

<b>Traffic Sheet 16</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>SITE CALIBRATION SUMMARY</b>	STATE CODE:	06
	SPS WIM ID:	060200
	DATE (mm/dd/yyyy)	9/24/2013

**SITE CALIBRATION INFORMATION**

1. DATE OF CALIBRATION {mm/dd/yy} 9/24/13
2. TYPE OF EQUIPMENT CALIBRATED: Both
3. REASON FOR CALIBRATION: LTPP Validation
4. SENSORS INSTALLED IN LTPP LANE AT THIS SITE (Select all that apply):
- |                            |            |
|----------------------------|------------|
| a. <u>Inductance Loops</u> | c. <u></u> |
| b. <u>Bending Plates</u>   | d. <u></u> |
5. EQUIPMENT MANUFACTURER: IRD ISINC  
*Source - 100B*

**WIM SYSTEM CALIBRATION SPECIFICS**

6. CALIBRATION TECHNIQUE USED: Test Trucks
- Number of Trucks Compared:
- Number of Test Trucks Used: 2
- Passes Per Truck: 20
- | Type              | Drive Suspension | Trailer Suspension |
|-------------------|------------------|--------------------|
| Truck 1: <u>9</u> | <u>air</u>       | <u>air</u>         |
| Truck 2: <u>9</u> | <u>air</u>       | <u>air</u>         |
| Truck 3: <u></u>  | <u></u>          | <u></u>            |

7. SUMMARY CALIBRATION RESULTS (expressed as a %):

Mean Difference Between -

Dynamic and Static GVW:	<u>0.4%</u>	Standard Deviation:	<u>1.0%</u>
Dynamic and Static Single Axle:	<u>1.2%</u>	Standard Deviation:	<u>1.8%</u>
Dynamic and Static Double Axles:	<u>0.2%</u>	Standard Deviation:	<u>1.3%</u>

8. NUMBER OF SPEEDS AT WHICH CALIBRATION WAS PERFORMED: 3

9. DEFINE SPEED RANGES IN MPH:

	Low		High	Runs
a.	<u>Low</u>	-	<u>46.0</u> to <u>50.3</u>	<u>12</u>
b.	<u>Medium</u>	-	<u>50.4</u> to <u>54.8</u>	<u>12</u>
c.	<u>High</u>	-	<u>54.9</u> to <u>59.0</u>	<u>16</u>
d.	<u></u>	-	<u></u> to <u></u>	<u></u>
e.	<u></u>	-	<u></u> to <u></u>	<u></u>

**ENTERED**

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10. CALIBRATION FACTOR (AT EXPECTED FREE FLOW SPEED)

3171 | 3171

11. IS AUTO- CALIBRATION USED AT THIS SITE?

No

If yes , define auto-calibration value(s):

**CLASSIFIER TEST SPECIFICS**

12. METHOD FOR COLLECTING INDEPENDENT VOLUME MEASUREMENT BY VEHICLE CLASS:

Manual

13. METHOD TO DETERMINE LENGTH OF COUNT:

Time

14. MEAN DIFFERENCE IN VOLUMES BY VEHICLES CLASSIFICATION:

FHWA Class 9:	0.0	FHWA Class	5	-	-5.0
FHWA Class 8:	20.0	FHWA Class	11	-	0.0
		FHWA Class		-	
		FHWA Class		-	

Percent of "Unclassified" Vehicles: 0.0%

Validation Test Truck Run Set - Pre

Person Leading Calibration Effort:

Contact Information:

Phone:

E-mail:

**ENTERED**

<b>Traffic Sheet 17</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>WIM SITE INVENTORY</b>	STATE CODE:	06
	SPS WIM ID:	060200
	DATE (mm/dd/yyyy)	9/24/2013

1. ROUTE: SR-99 MILEPOST: 32.5 LTPP DIRECTION: north

2. WIM SITE DESCRIPTION

Grade: 1 to 2% Sag Vertical: N  
 Nearest Upstream SPS Section:             
 Distance from sensors to SPS Section:            feet

3. LANE CONFIGURATION

Lanes in LTPP direction: 2 Median: 3 - grass  
 Lane width:            Shoulder: 3 - paved PCC  
 Shoulder width:           

4. PAVEMENT TYPE PCC

5. PAVEMENT SURFACE CONDITION - Distress Survey

Date: 9/24/13 Photo Filename: 060200\_downstream\_9\_25\_13.jpg  
 Date: 9/24/13 Photo Filename: 060200\_trailing\_loop\_9\_25\_13.jpg  
 Date:            Photo Filename:           

6. SENSOR SEQUENCE

Loop - 2 Bending Plate - Loop

7. REPLACEMENT AND/OR GRINDING

Date:             
 Date:             
 Date:           

8. RAMPS OR INTERSECTIONS

Intersection within 300' upstream of site: N  
 Intersection within 300' downstream of site: N  
 Is shoulder routinely used for turning? N

9. DRAINAGE

Drainage (bending plate and load cell): 2 - Pipe to culvert  
 Clearance under plate (in.): 6"  
 Clearance /access to flush fines from under system: N

<b>Traffic Sheet 17</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>WIM SITE INVENTORY</b>	STATE CODE: 06 SPS WIM ID: 060200 DATE (mm/dd/yyyy) 9/24/2013
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#### 10. CABINET LOCATION

Same side of road as LTPP lane: Y  
Distance from edge of traveled lane: 30 ft  
distance from system: 36 ft  
type: M

