

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

**OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE**

FILE P.I. # 0012683
GDOT - Statewide
Weigh-in-motion Scales

OFFICE Design Policy & Support
DATE May 1, 2014

FROM  for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT APPROVED CONCEPT REPORT

Attached is the approved Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Glenn Bowman, Director of Engineering
Joe Carpenter, Director of P3/Program Delivery
Genetha Rice-Singleton, Assistant Director of P3/Program Delivery
Albert Shelby, State Program Delivery Engineer
Bobby Hilliard, Program Control Administrator
Cindy VanDyke, State Transportation Planning Administrator
Hiral Patel, State Environmental Administrator
Ben Rabun, State Bridge Engineer
Kathy Zahul, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Charles "Chuck" Hasty, State Materials Engineer
Mike Bolden, State Utilities Engineer
Jeff Fletcher, Statewide Location Bureau Chief
Bayne Smith, District Engineer
James "Jimmy" Smith, District Engineer
Thomas Howell, District Engineer
Joe Sheffield, District Engineer
Karon Ivery, District Engineer
DeWayne Comer, District Engineer
Rachel Brown, District Engineer
District Preconstruction Engineers
District Utilities Engineers
David Hannon, Project Manager
BOARD MEMBER – 1st through 15th Congressional Districts
FHWA – attn: Rodney Barry, Georgia Division Administrator

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
LIMITED SCOPE PROJECT CONCEPT REPORT**

Project Type:	<u>Weigh Scales</u>	P.I. Number:	<u>0012683</u>
GDOT District:	<u>All Districts</u>	County:	<u>Statewide</u>
Federal Route Number:	<u>I-16, I-20, I-75, I-85, I-95</u>	State Route Number:	<u>404, 402, 401, 403, 405, (Respectively)</u>
	Project Number:		<u>N/A</u>

The proposed project will add mainline Weigh-in-Motion systems upstream of all 19 existing truck weigh stations along Interstates I-16, I-20, I-75, I-85, and I-95 throughout the State of Georgia.

Submitted for approval:
Walter G. Mote Jr. HMTB
 Consultant Designer & Firm or GDOT Concept/Design Phase Office Head & Office
Jerry D. Van Meter
 State Innovative Delivery Engineer

2-25-14
DATE
2/27/2014
DATE

** Recommendation on file*
Recommendation for approval:
** Glenn Bowman / KLP*
 State Environmental Administrator
** Kathy Zahul / KLP*
 State Traffic Engineer
** Ben Rabun / KLP*
 State Bridge Design Engineer

3-5-2014
DATE
3-23-2014
DATE
2-28-2014
DATE

** Recommendation on file*
 The concept as presented herein and submitted for approval is consistent with that which is included in the Regional Transportation Plan (RTP) and/or the State Transportation Improvement Program (STIP).
Cynthia S. Vande
 State Transportation Planning Administrator

2-28-14
DATE

Approval:

Concur: *[Signature]*
 GDOT Director of Engineering

4/3/14
DATE

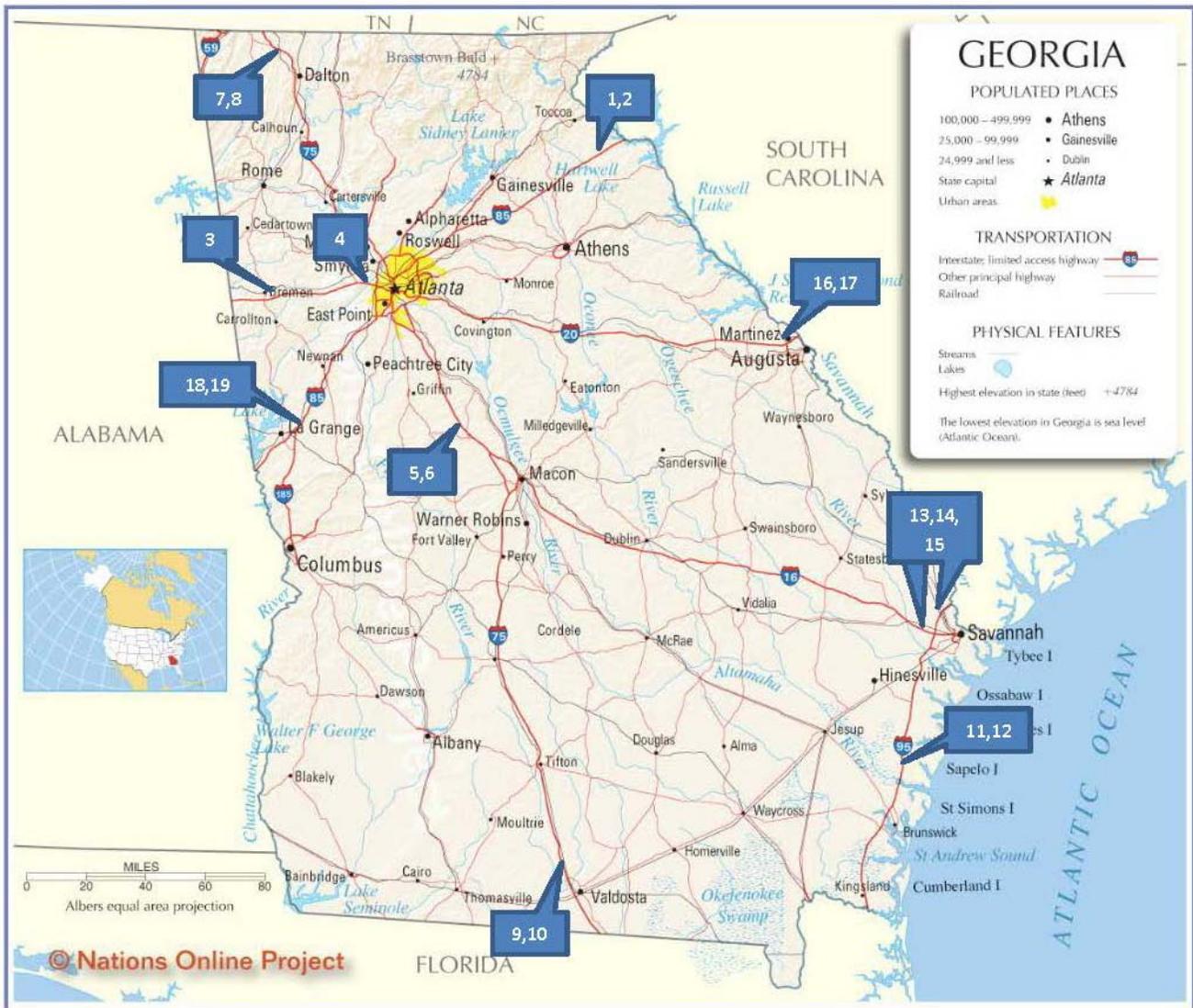
Approve: *[Signature]*
 for Division Administrator, FHWA

4/17/14
DATE

Approve: *[Signature]*
 GDOT Chief Engineer

4/28/14
DATE

PROJECT LOCATION



#	Route	County	Mile	#	Route	County	Mile
1	I-85 NB	Franklin	171	11	I-95 NB	McIntosh	54
2	I-85 SB	Franklin	169.5	12	I-95 SB	McIntosh	54
3	I-20 WB	Carroll	15	13	I-16 EB	Bryan	144
4	I-20 EB	Douglas	42	14	I-16 WB	Bryan	144
5	I-75 NB	Monroe	190	15	I-95 SB	Chatham	110.5
6	I-75 SB	Monroe	190	16	I-20 EB	Columbia	187.5
7	I-75 NB	Catoosa	342	17	I-20 WB	Columbia	187.8
8	I-75 SB	Catoosa	342	18	I-85 NB	Troup	22.5
9	I-75 NB	Lowndes	23	19	I-85 SB	Troup	22.5
10	I-75 SB	Lowndes	23				

PLANNING & BACKGROUND DATA

Project Justification Statement: The purpose of this project is to reduce crash frequency and severity and improve operational efficiency of the interstate by installing mainline Weigh-in-Motion system. This will help protect GDOT’s interstate pavement and bridges, and will expedite the movement of freight throughout the State by allowing weight compliant trucks to continue along the mainline at the posted speeds without diverting to the weigh stations. The current weigh station system requires motor carriers to exit the interstate to enter the weigh station which can cause motor carrier delays that range from a few minutes to extended queue times for trucks waiting to be weighed. These delays can lead to countless hours of productivity loss for motor carriers and prolonged transit times that adversely impact a carrier’s ability to bid competitively on delivery contracts.

The project scope also includes a “virtual” component that allows the mainline scales to send information to the nearby weigh station, and to Georgia Highway Patrol Officers in their vehicles for enforcement purposes. A database will also collect the information to be disseminated to numerous stakeholders such as the Office of Materials, the Office of Transportation Data, the Traffic Management Center, Georgia Department of Public Safety, and FHWA.

Existing conditions: Primarily rural interstate highway with two or three lanes in each direction. The mainline Weigh-in-Motion systems will be installed less than one mile upstream from the 19 existing weigh stations.

Other projects in the area: P.I. No. 0001917, Lee Road @ I-20 Interchange near station #4 in Douglas County (coordination with this project has taken place), P.I. No. 0000762, I-75 Improvements from north of SR 133 to Cook County Line, Phase II near stations #9, #10 in Lowndes County (no impact)
 P.I. No. 0000690, I-95 southbound welcome center near station #15 in Chatham County (no impact)

Description of the proposed project: Design, construction and integration related services necessary to install 19 virtual mainline Weigh-in-Motion system including: mainline scales, cameras, over-height detection, power and internet connection, signage, and traffic data storage.

MPO:	Weigh Station Number:
Atlanta Regional Commission (ARC)	#4
Augusta Regional Transportation Study (ARTS)	#16, #17
Chatham Urban Transportation Study (CUTS)	#15
Chattanooga – Hamilton County Regional Planning Agency	#7, #8
Valdosta – Lowndes County MPO	#9, #10

All others not listed above are outside MPOs.

MPO Project ID: N/A

Regional Commission:	Weigh Station Number:
Atlanta Regional Commission	#4
Central Savannah River Area	#16, #17
Coastal	#11, #12, #13, #14, #15
Georgia Mountains RC	#1, #2
Middle Georgia	#5, #6
Northwest Georgia	#7, #8
Southern Georgia	#9, #10
Three Rivers	#3, #18, #19

RC Project ID: N/A

Congressional District(s):	Weigh Station Number:
1	#11, #12, #13, #14, #15
3	#3, #18, #19
8	#5, #6, #9, #10
9	#1, #2
13	#4
14	#7, #8

Federal Oversight: Full Oversight Exempt State Funded Other

Projected Traffic: N/A

Functional Classification (Mainline):	Weigh Station Number:
Rural Interstate Principal Arterial	#1, #2, #3, #5, #6, #7, #8, #11, #12, #13, #14, #15, #16, #17, #18, #19
Urban Interstate Principal Arterial	#4, #9, #10

Complete Streets - Bicycle, Pedestrian, and/or Transit Warrants:

Warrants met: None Bicycle Pedestrian Transit

DESIGN AND STRUCTURAL

Description of Proposed Project: Design, construction and integration related services necessary to install 19 mainline Weigh-in-Motion system including: mainline scales, cameras, over-height detection, power and internet connection, signage, traffic data storage, as well as website as part of the virtual component. The mainline Weigh-in-Motion scales will be placed approximately 3000’ prior to the existing weigh station exit ramps. The mainline scale will meet industry standard, ASTM 1318-09 for accuracy. The project will include five years of warranty support that includes maintenance of the system and it will be the responsibility of the DB Team to Maintain/Upgrade any components necessary to keep the system operational during the construction period and the warranty period. These items are to include but not be limited to the existing Ramp WIM System, the existing Static Scales, and the existing ITS infrastructure.

Major Structures: No major structures will be affected by work required by this project.

Mainline Existing Design Features:

Weigh Stations: #1, #2, #3			
Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	2	2	2
- Lane Width(s)	12’	12’	12’
- Median Width & Type	#1, #2: 64’, #3: min. 88’; Depressed	64’, Depressed	#1, #2: 64’, #3: min. 88’; Depressed
- Outside Paved Shoulder Width	10’	14’	10’
- Inside Paved Shoulder Width	4’	12’	4’
Posted Speed	70		70
Design Speed	70	70	70
Access Control	Limited	Limited	Limited

*According to current GDOT design policy if applicable

Weigh Station: #4			
Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	3	3	3
- Lane Width(s)	12'	12'	12'
- Median Width & Type	40', Continuous Barrier	40', Continuous Barrier	40', Continuous Barrier
- Outside Paved Shoulder Width	10'	12'	10'
- Inside Paved Shoulder Width	9'	10'	9'
Posted Speed	65		65
Design Speed	65	65	65
Access Control	Limited	Limited	Limited

*According to current GDOT design policy if applicable

Weigh Stations: #5, #6			
Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	3	3	3
- Lane Width(s)	12'	12'	12'
- Median Width & Type	#5: 40', #6: min. 40' Continuous Barrier	40', Continuous Barrier	40', Continuous Barrier
- Outside Paved Shoulder Width	12'	12'	12'
- Inside Paved Shoulder Width	10'	10'	10'
Posted Speed	70		70
Design Speed	70	65	70
Access Control	Limited	Limited	Limited

*According to current GDOT design policy if applicable

Weigh Stations: #7, #8			
Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	3	3	3
- Lane Width(s)	12'	12'	12'
- Median Width & Type	44', Continuous Barrier	40', Continuous Barrier	44', Continuous Barrier
- Outside Paved Shoulder Width	9'-11'	12'	9'-11'
- Inside Paved Shoulder Width	10'	10'	10'
Posted Speed	70		70
Design Speed	70	65	70
Access Control	Limited	Limited	Limited

*According to current GDOT design policy if applicable

Weigh Stations: #9, #10			
Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	3	3	3
- Lane Width(s)	12'	12'	12'
- Median Width & Type	Min. 32', Continuous Barrier	32', Continuous Barrier	Min. 32', Continuous Barrier
- Outside Paved Shoulder Width	12'	12'	12'
- Inside Paved Shoulder Width	12'	10'	12'
Posted Speed	70		70
Design Speed	70	65	70
Access Control	Limited	Limited	Limited

