

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

Agency/Department	Informa	ation	)			a	ll	CA)	U	(a)									
Inspection Date			77YY 016	<del> </del> -	/IM		DD 04	Re	po	rt Numbe	r 2016	0404-	-WI	MAT	A-JN	/IC-1			
Rail Agency Name		Wa	shingto hority			Area			-	gency tment	Rail Transpo	ortation	Si	ub- De	partmo	ent		ady Gro	
Rail Agency Departme	ent			Name				E	ma	il		Office F	hone		Ī	١	Mobile	Phone	
Contact Information																			
Inspection Location		WN	⁄/ATA Gr	osven	or-Strath	nmore	Statio	on, 10300	0 Ro	ockville Pike, I	Bethesda, M	D 2085	2						
Inspection Summary																			
Inspection Activity#	1		1		2			3		4	5			6		7			8
Activity Code			TRA- N-MTG	RT	RA-RAD OBS	-	RTRA-	-RI-OBS											
Inspection Units			1		1			1											
Inspection Subunits			6		1	_		1	<u> </u>										
Defects (Number)			0		2	_		0	╙		<u> </u>				_				
Recommended Findin			No	<u> </u>	Yes	4		No	_		<u> </u>							<u> </u>	
Remedial Action Requ			No		Yes	+		No 	╀		<u> </u>							┼	
Recommend Reinspec			No	<u></u>	Yes			No	<u> </u>		<u> </u>				L_				
Individual Inspection	Activit	y 															-		
Inspection Activity #	1	Insp	ection	Subjec	<b>t</b> Ge	neral	Meet	ing						Activ Code	•	R	TRA	GEN	OBS
Job Briefing Employee Name/Title	N/A						1	ompanio	ed	N/A	Out Brief Conducted	d Y	es	Time	1	700- 1000	1	tside hift	Yes
Related Reports							Rela	ated CA	PS/	Findings									
	Ref				Rule	or SOI	P		s	tandard	·	Othe	r/Tit	le	7	Che	ecklist	Refere	nce
Related Rules, SOPs, Standards, or Other	MSRP	н			1.69-	1.79								_					
	ROCC	Man	ual					_			· · · · · · · · · · · · · · · · · · ·	L							
Inspection Location	Mai Trac	- 1	Yard	s	tation	0	сс	RTA Facili		FTA Office	Track Type		At-gra	de	Tunr	nel	Eleva	ted	N/A
		i						х			, ,,,								X
												From	1				T	0	
Line(s)	Red		ļ	Track				Chain	Mar	rker									
				Num	ber					,									
	<u> </u>							<u> </u>			<u> </u>								
Vehicles	Hea	d Ca	r Numbe	er	Num	ber of	fCars		uipı	ment									
	FWSC		with Su							Supervisor	Mr.			er of D					0 .
	with									le had job saf lock House .	rety priering	<u> </u>		mend		ding?			10
Description	FWS	) mo	nitored	train m	noveme	nt, rac	dio cor	mmunica	tion	is at Grosven		re	ction	Requi	red?				lo
			se. The ( dures Ha						er S	OP's, Metror	ail Safety Ru	les R	ecom	mend	Reinsp	ection	?	N	io
Inspector in Charge - S	Signatur	e .	Jam	es	Cas	sat	it, .	Jr		DN: cn=James	d by James Cassatt, J Cassatt, Jr, 0=FRA, 0 05 16:41:41 -04'00'	r u=DOT, ema	il=james.	cassatt@do	t.gov, c=U	Dat Apr	e il 4, 2	016	
Inspector in Charge – Jim Cassatt	Name		Inspec Jim Ca		eam														





Remedial Action	N/A																_		
Inspection Activity#	2	Insp	ection S	Subjec	Rep	eat B	acks/0	Observat	ion	ıs				Activi Code	ty	RTI	RA	RAD	OBS
Job Briefing Employee Name/Title	N/A							mpanie ctor?	d	N/A	Out Brief Conducted	Ye	s	Time	070		1	tside hift	Yes
Related Reports							Relat	ed CAP	s/I	Findings									
	Ref				Rule	or SOP			St	andard		Other	/Titl	e		Che	cklist	Refere	nce
Related Rules, SOPs,	MSRF	РΗ			1.73,	1.79													
Standards, or Other	-																		•
	Mai	in T						RTA		FTA		Т.		.		T.			
	Trac		Yard	5	tation	OC	.c	Facilit	y	Office	Track Type			-grade Tunne			levat	ed	N/A
Inspection Location				1	V			v			таск туре						*****		
		ì			Х		Ì	Х				Ì		1					Х
												From					To	)	
			- 1	Track					hain Marker										
Line(s)	Redl	ine		Numl	per			Chain Marker											
	Hea	d Ca	r Numbe	er	Numb	er of (	Cars												
Vehicles		Equipment Equipment																	
	FWS	50 observed and monitored the Largo Terminal Supervisor and Train Operators Number of Defects 1												1					
		Dobserved and monitored the Largo Terminal Supervisor and Train Operators ompliance with radio rules and monitored radio transmissions. Proper repeat Recommended Finding? Yes																	
			_							hecks and ot					on Regu	<del>-</del>			es
			ns regard followir	_					osve	enor-Strathr	nore pocket		meu	iai ACU	on Kequ	iirea :	$\dashv$		es
Description	liack	. me	HOHOWII	ig HOIF	Compila	IICE W	35 11016	eu .											
											nit on numbe		com	mend F	Reinspec	tion?		γ	es
											or-Strathmore A-RAIL-1-14	·						-	
			WIVIATA	need	S LO COIII	hià Mir	ui CAF	FIA-NAI	L-1.	-14-b atluri	A-NAIL-I-I4-	~.					1		
Remedial Action	FTA h	nas is	sued a C	orrecti	ve Actior	n Plan (	(CAP) r	number	FTA	-RAIL-1-14-I	B and FTA-RA	IL-1-14	A. W	/MATA	s origina	al estir	nate	torequ	est
Nemediai Action	closu	ıre is.	Jan 2017	<u> </u>															
																·			1
Inspection Activity#	3	Insp	ection 9	Subjec	t Clo	se Cle	arance	<u> </u>					Activity Code		ty	RTF	RA	RI	OBS
tak Dalasa					!				-1		*****	т-	$\dashv$	Code	T				
Job Briefing Employee	N/A					İ		mpanie	d	N/A	Out Brief	, Y	s	Time	030			tside hift	Yes
Name/Title	'						inspe	ector?		·	Conducted	, l			09	00		niit	
Related Reports							Relat	ted CAP	s/I	Findings								·	
	Ref				Rule	or SOP	,		St	andard		Other	/Titl	e		Che	cklist	Refere	nce
Related Rules, SOPs, Standards, or Other																			
Standards, or Other																			
	Ma	in	Yard	٦,	tation	oc	$\overline{\Gamma}$	RTA		FTA		Π,	t-gra	de	Tunne	F	levat	ed	N/A
Inspection Location	Tra	ck	Taru		tation			Facilit	у	Office	Track Type	- 1	ic gru	<u>"                                    </u>	Turric				
inspection Location					Х			Х			Hack Type				Х				
														L					
												From					T	0	
Line(s)	Rodi	ine		Track		pocl	<sub>ket</sub>	Chain N	/lar	ker									
=(3)	""	RedLine Number pocket Chair																	
	<u></u>																		
	Hea	ad Ca	r Numbe	er	Numi	oer of	Cars	_											
Vehicles								l Eau	Equipment										





Description	of the train. We observed Operators moving the train at restricted speed and stopping the train at the proper marker.	Remedial Action Required?  Recommend Reinspection?	No No
Description	signals. There is only a few feet between the end of the car and signal at either end	Recommended Finding?	No
	FWSO observed with Superintendent DeFlippo the clearance of an eight cartrain in the pocket track at the Grosvenor-Strathmore pocket track between interlocking	Number of Defects	0



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United States Department of Transportation Federal Transit Administration

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## Agency/Department Information

	YYYY	ММ	DD	Report Number	20160406-WMATA-TGB-1							
Inspection Date	2016	04	06	Keport Number	20100400-	20100400 WWATA TOD 1						
Rail Agency Name	Washington Authority	Metropolitan A	Area Transit	Rail Agency Department	Track and Structures	Sub- Depar	rtment	Track Inspection				
	ı	Name		Email	Office P	hone		Mobile Phone				
Rail Agency Department Contact Information												
Inspection Location	Walking insp	ection of track	Clarendon Sta	ation and Rosslyn Station								

## **Inspection Summary**

		1	2	1	5	6
Inspection Activity #	1		3	<b>-</b>		
Activity Code	TRK-WI-PI					
Inspection Units	1					
Inspection Subunits	2					
Defects (Number)	6					
Recommended Finding	NO					
Remedial Action Required	NO					
Recommended Reinspection	YES					

### **Activity Summaries**

Inspection Activity #	1	Inspe	ction Subj	ect							Activity C	ode				
Job Briefing Employee Name/Title		š.	upervisor				ompani ector?	ed	Yes	Out Brief Conducted	No	Time	2200 0400		Yes	
Related Reports						Rela	ted CA	PS / F	indings					,		
	Ref				Rule	or SOP			Standard		Other /	Title		Checklist Reference		
Related Rules, SOPs,	MSRI	PH			Gene	ral Rules										
Standards, or Other	TRST	1000														
	Ma Tra		Yard	Sta	tion	осс	R1 Fac		FTA Office	Track Type	At-gr	ade	Tunnel	Elevated	N/A	
Inspection Location	×									Track Type			х			
			Τ.								From			То		
			Track		2		Chai	n Ma	rker	Clarendon			Rossly	n		
Line(s)	OR		Numbe	er	2		and	or St	ation(s)	229+00	-00			0		
	He	ad Car I	Number		Numb	er of Car		Eauin	ment	Prime Move	r #PM47					
Vehicles		PM4	17			1		Lquip		11111011010						
	FRA	Inspect	ors were r	eque	sted to	perform	a visua	linsp	ection of the	track	Numbe	er of Defe	ects		6	
	struc	ture an	d turnout	bet	ween (	larendon	Station	and	Rosslyn Stati	ion.	Recom	mended	Finding?		No	
Description	In New Carrollton Yard the FRA observed two RMMs, PM60 and PM56, parked in Remedial Action Required? Yes										Yes					
Description	the f	oul of t	urnouts at	sepa	arate lo	cations ir	the ya	rd				mended	Reinspect	ion?	Yes	
	In Ne	ew Carr	olton Yard	the	FRA_ob	served 1	equipm	ent d	efect. The w	ork equipment						

Inspector in Charge - Signature	Digitally signed by SEAN L THOMPSON ON: calls, cauls, Government, out-DOT Headquarters, upg-FTAND, cn-SEAN L THOMPSON Date: 2016.04.12 14:31:15-04001	Date 04/06/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Tom Beck, Joe Kennedy, Mark Adamczak	





Remedial Action	Repair/correct defects as appropriate.
	FRA Inspectosr performed a physical inspection of one turnout between Clarendon and Rosslyn Stations at the K Line turnout. There were no exceptions taken.
	At Potomac Station the FRA observed that the operator of PM47 could not contact the ROCC via radio (dead area?)
	At 184+00 there were no working overhead lights at the emergency exit and fire department standpipe locations, as well as at various other locations throughout the inspection.
	At 214+00 there was scrap train control case covers left in manway passage between tracks 1 and 2 creating a safety hazard for any worker attemting to use the manway as a place of safety
	At 170+20 and KO 216+50 there were exposed impedance bond cables noted.
	At 170+50 the drain in the gage of track was observed to be obstructed by debris allowing water to flow in the gage to the next working drain.
	flat car attached to PM47 failed the required initial brake test and was found unserviceable prior to departing New Carrollton Yard



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## Agency/Department Information

I Data	YYYY	MM	DD	Report Number	20160406	20160406-WMATA-MWP-1						
Inspection Date	2016	04	06	Report Number	20100400-WWATA WWW 1							
Rail Agency Name	Washington Authority	Metropolitan /	Area Transit	Rail Agency Department	Track & Structures	Sub- Departm	Sub- Department Track Ins					
Rail Agency Department	Name			Email	Office Phone			Mobile Phone				
Contact Information												
Inspection Location	Walking insp	ection of track	between New	Carrollton Station CM 2	11+46 and end po	oint CM 260+00 at D	&G Ae	rial Structure.				

#### **Inspection Summary**

					_	
Inspection Activity #	1	2	3	4	5	
Activity Code	TRK-WI-PI	TRK-RWP-PI	TRK-RMM-PI	TRK-RAD-OBS	TRK-RMM-OBS	
Inspection Units	1	1	1	1	1	
Inspection Subunits	2	1	1	1	1	
Defects (Number)	12	0	See RMM note	1	See RMM note	·
Recommended Finding	Yes	N/A	Yes	No	Yes	
Remedial Action Required	Yes	N/A	No	No	Yes	
Recommended Reinspection	Yes	N/A	No	No	Yes	

## **Activity Summaries**

Inspection Activity #		Inspection	n Subj	ect						Activity	Code				
ob Briefing Employee Name/Title		yee			)		mpanied ector?	Yes	Out Brief Conducted	No	Time		311 345	Outside Shift	N/A
Related Reports						Rela	ted CAPS	S / Findings							
	Ref			Rule	or SOF	·		Standard		Other / Ti	tle		Checklist Reference		
Related Rules, SOPs,	MSRP	Н		Gen	eral Ru	les								···-	
Standards, or Other	TRST :	1000													
	Mais Trac	Y:	ard	Station	0	сс	RTA Facility	FTA Office	Track Type	At	-grade	Tunne	el l	Elevated	N/A
Inspection Location	х	х 🗆 🗆		[				Track Type					х		
										From				То	
Line(s)	D-Line Track			10 1		Chain N and/or	Marker Station(s)	211+46		260	.00				
	Hea	d Car Nui	nber	Nui	mber o	f Cars	<u> </u>	•							
Vehicles		PM 43			3		Equ	uipment							
	Feder	al inspect	ion Tea	m 4, req	uested	to per	form visu	ual inspection	of Track 2	Num	ber of Det	ects			33
	struct	ure and s	witches	betwee	n Stadi	um-Arr	mory Sta	tion and New	Carrollton	Reco	mmended	l Finding	?		Yes
<b>D</b>	Statio	n. During	the in	pection	was a	ccomp ΔTΔ Si	anied by	FTA members	roy Lloyd &	Rem	edial Actio	on Requi	red?		Yes
Description										Reco	mmended	l Reinspe	ection	1?	Yes
Inspector in Charge - S			ection	ine follov	ving ite	Die	aitally signed	ified by hi-rail	N .				D	ate	
mapector in charge - a		SEA	N L 1	HON	IPSC	ハN He	adquarters, c	S. Government, ou≔D ou=FTAHQ, cn=SEAN l 2 14:30:41 -04'00'					4,	/6/2016	

Form FTA-IR-1 Version date: 1/19/16

Inspector in Charge - Name

Sean Thompson

Inspection Team 4

(FTA), Rudy Flowers (DRPT)

Troy Lloyd (FTA), Michael W. Pirato (FRA), Phil Herbert



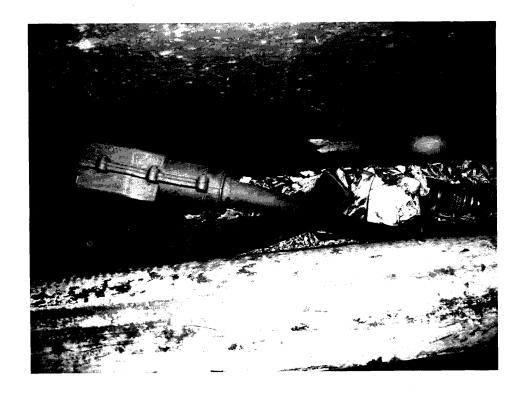
	walking as defects.
	Railway Maintenance Machines (RMM)  Clearing points at New Carrollton Yard (D99). Equipment fouling adjacent MOW tracks.  PM56 Flat 506 Flat 506 Flat 606  Operator Level 4 – did not have required manuals/RWP/Line Information, etc. in vehicle.  Walkways not kept clear of tripping hazards.  Missing cover board at end approach at D99-142 Sig. at crossing Missing cover board at end approach at D99-22 Sig. at crossover switch Missing cover board at end approach at end of Cheverly Station Missing cover board at end approach at end of Cheverly Station Atotal of 14 additional occurrences of "missing cover boards" between New Carrolton Yard and Stadium- Armory Station clearly visible from PM 43.  Fasteners/Direct Fixation Items  D2 213+60  3 non-effective fasteners in a row.  D2 236+55 to 238+00  3 separate occurrences of less than 10 effective fasteners in 40 ft. (Note) in this area there were the track modulus transitions from a ballasted wood tie construction to a direct fixation system entering into the portal, a number of locations had just the minimum amount of 10 effective (non-
	broken pads and or loose and sheared anchor bolts).  Safety Items of Concern  D2 221+70  Trash / debris around power cable  D2 227+00  ETS Box # D-66 has exposed bare wires.  D2 229+60  Pandrol clips/OTM on safety catwalk where personnel clear.  WMATA Work Rule Sledge hammer in use with metal flow "mushroomed" at striking end with potential for spalling and injury.
Remedial Action	

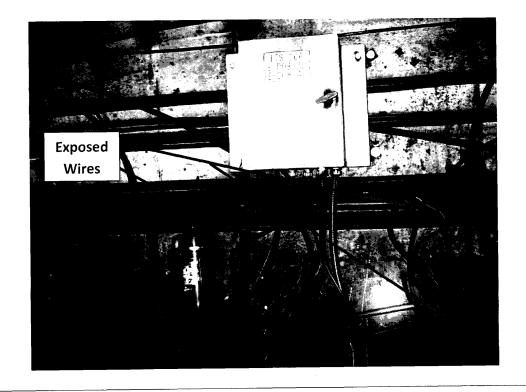


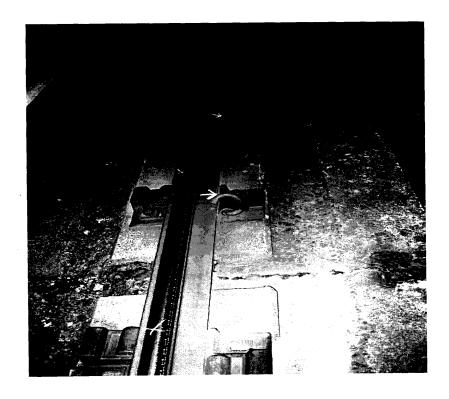


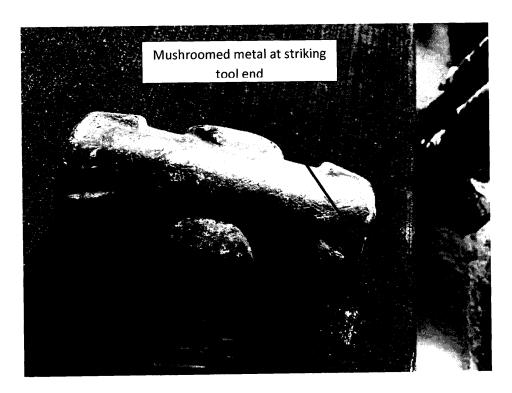












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## **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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## Agency/Department Information

I	YYYY	YYYY MM D		Report Number	160406-WMATA-NAV-1				
Inspection Date	2016	04	06	Report Number	100400-WWATA-WAV-1				
Rail Agency Name Washington Metropolitan Area Transit Authority			rea Transit	Rail Agency Department	Track and Structures	Sub- Depa	Sub- Department Track		
Rail Agency Department		Name		Email	Office Pl	hone		Mobile Phone	
Contact Information									
Inspection Location	Walking insp	ection of track	1 and track 2	between McPherson Squ	are to Foggy Bottor	n-GWU			

## Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-WI-OBS	TRK-SW-PI	TRK-RAD-OBS	TRK-RWP-PI	
Inspection Units	1	1	1	1	1	
Inspection Subunits	3	1	8	1	2	
Defects (Number)	41	0	1	0	0	
Recommended Finding	YES	N/A	YES	NO	NO	
Remedial Action Required	YES	N/A	YES	NO	NO	
Recommended Reinspection	YES	N/A	YES	NO	NO	

### **Activity Summaries**

Inspection Activity #	1	Insp	ection Subj	ect	Track,	Switch, T	urnout and	d Third Rail I	nspection	Activity C	ode	TRK	WI	PI
lob Briefing Employee Name/Title	RWIC	rvisor		5		Accor Inspe	npanied ctor?	YES	Out Brief Conducted	Yes	Time	2230 0210		Yes
Related Reports						Relat	ed CAPS /	Findings						
	Ref				Rule or	SOP		Standard		Other /	Title		Checklist Re	erence
Related Rules, SOPs, Standards, or Other	MSRF	РН			Genera Standa	l Mainter rds	nance							
	TRST	1000												
	Ma Tra		Yard	Sta	tion	осс	RTA Facility	FTA Office	Tunck Tuno	At-gr	ade	Tunnel	Elevated	N/A
nspection Location	х				x				Track Type		į	x		
		1			T					From			То	
Line(s)	Oran Silver Blue	r	Track Numb	er	1, 2	į	Chain Ma and/or S		20+51			68+17		
	Не	ad Car	Number		Numbe	r of Cars		ment	N/A					
Vehicles		N,	/A		N	/A	Equi	ment	17/5					
	FRA	inspec	tors condu	cted a	focused	walking	inspection	of WMATA		Numbe	r of Defe	cts		41
	Oran	ge/Sil	ver/Blue Lii	ne tra	ck one a	nd two to	o include s	ude switches, turnouts, Square Station and Foggy Bottom						NO
Description	Stati		and compo	mant	s perwee	in WICPRE	nson squa	e station an	a roggy bottom	Remedi	Remedial Action Required?			
-	Durii	ng the	inspection	the f	ollowing	items we	ere idenitifi	ed.	Recommended Reinspe			Reinspecti	on?	YES

Inspector in Charge - Signature	SEAN L THOMPSON	Digitally signed by SEAN L THOMPSON DN: c=US, o=US. Government, ou=DOT Headquarters, ou=FTAHQ, cn=SEAN L THOMPSON Date: 2016.04.12.14:21:35-04'00'	Date 04/06/2016
Inspector in Charge – Name Sean Thompson	Inspection Team	Nathan Vance / Chris Schulte	



	MISSING COVER BOARDS, TRST1000, 13.3.15:  - TRACK 1: CM28+65, 39+90, 64+60, 65+10, 66+65,  - TRACK 2: CM66+40, 62+70, 62+30, 61+50, 61+70, 53+00, 38+00, 29+20	
	HEAD SURFACE/RUNNING SURFACE SPALLING, TRST1000, 5.11.7: - TRACK 2: CM56+00	
	DIRECT FIXATION RAIL SUPPORT TRST 1000 7.7, (Defective Fasteners):  - TRACK 1: CM28+65 right rail 2 defective fasteners in row at joint; CM28+65 at heel of frog (L Rail) 3 defective fasteners in row; CM30+10 R Rail 4 missing fasteners in row; CM53+20 R rail 2 defective fasteners in row; CM55+70 R rail 5 defective fasteners in row of curve; CM57+10 R rail 2 defective fasteners in row; CM60+05 2 defective fasteners in row; CM60+70 L rail 2 defective fasteners in row; CM60+95 R rail 2 defective fasteners in row; CM62+60 R rail 3 defective fasteners in row; CM65+80 R rail 3 defective fasteners in row; CM66+60 L rail 3 defective fasteners in row; CM66+65 L rail 3 defective fasteners in row; CM68+09 R rail 2 defective fasteners in row.	
	- TRACK 2: CM67+50 R rail 3 defective fasteners in row; CM66+90 in T.O. closure rail 4 defective fasteners in row; CM66+60 L rail 3 defective fasteners in row; CM65+30 on turnout rails 6 defective fasteners in row; CM63+45 R rail 6 defective fasteners in row; CM62+00 R rail 2 defective fasteners in row; CM60+00 R rail 3 defective fasteners in row; CM56+30 R rail 2 defective fasteners in row; CM56+00 L rail 3 defective fasteners in row; CM30+40 R rail 4 defective fasteners in row.	
	3RD RAIL CRACK, TRST100, 13.3.1: - TRACK 2: CM65+20 account defective weld.	
	3RD RAIL SUPPORT BRACKETS, TRST1000, 13.3.13: - TRACK 2: CM62+00 Broken bracket	
Remedial Action	Correct/repair defects.	 

Inspection Activity #	2	Inspection S	ubject	Obse	ervation c	ommen	its to	WMATA		Activity Co	de	TRK	WI	OBS
Job Briefing Employee Name/Title	Employ	/ee	(			Accompanied Inspector?		YES	Out Brief Conducted	YES <b>Time</b>		2230 0210	1	e YES
Related Reports		Related CAPS / Fin				indings								
	Ref			Rule	or SOP			Standard		Other / T	itle		Checklist R	eference
Related Rules, SOPs, Standards, or Other	COMM	IENTS												
	Main Track	l Yard	Sta	ntion	occ .	RT Faci		FTA Office	Track Type	At-gra	de	Tunnel	Elevated	N/A
Inspection Location	х								Track Type			x		
				T						From			То	
Line(s)	Orange Silver Blue	Tra	k nber	1, 2	!		n Mai or Sta	rker ation(s)	20+51			68+17		
	Head	d Car Numbe	r	Numb	er of Car									
Vehicles		N/A			N/A	'	cquip	ment				_		
		VATIONS M							1	Number	of Defe	cts		0
	- 3 <sup>rd</sup> ra	il power cab	es rubb	ing on o	concrete	floor: Cl	M50+	40, 30+40.		Recomm	ended	Finding?		NO
Description									Remedia	l Action	Required	1?	Optional	
										Recomm	ended	Reinspecti	ion?	NO
Remedial Action	1													





Inspection Activity #	3	Inspect	ion Subj	ect	Switch	Inspec	tion				Activity C	ode	TRK	SW	Р
lob Briefing Employee Name/Title	Employ	yee		(	الاستد		Accompanied Inspector?		YES	Out Brief Conducted	YES	Time	2230 0210		~   VE
Related Reports				Rela				CAPS / F	indings						
	Ref				Rule or	SOP			Standard		Other /	Title		Checklist Re	eference
Related Rules, SOPs, Standards, or Other	MSRPH	1				General Maintenance Standards									
	TRST10	000													
	Main Track	1 '	Yard	Sta	tion	осс	1	RTA acility	FTA Office	Track Type	At-gra	ade	Tunnel	Elevated	N/A
Inspection Location	Х									таск туре			x		
							T				From			То	
Line(s)	Orange Silver Blue	e	Track Numbe	er	1, 2		1	iain Mai d/or Sta		20+51			68+17		
	Head	Car Nu	umber	T	Number	of Car	S							<del></del>	
Vehicles		N/A			N,	/A		Equip	ment						
	FRA in:	RA inspectors conducted a physical inspection of eight switches between N						Numbe	r of Defe	cts		1			
	McPhe	erson So	quare Sta	tion	n and Foggy Bottom Station.						Recomm	nended	Finding?		NO
Description	TURNO	OUT ST.	ANDARD	S. TR	RST1000,	9.27.1					Remedi	al Action	n Required	?	YES
	- TRAC	K 2: CN	131+00 (	Rock		ection	Switc	h) #4 Sv	vitch Rod lo	ose center bolts	Recomr	nended	Reinspecti	on?	YES
Remedial Action	Correc	t/repai	r defects												



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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## Agency/Department Information

	YYYY MM		DD	Report Number	20160406-WMATA-CDF-1				
Inspection Date	2016	04	06	Report Number	20100-00-WWATA CDT 1				
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	Track and Structures	Sub- Depai	rtment	Track Inspection	
Rail Agency Department	1	Name		Email	Office P	hone		Mobile Phone	
Contact Information									
Inspection Location	Walking Inspection of track one between West Hyattsville and West Totten, CM 368+15 to 2								

## Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	·				
Inspection Units	2					
Inspection Subunits	4					
Defects (Number)	10					
Recommended Finding	NO					
Remedial Action Required	YES					
Recommended Reinspection	YES					

#### **Activity Summaries**

Inspection Activity #	1	Inspe	ction Subj	ect	Track,	Switch, 1	Turno	ut and	Third Rail Ir	spection	Activity C	ode	TRK		WI	P!	
Job Briefing Employee Name/Title	Super	WIC , t employee umber upervisor mployee number			Accompanied Inspector?		YES	Out Brief Conducted	YES	Time	2130 0345	- 1	Outside Shift	YES			
Related Reports						Relat	ed CA	NPS / F	indings								
	Ref				Rule or	SOP			Standard		Other /	Title		Chec	klist Ref	erence	
Related Rules, SOPs, Standards, or Other	MSRP	Н			Genera Standa	l Mainte rds	nance	:									
	TRST :	1000												ļ	——т		
	Maii Trac	· · · · · · · · · · · · · · · · · · ·	Yard	Stat	ion	осс		TA cility	FTA Office	Track Type	At-gr	ade	Tunnel	Elev	ated	N/A	
Inspection Location	х			×	(					Track Type			x				
			$\top$								From				То		
	YELLO	w/	Track				Chain Marker 357+20			357+20	57+20				357+20		
Line(s)	1	N LINE		er	ONE		and	/or St	ation(s)								
	Hea	d Car	Number		Numbe	r of Cars		Equip	ment								
Vehicles								• •									
	FWSC	Inspe	ection tean	in co	onjuctio	with FR	A sup	port,	conducted a	focused	11011111	r of Defe			-	10	
	walki	ng insp	pection of '	MMA nd.co	TA YELL	JW/GRE	EN LIN een H	ie trac	K one to inc	lude switches, RT TOTTEN, CM	Recomi	mended	Finding?			NO	
Description			fossovers a Fort Totte							,	Remedial Action Required?			1?		YES	
		During the inspection the following items were identified.						Recommended Reinspection?					YES				

Inspector in Charge - Signature	SEAN L THOMPSON	Digitally signed by SEAN L THOMPSON DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=SEAN L THOMPSON Date: 2016.04.12 14:23:54 -04'00'	Date 04/06/2016
Inspector in Charge – Name Sean Thompson	Inspection Team	•	





	Missing tie pads /fasteners 357+20 RIGHT RAIL
	Missing tie pads / fasteners 355+85 Right RAIL
	Missing tie pads / fasteners 354+45 Right RAIL
	Engine burn 339+50 Engine burn 20% left rail.
	Switch 1 A E1 284+50 Loose missing or worn frog bolts .
	Switch 1A E1 284+50 Loose fastners at frog
	Switch 1A E1 284+50 Tread wear exceeds allowable measurement. Measured ½ in tread wear.
Remedial Action	Complete repairs identified in inspection.



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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## Agency/Department Information

	YYYY	MM	DD	Report Number	20160406	WMATA-AA	NI_1		
Inspection Date	2016	04	06	Report Number	20100400-	VVIVIA I A-AA	14-T		
Rail Agency Name	Washington Authority	Metropolitan	Area Transit	Rail Agency Department	Track and Structures	Sub- Depar	tment	Track Inspection	
Rail Agency Department		Name		Email	Office F	Phone	Mobile Phone		
Contact Information			d						
Inspection Location	Walking Insp	ection of tracl	one between	Medical Center and Frier	ndship Heights, CM	1 304+20 to 444+0	0		

#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-WI-OBS	TRK-SW-PI	TRK-RAD-OBS	TRK-RWP-PI	
Inspection Units	1	1	1	1	1	
Inspection Subunits	4	2	4	1	2	· · · · · · · · · · · · · · · · · · ·
Defects (Number)	10	0	0	1	0	
Recommended Finding	NO	N/A	NO	NO	NO	
Remedial Action Required	YES	N/A	NO	NO	NO	
Recommended Reinspection	YES	N/A	NO	NO	NO	

### **Activity Summaries**

Inspection Activity #	1	Insp	ection Sub	ject	Track,	Switch, T	urnout and	Third Rail I	nspection	Activity C	ode	TRK		WI	PI
Job Briefing Employee Name/Title		visor	level number			Accor	mpanied ctor?	Yes	Out Brief Conducted	YES	Time	2200 0330	_	utside Shift	YES
Related Reports						Relat	ed CAPS / F	indings							
	Ref		<del></del>		Rule or	SOP		Standard		Other /	Title		Checkl	ist Refe	rence
Related Rules, SOPs, Standards, or Other	MSRP	Н			Genera Standa	l Mainte rds	nance								
	TRST :	1000													
	Mair Trac	- 1	Yard	Sta	tion	осс	RTA Facility	FTA Office	Track Type	At-gr	ade	Tunnel	Elevat	ed	N/A
Inspection Location	х				х				Track Type			Х			
					T					From				То	
Line(s)	RED L	.INE	Track Numb	er	ONE		Chain Ma and/or St		304+20			444+0	0		
Vehicles	Hea	nd Ca	r Number		Numbe	r of Cars	Equip	ment							
	FWSC	) Insr	nection teal	m in c	oniuction	n with FR	A support,	conducted a	focused	Numbe	r of Defe	ects			10
	walkii	ng in:	spection of	WMA	ATA Red I	Line Tracl	k One to ind	clude switch	ies, turnouts,			Finding?			NO
Description				onant	s betwe	en Frend	ship Height	s, CM 304+2	:0 and Medical	Remed	ial Actio	n Required	1?		YES
			Л 444+00.							Recom	mended	Reinspect	ion?	-	YES
_	Durin	g the	inspection	the f	ollowiter	ns were i	denitified.							L	

Inspector in Charge - Signature	SEAN L THOMPSON  Digitally signed by SEAN L THOMPSON  DN: c=US, o=U.S. Government, ou=DOT  Headquarters, ou=FTAHQ, cn=SEAN L THOMPSON  Date: 2016.04.12 14:22:54-04'00'	Date 04/06/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Alexander Nepa, William Wilson	





	MISSING COVER BOARDS, TRST1000, 13.3.15. CM323+00, 356+00 and 396+50 TO 416+60.  HEAD SURFACE/RUNNING SURFACE SPALLING, TRST1000, 5.11.7 CM 307+60.  DIRECT FIXATION RAIL SUPPORT TRST 1000 7.7, (Missing Clips). CM 304+20 to 304+80 series of missing clips supporting rail joints, two-in-a-row. CM 307+60 three consivutive missing clips, closest supporting fastener 93 inches. CM 328+30 four missing clips in-a-row, closest supporting fastener 144 inches.Between CM 357+50 and 357+60 left rail four missing clips in-a-row, closest supporting fastener 147 inches.  MATERIAL TRIP/FALL HAZARD TRST1000 10.17.4.1, CM 316+00 to 321+00, 324+00 to 325+00, 385+00 to 387+50 and 440.50, relay rail on catwalk side or in the gage creating a tripping hazardto employees while exiting the track.	
Remedial Action	Repair/correct identified defects.	 

Inspection Activity #	2	insp	ection Sub	ject	Obser	vations o	comn	nents to	WMATA		Activity Co	de	TRK		WI	OBS
ob Briefing Employee Name/Title	Empl	oyee r	number 00	1410,	level 4	Acco	•		YES	Out Brief Conducted	YES	Time	2000 0300		Outside Shift	YES
Related Reports						Rela	ted C	APS / F	indings							
	Ref				Rule o	r SOP			Standard		Other / T	itle		Chec	klist Refe	rence
telated Rules, SOPs, tandards, or Other	СОМ	MENT	S													
										1	<del> </del>	—т				
	Ma Tra	1	Yard	Stat	ion	осс	1	RTA acility	FTA Office	Track Type	At-gra	de	Tunnel	Eleva	ated	N/A
nspection Location	х		4.1	,						mack Type			х			
					T	F					From				То	
ine(s)	Red	Line	Track Numb	er	One		1	ain Ma d/or St	rker ation(s)	304+20			444+0	0		
/ehicles	Не	ad Car	Number		Numbe	er of Cars		Equip	ment							
	ļ.,							منسوالم	a silting cros	ating a trip/fall	Number	of Dofo				0
			ins made, s I pre-matu					anowir	ik ziiriilk ci.e.	iting a trip/fall	Recomm				<del>-</del>	0
Description	11026		. pre mata											12	+	ptional
													Required		+	No
											Kecomn	ienaea	Keinspect	ion?		INO
Remedial Action																

Inspection Activity #	3	Inspection Subject	Switch	nspection			Activity C	ode	TRK	SW	PI
Job Briefing Employee Name/Title	Emp	loyee number 001410 l	evel 4	Accompanied Inspector?	YES	Out Brief Conducted	YES	Time	2000 0300	Outside Shift	YES
Related Reports				Related CAPS /	Findings						
	Ref		Rule or S	SOP	Standard		Other /	Title		Checklist Refer	ence
Related Rules, SOPs,	MSR	РН	General Standard	Maintenance ds							
Standards, or Other	TRST	T1000									





to a section	Main Track	Yard	Station	00	7	RTA acility	FTA Office	Track Type	At-grad	de	Tunnel	Elevat	ed	N/A
Inspection Location	One										X			
							<u>                                     </u>	F	rom			L	То	·
		Trook			Ch	nain Mai	rkor	304+20			444+00	0		
Line(s)	Red Line	Track Numb	er (	One			ation(s)							
						•	• •							
	Hand Ca	r Number	Nin	mber of	FCars	Γ –								
Vehicles	пеац Са	ii ivuilibei	1144		Cuis	Equip	ment							
	FWSO Ins	pector with	FRA supp	ort cond	ducted a p	hysicial	inspection o	f four switches	Number	of Defe	ts			0
	between	Frendship H	eights and	d Medic	al Center.	. No defe	ects were no	ted; no	Recomm	ended F	inding?			0
Description	exception	s taken.							Remedia	l Action	Required	?		0
									Recomm	ended F	Reinspecti	ion?		0
Remedial Action									<u></u> -					
Remedial Action														
Inspection Activity #	4 Ins	pection Sul	bject F	adio Co	mmunica	tion Ob	servation		Activity Co	ode	TRK	<b>`</b>	RAD	OBS
Job Briefing Employee Name/Title	Employee	e number 00	)1410 leve	4	Accomp		YES	Out Brief Conducted	YES	Time	220 033		utside Shift	YES
Related Reports					Related	CAPS /	Findings							
Neitted Reports	Ref		Ri	ule or So	OP		Standard		Other / T	itle		Check	list Refer	ence
Related Rules, SOPs,	MSRPH		G	eneral F	Rules									
Standards, or Other	TRST1000	)												
	Main	Т	Τ	Т		RTA	FTA		At-gra	odo	Tunnel	Eleva	ted	N/A
	Track	Yard	Station	ן י	occ l	Facility	Office	Track Type	At-Bro					
Inspection Location	x		x					Truck Type			x		Ì	
													To	
								204.20	From		444+(			
Line(s)	Red Line	Track		One	-	hain Ma		304+20			44410			
ciric(3)	1,100	Num	ber		a	na/or s	tation(s)							
													,	
Vahieles	Head C	ar Number	Nt	ımber o	of Cars	Equi	pment							
Vehicles						'	•						T	
	FWSO ar	nd FRA Inspe	ector mon	itored r	aido comi	municat	ion between	RWIC and ROCC					┼	0
	Controlle	er. All comm announcem	nunication	s were	correct ar erators of	ia iegeb Singal ti	le. ROCC mad	ue required	Recomn	nended	Finding?		<del></del>	0
Description	general	iniouncein	ents to rai	icai opi	2101013 01	3111601 11					n Require			N/A
									Recomn	nended	Reinspec	tion?		N/A
Remedial Action														
												—		
Inspection Activity #	5 Ir	spection Su	ubject	Roadwa	ay Workei	r Protect	tion		Activity C	ode	TF	RK	RWP	Pl
Job Briefing Employee Name/Title	Employe	ee number 0	001410 lev	el 4	Accom	panied tor?	YES	Out Brief Conducted	YES	Time		00	Outside Shift	YES
Related Reports	+		<u> </u>		Relate	d CAPS	/ Findings							
neiateu neports	Ref			Rule or S	SOP		Standard	_ <del></del>	Other /	Title		Chec	klist Refe	erence
Related Rules, SOPs,	MSRPH			General										
Standards, or Other	TRST100	<u> </u>		RWPM										
	11/21700	,,	, ,											

FTA

Office

Track Type

RTA

Facility

Station

Χ

Yard

occ

Form FTA-IR-1 Version date: 12/11/15

Inspection Location

Main

Track

Х

N/A

Elevated

Tunnel

Х

At-grade





						1	From		Го
		Track		CI	nain Marker	304+20		444+00	
Line(s)	Red Line	Number	One	aı	nd/or Station(s)				
Vehicles	Head Car N	lumber	Number of Ca	irs	Equipment				
	FWSO and FF	RA inspecto	r met WMATA lev	el fou	RWIC at Medical Ce	enter Station,	Number of Defect	ts	0
	we drove to l	Friendship I	Heights station w	here a	job briefing was con	ducted,	Recommended Fi	nding?	0
	appropriate t	forms signe	d and a visuial ins evel 4 failed to ha	ipectio ve rea	n of level one badge uired WMATA RWP I	PPE, (hot sticks	Remedial Action	Required?	N/A
Description	and insulated all the requir for the inspe	d gloves). Wed PPE. FW ction both	le were later joind SO and FRA were points of enterand	ed by S afford ce to t	Supervisor led exclusive track of rack one were protec exceptions were tak	r who did have ccupancy (ETO) cted and we	Recommended Re	einspection?	N/A
Remedial Action					ChiX	(ما			



Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

## Agency/Department Information

4 11	Report Number	20100400	-WMATA-MWP-	· 1			
T   TT		20100 100 11111111111111111111111111111					
olitan Area Transit	Rail Agency Department	Track & Structures	Sub- Department	Track Inspection			
	Email	Office	Phone	Mobile Phone			
	olitan Area Transit	Department	Department Structures	Department Structures Sub- Department			

#### Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-RWP-PI	TRK-RAD-OBS		-	
Inspection Units	1	2	2			
Inspection Subunits	2	1	4			
Defects (Number)	19	0	1			
Recommended Finding	Yes	N/A	Yes			
Remedial Action Required	Yes	N/A	No			
Recommended Reinspection	Yes	N/A	No			

### **Activity Summaries**

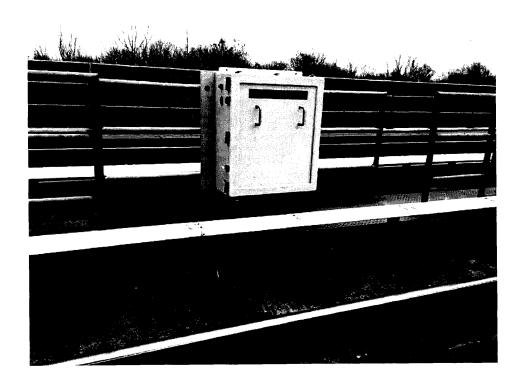
Inspection Activity #	lı lı	nspection S	Subject							Activity (	Code				
Job Briefing Employee Name/Title	RWIC Er Level 4	mployee				Accomp		Yes	Out Brief Conducted	No	Time	10: 03:		Outside Shift	N/A
Related Reports						Related	CAPS	/ Findings							
	Ref			Rule o	r SOP			Standard		Other / Titl	e		Check	klist Refer	ence
Related Rules, SOPs, Standards, or Other	MSRPH	· · · · ·		Gener	al Rule	es									
standards, or other	TRST 10	00													
	Main Track	Yard	St	ation	00	יר ו	RTA acility	FTA Office	Track Type	At-g	rade	Tunnel	Ele	evated	N/A
Inspection Location	х					]			Track Type			Х		х	
										From			То		
Line(s)	F-Line		Track Numb		2	1		larker Station(s)	F2 538+00			F2 45	55+00		
Vehicles	Head	Car Numbe	er	Num	ber of	Cars	Equ	ipment							
	Federal	inspection	Team	4 condu	ıcted	visual insi	pectio	on of Track 2 st	ructure and	Numb	er of Defe	ects			20
	switche	s between	Branch	Station	and S	Suitland S	tation	n. During the in	ispection I wa	Recom	mended	Finding?			Yes
Description		anied by F			oy Lìo	yd, WMA	TA re	presentative <b>T</b>		Remed	lial Action	n Require	ed?		Yes
	During the inspection the following items					ms were i	denti	fied by walking	; as defects.	Recom	Recommended Reinspection?				Yes
													T D-1		

Inspector in Charge - Signature	SEAN L THOMPSON Digitally signed by SEAN L THOMPSON DN: C-US, GOVERNMENT, OULDOT Headquarters, Oul=FTAHQ, cn=SEAN L THOMPSON DN: C-US, G-US, GOVERNMENT, OULDOT Headquarters, Oul=FTAHQ, Cn=SEAN L THOMPSON DN: C-US On C-US O	Date 4/6/2016
Inspector in Charge – Name Sean Thompson	Inspection Team 4 Troy Lloyd (FTA), Michael W. Pirato (FRA), Phil Herbert (FTA), Rudy Flowers (DRPT)	

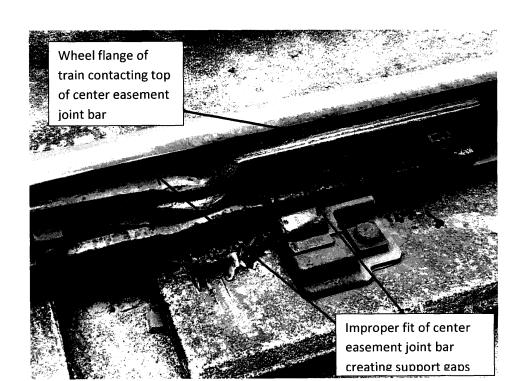


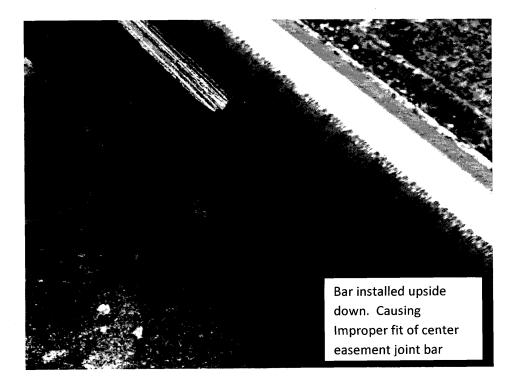
3 <sup>rd</sup> Rail			
•	F1 529+55		
:	<ul> <li>Missing cover board at two locations.</li> </ul>		
•	F2 515+00		
	o Missing cover board.		
	F2 505+70		
	<ul> <li>Missing cover board at 3<sup>rd</sup> rail expansion joint.</li> </ul>		
	50.405.00		
•	F2 495+80  o Missing cover board at 3 <sup>rd</sup> rail expansion joint.		
•	F2 480+80  O Broken 3 <sup>rd</sup> rail anchor arms.		
	o broken a full diferior diffus.		
-	of Direct Electron Beauty		
Fastener	rs/Direct Fixation Items F2 533+20		
	Suspended joint on the "right rai!" missing Pandrol clips.		
	F2 F2F (F0 40 F2F (70		
•	F2 525+50 to 525+70  o Maintenance ballast shoulder needed on high rail.		
•	Track 2 - Aerial structure between Branch to Suitland.		
	<ul> <li>General condition of loose Richmond anchors on high rail beginning to form clusters defects.</li> </ul>		
•	F2 497+70 (Ballasted Track)		
	<ul> <li>1-5/8 inch difference in crosslevel in 31 feet in spiral.</li> <li>181 inches between effective tie fasteners.</li> </ul>		
	<ul> <li>NOTE: 15 MPH speed restriction placed.</li> </ul>		
	F2 495+50		
	o Six ties in a row with non-effective tie fasteners. (This was		
	previously marked by WMATA track inspector)		
•	F2 495+10		
	<ul> <li>Rail head spalling in two spots 8 feet apart in rail head.</li> </ul>		
	F2 2 495+40		
•	Slotted center easement joint bars contacting field welding		
	material. (Portec bar)		
•	F2 456+85  o Improperly applied center easement joint bar (Portec bar)		
	permitting wheels to become flange-bearing.		
Special '	Work		
•	Branch Ave Interlocking		
	<ul> <li>3B Switch 3 out of 4 loose fasteners at crossover at toe of frog.</li> </ul>		
	<ul> <li>Several missing/loose DF hold down bolts within</li> </ul>	·	
	the diamond area. (This is a general condition)		
Safety I	tems of Concern		
•	F2 512+00		
	o Trackside heater control wire exposed – possible 750 vdc		
	hazard if energized.		
	evacuations.		
	<ul> <li>Train not operated at 15 MPH through slow zone.</li> </ul>		
Remedial Action			













Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

## Agency/Department Information

	YYYY	ММ	DD	Report Number	20160412-WMATA-WHW-1				
Inspection Date	2016	04	12	Report Number					
Rail Agency Name	Washington Authority	Metropolitan A	Area Transit	Rail Agency Department	Track and Structures	Sub- Department	Track Inspection		
Rail Agency Department	1	Name		Email	Office P	hone	Mobile Phone		
Contact Information		(W)	6		(6)		(b)(b)		
Inspection Location	Observation	No. 2 Lead tra	ck at West Fall	s Church Yard					

### **Inspection Summary**

Inspection Activity #	1		 	 		 
Activity Code	TRK-WI-OBS					 
Inspection Units	1					
Inspection Subunits	6			 		
Defects (Number)	3				 	
Recommended Finding	NO				 	
Remedial Action Required	YES					
Recommended Reinspection	YES	1				

### **Activity Summaries**

Inspection Activity #	1	Insp	ection Sub	iect	Track,	Switch,	Turnout ar	d Third Rail II	nspection	Activity Co	ode	TRK	WI	PI
Job Briefing Employee Name/Title	Unac	compa					Accompanied Inspector?		Out Brief Conducted	NO	Time	1100 1200		e NO
Related Reports						Rela	ted CAPS /	Findings						
	Ref				Rule or	SOP		Standard		Other / 1	itle		Checklist Re	eference
Related Rules, SOPs, Standards, or Other	MSRI	PH			Genera Standa	al Mainto irds	enance							
	TRST	1000												
	Ma Tra		Yard	Sta	tion	осс	RTA Facility	FTA Office	Track Type	At-gra	ide	Tunnel	Elevated	N/A
Inspection Location			х						таск туре	x				
									From			То		
Line(s)	Oran	nge	Track Numb	er	Yard	Lead	Chain M and/or	arker Station(s)						
	He	ad Car	r Number	Τ	Numbe	r of Cars								
Vehicles							Equ	ipment						
- LAND	FWS	O obse	ervation co	nduct	ed by FF	RA suppo	ort team, co	onducting a fo	ocused	Number	of Defe	cts		
								1.1. 2	II.::	Recomn	nended	Finding?		
	This	is a re	inspection	of the	tollowii	ng defec	ts identifie spection re	port Number	lking inspection 20160409-	Remedi	al Action	Required	1?	
Description	WM Thre	ATA-W	<b>VHW-1</b> e Gage loca	ations	betwee	n crossir	ng and port	al on number		Recomm	nended	Reinspect	ion?	YES

Inspector in Charge - Signature	SEAN L THOMPSON  Digitally signed by SEAN L THOMPSON  DN: c=US, o=US. Government, ou=DOT  Headquarters, ou=F17HQ, cn=SEAN L THOMPSON  DN: c=US, o=US, o=SEAN L THOMPSON  DR: c=US, o=US, o=SEAN L THOMPSON  DR: c=US, o=US, o=SEAN L THOMPSON  DR: c=US, o=US, o=US, o=SEAN L THOMPSON  DR: c=US, o=US, o=US	Date 04/06/2016
Inspector in Charge – Name	Inspection Team Alexander Nepa, William Wilson	
Sean Thompson		





Remedial Action	Repair/correct identified defects.	
	During this return visit we were unable to take new measurements because we could not foul the track. We were able to observe the curve from the crossing and the bridge on the access road over the curve. From these observations we could not discern and gage work and only a couple of new gage rods installed. These observations indicate WMATA did not address the entire curve, leaving potential wide gage conditions.	
	During the 4-9-2016 inspection wide gage conditions were identified throughout the curve and as is customary during a compliance inspection we measured the locations with the greatest lateral movement. The transit representive marked the locations, removed the track from service and called a crew to remediate the curve. When the crew arrived we informed them the wide gage problem extended through the whole curve from the Grade Crossing to the Tunnel Portal.	
	deflection on the low rail totaling 58-15/16 inch gage  Out bound lead # 2 restraining rail, wide flange opening measuring 2-5/8 inch	
	totaling 57-7/8 inch gage  • 57-3/4 inch static + 1 inch lateral deflection on the high rail and 1/8 inch lateral	
	deflection high rail totaling 58-1/4 inch gage • 57-1/4 inch static + 5/8 inch lateral deflection	



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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## Agency/Department Information

	YYYY	MM	DD	Report Number	20160407-WMATA-TGB-1				
Inspection Date	2016	04	07	Report Number					
Rail Agency Name	Washington I Authority	Metropolitan .	Area Transit	Rail Agency Department	Track and Structures	Sub- Department	Track Inspection		
	1	Name		Email	Office Ph	none	Mobile Phone		
Rail Agency Department Contact Information	N								
Inspection Location	Walking insp	ection of track	c Smithsonian S	Station to L'Enfant Statio	n				

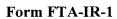
#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-WI-PI				
Inspection Units	1	1				
Inspection Subunits	2	4				
Defects (Number)	7	2				
Recommended Finding	No	No				
Remedial Action Required	N/A	N/A				,
Recommended Reinspection	N/A	N/A				<u> </u>

### **Activity Summaries**

Inspection Activity #	1	Insp	ection Sub	ject						Activity (	Code				
Job Briefing Employee Name/Title	Supervisor			Accompanied Inspector?		¥	Out Brief Conducted	n	Time	2200 0400		•			
Related Reports						Rela	Related CAPS / Findings								
	Ref				Rule or SOP Standard			Other /	Title		Checklist Re	ference			
Related Rules, SOPs, Standards, or Other	MSR	MSRPH			General Rules										
standards, or Other	TRST	1000													
	Ma Tra		Yard	Stat	tion	осс	RTA Facility	FTA Office	Track Type	At-gr	At-grade		Elevated	N/A	
Inspection Location	×	1							Track Type			х			
									From				То		
			Track				Chain Ma	rker	ser Smthsonian		L'Enfa		nt		
Line(s)	D		Numb	er	1		and/or St	ation(s)	040+00			059+0	059+00		
	He	ad Ca	r Number		Numb	er of Cars		ment	Prime Move	r #PM64					
Vehicles		PN	<i>1</i> 64			2	Equip	anenc	Time wove						
	FRA	Inspe	ctors were i	eque	sted to	perform	a visual insp	ection of the	track	Numbe	er of Defe	ects		7	
	stru	cture I	oetween Sn	nithso	nian Sta	ation and	L'Enfant Sta	ition.		Recom	mended	Finding?		No	
<b>Description</b> At 045+00 there wer		5 ligh	thts not working on tunnel wall					Remedial Action Required?			1?	Yes			
	At 0	45+00	there were	expo	sed im	pedance	bond cables	noted.	ance bond cables noted.			Recommended Reinspection?			

Inspector in Charge - Signature	Digitally signed by SEANL THOMPSON  Discrete Seal S. Government out-DOT	Date
	SEAN L THOMPSON Div. e.c.U.S. Government, oue-DOT Headquarter, our FAND. on FESAN L THOMPSON Date: 2016;04.12 14.40:03 -04:00	04/07/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Tom Beck, Joe Kennedy	





Remedial Action	Complete repairs.
	At 057+50 there was 1 third rail coverboard missing
	At 053+50 there was 1 third rail cover board missing
	From 050+00 to 051+50 there were no working lights on tunnel wall
	At 050+00 there were no working lights at the D3 fan shaft and emergency exit
	At 049+50 there 3 missing third rail cover boards

Inspection Activity #	2	Inspe	ction Sub	ject						Activity Co	de			
Job Briefing Employee Name/Title						,	mpanied ector?		Out Brief Conducted		Time		Outside Shift	!
Related Reports						Relat	Related CAPS / Findings							
	Ref				Rule o	r SOP	OP Standard			Other / T	Checklist Re	ference		
Related Rules, SOPs, Standards, or Other	MSR	PH			Gener	al Rules								
Standards, or Other	TRST	1000												
	Ma Tra		Yard	Sta	tion	осс	RTA Facility	FTA Office	Track Type	At-gra	de	Tunnel	Elevated	N/A
Inspection Location	Location					mack type			×					
									From			То		
			Track			Chain Marker			L'Enfant Si			Smiths	onian	
Line(s)	D Number		er	2		and/or Station(s)		059+00			040+0	0		
	He	ad Car	Number	Τ	Numbe	er of Cars			Prime Move	. DM64				
Vehicles		PM6	64			2	Equi	pment	Prime Move	FIVIO4				
	FRA	Inspect	ors were i	eque	sted to	perform a	visual insp	ection of the	track	Number	of Defe	ects		2
	struc	ture be	etween L'E	nfant	Station	and Smit	thsonian St	ation.		Recomm	nended	Finding?		n
Description	At 058+07 the middle of track troug				gh was bl	ocked by	debris		Remedia	al Action	n Required	?	n	
	At 044+40 there was one third rail of		coverboa	rd missing			Recomm	on?	n					
Remedial Action	N/A	//												



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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## Agency/Department Information

In an action Date	YYYY	MM	DD	Report Number	20160407-WMATA-MWP-2						
Inspection Date	2016	04	07	Report Number	20100407-WWATA-WWF-2						
Rail Agency Name	Washington I Authority	Metropolitan .	Area Transit	Rail Agency Department	Track & Structures	Sub- Departme	ent	Track Inspection			
	1	Name		Email	Office Phone		Mobile Phone				
Contact Information		}									
Inspection Location	Walking insp	ection of track	k between New	Carrollton Station CM 2	11+46 and end po	oint CM 260+00 at D	&G Aei	rial Structure.			

### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-RWP-PI	TRK-RMM-PI	TRK-RAD-OBS	TRK-RMM-OBS	TRK-SW-PI
Inspection Units	1	1	1	1	1	1
Inspection Subunits	1	1	1	1	1	1
Defects (Number)	12	0	1	1	1	7
Recommended Finding	Yes	N/A	No	No	Yes	Yes
Remedial Action Required	Yes	N/A	No	No	Yes	Yes
Recommended Reinspection	Yes	N/A	No	No	Yes	Yes

### **Activity Summaries**

Inspection Activity #	1	nspection	Subject	:						Activity	Code					
lob Briefing Employee Name/Title	Employ RWIC Le					ı	ompanied ector?	l Yes	Out Brief Conducted	Yes	Yes Time		12 56	Outside Shift	N/A	
Related Reports					Related CAPS / Findings											
	Ref			Rule o	Rule or SOP S			Standard	Other / Title				Checklist Reference			
Related Rules, SOPs, Standards, or Other	MSRPH			Gener	General Rules											
standards, or Other	TRST 10	00														
	Main Track	Yard	S	tation	0	сс	RTA Facility	FTA Office	Tue els Trues	"	rade	Tunne	I E	levated	N/A	
Inspection Location	Х	X		[				Track Type	1	_	X					
										From			•	То		
Line(s)	G-Line		Track Num	11		Chain N and/or		larker Station(s)	3+00			024	+00			
	Head	Car Numb	er	Num	ber of	f Cars										
Vehicles		PM 42			3		Equ	ipment								
	Federa	inspection	Team	4, reque	sted	to perf	form visu	al inspection o	f Track 1	Numb	er of Defe	ects			20	
	structu	re and swit	ches be	etween (	Galler	y Place	e Station	and Mt. Verno	n Square	Recon	mended	Finding	)		Yes	
Danasiation	Station	.   During th rbert, DRP	ie inspe	ection I v	vas ac	compa	anied by	FTA members;	Troy Lloyd &	Reme	dial Actio	n Requir	ed?		Yes	
Description	During		tion the					fied by hi-rail v	ehicle and	Recon	nmended	Reinspe	ction?	•	Yes	
Inspector in Charge - S	<u> </u>					====	Digitally sign	ned by SEAN L THOMPS	ON		_		Da	te		

SEAN L THOMPSON DN:c-US, Government, ou=DOT Headquarters, ou=FAHQ, cn-SEAN L THOMPSON Date: 2016.04.12 14:38:59-04:00"

Inspector in Charge – Name Sean Thompson Troy Lloyd (FTA), Michael W. Pirato (FRA), Phil Herbert (FTA), Rudy Flowers (DRPT)



#### Railway Maintenance Machines (RMM)

 Safety kit inspection revealed two incomplete safety kits (combined both to make one kit).

#### NOTE:

- Operator and flagman had all required books to include; MSRPH, Track Map, RWP Manual.
- Observed operator communications with F99 Tower all within MSRPH compliance.
- o RWP was complete and well done.

#### 3<sup>rd</sup> Rail (NOTE: See Item at E1 014+90 to E1 015+45)

• Missing cover board at end approach at F2-397+80.

#### Fasteners/Direct Fixation Items

- E1 04+10
  - Missing/unbolted 3<sup>rd</sup> rail anchor arm
- E1 014+90
  - o Clogged center track drain with mud and debris.
  - o 3 consecutive non-effective fasteners in a row
  - 56-3/4 inch gage with measured 3/8 inch lateral dynamic deflection
- E1 014+90 to E1 015+10
  - Two locations with 3 consecutive non-effective fasteners in a row
  - Less than 10 effective fasteners within 40 of rail
- E1 014+90 E1 015-45
  - 3<sup>rd</sup> rail measurement less than allowable. Static measurement of 20-3/4 inch with 3/8 dynamic lateral movement in running rail resulting in 20-3/8 inch tight 3<sup>rd</sup> rail gage with contact of 3<sup>rd</sup> rail joints. (See picture below)
- E1 015+10
  - Suspended rail joint on right rail with 2 non-effective F17 fasteners.
- E1 015+45
  - Suspended rail joint on right rail with no rail holding clips on F17 fasteners.

### Switches / Interlocking

Mount Vernon A1 Switch

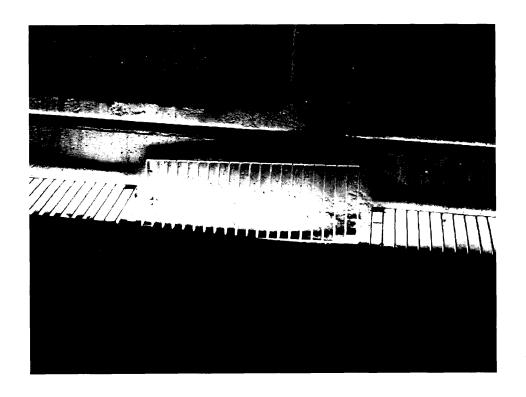
- E1 022+50
  - Suspended joints on left and right rails with no Pandrol clips ahead of switch.
  - Straight stock rail joint missing Pandrol clips.
  - o Straight closure rail joint missing Pandrol clips.
  - Heel Block insecure # 3 bolt missing nut on left hand side.
  - All joints in throughout switch # 1A missing Pandrol "C"clips as a general condition.
  - o Tread Frog wear measured at 7/16 inch
  - Frog point wear measured at 1/2 inch

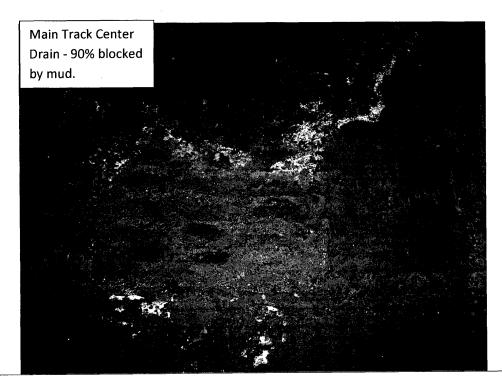
#### Safety Items of Concern

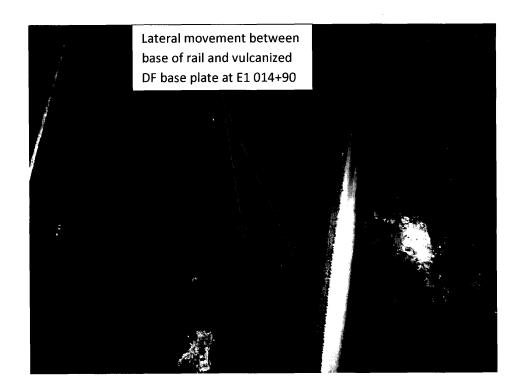
- Gallery Place/Chinatown Station
  - Platform limits broken light grate, which could be used as an emergency clear point.

