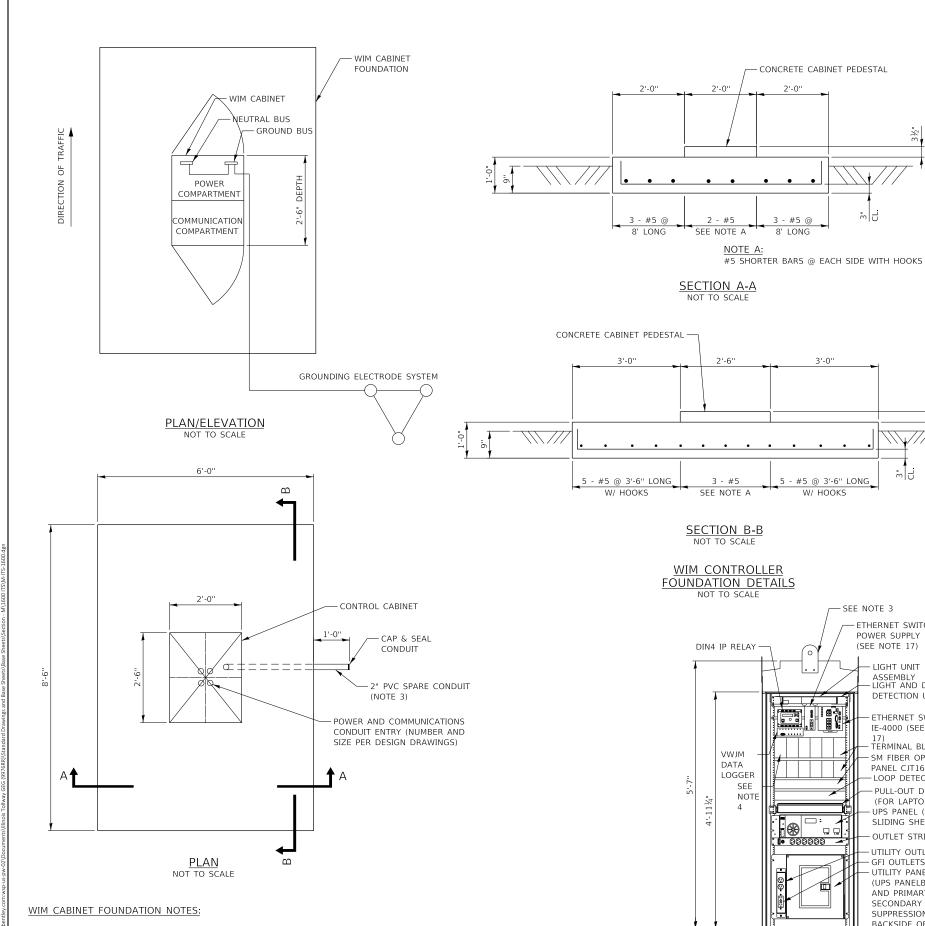
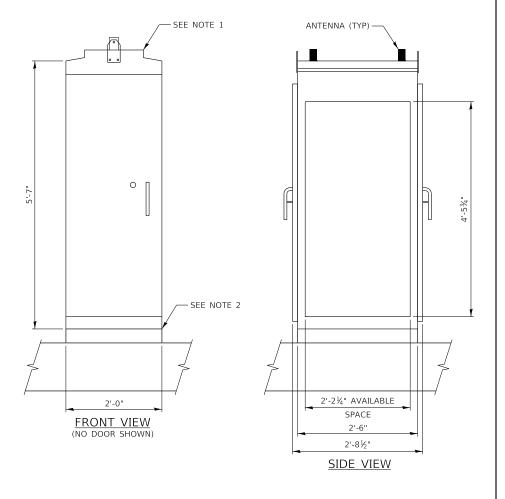
Illinois Tollway Base Sheet Revisions

Section M	Base Sheet Drawings		
	Drawing	Modification Summary	Effective: 03-01-2023
	Weigh-in-Motion (ITS)-Series 1600		
		NO CHANGES	

New Sheet

Retired Standard





NOTES:

ETHERNET SWITCH POWER SUPPLY

ASSEMBLY -LIGHT AND DOOR

DETECTION UNIT

- ETHERNET SWITCH

IE-4000 (SEE NOTE

17) - TERMINAL BLOCKS

PANEL CJT1603671

- PULL-OUT DRAWER

(FOR LAPTOP USE)

UPS PANEL (ON

SLIDING SHELF)

-UTILITY OUTLETS

(UPS PANELBOARD

SECONDARY SURGE

BACKSIDE OF CABINET)

SUPPRESSION ON

- OUTLET STRIP

- GEL OUTLETS UTILITY PANEL BOARD

AND PRIMARY/

FRONT VIEW

(NO DOOR SHOWN)

- LOOP DETECTORS

SM FIBER OPTIC PATCH

(SEE NOTE 17)

- 1. THE WIM INTERNAL CABINET LAYOUT SHALL BE AS PER WIM MANUFACTURER'S RECOMMENDATION AND APPROVED BY THE ILLINOIS TOLLWAY.
- SEAL CABINET TO FOUNDATION JOINT WITH SILICONE SEALANT TO PREVENT WATER INTRUSION. LOCATE CABINET ABOVE HIGH WATER LEVEL.
- INSTALL 2" PVC SPARE CONDUIT FOR FUTURE USE. EXTEND 12" OUTSIDE OF CONCRETE FOUNDATION. PROVIDE CONDUIT MARKING FOR EASE OF FUTURE

