INTERNATIONAL ROAD DYNAMICS INC.

LTPP SPS PHASE II

WEIGH-IN-MOTION SITE ACCEPTABILITY ASSESSMENT REPORT

DELAWARE SPS-1
LTPP ID 100100
MARCH 2, 2006
CLIN 2001 TASK ORDER 8

CONTRACT NO. DTFH61-05-D-00001

U.S. Department of Transportation
Federal Highway Administration

LONG TERM Pavement PERFORMANCE

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1.0 EXECUTIVE SUMMARY

The Delaware SPS-1 (flexible pavement study) test site was visited on January 24th, 2006. This test site is located approximately 30 miles south of Dover in the outside southbound lane of US 113 between Milford and Georgetown in Sussex County. At this location, the Asphalt Concrete pavement ends and is replaced by Portland Cement Concrete (PCC) pavement from this point southbound. The SPS-1 test site ends 75 feet prior to the start of the PCC pavement. A search throughout this area for a suitable Weigh-in-Motion (WIM) site and a site acceptability assessment was performed at the selected location located 450 feet north of W Robbins Road. It is proposed to install the WIM system's scales in the southbound outside lane approximately 900 feet from the start of the section 100104. It is noted that this site is ideal for instrumentation of all lanes if the State desires to use this location for Data Collection purposes in both directions. Based upon our site evaluation and discussions with the State, it is recommended that a new WIM system utilizing Bending Plate technology be installed after corrective action has been taken to address pavement smoothness issues.

The selected WIM site is located within a tangent section of roadway with a relatively flat grade approximately 180 feet downstream of the State's existing Piezo WIM system. Although there is an intersection within 1000 feet downstream of the proposed WIM site, it is rarely used and vehicles track smoothly through this area at speeds between 55 and 65 MPH. Traffic flow is medium on this four lane highway.

In that the existing pavement from 325 feet in advance of and 75 feet following the proposed scale location is structurally sound PCC, it not necessary that the State replace the existing pavement with a 400 foot PCC slab to accommodate the WIM system's in-pavement sensors.

Power and telephone service is available at the existing WIM cabinet adjacent to the southbound roadway. It will be necessary that the State extend these power and phone services approximately 175 feet to service points within 25 feet of the proposed new WIM cabinet location also to be located near the southbound roadway's right-of-way.

Based upon the on-site observations it is recommended that blanket grinding of the existing pavement's surface be performed prior to the installation of the new WIM system. Upon completion of this corrective action, a follow-up evaluation of the pavement smoothness should be made. Upon confirmation that the pavement smoothness is adequate for the WIM system to meet accuracy requirements, this site can be instrumented with WIM.

2.0 EXISTING ROADWAY

Visual on-site observation of the existing roadway and traffic operating characteristics were performed and recorded. This included taking roadside measurements, digital photography, and driving over the roadway to evaluate conditions at the proposed location.

2.1 PAVEMENT AND GEOMETRICS

The SPS-1 is a flexible pavement study. The pavement test sections are located in the outside southbound lane. The existing roadway pavement approaching the existing WIM site is AC, consisting of a +/- 1 inch wearing course over dense grade courses. The existing roadway pavement through and departing the proposed WIM site is PCC. The outside and inside (median) shoulders are dense grade AC. The two northbound lanes are each nominally 12 feet wide with an 11 foot wide outside shoulder and a 3.5 foot wide inside shoulder. The grade is relatively flat (< 0.5%). In regard to the pavement's cross slope, the two southbound lanes are on a crowned section sloping +/- 2 % toward the outside shoulder.

2.2 OBSERVED TRAFFIC OPERATING CHARACTERISTICS

There are several median turnarounds and other on/off facilities along US 113 in the vicinity of the proposed WIM site. There is an at-grade unsignalized intersection with W Robbins Road approximately 450 feet downstream of the proposed scale location and a right lane turning pocket approximately 150 feet downstream of the scales. These on/off facilities are seldom used by traffic and no detrimental affect on traffic flow through the proposed site was observed. The medium traffic flow exhibited good lane discipline, staying well within the lane and shoulder line markings. Traffic was observed to be free flowing at all times at speeds between 55 and 65 MPH (posted speed limit is 55 MPH). Trucks are "cruising" through the site at the same constant speed as the other traffic. In that there are no major on/off locations between the WIM site and the SPS site, the truck traffic composition at the WIM site is the same as that at the SPS site.

3.0 SITE CONFORMANCE TO EVALUATION CRITERIA

A number of site parameters where evaluated at the proposed WIM location to confirm site acceptability. These site parameters included items such as pavement, traffic patterns, availability of power and telephone, and logistics. These parameters were rated as either “Pass”, “Requires Attention”, or “To Be Performed”. At the end of this section, recommendations on site acceptance and/or corrective action are noted.

3.1 PAVEMENT TYPE AND CONDITION- PASS

The existing AC approach, PCC WIM, and PCC departure pavements are in very good condition.

3.2 OBSERVED PAVEMENT SMOOTHNESS- REQUIRES ATTENTION

Although the AC approach, PCC WIM, and PCC departure pavements are in very good condition, the smoothness of the 400 foot WIM pavement needs to be improved to ensure the new WIM system will meet accuracy requirements. The existing PCC pavement, 325 feet in advance of and 75 feet following the proposed WIM scale location, should be blanket ground. Following pavement grinding, a reassessment of the pavement should be made.

3.3 ANALYSIS OF PAVEMENT PROFILE DATA- TO BE PERFORMED

Following a blanket grind of the PCC WIM slab at the proposed WIM site location, assigned CLIN 1 Personnel will verify whether or not the smoothness of the pavement from 325 feet in advance of to 75 feet following the WIM scale location meets the smoothness requirements for installation of a WIM system.

3.4 ROADWAY GEOMETRICS- PASS

The selected WIM site is located within a long tangent section of the roadway, grade is minimal, and the lane in which the sensors are to be installed is 12 feet wide. The pavement cross slope is adequate for proper roadway drainage.

3.5 TRAFFIC OPERATING CHARACTERISTICS- PASS

Although there are numerous on/off facilities in the vicinity of the proposed WIM site location, the general traffic pattern is free flowing with good lane discipline. The truck traffic is cruising through the site and staying within the lane lines.