Cabinet access controlled by: Agency and LTPP

Contact name: \_\_\_\_\_ Phone # \_\_\_\_\_

Alternate name: \_\_\_\_\_ Phone # \_\_\_\_\_

#### 11. POWER

Distance to cabinet from drop: 0 ft

Type: Solar

AC in cabinet? N

Service provider: \_\_\_\_\_ Phone # \_\_\_\_\_

#### 12. TELEPHONE

Distance to cabinet from drop: 0 ft

Type: cellular

Service provider: \_\_\_\_\_ Phone # \_\_\_\_\_

#### 13. SYSTEM

Software and version no. \_\_\_\_\_

Computer connection: \_\_\_\_\_

#### 14. TEST TRUCK TURNAROUND TIME

Duration: 11 minutes

Distance: \_\_\_\_\_ miles

#### 15. PHOTOS

##### Filename

Power source: 060200\_solar\_panel\_9\_25\_13.jpg

Phone source: 060200\_cellular\_modem\_9\_25\_13.jpg

Cabinet exterior: 060200\_cabinet\_exterior\_9\_25\_13.jpg

Cabinet interior: 060200\_cabinet\_interior\_front\_9\_25\_13.jpg

Weight sensors: 060200\_leading\_WIM\_sensor\_9\_25\_13.jpg

060200\_trailing\_WIM\_sensor\_9\_25\_13.jpg

Other sensors: 060200\_leading\_loop\_9\_25\_13.jpg

060200\_trailing\_loop\_9\_25\_13.jpg

Downstream from sensors on LTPP lane: 060200\_downstream\_9\_25\_13.jpg

Upstream from sensors on LTPP lane: 060200\_upstream\_9\_25\_13.jpg

<p align="center"><b>Traffic Sheet 18</b>  <b>LTPP MONITORED TRAFFIC DATA</b>  <b>WIM SITE COORDINATION</b></p>	<p align="right">STATE CODE: 06  SPS WIM ID: 060200  DATE (mm/dd/yyyy) 9/24/2013</p>
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### 1. DATA PROCESSING

- a. Download: LTPP download
- b. Data review: LTPP  
If state, how often? \_\_\_\_\_
- c. Data submission LTPP  
If state how often? \_\_\_\_\_

### 2. EQUIPMENT

- a. Purchase LTPP
- b. Installation LTPP contract
- c. Maintenance Separate contract LTPP  
Expiration Date \_\_\_\_\_
- d. Calibration LTPP
- e. Manuals and software control: LTPP
- f. Power  
i. Type Solar ii. Payment N/A
- g. Communication  
i. Type Cellular ii. Payment State

### 3. PAVEMENT

- a. Type Portland Concrete Cement
- b. Allowable Rehabilitation activities Grinding and maintenance as needed
- c. Profile Site Markings Temporary

**Traffic Sheet 18**  
**LTPP MONITORED TRAFFIC DATA**  
**WIM SITE COORDINATION**

STATE CODE: 06  
SPS WIM ID: 060200  
DATE (mm/dd/yyyy) 9/24/2013

**4. Onsite Activities**

- a. WIM Validation Check advance notice required

\_\_\_\_\_ Days      2 Weeks

- b. Notice for straightedge and grinding check

\_\_\_\_\_ Days      2 Weeks

i. On site lead      LTPP

ii. Accept grinding      LTPP

- c. Authorization to calibrate site      LTPP

- d. Calibration routine      LTPP annually  
Other: \_\_\_\_\_

- e. Test Vehicle Responsibilities

i. Trucks

1st-	<u>Air suspension 3S2</u>	<u>LTPP</u>
2nd-	<u>Air Suspension 3S2</u>	<u>LTPP</u>
3rd-	_____	_____
4th-	_____	_____

ii. Loads      LTPP

iii. Drivers      LTPP

- f. Contractor(s) with prior experience in wim calibration in state:  
IRD

- g. Access to cabinet      Joint

- h. State personel required on site      No

- i. Traffic control required      No

- J. Enforcement coordination required      No

<b>Traffic Sheet 18</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>WIM SITE COORDINATION</b>	STATE CODE:	06
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### 5. SITE SPECIFIC CONDITIONS

- a. Funds and accountability: \_\_\_\_\_
- b. Reports: \_\_\_\_\_
- c. Other: \_\_\_\_\_
- c. Special Conditions \_\_\_\_\_

### 6. CONTACTS

- a. Equipment (operational status, access, etc.)  
 Name Roy Czinku Phone # 306-270-9492  
 Agency IRD
- b. Maintenance (equipment)  
 Name Roy Czinku Phone # 306-270-9492  
 Agency IRD
- c. Data Processing and pre-visit data  
 Name Kevin Senn Phone # 800-323-1541  
 Agency Nichols
- d. Construction schedule and verification  
 Name \_\_\_\_\_ Phone # \_\_\_\_\_  
 Agency \_\_\_\_\_
- e. Test Vehicles ( trucks, loads, drivers)  
 Name \_\_\_\_\_ Phone # \_\_\_\_\_  
 Agency \_\_\_\_\_
- f. Traffic control  
 Name \_\_\_\_\_ Phone # \_\_\_\_\_  
 Agency \_\_\_\_\_
- g. Enforcement coordination  
 Name \_\_\_\_\_ Phone # \_\_\_\_\_  
 Agency \_\_\_\_\_
- h. Nearest static scale  
 Name \_\_\_\_\_ Location: \_\_\_\_\_  
 Phone: \_\_\_\_\_

<b>Traffic Sheet 19</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>CALIBRATION TEST TRUCK # 1</b>	STATE CODE: 06 SPS WIM ID: 060200 DATE (mm/dd/yyyy) 9/24/2013
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CALIBRATION TEST TRUCK - Primary

**PART A**

1. FHWA CLASS: 9                      2. Number of axles: 5
3. AXLE WEIGHTS (lbs)

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		11180	11070	Direct
B		15920	15825	Direct
C		15920	15825	Direct
D		15780	15780	Direct
E		15780	15780	Direct
F				