NOTE TO DESIGNER

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WEIGHT-IN-MOTION CABINET AND FOUNDATION DETAILS

2022-03

INCLUDE CONDUITS

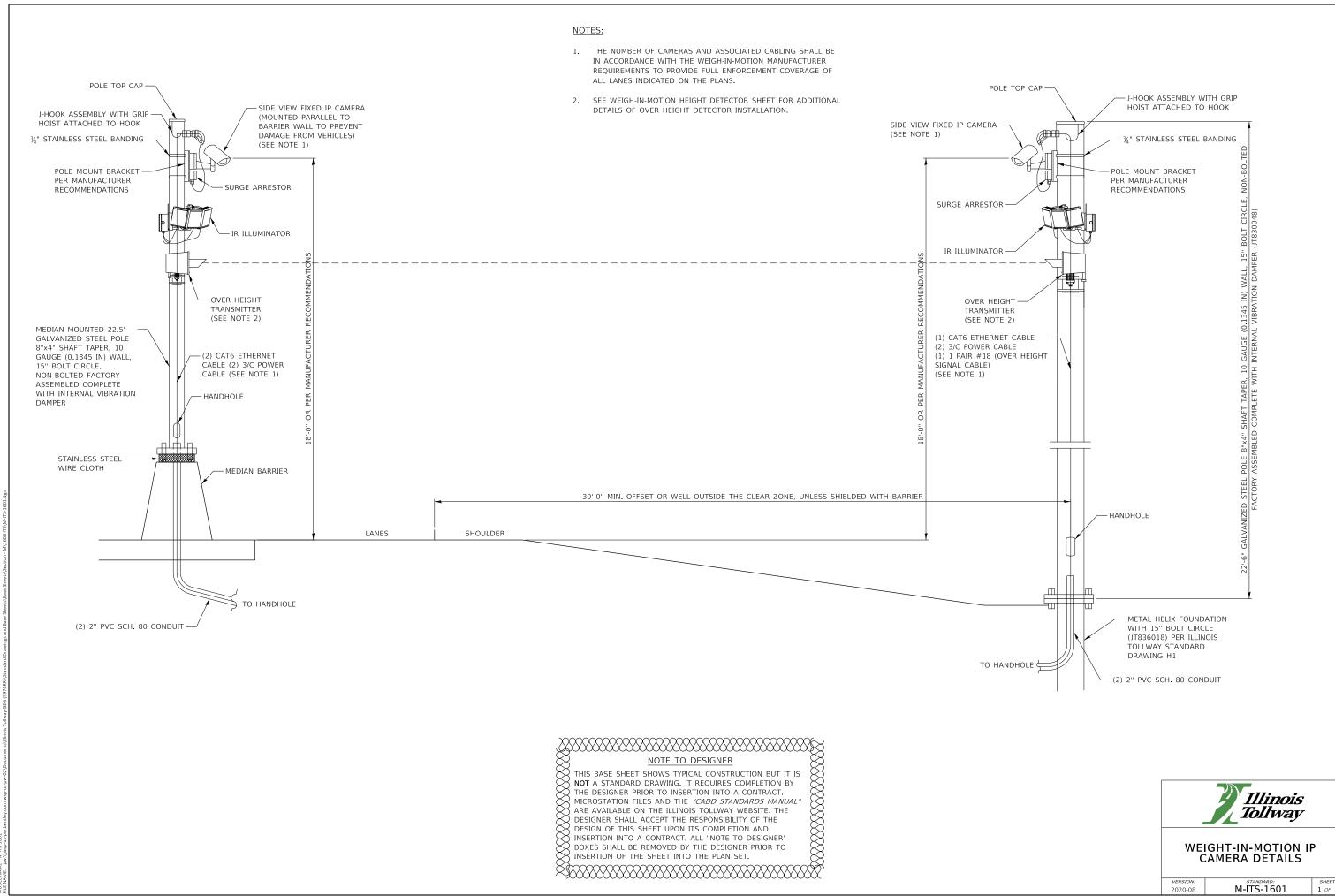
COORDINATE SIZE OF CONDUIT STUB-UP GROUPING WITH WIM

CONTROLLER CABINET BOTTOM CONDUIT CUT-OUTS

PROVIDE SHOP DRAWINGS PRIOR TO CONSTRUCTION

REBAR=EPOXY COATED FY=60,000 PSI (MIN.)

CONCRETE = 4,000 PSI (MIN.)



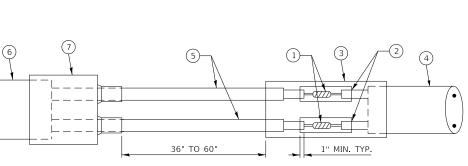
LOOP DETECTOR SPLICE DETAIL

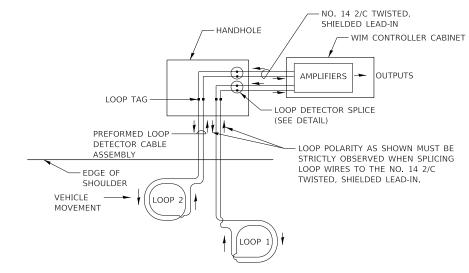
- ① WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH. THE WESTERN UNION SPLICES SHALL BE STAGGERED.
- (2) WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- (3) WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- 4 NO. 14 2/C TWISTED, SHIELDED CABLE.

- 5 LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- (6) PRE-FORMED LOOP.
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL.

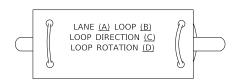
TOP VIEW OF PERFORMED LOOP 8° DIA. PERFORMED LOOP INSTALL CENTERED IN THE LANE INTO ASPHALT BASE BEFORE CONCRETE POUR

- LEAD IN CABLE



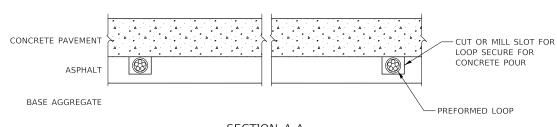


DETECTOR LOOP WIRING SCHEMATIC



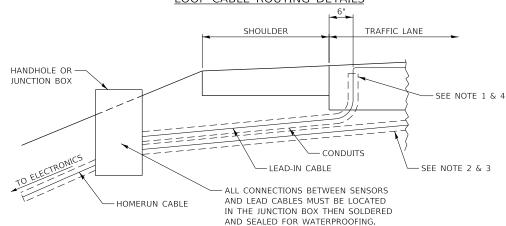
- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY.
- B. LOOP #1 IS THE LOOP IN THE LANE DOWN STREAM OF THE QUARTZ SENSORS.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

LOOP LEAD-IN CABLE TAG



SECTION A-A PREFORMED LOOP IN ASPHALT BELOW CONCRETE PAVEMENT DETAIL

LOOP CABLE ROUTING DETAILS



- SPARE/FUTURE STUB-UP CONDUIT TO 2" BELOW CONCRETE SURFACE. BEFORE POURING CONCRETE, CAP OPENINGS AND PROTECT WITH TAPE AND SOFT MATERIAL TO PREVENT DAMAGE IN FUTURE DISCOVERY. TO BE CUT TO PROPER HEIGHT WHEN SENSORS ARE INSTALLED. USE METALLIC CAP TO ALLOW EASIER DETECTION FOR
- 2. PLUG AND SEAL CONDUIT OPENING AFTER INSTALLING LOOP LEAD-IN CABLE.
- 3. INITIAL INSTALL ROUTE PREFORMED LOOP PROTECTED LEAD TO HANDHOLE OR JUNCTION BOX.
- 4. FOR FUTURE REPLACEMENT PLACE STUB UP FOR LOOP TO ALLOW FUTURE SAWCUT LOOP.

NOTES:

- PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, SINCE NEW CONCRETE PAVEMENT IS PROPOSED. INSTALLATION SHALL BE ACCORDING TO THE STANDARD SPECIFICATIONS AND MANUFACTURER RECOMMENDATIONS.
- FOR MINIMUM SEPARATION DISTANCE FROM REBAR MATS (APPLICABLE FOR 3 OR 4 LANE PRECAST CONCRETE INSTALLATIONS). USE STAND OFFS AS REQUIRED.
- AND IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

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Illinois Tollway

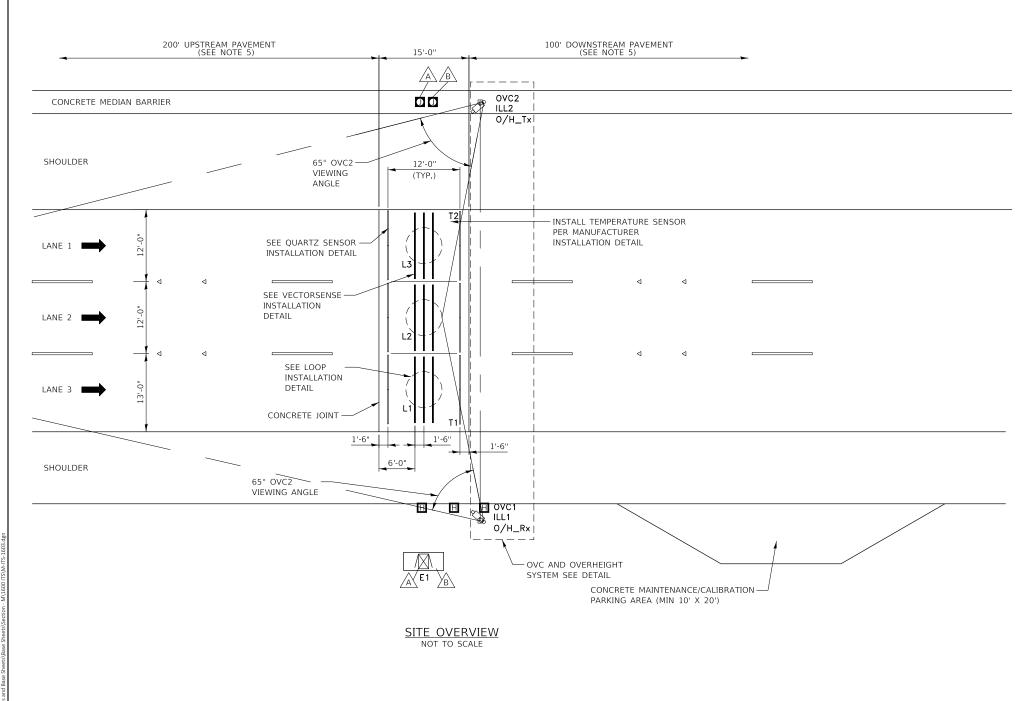
WEIGHT-IN-MOTION LOOP **DETECTOR DETAILS**

2022-03

M-ITS-1602

2. FOLLOW LOOP DETECTOR MANUFACTURER RECOMMENDATIONS

3. LOOP SIZE AND NUMBER OF TURNS AS SPECIFIED ON SITE LAYOUT



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\$....x

LEGEND

- ELECTRONICS ENCLOSURE

ILL - ILLUMINATOR

- INDUCTIVE LOOP

O/H - OVERHEIGHT SENSOR OVC - OVERVIEW CAMERA

- QUARTZ WIM SENSOR

- TEMPERATURE SENSOR

- VECTORSENSE SENSOR

TRANSMITTER

Rx - RECEIVER

ÆΛ - CABINET

> - SIGNAL CONDUIT POWER CONDUIT

- NOTE

0 - JUNCTION BOX

- HANDHOLE

- WIM HEIGHT DETECTOR

- WIM CAMERA

NOTES: (THIS SHEET ONLY)

CABINET WITH WIM ELECTRONICS.