3.6 TRUCK TRAFFIC COMPARISON BETWEEN WIM AND TEST SITE- PASS

There are no significant exit/entrance locations between the WIM site and the SPS-1 pavement test sections.

3.7 POTENTIAL WIM INTERFERENCE SOURCES- PASS

Overhead power lines cross the roadway approximately 400 feet downstream of the proposed WIM location. These are standard “service” lines and will not interfere with system performance.

3.8 ACCESS TO POWER AND PHONE SERVICES- REQUIRES ATTENTION

Power and telephone service is available at the existing WIM cabinet adjacent to the southbound roadway. It will be necessary that the State extend these power and phone services approximately 175 feet to a service point within 25 feet of the proposed new WIM cabinet location.

3.9 EQUIPMENT INSTALLATION CAPABILITY- PASS

There is an adequate location for the WIM controller cabinet opposite the scales adjacent to the highway right-of-way. This location would provide approximately 40 feet clearance from the edge of traveled way. There is good visibility from the cabinet location of the sensors and approaching vehicles. There is adequate room adjacent to the cabinet location for service facilities. Roadway and overall site drainage is good. There is no foreseen potential for ponding or flooding at the cabinet or pullbox locations. There is adequate topography for scale pit drainage. The width and structural stability of the adjacent lane and median shoulder allow a lane closure and traffic shift which will provide safe clearance in the work zone from live traffic during installation of the WIM system.

3.10 POTENTIAL TRAFFIC CONTROL / WORK ZONE SAFETY ISSUES- PASS

The traffic control should go smoothly, given the good approach sight distance and the ability to move traffic’s left wheels onto the adjacent lane’s median shoulder. No other work zone safety issues are foreseen at this site.

3.11 TRUCK CIRCUIT- PASS

The nearest usable southbound truck turnaround is a paved median crossover which is located 0.6 miles downstream of the WIM site.

The nearest useable northbound truck turnaround is a paved median crossover which is located 0.7 miles upstream of the WIM site.

Both of these median crossovers have left lane turning pockets. There are no foreseen potential restrictions; however it is recommended that the test trucks not be run during “rush hour” traffic to avoid long waits for breaks in traffic. The turnaround locations are easily accessed and maneuvered. The test truck round trip circuit route is 2.6 miles and the estimated lap time is 5 to 10 minutes.

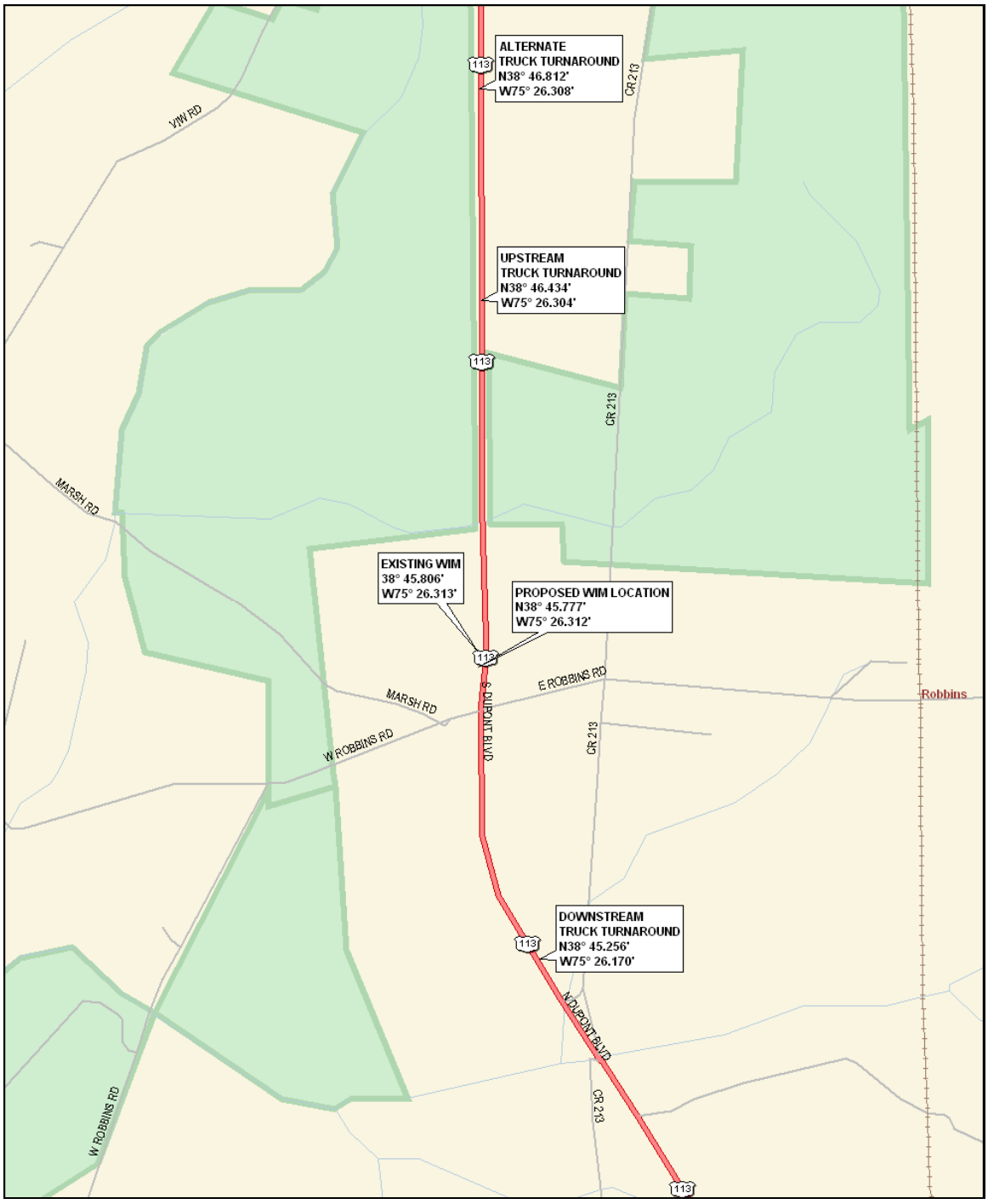


Figure 1: Truck Circuit Map

3.12 RECOMMENDATIONS ON SITE ACCEPTANCE / CORRECTIVE ACTIONS

Although the AC approach, PCC WIM, and PCC departure pavements are in very good condition, the smoothness of the 400 foot WIM pavement needs to be improved to ensure the new WIM system will meet accuracy requirements. We recommend the existing PCC pavement, 325 feet in advance of and 75 feet following the proposed WIM scale location, be blanket ground by the State. Following pavement grinding, a reassessment of the pavement should be made.