*According to current GDOT design policy if applicable

Weigh Stations: #11, #12			
Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	3	3	3
- Lane Width(s)	12'	12'	12'
- Median Width & Type	52', Continuous Barrier	32', Continuous Barrier	52', Continuous Barrier
- Outside Paved Shoulder Width	12'	12'	12'
- Inside Paved Shoulder Width	12'	10'	12'
Posted Speed	70		70
Design Speed	70	65	70
Access Control	Limited	Limited	Limited

*According to current GDOT design policy if applicable

Weigh Stations: #13, #14			
Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	2	2	2
- Lane Width(s)	12'	12'	12'
- Median Width & Type	64', Depressed	64', Depressed	64', Depressed
- Outside Paved Shoulder Width	10'	12'	10'
- Inside Paved Shoulder Width	4'	10'	4'
Posted Speed	70		70
Design Speed	70	65	70
Access Control	Limited	Limited	Limited

*According to current GDOT design policy if applicable

Weigh Stations: #15			
Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	2-3	3	2-3
- Lane Width(s)	12'	12'	12'
- Median Width & Type	52', Depressed	64', Depressed	52', Depressed
- Outside Paved Shoulder Width	12'	12'	12'
- Inside Paved Shoulder Width	10'	10'	10'
Posted Speed	70		70
Design Speed	70	65	70
Access Control	Limited	Limited	Limited

*According to current GDOT design policy if applicable

Weigh Stations: #16, #17			
Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	2	2	2
- Lane Width(s)	12'	12'	12'
- Median Width & Type	64', Depressed	64', Depressed	64', Depressed
- Outside Paved Shoulder Width	10'	12'	10'
- Inside Paved Shoulder Width	4'	10'	4'
Posted Speed	70		70
Design Speed	70	70	70
Access Control	Limited	Limited	Limited

*According to current GDOT design policy if applicable

Weigh Stations: #18, #19			
Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	2	2	2
- Lane Width(s)	12'	12'	12'
- Median Width & Type	Min. 64', Depressed	64', Depressed	64', Depressed
- Outside Paved Shoulder Width	10'	12'	10'
- Inside Paved Shoulder Width	4'	10'	4'
Posted Speed	70		70
Design Speed	70	70	70
Access Control	Limited	Limited	Limited

*According to current GDOT design policy if applicable

Major Interchanges/Intersections:

Weigh Station	Major Interchange	Distance from nearest interchange ramp (physical gore) to nearest weigh station ramp (physical gore)
#4, Douglas	Lee Road	4745'
#5, Monroe	State Route 42	6090'
#7, Catoosa	State Route 201	8310'
#8, Catoosa	State Route 3, US Route 41	5280'
#9, Lowndes	State Route 7, US Route 41	7045'
#13, Bryan	State Route 30, US Route 280	4650'
#17, Columbia	State Route 388	7975'

Lighting required: No Yes

Transportation Management Plan [TMP] Required: No Yes
 If Yes: Project classified as: Non-Significant Significant
 TMP Components Anticipated: TTC TO PI

Will Context Sensitive Solutions procedures be utilized? No Yes

Design Exceptions to FHWA/AASHTO controlling criteria anticipated: *None*

Design Variances to GDOT Standard Criteria anticipated: *None*

UTILITY AND PROPERTY

Temporary State Route Needed: No Yes Undetermined

Railroad Involvement: None anticipated

Utility Involvements: No utilities are anticipated to be impacted by this project. Due to the limited ground disturbance and the flexibility in the locations of the Weigh-in-Motion scales, utilities can be located in the field and the locations of equipment that requires ground disturbance adjusted as necessary. Because of these limited impacts, a Subsurface Utility Engineering (SUE) waiver was prepared and has been approved by the Utility Office (see attachments). Design-Build Teams will be required to follow the “White Lining” Special Provision to limit the scope of utilities located and improve the accuracy of those locations. A list of utilities and their contacts for all 19 sites is included in the attachments.

SUE Required: No Yes

Public Interest Determination Policy and Procedure recommended (Utilities)? No Yes

Right-of-Way: Existing width: Varies
 Proposed width: Match existing

Required Right-of-Way anticipated: No Yes Undetermined
 Easements anticipated: None Temporary Permanent Utility Other

Anticipated number of impacted parcels:	0
Displacements anticipated:	Total: 0
	Businesses: 0
	Residences: 0
	Other: 0

ENVIRONMENTAL AND PERMITS

Anticipated Environmental Document:

GEPA: NEPA: CE PCE

MS4 Compliance – Projects located in an MS4 area:

MS4 Area:	Weigh Station Number:
Douglas	#4
Catoosa	#7, #8
Lowndes	#9, #10
Chatham	#15
Columbia	#16, #17

All others not listed above are outside MS4 area.
 All locations are expected to be less than an acre of disturbed area.

Environmental Permits, Variances, Commitments, and Coordination anticipated: None

Permit/ Variance/ Commitment/ Coordination Anticipated	No	Yes	Remarks
1. U.S. Coast Guard Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Forest Service/Corps Land	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3. CWA Section 404 Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Buffer Variance	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
5. Coastal Zone Management Coordination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
6. NPDES	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
7. FEMA	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
8. Cemetery Permit	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
9. Other Permits	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
10. Other Commitments	<input type="checkbox"/>	<input checked="" type="checkbox"/>	SP 107.23G for Migratory Birds.
11. Other Coordination	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Motor Carrier Compliance Division and the trucking industry

NEPA/GEPA Comments & Information:

NEPA/GEPA: NEPA Categorical Exclusion (CE) is anticipated and on schedule for Spring 2014 approval.

Ecology: No impacts to waters of the US, state waters, protected flora or fauna are anticipated. No Section 404, TVA Section 26a, or Stream Buffer Variance is anticipated.

History: No historic resources were identified within the proposed project’s area of potential effect.

Archeology: No archaeological resources were located within the project’s area of potential effect. SHPO concurrence is not required.

Air Quality:

Projects located in a PM 2.5 Non-attainment area:

PM 2.5 Non-attainment Area:	Weigh Station Number:
Atlanta	#3, #4
Chattanooga	#7, #8

All others not listed above are outside PM 2.5 Non-attainment area.

Projects located in an Ozone Non-attainment area:

Ozone Non-attainment Area:	Weigh Station Number:
Atlanta	#3, #4

All others not listed above are outside Ozone Non-attainment area.

Is a Carbon Monoxide hotspot analysis required? No Yes

Carbon monoxide hotspot analysis is not required because mainline weigh in motion does not introduce a new stop condition.

COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Project Meetings:

- Technical Evaluation Discussion on November 7, 2013
- Concept of Operations Kickoff Meeting on December 13, 2013
 - This meeting included representatives from the GDOT offices of Innovative Program Delivery, Operations, Traffic Operations, ITS, Office of Transportation Data, and Research.
 - This meeting included a discussion on proprietary concerns and whether FHWA would allow single source. After this meeting it was finalized that GDOT would procure all 19 sites at once to ensure the systems at the different weigh stations are of the same manufacturer but also allow for competitive bidding to get this statewide contract.

Project Activity	Party Responsible for Performing Task(s)
Concept of Operations Development	HNTB Corporation
Design	Design-Build Team
Right-of-Way Acquisition	N/A
Utility Relocation	Design-Build Team
Letting to Contract	Office of Transportation Services Procurement
Construction Supervision	Office of Construction
Providing Material Pits	Design-Build Team
Providing Detours	Design-Build Team
Environmental Studies, Documents, and Permits	Office of Environmental Services
Environmental Mitigation	Design-Build Team
Construction Inspection & Materials Testing	Office of Materials and Testing

Other coordination to date:

There has been coordination on the Concept of Operations including meeting with the information technology departments of GDOT (Owner) and Motor Carrier Compliance Division (Operating Stakeholder) of the Georgia Department of Public Safety.

Project Cost Estimate and Funding Responsibilities: See attachment.

	Breakdown of PE	ROW	Reimbursable Utility	CST*	Environmental Mitigation	Total Cost
Funded By	GDOT	N/A	GDOT	GDOT	GDOT	
\$ Amount	\$ 500,000	N/A	\$0.00	\$ 28,083,590	\$0.00	\$ 28,583,590
Date of Estimate	FY 2014	N/A	N/A	2/10/2014	N/A	

*CST Cost includes: Construction, Engineering and Inspection, and Liquid AC Cost Adjustment

ALTERNATIVES DISCUSSION

Preferred Alternative:			
Estimated Property Impacts:	0	Estimated Total Cost:	\$ 28.6 M
Estimated ROW Cost:	0	Estimated CST Time:	24 Months
Rationale: <i>The preferred alternative was determined to be more beneficial than not building the mainline Weigh-in-Motion systems. The mainline weigh in motion systems are expected to provide a benefit to compliant motor carriers who will not have to stop or slow down at weigh stations. The reduction of trucks exiting and entering the freeway at weigh stations should also decrease crash frequency and severity in these areas.</i>			

No-Build Alternative:			
Estimated Property Impacts:	0	Estimated Total Cost:	N/A
Estimated ROW Cost:	0	Estimated CST Time:	N/A
Rationale: <i>The no-build alternative was determined to be less beneficial than not building the mainline Weigh-in-Motion systems. Not building the mainline weigh in motion would likely cause increased delays to motor carriers.</i>			

Comments/Additional Information:

LIST OF ATTACHMENTS/SUPPORTING DATA

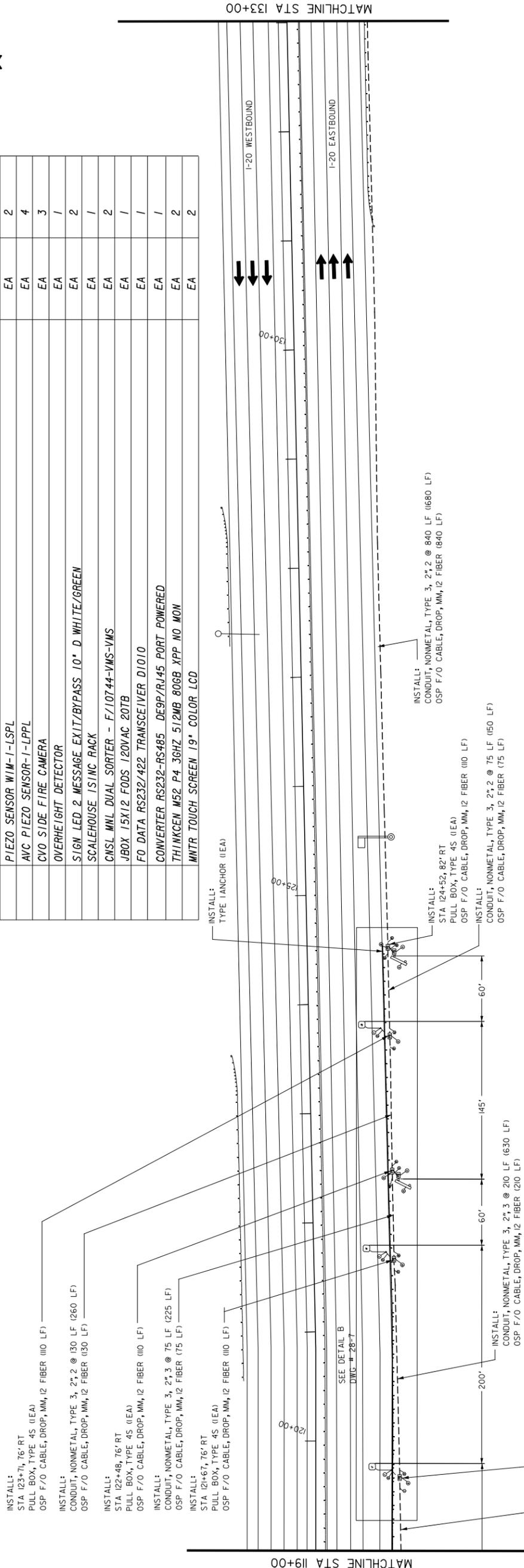
- A. Example Concept Layout
- B. Example Typical section
- C. Cost Estimates
- D. Meeting Minutes
- E. Signed Agreements: SUE Waiver
- F. Utility Providers
- G. Draft Concept of Operations

Attachment A

Example Concept Layout

LIST OF MATERIALS FOR PAYITEM 691-1000 (FOR INFORMATION ONLY)

ITEM NO.	DESCRIPTION	UNITS	QUANTITY
LIST OF MATERIALS			
	BLANKET GRIND W/IN APPROACH AND EXIT PAVEMENT (200 FEET IN ADVANCE & 100 FEET BEYOND W/IN SCALE LOCATION)	EA	1
	MAINLINE ISINC CABINET	EA	1
	RAMP GORE ISINC CABINET	EA	1
	IFRAME FOR EXISTING RAMP CABINET	EA	1
	SIC SCALE W/IN-1-LSPL	EA	1
	PIEZO SENSOR W/IN-1-LPPL	EA	2
	AVC PIEZO SENSOR-1-LPPL	EA	4
	CVO SIDE FIRE CAMERA	EA	3
	OVERHEIGHT DETECTOR	EA	1
	SIGN LED 2 MESSAGE EXIT/BYPASS 10" D WHITE/GREEN	EA	2
	SCALEHOUSE ISINC RACK	EA	1
	CHSL MNL DUAL SORTER - F/10744-VMS-VMS	EA	2
	JBOX 15X12 FOODS 120VAC 20TB	EA	1
	FO DATA RS232/422 TRANSCEIVER D1010	EA	1
	CONVERTER RS232-RS485 DE9P/RJ45 PORT POWERED	EA	1
	THINKEN M52 P4 3GHZ 512MB 80GB XPP NO MON	EA	2
	MNTR TOUCH SCREEN 19" COLOR LCD	EA	2