CABINET FOUNDATION.

GENERAL NOTES

1. ALL CONNECTIONS BETWEEN SENSORS AND LEAD CABLES SHALL BE DONE WITHIN A PULL BOX BY SOLDERING THEN SEALING FOR WATERPROOFING. PLACEMENT OF PULL BOXES MAY BE DIFFERENT FROM THAT SHOWN TO MEET SITE REQUIREMENTS.

NOTE TO DESIGNERS NOTE TO DESIGNATE OF CONCRETE STATES AND DESIGNATED DESIGNATED DESIGNATED DESIGNATE CONSTRUCTION

SCHEDULE AND MAINTENANCE OF TRAFFIC

ACCORDINGLY.

- 2. AC POWER CABLES MUST BE RUN IN SEPARATE CONDUITS/PULLBOXES FROM SIGNAL CABLES OR SEPARATED INSIDE PULLBOXES WITH A DIVIDER.
- SENSOR SPACING SHOWN IS TYPICAL SPACING REQUIREMENT, ACTUAL SENSOR SPACING MAY BE ALTERED TO SUIT SITE CONDITIONS IF APPROVED BY THE ENGINEER AND MANUFACTURER REPRESENTATIVE.
- SITE CONDITIONS MUST MEET ASTM E1318-09 TYPE 1 REQUIREMENTS TO ACHIEVE OPTIMAL WIM SYSTEM PERFORMANCE.
- 5. A CONCRETE PAVEMENT SECTION ON STRAIGHT GRADE WITH NO VERTICAL CURVES AND NO SUPERELEVATION TRANSITIONS IS REQUIRED FOR WIM LANES, FROM 200' BEFORE THE SENSORS UP TO 100' AFTER THE SENSORS, TO IMPROVE LONG TERM PERFORMANCE AND REDUCE MAINTENANCE. DIAMOND GRINDING OF THE 315' LENGTH OF CONCRETE PAVEMENT SHALL OCCUR AFTER PRECAST PANELS ARE INSTALLED.
- CABLES MUST BE PROTECTED BY PVC SLEEVES WHERE THEY CROSS PAVEMENT
- 7. ADDITIONAL DRAINAGE MAY BE REQUIRED DEPENDING ON SLOPE OF ROADWAY.
- 8. EXACT ROUTING OF CONDUIT TO BE DETERMINED ON SITE.
- PROVIDE 6" MINIMUM SPACING BETWEEN ADJACENT MEDIAN BARRIER JUNCTION
- 10. OVC AND OVERHEIGHT SYSTEM POLES SHALL BE INSTALLED 20' (PREFERRED) TO 100' (MAX) DOWNSTREAM OF WIM SENSORS. POLES SHALL BE APPROXIMATELY IN-LINE WITH EACH OTHER AS SHOWN ON THIS SHEET.



WEIGH-IN-MOTION 3 LANES

M-ITS-1603

2020-08

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CONDUIT DETAIL SIGNAL CONDUITS:

- 2" [50mm] CONDUIT
 - 2 QUARTZ SENSOR LEAD
 - 1 GROUND WIRE (QUARTZ)
- 2" [50mm] CONDUIT
 - 2 LOOP WIRE
 - 2" [50mm] CONDUIT
 - 3 VECTORSENSE SENSOR LEAD
- 2" [50mm] CONDUIT SPARE
- 2" [50mm] CONDUIT
- 2 QUARTZ SENSOR LEAD
- 1 GROUND WIRE (QUARTZ)
- 1 TEMPERATURE SENSOR LEAD
- 2" [50mm] CONDUIT
 - 1 OVC SIGNAL CABLE
- 2" [50mm] CONDUIT
 - 1 OVC SIGNAL CABLE
 - 1 O/H_Rx SIGNAL CABLE
- 2" [50mm] CONDUIT
 - 4 QUARTZ SENSOR LEAD
 - 2 GROUND WIRE (QUARTZ)
 - 1 TEMPERATURE SENSOR LEAD 2 - VECTORSENSE SIGNAL CABLE
 - 1 GROUND WIRE (VECTORSENSE)
 - 1 LOOP LEAD
- 2" [50mm] CONDUIT
 - 4 QUARTZ SENSOR LEAD
 - 2 GROUND WIRE (QUARTZ) 2 - VECTORSENSE SIGNAL CABLE
 - 1 GROUND WIRE (VECTORSENSE)
 - 1 LOOP LEAD
- 2" [50mm] CONDUIT
 - 4 QUARTZ SENSOR LEAD
 - 2 GROUND WIRE (QUARTZ)
 - 2 VECTORSENSE SIGNAL CABLE
 - 1 GROUND WIRE (VECTORSENSE)
 - 1 LOOP LEAD
 - 2 OVC SIGNAL CABLE
 - 1 O/H_Rx SIGNAL CABLE
- 2" CONDUIT WIM CABINET FIBER

POWER CONDUITS

- 2" CONDUIT WIM CABINET POWER
- $\langle 2 \rangle$ 2" CONDUIT
 - 1 O/H POWER
- 1 ILLUMINATOR POWER
- 2" CONDUIT
 - 2 O/H POWER 2 - ILLUMINATOR POWER

NOTES: (THIS SHEET ONLY)

A JUNCTION BOX WITH VECTORSENSETM ELECTRONICS (40" X 14" X 12" IN TOP OF BARRIER WALL)

JUNCTION BOX (40" X 14" X 12" IN TOP OF BARRIER WALL)

BURIED CONDUIT.

CABLES FOR INTERIOR LANES EQUIPMENT RUN UNDER ADJACENT LANE PANELS. NOT ALL CONDUITS SHOWN, FOR CLARITY

HANDHOLE

(30" X 30" X 39" IN GROUND)

HANDHOLE WITH VECTORSENSE ELECTRONICS (30" x 30" x 39" IN GROUND)