In addition to this, the State will need to extend power and phone services located at the existing WIM cabinet approximately 175 feet to a service point within 25 feet of the proposed WIM cabinet location.

4.0 TRAFFIC DATA REVIEW

Vehicle distributions of all trucks (FHWA Class 4 and higher)
(Not Available)

Vehicle distributions for heavy trucks (FHWA Class 6 and higher)
(Not Available)

Volume of trucks comprising of 10 % or more of truck population
(Not Available)

Volume of trucks comprising 10 % or more of heavy truck population
(Not Available)

After discussions with the State, it has been determined that current traffic data containing the above mentioned information is not available.

5.0 PAVEMENT EVALUATION

In determining WIM site pavement acceptability, visual on-site observation of the existing AC pavement was made. Additionally, pavement information provided by the State was reviewed and noted as applicable.

5.1 SURFACE CONDITION

The site evaluation concentrated efforts on the range of pavement from 900 feet prior to and 100 feet following the proposed WIM scale location. Pictures were taken to document the surface condition, several of which are presented in Appendix E.

5.1.1 PCC PAVEMENT 325 FEET IN ADVANCE OF AND 75 FEET FOLLOWING PROPOSED WIM SCALE LOCATION ("WIM PAVEMENT")

According to information provided by the Delaware Department of Transportation this PCC pavement is 8 inches thick and was opened to traffic in 1996. The structural condition of the PCC pavement throughout the 400 foot section appears to be very good. The spacing of the perpendicular transverse weakened plane joints vary up to 20 feet. Although these transverse joints exhibit some raveling (typically the result of sawcutting when new concrete is still "green"), they have not spalled. These joints are sealed and appear to be well maintained. It should be noted that the transverse joints are dowelled. The longitudinal lane line joint is also sealed and in good condition.

5.1.2 PCC PAVEMENT UPSTREAM AND DOWNSTREAM OF WIM PAVEMENT

There are no discernable differences between the 400 foot "WIM Pavement" section and the WIM departure pavement included in the 1000 foot evaluation section.

The WIM approach pavement prior to the 400 foot "WIM Pavement section", however, is AC. This AC section leading up to the PCC roadway varies in age since it is made up of SPS-1 test sections.

Both the AC and PCC pavements are in very good condition and the PCC joints are well maintained.

5.1.3 SHOULDER CONDITION

The roadway shoulders are AC throughout the study area and were constructed in conjunction with the traveled way pavement. Although the longitudinal PCC/AC cold joint is not sealed and has vegetation growing in the joint, the AC shoulders are in very good condition.

5.2 SURFACE PROFILE

Although the pavement surface appears to be quite smooth, experience indicates that it must be blanket ground to ensure that the system can be properly calibrated and that accurate WIM estimates of static loads can be made.

Observations of trucks and other vehicle types approaching and passing through the selected scale location area indicated only minimal body motion, indicating that there are no existing “long wavelength” profile problems which might be difficult to correct with blanket grinding of the pavement. Only minimal suspension motion could be noted on these vehicles. Proper blanket grinding should eliminate any existing “short wavelength” profile problems.

Several automobile “drive throughs” by the CLIN 1 personnel confirmed the above noted observations. Only minimal vehicle body motion could be felt, but there was some minor suspension “chatter”.

5.3 SUMMARY OF RESULTS

Based upon our on-site observations, it is recommended that corrective action to the smoothness of the pavement surface be performed prior to the installation of the WIM system.

Upon completion of this corrective action, the site will need to be re-evaluated by our team to confirm the pavement smoothness has been remedied and the site is now acceptable for the installation of the WIM system. Once this has been performed, this site can be instrumented.