**4. GVW (same units as axles)**

- a. Empty GVW: \_\_\_\_\_
- b. Average Pre-Test Loaded weight: 74580
- c. Post Test Loaded Weight: 74280
- d. Difference Post Test - Pre-Tests: -300

**5. TRUCK DESCRIPTION**

- a. Tractor Cab Style: Conventional                      Sleeper Cab: Yes  
photo: ☒

- b. Make: Peterbilt  
c. Model: 377

**d. Trailer Load Distribution Description:**

concrete mix, bagged and palletized

photo: ☒

- e. Tractor Tare weight - \_\_\_\_\_ - \_\_\_\_\_
- f. Trailer Tare weight - \_\_\_\_\_ - \_\_\_\_\_
- g. Axle Spacing - \_\_\_\_\_

A to B 16.5      B to C 4.3      C to D 31.8      D to E 4.2      E to F \_\_\_\_\_

- h. Wheelbase - ☐ Measured \_\_\_\_\_ ☒ Computed 56.8
- i. Kingpin offset from Axle B (units) -1'5" photo: ☐
- j. Overall Length - ☒ Measured 63.3



<p align="center"><b>Traffic Sheet 19</b>  <b>LTPP MONITORED TRAFFIC DATA</b>  <b>CALIBRATION TEST TRUCK # <u>1</u></b></p>	<p align="right">STATE CODE: 06  SPS WIM ID: 060200  DATE (mm/dd/yyyy) 9/24/2013</p>
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CALIBRATION TEST TRUCK - Primary

**6. SUSPENSION**

	a. Tire size	b.Suspension description (leaf, air # of leaves, taper or flat leaf, etc.)	c. photo
A		steel spring	<input checked="" type="checkbox"/>
B		air	<input checked="" type="checkbox"/>
C		air	<input checked="" type="checkbox"/>
D		air	<input checked="" type="checkbox"/>
E		air	<input checked="" type="checkbox"/>
F			<input type="checkbox"/>

d. Cold Tire Pressures (psi)- from right to left

Steering Axle	Axle B	Axle C	AxleD	AxleE	Axle F

**PART B**

**Table 1 - Raw Measurements -Platform Scale**

Axles	Meas.	Pre-test Weight	Instance	Instance	Post-test weight
A	I				
A+B	II				
A+B+C	III				
A+B+C+D	IV				
A+B+C+D+E(1)	V				
A+B+C+D+E+(F)(1)	VI				
B+C+D+E+(F)	VII				
C+D+E+(F)	VIII				
D+E+(F)	IX				
E+(F)	X				
(F)	XI				
A+B+C+D+E+(F)(2)	XII				

<p align="center"><b>Traffic Sheet 19</b>  <b>LTPP MONITORED TRAFFIC DATA</b>  <b>CALIBRATION TEST TRUCK # 1</b></p>	<p>STATE CODE: 06  SPS WIM ID: 060200  DATE (mm/dd/yyyy) 9/24/2013</p>
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**CALIBRATION TEST TRUCK -** Primary

**Table 2 - Axle and GVW Computations -Platform Scale Pre-test**

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

**Table 3- Axle and GVW Computations - Platform Scale - Instance -**

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

**Table 4- Axle and GVW Computations - Platform Scale - Instance -**

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

**Table 5- Axle and GVW Computations - Platform Scale Post-Test**

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

<p align="center"><b>Traffic Sheet 19</b>  <b>LTPP MONITORED TRAFFIC DATA</b>  <b>CALIBRATION TEST TRUCK # <u>1</u></b></p>	<p align="right">STATE CODE: 06  SPS WIM ID: 060200  DATE (mm/dd/yyyy) 9/24/2013</p>
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**CALIBRATION TEST TRUCK -** Primary

**Table 6 - Raw Data -Axle Scales - Pre-test**

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11200	15910	15910	15780	15780		74580
2	11160	15930	15930	15780	15780		74580
Avg.	11180	15920	15920	15780	15780		74580

**Table 7- Raw Data- Axle scales -**

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

**Table 8- Raw Data- Axle scales -**

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

**Table 9 - Raw Data -Axle Scales - Post-test**

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11120	15800	15800	15790	15790		74300
2	11020	15850	15850	15770	15770		74260
Avg.	11070	15825	15825	15780	15780		74280

Validation Test Truck Run Set - Pre

**Measured By:** \_\_\_\_\_

**Verified By:** \_\_\_\_\_

<b>Traffic Sheet 19</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>CALIBRATION TEST TRUCK # 2</b>	STATE CODE: 06
	SPS WIM ID: 060200
	DATE (mm/dd/yyyy) 9/24/2013

CALIBRATION TEST TRUCK - Secondary

**PART A**

1. FHWA CLASS: 9 2. Number of axles: 5

3. AXLE WEIGHTS

	a. Empty Truck Avg. Axle Weight	b. Pre-test Average Axle Weight	c. Post-Test Avg. Axle Weight	d. Direct or Calculated?
A		11730	11580	Direct
B		13940	13850	Direct
C		13940	13850	Direct
D		12760	12760	Direct
E		12760	12760	Direct
F				

**4. GVW (same units as axles)**

a. Empty GVW:   
b. Average Pre-Test Loaded weight: 65130  
c. Post Test Loaded Weight: 64800  
d. Difference Post Test - Pre-Tests: -330