ITEM NO.	DESCRIPTION	UNITS	QUANTITY
LIST OF MATERIALS			
	PRNTR HP LASER JET 22PPM/1200 DPL 120V	EA	1
	ENGINEERING, INSTALLATION SUPERVISION, PROJECT MANAGEMENT, INSURANCE	LS	
	LOOP WIRE (2C 14 AWG)	LF	2,282
	LOOP SAW CUT	LF	850
	LOOP LEAD-IN WIRE (3 PR 18 AWG)	LF	2,166
	OVERHEIGHT SIGNAL CABLE (1 PR 18 AWG)	LF	40
	POWER CABLE (2C + GND 14 AWG)	LF	150
	GMS CABLE (4C + GND 8 AWG)	LF	1,881
	PIEZO LEAD-IN (RG58)	LF	930
	SCALE LEAD (3 PR 20 AWG)	LF	110
	OFF SCALE LEAD (2C 18AWG)	LF	220
	MISC MATERIALS TO COMPLETE INSTALLATION	LUMP	LUMP
	691-1000WEIGH IN MOTION SCALE SYSTEM TWS-1	LUMP	LUMP

EXAMPLE SHEET - FOR INFORMATION ONLY



400 NORTHPARK TOWN CENTER
1000 ABERNATHY RD., N.E.
SUITE 900
ATLANTA, GA. 30328
TEL: (678) 808-8800 FAX: (678) 808-8400

GEORGIA
DEPARTMENT
OF
TRANSPORTATION

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF MAINTENANCE

1-20 EB
WEIGH IN MOTION

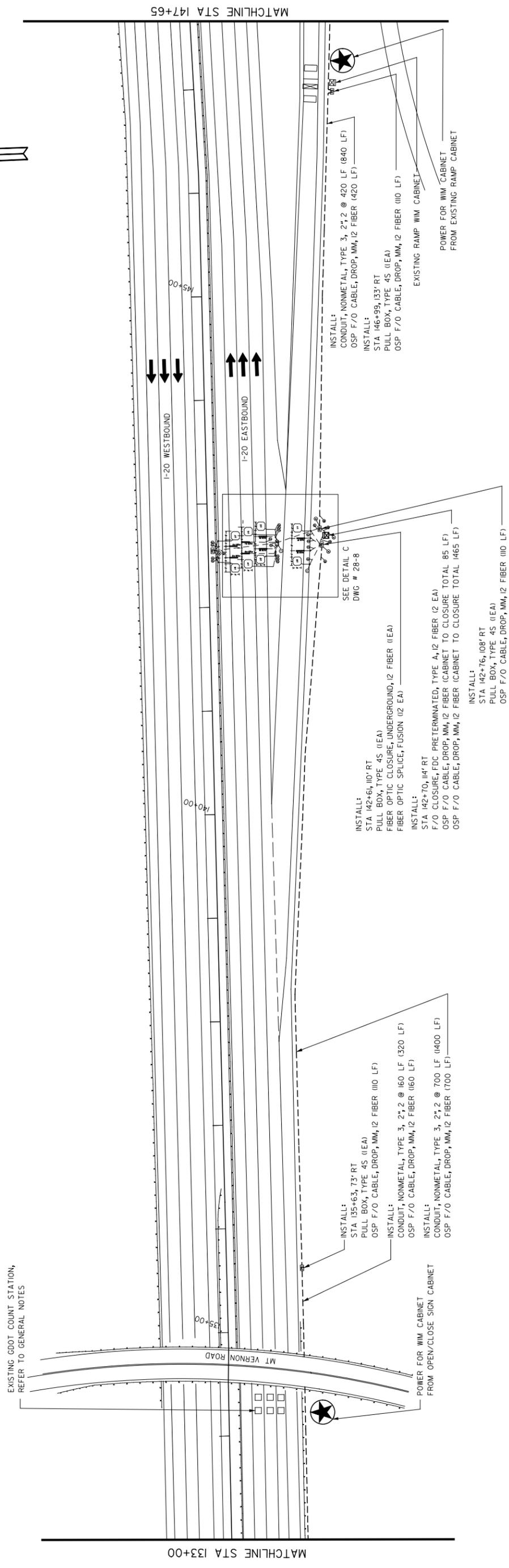
REVISION DATES

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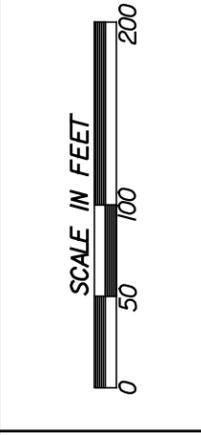
SCALE IN FEET

DRAWING NO.
28-3



EXAMPLE SHEET - FOR INFORMATION ONLY

REVISION DATES



GEORGIA
DEPARTMENT OF TRANSPORTATION

URS
400 NORTH PARK TOWN CENTER
1000 ABERNATHY RD., N.E.
SUITE 900
ATLANTA, GA. 30328
TEL: (678) 808-8800 FAX: (678) 808-8400

G R E S H A M
S M I T H A N D
P A R T N E R S

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF MAINTENANCE

I-20 EB
WEIGH IN MOTION

DRAWING NO.
28-4

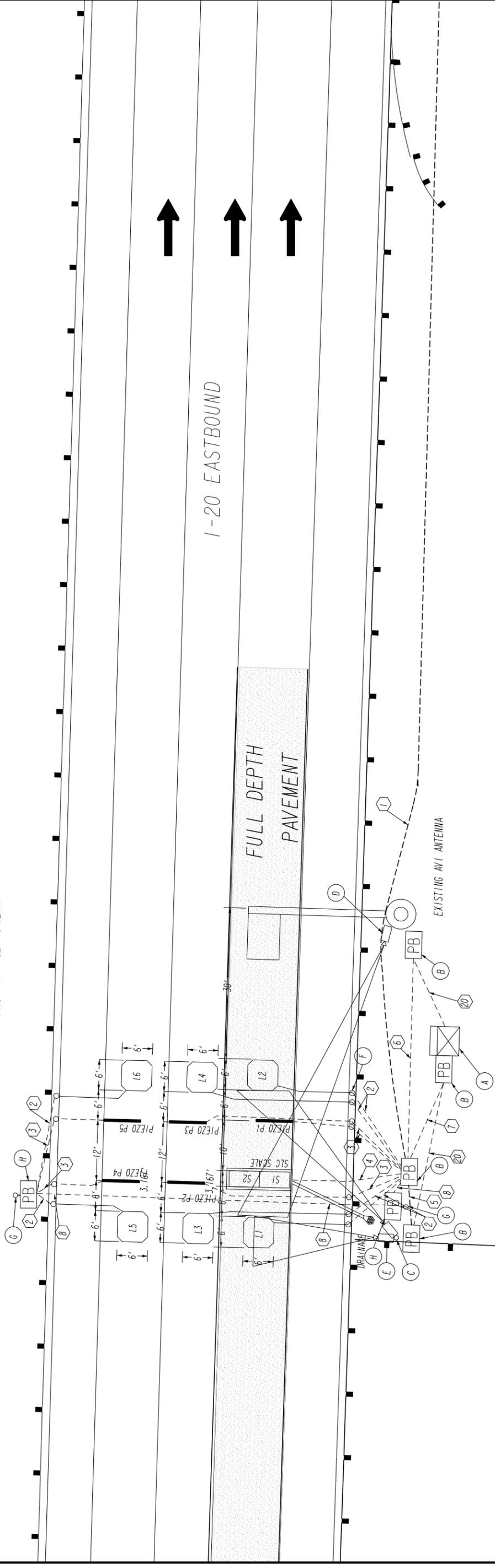
DETAIL A - EASTBOUND MAINLINE



- NOTES:**
- (A) CABINET WITH BASE - CONTAINS WIM, CAMERA, & CMS SIGN ELECTRONICS
 - (B) PULLBOX, TYPE 4S
 - (C) AUTOMATIC LICENSE PLATE READER (LPR) CAMERA FOR REAR PHOTO OF VEHICLE
 - (D) CAMERA FOR FRONT PHOTO OF VEHICLE
 - (E) CAMERA FOR SIDE PHOTO OF VEHICLE
 - (F) DRILL SHOULDER TO INSTALL CONDUIT
 - (G) OVERHEIGHT DETECTOR
 - (H) PULLBOX, TYPE 2

- (1) 3-2" CONDUITS
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)
3-3 PR 18AWG (LOOP LEAD)
2-4C + GND 8AWG (CMS SIGN POWER AND SIGNAL)
POWER FOR WIM CABINET (FROM OPEN/CLOSED SIGN CABINET)
- (2) 2" CONDUIT
1-2C 14 AWG (LOOP WIRE)
- (3) 2" CONDUIT
1-RG58 COAXIAL CABLE (PIEZO LEAD)
- (4) 2" CONDUIT
2-3 PR 20AWG (SLC SCALE LEAD)
4-2C 18AWG (OFF SCALE LEAD)
- (5) 2" CONDUIT
2-OSP FIBER OPTIC CABLES, 6 MM FIBER (CAMERA)
- (6) 2" CONDUIT
1-OSP FIBER OPTIC CABLE, 6 MM FIBER (CAMERA)

- (7) 5-2" CONDUITS
5-RG58 COAXIAL CABLE (PIEZO LEAD)
2-3 PR 20AWG (SLC SCALE LEAD)
4-2C 18AWG (OFF SCALE LEAD)
9-3 PR 18AWG (LOOP LEAD)
3-OSP FIBER OPTIC CABLES, 6 MM FIBER (CAMERA)
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)
2-4C + GND 8AWG (CMS SIGN POWER AND SIGNAL)
1-2C 14AWG (OVERHEIGHT DETECTOR POWER)
1-PR 18 AWG (OVERHEIGHT SIGNAL CABLE)
POWER FOR WIM CABINET (FROM OPEN/CLOSED SIGN CABINET)
- (8) 2-2" CONDUIT (DIRECTIONAL BORE)
1-PR 18 AWG (OVERHEIGHT SIGNAL CABLE)
1-2C + GND 14 AWG (POWER)
2-2C 14 AWG (LOOP WIRE)
2-RG58 COAXIAL CABLE (PIEZO LEAD)
- (20) 2" CONDUIT
1-2C + GND 14 AWG (POWER)



NOTE:
2" RIGID STEEL CONDUIT REQUIRED FOR ALL SENSOR CONDUITS FROM SENSOR TO PULLBOX OR CABINET
REFER TO EROSION CONTROL PLAN FOR DRAINAGE PIT OUT FALL



I-20 EASTBOUND



G R E S H A M
S M I T H A N D
P A R T N E R S



400 NORTHPARK TOWN CENTER
1000 ABERNATHY RD., N.E.
SUITE 900
ATLANTA, GA. 30328
TEL: (678) 808-8800 FAX: (678) 808-8400

GEORGIA
DEPARTMENT
OF
TRANSPORTATION

REVISION DATES

NO.	DATE	DESCRIPTION

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE OF MAINTENANCE

1-20 EB
WEIGH IN MOTION

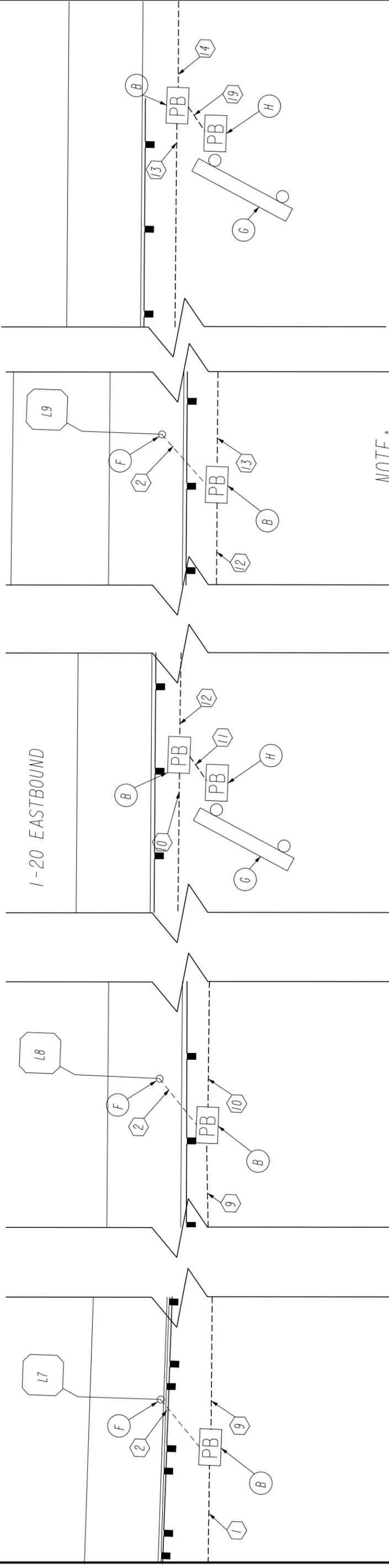
DRAWING NO.
28-6

EXAMPLE SHEET - FOR INFORMATION ONLY

DETAIL B - EASTBOUND MAINLINE

NOTES:

- (B) PULLBOX, TYPE 4S
- (F) DRILL SHOULDER TO INSTALL CONDUIT
- (G) CHANGEABLE MESSAGE SIGN (CMS)
- (H) PULLBOX, TYPE 2
- (1) 3-2" CONDUITS
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)
3-3 PR 18AWG (LOOP LEAD)
2-4C + GND 8AWG (CMS SIGN POWER AND SIGNAL)
POWER FOR WIM CABINET (FROM OPEN/CLOSED SIGN CABINET)
- (2) 2" CONDUIT
1-2C 14 AWG (LOOP WIRE)
- (9) 3-2" CONDUITS
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)
1-3 PR 18AWG (LOOP LEAD)
2-4C + GND 8AWG (CMS SIGN POWER AND SIGNAL)
POWER FOR WIM CABINET (FROM OPEN/CLOSED SIGN CABINET)
- (10) 3-2" CONDUITS
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)
1-3 PR 18AWG (LOOP LEAD)
2-4C + GND 8AWG (CMS SIGN POWER AND SIGNAL)
POWER FOR WIM CABINET (FROM OPEN/CLOSED SIGN CABINET)
- (11) 1-2" CONDUITS
1-4C + GND 8AWG (CMS SIGN POWER AND SIGNAL)
- (12) 2-2" CONDUITS
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)
1-3 PR 18AWG (LOOP LEAD)
1-4C + GND 8AWG (CMS SIGN POWER AND SIGNAL)
- (13) 2-2" CONDUITS
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)
1-4C + GND 8AWG (CMS SIGN POWER AND SIGNAL)
POWER FOR WIM CABINET (FROM OPEN/CLOSED SIGN CABINET)
- (14) 2-2" CONDUITS
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)
SPARE
POWER FOR WIM CABINET (FROM OPEN/CLOSED SIGN CABINET)
- (19) 1-2" CONDUIT
1-4C + GND 8AWG (CMS SIGN POWER AND SIGNAL)
POWER FOR WIM CABINET (FROM OPEN/CLOSED SIGN CABINET)