6.0 PROPOSED WIM SITE- INFORMATION

6.1 LOCATION – US 113, 450 FT NORTH OF W ROBBINS RD

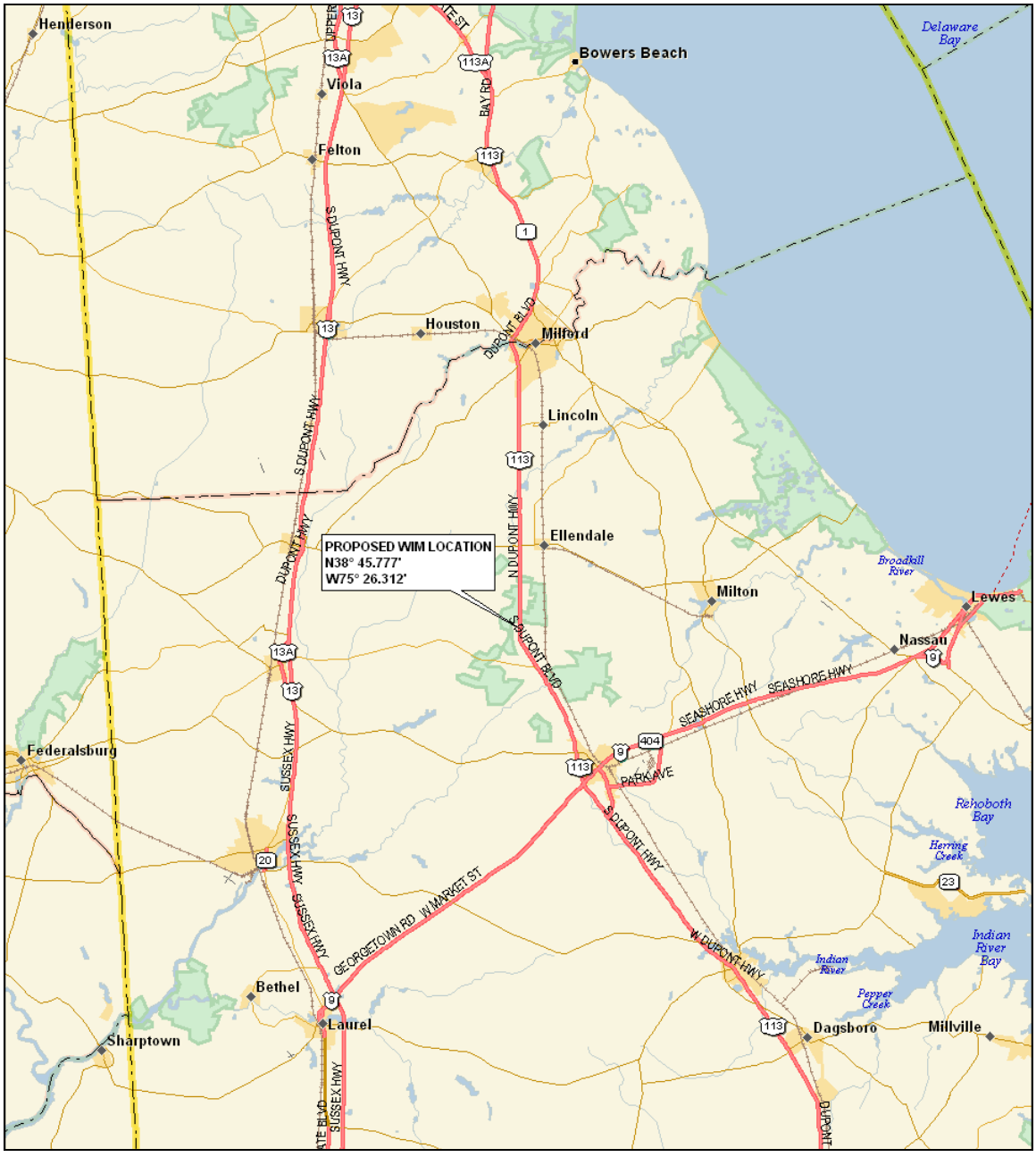


Figure 2: Location of the US 113 SPS-1 WIM Site

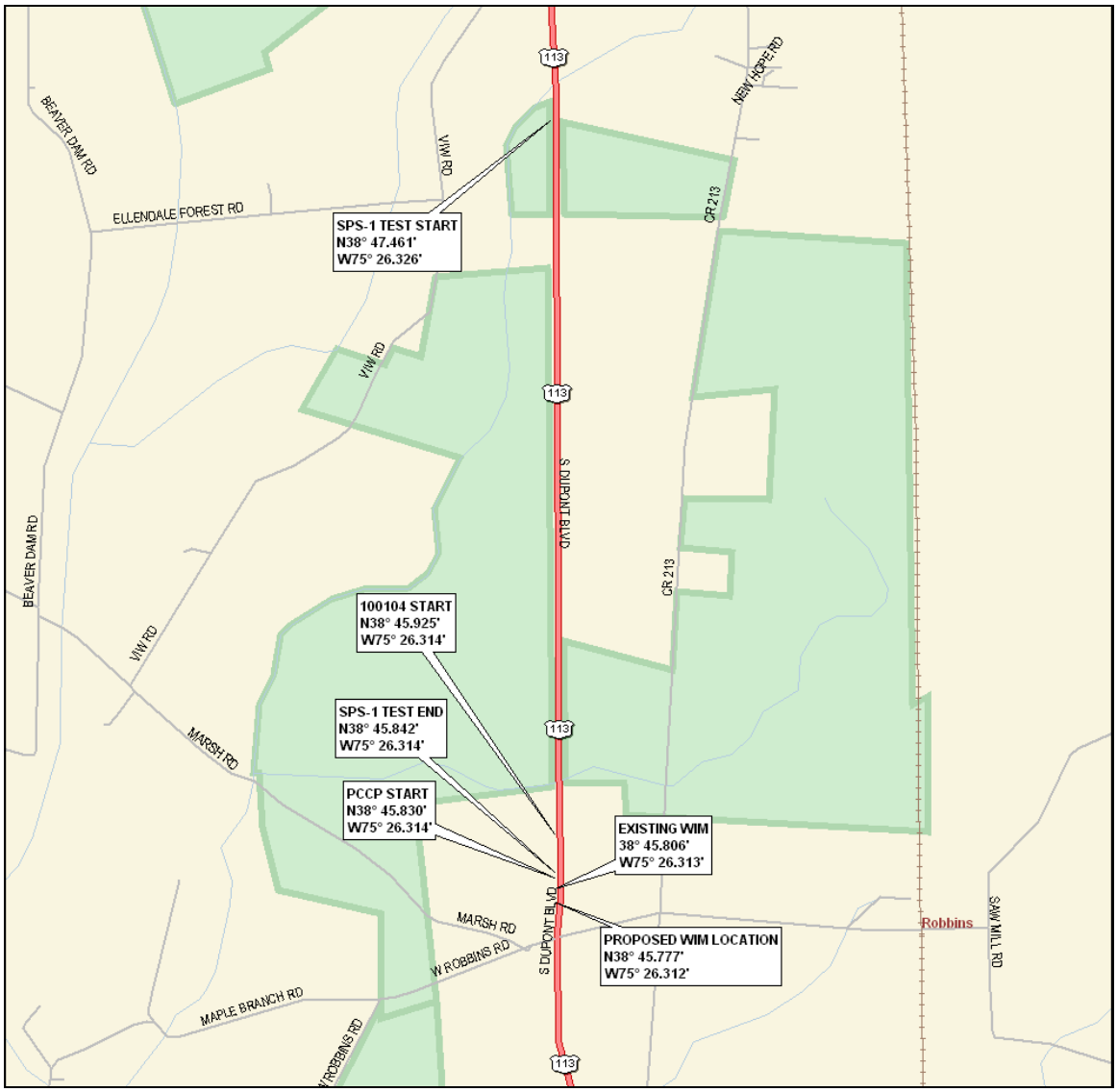


Figure 3: Map of the Southbound US 113 WIM Site
450 feet North of W Robbins Road

The SPS-1 pavement test sections are located approximately 25 miles south of Dover in the outside southbound lane of US 113 between Milford and Georgetown.

