 809-ITCS-06



David H. Boruff
DESIGN STANDARDS ENGINEER 05/04/23
DATE

[Signature]
CHIEF ENGINEER 05/12/2023
DATE



NOTES:

- ① The offset of the axle sensors from one lane to the next shall be 11.5 ft or as directed by the Engineer.
- ② Temperature sensor
- ③ Cameras shall be aligned with the leading edge of all upstream loops in a travel direction.

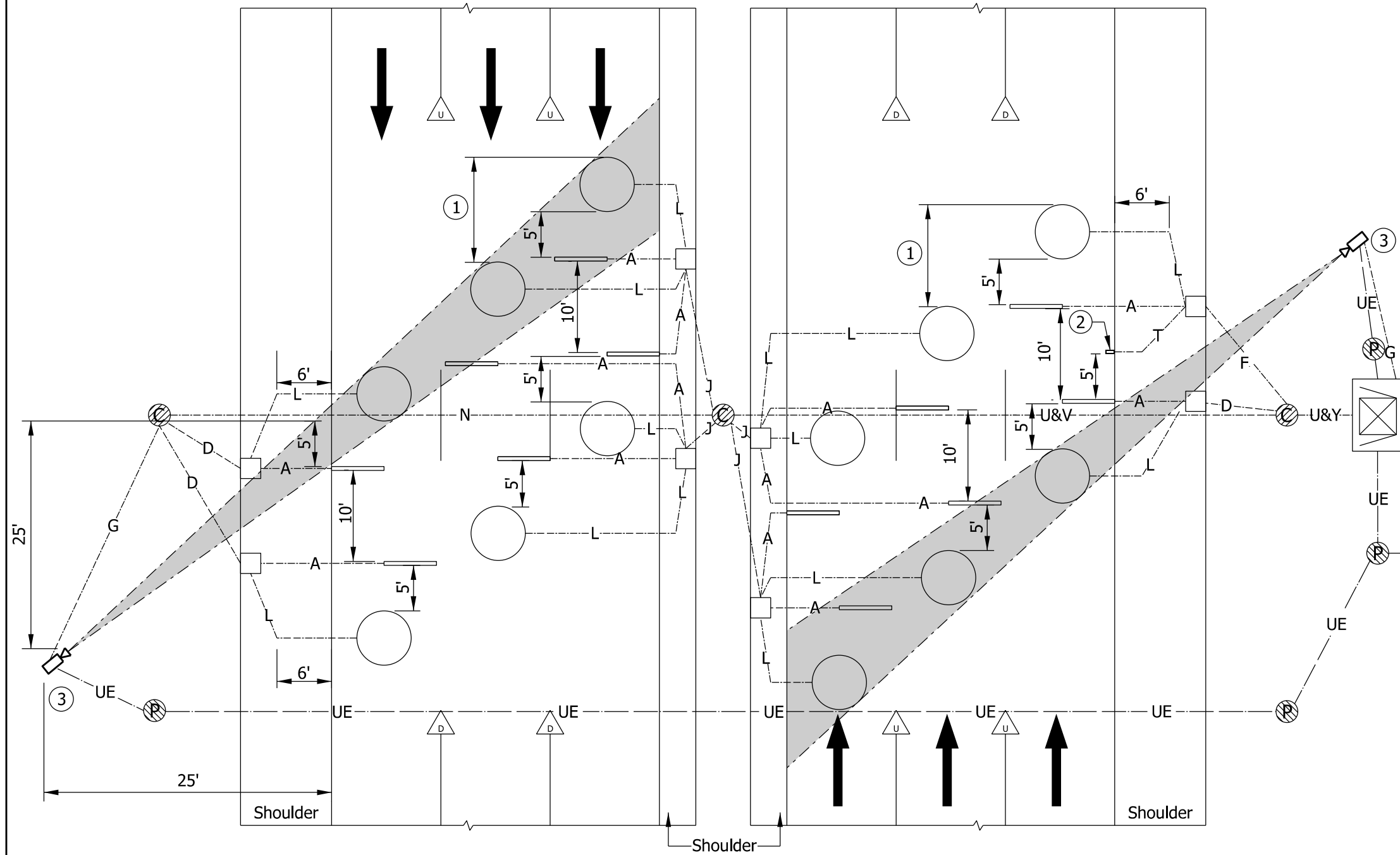
CONDUIT KEY:

- A--- Axle Sensor Lead
- D--- 2 in. Conduit with 1 Loop Lead and 1 Axle Lead
- F--- 2 in. Conduit with 1 Loop Lead, 1 Axle Lead, and 1 Temperature Lead
- G--- 2 in. Conduit with 2 Cat6a Camera Leads and 1 Pull Line
- L--- Loop Lead
- N--- 3 in. Conduit with 2 Loop Leads, 2 Axle Leads, 2 Cat6a Camera Leads, and 1 Pull Line
- Q--- 3 in. Conduit with 2 Loop Leads, 2 Axle Leads, and 1 Pull Line
- S--- 3 in. Conduit with 4 Loop Leads, 4 Axle Leads, 1 Temperature Lead, and 1 Pull Line
- T--- Temperature Sensor Lead
- UE--- Electric Conduit 120 / 240 VAC
- U--- 3 in. Conduit with 4 Loop Leads, 4 Axle Leads, 2 Cat6a Camera Leads, and 1 Pull Line
- --- Camera Line of Sight

LEGEND

- Temperature Sensor
- Detector Housing
- Round Inductive Loop (6' Diameter)
- Communications Handhole
- Power Handhole (120/240VAC)
- Axle Weight Sensor (5.74' in length)
- Pole-mounted side view camera with IR illuminators
- Upstream Pavement Conditions: See General Notes
- Downstream Pavement Conditions: See General Notes
- Remote Disconnect
- Direction of Traffic Arrow
- Cabinet and Concrete Base

INDIANA DEPARTMENT OF TRANSPORTATION	
FOUR LANE VIRTUAL WEIGH-IN-MOTION (VWIM) STATIONS	
SEPTEMBER 2023	
STANDARD DRAWING NO. E 809-ITCS-07	
	 DESIGN STANDARDS ENGINEER 05/04/23 DATE
	 CHIEF ENGINEER 05/12/2023 DATE



NOTES:

- ① The offset of the axle sensors from one lane to the next shall be 11.5 ft or as directed by the Engineer.
- ② Temperature sensor
- ③ Cameras shall be aligned with the leading edge of all upstream loops in a travel direction.

CONDUIT KEY:

- A--- Axle Sensor Lead
- D--- 2 in. Conduit with 1 Loop Lead and 1 Axle Lead
- F--- 2 in. Conduit with 1 Loop Lead, 1 Axle Lead, and 1 Temperature Lead
- G--- 2 in. Conduit with 2 Cat6a Camera Leads and 1 Pull Line
- J--- 2 in. Conduit with 2 Loop Leads and 2 Axle Leads
- L--- Loop Lead
- N--- 3 in. Conduit with 2 Loop Leads, 2 Axle Leads, 2 Cat6a Camera Leads, and 1 Pull Line
- T--- Temperature Sensor Lead
- UE--- Electric Conduit 120 / 240 VAC
- U--- 3 in. Conduit with 6 Loop Leads, 6 Axle Leads, 2 Cat6a Camera Leads, and 1 Pull Line
- V--- 3 in. Conduit with 4 Loop Leads, 4 Axle Leads, and 1 Pull Line
- Y--- 3 in. Conduit with 6 Loop Leads, 6 Axle Leads, 1 Temperature Lead, and 1 Pull Line
- Camera Line of Sight

LEGEND

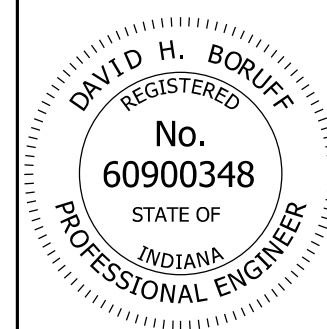
- Temperature Sensor
- Detector Housing
- Round Inductive Loop (6' Diameter)
- ⊗ Communications Handhole
- ⊗ Power Handhole (120/240VAC)
- Axle Weight Sensor (5.74' in length)
- 📷 Pole-mounted side view camera with IR illuminators
- △ Upstream Pavement Conditions: See General Notes
- △ Downstream Pavement Conditions: See General Notes
- ⚡ Remote Disconnect
- ➡ Direction of Traffic Arrow
- 📦 Cabinet and Concrete Base

INDIANA DEPARTMENT OF TRANSPORTATION

SIX LANE VIRTUAL WEIGH-IN-MOTION (VWIM) STATIONS

SEPTEMBER 2023

STANDARD DRAWING NO. E 809-ITCS-08



David H. Boruff 05/04/23
DESIGN STANDARDS ENGINEER DATE

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