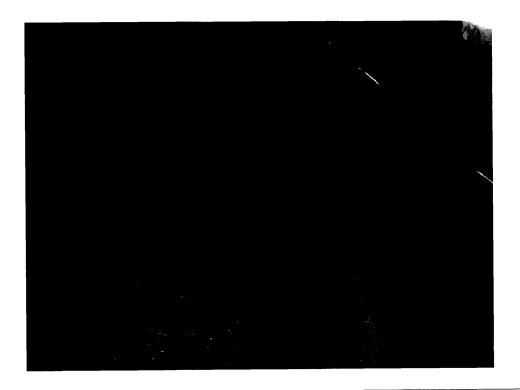


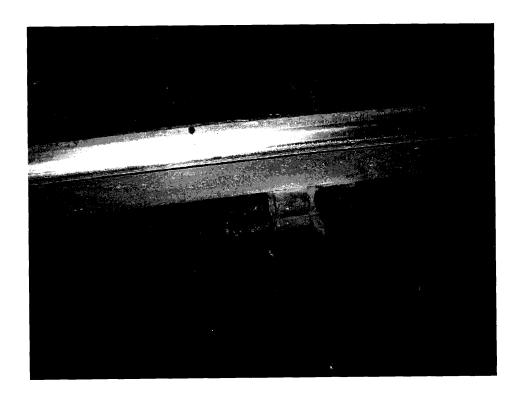
Remedial Action

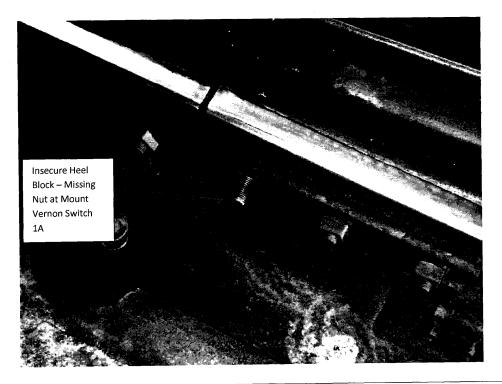


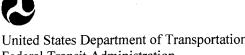


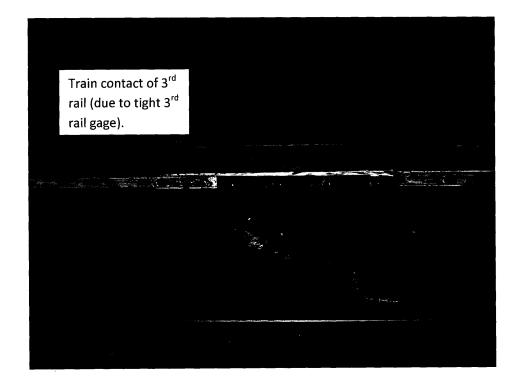


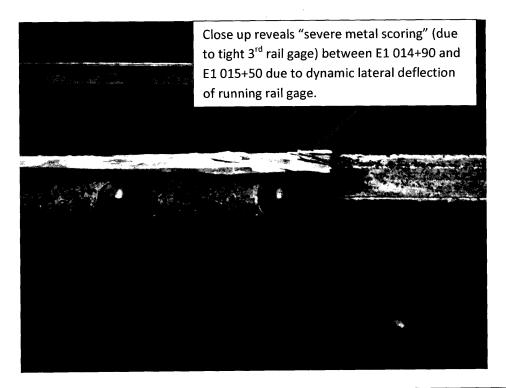














Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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## Agency/Department Information

Increation Date	YYYY	MM	DD	Report Number	2016040	7 TM 2		
Inspection Date	2016	04	07	Report Number	2010040	77-1 VV-2		
Rail Agency Name	Washington Authority	Metropolitan A	Area Transit	Rail Agency Department	TASS	Sub- Dep	artment	Power
Rail Agency Department	1	Name		Email	Office Phone		Mobile Phone	
Contact Information								
Inspection Location	D-Line, Track	s 1 and 2 – Vai	rious Locations	s as detailed below				

### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TASS-RWP-OBS	TASS-TP-PI				
Inspection Units	1	1				
Inspection Subunits	1	9				
Defects (Number)	0	4				
Recommended Finding	No	No				
Remedial Action Required	No	Yes				
Recommended Reinspection	No	No				

### **Activity Summaries**

Inspection Activity #	1	Insp	ection Subj	ect	Roadwa	y Worke	r Protection	on Briefing		Activity Co	ode	TASS	RWF	OBS
Job Briefing Employee Name/Title	Track	k Unit	679			Accom	•	Y	Out Brief Conducted	No	No <b>Time</b>		- Outsid	I No
Related Reports						Relate	CAPS / I	indings						
	Ref			7	Rule or S	OP		Standard		Other / 1	Γitle		Checklist F	leference
Related Rules, SOPs, Standards, or Other	RWP	М		$\Box$									L	
	Ma Tra		Yard	Stat	ion (	осс	RTA Facility	FTA Office	Track Type	At-gra	ade	Tunnel	Elevated	N/A
Inspection Location	×								таск туре			x		
								<u> </u>		From			То	
Line(s)	D-Lir	ne	Track Numbe	r	1&2		Chain Ma and/or St		D04 (Federal	Center)		D08 (S	tadium Arm	ory)
Vehicles	Не	ad Ca	r Number		Number	of Cars	Equip	ment				- I		
	FWS	O Insp	ector was p	rovid	ed with a	Job Safet	y Briefing	prior to acc	essing the	Number	of Defe	cts		0
	road	way a	t two location	ns. T	he briefin	g was co	mplete an	d all associa	ted hazards	Recomn	nended I	Finding?		No
Description	were	e discu	issed includi	ng cle Intral	earance lo Loontrol t	ocations a o receive	nd track ( d clearan	geometry (cu ce to enter e	urves). ach location.	Remedia	al Action	Required	?	No
	'''e		contracted of							Recomn	nended	Reinspecti	on?	No
Remedial Action	N/A													

Inspector in Charge – Signature	SEAN L THOMPSON	Digitally signed by SEAN L THOMPSON DN: c=US, G=US. Government, ou=DOT Headquarters, ou=FTAHC, cn=SEAN L THOMPSON Date 2016.0.14 13:6525-0400' Date 2016.0.14 13:6525-0400'	Date 04/07/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Terrell Williams, Brian Finn, Da	vid Crow, Tino Sahoo, Mike Vitale, John Weisgerber	





Inspection Activity #	2	Insp	ection Sub	ject	Powe	r Repairs	Physic	al Ins	pection		Activity Co	ode	TAS	S	TP	PI
lob Briefing Employee Name/Title	Track	c Unit 6	579				Accompanied Inspector?		Y	Out Brief Conducted	No	Time	1000 1330		Outside Shift	No
Related Reports						Related CAPS / Findings										
i	Ref				Rule o	r SOP	SOP Standard				Other / T	itle		Che	cklist Re	ference
Related Rules, SOPs, Standards, or Other													-			
	Ma Tra		Yard	Stat	ion	осс	RT Faci		FTA Office		At-gra	ide	Tunnel	Ele	vated	N/A
nspection Location	×	(								Track Type			Х			
	1			L	T						From				То	
	Trac		Track	.			Chain Ma		rker	D04 (Federal	Center)		D08 (S	tadiu	m Armoi	ry)
Line(s)	D-Lir	D-Line Number			Track 1&2		and/	and/or Station(s)					-			
Vehicles	Не	ad Car	Number		Numbe	er of Cars		Equip	ment							
	FWS	O perf	ormed a p	nvsical	inspec	tion of th		• •	ide at D1 CM	s 67+00	Number	of Defe	ects		<u> </u>	4
	linco	orrectly	v noted as	61+00	in WM	ATA repa	ir list),	68+0	0, 108+00, 18	37+00, and	Recomn	nended	Finding?			No
	202-	+00 as	well as D2	CMs 8	87+00, 8	88+00, 1 andard wi	34+00, ith the	, and 1	174+00. All re ation of D1 10	epairs had been	Remedi	al Actio	n Required	1?		Yes
Description	has grou this four	de according to the WMATA standard with the exception of D1 108+00 which is a unique configuration and D2 174+00 which has a cable in contact with the bund after installation. Photos of all repairs can be found below. In addition to is non-conforming repair, FWSO noted 3 other defects. A large water leak was and at D1 182+00, a duct line tranistion of feeder cable stub-up was under stress D1 67+00 and arcing damage was noted at D2 88+00.  MATA should mitigate water leak at D1 182+00. WMATA engineering should review repairs made at D1 108+00 and D2									Yes					
Remedial Action	WN	IATA S	nould mitig	ate wa	ter lea	k at D1 1	82+00.	. WM	ATA enginee	ring should revi e transition at I	ew repairs r D1 67+00.	nade at	D1 108+0	0 and	D2 174+	00 and, if

### Photos:

New Boot and Cable at D2 CM 87+00





New Boot at D2 CM 88+00



Arcing Damage at D2 CM 88+00



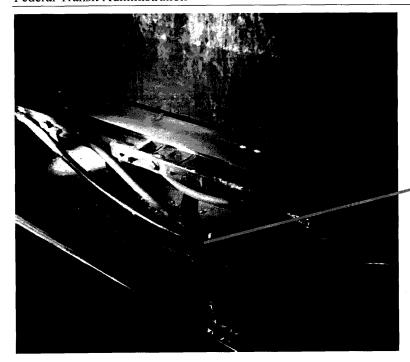
New Cable at D2 CM 134+00



New Cable at D2 CM 174+00 (Note: Cable on ground in this location







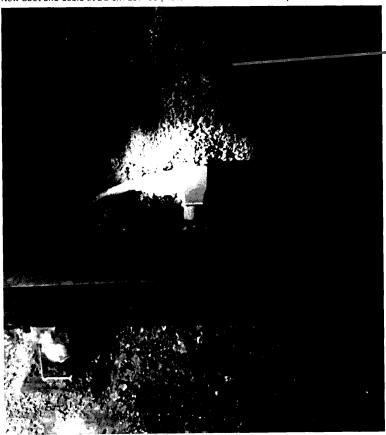
Cable on Ground

New Cable at D1 CM 202+00





New Boot and Cable at D1 CM 187+00 (Note: FWSO alerted Power department to water leak and mud accumulation near this boot)



Water Leak and Mud Accumulation

Water Leak at D1 CM 182+00





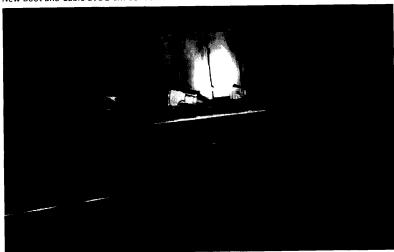


New Boot at D1 CM 108+00 (Note: This location was not installed according to WMATA design criteria due to proximity of cable to wall and orientation of feeder cables coming from above rather than below as typical)

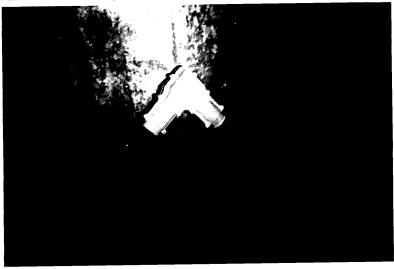


Feeder Cables

New Boot and Cable at D1 CM 68+00



New Boot at D1 CM 67+00 (Note: This was labelled incorrectly as CM 61+00 in WMATA report)







Stressed duct line transition of feeder cable stub-up is at D1 CM 67+00.





## **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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## Agency/Department Information

Increation Date	YYYY	MM	DD	Report Number	20160407-TW-1					
Inspection Date	2016	04	07	Report Number	20100407-100-1					
Rail Agency Name	Washington Authority	Metropolitan A	rea Transit	Rail Agency Department	TASS	Sub- Dep	partment	Power		
tail Agency Department	Name			Email	Office Phone		Mobile Phone			
Contact Information					34					
Inspection Location	C-Line, Track	1 – Various Lo	cations as det	ailed below						

#### Inspection Summary

mspection summary						
Inspection Activity #	1	2	3	4	5	<u> </u>
Activity Code	TASS-RWP-OBS	TASS-TP-PI				
Inspection Units	1	1				
Inspection Subunits	1 .	4				
Defects (Number)	0	2				
Recommended Finding	No	No				
Remedial Action Required	No	Yes				
Recommended Reinspection	No	No	_			

#### **Activity Summaries**

Inspection Activity #	1	Insp	ection Sub	ject	Roadv	ay Work	er Protectio	on Briefing		Activity C	ode	TASS	RWP	OBS
lob Briefing Employee Name/Title	Track	( Unit	#634			Accor	npanied ctor?	Y	Out Brief Conducted	No	Time	1000 1200	1	No
Related Reports						Relat	ed CAPS / I	indings						
	Ref				Rule or	SOP		Standard		Other /	Title		Checklist Ref	erence
Related Rules, SOPs, Standards, or Other	RWP	M												
	Ma Tra		Yard	Sta	tion	осс	RTA Facility	FTA Office	Trook Tuno	At-gr	ade	Tunnel	Elevated	N/A
Inspection Location	х								Track Type			Х		
				·						From			То	
	Ĭ		Track		1&2		Chain Ma	rker	C14 (Eisenho	wer Ave)		C13 (K	ing Street)	
Line(s)	C-Lin	ie	Numb	er	102		and/or St	ation(s)	C12 (Braddo	ck Road)		C10 (N	ational Airpor	t)
Vehicles	Не	ad Ca	r Number		Numbe	r of Cars	Equip	ment			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
	FWS	O Inst	pector was	provid	ded with	a Job Saf	ety Briefing	prior to acc	essing the	Numbe	r of Defe	cts		0
	road	lway a	t two locat	ions.	The brief	ing was c	omplete ar	ıd all associa	ted hazards	Recomi	mended	Finding?		No
Description	were	e discu	ussed includ	ding th	ne weath	er (Rain) Land arra	and cleara	nce location: drop off and	s. pick up from	Remed	ial Action	n Required	?	No
		he RWIC contacted central control and arranged for a drop off and pick up from the areas that were accessed.									Recommended Reinspection?			
Remedial Action	N/A	_					<del></del>							

Inspector in Charge – Signature	SEAN L THOMPSON Digitally signed by SEAN L THOMPSON ON CONTROL THOMPSON DIRECTION ON CONTROL THOMPSON ON C	Date 04/07/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Terrell Williams, R.	





Inspection Activity #	2	Inspe	ction Sub	ject	Pow	er Repairs	Physical Ins	pection		Activity Co	ode	TAS	S TP	PI
Job Briefing Employee Name/Title	Track	unit #6	534				ompanied ector?	Y	Out Brief Conducted	No	Time	1000 1200	1	- I No
Related Reports	T -		-			Rela	ted CAPS /	Findings						
	Ref			1	Rule	or SOP		Standard		Other / Title			Checklist R	eference
Related Rules, SOPs, Standards, or Other														
	Mai Trac		Yard	Sta	tion	осс	RTA Facility	FTA Office	Track Type	At-gra	ide	Tunnel	Elevated	N/A
Inspection Location	х								Track Type			X		
					Τ '					From			То	
Line(s)		C-Line Track Number Track			l. 102	Chain Marker and/or Station(s) C14 (Eisenhor C12 (Braddoo			wer Ave)		C13 (K	(ing Street)		
	C-Lin				ICK 102				ck Road) C10 (Nationa			lational Airpo	ort)	
Vehicles	Hea	ad Car I	Number		Numi	per of Cars		oment						
	FINIS	) norfo	rmed a n	hysica	linsne	ction of th	e renairs m	ade at C1 CN	1 574+00. The	Numbe	of Defe	ects		2
	repai	rs were	e complet	e. See	photo	s below.						Finding?		No
	FWS	O also a	attempted	d to pe	erform	a physical	inspection	at C1 CM 50- p with the T/	1+00. The			n Required	<del>1</del> ?	Yes
Description	prop	erly ide itions t	entify the	location	on. Du	ring this vi	sit the inspe	ector noted t	wo (2) other	Recomr	nended	Reinspect	ion?	Yes
	Ther	e are ty	wo recom	mend	ed ren	nedial acti	ons:							
Remedial Action	visit	is requi	ired to ve	rify th	e repa	ir.			tify the area cu					
					ASS Powe	r group on 1	the two (2) Io	cations identifi	ed during th	e inspec	tion. Phot	os are provid	ed below	

#### Photos:

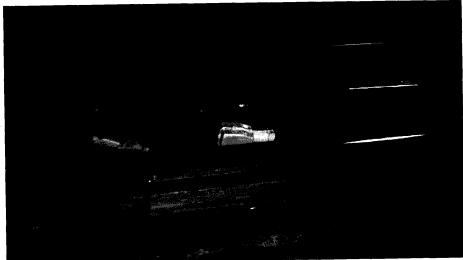


Figure 1 - C1 CM 574+00



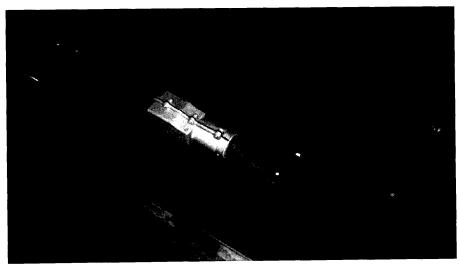


Figure 2 - C1 CM 574+00

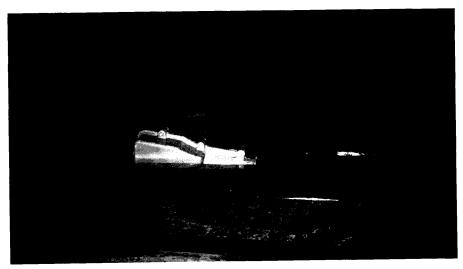


Figure 3 - C1 CM 574+00

### Additional Locations:

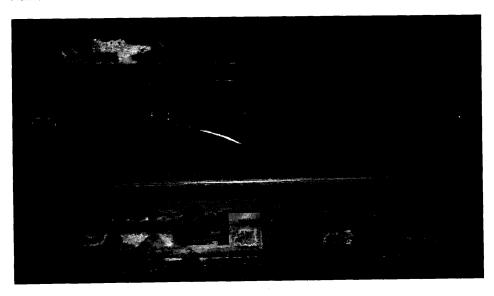


Figure 4 - C1 CM 505+50 - Third Rail Tensioner under strain



Figure 5 - C2 CM 507+00 Expansion Joint Cables with slashed insulation - Cables are lying on the ground with some tie plates on them



## **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

ace (b) (b)

### Agency/Department Information

	YYYY	MM	DD	Report Number	20160407	20160407-WMATA-WHW-1				
Inspection Date	2016	04	07	Report Number	20100407-VVIVIATA-VVITVV-1					
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	Track and Structures	Sub- De	Sub- Department Track In			
	Name			Email	Office F	hone	Mobile Phone			
Contact Information							540-642-	2187		
Inspection Location	Walking insp	ection of track	between Met	ro Center CM 00+00 and	Federal Triangle C	M13+00				

#### **Inspection Summary**

,						
Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI					
Inspection Units	1					
Inspection Subunits	2					
Defects (Number)	0					
Recommended Finding	N/A					
Remedial Action Required	N/A					
Recommended Reinspection	N/A					

#### **Activity Summaries**

Inspection Activity #	1	Inspectio	on Subje	ect	Track a	nd Safety	,			Activity Co	ode	TRK	W	I PI
Job Briefing Employee Name/Title		T		pervis C perfo ing or	orming n-track-	Accom	npanied ctor?	YES	Out Brief Conducted	YES	Time	2400 0200		1 VES
Related Reports						Relate	d CAPS / I	indings						
	Ref				Rule or	SOP		Standard		Other / T	itle		Checklist	Reference
Related Rules, SOPs,	MSRPH				Mainter	ance Sta	ndards		·					
Standards, or Other	Trst10	00												
	Main Track	1 Y:	ard	Stati	on	осс	RTA Facility	FTA Office	Track Type	At-gra	ide	Tunnel	Elevated	i N/A
Inspection Location	х			Х					Track Type			Х		
										From			T	0
			Track				Chain Ma	rker	CM 00+00			CM 13	+00	
Line(s)	Orange	e Line	Numbe	er	1 & 2		and/or St	ation(s)				-		
Mate de la	Head	d Car Nur	mber		Number	of Cars	Fauir	ment						
Vehicles							' '							
	FRA in	spector a	along w	ith FW	/SO insp	ector per	formed a	visual walking	g inspection of	Number	of Defe	cts		0
Description					Metro C	enter and	d Federal T	riangle. No e	exceptions	Recomm	nended F	inding?		No
•	taken	for units	opserv	ea.						Remedia	al Action	Required	l?	N/A

Inspector in Charge - Signature	Digitally signed by SEAN L THOMPSON  Dic. = U.S. o= U.S. Government. ou= DOT  Date: 2016-06-12 14-40-06-0-0400  Date: 2016-06-12 14-40-06-0-0400	Date 04/07/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Willian Wilson, FRA Alexander Nepa, FTA/FRA	





		Recommended Reinspection?	
Remedial Action	None		

## 0

## **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

ace (b) (b)

### Agency/Department Information

	YYYY	MM	DD	Report Number	20160407-1	20160407-WMATA-JLK-1				
Inspection Date	2016	04	07	Report Namber	20100407-WWATA-3ER-1					
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	Track and Structures	Sub- Depa	Sub- Department Track Ins			
	Name			Email	Office Phone			Mobile Phone		
Contact Information		<b>\</b>								
Inspection Location Walking Inspec		ection of track	two between	Silver Spring and Forest	Glenn, CM 451+0 to	o 546+0				

### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-WI-OBS	TRK-SW-PI	TRK-RAD-OBS	TRK-RWP-PI	
Inspection Units	2	1	2	1	1	
Inspection Subunits	4	2	2	10	3	
Defects (Number)	8	0	0	0	0	
Recommended Finding	YES	N/A	NO	NO	NO	
Remedial Action Required	YES	N/A	NO	NO	NO	
Recommended Reinspection	YES	N/A	NO	NO	NO	

#### **Activity Summaries**

Inspection Activity #	1	Insp	ection Sub	ject	Track,	Switch,	urnout an	d Third Rail I	nspection	Activity Co	ode	TRK	WI	P!
Job Briefing Employee Name/Title	RWIC numb	er		ployee		- 1	mpanied ctor?	YES	Out Brief Conducted	YES Time		2145 0215		YES
Related Reports						Relat	ed CAPS /	Findings						
	Ref				Rule or	SOP		Standard		Other / 1	Title		Checklist Re	ference
Related Rules, SOPs, Standards, or Other	MSRF	PH			Genera Standa	il Mainte rds	nance							
	TRST	1000												
	Mai Trac		Yard	Stat	tion	осс	RTA Facility	FTA Office	Trook Turns	At-gra	ade	Tunnel	Elevated	N/A
Inspection Location	X			,	×				Track Type			x		
	_		$\top$							From			То	
Line(s)	Red l	ine	Track Numb		TWC	)	Chain Ma and/or S		451+0			546+0		
	He	ad Car	r Number		Numbe	r of Cars	Faul	pment						
Vehicles							Equi	pment						
	FWS	O Insp	ection tea	m in c	onjuctio	n with FR	A support,	conducted a	focused	Number	of Defe	cts		08
	walk	ing ins	spection of	WMA	TA Red	Line tracl	one to inc	clude switch Forest Glenn	es, turnouts, , CM 451+0and	Recomn	nended	Finding?		NO
Description			and comp n, CM 5464		s perwe	en suver	, C. 11 451 . Udila	Remedial Action Required?				YES		
During the inspection the following it				items w	ms were idenitified.				Recommended Reinspection?			YES		

Inspector in Charge - Signature	SEAN L THOMPSON DN: c=US, 0=US. Government, ou=DOT Headquarters, ou=ETAHQ, cn=SEAN L THOMPSON DD: c2016.04.12 14:34:48 -04'00'	Date 04/07/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Justin Killingsworth, Corwyn Foster	





Missing cover boards throughout inspection CM 456+00		
Rail joint not of structurally sound and design demension 7 Switch CM 459+30		
7 Defective wooden crossites in a row CM 459+85		
Loose or missing fasteners CM 496+25 right rail		
Rail corrosion 538+80 CM 538+80 Left rail		
Loose missing fasteners CM 540+24 Right rail		
Joint Tie Defect CM 467+60 Joint Tie Defect CM 474+50		
	Loose or missing fasteners CM 496+25 right rail  Rail corrosion 538+80 CM 538+80 Left rail  Loose missing fasteners CM 540+24 Right rail  Joint Tie Defect CM 467+60	7 Defective wooden crossites in a row CM 459+85  Loose or missing fasteners CM 496+25 right rail  Rail corrosion 538+80 CM 538+80 Left rail  Loose missing fasteners CM 540+24 Right rail  Joint Tie Defect CM 467+60



## **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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### Agency/Department Information

I Data	YYYY	MM	DD	Report Number	20160407-WMATA-MWP-2					
Inspection Date	2016	04	07	Report Number						
Rail Agency Name	Washington Authority	Metropolitan /	Area Transit	Rail Agency Department	Track & Structures	Sub- Departn	tment Track Inspec			
Rail Agency Department		Name		Email	Office Phone		Mobile Phone			
Contact Information										
Inspection Location	Walking insp	ection of track	between New	Carrollton Station CM 2	11+46 and end po	oint CM 260+00 at I	D&G Ae	rial Structure.		

### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-RWP-PI	TRK-RMM-PI	TRK-RAD-OBS	TRK-RMM-OBS	TRK-SW-PI
Inspection Units	1	1	1	1	1	1
Inspection Subunits	1	1	1	1	1	.1
Defects (Number)	12	0	1	1	1	7
Recommended Finding	Yes	N/A	No	No	Yes	Yes
Remedial Action Required	Yes	N/A	No	No	Yes	Yes
Recommended Reinspection	Yes	N/A	No	No	Yes	Yes

#### **Activity Summaries**

Inspection Activity #		insp	ection S	ubject									Activity Co	de				
lob Briefing Employee Name/Title	Empl RWIC	oye <b>q</b>	14			-	Accompanied Inspector?		d	Yes	Out Brief Conducted		Yes	Time	1 -	12 56	Outside Shift	N/A
Related Reports						Related CAPS / Findings												
	Ref				Rule o	e or SOP Standard				Ot	her / Title			Checklist Reference				
Related Rules, SOPs, Standards, or Other	MSRI	PH			Gener	ral Rules												
standards, or Other	TRST	1000	)															
	Ma Tra		Yard	St	ation	0	сс	RTA Facility	y	FTA Office	Track Type		At-gra	de	Tunne	ı	Elevated	N/A
Inspection Location	×	Х 🗆 Х				[					паск туре				Х			
											ſ	From				То		
Line(s)	G-Lir	ne		Track Numl		1		Chain N and/or			3+00				024	+00		
Vehicles	He		r Numbe	er	Num	ber 01	f Cars	Equ	uipr	ment								
	Fools			Toom			to ner	form visi	ıali	nspection of	Track 1	_	Number	of Defe	cts			20
	struc	ture	and swit	ches be	tween	Galler	y Plac	e Station	an	d Mt. Verno	n Square		Recomm	ended	Finding	•		Yes
	Stati	on. D	uring th	e inspe	ction I v	vas a	ccomp	anied by	FT/	A members;	Troy Lloyd &	Lloyd & Remedial Action Required?				Yes		
Description	Duri	Phil Herbert, DRPT Rudy Flowers, WMATA Supervisor & RWIC  During the inspection the following items were identified by hi-rail vehicle and walking as defects.								ehicle and	Recommended Reinspection?				1?	Yes		
Inspector in Charge - S					HON	ΛPS	SON	DN: c=US, c Headquart	o=U.S ers, o	by SEAN L THOMPS i. Government, ou= u=FTAHQ, cn=SEAN 2 14:37:27 -04'00'	DOT					_	ate /6/2016	

Form FTA-IR-1 Version date: 1/19/16

Inspector in Charge – Name

Sean Thompson

Inspection Team 4

(FTA), Rudy Flowers (DRPT)

Troy Lloyd (FTA), Michael W. Pirato (FRA), Phil Herbert



#### Railway Maintenance Machines (RMM)

• Safety kit inspection revealed two incomplete safety kits (combined both to make one kit).

#### NOTE:

- Operator and flagman had all required books to include; MSRPH, Track Map, RWP Manual.
- Observed operator communications with F99 Tower all within MSRPH compliance.
- o RWP was complete and well done.

#### 3<sup>rd</sup> Rail (NOTE: See Item at E1 014+90 to E1 015+45)

• Missing cover board at end approach at F2-397+80.

#### Fasteners/Direct Fixation Items

- E1 04+10
  - Missing/unbolted 3<sup>rd</sup> rail anchor arm
- E1 014+90
  - O Clogged center track drain with mud and debris.
  - 3 consecutive non-effective fasteners in a row
  - 56-3/4 inch gage with measured 3/8 inch lateral dynamic deflection
- E1 014+90 to E1 015+10
  - Two locations with 3 consecutive non-effective fasteners in a
  - Less than 10 effective fasteners within 40 of rail
- E1 014+90 E1 015-45
  - o 3<sup>rd</sup> rail measurement less than allowable. Static measurement of 20-3/4 inch with 3/8 dynamic lateral movement in running rail resulting in 20-3/8 inch tight 3<sup>rd</sup> rail gage with contact of 3<sup>rd</sup> rail joints. (See picture below)
- E1 015+10
  - Suspended rail joint on right rail with 2 non-effective F17 fasteners.
- E1 015+45
  - Suspended rail joint on right rail with no rail holding clips on F17 fasteners.

#### Switches / Interlocking

Mount Vernon A1 Switch

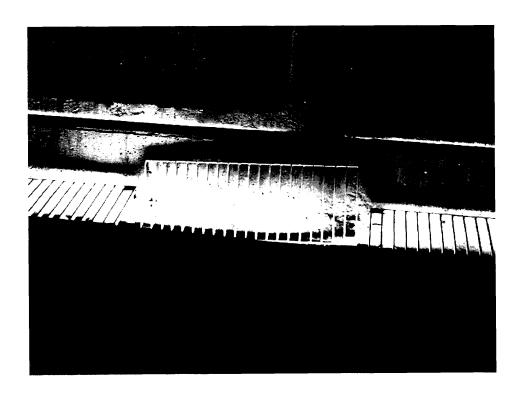
- E1 022+50
  - Suspended joints on left and right rails with no Pandrol clips ahead of switch.
  - Straight stock rail joint missing Pandrol clips.
  - o Straight closure rail joint missing Pandrol clips.
  - Heel Block insecure # 3 bolt missing nut on left hand side.
  - All joints in throughout switch # 1A missing Pandrol "C"clips as a general condition.
  - o Tread Frog wear measured at 7/16 inch
  - o Frog point wear measured at 1/2 inch

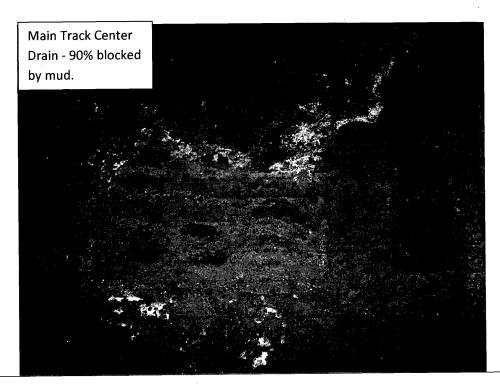
#### Safety Items of Concern

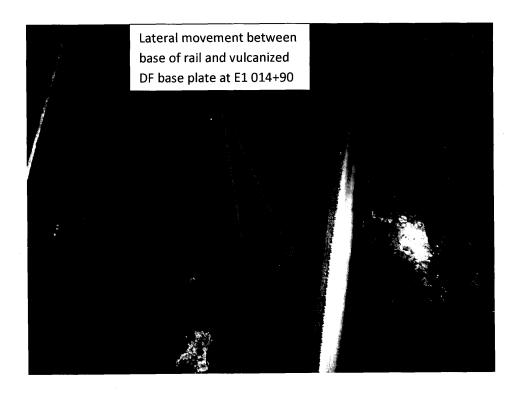
- Gallery Place/Chinatown Station
  - Platform limits broken light grate, which could be used as an emergency clear point.



Remedial Action

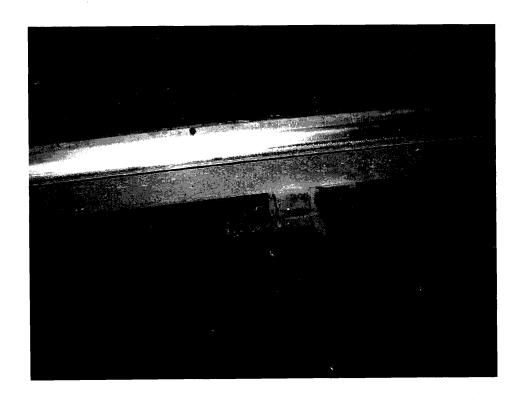


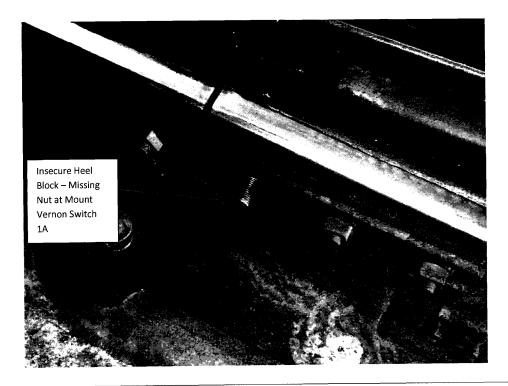


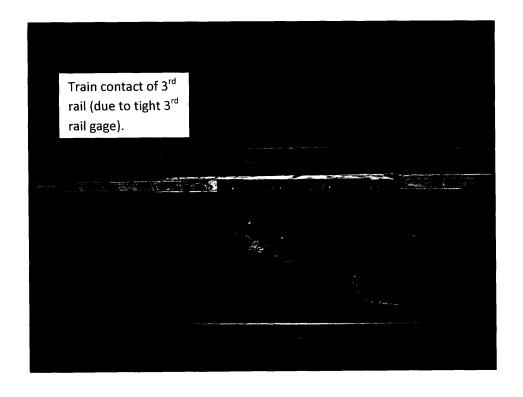


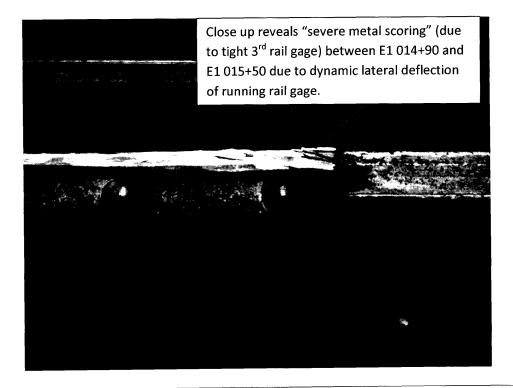














## **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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### Agency/Department Information

I Data	YYYY	MM	DD	Rail Agency	160407 \	160407-WMATA-NAV-1					
Inspection Date	2016	04	07		100407-WWATA-WAV-1						
Rail Agency Name	Washington Authority	Metropolitan /	Area Transit		Track and Structures	Sub- Departme	ent	Track Inspection			
Rail Agency Department		Name		Email	Office P	Phone	М	lobile Phone			
Contact Information											
Inspection Location	Walking insp	ection of track	1 and track 2	between Navy Yard Stati	on and Waterfront	Station.					

#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-WI-OBS	TRK-SW-PI			
Inspection Units	1	1	1			
Inspection Subunits	2	1	4			
Defects (Number)	5	0	1			
Recommended Finding	N/A	N/A	NO			
Remedial Action Required	YES	N/A	YES			
Recommended Reinspection	YES	N/A	NO			

#### **Activity Summaries**

Inspection Activity #	1	Insp	ection Sub	ject	Track	, Switch,	Turnout and	Third Rail I	nspection	Activity Co	ode	TRK	WI	PI
lob Briefing Employee Name/Title	RWIC Supe	rvisor		3	3		ompanied ector?	YES	Out Brief Conducted	Yes	Time	2215 2355		Yes
Related Reports						Rela	ted CAPS /	Findings						
	Ref				Rule o	r SOP		Standard		Other / 1	Γitle		Checklist Re	ference
Related Rules, SOPs, Standards, or Other	MSRI	PH			General Maintenance Standards									
	TRST	1000												
	Ma Tra		Yard	Sta	tion	осс	RTA Facility	FTA Office	Tanah Tima	At-gra	ide	Tunnel	Elevated	N/A
Inspection Location	х				x				Track Type			х		
		l_			<u> </u>					From			То	
Line(s)	Gree	in	Track Numb	er	1, 2		Chain Ma and/or St		126+59			87+33		
	Не	ad Car	r Number		Numbe	er of Car								
Vehicles		N,	/A		N	I/A	Equi	ment	N/A					
	FRA	inspec	tors condu	cted	a focuse	d walkin	g inspection	of WMATA	Green Line track	Number	of Defe	cts		5
							crossovers a	nd compona	ints between	Recomn	nended	Finding?		N/A
Description	Navy	Navy Yard Station and Waterfront Station.									al Action	1?	YES	
Description		During the inspection the following items were identified.  MISSING COVER BOARDS, TRST1000, 13.3.15:								Recommended Reinspection?			on?	YES
	MISS												L	

Inspector in Charge - Signature	SEAN L THOMPSON Discuss, occurrent, our DON DATE (2015), occurrent, occurrent (2015),	Date 04/07/2016
Inspector in Charge – Name Sean Thompson	Inspection Team  Nathan Vance / Chris Schulte	





	- TRACK 2: CM119+20  DIRECT FIXATION RAIL SUPPORT TRST 1000 7.7, (Defective Fasteners):  - TRACK 1: CM99+50 Left rail only 5 effective fasteners in 40 foot section;  CM117+70 at heel of frog on Left rail 3 defective fasteners in row; CM119+00 Right rail 4 defective fasteners in row.	
	- TRACK 2: CM119+90 Left rail 3 defective fasteners in row.	
Remedial Action	Complete repairs.	 

Inspection Activity #	2	inspe	ction Subj	ect	Obser	vation co	mments to	WMATA		Activity Co	ode	TRK	WI	OBS
lob Briefing Employee Name/Title		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	(b)	sli	o)		mpanied ector?	YES	Out Brief Conducted	YES	Time	2215 2355		e YES
Related Reports						Relat	ed CAPS /	Findings						
	Ref				Rule o	SOP		Standard		Other / 1	itle		Checklist Re	eference
Related Rules, SOPs, Standards, or Other	сом	COMMENTS												
	Mai		Yard	Sta	tion	осс	RTA Facility	FTA Office	Track Type	At-gra	ide	Tunnel	Elevated	N/A
Inspection Location	х								таск туре		l.	X		
										From			То	
Line(s)	Gree	n	Track Numbe	er	1, 2		Chain Marker and/or Station(s)		126+59			87+33		
	Hea	ad Car	Number		Numbe	r of Cars								
Vehicles		N/	A		N	/A	Equi	oment						
			ONS MADE		_					Number	of Defe	ects		0
	1	Observed radio communications betw					RWIC and F	OCC. No de	fects were	Recommended Finding?				NO
Description	note	noted; no exceptions taken.									Remedial Action Required? Recommended Reinspection?			NO
														NO
Remedial Action	N/A				_									

Inspection Activity #	3 Ins	pection Sub	ject	Switch	Inspecti	on			Activity Co	ode	TRK	SW	PI
Job Briefing Employee Name/Title		- (b	1)(4	o)	Accor	mpanied ctor?	YES	Out Brief Conducted	YES	Time	2215 2355		YES
Related Reports					Relat	ed CAPS / F	indings						
	Ref	,		Rule or	SOP		Standard		Other / T	itle		Checklist Re	ference
Related Rules, SOPs, Standards, or Other	MSRPH			Genera Standar	Maintei ds	nance							
	TRST1000												
	Main Track	Yard	Stat	ion	осс	RTA Facility	FTA Office	Track Tuno	At-gra	ide	Tunnel	Elevated	N/A
Inspection Location	х							Track Type			x		
			L	T					From			То	
		Track				Chain Ma	rker	126+59			87+33		
Line(s)	Green	Numb		1, 2		and/or St	ation(s)						
	Head C	ar Number		Number	of Cars	- Carrie	mont						
Vehicles		N/A		N,	/A	Equip	Equipment						





	FRA inspectors conducted a physical inspection of four switches between Navy Yard	Number of Defects	1
	Station and Waterfront Station.	Recommended Finding?	NO
Description	TURNOUT INSPECTION STANDARDS 9.27.1	Remedial Action Required?	YES
	- TRACK 2: CM119+10 2 broke Fasteners in row on frog plate.	Recommended Reinspection?	NO
Remedial Action	Complete repairs.		



### Inspection Form

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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#### Agency/Department Information

Inspection Date	YYYY	MM	DD		20150105					
inspection date	2016	2016 04 06		Report Number	20160406-WMATA-MKD-1					
Rail Agency Name	Washington Authority	Metropolitan A	rea Transit	Rail Agency Department	Track & Structures	Sub- Department	Track Inspection			
Rail Agency Department		Name		Email		Phone	Mobile Phone			
Contact Information		a succession of	10.7 A	1970.00						
Inspection Location	Track Geome	etry Vehicle – N	Line – Track #			hleReston East (N06) an	d return.			
Inspection Summary			· · · · · · · · · · · · · · · · · · ·							
Inspection Activity #	1		2	1 2	1					

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-TGV-RC	TRK-TGV-PI				
Inspection Units	1	1				
Inspection Subunits	4	1				
Defects (Number)	0	0				
Recommended Finding	No	No				-
Remedial Action Required	No	No				
Recommended Reinspection	No	No				

#### **Activity Summaries**

Inspection Activity#	1	ins	pection 9	Subject	Rules	Compl	iance				Activity Co	ode	TR	K	TGV	RC
Job Briefing Employee Name/Title	Mr.		/RW	VIC Leve	el 4		ccompanie spector?	đ	Yes	Out Brief Conducted	Yes	Time	0000		Outside Shift	Yes
Related Reports						R	elated CAP	S / Fin	dings	<del>                                     </del>		L			L	
	Ref				Rule or	SOP		Stan	dard	<u> </u>	Other / Title		T	Chec	klist Refer	ence
Related Rules, SOPs, Standards, or Other	MSRPH			3.87.1,	3.87.1,3.122, 3.67,											
Januarys, or Other					SOP #23	.5.5.3										
Inspection Location	Ma Tra		Yard	St	ation	осс	RTA Facility	,	FTA Office	Track Type	At-gra	de	Tunnel	E	levated	N/A
	x	:			0		0			ігаск іуре	х		х		х	
											From		T		. To	
Line(s)	N Lin	e (Sil·	ver)	Track Numb	er	1 & 2	Chain N and/or			N2 488+00			N2 10	081+0	00 and retu	rn
	He	ad Ca	r Numbe	r	Numbe	r of Car	s			4			ــــــ			
Vehicles		N	I/A				Equ	ipmer	ıt.	Track Geome	etry Vehicle (1	rgv)				
				ored the	Track G	ometr	Vehicle cr	ew an	d their o	ompliance with	Number	of Defec	ts			0
	MSRI 3.87			of horns	when ev	itina or	entering to	mole			Recomm	ended F	inding?			No
Na a a sufurat a su										he normal	Remedia	Action	Required	1?		No
Description	3.6	3.122 – sounding of the horn in short blasts when operated against the normal direction of traffic 3.67 – Raif vehicle not operated past or closer that a point 10-feet in approach of an interlocking signal or lamp displaying a red signal							Recommended Re-inspection?					No		

Inspector in Charge - Signature

MEDENIA DASHIELL

Diphally signed by MEDENIA DASHELL

One-ALS General Control on - DOT Medequariters, our-FRANIQ, on-DOT Medequariters, our-FRA



	1						:					-				
										}						
•	1									1				1		
	SOP #23 -	23.5.5.3	Class II ope	rators	shall s	sound hor	rns thr	ough sta	tions.		٠.					
	No deficie	ncies ide	ntified with o	r appro	oach t	o interloc	king s	ignals an	d lamps.							
							-									
	ļ													١.		
Remedial Action	N/A	N/A									<del></del>			<del></del>		
Inspection Activity #	-									T						
	2 1/15	2 Inspection Subject Track Geometry Vehicle Te								Activity Co	ode	TF	KIK	TGV	PI	
Iob Briefing Employee Name/Title	Please Se	e Above					Out Brief Conducted	Yes	Yes Time		0 to   0	Outside Shift	Yes			
Related Reports				Rela	ted CAPS	5 / Fine	dings		-	L						
	Ref	· · · · · · · · · · · · · · · · · · ·					Stand	dard		Other / Title		1	Checkli	st Refer	ence	
Related Rules, SOPs, Standards, or Other	TRST 1000	TRST 1000														
Standards, or Other																
	Main Vord Station					RTA	T	FTA			1		1.			
Inspection Location	Track Yard Station					Facility	<u>,                                    </u>	Office		At-gra	de	Tunnel	Elev	ated	N/A	
mspection cocacion	х				.	D			Track Type	×		х	,	x		
											<u> </u>		`ـــــــــــــــــــــــــــــــــــــ			
		[			ŀ					From				То		
Line(s)	N Line (Silv	ver)	Track	1&	2	Chain M			N2 488+00			N2 1	081+00	and retu	ırn	
	·	.	Number		_	and/or	Statio	n(s)								
Vehicles	Head Ca	r Numbe	r Nun	ber of	Cars	_										
venicles	N	I/A				Equ	ipmen	ıτ	Track Geom	netry Vehicle (	rgv)					
	FWSO and	FRA acci	ompanied the	TGV in	nspect	tion team	durin	g geome	try testing on	Number	Number of Defects				0	
									. The purpose	2	Recommended Finding?			ng?		
									ken down into ta analysis as	,	Remedial Action Require			+-	No No	
	follows:	egones.	CIEW KNOWIEL	ige, eu	nibine	ent runcti	onanty	y, and da	ta anaiysis as	Kenteur	Kemediai Action Kequired?				110	
			The crew was													
			e system and						with the lack							
		-							rt most action	s						
		_							rror with the							
									t the problem						ļ	
+ .			eo access to ilso had very						ubleshoot the	•				1	,	
Description			e crew could													
					1											
			nality: The eq exceptions fou					-		Recomm	ended R	e-inspe	ction?		No	
														1		
		ositives. All the false positives that were found are a known short coming of nodern geometry systems. There was nothing out of the ordinary that would								(e						
1	the crew fo	e crew feel that the system was not working properly.													ļ	
	Data Anak	Analysis: The single data analyst had enough knowledge to determine if an														
		lysis: The single data analyst had enough knowledge to determine if an salegitimate exception. The analysis of the data was very basic and the														
	analyst lea	ned heav	rity on the rou	itine ch	necks (	of the sys	stem, 1	The Vide	o Strip Chart					1		
									me an analysi	s						
	could be p	епогте	i. The analysi	was n	ot abl	e to tell n	ne (FR	A) what	was being					1		
														1		
							- 1							1		





	analyzed other than to walk me through a very regimented process and; as long as the images were good it was determined that the exception was legitimate by TGV standards.	
	Recommendations:	
	One of the contributing factors to the TGV crew's lack of knowledge is that the car on  This technology is being underutilized and serious consideration should be deployment.  The current crew should be made a full time TGV crew and continual annuup to the standards needed to operate such an expensive program.	e given to expanding this program into full time
	WMATA should consider adopting a set of geometry standards. The car found many priority standard that the company has set. Most of the exceptions found were yello	
Remedial Action	<ul> <li>It is recommended that WMATA either adopt a standard as the railroad in Center to determine standards that are more designed for the equipment WMATA would be able to adopt a set of standards that could differ from</li> </ul>	ndustry or work with a consultant such as the VOLPE t that they operate. Since this is a closed system,
	It appears the TGV is reporting more examples of a deviation from design standard the require the track to be slowed down or repaired.	nan a maintenance exception standard that would
	<ul> <li>WMATA should establish a test that would include a maintenance standa very little room for track deviations and; appears to be creating an abund safety is at risk.</li> </ul>	

## Track Geometry Inspection Compliance Form

Subject	Track Geometry Insp	pection Compliance Form		
Purpose	Inspection requirem	rm is to verify compliance v ents detailed in the Washir MATA) 1000 Track Mainter	ngton Metropolitan Area	
References	WMATA – 1000 Trac dated January 1, 201	k Maintenance & Inspectio 5 – section 11	n Manual, revision 6,	
Date(s) of Review	4/6-7/2016	WMATA Department	Track and Structures (TRST)	
FTA Reviewers	Medenia Dashiell James Payne-FRA	WMATA Person(s) Contacted	The cost	6
Date		Time	2200 to 0600	
Location	West Falls Church to Wiehle-Reston East	Track#	142	

item	Required Observation	Compliant	Non-compliant	N/A
	All measured values can be displayed in a graphic format;	V		
11.23.2	Recorded on a computer hard drive;	V		
	Or printed as an exception report for the maintenance forces.	V		
Notes:				
11.23.3	User-defined measurement threshold values include:			
А	Track Gauge	V		
В	Horizontal and Vertical Alignment	2		
С	Left and Right Surface	u		
D	Cross-Level			

item	Required Observation	Compliant	Non-compliant	N/A					
E	Twist and Warp	V							
Notes:									
	How are noted defects Addressed?	C	heck One or More						
	Maximo								
	Email								
	Direct Contact with Supervisor for the specific territory	U U							
	Chase Crew								
	Deferred								
Notes:									
	Onboard Calibration Verification – Method of Verification			_					
	Calibration Sticker indicating a current date								
	Documentation (Specify in Notes)								
	Visual Verification			I.					
Notes:	No instrumental verifications; Required Acti	not a pa	nt of procedure	'S,					
V	No action required								
	Action required. WMATA will respond to FTA within days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.								
	Results/Comm	nents							
Add	Additional training on system networks for crew.								
	Findings/Corrective Actions								

Item	Required Observation	Compliant	Non-compliant	N/A	

NOTE: This form will be adjusted as FTA is informed of the internal standard operating procedures used by the WMATA TRST TGV team.

WMATA
TRACK INSPECTION PROGRAM

## TRACK GEOMETRY INSPECTION REPORT

N LINE - # / TRACK N1 1096+00 to N1 488+00

RR: WASHINGTON METRO AREA TRANSIT AUTHORITY (WMATA)

Survey Number:

Chain 1096 to Chain 488 Direction: Descending Chain



Washington Metro Area Transit Authority Washington, D.C.

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CH FT	Parameter	Value	Length	Speed	TSC	LC	PC	Track	Peak Lat/Long
0 1 0 1	Class Change	5.00	1	0	Т	11	5	11	<u> </u>
1 0 1 0 1	Posted Speed	90.00	1	0	Т	1	5	1	
0 0 0	Track Change	0.00	1	1 0 1	Т	]	5	7	
0 55	Track Change	0.00	1	7	Т	1	5	1	38.949824   -77.346598
1096   88	Railroad	WMATA	1	7	Т		5	1	38.949823   -77.346595
1096   46	Down Marker	1096.00	1	7	Т	Ī	5	1	38.949823   -77.346595
1096 0	Subdivision	N LINE	1	7	Т	1	5	1	38.949822   -77.346592
1 1093   97	Switch Pt	1		12	Т	1	5	1	38.949589 -77.345937
1093   84	L N Guard Check	53.90	0	12	Т		5	1	38.949576   -77.345898
1093   25	Frog	1		13	Т	Ī	5	1	38.949513   -77.345705
1090   99	Down Chain	1090.00		15	Т	I	5	1	38.949171 -77.344652
1082   49	Frog	$\neg$		16	Т		5	1	38.948378   -77.342222
1082 18	R Cant Neg	-0.50	17	16	Т		5	1	38.948347   -77.342128
1081   52	Switch Pt	<u>·</u>	ī	16	Т	1	5	1	38.948278   -77.341908
1080   99	Down Chain	1080.00	1	15	T	1	5	1	38.948128   -77.341413
1079 71	Platform Start	i	T	12	Т Т	Ī	5	1	38.948098   -77.341319
1073   72	Platform End	<u></u>	Ī	22	Т Т		5	1	38.947478 -77.339391
1070   99	Down Chain	1070.00		27	E	1	5	1	38.947091 -77.338180
1060   13	Down Marker	1060.00	<u> </u>	34	Т	Ī	5	1	38.946071 -77.334965
1060   12	Down Chain	1060.00	ı	34	T	Ī	5	1	38.946070 -77.334962
1050 99	Down Chain	1050.00	ī	35	С	-	5	1	38.945135 -77.331657
1040 99	Down Chain	1040.00	Ī	34	C	1	5	1	38.944628 -77.328218
1040   84	Down Marker	1040.00	ī	34	С	Ī	5	1	38.944624 -77.328155
1040   12	Down Chain	1040.00	Ī	34	C	1	5	1	38.944623   -77.328152
1033 77	Bridge Start	<u> </u>	i	33	C	1	5	1	38.944569 -77.325972
1031 74	Bridge End	<del>- i</del>	i	32	C	1	5	1	38.944591 -77.325261
1030 99	Down Chain	1030.00	T	32	C	1	5	1	38.944627 -77.324652
1020   2	Down Marker	1020.00	<u> </u>	32	C	T	5	1	38.945107   -77.321204
1020   12	Down Chain	1020.00	1	33	C	Ī	5	1	38.945108   -77.321200
1011   50	Switch Pt	<u> </u>	<u> </u>	34	T	T	5	1	38.945872 -77.318389
1010 76	Frog	<del></del>	1	34	T		5	1	38.945947 -77.318150
1010 99	Down Chain	1010.00	) [	33	<u>.</u> Т	Ī	5	1	38.946025   -77.317903
1007   58	Frog	<u> </u>	Ī	34	1 1	1	5	1	38.946281 -77.317118
1007   38	W Grd Face	53.07	3	34		T	5	1	38.946308   -77.317034
1	Switch Pt		<del>-i</del> -	34	<del>.</del>	r	5	1	38.946385 -77.316796
1006 60		1000.0	0 1	35	<del>_</del>	-	5	1	38.947047 -77.31465
1000 99	Down Chain	1 1000.0	<u> </u>		<u> </u>	<u> </u>			

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	N1 1096+00 to	1141 400 0	•	_	<b>T</b> 00		PC		Track	Peak Lat/Long
CH FT	Parameter	Value	Length	Speed	TSC	LC	1 5	<u></u>	1	38.947052 -77.314636
1000 97	Down Marker	1000.00	<u> </u>	35		1	1 5	<u>-</u> ;	1	38.947053   -77.314633
1000   12	Down Chain	1000.00	<u> </u>	35		<del> </del>	1 5		1	38.947698   -77.312275
992   87	Bridge Start			35		<del> </del>	1 5		1	38.947796 -77.311768
991   38	Bridge End	<u> </u>	_!	35		<del>-</del>	1 5	÷	1	38.947872 -77.311294
990   99	Down Chain	990.00	<u> </u>	36	C	<u> </u>	- 1 5	<del></del>	1	38.948168 -77.307823
980 6	Down Marker	980.00		35	1 6	<del> </del>	+	<del></del> -	1	38.948168   -77.307819
980   12	Down Chain	980.00	<u> </u>	35	<u> </u>	<del> </del>	÷	<u></u>	1	38.948111 -77.304320
970   99	Down Chain	970.00		33	C	<del>- </del>	<del></del> -	5 1	1	38.947727 -77.300859
960 99	Down Chain	960.00		34	C	<del>-</del> -	÷	5	1	38.947722   -77.300828
960   93	Down Marker	960.00		34	c			5		38.947722 -77.300824
960   12	Down Chain	960.00	_ <u> </u>	34	c	<del> </del> -	<del>-                                    </del>	<del></del> -	1	38.947040   -77.297435
950 99	Down Chain	950.00		32	C	<del> </del>	<del>'</del> -	5	<u> </u>	38.946048 -77.294174
940   99	Down Chain	940.00		33	) c	<del>- -</del> -	<del>-</del> ÷	5 1	<u>·</u> _	38.946038 -77.294145
940   93	Down Marker	940.00		33	1 0	<del></del> -	<del>-                                    </del>	5		38.946036   -77.294142
940   12	Down Chain	940.00		33	<u>:</u>		<u> </u>	5	1	38.945729 -77.293310
937   37	Bridge Start	1	<u> </u>	32	<u> </u>	÷	- 1	5	<u>·</u> 1	38.945466 -77.292651
935   25	Bridge End	l _		32	<u> </u>	<del></del>		5		38.944771 -77.291042
930   99	Down Chain	930.00	<u> </u>	30	<del></del>	<del></del> -	<u>-</u> +	5	<u>·</u>	38.943477 -77.287959
920   99	Down Chain	920.0	0	29		:-	<del>-</del>	5		38.943461 -77.287915
920   88	Down Marker	920.0	0	30		<del>-                                    </del>	_	5		38.943460   -77.287912
920   12	Down Chain	920.0	0	30	1	-	<u> </u>	5	1	38.942536 -77.284624
910   99	Down Chain	910.0	0	32	<del></del>	<u> </u>	<u> </u>	5		38.942060   -77.281184
900 99	Down Chain	900.0	10	_   3	_:			5	<u>'</u>	38.942058 -77.281156
900   94	Down Marker	900.0	00			c }		5	1 1	38.942057   -77.281153
900   12	Down Chain	900.0	00	3	<del>-  </del>	c		5	<u> </u>	38.942006 -77.280255
897   40	Switch Pt	1				T				38.941997 -77.280136
897   5	R Cant Neg	-0.9	0		11	T	_ {			38.941989   -77.280006
896   69	Frog	1			31	T			<u> </u>	38.941986 -77.279954
896   53	R Cant Neg	] -0.3	80		31	T			!	77 279991
893   49	Frog	1			32	T		5	<del></del>	1 77 070707
893   24	R Cant Neg	-0.2	20		33	T		5	<del>!</del>	1
892   53	Switch Pt	Ī	1_		33	T		5	י ן	77 277664
890   99	Down Chain	890	.00		34	T	_	1 5	<del>!</del>	38.941260   -77.274260
880   2	Down Marker	880	0.00		32	C		5	<u> </u>	1   38.941259   -77.274257
880   12	Down Chain	88	00.0	<u> </u>	32	C	<u> </u>	1 5		1   38.939811   -77.271305
870   99	Down Chain	87	0.00		32	С	<u> </u>	5	<u> </u>	,
0/0   30										

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	_	Decemptor	Value	Length	Spec	ed	TSC	LC	PC		Track	Peak Lat/Long
CH F		Parameter  Lmt Speed 3	1 64.00	2047	33		С	]	5	1	1	38.941725   -77.276333
' <u>'</u>	2		860.00	<u>-</u>	34	i	Т -		5	1	1	38.937797 -77.268944
'	9	Down Chain	860.00	<del>-</del>	34	·	Т	<u> </u>	5	1	1	38.937776 -77.268921
1	2	Down Marker	1 860.00	1	<u> </u>	$\dot{\top}$	Т	<del>i</del> —	1 5	1	1	38.937774 -77.268919
860 1	2	Down Chain		1	31	÷	В	<del>-</del>	1 5	1	1	38.935706 -77.266647
850 9	9	Down Chain	850.00		1 3	÷		<del></del>	5	<del>:</del>	1	38.933871 -77.264052
840   9	99	Down Chain	840.00		1 3	<del>-</del> -	c	<del>!-</del>	1 5	i	1	38.933844 -77.264000
840   8	34	Down Marker	840.00	<u> </u>	1 3	<u> </u>	c	<del> </del>	5	÷	1	38.933842 -77.263997
840	12	Down Chain	840.00	1	1 3	÷		<del>!</del>	1 5	÷	1	38.932670 -77.260849
830	99	Down Chain	830.00	<del></del>	1 3		<del>_</del>	<del> </del>	1 5	÷	1	38.932216 -77.257406
820	99	Down Chain	820.00					<del> </del>	1 5	÷	1	38.932215 -77.257379
820	94	Down Marker	820.00		<u> </u>	1	c	!	<del></del> -	<u>.</u>	<u> </u>	38.932215 -77.257375
820	12	Down Chain	820.00			1		<del> </del>	5	<u> </u>	1	38.932436 -77.253894
810	99	Down Chain	810.00		<u> </u>	3		<u> </u>	5			38.932406 -77.254090
811	43	Lmt Speed 3	71.00	4296	3	3		<u> </u>	5	<u> </u>	1	
800	27	Bridge Start	l .	_ !	3	0	T		5	_	1	38.933193   -77.250629
800	99	Down Chain	800.00	1	3	10	T		5		1	38.933216 -77.250539
800	92	Down Marker	800.00		] 3	80	Т	<u> </u>	5		1	38.933224   -77.250506
800	12	Down Chain	800.00	i	3	30	T		5		1	38.933225   -77.250503
790	99	Down Chain	790.00	1	1 2	29	С	1	5	<u> </u>	1	38.933496 -77.247099
789	71	Excess Elevation	6.35	898	1 2	29	С	3	5   5	1	1	38.933473 -77.247002
785	1	Excess Elevation	6.21	132	1 :	29	С	4	5	1_	1	38.932841 -77.245588
784	63	Excess Elevation	6.11	2	1:	29	С	4	5		1	38.932772 -77.245491
784	33 ]	Excess Elevation	6.13	10	1	29	E	1	1   5		1	38.932715 -77.245416
781	19	Switch Pt	1	1	1	30	E	1	5	- 1	1	38.932054   -77.244714
795	21	Lmt Speed 3	51.00	104	1	30	С		5	l	1	38.933603   -77.248751
780	70	R Cant Neg	-0.10	18	Ī	30	Т	1	5	I	1	38.931950 -77.244612
780	46	Frog	i	Ī	ſ	30	Т	1	5	- 1	1	38.931895 -77.244559
780	7	Down Marker	780.00	1		30	Т	T	5	- 1	1	38.931806 -77.244472
780	12	Down Chain	780.00	1	ī	30	Т	T	5	Ī	1	38.931804 -77.244470
<u> </u>	85	W Grd Face	53.06	1 2	Ť	29	Т	1	5	1	1	38.931764 -77.244432
779	_ <del></del>	L Cant Neg	-0.20	15	i i	29	T	T	5	1	1	38.931714 -77.244383
779	58	R Cant Neg	-0.80	36	i	29	T	T	] 5	; T	1	38.931701 -77.244370
779	52	Switch Pt	1	<del>-                                    </del>	÷	29	E	· i	1 5	5 1	1	38.931598   -77.244268
779	5		77.00	)   9	ii	24	<u> </u>	Ħ	1	5 1	1	38.931200   -77.243885
778	77	Lmt Speed 3	74.00		<u>;</u> _	21	<u>.                                      </u>	Ħ	<u> </u>	5	1	38.930354 -77.243107
774	58	Lmt Speed 3	1 74.00	1	<del>'</del>	21	<del>-</del>	ri	1	5	1	38.929835 -77.242604
771	4	Platform Start					<u></u>	<u> </u>	<u>-</u>			