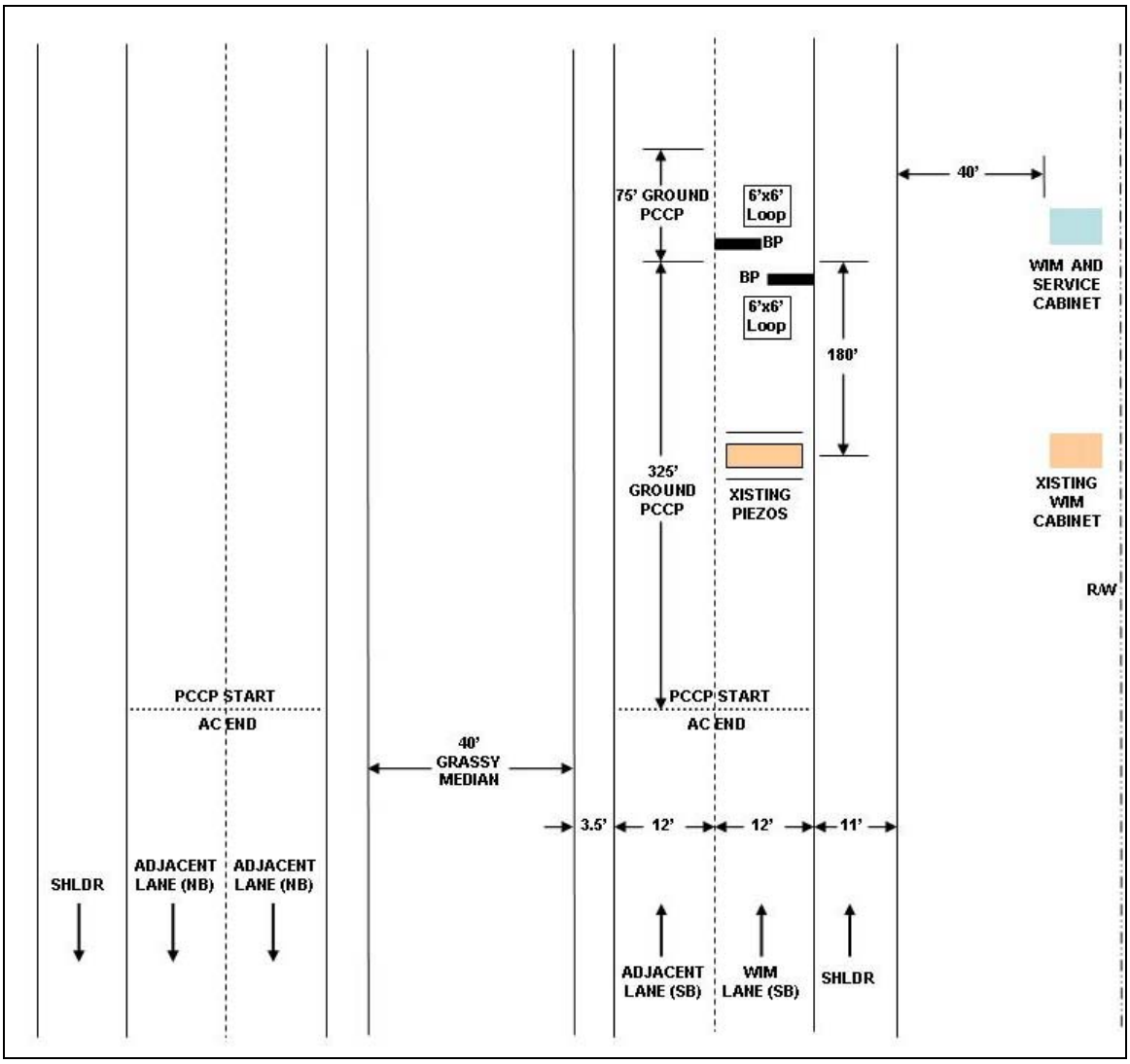
It is proposed to install the new WIM site at 450 feet north of W Robbins Road, with the system's scales in the southbound outside lane approximately 900 feet downstream of the start of test section 100104 (180 feet downstream from the existing Piezo WIM scales). The proposed WIM controller cabinet will be located opposite the scales, approximately 40 feet off the edge of traveled way adjacent to the southbound roadway's right-of-way line.

7.0 RECOMMENDED WIM TECHNOLOGY

Based upon the site conditions and discussions with the State, the bending plate technology is recommended for use at this site. It will meet the accuracy expectations of the State and provide the best value in terms of performance with minimal down time.

The centerline of the Bending Plate weigh pads should be installed approximately 900 feet downstream of the start of test section 100104. This would put the sensors approximately 180 feet downstream of the existing Piezo WIM scales. This location has been marked with a “WIM” in white paint on the outside shoulder. During the CLIN 2 design stage, the layout of the existing transverse weakened plane joints will be analyzed to best fit the in-road sensors among the joints to optimize constructability and structural stability.

7.1 RECOMMENDED LOCATION AND LAYOUT FOR THE WIM SYSTEM



Proposed WIM Scales Location
N38° 45.777'
W75° 26.312'

Figure 4: Proposed WIM Site Layout

A.0 COORDINATION DETAILS

Task Order #8, which authorized the CLIN 2001 "Determine Acceptability of Proposed Site" for the Delaware SPS-1 Site (LTPP ID 100100), was issued on January 20, 2006. This Site Acceptability Assessment was a follow up to our original visit dated June 11-13, 2005 at which time both SPS-1 and SPS-2 were being considered for the proposed WIM system.

Contacts were initially made with interested parties as follows:

- Contracting Officer's Technical Representative (COTR)
  - Debbie Walker – FHWA-LTPP ph: 202-493-3068
- State Highway Agency (SHA)
  - Greg Oliver – SHA/DEDOT ph: 302-760-2155
- LTPP Regional Support Contractor (RSC)
  - Basel Abukhater – RSC/Stantec ph: 716-632-0804
- FHWA Division Office
  - Daniel Montag – FHWA Div Rep ph: 302-734-1719
  - Paul Lang - FHWA Div Rep ph: 302-734-2835

The original "Pre-Visit Handout Guide" (Appendix A) was distributed on June 7, 2006, to the following individuals:

- Greg Oliver
- Debbie Walker
- Basel Abukhater

The site was originally visited on June 11th, 2005 by Roy Czinku (IRD) and Rich Quinley (WIMTECH). A full site assessment was performed on January 24, 2006 by Roy Czinku (IRD).