**5. TRUCK DESCRIPTION**

a. Tractor Cab Style: Conventional Sleeper Cab: Yes  
photo: ☒

b. Make: Peterbilt  
c. Model: 386

**d. Trailer Load Distribution Description:**

concrete mix, bagged and palletized

photo: ☒

e. Tractor Tare weight -  -   
f. Trailer Tare weight -  -   
g. Axle Spacing -

A to B 17.6 B to C 4.3 C to D 32.2 D to E 4.3 E to F

h. Wheelbase - ☐ Measured  ☒ Computed 58.4  
i. Kingpin offset from Axle B (units) -1.0' photo: ☐  
j. Overall Length - ☒ Measured 65.3

<b>Traffic Sheet 19</b>	<b>STATE CODE:</b> 06
<b>LTPP MONITORED TRAFFIC DATA</b>	<b>SPS WIM ID:</b> 060200
<b>CALIBRATION TEST TRUCK # <u>2</u></b>	<b>DATE (mm/dd/yyyy)</b> 9/24/2013

**CALIBRATION TEST TRUCK - Secondary**

## 6. SUSPENSION

	a. Tire size	b.Suspension description (leaf, air # of leaves, taper or flat leaf, etc.)	c. photo
A		steel spring	<input checked="" type="checkbox"/>
B		air	<input checked="" type="checkbox"/>
C		air	<input checked="" type="checkbox"/>
D		air	<input checked="" type="checkbox"/>
E		air	<input checked="" type="checkbox"/>
F			<input type="checkbox"/>

d. Cold Tire Pressures (psi)- from right to left

Steering Axle	Axle B	Axle C	AxleD	AxleE	Axle F

## PART B

**Table 1 - Raw Measurements -Platform Scale**

Axles	Meas.	Pre-test Weight	Instance	Instance	Post-test weight
A	I				
A+B	II				
A+B+C	III				
A+B+C+D	IV				
A+B+C+D+E(1)	V				
A+B+C+D+E+(F)(1)	VI				
B+C+D+E+(F)	VII				
C+D+E+(F)	VIII				
D+E+(F)	IX				
E+(F)	X				
(F)	XI				
A+B+C+D+E+(F)(2)	XII				

<p align="center"><b>Traffic Sheet 19</b>  <b>LTPP MONITORED TRAFFIC DATA</b>  <b>CALIBRATION TEST TRUCK # 2</b></p>	<p align="right">STATE CODE: 06  SPS WIM ID: 060200  DATE (mm/dd/yyyy) 9/24/2013</p>
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CALIBRATION TEST TRUCK - Secondary

**Table 2 - Axle and GVW Computations -Platform Scale Pre-test**

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

**Table 3- Axle and GVW Computations - Platform Scale - Instance -**

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

**Table 4- Axle and GVW Computations - Platform Scale - Instance -**

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

**Table 5- Axle and GVW Computations - Platform Scale Post-Test**

	1		2		Avg.
Axle A	I	0	VI-VII	0	0
Axle B	II-I	0	VII-VIII	0	0
Axle C	III-II	0	VIII-IX	0	0
Axle D	IV-III	0	IX-X	0	0
Axle E	V-IV	0	X-XI	0	0
Axle F	VI-V		XI		
GVW	VI	0	XII	0	0

<p align="center"><b>Traffic Sheet 19</b>  <b>LTPP MONITORED TRAFFIC DATA</b>  <b>CALIBRATION TEST TRUCK # <u>2</u></b></p>	<p align="right">STATE CODE: 06  SPS WIM ID: 060200  DATE (mm/dd/yyyy) 9/24/2013</p>
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**CALIBRATION TEST TRUCK -** Secondary

**Table 6 - Raw Data -Axle Scales - Pre-test**

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11720	13940	13940	12760	12760		65120
2	11740	13940	13940	12760	12760		65140
Avg.	11730	13940	13940	12760	12760		65130

**Table 7- Raw Data- Axle scales -**

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

**Table 8- Raw Data- Axle scales -**

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
Avg.							

**Table 9 - Raw Data -Axle Scales - Post-test**

Pass	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW
1	11580	13850	13850	12760	12760		64800
2	11580	13850	13850	12760	12760		64800
Avg.	11580	13850	13850	12760	12760		64800

Validation Test Truck Run Set - Pre

Measured By: \_\_\_\_\_  
Verified By: \_\_\_\_\_

<b>Traffic Sheet 20</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>SPEED AND CLASSIFICATION STUDIES</b>					STATE CODE: 06 SPS WIM ID: 060200 DATE (mm/dd/yyyy) 9/24/2013				
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Count - 138      Time = 1:02:16      Trucks (4-15) - 138      Class 3s - 0

WIM speed	WIM class	WIM Record	Obs. Speed	Obs. Class	WIM speed	WIM class	WIM Record	Obs. Speed	Obs. Class
59	9	21870	60	9	58	9	21946	60	9
57	9	21871	60	9	59	11	21997	59	11
55	9	21872	55	9	54	9	21999	57	9
57	9	21882	62	9	54	5	22000	52	5
56	11	21884	60	11	55	9	22001	55	9
62	12	21885	62	12	60	11	22002	56	11
60	9	21891	61	9	57	9	22003	56	9
58	9	21896	58	9	56	9	22006	57	9
59	11	21897	58	11	57	9	22007	58	9
54	9	21899	57	9	56	9	22013	62	9
56	9	21900	52	9	56	9	22014	55	9
58	9	21902	59	9	57	11	22015	50	11
61	5	21905	65	5	53	11	22016	52	11
58	9	21906	58	9	54	9	22018	62	9
60	9	21911	63	9	54	9	22019	55	9
57	9	21915	60	9	54	9	22021	54	9
66	5	21917	58	5	56	9	22022	55	9
57	11	21922	58	11	56	9	22023	55	9
57	9	21923	60	9	54	9	22024	54	9
59	9	21927	60	9	57	11	22025	52	11
55	6	21928	56	6	59	9	22027	60	9
57	11	21930	50	11	55	9	22029	56	9
56	5	21932	52	5	55	9	22030	54	9
57	9	21934	56	9	55	9	22031	55	9
55	9	21935	50	9	55	9	22032	55	9