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CH   FT	_	Devementor	Value	Length	Speed	TSC	LC	PC	Track	Peak Lat/Long
765   2	CH FT	Parameter Chain				Т	Ī	151	1	38.929610 -77.242382
Flation   Flat	\ <u></u>		1	<u>'</u>	1 27 1	Т	<u>.                                      </u>	5	1	38.928533   -77.241332
Total   Page   Total   Total	<u> </u>		1 70.00	1 68		С	<del>i</del>	1 5	1	38.928045   -77.240840
Tool   98	763 23		<u> </u>	1 00	<del></del>		<del>¦      </del>	<del></del>	1	38.927471 -77.240233
Tool   98	760 99	Down Chain		<del> </del>	<del>: - :</del>		<del>!</del>	<del></del> -		38.927462   -77.240224
Too	760   98	Down Marker	<del>_</del> -	<del> </del>	<del>!                                    </del>		1	<del></del>		
750   40	760   12	Down Chain		_!	<u>.                                     </u>		<del> </del>	<del></del> -		
Total   Page   Down Chain   Total	759   40	Lmt Speed 3	80.00	65	<del></del>		1	<del></del>		
T40   99   Down Chain	750 99	Down Chain	750.00	<u> </u>	<del>`                                    </del>		<del></del>	<del></del>		<u> </u>
T40   99   Down Chain	744   45	Lmt Speed 3	88.00	179	<del></del>		<u>!</u>	<del></del>		
Table   Tabl	740   99	Down Chain	740.00		30		<u>!</u>	<del></del>		<u></u>
740   12   Down Chain   740,00   36   30   E   5   1   38,922426   77,235386   737   13   L Cant Pos	740   92	Down Marker	740.00	<u> </u>	30		1_	<del></del>		
737   13	740   12	Down Chain	740.00	1	30	В	<u> </u>	5		
734   70	737   13	L Cant Pos	4.40	36	30	E	<u> </u>	5		
730   99   Down Chain   730.00   29   T   5   1   38.920572   77.233621   728   68   Platform End     29   T   5   1   38.920572   77.233621   728   10   Tunnel Start     28   B   5   1   38.920445   77.233499   77.20   99   Down Chain   720.00   28   C   5   1   38.919267   77.231206   720   38   Down Marker   720.00   28   E   5   1   38.919251   77.230980   720   12   Down Chain   720.00   28   E   5   1   38.919251   77.230980   726   96   Lmt Speed 3   38.00   534   28   C   5   1   38.919251   77.230980   77.00   99   Down Chain   770.00   27   C   5   1   38.919261   77.22526   77.23   77.00   955   27   C   5   1   38.919277   77.229844   77.72	734   70	Platform Start		1	30	Т	1	5		
728   68	730   99	Down Chain	730.00		29	т	1	5	1	
Tunnel Start		Platform End			29	ТТ	<u> </u>	5	1	
T20		Tunnel Start			28	В	1	5	1	
T20		Down Chain	720.00		28	C	-	5	1	38.919267 -77.231206
720   12	<u> </u>	Down Marker	720.00	Ī	28	E	1	5	1	38.919251 -77.230984
726   96   Lmt Speed 3			720.00	1	28	E	1	5	1	38.919251 -77.230980
710   99   Down Chain   710.00   27   C   5   1   38.919610   -77.227526   717   25   Lmt Speed 3   77.00   955   27   C   5   1   38.919277   -77.229844   704   37   L Cant Pos   3.90   16   26   B   5   1   38.920106   -77.225667   701   77   Switch Pt     26   E   5   1   38.920249   -77.224773   701   43   Tunnel End     26   E   5   1   38.920260   -77.224655   704   47   Lmt Speed 3   39.00   57   26   C   5   1   38.920168   -77.225380   704   47   Lmt Speed 3   39.00   57   26   T   5   1   38.920172   -77.224537   700   99   Down Chain   700.00   26   T   5   1   38.920310   -77.224159   700   99   Down Marker   700.00   26   T   5   1   38.920311   -77.224149   700   12   Down Chain   700.00   26   T   5   1   38.920312   -77.224149   700   12   Down Chain   700.00   26   T   5   1   38.920312   -77.224149   700   12   Switch Pt   26   T   5   1   38.920379   -77.223521   698   6   Switch Pt   26   T   5   1   38.920379   -77.223676   695   74   Platform Start   26   T   5   1   38.920459   -77.223667   695   74   Platform Start   26   T   5   1   38.920459   -77.223667   695   74   Platform Start   26   T   5   1   38.920459   -77.223676   695   74   Platform Start   26   T   5   1   38.920459   -77.223667   695   74   Platform Start   26   T   5   1   38.920658   -77.220676   695   74   Platform Start   26   T   5   1   38.920658   -77.220676   695   74   Platform Start   26   T   5   1   38.920658   -77.220676   695   74   Platform Start   26   T   5   1   38.920658   -77.220676   695   74   Platform Start   26   T   5   1   38.920658   -77.220676   695   74   Platform Start   26   T   5   1   38.920658   -77.220676   695   74   Platform Start   26   T   5   1   38.920658   -77.220676   695   74   Platform Start   26   T   5   1   38.920658   -77.220676   695   74   Platform Start   26   T   5   1   38.920658   -77.220676   695   74   Platform Start   1   26   T   5   1   38.920658   -77.220676   695   74   Platform Start   1   26   T   5   1   38.920658   -77.220676   695   74   Platform Start	<u> </u>		38.00	534	28	C	1	5	1	38.919818 -77.232795
717   25   Lmt Speed 3   77.00   955   27   C     5   1   38.919277   -77.229844   704   37   L Cant Pos   3.90   16   26   B     5   1   38.92016   -77.225667   701   77   Switch Pt     26   E     5   1   38.920249   -77.224773   701   43   Tunnel End       26   E     5   1   38.920260   -77.224655   704   47   Lmt Speed 3   39.00   57   26   C     5   1   38.920168   -77.225380   701   9   Frog       26   T     5   1   38.92072   -77.224537   700   99   Down Chain   700.00     26   T     5   1   38.920310   -77.224149   700   99   Down Marker   700.00     26   T     5   1   38.920311   -77.224149   700   12   Down Chain   700.00     26   T     5   1   38.920312   -77.224145   700   12   Down Chain   700.00     26   T     5   1   38.920312   -77.224145   700   12   Switch Pt       26   T     5   1   38.920379   -77.223671   698   6   Switch Pt       26   T     5   1   38.920374   -77.223521   698   19   R Cant Neg   -0.40   19   26   T     5   1   38.920459   -77.223667   695   74   Platform Start     26   T     5   1   38.920459   -77.223667   695   74   Platform Start     26   T     5   1   38.920459   -77.223667   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform Start     26   T     5   1   38.920658   -77.220676   695   74   Platform	<u> </u>		710.00	Ť	27	C	1	5	1	38.919610 -77.227526
704   37	<u> </u>			955	1 27	C	T	5	1	38.919277   -77.229844
701   77   Switch Pt				16	26	<u>.</u> В	i	5	1	38.920106 -77.225667
701   43   Tunnel End	<u> </u>			<u> </u>	26	, E	1	5	1	38.920249 -77.224773
704   47   Lmt Speed 3   39.00   57   26   C   5   1   38.920168   -77.225380     701   9   Frog	\ <del></del>			<u> </u>	26	I E	Ť	5	1	38.920260 -77.224655
701   9   Frog	' <del></del>		1 39.00	57	26	, c	Ť	5	1	38.920168 -77.225380
700   99   Down Chain   700.00     26   T     5   1   38.920310   -77.224159     700   99   Down Marker   700.00     26   T     5   1   38.920311   -77.224149     700   12   Down Chain   700.00     26   T     5   1   38.920312   -77.224145     699   3   Frog       26   T     5   1   38.920345   -77.223809     698   6   Switch Pt       26   T     5   1   38.920374   -77.223472     698   19   R Cant Neg   -0.40   19   26   T     5   1   38.920374   -77.223521     695   74   Platform Start     26   T     5   1   38.920459   -77.22667			1	<del>-i-</del>	1 26	<del>.</del>	1	] 5 ]	1	38.920272 -77.224537
700   99   Down Marker   700.00     26   T     5   1   38.920311   -77.224149     700   12   Down Chain   700.00     26   T     5   1   38.920312   -77.224145     699   3   Frog     26   T   5   1   38.920345   -77.223809     698   6   Switch Pt     26   T   5   1   38.920374   -77.223472     698   19   R Cant Neg   -0.40   19   26   T   5   1   38.920374   -77.223521     695   74   Platform Start     26   T   5   1   38.920459   -77.226676	<u> </u>		1 700.00	<del>-                                    </del>	26	<u> </u>	Ť	5 1	1	38.920310 -77.224159
700   99   Down Marker   700.00   26   T   5   1   38.920312   -77.224145   700   12   Down Chain   700.00   26   T   5   1   38.920345   -77.223809   699   3   Frog     26   T   5   1   38.920345   -77.223809   698   6   Switch Pt     26   T   5   1   38.920374   -77.223472   698   19   R Cant Neg   -0.40   19   26   T   5   1   38.920374   -77.223521   695   74   Platform Start   26   T   5   1   38.920459   -77.226676   695   74   Platform Start   26   T   5   1   38.920658   -77.220676				:	1 26	<u> </u>	Ť	5	1	38.920311 -77.224149
Too   12   Down Chain   Too       26   T     5   1   38.920345   77.223809       699   3     Frog       26   T     5   1   38.920379   77.223472				<del>:</del>		i T	<del>- i -</del>	5	1	38.920312 -77.224145
699   3   Frog	<u> </u>		1 755.00			<del></del>	<del>-                                    </del>	5	1	38.920345 -77.223809
698   6   Switch PT	699   3					<u> </u>	<del>-                                    </del>	5	1	38.920379 -77.223472
698   19   R Cant Neg	698 6		1 040	1 10	_:		<del>:</del> -			38.920374 -77.223521
695   74   Platform Start   690.00   28   T   5   1   38.920658   -77.220676	698 19		1 -0.40	1 1		<u> </u>	<u>:</u> -		1 1	38.920459 -77.222667
Sever Chain 690.00	695 74	Platform Start	!	<u> </u>		<u> </u>	_ <u>-</u> -	<del></del> -		38.920658 -77.220676
	690   99	Down Chain	690.0	00		<u> </u>	<u></u> -			

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	W1 1080±00 to 1		Length	Speed	TSC	LC	PC	;	Track	Peak Lat/Long
CH FT	Parameter End	Value	l	28	Т	Ī	5	١	1	38.920668 -77.220575
689 71	Platform End	49.00	1 41	31	С	i	5	T	1	38.920933 -77.219080
686 61	Lmt Speed 3	680.00	<del></del>	1 30	Т	<del>i</del>	<u> </u>	Ť	1	38.921620   -77.217406
680 99	Down Chain	680.00	<del>-                                    </del>	1 30	т	<del>i</del> –	5	- <u>-</u> -	1	38.921637   -77.217366
680   89	Down Marker	680.00	<del></del>	30	Т	$\dot{-}$	5	$\overline{}$	1	38.921638   -77.217363
680   12	Down Chain	<del>`</del>	1 151	<del></del>		÷	1 5	Ť	1	38.922171 -77.216021
676   32	Lmt Speed 3	83.00	1 101	1 31	<u> </u>	<del></del>	5	<u> </u>	1	38.922786 -77.214199
670   99	Down Chain	670.00	201	<del></del>	<u>'                                     </u>	<del>'</del>	<u> </u>	÷	1	38.923413   -77.212468
665 44	Lmt Speed 3	80.00	1 201	1 21	<del>!</del>	<del>-</del>	1 5	÷	1	38.923801   -77.211393
661   16	Platform Start	1	<del> </del>	20	'   T	$\dot{-}$	1 5	<u></u> -	1	38.923955 -77.211039
660 99	Down Chain	660.00	_ <del>\</del>		1 ·	+-	1 5	÷	1	38.923990 -77.211006
660 87	Down Marker	660.00	1	20	1 ' 1 T	$\frac{1}{1}$	5	<u>-</u> -	1	38.923992 -77.211003
660   12	Down Chain	660.00	<del></del>	20	<u></u>	<del></del> -	1 5	_ <u>-</u> -		38.924699   -77.209607
655   29	Platform End	1		1 17	T	<u> </u> -	1 5	÷	<del>.</del>	38.925460   -77.208023
650 99	Down Chain	650.00		25	C	<del></del> -		÷	1	38.925639   -77.207775
649 3	L Cant Neg	-0.50	31		E	<del> </del>		<u> </u>	1	38.925463   -77.208017
650 2	Lmt Speed 3	45.00	37		C		1 !	<u>_</u>		38.926316 -77.206907
645   54	Switch Pt	<u> </u>	<u> </u>	27	<u>                                     </u>	<u> </u>	<del></del>	5 \	1	38.926357 -77.206856
645   32	L N Guard Check	53.78	0		<u> </u>	<del></del> -	_ <del>:</del> _	5	1	38.926459   -77.206729
644 81	Frog	1	<u> </u>	28	Т Т	<del></del>	:-	5	<u>_</u>	38.926555 -77.206609
644   32	Frog	1	<u> </u>		T	<u>-</u> -		5		38.926451   -77.206739
644 84	R Cant Neg	-1.00	8:	8 28		÷		5	1	38.926614 -77.206536
644   2	L Cant Neg	-0.70	2	4   30	<u> </u>	<u>:</u> _	<u>:</u> -	5	1	38.926749 -77.206367
643   33	Switch Pt	I		30			<u> </u>	5	1	38.927066 -77.205972
641 70	L Cant Pos	3.90	2	0   31	<u> </u>	<u> </u>	_!_	5	1	38.927383   -77.205572
640   10	Down Marker	640.00	) <u> </u>	31	<u> </u>	3 ]		5	1	38.927385 -77.205569
640   12	Down Chain	640.00		31		<u>-</u> -		5	1	38.927665   -77.205088
638 27	Excess Elevation	6.14	2	0 3		3	4	5	1	38.927724 -77.204976
637   88	Excess Elevation	6.10	1	1   3		<u> </u>	<u>4  </u>	5	1	38.927820   -77.204777
637   21	Excess Elevation	6.14	1	22   3	<u> </u>	<u> </u>	4	5		38.927865 -77.204674
636   87	Excess Elevation	6.17	<u> </u>	41   3	0	c	4	5		
634   98	Excess Elevation	6.22	:   5	05 2	9	c	4	5	1	38.928071 -77.204070
630   99	Down Chain	630.0	10 (	2	4	c		5		38.928212 -77.202369
627   87	L Cant Pos	3.90	)	14   2	6	c			1 1	38.928081   -77.201651
		6.34	4 1	511   2	7	c	3		<u>l</u> 1	38.927988   -77.201341
\ <del>-</del>	L Cant Pos	3.80	0	27   2	28	E	\		<u> </u>	38.927915   -77.201143
	L Cant Pos	5.5	0	125	31	E	1	5	1 1	38.927597 -77.200473
626   93     626   29     624   4		3.80	0 1	27   2	28	E	3	5	1 1	38.92791

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		D N I 400 TU							
CH FT	Parameter	Value	Length	Speed	TSC	LC	PC	Track	Peak Lat/Long
631   36	Lmt Speed 3	50.00	1113	33	С	1	5	1 1	38.928228   -77.202590
620   99	Down Chain	620.00	1	33	С	1	5	1	38.926902   -77.199387
620   92	Down Marker	620.00		33	С		5	1 1	38.926883   -77.199362
620   12	Down Chain	620.00	1	33	С	1	5	1	38.926881 -77.199359
620   22	R Cant Pos	4.90	50	33	С	1	5	1 1	38.926944   -77.199446
619   90	Bridge End	1		33	С		5	1 1	38.926862 -77.199334
610   99	Down Chain	610.00		32	Ε	1	5	[ 1	38.924707 -77.197291
615 76	Lmt Speed 3	71.00	1189	33	С		5	1	38.925705 -77.198049
605   60	Bridge Start	1	l	36	Т	Τ	5	1 1	38.923637   -77.196588
604   19	Bridge End			36	T	1	5	1 1	38.923294 -77.196364
600   99	Down Chain	600.00	1	34	Т	1	5	1 1	38.922280 -77.195694
601 0	Down Marker	601.00	1	34	Т		5	[ 1	38.922275 -77.19569
600   12	Down Chain	600.00	1	34	Т	1	5	1 1	38.922272 -77.195689
590   99	Down Chain	590.00	Ī	33	Т	T	5	1 1	38.919837 -77.19409
580   99	Down Chain	580.00	i	30	Т	1	5	1 1	38.917395 -77.19249
580   96	Down Marker	580.00	-i	30	Т	ī	5	[ 1	38.917380   -77.19248
580   12	Down Chain	580.00	<del>-i</del>	30	T	1	5	1	38.917378 -77.19248
576   60	Excess Elevation	-6.11	2	32	В	4	5	[ 1	38.916559 -77.19192
576   19	Excess Elevation	-6.16	45	31	В	4	5	1	38.916462   -77.19185
575   19	Excess Elevation	-6.17	1 37	31	C	4	5	1	38.916221 -77.19166
574   79	Excess Elevation	-6.11	<u> </u>	31	C	4	5	1	38.916129   -77.19158
576   42	Lmt Speed 3	82.00	190	30	C	ī	5	1 1	38.916314 -77.19173
570   99	Down Chain	570.00	i	30	<u> </u>	T	5	1 1	38.915074 -77.19059
566   41	Switch Pt		i	30	T	$T^-$	5	1	38.914307 -77.18983
565   72	Frog	<u> </u>	Ť	29	T T	ī	5	1	38.914159 -77.18969
562   52	Frog	<del>-                                    </del>	i	29	T	1	5	1 1	38.913461 -77.18900
561   51	Switch Pt	<del>-i</del> -	_ <u></u>	1 29	<u>.</u> ] т	i	5	1	38.913241 -77.1887
560   99	Down Chain	560.00	<del>i</del> -	29	<u>.</u>   В	Ť	5	] 1	38.912911   -77.1884
	Excess Elevation	6.10	1	] 28	<u>.</u>   В	4	1 5	1 1	38.912417 -77.18802
<del></del>	Excess Elevation	6.13	21	1 28	<u>.</u>	1 4	5	1 1	38.911449   -77.1874
553 80	Excess Elevation	1 6.14	28	28	<u>.</u>	1 4	5	1 1	38.911369   -77.1873
553   49	Excess Elevation	6.22	255	29	<u> </u>	1 4	5	1	38.911262 -77.1873
553   8	Down Marker	1 550.00		1 29	1 0	i	5	1 1	38.910467   -77.1870
550 9		550.00		1 29	<del>'</del>	<u> </u>	5	1 1	38.910465 -77.1870
550   12	Down Chain	1 6.25	1 404	<del></del>	<del>!</del>	<del>-</del> -	1 5	1	38.909996   -77.1870
548 32	Excess Elevation				<del></del> -	-		5 1 1	38.911527 -77.187
555 88	Lmt Speed 3	65.00	120	9 1 30		- 1			

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### N1 1096+00 to N1 488+00

CH FT	Parameter	Value	Length	Speed	TSC	LC	PC	Track	Peak Lat/Long
541 61	Switch Pt	1	1	30	т		5	1	38.908178 -77.187208
540   84	Frog	1	1	30	Т	1	5	1	38.907970   -77.187256
540 99	Down Chain	540.00	1	31	Т	1	5	1	38.907758 -77.187316
530 99	Down Chain	530.00	Ī	31	Т	1	5	[ 1	38.905050   -77.187966
531 0	Down Marker	531.00		31	T	1	5	1	38.905045   -77.187967
530   12	Down Chain	530.00	Ī	31	r		5	1	38.905042   -77.187968
529   70	Bridge Start		T T	30	Т		5	1	38.904962 -77.187987
521 76	L Cant Pos	3.80	14	28	С	}	5	1	38.902829 -77.188252
520 99	Down Chain	520.00	1	29	С	1	5	1	38.902360   -77.188106
511 91	L Cant Pos	3.90	38	28	С		5	1	38.900661 -77.186397
510 99	Down Chain	510.00	1	29	E		5	1	38.900422 -77.185802
510 28	L Cant Pos	4.30	55	29	E	Ī	5	1	38.900453   -77.185895
510   50	Down Marker	510.00	1	31	Е	1	5	1 1	38.900280   -77.185302
510   12	Down Chain	510.00	1	31	E	1	5	1	38.900280   -77.185298
509   50	Bridge End	l	ī	31	Е	T	5	1 1	38.900238 -77.185131
515   92	Lmt Speed 3	49.00	1319	32	С	T	5	1	38.901014   -77.187001
506 4	Lmt Speed 3	65.00	85	32	С		5	1 1	38.899931   -77.183952
500   99	Down Chain	500.00	l	32	В	1	5	1	38.899326 -77.182051
491 7	L Align 62	-1.63	8	17	С	3	5	1	38.898365 -77.179145
491 7	R Align 62	-1.63	8	17	С	3	5	1	38.898365   -77.179145
490 99	Down Chain	490.00	1	15	E	1	5	1	38.898270   -77.178799
491 6	Lmt Speed 3	52.00	22	15	С	1	5	1	38.898353   -77.179101
489   81	Frog	I	I	14	В	I	5	1	38.898248   -77.178731
489 57	W Grd Face	53.09	3	13	T	1	5	<b>j</b> 1	
488   49	Down Marker	488.00	Ī	12	E	Ī	5	1	38.898206   -77.178595
487   93	L Align 62	1.71	8	12	E	3	5	1	
487   93	R Align 62	1.71	8	12	E	3	5	1 1	
489   30	Lmt Speed 3	40.00	26	13	С	I	5	1	

Notes:

Cant Exceptions are in degrees
The following fields are irrelevant for Cant Exceptions: LC, PC

### Exception Report Curve Analysis Section Chain 1096 to Chain 488

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### N1 1096+00 to N1 488+00

Elevation plus(+) = L Rail High, minus(-) = R Rail High

Curvature plus(+) = Curve to Right, minus(-) = Curve to Left

		L			Aver	age					Limiting	Point							
Track	Starting	Ending			Curve	Flev	Spe	ed		- 1	Curve	Elev	Total	Lin	niting	Spe	ed at	:	
Hack	CH FT	CH FT	Len	Spd	Deg/M		Post		СН	FT	Deg/M	inches	FT Grp	3" 4"		6"	7"	8"	9"
1	1073 45	1069 9	<b>36</b> 5	27	-0/37	-1.80	90	102	1071	1	-0/39	-1.82		102113	122	131	139	147	154
1	1068 17	1064 5	389	30	0/39	2.41	90	105	1067	87	0/41	2.30		105 114	123	131	139	146	153
1	1059 55	1012 9	4675	36	-0/57	-3.89	90	100	1050	48	-0/58	-3.85		100 108	114	120	126	132	138
1	1000 25	986 3	1379	36	1/21	5.37	90	93	994	80	1/24	5.47		<b>93</b> 98	103	108	112	117	121
1	986 3	932 21	5436	36	0/37	2.84	90	112	976	17	0/39	2.79		11212	130	138	146	153	160
1	926 11	898 53	2867	35	-0/52	-3.59	90	100	905	40	-0/55	-3.63		100 108	115	122	128	134	139
1	890 9	866 72	2465	33	1/54	2.59	90	64	887	82	1/55	2.56	2047 1	<b>64</b> 70	75	80	84	88	93
1	859 94	856 61	268	37	0/25	1.55	90	113	857	32	0/33	2.00		11312	134	143	152	160	168
1	851 5	805 63	4687	35	-1/27	-2.91	90	71	811	43	-1/21	-1.83	4296 1	71 79	85	91	97	102	107
1	799 12	781 15	1804	30	4/54	6.21	90	51	795	21	4/57	6.16	1041 1	51 54	57	59	62	64	66
1	780 85	775 7	423	28	0/48	0.76	90	77	778	77	0/55	0.82	91 1	77 87	95	103	110	117	123
1	775 7	772 32	326	22	-0/47	-0.42	90	74	774	58	-0/52	-0.41	100 1	74 85	94	102	110	117	124
1	765 52	761 19	368	29	-1/06	-1.01	90	71	763	23	-1/07	-1.00	68 1	71 80	87	94	101	107	112
1	761 62	757 15	359	31	1/04	2.14	90	81	759	40	1/07	2.15	65 1	81 88	95	102	108	113	119
1	747 46	743 83	438	30	0/41	0.86	90	88	744	45	0/42	0.86	179 1	88 10	109	118	127	134	142
1	741 51	737 53	414	30	-0/40	-0.96	90	90	739	53	-0/40	-0.94		90 10:	112	121	129	137	144
1	729 62	719 92	1096	28	-6/34	-4.05	90	39	726	96	-6/36	-3.91	534 1	39 41	44	46	49	51	53
1	719 92	707 37	1146	28	-1/39	-4.06	90	78	717	25	-1/39	-4.04	955 1	78 83	88	93	97	102	106
1	707 97	702 76	480	26	4/29	1.98	90	39	704	47	4/31	1.94	57 1	39 43	47	50	53	56	59
1	690 74	682 23	750	29	-5/10	-5.79	90	49	686	61	-5/12	-5.78	41 1	49 52	54	57	59	61	64
1	679 35	673 84	650	32	1/25	4.09	90	83	676	32	1/28	4.14	151 1	83 89		99	104	108	113
1	669 48	662 57	710	30	-1/35	-4.29	90	80	665	44	-1/38	-4.44	201 1	80 86	91	95	100	104	108
1	654 79	648 90	612	25	-4/49	-4.05	90	46	650	2	-4/51	-4.07	37 1	46 49		54	57	60	62
1	643 90	623 9	1913	33	5/11	6.19	90	50	631	36	5/13	6.15	1113 1	<b>50</b> 53		-58 	60	62	64
1	623 9	610 93	1396	34	1/55	4.07	90	72	615	76	1/56	3.96	1189 1	72 77		86	90	94	98
1	580 41	572 79	839	32	-1/49	-5.96	90	83	576	42	-1/52	-6.03	190 1	83 88			100		107
1	561 8	542 33	1920	31	2/57	6.10	90	66	555	88	2/57	6.00	1209 1	66 69		76	79	82	85
1	528 44	509 79	2089	30	-4/56	-5.56	90	49	515	92	-4/57	-5.45	1319 1	49 52		57		62	65 93
1	509 79	504 58	480	32	1/53	2.90	90	65	506	4	1/58	2.88	85 1	65 7		80	9 148	89	166
1	502 81	498 89	409	33	-0/22	-0.63	90	103		50	-0/30	-0.87	<del> </del>	1	17 12: 02 11				
+-	498 89	495 73	285	28	3 0/40	1.10	90	92	496	28	0/42	1.20		Jaz ,	UZ 11				

### Exception Report Curve Analysis Section Chain 1096 to Chain 488

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## N1 1096+00 to N1 488+00

Elevation plus(+) = L Rail High, minus(-) = R Rail High

Curvature plus(+) = Curve to Right, minus(-) = Curve to Left

	<u></u>	T				Ave	age			L		Limiting	Point		├-						
		1_				Curve	Elov	Spe	eed	1		Curve	Elev	Total		Lim	iting	Spe	ed a		
Track	Starting CH FT	CH	ding FT	Len	Snd		inches			СН	FT	Deg/M	inches	FT Grp	3"	4"	5"	6"	7"	8"	9"
-	CH FT	490		345	17	-2/11	-1.21	90		491	6	-2/10	-1.20	22 1	52	58	64	69	73	78	82
		487		256	12	2/35	0.11	90	41	489	30	2/37	0.02	26 1	41	47	52	57	62	66	70
1	490 0	487	1	230	12					L		<u> </u>		L	_						

Exception Report Exception Summary Section Chain 1096 to Chain 488

Page 1 of 6 2016-04-07 Run ID: 2016040701

Twist-31

Run Off

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Page 2 of 6 2016-04-07 Run ID: 2016040701

N1 1096+00 to N1 488+00

Run Off Profile Rockoff Crosslevel

5 5 S Pstd Cls Ś S S Ś S S S S S S 'n S Lim ç S S 'n S S S ű Tot Exc 2 Cl Tot Exc 2 Cl Drop Exc FT Drop 0 - 0 0 0 0 0 \_ Tot Exc 2Cl Tot Exc Exc FT Drop Exc FT Exc . 0 ō' 0 - 0 0 0 0 0 0 | 0 0 0 0 - 0 -0 0 0 0 0 -0 0 0 0 | 0 | 0 | 0 | 0 0 0 0 0 0 0 0 -0 0 0 0 0 0 0 0 0 0 0 0 0 0 /ide Gage Tight Gage
Exc 2 Cl Tot Exc 3 0 0 اع \_ 0 \_ 0 0 0 0 12 0 0 66 0 66 Tot ΕŢ 

Exception Summary Section Chain 1096 to Chain 488 Exception Report

Page 3 of 6 2016-04-07 Run ID: 2016040701

N1 1096+00 to N1 488+00

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**Exception Summary Section** Chain 1096 to Chain 488 **Exception Report** 

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N1 1096+00 to N1 488+00

Page 5 of 6 2016-04-07 Run ID: 2016040701

Exception Report Exception Summary Section Chain 1096 to Chain 488

N1 1096+00 to N1 488+00

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N1 1096+00 to N1 488+00

Wide Gage Tight Gage Alignment Crosslevel Rockoff Profile Run Off Warp Twist-31 Spd

Tot Exc 2 Cl Tot Exc 2 C

Total CH: 615.8 Exceptions per 100 CH:

7.47

## WMATA TRACK INSPECTION PROGRAM

# TRACK GEOMETRY INSPECTION REPORT

N LINE - # 3 TRACK N2 488+00 to N2 1081+00

RR: WASHINGTON METRO AREA TRANSIT AUTHORITY (WMATA)

Survey Number:

Chain 488 to Chain 1081 Direction: Ascending Chain



Washington Metro Area Transit Authority Washington, D.C.

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	N2 488+00 to 1	-								D. L. L. at B. and
CH FT	Parameter	Value	Length	Speed	TSC	LC		<u>°C</u>	Track	Peak Lat/Long
0 0 0	Posted Speed	90.00	l	0	T		!	5		
0 0 0	Track Change	0.00	Ī	0	T			5	7	
10101	Class Change	5.00	1	0	T	<u> </u>		5	1	
0 9	Track Change	0.00		2	Т	1_		5	2	
0 10	Railroad	WMATA	1	2	Т			5	2	
0 11	Subdivision	N LINE	Ī	2	Т	1_		5	2	1
0 69	R Cant Neg	-0.60	26	8	T			5	2	38.897796 -77.177258
1 96	L Cant Neg	-0.30	22	10	T		l_	5	2	38.897941 -77.177668
2   52	R Cant Neg	-0.40	16	11	Ţ	1_	_	5		38.898003   -77.177848
488   74	Up Marker	488.00	.	11	В			5		38.898142 -77.178246
488   28	R Align 62	2.11	23	11	В	3	3	5		38.898173 -77.178335
488   28	L Align 62	2.11	23	11	В	] :	3	5	2	38.898173 -77.178335
489   1	Frog		ı	13	E			5	2	38.898261 -77.178564
489   15	L Cant Neg	-1.00	33	[ 14	E		i	5	2	38.898278 -77.178604
488   69	Lmt Speed 3	40.00	28	16	0			5	] 2	38.898222 -77.178464
	Up Chain	490.00		16	B	1		5	2	38.898387 -77.178875
	Lmt Speed 3	76.00	10:	3   22	1	:		5	2	38.898642 -77.179500
491   99	Up Marker	500.00	1	27	1		Ī	5	2	38.899439 -77.181904
500   44	Bridge Start	<del>-                                    </del>	Ī	30	7		- 1	5	2	38.900234 -77.184189
507   14	Up Chain	510.00		27	1	r	1	5	2	
510   99	Lmt Speed 3	48.00	90	6   29	1	=		5	j 2	<u> </u>
514   4	Excess Elevation	6.17	1 5	9 29	1	E	4	5	2	38.901377   -77.186858
515   91	Excess Elevation	6.17	_ <del>`</del> 8	6   30	1	c T	4	5	2	38.901611   -77.187132
517 7	Up Marker	520.0	0 1	33	1	c	1	5	1 2	
520   98	Excess Elevation	6.28	30	04   33	1	c	3	5	] 2	38.901890   -77.187398
518 34	Excess Elevation	1 6.21	1 1	33   3	5	c	4	5	2	
521 54	Excess Elevation	6.13	1 3	31 3	5	c l	4	5	1 2	
522 22	Excess Elevation	6.10	)	1   3	5	C	4	5	1 2	38.902921 -77.187985
522   49	Excess Elevation	l 6.13	7   8	87   3	5	cl	4	5	1 2	2   38.903119   -77.188041
523   23	Excess Elevation	6.12	2 1 :	21   3	5	c	4	5	1 2	2   38.903248   -77.188068
523 71		6.1	<u>:</u>	11   3	5 [	c	4	5	1 :	2   38.903362   -77.188087
524   13	Excess Elevation	6.1	<u> </u>		5	c	4	5	1 :	2   38.903474   -77.188101
524 54	Excess Elevation	1 6.1	_ <del>-</del> -		5	c j	4	5	ì	2 38.903689 -77.188112
525   33	Excess Elevation	1 4.0	<u>:</u>		35	E		5	1	2   38.904145   -77.188079
527 1	L Cant Pos	1 4.0			35	E		[ 5	Ī	2   38.904188   -77.188072
527   17	Bridge End	1 52.	00 I		35	С	Ī	1 5	i	2   38.901557   -77.18707
516 81	Lmt Speed 3	1 32.								

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	NZ 400 10 10 10	2 100				~~~			PC	Tre	ack	Peak Lat/Long
CH FT	Parameter	Value	Leng	th S	Speed	TSC	LC		5		2	38.904953   -77.187897
530 99	Up Chain	530.00	<u> </u>	_!-	35	<del>_</del>	!		5   5		2	38.907640 -77.187236
540   99	Up Chain	540.00	1	<u> </u>	35		<u> </u>	<del>-</del>	5 1		2	38.907696 -77.187222
540 21	R Cant Neg	-0.70	16	÷	35	T	1 3	÷	5 l			38.909051 -77.186923
545   24	Excess Elevation	-6.25	93	÷	39	B	1 4	_ <del>`</del>	5			38.909302 -77.186899
546   16	Excess Elevation	-6.12	14	4	38	c	<u>  4</u>		5		2	38.910352 -77.186966
550 99	Up Chain	550.00			35		<del>!</del> -	<del>-</del>			2	38.910395 -77.186977
550 14	Up Marker	550.00			35	c	1	<u> </u>			2	38.912411 -77.187956
557 95	Excess Elevation	-6.14	1 1	9	33		1 '	<u> </u>	5		2	38.912646 -77.188159
558 99	Bridge Start	<u> </u>			34	E	<del> </del>	_ <u> </u>	5		2	38.912868 -77.188367
560 99	Up Chain	560.00			34	E	<u> </u>		5		2	38.913086 -77.188577
561 0	Bridge End	1	<u> </u>	\	35	E	<u> </u>		5	-	2	38.909989   -77.186906
548   68	Lmt Speed 3	65.00	12	228	35	С	<u> </u>	!	5		2	38.913487 -77.188967
562   84	Frog				35	T	1			!		38.913516 -77.188994
562 97	L Cant Neg	-0.40	1	17	35	T	1	!		<del>!</del> —	2	38.913696 -77.189171
563   80	Switch Pt	l	1		35	T	_ _			<u> </u>	2	38.913858 -77.189327
564 54	Switch Pt	- 1	$\exists$		35	т	$\perp$			<u> </u>	2	38.913914   -77.189382
564   80	R Cant Neg	-0.70		17	35	[ T	1		5	<u> </u>	2	38.914012   -77.189478
565   25	Frog	1	Ī		35	T			5	<u> </u>	2	
570 99	Up Chain	570.00	Ī		34	T	l_		5	<u> </u>	2	38.915043   -77.190488
570   10	Up Marker	570.00	T		34	Т Т			5		2	38.915069 -77.190514
575   10	Excess Elevation	6.18	1	38	36	В	1	4	5	1	2	38.916183 -77.191580
575   38	Excess Elevation	6.11	1	3	36	C		4	5	<u> </u>	2	38.916248 -77.191633
575   46	Excess Elevation	6.12	Ī	5	36	C	1	4	5		2	38.916266   -77.191648
575   74	Excess Elevation	6.16	T	57	36	C		4	5		2	38.916331   -77.191700
576   35	Excess Elevation	6.11	١	5	35	\ 0	<u> </u>	4	5		2	38.916473   -77.191812
575   48	Lmt Speed 3	81.00	1	177	34		- [		5		2	38.916271   -77.191652
580   99	Up Chain	580.0	0 1		34	1	1		5		2	38.917348   -77.192419
590   99	Up Chain	590.0	0		34	1	<u> </u>		5	_	2	38.919781 -77.194009
590   5	Up Marker	590.0	0		34	1	Γ <b>\</b>		5		2	38.919798 -77.194020
600   99	Up Chain	600.0	0		33		r		5	1	2	38.922235 -77.195614
600   93	Bridge Start	1	- 1		35	1	т ]		5		2	38.923278 -77.196297
605   66	Bridge End	1	1		36		τ		5		2	38.923617 -77.196519
610   99	Up Chain	610.0	00		35	5	В		5	l	2	38.924680   -77.197212
	Up Marker	610.0	00		3	5	В		5		2	38.924682   -77.197214
	Bridge Start	<del>-i-</del>			3:	2	С	١	5	1	2	38.926863   -77.199242
619 92	Up Chain	620.	00	<u> </u>	1 3	2	С		[ 5	I	2	38.926878   -77.199262
620 99				·—								

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	N2 488+00 to i	12 1001.0	•				DC.	Tracl	k Peak Lat/Long
CH FT	Parameter	Value	Length	Speed	TSC	LC	PC		38.925253 -77.197617
612   39	Lmt Speed 3	70.00	1173	31	C	<u>!</u>	<u> </u>	2	38.927851   -77.200850
625   79	L Cant Pos	4.80	101	31	В	<u>!</u>	5	<u> </u>	38.927989   -77.201176
626   85	Excess Elevation	-6.12	10	31	В	1 4	<u> </u>	<u> </u>	38.928049   -77.201341
627   37	Excess Elevation	-6.35	228	32	В	3	<del></del> -	2	38.928252   -77.202220
630   99	Up Chain	630.00		33	С	<u> </u>	<u> </u>	1 2	38.928259   -77.202272
630   13	Up Marker	630.00		33	C			2	38.928228   -77.202069
629   56	Excess Elevation	-6.24	72	33	С	4	<u> </u>	1 2	
632   31	Excess Elevation	-6.39	418	35	С	3	5	1 2	
634   75	Excess Elevation	-6.17	30	37	С	4	5	1 2	
637   56	Excess Elevation	-6.20	24	36	С	4	5	1 2	
638 8	Excess Elevation	-6.17	33	35	С	4	5	2	
638   12	L Cant Pos	4.20	52	35	c	1	5	1 2	
638   44	Excess Elevation	-6.17	24	35	c	4	5	1 2	
639 3	Excess Elevation	-6.16	44	35	C	1 4	5	2	
639   44	R Cant Pos	4.00	27	35	E		5	2	
640   99	Up Chain	640.00	1	34	E	- !	1 5	1 2	
636   87	Lmt Speed 3	50.00	1193	32	0	1	5	1 2	
643   53	Switch Pt	Ī	Ī	32	T	1	5	2	
644   25	Frog	1	1	32	<b>Т</b>	1	5	1 2	2   38.926670   -77.206547
643   94	L Cant Neg	-0.70	37	32	TT	<u> </u>	5	1	2   38.926731   -77.206472
644 77	Frog	1	1	31	1	1	5		2   38.926570   -77.206676
645   4	L Cant Neg	-1.60	17	31	1 _ 1	1	5		2   38.926517   -77.206741
645 71	Switch Pt	Ī	ī	31	11	1	5		2   38.926386   -77.206905
650 99	Up Chain	650.00	1	32	1	: <u> </u>	5	'	2   38.925583   -77.207998
649 61	Lmt Speed 3	53.00	62	34	T	-	5		2   38.925647   -77.207889
655 48	Platform Start	<del></del> -	ı	33		r	5		2   38.924811   -77.209645
660   99	Up Chain	660.00	)	29		т	5	<u> </u>	2   38.924215   -77.211005
660 9	Up Marker	660.00	)	[ 29	Ţ	т	5		2   38.924200   -77.211039
661   38	Platform End	1	١	31		т	<u> </u>		2   38.923995   -77.211457
670   99	Up Chain	670.0	0	28		E	5		2   38.922882   -77.214097
667   85	Lmt Speed 3	88.00	)   16	5 27		c [	[		2   38.923124   -77.213425
676   27	Lmt Speed 3	83.00	)   17	4   22	2	c	:		2   38.922196   -77.216106
680   99	Up Chain	680.0	0 1	2	1	т ]		5 l	2   38.921714   -77.217262
680 7	Up Marker	680.0	00	2	1	Τ	1	5	2   38.921702   -77.217290
685   54	Excess Elevation	6.25	3   1	32   2	1	c	3	5	2   38.921051   -77.219036
685   3	Lmt Speed 3	54.0	0   9	6 2	5	c		5 <b> </b>	2   38.921094   -77.218865
000   3									

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CH FT	Parameter	Value	Length	Speed	TSC	LC	PC	Track	Peak Lat/Long
689   85	Platform Start			25	T	1	5	2	38.920845 -77.220520
690   99	Up Chain	690.00	1	25	T		5	2	38.920840   -77.220572
695   87	Platform End	1	1	28	Т	1	5	2	38.920631 -77.222609
698   13	Switch Pt	1	1	29	Т		5	2	38.920551 -77.223393
698 85	Frog	Ī	Ī	29	Т	<u> </u>	5	2	38.920525 -77.223643
700   99	Up Chain	700.00	1	28	Т		5	2	38.920484 -77.224042
700   11	L Cant Neg	-0.30	18	28	Т		5	2	38.920480 -77.224080
700   91	Frog		Ī	28	Т		5	2	38.920459 [-77.224372]
701   35	L Cant Neg	-0.60	37	28	Т Т	<u> </u>	5	2	38.920445   -77.224524
701 93	Switch Pt		1	28	В	1	5	2	38.920425 -77.224721
705 75	R Cant Pos	4.20	21	27	E		5	2	38.920187 -77.226018
704   18	Lmt Speed 3	39.00	52	27	C	1_	5	2	38.920318 -77.225496
707   35	R Cant Pos	4.10	23	27	В		5	2	38.920038 -77.226545
708   19	R Cant Pos	4.00	19	28	В	1	5	2	38.919960 -77.226821
710 99	Up Chain	710.00	I	29	<b>]</b> B	1	5 ]	2	38.919803   -77.227422
710 7	Up Marker	710.00		29	C		5	2	38.919796 -77.227452
713   84	Lmt Speed 3	76.00	871	34	C		5 [	2	38.919548 -77.228756
720   99	Up Chain	720.00	1	33	B		5	2	38.919403   -77.230900
728   18	Tunnel End	1	1	28	E		5	2	38.920456   -77.233301
723   17	Lmt Speed 3	37.00	515	28	c		5	2	38.919586 -77.231977
728   96	Platform Start	1	1	28	T		5		38.920625 -77.233467
730   99	Up Chain	730.00	1	28	TT	1	5	2	38.920851 -77.233687
730   6	Up Marker	730.00	) [	28	т		5		38.920869 -77.233704
734   90	Platform End	I	1	31	T		5		38.921933   -77.234745
740 99	Up Chain	740.00	1	32			5		38.923061 -77.235832
750 99	Up Chain	750.00		32	<u> </u>	<u> </u>	5		38.925236 -77.237957
750   14	Up Marker	750.0	)	32			5		38.925270 -77.237991
760   99	Up Chain	760.0	0	24	0	<u> </u>	5		38.927436 -77.240100
765   21	Platform Start			23	1	Г <u> </u>	5	2	38.928575 -77.241190
770   99	Up Chain	770.0	0	15		<u> </u>	5	1 2	38.929618 -77.242207
770   5	Up Marker	770.0	0	14		r	5	2	38.929634 -77.242222
771   18	Platform End		1	0		т		2	38.929904 -77.242484
773   84	Lmt Speed 3	88.0	0   2	2 2	4	c	<u> </u>	1 2	38.930453   -77.243051
777   54	Lmt Speed 3	88.0	0   4	3   2	6	c l	5	1 2	38.931772 -77.24438
780 0	L Cant Neg	8.0-	0 1 4	10   2	6	<u> </u>	5	1 2	38.931772 -77.24438
1 /80 1 0 1	Up Chain	1 780	.00	1 3	27	τ	5	2	1 30.301112 1-11.24100

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			Parameter		alue	Lengt	h :	Speed	TSC	LC	: F	C		Track	Peak Lat/Long
CH 1 780		26 I	L Cant Neg		-0.30	15	-{	27	Т	Ī	ī	5		2	38.931829   -77.244442
'	<u> </u>	12	Excess Elevation	÷	-6.48	314	ī	27	В	3	1	5		2	38.932844 -77.245533
785		99	Up Chain	<del>-i-</del> ;	90.00	†-	ī	31	С	T	I	5		2	38.933508 -77.246996
788	<del>'</del> -	3	Excess Elevation	÷	-6.22	270	) [	30	С	4	T	5		2	38.933298 -77.246364
790	<u> </u>	78	Excess Elevation	÷	-6.12	20	1	31	С	4	Ī	5		2	38.933568 -77.247258
79:	<u> </u>	49	Excess Elevation	i	-6.11	6	ī	32	С	4	Ī	5		2	38.933658 -77.248195
1 79	<u> </u>	0	Excess Elevation	÷	-6.13	32	1	32	С	4	1	5	Ī	2	38.933656 -77.248373
79		33	Excess Elevation	<u> </u>	-6.14	30	ļ	32	С	4	- 1	5	i	2	38.933652 -77.248488
1 79	<u>-</u>	78	Excess Elevation	<u> </u>	-6.15	43	1	32	С	4	-	5		2	38.933642 -77.248645
1 79		72	Excess Elevation	$\dot{}$	-6.13	11	- 1	33	С	4	-	5	l	2	38.933608 -77.248970
1 79	÷	11	Lmt Speed 3	Ť	51.00	105	51	34	С	1	1	5	Ī	2	38.933655 -77.248412
80		99	Up Chain	i	00.008	1		33	т	1	Ī	5	1	2	38.933281 -77.250404
80	<u> </u>	9	Up Marker	Ť	800.00	Ť		33	Т	Ī	Ī	5	ı	2	38.933271   -77.250441
1 80	<u> </u>	83	Bridge End	Ť		<u> </u>		32	Т	1	1	5	ı	2	38.933200   -77.250720
81	<u> </u>	99	l Up Chain	Ť	810.00	1		33	С	1		5	١	2	38.932485   -77.253791
82		99	Up Chain	Ť	820.00	T		36	С	T	j	5	Ī	2	38.932248   -77.257273
82	<del>-                                    </del>	8	Up Marker	Ť	820.00	1		36	С	1	- [	5	Ī	2	38.932249 -77.257308
83	<del>- :</del> -	99	Up Chain	Ť	830.00	T		34	C		Π	5	i	2	38.932690 -77.260754
'	40	99	Up Chain	寸	840.00	Ī		31	C	1	1	5	1	2	38.933857 -77.263909
'—	50 (	99	Up Chain	Ť	850.00	1		34	E	Ī		5	Ī	2	38.935659 -77.266524
'—	50 I	9	Up Marker	Ť	850.00	1		34	J E	1	1	5	I	2	38.935682 -77.266549
- 1	18	52	Lmt Speed 3	ī	71.00	42	59	33	l c	Ī	l	5	١	2	38.932242 -77.256751
`-	60	99	Up Chain	Ī	860.00			33	T	Ī		5	1	2	38.937747 -77.268830
'—	70	99	Up Chain	1	870.00	1		34	C	: 1	1	5	١	2	38.939775 -77.271178
'	70	9	Up Marker	1	870.00	T		34	C	: ]		5	1	2	38.939794 -77.271207
'	80	99	Up Chain	Ī	880.00	I		33	0	; [		5	1	2	38.941250 -77.274150
'	90	99	Up Chain	1	890.00	1		29	E			5	1	2	38.941867   -77.277552
'—	390 [	6	Up Marker		890.00	Ī		29	Į E			5	١	2	38.941869 -77.277580
1 8	378	90	Lmt Speed 3		63.00	20	073	29	1	:		5	-	2	38.941126 -77.273796
-	393	67	Frog	I		T		34	1 1	<u> </u>		5	1	2	38.941947 -77.278857
8	394	65	Switch Pt	Ī				34		r	l	5	1	2	38.941968 -77.279198
<u>-</u>	895	37	Switch Pt	-				34	1	Г	i	5		2	38.941984 -77.279450
i-	895	69	R Cant Neg	I	-0.20		15	34	1	т		5	1	2	38.941990   -77.279561
<u> </u>	896	9	Frog	1		Ī		34	1	τ		5	1	2	38.941999   -77.279701
i-	900	99	Up Chain		900.00	Ī		34	1	c		5	1	2	38.942095   -77.281067
'	910	99			910.00	)		34	1	c		5	1	2	38.942565 -77.284510
'_		<u>'                                      </u>													

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	D	Value	Length	Speed	TSC	LC	) P(	2	Track	Peak Lat/Long
CH FT	Parameter	[ 910.00		34	С	Ī	] 5	1	2	38.942566 -77.284525
910 2	Up Marker	920.00	<u></u>	32	С	i -	5	ſ	2	38.943481 -77.287820
920 99	Up Chain	930.00	<del>-                                    </del>	36	т	i	5		2	38.944760   -77.290900
930   99	Up Chain	!	1	36	т	÷	5	Ť	2	38.944775   -77.290934
930   9	Up Marker	930.00		34	C	<del>-</del>	1 5	<del></del> -	2	38.945501 -77.292605
935   48	Bridge Start			33		<del>-</del> -	E	-÷	2	38.945759 -77.293258
937   58	Bridge End		<del>-                                    </del>	<u> </u>	<del>-</del> c		1 5	<del></del>	2	38.946045 -77.294023
940   99	Up Chain	940.00	<del>-!</del>	34		⊹		, <u>,</u>		38.947050 -77.297280
950   99	Up Chain	950.00		32		<del>- </del> -	;		2	38.947057 -77.297306
950 6	Up Marker	950.00		32	C	<del>!</del>		5	2	38.947754 -77.300689
960   99	Up Chain	960.00		24	С	<u>!</u>		5		38.948137 -77.304152
970   99	Up Chain	970.00		32	С	<u> </u>		5		38.948138   -77.304180
970   6	Up Marker	970.00		32	С	<u> </u>		5	2	
980   99	Up Chain	980.00		34	С	1		5	2	38.948216   -77.307678
990   99	Up Chain	990.00	Ī	28	С	1_		5	2	38.947955 -77.311156
990   15	Up Marker	990.00	Ī	28	С		1	5	2	38.947947   -77.311215
·	Bridge Start	1		27	C	Ī	1	5	2	38.947880   -77.311637
<u> </u>	Bridge End	<del>-                                    </del>	<u> </u>	27	С	1	T	5	2	38.947778 -77.312189
992   85		1000.00	1	27	T	1	T	5	2	38.947135 -77.314546
1000   99	Up Chain	1	<u></u>	31	<del>.</del> ] т	Ť	ī	5	2	38.946322   -77.317113
1007 90	Frog	'_	<del></del>	30	· I T	Ť	<del>- T</del>	5 (	2	38.946221   -77.317432
1008   88	Switch Pt	1 -0.30	<u> </u>   19	30	·   T	Ť		5	2	38.946232 -77.317396
1008 77	R Cant Neg	1 -0.50	1	1 29	<del></del>	寸	$-\dot{1}$	5	2	38.946145   -77.317669
1009 61	Switch Pt	1 4040.0		1 29	<u> </u>	_ <del>-</del> -	<del>-</del>	5		38.946105 -77.317795
1010 99	Up Chain	1010.0	<u> </u>	1 29	1 7	<del>'</del>		5	2	38.946070 -77.317906
1010   34	Frog	1	<u> </u>	33	1 0	÷	<del></del> ;	5	2	38.945184   -77.321083
1020 99	Up Chain	1020.0	<u> </u>	33	1	<u></u> -		5	2	38.945173 -77.321130
1020 12	Up Marker	1020.0	_ <u>-</u> -		1 0	÷		5	2	38.944680   -77.324579
1030   99	Up Chain	1030.0	ю <u>I</u>	32	<del>'</del> —	<u>:</u>	<u> </u>		2	38.944641 -77.325264
1031 96	Bridge Start		<u> </u> _	32	<del></del>	- 1	<u> </u>		1 2	38.944618 -77.325952
1033   93	Bridge End			32	_!	<u> </u>	<u> </u>	5	<del>'</del> -	38.944667   -77.328073
1040 99	Up Chain	1040.	00	31	<del></del>	c	<u>!</u>		2	38.944667 -77.32808
1040 0	Up Marker	1040.	00 <u> </u>	31		<u> </u>	!		<del>!</del>	38.945122   -77.33152
1050 99	Up Chain	1050.	00	32		c	!		1 2	<u> </u>
1060   99	Up Chain	1060.	00	3	1	Τ			1 2	38.946048 -77.33482
1060 5	Up Marker	1060	00	3	1	τ		5	1 2	38.946055 -77.33484
1070   99	Up Chain	1070	.00	1 2	3	В	<u> </u>	5	1 2	38.947140   -77.33806
1073   83	Platform Start	<del></del> -	1	1	7	T	l '	5	1 2	38.947548 -77.33929

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## N2 488+00 to N2 1081+00

					Length	Sn	ood	TSC		LC	PC		Track	Peak Lat/Long
	CH	FΤ	Parameter	Value	Lengui	_						_	2	38.948048   -77.340813
1 1	079	87	Platform End		1	ì	9	T	١		5	1		
'	080	99	Up Chain	1080.00	Ī	1	8	Т	Ī		5	1	2	38.948048 -77.340813
\'	1000			1080.00		$\overline{}$	7 1	Т	Ī		5	ī	2	38.948048   -77.340813
- 1 -	1080	13	Up Marker	1080.00			_ !		_;		<del></del>	÷		<del></del>
Ī.	1080	94	R Runoff	-9.62	31	1_	1	Т	ا	0	5		2	1
'-	1081	0	L Runoff	9.90	31	1	1	Т		0	5	l	2	
1_	1001			1	<del></del>		1 1	ı T	-		1 5	ī	2	38.948048 -77.340813
1	1081	5	Up Marker	1081.00	<u> </u>	1		<u> </u>			1 0			
i-	1081	18	I R Runoff	9.62	31	١	1	T		0	5	1	2	<u> </u>
'				-9.90	31	i	1	Т		0	5	ı	2	
1	1081	24	L Runoff	1 3.50				<del>!</del>			· -		2	1
ī	1081	99	L Runoff	5.84	31	<u> </u>	1	T		0	5			
` <u>-</u>	1082	17	R Runoff	-5.81	31	1	1	T		0	5	1	2	
١														

Notes:

Cant Exceptions are in degrees
The following fields are irrelevant for Cant Exceptions : LC, PC

### Exception Report Curve Analysis Section Chain 488 to Chain 1081

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N2 488+00 to N2 1081+00

Elevation plus(+) = L Rail High, minus(-) = R Rail High

Curvature plus(+) = Curve to Right, minus(-) = Curve to Left

	1						Aver	age		-+			Limiting F	20111		┪	_						
						İ	Curve	Elev	Spee	-d		,	Curve	Elev	Total	_			ting S				
rack	Start		En CH	ding FT	Len	Spd	Deg/M		ost L	_	СН	FT	Deg/M	inches	FT Gn	2	3"	4"	5"	6"	7"	8"	9"
	СН	99	489	85	263	13	2/41	0.17	90	-	488	69	2/44	0.19	28	1	41	47	52	57	61	65	69
2	2		494		470	20	-1/31	-3.42	90	77	491	99	-1/33	-3.43	103	1	77	83	88	93	98	103	107
2	489	85	<u> </u>		571	29	5/20	5.95	90	48	514	4	5/25	5.94	96	1	48	51	54	56	58	61	63
2	510	24	515		1369	35	4/40	6.12	90		516	81	4/43	6.11	1050	1	52	55	58	61	63	65	68
2	515	94	529			38	-2/55	-5.95	90		548	68	-2/55	-5.73	1228	1	65	69	72	76	79	82	85
2	541	81	561		1953			6.03	90	82	575	48	1/56	6.11	177	1	82	86	90	94	98	102	105
2	571	54	579		845	36	1/52		90		612	39	-1/58	-3.86	1173	1	<b>!</b>	75	80	85	89	93	97
2	609	31	623	94	1465	34	-1/55	-3.92				87	-5/06	-5.98	1193		↓_	53	55	58	60	63	65
2	623	94	642	52	1874	37	-5/07	-6.15	90	50	636			5.28	62	1	<b>!</b>			62		67	70
2	646	17	653	3	687	32	4/07	5.29	90	53	649	61	4/10		165	_	₩	56	59		106		114
2	663	35	671	23	789	31	1/34	5.77	90	88	667	85	1/39	6.01	L	1	<b>↓</b> —	93	98				114
2	672	52	679	0	649	24	-1/25	-4.05	90	83	676	27	-1/26	-4.05	174		╀	89	95		105		
2	681	13	689	44	832	21	4/28	6.24	90	54	685	3	4/29	6.20	96	1	╄-	57	60			67	70
2	701	61	70	36	476	27	-4/26	-1.99	90	40	704	18	-4/27	-1.96	52	1	╀	44	47	51		56	59
2	707	25	718	3 70	1155	34	1/42	4.08	90	77	713	84	1/42	4.05	871	1	77	82	87	92	96	101	10
2	718	70	72	8 82	1013	31	6/55	3.94	90	37	723	17	6/57	3.75	515	1	37	7 40	42	45	47	49	51
2	738	31	74	0 65	235	33	-0/12	-0.99	90	166	739	62	-0/12	-0.98			16	6189	207	223	239	253	26
2	741	62	74	4 13	252	32	0/13	0.95	90	152	743	7	0/15	0.97			15	2 169	185	200	213	226	23
2	756		76			26	0/23	1.85	90	124	758	92	0/28	2.13			12	4 135	146	156	165	174	18
	761	20	76			23	-0/23	-1.91	90	128	763	32	-0/26	-2.11	1		12	8 14	152	162	2 172	181	19
2	772		77					-2.25	90	89	773	84	-0/56	-2.25	22	1	8	9 97	105	112	2 119	125	13
2			177						90	89	777	54	0/55	2.13	43	1	8	9 97	105	112	2 118	125	13
2	776		L						90	51	794	- 11	-4/57	-6.08	105	1 1	1 5	1 54	56	59	61	64	6
2	781		79						90	71	818	52	1/22	1.89	425	9 7	17	1 78	85	91	96	102	10
2	804								90		855	68	-0/16	-1.31	-		1,	48 16	8 183	3 19	7 210	222	23
2	853										878		-1/54	-2.43	207	3	1 6	4 69	75	79	84	88	9
2	86	67	89	90 1		_								3.80	1-							7 133	1:
2	897	7 8	9:	26 4	_ _				-					-2.76								0 147	
2	93	2 51	9:	87 6	8 553						_			-5.26								3 118	
2	98	7 68	9	99 6	5 12	15 2	9 -1/2		4_					3.90			. 1					5 13	
2	10	12 63	3 11	058	36 46	40 3	36 0/5	3.95	5 90								١,					8 14	
2	10	64 7	3 1	068	16 3	14	26 0/3	9 2.0	0 9	0 10	1_			2.0								37 14	
2			1_	072	00 3	79	21 -0/	39 -1.9	0 9	0 10	1 10	71 4	4 -0/40	-1.9	3		1	1011	12 17	e 1 1.			

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N2 488+00 to N2 1081+00

Detd Lmt Spd Twist-31 Warp Run Off Profile Rockoff Crosslevel Alionment Tight Ca

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某	[-	7,	-	7	2	2	7	77	7	7	2	]	٠]٠	7	7	7	2	7	7	7	1	<u>با د</u>	<u> 기</u>	7	7	2	2	ļ
Pstd Cls	1-	,  -	~]	~	5	5	\   	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	~	۰) ۲	,	, <b>,</b> ,	٠ [ ر	_∫	S	5	5	2	100	\ <u>_</u>	, <u> </u>	<u>. [</u> .	2	2	'n	5	5	1
E C	-	-{- - - 	~	0	0	2	100	4	\  -	2	,	2) 4	. [ر	4	0	5	4	$\int_{\infty}$	\ <u>~</u>	\ <u>_</u>	٠١,	<u>.  </u>	<u> </u>	0	0	<u>~</u>	0	1
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Exc 2	1-	<del>-</del>  -	0	0	0	0	0		,   -	,	9 9		-   ·	-	0	0	0	0	c	, ] -	,	۱-	0	0	0	0	0	
Tot I	1	- -  -	0	0	0	  c	,   -	, -	-	7	7	- - - -	3	7	0	0	0	- -	3	,	<u> </u>	و	0	0	0	0	c	,
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13	<u>.</u>	0	0	0	-	-	- -	- - - -	5	1			0	0	0	-	,   -		-   ·	٦	0	0	0	0	] c	, ] =		> 
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Exception Report Exception Summary Section Chain 488 to Chain 1081

Page 2 of 5 2016-04-06 Run ID: 2016040607

N2 488+00 to N2 1081+00

Tot Lim Twist-31 Warp Run Off Profile

Exception Summary Section Chain 488 to Chain 1081 Exception Report

Page 3 of 5 2016-04-06 Run ID: 2016040607

N2 488+00 to N2 1081+00

Lmt Spd Tot Lim Cls 2 Cl Tot Exc 2 Cl Tot Drop Exc FT Drop Exc Twist-31 Tot Exc 2 Exc FT 1 Warp Alignment Crosslevel Rockoff Profile Run Off
Tot Exc 2 Cl Tot Exc 2 Cl Tot Exc 2 Cl Tot Exc 2 Cl
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Page 5 of 5 2016-04-06 Run ID: 2016040607

N2 488+00 to N2 1081+00

NZ 488+00 to NZ 1081+00

Wide Gage Tight Gage Alignment Crosslevel Rockoff Profile Run Off Warp Twist-31 Spd

Tot Exc 2 Cl Tot Exc 2 Cl

10.82 Total CH: 600.9 Exceptions per 100 CH:



### Inspection Form

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

ale (b)(b)

#### Agency/Department Information

Asia and an Brita	YYYY	MM		DD	Daniel Ministra	20160406	14/8 4 A T A B	AVD 1	
Inspection Date	2016	04		06	Report Number	20100400-	- VV IVIA I A-IV	NKD-I	
Rail Agency Name	Washington Authority	Metropolitar	n Area Ti	ransit	Rail Agency Department	Track & Structures	Sub- Depart	iment	Track Inspection
Rail Agency Department		Name		1.1	Email	Office I	Phone		Mobile Phone
Contact Information	4444								
Inspection Location	Track Geom	etry Vehicle -	- Ni Line -	- Track #1	&2 from West Falls Ch	urch (K98) to Wieh	ileReston East	(N06) and r	etum.