The initial briefing session was held at 8:30 AM on June 13th, 2005, at the Delaware DOT Administrative Building, 800 Bay Road, Dover, DE. Ryan Brown (Edwards & Kelsey), Mamie Lynch (Edwards & Kelsey), Greg Oliver (DELDOT), and Roy Czinku (IRD) were in attendance.

All other communications after this date were performed via email and telephone.

INTERNATIONAL ROAD DYNAMICS INC.

LTPP SPS PHASE II

WEIGH-IN-MOTION SITE ACCEPTABILITY PRE-VISIT HANDOUT GUIDE

DELAWARE SPS-1 & 2
LTPP ID 100100 & 100200

Date: June 7, 2005

CONTRACT NO. DTFH61-05-D-00001

U.S. Department of Transportation
Federal Highway Administration

LONG TERM PAVEMENT PERFORMANCE

B.0 PRE-VISIT HANDOUT GUIDE

B.1 SCHEDULE

a. Briefing session
   i. Meeting is scheduled for 8:30 a.m. Monday, June 13, 2005 at the Delaware DOT Administrative Building, 800 Bay Road, Dover, DE
b. Site visit
   i. June 11-13, 2005

B.2 BRIEFING SESSION JUNE 13, 2005, POINTS OF CONTACT, PHONE NO

a. Contracting Officer's Technical Representative (COTR)
   i. Debbie Walker – FHWA-LTPP ph: 202-493-3068
b. State Highway Agency (SHA)
   i. Greg Oliver – SHA/DEDOT ph: 302-760-2155
   ii. Ryan Brown – Edwards & Kelsey ph: 302-760-2159
   iii. Mamie Lynch – Edwards & Kelsey ph: 302-760-2458
c. LTPP Regional Support Contractor (RSC)
   i. Basel Abukhater – RSC/Stantec ph: 716-632-0804
d. FHWA Division Office
   i. Daniel Montag – FHWA Div Rep ph: 302-734-1719
   ii. Paul Lang - FHWA Div Rep ph: 302-734-2835

B.3 INFORMATION REQUESTS

a. From COTR
   i. FHWA Division contact person
   ii. New pavement profile from RSC if recent profile data unavailable
b. From RSC
   i. SHA contact person
   ii. SPS roadway section layouts (plan view and/or stationing or mileposts)
   iii. Recent pavement profile data (within the past year)
c. From SHA
   i. As-built info on roadway at proposed site
      1. Pavement cross section and structural section
      2. Alignment and grade
      3. Any utilities located in WIM install work area
   ii. Location and general availability of power and phone services, service providers, service provider contacts and phone numbers (may be beneficial if power and phone utility reps be requested to participate in briefing session and/or site visit)
   iii. Will SHA agree to extend power and phone services from existing available access points to demarcation points near planned controller cabinet location?

iv. If existing roadway pavement is AC or inadequate PCC will SHA consider replacement with 400' PCC slab if recommended per site assessment?
v. What permits will be needed to install equipment and what are procedures and time frames for obtainment?
vi. Required cabinet clear zone from edge of traveled way?
vii. If no detour routing available at proposed site (or three or more adjacent lanes), will SHA permit shifting inside lane traffic partially onto inside shoulder to provide safe clearance during installation in outside lane?
viii. Historic truck traffic data?

B.4 SITE LOCATION INFORMATION

a. Proposed WIM site search area
   i. US 113, SB outside lane between SR 16 and SR 36
b. Briefing session location
   i. Delaware DOT Administrative Building, 800 Bay Road, Dover, DE
c. Nearest major airport
   i. Baltimore Washington International Airport

Distribution --- COTR, RSC, SHA, FHWA Division, Site Assessment Team

INTERNATIONAL ROAD DYNAMICS INC.

LTPP SPS PHASE II

WEIGH-IN-MOTION SITE ACCEPTABILITY

SITE VISIT EVALUATION FORM

DELAWARE SPS-1
LTPP ID 100100

Date of Site Visit: January 24, 2006

CONTRACT NO. DTFH61-05-D-00001

U.S. Department of Transportation
Federal Highway Administration

LONG TERM Pavement PERFORMANCE

C.0 SITE EVALUATION FORM

C.1 PROPOSED WIM LOCATION

Proposed WIM Site Location – 4 Lane Roadway (2 Lanes each Direction)
Route: US-113 Mile Post: n/a Direction: SB Lane: Outside

Proximity to applicable SPS test section The proposed WIM Site is 900 feet downstream from the start of SPS Test Section 100104. The site is located within Sussex County.

C.1.1 EXISTING ROADWAY SURROUNDING THE PROPOSED WIM SITE

Type Pavement: AC

Pavement Age: 9 years old

Lane Width: 12 feet

Thickness: Varies

Observed Structural Soundness: Good

Observed Smoothness: Good

Outside SB Shoulder Type: AC

Width: 11 feet

Outside SB Shoulder Condition: Good

Inside SB Shoulder Type: AC

Width: 3.5 feet

Inside SB Shoulder Condition: Good

C.1.2 PAVEMENT 325' PRIOR AND 75' FOLLOWING WIM SCALE LOCATION

Type: PCC Structural Soundness: Good Smoothness: Good

Thickness: 8 inches Jointed or Continuous: Jointed (varies to 20 ft) – dowelled

Notes/Comments on Pavement:
The roadway in advance of the PCCP is AC pavement which contains the SPS-1 Test Sections. The WIM pavement, which is situated within the PCCP roadway section is in good condition. The PCC WIM lane is striped for 12 feet. The roadway exhibits short wavelength issues and joint deflection at various locations. Joints are sealed well and appear to be in good repair. Based upon our observations blanket pavement grinding will need to be performed prior to installation of the proposed WIM system. Upon completion of the grinding, the site will need to be re-evaluated to confirm that the pavement meets the smoothness specifications.

C.1.3 ROADWAY GEOMETRICS

Horizontal Alignment: Tangent Grade: Minimal (+/- 0 %)

Cross-slope: Inside and outside lanes are on a crowned section (+/- 2 %)

Lane width: 12 feet

C.1.4 OBSERVED TRAFFIC OPERATING CHARACTERISTICS

Passing, merging, not following lane lines? Median turnarounds and on/off areas are located throughout the test section. These do not appear to be readily used and should not affect the collected WIM data.