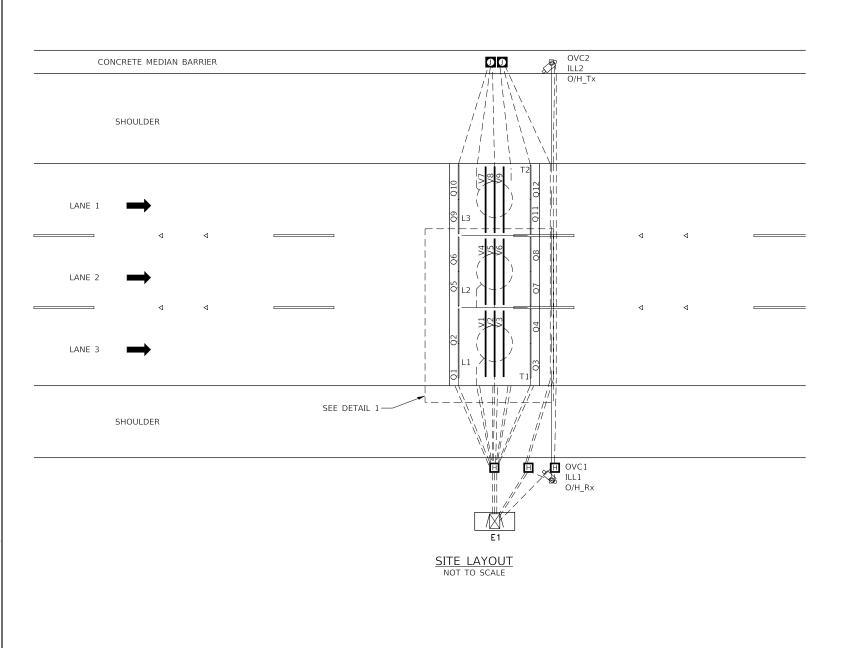
ALL CONDUITS SHALL BE PVC SCH 80 UNLESS NOTED OTHERWISE

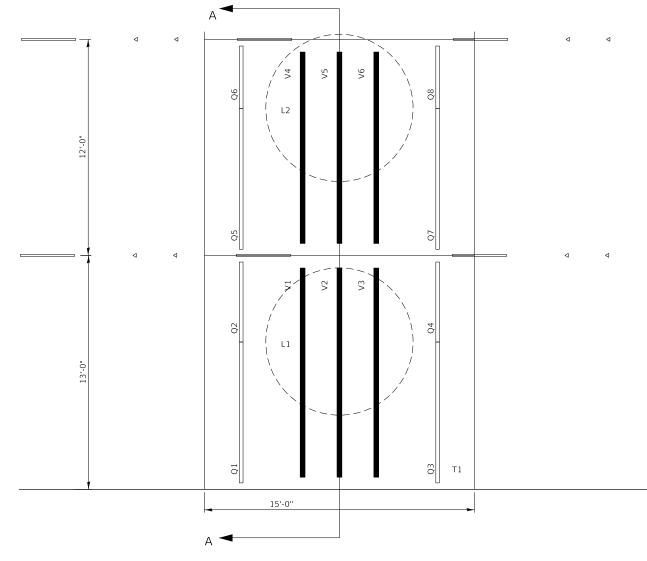
Illinois Tollway

WEIGH-IN-MOTION 3 LANES

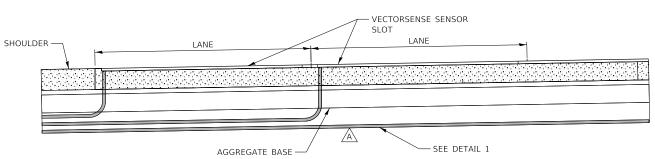
M-ITS-1603

2 OF 3





DETAIL 1



SECTION A-A

NOTES: (THIS SHEET ONLY)

- GENTLY CURVE CONDUIT AS NECESSARY TO FOLLOW ROAD SLOPE AND TO PASS OVER INTERSECTING CONDUIT. NO 90° PIPE FITTINGS PERMITTED, ONLY SWEEPS.
- B CONDUIT AND FITTINGS, OTHER THAN AT PRECAST PANEL CONNECTION LOCATION, ARE PLACED BELOW THE AGGREGATE LAYER, BACKFILLED WITH BEDDING SAND. ENSURE SAND SURROUNDS CONDUITS AND FITTINGS AND COMPACT THE MATERIAL.
- C CONDUIT DEPTH SHALL BE 33"MIN TO 45"MAX BELOW TOP OF PAVEMENT.

NOTE TO DESIGNER

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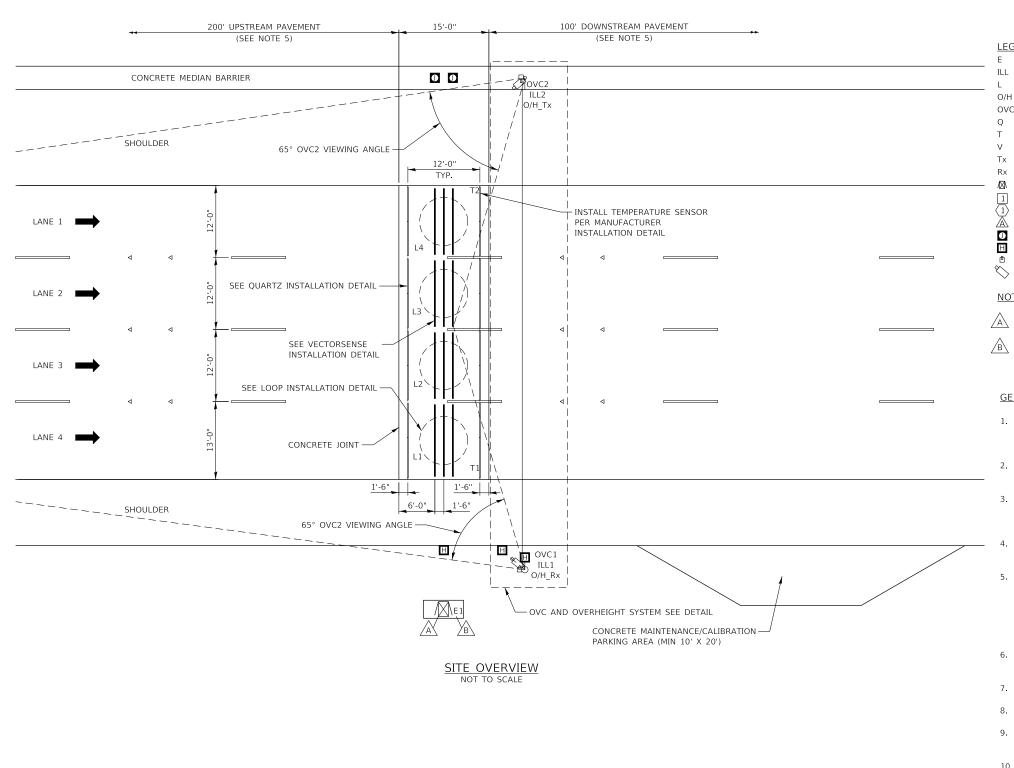
INSERTION OF THE SHEET INTO THE PLAN SET.



WEIGH-IN-MOTION 3 LANES

3 OF 3

2020-08 M-ITS-1603



NOTE TO DESIGNER

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LEGEND

- ELECTRONICS ENCLOSURE

ILL - ILLUMINATOR

- INDUCTIVE LOOP

- OVERHEIGHT SENSOR

OVC - OVERVIEW CAMERA - QUARTZ WIM SENSOR

- TEMPERATURE SENSOR

- VECTORSENSE SENSOR

- TRANSMITTER

- RECEIVER

- CABINET

- SIGNAL CONDUIT

- POWER CONDUIT

- NOTE

- JUNCTION BOX

- HANDHOLE

- WIM HEIGHT DETECTOR

- WIM CAMERA

NOTES: (THIS SHEET ONLY)

CABINET WITH WIM ELECTRONICS

CABINET FOUNDATION

GENERAL NOTES

- ALL CONNECTIONS BETWEEN SENSORS AND LEAD CABLES SHALL BE DONE WITHIN A PULL BOX BY SOLDERING THEN SEALING FOR WATERPROOFING. PLACEMENT OF PULL BOXES MAY BE DIFFERENT FROM THAT SHOWN TO MEET SITE REQUIREMENTS.
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- SITE CONDITIONS MUST MEET ASTM E1318-09 TYPE 1 REQUIREMENTS TO ACHIEVE OPTIMAL WIM SYSTEM PERFORMANCE.
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- CABLES MUST BE PROTECTED BY PVC SLEEVES WHERE THEY CROSS PAVEMENT IOINTS/CRACKS
- ADDITIONAL DRAINAGE MAY BE REQUIRED DEPENDING ON SLOPE OF ROADWAY.
- EXACT ROUTING OF CONDUIT TO BE DETERMINED ON SITE.
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- 10. OVC AND OVERHEIGHT SYSTEM POLES SHALL BE INSTALLED 20' (PREFERRED) TO 100' (MAX) DOWNSTREAM OF WIM SENSORS. POLES SHALL BE APPROXIMATELY IN-LINE WITH EACH OTHER AS SHOWN ON THIS SHEET.



WEIGHT-IN-MOTION 4 LANES

NOTE TO DESIGNERS

DIAMOND GRINDING OF THE 315' LENGTH OF CONCRETE

SCHEDULE AND MAINTENANCE OF TRAFFIC ACCORDINGLY.

PAVEMENT SHALL OCCUR AFTER PRECAST PANELS ARE

INSTALLED. DSE SHALL COORDINATE CONSTRUCTION

CONDUIT DETAIL SIGNAL CONDUITS:

- 2" [50mm] CONDUIT
 - 2 QUARTZ SENSOR LEAD
 - 1 GROUND WIRE (QUARTZ)
- 2" [50mm] CONDUIT 2 - LOOP WIRE
- 2" [50mm] CONDUIT
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 - 1 LOOP LEAD
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 - 1 O/H_Rx SIGNAL CABLE
- 2" CONDUIT WIM CABINET FIBER

POWER CONDUITS

2"CONDUIT WIM CABINET POWER

2" CONDUIT

1 - O/H POWER 1 - ILLUMINATOR POWER

2 - ILLUMINATOR POWER

2" CONDUIT

2 - O/H POWER

NOTES: (THIS SHEET ONLY)

JUNCTION BOX WITH VECTORSENSE™ ELECTRONICS (40" X 14" X 12" IN TOP OF BARRIER WALL)

BURIED CONDUIT.