#### Inspection Summary

,						
Inspection Activity#	1	2	3	4	5	6
Activity Code	TRK-TGV-RC	TRK-TGV-PI				
Inspection Units	1	1				
Inspection Subunits	4	1				
Defects (Number)	0	0				
Recommended Finding	No	No				
Remedial Action Required	No	No				
Recommended Reinspection	No	No				

#### **Activity Summaries**

Inspection Activity#	1	Insp	ection Si	bject	Rule	s Comp	oliance				Activity Co	ode	TR	K	TGV	RC
Job Briefing Employee Name/Title			RWI	C Leve	14		Accomp		Yes	Out Brief Conducted	Yes	Time	0000		Outside Shift	Yes
Related Reports						1	Related	CAPS	/ Findings							
	Ref				Rule o	r SOP			Standard		Other/Title			Chec	klist Refere	nce
Related Rules, SOPs, Standards, or Other	MSR	PH			3.87.1	,3.122,	3.67,									
Juliusius, or Other					SOP #2	23.5.5.3	l									
Inspection Location	Ma Tra		Yard	St	ation	occ		RTA acility	FTA Office	Track Type	At-gra	de	Tunnel	E	levated	N/A
Inspection cocacion	х									TIBER TYPE	х		x		х	
	1										From			2 - E.	To	
Line(s)	N Lin	e (Silv	mort i	Track Numb		1 & 2	1		arker Station(s)	N2 488+00			N2 1	081+0	00 and retur	'n
	He	ad Car	Number		Numb	er of C	ars									
Vehicles		N,	/A					Equi	ipment	Track Geome	etry Vehicle (	TGV)				
	FWS	O tean	n monito	red the	e Track	Geome	try Vehi	cle cr	ew and their co	ompliance with	Numbér	of Defe	cts		T	0
		PH rul									Recomm	ended	Finding?			No
			unding o						nnels rated against t	inst the normal Remedial Action Required?						No
Description	direct 3.6	tion o 7 – Ra	f traffic	not op	perated	past or	closer t	hat a	·	n approach of					No	

Inspector in Charge - Signature	IEDENIA DASHIELL	Digitally signed by MEDENIA DASHIELL DRE cmLS, on U.S. Government, our DOT Headquarters, our FRAHQ, cnnMEDENIA DASHIELL Date: 2016.04.08 14:192.8-04007	Date 04/08/2016
Inspector in Charge - Name	Inspection Team		
Medenia K. Dashiell	Medenia K. Dashiell – FWSO, James Payne - F	RA ·	

Form FTA-IR-1 Version date: 1/19/16



# United States Department of Transportation Federal Transit Administration

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	No deficiencies identified with or approach to interlocking signals and lamps.											100		I
	No deficie	ncies ide	ntified with	oach to										
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Remedial Action	N/A													
Inspection Activity #	2 Ins	pection S	Subject 1	Track Ge	ometry	Vehicle	Testing		Activity C	ode	TR	K	TGV	Pl
Job Briefing														T
Employee	Please Se	e Above				mpanied	Yes	Out Brief	Ves				utside	Yes
Name/Title					Inspe	ctor?	1	Conducted	1		030	00   3	Shift	
Related Reports					Polat	od CADS	/ Findings				<u>.                                    </u>			
related reports					<u> </u>	eu CAFS	<del>`                                    </del>	L						
Related Rules, SOPs,	Ref		Rul	le or SOP	١.		Standard		Other / Title			Checklist	Refere	ence
Standards, or Other	TRST 1000	)				1		}			1			
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	Main		1	1	. 1	RTA	FTA			. 1		٦	7	
	Track	Yard	Station	n   O	CC	Facility			At-gra	ide	Tunnel	Elevat	ted	N/A
Inspection Location			+	+	-+		+	Track Type	-			<del> </del>		
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	l		Track		_	Chain M	larker	N2 488+00		N2 1081+00 a			d retu	rn
Line(s)	N Line (Sil	ver)	Number	1&	2	and/or	Station(s)							
		- 1			- 1			<del></del>			+	<del></del>		
Vehicles	Head Ca	r Numbe	r Ni	umber of	Cars	J	ipment	Trook Goon	netry Vehicle (	TCM				
Venicles	N	I/A	1			Equ	pinent	Hack Geon	nerry venicle (	IGV				
	EWSO and	I ERA acc	nmnanied t	he TGV i	nsnecti	on team	during geome	try testing on	Atrombas	of Defe	<del>-</del>	1		0
							ton East (NO6)		۰		<del></del>			
							program; brol			nended f	inding?			No
	1		-				onality, and da			al Action	Require	d?		No
	follows:			•										
	Į.				11		•		i					
	Crew Kno	wledge:	The crew w	as very p	assiona	ate abou	t the task that	they were	ł					
	performin	g with th	e TGV, but	did expr	ess and	show so	me frustration	with the lack	k					
•	of knowle	dge of th	e system ar	id car. V	Vhen as	sked que	stions about th	te ENSCO	1					
							ito details abou							
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*	,						to troubleshoo	-	,					
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Description	were oper	rating. T	he crew cou	ild not te	ill me a	bout the	inner working	s of the car.						
	Fauiaman	+ 6 matia	aalibu Tha			aarad ta	be working as	dorianed						
							ntage was foun		Recomm	nended (	te-inspe	ction?		No
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							the ordinary ti		ro l			- 1		
	1 -	-	the system			-	•	iec would ma						
	Life Clew	eer urac	ale system	wos mor		g proper	.,.		1					
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Form FTA-IR-1 Version date: 12/11/15



# United States Department of Transportation Federal Transit Administration

	analyzed other than to walk me through a very regimented process and; as long as the images were good it was determined that the exception was legitimate by TGV	
	standards.	
	Recommendations:  One of the contributing factors to the TGV crew's lack of knowledge is that the car or  • This technology is being underutilized and serious consideration should be deployment.  • The current crew should be made a full time TGV crew and continual annup to the standards needed to operate such an expensive program.	e given to expanding this program into full time
	WMATA should consider adopting a set of geometry standards. The car found many priority standard that the company has set. Most of the exceptions found were yello	exceptions that were still within the parameter of the own while the speed of the track was yellow.
Remedial Action	It is recommended that WMATA either adopt a standard as the railroad i     Center to determine standards that are more designed for the equipmer     WMATA would be able to adopt a set of standards that could differ from	ndustry or work with a consultant such as the VOLPE It that they operate. Since this is a closed system,
	It appears the TGV is reporting more examples of a deviation from design standard t require the track to be slowed down or repaired.	
	<ul> <li>WMATA should establish a test that would include a maintenance stands very little room for track deviations and; appears to be creating an abundance safety is at risk.</li> </ul>	ard for type of testing. Design standards give WMATA dance of work that may need to be performed since

Form FTA-IR-1 Version date: 12/11/15

# Track Geometry Inspection Compliance Form

Subject	Track Geometry Insp	ection Compliance Form	
Purpose	Inspection requireme	m is to verify compliance wi ents detailed in the Washing MATA) 1000 Track Maintena	ton Metropolitan Area
References	WMATA – 1000 Trac dated January 1, 201	k Maintenance & Inspection 5 – section 11	Manual, revision 6,
Date(s) of Review	4/6-7/2016	WMATA Department	Track and Structures (TRST)
FTA Reviewers	Medenia Dashiell James Payne-FRA	WMATA Person(s) Contacted	2
Date		Time	2200 to 0600
Location	West Fails Church to Wiehle-Reston East	Track#	142

(b)(b)

	A SALENIE-INCOME COL		1 + 02	
	4 Return			
Item	Required Observation	Compliant	Non-compliant	N/A
	All measured values can be displayed in a graphic format;			
11.23.2	Recorded on a computer hard drive;	V		
	Or printed as an exception report for the maintenance forces.	V		
Notes:				al,
11.23.3	User-defined measurement threshold values include:			
Α	Track Gauge	V		
В	Horizontal and Vertical Alignment			
С	Left and Right Surface	4		
D	Cross-Level			

Item	Required Observation	Compliant	Non-compliant	N/A								
E	Twist and Warp	V										
Notes:												
	How are noted defects Addressed?	Check One or More										
	Maximo											
	Email											
	Direct Contact with Supervisor for the specific territory	U										
	Chase Crew											
	Deferred											
Notes:												
	Onboard Calibration Verification – Method of Verification											
	Calibration Sticker indicating a current date	9										
	Documentation (Specify in Notes)											
	Visual Verification											
Notes:	No instrumental verifications; Required Acti	not a po	nt of procedur	?S,								
V	No action required											
	Action required. WMATA will respond to FTA within days demonstrating the action(s) taken to address the deficiencies noted in this inspection report. WMATA will provide FTA with a signed statement of completed action, accompanied by photographic evidence or reports from information management systems, or other evidence of completion as appropriate.											
	Results/Comm	nents										
Ad	Additional training on system	m network	s for crew.									
	Findings/Corrective Actions											

Item	Required Observation	Compliant	Non-compliant	N/A	

NOTE: This form will be adjusted as FTA is informed of the internal standard operating procedures used by the WMATA TRST TGV team.

WMATA
TRACK INSPECTION PROGRAM

# TRACK GEOMETRY INSPECTION REPORT

N LINE - # / TRACK N1 1096+00 to N1 488+00

RR: WASHINGTON METRO AREA TRANSIT AUTHORITY (WMATA)

Survey Number:

Chain 1096 to Chain 488 Direction: Descending Chain



Washington Metro Area Transit Authority Washington, D.C.

Page 1 of 7 2016-04-07 Run ID: 2016040701

CH FT	Parameter	Value	Length	Speed	TSC	LC	PC	Track	Peak Lat/Long
0 1 0 1	Class Change	5.00	1	0	Т		5	1	<u> </u>
0 0 0 1	Posted Speed	90.00	1	0	Т	]	5 1	1	
0 0 1	Track Change	0.00	1	[ 0 ]	Т	1	5	7	
0 55	Track Change	0.00	T	7	T	1	] 5 <u>]</u>	1	38.949824 -77.346598
1096   88	Railroad	WMATA	Ī	7	T	1	5	1	38.949823   -77.346595
1096   46	Down Marker	1096.00	1	7	T	1	5	1	38.949823 -77.346595
1096 0	Subdivision	N LINE	1	7	T	1	5	1	38.949822   -77.346592
1093   97	Switch Pt	T	Ī	12	T	Ī	5	1	38.949589   -77.345937
1093   84	L N Guard Check	53.90	0	12	Т	1	5	1	38.949576 -77.345898
1093   25	Frog	1	Ī	13	T	Ī	5	1	38.949513   -77.345705
1090   99	Down Chain	1090.00		15	Т	1	5	1	38.949171 -77.344652
1082   49	Frog			16	Т		5	1	38.948378 -77.342222
1082 18	R Cant Neg	-0.50	17	16	T	Ī	5	1	38.948347   -77.342128
1081   52	Switch Pt	i		16	T	ĺ	5	1	38.948278   -77.341908
1080 99	Down Chain	1080.00	1	15	T	ĺ	5	1	38.948128   -77.341413
1079 71	Platform Start	1	$\top$	12	T	Ī	5	1	38.948098   -77.341319
1073 72	Platform End		ı	22	T	Ī	5	1	38.947478 -77.339391
1 1070   99	Down Chain	1070.00	1	27	E	1	5	1	38.947091 -77.338180
1060   13	Down Marker	1060.00	ī	34	Т	Ī	5	1	38.946071   -77.334965
1060   12	Down Chain	1060.00	Ī	34	T	Ī	5	1	38.946070   -77.334962
1050   99	Down Chain	1050.00	i	35	С	1	5	1	38.945135 -77.331657
1040   99	Down Chain	1040.00	Ī	34	C	l	5	1	38.944628 -77.328218
1040   84	Down Marker	1040.00	i	34	С	1	5	1	38.944624 -77.328155
1040   12	Down Chain	1040.00	Ī	34	C	1	5	1	38.944623   -77.328152
1033   77	Bridge Start	<del>-i</del>	i	33	С	Ī	5	1	38.944569 -77.325972
1033   74	Bridge End	<del>-                                    </del>	_ <del>i</del>	32	C		5	1	38.944591 -77.325261
1030   99	Down Chain	1030.00	<del>i</del>	32	, C	1	5	1	38.944627 -77.324652
\ <del></del>	Down Marker	1020.00	<u> </u>	32	, C	ī	5	1	38.945107   -77.321204
1020   2	Down Chain	1020.00		33	<del>i</del> c	ī	5	1	38.945108 -77.321200
·	Switch Pt	<u> </u>	i	34	T	Ī	5	. 1	38.945872 -77.31838
1011   50	Frog	<u> </u>	- <del>i -</del>	34	·   T	T	5	1	38.945947 -77.31815
	Down Chain	1010.00	· ·	33	<u> </u>	ī	5	1	38.946025   -77.31790
<u> </u>	Frog	<del></del>	_ <del>i</del> _	34	<u> </u>	T	5	1	38.946281   -77.31711
1007   58	W Grd Face	53.07	1 3	34	İ	$\neg$	5	1	38.946308   -77.31703
1007   31	Switch Pt		$-\dot{i}$	34	<del></del>	T	5	1 1	38.946385 -77.31679
1006   60		1000.0	o I	35	<del>-</del>	- <u>i</u> -	5	1 1	38.947047 -77.31465
1000 99	Down Chain	1 1000.0	<u> </u>						

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											Charles Coll COL
au ET	Parameter	Value	Length	Spe	ed T	sc	LC		<del>_</del>	rack 1	Peak Lat/Long   38.947052   -77.314636
1000   97	Down Marker	1000.00	1		5	T		1 5	<u> </u>	<u> </u>	38.947053   -77.314633
1000   12	Down Chain	1000.00	1	3	5	Т	<u> </u>	1 5	1	1	38.947698   -77.312275
992   87	Bridge Start	Ī	1	3	35	С	!	1 5	<del> </del>	1	38.947796   -77.311768
991   38	Bridge End	ĺ		<u>                                     </u>	35		<u>!</u>	5	<del> </del> -	<u> </u>	38.947872 -77.311294
990   99	Down Chain	990.00		:	36	С	<u> </u>	5	<del> </del> -	<del>.</del>	38.948168 -77.307823
980   6	Down Marker	980.00			35	c	<u> </u>	5	<u> </u> -	<u> </u>	38.948168   -77.307819
980   12	Down Chain	980.00	1_		35	_ <u>c</u>	<del> </del>	5	<u> </u>	<u> </u>	38.948111 -77.304320
970   99	Down Chain	970.00			33	_c	<u>!</u> _	1 5	<del></del> -		38.947727 -77.300859
960   99	Down Chain	960.00	1		34		<del> </del>	5	<del></del> -	<u> </u>	38.947722 -77.300828
960   93	Down Marker	960.00			34		<del> </del>	1 5	_ <u>-</u> -	1	38.947722 -77.300824
960   12	Down Chain	960.00	1_		34		<del> </del>	- <del>  5</del>	<u>:</u> -	<u> </u>	38.947040   -77.297435
950   99	Down Chain	950.00	<u> </u>		32	<u>c</u>	+		<del>-</del>	<u> </u>	38.946048 -77.294174
940   99	Down Chain	940.00			33		<u> </u>		5	<u> </u>	38.946038 -77.294145
940   93	Down Marker	940.00	- 1_		33	c	<u> </u>		5	<del>-                                    </del>	38.946036   -77.294142
940   12	Down Chain	940.00			33		<u> </u>		5	<u>'</u>	38.945729 -77.293310
937   37	Bridge Start	1	1		32	c	÷	<u>-</u> -	5		38.945466 -77.292651
935   25	Bridge End				32	c	÷		5		38.944771 -77.291042
930   99	Down Chain	930.0	0 1		30		<u>-</u> :-	<u>+</u>	5	<del>_</del>	38.943477 -77.287959
1 920   99	Down Chain	920.0	0 [		29	<u> </u>	<del>- :</del> -	<del></del>	5		38.943461 -77.287915
920   88	Down Marker	920.0	10	- 1	30		÷	_ <del>-</del> -	5		38.943460   -77.287912
920   12	Down Chain	920.0	00	1	30	- '	<u></u>	<del> </del>	5	_ <u>·</u>	38.942536   -77.284624
910   99	Down Chain	910.0	00		32	<u> </u>	<u> </u>		5   5	<u>·</u>	38.942060   -77.281184
900 99	Down Chain	900.	00		33	<u> </u>	<u> </u>	<u></u>	5		38.942058 -77.281156
900   94	Down Marker	900.	00		33		c		5		38.942057   -77.281153
900   12	Down Chain	900.	00		33		c		5 1		38.942006 -77.280255
897   40	Switch Pt	1			32		T	<del></del>	5		38.941997 -77.280130
897   5	R Cant Neg	-0.9	90	30	31	<u> </u>	T		5		38.941989 -77.28000
896   69	Frog	1			31	<del> </del>	T	<u> </u>	5		38.941986 -77.27995
896   53	R Cant Neg	<b>] -</b> 0.	30	20	31	<u> </u>	T	1	5		38.941917 -77.27888
893   49	Frog				32	<del></del>	T	<del>                                     </del>		1	38.941912 -77.27879
893   24	R Cant Neg	] -0	.20	14	33	÷-	T	<del>!</del> -	5	<u>'</u>	38.941898 -77.27854
892   53	Switch Pt	1			33	÷	<u>'</u> T	<del>                                     </del>	1 5	<del> </del>	77.0776
890   99	Down Chain		0.00	<u> </u>	34	<u> </u>	C	<del></del>	1 5	<del>'</del>	38.941260   -77.2742
880   2	Down Marker	88	0.00	<u> </u>		2	- c	1	1 5	<u> </u>	1   38.941259   -77.2742
880   12	Down Chain		0.00	<u> </u>	3:			1	1 5		1   38.939811   -77.2713
			70.00	Į.	3	2 i	С		1 5	t.	

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	NJ 1096+00 to	1111 400					: PC		Track	Peak Lat/Long
CH FT	Parameter	Value	Length	Speed	TSC	LC	1 5	<del></del>	1	38.941725 -77.276333
887   82	Lmt Speed 3	64.00	2047	33		1	1 5	<u></u> -	1	38.937797 -77.268944
860 99	Down Chain	860.00		34 ]		<del>!</del>	<u>-</u> ;		- <u>-</u>	38.937776 -77.268921
860   92	Down Marker	860.00		34	T	<u> </u>	5	<u> </u>	<u> </u>	38.937774 -77.268919
860   12	Down Chain	860.00		34		1_	5		1	38.935706 -77.266647
850 99	Down Chain	850.00	1	31	В	<u> </u>	5	_ <u>-</u> -		38.933871 -77.264052
840   99	Down Chain	840.00		31	С	<u> </u>	5		1	38.933844 -77.264000
840   84	Down Marker	840.00	<u> </u>	31	С	<u> </u>	- 1 5		1	38.933842 -77.263997
840   12	Down Chain	840.00		31	C	<u> </u>	E		_ <u></u>	38.932670   -77.260849
830   99	Down Chain	830.00	1	32	C	<u></u>	<u>                                     </u>	÷		38.932216 -77.257406
820 99	Down Chain	820.00		31		<u> </u>	1 :	_ <u>-</u> -	1	38.932215 -77.257379
820 94	Down Marker	820.00		31	C	<del>_</del>	<u>-</u> -	5	1	38.932215   -77.257375
820   12	Down Chain	820.00	_1	31	C	1	<u>-</u> -	5	1	38.932436 -77.253894
810 99	Down Chain	810.00	1	33	<u>  c</u>	<u> </u>	_ <u>-</u> -	5 )	1	38.932406 -77.254090
811   43	Lmt Speed 3	71.00	4296			<del>-</del> !-	<u> </u>	5	1	38.933193   -77.250629
800   27	Bridge Start			30	1 1	<u> </u>	<del></del> -	5	1	38.933216 -77.250539
800 99	Down Chain	800.00		30	T	<u>-</u> -	_ <u>-</u> -	5		38.933224   -77.250506
800   92	Down Marker	800.00	1	30	<u> </u>	÷	_ <u>-</u> -	5		38.933225   -77.250503
800   12	Down Chain	800.00		30	<u> </u>	<del>-</del>	_ <del>-</del>	5	1	38.933496   -77.247099
790   99	Down Chain	790.00	1	29	1 0	<u> </u>		5	1	38.933473   -77.247002
789   71	Excess Elevation	6.35	898		<del></del>	<u></u> :-	3	5		38.932841   -77.245588
785   1	Excess Elevation	6.21	13:		<u> </u>	<u></u> ;	4	5	<u>'</u> 1	38.932772 -77.245491
784 63	Excess Elevation	6.11	_   2	29	<del></del>	<u>-</u> -	4	5		38.932715 -77.245416
784   33	Excess Elevation	6.13	10				4	5		38.932054 -77.244714
781 19	Switch Pt	l		30		= <u> </u>		5		38.933603   -77.248751
795   21	Lmt Speed 3	51.00		_ <u></u>		C	¦	5		38.931950 -77.244612
780   70	R Cant Neg	-0.10	)   1	:		T   = 1	1	5		38.931895   -77.244559
780   46	Frog			3		T		5		38.931806   -77.244472
780 7	Down Marker	780.0	0 1	3	_!	T	<u> </u>		1 1	38.931804 -77.244470
780   12	Down Chain	780.0	<del>_</del>		<del>-                                    </del>	<b>т  </b>	1	5	1 1	38.931764 -77.244432
779   85	W Grd Face	53.0	<u>_</u>	:-	9	<u>                                     </u>			1 1	38.931714 -77.244383
779   58	L Cant Neg	-0.2	<u> </u>		9	'   T	<u>-                                    </u>	5	<u>                                     </u>	38.931701 -77.244370
779   52	R Cant Neg	-0.8	0 1 3		9	В			1 1	38.931598 -77.244268
779   5	Switch Pt	!		<del>`</del> _	29	C	1 1	5	1 1	38.931200   -77.243885
778 77	Lmt Speed 3	77.0	<u> </u>	<del></del>	24	c	<u> </u>	5	1 1	38.930354 -77.243107
774   58	Lmt Speed 3	74.0	00 1		21	<del>-</del>	<u> </u>	1 5	1 1	1 == 0.40004
771 4	Platform Start				21		1	1 3		

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	•••		l onath	Sneed	TSC	LC	PC	Track	Peak Lat/Long
CH FT	Parameter	Value   770.00	Length	21	T	1	151	1	38.929610 -77.242382
770   99	Down Chain	1 //0.00	1	27		<del></del>	5	1	38.928533 -77.241332
765   2	Platform End	1	1	1 30	c	1	5	1	38.928045   -77.240840
763 23	Lmt Speed 3	70.00	68	1 30 1	В	1	5	1	38.927471 -77.240233
760 99	Down Chain	760.00	<u> </u>		В	<u> </u>	1 5 1	1	38.927462 -77.240224
760   98	Down Marker	760.00	<u> </u>	30		<del> </del>	1 5 1		38.927460   -77.240222
760   12	Down Chain	760.00	<u> </u>	30	В	<u> </u>		<del>·</del>	38.927148 -77.239900
759   40	Lmt Speed 3	80.00	65	32	С	<del> </del>	5		38.925283 -77.238067
750 99	Down Chain	750.00	<u> </u>	31	T	1_	5	<u> </u>	38.923873   -77.236712
744   45	Lmt Speed 3	88.00	179	29	C	<u> </u>	5	<u> </u>	38.923080   -77.236002
740   99	Down Chain	740.00		30	В	1	5		38.923058   -77.235982
740 92	Down Marker	740.00		30	В	<u> </u>	5		38.923056 -77.235980
740 12	Down Chain	740.00	1	30	В	<u> </u>	5	1	38.922426 -77.235386
737   13	L Cant Pos	4.40	36	30	E		5	1	38.921894   -77.234872
734   70	Platform Start			30	l T	1	5		38.920860 -77.233899
730 99	Down Chain	730.00	<u>ا</u>	29	T	]	5		
728   68	Platform End	Ī	Ī	29	1 T		5	1	38.920572 -77.233621
728   10	Tunnel Start	1		28	В		5		38.920445   -77.233499
720 99	Down Chain	720.00	1	28	C	1	5	1	38.919267 -77.231206
720   38	Down Marker	720.00	Ī	28	E	$\perp$	5	1	38.919251   -77.230984
720   38	Down Chain	720.00	ı	28	E		5	1 1	38.919251 -77.230980
726   96	Lmt Speed 3	38.00	53	1 28	1 0		5		38.919818   -77.232795
720   99	Down Chain	710.00	1	27	1 0	- 1	5	1	38.919610   -77.227526
710   95	Lmt Speed 3	77.00	95	5   27	1 0	: 1	5	1 1	38.919277 -77.229844
704   37	L Cant Pos	3.90	16	3   26	) B	1	5	1 1	38.920106 -77.225667
704   37	Switch Pt	<u> </u>	1	26	E		5	] 1	38.920249 -77.224773
' <del></del>	Tunnel End	<del></del> -	-	26	E	- 1	5	1 1	38.920260   -77.224655
701   43	Lmt Speed 3	39.00	5	7   26	1	7	5	[ 1	38.920168 -77.225380
704   47	Frog	<del>_</del>	1	1 26	1	r	5	1	38.920272 -77.22453
701 9	Down Chain	700.0	<u> </u>	1 26	<u> </u>	r	5	1 1	38.920310 -77.22415
700 99	Down Marker	700.0	<u>:</u> _	20	<u> </u>	τ	5	1	38.920311 -77.22414
700 99	Down Chain	700.0	<u>:</u> -	20	<u> </u>	Т	5	1 1	38.920312 -77.22414
700   12	Frog		<del>i</del>	1 2	5	т [	5	1	38.920345 -77.22380
699 3		<u>'</u>	<del>-                                    </del>	1 2	6	т	5	1 1	38.920379 -77.22347
698   6	Switch Pt	1 -0.4	0 1		26	T	\ 5	1 1	
698   19	R Cant Neg	1 -0.4	<del>- 1</del>		26	т	5	1 1	
695   74	Platform Start		1		28	T 1	1 5	1 1	38.920658 -77.2206
690 99	Down Chain	690	.00						

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CH FT	219080   217406   217366   217363   216021   214199   212468   211039   211006
688   71	217406   217366   217366   217363   216021   214199   212468   211393   211039   211006
686   61	217366 217363 216021 214199 212468 211393 211039
680   99   Down Chain   680.00   30   T   5   1   38.921637   77.2   680   12   Down Chain   680.00   30   T   5   1   38.921638   77.3   676   32   Lmt Speed 3   83.00   151   31   C   5   1   38.922171   77.2   676   32   Lmt Speed 3   80.00   201   22   C   5   1   38.922786   77.3   665   44   Lmt Speed 3   80.00   201   22   C   5   1   38.923801   77.3   665   44   Lmt Speed 3   80.00   201   22   C   5   1   38.923801   77.3   666   16   Platform Start   21   T   5   1   38.923801   77.3   660   99   Down Chain   660.00   20   T   5   1   38.923905   77.3   660   87   Down Marker   660.00   20   T   5   1   38.923909   77.3   660   12   Down Chain   660.00   20   T   5   1   38.923909   77.3   665   29   Platform End   177   T   5   1   38.923909   77.3   655   29   Platform End   177   T   5   1   38.924699   77.3   650   99   Down Chain   650.00   25   C   5   1   38.925460   77.3   650   99   Down Chain   650.00   25   C   5   1   38.925460   77.3   649   3   L Cant Neg   -0.50   31   26   E   5   1   38.925463   77.3   645   54   Switch Pt   27   T   5   1   38.926357   77.3   644   81   Frog   27   T   5   1   38.926357   77.3   644   81   Frog   27   T   5   1   38.926357   77.3   644   81   Frog   27   7   5   1   38.926459   77.3   644   84   R Cant Neg   -1.00   88   28   T   5   1   38.926459   77.3   644   84   R Cant Neg   -1.00   88   28   T   5   1   38.926459   77.3   644   84   R Cant Neg   -1.00   88   28   T   5   1   38.926459   77.3   644   84   R Cant Neg   -1.00   88   28   T   5   1   38.926459   77.3   644   84   R Cant Neg   -1.00   88   28   T   5   1   38.926619   77.3   644   84   R Cant Neg   -1.00   88   28   T   5   1   38.926619   77.3   644   70   L Cant Neg   -1.00   88   28   T   5   1   38.926619   77.3   78.5	217363   .216021   .214199   .212468   .211393   .211039   .211006
680   89   Down Marker   680.00     30   T     5   1   38.921638   77.2   680   12   Down Chain   680.00     30   T     5   1   38.922171   77.2   676   32   Lmt Speed 3   83.00   151   31   C     5   1   38.922786   77.2   670   99   Down Chain   670.00     31   T     5   1   38.922786   77.2   665   44   Lmt Speed 3   80.00   201   22   C     5   1   38.923413   77.2   665   44   Lmt Speed 3   80.00   201   22   C     5   1   38.923401   77.2   666   16   Platform Start	214199 212468 211393 211039 211006
680   12   Down Chain   880.00   30   1   1   1   38.922171   -77.     676   32   Lmt Speed 3	214199 212468 211393 211039 211006
For	214199   212468   211393   211039   211006
670   99   Down Chain   670.00   31   22   C   5   1   38.923413   -77.     665   44   Lmt Speed 3   80.00   201   22   C   5   1   38.923801   -77.     661   16   Platform Start     21   T   5   1   38.923801   -77.     660   99   Down Chain   660.00   20   T   5   1   38.923905   -77.     660   87   Down Marker   660.00   20   T   5   1   38.923990   -77.     660   12   Down Chain   660.00   20   T   5   1   38.923992   -77.     655   29   Platform End     177   T   5   1   38.924699   -77.     650   99   Down Chain   650.00   25   C   5   1   38.925460   -77.     649   3   L Cant Neg   -0.50   31   26   E   5   1   38.925639   -77.     640   2   Lmt Speed 3   45.00   37   26   C   5   1   38.925639   -77.     645   54   Switch Pt     27   T   5   1   38.925463   -77.     644   81   Frog     28   T   5   1   38.926357   -77.     644   84   R Cant Neg   -1.00   88   28   T   5   1   38.926451   -77.     644   2   L Cant Neg   -0.70   24   30   T   5   1   38.92664   -77.     645   32   Switch Pt     3.90   20   31   8   5   1   38.92664   -77.     644   2   L Cant Neg   -0.70   24   30   T   5   1   38.92666   -77.     644   2   L Cant Neg   -0.70   24   30   T   5   1   38.92666   -77.     644   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     641   70   L Cant Pos   3.90   20   31   8   5   1   38.927333   -77.     641   70   L Cant Pos   3.90   20   31   8   5   1   38.927333   -77.     641   70   L Cant Pos   3.90   20   31   8   5   1   38.927333   -77.     641   70   L Cant Pos   3.90   20   31   8   5   1   38.927333   -77.     641   70   L Cant Pos   3.90   20   31   8   5   1   38.927333   -77.     641   70   L Cant Pos   3.90   20   31   8   5   1   38.927333   -77.     642   70   L Cant Pos   3.90   20   31   8   5   1   38.927333   -77.     643   70   L Cant Pos   3.90   20   31   8   5   1   38.927333   -77.     644   70   L Cant Pos   3.90   20   31   8   5   1   38.927333   -77.     645   70   70   70   70   70   70   70   7	.212468 .211393 .211039 .211006
665   44   Lmt Speed 3   80.00   201   22   5   1   38.923801   -77.     661   16   Platform Start         21	.211393 .211039 .211006
661   16	.211039 .211006
G60   99   Down Chain   S60.00   20   T   5   1   38.923990   -77.     G60   87   Down Marker   G60.00   20   T   5   1   38.923992   -77.     G60   12   Down Chain   G60.00   20   T   5   1   38.923992   -77.     G55   29   Platform End   17   T   5   1   38.924699   -77.     G50   99   Down Chain   G50.00   25   C   5   1   38.925460   -77.     G50   99   Down Chain   G50.00   25   C   5   1   38.925639   -77.     G49   3   L Cant Neg   -0.50   31   26   E   5   1   38.925639   -77.     G50   2   Lmt Speed 3   45.00   37   26   C   5   1   38.925463   -77.     G45   54   Switch Pt   27   T   5   1   38.926316   -77.     G45   32   L N Guard Check   53.78   0   27   T   5   1   38.926357   -77.     G44   81   Frog   28   T   5   1   38.926359   -77.     G44   84   R Cant Neg   -1.00   88   28   T   5   1   38.926515   -77.     G44   2   L Cant Neg   -0.70   24   30   T   5   1   38.926614   -77.     G43   33   Switch Pt   30   T   5   1   38.926749   -77.     G41   70   L Cant Pos   3.90   20   31   8   5   1   38.927066   -77.     G41   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     G41   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     G41   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     G41   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     G41   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     G41   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     G41   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     G41   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     G41   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     G41   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     G42   Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     G43   G44   G4	.211006
Geo   87   Down Marker   Geo.00   20   T   5   1   38.923992   -77.     Geo   12   Down Chain   Geo.00   20   T   5   1   38.923992   -77.     Geo   29   Platform End   17   T   5   1   38.924699   -77.     Geo   99   Down Chain   Geo.00   25   C   5   1   38.92560   -77.     Geo   99   Down Chain   Geo.00   25   C   5   1   38.925639   -77.     Geo   3   L Cant Neg   -0.50   31   26   E   5   1   38.925639   -77.     Geo   2   Lmt Speed 3   45.00   37   26   C   5   1   38.925463   -77.     Geo   5   Switch Pt   27   T   5   1   38.925463   -77.     Geo   5   1   38.925463   -77.     Geo   5   1   38.926357   -77.     Geo   5   1   38.926357   -77.     Geo   644   81   Frog   28   T   5   1   38.926459   -77.     Geo   644   84   R Cant Neg   -1.00   88   28   T   5   1   38.926451   -77.     Geo   644   84   R Cant Neg   -1.00   88   28   T   5   1   38.926614   -77.     Geo   644   2   L Cant Neg   -0.70   24   30   T   5   1   38.926749   -77.     Geo   644   70   L Cant Pos   3.90   20   31   8   5   1   38.927066   -77.     Geo   641   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77.     Geo   77.   78.   78.   79.	
660   12   Down Chain   660.00   20   T   T   38.924699   -77     655   29   Platform End     17   T   5   1   38.924699   -77     650   99   Down Chain   650.00   25   C   5   1   38.925460   -77     649   3   L Cant Neg   -0.50   31   26   E   5   1   38.925463   -77     650   2   Lmt Speed 3   45.00   37   26   C   5   1   38.925463   -77     645   54   Switch Pt     27   T   5   1   38.926316   -77     645   32   LN Guard Check   53.78   0   27   T   5   1   38.926357   -77     644   81   Frog     28   T   5   1   38.926459   -77     644   84   R Cant Neg   -1.00   88   28   T   5   1   38.926614   -77     644   2   L Cant Neg   -0.70   24   30   T   5   1   38.926614   -77     643   33   Switch Pt     30   T   5   1   38.926614   -77     644   70   L Cant Pos   3.90   20   31   8   5   1   38.927066   -77     641   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77     641   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77     641   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77     641   70   L Cant Pos   3.90   20   31   8   5   1   38.927383   -77     642   70   R Cant Pos   3.90   20   31   8   5   1   38.927383   -77     644   70   R Cant Pos   3.90   20   31   8   5   1   38.927383   -77     645   70   R Cant Pos   3.90   20   31   8   5   1   38.927383   -77     646   70   R Cant Pos   3.90   20   31   8   5   1   38.927383   -77     647   70   R Cant Pos   3.90   20   31   8   5   1   38.927383   -77     648   70   R Cant Pos   3.90   20   31   8   5   5   1   38.927383   -77     649   70   R Cant Pos   3.90   20   31   8   5   5   1   38.927383   -77     640   70   R Cant Pos   3.90   20   31   8   5   5   1   38.927383   -77     641   70   R Cant Pos   3.90   20   31   8   5   5   1   38.927383   -77     642   70   70   70   70   70   70   70   7	
655   29   Platform End	209607
650   99   Down Chain   650.00   23   5   1   38.925639   -77     649   3   L Cant Neg	
649   3           L Cant Neg         -0.50   31   26   E   5   1   38.92663   -77           650   2           Lmt Speed 3   45.00   37   26   C   5   1   38.925463   -77           645   54           Switch Pt   27   T   5   1   38.926316   -77           645   32           L N Guard Check   53.78   0   27   T   5   1   38.926357   -77           644   81           Frog   28   T   5   1   38.926459   -77           644   32           Frog   29   T   5   1   38.926555   -77           644   84           R Cant Neg   -1.00   88   28   T   5   1   38.926451   -77           644   2           L Cant Neg   -0.70   24   30   T   5   1   38.926749   -77           643   33           Switch Pt   3.90   20   31   8   5   1   38.927066   -7           641   70           L Cant Pos   3.90   20   31   8   5   1   38.927383   -7	
650   2   Lmt Speed 3	
645   54   Switch Pt	
645   32   LN Guard Check   53.78   0   27   T     5   1   38.92635   -7/   644   81   Frog       28   T     5   1   38.926459   -7/   644   32   Frog       29   T     5   1   38.926555   -7/   644   84   R Cant Neg   -1.00   88   28   T     5   1   38.926451   -7/   644   2   L Cant Neg   -0.70   24   30   T     5   1   38.926614   -7/   643   33   Switch Pt       30   T     5   1   38.926749   -7/   641   70   L Cant Pos   3.90   20   31   8     5   1   38.927383   -7/	
644   81   Frog       28   T     5   1   38.926459   -7/20     644   32   Frog       29   T     5   1   38.926555   -7/20     644   84   R Cant Neg   -1.00   88   28   T     5   1   38.926451   -7/20     644   2   L Cant Neg   -0.70   24   30   T     5   1   38.926614   -7/20     643   33   Switch Pt	
644   32   Frog     29   T   5   1   38.926555   -7.6     644   84   R Cant Neg   -1.00   88   28   T   5   1   38.926451   -7.6     644   2   L Cant Neg   -0.70   24   30   T   5   1   38.926644   -7.6     643   33   Switch Pt     30   T   5   1   38.926749   -7.6     641   70   L Cant Pos   3.90   20   31   B   5   1   38.927066   -7.6     641   70   L Cant Pos   3.90   20   31   B   5   1   38.927383   -7.6   -7.6     641   70   L Cant Pos   3.90   20   31   B   5   1   38.927383   -7.6   -7.6     641   70   L Cant Pos   3.90   20   31   B   5   1   38.927383   -7.6   -7.6     641   70   L Cant Pos   3.90   20   31   B   5   5   1   38.927383   -7.6   -7.6     641   70   L Cant Pos   3.90   20   31   B   5   5   1   38.927383   -7.6   -7.6     641   70   L Cant Pos   3.90   20   31   B   5   5   1   38.927383   -7.6     641   70   L Cant Pos   3.90   20   31   B   5   5   1   38.927383   -7.6     641   70   L Cant Pos   3.90   20   31   B   5   5   5   5   5   5   5   5   5	
644   84   R Cant Neg	:
644   2   L Cant Neg	
643   33   Switch Pt     30   T   5   1   38.926749   -7.	
641 70 L Cant Pos 3.90 20 31 B 5 1 38.927066 7	
1 38.927383 -7	
Col.   12	
27   Sycass Flevation   6.14   20   31   B   4   5   1   38.927665   -7	
300   1   1   1   1   1   1   1   1   1	
Secretary 1	
55   1   1   1   30   C   4   5   1   38.92/865   -/	77.204674
636 87 Excess Elevation   622   505   29   C   4   5   1   38.928071   -7	77.204070
634 98 Excess Listatori	77.202369
630   99	- <b>7</b> 7.2 <b>0165</b> 1
627 87   C   3   5   1	-77.201341
626 93 Excess Elevation 3.80 27 28 E 5 1 38.927915	
626   29   L Cant Pos   31   F   5   1   38.927597	-77.201143
624 4 L Cant Pos 5.50 125 31 2	

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	טו טטדטפטו ווא	141 400 . 0.	•		<b></b>		PC	Track	Peak Lat/Long
CH FT	Parameter	Value	Length	Speed	TSC	LC	1 5 1	1	38.928228   -77.202590
631   36	Lmt Speed 3	50.00	1113	33	C	<u> </u>	<del>! - :</del>		38.926902   -77.199387
620 99	Down Chain	620.00		33	c	<u>!</u>	5 }		38.926883   -77.199362
620   92	Down Marker	620.00	<u> </u>	33		!	5	1	38.926881   -77.199359
620   12	Down Chain	620.00	1	33	C	<u> </u>	5		
620   22	R Cant Pos	4.90	50	33	С	<u> </u>	5		38.926944 -77.199446
619 90	Bridge End	1	1	33	С	<u> </u>	5		38.926862 -77.199334
610 99	Down Chain	610.00	1	32	E	<u> </u>	5	1	38.924707 -77.197291
615 76	Lmt Speed 3	71.00	1189	33	С	1	5		38.925705 -77.198049
605   60	Bridge Start	1		36	τ		5	<u>'                                     </u>	38.923637   -77.196588
604 19	Bridge End	1	T	36	T		5		38.923294 -77.196364
600   99	Down Chain	600.00		34	T		5		38.922280 -77.195694
601 0	Down Marker	601.00	1	34	Т	<u> </u>	5	1	38.922275 -77.195691
600   12	Down Chain	600.00	ı	34	Т	1	5	1	38.922272 -77.195689
590   99	Down Chain	590.00	Ī	33	T		5	1 1	38.919837   -77.194092
580 99	Down Chain	580.00	Ī	30	T		5	1 1	38.917395 -77.192497
580   96	Down Marker	580.00	T	30	T	1	5	1	38.917380 -77.192487
580   12	Down Chain	580.00	1	30	T	1	5	1	38.917378 -77.192486
576   60	Excess Elevation	-6.11	2	32	В	4	5	[ 1	38.916559 -77.191922
576   19	Excess Elevation	-6.16	45	31	В	4	5	1	38.916462 -77.191850
575   19	Excess Elevation	-6.17	37	31	C	4	5	1	38.916221   -77.191663
574 79	Excess Elevation	-6.11	1	31	C	4	5	1	38.916129   -77.191586
576   42	Lmt Speed 3	82.00	190	30	c	Ī	5	1	38.916314 -77.191737
570   99	Down Chain	570.00	Ī	30	T	1	5	1 1	38.915074 -77.190594
566   41	Switch Pt	_ <del></del> _	ī	30	T	1	5	1 1	38.914307 -77.189835
565 72	Frog	i	1	29	T	1	5	1 1	38.914159   -77.189690
562   52	Frog	i	T	29	T		5	1	38.913461 -77.189007
561   51	Switch Pt	<u> </u>	T	29	1		5	[ 1	38.913241 -77.188793
560   99	Down Chain	560.00	1	29	E	1	5	] 1	38.912911 -77.188471
557   80	Excess Elevation	6.10	<u> </u>	28	] E	3   4	5	] 1	38.912417 -77.188028
	Excess Elevation	6.13	21	28	1	-   4	5	] 1	38.911449   -77.187415
553   80	Excess Elevation	6,14	28	28	<del>-</del>	7 4	5	1 1	38.911369   -77.187378
\ <u></u>	Excess Elevation	6.22	25	5   29	1 0	3   4	5	1 1	38.911262 -77.187326
553 8	Down Marker	1 550.00	0 1	<u> </u>	1 (	= 1	5	1 1	38.910467   -77.187078
550 9		1 550.0		29		c i	5	1 1	38.910465   -77.187078
550   12	Down Chain	6.25	_ <del></del> -	4 30	1	ci	4 \ 5	1 1	38.909996 -77.187008
548 32	Excess Elevation	1 65.0			0 1	ci	5	1 1	38.911527 -77.187451
555 88	Lmt Speed 3	05.0	~ 1 12			<u>-</u> -			

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### N1 1096+00 to N1 488+00

сн гт	Parameter	Value	Length	Speed	TSC	LC	PC	Track	Peak Lat/Long
541   61	Switch Pt	l	1	30	Т	[	5	1	38.908178   -77.187208
540   84	Frog		I	30	Т	1	5	1	38.907970 -77.187256
540   99	Down Chain	540.00	I	31	Т	Ī	5	1	38.907758 -77.187316
530 99	Down Chain	530.00		31	Т		5 [	1	38.905050   -77.187966
531 0	Down Marker	531.00	Ī	31	Т	1	5	1	38.905045   -77.187967
530 12	Down Chain	530.00	1	31	Τ	1	5	1	38.905042 -77.187968
529   70	Bridge Start		1	30	Т	Ī	5	1	38.904962 -77.187987
521 76	L Cant Pos	3.80	14	28	С		5	1	38.902829   -77.188252
520 99	Down Chain	520.00	1	29	С	1	5	1	38.902360   -77.188106
511 91	L Cant Pos	3.90	38	28	С	1	5	1	38.900661   -77.186397
510 99	Down Chain	510.00		29	Е	1	5	1 .	38.900422   -77.185802
510 28	L Cant Pos	4.30	55	29	E	1	5	1	38.900453   -77.185895
510   50	Down Marker	510.00		31	E	T	5	1	38.900280   -77.185302
510   12	Down Chain	510.00		31	E	1	5	1	38.900280   -77.185298
509   50	Bridge End	1	Ī	31	E		5	1	38.900238   -77.185131
515   92	Lmt Speed 3	49.00	1319	32	С	1	5	1	38.901014   -77.187001
506   4	Lmt Speed 3	65.00	85	32	С	1	5	1	38.899931   -77.183952
500 99	Down Chain	500.00	1	32	В	1	5	1	38.899326   -77.182051
491 7	L Align 62	-1.63	8	17	С	3	5	1	38.898365   -77.179145
491 7	R Align 62	-1.63	8	17	С	3	5	1	38.898365   -77.179145
490   99	Down Chain	490.00	ı	15	Е	1	5	1	38.898270   -77.178799
491 6	Lmt Speed 3	52.00	22	15	С	T	5	1	38.898353   -77.179101
489 81	Frog		ı	14	В	1	5	1	38.898248   -77.178731
489   57	W Grd Face	53.09	3	13	T	1	5	1	1
488   49	Down Marker	488.00	1	12	Ε	[	5	1	38.898206 -77.178595
487   93	L Align 62	1.71	8	12	E	3	5	1	1
487   93	R Align 62	1.71	8	12	E	3	5	1	<u> </u>
489   30	Lmt Speed 3	40.00	26	13	С	1	5	1	

Notes:

Cant Exceptions are in degrees
The following fields are irrelevant for Cant Exceptions: LC, PC

### Exception Report Curve Analysis Section Chain 1096 to Chain 488

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## N1 1096+00 to N1 488+00

Elevation plus(+) = L Rail High, minus(-) = R Rail High

Curvature plus(+) = Curve to Right, minus(-) = Curve to Left

—т		—т					Aver	age					Limiting F	oint		T		_					$\dashv$
									Spe	od		1	Curve	Elev	Total	Į	ι	.imit	ting S	spee	d at		- {
Track	Starti	ng   FT	End CH		Len	Spd	Curve Deg/M		Post		СН	FT	Deg/M		FT Grp			4"		6"		8"	9"
1	1073	45	1069	9	365	27	-0/37	-1.80	90	102	1071	1	-0/39	-1.82		1	021	13	122	131	139	147	154
<u> </u>	1068	17	1064	5	389	30	0/39	2.41	90	105	1067	87	0/41	2.30		1	051	14	123	131	139	146	153
		55	1012	9	4675	36	-0/57	-3.89	90	100	1050	48	-0/58	-3.85		1	001	08	114	120	126	132	138
1	1059		986	3	1379	36	1/21	5.37	90	93	994	80	1/24	5.47		+	93	98	103	108	112	117	121
1	1000	25			5436	36	0/37	2.84	90	112	976	17	0/39	2.79		-+	1121	21	130	138	146	153	160
1	986	3	932	21		35	-0/52	-3.59	90	100	905	40	-0/55	-3.63		-+			115				139
1	926	11	898	53	2867			2.59	90	64	887	82	1/55	2.56	2047	+	64		75	80	84	88	93
1	890	9	866	72	2465	33	1/54	<u></u>	90	113	857	32	0/33	2.00						143		160	168
1	859	94	856	61	268	37	0/25	1.55	L	71	811	43	-1/21	-1.83	4296	-1		79	85	91	97	102	107
1	851	5	805	63	4687	35	-1/27	-2.91	90		L_	21	4/57	6.16		1	 51		57	59	62	64	66
1	799	12	781	15	1804	30	4/54	6.21	90	51	795	77	0/55	0.82	91	1	77				110		123
1	780	85	775	7	423	28	0/48	0.76	90	77	778			-0.41	100	1					110		124
1	775	7	772	32	326	22	-0/47	-0.42	90	74	774	58	-0/52		68	1	74						
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#### **Exception Report** Curve Analysis Section Chain 1096 to Chain 488

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#### N1 1096+00 to N1 488+00

Elevation plus(+) = L Rail High, minus(-) = R Rail High Curvature plus(+) = Curve to Right, minus(-) = Curve to Left

Γ—	Γ	7					Aver	age					Limiting	Point		├						
<u> </u>							C	Elov	Spe	and '			Curve	Elev	Total	1_	Lim	iting	Spec	ed at		
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	CH F	_	СН						90	52	491	6	-2/10	-1.20	22 1	52	58	64	69	73	78	82
1	494 5	6	490	0	345	17	-2/11	-1.21	90	52	451					1						
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Exception Summary Section Chain 1096 to Chain 488 Exception Report

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# N1 1096+00 to N1 488+00

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		2 Cl Drop	0	0	0	0	-	-	.   -		,   c	,   c	>   <	- -		5	-	0	0	-	0	-	
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	Profile	Exc 2 Cl FT Drop	0	0	0	0	0	0	0	0	0	0	0	-	-	-	> -			0	0	0	0
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	Crosslevel	Exc FT	٥	<u> </u>	٥	85	٥	305	0	404	0	0	0	0	0	0		-	0	0	0	0	2936
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2	nent	Exc 2 Cl FT Drop	긔	릐	_	<u></u>	<u></u>	0	0	0	0	0	0	0	0	c	<u> </u>	<u></u>	의.	2		<u></u>	4
20.001.001.00.0001.11	Alignment	Exc FT		_	٥	<u> </u>	<u> </u>		٥	0	0	0	0	0	0	0	<u> </u>	⅃.	ا۔	19		<u> </u>	32
2	် ( မေ	S T E X	<u> </u>	ᅴ	의	의	의	_	0	0	0	0	0	0	0	0	.   -  -	-   · -   -	이 니	7		0	4
2	Wide Gage Tight Gage	S X	0	0	0 0	0	0	0 0	0 0	0 0	0 0	0 0	0	0	0	-	-	- -		٦.	0	0	0
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N1 1096+00 to N1 488+00

N1 1096+00 to N1 488+00

Wide Gage Tight Gage Alignment Crosslevel Rockoff Profile Run Off Warp Twist-31 Spd

Tot Exc 2 Cl Tot Exc 2 Cl

Total CH: 615.8 Exceptions per 100 CH:

WMATA TRACK INSPECTION PROGRAM

### TRACK GEOMETRY INSPECTION REPORT

N LINE - # 2 Track N2 488+00 to N2 1081+00

RR: WASHINGTON METRO AREA TRANSIT AUTHORITY (WMATA)

Survey Number:

Chain 488 to Chain 1081 Direction: Ascending Chain



Washington Metro Area Transit Authority Washington, D.C.

Page 1 of 7 2016-04-06 Run ID: 2016040607

	N2 488+00 to N	2 100110	•				D.	_	Track	Peak Lat/Long
CH FT	Parameter	Value	Length		TSC	LC	P(		1	1
1 0 1 0 1	Posted Speed	90.00		0 1		<del>                                     </del>	<u> </u>	÷	<del></del>	<del></del>
0 0 0	Track Change	0.00		0	<u>_</u> _	<u>l</u>	1 5	_ <u>:</u> -	<del>-                                    </del>	
0 1 0 1	Class Change	5.00	1	1 0 1	T	<u> </u>	1 5	<u> </u>	2	
10191	Track Change	0.00		2	T	<u>!_</u> _	:	_ <u>-</u> -		
0 10	Railroad	WMATA	1	2	Т	<u> </u>	<u></u>	5   	2	<del></del>
0 11	Subdivision	N LINE		2	T	<u> </u>	<del></del>	5	2	38.897796 -77.177258
0 69	R Cant Neg	-0.60	26	8	T	<u> </u>	÷	5		38.897941 -77.177668
1   96	L Cant Neg	-0.30	22	10	T .	<u> </u>	<del>-                                    </del>	5		38.898003   -77.177848
2 52	R Cant Neg	-0.40	16	11	<u>'</u>	<u> </u>	<u></u> -	5	2	38.898142 -77.178246
488 74	Up Marker	488.00		111	В	<u> </u>	<u> </u>	5	2	38.898173 -77.178335
488   28	R Align 62	2.11	23	11		1 3		5	2	38.898173   -77.178335
488   28	L Align 62	2.11	23	- 11	<u></u>	3	<u> </u>	5		38.898261 -77.178564
489   1	Frog			[ 13	E		_!_	5	2	38.898278 -77.178604
489   15	L Cant Neg	-1.00	33	14	E			5	2	38.898222 -77.178464
488   69	Lmt Speed 3	40.00	28	16	c	_ _	<u> </u>	5	2	38.898387 -77.178875
490   99	Up Chain	490.00		16	B	1		5	2	38.898642   -77.179500
491   99	Lmt Speed 3	76.00	103	3   22		<u> </u>		5		38.899439 -77.181904
500   44	Up Marker	500.00		27	T		<u> </u>	5	2	38.900234   -77.184189
507   14	Bridge Start	1		30	T			5		38.900544 -77.185104
510   99	Up Chain	510.00	) <u> </u>	27	1 1		<u> </u>		2	38.901048   -77.186358
514   4	Lmt Speed 3	48.00	9	6   29	1 9	:	!			38.901377   -77.186858
515 91	Excess Elevation	6.17	5	9 29	F	<u> </u>	4		1 2	38.901611   -77.187132
517 7	Excess Elevation	6.17	8	6   30	1 9	:	4	5	2	38.902284 -77.187686
520 98	Up Marker	520.0	0	3:		<u> </u>	[	5	1 2	38.901890 -77.187398
518   34	Excess Elevation	6.28	30	04   3		c	3	5	1 2	38.902673 -77.187890
521 54	Excess Elevation	6.21	1 1	33   3		c	4	5	<u> </u>	38.902850   -77.187960
522   22	Excess Elevation	6.13	3   3	31   3		c	4	5	2	38.902921 -77.187985
522   49	Excess Elevation	[ 6.10	1	1   3		<u> </u>	4	5	1 2	38.903119   -77.188041
523   23	Excess Elevation	6.1	7	87 ] 3	5	<u>c  </u>	4	5	1 2	38.903248 -77.188068
523 71	Excess Elevation	6.1	2	21   3	5	c	4	5	1 2	38.903248   -77.188087
524   13	Excess Elevation	6.1	1	11   :	35	c	4	5	1 2	38.903474 -77.188101
524 54	Excess Elevation	6.1	1	<u> </u>	35	c	4	5	1 2	38.903689   -77.188112
525   33	Excess Elevation	6.	11 l	<u> </u>	35	c )	4	5	1 2	1 77 400070
527   1	L Cant Pos	1 4.0	00	21	35	E		5	1 2	1 77 400070
527   17	Bridge End		1	1	35	E	<u> </u>	5	<del></del>	
516   81	Lmt Speed 3	52	.00	1050	35	С		5	2	100.50.100.1
1 210   61										

Page 2 of 7 2016-04-06 Run ID: 2016040607

	N2 488+00 to 1	<b>V2 1081+0</b>	J									
	Decempter	Value	Length	1 S	peed	TSC	LC		PC	1	Frack	Peak Lat/Long
CH FT	Parameter Up Chain	530.00	1	ī	35	т	Ī	1	5	<b> </b>	2	38.904953   -77.187897
530   99		540.00	i	1	35	τ	1	١	5	Ī	2	38.907640 -77.187236
540   99	Up Chain	-0.70	16	÷	35	Т	ī	ī	5	1	2	38.907696 -77.187222
540 21	R Cant Neg	-6.25	93	÷	39 l	В	Ť:	3 [	5	ī	2	38.909051 -77.186923
545 24	Excess Elevation		1 14	÷	38	С	Ť.	4 1	5	Ī	2	38.909302 -77.186899
546   16	Excess Elevation	1 -6.12		<del>-</del>	35	C	÷		5	ī	2	38.910352   -77.186966
550 99	Up Chain	550.00		- 1	35		÷	<del></del> i	5	ī	2	38.910395 -77.186977
550   14	Up Marker	550.00	1 40		33		<del></del>	4	5	÷	2	38.912411 -77.187956
557 95	Excess Elevation	-6.14	19	<u>'                                    </u>				-	5	: T	2	38.912646 -77.188159
558 99	Bridge Start				34	E	<del>-</del>	'	5	÷	2	38.912868   -77.188367
560 99	Up Chain	560.00		_+	34	E	+		5	÷	2	38.913086 -77.188577
561 0	Bridge End				35		<del> </del>		5	$\dot{\top}$	2	38.909989   -77.186906
548 68	Lmt Speed 3	65.00	12:	28	35	C	<del>-  </del> -		<u>.                                    </u>			38.913487   -77.188967
562   84	Frog	<u> </u>		1	35		<u> </u>		5	<u> </u>		38.913516 -77.188994
562 97	L Cant Neg	-0.40	1	7	35	T	_ <u></u> :-		5	<del> </del>		38.913696 -77.189171
563   80	Switch Pt	l			35	1 T	_ <u>:</u>		5	<u> </u>		38.913858 -77.189327
564   54	Switch Pt	<u> </u>	-		35		_ <u>-</u> :		5	<del></del> -		38.913914   -77.189382
564   80	R Cant Neg	-0.70	1	17	35	1			5	Ļ		38.914012   -77.189478
565   25	Frog	1	ī		35	11	1		5	1	2	38.915043 -77.190488
	Up Chain	570.00	) [		34	<u> </u>			5		2	
1	Up Marker	570.0	0		34	T	r		5		2	38.915069 [-77.190514]
570 10	Excess Elevation	6.18	Ī	38	36	1	3	4	5		2	38.916183   -77.191580
575 10	Excess Elevation	6.11	Ī	3	36	1	э <b>(</b>	4	5		2	38.916248 -77.191633
575   38	Excess Elevation	6.12	1	5	36	1	c	4	5		2	38.916266 -77.191648
575   46	Excess Elevation	6.16	1	57	36	1	С	4	5		2	38.916331   -77.191700
575   74	Excess Elevation	1 6.1	1	5	35	T	С	4	5	<u> </u>	2	38.916473   -77.191812
576   35	Lmt Speed 3	81.0	0	177	34	1	С	l	] :	5	2	38.916271 -77.191652
575   48	Up Chain	580.0	00		34		Т	ĺ	1	5	2	38.917348   -77.192419
580 99		590.0	00		34	1	Т	1	1	5	2	38.919781   -77.194009
590   99	Up Chain	1 590.	<u>:</u>		1 3	1	Т	1	1	5 <b> </b>	2	38.919798   -77.194020
590 5	Up Marker	1 600.	<u>:</u>		3	3	τ	1	Ī	5	2	38.922235 -77.195614
600 99	Up Chain		<u>-</u> -		3	5	Т	Ī	ı	5	2	38.923278 -77.196297
604 27	Bridge Start	<del>1</del>			1 3	6	T	1	ı	5	2	·
605   66	Bridge End	   610	00 1			5	В	1	-	5	2	38.924680   -77.197212
610   99	Up Chain		<del></del>			5	В	Ť	1	5	] 2	38.924682 -77.197214
610 0	Up Marker	610	.00			32	С	Ť	亡	5	1 2	38.926863   -77.199242
619 92	Bridge Start		1		'	32	- <u>c</u>	$\frac{1}{1}$	÷		1 2	38.926878   -77.199262
	Up Chain	620										