Stop and go traffic, congestion periods? No observed issues

Traffic signals/interchanges affecting traffic? None that appear to affect traffic flow.

Other adverse traffic flow conditions? None, Traffic flow is medium

Truck traffic at "cruising" speed (no lugging)? No lugging, smooth flow

Truck traffic staying within lane lines? Yes, good lane discipline

Observed truck suspension or body motion dynamics? Minimal body motion through the proposed WIM location (approaching and departing). Drive through confirmed minor suspension chatter.

Truck traffic composition same at WIM site and SPS site? Yes

Truck traffic on/off locations between WIM site and SPS site? There are several residential approaches and median turnarounds throughout this area. These do not appear to affect truck traffic.

Posted Speed Limit: 55 MPH

Observed Truck Speeds: 55–65 MPH

Notes/Comments on Geometrics and/or Traffic Operating Characteristics:
The proposed WIM system is located 450 feet upstream of E Robbins Road, which is used for local traffic. There is a left turn lane located 150 feet downstream of the proposed WIM location. This turn lane has a left turn pocket and is for local traffic only. Observations confirm that this will not affect truck traffic. The grade is +/- 0% approaching, through, and departing the site. Vehicles track smoothly through this area at speeds between 55 and 65 MPH (posted speed is 55 MPH for all traffic). There is good lane discipline at this site. Traffic flow is medium on this four lane, two direction roadway.

C.1.5 ACCESS TO UTILITY SERVICES

Potential source(s) for power: The existing WIM Cabinet c/w AC Power is approximately 180 feet from proposed WIM location. This service will need to be extended by the State from the existing WIM location to within 25 feet of the proposed WIM location.

Potential source(s) for telephone: The existing WIM Cabinet c/w Telephone Service is approximately 180 feet from proposed WIM location. This service will need to be extended by the State from existing WIM location to within 25 feet of the proposed WIM location.

C.1.6 EQUIPMENT INSTALLATION CAPABILITY

Adequate location for controller cabinet? Yes, large area adjacent to the right of way

Distance from edge of traveled way to cabinet? +/- 40 feet

Visibility from cabinet of sensors and approaching vehicles? Excellent

Adequate location for service facilities? Yes, adjacent R/W

Adequate drainage for scale pits? Yes, good

Adequate roadway and overall site drainage? Yes, good

Potential for ponding or flooding at cabinet or pullboxes? Minimal

Potential for traffic control problems during installation? Minimal

Ability to provide safe clearance in work zone from live traffic via:

- ☑ OK from State Agency to use opposite shoulder for traffic shift
- ☐ Multiple Adjacent Lanes

Notes/Comments on Equipment Installation Capability:
The State will need to extend power and telephone from the existing WIM cabinet to within 25 feet of the proposed WIM location. The roadway is moderately busy. We will have to work closely with the State to coordinate lane closures. There is 3.5 feet available on inside lane shoulder to accommodate a traffic shift.

C.1.7 POTENTIAL WIM SENSOR/EQUIPMENT INTERFERENCE SOURCES

Overhead power lines? Yes, overhead power lines cross US 113 approximately 400 feet downstream of the proposed WIM cabinet location. These are for residential services and will not affect the WIM system.

Adjacent railroad? None

C.1.8 CONDITIONS FOR USE OF TEST TRUCKS FOR CALIBRATION AND EVALUATIONS

Direction SB - Nearest usable truck turnaround location:

Paved median turnaround with left turn pocket Distance from WIM: 0.6 Miles

Direction NB - Nearest usable truck turnaround location:

Paved median turnaround with left turn pocket Distance from WIM: 0.7 Miles

Circuit travel distance: 2.6 Miles Estimated lap time: 5-10 Minutes

Potential circuit route restrictions? Please perform truck runs before of after rush hour.

Identification and location of trucking firm and certified static scales:

Name Sand Dollar Specialized & Heavy Hauling Inc. Contact Jackie Loretangali

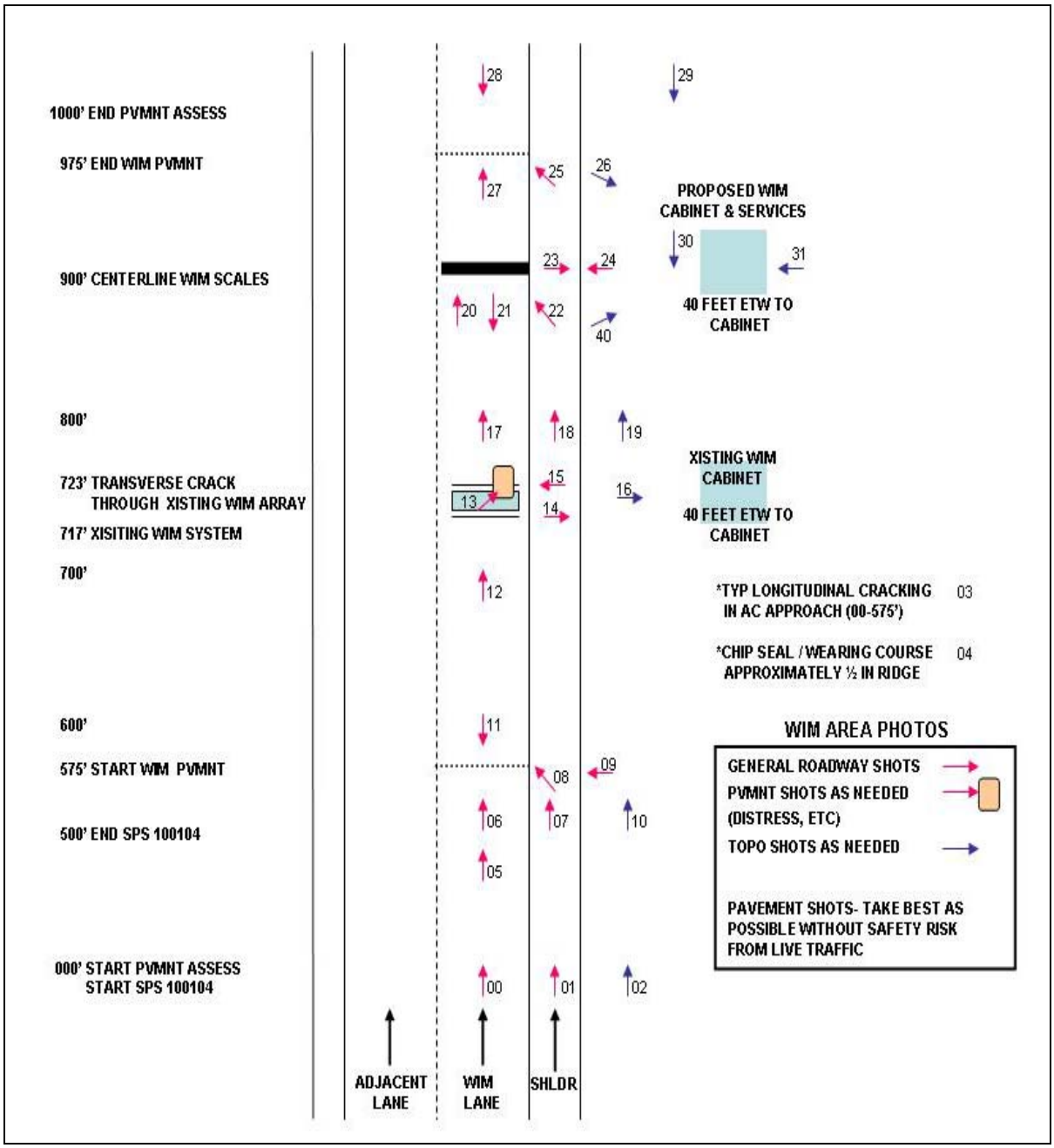
Address 1162 Holly Hill Road, Milford, DE 19963