NOTE:

2" RIGID STEEL CONDUIT REQUIRED FOR ALL SENSOR CONDUITS FROM SENSOR TO PULLBOX OR CABINET

EXAMPLE SHEET - FOR INFORMATION ONLY

 400 NORTH PARK TOWN CENTER 1000 ABERNATHY RD., N.E. SUITE 900 ATLANTA, GA. 30328 TEL: (678) 808-8800 FAX: (678) 808-8400	GEORGIA DEPARTMENT OF TRANSPORTATION	STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE OF MAINTENANCE 1-20 EB WEIGH IN MOTION	REVISION DATES <table border="1" style="width: 100%; height: 100px;"> <tr><td> </td><td> </td></tr> </table>																				
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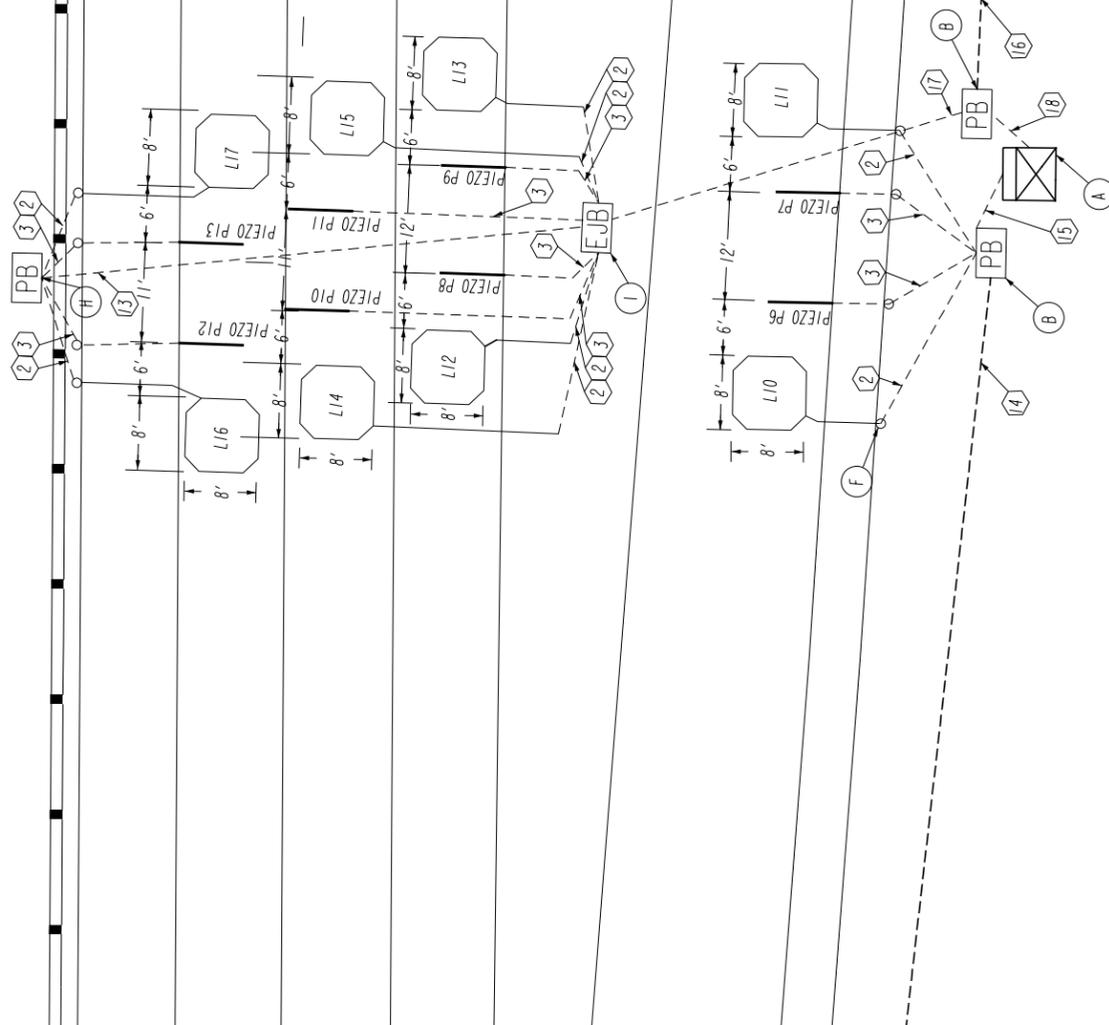
DETAIL C - EASTBOUND MAINLINE & RAMP

NOTES:

- (A) CABINET WITH BASE - CONTAINS WIM ELECTRONICS
- (B) PULLBOX, TYPE 4S
- (F) DRILL SHOULDER TO INSTALL CONDUIT
- (H) PULLBOX, TYPE 2S
- (I) ELECTRICAL JUNCTION BOX

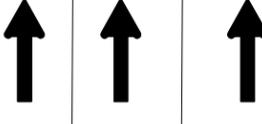
- (2) 2" CONDUIT
1-2C 14 AWG (LOOP WIRE)
- (3) 2" CONDUIT
1-RG58 COAXIAL CABLE (PIEZO LEAD)
- (13) 2" CONDUIT (DIRECTIONAL BORE)
2-2C 14 AWG (LOOP WIRE)
2-RG58 COAXIAL CABLE (PIEZO LEAD)
- (14) 2-2" CONDUITS
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)
SPARE
- (15) 2-2" CONDUITS
2-3 PR 18AWG (LOOP LEAD)
2-RG58 COAXIAL CABLE (PIEZO LEAD)
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)

- (16) 2-2" CONDUITS
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)
POWER FOR WIM CABINET (FROM RAMP WIM CABINET)
- (17) 2-2" CONDUITS (DIRECTIONAL BORE)
6-3 PR 18 AWG (LOOP LEAD)
6-RG58 COAXIAL CABLE (PIEZO LEAD)
- (18) 4-2" CONDUITS
1-OSP FIBER OPTIC CABLE, 12 MM FIBER (COMM)
6-3 PR 18 AWG (LOOP LEAD)
6-RG58 COAXIAL CABLE (PIEZO LEAD)
POWER FOR WIM CABINET (FROM RAMP WIM CABINET)



1-20 EASTBOUND

WEIGH STATION EXIT RAMP



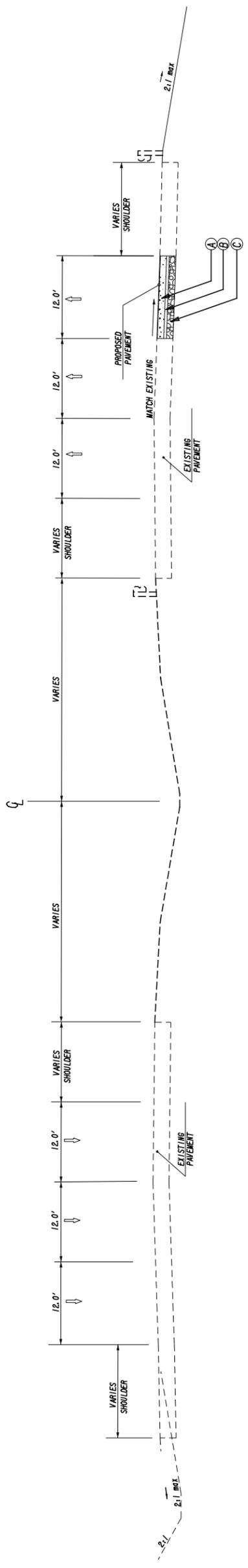
NOTE:
2" RIGID STEEL CONDUIT REQUIRED FOR ALL SENSOR CONDUITS FROM SENSOR TO PULLBOX OR CABINET

EXAMPLE SHEET - FOR INFORMATION ONLY

 400 NORTH PARK TOWN CENTER 1000 ABERNATHY RD., N.E. SUITE 900 ATLANTA, GA. 30328 TEL: (678) 808-8800 FAX: (678) 808-8400	GEORGIA DEPARTMENT OF TRANSPORTATION	STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE OF MAINTENANCE 1-20 EB WEIGH IN MOTION	DRAWING NO. 28-8
G R E S H A M S M I T H A N D P A R T N E R S		REVISION DATES	

Attachment B

Example Typical Section



I-20 EASTBOUND SECTION

APPLIES TO STA. 112+26 TO STA. 115+26

NOTE: SEE DRAWING 40-6 FOR TRANSITION DETAILS

REQUIRED PAVEMENT

- Ⓐ PLAIN PC CONC PYMT, CL 3 CONC, 12 INCH THICK
- Ⓑ ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL. BITUM MATL & H LIME (330LB/SY)
- Ⓒ GRADED AGGR BASE CRS, 12 INCH, INCL MATL

EXAMPLE SHEET - FOR INFORMATION ONLY

 400 NORTHPARK TOWN CENTER 1000 ABERNATHY RD., N.E. SUITE 900 ATLANTA, GA. 30328 TEL: (678) 808-8800 FAX: (678) 808-8400	GEORGIA DEPARTMENT OF TRANSPORTATION	STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION OFFICE OF MAINTENANCE TYPICAL SECTIONS I-20 EB WEIGH IN MOTION	REVISION DATES <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td> </td><td> </td></tr> </table>																
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Attachment C

Cost Estimate

JOB ESTIMATE REPORT

JOB NUMBER : 0012683-HNTB SPEC YEAR: 01
 DESCRIPTION: FY 14 WIM

ITEMS FOR JOB 0012683-HNTB

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0010	150-1000		LS	TRAFFIC CONTROL - BARRICADES & CONCRETE BARRIER	1.000	1241500.00	1241500.00
0015	150-9011		HR	TR CT-WORKZONE LAW ENF-CTR BIDS	4560.000	55.00	250800.00
0020	210-0100		LS	GRADING COMPLETE - DUMP FEES, REM PAV, SAWCUT RDWY	1.000	1990500.00	1990500.00
0025	310-5120		SY	GR AGGR BS CRS 12IN INCL MATL	7980.000	26.26	209554.80
0030	400-3604		TN	ASPH CONC 12.5 MM SMA,GP2,INCL P-MBM&HL	171.000	184.21	31499.91
0035	400-3624		TN	ASPH CONC 12.5 MM PEM,GP2,INCL P-MBM&HL	95.000	195.00	18525.00
0040	402-3190		TN	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	1919.000	142.81	274052.39
0045	407-0020		LF	ASPH-RUB JOINT/CRACK SEAL TP S	12293.000	1.00	12293.00
0050	413-1000		GL	BITUM TACK COAT	1197.000	5.00	5985.00
0055	432-5010		SY	MILL ASPH CONC PVMT,VARB DEPTH	760.000	10.37	7881.20
0060	439-0056		SY	PLN PC CONC PVMT CL HES 12"THK	7980.000	124.50	993510.00
0065	444-1000		LF	SAMED JTS IN EXIST PVMTS - PCC	6935.000	5.50	38142.50
0070	461-3000		LF	SEALING ROADWAY JOINTS AND CRACKS, TP SEALING ROADWAY	6935.000	6.75	46811.25
0075	603-2182		SY	STN DUMPED RIP RAP, TP 3, 24"	19.000	62.00	1178.00
0080	641-1200		LF	GUARDRAIL, TP W	8968.000	32.00	286976.00
0085	641-5001		EA	GUARDRAIL ANCHORAGE, TP 1	19.000	700.00	13300.00
0090	641-5012		EA	GUARDRAIL ANCHORAGE, TP 12	76.000	1750.00	133000.00
0095	700-6910		AC	PERMANENT GRASSING	28.500	2000.00	57000.00
0100	716-2000		SY	EROSION CONTROL MATS, SLOPES	11400.000	1.75	19950.00
0105	163-0232		AC	TEMPORARY GRASSING	28.500	650.00	18525.00
0110	163-0240		TN	MULCH	76.000	500.00	38000.00
0115	163-0529		LF	CNST/REM TEMP SED BAR OR BLD STRW CK DM	3800.000	3.50	13300.00

0120	165-0071	LF	MAINT OF SEDIMENT BARRIER - BALED STRAW	1900.000	2.00	3800.00
0125	636-1041	SF	HMY SIGNS, TP 2MAT, REFL SH TP 9	2413.000	50.00	120650.00
0130	636-2080	LF	GALV STEEL POSTS, TP 8	1520.000	9.00	13680.00
0135	636-3010	EA	GROUND-MOUNTED BREAKAWAY SIGN SUPPORT	152.000	550.00	83600.00
0140	654-1003	EA	RAISED PVMT MARKERS TP 3	76.000	25.00	1900.00
0145	657-1054	LF	PRF PL SD PVMT MKG, 5", WH, TP PB	5700.000	10.00	57000.00
0150	657-3054	GLF	PRF PL SK PVMT MKG, 5", WH, TP PB	5700.000	6.00	34200.00
0155	615-1100	LF	DIRECTIONAL BORE PIPE - 3 IN	950.000	20.00	19000.00
0160	615-1100	LF	DIRECTIONAL BORE PIPE - 5 IN	6080.000	27.00	164160.00
0165	632-0003	EA	CHANGEABLE MESS SIGN, PORT, TP 3	1.000	501000.00	501000.00
0170	647-2120	EA	PULL BOX, PB-2	76.000	650.00	49400.00
0175	647-2141	EA	PULL BOX, PB-4S	285.000	1750.00	498750.00
0180	682-6233	LF	CONDUIT, NONMETL, TP 3, 2 IN	285000.000	5.00	1425000.00
0185	682-9021	EA	ELEC JCT BX, CONC GRD MOUNTED	19.000	2500.00	47500.00
0189	999-2010	LS	DESIGN COMPLETE	1.000	2427296.27	2427296.27
0190	691-1000	LS	WEIGH IN-MOTION SCALE SYS, TWS WIM SCALE SYSTEM	1.000	12385000.00	12385000.00
0195	001-4000	*	CONSTRUCTION CONTINGENCY 15%	1.000	3166038.61	3166038.61