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Parameter		N2 466*00 to 1			Chand	TSC	LC	PC	Track	Peak Lat/Long
	CH FT						1		2	38.925253 -77.197617
	612   39	Lmt Speed 3			<del></del>		<u>'                                     </u>	<del></del>	2	38.927851 -77.200850
Excess Elevation	625 79		<u>'</u>				1 4	<del></del>	2	38.927989   -77.201176
Sez   37     Excess Elevation	626   85	Excess Elevation	<u>.                                    </u>	<u></u> '	<del>'</del>		<u>!</u>	<del></del>	2	38.928049   -77.201341
630   99	627   37	Excess Elevation		7228	<u>'                                    </u>		+-	<del></del>	2	38.928252 -77.202220
630   13   Up Marker	630 99	Up Chain	630.00	<del>!</del> -	<u></u> :		<del> </del>	÷÷	2	38.928259   -77.202272
629   56   Excess Elevation	630   13	Up Marker	630.00		<u> </u>		1 4	<del></del>		
632   31   Excess Elevation	629   56	Excess Elevation	-6.24		<u> </u>		<u> </u>			
634   75   Excess Elevation	632   31	Excess Elevation	_'		<u>' '</u>		<u> </u>	<u>.                                    </u>		
637   56   Excess Elevation   6.20   24   56   C   7   7   7   7   204973   638   8   Excess Elevation   4.6.17   33   35   C   4   5   2   38.927812   77.204973   638   12   L Gant Pos   4.20   52   35   C   5   2   38.927806   77.204985   638   44   Excess Elevation   -6.17   24   35   C   4   5   2   38.927763   77.20578   638   44   Excess Elevation   -6.16   44   35   C   4   5   2   38.92763   77.205244   639   3   Excess Elevation   -6.16   44   35   C   4   5   2   38.92763   77.205244   639   3   Excess Elevation   -6.16   44   35   C   4   5   2   38.92763   77.205244   640   99   Up Chain   640.00   34   E   5   2   38.92763   77.20536   640   99   Up Chain   640.00   34   E   5   2   38.92777   77.20503   643   53   Switch Pt   32   T   5   2   38.927977   77.206472   643   53   Switch Pt   32   T   5   2   38.92670   77.206472   644   25   Frog   3   32   T   5   2   38.92670   77.206472   644   77   Frog   37   32   T   5   2   38.92670   77.206472   644   77   Frog   37   31   T   5   2   38.92670   77.206472   645   4   L Cant Neg   -1.60   17   31   T   5   2   38.926570   77.206472   645   71   Switch Pt   31   T   5   2   38.926570   77.206472   645   71   Switch Pt   31   T   5   2   38.926580   77.206905   644   71   Switch Pt   31   T   5   2   38.926580   77.206905   645   71   Switch Pt   31   T   5   2   38.926580   77.206905   646   61   Lnt Speed 3   53.00   62   34   C   5   2   38.926580   77.206905   660   99   Up Chain   660.00   29   T   5   2   38.924811   77.20846   660   99   Up Chain   660.00   29   T   5   2   38.924811   77.20846   660   99   Up Chain   660.00   29   T   5   2   38.924821   77.21405   660   99   Up Chain   670.00   28   E   5   2   38.924817   77.20460   660   99   Up Chain   680.00   22   T   5   2   38.924817   77.21405   660   99   Up Chain   680.00   21   T   5   2   38.92105   77.21405   660   70   Up Marker   660.00   29   T   5   2   38.92480   77.21405   660   70   Up Marker   660.00   29   T   5   2   38.92405   77.21405   660   70   Up Marker	634   75	Excess Elevation	-6.17	30				<del></del>	·	
638   8	637   56	Excess Elevation	-6.20	24	36			<u> </u>	<u>'</u>	
S38   12	638   8	Excess Elevation	-6.17	33	35		1 4	<del></del>	<del>'</del>	
638   44   Excess Elevation   -6.17   24   35   C   4   5   2   38.927663   -77.205244     639   3   Excess Elevation   -6.16   44   35   C   4   5   2   38.92763   -77.20536     639   44   R Cant Pos   4.00   27   35   E   5   2   38.92763   -77.20536     640   99   Up Chain   640.00   34   E   5   2   38.927493   -77.20503     636   87   Lmt Speed 3   50.00   1193   32   T   5   2   38.927977   -77.204603     643   53   Switch Pt   32   T   5   2   38.926670   -77.206547     644   25   Froq   32   T   5   2   38.926670   -77.206472     643   94   L Cant Neg   -0.70   37   32   T   5   2   38.926731   -77.206676     644   77   Frog   31   T   5   2   38.926570   -77.206676     645   4   L Cant Neg   -1.60   17   31   T   5   2   38.926570   -77.206741     645   5   4   L Cant Neg   -1.60   17   31   T   5   2   38.926570   -77.206905     646   71   Switch Pt   31   32   C   5   2   38.925583   -77.207998     649   61   Lmt Speed 3   53.00   62   34   C   5   2   38.925647   -77.20889     649   61   Lmt Speed 3   53.00   62   34   C   5   2   38.924611   -77.209645     660   99   Up Chain   660.00   29   T   5   2   38.924201   -77.210964     660   99   Up Chain   660.00   29   T   5   2   38.92420   -77.211005     660   99   Up Chain   660.00   29   T   5   2   38.92420   -77.211005     660   99   Up Chain   660.00   29   T   5   2   38.92421   -77.211457     661   38   Platform End   660.00   29   T   5   2   38.92420   -77.211457     667   85   Lmt Speed 3   88.00   165   27   C   5   2   38.9214   -77.211425     660   99   Up Chain   670.00   28   E   5   2   38.92169   -77.211606     670   99   Up Chain   680.00   21   T   5   2   38.92161   -77.217262     680   99   Up Chain   680.00   21   T   5   2   38.92161   -77.217262     680   99   Up Chain   680.00   21   T   5   2   38.92161   -77.217262     680   99   Up Chain   680.00   21   T   5   2   38.92161   -77.217262     680   99   Up Chain   680.00   21   T   5   2   38.92161   -77.217262     680   99   Up Chain   680.00   21   T   5   2   38.92161	638   12	L Cant Pos	4.20	52	35	·	1	<del></del>		·
639   3	638   44	Excess Elevation	-6.17	24	35	<u> </u>		<del></del> -	<u> </u>	
639   44		Excess Elevation	-6.16	44	35	<u> </u>	1 4	<u> </u>	<del>`</del>	
G40   99   Up Chain		R Cant Pos	4.00	27	35	E				
636   87   Lmt Speed 3   50.00   1193   32   T     5   2   38.926810   -77.206371     643   53   Switch Pt		Up Chain	640.00	1	34	E			<del>!</del> -	<u> </u>
643   53   Switch Pt		Lmt Speed 3	50.00	1193	32	c	1			<u> </u>
Frog	'				32	Т	_ _		<del></del>	
643   94			<u> </u>	1	32	T	1_	<u> </u>	<del></del>	
G44   77   Frog	1	L Cant Neg	-0.70	37	32	1		5		
645   4   L Cant Neg		Frog	<u> </u>	Ī	[ 31		1	5	_'	
Switch Pt			-1.60	17	31	1 _1	1	5		
650   99   Up Chain				Ī	31	1		5		'
649   61   Lmt Speed 3   53.00   62   34   C   5   2   33.92481   -77.209645     655   48   Platform Start			650.00	<u> </u>	32	1	-	5	_'	
655   48			53.00	62	.   34	1 0	; ]	5		
660   99   Up Chain			$-\frac{1}{1}$	1	33	1	r	\ 5		·
660   9   Up Marker   660.00   29   T   5   2   38.92420   77.211650     661   38   Platform End			660.0	0 1	29	1	τ	5		
661   38			660.0	0	29	1	τŢ	5		
670   99   Up Chain   670.00   28   E   5   2   38.92262   77.213425     667   85   Lmt Speed 3   88.00   165   27   C   5   2   38.923124   -77.213425     667   27   Lmt Speed 3   83.00   174   22   C   5   2   38.92196   -77.216106     680   99   Up Chain   680.00   21   T   5   2   38.921714   -77.217262     680   7   Up Marker   680.00   21   T   5   2   38.921702   -77.217290     685   54   Excess Elevation   6.28   182   21   C   3   5   2   38.921094   -77.218865     685   54   Excess Elevation   54.00   96   25   C   5   2   38.921094   -77.218865     686   7   C   5   2   38.921094   -77.218865     687   7   C   5   2   38.921094   -77.218865     688   7   C   5   2   38.921094   -77.218865     688   7   C   5   2   38.921094   -77.218865     688   7   C   5   7   7   7   7   7   7   7   7   7			<del>_</del>	Ī	3	1	т	5		
667   85   Lmt Speed 3   88.00   165   27   C     5   2   38.923124   57.21325     667   27   Lmt Speed 3   83.00   174   22   C     5   2   38.92196   -77.216106     680   99   Up Chain   680.00     21   T     5   2   38.921714   -77.217262     680   7   Up Marker   680.00     21   T     5   2   38.921702   -77.217290     685   54   Excess Elevation   6.28   182   21   C   3   5   2   38.921094   -77.218865     685   54   Excess Elevation   54.00   96   25   C     5   2   38.921094   -77.218865     686   7   C   5   2   38.921094   -77.218865     687   7   C   5   7   7.218865     688   7   C   7   7.218865     689   7   C   7   7   7.218865     680   7   C   7   7   7   7   7   7   7   7			670.0	00	2	8	E	5		
676   27   Lmt Speed 3   83.00   174   22   C     5   2   38.921714   -77.217262     680   99   Up Chain   680.00     21   T     5   2   38.921702   -77.217290     680   7   Up Marker   680.00     21   T     5   2   38.921702   -77.217290     685   54   Excess Elevation   6.28   182   21   C   3   5   2   38.921051   -77.218860     685   54   Excess Elevation   54.00   96   25   C     5   2   38.921094   -77.218860     686   7   C   5   2   38.921094   -77.218860     687   7   C   7   7   7   7   7   7   7			88.0	0   16	55   2	7	c	1 5	1 2	
680   99   Up Chain			83.0	0 1 17	74   2	2	c	5	5   2	
680   99	1 1		680.	00 \	1 2	1	T	{	5 1 2	·
680   7   Op Marker     6.28   182   21   C   3   5   2   38.921051   -77.219036     685   54					1 7	21	T	1	5   2	· · · · · · · · · · · · · · · · · · ·
685   54   Excess Elevation	1 000 1 1				82	21	c	3	5 1	·
	<u> </u>			<u>:</u> _	<del></del> -	25	c	- T	5	2 38.921094 -77.218865
	685 3	Fut Speed 3								

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Fig.   Platform Start		142 400 00		Leagth	Speed	TSC	LC	: 1	PC	Tra	ck	Peak Lat/Long
Sep   9    Up Chain	CH FT		Value I	Length			1	1		2	2	38.920845 -77.220520
Sept	689   85		1 000.00	<u> </u>			<del>i</del>	亡	<del></del> -		2	38.920840 -77.220572
698   87   Platform End	690 99		690.00			<u> </u>	⊹	÷	<u></u>		2	38.920631   -77.222609
698   15	695 87	Platform End	<del>!</del> _	<u> </u>		<u> </u>	<del></del>	$\frac{1}{1}$			2	38.920551 -77.223393
Frog	698   13	Switch Pt	<u> </u>	<u> </u>		<u> </u>	<del> </del>	<del>-</del>			2	38.920525   -77.223643
700   99	698 85	Frog	<u> </u>	<u> </u>		<u> </u>	ᆣ	$\dashv$			2	38.920484   -77.224042
Tool   11	700 99	Up Chain	700.00	1	<u> </u>	<u> </u>	<u> </u>	<u>-</u> -				<u>'                                      </u>
Frog	700   11	L Cant Neg	-0.30	18		<u></u>		+				'
Tot   35	700   91	Frog	<u> </u>				<del></del> -					
Tot   93   Switch Pt	701   35	L Cant Neg	-0.60	37	_'	<u>'                                     </u>	<u> </u>					<u> </u>
705   75   R Cant Pos	701 93	Switch Pt	<u> </u>				÷					
Tot   18   Lmt Speed 3   39.00   52   27   5   1   5   2   38.920038   77.226545   707   35   R Cant Pos	705   75	R Cant Pos	4.20			<u> </u>	<del></del> -					
707	704   18	Lmt Speed 3	39.00	52		<u>'</u>	_ <u></u>	!				
708   19	707   35	R Cant Pos	4.10	23	27		_ <u>-</u> -	<u> </u>		<u> </u>		
T10   99   Up Chain	708   19	R Cant Pos	4.00	ļ 19	28	E	3		5	<u> </u>		<u> </u>
710   7	\ <u> </u>	Up Chain	710.00		29	1 E	3		5	<u> </u>		
T13	'	Up Marker	710.00	Ī	29	1			5	<u> </u>		
720		Lmt Speed 3	76.00	87	1 34	1	<u> </u>		5	<u>l</u>		<u>'</u>
T28			720.00		33		B		5	1		
Text    Text		Tunnel End	1	1	28	1	E		5	<u> </u>		
728   96   Platform Start     28   T     5   2   38.920626   77.233687   730   99   Up Chain   730.00   28   T     5   2   38.920851   77.233687   730   6   Up Marker   730.00   28   T     5   2   38.920869   77.233704   734   90   Platform End     31   T     5   2   38.921933   77.234745   734   90   Platform End     31   T     5   2   38.921933   77.234745   740   99   Up Chain   740.00   32   E     5   2   38.925236   77.237957   750   99   Up Chain   750.00   32   T     5   2   38.925236   77.237957   750   14   Up Marker   750.00   32   T     5   2   38.925270   77.237991   760   99   Up Chain   760.00   24   C     5   2   38.925270   77.240100   765   21   Platform Start     23   T     5   2   38.925875   77.241190   770   99   Up Chain   770.00     15   T     5   2   38.929634   77.242227   770   5   Up Marker   770.00     14   T     5   2   38.929634   77.242222   770   5   Up Marker   770.00     14   T     5   2   38.929904   77.242484   771   18   Platform End     0   T     5   2   38.930453   77.242385   777   54   Lmt Speed 3   88.00   22   24   C     5   2   38.93140   77.24386   777   54   Lmt Speed 3   88.00   40   26   T     5   2   38.931772   77.24438   780   0   L Cant Neg     -0.80   40   26   T     5   2   38.931772   77.24438   780   0   L Cant Neg     -0.80   40   26   T     5   2   38.931772   77.24438   780   0   L Cant Neg     -0.80   40   26   T     5   2   38.931772   77.24438   780   0   L Cant Neg     -0.80   40   26   T     5   2   38.931772   -77.24438   780   0   L Cant Neg     -0.80   40   26   T     5   2   38.931772   -77.24438   780   0   L Cant Neg     -0.80   40   26   T     5   2   38.931772   -77.24438   780   0   L Cant Neg     -0.80   40   26   T     5   2   38.931772   -77.24438   780   0   L Cant Neg     -0.80   40   26   T     5   2   38.931772   -77.24438   780   0   L Cant Neg     -0.80   40   26   T     5   2   38.931772   -77.24438   780   0   L Cant Neg     -0.80   40   26   T     5   2   38.931772   -77.24438   780   0   L Cant Neg     -0.80   40   26   T			37.00	51	5 28	1	c		5	<u> </u>		
730   99   Up Chain		Platform Start	1	T	28	3	τ		5			
730   6   Up Marker			730.00	<u> </u>	28	3	T		5			
734         90         Platform End           31   T   5   2   38.921933   77.2374/45           740         99         Up Chain         740.00   32   T   5   2   38.923061   -77.237682           750         99         Up Chain         750.00   32   T   5   2   38.925236   -77.237991           750         14         Up Marker         750.00   32   T   5   2   38.925270   -77.237991           760         99         Up Chain         760.00   24   C   5   2   38.927436   -77.240100           765         21         Platform Start           23   T   5   2   38.928575   -77.241190           770         99         Up Chain         770.00   15   T   5   2   38.929634   -77.242227           770         5         Up Marker         770.00   14   T   5   2   38.92964   -77.242222           771         18         Platform End           0   T   5   2   38.930453   -77.24386           777         54         Lmt Speed 3         88.00   22   24   C   5   2   38.93172   -77.24386           777         54         Lmt Speed 3         88.00   43   26   C   5   2   38.931772   -77.24438           780         0         L Cant Neg         -0.80   40   26   T   5   2   38.931772   -77.24438			730.0	0	28	3	т		5	<u> </u>		
740         99         Up Chain         740.00         32         E         5         2         38.93681 -77.233957           750         99         Up Chain         750.00         32         T         5         2         38.925236 -77.237957           750         14         Up Marker         750.00         32         T         5         2         38.925270 -77.237991           760         99         Up Chain         760.00         24         C         5         2         38.928575 -77.240100           765         21         Platform Start         23         T         5         2         38.928575 -77.241190           770         99         Up Chain         770.00         15         T         5         2         38.929618 -77.242207           770         5         Up Marker         770.00         14         T         5         2         38.92964 -77.24222           771         18         Platform End         1         0         T         5         2         38.930453 -77.243051           777         54         Lmt Speed 3         88.00         22         24         C         5         2         38.93170 -77.24438	\ <u></u> ;		T	1	3	1	т		5	<u> </u>		
Tool   99   Up Chain   750.00   32   T   5   2   38.925236   -77.237991     Tool   14   Up Marker   750.00   32   T   5   2   38.925270   -77.237991     Tool   99   Up Chain   760.00   24   C   5   2   38.927436   -77.240100     Tool   99   Up Chain   770.00   15   T   5   2   38.928575   -77.241190     Tool   99   Up Chain   770.00   15   T   5   2   38.92678   -77.242207     Tool   99   Up Chain   770.00   14   T   5   2   38.929618   -77.242207     Tool   5   Up Marker   770.00   14   T   5   2   38.929634   -77.242222     Tool   5   Up Marker   770.00   14   T   5   2   38.929634   -77.242842     Tool   770   84   Lmt Speed 3   88.00   22   24   C   5   2   38.931240   -77.243867     Tool   770   75   Lmt Speed 3   88.00   43   26   C   5   2   38.931772   -77.2443867     Tool   780   0   L Cant Neg   -0.80   40   26   T   5   2   38.931772   -77.2443867     Tool   780   0   L Cant Neg   -0.80   40   26   T   5   2   38.931772   -77.2443867     Tool   780   0   L Cant Neg   -0.80   40   26   T   5   2   38.931772   -77.2443867     Tool   780   780   780   780   77   77   77	` <del></del>		740.0	0	] 3:	2	E		5	<u> </u>	2	
750   14   Up Marker			750.0	0	3	2	т		5		2	
760   99   Up Chain	1 1111		750.0	0	3	2	т (		5	1	2	
765   21   Platform Start	1				2	4	c		5	1	2	
770         99         Up Chain         770.00           15   T     5   2   38.929618   -77.242207           770         5   Up Marker           770.00           14   T     5   2   38.929634   -77.242222             771         18   Platform End           0   T     5   2   38.929904   -77.242484             773         84   Lmt Speed 3   88.00   22   24   C     5   2   38.930453   -77.243867             777         54   Lmt Speed 3   88.00   43   26   C     5   2   38.931724   -77.2443867             780         0   L Cant Neg   -0.80   40   26   T     5   2   38.931772   -77.24438			i –	_ <u>-</u> -	2	3	Т		5	Ī	2	•
770   99   Op Stein   770.00   14   T   5   2   38.929634   -77.242222   770   5   Up Marker   770.00   14   T   5   2   38.929634   -77.242484   771   18   Platform End   0   T   5   2   38.929904   -77.242484   771   3   84   Lmt Speed 3   88.00   22   24   C   5   2   38.930453   -77.243051   777   54   Lmt Speed 3   88.00   43   26   C   5   2   38.931240   -77.243867   777   54   Lmt Speed 3   88.00   40   26   T   5   2   38.931772   -77.24438   780   0   L Cant Neg   -0.80   40   26   T   5   2   38.931772   -77.24438   780   0   L Cant Neg   780.00   27   T   5   2   38.931772   -77.24438   780   0   Cant Neg   780.00   27   T   5   2   38.931772   -77.24438   780   0   Cant Neg   780.00   27   T   5   2   38.931772   -77.24438   780   0   Cant Neg   780.00   27   T   5   2   38.931772   -77.24438   780   0   0   0   0   0   0   0   0   0	<u> </u>		770.0	00	1	5	Т		5	Τ	2	
771   18	<u> </u>			<u>:</u> _	1	14	Т		5		2	
773   84   Lmt Speed 3   88.00   22   24   C     5   2   38.930455   -77.243867     777   54   Lmt Speed 3   88.00   43   26   C     5   2   38.931740   -77.243867     780   0   L Cant Neg   -0.80   40   26   T     5   2   38.931772   -77.24438     780   0   L Cant Neg   780.00   27   T     5   2   38.931772   -77.24438	\ <del>`</del>		$\dot{-}$	<del>_</del>	$\overline{}$	0	T		5	1	2	38.929904   -77.242484
773   84   Lmt Speed 3   88.00   43   26   C     5   2   38.931240   -77.243867   777   54   Lmt Speed 3   88.00   43   26   T     5   2   38.931772   -77.24438   780   0   L Cant Neg   -0.80   40   26   T     5   2   38.931772   -77.24438   780   0   27   T     5   2   38.931772   -77.24438   780   0   27   7     7     7     7     77.24438   780   7	\		88.0	00 1	22	24	С	\	5	١	2	
777   54   Lmt Speed 3   -0.80   40   26   T     5   2   38.931772   -77.24438   780   0   L Cant Neg   -0.80   40   26   T     5   2   38.931772   -77.24438   780.00   27   T     5   2   38.931772   -77.24438	773 84			<del></del>	<del>-</del>	26	С	1	5	1	2	
780   0   L Cant Neg	777 54			<del></del>		26	т	ī	1 :	i 1	2	
the Chain	780 0				<del></del>	<u>-</u> -	т	1		5	2	38.931772 -77.244387
	780   99	Up Chain	1 780	1.00				<u> </u>				<u> </u>

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							PC	Track	Peak Lat/Long
CH FT	Parameter		<u> </u>	Speed	TSC	LC	1 5 l	2	38.931829 -77.244442
780   26	L Cant Neg	-0.30	15	27		1 2	<del>' - :</del>		38.932844 -77.245533
785   12	Excess Elevation	-6.48	314	27	В	3	5		38.933508 -77.246996
790 99	Up Chain	790.00		31		1	5		38.933298 -77.246364
788 3	Excess Elevation	-6.22	270	30	C	4	5 1		38.933568 -77.247258
790   78	Excess Elevation	-6.12	20	31 [	¢	4	5	2	38.933658 -77.248195
793   49	Excess Elevation	-6.11	6	32	С	4	5	2	38.933656 -77.248373
794   0	Excess Elevation	-6.13	32	32	С	4	5	2	38.933652 -77.248488
794   33	Excess Elevation	-6.14	30	32	С	1 4	5	2	
794   78	Excess Elevation	-6.15	43	32	C	4	5	2	38.933642 -77.248645
795   72	Excess Elevation	-6.13	11	33	C	4	5	2	38.933608 -77.248970
794   11	Lmt Speed 3	51.00	1051	34	C	<u> </u>	5		38.933655 -77.248412
800   99	Up Chain	800.00	1	33	Т	1	5		38.933281 -77.250404
800   9	Up Marker	800.00	Ī	33	Т Т	l	5	2	38.933271 -77.250441
800   83	Bridge End	i i		32	T	1	5	2	38.933200 -77.250720
-	Up Chain	810.00	ī	33	C	1	5	2	38.932485 -77.253791
· · · · · · · · · · · · · · · · · · ·	Up Chain	820.00	ī	36	C	1	5	2	38.932248   -77.257273
820 99	Up Marker	820.00	<u> </u>	36	C	T	5	] 2	38.932249 -77.257308
820 8	Up Chain	830.00	i –	34	) c	1	5	2	38.932690 -77.260754
830   99	Up Chain	840.00	<del>-i</del>	31	C	T	5	2	38.933857 -77.263909
840 99	Up Chain	850.00	<u> </u>	34	E	1	5	2	38.935659 -77.266524
850 99	Up Marker	850.00	<del>-i-</del>	34	] E	: 1	5	2	38.935682 -77.266549
850 9	Lmt Speed 3	1 71.00	4259	33	1 0	:	5	1 2	38.932242 -77.256751
818 52		860.00	÷	33	1 7		5	2	38.937747 -77.268830
860 99	Up Chain Up Chain	870.00	<del>-</del>	34	T	;	5	] 2	38.939775   -77.271178
870 99		870.00	<u> </u>	34	1 0	;	5	2	38.939794   -77.271207
870 9	Up Marker	1 880.00	<del></del> -	33	<del></del>	:	5	1 2	38.941250 -77.274150
880   99	Up Chain	1 890.00	— <u> </u>	29	<del></del>	E	5	1 2	38.941867 -77.277552
890   99	Up Chain	890.00	_ <u></u> :	29	i i	E	5	1 2	38.941869   -77.277580
890 6	Up Marker	63.00	207	3   29	<u> </u>	c [	5	2	38.941126 -77.273796
878 90	Lmt Speed 3	1 05.00	1	1 34	<u> </u>	T	5	2	38.941947 -77.278857
893 67	Frog	<u> </u>		34	<del></del> -	T	5	2	38.941968 -77.279198
894   65	Switch Pt		<del> </del> -	<del>'</del> 3,		Ŧ İ	5	2	38.941984   -77.279450
895 37	Switch Pt	-0.20	1 15	<del></del>	<del></del> -	Τİ	5	2	38.941990   -77.279561
895   69	R Cant Neg	1 -0.20	1	1 3		т	5	1 2	38.941999   -77.279701
896 9	Frog	l noon	<u> </u>		4	<del>c  </del>	1 5	1 2	38.942095   -77.281067
900   99	Up Chain	900.0	<del></del>		4	ci	<del></del>	1 2	38.942565 -77.284510
910 99	Up Chain	910.0	U [	1 -					

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	N2 488+00 to	N2 100110	· ·				00	Track	Peak Lat/Long
CH FT	Parameter	Value	Length	Speed	TSC	LC	PC	2	38.942566   -77.284525
910   2	Up Marker	910.00		34	С	!	<u> </u>		38.943481 -77.287820
920   99	Up Chain	920.00		32	С	<u>!</u>	5 1	2	38.944760   -77.290900
930   99	Up Chain	930.00	1	36	T	<u> </u>	5		38.944775   -77.290934
1 930   9	Up Marker	930.00	1	36	Т	<u> </u>	5	2	38.945501 -77.292605
935   48	Bridge Start	1	1	34	С	1	5		
937   58	Bridge End	1	1	33	С	<u> </u>	5		38.945759 -77.293258
	Up Chain	940.00	1	34	С		5	2	38.946045   -77.294023
	Up Chain	950.00	1	32	С	1	5		38.947050   -77.297280
	Up Marker	950.00	1	32	С		5	2	38.947057   -77.297306
950 6	Up Chain	960.00	Ī	24	С	1	5	2	38.947754 -77.300689
960   99	Up Chain	970.00		32	С	1	5	2	38.948137   -77.304152
970   99		970.00	1	32	C	1	5	2	38.948138 -77.304180
970 6	Up Marker	980.00	<del></del>	34	C	1	5	2	38.948216 -77.307678
980   99	Up Chain	990.00		28	C	T	5	2	38.947955   -77.311156
990   99	Up Chain	990.00		1 28	1 c	<u> </u>	5	1 2	38.947947   -77.311215
990   15	Up Marker	1 330.00	1	1 27	i c	i	5	2	38.947880 -77.311637
991   23	Bridge Start		<del></del>	27	<del> </del> c		5	1 2	38.947778 -77.312189
992   85	Bridge End			27	T	<u> </u>	1 5	1 2	38.947135 -77.314546
1000   99	Up Chain	1000.0	0 1	l 31	<del>-</del>		1 5	1 2	38.946322   -77.317113
1007   90	Frog		_ <del>_</del>		<del></del>	_ <del>:</del> _	1 5	1 2	38.946221   -77.317432
1008   88	Switch Pt			30	<del></del>	<del></del> -	1 5	1 2	38.946232   -77.317396
1008 77	R Cant Neg	-0.30	1 19			<u></u> -	5	2	38.946145   -77.317669
1009 61	Switch Pt		<u>!</u>	29	-!	<u>-</u> -	1 5	1 2	38.946105   -77.317795
1010 99	Up Chain	1010.	00	29		<del></del> -	1 5	1 2	38.946070   -77.317906
1010   34	Frog		!_	29		<del></del> -	1 5	1 2	38.945184   -77.321083
1020   99	Up Chain	1020.	00	33		<u> </u>	1 5	1 2	38.945173 -77.321130
1020   12	Up Marker	1020.	.00 [	34		<u> </u>	1 5		1 77 004570
1030   99	Up Chain	1030	.00	3:	<u> </u>	c	1 5		1,005004
1031   96	Bridge Start					c			1
1033   93	Bridge End	1				<u> </u>	5		
1040 99	Up Chain	1040	.00		<u>`</u>	<u> </u>	5	<del></del>	1 == 000000
1040   0	Up Marker	1040	0.00		11	<u>c  </u>	\ <u>5</u>		1 004500
1050   99	Up Chain	1050	00.0	3	2	c		<del></del>	77.004935
1 1060   99	Up Chain	106	0.00	1	31	T	_ <u>-</u> -		224947
' <del></del>	Up Marker	106	0.00	1	31	T		<u> </u>	1 -7 000000
	Up Chain	107	0.00	1	23	В		<u> </u>	1 77 020201
1070 99	Platform Start	<del></del>	1	1	17	T		5 l	2   38.947548   -//.33929
1073   83	T IQUOTITI GUART								

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#### N2 488+00 to N2 1081+00

			Value	Lengti	1 8	Soee	<b>.</b> 1	rsc	LC	F	C	Track	Peak Lat/Long
_CH_	FT	Parameter	· Value	1		9	1	т	ī	ī	5	2	38.948048 [ -77.340813
1079	87	Platform End	<u> </u>				<u> </u>		!	<u> </u>			38.948048   -77.340813
1080	99	Up Chain	1080.00	1	1	8	1	T	ì	1	5	2	
1080		Up Marker	1080.00	Ī	ī	7	Ī	Т		T	5	2	38.948048   -77.340813
1000	1 13	1	1 000	31	-	1	T	т	I 0	-	5	2	1
1080	94	R Runoff	-9.62	1 31					<del>! -</del>	÷			
1081	0	L Runoff	9.90	31	_ 1	1	<u> </u>	T	1 0	1	5	2	
1081	5	Up Marker	1081.00	1	1	1	1	Т	1	_	5	2	38.948048   -77.340813
<u>'</u>	<u> </u>		9.62	31	ī	1	1	т	0	1	5	2	<b>,</b>
1081	18	R Runoff	3.02		<u>-</u> :		<u>.</u>		1 0	÷		1 2	1
1081	24	L Runoff	-9.90	31	_	1	1_	т	10		5		
1081	<del>-</del> -	L Runoff	5.84	31		1	Ī	Т	0	İ	5	2	
1 1001			-5.81	31	1	1	ī	Т	1 0	$\overline{}$	5	2	1
1082	17	R Runoff	-5.61	1 3.	1		<u>-</u> -		<del></del>			·	

Notes:

Cant Exceptions are in degrees The following fields are irrelevant for Cant Exceptions : LC, PC

#### Exception Report Curve Analysis Section Chain 488 to Chain 1081

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#### N2 488+00 to N2 1081+00

Elevation plus(+) = L Rail High, minus(-) = R Rail High

Curvature plus(+) = Curve to Right, minus(-) = Curve to Left

							Avera	ige					Limiting	roint		T	_						
				J:		. 1	Curve	Flev	Spe	ed			Curve	Elev	Total	1				Spee			9"
rack	Start	ing	CH	fing FT	Len	Spd	Deg/M		Post		СН	FI	Deg/M	inches	FT Grp	1	3"	4"	5"	6"	7"	8"	_
2	2	99	489	85	263	13	2/41	0.17	90	41	488	69	2/44	0.19	28	1 .	41	47_	52	57	61	65	69
2	489	85	494	54	470	20	-1/31	-3.42	90	77	491	99	-1/33	-3.43	103	1	77	83	88	93	98	103	107
	510	24	515	94	571	29	5/20	5.95	90	48	514	4	5/25	5.94	96	1	48	51	54	56	58	61	63
2	515	94	529	62	1369	35	4/40	6.12	90	52	516	81	4/43	6.11	1050	1	52	55	58	61	63	65	68
2		81	561	17	1953	38	-2/55	-5.95	90	65	548	68	-2/55	-5.73	1228	1	65	69	72	76	79	82	85
2	541		579		845	36	1/52	6.03	90	82	575	48	1/56	6.11	177	1	82	86	90	94	98	102	105
2	571	54			1465	34	-1/55	-3.92	90	70	612	39	-1/58	-3.86	1173	1	70	75	80	85	89	93	97
2	609	31	623			37	-5/07	-6.15	90	50	636	87	-5/06	-5.98	1193	3	50	53	55	58	60	63	65
2	623	94	642		1874	<u> </u>	4/07	5.29	90	53	649	61	4/10	5.28	62	1	53	56	59	62	65	67	70
2	646	17	653		687	32		5.77	90	88	667	85	1/39	6.01	165	7	88	93	98	102	106	110	114
2	663	35	671		789	31	1/34	-4.05	90	83	676		-1/26	-4.05	174	7	83	89	95	100	105	109	114
2	672	52	679	0	649	24	-1/25		90	54	685		4/29	6.20	96	1		57	60	62	65	67	70
2	681	13	689	44	832	21	4/28	6.24			704		-4/27	-1.96	52	1	_	44	47	51		56	59
2	701	61	706	36	476	27	-4/26	-1.99	90	40	1		1/42	4.05	871	1		82	87	92		101	105
2	707	25	718	70	1155	34	1/42	4.08	90		713			3.75	515	1	_	40	42	45		49	51
2	718	70	728	82	1013	31	6/55	3.94	90		723		6/57	-0.98	1 3,3	<u>.</u>	L					253	267
2	738	31	740	65	235	33	-0/12	-0.99	90		_		-0/12		——		Ц						239
2	741	62	74	1 13	252	32	0/13	0.95	90				0/15	0.97	<del> </del>		┖					226	182
2	756	99	760	0 59	361	26	0/23	1.85	90	124	758		0/28	2.13			┖					174	190
2	761	20	76	4 69	350	23	-0/23	-1.91	90	128	3 763	32	-0/26	-2.11			<u> </u>					2 181	
2	772	6	77	6 16	411	18	-0/56	-2.25	90	89	77:	3 84	-0/56	-2.25	22	1	╄					125	13
2	776	16	77	9 29	314	25	0/48	1.96	90	89	77	7 54	0/55	2.13		1	89					125	13
2	78	25	79	9 12	178	8 33	-4/55	-6.13	90	51	79	4 11	-4/57	-6.08			5	54	56				66
2	804	75	85	1 24	467	1 37	7 1/28	3.03	9	71	81	B 52	1/22	1.89	4259	1		1 78					
2	85	3 20	85	6 72	353	3 34	4 -0/15	-1.27	9	14	8 85	5 68	-0/16	-1.31			_	8 168	3 18		_	0 222	
2	86	5 67	89	0 13	3 246	6 3	4 -1/53	-2.45	5 9	0 64	1 87	8 90	-1/54	-2.43	2073	3 1	ľ	4 69			84		92
2	89		92	26 43	3 294	0 3	5 0/52	3.58	3 9	0 10	0 91	2 53	0/57	3.80			ㅗ					7 133	
2	93		98	37 68	3 553	4 3	5 -0/3	7 -2.47	7 9	0 10	7 98	7 67	-0/42	-2.76			10	711				0 147	
2	98		4	99 6	5 121	5 2	9 -1/2	2 -5.36	6 9	0 9	2 98	9 78	-1/22	-5.26				2 98				3 118	
<u></u>				)58 8		40 3	6 0/57	3.9	5   5	0 10	50 HO	32 80	0/59	3.9	· T		١.			13 12			
2							26 0/3	2.0	00	90 1	03 10	66 5	1 0/40	2.0	7		٠,					38 14	
2	10	64 7			_				-	90 1	01 11	071 4	4 -0/4	0 -1.9	13		1	011	12 1	21 1	29 1	37 14	4 1
2	10	69 1	0 1	072	88   3	79   1	21 -0/3	39 -1.3	ــــــــــــــــــــــــــــــــــــــ														

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N2 488+00 to N2 1081+00

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Twist-31 Spd Warp Run Off Profile Rockoff

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	(C)	<u>[~</u>		- 5	2	5	5			5	0	2	4	0	5	4	2	2	5	2	~	0	0	5	0	
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	Drop	0	-	0	0	-	0	0	0	0	0	0	0	0	<u> </u> °	<u> </u> -	<u> </u> °	<u>-</u>	<u> </u>	<u> </u>	0	<u> </u>	<u>°</u>	<u>°</u>	<u> </u>	1
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Page 2 of 5 2016-04-06 Run ID: 2016040607

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	le Gag Exc 2	= -	-	0	0	-	0	ء	٥	0	0	٥	0	0	0	] c	) <u>-</u>	<u> </u>	<u> </u>	ا ا	<u> </u>	0	_	<u> </u>	•	0	
	Wide Gage Tight Gage Tot Exc 2 Cl Tot Exc	Exc F1 Dropexe F1	<u>]</u>	٥	<u> </u>	<u>]</u>		<u></u>			0	0	0	0	-	\ <u>-</u>			٦-	٦.	7	9	-	0	0	<u> </u> -	121
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Exception Summary Section Chain 488 to Chain 1081 Exception Report

Page 3 of 5 2016-04-06 Run ID: 2016040607

Lmt Spd Tot Twist-31 Run Off N2 488+00 to N2 1081+00

Page 4 of 5 2016-04-06 Run ID: 2016040607

Cls Trk ~ 5 5 5 5 0 5 S Wide Gage Tight Gage Alignment Crosslevel Rockoff Profile Run Off Warp Twist-31 Spd

Tot Exc 2 Cl Tot Exc 2 C 'n S 'n 0 | 0 | 0 | 0 | 0 | 0 0 0 0 0 0 c 0 - 0 --0 0 0 10, 0 -0 0 66 13 0 0 66 0 66 0 66 0 0 5 0 0 66 12 0 0 66 0 66 

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Page 5 of 5 2016-04-06 Run ID: 2016040607

N2 488+00 to N2 1081+00

Wide Gage Tight Gage Alignment Crosslevel Rockoff Profile Run Off Warp Twist-31 Spd

Tot Exc 2 Cl Tot Exc 3 Cl Tot Exc 3 C

Total CH: 600.9 Exceptions per 100 CH: 10.82



#### **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

all (12)(6)

#### Agency/Department Information

In Pata	YYYY	MM	DD	Report Number	2016040	1Q_T\Λ/_1		
inspection Date	2016	04	08	Keport Mulliber	2010040	/O-1 VV-T		
Rail Agency Name	Washington Authority	Metropolitan	Area Transit	Rail Agency Department	TASS	Sub- Depa	ırtment	Power
ail Agency Department ontact Information		Name		Email	Offi	ce Phone		Mobile Phone
	Traine Place							
Inspection Location	B-Line, Track	s 1 and 2 – Va	rious Locations	s as detailed below				

#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	_6
Activity Code	TASS-RWP-OBS	TASS-TP-PI				
Inspection Units	1	1				
Inspection Subunits	1	2				
Defects (Number)	0	2				
Recommended Finding	No	No				
Remedial Action Required	No	Yes				
Recommended Reinspection	No	No				

#### **Activity Summaries**

Inspection Activity #	1	Inspec	tion Subje	ct	Roadw	ay Work	er Protectio	n Briefing		Activity C	ode	TASS	RW	P	OBS
lob Briefing Employee Name/Title	TKIN S	Supervis	sor			1	mpanied ector?	Υ	Out Brief Conducted	No	Time	1000 1200			No
Related Reports						Relat	ed CAPS / F	indings							
	Ref				Rule or	SOP		Standard		Other /	Title		Checklist	Refer	ence
Related Rules, SOPs, Standards, or Other	RWPN	И													
	Mai Trac	· I	Yard	Stati	ion	осс	RTA Facility	FTA Office	Track Type	At-gr	ade	Tunnel	Elevated		N/A
Inspection Location	х								Track Type			x			
										From			To		
Line(s)	B-Line	e	Track Numbe	r	1&2		Chain Ma and/or St		B08 (Silver Sp	oring)		B10 (W	/heaton)		
	Hea	ad Car N	lumber		Numbe	of Cars	Equip	ment							
Vehicles															
	FWSC	O Inspec	ctor was p	rovide	ed with he brief	a Job Sat	ety Briefing complete an	prior to acc	essing the ited hazards		r of Defe				0
escription	were	discuss	ed includi	ng cle	earance	locations	and track g	geometry (cı	urves).		mended		_		No
Description	The F	RWIC co	ntacted co	entral	control	to receiv	ved clearand	ce to enter e	each location.			n Required			No
										Recom	mended	Reinspecti	on?		No

Inspector in Charge – Signature	SEAN L THOMPSON	Digitally signed by SEAN L THOMPSON DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FIAHO, cn=SEAN L THOMPSON Date: 20160-A18 145702 - 0400'	Date 04/08/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Terrell Williams, Tino Sahoo, N	/like Vitale	

Form FTA-IR-1 Version date: 1/19/16

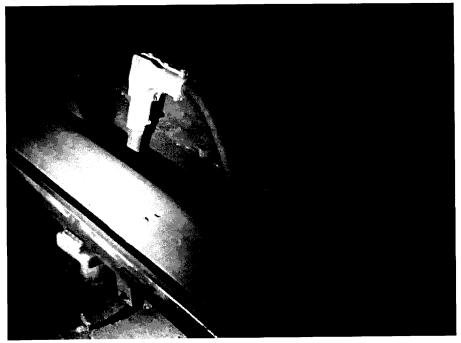




Inspection Activity #	2	Inspection Su	bject	Powe	r Repairs	Physical In:	pection		Activity C	ode	TASS	5 TP	PI
Job Briefing Employee Name/Title	TKIN S	upervisor	(b)	(6)		mpanied ector?	Y	Out Brief Conducted	No	Time	1000 1200		No
Related Reports					Relat	ted CAPS /	Findings						
Related Rules, SOPs, Standards, or Other	Ref			Rule or	SOP		Standard		Other /	Title		Checklist Ref	erence
	Main Track	l Yard	Sta	ation	осс	RTA Facility	FTA Office	Track Type	At-gr	ade	Tunnel	Elevated	N/A
nspection Location	х							Truck Type			X		
									From			То	
.ine(s)	B-Line	Traci Num	-	Track	k 1&2	Chain Ma and/or St		B08 (Silver Sp	oring)		B10 (W	/heaton)	
/ehicles	Head	d Car Number		Numbe	r of Cars	Equip	ment						,
	FWSO	performed a	physica	al inspect	ion of the	e repairs m	ade at B1 CM	1 562+00 and	Numbe	r of Defe	cts		2
	B2 516	+00. All repai	rs wer	e made ir	n accorda	ince with W	'MATA's des	ign criteria.	Recomr	nended	Finding?		No
Description	FWSO at the	noted a large Forest Glen St	amoui tation (	nt of deb (B09). In	rıs near Ji addition,	umper cabi FWSO note	es on the pla ed damaged	tform of track 2 porcelian	Remedi	al Action	n Required	?	Yes
		or clamps at I			,		<u> </u>	•	Recom	nended	Reinspecti	on?	Yes
Remedial Action	WMAT	TA should rem	ove de	bris near	rjumper	cables at pl	atform of tra	ick 2 at B09 and	make requ	ired repa	irs at B25	16+00.	

#### Photos:

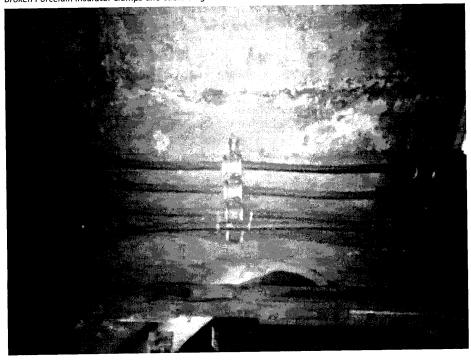
New Boot and Cable at B1 CM 562+00



Repaired Cable at B2 CM 516+00



Broken Porcelain insulator clamps and cable on ground at B2 CM 516+00

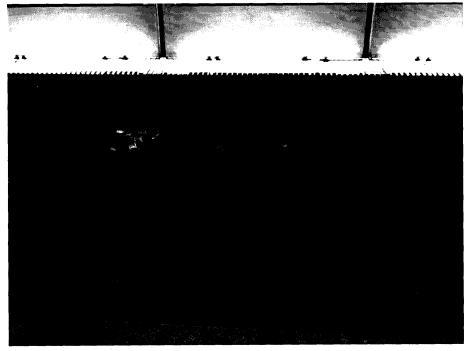


Form FTA-IR-1 Version date: 12/11/15





Debris on jumper cables and cables on ground on track 2 platform at B09.





#### **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

Agency/Department I	nforma	tion				a	e (b	2(	(le)								
Inspection Date		YYYY 2016	+-	ИМ 04		DD 07	Re	port	Numbe	r 20160	0407–	WMA	TA-	JMC	-1		
Rail Agency Name		Washing Authorit	on Met		Area			l Age partn	-	Rail Transpo	ortation	Sub- D	epart	ment		Rail Opei Control C	
Rail Agency Departme	nt		Name	<u> </u>			Eı	mail			Office Pl	none			Mol	oile Phor	ie
Contact Information	Γ																
Inspection Location		Carmen	urner F	acility – F	RailOp	eratio	ons Contr	ol Ce	nter – 3500	) Pennsy Driv	æ, Hyatt	sville, MC	2078	35			
Inspection Summary																	
Inspection Activity#	1	1	T	2			3		4	5		6			7		8
Activity Code		ROCC- GEN-MTC		OCC-RAD	-		-ST/RC- PI					-					
Inspection Units		1		1			1										
Inspection Subunits		7		1			2										
Defects (Number)		0		4			0										
Recommended Findin	g	No		Yes		ľ	No										
Remedial Action Requ	ired?	No		Yes		ı	No										
Recommend Reinspec	tion	No		Yes		r	No										
Individual Inspection		, -									•						
Inspection Activity #	1	Inspectio	n Subje	<b>ct</b> Ge	neral	Meet	ing					Coc	ivity le		ROCC	GEN	OBS
Job Briefing Employee Name/Title	N/A						ompanie pector?	ed	N/A	Out Brief Conducte	d Ye	s Tim	е	1900 223		Outside Shift	Yes
Related Reports						Rela	ated CAP	S/Fi	indings								
	Ref			Rule	or SO	P		Sta	ndard		Other	/Title			Check	list Refer	ence
Related Rules, SOPs, Standards, or Other	MSRPI	Н		1.69-	1.79												
Standards, or Other	ROCCI	Manual															
	Mair Track	l Va	d	Station	0	СС	RTA Facilit		FTA Office	Tunali Tima		t-grade	Τι	unnel	Ele	vated	N/A
Inspection Location						X				Track Type					ł	ļ	X
			T								From					То	
12			Trac	k			Chain N	Marke									
Line(s)			Nun	ber	1		Chain	VIdike	e:								
					1												
Vehicles	Head	d Car Nun	ber	Num	ber of	f Cars		uipm	ent								
	FWSO	met with	As sist ar	t Superi	ntende	ents	and		Du	ring the	Nu	ımber of	Defe		-		0
	meeti	ng, we dis	cussed a	follow u	p fror	n the	previous	eveni	ing/mornin	g track safet	y Re	commer			<u></u>	1	No
Description										noted on the	·	tion Reg				+	No
	Supt D	o'Andrade	metwi	h the co	ntrolle	ersand	d custome	erser		etrack. Asst. yees informi wouldbe	<del> </del>	commer	_		tion?		No
In an a standard Change of											•				Date		
Inspector in Charge - S	oignatur		am	es C	ass	sat	t, Jr		DN: cn=Jame	ed by James Cassatt, J es Cassatt, Jr, o=FRA, o 4.09 10:28:21 -04'00'	lr u=DOT, email=	-james.cassatt@c	lot.gov, c=	- 1	April 9	, 2016	
Inspector in Charge – Jim Cassatt	Name	1 .	ection Cassatt	Team		·											

Form FTA-IR-1 Version date: 1/19/16





Remedial Action	briefings with employees prior to fouling/clearing track to perform work.  N/A		
	walking track.  FWSO monitored train and prime mover car movement, radio communications and the ROCC Operators (radio and button). The Operators performed their duties as per SOP's, Metrorail Safety Rules and Procedures Handbook and train movements. Both the Radio and Button Controller emphasized Safety, made radio announcements when unusual occurrences (i.e. track workers, delays etc) to operators, had job	·	
	working and Maintenance personnel along with FTA and FRA inspectors would be		

Accompanied Impectory   N/A   Out Brief Conducted   Ves   Time   1900   Outside Shift   Ves   N/A   Outside Shift   Ves   Outside Shift   Outs	Inspection Activity#	2	Insp	ection !	Subject	: Rac	dio Pro	oce du	res/Repe	at Ba	acks				Activi Code	ity	RC	occ	RAD	ОВ
Related Rules, SOPs, Standards, or Other    Main   Yard   Station   OCC   RTA   FTA   Facility   Office   Track Type   At-grade   Tunnel   Elevated   N/A	Employee	N/A				•			•	d	N/A		d	Yes	Time			1		Yes
Related Rules, SOPs, Standards, or Other    Main   Yard   Station   OCC   RTA   FTA   FTA   Office   Track Type   At-grade   Tunnel   Elevated   N/A	Related Reports							Rela	ated CAP	S/F	indings									
Main   Track   Yard   Station   OCC   RTA   FTA   Office   Track   Type   At-grade   Tunnel   Elevated   N/A		Ref				Rule	or SOP			Sta	andard		01	ther/Ti	tle		Che	ecklist	Refere	nce
Main Track Yard Station OCC RTA FTA Office Track Type  ROCC Track Number Chain Marker  From To  To  To  Wehicles  Head Car Number Number of Cars Equipment  FWSO observed and monitored ROCC Controllers compliance with radio rules and monitored radio transmissions. Controllers are enforced read backs with maintenance workers and operators. The Controllers and maintenance workers and operators. The Controllers and maintenance melpoyees made proper radio transmissions when Issuing and repeating back roadway access. The Controller made announcements, prior to issuing the access, to employees informing them of the time effective.  The following radio transmissions defects were noted:  Unknown employees made an unnecessary communications at 1920 hours. The controller made an announcement at 1921 hours reminding all employees about proper radio procedures. The unknown employees failed to comply with MSRPH rule 1.73.  At 1952 hours, train 715 failed to repeat back the permissive block authority at 1986 Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at 1986 Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at 1986 Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at 1986 Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at 1986 Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at 1986 Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at 1986 Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at 1986 Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at 1986 Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at 1986 Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at 1986 Junction. At 1958 hours train 704 failed to repeat back the permissive block authority		MSRI	PH			1.73,	1.79													
Inspection Location  Track Yard Station OCC Facility Office Track Type  X  From To  From To  Wehicles  Head Car Number Number of Cars  Equipment  FWSO observed and monitored ROCC Controllers compliance with radio rules and monitored radio transmissions. Controllers re-enforced read backs with maintenance workers and operators. The Controllers and maintenance employees made proper radio transmissions when issuing and repeating back roadway access. The Controller made a nnouncements, prior to issuing the access, to employees informing them of the time effective.  The following radio transmissions defects were noted:  Unknown employees made an announcement at 1921 hours reminding all employees about proper radio procedures. The unknown employees failed to comply with MSRPH rule 1.73.  At 1952 hours, train 715 failed to repeat back the permissive block a uuthority at D&G Junction. At 1958 hours train 704 failed to repeat back the permissive block a uuthority at D&G Junction. At 1958 hours train 704 failed to repeat back the permissive block at West Falls Church.  Radio communications were difficult to receive and transmit at various locations. WMATA needs to comply with CAP FTA-RAIL-1-14-B and FTA-RAIL-1-14-A.  Unknown employees in the field, accidently "push" the emergency button on the portable radio, causing an alam to sound in the ROCC. The Asts. Supt explained that this is a common problem in the field. A suggestion	Standards, or Other																<u>L</u> ,			
Line(s)  ROCC  Track Number  Chain Marker  From To  To  Wehicles  Head Car Number  Number of Cars  Equipment  FWSO observed and monitored ROCC Controllers compliance with radio rules and monitored radio transmissions. Controllers re-enforced read backs with maintenance workers and operators. The Controllers and maintenance employees made proper radio transmissions when issuing and repeating back roadway access. The Controller made announcements, prior to issuing the access, to employees informing them of the time effective.  The following radio transmissions defects were noted:  Unknown employees made an unnecessary communications at 1920 hours. The controller made an announcement at 1921 hours reminding all employees about proper radio procedures. The unknown employees failed to comply with MSRPH rule 1.73.  At 1952 hours, train 715 failed to repeat back the permissive block authority at D&G Junction. At 1958 hours train 704 failed to repeat back the permissive block at West Falls Church.  Radio communications were difficult to receive and transmit at various locations. WMATA needs to comply with CAP FTA RAIL-1-14-B and FTA-RAIL-1-14-B.  Unknown employees in the field, accidently "push" the emergency button on the portable radio, causing an alamn to sound in the ROCC. The Asst. Supte explained that this is a common problem in the field. A suggestion	Inspection Location			Yard	St	tation	ОС	:c		у		Track Type	•	At-gr	ade	Tunne	:1	Eleva	ted	N/A
Track Number   Number of Cars   Equipment							X	(												X
Head Car Number   Number of Cars   Equipment	Inspection Location  Track Track Number  Track Number  Track Number  Track Number  Chain Marker  From  From  From  From  Wehicles  FWSO observed and monitored ROCC Controllers compliance with radio rules and monitored radio transmissions. Controllers re-enforced read backs with maintenance workers and operators. The Controllers and maintenance employees made proper  Recommended Finding?								T	<u> </u>										
PWSO observed and monitored ROCC Controllers compliance with radio rules and monitored radio transmissions. Controllers re-enforced read backs with maintenance workers and operators. The Controllers and maintenance employees made proper radio transmissions when issuing and repeating back roadway access. The Controller made announcements, prior to issuing the access, to employees informing them of the time effective.  The following radio transmissions defects were noted:  • Unknown employees made an unnecessary communications at 1920 hours. The controller made an announcement at 1921 hours reminding all employees about proper radio procedures. The unknown employees failed to comply with MSRPH rule 1.73.  • At 1952 hours, train 715 failed to repeat back the permissive block authority at D&G Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at D&G Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at D&G Junction. At 1958 hours train 704 failed to repeat back the permissive block authority at D&G Junctions were difficult to receive and transmit at various locations. WMATA needs to comply with CAP FTA-RAIL-1-14-B and FTA-RAIL-1-14-A.  • Unknown employees in the field, accidently "push" the emergency button on the portable radio, causing an alamt to sound in the ROCC. The Asst. Supt explained that this is a common problem in the field. A suggestion	Line(s)  ROCC  Track Number  Chain Marker  Head Car Number  Number of Cars  Equipment  FWSO observed and monitored ROCC Controllers compliance with radio rules and participate and region to the controllers of participate of the controllers are provided and monitored ROCC Controllers and participate of the controllers are provided and participate of the controllers are provided and monitored ROCC Controllers are provided backs with maintenance and participate of the controllers are provided and participate of the controllers are provided and participate of the controllers are provided and provided and participate of the controllers are provided and participate of the controllers are provided and participate of the controllers are provided and participate of the controllers are provided and provided and participate of the controllers are provided and pr																			
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workers and operators. The Controllers and maintenance employees made proper radio transmissions when issuing and repeating back roadway access. The Controller made announcements, prior to issuing the access, to employees informing them of the time effective.  The following radio transmissions defects were noted:  • Unknown employees made an unnecessary communications at 1920 hours. The controller made an announcement at 1921 hours reminding all employees about proper radio procedures. The unknown employees failed to comply with MSRPH rule 1.73.  • At 1952 hours, train 715 failed to repeat back the permissive block authority at D&G Junction. At 1958 hours train 704 failed to repeat back the permissive block at West Falls Church.  • Radio communications were difficult to receive and transmit at various locations. WMATA needs to comply with CAP FTA-RAIL-1-14-B and FTA-RAIL-1-14-A.  • Unknown employees in the field, accidently "push" the emergency button on the portable radio, causing an alarm to sound in the ROCC. The Asst. Supt explained that this is a common problem in the field. A suggestion		FWS	O obs	erved ar	nd mon	itored R	OCC C	ontro	llers com	pliar	nce with rad	dio rules and	nco	Numb	er of De	efects				4
radio transmissions when issuing and repeating back roadway access. The Controller made announcements, prior to issuing the access, to employees informing them of the time effective.  The following radio transmissions defects were noted:  • Unknown employees made an unnecessary communications at 1920 hours. The controller made an announcement at 1921 hours reminding all employees about proper radio procedures. The unknown employees failed to comply with MSRPH rule 1.73.  • At 1952 hours, train 715 failed to repeat back the permissive block authority at D&G Junction. At 1958 hours train 704 failed to repeat back the permissive block at West Falls Church.  • Radio communications were difficult to receive and transmit at various locations. WMATA needs to comply with CAP FTA-RAIL-1-14-B and FTA-RAIL-1-14-A.  • Unknown employees in the field, accidently "push" the emergency button on the portable radio, causing an alarm to sound in the ROCC. The Asst. Supt explained that this is a common problem in the field. A suggestion		mon work	itorei kers a	a radio ti Indopera	ransmis ators.T	he Cont	ontroii rollers	and i	e-eniorce maintena	nce	employees	made prope	r							
employees on the proper use of portable radios.	Description	radio mad the t	o tran e anr time e follov	nsmission nouncemeffective wing radi Unknow hours. all emp failed t At 1952 author the per Radio of locatio RAIL-1- Unknow on the Supt ex-	is where it is transfer of transfer of transfer of the cooleyees to comp to the community of the community o	missions ployees introller about polyees in train 7 & G Junce e block a nication MATA ne ployees ile radio d thatth have a b	and resume to suring to suring to suring to suring to suring to suring the suring to suring to suring to suring to suring the suring to suring the suring to suring the suring to suring the suring to suring the suring to suring the suring to suring the suring to suring the suring to suring the suring to suring the suri	epeat the are tts we an un an ar radio H rule ed to At 19 t Fall: e diffi comp field, ing ar comp	ere noted necessarianouncen procedure 1.73. se Church. cult to recopy with Control accident in alarm to mon probermanent	: y cornent res. ack t train ceive AP F y sou lemitord	mmunication at 1921 ho The unknow the permiss in 704 failed are and transication at the error and in the Right in the field. Her issued to	ons at 1920 urs remindin wn employe ive block to repeat ba mit at various 14-B and FTA nergency but OCC. The Ass	es ck				•			

Inspection Activity #	3	Inspection Subject	Shift Tra	nsfers/Maintenand	ce Personne	l Roadway Acce	ss	Activity Code	′	ROCC	ST/R C	PI
Job Briefing	N/A			Accompanied	N/A	Out Brief	Yes	Time	190	0- 0	utside	Yes





Employee Name/Title				"	1	Inspector?			Conducted	1		22	30	Shift	
Related Reports					F	Related CAI	PS/	Findings							
Related Rules, SOPs,	Ref			Rule o	or SOP		S	tandard		Other/1	itle		Che	cklist Refe	rence
Standards, or Other		·····		<u> </u>			┢	<del> </del>							
Inspection Location	Main Track	Yard	s	Station OCC RTA FTA Facility Office		Track Type	1 7	rade	Tunne	I E	levated	N/A			
mspection Location					х										Х
							<u> </u>		From			То			
Line(s)	ROCC Track Number				Chain	rker									
	Head Car Number Number of					ars									
Vehicles		Equipment													
									m 3/1/2016-		ber of [	Defects			0
	.,.,							ıdand thirds detailed exp	shift Assistant Jaining	Reco	mmen	ded Findir	ng?		No
										Rem	edial A	ction Requ	uired?		No
Description	Controlle blocking	maintenance forces working and current track issues and train delays were discussed. The transfer was signed by all parties involved.  Controllers properly recorded track "foul" time on the appropriate forms and blocking was properly provided on the tracks prior to giving the employees permission to work.  Remedial Action Required?  Note: The transfer was signed by all parties involved.  Recommend Reinspection?  Note: The transfer was signed by all parties involved.  Recommend Reinspection?												No	
Remedial Action	N/A						_								

Form FTA-IR-1 Version date: 1/19/16



#### **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

all (b)(b)

#### **Agency/Department Information**

In an artism Date	YYYY	MM	DD	Report Number	20160409-WMATA-JLK-1					
Inspection Date	2016	04	09	Report Number	20100405 WWATA JEK 1					
Rail Agency Name	Washington Authority	Metropolitan .	Area Transit	Rail Agency Department	Track and Structures	Sub- Depar	rtment	Track Inspection		
Rail Agency Department		Name		Email	Office Phone Mobile			Mobile Phone		
Contact Information										
Inspection Location	Walking Insp	ection of track	k in Branch Ave	. Yard						

#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-WI-OBS	TRK-SW-PI	TRK-RAD-OBS	TRK-RWP-PI	
Inspection Units	1	1	15	1	1	
Inspection Subunits	4	2	0	10	5	
Defects (Number)	12	0	0	0	0	
Recommended Finding	YES	N/A	NO	NO	NO	
Remedial Action Required	YES	N/A	NO	NO	NO	
Recommended Reinspection	YES	N/A	NO	NO	NO	

#### **Activity Summaries**

Inspection Activity #	1	Inspe	ection Sub	ject	Track,	Switch,	Turnout and	l Third Rail I	nspection	Activity C	ode	TRK	WI	P!
Job Briefing Employee Name/Title	RWI			nploye RWIC			mpanied ector?	YES	Out Brief Conducted	YES	Time	1230 1630	Outside Shift	YES
Related Reports						Related CAPS / Findings								
	Ref				Rule or	r SOP Standard			Other /	Title		Checklist Re	ference	
Related Rules, SOPs, Standards, or Other	MSRI	PH			Genera Standa	l Maintenance rds								
	TRST	1000											ļ	
	Ma Tra		Yard	Sta	tion	осс	RTA Facility	FTA Office	Trook Tuno	At-grade		Tunnel	Elevated	N/A
nspection Location			x	:	x				Track Type	×				
					T		1			From			To	
Line(s)	Bran Yard	ch Ave	Track Numb		#1,#	2	Chain Ma and/or St							
Vehicles	He	ad Car	Number		Numbe	r of Cars		ment						
	EVA/S	O Inch	action tea	m in c	oniuctio	n with Ff	RA support	conducted a	focused	Numbe	r of Defe	cts		12
	walk	ing ins	pection of	WMA	ATA Bran	ch Aven	ue Yard trac	k one, and t	wo to include			Finding?		YES
	swite	switches, turnouts, crossovers and components .										n Required	1?	YES
Description	During the inspection the following items were idenitified.									Recommended Reinspection?				YES

Inspector in Charge - Signature	Digitally signed by SEAN L THOMPSON	Date
mspector in charge eight	SEAN L THOMPSON Headquarters, ou=FTAHO, cn=SEAN L THOMPSON Headquarters, ou=FTAHO, cn=SEAN L THOMPSON Headquarters, ou=FTAHO, cn=SEAN L THOMPSON	
	THOMPSON Date: 2016,04.12 14:47:28 -04'00'	04/09/2016
Inspector in Charge – Name	Inspection Team	
Sean Thompson	Corwyn Foster, Justin Killingsworth	

Form FTA-IR-1 Version date: 1/19/16





Remedial Action	Correct/repair defects.	
	3 – Counts of defective ties 4 in a row. Yard Lead # 1 in cuve approaching SMetro station.	
	Track Gage exceeds allowable in track with radius less than 1425 ft. Measured 57 5/8" gage.	
	Loose or missing fasteners in restraining rail , right rail from washouse to station signal. Track # 1	
	1 - Insulated joint missing or loose end post . SM 71B / 73B Track # 2	
	1 - Insulated joint missing or loose end post at signal 178 Track # 1	
	3- Insulated joint missing or loose end post . Track #1	
	1 – miising cover board 3 <sup>rd</sup> rail . Yard Lead # 1 between Operators building and Command center.	
	Fastners mssing 4 consecutive ties. Track # 1	



#### **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

all (6)(6)

#### Agency/Department Information

I Data	YYYY	MM	DD	Report Number	20160409-WMATA-WHW-1					
Inspection Date	2016	04	09	Report Number	Z0100403-WINATA-WINW-1					
Rail Agency Name	Washington Authority	Metropolitan	Area Transit	Rail Agency Department	Track and Structures	Sub- Dep	artment	Track Inspection		
Rail Agency Department Contact Information	Name			Email	Office P	hone		Mobile Phone		
Inspection Location	Walking Insp	ection of inbo	und and outbo	und leads of West Falls C	Church Yard					

#### Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-WI-OBS	TRK-SW-PI	TRK-RAD-OBS	TRK-RWP-PI	
Inspection Units	1	1	1	1	1	
Inspection Subunits	2	2	5	1	4	
Defects (Number)	6	2	1	0	0	
Recommended Finding	YES	YES	YES	NO	NO	
Remedial Action Required	YES	YES	YES	NO	NO	
Recommended Reinspection	YES	YES	YES	NO	NO	

#### **Activity Summaries**

Inspection Activity #	1	Insp	ection Sub	ject	Trac	k, Switch,	Turn	out and	Third Rail Ir	spection	Activity Co	ode	TRK		WI	PI
Job Briefing Employee Name/Title	Supe	rviso		41×27.5 44			ompa ecto	nied r?	Yes	Out Brief Conducted	YES <b>Time</b>		1100 1400		utside Shift	NO
Related Reports						Related CAPS / Findings										
	Ref				Rule	or SOP	SOP Standard				Other / T	itle		Check	list Refe	rence
Related Rules, SOPs, Standards, or Other	MSRI	PH			Gene Stand		Maintenance s									
	TRST	1000														
	Ma Tra		Yard	Sta	tion	осс	1	RTA acility	FTA Office	Track Type	At-grade		Tunnel	Eleva	ted	N/A
nspection Location			х							таск туре	x					
				L	T				<u> </u>	From					То	
Line(s)	West Chur Yard		Track Numb	er	Lea	d		nain Ma nd/or St								
Vehicles	He	ad Ca	r Number		Numb	er of Cars	5	Equip	ment							
	FWS	O Inst	ection tear	n in c	onjuction with FRA support,				conducted a	focused	Number	of Defe	cts			8
	walk	ing in:	spection of	WMA	ATA of	switches,	turno	outs, and	d componan	ts at West Falls	Recomn	nended	Finding?			YES
Description	Chur	rch Yaı	rd								Remedi	al Action	n Required	!?		YES
Description	Duri	During the inspection the following items were idenitified.									Recommended Reinspection?					YES

Inspector in Charge - Signature	SEAN L THOMPSON  Distally signed by SEAN L THOMPSON  Div. c=US, c=U.S. Government, ou=DOT  Headquarters, ou=FTAHQ, cn=SEAN L THOMPSON  Date: 2016.04.12 1445.56-6400'	Date 04-09-2016
Inspector in Charge – Name Sean Thompson	Inspection Team Alexander A. Nepa, William H. Wilson	

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	Missing cover boards, TRST1000, 13.3.15. 1 and 2 outbound leads	
	Three Wide Gage locations between crossing and portal on number two lead  • 57-1/4 inch static + 1/8 lateral deflection on the low rail and 15/16 inch lateral deflection high rail totaling 58-1/4 inch gage  • 57-1/4 inch static + 5/8 inch lateral deflection totaling 57-7/8 inch gage  • 57-3/4 inch static + 1 inch lateral deflection on the high rail and 1/8 inch lateral deflection on the low rail totaling 58-15/16 inch gage  One Wide Gage location on the inter loop between 303 switch and B309 switch 57 inch Static + ½ inch lateral deflection on the high rail totaling 57-1/2 inch gage five tie length long.  Out bound lead # 2 restraining rail, wide flange opening measuring 2-5/8 inch	
Remedial Action	Repair/correct identified defects.	