Sheet 1 - 1 to 50

Start: 12:50:37      Stop: 13:03:27  
Recorded By: GHL      Verified By: ABL

Validation Test Truck Run Set - Pre



<p align="center"><b>Traffic Sheet 20</b>  <b>LTPP MONITORED TRAFFIC DATA</b>  <b>SPEED AND CLASSIFICATION STUDIES</b></p>	<p align="center">STATE CODE: 06  SPS WIM ID: 060200  DATE (mm/dd/yyyy) 9/24/2013</p>
--	---

WIM speed	WIM class	WIM Record	Obs. Speed	Obs. Class	WIM speed	WIM class	WIM Record	Obs. Speed	Obs. Class
58	5	22097	56	5	54	11	22208	52	11
57	8	22098	58	8	57	9	22211	57	9
56	9	22100	56	9	55	9	22212	55	9
57	9	22101	58	9	62	8	22216	61	5
57	9	22102	57	9	55	9	22219	55	9
60	5	22103	60	5	58	11	22226	58	11
61	9	22104	61	9	57	8	22228	54	8
57	9	22128	64	9	57	9	22257	59	9
59	11	22129	59	11	57	9	22258	58	9
58	9	22130	51	9	58	5	22259	57	5
59	9	22139	60	9	60	9	22260	59	9
57	9	22140	57	9	57	9	22262	57	9
58	9	22141	58	9	65	5	22273	65	5
55	9	22145	58	9	59	9	22280	63	9
59	9	22146	60	9	56	9	22284	58	9
55	5	22147	55	5	55	9	22285	55	9
59	9	22148	60	9	60	9	22286	59	9
57	9	22152	58	9	58	9	22287	58	9
55	9	22154	55	9	60	9	22288	61	9
55	9	22155	55	9	57	9	22293	61	9
58	9	22157	58	9	58	11	22294	60	11
55	11	22158	55	11	62	5	22297	63	5
57	9	22176	58	9	56	9	22298	56	9
58	9	22177	58	9	57	9	22301	62	9
59	8	22183	60	8	59	9	22304	60	9

Sheet 2 - 51 to 100

Start: 13:09:35

Stop: 13:26:04

Recorded By: GHL

ABL

<b>Traffic Sheet 20</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>SPEED AND CLASSIFICATION STUDIES</b>	STATE CODE: 06 SPS WIM ID: 060200 DATE (mm/dd/yyyy) 9/24/2013
--	---

WIM speed	WIM class	WIM Record	Obs. Speed	Obs. Class	WIM speed	WIM class	WIM Record	Obs. Speed	Obs. Class
57	8	22314	59	8	59	8	22594	59	8
57	12	22328	60	12	57	9	22599	62	9
58	9	22329	57	9	56	9	22603	58	9
59	9	22336	64	9	64	5	22605	59	5
55	9	22337	62	9	59	9	22607	50	9
56	5	22338	55	5	59	9	22638	64	9
59	5	22343	59	5	57	11	22639	56	11
58	9	22345	60	9	54	9	22645	53	9
57	9	22346	60	9	58	9	22649	61	9
57	9	22347	5	9	60	9	22657	61	9
54	9	22355	54	9	62	11	22661	59	11
57	9	22361	55	9	59	9	22662	60	9
55	9	22362	55	9	60	5	22665	60	5
62	5	22363	63	5					
57	9	22452	55	9					
55	9	22465	60	9					
60	5	22466	61	5					
66	5	22470	65	5					
57	9	22471	66	9					
59	9	22472	61	9					
59	9	22473	58	9					
57	11	22474	58	11					
59	9	22543	55	9					
57	11	22547	55	11					
62	5	22572	62	5					

Sheet 3 - 101 to 150

Start: 13:26:49

Stop: 13:52:53

Recorded By: GHLABL

<b>Traffic Sheet 21 (Wheel Load)</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>WIM SYSTEM TRUCK RECORDS</b>										STATE CODE: 06 SPS WIM ID: 060200 DATE: (mm/dd/yyyy): 9/24/2013									
---	--	--	--	--	--	--	--	--	--	---	--	--	--	--	--	--	--	--	--