ITEM TOTAL 26700258.93
INFLATED ITEM TOTAL 26700258.93

TOTALS FOR JOB 0012683-HNTB -----
ESTIMATED COST: 26700258.93
CONTINGENCY PERCENT (0.0): 0.00
ESTIMATED TOTAL: 26700258.93

Attachment D

Meeting Minutes

MEETING NOTES



Date: November 7, 2013
Project: FY 14 Weigh In Motion – PI Number 0012683
Purpose: Technical Evaluation Discussion
Location: GDOT 21st Floor Conference Room
Time: 8:30 AM

Attending:

Mike Perdue	GDOT – IT	mperdue@dot.ga.gov	404-631-1052
Gary Blanton	GDOT – IT	gblanton@dot.ga.gov	404-631-1634
Charlie Ray	GDOT – IT	chrray@dot.ga.gov	404-631-1207
Karyn Matthews	GDOT – IPD	kmatthews@dot.ga.gov	404-631-1584
David Hannon	HNTB	dhannon@hntb.com	404-275-2829
Dustin O'Quinn	HNTB	doquinn@hntb.com	404-960-9323

The following items were discussed:

1. Karyn opened the meeting and introductions were made. Innovative Program Delivery (IPD) is procuring Design-Build contracts to upgrade all of the states Weigh Stations to add Weigh-In-Motion (WIM) scales. There are a total of 19 locations that will be upgraded and GDOT has committed to investing \$30 Million over 6 years to complete the upgrades.
2. The WIM Project will have an industry forum on November 15, 2013 and the Request for Qualifications (RFQ) will be released on December 5th, 2013. The first contract would be for the Franklin County site and the software to be housed and maintained by GDOT IT.
3. The only current WIM is located in Douglasville and has been removed as part of the construction project near Lee Road. The original installation of the WIM at the location did not include the virtual software portion. All of the new locations will have the virtual software component. High speed connectivity at the weight station is required to transmit the WIM data to the virtual software component. . Each site needs either Navigator Fiber or a minimum of a T1 connection. (A recoccurring cost of approximately \$1000/Mo/Station will be necessary for sites with T1 connections) Some stations may already have high speed connectivity.
 - a. Charlie to investigate which of the 19 sites currently have high speed connectivity.
4. IT suggested that the contract also include a requirement for the software to que up the data when the connection is lost and resume transmitting data once the connection is restored.
5. The Department of Public Safety (DPS) will need to be able to access the new WIMs data in real time either through the WIM system software or a separate software, which acts as a “washing machine” of data from different WIM systems, that takes in data instantly from the WIM system software. Other Departments which need portions of the WIM data such as FHWA, Georgia State Patrol (GSP), and GDOTs Office of Materials and Testing (OMAT) can be pushed the data within 24 hours by the WIM system software or by the “washing machine” software that gathers data instantly from the WIM system.

6. If a separate “washing machine” software is developed, the development will be included in the first WIM contract. For a separate software to be functional for all WIM venders, GDOT will need to establish requirements for a standard data format that the all WIM venders must comply with that can be imported into the software in real time.
7. GDOT’s IT is primarily concerned about having to maintain software licenses for multiple venders which could happen if they end up with multiple scale venders over the course of the 6 different contracts procured. Their concern is that they will have to be able to maintain the “washing machine” in addition to each proprietary software, and continually ensure that the proprietary updates still talk to the “washing machine” software. Another concern was that the DPS would not be able to get real time video and data from the “washing machine” so they would still have to log in to the individual vender’s web application for that weigh station and that the officer would have to know which vender was installed at each station since they may all be different.
8. Due to the federal funding for the project, a proprietary vendor isn’t allowed to be specified in the contract advertisements. The group discussed some options to avoid having multiple systems:
 - a. Letting just the WIM System and Software component in the first year for all 19 sites (total contract must come in under the first year’s budget). IT noted that Jane Smith may have procured Traffic Collector systems in the same manner.
 - David will reach out to national resources to determine if procuring the WIM System and Software for all 19 sites is possible.
 - David to talk with Jane Smith in the office of Transportation Data about how she handles the Traffic Collector Implementations.
 - b. Requesting a FHWA waiver for the proprietary equipment and require the subsequent contracts to use the vender procured under the first contract.
 - The majority of the WIM ramp scales that are currently installed are IRD scales. It was discussed after the meeting that the waiver to FHWA may be to use IRD on all contracts.
9. At this time, IPD needs verbiage from IT to establish minimum qualification requirements for a software developer of the “waging machine” software to be included in the RFQ. As the Request for Proposals (RFP) and the Concept of Operations (Con-ops) are developed IPD will request additional meetings and coordination to establish the “washing machine” software requirements and possibliy the required data format that will be sent/received from the “washing machine.”
 - a. Mike to provide minimum qualification requirements for the RFQ.

Action Items:

1. **Charlie to investigate which of the 19 sites currently have high speed connectivity.**
2. **David will reach out to national resources to determine if procuring the WIM System and Software for all 19 sites is possible.**
3. **David to talk with Jane Smith in the office of Transportation Data about how she handles the Traffic Collector Implementations.**
4. **Mike to provide minimum qualification requirements for the RFQ.**

MEETING NOTES



This is represents our understanding of items discussed and decisions reached. Please contact Karyn Matthews (404-631-1584 or kmatthews@dot.ga.gov) if there are changes or additions no later than seven days after receipt.

cc: Attendees, Darryl VanMeter (GDOT), John Hancock (GDOT), Mark Demidovich (GDOT), James Gordon (GDOT), Matt Glasser (GDOT), Rob Lewis (HNTB), Jason JonMichael (HNTB), and Keith McCage (HNTB)

MEETING NOTES



Date: December 13, 2013
Project: FY 14 Weigh In Motion – PI Number 0012683
Purpose: Concept of Operations Kickoff Meeting
Location: GDOT 4th Floor Conference Room
Time: 8:00 AM

Attending:

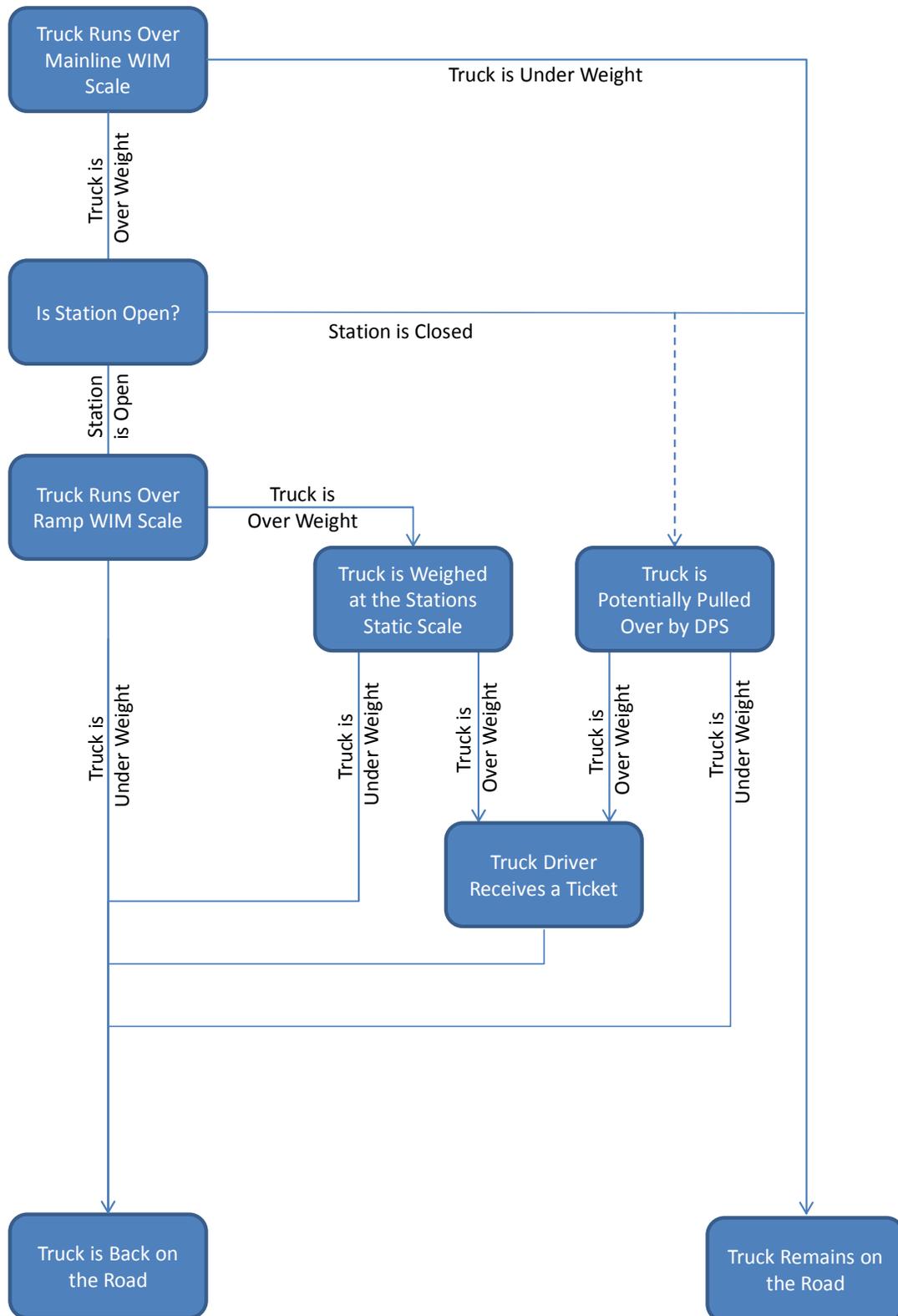
Darryl VanMeter	GDOT-IPD	dvanmeter@dot.ga.gov	404-631-1703
Meg Pirkle	GDOT-Ops	mpirkle@dot.ga.gov	404-631-1400
Kathy Zahul	GDOT-Traffic Ops	kzahul@dot.ga.gov	404-635-2828
Mark Demindovich	GDOT-Traffic Ops	mdemidovich@dot.ga.gov	404-635-2838
Matt Glasser	GDOT-ITS	mglasser@dot.ga.gov	404-635-2836
Jane H Smith	GDOT-OTD	janesmith@dot.ga.gov	770-986-1360
Georgene Geary	GDOT Research	ggeary@dot.ga.gov	404-608-4712
Jason JonMichael	HNTB	jjonmichael@hntb.com	816-591-1396
Keith McCage	HNTB	kmccage@hntb.com	404-946-5731
Xuwen Le	HNTB	xle@hntb.com	404-946-5741
David Hannon	HNTB	dhannon@hntb.com	404-275-2829
Dustin O'Quinn	HNTB	doquinn@hntb.com	404-960-9323

The following items were discussed:

1. Darryl VanMeter opened the meeting and introductions were made. Innovative Program Delivery (IPD) is procuring Design-Build contracts to upgrade all of the states Weigh Stations to add Weigh-In-Motion (WIM) scales. There are a total of 19 locations that will be upgraded and GDOT has committed to investing \$30 Million. The project is currently programed over 6 years; however, IPD is preparing a letter that will request all funding is moved into one Fiscal Year and let all 19 sites under one contract. The Design-Build contracts will be awarded using Best Value which allows GDOT to score the Design-Build team on their approach to the project and the value they bring in addition to their bid price.
2. Jason JonMichael kicked off the meeting explaining the systems engineering process and how the Concept of Operations Document fits into the V-Diagram . It is critical that the Concept of Operations components be Specific, Measurable, Decomposable, and Traceable. Everyone in the group stated their individual expectations of the meeting. Those are listed below:
 - a. Define the stakeholders and the stakeholder needs.
 - b. Clarify the project vision and develop a vision statement.
 - c. Define the integration methods for the existing and proposed systems.
 - d. Define the necessary data and how it will be shared.
 - e. Define the project specifications for the high level system architecture, the system hardware, and software.
 - f. Ensure the project is meeting the safety and mobility needs.
3. The group discussed the project stakeholders:
 - a. Department of Public Safety (DPS)/Motor Carrier Compliance Division (MCCD)
– Operating Stakeholder

- b. Georgia Department of Transportation (GDOT) – Owing Stakeholder
 - Office of Traffic Data – Data User
 - Office of Planning – Data User
 - Office of Design – Data User
 - Office of Materials – Data User
 - Traffic Management Center – Owner/Data User
 - c. Third Parties
 - PrePass
 - DriveWyze
 - Georgia Motor Trucking Association (GMTA)
4. Needs for the various stakeholders were discussed:
- a. Promote highway safety and mobility
 - b. Maintain compliance with Federal Regulations
 - c. Normalized and Quality data
 - d. Easily transferable data for multiple uses/users (OTIS, CVISION, SAFER, Transmetric, NaviGator, Mechanistic Empirical Pavement Design Guide (MEPDG), etc...)
 - e. Open architecture system (to ensure that it can be modified/varied in the future to meet future GDOT needs)
 - f. Both virtual enforcement and mobile enforcement components
 - g. CCTV sharing capabilities
 - h. VDS sharing capabilities
 - i. Warranty period requirements:
 - Duration (five years?)
 - Response time requirements
 - Incentives
 - Payment
 - Liquidated damages
 - Technology refresh prior to end of 5th year
 - j. Training for at least 10 Department-designated people in the last 6 months of the warranty period.
 - k. Maintenance costs after warranty period
5. The group discussed several operational scenarios which will become Modes of Operation for the WIM System:
- a. Weigh Station Open
 - Mainline WIM Open
 - Ramp WIM Open
 - Static scale Open
 - b. Weigh Station Closed
 - Mainline WIM Open
 - Ramp WIM Closed
 - Static scale closed
 - c. Mainline WIM Under Maintenance
 - All trucks are instructed to pull in
 - Ramp WIM Open
 - Static scale Open