CABLES FOR INTERIOR LANES EQUIPMENT RUN UNDER ADJACENT LANE PANELS. NOT ALL CONDUITS SHOWN, FOR CLARITY

HANDHOLE (30" X 30" X 39" IN GROUND)

HANDHOLE WITH VECTORSENSE ELECTRONICS (30" x 30" x 39" IN GROUND)



Illinois Tollway

WEIGHT-IN-MOTION 4 LANES

2020-08

M-ITS-1604

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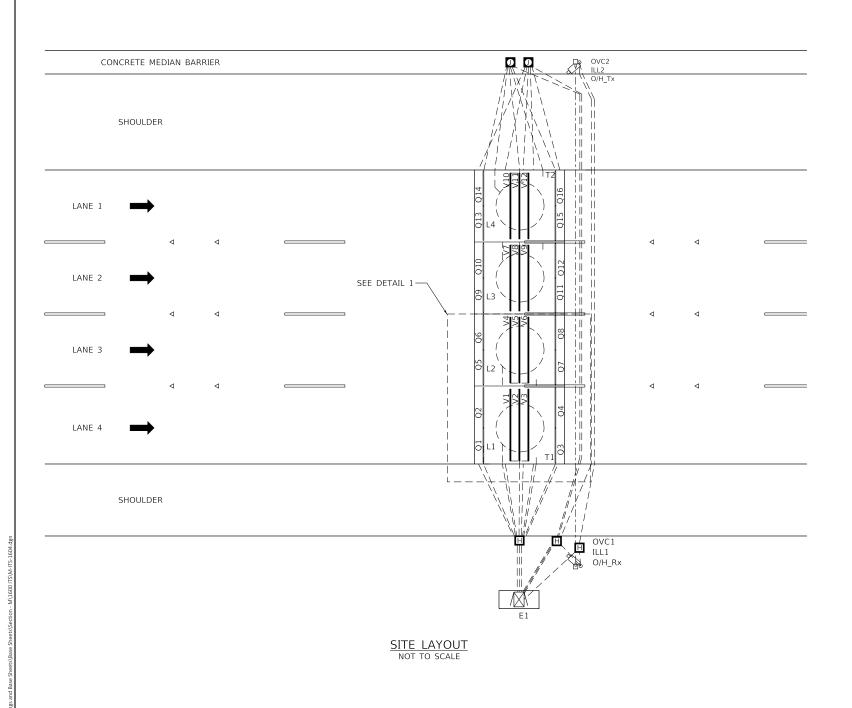
DESIGN OF THIS SHEET UPON ITS COMPLETION AND

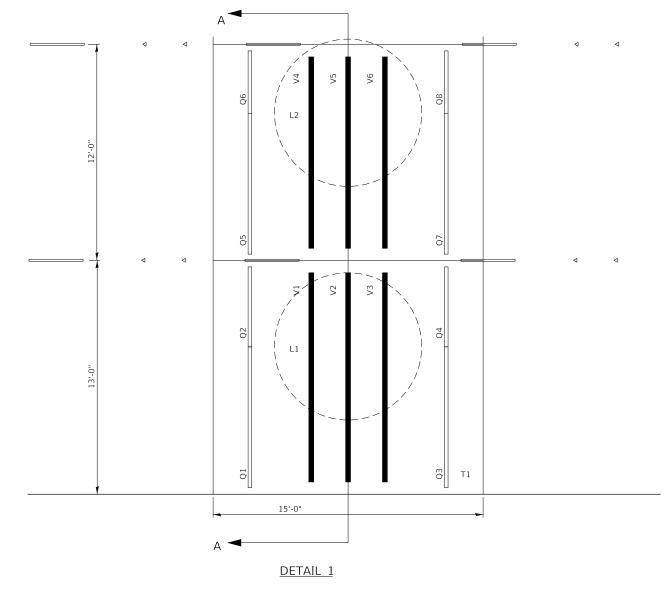
INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER"

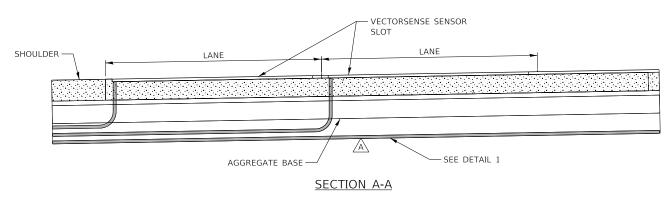
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2 OF 3







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- CONDUIT DEPTH SHALL BE 33"MIN TO 45"MAX BELOW TOP OF PAVEMENT.

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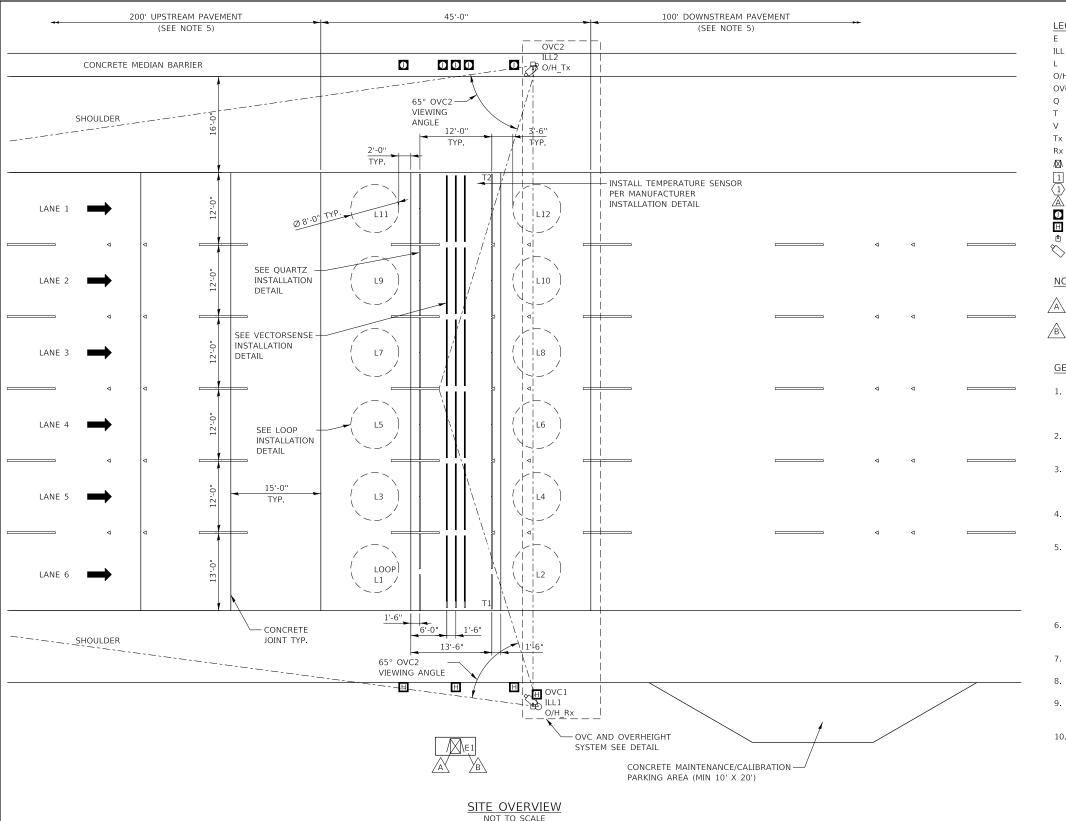
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WEIGHT-IN-MOTION 4 LANES

3 OF 3

2020-08 M-ITS-1604



LEGEND

- ELECTRONICS ENCLOSURE

- ILLUMINATOR

- INDUCTIVE LOOP

- OVERHEIGHT SENSOR O/H

OVC - OVERVIEW CAMERA - QUARTZ WIM SENSOR

- TEMPERATURE SENSOR

- VECTORSENSE SENSOR

- TRANSMITTER - RECEIVER

- CABINET

- SIGNAL CONDUIT

POWER CONDUIT

- NOTE

- JUNCTION BOX

- HANDHOLE

- WIM HEIGHT DETECTOR

- WIM CAMERA

NOTES: (THIS SHEET ONLY)

CABINET WITH WIM ELECTRONICS

CABINET FOUNDATION

GENERAL NOTES

1. ALL CONNECTIONS BETWEEN SENSORS AND LEAD CABLES SHALL BE DONE WITHIN A PULL BOX BY SOLDERING THEN SEALING FOR WATERPROOFING. PLACEMENT OF PULL BOXES MAY BE DIFFERENT FROM THAT SHOWN TO MEET SITE REQUIREMENTS.