Pvmt Temp	Radar speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW	A-B space	B-C space	C-D space	D - E space	E - F space	Axle Length	Overall Length
80.3	58	1	1	9:53:00	19667	57.0	11.1	17.3	15.0	16.0	15.9		75.3	16.7	4.5	31.9	4.3		57.4	64.0
80.3	58	2	1	9:53:06	19669	53.0	11.8	13.9	13.9	12.9	12.8		65.5	17.6	4.3	32.1	4.3		58.3	65.0
84.0	47	1	2	10:22:09	20022	47.0	10.9	16.9	14.9	15.8	15.6		74.2	16.6	4.4	31.7	4.2		56.9	63.0
84.0	47	2	2	10:22:11	20024	47.0	11.9	13.7	14.1	12.6	12.9		65.3	17.6	4.3	32.1	4.3		58.3	65.0
86.5	49	1	3	10:55:26	20441	49.0	10.8	16.8	14.7	15.9	15.6		73.8	16.6	4.3	31.7	4.2		56.8	64.0
86.5	49	2	3	10:55:29	20442	47.0	11.7	14.1	13.8	12.9	12.4		64.9	17.6	4.3	32.1	4.2		58.2	65.0
85.8	57	1	4	11:05:10	20561	54.0	11.2	16.2	15.0	16.1	15.1		73.7	16.6	4.4	31.7	4.2		56.9	63.0
85.8	57	2	4	11:05:12	20562	54.0	12.0	13.9	13.9	12.9	12.5		65.3	17.6	4.4	32.1	4.3		58.4	65.0
88.8	57	1	5	11:14:47	20682	57.0	11.2	16.8	15.1	15.6	15.4		74.0	16.6	4.3	31.5	4.3		56.7	63.0
88.8	56	2	5	11:14:51	20683	56.0	12.2	14.1	13.9	13.2	12.5		66.0	17.6	4.3	32.1	4.3		58.3	65.0
89.0	55	1	6	11:33:55	20914	55.0	11.3	16.5	14.7	16.6	15.7		74.8	16.8	4.4	31.9	4.2		57.3	64.0
89.0	55	2	6	11:33:57	20915	54.0	12.0	14.0	13.9	13.0	12.8		65.6	17.6	4.3	32.2	4.3		58.4	65.0
92.3	57	1	7	11:43:48	21037	57.0	11.1	17.0	15.1	15.7	15.3		74.1	16.6	4.4	31.5	4.2		56.7	63.0
92.3	57	2	7	11:43:51	21039	58.0	12.0	13.8	14.1	12.9	13.0		65.8	17.6	4.3	32.1	4.3		58.3	65.0
92.4	53	1	8	12:03:11	21261	52.0	11.1	16.6	15.1	15.7	14.9		73.6	16.6	4.3	31.7	4.2		56.8	64.0
92.4	53	2	8	12:03:13	21262	54.0	12.0	13.9	13.5	12.9	12.5		64.7	17.5	4.3	32.1	4.3		58.2	65.0
94.5	58	1	9	12:12:32	21376	59.0	11.3	16.9	15.1	15.9	15.4		74.7	16.6	4.4	31.8	4.3		57.1	64.0
94.5	58	2	9	12:12:37	21377	57.0	12.0	14.2	14.2	13.0	12.7		66.1	17.6	4.3	32.2	4.3		58.4	65.0
94.8	53	1	10	12:32:05	21632	54.0	11.2	16.5	14.9	15.5	14.8		72.9	16.6	4.4	31.9	4.3		57.2	64.0
94.8	53	2	10	12:32:07	21633	52.0	11.9	13.8	13.7	12.9	12.6		64.9	17.6	4.3	32.3	4.3		58.5	65.0
97.8	49	1	11	14:15:18	22941	47.0	11.1	17.0	15.4	16.4	15.9		75.6	16.7	4.4	31.7	4.2		57.0	64.0
97.8	49	2	11	14:15:25	22945	46.0	11.8	14.1	14.0	13.3	12.6		65.8	17.5	4.3	32.0	4.3		58.1	65.0
100.0	54	1	12	14:25:16	23062	54.0	11.0	16.9	14.5	16.1	15.3		73.8	16.5	4.4	31.9	4.2		57.0	66.0
100.0	53	2	12	14:25:19	23064	53.0	12.1	14.2	13.6	13.0	12.5		65.3	17.6	4.3	32.1	4.3		58.3	65.0

Recorded By: GHL

Verified By: ABL

Run Set Pre

<b>Traffic Sheet 21 (Wheel Load)</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>WIM SYSTEM TRUCK RECORDS</b>										STATE CODE: 06 SPS WIM ID: 060200 DATE: (mm/dd/yyyy): 9/24/2013									
---	--	--	--	--	--	--	--	--	--	---	--	--	--	--	--	--	--	--	--

Pvmt Temp	Radar speed	Truck	Pass	Time	Record No.	WIM Speed	Axle A	Axle B	Axle C	Axle D	Axle E	Axle F	GVW	A-B space	B-C space	C-D space	D - E space	E - F space	Axle Length	Overall Length
102.3	59	1	13	14:35:13	23191	59.0	10.9	17.3	15.1	15.6	15.4		74.3	16.5	4.4	31.6	4.3		56.8	63.0
102.3	59	2	13	14:35:15	23192	59.0	12.1	14.2	14.1	13.0	12.7		66.0	17.6	4.3	32.0	4.3		58.2	65.0
98.8	54	1	14	14:54:34	23458	54.0	11.0	16.9	14.7	16.2	15.4		74.1	16.6	4.4	31.9	4.1		57.0	63.0
98.8	54	2	14	14:54:37	23459	53.0	11.8	14.0	14.0	13.0	12.7		65.5	17.6	4.4	32.3	4.3		58.6	65.0
99.7	60	1	15	15:04:03	23564	58.0	11.3	17.3	15.2	15.9	15.2		74.8	16.4	4.3	31.4	4.2		56.3	62.0
99.7	60	2	15	15:04:06	23565	57.0	11.9	14.0	14.1	12.8	12.6		65.5	17.4	4.2	31.7	4.2		57.5	64.0
99.9	49	1	16	15:14:14	23693	48.0	11.3	16.4	14.9	15.5	15.8		73.8	16.7	4.4	31.8	4.2		57.1	64.0
99.9	49	2	16	15:14:16	23694	48.0	11.9	14.1	13.9	12.7	12.8		65.6	17.6	4.3	32.2	4.3		58.4	65.0
99.5	58	1	17	15:34:03	23939	58.0	11.2	17.0	15.1	16.1	15.4		74.8	16.5	4.4	31.5	4.3		56.7	63.0
99.5	58	2	17	15:34:05	23940	57.0	12.0	14.0	14.0	13.2	12.7		65.8	17.6	4.3	32.1	4.2		58.2	65.0
99.1	51	1	18	15:43:46	24080	48.0	11.1	16.8	14.5	16.2	15.4		74.0	16.5	4.3	31.6	4.2		56.6	63.0
99.1	51	2	18	15:43:55	24084	47.0	11.7	14.0	14.2	12.8	12.8		65.4	17.6	4.3	32.2	4.3		58.4	65.0
99.0	55	1	19	16:03:07	24352	55.0	11.6	17.4	15.0	16.7	16.4		77.0	16.5	4.3	31.5	4.2		56.5	63.0
99.0	55	2	19	16:03:10	24354	56.0	11.7	14.1	13.8	12.9	12.8		65.3	17.6	4.3	31.9	4.2		58.0	65.0
98.8	49	1	20	16:13:17	24494	49.0	11.0	16.9	15.0	16.1	15.6		74.4	16.6	4.3	31.7	4.2		56.8	63.0
98.8	49	2	20	16:13:19	24495	49.0	12.1	13.9	14.1	12.7	12.7		65.6	17.6	4.3	32.1	4.3		58.3	65.0