6. Through these discussions 5 different operational scenarios were identified and the steps for each were detailed. Those decisions have been depicted in the WIM Operational Process Flow Chart below:



Once the scenarios and needs were defined the team discussed the four main components the project (field weigh station, virtual/mobile enforcement, reporting):

- a. Field components
 - Conduit and power from WIM components to weigh station
 - WIM scales/detection
 - Weight station open/closed sign
 - Truck pull in/bypass sign
 - Application Specific Sign (Static Sign with flashers)
- b. Weigh Station Components
 - Computer hardware/software components need replacing (ramp and static scales)
- c. Virtual/Mobile Enforcement
 - Data collection:
 - 1. Overweight Vehicle ID
 - a. Collects images, WIM, Video Detection System (VDS) and Automatic License Plate Reader (ALPR)
 - 2. Overweight vehicle bypass verification
 - a. Collects image and ALPR
 - MCCD Officer sees:
 - 1. Company safety rating and other historic information such as habitual violations
 - 2. Comparison of measured Weight to allowable weight
 - 3. This information needs to be easily understood and digestible so that the officer can quickly determine if he needs to pull over a truck.
- d. Reporting System (canned and ad hoc reports)
 - Canned reports
 - 1. Log, company, % violations
 - 2. Total volume, % trucks, Load Spectra
 - 3. Trip tracking
 - 4. % Prepass and Drivewayze Violators
 - 5. Time of day violations occur
 - 6. Weigh station open/closed correlation with % overweight vehicles
 - 7. Tracking % time weigh station is open/closed
 - Data dictionary
 - 1. Logistics companies
 - 2. Volume
 - 3. Load Spectra
 - 4. Time of day
 - 5. Weigh station open/closed
 - 6. Permitting system
 - 7. Data must be collected in its raw form in order to be used more readily by others

7. The group discussed potential items to be scored as part of the Best Value RFP.
 - a. Ability to add additional data to a weighed truck in real time such as the truck's safety rating, trip information, weight history, etc...
 - b. Warranty period
 - c. Integration with other databases and other weight station scales
 - d. Ease of maintenance
 - Training of staff
 - New computer hardware/software at the scales during the warranty period
 - Downtime of WIM scales
 - Battery backups
 - e. Scale accuracy

8. After the meeting IPD met with GDOT IT and MCCD to get their input and feedback on the Concept of Operations document. Minutes from those meetings are below.
 - a. GDOT IT Department Meeting
 - IT recommended the virtual WIM be hosted externally
 1. This will incur a reoccurring cost in addition to the annual licensing fees. The Department needs to determine who will be responsible for those costs.
 - High speed internet will also be necessary at each location. This needs to be discussed with DPS to determine if they can support the WIM System with their current internet or if the Department needs to supply their own.
 1. If the Department has to supply the high speed internet it needs to be determined who will be responsible for those costs.
 - ProMiles Software will be implemented for overweight permits and route tracking first of next year. The software is will be hosted externally.
 - The Department needs to determine how maintenance of the WIM System will be funded after the warranty period.

 - b. Motor Carrier Compliance Division Meeting
 - MCCD recommends the real time data included the following:
 1. Trucks Permit information
 2. Violation History
 3. WIM Data (Axel weight, truck height, etc)
 - Canned reports discussed in the Concept of Operations meeting met the needs of MCCD.
 - System Recommendations
 1. Include a system interface with the open/closed sign.
 - a. They currently have a manual switch at all stations.
 2. Wants to keep the open/closed signs as a back plan for if the WIM mainline goes down or if maintenance is required.

- Observations from the 2009 Douglasville site:
 1. Sign configuration and appearance worked well (Truck Ok to Bypass in green/ Truck Must Enter in green and red).
 2. Missing the virtual component.
 3. Didn't have the ability to provide charts or digestible data.
 - a. The reporting that was provided had to come from IRD and it took almost a week to produce.
- Confirmed that the internet connection will need to be upgraded at all locations.
- Agreed with GDOT IT that SSL Based connection (external host) would be preferred so a simple Login/Authentication can be used instead of a VPN Connection.
- MCCC's OTIS System is hosted at MCCC and assume the necessary data format will be XML but IPD will need to confirm that with MCCC's IT Department.
- Confirmed that MCCC uses SAFER and PRISM do obtain company safety ratings.
- If PrePass and DriveWyze will need information for MCCC they will need an MOU

Action Items:

1. **IPD to coordinate with the Motor Carrier Compliance Division to schedule a meeting to discuss the below items (Include GDOT in the meeting):**
 - **Current internet provider for the 19 stations and if the provider speeds can accommodate the Virtual WIM.**
 - **How they are currently documenting when the Station is open/closed.**
 - **Gain input on the Con Ops developed in this meeting and see if they have additional needs for data format, data gathering and sharing timeframe requirements, and sign placement.**
2. **IPD to coordinate with the Georgia Motor Trucking Assoc. to schedule a meeting to discuss the below items (Include GDOT in the meeting):**
 - **Preferred sign spacing and type for the WIM System**
 - **Gain input on the Con Ops developed in this meeting and see if they have additional needs.**
3. **IPD to obtain the technology refresh and liquidated damages language used by the Florida Department of Transportation.**
4. **HNTB to take the information gathered in the meeting to develop a vision statement for the project.**
5. **IPD to coordinate follow up meetings with PrePass, DriveWyze, ProMiles, and other GDOT Planning and Bridge Offices for their needs.**
6. **The Department needs to determine who will be responsible all reoccurring cost associated with the WIM System.**

MEETING NOTES



This represents our understanding of items discussed and decisions reached. Please contact Dustin O'Quinn (404-960-9323 or doquinn@hntb.com) if there are changes or additions no later than seven days after receipt.

cc: Attendees, John Hancock (GDOT), Ben Rabun (GDOT), Cindy VanDyke (GDOT), Thomas McQueen (GDOT), Mike Purdue (GDOT), Charlie Ray (GDOT), Major Boulware (MCCP), Mike Davis (MCCP), Chand Bennett (MCCP), Rob Lewis (HNTB)

Attachment E

SUE Waiver

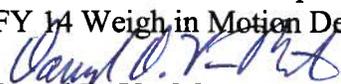
**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: PI No. 0012683, All GDOT Districts
Franklin Co., Carroll Co., Douglas Co.,
Monroe Co., Catoosa Co., Lowndes Co.,
McIntosh Co., Bryan Co., Chatham Co.,
Colombia Co. and Troup Co.
FY 14 Weigh-in Motion Design-Build

OFFICE: Innovative Program Delivery

DATE: December 4, 2013

FROM: 
Darryl D. VanMeter, P.E., State Innovative Program Delivery Engineer

TO: Mike J. Bolden, State Utility Engineer

SUBJECT: Request for Utility Accommodations Policy and Standards Manual Variance

The Office of Innovative Program Delivery is evaluating a project for Design-Build suitability. The project is, PI No. 0012683 in the following counties: Franklin Co., Carroll Co., Douglas Co., Monroe Co., Catoosa Co., Lowndes Co., McIntosh Co., Bryan Co., Chatham Co., Colombia Co., and Troup Co. The project will install 19 mainline Weigh-in-Motion scales and provided the related software integration.

Page 4-8, Section 4.0.C.2 of the Utility Accommodations Manual (UAM), 2009 edition, states that “The Department requires the use of SUE on all design-build projects and recommends that District Utilities Engineers and Project Managers consider its use on any project where inaccurate underground utility information would negatively impact the project in a significant way.”

A variance is requested to remove the requirement to conduct Subsurface Utility Engineering (SUE) investigations for the pre-let and post-let phases of this Design-Build project since the scope will include minimal removal and replacement of existing concrete in the mainline and the installation of mast arms and conduit in the shoulder of the interstate mainline. Additionally the project limits will be within the existing mainline shoulder and we will coordinate the locations of existing utilities with your office. Avoiding all utilities relocations will be part of the Design-Build contract. Design-Build teams will still be required to coordinate with utility owners to verify locations of existing underground utilities and follow the Georgia Utility Facility Protection Act, O.C.G.A. § 25-9-1. In addition a Special Provision for White Lining will be added to the contract to coincide with the Common Ground Alliance Best Practices manual for all excavation activities.

SUE investigations are not being conducted on this project due to the low risk associated with having inaccurate underground utility information. These investigations are not feasible because obtaining SUE information would greatly increase project cost.

If you have any questions or comments, please feel free to contact David Hannon at 404-631-1712 or dhannon@dot.ga.gov.

DVM:JDH:dto

Recommend: 
Mike Bolden, State Utilities Engineer

Date: 12-11-13

Attachment F

Utility Providers

Sites 1 & 2: Franklin County Sites			
Utility Provider	Contact	Email	Telephone
Atlanta Gas Light	Mr. Jonathan Todd	jtodd@aaglresources.com	(404)584-3732
AT&T	Mr. Jerald Greer	gerald.greer@att.com	(706)353-4300
AT&T-Long Distance (Fiber)	Mr. Scott Logeman	sll13@att.com	(770)935-8255
City of Lavonia	Mr. Ralph M. Owens	rmowens@lavonia-ga.com	(706)356-8781
Franklin County	Mr. Billy Morse	bmorse@franklincountyga.com	(706)384-2483
Georgia Power-Distribution	Mr. Galen Davis	deeverit@southemco.com	(404)473-0777
Hart EMC	Mr. Keith Brown	keith.brown@hartemc.com	(706)377-2230
North Georgia Network Cooperative, Inc.	Mr. Joe Phillips	NgnUtilities@northgeorgianetwork.com	(706)994-2754
TruVista	Mr. Jerry Shirley	jshirley@truvista.biz	(706)886-2727
Toccoa Natural Gas	Mr. Harry Scott	hscott@cityoftoccoa.com	(706)282-3254
Windstream Communications (Telephone)	Mr. Brian Phillips	Brian.Phillips@windstream.com	(706)335-0381

Site 3: Carroll County Site			
Utility Provider	Contact	Email	Telephone
Carroll County Water and Sewer		mwindom@cowageorgia.com	
Haralson County Water		hch2o@belsouth.net	
Carroll EMC		stanley.kendrix@cemc.com	
AT&T		dc5693@att.com	
Atlanta Gas Light		jstephen@aaglresources.com	
Charter CATV		ken.york@charter.com	

Site 4: Douglas County Site			
Utility Provider	Contact	Email	Telephone
Austell Natural Gas System	Mr. Eddie Wood	ewood@austellgas.com	(770) 948-1841 ext. 3110
AT&T	Mr. James Silvester	js7244@att.com	(404) 532-7572
Greystone Power Corporation	Mr. Sandy Beasley	Sandy.Beasley@greystonpower.com	(770) 370-2505
Plantation Pipe Line Company	Mr. Carl Lieberman	carl.lieberman@kindermorgan.com	(770) 751-4110
Level (3) Communications	Mr. Michael Mayes	michael.mayes@level3.com	(404) 394-0597
Georgia Transmission Corporation	Mr. Chuck Scarborough	chuck.scarborough@gaTRANS.com	(770) 270-7948
Douglasville-Douglas County Water and Sewer Authority	Mr. Miguel A. Baca, P	mbaca@ddcwsa.com	(770) 920-3819

Sites 5 & 6: Monroe County Sites			
Utility Provider	Contact	Email	Telephone
Atlanta Gas Light	Milton Floyd		
AT&T	Neca Holley, P.E.		
Charter CATV	Steve Alexander		
City of Forsyth	Janice Hall		

Address	Additional Information
Ten Peachtree Place, Atlanta, GA 30309	
125 Reese St., Athens, GA 30613	
360 Gees Mill Business Parkway, Conyers, GA 30013	
P.O. Box 564, Lavonia, GA 30553	
P.O. Box 159, Carnesville, GA 30521	
205 Dairy Pak Rd., Athens, GA 30607	
P.O. Box 250, Hartwell, GA 30643	(cc: Glenn Cleveland for project info), glenn.cleveland@hartemc.com
6135 Hwy 115, Suite 1A, Clarksville, GA 30523	
119 Falls Rd., Toccoa, GA 30577	
P.O. Box 579, 92 N. Alexander St., Toccoa, GA 30577	
145 Oak Street, Commerce, GA 30529	

Address	Additional Information
5997 Hutcheson Drive, Austell, GA 30106	
2310 Parklake Dr. NE, Suite 118, Atlanta, GA 30345	
P.O. Box 897, Douglasville, GA 30133	
1100 Alderman Drive, Suite 200, Alpharetta, GA 30005	
345 Courtland Street, Atlanta, GA 30308	
2100 East Exchange Place, Tucker, GA 30084	
8763 Hospital Drive, Douglasville, GA 30134	

Address	Additional Information
10 Peachtree Place, 11th Floor - Location 1345, Atlanta, GA 30309	
232 South Hill Street, Griffin, GA 30224	
1167 Pace Street, Covington, GA 30014	
P. O. Box 1447, Forsyth, GA 31029	

Georgia Power-Distribution	Chris Hardy		800 Garrett Way, Milledgeville, GA 31061	
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Sites 7 & 8: Catoosa County Sites				
Utility Provider	Contact	Email	Telephone	Additional Information
Catoosa Utility District		randyt@catt.com		
Windstream Communications		floyd_moser@windstream.com		
Charter CATV		Nathan.Shadwick@charter.com		
North Georgia EMC		pruud@ngemc.com		
Atlanta Gas Light		bstephen@agresources.com		
City of Ringgold		danwright@catt.com		
Dalton Utilities (Electric)		thomas@duutil.com		
Dalton Utilities (Gas)		egalloway@duutil.com		
Dalton Utilities (Water & Sewer)		bkinsey@duutil.com		
Georgia Power		smholder@southernco.com		
East Tennessee Nat. Gas	Craig Thurman		(423) 344-3758 ext. 24	(423) 667-4856 Cell Number