Inspection Activity #	2	Inspect	ion Subj	ect	Obser	vations (	comme	ents to	WMATA		Activity C	ode	TRK		WI	OBS
Job Briefing Employee Name/Title			(b)	(6	١	- 1	mpani ector?	1	YES	Out Brief Conducted	YES	Time	1100 1400	- ( -	utside Shift	No
Related Reports						Rela	ted CA	PS / F	indings							
	Ref				Rule or	SOP	P Standard			Other /	Title		Check	list Refe	rence	
Related Rules, SOPs, Standards, or Other	COM	MENTS														
	Main Yard Station		on	осс	R1 Fac	ΓA ility	FTA Office	Track Type	`At-gra	ade	Tunnel	Eleva	ted	N/A		
Inspection Location			х							Track Type	x					
Line(s)	West Falls Church Yard  Track Number  Crossin		rossing Chain Marker and/or Station(s)					From				То				
Vehicles	Hea	ad Car No	umber	1	Numbe	r of Cars		Equip	ment							
	Obse	rvations	made, 2	active	warnin	ngs mast	down	at app	proach to cro	ossing.	Numbe	r of Defe	cts	1		1
											Recomm	nended l	Finding?			No
Description	scription										Remedi	al Action	Required	1?	0	ptional
											Recomr	nended	Reinspecti	ion?		No
Remedial Action																
Inspection Activity #	3	Inspec	tion Sub	iect	Switc	h Inspec	tion				Activity (	Code	TRE	<	SW	PI

3	Inspection Subject	Switch	Inspection			Activity C	ode	TRK	SW	PI
F	(b)	(6)	Accompanied Inspector?	YES	Out Brief Conducted	YES	Time	1100 1400	Outside Shift	No
			Related CAPS /	Findings						
Ref		Rule or S	БОР		Other / Title			Checklist Reference		
MSR	РН									
TRS1	1000									
	Ref	(P)	Ref Rule or S General Standard	Ref Rule or SOP  MSRPH General Maintenance Standards	Ref Rule or SOP Standard  MSRPH Standards	Ref Rule or SOP Standard  MSRPH Standards  Accompanied Inspector?  Related CAPS / Findings  Standard  Out Brief Conducted  YES  Out Brief Conducted  Standards	Ref Rule or SOP Standard Other /  General Maintenance Standards  Switch inspector:  Accompanied Inspector:  PES Out Brief Conducted  YES OUT BRIEF CONDUCTED  YES OUT BRIEF	Ref Rule or SOP Standard Other / Title  MSRPH Standards  Accompanied Inspector?  Related CAPS / Findings  Standard Other / Title	Accompanied Inspection?  Related CAPS / Findings  Ref Rule or SOP Standard Other / Title  General Maintenance Standards  MSRPH Standards	Accompanied Inspection  Related CAPS / Findings  Ref Rule or SOP Standard Other / Title Checklist Reference Standards  General Maintenance Standards  Switch inspection  YES Time 1100 1400 Outside Shift  Other / Title Checklist Reference Standards

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A-IR-1





A	Main Track Yard Sta		Statio	ation OC		CC RTA		FTA Office	Track Type	At-grade 1		Tunnel	Elevat	evated I			
nspection Location			Leads						ļ		x	· x					
			T								From				То		
	West F	alls	Track				Cha	in Marl	ær								
.ine(s)	Church		Numbe	r	Inner Loop				or Station(s)								
	Yard			-													
			<u></u>		L		<u> </u>						<u> </u>				
Vehicles	Head	Car N	lumber	<u> </u>	Number	of Cars		Equipn	nent								
venicies																	
	Switch	301 le	eft point c	hipped	11 incl	hes long	3/8 ir	nch blur	nt starting se	even inches	Number	of Defec			1		
	back fr	om tip	of point.								Recomm	ended Fi		1			
Description											Remedia	l Action	Required <sup>2</sup>	?	YES		
												ended R	on?	? Yes			
Remedial Action	L																
Inspection Activity #	4	Inspe	ction Sub	ject	Radio	Observa	ation				Activity Code		TRK		RAD		
	<del>                                     </del>									0.40-1-4			1100		utside		
Job Briefing Employee		110	1.		Accompanie Inspector?		YES	Out Brief Conducted	YES	Time	1400		Shift	N			
Name/Title				W	(عللا	) iust	ector	f		Conducted							
Related Reports						Rela	ated C	APS / F	indings								
	Ref				Rule or	r SOP			Standard		Other / Title			Checklist Reference			
Related Rules, SOPs,	MSRPI				Genera	al Rules							_				
Standards, or Other	1111111				- Circi												
	TRST1	$ \tau$			RTA				FTA	T		<u> </u>					
Inspection Location	Main Yard Sta		Stati	tion I OCC I			acility	Office		At-grade		Tunnel	Eleva	ted	N/A		
						+			Track Type								
•						1				X							
					$T^{\perp}$		+		L	1	From				То		
	West	Falls			Ch.			hair Markor									
Line(s)	Church Track			ar	leade			Chain Marker and/or Station(s)									
	Yard				,			u, 0. J.	20.0(-)				<del> </del>				
	<u> </u>						Д-,			<del></del>							
No. b. Labora	Hea	d Car	Number		Numbe	er of Car	s	Equip	ment								
Vehicles							Ì	' '									
	Moite	ered th	ne radio co	mmur	nication	betwee	en RW	IC and	West Falls C	hurch Yard	Number	of Defe	cts			0	
	Opera	Operator, all communications were correct and legible.									Recomn	nended l	No				
Description											Remedi	al Action	1?		No		
											Recommended Reinspection				on? No		
	<del> </del>																
Remedial Action	No																
	<del></del>				Diago	Drotost	ior				Activity C	ode	TR	К	RWP	1	
Inspection Activity #	5	Insp	ection Sul	oject	KWP	WP Protection				Т							
Job Briefing	Accompanied Inspector?  Accompanied Conducted								Yes	Time	110		Outside	1			
Employee											140	ן טנ	Shift				
Name/Title	+						lated	CAPS /	Findings		<u> </u>						
Related Reports	1				Dula -	or SOP			Standard		Other /	Title		Chec	klist Re	ference	
Related Rules, SOPs,	Ref								Standard								
Standards, or Other	MSRI					ral Rules	S		-		_			+			
	TRST	1000			RWPI	M					-			+			
	Ma	in	Yard	Sta	tion	осс	1	RTA	FTA	Track Type	At-gr	ade	Tunnel	Elev	ated	N/A	
Inspection Location	T	ا .،	iaiu	ا عادا		555	l F	acility	Office		1	l	1	Į.			

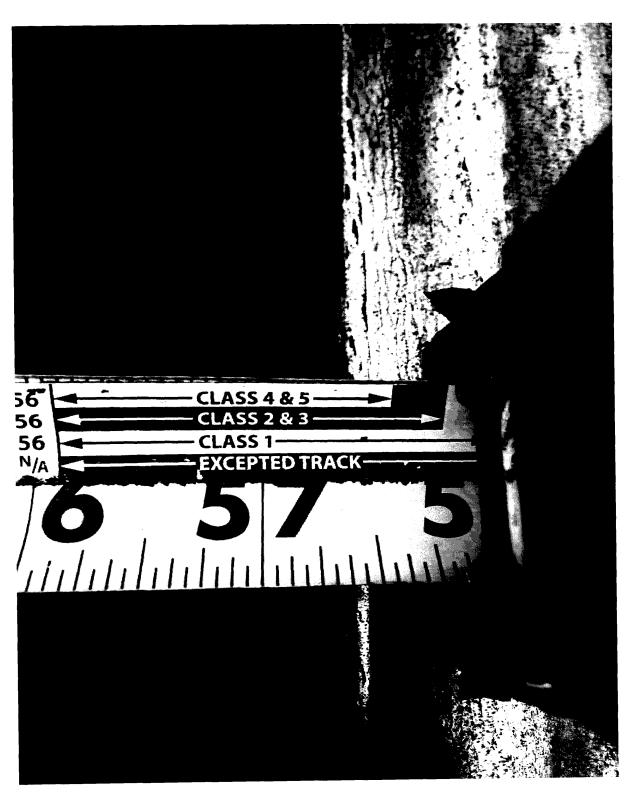
Form FTA-IR-1 Version date: 12/11/15

IR-1

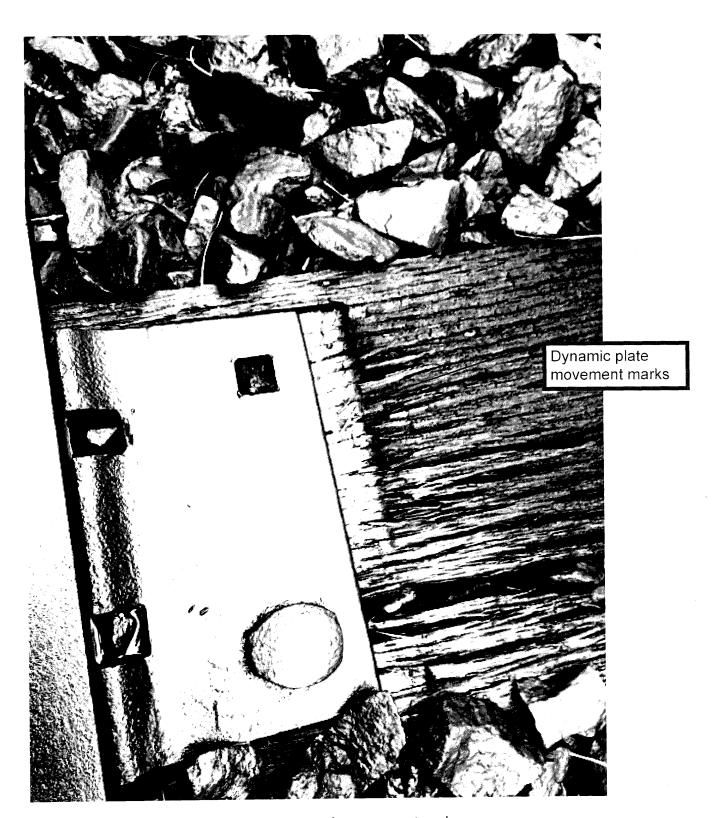




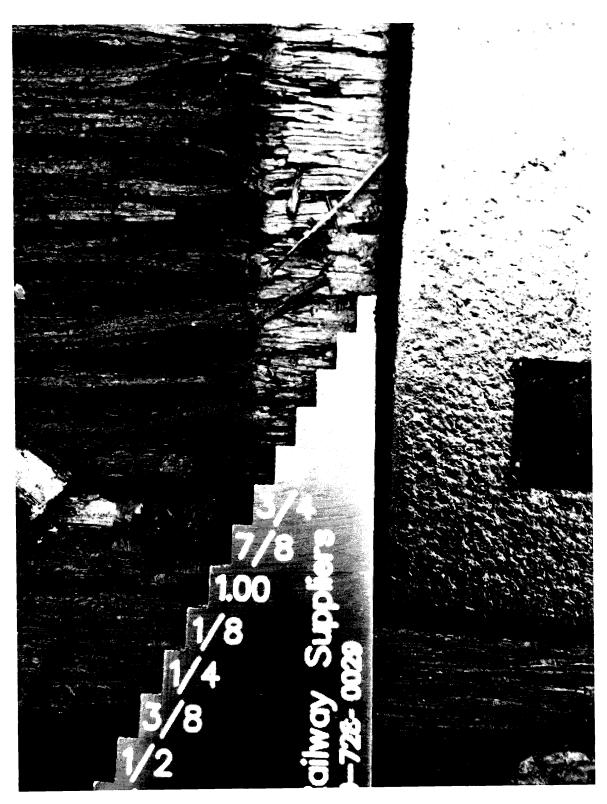
		x			l			x			
Line(s)	West Falls Church Yard	Track Number	er	Leads		nain Marker nd/or Station(s)	From		То		
<b>Vehicles</b>	Head Car N	lumber	N	umber of Cars		Equipment					
Description	FWSO, FRA a	and WMA	TA Supe	ervisor met at \	perform a	Number of Defe					
	track inspect	ion. A job	breifin	g was complet	ns were signed rided adequate	Recommended Finding?					
	warning of t		N WIVIA	IA, NVVP ID W	idea adequate	Remedial Action Required?					
						Recommended Reinspection?					
Remedial Action											



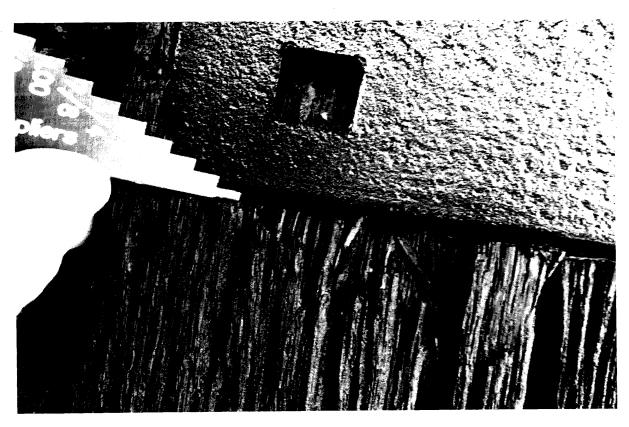
Bullet point one, 57-1/4 inch static gage measurement.



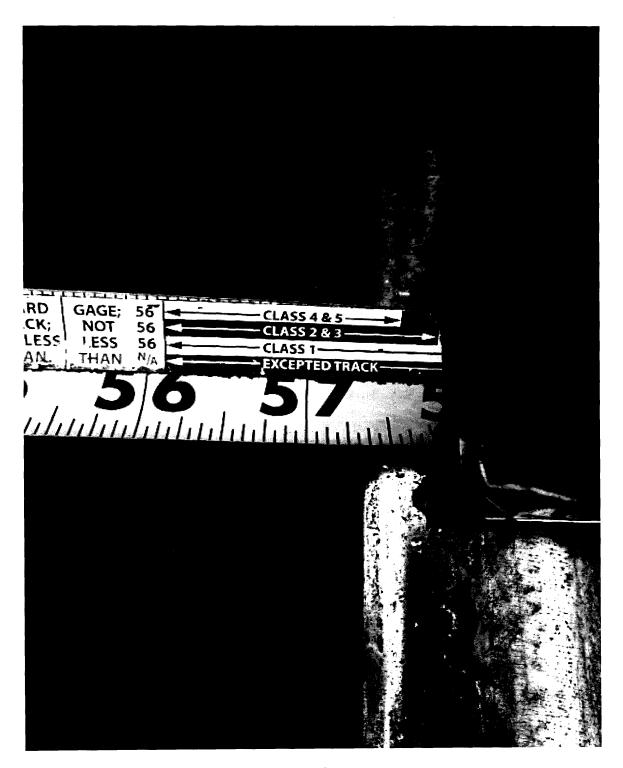
Bullet point one, dynamic plate movement marks.



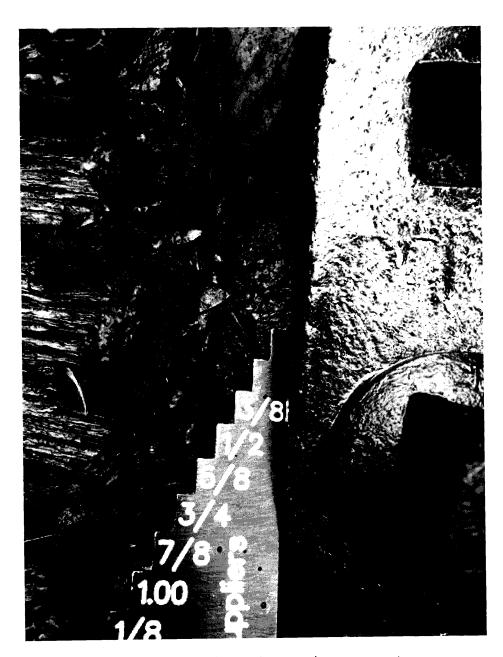
Bullet point one, 15/16 inch dynamic measurement high rail.



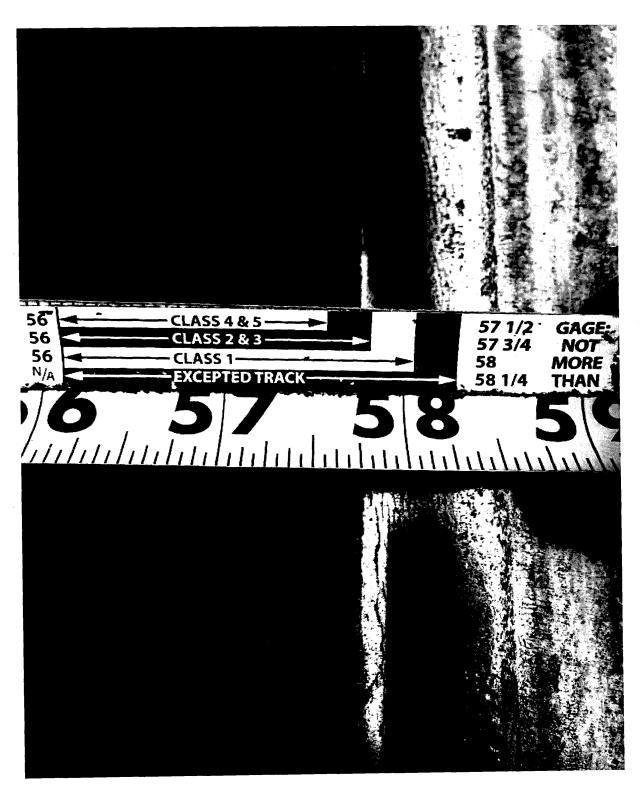
Bullet point one, 1/8 inch dynamic plate movement low side.



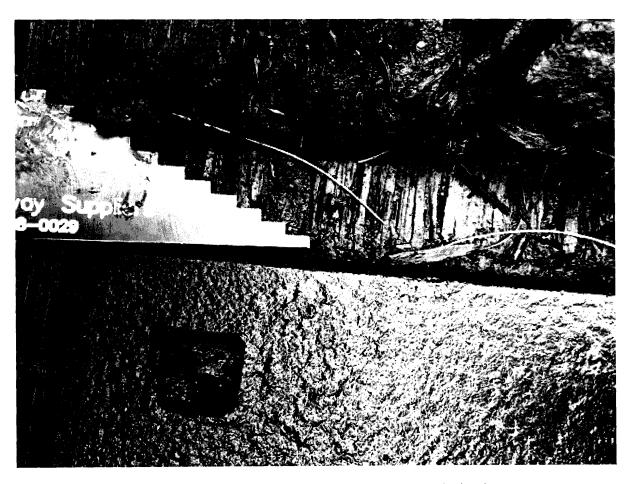
Bullet point two, 57-1/4 inch static gage.



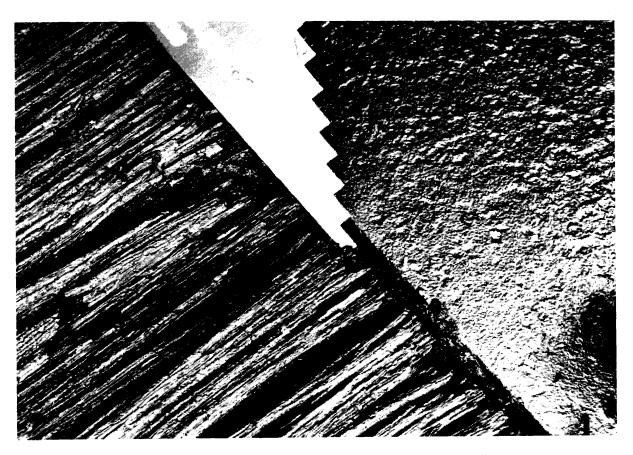
Bullet point two, 5/8 inch dynamic plate movement.



Bullet point three, 57-3/4 inch static gage.



Bullet point three, one inch dynamic plate movement high side.



Bullet point three, 1/8 inch dynamic plate movement low side.



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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#### Agency/Department Information

I Data	YYYY	MM	DD	Report Number	20160406-WMATA-JMC-1					
Inspection Date	2016	04	06	Keport Number	20100400	VVIVIATA	/IC-1			
Rail Agency Name	Washington Authority	Metropolitan	Area Transit	Rail Agency Department	Rail Transportation	Sub- Departme	ent	Rail Operations Control Center		
Rail Agency Department	1	Name		Email	Office PI	none	Mobile Phone			
Contact Information						9				
Inspection Location	Carmen Turr	ner Facility – R	tail Operations	Control Center – 3500 Pe	ennsy Drive, Hyatts	ville, MD 20785				

#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6	7	8
Activity Code	ROCC- GEN-MTG	ROCC-RAD- OBS	ROCC-ST/RC- PI					
Inspection Units	1	1	1	`				
Inspection Subunits	1	1	2					
Defects (Number)	0	2	0					
Recommended Finding	No	No	No					
Remedial Action Required?	No	No	Yes					
Recommend Reinspection	No	Yes	Yes					

#### Individual Inspection Activity

Inspection Activity #	1	Insp	ection Su	bject	Genera	l Mee	ting					Activi Code	ty	ROC	C GEN	OBS	
Job Briefing Employee Name/Title	N/A					- 1	companied	1	N/A	Out Brief Conducted	Yes	Time		.00	Outside Shift	Yes	
Related Reports					Related CAPS				d CAPS / Findings								
	Ref			Rule or SOP				Standard			Other / 1	Other / Title			Checklist Reference		
Related Rules, SOPs, Standards, or Other	MSRP	Н			1.69-1.79												
Standards, or Other	ROCC	Man	ıual											<u> </u>			
	Mai Trac		Yard	Sta	ation	осс	RTA Facility	,	FTA Office	Track Type	At-	grade	Tunne	el El	evated	N/A	
Inspection Location			1			Х				Hack Type						X	
-											From				То		
Line(s)				Track Numbe	er		Chain N	/larker									
Vehicles	Hea	ad Ca	r Number		Number	of Car		uipmer	nt								
venicles										<u></u>							
	FWSC	O met	t with Ass	istant S	uperinten	dents	n and I		. Di	uring the	<u> </u>	ber of D				0	
	meet	ing, v	we discuss	ed trac	k safety at	id toul	time. We a	hem a	ware of	hat a bulletin transfer times	in ——	ommende		ng?		No	
Description	the R	OCC .	to allow n	ninimur	m interrup	tions t	o a quality	and sa	ife transf	er.	Acti	on Requi	red?			No	
	FWS	O mo	nitored tr	ain and	d prime mo	ver ca	r movemer	nt, radi	io comm	unications and eir duties as pe	Rec	ommend	Reinspe	ction?		No	
	1													Data			

Inspector in Charge - Signature	James Cassatt, Jr	Digitally signed by James Cassatt, Jr. DN: cn=James Cassatt, Jr. o=FRA, ou=DOT, email=james.cassatt@dot.gov, c=U5 Date: 2016.04.09 09:36:55 -04'00'	Date April 9, 2016
Inspector in Charge – Name Jim Cassatt	Inspection Team Jim Cassatt		





	SOP's, Metrorail Safety Rules and Procedures Handbook and train movements. Both the Radio and Button Controller emphasized Safety, made radio announcements when unusual occurrences (i.e. track workers, delays etc) to operators, had job briefings with employees prior to fouling/clearing track to perform work.	
Remedial Action	N/A	

Inspection Activity #	2	Insp	ection S	ubject	Radi	o Pro	cedure	es						Activit Code	у	RO	СС	RAD	OBS
Job Briefing Employee Name/Title	N/A							mpanied	<b>I</b>	N/A	Out Brief Conducted	,	⁄es	Time	200			utside Shift	Yes
Related Reports							Relat	ed CAPS	/ Findi	ings									
	Ref				Rule or	Rule or SOP Standard Ot					Othe	er / Tit	le		Checklist Reference			ice	
Related Rules, SOPs,	MSR	PH			1.73, 1	1.73, 1.79													
Standards, or Other																			
	Ma Tra		Yard	S	tation	00	cc	RTA Facility	, (	FTA Office	Track Type		At-gr	ade	Tunne	1 1	Eleva	ted	N/A
Inspection Location						×					ilack type								X
	L											Fror	n					Го	
				Track		Chain Marker													
Line(s)	ROC	С		Num	ber			Chain N	narker										
	Ì						Ì												
	He	ad Ca	r Numbe	er	Numb	er of	Cars		•										
Vehicles								Equ	ipmen	ıt									
	FWS	O obs	erved an	d mon	itored R0	occ (	Contro	llers con	pliance	e with ra	dio rules and		Numb	er of De	fects				2
	mon	itored	d radio tr	ansmis	sions. Co	ntroll	ers re-	enforce	d read b	backs wii	th maintenan made proper	ice	Recon	nmende	d Findin	g?		\	⁄es
	radio	tran	smission	s when	issuing a	nd re	peatin	g back re	oadway	access.	The Controll	er _	Reme	dial Acti	on Requ	uired?			No
	mad	e ann	ouncem	ents, pr	ior to iss	uing t	he acc	ess, to e	mploye	ees infor	ming them of	f							
	the t	rack	outage a	nd trair	ns single t	racki	ng. Coi	ntroller (	of the C	Orange/E	llue/Silver lin clear of the	e .							
	inter	masızı rlockir	ed to Pivi ngs. The	followi	ing radio	trans	missio	ns were	noted:	пероп	cicar or the								
<b>S</b>																			
Description		•	An unk	nown e	mployee	made	e an ur	nnecessa no contro	iry com	municat	ion at 8:14 p. ouncements	1							
			about t	ow." II rain de	nis was ii lavs on th	iaue a ne Yel	llow/G	reen Lin	e. The ເ	unknowr	employee		Recor	nmend	Reinspe	ction?	,	'	Yes
			failed t	o comp	ly with N	ISRPH	l rule 1	L.73. The	Radio	Controll	er emphasize	d							
			proper	radio p	rocedure	·S.													
	1		Radio d	ommu	nications	were	difficu	ult to rec	eive an	nd transn	nit at various								
		-	locatio	ns. WN	IATA nee	ds to	compl	y with C	AP FTA-	-RAIL-1-1	L4-B and FTA	-							
	-		RAIL-1-	14-A.						4 4 4	D and ETA D	VII 1 1	4.0	\A/N/I/ATA	's origin	اجم اد	imate	to requ	est
Remedial Action			sued a C Jan 2017		ve Action	Plan	(CAP)	number	FIA-KA	41L-1-14-	B and FTA-RA	41L-1-1	.4-A.	VV IVIA I P	. 3 OHIGH	ui CJU			

Inspection Activity #	3	Inspection Subje	e <b>ct</b> Shi	ft Trans	fers/Mainten	ance Personne	el Roadway Acc	cess	Activi Code	ty	ROCC ST/R C		PI
Job Briefing Employee Name/Title	N/A				Accompanied	I N/A	Out Brief Conducted	Yes	Time	200		utside Shift	Yes
Related Reports					Related CAPS	/ Findings							
	Ref		Rule	or SOP		Standard		Other / T	itle		Checklis	t Refere	nce
Related Rules, SOPs, Standards, or Other													
Inspection Location	Ma Tra	Yard	Station	осо	RTA Facilit	FTA Office	Track Type	At-	grade	Tunnel	Elev	ated	N/A





				x							x
Line(s)	ROCC/ Red	Tra Nu	ck mber		Chain Mar	ker	Fi	rom		То	
Vehicles	Head Car N	lumber	Num	ber of Cars	Equipn	nent					
·	FWSO perform	med a phy	rsical inspe	ction of the	Asst. Supt tr	ansfer for 4/	/6/2016. t Supt. present	Number of D			0 <b>No</b>
	during the tra working and o	ansfer. Th current tra	e transfer ack issues a	was well de	tailed explair	ning mainter	nance forces	Recommend Remedial Ac	tion Required		No
Description	FWSO also ob Maintenance Heights.	bserved th	e Red Line	Controller Access For	writing the p m for Medica	roper inform al Center to F	nation on the Friendship	Recommend	Reinspection		No
Remedial Action	N/A										



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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#### Agency/Department Information

Lucy ation Date	YYYY	ММ	DD	Report Number	20160407_	WMATA-JM(	
Inspection Date	2016	04	07	Report Number	20100407		
Rail Agency Name	Washingtor Authority	Metropolita	n Area Transit	Rail Agency Department	Rail Transportation	Sub- Department	Rail Operations Control Center
Rail Agency Department		Name		Email	Office Ph	one	Mobile Phone
Contact Information							
Inspection Location	Carmen Tur	ner Facility –	Rail Operations	Control Center – 3500 F	ennsy Drive , Hyatts	sville, MD 20785	

#### Inspection Summary

Inspection Activity#	1	2	3	4	5	6	77	8
Activity Code	ROCC- GEN-MTG	ROCC-RAD- OBS	ROCC-ST/RC- PI					
Inspection Units	1	1	1					
Inspection Subunits	7	1	2					
Defects (Number)	0	4	0					
Recommended Finding	No	Yes	No					
Remedial Action Required?	No	Yes	No					
Recommend Reinspection	No	Yes	No					

#### Individual Inspection Activity

Inspection Activity #	1	Insp	ection S	Subject	: 6	General	Meet	ing					Activi Code	ty	ROC	c c	SEN	OBS
Job Briefing Employee Name/Title	N/A		···		·	Inspector? N/A Condu					Out Brief Conducted	Yes	Yes Time 19			Outsi Shir		Yes
Related Reports					Related CAPS / Findings													
	Ref				Rul	le or SOf	•		St	tandard		Other/T	itle		Chec	klist R	efere	nce
Related Rules, SOPs, Standards, or Other	MSR	PH			1.6	9-1.79												
Standards, or Other	ROC	C Man	nual												<u></u>			
	Ma Tra		Yard	Si	tation	n O	СС	RTA Facilit	у	FTA Office	Track Type	ı	rade	Tunne	I EI	evate	3	N/A
Inspection Location						,	X				таск туре							Х
												From				То		
Line(s)				Track Numi				Chain I	∕lar	ker								
Vehicles	He	ad Ca	r Numb	er	Nu	umber of	Cars		uipr	ment								
	FWS	O me	t with As	sistant	Supe	erintende	ents 🖣	and		. Di	uring the		ber of De	efects				0
	l mee	ting.	we discu	ssed a	follow	w up fron	n the	previous	eve	ning/mornir	ng track safety	Reco	mmend	ed Findi	ng?			No
Description	and	foul t	ime. Cor	itroller n main	s prop	perly pro	wided	requeste	pro dto	work on th	noted on the e track. Asst.	Actio	on Requi	red?			1	No
	Supt	:	m	etwith	thed	controlle	ers a no	d custome	erse	ervice empl	k on the track. Asst. e employees informing Movers would be  Action Required?  Recommend Reinspection?				ı	No		

Inspector in Charge - Signature	James Cassatt, Jr	Digitally signed by James Cassatt, Jr DN: Cn=James Cassatt, Jr, o=FRA, ou=DOT, email=james.cassatt@dot.gov, c=US Date: 2016.04.09 10:28:21 -04'00'	Date April 9, 2016
Inspector in Charge – Name Jim Cassatt	Inspection Team Jim Cassatt		





	working and Maintenance personnel along with FTA and FRA inspectors would be walking track.  FWSO monitored train and prime mover car movement, radio communications and the ROCC Operators (radio and button). The Operators performed their duties as per SOP's, Metrorail Safety Rules and Procedures Handbook and train movements. Both the Radio and Button Controller emphasized Safety, made radio announcements when unusual occurrences (i.e. track workers, delays etc.) to operators, had job briefings with employees prior to fouling/clearing track to perform work.	
Remedial Action	N/A	

Inspection Activity#	2	nspection	Subject	Radio	Procedu	ures/Repe	at Backs	5			Activ Code		R	осс	RAD	ОВ
lob Briefing Employee Name/Title	N/A					ompanie oector?	d N	I/A	Out Brief Conducted	Yes	Time	3	00- 230		itside Shift	Yes
Related Reports					Rela	ated CAP	S / Findi	ings							.,	
<u> </u>	Ref			Rule or S	SOP		Standa	ard		Other/	Title		Ch	ecklis	Refere	nce
Related Rules, SOPs, Standards, or Other	MSRPH			1.73, 1.7	79								-			
L tion I contion	Main Track	I Yard	Sta	ation	осс	RTA Facilit		FTA ffice	Track Type	- 1	grade	Tunne	21	Eleva	ted	N/A
Inspection Location					Х											Х
			Track							From		-			<u> </u>	
Line(s)	ROCC		Numb	- 1		Chain I	Marker									
	Head	l Car Numb	er	Numbe	r of Cars											
Vehicles	F14/60		ad moni	it amd POC	C Contr	'	nliance		dio rules and	Nur	ber of D	efects				4
	monit	ored radio t	ransmis	sions, Con	trollers r	re-enforce	ed read b	acks w	ith maintenar	ice Boo	ommeno		ing?		,	/es
	worke	rs and ope	ators.Th	ne Control	lers and	maintena	nce emp	oloyees	made proper . The Controll	.	nedial Ac			d?		Yes
	made the tir	announcen ne effective Ilowing rac Unkno hours	nents, pr e. lio transr wn emp The col	missions de ployees ma ntroller ma about pro	ing the a efects w ade an ur ade an a	ere noted nnecessar nnouncer o procedu	employe I: y commi nent at 1	es info unicatio	rming them o ons at 1920 ours remindin	f      g						

Inspection Activity #	3	Inspection Subject	Shift Transfers/Maintenan	ce Personne	el Roadway Acce	ess	Activity Code	′	ROCC	ST/R C	Pl
Job Briefing	N/A		Accompanied	N/A	Out Brief	Yes	Time	190	0- 0	Outside	Yes





Employee Name/Title					Ins	pector?			Conducted			22	30	Shift	
Related Reports					Rel	ated CAP	S / Fir	ndings							
Related Rules, SOPs,	Ref			Rule o	r SOP		Star	ndard		Other/	Title		Chec	klist Refe	rence
Standards, or Other						-									
lu ation I costion	Main Track	Yard	S	tation	осс	RTA Facilit	у	FTA Office	Track Type	At-	grade	Tunne	I EI	evated	N/A
Inspection Location					x								Tc	l	Х
		1								From				То	
Line(s)	ROCC		Track Num	· I		Chain N	⁄iarke	er							
	Head Ca	ar Numbe	er	Numb	er of Cars				<u> </u>						
Vehicles						Equ	ipme	ent							
	FWSO pe	rformed	phys	ical inspe	ction of th	e Asst. Su	pt tra	nsfers fro	m 3/1/2016-		nber of	Defects			0
	4/5/2016	. FWSO a	ilso ob	served th	ne transfer The trans	of the sec	cond a	and third:	shift Assistant	Rec	ommen	ded Findi	ng?		No
	maintena	sentuun ance force	s wor	king and o	currenttra	ickissues a	andtr	ain delay	swere	Ren	nedial A	ction Req	uired?		No
Description	discussed Controlle	d. The tra ers proper was prop	nsfer v ly reco erly pr	was signe orded trad	d by all pa ck "foul" ti n the track	rties i nvol ime on the	lved. appr	opriate fo	rms and	Rec	ommen	d Reinspe	ection?		No
Remedial Action	N/A														



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

Agency/Department In	nform	ation			æ	ll	Ch	200	>										
Inspection Date			/YY 016	M 0			DD 06	Rep	ort Nu	nber	20160	406	- <b>W</b> i	MATA	–JMC	C <b>-1</b>			
Rail Agency Name			hington						Agency artment		Rail Transpor	tation	s	ub- Depa	ırtment	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Operati trol Cen	
Rail Agency Departmen	t			Name				En	nail		(	Office I	Phone	9		N	vobile	Phone	
Contact Information	-					(													
Inspection Location		Carm	nen Turn	er Faci	lity – Ra	il Ope	rations	Control	Center –	3500	Pennsy Drive	, Hyati	tsville	, MD 207	'85 				
nspection Summary																			
Inspection Activity #			1		2		3		4		5			6		7			8
Activity Code			CC- -MTG		C-RAD- OBS	R	OCC-S PI	. 1											
Inspection Units			1		1		1												
Inspection Subunits			1		1		2												
Defects (Number)			0		2		0												
Recommended Finding			No		No		No	)										<b> </b>	
Remedial Action Requi	red?	1	Vo		No		Ye	s										<u> </u>	
Recommend Reinspect	ion	1	No		Yes		Ye	s			<u> </u>								
ndividual Inspection	Activit	:у			_												т		
Inspection Activity #	1	Insp	ection S	ubject	Ger	neral N	/leetin	g						Activit Code	У	RC	осс	GEN	OBS
Job Briefing Employee Name/Title	N/A							mpanied	s N/	A	Out Brief Conducted	.   \	es/	Time	1	00- .00	_	tside hift	Yes
Related Reports							Relat	ed CAPS	5 / Finding	s									
	Ref				Rule o	r SOP			Standar	d		Othe	r/Tit	tle		Che	ecklist	Referen	ce
Related Rules, SOPs,	MSR	PH			1.69-1	79													
Standards, or Other	ROC	: Manı	ual													<u> </u>			
	Ma Tra	- 1	Yard	S	tation	00	СС	RTA Facility		A ice	Track Type		At-g	rade	Tunne	1	Elevat	ed	N/A
Inspection Location						,	<b>(</b>				llack Type					-			Х
						_	`										т		
												Fror	n				<u>'</u>		
Line(s)				Track			Ì	Chain N	<b>Marker</b>						-				
	Ì			Numl	oer										-				
	<del> </del>		- Nove-1		Mines	ber of	Carr	T			<del> </del>								
Vehicles	He	ead Cal	r Numbe	er	Num	ber or	Cais	Equ	uipment										
	FWS	0 met	with As	sistant	Superin	tende	nts	and			ring the	- 1	Numi	ber of De	fects				0
	mee	ting, w	ve discus	ssed tra	ck safet	y and	foul ti	me. We	also discu	ssed th	hat a bulletin	in [	Reco	mmende	d Findir	ng?		. 1	No
Description	or P	erman	ent Orde	er be is minimi	sued to	emplo	yees t	o make t a quality	and safe	re of t	ransfer times er.	5 111	Actio	n Requir	ed?			1	No
	FW	SO mo	nitored 1	train ar	nd prime	move	er car r	noveme	nt, radio o	ommi	unications an eir duties as p	id oer	Reco	mmend I	Reinspe	ction	?		No
Inspector in Charge - S					Cas				Dig DN	itally signe	ed by James Cassatt, Jr s Cassatt, Jr, o=FRA, ou .09 09:36:55 -04'00'		il=james.	cassatt@dot.go	v,c=US	Dat	te ril 9, 2	016	
Inspector in Charge – Jim Cassatt	Name		Inspec Jim Ca	ction To	eam														





	SOP's, Metrorail Safety Rules and Procedures Handbook and train movements. Both the Radio and Button Controller emphasized Safety, made radio announcements when unusual occurrences (i.e. track workers, delays etc) to operators, had job briefings with employees prior to fouling/clearing track to perform work.	
Remedial Action	N/A	

Inspection Activity #	2	Insp	pection S	Subject	Rac	lio Pro	cedur	es						Activi Code	ty 	RC	СС	RAD	OBS
Job Briefing Employee Name/Title	N/A	•						ompanied ector?	į	N/A	Out Brief Conducted	,	Yes	Time	-	.00	_	utside Shift	Yes
Related Reports							Rela	ted CAPS	5 / F	indings									
	Ref				Rule o	r SOP			St	andard		Othe	er / Tit	le		Che	cklist	Referer	nce
Related Rules, SOPs, Standards, or Other	MSRI	PH			1.73,	1.79													
						·						L		—					
	Ma Tra		Yard	s	tation —	00	СС	RTA Facility	,	FTA Office	Track Type		At-gr	ade	Tunne	ıl	Eleva	ted	N/A
Inspection Location						<b>)</b>	<b>(</b>				Track type								Х
												Fror	m				1	о	
		_		Track	:			Chain N	A1										
Line(s)	ROC	-		Num	ber			Criaini	nair	Nei			•						
				L															
Vehicles	He	ad Ca	r Numbe	er	Num	ber of	Cars	Equ	nqiı	nent									
	FWS	O obs	served ar	nd mon	itored R	OCC (	Contro	ollers con	nplia dire:	ance with ra	dio rules and th maintenan	- L		er of De					2
	work	ers a	nd opera	tors. T	ne Contr	ollers	and m	naintenar	ice e	employees r	made proper	-			d Findir				es
	radio	tran	smission	s when	issuing	and re	peatir	ng back re	oad	way access.	The Controlle	ະ ∟	Reme	dial Acti	ion Req	uired !	<u> </u>		No
	mad the t	e ann rack o	ouncem	ents, pr nd trair	ior to iss	suing t tracki	ne aco ng. Co	cess, to e introller (	mpi of th	ioyees infori ne Orange/B	ming them of lue/Silver lin	e							
	emp	hasize	ed to PM	47 and	l 43 to h	ave th	e trail	ing Prime	e Mo	over report	clear of the								
	inter	lockir	ngs. The	followi	ng radio	trans	missic	ns were	note	ed:									
Description	}	•	An unk	nown e	mployee	e made	e an u	nnecessa	ry c	ommunicati	ion at 8:14 p.	m.							
			"I Knoo	ow." T	nis was r	nade a	after t	he contro	oller	· made anno he unknown	uncements		Recor	nmend l	Reinspe	ction?	•	,	Yes
			failed t	rain de o comp	ly with N	ne rei ASRPH	now) d I rule	1.73. The	Rac	dio Controlle	er emphasize	d							
					rocedur														
			Radio	ommu	nications	were	diffic	ult to rec	eive	and transm	nit at various								
		-	locatio	ns. WN	ATA nee	ds to	comp	ly with C	AP F	TA-RAIL-1-1	.4-B and FTA-								
	FTA	has is			ve Actio	n Plan	(CAP)	number	FTA		B and FTA-RA	\IL-1-1	4-A.	WMATA	a's origin	al est	imate	to requ	est
Remedial Action	1		Jan 201			_													

Inspection Activity #	3	Inspection Sub	<b>ject</b> Sh	ift Trans	sfers/Mainten	ance Personne	l Roadway Acc	ess	Activ Code	•	ROCC	ST/R C	PI
Job Briefing Employee Name/Title	N/A				Accompanied Inspector?	I N/A	Out Brief Conducted	Yes	Time	200		Outside Shift	Yes
Related Reports					Related CAPS	/ Findings	L						
Related Rules, SOPs,	Ref		Rule	or SOP		Standard		Other /	Title		Checkli	st Refere	nce
Standards, or Other						<u> </u>				_			
Inspection Location	Mai	Yard	Station	ОС	C RTA Facility	FTA Office	Track Type	At	-grade	Tunnel	Elev	ated	N/A





				x		)					×	
Line(s)	ROCC/ Red	Tra Nu	ick mber		Chain Marl	ker	Fi	rom		То		
	Head Car Nur	mber	Numb	per of Cars								
Vehicles					Equipn	nent						
	FWSO performe		•					Number of D	efects		0	
	FWSO also obse							Recommend	ed Finding?		No	
		sier, in	e transier v			ilig illalliteli	ance forces					
			ick issues a	nd train de	lays were disc		transfer was	Remedial Ac	tion Required	Required?		
Description	working and cu signed by all pa FWSO also obse Maintenance Po Heights.	rrent tra rties inv erved th	olved. e Red Line (	Controller v	writing the pr	cussed. The	ation on the	Remedial Ac	····		No	



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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#### Agency/Department Information

L Data	YYYY	ММ	DD	Report Number	20160409-\	M/N/I A T A T A	CD 1	
Inspection Date	2016	04	09	Report Number	20100409-	VV IVIA I A-10	GD-T	
Rail Agency Name	Washington Authority	Metropolitan A	rea Transit	Rail Agency Department	Track and Structures	Sub- Dep	artment	Track Inspection
		Name		Email	Office P	hone		Mobile Phone
Rail Agency Department Contact Information					70	•		
	<b>S</b> ,,							
Inspection Location	Walking insp	ection of track	Alexandria Ya	rd				

#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-SW-PI	TRK-RAD-OBS	TRK-RWP-PI		
Inspection Units	1	1	1	1		
Inspection Subunits	2	28	1	1		
Defects (Number)	17	20	1	0		
Recommended Finding		N/A	N/A	N/A		
Remedial Action Required	У	у	N/A	N/A		
Recommended Reinspection	У	N/A	N/A	N/A		

#### **Activity Summaries**

Inspection Activity #	1	Inspe	ection Subj	ect							Activity Co	de				
Job Briefing Employee Name/Title		li	&R Inspect	or, RV	wic		ompa ector		¥	Out Brief Conducted	n	Time	1130 1500		side ift	
Related Reports						Rela	ted C	APS / F	indings							
	Ref				Rule o	r SOP			Standard		Other / T	itle		Checklis	t Refe	rence
Related Rules, SOPs, Standards, or Other	MSR	PH			Gener	al Rules										
Standards, or Other	TRST	1000														
	Ma Tra		Yard	Staf	tion	осс	1	RTA icility	FTA Office	Track Type	At-gra	de	Tunnel	Elevate	d	N/A
Inspection Location			x							паск туре	x					
											From			Т	0	
Line(s)	Alex	andria	Track Numbe	er	vario	ous		ain Ma d/or St	rker ation(s)	Alexandria Ya	ard					
	He	ad Car	Number		Numbe	er of Cars	5									
Vehicles		n/	 ′a					Equip	ment							
	FRA	Inspect	tors were r	eque:	sted to	perform	a visu	al inspe	ection of the	track	Number	of Defe	cts	-		37
	struc	cture a	nd turnout	s in A	lexandr	ia Yard. F	RWIC	Lovett <sub>I</sub>	performed th	nr required job	Recomm	ended	Finding?			
Description			th the inspe ng defects						track, no ex	ceptions taken.	Remedia	al Action	n Required	1?		у
2000, p. 100	-At A	Alexano		the	prime m	nover sto			ne FRA obse	rved one RMM,	Recomm	nended	Reinspecti	ion?		у

Inspector in Charge - Signature	Digitally signed by SEAN L THOMPSON  Disc=US, GeVERNment, Ou=DOT Headquarders, ou=FTAHO, cn=SEAN L THOMPSON Date: 2016.04.12 14:46:45-04'00'	Date 04/09/2016	
Inspector in Charge – Name Sean Thompson	Inspection Team Tom Beck, Joe Kennedy		

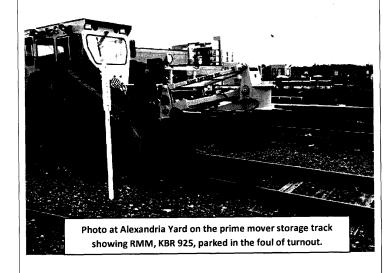


- -FRA observed that the ATC switch indicator boxes at 28 switches were found to have the padlock not locked or had no lock present
- -FRA observed a portable derail at the C99-218 signal that was lying on the ground in an un-secured position
- -A  $\mbox{\ensuremath{\%^{\prime\prime}}}$  rail mismatch on the  $\mbox{\ensuremath{\mbox{gage}}}$  side of the high rail was measured at Signal C99-204
- -A static gage of 57 ¼" was measured in track at Signal C99-204
- -The rear access doors on Signal C99-204 were found to have unlocked padlocks on each of the three signal heads
- -4 loose bolts were observed at guardrail marker 465 on the Reverse Loop Track Guardrail
- -2 loose guardrail joint bars were observed at guardrail marker 465 on the Reverse Loop Track guardrail.
- -1/4" mismatch was measured on the guardrail face at guardrail marker 465 on the Reverse Loop Track.
- Two loose bolts were observed on Reverse Loop Gaurdrail at gaurdrail marker 487
- -FRA observedHineside High Voltage cabinet #141-145 unsecured, with padlock lying on top of cabinet
- -Static gage of 57" and plate movement of 3/8" was measured on the high side of the curve 40 feet north of signal C99-189
- -One end approach and one regular third rail covers with two broken hangar brackets were observed missing 50 feet north of the 145 switch on the Outer Loop Track
- -Static gage of 57 1/8" and 1 1/16" plate movement was measured on low rail of curve for 7 consecutive crossties 50 feet north of the 145 switch on the Outer Loop Track. On 6 of the 7 crossties the screwlags were found broken off at the bottom of tie plates. Also observed at the same location were two missing guard rail braces and bolts. Track was removed from service by RWIC Lovett.
- -FRA Inspectosr performed a physical inspection of 28 turnouts in Alexandria yard. The following defects were noted:
  - Switch 223 two loose hold down bolts found on house top guardrail
  - Switch 227, 1 loose bolt in heel block, LH point
  - Sw 227, missing third rail coverboard end approach
  - Sw 229, two loose hold down bolts found on house top guardrail
  - Sw 205, one loose hold down bolt found on house top guardrail
  - Sw 201, three loose hold down bolts found on house top guardrail
  - Sw 197, three loose hold down bolts found on house top guardrail
  - Sw 195, loose adjustable braces LH point
  - Sw 195, two loose guardrail braces ahead of RH point
  - Sw 181, two loose hold down bolts found on house top guardrail
  - Sw 175, one loose hold down bolt found on house top guardrail
  - Sw 173, one missing holddown brace on frog
  - Sw 173, missing third rail coverboard end approach
  - Sw 155,heel of switch insecure, one loose, one missing heel bolt LH point
  - Sw 149B, three loose, 1 missing hold down bolts found on house top
  - Sw. 149B, heel of switch insecure, 2 loose heel block bolts LH point
  - Sw. 149B, 4 engine burns on closure rail south of frog
  - Sw 149A, three loose hold down bolts and three missing cotter keys on nuts on house top guardrail



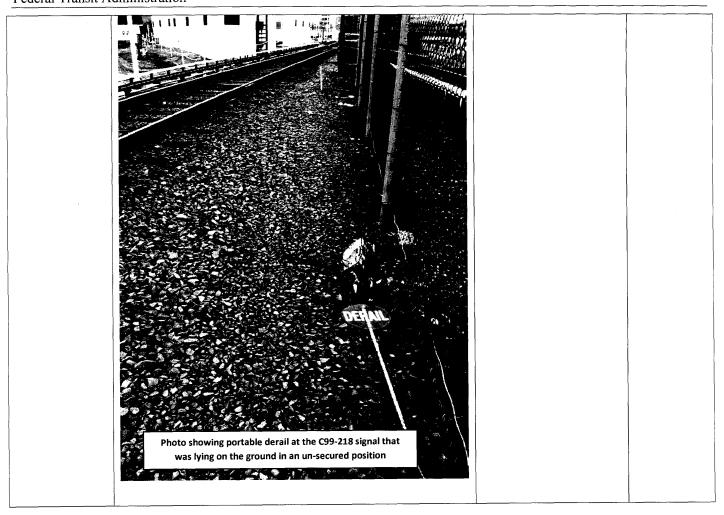


- Sw 147B, missing third rail coverboard end approach
- Sw 141, heel of switch insecure, misssing cotter key on collar bolt RH point and two loose heel block bolts
- Sw 145, heels of switch insecure, missing cotter keys on collar bolts LH
- Sw 145, heels of switch insecure, missing cotter keys on collar bolts RH



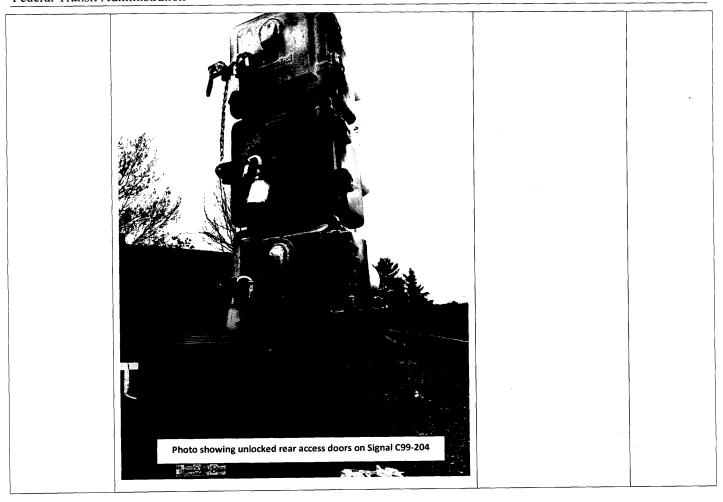






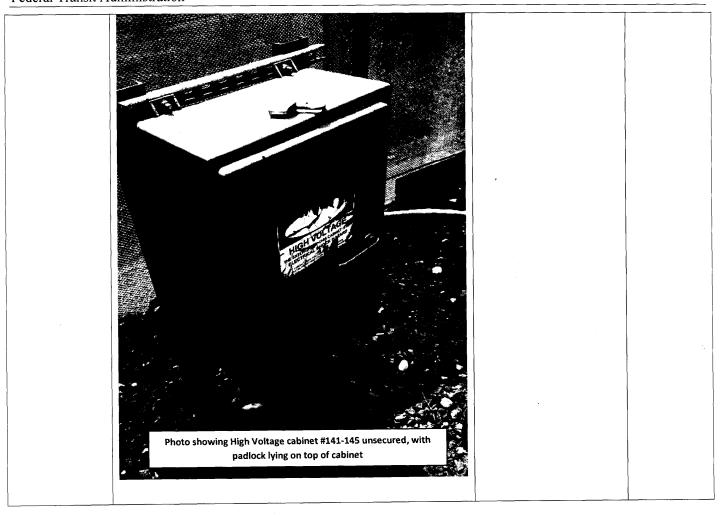






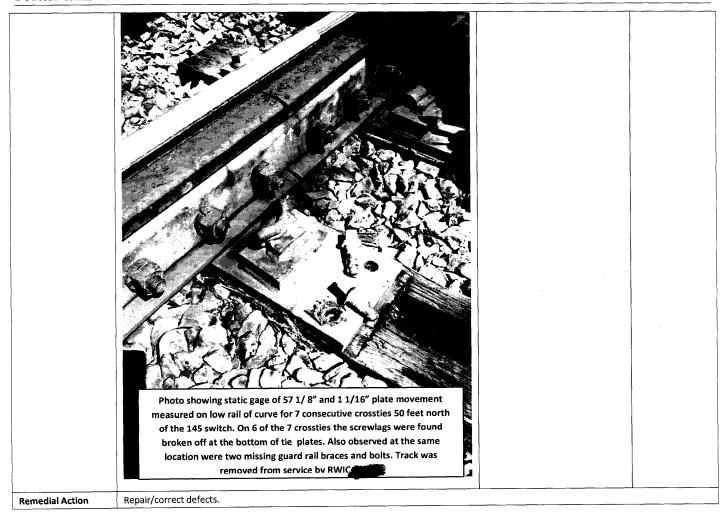














Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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#### Agency/Department Information

L	YYYY MM DD		Report Number	20160410-WMATA-TGB-4						
Inspection Date	2016	04	10	Report Number	20100410-WWATA-1GD-4					
Rail Agency Name	Washington Metropolitan Area Transit Authority			Rail Agency Department	Track and Structures	Sub- Departmen	nt Track Inspection			
	Name			Email	Office P	Mobile Phone				
Rail Agency Department Contact Information										
Inspection Location	Walking insp	ection of Gree	n Line Souther	n to Branch Ave						

#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI					
Inspection Units	1					
Inspection Subunits	4.4					
Defects (Number)	63					
Recommended Finding	NO					
Remedial Action Required	YES					
Recommended Reinspection	YES					

### **Activity Summaries**

Inspection Activity #	1 In	spection Sub	ject	Obser	vation of	f Green I	ine Track	Inspec	tion	Activity C	ode			
Job Briefing Employee Name/Title	A. B.					Accompanied Inspector?			Out Brief Conducted	No <b>Time</b>		0800 1300	0	No
Related Reports					Rela	ted CAP	6 / Finding	gs						
	Ref			Rule o	Rule or SOP Standard				Other /	Title		Checklist Re	ference	
Related Rules, SOPs, Standards, or Other	MSRPH		Genera	General Rules										
standards, or Other	TRST1000													
	Main Track	Yard	Sta	tion	осс	RTA Facili	1 .	TA fice	Track Type	At-gr	ade	Tunnel	Elevated	N/A
nspection Location	х								Hack Type	х		x	х	
										From			То	
		Track			Chain		Marker			Branc F11		Branch	ch Ave	
Line(s)	Green Li	ne Numb	er	1		and/or Station(s)						F11		
				ļ					306+15			546+00		
	Head	Car Number		Numbe	r of Cars									
Vehicles		n/a				E	uipment							
	FRA Insp	ectors were	reque:	sted to p	erform a	a visual i	nspection	of the	track	Numbe	r of Defe	cts		63
	structur	e and turnout	s in o	n the Gr	een Line	from So	uthern Sta	ation to	Branch Ave	Recomm	mended	Finding?		No
Description	Station,	Track #1. RW on team prior	IC Pie	erce peri	tormed the	ne requi k no exc	ed Job bri entions ta	eting v ken. Ti	vitn tne he following	Remedi	ial Action	n Required	?	Yes
Description		were observe				,, 110 CAC	CP 1.5115 to			Recomi	mended	Reinspecti	on?	Yes

Inspector in Charge - Signature	SEAN L THOMPSON  Digitally signed by SEAN L THOMPSON  DN: C=US, O=US, Government, Ou=DOT Headquarters, Ou=TFAHO, Cn=SEAN L THOMPSON Date: 2016.04.12 16.06.58 -04100'	Date 04/10/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Tom Beck, Joe Kennedy	



-FRA observed that the blue light identifying communication and power-off boxes		
were not working at the following locations		
-Box ETS-115 Tracks 1 and 2		
-355+00 Trk 2		
-360+50, Trk 2		
-368+40, Trk 1		
-370+20, Trk 2		
-379+45 Trk 1		
-389+00 Trk 1 and 2		
-397+20, Trk 1 (Also broken lense)		
-405+25, Trk 1 and 2		`
-412+60, Trk 2		
-420+70, Trk 1 and 2		
-428+65, Trk 1		
-435+60, Trk 1 and 2		
-444+75, Trk 1		
-488+20, Trk 1		
-496+00, Trk 1 and 2		
-504+20, Trk 1 and 2, also broken latch on open cabinet door #ETSF159		
-512+00, Trk 1		
-520+10, Trk 1		
-528+00, Trk 1 (also broken lense)		
,		
-FRA observed broken or missing third rail covers at the following locations:	·	
-346+30 Trk 2		
-357+40 Trk 1 end approach		
-394+00 Trk 1		
-395+50 Trk 1		
-397+60 Trk 2 end approach		
-398+50 Trk 2		
-407+75 Trk 2		
-495+80 Trk 2		
-495+80 Trk 2 -515+00 Trk 2		1
-529+55 Trk 1, plus 3 broken brackets	ĺ	
-323+33 11k 1, plus 3 broken bruckets		
-319+00, 1 missing bolt, joint right rail, repaired by inspector		
-Insecure walkway plate at Trackside heater control box HCFOE33-2		
-339+80, gage trough drain obstructed		
- 365+30, one tie plate w/ no fastening bolts, one plate w/ no panrol clips, right rail		
EDA sheared two Nolan nuch carts stored un-		
-Naylor Station Platform, south end, FRA observed two Nolan push carts stored un-	· ·	
secured against station wall		
and EE T   4		
-381+55, Trk 1, gagetrough drain obstructed		
-393+20, Trk 1, gage trough drain obstructed		
-333+20, ITK 1, gage trough drain obstructed		
-397+90, Trk 1, right rail, 3 consecutive crossties with loose fasteners, 56 ½" gage		
no plate movement		
-398+00, Trk1, 3 consecutive crossties with loose fasteners, 57" static gage, 3/16"		
plate movement right rail		
-398+30, Trk 1, 4 consecutive crossties with loose fasteners, 57 1/8" ststic gage,		
-398+30, Trk 1, 4 consecutive crossties with loose lastellers, 37 1/6 static gage,		
1/8" plate movement right rail		
and to Till Farmaniting granting with loose factorors. E7 1/2 static gage with		
-399+40, Trk, 5 consecutive crossties with loose fasteners, 57 %" static gage with	1	
1/16" plate movement right rail		
To E 10" static with		
-400+15, Trk 1, 4 consecutive crossties with loose fasteners, 56 5/8" static with		
1/8" plate movement right rail		





-402+20, Trk 1, 4 consecutive crossties with loose fasteners, 57" static gage, 1/8" plate movement right rail

-402+60, Trk 1, 4 consecutive crossties with loose fasteners,  $57^{\prime\prime}$  static gage, no plate movement

402+70, Trk 1, 5 consective crossties with loose fasteners, 57 1/16" static gage, ¼" plate movement right rail

-422+40, Trk 1, erosion of subgrade and ballast  $\,$  observed at bridge wingwall north end of bridge

-448+50, south end of Suitland Station platform, 20 loose floor tiles not adhered to platform slab, possible tripping hazard to public

-460+00, no working light fixtures on tunnel wall for approx 15 fixtures

-478+00 two bolts out on safety strap bars left rail, repaired by Metro inspector

-516+00, chain marker sign lying on right-of-way along Trk 1

-FRA Inspectorsr performed a physical inspection of 4 turnouts. The following defects were noted:

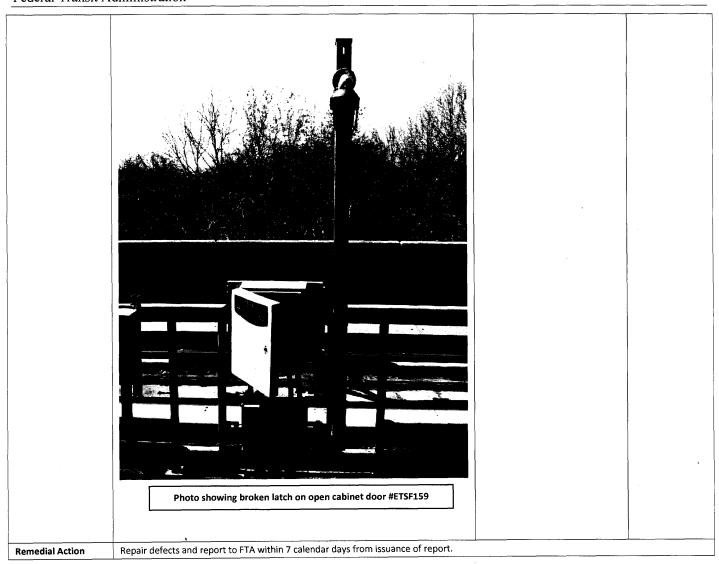
- Switch 3A, heel of switch insecure, 4 loose bolts in heel block, RH point
- Sw 3A, 12 loose spring washer studs and on frog plate
- Sw. 1A, 4 loose spring washer studs and on frog plate
- Sw 1A, 1/8" wear on frog point with overflow on both sides into flange



Photo showing Insecure walkway plate at trackside heater control box HCFOE33-2









Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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### Agency/Department Information

	YYYY	YYYY MM DD		Report Number	20160410-WMATA-WHW-1					
Inspection Date	2016	04	10	Report Humber	ZOIOOTIO WINATA WITW I					
Rail Agency Name	Washington Authority	Metropolitan A	Area Transit	Rail Agency Department	Track and Structures	Sub- Dep	artment	Track Inspection		
Rail Agency Department	Name			Email	Office P	hone		Mobile Phone		
Contact Information										
Inspection Location	Walking Insp	ection of track	one between	West Falls Church to Vie	nna					

#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-WI-OBS	TRK-SW-PI	TRK-RAD-OBS	TRK-RWP-PI	
Inspection Units	1	1	1	1	4	
Inspection Subunits	6	1	4	1	3	
Defects (Number)	29	0	0	0	1	
Recommended Finding	YES	N/A	NO	NO	NO	
Remedial Action Required	YES	N/A	NO	NO	NO	
Recommended Reinspection	YES	N/A	NO	NO	NO	

#### **Activity Summaries**

Inspection Activity #	1	Insp	ection Subje	:t	Track,	Switch, T	urnout and	d Third Rail I	nspection	Activity Co	ode	TRK	W	<u> </u>	PI
Job Briefing Employee Name/Title	RWIC Tk.In: Wato Engir	sp.				Accor	mpanied ctor?	Yes	Out Brief Conducted	YES	Time	0930 1400			NO
Related Reports						Relat	ed CAPS /	Findings							
	Ref			Ī	Rule or	SOP		Standard		Other /	Title		Checklist	Referenc	e
Related Rules, SOPs, Standards, or Other	MSR	PH		- 1	Genera Standa	al Maintei rds	nance								
	TRST	1000													
	Ma Tra		Yard	Statio	on	осс	RTA Facility	FTA Office	Track Type	At-gra	ade	Tunnel	Elevated	N	I/A
Inspection Location	х			х					irack type	x			х		
											From		То		
			Track				Chain Ma	rker	518+43			803+7	7		
Line(s)	Oran	ige	Number		ONE		and/or Station(s)								
	He	ad Ca	r Number		l Numbe	r of Cars									
Vehicles							Equi	pment							
	FWS	O Insp	ection condu	cted	by FRA	support	team, con	ducted a foci	used walking	Number of Defects				29	
Description			of WMATA		e Line	Track One	e to include	switches, t	urnouts,	Recomm	nended	Finding?		YES	
	cros	sovers	and compor	ants						Remedi	al Actio	n Required	1?	YES	;

Inspector in Charge - Signature	SEAN L THOMPSON  Digitally signed by SEAN L THOMPSON  On: c=US, o=U.S. Government, our:DOT Headquarters, oue:FIANC, on=SHANL HTHOMPSON Date: 2016-04712 15:37-99-04709	Date 04/10/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Alexander Nepa, William Wilson	



		T	Γ
	During the inspection the following items were identified.		
	MISSING COVER BOARDS, TRST1000, 13.3.15. at		
	• K-06 Signal		[
	• 539+00		
	• 568+00	1	
	• 671+00		
	• 673+00		
	• 683+00		
	• 688+00		
	• 693+00		
	• 694+00		
	• 696+00		
	• 699+00		
	• 710+00		
	Deffective 3 <sup>rd</sup> Rail Restraint		
	Rod Disconnected 584+00		
	Both Rods Broken 699+00		
	Defective 3 <sup>rd</sup> Rail Support Insulators Locations		
	• 2 in a row 667+00		
	• 3 in a row 677+37	Recommended Reinspection?	YES
	• 3 in a row 668+00		
	• 3 in a row 693+00		
	Defective 3 <sup>rd</sup> Rail End Support Insulator Locations		
	• 579+50		
	K-08 3A Switch		
	Bolt missing from CWR Joint 610+00		
l	Disconnected Bond Wire 610+00		
	Disconnected Bond wife 010 700		
	Clips missing from tie plates 3 in a row 610+00		
	Multiple rail joints without clips		
	Defective cross tie locations		
	<ul> <li>9 in a row spanning 270 inches 528+50</li> </ul>		
	<ul> <li>3 in a row spanning 80 inches 534+70</li> </ul>		
	<ul> <li>4 in a row spanning 110 inches 534 +50</li> </ul>		
	• 6 in a row spanning 180 inchec 568+00		
	Less than required ties in a rail joint 44 inches between effective ties 544+80		
Remedial Action	Repair/correct identified defects.		