Phone 302-424-7601 Hours 7:30 a.m. – 5:00 p.m.

Notes/Comments on Test Truck Circuit and Static Weighing Facility

Sand Dollar Specialized & Heavy Hauling Inc. is located in Milford approximately 20 miles from the Proposed WIM Site. They are a custom hauling company that has access to Tractor Trailer Air Ride vehicles and drivers available given 2-3 weeks notice. They have access to a certified scale weighing facility.

C.1.9 LOCATION LOG OF PHOTOS



C.2 EQUIPMENT AND MATERIALS

☑ Site Evaluation Forms
☑ Graph paper and note paper
☐ Clipboard
☑ Pens & pencils
☐ Small stapler
☑ Digital camera, with PC cable
☑ GPS receiver
☑ Notebook PC
☑ Calculator
☑ Cell phone
☑ Site Pre-visit Handout Guide
☑ Metal tape measure (25 ft.)
☑ Measuring wheel (ft.) and/or 100 ft. rag tape
☑ Folding rule (6 foot)
☑ Hand level
☑ Small torpedo level
☑ Keel markers
☑ Spray can white paint
☑ String Line
☑ Line Level
☑ Hammer and Concrete Nails
☐ _____

Request furnish on-site by Highway Agency:
☐ Spray can white paint
☐ Lath, 4 ft.
☐ Hammer
☐ Misc. small tools
☑ Keys for known Agency service cabinets
Note: Key for existing cabinet is a standard Type II

Proper attire for field work and expected weather:
☑ Durable shoes
☑ Cold weather layering
☐ Rain gear
☐ _____

Safety equipment per State Highway Agency requirements:
☑ Hard hat
☑ Safety vest – type Hi-Vis Safety Yellow
☑ Steel toe shoes
☐ Other required equipment _____

D.0 SHEET 17

Sheet 17		*STATE CODE	**10**
LTPP Traffic Data		*SPS PROJECT ID	**10200**
WIM SITE INVENTORY		*SPS WIM ID	**SPS-1**

1.*ROUTE:	**US 113**	MILEPOST:	**N/A**	LTPP DIRECTION:	**S**

2.*WIM SITE DESCRIPTION - Grade		**+/- 0%**	Sag vertical	**N**
	Nearest SPS section upstream of site		**100104**	
	Distance from sensor to nearest upstream SPS Section		**900 ft from start of 100104**	

3.*LANE CONFIGURATION				
	Lanes in LTPP direction	**2**	Lane Width	**12 ft**
	Median -	1 - painted 2 - physical barrier **3 - grass** 4 - none	Shoulder -	1 - curb and gutter **2 - paved AC** 3 - paved PCC 4 – unpaved 5 - none
	Outside Shoulder Width	**11 feet**		
	Inside Shoulder Width	**3.5 feet**		

4.*PAVEMENT TYPE		
	WIM approach – (greater than 325 feet upstream of WIM array)	**AC**
	WIM – (325 feet upstream through 75 feet downstream of WIM array)	**PCC**
	WIM departure – (greater than 75 feet downstream of WIM array)	**PCC**

5.*RAMPS OR INTERSECTIONS		
	Intersection/driveway within 300 m upstream of sensor location	**N**
	Intersection/driveway within 300 m downstream of sensor location	**Y**
	Is the shoulder routinely used for turns or passing?	**N**
	Other Information:	**Although there is an Intersection within 300 m downstream of the sensor location, this is used for local traffic only and will not affect the study**

Form completed by:	**Roy Czinku - IRD**	Date:	**March 2, 2006**

E.0 PHOTOGRAPHS

E.1.1 SPS TEST SECTION MARKER

E.1.2 FACING DOWNSTREAM 900 FEET IN ADVANCE OF WIM SCALE LOCATION

E.1.3 EXISTING WIM PIEZO SENSORS 180' IN ADVANCE OF NEW SCALE LOCATION

E.1.4 FACING DOWNSTREAM AT START OF WIM PAVEMENT SECTION

E.1.5 FACING UPSTREAM AT START OF WIM PAVEMENT SECTION

E.1.6 PAVEMENT JOINT DETAIL, TYP

E.1.7 FACING DOWNSTREAM FROM WIM SCALES LOCATION

E.1.8 RECOMMENDED WIM SCALES LOCATION

E.1.9 FACING UPSTREAM FROM END OF PAVEMENT ASSESSMENT LOCATION

E.1.10 RECOMMENDED CABINET LOCATION

E.1.11 EXISTING POWER AND PHONE ADJACENT NB ROADWAY'S R/W

E.1.12 EXISTING WIM CABINET ADJACENT NB ROADWAY'S R/W

E.1.13 PHONE INTERFACE IN EXISTING WIM CABINET