NOTE TO DESIGNERS

DIAMOND GRINDING OF THE 345' LENGTH OF CONCRETE

SCHEDULE AND MAINTENANCE OF TRAFFIC ACCORDINGLY.

PAVEMENT SHALL OCCUR AFTER PRECAST PANELS ARE

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- 2. AC POWER CABLES MUST BE RUN IN SEPARATE CONDUITS/PULLBOXES FROM SIGNAL CABLES OR SEPARATED INSIDE PULLBOXES WITH A DIVIDER.
- SENSOR SPACING SHOWN IS TYPICAL SPACING REQUIREMENT, ACTUAL SENSOR SPACING MAY BE ALTERED TO SUIT SITE CONDITIONS APPROVED BY THE ENGINEER AND MANUFACTURER REPRESENTATIVE.
- SITE CONDITIONS MUST MEET ASTM E1318-09 TYPE 1 REQUIREMENTS TO ACHIEVE OPTIMAL WIM SYSTEM PERFORMANCE.
- 5. A CONCRETE PAVEMENT SECTION ON STRAIGHT GRADE WITH NO VERTICAL CURVES AND NO SUPERELEVATION TRANSITIONS IS REQUIRED FOR WIM LANES, FROM 200' BEFORE THE SENSORS UP TO 100' AFTER THE SENSORS, TO IMPROVE LONG TERM PERFORMANCE AND REDUCE MAINTENANCE. DIAMOND GRINDING OF THE 345' LENGTH OF CONCRETE PAVEMENT SHALL OCCUR BEFORE SAW CUT SLOTS ARE MADE FOR SENSOR INSTALLATION.
- CABLES MUST BE PROTECTED BY PVC SLEEVES WHERE THEY CROSS PAVEMENT JOINTS/CRACKS.
- 7. ADDITIONAL DRAINAGE MAY BE REQUIRED DEPENDING ON SLOPE OF ROADWAY.
- EXACT ROUTING OF CONDUIT TO BE DETERMINED ON SITE.
- PROVIDE 6" MINIMUM SPACING BETWEEN ADJACENT MEDIAN BARRIER JUNCTION BOXES.
- 10. OVC AND OVERHEIGHT SYSTEM POLES SHALL BE INSTALLED 20' (PREFERRED) TO 100' (MAX) DOWNSTREAM OF WIM SENSORS. POLES SHALL BE APPROXIMATELY IN-LINE WITH EACH OTHER AS SHOWN ON THIS SHEET.

NOTE TO DESIGNER

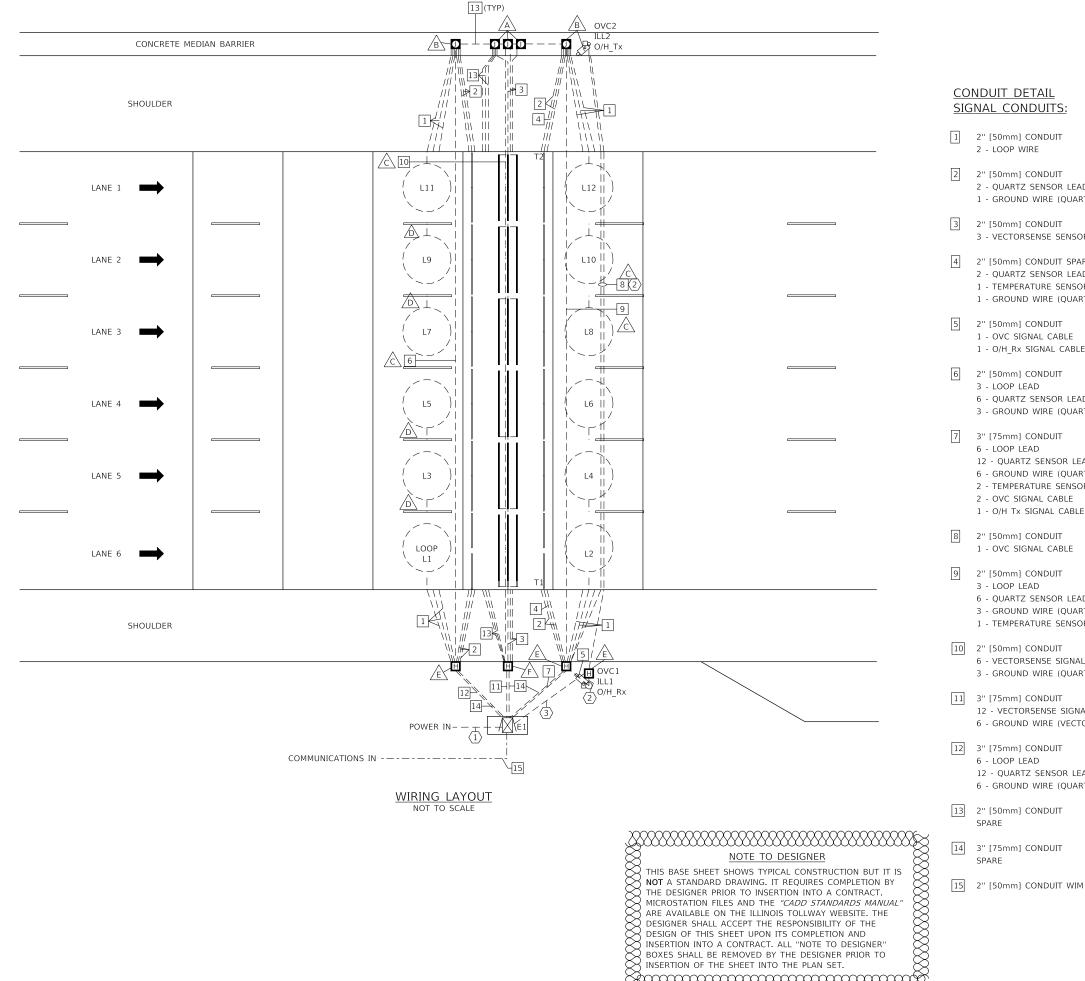
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WEIGHT-IN-MOTION 6 LANES

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CONDUIT DETAIL SIGNAL CONDUITS:

- 1 2" [50mm] CONDUIT
 - 2 LOOP WIRE
- 2" [50mm] CONDUIT
 - 2 QUARTZ SENSOR LEAD
 - 1 GROUND WIRE (QUARTZ)
- 3 2" [50mm] CONDUIT
 - 3 VECTORSENSE SENSOR LEAD
- 2" [50mm] CONDUIT SPARE
- 2 QUARTZ SENSOR LEAD
- 1 TEMPERATURE SENSOR LEAD
- 1 GROUND WIRE (QUARTZ)
- 5 2" [50mm] CONDUIT
 - 1 OVC SIGNAL CABLE
 - 1 O/H_Rx SIGNAL CABLE
- 2" [50mm] CONDUIT
 - 3 LOOP LEAD
 - 6 QUARTZ SENSOR LEAD
 - 3 GROUND WIRE (QUARTZ)
- 7 3" [75mm] CONDUIT
 - 6 LOOP LEAD
 - 12 QUARTZ SENSOR LEAD
 - 6 GROUND WIRE (QUARTZ)
 - 2 TEMPERATURE SENSOR LEAD
 - 2 OVC SIGNAL CABLE

 - 1 OVC SIGNAL CABLE
- 2" [50mm] CONDUIT
- 3 LOOP LEAD
- 6 QUARTZ SENSOR LEAD
- 3 GROUND WIRE (QUARTZ)
- 1 TEMPERATURE SENSOR LEAD
- 10 2" [50mm] CONDUIT
 - 6 VECTORSENSE SIGNAL CABLE
 - 3 GROUND WIRE (QUARTZ)
- 11 3" [75mm] CONDUIT
 - 12 VECTORSENSE SIGNAL CABLE
 - 6 GROUND WIRE (VECTORSENSE)
- 12 3" [75mm] CONDUIT
 - 6 LOOP LEAD
 - 12 QUARTZ SENSOR LEAD
 - 6 GROUND WIRE (QUARTZ)
- 13 2" [50mm] CONDUIT SPARE
- 14 3" [75mm] CONDUIT
- 15 2" [50mm] CONDUIT WIM CABINET FIBER

POWER CONDUITS

- 2" CONDUIT WIM CABINET POWER
- 2" CONDUIT
 - 1 O/H POWER
 - 1 ILLUMINATOR POWER
- 2" CONDUIT
 - 2 O/H POWER
 - 2 ILLUMINATOR POWER

NOTES: (THIS SHEET ONLY)



JUNCTION BOX

(40" X 14" X 12" IN TOP OF BARRIER WALL)

C BURIED CONDUIT.