Inspection Activity #	2	Inspection Subje	ct Obs	ervations o	omments to	WMATA		Activity Co	ode	TRK	WI	OBS
Job Briefing Employee Name/Title	RWIC Tk.In Wate	sp. chman		7 7000	mpanied ector?	YES	Out Brief Conducted	YES	Time	2000 0300	1	NO NO
Related Reports				Rela	ted CAPS / I	indings					T	
	Ref		Rule	Rule or SOP Standard				Other /	Title		Checklist Re	ference
Related Rules, SOPs, Standards, or Other	CON	IMENTS										
Inspection Location	Ma Tra	Yard	Station	occ	RTA Facility	FTA Office	Track Type	At-gra	ade	Tunnel	Elevated	N/A

Form FTA-IR-1

Version date: 12/11/15





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	х	,							×			Х		į
				L			I		From				То	
		Track			Ch	ain Mai	rker	518+43			803+77			
Line(s)	Orange	Numb	er O	ne	an	d/or Sta	ation(s)							
Makista	Head Ca	r Number	Num	ber of Car	's	Equip	ment							
Vehicles						-qu.p							т	
									Number					0
Description									Recomme				<u> </u>	0
Description									Remedial				<u> </u>	ional No
									Recomme	enaea K	emspecuc		L'	10
Remedial Action					_									
Inspection Activity #	3 Ins	pection Sub	ject Sw	itch Inspe	ction				Activity Co	de	TRK		SW	PI
	RWIC		#											
Job Briefing	Tk.Insp. L	•		Ac	compa	anied	YES	Out Brief	YES	Time	0930	)   c	Outside	NO
Employee Name/Title	Watchma			Ins	pecto	r? .	123	Conducted	123		1400	)	Shift	
Name, noe	Engineer			3										
Related Reports				Re	lated	CAPS /	Findings							
	Ref		Rule	e or SOP			Standard		Other / T	itle		Check	dist Refer	ence
				neral Mair	itenan	ice								
Related Rules, SOPs,	MSRPH		Sta	ndards										
Standards, or Other	TRST1000													
	111311000													
												<del>                                     </del>		
	Main	Yard	Station	осс		RTA acility	FTA Office		At-gra	de	Tunnel	Eleva	ated	N/A
Inspection Location	Track				+	active	Office	Track Type						
	One								X					
									From				То	
	Orange	Track		)ne		hain Ma		518+43			803+7	7		
Line(s)	Orange	Num	ber 📗	,,,,	a	nd/or Si	tation(s)				<del> </del>			<del></del>
					<u> </u>	Т								
Vehicles	Head C	ar Number	Nur	nber of Ca	ars	Equip	pment	-						
Verneres							dustad a fac	usod walking	Number	of Dofo				0
	FWSO Ins	spection cor n of WMAT	iducted by A Orange L	FKA suppl ine Track (	ort tea One to	include	4 turnouts	used walking	Recomm				+	0
Description	11,500000		J								Required	<u></u>		0
											Reinspect			0
Remedial Action														
Remedial Action									1		TD	v	RAD	OBS
Inspection Activity #		spection Su	bject R	adio Com	munic	ation Ol	oservation		Activity C	oae 	TR		- NAD	005
	RWIC		, i											
Job Briefing	Tk.lnsp. l					panied	YES	Out Brief	YES	Time	093 140	1	Outside Shift	NO
Employee Name/Title	Watchm	an I	7-5-	l'	rspect	ore		Conducted			140			
	Engineer									1				l
Related Reports						CAPS /	/ Findings		0:1 1	T:11-		Cha	 cklist Refe	rence
Related Rules, SOPs,	Ref		Ru	le or SOP			Standard	<u></u>	Other /	ııtıe		Chec	- ISL KEIE	TETICE





Standards, or Other	MSRPH			Gene	eral Rules							
	TRST1000											
	Main Track	Yard	Stat	ion	осс	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
Inspection Location	х		х	(				таск туре	х		x	
								i	From		То	
		Track				Chain Ma	rker	518+43		803+7	7	
_ine(s)	Orange Number		lumber		One and/or		ation(s)					
	Head Ca	r Number		Numl	per of Cars	Faula	mant.					
Vehicles						Equip	ment					
	FWSO Ins	pection con	ducted	by FI	RA support t	team, mon	tored raido	communication	Number of De	fects		0
	between f	RWIC and R	OCC C	ontrol	ler. All comi	munication	s were corre	ect and legible.	Recommende	d Finding?		0
Description									Remedial Acti	on Required	?	N/A
									Recommende	d Reinspecti	on?	N/A
Remedial Action	<del> </del>											

Inspection Activity #	5 <b>in</b> :	spection Sub	ject	Road	dway Work	er Protection	on		Activity C	ode	TRK	RWP	PI
Job Briefing Employee Name/Title	Tk.Insp.  Watchma			(A	1 1 201	mpanied ector?	YES	Out Brief Conducted	YES	Time	0930 1400		e NO
Related Reports					Relat	ed CAPS / I	indings						
	Ref			Rule	or SOP		Standard		Other /	Title		Checklist Re	ference
Related Rules, SOPs,	MSRPH			Gene	ral Rules								
Standards, or Other	TRST100	0		RWP	М								
	Main Track	Yard	Sta	tion	осс	RTA Facility	FTA Office	Track Type	At-gr	ade	Tunnel	Elevated	N/A
Inspection Location	х			x				irack type	x				
			J	T					From			То	
	0	Track		On	0	Chain Ma	rker	518+43			803+7	7	
Line(s)	Orange	Numb	er	0"	C	and/or St	ation(s)						
Vehicles	Head (	Car Number	I	Numb	per of Cars	Equip	ment				<u> </u>		
venicies								1 111					
	FWSO In	spection con	ducte	d by Ff	RA support e Track On	team, cond e to include	lucted a focu switches, to	sed walking irnouts.		r of Defe			0
		ers and comp			e maak on	C (Oo.aa-		,		nended	<u> </u>		
		•							Remedi	al Action	Required	<u> </u>	IN/A
Description	section, stopped with RO	ection was co and foul time everybody p CC then state he inspection	e (per prior to ed we	FRA re enter have fo	equest) on the bridge time.	the elevated dge and hel	d structure.T d us while he	isted track he RWIC e communicated	Recommended Reinspec			ion?	N/A
	As we ex	kited the brid efrore the typ	lge the	e RWIC	released t	he foul time en changed	e, but did no I.	t brief the					
	B. 22 P D	3 33 3/1											



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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### Agency/Department Information

	YYYY	MM	DD	Report Number	160410-Wi	MATA_NA\	/_ <b>?</b>	
Inspection Date	2016	04	10	Report Number	100410-001			
Rail Agency Name	Washington Authority	Metropolitan	Area Transit	Rail Agency Department	Track and Structures	Sub- Dep	artment	Track Inspection
Rail Agency Department		Name Email		Email	Office P	Phone		Mobile Phone
Contact Information		)				····	<u></u>	
Inspection Location	Walking ins	spection of D8	kG Junction tra	ck D3 and track D1.				

#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-WI-OBS	TRK-SW-PI	TRK-RAD-OBS	TRK-RWP-PI	RTRA-RC-OBS
Inspection Units	1	1	1	1	1	1
Inspection Subunits	1	1	1	1	4	1
Defects (Number)	15	0	3	0	0	1
Recommended Finding	YES	N/A	YES	NO	NO	YES
Remedial Action Required	YES	N/A	YES	NO	NO	YES
Recommended Reinspection	YES	N/A	YES	NO	NO	N/A

#### **Activity Summaries**

Inspection Activity #	1	Insp	ection Sub	ect	Trac	k, Switch	, Turnout	and	Third Rail Ir	spection	Activity Co	ode	TRK	WI	PI
lob Briefing Employee Name/Title	RWIC Supe	- rvisor	#Sa	ety		1	ompanie oector?	d	YES	Out Brief Conducted	Yes	Time	0916 1640		No
Related Reports						Rel	ated CAP	S/F	indings						
	Ref				Rule	or SOP			Standard		Other /	Title		Checklist Re	ference
Related Rules, SOPs, Standards, or Other	MSR	PH			Gene Stand	ral Maint dards	enance								
	TRST	1000													
	Ma Tra		Yard	Sta	tion	осс	RTA Facili		FTA Office	Track Type	At-gra	ade	Tunnel	Elevated	N/A
nspection Location	х									liack type				х	
A CONTRACTOR OF THE CONTRACTOR											From			То	
	Gree	n	Track				Chain Marker			D3 283+80			D3 272	2+00	
_ine(s)	Yello		Numb	er	1,3		and/d	or Sta	ation(s)	D1 272+00			D1 269	9+00	
Vehicles	He		r Number			per of Car		quip	ment	N/A					
	ļ		/A			N/A	- anndus	+04	a walking in	spection of the	Numbo	r of Defe	ete		15
	FRA	inspec n/Yell	ctors, assist	sisted by FWSO insp at D&G interlocking			racks D1	and	a waikiiig iii D3.	spection of the					YES
Description							g items were idenitified.			Recommended Finding?  Remedial Action Required			1?	YES	
<b>'F</b>	MISS	SING C	OVER BOA	RDS,	TRST10	000, 13.3	.15:		missing; CM272+00 - End			Recommended Reinspectio			YES

Inspector in Charge - Signature	SEAN L THOMPSON	Digitally signed by SEAN L THOMPSON DN = CUS, GUVERNMENT, OU≘DOT Headquarter, DurFAHAV, Cn=SEAN L THOMPSON Date: 2016.04.12 15:56:23 -04'00'	Date 04/10/2016
Inspector in Charge – Name Sean Thompson	Inspection Team	Mike Pirato/Nathan Vance	



	approach cover missing; CM270+00 – 2 coverboards missing TRACK 2: CM282+60 – End approach cover missing;	
	HEAD SURFACE/RUNNING SURFACE SPALLING, TRST1000, 5.11.7: - TRACK 1: CM272+00 on RH stock rail.	
	DIRECT FIXATION RAIL SUPPORT TRST 1000 7.7, (Defective Fasteners):  - TRACK 1: CM271+00 on Left rail 5 consecutive defective fasteners with 156" between effective fasteners (Black Condition); ; CM272+10 between #5A switch frog and #5B switch frog (in turnout track) 16 consecutive non-effective fasteners with 456" between effective fasteners (Black Condition).	
	- TRACK 3: D98-44 Signal, 2 opposing non-effective fasteners at pier cap.	
	- Numerous anchor bolts throughout all tracks that are sticking up out of the fastener more than 3" with many as high as 6-8" above fastener. With a 1 1/2" grout pad, a 11" anchor bolt that is 8" above the fastener would only be anchored 1 1/2" into the core concrete material. This is much less than the engineered design minimum of 6 1/2".	
	CWR REMEDIAL ACTION NEEDED – TRST 1000 14.4.7 (Remedial Action – Joint Areas) - TRACK 2: CM272+80 End post missing in insulated joint on Left rail	
	SAFETY RELATED ISSUES:  - Loose walkway grating. Numerous walkway plates were observed to be missing anchor screws with a few plates rotated in walkway uncovering walkway box and enclosed wiring within.	
Remedial Action		 

Inspection Activity #	4	Inspect	ion Subj	ect	Obsei	rvation c	omments to	WMATA		Activity Co	ode	TRK	WI	OBS
Job Briefing Employee Name/Title		– E			لاط	Acco Insp	mpanied ector?	YES	Out Brief Conducted	YES	Time	0916 1640		NO
Related Reports						Rela	ted CAPS /	Findings		· · · · · · · · · · · · · · · · · · ·				
	Ref				Rule o	r SOP		Standard		Other / 1	Title		Checklist Re	ference
Related Rules, SOPs, Standards, or Other	COM	MENTS								_				
	Maii Trac	1	Yard	Stat	tion	осс	RTA Facility	FTA Office	Track Type	At-gra	ide	Tunnel	Elevated	N/A
Inspection Location	х							Hack Type				x		
										From			То	
	Greer	,	Track				Chain Marker D3 283+80					D3 272	2+00	
Line(s)	Yellov	W	Numbe	er	1,3		and/or St	tation(s)	D1 272+00			D1 269	9+00	
Vehicles	Hea	ad Car Nu N/A	umber			er of Cars		oment						
	OBSE	RVATION	NS MADE	:						Number	of Defe	cts		0
	- Obs	erved ra	dio comi	munic	cations l	between	RWIC and R	OCC. No de	fects were	Recomn	nended I	Finding?		NO
Description	noted	d; no exc	eptions	taken						Remedi	al Action	Required	1?	NO
										Recomn	nended l	Reinspecti	ion?	NO
Remedial Action														

Inspection Activity #	3	Inspection Subject	Switch II	nspection			Activity Co	ode	TRK	SW	PI
Job Briefing	RWIC	#Safety01	9	Accompanied	YES	Out Brief	YES	Time	0916	Outside	NO

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Version date: 12/11/15

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Employee Name/Title	Supervisor		SXLe	Ins	pector?		Conducted		164	O Shift	
Related Reports					ated CAPS /	Findings					
	Ref		Rule	e or SOP		Standard		Other / Title		Checklist R	eference
Related Rules, SOPs, Standards, or Other	MSRPH		1	neral Main ndards	tenance						
	TRST1000										,
	Main Track	Yard	Station	осс	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
Inspection Location	Х						Track Type			х	
								From		То	
	Green	Track			Chain Ma	rker	D3 283+80	D3 27	2+00		
Line(s)	Green Yellow Track Number 1,3			,3	and/or St	ation(s)	D1 272+00		D1 26	9+00	
	Head Ca	ır Number	Nun	nber of Car							
Vehicles	N	I/A		N/A	Equip	ment					
	FRA inspe	ctors condu	icted a phy	sical inspe	ction of two	witches at D	&G	Number of D	Defects		3
	interlockir	ng.						Recommend	led Finding?		YES
	TURNOUT	STANDAR	DS. TRST10	00. 9.27.1				Remedial Ac	tion Require	d?	YES
Description	- TRACK 1 down with missing co	: #5A switch n missing co otter pins.	n, House To otter pins; ‡	op Guard b ‡5A switch	olts loose/mi Right hand h olts missing c	eel block sho	talled upside- oulder bolt	Recommend	led Reinspect	tion?	YES
Remedial Action											

Inspection Activity #	6 In	spection Subj	ect (	peratin	ng Rule :	3 – Speed	Adherence		Activity Co	de	RTRA	A RC	OBS
Job Briefing Employee Name/Title	RWIC -	#Saf	ety		Accon	npanied ctor?	YES	Out Brief Conducted	NO	Time	1645 1655		- I NO
Related Reports					Relate	ed CAPS /	Findings					r	
	Ref		R	ule or S0	OP		Standard		Other / T	itle		Checklist R	eference
Related Rules, SOPs, Standards, or Other	Speeds		0	P Rule 3	3								<del> </del>
	Main Track	Yard	Station	n 0	осс	RTA Facility	FTA Office	Track Type	At-gra	de	Tunnel	Elevated	N/A
Inspection Location	х							nack Type				х	
									From			То	
Line(s)	Green Yellow	1				Chain Marker and/or Station(s)					D1 273	3+00	
	Head	Car Number	N	ımber o	of Cars								
Vehicles		N/A		N/A		Equip	ment						
		ATIONS MADE							Number	of Defe	cts		1
	During i	nspection of t	ack con	ditions	on the [	01 track at	D&G interlo	cking, CM	Recomn	nended F	inding?		YES
	269+00	track condition	ns were	noted 1	that a V	VMATA su communic	pervisor issu ation was m	ed a 15 mile per ade via radio to	Remedia	al Action	Required	1?	YES
Description	the ROC	C and was cor	firmed speed	by the s order ex	ubsequ	ent annou	ncement tra	nsmittal to as all observed	Recommended Reinspec			ion?	N/A



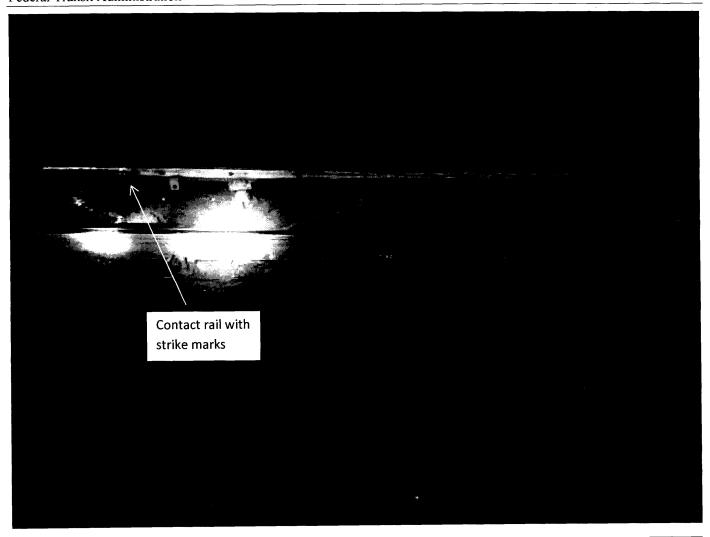


	being transported, by WMATA, back to New Carrollton yard when the supervisor at the D&G interlocking was heard, on WMATA radios, telling the ROCC that a train was operating through the speed restriction in excess of the slow ordered speed. The controller was then heard telling the train operator that there was a slow order at that location. The operator replied that he had not known that the slow order existed.  At the time of the incident, there was a supervisor and track workers working at the		
	D&G interlocking.	<u> </u>	L
<b>Remedial Action</b>			

**EXHIBITS ENCLOSED** 







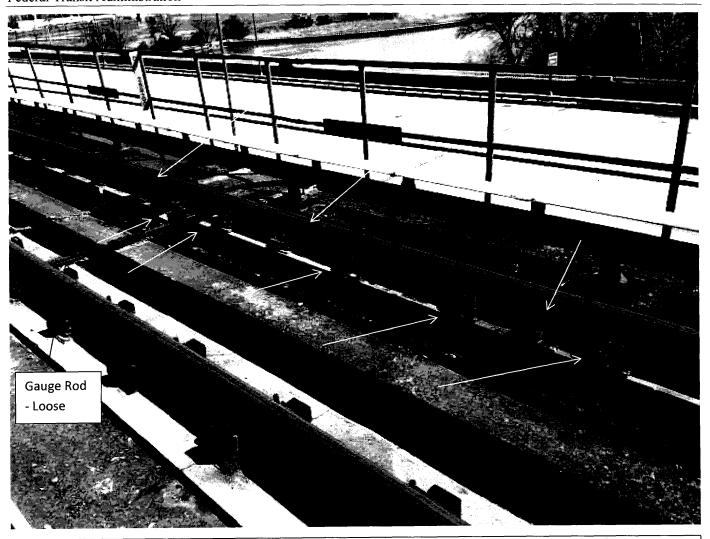
Area of location where 3rd rail joint bar showed signs of striking.

Note the marks on the rail where measurements were taken after installation of fastener clips.

Measurements were taken by WMATA employees and indicate compliance with their standards in present condition.







DF Fastener defect at D&G Ariel.

CM269+00 on Right rail 8 consecutive defective fasteners with 244" between effective fasteners.

This location was slow ordered to 15 miles per hour.







House Top Guardrail with bolts installed upside-down.

When installed this way, bolts appear to be performing correctly, but are hiding when the nuts get loose and ultimately fall off as in picture. Additionally, cotter pins can not be installed this way to prevent nuts from backing off.





Two consecutively opposed defective fasteners.







Typical DF anchor bolt installation defect. Note anchor bolt is 11 inches long and on this example the anchor bolts is 6 1/2 inches above the grout pad. With a 2 inch grout pad, this anchor bolt is 2 1/2 inches into base structure.



Form FTA-IR-1

United States Department of Transportation
Federal Transit Administration

### Agency/Department Information

	YYYY	MM	DD	Report Number	20160410-WMATA-NAV-1					
Inspection Date	2016	04	10	Report Namber	20100410 ********************************					
Rail Agency Name	Washington Authority	Metropolitan	Area Transit	Rail Agency Department	Track and Structures	Sub- Dep	artment	Track Inspection		
Rail Agency Department		Name		Email	Office Phone		Mobile Phone			
Contact Information	1						<u> </u>			
1				0407-WMATA-MWP-1 (3			- 15+45).			
nspection Location	Re-inspecti	on of frog con	ditions and rail	defects between E1 284	1+40 & E1 285+40.					

#### Inspection Summary

mspection summary						
Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-WI-OBS				
Inspection Units	1	1				
Inspection Subunits	1	1				
Defects (Number)	1	0				
Recommended Finding	NO	N/A				
Remedial Action Required	YES	N/A				
Recommended Reinspection	YES	N/A				

### **Activity Summaries**

Inspection Activity #	1	Insp	ection Sub	ject	Trac	k, Switch,	Turnout and	l Third Rail II	nspection	Activity Co	ode	TRK	WI	PI
Job Briefing Employee Name/Title	RWI0	rvisor			F	- 1	ompanied ector?	YES	Out Brief Conducted	Yes	Time	0916 1640		No
Related Reports						Rela	ited CAPS /	Findings						
	Ref				Rule	or SOP		Standard		Other /	Title		Checklist Re	ference
Related Rules, SOPs, Standards, or Other	MSR	MCDDL				General Maintenance Standards								
	TRST	1000												
	Ma Tra		Yard	Sta	ition	occ	RTA Facility	FTA Office	Track Type	At-gra	ade	Tunnel	Elevated	N/A
Inspection Location	×	(							Track Type			х		
										From			То	
	Gree	-n	Track				Chain Ma	rker	E1 14+70			E1 15+	-10	
Line(s)	Yello		Numb	er	1		and/or S	tation(s)	E1 284+40			E1 285	+40	
Vehicles	Не		r Number			oer of Car		oment	N/A					
	FRA	inspe	ctors, assist	ed by	/ FWSO	inspecto	r, conducted	a follow-up	inspection of	Numbe	r of Defe	cts		1
	two	specif	ic noted de	fectiv	ve cond	litions on	the WMATA	Green/Yello	w Line track.	Recom	nended	Finding?		NO
	Tb -	first -	o incoactio	n cno	t locate	d on F1 a	t CM14+90 i	nvolved gag	e issues in	Remedi	ial Action	n Required	1?	YES
Description	The first re-inspection spot located on E1 at CM14+90 involved gage issues in running rails and 3 <sup>rd</sup> rail where 3/8" gage was noted and striking on the 3 <sup>rd</sup> rail jo bar.  - During the follow up inspection, it was noted that missing fastener clips									Recommended Reinspection?			ion?	YES

Inspector in Charge - Signature	Digitally signed by SEAN L THOMPSON  DN: c=U.S. G=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=SEAN L THOMPSON Date: 2016.04.12 15:55:32 -04:007	Date 04/10/2016
Inspector in Charge – Name Sean Thompson	Inspection Team  Mike Pirato/Nathan Vance	





Remedial Action	N/A	
	Railroad corrected conditions re-inspected with exception of the blocked drain and build-up of water/silt at location at E1 CM14+90.	
	The second re-inspection spot located at E1 CM284.9 involved frog tread wear on 1A switch at Fort Totten Interlocking.  The follow-up inspection revealed that new frog had been installed at the location.	
	previously noted had been replaced. Drainage conditions still existed with a 90 percent blocked center drain. WMATA personel reviewed track conditions during the follow-up inspection and took track notes that included current static and dynamic running rail gage as well as 3 <sup>rd</sup> rail gage and heights using Geismar track inspection tool and 3 <sup>rd</sup> rail gauge. Running rails and 3 <sup>rd</sup> rail gage (after work had been performed, including reinstall of fastener clips) indicated that current conditions during the follow up complied with WMATA maintenance standards.	

Inspection Activity #	2	Inspe	ction Sub	ject	Obser	ation c	omments to	WMATA		Activity Co	ode	TRK	WI	OBS		
Job Briefing Employee Name/Title	RWIC <sup>1</sup> Super	visor –	#Sa	fet (	علاط		ompanied ector?	YES	Out Brief Conducted	YES	Time	0916		NO NO		
Related Reports						Rela	ted CAPS /	Findings								
	Ref				Rule or	SOP		Standard		Other / 1	itle		Checklist Re	ference		
Related Rules, SOPs, Standards, or Other	COMMENTS															
	Mai Trac	1	Yard	Stat	tion	осс	RTA Facility	FTA Office		At-gra	de	Tunnel	Elevated	N/A		
Inspection Location	х								Track Type			x				
					T					From			То			
	Greer	1	Track				Chain Ma	rker	E1 14+70			E1 15+	10			
Line(s)	Yellov	v	Numb	er	1		and/or St	ation(s)	E1 284+40	E1 284+40			E1 285+40			
	Hea	d Car N	Number		Numbei	of Cars	I									
Vehicles		N/A	A		N,	'A	Eduit	ment								
			ONS MADI							Number	of Defe	cts		0		
						etween	RWIC and R	OCC. No de	fects were	Recomm	ended l	inding?	nding? NO			
Description	noted	i; no ex	ceptions	ıaken	•					Remedia	l Action	Required	?	NO		
												Recommended Reinspection?				
Remedial Action	N/A													,		



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

# all (BX6)

### Agency/Department Information

Increation Date	YYYY	MM	DD	Panart Number	20160411-WMATA-NAV-1					
Inspection Date	2016	04	11	Report Number						
Rail Agency Name	Washington I Authority	Metropolitan	Area Transit	Rail Agency Department	Track and Structures	Sub- Dep	artment	Track Inspection		
Rail Agency Department	1	Name		Email	Office Phone		Mobile Phone			
Contact Information										
Inspection Location	Walking insp	ection of track	c 2 and betwee	n Vienna Station and We	st Falls Church stat	ion.				

#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6	7
Activity Code	TRK-WI-PI	TRK-WI-OBS	TRK-RWP-PI	TRK-SW-PI	TRK-RC-OBS		
Inspection Units	1	1	1	1	1		
Inspection Subunits	3	1	2	1	1		
Defects (Number)	12	0	1	0	2		
Recommended Finding	YES	N/A	NO	NO	NO		
Remedial Action Required	YES	N/A	NO	NO	YES		
Recommended Reinspection	YES	N/A	NO	NO	NO		

### **Activity Summaries**

Inspection Activity #	1	Insp	ection Sub	ject	Track,	Switch,	Turnout	and Th	ird Rail II	nspection	Activity Co	ode	TRK	:	WI	PI	
Job Briefing Employee Name/Title	RWIC Watc	hmar			1	Accompanied Inspector?		d	YES	Out Brief Conducted	Yes	Yes <b>Time</b>			utside Shift	No	
Related Reports						Related CAPS / Findings											
	Ref				Rule or	SOP		St	andard		Other / 1	itle		Check	ist Refe	rence	
Related Rules, SOPs, Standards, or Other	MSRF	MSRPH General Standard					intenance										
	TRST:	1000															
	Mai Trad		Yard	Sta	tion	осс	RTA Facili		FTA Office		At-grade		Tunnel	Elevat	ed	N/A	
Inspection Location	х			;	x					Track Type	х			х			
		<del>-</del>									From				То		
	Oran	ge	Track				Chain	Marker		775+00	564+			+80			
Line(s)	Silver	r	Numb	er	2		and/o	r Statio	n(s)								
	Но	ad Ca	r Number	_	Number	of Cars											
Vehicles	пес		I/A		Number N/			Juipmer	nt	N/A							
	FRA i	nspe	ctors condu	cted a	focused	walking	inspect	ion of W	VMATA (	Drange/Silver	Number	of Defe	cts 12				
Description	1						•		d compo	nants between	Recomm	ended	Finding?			NO	
•	IVICPI	ierso	n Square St	auon	and Fogg	y bottoi	iii statio	11.			Remedial Action Required?					YES	

SEAN L THOMPSON  Digitally signed by SEAN L THOMPSON  NN: e-US, o-US, Government, ou-DOT  Headquarter, ou-FAHA (_n-BEAN L THOMPSON  Date: 2016.04.12 16.03.21-04700'	Date 04/11/2016
Inspection Team  Nathan Vance / Chris Schulte	1
	SEAN L THOMPSON  DiscUS, o-US, 6-U





	During the inspection the following items were identified.  MISSING COVER BOARDS, TRST1000, 13.3.15: - General condition along segment of loose 3rd rail cover boards.  HEAD SURFACE/RUNNING SURFACE SPALLING, TRST1000, 5.11.7: - K2: CM579+20 shelling on Left rail  3RD RAIL ANCHORS, TRST1000, 13.3.4: - K2: CM725+00 contact rail anchor cable broke; CM702+90 anchor bolts missing; CM661+90 anchor bolts missing; CM594+00 anchor bolts broken/missing; CM574+00 anchor bolt missing  CONCENTRATED LOAD, TRST1000, 7.4.4: - CM709+30 on Both rails, spike between base of rail and tie plate.  FASTENERS ON WOOD TIES, TRST1000, 7.5: - K2 CM689+40 on Right rail, 5 non-effective fasteners in row.	Recommended Reinspection?	YES
	BALLAST, TRST1000, 8.12.2  - CM673+50 5 ties in row have no shoulder ballast and shy crib ballast on Right rail with rail hanging 1/4" under load.  CONTACT RAIL (3RD) INSULATORS, TRST1000, 13.3.9:  - CM664+80 3 insulators in a row, cracked at the base.  CENTER BROKE BAR, TRST1000, :  - CM564+80 L rail, center broke joint bar, field side with 1" xlevel and 1" profile. Contact rail insulator also is not supporting rail at this location.		
Remedial Action	Correct/Repair defects.		

Inspection Activity #	2	Insp	ection Sub	ject	Obser	vation co	mmer	its to	WMATA		Activity Co	ode	TRK	:   \	VI	OBS
Job Briefing Employee Name/Title	RWIC Watc	hmar			Accompanied Inspector?		ed	YES	Out Brief Conducted	YES	Time	1040 155	-   0"	side iift	NO	
Related Reports						Relat	ed CA	PS / F	indings							
	Ref				Rule or	SOP			Standard		Other / T	itle		Checklis	t Refe	rence
Related Rules, SOPs, Standards, or Other	СОМ	COMMENTS														
	1	Main Yard Station				осс	RTA Facility		FTA Office	Track Type	At-gra	de	Tunnel	Elevate	d	N/A
Inspection Location	х									таск туре	×					
											From				0	
Line(s)	Oran Silver Blue	-	Track Numb	er	2			n Mai 'or Sta	rker ation(s)	K2 775+00			K2 564	1+80		
	He	ad Ca	r Number		Numbe	r of Cars										
Vehicles		N	/A		N	/A		Equip	ment							
			IONS MAD								Number	of Defe	cts			0
_	- CM 579+00 Power cable										Recomm	ended I	Finding?			NO
Description	insul	insulation; CM569+00 Power cables in ballast with insulation worn off.									Remedial Action Required			?	0	ptional
											Recomm	ended I	Reinspecti	on?		NO
Remedial Action	N/A															



# all (LXG)

Inspection Activity #	3 ins	spection Sub	ject	Roadw	vay Worl	ker Protection	on		Activity C	ode	TRK	RWP	PI		
Job Briefing Employee Name/Title	RWIC - Watchma Inspector + 3 additi		y worl	kers		mpanied ector?	YES	Out Brief Conducted	YES	Time	1040 1552		e NO		
Related Reports					Relat	ted CAPS / F	indings								
	Ref			Rule or	SOP		Standard		Other /	Title		Checklist R	eference		
Related Rules, SOPs, Standards, or Other	WMATA	- RWP		GENER	AL										
	Main Track	Yard	Stat	tion	осс	RTA Facility	FTA Office	Tue els Toma	At-grade		Tunnel	Elevated	N/A		
Inspection Location	Х							Track Type	x						
							•		From			To +80			
Line(s)	Orange Silver Blue	Track Numb		2		Chain Ma and/or St		K2 564+80			K2564	+80			
	Head C	ar Number		Numbe	r of Cars	Equip	ment	_		_					
Vehicles		N/A		N,	/A	Equip	illetit								
		BRIEFING:							Number	of Defe	cts		1		
	Roadway	workers arr	iving c	on scene	at CM56	64+80, to rep hetween th	pair center b e gage and c	roke joint bar, leared. The	Recomn	nended F	Finding?		YES		
	train pro	ceeded past	location	on of def	fect. The	new roadw	ay workers <sup>.</sup>	then entered	Remedi	al Action	Required	?	Optional		
Description	the track performe requeste requeste	to review so ed when the d the clearin d that a brei was then cor	cope of new wag of the fing be	f the wo vorkers a le track a e comple	rk to be parrived in and explanted before	performed. Ito the RWIC ained RWP r ore anyone 6	No job brief	ing was FRA personel workers and track. This	Recomn	nended l	Reinspecti	inspection? NC			
Remedial Action	N/A														

Inspection Activity #	4	Inspe	ction Subj	ect	Switch	Inspection	on			Activity Co	ode	TRK	SW	PI	
Job Briefing Employee Name/Title	RWIC Watch Inspe	hman (				Accor	npanied ctor?	YES	Out Brief Conducted	YES	Time	1040 1551		NO	
Related Reports						Relat	ed CAPS / F	indings							
	Ref				Rule or	SOP		Standard		Other / 1	Title		Checklist Reference		
Related Rules, SOPs, Standards, or Other	MSRP	RPH General Standar				Maintenance ds									
	TRST:	1000													
	Mai Trac	- 1	Yard	Stat	ion	осс	RTA Facility	FTA Office	Track Type	At-gra	ade	Tunnel	Elevated	N/A	
Inspection Location	х									х					
	1				1					From			То		
	Oran	ge	Track				Chain Ma	rker	775+00			564+8	0		
Line(s)	Silver	•	Numbe	er	2		and/or St	ation(s)				-			
	Hea	ad Car I	Number		Numbe	r of Cars	Faurin	mont				!			
Vehicles		N/A	4		N	/A	Equip	menı							





	FRA inspectors conducted a physical inspection of two switches at Venice station	Number of Defects	0
	on K2. No exceptions were noted.	Recommended Finding?	NO
Description		Remedial Action Required?	NO
		Recommended Reinspection?	NO

Inspection Activity #	5	Inspec	tion Subje	ect	Opera	ting Rule	3 – Spee	d Adherence		Activity C	ode	RTRA	A RC	OBS
Job Briefing Employee Name/Title	Inspe	nman -	(b)(	وا		Accor	npanied ctor?	YES	Out Brief Conducted	YES	Time	1040 1553	- Gutsia	e NO
Related Reports						Relat	ed CAPS	/ Findings						
	Ref				Rule or	SOP		Standard		Other /	Title		Checklist Re	eference
Related Rules, SOPs, Standards, or Other	Speed	ls			OP Rule	3								
	Mai Trac		Yard	Stat	ion	осс	RTA Facility	FTA Office	T	At-gra	ade	Tunnel	Elevated	N/A
Inspection Location	х								Track Type	х				
										From			То	
Line(s)	Orang Silver	•	Track Numbe	r	2		Chain Marker and/or Station(s)		K2 564+80			K2564	+80	
	Hea	ıd Car N	lumber		Number	of Cars								
Vehicles		N/A			N/	′A	Equ	ipment						
			NS MADE			_				Number	of Defe	ects		2
								15 mile per h broke joint b		Recomn	nended	Finding?		NO
								ere enroute t		Remedi	al Actio	n Required	1?	YES
Description	condi	tion. W oyees w	hile at the itnessed t	e loca rains	tion FRA passing	inspecto over the	ors and to speed re	vo of the thre striction at sp 4:29 and 15:0	e WMATA eeds greater	Recomm	nended	Reinspecti	ion?	N/A
Remedial Action	WMA	TA mus	t clarify it	s prot	tocols fo	r institut	ing and n	nonitoring spe	ed restrictions.					



Form FTA-IR-1

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### Agency/Department Information

Increation Data	YYYY	MM	DD	Report Number	20160411.\	NMATA-JLK-1			
Inspection Date	2016	04	11	Report Number	20100411-V	MINIMI W-JEK-T			
Rail Agency Name	Washington Authority	Metropolitan A	rea Transit	Rail Agency Department	Track and Structures	Sub- Department	Track Inspection		
Rail Agency Department		Name		Email	Office Ph	hone	Mobile Phone		
Contact Information									
Inspection Location	Walking/Ridi	ing Inspection o	of track on Silv	er Line between Wiehle	Reston East Station	and Roslyn track # 1, a	nd # 2 .		

### Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI					
Inspection Units	1					
Inspection Subunits	4					
Defects (Number)	3					
Recommended Finding	YES					
Remedial Action Required	YES					
Recommended Reinspection	YES					

#### **Activity Summaries**

Inspection Activity #	1	Inspe	ction Sub	ject	Track,	Switch,	Turnou	t and	Third Rail Ir	spection	Activity C	ode	TRK		WI	P!
Job Briefing Employee Name/Title		hd	mploy Inspecto		mber		mpanie	ed	YES	Out Brief Conducted	YES	Time	0930 1330		tside hift	YES
Related Reports						Relat	ed CAI	PS / Fi	ndings							
	Ref				Rule or	SOP			Standard		Other /	Title		Checkli	st Refe	rence
Related Rules, SOPs, Standards, or Other	MSRF	РН			Genera Standa	l Mainte rds	nance									
	TRST	1000														
	Mai Trac		Yard	Sta	tion	осс	RT. Faci	- 1	FTA Office	Track Type	At-gr	ade	Tunnel	Elevate	ed	N/A
Inspection Location	×				x					Hack Type	×					
,					T						From				То	
Line(s)	Wieh Resto Statio	on East	Track Numb		#1,#	2		n Mar 'or Sta	ker tion(s)							
	He	ad Car	Number		Numbe	r of Cars		Equipr	nent							
Vehicles							"	-quipi	Henr							
	FWS	O Inspe	ection tea	m in c	onjuction	n with FR	A supp	ort, c	onducted a	focused	Numbe	r of Defe	cts		_	3
Description	walk	ing/ rid	ling inspe	ction	of WMAT	A Silver	Line W	iehle l	Reston East	Station to	Recomr	nended	Finding?			YES
	Rosiy	yn Stati	on track	one, a	and track	two to II	nciuae	SWITC	nes, turnot	ts, crossovers	Remedi	al Actio	n Required	l?		YES

Inspector in Charge - Signature	SEAN L THOMPSON Digitally signed by SEAN L THOMPSON ON: C=U.S. G=U.S. Government, ou=DOT Headquarters, ou=FTAND, cm=SEAN L THOMPSON Date: 2016.04.12 16:01.20 -04000	Date 04/11/2016
	Inspection Team Justin Killingsworth, Corwyn Foster	





	and components .		
	During the inspection the following items were identified.		
		Recommended Reinspection?	YES
	2- missing cover boards 1 – Obstruction by debris, 1073+00 Wiehle Reston East Station		
Remedial Action	Complete repairs.		



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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### Agency/Department Information

	YYYY	MM	DD	Report Number	20160411-	\Λ/ΜΔΤΔ-Δ <i>Α</i>	ΔN-1	
Inspection Date	2016	04	11	Report Number	20100411			
Rail Agency Name	Washington Authority	Metropolitan	Area Transit	Rail Agency Department	Track and Structures	Sub- Dep	artment	Track Inspection
Rail Agency Department	Authority Department	Office F	Phone		Mobile Phone			
Contact Information								
Inspection Location	Walking Insp	ection of trac	k one between	Silver Spring and Fort To	otten, CM 451+00 to	o 284+00		

### Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-WI-OBS	TRK-SW-PI	TRK-RAD-OBS	TRK-RWP-PI	
Inspection Units	1	1	1	1	1	
Inspection Subunits	5	1	4	1	3	
Defects (Number)	20	0	0	1	1	
Recommended Finding	YES	N/A	NO	NO	NO	
Remedial Action Required	YES	N/A	NO	NO	NO	
Recommended Reinspection	YES	N/A	NO	NO	NO	

#### **Activity Summaries**

Activity Summaries Inspection Activity #	1	Inspec	tion Subj	ect	Track,	Switch, T	urnout and	Third Rail In	spection	Activity Co	ode	TRK	V	/I	PI
Job Briefing Employee Name/Title	RWIC emplo Track emplo	level 4, yee nui Inspect yee nui	mbet			Accon	npanied ctor?	Yes	Out Brief Conducted	YES	Time	1030 1430		side lift	NO
Related Reports						Relat	ed CAPS / F	indings					- 11:		
	Ref				Rule or	SOP		Standard		Other /	Title		Checklis	t Keter	ence
Related Rules, SOPs, Standards, or Other	MSRP	Н			Genera Standa	al Mainter rds	nance								_
	TRST :	1000													
	Mai Trac		Yard	Stat	ion	осс	RTA Facility	FTA Office	Track Type	At-gr	ade	Tunnel	Elevate	d	N/A
Inspection Location	х								Hack Type	x					
	-		τ	L						From			1	·o	
			Track				Chain Ma	rker	451+00			284+0	0		
Line(s)	RED(E	B) LINE	Numb	er	ONE		and/or St								
	Hea	ad Car N	lumber		Numbe	er of Cars	Equip	ment				1			
Vehicles							Equip	, inche							
	FWS0	) Inspe	ction tear	n in co	onjuctio	n with FR	A support,	conducted a	focused		r of Defe	cts			20
Description	walki	ng insn	ection of	WMA	TA Red	(B) Line, t	rack one to	include swi	tches, turnouts,	Recom	mended	Finding?			YES
Description	and o	rossóve	ers betwe	en Sil	ver Spri	ng, CM 45	ot+on and i	ort Totten, 0	204700.	Remed	ial Actio	n Require	d?		YES

Inspector in Charge - Signature	Digitally signed by SEAN LTHOMPSON  DN: c=US, o=U.S., Government, ou=DOT Post adquarters, ou=FFAHQ, cn=SEAN L THOMPSON Date: 2016.04.12 16.00.42 -04'00'	Date 04-11-2016
Inspector in Charge – Name Sean Thompson	Inspection Team Alexander A. Nepa & William H. Wilson	





THIRD RAIL DEFECT, CM240+00 approxmiately 48 inches of the end of third rail was unsupported.  FOULED BALLAST CONDITIONS, at B06 signal track two and B07 crossover, foul ballast conditions failing to provide adequate drainage and failing to maintain proper geometry. THESE CONDITIONS WERE PREVIOUSELY IDENITIFIED AND REPORTED IN AN FTA INSPECTION.		
THIRD RAIL DEFECT, CM 421+00, collector striking the extriemen edge of the third rail		
BROKEN THIRD RAIL TENSION ANCHOR ARMS, CM407+00, 354+00, 316+90, 359+70 and 345+30.  CROSS TIE DEFECTS  BO8 switch, CM440+00 nine supporting non-defectice crossties in a 40 foot segment.  CM425+10 at speed box, three defective crossties in-a-row, space between non defective ties measured 109 inches.  Cm354+00, three defective crossties in a row, space between non-defective ties measured 102 inches.  Blanked tie defect between CM425+00 and 385.00 all 10 foot ties supporting third rail support insulators have deteriorated to a point of non-effectiveness.	Recommended Reinspection?	YES
During the inspection the followitems were identified.  MISSING COVER BOARDS, TRST1000, 13.3.15. CM421+00, 410+00, 407+00, 365+00, 366+00, 348+00, and at the B07-02 signal.		

Inspection Activity #	2	Insp	ection Sub	ject	Observ	ations co	mments	to WMATA		Activity C	ode	TRK		WI	OBS
Job Briefing Employee Name/Title	empl Track empl	oyee r Inspe oyee r nce W	4, Lander number number vatchman nployee nu	ımbe	all	Accor Inspe	) mpanied ctor?	¥ES	Out Brief Conducted	YES	Time	1030 1430		itside hift	NO
Related Reports						Relat	ed CAPS /	Findings							
	Ref				Rule or	SOP		Standard		Other /	Title		Checkli	st Refe	rence
Related Rules, SOPs, Standards, or Other	COM	MENT	rs												
	Ma Tra		Yard	Stat	ion	осс	RTA Facility	FTA Office	Track Type	At-gra	ade	Tunnel	Elevate	ed	N/A
Inspection Location	х								Hack Type	x					
	-									From			L	То	
			Track				Chain M	arker	451+00			284+0	0		
Line(s)	Red	(B) Lin	e Numb		One		and/or	Station(s)							
	He	ad Cai	r Number		Number	of Cars									
Vehicles							Equ	pment							
	At 1	1:16 A	M a train a	pproch	hing Silve	r Spring	Station pa	assed the wor	k group without	Numbe	r of Defe	cts			1
	slow	ing do	wn or sou	nding t	he horn.	This was	reported	to ROCC.		Recomm	nended	Finding?			YES
Description										Remedi	al Actior	Required	1?		YES
										Recomm	nended	Reinspect	ion?		N/A





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Inspection Activity #	3 In:	pection	on Subj	ect Sw	itch Ins	pection				Activity Co	ode	TRK	SW	PI
ob Briefing Employee Name/Title	RWIC leve employee Track Ins employee Advance	el 4, <b>s</b> e numl pector e numl Watch	ber 003 ber 014	868	) 4	Accompa nspecto	1	¥ES	Out Brief Conducted	YES	YES <b>Time</b> 1030 1430			l <b>e</b> NO
telated Reports					F	Related	CAPS / Fi	ndings						
	Ref			Rul	or SOP	)		Standard		Other / T	itle		Checklist R	eference
telated Rules, SOPs, standards, or Other	MSRPH				neral Ma ndards	intenan	ice							
_	TRST1000	)												
	Main Track	Y	ard	Station	oc	r 1	RTA acility	FTA Office	Track Type	At-gra	ide	Tunnel	Elevated	N/A
nspection Location	×									x	l			
		1				_				From			То	L
									451+00	110111		284+00		
.ine(s)	Red (B) L	ino I	Track Number	.   0	ne	- 1	hain Mar nd/or Sta		+31+00			254100		
			, 1411100	.		"	,					<del>                                     </del>		
	Head C	or Nu	mhar	Nur	ber of 0	are	Ţ							
Vehicles	пеац	ar ivui	ilibei	INGI			Equipr	nent						
	FWSO In	specto	r with f	RA suppo	rt condi	ucted a r	physicial	inspection o	f four switches	Number	of Defe	cts		0
	between	Silver	Spring	and Fort	otten. N	No defec	ts were r	noted; no ex	ceptions	Recomm	nended I	inding?		0
Description	taken.									Remedia	al Action	Required	?	0
										Recomm	nended I	Reinspecti	on?	0
	1													
Remedial Action														
			ion Cub	inst D	dio Obe	orvation				Activity C	ode	TRK	RAD	OSE
	<b>_</b>	<u> </u>	ion Sub	ject R	adio Obs	servation	า			Activity C	ode	TRK	RAD	OSE
nspection Activity # lob Briefing Employee	RWIC lev employe Track Ins employe Advance	el 4, L e num pecto e num Watc	nbei r nber			servation Accomp	anied	¥ <del>ES</del>	Out Brief Conducted	Activity C	ode Time	1036 1436	O Outsi	de NO
Inspection Activity #  Job Briefing Employee Name/Title	RWIC lev employe Track Ins employe Advance	el 4, L e num pecto e num Watc	nbei r nber hman			Accomp Inspecto	anied			YES	Time	1030	O Outsi O Shif	de NO
Inspection Activity #  Job Briefing Employee Name/Title  Related Reports	RWIC lev employe Track Ins employe Advance	el 4, L e num pecto e num Watc	nbei r nber hman	mber		Accomp Inspecto Related	panied or?				Time	1030	O Outsi	de NO
Inspection Activity #  Job Briefing Employee Name/Title  Related Reports  Related Rules, SOPs,	RWIC lev employe Track Ins employe Advance	el 4, L e num pecto e num Watc	nbei r nber hman	mber		Accomp Inspecto Related	panied or?	indings		YES	Time	1030	O Outsi O Shif	de NO
Inspection Activity #  Job Briefing Employee Name/Title  Related Reports  Related Rules, SOPs, Standards, or Other	RWIC level employee Track Instead employee Advance	rel 4, L' e num pecto e num Watc emplo	nbei r nber hman	mber	le or SO	Accomp Inspecto Related	oanied or? CAPS / F	indings Standard		YES	Time	1030	O Outsi O Shif	de NO
Inspection Activity #  Job Briefing Employee Name/Title  Related Reports  Related Rules, SOPs, Standards, or Other	RWIC level employee Track Instead employee Advance	rel 4, L'e num pecto e num Watc emplo	nbei r nber hman	mber	le or SO	Accomp Inspector Related P	panied or?	indings		YES	<b>Time</b>	1030	O Outsi O Shif	de NO
Inspection Activity #  Job Briefing Employee Name/Title  Related Reports  Related Rules, SOPs, Standards, or Other	RWIC lever employee Track Instead employee Advance Ref MSRPH TRST100 Main	rel 4, L'e num pecto e num Watc emplo	nbei r nber hman byee nu	mber Ru	le or SO neral Ru	Accomp Inspector Related P	panied pr?  CAPS / F	FTA	Conducted	YES Other /	Time Title	1030 1430	O Outsi O Shif	de t NC
Inspection Activity #  Job Briefing Employee Name/Title  Related Reports  Related Rules, SOPs, Standards, or Other	RWIC lever employee Track Instead of the Employee Advance Ref MSRPH TRST100 Main Track	rel 4, L'e num pecto e num Watc emplo	nbei r nber hman byee nu	mber Ru	le or SO neral Ru	Accomp Inspector Related P	panied pr?  CAPS / F	FTA	Conducted	YES Other /	Time Title	1030 1430	O Outsi O Shif	de t NC
Inspection Activity #  Job Briefing Employee Name/Title  Related Reports  Related Rules, SOPs,	RWIC lever employee Track Instead of the Employee Advance Ref MSRPH TRST100 Main Track	rel 4, L'en enum pecto e num Watc emplo	nbei r nber hman byee nu	Ru Ge	le or SO neral Ru	Accomp Inspector Related P ules	panied pr?  CAPS / F	Standard  FTA Office	Conducted	YES Other /	Time Title	1030 1430	O Outsi Shif Checklist I Elevated	de t NC
Inspection Activity #  Job Briefing Employee Name/Title  Related Reports  Related Rules, SOPs, Standards, or Other  Inspection Location	RWIC levemployee Track Insemployee Advancee  Ref MSRPH TRST100 Main Track X  Red (B)	e num e num Watci emplo	nber r nber hman byee nu Yard	Ru Ge Station	le or SO neral Ru	Accomp Inspector Related P ales	CAPS / F  RTA Facility  Chain Ma	Standard  FTA Office	Conducted  Track Type	YES Other /	Time Title	1030 1430 Tunnel	O Outsi Shif Checklist I Elevated	de t NC





	Monitored the radio communication between RWIC and ROCC, all communications	Recommended Finding?	0
	were correct and legible.	Remedial Action Required?	N/A
		Recommended Reinspection?	N/A
Remedial Action			

Inspection Activity #	5	Inspe	ction Sub	ject	Roadv	vay Wor	ker Protection	on		Activity Co	ode	TRK	RWP	Pl
Job Briefing Employee Name/Title	emple Track emple	Inspec oyee nu nce Wa	umber 003	1539	012331		mpanied ector?	¥ES	Out Brief Conducted	YES	Time	1030 1430		NO
Related Reports						Rela	ted CAPS / I	indings						
	Ref				Rule or	SOP		Standard		Other / 1	Title		Checklist Re	ference
Related Rules, SOPs, Standards, or Other								-		<u> </u>				
	Mai Trac		Yard	Sta	tion	осс	RTA Facility	FTA Office	Track Type	At-gra	ide	Tunnel	Elevated	N/A
Inspection Location	x								Track Type	x				_
	$\top$				T					From			То	
Line(s)	Pod (	B) line	Track		one		Chain Ma		451+00			284+0	0	
Line(s)	, neu (	o) iiie	Numb	er	One		and/or St	ation(s)				+		
	Hea	ad Car I	 Number	T	Numbe	r of Cars							<u> </u>	
Vehicles							Equip	ment						
	FWS	O with I	FRA suppo	ort me	t WMAT	A perso	nell at Silver	Spring Stati	on, once there	Number	of Defe	cts		0
						ted, all \	WMATA RW	P badged we	ere checked and	Recomn	nended F	inding?		N/A
Description	tne jo	ופוזם טכ	rfing form	signe	u.					Remedi	al Action	Required	1?	N/A
	RWIC	and ad	dvance wa	atchm d 15 s	an did a econds t	n outsta o clear,	nding job pr their efforts	oviding proto should be co	tection for trains commended.  Recommended Reinspection?  N/A					N/A
Remedial Action														



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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#### Agency/Department Information

D	YYYY	ММ	DD	Report Number	20160411	20160411-WMATA-MKD-1						
Inspection Date	2016	04	11	Report Number	20100411-WWATA WIND 1							
Rail Agency Name	Washington Authority	Metropolitan	Area Transit	Rail Agency Department	Track & Structures	Sub- Depar	tment	Track Inspection				
<del></del>		Name .		Email	Office	Phone	Mobile Phone					
Rail Agency Department Contact Information						<b>.</b>						
Inspection Location	Track Geom testing on #	•	Orange Line fro	om the C-05 (Rosslyn Stat	ion) to D-13 (New	Carrolton) cond	lucting Ultra	sonic Track (UT)				

#### Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-TGV-RC	TRK-TGV-PI				
Inspection Units	1	1				
Inspection Subunits	4	1				
Defects (Number)	0	0				
Recommended Finding	No	No				
Remedial Action Required	No	No				
Recommended Reinspection	No	No				