Sites 9 & 10: Lowndes County Sites				
Utility Provider	Contact	Email	Telephone	Additional Information
Atlanta Gas Light	Jeff Busby	jbusby@agresources.com	(229) 251-5347	Brian Garris - (470) 233-3633
AT&T	Teresa Geiger	tg2342@att.com	(229) 888-4671	
Colquitt EMC	Karen Edwards		(229) 244-6893 ext. 6218	
Georgia Power-Distribution	Eddie Mullis	emullis@southernco.com	(706) 416-2677	Eddie Mullis - (404) 506-6539
Lowndes County Board of Commissioners	Justin Fountain		(229) 412-6029	
Mediacom, LLC	Charles Buckner	cbuckner@mediacomoc.com	(229) 244-3852 ext. 2352	Brian Wester - (229) 563-6368
Tower Cloud, INC. Telecom	Patricia Morrison	pmorrison@towercloud.com	(727) 471-5639	

Sites 11 & 12: McIntosh County Sites				
Utility Provider	Contact	Email	Telephone	Additional Information
Comcast Cable	Carl Murray		(912) 658-6976	
Coastal EMC	Benjamin Liddic		(912) 880-2222	
Darien Telephone Company, INC	Robert Brigman		(912) 437-5885	
McIntosh County Board of Commissioners (Water)	Tim Cooke		(912) 832-1158	

Sites 13 & 14: Bryan County Sites				
Utility Provider	Contact	Email	Telephone	Additional Information
Bryan County Board of Commissioners (Water)	Gary Hollingsworth		(912) 312-0771	
Bryan County Board of Commissioners (Sewer)	Gary Hollingsworth		(912) 312-0772	
AT&T	Ken Rector		(404) 216-7772	
Canoochee EMC	David Crews		(912) 557-4391 ext. 2020	
City of Claxton Gas	Brad Jernigan		(912) 739-1712	
Frontier Communications	David Akins		(912) 531-0208	
Georgia Power	Savannah		(404) 506-6539	
Pembroke Telephone Company	Christie Howard		(912) 653-4794	

Site 15: Chatham County Site				
Utility Provider	Contact	Email	Telephone	Additional Information
AT&T	Ken Rector		(404) 216-7772	
Comcast Cable	Carl Murray		(912) 658-6976	

Georgia Power	Savannah	(404) 506-6539	
Centurylink	Centurylink Dispatch	(855) 742-6082	
City of Port Wentworth (Water)	Allen Speller	(912) 966-7427	
City of Port Wentworth (Sewer)	Allen Speller	(912) 966-7428	
Windstream Dalton	Windstream Dispatch	(888) 599-3166	

Sites 16 & 17: Columbia County Sites			
Utility Provider	Contact	Email	Telephone
Atlanta Gas Light	Kelly Keevan	kkeevan@aqlresources.com	(404) 584-4310
AT&T (Distribution)	Warren Geitgey	warren.geitgey@att.com	(706) 210-8283
Columbia Co. Telecommunication	Lewis Foster	lfoster@columbiacountyga.gov	(706) 312-7325
Columbia Co. Traffic Engineering	Glen Bollinger	gbollinger@columbiacountyga.gov	(706) 447-7613
Columbia Co. Water Utility (W & S)	Eric Hinds	ehinds@columbiacountyga.gov	(706) 651-0433
Georgia Power (Distribution)	Kristy Griffin	kgriffin@southernco.com	(706) 437-7104
Wide Open West (WOW)	Patrick Casey	patrick.casey@knology.com	(706) 825-8480
Comcast Cable	Robbie Landrum	robbie_landrum@cable.comcast.com	(706) 739-1846

Sites 18 & 19: Troup County Sites			
Utility Provider	Contact	Email	Telephone
AT&T	Neca Holley, P.E.		232 South Hill Street, Griffin, GA 30224
Charter CATV	Ken York		127 Mattox Ct., LaGrange, GA 30241
City of LaGrange	Patrick Bowie		200 Ridley Avenue, LaGrange, GA 30240
Diverse Power	Chuck Redmond		P. O. Box 160, LaGrange, GA 30241
Georgia Power (Distribution)	Eddie Mullis		524 Atlantic Street, BIN 74311, Manchester, GA 31816

No Paper Plans for Eddie Mullis. Rachael Bailey - Traffic Signals & ATMS projects. Failure to submit letters to Mark Tilden at MATILDEN@southernco.com

Attachment G
Draft Concept of Operations

VIRTUAL WEIGH STATION SYSTEM CONCEPT OF OPERATIONS



February 11, 2014

Version 1.0

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1 INTRODUCTION

1.1 EXISTING WEIGH-IN-MOTION SYSTEM IN GEORGIA

There are currently 19 weigh stations on the interstates in Georgia facilitating the enforcement of the size and weight laws. The weigh stations have a Weigh-in-Motion system on their entrance ramps that makes a sort decision of whether to send a truck to the static scales. These permanent stations are equipped to detect axle, tandem and gross weight violations of the federal bridge formula (the standard specifying the relationship between axle or groups of axles, spacing and gross weight that those axles may carry).

Georgia Department of Transportation (GDOT) began construction of the first weigh stations in Georgia in 1978 along the I-75 corridor. Those weigh stations were located in Catoosa County, Monroe County and Lowndes County. Over the next 6 years additional weigh stations were constructed on I-85 in Franklin County and Troup County, I-20 in Columbia County, Douglas County and Carroll County, I-16 in Bryan County and I-95 in McIntosh County. This gave GDOT a total of 18 weigh stations on the interstate system. During the 1996 Olympics the weigh stations on I-75 were closed and all new weigh station equipment was installed. These upgrades included new WIMs on the entrance ramps and static scales. A new weigh station was also constructed on I-95 South in Chatham County increasing the total number of weigh stations to 19 statewide.

Since their initial construction, equipment upgrades or facility reconstruction have been completed at follow locations:

- Stations on I-16 in Bryan County and McIntosh County were upgraded in 1997, including new facilities, ramp extensions, parking lot expansions and new equipment including ramp WIM and static scales.
- Stations on I-85 in Carroll County and Troup County were upgraded in 2003, including new facilities and all new weighting equipment.
- Stations on I-20 in Columbia County and Franklin County were upgraded in 2005, including new facilities and all new weighing equipment.

- Station on I-20 in Douglas County was upgraded in 2009 with the installation of a mainline WIM scale at this facility. This system is currently offline due to construction in the area.

Each interstate weigh station is equipped to allow PrePass-enrolled vehicles to bypass scales except for a predetermined pull-in rate.

1.2 VIRTUAL WEIGH STATION

A Virtual Weigh Station (VWS) is an enforcement facility that does not require continuous staffing and can be monitored from a remote location. The Virtual Weigh Station System (VWSS) concept is very flexible. Given there is a minimum set of functionality/technology deployed, a customized VWSS deployment can meet a set of specific functional needs, operational environment, and communication infrastructure. This document describes key aspects of the VWSS deployment in Georgia.

1.3 GEORGIA VIRTUAL WEIGH STATION SYSTEM VISION STATEMENT

The vision statement of the VWSS in Georgia is as follows:

- Develop an integrated Weigh-in-Motion System to facilitate efficient operations and effective monitoring of commercial vehicles in Georgia.
- Provide an open architecture Weigh-in-Motion System to meet long-term sustainable transportation growth in Georgia.

1.4 STAKEHOLDER NEEDS

The stakeholders and their needs of the VWSS in Georgia have been identified and are summarized in **Table 1** on the following page.

Table 1 Georgia Virtual Weight Station System Stakeholder Needs

Stakeholder	VWSS Needs
Traveling Public	Ensure a safer operating environment
Motor Carriers (Georgia Motor Trucking Association)	Notification, location data, citation data
GDOT Permits and Operations Division	Oversize/overweight permitting enforcement - screening decisions - screening algorithm - motor carrier safety records - performance/compliance history
Office of Traffic Operations	Integration and traffic monitoring traffic condition monitoring - volumes, speeds, weather etc.
GDOT Office of Transportation Data, Office of Materials, Office of Design, Office of Planning	Traffic data collection - volume, speeds, axle weight, classification
GDOT IT	Integration, data dictionary
Georgia Department of Public Safety (DPS) - Motor Carrier Compliance Division (MCCD)	Enforcement and communication with DPS: - real time screening decisions - real time vehicle and driver information - real time vehicle location data
Federal Motor Carrier Safety Administration (FMCSA)	Communication with FMCSA's SAFER program, CVISN compliance
FHWA	Bridge formula weights compliance - regular reporting (monthly)
Third Parties (PrePass, ProMiles, DriveWyze, etc.)	Notification, screening data, location data, citation data

1.5 GEORGIA VWSS SYSTEM GOALS

The main goals for the VWS System in Georgia are:

- Achieve an adequate level of Over-weight/Over-size enforcement to meet Federal standards;
- Meet a level of traffic monitoring and reporting appropriate for the level of truck traffic in Georgia;
- Establish an integrated system to improve commercial vehicle operation efficiency and safety through targeted enforcement;
- Improve commercial vehicle regulation enforcement effectiveness by enabling virtual and mobile enforcement;
- Provide data and information that can easily accessed and utilized by multiple users for various purposes;
- Provide an open architecture system that can be easily modified/expanded to meet future objectives and growth needs;
- Develop a system that requires low long-term operation and maintenance costs.

1.6 PURPOSE OF THE CONCEPT OF OPERATIONS

The purpose of this Concept of Operations (ConOps) is to provide a high-level summary of the operational requirements related to the VWSS in Georgia. This document will be updated as the Project design and operations are finalized and will be subject to approval by GDOT/DPS and MCCD.

This document is not intended to be a detailed design document, but serve as an overview of the Project's requirements, functionality and operations. This document also describes how these systems communicate and share data amongst the named stakeholders within this document. These functionality and operations requirements are further described in the operational scenarios detailed in **Section 2.4** of this document.

2 CONCEPT OF OPERATIONS

This Technical Plan provides a framework and general guidelines under which this Project's VWSS will operate. The framework is expected to evolve and expand over time. The VWSS concepts identified in this document are intended to support GDOT goals as identified in **Section 1.5**.

2.1 FUNCTIONS OF VIRTUAL WEIGH STATIONS

In order to support the goals identified previously, a VWSS must support the following functionality:

- Real-time weighing of a commercial vehicle—Determine a commercial vehicle's approximate axle weights as the vehicle moves across sensors, and calculate the gross vehicle weight and classification based on the number of axles, as well as axle weights and spacings;
- Real-time identification of the motor carrier responsible for the operations of a commercial vehicle—Identify the motor carrier that is responsible for the safe operation of the vehicle;
- Real-time verification of vehicle dimensions—Integrate additional sensors (e.g., gantry-mounted laser over-height detectors) to determine if a commercial vehicle exceeds legal height, width, and length regulations and therefore would require an oversize/overweight permit;
- Integration of real-time data for screening decisions—Integrate commercial vehicle identification and weight data in real-time/near real-time, in order to support manual (i.e., decisions made by roadside enforcement personnel) or automated (i.e., decisions calculated by the system and then forwarded to a human or changeable message sign (CMS)) targeting of specific commercial vehicles for further enforcement action;
- Communication of data to enforcement personnel in real-time—Communicate VWS data (e.g., vehicle photo, weight data) to authorized

users (e.g., mobile enforcement personnel stationed downstream from the VWS, enforcement personnel stationed at a fixed inspection site that could be dispatched to intercept an overweight vehicle) in a timely and secure manner; and

- Availability of data to support resource planning—Provide commercial vehicle average daily trip data (e.g., volume, weight, vehicle classification) in order to support the scheduling of mobile enforcement activities, as well as track commercial trucks' movement in order to identify locations in need of fixed enforcement facilities.

2.2 VIRTUAL WEIGH STATION SYSTEM ARCHITECTURE

Figure 1 (on Page 8) provide high-level overviews of the proposed system architecture for Georgia's VWSS. The VWSS architecture includes three groupings:

- *Roadside* technology components
- *State Data Center* that includes all back-office components
- *External User Services*, which provide information for additional WIM operations/support capabilities or for other uses for external users.

These three architecture groupings are further defined as follows:

Roadside—This grouping includes the set of technologies and operations that involve the identification, observation, and enforcement interaction with the commercial vehicle and the driver. Core roadside technologies include Automatic Vehicle Identification (AVI) transponder vehicle identification (processed by PrePass), Closed Circuit TV (CCTV) camera systems, WIM scales, Optical Character Recognition (OCR) systems (e.g., Automatic License Plate Readers (ALPRs) and USDOT number readers), and dimensional sensors.

State Data Center—This grouping provides the set of information technology systems and databases that enable the functionality of the WIM system. The State Data Center referenced in the context of this ConOps is a data fusing information system maintained by GDOT supporting high-speed information exchanges at roadside

enforcement sites. In addition to a repository of license plate identifiers that would be hosted in the State Data Center, an expanded amount of data/factors can also be queried at the roadside and/or stored from the roadside via the State Data Center.

External User Services—This grouping encompasses the uses of VWS information to support public and private sector operations. Motor carriers would be provided with time-stamped vehicle location information that could support enhanced productivity, as well as tailored traveler information. Transportation management centers would receive tailored information concerning roadway congestion and conditions. Through CVIEW, State and Federal safety systems would receive key enforcement data outputs. State enforcement agencies would also receive key statistical information that could assist them in better staff planning and operation schedule. Key statistical information could also assist in planning for future VWS deployment across the State.

The arrows connecting each of the components in Figure 1 illustrates the specific information interfaces for the VWS architecture. In general, the Roadside elements identify and weigh the commercial vehicle, as well as generate screening decisions. The screening computer integrates data from the Roadside systems and vehicle and uses this data along with information queried from the State Data Center in order to screen and target vehicles at the roadside. The screening computer also relays the data from the commercial vehicle and Roadside elements to enforcement personnel stationed at a fixed site or in a mobile unit. These enforcement personnel conduct roadside enforcement activities on targeted vehicles.