CABLES FOR INTERIOR LANES EQUIPMENT RUN UNDER ADJACENT LANE PANELS. NOT ALL CONDUITS SHOWN, FOR CLARITY

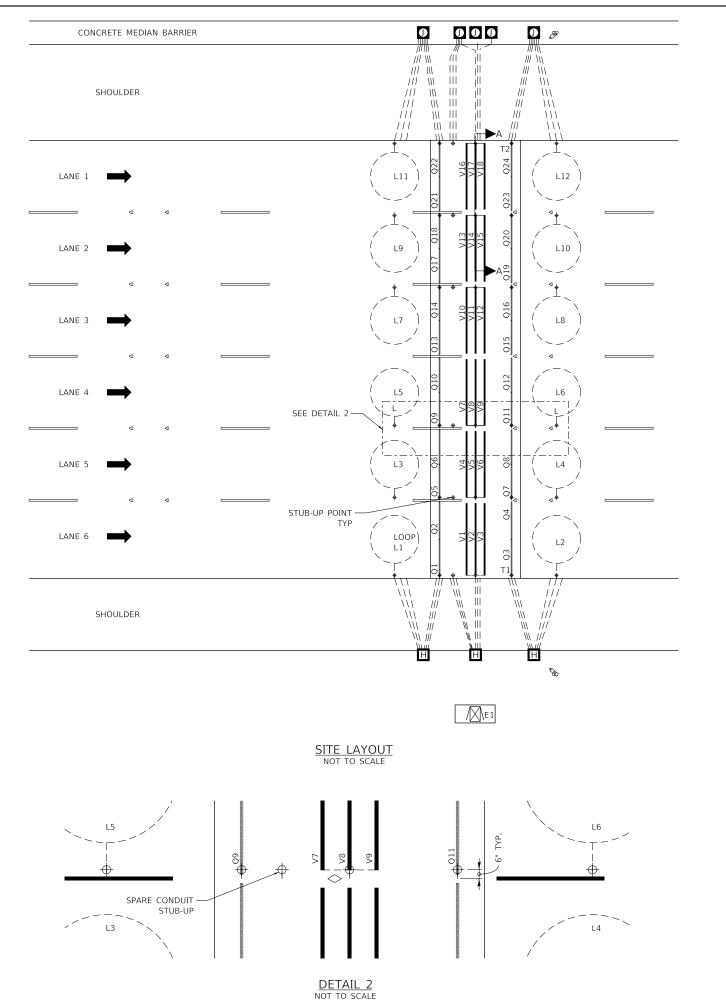
E HANDHOLE (30" X 30" X 39" IN GROUND)

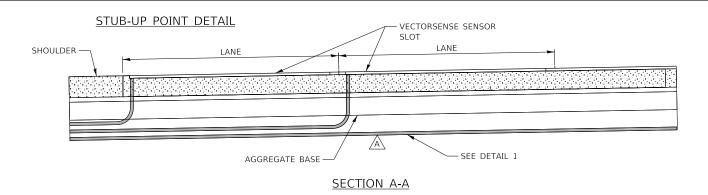
> HANDHOLE WITH VECTORSENSE ELECTRONICS (30" x 30" x 39" IN GROUND)

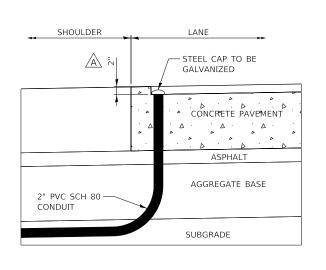
> ALL CONDUITS SHALL BE PVC SCH 80 UNLESS NOTED OTHERWISE

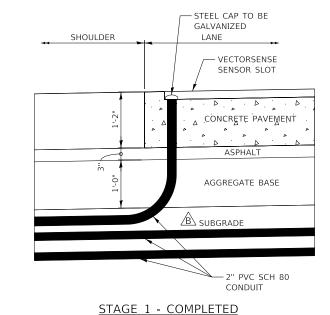
> > Illinois Tollway

WEIGHT-IN-MOTION 6 LANES









DETAIL 1 NOT TO SCALE

STAGE 1 - CONCRETE POUR DETAIL 1 NOT TO SCALE

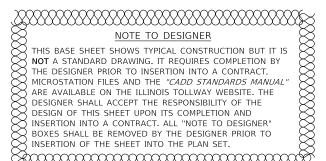
NOTES: (THIS SHEET ONLY)

A STUB-UP CONDUIT TO 2" BELOW CONCRETE SURFACE.

BEFORE POURING CONCRETE, CAP OPENINGS AND PROTECT WITH TAPE AND SOFT MATERIAL TO PREVENT DAMAGE IN FUTURE DISCOVERY. TO BE CUT TO PROPER HEIGHT WHEN SENSORS ARE INSTALLED. METAL CAP WILL ALLOW EASIER DETECTION FOR RE-ENTRY.

GENTLY CURVE CONDUIT AS NECESSARY TO FOLLOW ROAD SLOPE AND TO PASS OVER INTERSECTING CONDUIT. NO 90° PIPE FITTINGS PERMITTED, ONLY SWEEPS.

- C ALL CONDUIT DIMENSIONS HAVE A TOLERANCE OF +/- 2".
- D CONDUIT AND FITTINGS, OTHER THAN AT STUB-UP LOCATION, ARE PLACED BELOW THE AGGREGATE LAYER, BACKFILLED WITH BEDDING SAND. ENSURE SAND SURROUNDS CONDUITS AND FITTINGS AND COMPACT THE MATERIAL. AT CONDUIT STUB-UP LOCATIONS RAPCAP THE TOP 3" TO MATCH 3" ASPHALT LAYER.
- CONDUIT DEPTH SHALL BE 33" MIN TO 45" MAX BELOW TOP OF PAVEMENT.
- SPACING OF REBAR DOWELS AT PAVEMENT JOINTS TO METAL CONDUIT CAPS SHALL BE COORDINATED TO MAINTAIN 12"MINIMUM HORIZONTAL SEPARATION.