Recorded By: <u>          GHL          </u>	Verified By: <u>          ABL          </u>	Run Set <u>          Pre          </u>
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<p align="center"> <b>Traffic Sheet 22</b>  <b>LTPP MONITORED TRAFFIC DATA</b>  <b>SITE EQUIPMENT ASSESSMENT</b>  <b>LTPP LANE ONLY</b> </p>	<p> STATE CODE: 06  SPS WIM ID: 060200  STATE ASSIGNED ID 0  DATE (mm/dd/yyyy) 9/24/2013 </p>
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**9. IN ROAD SENSORS:**

Describe any deficiencies regarding the sensor installation. Indicate sensors that show any signs of being broken, severely worn, missing, removed, or loose. List photos on Sheet 24 for

the equipment is operating within the manufacturer's tolerances. The leading WIM sensor has missing epoxy at the conduit exit in the shoulder. The sensors do not show signs of excessive wear and appear to be fully secured in the pavement.

**TRUCK OBSERVATIONS**

- 10.** Indicate any irregular truck behaviors such as bouncing, swerving, or braking near the weighing area (within 40 meters). Note the distance from the weighing sensors.

A visual observation of the trucks as they approach, traverse, and leave the sensor area indicated significant truck dynamics at the location of the pavement transition that may affect the accuracy of the WIM system. The trucks appear to track down the center of the lane.

Minimum 15 minute or 35 truck sample video sample for pavement interaction deficiencies:

Tape Filename: \_\_\_\_\_

Time: \_\_\_\_\_

From: \_\_\_\_\_

To: \_\_\_\_\_

<p align="center"><b>Traffic Sheet 22</b></p> <p align="center"><b>LTPP MONITORED TRAFFIC DATA</b></p> <p align="center"><b>SITE EQUIPMENT ASSESSMENT</b></p> <p align="center"><b>LTPP LANE ONLY</b></p>	<p>STATE CODE: 06</p> <p>SPS WIM ID: 060200</p> <p>STATE ASSIGNED ID 0</p> <p>DATE (mm/dd/yyyy) 9/24/2013</p>
---	---

**11. CLASSIFICATION VERIFICATION VIDEO:**

TAPE 1- NAME: \_\_\_\_\_

Interval	Filename	From	To
1			
2			
3			
4			
5			
6			
7			
8			

TAPE 2- NAME: \_\_\_\_\_

Interval	Filename	From	To
1			
2			
3			
4			
5			
6			
7			
8			

TAPE 3- NAME: \_\_\_\_\_

Interval	Filename	From	To
1			
2			
3			
4			
5			
6			
7			
8			

<b>Traffic Sheet 22</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>SITE EQUIPMENT ASSESSMENT</b> <b>LTPP LANE ONLY</b>	STATE CODE: 06 SPS WIM ID: 060200 STATE ASSIGNED ID 0 DATE (mm/dd/yyyy) 9/24/2013
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### SYSTEM ACCURACY TESTS

#### 12. CONDUCT THE FOLLOWING SYSTEM ACCURACY TESTS EITHER ON- SITE OR IN OFFICE

Speed Accuracy - Complete Sheet 20 and attach.

Average radar speed	<u>57.5</u> mph	Average WIM Speed	<u>57.5</u> mph
Mean Difference	<u>0.0</u> mph	SD of mean	<u>5.3</u>

Posted Speed Limit	<u>55</u> mph		
Speed Range	15th percentile - <u>57</u> mph	85th percentile-	<u>63</u> mph

Spacing and Weight - Complete Sheet 21 and attach.

Average distance between axles of drive tandem            feet  
% error from 4.25 ft (industry average) OR 4.34 ft (WIM system average)  
= 2.1 %

Average front axle weight for Class 9 vehicles            lbs  
% error from 10.3 kips (industry average) OR 11.5 lbs (known site value)  
= 12.0 %

### SUPPORT EQUIPMENT STRUCTURES

#### 17. Indicate any deficiencies with any site equipment other than the in-road sensors. List all photos on the Sheet 24 for each occurrence.

Cabinet/Foundation None ☒

no cabinet or foundation deficiencies

Pull Boxes None ☒

no pull box deficiencies

Mast None ☒

no service mast deficiencies

Solar Panels None ☒

no solar panel deficiencies



<b>Traffic Sheet 22</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>SITE EQUIPMENT ASSESSMENT</b> <b>LTPP LANE ONLY</b>	STATE CODE: 06 SPS WIM ID: 060200 STATE ASSIGNED ID 0 DATE (mm/dd/yyyy) 9/24/2013
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Telephone D-Mark Box None ☒

no telephone d-mark box deficiencies

Power Service Box None ☒

no power service box deficiencies

Grounding None ☒

no grounding deficiencies

Conduit None ☒

no conduit deficiencies

#### STATIC AND DYNAMIC ELECTRONIC EQUIPMENT TESTS

18. Complete and attach a Sheet 22 addendum applicable to the installed road equipment.

#### ADDITIONAL COMMENTS

All values for the WIM sensors and inductive loops were within tolerances. Electronic tests of the power and communication devices indicated that they were operating normally.