In addition to providing data to be queried by the screening computer, the State Data Center systems also provide the outputs necessary to support the External Users of the VWS data (e.g., traffic management centers, motor carriers, Federal safety systems, planning offices).

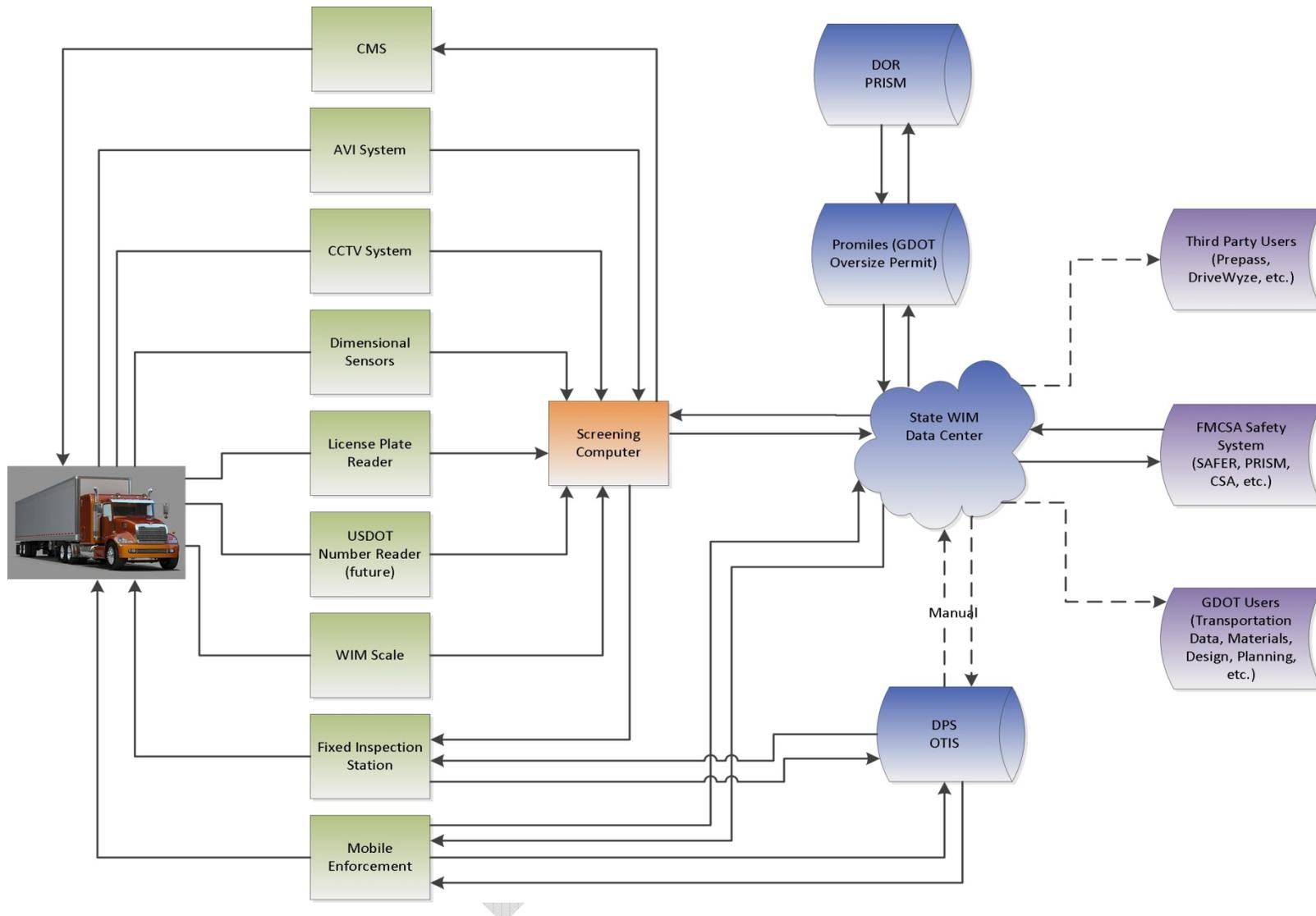


Figure 1 Georgia Virtual Weight Station System Interfaces

2.3 KEY CONCEPTS

Basic functionality of the VWSS is described in the following concepts:

1. Use roadside technology coupled with network-based computing and storage to augment human enforcement resources
2. Allow for the efficient and effective deployment of enforcement resource;
3. Accurately identify all commercial vehicles in real-time;
4. Determine a commercial vehicle's weight to a degree of accuracy that is sufficient for its functional purpose at mainline WIM for screening and ramp WIM for sorting at weigh stations;
5. Deliver real-time vehicle identification and weight data to station and mobile enforcement personnel;
6. Integrate other safety, historical, and credentialing data for planning and enforcement;
7. System architecture that is open and expandable so that future technologies can be easily and effectively integrated.

2.4 OPERATIONAL SCENARIOS

As illustrated in **Figure 2** (on Page 11), the following steps summarize the potential operations of a VWS in Georgia:

1. As a commercial vehicle approaches the virtual weigh station, it is weighed on the WIM scales and measured by dimensional sensors.
2. AVI system automatically identifies the specific vehicle using PrePass processing.
3. License plate/USDOT number reader (future) and associated Optical Character Recognition (OCR) software to identify the motor carrier that is responsible for operating the commercial vehicle.

4. Screening system uses vehicle and motor carrier identifiers to query back-office safety, credentials, and weight performance data (OTIS, PRISM, SAFER, Transmetrics etc.).
5. Screening system integrates weight data with safety, credentials, and weight performance data in order to determine whether a commercial vehicle should be selected for additional enforcement actions based on the screening decision.
6. Mobile enforcement officer positioned downstream from the VWS and/or enforcement personnel stationed at a fixed site access the VWS System (e.g. photo of commercial vehicle, vehicle identifier(s), WIM data, screening decision).
7. A commercial vehicle/motor carrier that is overweight or noncompliant with safety (e.g., over height or out-of-service order) or credential (e.g., IRP, IFTA, UCR, OS/OW) is directed to the weigh station for weighing/inspection. If monitoring is conducted remotely, an officer is dispatched to locate and pull the vehicle over for weighing/inspection, or direct the vehicle to the weigh station for weighing/inspection.
8. Vehicle, motor carrier, and commercial driver identifiers, as well as compliance (i.e., weight, safety, credential) data are sent to a back-office repository so the State can develop a history of compliance/noncompliance with weight standards for each motor carrier and/or commercial vehicle (similar to the safety performance metrics calculated by FMCSA).
9. Data from the VWS is available to authorized users for planning and reporting purposes.

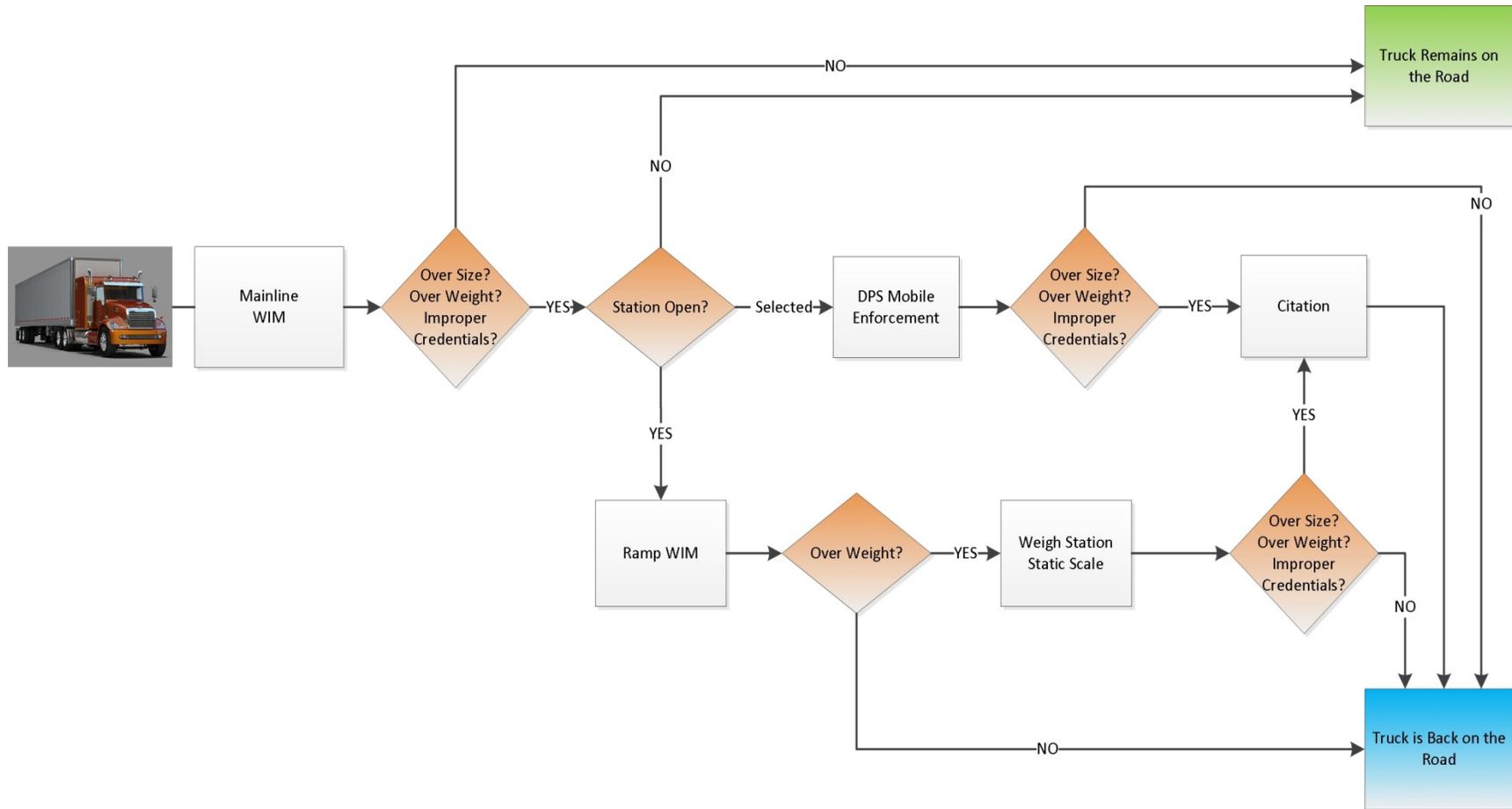


Figure 2 Georgia Virtual Weight Station Operation Scenarios

2.5 OPERATIONAL POLICIES

The following policies summarize the minimum policies that should be enacted concerning the deploying of the VWS System in Georgia:

1. All commercial vehicles must be identified and weighed by a VWS;
2. Commercial vehicles should be allowed to proceed at the normal speed for the road on which they are operating when passing a VWS;
3. Deployment of VWS technology should be designed to limit driver distraction;
4. VWS deployments should leverage existing information technology (IT) and data infrastructure and standards (e.g., existing WIM deployments) whenever possible;
5. Motor carriers should be made aware of how data collected by a VWS will be used;
6. Access to VWS data should be limited to authorized users that have a clear and pertinent business need for the information (e.g., roadside enforcement personnel to support screening decisions, motor carriers to track their own vehicles);
7. Motor carriers should be provided with a means to challenge any data that they believe to be inaccurate;
8. Direct enforcement and/or a change to a motor carrier's safety rating will occur only if the VWS data (e.g., motor carrier/vehicle identification, weight information) can be certified as being accurate;
9. Standards should be developed to govern the storage and retention (e.g., how long will data be kept) of all data associated with VWS deployments; and
10. Data used by government agencies for non-enforcement purposes (e.g., planning) should be anonymous.

2.6 MAINTENANCE

The maintenance of Georgia's the Virtual Weigh Station System including software and all physical roadside WIM equipment will be assumed by the contractor during the initial 5-year warranty period. All routine maintenance as well as on call emergency repair service will be also part of the warranty. GDOT will assume the long-term maintenance of the VWSS.

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3 CONCLUSIONS

The proposed Virtual Weigh Station System will expand Georgia's size and weight enforcement program and to ensure Georgia's size and weight enforcement program will remain compliant with federal requirements. The proposed VWSS would provide to public and private stakeholders the following potential of benefits.

1. Improve operational efficiency and effectiveness of states' roadside enforcement programs by focusing resources on commercial vehicles that are known to be overweight, and are known to be operated by carriers with a history of poor safety performance and/or compliance with Federal and State size and weight regulations, or are currently noncompliant with Federal and/or State credentialing regulations;
2. Improve motor carrier compliance with Federal and State truck size and weight regulations;
3. Improve motor carrier safety through improved enforcement and a reduction in the number of operating overweight commercial vehicles;
4. Improve productivity of compliant motor carriers through a reduction in the number of roadside inspections to which they are subjected;
5. Provide an additional source of tracking information for motor carriers;
6. Reduce fuel consumption and trip times for legally loaded and operating carriers caused by unnecessary delays at weigh stations;
7. Reduce costs associated with new roadside enforcement assets due to the cost differential between deployment of a VWS and a fixed weigh station;
8. Improve real-time data sharing with commercial vehicles;
9. Provide augmented data sources for use by freight and highway planners.

Appendix A – Acronyms

AVI Automatic Vehicle Identification

ConOps Concept of Operations

CSA Comprehensive Safety Analysis

CVIEW Commercial Vehicle Information Exchange Window

CVISN Commercial Vehicle Information Systems and Networks

FHWA Federal Highway Administration

FMCSA Federal Motor Carrier Safety Administration

IFTA International Fuel Tax Agreement

IRP International Registration Plan

ISS Inspection Selection System

IT Information Technology

LPR License Plate Reader

OCR Optical Character Recognition

OS/OW Oversize and Overweight

PRISM Performance and Registration Information Systems Management

SAFER Safety and Fitness Electronic Records

TMC Traffic Management Center

UCR Unified Carrier Registration

USDOT United States Department of Transportation

VWS Virtual Weigh Station

VWSS Virtual Weigh Station System

WIM Weigh-in-Motion