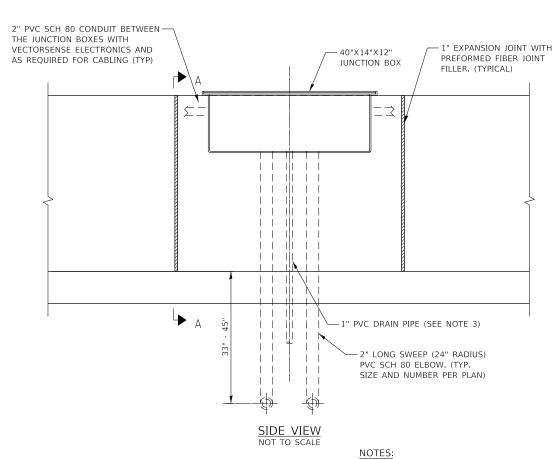


WEIGHT-IN-MOTION 6 LANES

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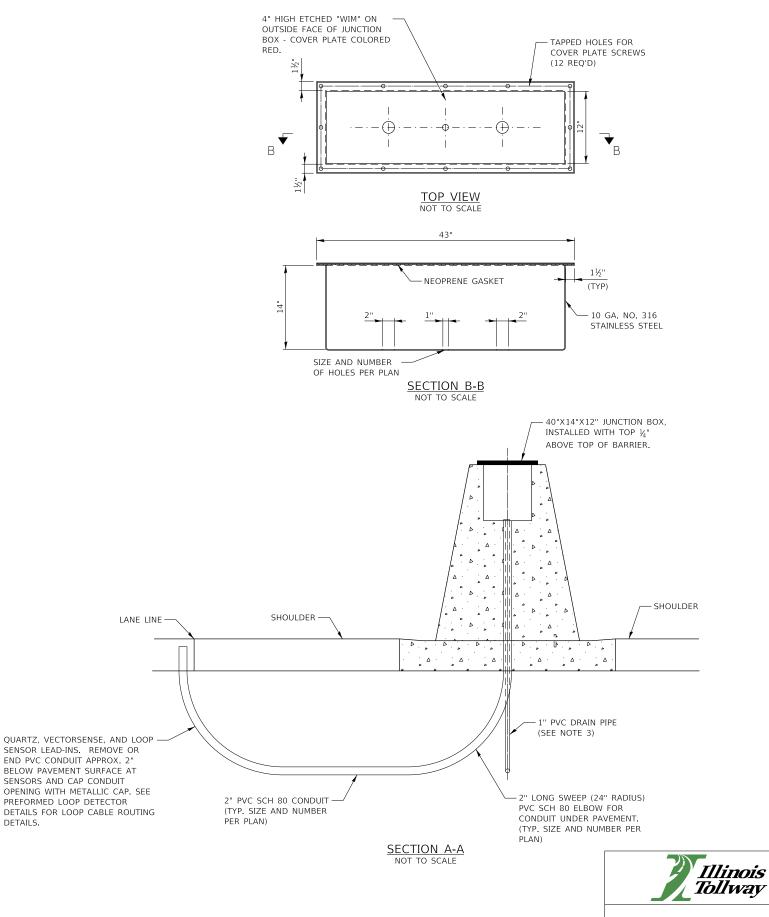


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- 1. THE JUNCTION BOX SHALL BE ACCESSED FROM THE TOP OF MEDIAN BARRIER.
- 2. DUCT SHALL BE CUT AND REMOVED AT JUNCTION BOX CONDUIT OPENINGS AND INSIDE BOX. ELECTRICAL CONDUITS SHALL PROTRUDE 1#4" INTO BOX.
- 3. CONTRACTOR SHALL INSTALL 1" PVC PIPE TO DRAIN JUNCTION BOX TO AGGREGATE SUBGRADE. INSTALL S.S. SCREEN OVER DRAIN INSIDE JUNCTION BOX.
- SLIPFORMING OF BARRIER WALL PROHIBITED AT JUNCTION BOXES.

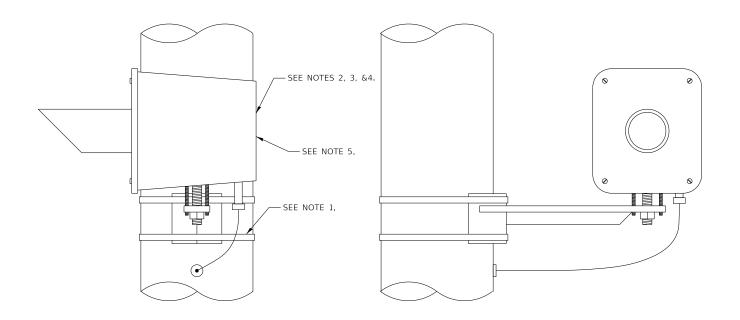


WEIGHT-IN-MOTION JUNCTION BOX DETAIL

M-ITS-1606

2020-08

SENSOR CONFIGURATION NOT TO SCALE



SENSOR DETAIL

NOT TO SCALE

- 1. BAND MOUNTING BRACKET TO POLE AT APPROPRIATE HEIGHT.
- 2. MOUNT, WIRE AND AIM THE OVERHEIGHT TRANSMITTER AND RECEIVER IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 3. DETECTOR AND BRACKET WEIGHT: 40 lbs
- DETECTOR HOUSING SIZE: 15-1/2" X 10" X 8-3/4"
- DETECTOR POWER: 115 VAC, 0.3 AMP.

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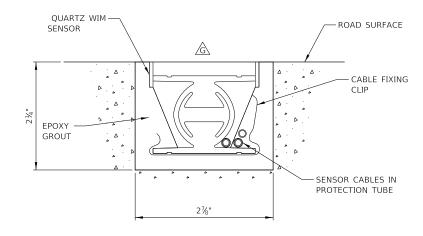
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Illinois **Tollway**

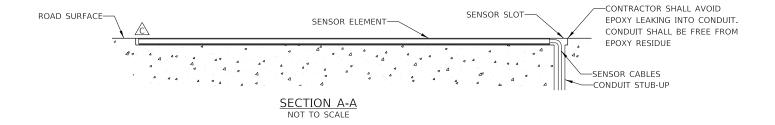
WEIGHT-IN-MOTION HEIGHT DETECTOR

2022-03

PLAN VIEW - SENSOR INSTALLATION



SECTION B-B NOT TO SCALE



NOTES:

- FOR INSTALLATION PROCESS REFER TO MANUFACTURERS INSTALLATION MANUAL.
- SLOT LENGTH IS 6" LONGER THAN SENSOR THE EXTRA 6 IN. IS ON THE CONDUIT STUB-UP SIDE.

SET SENSOR FLUSH WITH OR SLIGHTLY HIGHER THAN ROAD SURFACE USING INCLUDED

- CHECK THE RESISTANCE OF THE SENSOR BY PLACING A DIGITAL MULTIMETER ACROSS THE CENTER CONDUCTOR OF THE BNC CONNECTOR AND THE OUTER BODY. THE READING SHOULD BE INFINITY.
- CHECK THE VOLTAGE OUTPUT OF THE SENSOR BY MONITORING THE METER WHEN A TRUCK PASSES OVER THE SENSOR INSTALLED IN THE ROADWAY. AS THE TRUCK PASSES OVER THE SENSOR, VOLTAGE DEFLECTION SHOULD BE OBSERVED.
- CRACKS OR SAW CUTS IN THE ROADWAY MUST NOT BE LOCATED CLOSER THAN 18" UPSTREAM AND 18" DOWNSTREAM OF THE CENTERLINE OF THE SENSOR.
- SENSOR MUST BE GROUND FLUSH WITH ROAD SURFACE AFTER GROUT HAS CURED.
- CONNECT INSULATED GROUND WIRE PER MANUFACTURER RECOMMENDATIONS. OTHER END OF GROUND WIRE CONNECTS CABINET GROUND BUSBAR.

NOTE TO DESIGNER

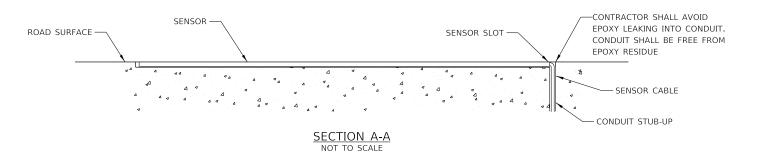
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WEIGHT-IN-MOTION QUARTZ SENSOR DETAILS

2022-03

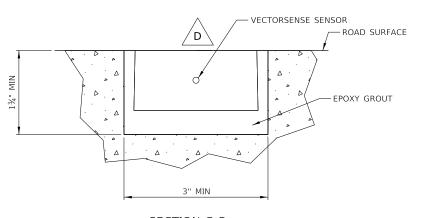


NOTES:

- CRACKS IN THE ROADWAY MUST NOT BE LOCATED CLOSER THAN 18" UPSTREAM AND 18" DOWNSTREAM OF THE CENTERLINE OF THE SENSOR.
- B SLOT LENGTH IS 2" LONGER THAN SENSOR. THE EXTRA 2" SHALL BE ON THE CONDUIT STUB-UP SIDE.
- 50' MAXIMUM DISTANCE BETWEEN SENSOR AND ELECTRONICS INSIDE HANDHOLE OR JUNCTION BOX.

SENSOR GROUT MUST BE GROUND FLUSH WITH ROAD SURFACE AFTER GROUT HAS CURED.

VECTORSENSE SENSOR INSTALLATION



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WEIGHT-IN-MOTION VECTORSENSE SENSOR DETAILS

2022-03