Assessor \_\_\_\_\_

<b>Traffic Sheet 22 Addendum - Weighpad</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>SITE EQUIPMENT ASSESSMENT</b> <b>LTPP LANE ONLY</b>	STATE CODE:	06
	SPS WIM ID:	060200
	STATE ASSIGNED ID	0
	DATE (mm/dd/yyyy)	9/24/2013

STATIC EQUIPMENT VALUES (SYSTEM OFF)

**1. POWER**

a. Solar Panel	_____	WATTS	_____	VDC
b. Equipment Power	_____	VAC	_____	VDC
c. Battery 1	_____	VDC		
d. Battery 2	_____	VDC		
e. Regulated	_____	VDC		
f. Power Supply	_____	VDC	_____	VDC
g. System Input	_____	VAC	_____	VDC
h. Modem Power	_____	VAC	_____	VDC
i. Telephone	_____	VDC		

**2. LOOP SENSORS**

	Resistance	Inductance	Shield
a. Leading	_____ $\Omega$	_____ $\mu h$	_____ $M\Omega$
b. Trailing	_____ $\Omega$	_____ $\mu h$	_____ $M\Omega$

**3. WEIGHPAD SENSORS**

	Input	Output	Shield
a. Leading	_____ $\Omega$	_____ $\Omega$	_____ $\Omega$
b. Trailing	_____ $\Omega$	_____ $\Omega$	_____ $\Omega$

DYNAMIC EQUIPMENT VALUES (SYSTEM ON)

**4. LOOP SENSORS**

	Frequency
a. Leading	_____ KHz
b. Trailing	_____ KHz

**5. WEIGHPAD SENSORS**

	Zero Point
a. Leading	_____ mV
b. Trailing	_____ mV

Assessor \_\_\_\_\_ 0 \_\_\_\_\_

<b>Traffic Sheet 24A</b> <b>LTPP MONITORED TRAFFIC DATA</b> <b>SITE PHOTO LOG - Equipment</b>	STATE CODE: 06 SPS WIM ID: 060200 DATE (mm/dd/yyyy) 9/24/2013
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Item	Description	Filename
1	Power Source	060200_solar_panel_9_25_13.jpg
2	Telephone Source	060200_cellular_modem_9_25_13.jpg
3	Cabinet Exterior	060200_cabinet_exterior_9_25_13.jpg
4	Cabinet Interior - Front	060200_cabinet_interior_front_9_25_13.jpg
5	Cabinet Interior - Rear	060200_cabinet_interior_rear_9_25_13.jpg
6	Leading weight sensor	060200_leading_WIM_sensor_9_25_13.jpg
7	Trailing weight sensor	060200_trailing_WIM_sensor_9_25_13.jpg
8	Leading classification sensor	
9	Trailing classification sensor	
10	Leading loop sensor	060200_leading_loop_9_25_13.jpg
11	Trailing loop sensor	060200_trailing_loop_9_25_13.jpg
12	Downstream from site	060200_downstream_9_25_13.jpg
13	Upstream from site	060200_upstream_9_25_13.jpg
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

<p align="center"><b>Traffic Sheet 24B</b>  <b>LTPP MONITORED TRAFFIC DATA</b>  <b>SITE PHOTO LOG - Test Trucks</b></p>	<p align="right">STATE CODE: 06  SPS WIM ID: 060200  DATE (mm/dd/yyyy) 9/24/2013</p>
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Item	Description	Filename
1	Tractor, Truck #1	060200_Truck_1_Tractor_9_24_13.jpg
2	Trailer/Load, Truck #1	060200_Truck_1_Trailer_9_24_13.jpg
3	Kingpin Offset, Truck #1	
4	Suspension A, Truck #1	060200_Truck_1_Suspension_1_9_24_13.jpg
5	Suspension B, Truck #1	060200_Truck_1_Suspension_2_9_24_13.jpg
6	Suspension C, Truck #1	060200_Truck_1_Suspension_3_9_24_13.jpg
7	Suspension D, Truck #1	060200_Truck_1_Suspension_4_9_24_13.jpg
8	Suspension E, Truck #1	060200_Truck_1_Suspension_5_9_24_13.jpg
9	Suspension F, Truck #1	
10	Tractor, Truck #2	060200_Truck_2_Tractor_9_24_13.jpg
11	Trailer/Load, Truck #2	060200_Truck_2_Trailer_9_24_13.jpg
12	Kingpin Offset, Truck #2	
13	Suspension A, Truck #2	060200_Truck_2_Suspension_1_9_24_13.jpg
14	Suspension B, Truck #2	060200_Truck_2_Suspension_2_9_24_13.jpg
15	Suspension C, Truck #2	060200_Truck_2_Suspension_3_9_24_13.jpg
16	Suspension D, Truck #2	060200_Truck_2_Suspension_4_9_24_13.jpg
17	Suspension E, Truck #2	060200_Truck_2_Suspension_5_9_24_13.jpg
18	Suspension F, Truck #2	
19	Tractor, Truck #3	
20	Trailer/Load, Truck #3	
21	Kingpin Offset, Truck #3	
22	Suspension A, Truck #3	
23	Suspension B, Truck #3	
24	Suspension C, Truck #3	
25	Suspension D, Truck #3	
26	Suspension E, Truck #3	
27	Suspension F, Truck #3	
28	Scale	
29		
30		