Inspection Activity #	1	Insp	ection S	ubject	Rules	Complia	ince			Activity C	Activity Code		<u> </u>	TGV	RC
lob Briefing Employee Name/Title			rwic	Level	4	Accompanied inspector?		d <sub>Yes</sub>	Out Brief Conducted	Yes	Time	2230 023	-	utside Shift	Yes
Related Reports						Re	lated CAP	S / Findings	1						
	Ref				Rule or S	OP		Standard		Other / Title			Checklis	t Refere	nce
Related Rules, SOPs, Standards, or Other	MSR	PH			3.87.1,3.	1.22, 3.6	57,								
rangards, or Other					SOP #23	5.5.3									
	Ma Tra	- 1	Yard	St	tation	осс	RTA Facilit	FTA y Office	Track Type	At-gr	ade	Tunnel	Elev	ated	N/A
Inspection Location	>	,			0				Track Type	×		х	,		
	†		·I							From				To	
Line(s)	C-05 (Ora	to D- nge)	-13	Track Num			Chain I and/or	Marker Station(s)							
Vehicles	He		r Numbe	r	Numbe	of Can		uipment	Track Geor	netry Vehicle	(TGV)				
			i/A	Д,		<u> </u>			their compliance Number of Defects				0		
			ım monito PH rules:	ored th	e Track G	ometry	y venicle/	o rewand tr	neir compliano					+	No
Description	3.87	.1 - s	ounding	of hom	s when ex	iting or	entering i	tunnels			mended			+	No
~~~·	3.12	2 - sc	ounding o	f the h	orn in sho	rt blasts	s when op	erated against	the normal			Require		+	
	dire	ction (	of traffic				4			Recom	Recommended Re-inspection? No				NO

Inspector in Charge - Signature	IFDFNIA DASHIELL	Digitally signed by MEDENIA DASHIELL DN c=US, 0=US. Government, ou=DOT Headquarters, ou=FRAHQ, cn=MEDENIA DASHELL Date: 2016,04.12.15.08.40-04'00'	Date 04/12/2016
Inspector in Charge - Name	Inspection Team		
Medenia K. Dashleil	Medenia K. Dashiell – FWSO, James Payne - F	RA	



					ted past o p displayi			int 10-feet in	approach of							
	a ( )	, cerio	rening agi	iai Oi iaili	h arabiayi	118 4 100	- agrici									
									_				- 1			
	SOP #	123 - 1	23.5.5.3 -	-Class II o	perators:	shall so	and horns	through stat	îons.							
	No de	eficien	icies iden	tified with	or appro	ach to	interlockin	g signals and	lamps.							
					• •			-	•							
Remedial Action	N/A	N/A														
Inspection Activity #	2	Inch	ection Su	hiect	Track Ger	ometry	Vehicle Te	esting		Activity Co	nde	TRK	( ]	ſĠV	Pl	
Job Briefing				,	Track CC							1	<del>-  </del>	-	<del> </del>	
Employee Name/Title	Pleas	e See	Above		:	Accon	npanied ctor?	Yes	Out Brief Conducted	Yes	Time	2230 023		ntside hift	Yes	
Related Reports						Relate	ed CAPS /	Findings			٠	l				
	Ref			Ru	ılé or SOP	l	s	tandard		Other / Title			Checklist	Refere	ence	
Related Rules, SOPs,		1000														
Standards, or Other				$\neg + \neg$												
	Ma	in		T.		ac I	RTA	FTA				Tur	Efere	00	N/A	
	Tra		Yard	Statio	on O	СС	Facility	Office	Track Type	At-gra	iae	Tunnel	Elevat	ea	N/A	
Inspection Location	×					-			Irack Type	x		х	x			
	^					_				^						
			- 1					1		From		4		To		
******	C-05	to D-	13	Track	1		Chain Ma									
Line(s)	(Orai	nge)	- 1	Number	1		and/or St	ation(s)								
	He	ad Ca	r Number	N	lumber o	f Cars	Equip	·	Tunali Coom	etry Vehicle (	TCV					
Vehicles		N	/A	Ì			equip	ment	Hack Geom	letty venicle (	(104)					
1.									Ultrasonic (UT	) Number	of Defe	cts			0	
								o D-13 (New		Recomm	nended l	Finding?			No	
								testing of its apable of pe	rforming both	Remedi	al Action	Require	d?		No	
	tract	c geon	netry and	UT testin	ng at the s	ame tin	ne; howev	er, there was	s no track							
	geor	netry	testing p	erformed.				1								
	- No	signif	icant defe	ects (red/)	black) we	re found	d. Althous	the vehicle	was stopped				V 100			
	and	revers	sed on se	veral occa	sions to r	e-analy	ze data lo	cations, only	two (2)							
	locat	tions	required	on the gro	ound hand	d verific	ations for	potential def	iciencies sited that an out of	l;						
					and verifi		is available	. in the case								
1	i															
Description	- At	the pr	resent, W	MATA do	es not ha	ve any v	vritten gui parina Den	delines for it artment afte	s UT program. r testing:							
	how	ey rej ever	ports are a report i	s maintair	ned on th	e vehici	es, combo	rter hard driv	e and can be	1_		<b>.</b>			-1-	
- 1			when rec		4					Recomi	nended	Re-inspe	cuons		No	
			hac aut-	one cro	mombo-	whom:	s IIT cortid	ied to analy	e the technica	,						
	data	andi	hand veri	v potenti	al deficier	ncies as	sited by tl	he car. This	employee (a	"		100				
	forn	ner U1	certified	Sperry er	mployee)	is also r	esponsible	e for the UT :	specialized							
	com	pone	nts and m	aintenan	ce for this	area o	the test v	vehicle. He h ordance to Sp	as no official erry							
				y 5 years		Renera	any mi occc	A JAMING TO 34	,					1		
		2	,		•					}		*				
						1								1		
						*										
1 :														Ь——		



#### Recommendations:

One of the contributing factors to the TGV crew's lack of knowledge is that the car only operates a handful of times throughout the year; a minimum for four (4) times for geometry and two (2) for UT testing of the entire system.

- This technology is being underutilized and serious consideration should be given to expanding this program into full time deployment.
- The current crew should be made a full time TGV crew and continual annual training should be provided to bring their knowledge up to the standards needed to operate such an expensive program.
- Annual training should be specified for continual certifications and provided to an additional crew member to provide knowledge/support/relief to the one certified crew member; this would be a significant asset to the UT program.

#### Remedial Action

WMATA must develop written maintenance standards and guidelines for its Ultrasonic Testing (UT) program. Survey reports are not provided to the Engineering Department after testing; the report is maintained on the vehicles' hard drive and can be produced when required.

- WMATA could either adopt a standard as the railroad industry or work with a consultant such as the Sperry Rail Service or Herzog www.i.a cound either adopt a standard as the railroad industry or work with a consultant such as the sperry kall service of He to determine standards that are more designed for the equipment that they operate. Since this is a closed system, WMATA would be able to adopt a set of standards that could differ from the rall industry.

  Survey reports should be maintained independent from the vehicle's hard drive; perhaps uploaded onto the TRST's Maximo system or WMATA server for recordkeeping.

# Track Geometry Inspection Compliance Form

Subject	Track Geometry Insp	Track Geometry Inspection Compliance Form										
Purpose	Inspection requireme	The intent of this form is to verify compliance with the Track Geometry Inspection requirements detailed in the Washington Metropolitan Area Transit Authority (WMATA) 1000 Track Maintenance & Inspection Manual										
References	WMATA – 1000 Track Maintenance & Inspection Manual, revision 6, dated January 1, 2015 – section 11											
Date(s) of Review	04/11-12/2016	WMATA Department	Track and Structures (TRST)									
FTA Reviewers	Medenic Dashiell James Payne - FRA	WMATA Person(s) Contacted	Cholles									
Date	04/12/2016	Time	8200 to 0 230									
Location	Rossiyn to New Carrotton	Track#	1									

item	Required Observation	Compliant	Non-compliant	N/A
	All measured values can be displayed in a graphic format;	W C		
11.23.2	Recorded on a computer hard drive;			
	Or printed as an exception report for the maintenance forces.	V		
Notes:				
11.23.3	User-defined measurement threshold values include:			
А	Track Gauge			
В	Horizontal and Vertical Alignment			
С	Left and Right Surface			
D	Cross-Level			

tem F	Required Observation	Compliant	Non-compliant	N/A
1	wist and Warp			
Notes:	No Geometry testing conduc	ted.		
	How are noted defects Addressed?	CI	neck One or More	
	Maximo			
	Email			
	Direct Contact with Supervisor for the specific territory			
	Chase Crew			
	Deferred			
Notes:				
	Onboard Calibration Verification – Method of Verification			
	Calibration Sticker indicating a current date			
	Documentation (Specify in Notes)			
	Visual Verification			
Notes:				
	Required Action	ons		
V	No action required			
	Action required. WMATA will respond to FTA action(s) taken to address the deficiencies of provide FTA with a signed statement of comevidence or reports from information manage completion as appropriate.	oted in this insp pleted action, a	pection report. WM/ accompanied by pho	ATA will tographic
	Results/Comm			
L)MATA	create official written quidelines	for UTtestin	and additional	Crew train
02/2011	Findings/Corrective	e Actions		

Item	Required Observation	Compliant	Non-compliant	N/A

NOTE: This form will be adjusted as FTA is informed of the internal standard operating procedures used by the WMATA TRST TGV team.



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

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### Agency/Department Information

Inconstinu Data	YYYY	MM	DD	Report Number	20160412-WMATA-JMC-1						
Inspection Date	2016	04	12	Report Number	20100412-WWATA-SWIC-1						
Rail Agency Name	Washington Authority	Metropolitar	n Area Transit	Rail Agency Department	Rail Transportation	i Sub-Department i					
Rail Agency Department		Name		Email	Office Ph	one	Mobile Phone				
Contact Information											
Inspection Location	ville, MD 20785										

### Inspection Summary

Inspection Activity #	1	2	3	4	5	6	7	8
Activity Code	ROCC- GEN-MTG	ROCC-RAD- OBS	ROCC-RC-OBS					
Inspection Units	1	1	1					
Inspection Subunits	2	1	4					
Defects (Number)	0	4	0		,			
Recommended Finding	No	Yes	No					
Remedial Action Required?	No	Yes	No					
Recommend Reinspection	No	Yes	No					

### Individual Inspection Activity

Inspection Activity #	1	Ins	pection	Subject	: G	ieneral	Meet	ing				_	Act Cod	tivity de	y	RO	сс	GEN	OBS
Job Briefing Employee Name/Title	N/A	<b>.</b>						ompanie pector?	d	N/A	Out Brief Conducted	Ye	Tin	ne	064 11			tside hift	Yes
Related Reports								elated CAPS / Findings											
	Ref				Rule	e or SOF	•	Standard				Other	Title			Che	cklist	Refere	nce
Related Rules, SOPs, Standards, or Other	MSR	PH			1.69	9-1.79											···· <u>-</u> .		
Standards, or Other	ROC	C Mar	nual																
	Ma Tra		Yard	St	tation	00	CC	RTA Facilit	.y	FTA Office	Trook Time	A	-grade		Tunne	l E	levat	ed	N/A
nspection Location		,				,	x				Track Type					1			Χ
			·					<u> </u>		<u> </u>		From					To	0	
Line(s)				Track Number			Chain M		Marker		:-								
	He	ad Ca	r Numb	er	Nur	mber of	Cars			ment									
Vehicles								Ede	uipi	ment	İ								
	FWS	0 me	t with As	ssistant	Super	rintende	ent				we dis cussed	1	mber of	fDef	ects				0
	trac	k safe	etyandra	adio pro	cedui	res . Cor	ntrolle	ers proper	lyp	rovided blo	cking protecti	on Re	comme	ndec	d Findi	ng?			No
Description	and noted on the proper forms when maintenance personnel requested to work on the track inspectors would be walking track.								Ac	tion Red	quire	d?				No			
	FWS	50 m	onitored	trainra	adio co	ommuni	icatio	ns and the	e RC SOF	OCC Operato P's, Metrora	ors (radio and il Safety Rules	Re	comme	nd R	einspe	ction?	,		No

Inspector in Charge - Signature	James Cassatt, Jr	Digitally signed by James Cassatt, Jr DN: cn-James Cassatt, Jr, o=FRA, ou=DOT, email=james.cassatt@dot.gov, c=US Date: 2016.04.13 18:16:49 -04'00'	Date April 12, 2016
Inspector in Charge – Name Jim Cassatt	Inspection Team Jim Cassatt, Shane Richardson		





	and Procedures Handbook and train movements. Both the Radio and Button Controller emphasized Safety, made radio announcements (including hourly announcements) when unusual occurrences (i.e. track workers, delays etc) to operators, had job briefings with employees prior to fouling/clearing track to perform work.
Remedial Action	N/A

nspection Activity#	2	Insp	ection S	Subject	Rad	lio Prod	ædures/Re	peat	Backs			Activ Code		ROCC R		ОВ
ob Briefing imployee Name/Title	N/A						Accompanied Inspector? N/A Out Brief Conducted				Yes	Time		45- .00	Outside Shift	Yes
Related Reports					Related CAPS / Findings											
	Ref				Rule o	r SOP	P Standard				Other/1	itle		Check	ist Refer	ence
Related Rules, SOPs, Standards, or Other	MSRF	РΗ			1.73,	1.79		+-			<del></del>					
tion Location	Main Track Yard S		St	tation OC		R <sup>1</sup> Fac		FTA Office	Track Type	At-g	rade	Tunne	l Ele	vated	N/A	
nspection Location						х			<u> </u>	Truck Type						X
											From				То	
.ine(s)	ROCO	2		Track			Chai	n Ma	ırker							
(-)				Numb	er											
	Hea	ad Ca	r Numbe	er T	Numb	er of C	ars									
<b>Vehicles</b>		Equipment														
	FWS	FWSO observed and monitored ROCC Controllers compliance with radio rules and									ber of D	efects			4	
	monitored radio transmissions. Controllers re-enforced read backs with maintenance workers and operators. The Controllers, Maintenance, and ATC employees made								Reco	mmend	ed Findi	ng?		Yes		
	proper radio transmissions when issuing and repeating back roadway access. The Controller made announcements, prior to issuing the access, to employees informing									edial Ac	tion Req	uired?	<u> </u>	Yes		
Description	then	n of th	ving radi An unk MSRPH At 0725 Arlingt Radio o locatio on the Asst. Si it is ver perma	effective o transinown e at 0948 rule 1. 5 hours on Cerr commu ns. WM 14-A. wn emp portab upt expry disru	missions mployee hours 73. , train 42 etery. nication: IATA nee bloyees i le radio, lained th ptive. A der issue	defect e made The unl 11 faile s were c eds to c n the fi , causin nat this sugges	s were not an unnect known em d to repea difficult to omply wit eld, accide g an alarm is a comm stion was n	ed: ssary ploye back receir ntly " to so on pr	y communica ees failed to c k to hold two ive and transi P FTA-RAIL-1- "push" the er ound in the R	tion "Come or omply with minutes at mit at various 14-B and FTA- nergency butt OCC. The MO field and stat letin or	Reco	ommend	l Reinspe	ection?		Yes

Inspection Activity#	3	Inspection Subject	Maintenance Personnel Roadway Access					Activity Code	·	ROC	C RC	OBS
Job Briefing Employee Name/Title	N/A			Accompanied Inspector?	N/A	Out Brief Conducted	Yes	Time	064 11		Outside Shift	Yes
Related Reports				Related CAPS /	Findings							





Related Rules, SOPs,	Ref			Rule	or SOP		St	andard		Ot	her/Title		Checklist Refe	erence
Standards, or Other				-										
Increasion Location	Main Track	Yard	s	itation	OCC RTA Facilit		y Office		Track Type	At-grade		Tunnel	Elevated	N/A
Inspection Location			j		х		1		inack type					Х
					,					Fre	om		То	
Line(s)	ROCC		Track Num			Chain M	Chain Marker							
	Head Car Number			Number of Cars							<del></del>			
Vehicles					-	Equ	ipm	nent						
								oloyees per		$\neg$	Number of D	efects		0
D. codeston								tworkers w om dim he		ſ	Recommend	ded Findin	g?	No
Description		working at specific locations reminding trains to use the hom, dim headlight and reduce speed to 35 mph.									Remedial Ad	ired?	No	
	ĺ										Recommend	tion?	No	
Remedial Action	N/A													



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

# ale (b) (b)

### Agency/Department Information

l series Data	YYYY	ММ	DD	Report Number	20160412 \	20160412-WMATA-TGB-1					
Inspection Date	2016	04	12	Report Number	20100412 WWATA TOD 1						
Rail Agency Name	Washington Authority	Metropolitan	Area Transit	Rail Agency Department	Track and Structures	Sub- Dep	artment	Track Inspection			
Rail Agency Department Contact Information		Name		Email	Office P	Office Phone Mobile Phone					
				n							
Inspection Location	Walking insp	ection of the	Orange Line Ne	w Carrollton Station to La	andover Station						

### **Inspection Summary**

mopeoner carrier,		_			<del></del>	
Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI					
Inspection Units	1					
Inspection Subunits	1.6 mis					
Defects (Number)	50					
Recommended Finding	NO			.		
Remedial Action Required	Yes					
Recommended Reinspection	Yes					

### **Activity Summaries**

Inspection Activity #	1 In	spection S	ubject		-					Activity C	ode	TRK	WI	PI	
lob Briefing Employee Name/Title						mpanie ector?	d	¥	Out Brief Conducted	n	Time	1000			
Related Reports		-			Rela	ted CAP	S/F	indings							
-	Ref			Rule	or SOP			Standard		Other /	Title		Checklist Ref	erence	
Related Rules, SOPs,	MSRPH Ge			Gene	eral Rules	Rules									
Standards, or Other	TRST100	00													
Inspection Location	Main Track	Yard	St	ation	осс	RT <i>A</i> Facili		FTA Office	Track Type	At-gr	ade	Tunnel	Elevated	N/A	
	x								паск туре	x			x		
		<u> </u>		T						From To					
		Tra	ck		Chain Mark			ker	New Carrollto	n Landover		ver			
.ine(s)	Orange	Line Nu	mber	1		and/or Station(s)			D13 D			D10	.0		
								611+26	611+26			524+00			
	Head	Car Numb	er	Numl	oer of Cars										
Vehicles		n/a				E	quip	ment							
	FRA Insi	ectors we	re requ	ested to	perform	a visual i	inspe	ection of the	track	Numbe	r of Defe	cts		50	
	structur	e and turn	outs in	on the (	Orange Lin	e from I	New	Carrollton Si	tation to	Recomi	mended	Finding?		No	
S	Landove	er Station,	Track #:	L. RWIC	nying the	ertorme track no	a the	e required jo entions take	b briefing with n. The	Remedial Action Required?				Yes	
Description	followin	ig defects	were ob	served	o occupying the track, no exceptions taken. The erved or measured:						Recommended Reinspection?			Yes	

1Inspector in Charge - Signature	SEAN L THOMPSON	Digitally signed by SEAN L THOMPSON DN: c=US, o=US, Government, ou=DOT Headquarts, ou=TFANC, c=SEAN L THOMPSON Date: 2016.04.12 16.04.49 -0.4'00'	Date 04/12/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Tom Beck, Joe Kennedy		



Federal Transit Ad	Minimoti deton	
	-FRA observed that the blue light identifying communication and power-off boxes	
	-FRA Observed that the bide light identifying communication and power-on boxes	
	were not working at the following locations	
	-463+00 Trk 2	
	-555+00 Trk 1, also broken cabinet doors on com/power cabinet	
į	-555+00 Trk 2 light working but cabinet door hanging	l
	-546+90 Trk 1, also broken door on cabinet	
ĺ	-563+00 Trk 2	
	-578+70 light working , open comm/power cabinet door	l l
	-FRA observed broken or missing third rail covers at the following locations:	į
	-583+40 Trk 2, 2 covers	
	-576+70 Trk 2, 2 covers	
1	-559+20 Trk 2,	
L L	-557+90 Trk 2	
1		
	-556+20 Trk 2, 3 covers	
	-555+80 Trk 2	
	-554+60 Trk 1	
	-554+50 Trk 2	
	-553+90 Trk 1	
	-551+50 Trk 2	
	-549+30 Trk 2	
	-548+50 Trk 2, 2 covers	1
	-548+00 Trk 2	
	-546+90 Trk 1	
	-545+90 Trk 2	
	-539+80 Trk 2	
	-534+10 Trk 2	ì
	-526+00 Trk 1, end approach missing	
	-526+00 ffk 1, etta approach missing	1
	-592+60 Trk 1, 4 consecutive crossties under welded joint, ties plates cut 30%, right	
	rail	Ì
1	and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t	
	-592+10 Trk 1, 3 consecutive ties with broken anchor bolts left rail	İ
	-589+00 Trk 1, 1 broken, 1 missing track bond left rail	
	-581+40 Trk 1, 4 consecutive crossties with loose fasteners, right rail, static gage 56	
	½", no plate movement	
1		
	-562+30 Trk 2 broken third rail porcelin bracket/insulator	
	-554+80 Trk 1, insecure guardrail on bridge	
	-334-60 TK I, Historia Business Street	
	-524+40 Trk 1, loose fasteners on four consecutive crossties, left rail, static gage 56	İ
	1/2" with 1/8" plate movement	
	and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	
1	FRA Observed chain marker sign missing at the following location:	
	-580+00	
		Į
	FRA Observed insecure walkway plates at the following locations:	
	-577+70 Trk 1	
	-564+70 Middle walkway	
	-562+40 Middle walkway	
	-560+30 Middle walkway	
	FRA observed Headlight out on passing train head Car #5230 passing inspection	
	Team at Chainmarker 569+00 Trk 2 at 11:12 AM	
	Team at Chammance 500 500 The 2 st 2 st 2 st 2 st 2 st 2 st 2 st 2 s	
	FRA observed Headlight out on passing train head Car #3142 passing inspection	
	Team at Chainmarker 545+00 Trk 2 at 11:45 AM	
	1 eam at Chainmaire 343700 Tir 2 at 11.43 not	1

Form FTA-IR-1 Version date: 12/11/15

2





Remedial Action	Repair/correct defects.	
	-524+00 West End of Landover Station Trk 1 side FRA observed unlocked door at #218 Mechanical Equipment Room	
	- 592+10, Trk 1, 3 consective timbers with missing pandrol clips left rail - 589+60, D13 Crossover frog, 2 missing pandrol clips and wedge on frog holddown plates	
	-FRA Inspectorsr performed a physical inspection of 2 turnouts and 1 diamond.  The following defects were noted:	



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

# all (b)(b)

### Agency/Department Information

lucas di un Data	YYYY	MM	DD	Report Number	20160412-WMATA-JLK-1					
Inspection Date	2016	04	12	Report Number	Z0100412-44141W1W1W-1FW-1					
Rail Agency Name	Washington Authority	Metropolitan A	Area Transit	Rail Agency Department	Track and Structures	Sub- Department	Track Inspection			
Rail Agency Department Contact Information	Name			Email	Office Pl	hone	Mobile Phone			
		<u> </u>								
Inspection Location	Walking/Ridi	ing Inspection (	of track on Ora	ange Line between Stadio	um - Armory Statior	n and L ' Enfant Plaza trac	ck # 1,			
							-			

### Inspection Summary

	T	 1 - 1	4	E .	6
Inspection Activity #	1	 3	4	3	0
Activity Code	TRK-WI-PI	 ,			
Inspection Units	1				
Inspection Subunits	4				
Defects (Number)	14				
Recommended Finding	YES				
Remedial Action Required	YES				
Recommended Reinspection	YES				

### **Activity Summaries**

Inspection Activity #	1	Inspe	ction Sub	ject	Track, S	witch,	Turn	out and	Third Rail Ir	spection	Activity Co	ode	TRK	'	<b>ν</b> Ι	PI
Job Briefing Employee Name/Title	RWIC	oyee n	umber # 6		and Ins		Accompanied Inspector?		YES	Out Brief Conducted	YES	Time	0945 1230	1	tside nift	NO
Related Reports						Rela	ted C	APS / F	indings							
•	Ref				Rule or	SOP			Standard		Other / 1	Γitle		Checkli	t Refe	rence
elated Rules, 30rs, MCDDL			General Maintenance Standards													
	TRST	1000										· · · · · · · · · · · · · · · · · · ·				
Inspection Location	Ma Tra		Yard	Stat	tion	осс		RTA acility	FTA Office	Track Type	At-gra	ade	Tunnel	Elevate	d	N/A
	x			,	х					паск туре	×	į				
Line(s)	Armo	on- L' nt	Track Numb		#1		Chain Marker and/or Station(s)			From				Го		
Vehicles	Не	ad Car	Number		Number	of Cars		Equip	ment					_		
	FWS	O Inspe	ection tea	m in c	onjuction	njuction with FRA support, conducted a focused Number of Defects							14			
Description	walk	ing/ ric	ling inspe	ction c	of WMAT	A Orang	ge Lir	ie Stadi	um - Armory	Station to L'	Recommended Finding?					YES
Description	Enfa	nt Plaz	a Station	track	one, to in	clude s	witcl	nes, tur	nouts, cross	overs and	Remedi	Remedial Action Required?				YES

Inspector in Charge - Signature	SEAN L THOMPSON Digitally signed by SEAN L THOMPSON Disculs, Government, ou=00T Headquarters, ou=FANT, CHOMPSON Date: 2016.04.12 16:10:36-04:00'	Date 04/12/2016
Inspector in Charge – Name Sean Thompson	Inspection Team Justin Killingsworth, Corwyn Foster	





	components.		
	During the inspection the following items were idenitified.		
İ	Stadium Armory platform 2- missing coverboards.		
	D1- 199+00 2 MISSING COVER BOARDS D1- 199+00 1 MISSING COVER BOARDS D1- 188+40 1 MISSING COVER BOARDS D1- 182+80 WATER LEAKING OFF OF CATWALK AND TRACK EFFECTING TRACK FASTENERS. D1- 166+40 LEFT RAIL FASTENERS AND TIE CONDITION 4 IN A ROW, WATER AND TRASH IN TRACK BED D1- 165+20 LEFT RAIL 57" STATIC GAGE WITH ½" DYNAMIC LOAD, 4 NON EFFECTIVE TIES 39' D1- 165+20 MISSING COVER BOARDS D1- 143-90 MISSING COVER BOARDS D1- 146+00 CONCRETE BROKEN ON CATWALK D1- 144+30 MISSING COVER BOARDS D1- 115+00 WATER AND MUD CONDIITON EFFECTING TRACK CONDITIONS D1- 088+00 LESS THAN 1 BOLT PER RAIL END AT JOINT	Recommended Reinspection?	YES
	D04 INTERLOCKING – 1A SWITCH WITH TRASH AND DEBRIS.		
Remedial Action	Correct/repair defects.		



Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

all (b) (b)

### Agency/Department Information

	YYYY	MM	DD	Report Number	20160406-WMATA-TW-1					
Inspection Date	2016	04	06	Vebout Maniper						
Rail Agency Name	Washington Authority	Metropolitan /	Area Transit	Rail Agency Department	TASS		Sub- Department Power			
Rail Agency Department Contact Information	1	Name		Email	Offic	ce Phone	Mobile Phone			
				=						
Inspection Location	WMATA C-Li	ne – Track 1 –	see details bel	ow						

#### Inspection Summary

mspection summary						
Inspection Activity #	1	2	3	4	5	6
Activity Code	TASS-RWP-OBS	TASS-TP-PI				
Inspection Units	1	1			``	
Inspection Subunits	1	5				
Defects (Number)	0	5				
Recommended Finding	No	Yes				
Remedial Action Required	No	Yes				
Recommended Reinspection	No	Yes				

### **Activity Summaries**

1	Insp	ection Sub	ject	RWP				-	Activity C	ode	TASS	RWP	OBS			
TRST Track Unit #679				-	•	Υ	Out Brief Conducted	N	Time			N				
					Relat	ed CAPS / I	indings					r				
Ref Rule or					r SOP		Standard		Other /	Other / Title			Checklist Reference			
									ļ							
	Yard Sta		tion	осс	RTA Facility	FTA Office	Track Type	At-gr	ade	Tunnel	Elevated	N/A				
х								Truck Type			х					
<b> </b>				T					From			То				
Track					1	Chain Ma	rker	C02 (McPher	son Sq.)		C03 (F	arragut West)				
C-line		er	1		and/or St	ation(s)	CO4 (Foggy B	ottom – GV	VU)	C05 (R	Rosslyn)					
Head Car Number Num					er of Cars	Fi.										
Equipment																
FWS	O tear	m was prov	ided v	with a Jo	b Safety	Briefing pric	or to accessi	ng the roadway.	Numbe	r of Defe	cts		0			
The	The briefing was complete and included safety rules, RWP rule, hazards, Type of protection, clearance area and special instructions related to the location and type										Recommended Finding?					
prote											Remedial Action Required					
Of in	apecu	on being p	C/1011						Recom	Recommended Reinspection?						
N/A																
	Ref RWPI Ma Trai X C-Lin He FWS The protion of in	Ref RWPM  Main Track  X  C-Line  Head Ca  FWSO teat The briefir protection of inspecti	Ref RWPM  Main Track X  C-Line Track Numb  Head Car Number  FWSO team was prov The briefing was com protection, clearance of inspection being p	Ref RWPM  Main Track Yard Sta  X  C-Line Track Number  Head Car Number  FWSO team was provided of The briefing was complete protection, clearance area of inspection being perform	Ref Rule of RWPM  Main Track Yard Station  X  C-Line Track Number 1  Head Car Number Number  FWSO team was provided with a Jo The briefing was complete and incl protection, clearance area and spe of inspection being performed.	TRST Track Unit #679  Relat  Ref Rule or SOP  RWPM  Main Track X  C-Line Track Number  Head Car Number  Number of Cars  FWSO team was provided with a Job Safety ST The briefing was complete and included safe protection, clearance area and special instruof inspection being performed.	TRST Track Unit #679  Ref Rule or SOP  RWPM  Main Track Yard Station OCC RTA Facility  X  C-Line Track Number 1 Chain Ma and/or St  Head Car Number Number of Cars Equip  FWSO team was provided with a Job Safety Briefing pric The briefing was complete and included safety rules, RV protection, clearance area and special instructions relat of inspection being performed.	TRST Track Unit #679  Related CAPS / Findings  Ref Rule or SOP Standard  RWPM  Main Track Yard Station OCC RTA Facility Office  X  C-Line Track Number 1 Chain Marker and/or Station(s)  Head Car Number Number of Cars Equipment  FWSO team was provided with a Job Safety Briefing prior to accessi The briefing was complete and included safety rules, RWP rule, haz protection, clearance area and special instructions related to the lo of inspection being performed.	TRST Track Unit #679  Related CAPS / Findings  Ref Rule or SOP Standard  RWPM  Main Track X  C-Line Track Number  Track Number  Number of Cars  Equipment  FWSO team was provided with a Job Safety Briefing prior to accessing the roadway. The briefing was complete and included safety rules, RWP rule, hazards, Type of protection, clearance area and special instructions related to the location and type of inspection being performed.	TRST Track Unit #679  Accompanied Inspector?  Related CAPS / Findings  Ref Rule or SOP Standard Other / Standard  Main Track Yard Station OCC RTA Facility Office  X  C-Line Track Number  Track Number  Track Number  Number of Cars  Equipment  FWSO team was provided with a Job Safety Briefing prior to accessing the roadway. The briefing was complete and included safety rules, RWP rule, hazards, Type of protection, clearance area and special instructions related to the location and type of inspection being performed.  Ref Related CAPS / Findings  RTA FTA FTA FTA FTA FTA Office  Track Type  From C02 (McPherson Sq.)  C04 (Foggy Bottom – GV  Recompanied Inspection and type of Recomposition, clearance area and special instructions related to the location and type of Inspection being performed.	TRST Track Unit #679  Accompanied Inspector?  Related CAPS / Findings  Ref Rule or SOP Standard Other / Title  RWPM  Main Track Yard Station OCC RTA Facility Office  X  C-Line Track Number 1  Chain Marker and/or Station(s)  From C02 (McPherson Sq.)  CO4 (Foggy Bottom – GWU)  FWSO team was provided with a Job Safety Briefing prior to accessing the roadway. The briefing was complete and included safety rules, RWP rule, hazards, Type of protection, clearance area and special instructions related to the location and type of inspection being performed.  Ref Related CAPS / Findings  N Time  Nother / Title  At-grade  From C02 (McPherson Sq.)  CO4 (Foggy Bottom – GWU)  Number of Defe Recommended Remedial Action Recommended	TRST Track Unit #679  Accompanied Inspector?  Related CAPS / Findings  Ref Rule or SOP Standard  Track Vard Station OCC RTA Facility Office  X  C-Line Track Number 1  Chain Marker and/or Station(s)  Track Number OCC RTA CO2 (McPherson Sq.)  CO4 (Foggy Bottom – GWU)  CO5 (RECOMPANIE)  CO5 (RECOMPANIE)  CO6 (RECOMPANIE)  Related CAPS / Findings  At-grade Tunnel  Track Type  X  From CO2 (McPherson Sq.)  CO4 (Foggy Bottom – GWU)  CO5 (RECOMPANIE)  FWSO team was provided with a Job Safety Briefing prior to accessing the roadway. The briefing was complete and included safety rules, RWP rule, hazards, Type of protection, clearance area and special instructions related to the location and type of inspection being performed.	TRST Track Unit #679  Accompanied Inspector?  Related CAPS / Findings  Ref Rule or SOP Standard Other / Title Checklist Reserved Prack Type  Track Type  Track Number  Track Number  Track Number  Track Number  Track Number  Red Car Number  Number of Cars  Equipment  FWSO team was provided with a Job Safety Briefing prior to accessing the roadway. The briefing was complete and included safety rules, RWP rule, hazards, Type of protection, clearance area and special instructions related to the location and type of inspection being performed.  Accompanied Y Out Brief Conducted N Time 1000 — 1330 Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Shift Sh			

Inspector in Charge - Signature	AN L THOMPSON	Digitally signed by SEANL THOMPSON Dic cults, cults, Government, ou-pDT headquarters, ou-pTANQ, cn=SEANL THOMPSON Date 2016-04-16 14-5446-0400*	Date 4-18-2016
	Inspection Team Terrell Williams, Brian Finn, Tand	maya "Tino" Sahoo,	<b>&gt;</b>



Inspection Activity #	2	Insp	ection Sub	ject P	ower C	able Re	epai	r Verific	ation and Ins	spection	Activity Co	ode	TAS	S	TP	PI	
lob Briefing Employee Name/Title	TRST	Track	( Unit #679					ccompanied y		Out Brief Conducted	N	N Time		0			
Related Reports						Relat	ted (	CAPS / F	indings								
	Ref			Ru	le or So	or SOP Standard						Γitle		Chec	klist Reference		
Related Rules, SOPs, Standards, or Other																	
Inspection Location	Main Track Yard			Station	ation O			RTA acility	FTA Office	Track Type	At-gra	At-grade		Elev	Elevated	N/A	
	х	х								ттаск туре							
Line(s)										From					То		
	C-Line Track Number		1			1	ain Ma		C02 (McPher	son Sq.)		<u> </u>	C03 (Farragut West)				
			er	1		an	and/or Station(s)		CO4 (Foggy B	04 (Foggy Bottom – GWU)			C05 (Rosslyn)				
Vehicles	Не	ad Ca	r Number	Number Number of Cars Equipment												-	
	FWS	FWSO team performed a physical inspection of the repairs made at C1 CMs 27+20, 28+50, 31+00, 31+20, and C1 78+45. All repairs had been made according to the											Number of Defects				
	28+5	0, 31	+00, 31+20,	and C1 7	8+45. <i>F</i>	Recomn	nended		No								
	and	WMATA standard with the exception of C1 31+20 which has a unique configuration and C1 78+45 which was installed with too much slack in the expansion cable											Remedial Action Required?				
Description	causing it to contact the ground. At C1 31+20, Pig-tails were run from the boot located on track one to the third rail on track two, over a small dividing wall. Due to the presence of this wall, WMATA feels that the use of conduit was not reasonable and has instead installed bracketing to keep the cables raised from the ground.  WMATA engineering will review setup and make necessary corrections if required.													No			
Remedial Action	WM WM	IATA S	should remo	ove debris ide FTA w ect boot o	near b ith resu n grou	oots a ults of nd issu	t C1 engi ie no	28+50. neering sted a C	review of co 1 27+20.	onfiguration at C	C1 31+20.						

### Photos:

Newly installed boots at C1 CM 27+20





Kicker Rail Boot on ground at C1 CM 27+20



Debris near boots at C1 CM 28+50

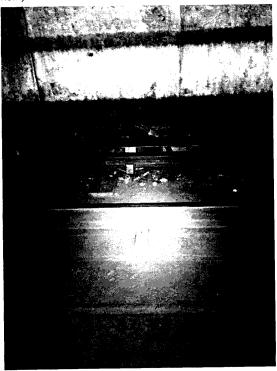


Newly installed boots at C1 CM 28+50





Newly installed boots at C1 CM 31+00



Non-standard Installation of Pigtails at C1 CM 31+20







Replaced Cable at C1 78+45 (Note: Cable is touching ground and WMATA noted this location as 78+00 in report)





Form FTA-IR-1

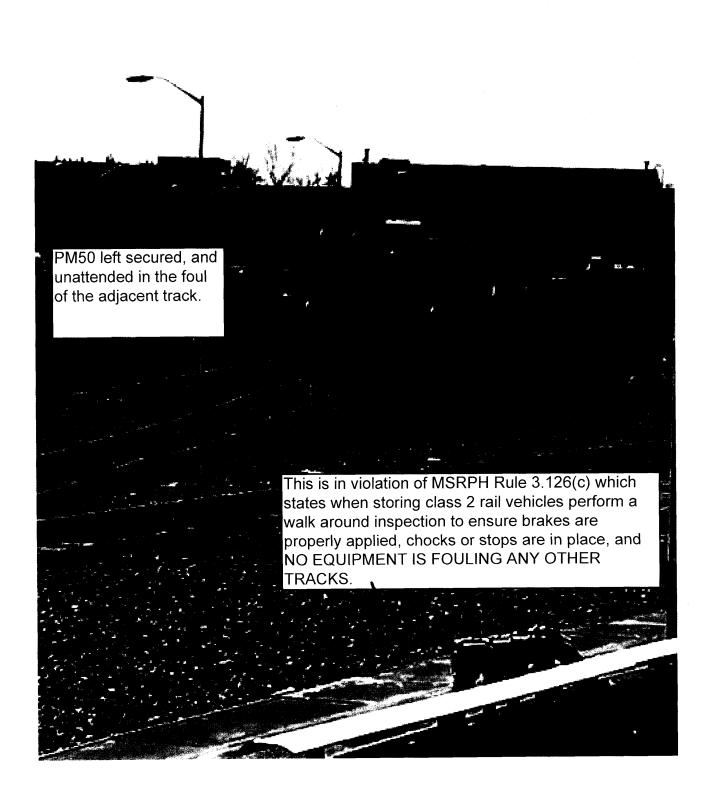
United States Department of Transportation Federal Transit Administration

gency/Department I					1			_ u	V	(B)	رس				-					
Inspection Date		<u> </u>	YYY 016	-	IM		D	Re	port	: Numbe	r 2016	160419–WMATA–PSR-1								
		2016 04 Washington Metrop						Dail Ages								Т.,	1 1:			
Rail Agency Name			nority	Metro	politan A	Olitali Area Transit		Rail Agency Department			1	Rail Transportation		Sub- De	partmen	t		Interlocking Operator Office		
Rail Agency Departmen	nt			Name			E	Email			0	ffice Phor	ne		٨	Mobile	Phone			
Contact Information																				
nspection Location		Gree	enbelt In	terlock	ing Ope	rator O	ffice,	, 5801 Su	ınnys	side Avenue	e, College P	ark,	, MD 2074	10						
spection Summary																		_		
nspection Activity #			1			2	2			3			4		5		6			
Activity Code		RTTO-GEN-MTG			F	ROCC-R	РВ-О	BS		RTTO-RC-O	BS									
nspection Units		1			1			1												
spection Subunits 1				1	1															
efects (Number) 0			(		0		1													
Recommended Finding						)		0								_				
Remedial Action Requi							)							_						
Recommend Reinspect	ion		0				0								_					
ctivity Summaries	ı	1						_						Τ		Т-				
nspection Activity #	1	Insp	ection S	ubject	Ger	General Meeting wi				with interlocking operator			Activity Code			RT		GEN	MT	
ob Briefing Employee Name/Title	N/A					Accom Inspect			d	N/A	Out Brief Conducte		Yes	Yes Time		1000- 1300		Outside Shift		
Related Reports							Rela	ted CAPS	S / Fi	ndings										
	Ref			Rule o	Rule or SOP			Standard			Other / Title				Checklist Reference					
Related Rules, SOPs, Standards, or Other								_				+								
		ain Yard S		s	tation	ation OCC		RTA Facility		FTA Office	Track Type		At-g	At-grade		el	Elevated		N/A	
Inspection Location		ack   Turu						- radiney												
	ļ											From				То				
Line(s)				Track Numl				Chain N	/lark	er			From					<u> </u>		
	ļ.,		- N1a.b.a		Nicon	har of (	Carc													
Vehicles	H	ead Cal	r Numbe	er	Num	ber of 0		Equ	uipm	ent										
	Ime	at with	the first	shift In	terlocki	ng One	rator	at Greer	nbelt	vard to int	roduce mys	self.	Num	ber of D	efects			<del></del>	0	
	I dis	cussed	mv role	s and r	esponsik	oilities a	and n	nonitore	d the	Interlockir	ng Operator	•		mmende	ed Findir	ng?		r	No	
Description			munications and train movements. I also observed the Operator properly lining									Remo	Remedial Action Required? No							
	rout	tes for	es for train movements in the yard.										Reco	mmend	Reinspe	ction?	?	ſ	No	
Remedial Action	N/A																			
Inspector in Charge - S	ignatı	ıre								ligitally signed by PAT	RICK SHANE RICHARDS	SON				Date				
-1		Р	ATRI	CK SI	HANE	RIC	HA	RDSO	N :	igrally signed by FAT in: c=US, o=U.S. Gover n=PATRICK SHANE RIC late: 2016.04.21 10:06:	nment, ou=DOT FMC: HARDSON	SABaltin	moreMD, ou=FRA 1	MCSABaltimore	MD,	Apri	il 19,	2016		





Inspection Activity #	2	Ins	pection S	iubject	Re	peat B	acks						Activ Code	-	ROCC	RPB	OBS
Job Briefing Employee Name/Title	N/A						ι	ompanied ector?	•	N/A	Out Brief Conducted	Yes	Time	t t		utside Shift	No
Related Reports							Rela	ted CAPS	/Fi	ndings							
	Ref				Rule	or SOP			Sta	ındard		Other / T	itle		Checklis	t Referer	nce
Related Rules, SOPs, Standards, or Other	MSRI	PH			1.79												
Standards, or other																	
Inspection Location	Ma Tra		Yard	St	ation	00	СС	RTA Facility	,	FTA Office	Track Type		grade	Tunne	l Eleva	ited	N/A
		]	х								,	1				1	Х
				Track								From		_		То	
Line(s)	N/A			Numb	er	ļ		Chain M	lark	er							
					,												
	Не	ad Ca	r Numbe	er	Num	ber of	Cars		•								
Vehicles								Equ	ipm	ent							
	1									-	ith rule 1.79.	Num	ber of De	efects			0
	I mor	nitore 1)						the follo	_		rd operator o	Reco	mmende	d Findin	g?	-	No
		1)				_	•			ns included			edial Act	ion Requ	ired?		No
Description	ļ						ator pr	roperly re	pea	ted the tra	nsmission pri	or					
		2)	to movi	•			ıt with	the oner	ator	to elicit th	e repeat back	Reco	mmend	Reinspec	tion?	ļ	No
		-1	when m					the open				`					
Remedial Action	<u> </u>																
Inspection Activity #	3	Ins	pection S	Subject	Eq	uipme	nt in t	he foul of	f adja	acent track			Activ Code	-	RTTO	RC	OBS
Job Briefing Employee Name/Title	N/A						1	ompanied ector?	i	N/A	Out Brief Conducted	Yes	Time	I		utside Shift	No
Related Reports							Rela	ted CAPS	s / Fi	indings							
	Ref				Rule	or SOP	)		Sta	andard		Other/1	itle		Checklis	t Refere	nce
Related Rules, SOPs, Standards, or Other	MSR	PH			3.126	6(c)											
Standards, or Other																	
	Ma Tra		Yard	St	tation	0	сс	RTA Facility	,	FTA Office		1	grade	Tunne	l Eleva	ated	N/A
Inspection Location		,	V								Track Type	i					X
		J 	X														
				Tue ale		ļ	l					From	. <u> </u>			То	
Line(s)	N/A			Track Numb				Chain N	/lark	er							
	<del>                                     </del>	1 0-	N.I		Nive	nber of	· Coro										
Vehicles	He	au Ca	ar Numbe	er	Null	ibei oi	Cais	Equ	nqiı	ent	PM50						_
	I obs	ervec	PM50 le	eft unat	tended	in Gre	enbel	t yard fou	ıling	the adjace	nt track in the	Num	ber of D	efects			1
	yard	. This	is in viola	ation of	MSRPH	H rule :	3.126(	c) which :	state	es when sto	oring class 2 ra	Reco	mmende	ed Findir	g?		No
December			orform -	wall a	ound:	nenact	ion to	ancura h	rake	c are nrong	orly annlied						
Description	choc	cies p :ks or	erform a stops are	walk ar in plac	ound ince, <u>and</u>	nspect <u>no eq</u> t	ion to <u>uipme</u> i	ensure b nt is fouli	rake ng ai	s are prope ny other tr	erly applied, acks.	Rem	edial Act	ion Requ	uired?	,	YES
Description	choc	cles p ks or	erform a stops are	walk ar e in plac	ound in	nspect no equ	ion to uipmer	ensure b nt is fouli	rake ng ai	s are prope ny other tr	acks.		edial Act			<del>                                     </del>	YES No





### **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

Federal Transit Administration	
Agency/Department Information	Qes (b)(b)

-8,,p		<u>u</u>	X CXC	( <i>D</i>			
Increation Date	YYYY	MM	DD	Domout Number	20160426	MANATA DED 3	
Inspection Date	2016	04	26	Report Number	20160426-	WMATA–PSR-3	•
Rail Agency Name	Washington Authority	Metropolitan	Area Transit	Rail Agency Department	Rail Transportation	Sub- Department	Orange Line
Rail Agency Department		Name		Email	Office Ph	none	Mobile Phone
Contact Information							
Inspection Location	Orange Line	from L'Enfant	Plaza to Vienn	a/ Vienna to Metro Cent	er		

#### **Inspection Summary**

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-RI-OBS					
Inspection Units	2					
Inspection Subunits	2					
Defects (Number)	0					
Recommended Finding	0					
Remedial Action Required	0					
Recommend Reinspection	0					

#### **Activity Summaries**

Inspection Activity #	1	Inspection Subject	Riding In	spection				Activity Code	′   т	'RK	RI	OB
Job Briefing Employee Name/Title	N/A			Accompanied Inspector?	N/A	Out Brief Conducted	N/A	Time	1030- 1115		tside hift	No
Related Reports				Related CAPS	/ Findings			<u> </u>				
Related Rules, SOPs, Standards, or Other	Ref		-1.84; MSRI Rules 4.3 Sf MSRPH Ope 3.119,3.120 3.121,3.79. 3.168; MSR	neral Rules  .46,1.52,1.69 PH Safety R 4.227; erating Rules D, 1, 3.167, PH SOPs .#15,#16,#35	Standard		Other / Tr	tle	Che	ecklist I	Referen	ce

Inspector in Charge - Signature		Digitally signed by PATRICK SHANE RICHARDSON	Date April 26, 2016
PATRICK SHANE RICH	łardson	DN: c=US, o=US. Government, ou=DOT FMCSABaltimoreMD, ou=FRA FMCSABaltimoreMD, cn=PATRICK SHANE RICHARDSON Date: 2016.04.27 12:36:56-04'00'	April 20, 2010
Inspector in Charge – Name	Inspection Team		
Patrick Richardson	Patrick Richardson		





Inspection Location	Main Track	Yard	Station	осс	RTA Facility	FTA Office	Track Type	At-grade	Tunnel	Elevated	N/A
inspection Location	x		x				Irack Type				Х
							F	rom		То	
Line(s)	Orange Lir	ne i	rack Iumber	1 AND 2	Chain Mar	ker	L'Enfant Plaza		Vienna		
W-bt-l	Head Ca	r Number	Num	ber of Cars							
Vehicles	5	037		6	Equipr	nent	i				
	FWSO con	ducted ridi	ng inspection	ns on the O	range Line fro	om L'Enfant	Plaza to Vienna	Number of D	efects		0
	l .		•	•	h MSRPH and	• •	SOP's, , sounding the	Recommend	ed Finding?		No
	, -				s, and the 5 s			Remedial Ac	tion Require	d?	No
Description	During the two separ the worke where wo outside th located in did have t place to el around the	e ride the tra ate location rs beside the rkers were e cab windo a "blind" cu o slow dow nsure that a e tracks, the	is; neither lo ie tracks. The located was ow, watching urve and alth in quickly to g ill train oper	encounterd cation was e announce announced g doors at the lough the was get below 3 ators know nouncemen	ed roadway v known by the ment by ROC while the op ne station pla rorkers were 5 mph. A pro where roadw t system is no	e operator p C stating all erator was p etform. One in the clear t ecedure need vay workers	oositioned location was the operator ds to be in are on or	Recommend	Reinspectio	n?	No

Inspection Activity #	2	Inspection S	ubject	Riding Ir	nspecti	on				Activ Code	- 1	TRK	RI	OBS
Job Briefing Employee Name/Title	N/A			_		ompanied ector?	N/A	Out Brief Conducted	N/A	Time	1115 1200		itside Shift	No
Related Reports				-	Rela	ted CAPS /	Findings			•				
	Ref			Rule or SO	Р	:	Standard		Other / T	itle		Checklist	Refere	nce
Related Rules, SOPs, Standards, or Other				MSRPH Ge 1.14,1.17, 1.18,1.19,1 -1.84; MSR Rules 4.3 S MSRPH Op 3.119,3.12 3.121,3.79 3.168; MSI #4A,#8,#1: ,#40,#43,#	L.46,1.! RH Saf R 4.22 perating O, .1, 3.10 RPH SC 2,#15,‡	52,1.69 ety 7; g Rules 57, Ps 116,#35								
	Mai Trac	· Vard	Star	tion C	осс	RTA Facility	FTA Office		At-e	grade	Tunnel	Eleva	ted	N/A
Inspection Location	х		,	x				Track Type						X
									From			-	0	
Line(s)	N/A		Track Number	r		Chain Ma	rker	Vienna			Metro	Center		_
	Hea	ad Car Numbe	er	Number o	of Cars	<u> </u>								
Vehicles				6		Equip	ment							
Description	FWSC	conducted r	iding insp	ections on	the Or	ange Line V	ienna to Me	tro Center on	Num	ber of D	efects			0





	tracks 1 and 2. The operator complied with MSRPH and applicable SOP's, including	Recommended Finding?	No
	station announcements, proper berthing at the 8 car marker, sounding the horn when exiting and entering tunnel portals, and the 5 second pause prior to opening	Remedial Action Required?	No
	doors in stations with head out the window.	Recommend Reinspection?	No
Remedial Action	N/A		



## **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

gency/Department I	nforr	natio	n				a	ee C	6	SLLOS									
Incorption Date		\ \	/YYY	N	1M		DD				- 201	<u></u>	126 14		A DCI				
nspection Date		2	2016		04		26	Ke	epo:	rt Numbe	r   201	604	126–W	'IVIA I	4-251	K-2			
tail Agency Name			shingtor hority	Metro	politan	Area T	ransit	i	_	ency ment	Rail Trans	oorta	ition	Sub- De <sub>l</sub>	partmer	nt			
ail Agency Departme	nt			Name					mai	il		Of	fice Phor	ie		1	Mobil	e Phone	
ontact Information																		)	
nspection Location		Ora	nge Line	- Fede	ral Cente	er SW							_						
spection Summary																			
nspection Activity #			1				2		-	3			4		5			6	5
ctivity Code		ROCC	-ACCESS	-REF											_				
nspection Units			1																
nspection Subunits			1																
Pefects (Number)			1																
ecommended Finding	3		0																
Remedial Action Requi	ired		0																
Recommend Reinspect	tion		0			_													
tivity Summaries	I	Τ												Activ	itv	Τ		ACCE	
nspection Activity #	1	Ins	pection S	Subject	Re	fusal o	f Acce	ess						Code		RC	occ	SS	R
ob Briefing mployee Jame/Title	N/A						1	ompanie ector?	d	N/A	Out Brie Conduct		N/A	Time	0:	910		utside Shift	N
Related Reports							Rela	ated CAP	S / F	indings									
	Ref				Rule	or SOP	)		St	tandard		(	Other / Ti	tle		Che	cklist	Referen	nce
telated Rules, SOPs,	Safe	ty Dire	ective 16	-1					T										
tandards, or Other	49 L	J.S.C. 5	329																
	1	ain ack	Yard	S	itation	00	СС	RTA Facilit		FTA Office	Too ale To		At-g	rade	Tunne	el	Eleva	ted	N/A
nspection Location		х			х						Track Ty	pe		ם					Х
					_								From				1	Го	
ine(s)	Silve	er Line		Track Num		1		Chain I	Marl	ker	Federal	Cente	er SW		Nev	v Carr	ollton		
	Н	ead Ca	ır Numbe	er	Num	ber of	Cars			<del></del>									
/ehicles						6		Eq	uipn	nent									
										edentials to		or	Numb	er of D	efects				1
	prio	r to bo	oarding a	t L'Enfa	ant Plaza	statio	on and	d request	ted t	hat the oper	rator seek	<b>.</b>	Recor	nmende	d Findi	ng?		١	No
escription	peri	missioi ceedec	n from Ri d to boar	d lead	riue in t car 3046	ne ope	erator swaite	s cab ro ed ROCC	deci:	ther inspect sion. Operat	or informe	:d	Reme	dial Act	ion Req	uired?		Y	⁄es
	FW:	SO was	denied	access	by the F	OCC. I	FWSO	off boar	ded	the train at	Federal Ce	nter	Recor	mmend	Reinspe	ction?			No
<del></del>																			
					,														
Inspector in Charge - S		_														Date			

Form FTA-IR-1 Version date: 1/19/16

Inspector in Charge - Name

P. Shane Richardson

Inspection Team

P. Shane Richardson





**Remedial Action** 

WMATA issued a system wide Temporary Order (T-16-06) Modification to MSRPH General Rule 1.49 which states "Only those employees and credentialed FTA personnel authorized by ROCC are permitted to ride in the cab with the person operating the train." WMATA has reinforced the need to comply with the Temporary Order via e-mail on 4/26/16 to ROCC Superintendents and ROCC Assistant Superintendents.



### **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

Agency/Department I	nforn	nation	1				æ	ee C	k	)(b)										
Inspection Date		-	YYY 016	<del></del>	IM 14		DD 26	Re	ep	ort Numbe	r 2	0160	)426–	-W	MAT	A–PSF	R-1			
Rail Agency Name		Wa	shington hority	Metro	politan	L				Agency	- 1	ail ranspoi	rtation	s	ub- De	partmen	t			
Rail Agency Departmen	nt			Name	)			E	Em	ail			Office P	hone	e		N	Mobile	e Phone	
Inspection Location		Silv	er Line- L	'Enfan	Plaza															
Inspection Summary																				
Inspection Activity #	T		1			_	2			3			4			5			6	i -
Activity Code		ROCC	-ACCESS	-REF																
Inspection Units			1																	
Inspection Subunits			1																	
Defects (Number)			1													_				
Recommended Finding			0																	
Remedial Action Requi	red		0																	
Recommend Reinspect	ion		0																	
Activity Summaries													-11-							
Inspection Activity #	1	Insp	ection S	ubject	Ref	fusal o	f Acce	:SS							Activ Code	•	RC	СС	ACCE SS	REF
Job Briefing Employee Name/Title	N/A							ompanie ector?	ed	N/A		Brief ducted	N/	Α	Time	09	10	1	ıtside Shift	No
Related Reports							Rela	ted CAP	S/	/ Findings					-		,			
	Ref				Rule	or SOP	-		L	Standard			Other	/ Tit	le		Che	cklist	Referen	ce
Related Rules, SOPs, Standards, or Other		ty Dire	ctive 16-	-1					+					_			_			
	1	ain ack	Yard	S	tation	00	cc	RTA Facilit		FTA Office	Trace	le Trens	Į.	\t-gr	ade	Tunne	:1	Eleva	ted	N/A
Inspection Location	,	x			х		ם ו				Irac	k Type			]					X
													From					1	<u></u> 0	
Line(s)	Silve	er Line		Track Numb		1		Chain I	Ma	arker	L'En	fant Pla	aza			Сар	ital He	eights		
	Н	ead Ca	r Numbe	er	Num	ber of	Cars													
Vehicles			046			6		Eq	luil	pment										
	FWS	O intr	oduced r	nyself a	nd pres	sented	FTA b	oadge an	nd o	credentials to	the or	erator	Nt	ımb	er of D	efects				1
	prio	r to bo	arding a	t L'Enfa	nt Plaza	a static	n and	l request	tec	that the ope	rator s	eek		con	nmend	ed Findir	ıg?		N	No
Description	perr	missior reeded	n from R0 I to boar	OCC to d lead o	ride in t ar 3046	the ope	erator waite	's cab to d ROCC	or ti de	urther inspect cision. Operat	ions. F	rmed	Re	eme	dial Act	ion Requ	uired?		Y	'es
	FWS	SO was	denied a	access I	by the R	ROCC. F	wso	off boar	rde	d the train at	Federa	al Cent	er Re	con	nmend	Reinspe	ction?	,	١	No
Inspector in Charge - S	_			ע טט	C	.1	Digit	tally signed by P	ATRIC	EK SHANE RICHARDSON		EDA EMCCAR-	altimoreMD	DATDIC	( SHANE DICL)	ARDSON	Date Apri	e il 26, i	2016	
PATRICK SH		IE K				<u> </u>	DN: o Date	c=US, o=U.S. Gov e: 2016.04.27 13:5	vemn 54:52	ment, ou=DOT FMCSABaltin -04'00'	noreMD, ou=	FRA FMCSABa	numoreMD, cn=	PAIRICK	STANE RICHA	ANDOIN	L			
Inspector in Charge – I P. Shane Richardson	vame			tion Te ne Rich	am ardson															





**Remedial Action** 

WMATA issued a system wide Temporary Order (T-16-06) Modification to MSRPH General Rule 1.49 which states "Only those employees and credentialed FTA personnel authorized by ROCC are permitted to ride in the cab with the person operating the train." WMATA has reinforced the need to comply with the Temporary Order via e-mail on 4/26/16 to ROCC Superintendents and ROCC Assistant Superintendents.

## 0

## **Inspection Form**

Form FTA-IR-1

United States Department of Transportation Federal Transit Administration

#### Agency/Department Information

Increation Date	YYYY	MM	DD	Report Number	20160427 WI	NAATA T\A/ 1	
Inspection Date	2016	04	27	Report Number	ort Number 20160427–WN		
Rail Agency Name	Washington Authority	Metropolitan A	Area Transit	Rail Agency Department	Office of Track and Structures	Sub- Department	
Rail Agency Department	1	Vame		Email	Office Phon	e	Mobile Phone
Contact Information			2)		16)		
Inspection Location	Track #2 fron	n Medical Cent	ter (A10) to Be	thesda (A09)			•

### Inspection Summary

Inspection Activity #	1	2	3	4	5	6
Activity Code	TRK-WI-PI	TRK-RWP-OBS				
Inspection Units	1	1				
Inspection Subunits	1	1				
Defects (Number)	27	0				
Recommended Finding	27	0				
Remedial Action Required	Yes	No				
Recommended Reinspection	Yes	No				

### **Activity Summaries**

Inspection Activity #	1	Insp	ection Sub	ject	J	-	Track Inspection from Medical Center to a Station				Activity Code		WI	PI
Job Briefing Employee Name/Title	Christina Shaver, Safety Manager			Accompanied Inspector?		No	Out Brief Conducted	No	Time	2100		· Vac		
Related Reports						Relat	ted CAPS / I	indings	Rail-4-28-A					
	Ref				Rule or	SOP		Standard		Other /	Title		Checklist R	eference
Related Rules, SOPs, Standards, or Other														
	Ma Tra	- 1	Yard	Sta	tion	осс	RTA Facility	FTA Office	Track Type	At-gr	ade	Tunnel	Elevated	N/A
Inspection Location	A10								Track Type			Yes		
										From			То	
Line(s)			Track Numb	er			Chain Ma and/or St			er (444+00)		Bethes	sda Station (3	95+07)
	Не	ad Car	Number		Numbe	r of Cars								
Vehicles		- Equipment												
								e track #2 fro		Numbe	r of Defe	cts		27
									orrected in lieu	Recomm	nended	Finding?		27
Description	of se	everal r Impani	ecent arch ed by WM	ing ai	na tire in WIC-4.  I	cidents d Inspector	n this sections discovere	on of track. I d mud, stand	Inspectors were ding water,	Remedial Action Required?			?	Yes
- Compton	disco	onnect rlocking	ed tension g, deterior	ing ca ating	ble, met and miss	al equipr ing insuli	nent lose be ators, unkno	discovered mud, standing water, lent lose between 3rd rails at the tors, unknown debris on the track bed vers, missing 3rd rail coverboards,			Recommended Reinspection?			Yes

Inspector in Charge - Signature	ERRELL A WILLIA	Digitally signed by TERRELL A WILLIAMS DN: c=US, o=U.S. Government, ou=DOT Headquarters, ou=FTAHQ, cn=TERRELL A WILLIAMS Date: 2016.04.29 10:23:36 -04'00'	Date 4/29/2016
Inspector in Charge – Name Terrell Williams	Inspection Team Terrell Williams,	)(b)	





	expansion joint cable on the ground and drains filled with debris. Attached photos document several of our findings.	
Remedial Action	Recommend that WMATA immediately remove power on this segment of the Red line conditions that may lead to additional arching, smoking and fire events that may pose report should be cross examined with previous FWSO inspections from the Track Safe	serious injury to passengers. Conditions noted in this

Inspection Activity #	2	Inspe	ection Subj	ect	Road	way Wor	ker P	rotectio	n		Activity Co	de	TRK	RWP	OBS
Job Briefing Employee Name/Title	1	tine Sh y Mana			•		ompa ector		Yes	Out Brief Conducted		Time	2100 0015		e Yes
Related Reports						Rela	ted C	APS / F	indings		-				
Related Rules, SOPs, Standards, or Other	Ref				Rule o	rSOP			Standard		Other / T	itle		Checklist Re	eference
	Mai Trac		Yard	Stat	ion	occ	1	RTA ncility	FTA Office		At-gra	de	Tunnel	Elevated	N/A
Inspection Location	х									Track Type			Х		
										From To					
Line(s)	Line(s) Red Line Track Number		er	#2 Chain Mand/or S							395+0	7			
Vehicles	Hea	ad Car	Number		Numbe	er of Cars		Equip	ment						
	FWSC	) Inspe	ectors obse	rved \	WMAT	A Roadwa	ay Esc	ort per	form Roadw	ray Worker	Number	of Defe	cts		0
										ety brief that	Recommended Finding?			0	
Description		included checking inspectors RWP Identifications, check for PPE and locations with restricted views and blind spots. Discussed the type of roadway worker protection								Remedial Action Required?			?	No	
	(train	appro	ach warnii	ng), po	oint of	nt of entry and exit onto and off the roadway, hot spots and all manner of protection.				Recommended Reinspection?			on?	No	
Remedial Action	None	!													

Item#	Chain Marker Start	Chain Marker End	Comments	Photo
1	A2 CM 444+00	A2 CM 442+00	Entire area is wet with standing water. Cril area underneath switch 3B has standing water as well.	in the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second se
2	A2 CM 442+00		Third Rail Restraining Rod broken	*
3	A2 CM 444+00	A2 CM 440+60	Track 2 side – All fluorescent fixtures	

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Version date: 12/11/15





			mounted on the wall are out of order	
4	A2 CM 441+30		In the area between Switch 1B and 3A there is a pile of fiberglass pipe located between the third rails — on top of that pile is a metal gage rod. The pile poses a trip/fall hazard and the gage rod is highly conductive — this pile should be removed.	
5	A2 CM 440+00	A2 CM 435+70	Pieces of old third rail are lying in the gauge of the track and between the catwalk wall and the running rail.	
6	A2 CM 437+55		Fire Extinguisher located directly at the ETS Box needs re-charge.	G
7	A2 CM 434+20	A2 CM 431+30	Standing Water – Water is not flowing into the drain. Approximately 6-feet of corrosion was observed on the web face, gage side of the rail and at all locations where the fasteners contact the base of the rail. The water is also present under the third rail.	
8	A2 CM 433+80		Third Rail Insulator is melted and broken. Concrete plenth under the insulator is cracked and broken.	





9	A2 CM 432+50		Pile of burned insulators are on the catwalk.	
10	A2 CM 430+75		ETS Box A118 – Blue Light is not working.	
11	A2 CM 428+20		Jumper cables for the 3 <sup>rd</sup> Rail Expansion Joint at Laying on the concrete due to rotted kindorf support pieces.	0 1
12	A2 CM 427+40		Metal component that appears to be a train part was found in the roadway. Note: part was moved to the catwalk for retrieval.	
13	A2 CM 426+00		Metal component, similar to the one in item 12 was found on the catwalk. This one was damaged. An ID tag was noted with the following information on it: M18-31-0675	
14	A2 CM 423+50		Standing Water	
15	A2 CM 421+80		Old rail located in the gage of the track	
16	A2 CM 421+50	A2 CM 420+70	Standing water and the drain cover is missing in the gage of the track	





17	A2 CM 418+30		Jumper cables for the 3 <sup>rd</sup> Rail Expansion	
			Joint at Laying on the concrete due to	
			rotted kindorf support pieces.	
18	A2 CM 418+00	A2 CM 417+40	Old rail pieces in the gage of the track	
19	A2 CM 416+00	A2 CM 399+00	Third Rail Cover Boards were never	
			installed when composite third rail was	
			installed. This item has been noted on	
			previous inspections.	
			·	
ĺ				
20	A2 CM 415+80		Drain cover is missing	See similar pic #16
21	A2 CM 410+00		Drain Cover is missing	See similar pic #16
22	A2 CM 409+00		Standing water and missing drain cover	See similar pic #16
23	A2 CM 408+80		Jumper cables for the 3 <sup>rd</sup> Rail Expansion	·
			Joint at Laying on the concrete.	
			, 0	
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				**
				*
				and the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of the same control of th
24	A2 CM 406+00		Drain is clogged with mud – Drain cover is	
			missing	
25	A2 CM 405+60		Insulator is missing under the third rail	
				100 m
				The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s
26	A2 CM 402+10		Debris in the drain – cover dislodged	
				9
				34
27	A2 CM 397+00	A2 CM 396+00	Third Rail Cover Boards are not installed -	
				<del></del>



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	this item has been noted previously.
28	
29	
30	