COMPANY MEDICAL FACILITIES

DELAWARE-LACKAWANNA					
LOCATION	ТҮРЕ	NAME AND ADDRESS	PHONE		
Scranton	Hospital	Moses Taylor Hospital	(570) 770-5000		
Scranton	Поэріа	700 Quincy Avenue	(370)770-3000		
Scranton	Hospital	Geisinger Community Medical Center	(570) 703-8000		
	Hospital	1800 Mulberry Street	(370)703 0000		
Dunmore	Urgent Care	Medicus Urgent Care	(570) 207-2612		
		1208 O'Neill Highway	(0,0) =0. =0==		
E. Stroudsburg	Hospital	Pocono Medical Center	(570) 421-4000		
	· · ·	206 East Brown Street	· · /		
	FALLS R	OAD/DEPEW LANCASTER & WESTERN			
LOCATION	ТҮРЕ	NAME AND ADDRESS	PHONE		
Patavia	Heepital	United Memorial Hospital	(ERE) 602 6020		
Dalavia	позрітаї	127 North Street	(565) 003-0050		
Batavia		Insource Urgent Care Center	(585) 250-4201		
Datavia		35 Batavia City Center	(303) 230-4201		
Cheektowaga	Urgent Care	WNY Immediate Care	(716) 684-2273		
Checktowaga		5014 Transit Road	(710) 00 + 22/0		
Lockport	Hospital	Eastern Niagara Hospital	(716) 514-5700		
		521 East Avenue (Rt. 31)			
Brockport	Urgent Care	Strong West Emergency Care	(585) 758-1010		
		156 West Avenue			
			· · · · ·		
		AWK ADIRONDACK & NORTHERN			
LOCATION	ITPE	NAME AND ADDRESS	PHONE		
Utica	Hospital		(315) 798-8100		
L		Cenesee Urgent Care			
Utica	Urgent Care	1901 Genesee Street	(315) 793-8856		
-		Carthage Area Hospital			
Carthage	Hospital	1001 West Street	(315) 493-1000		
		Mohawk Glen Urgent Care			
Rome	Urgent Care	91 Perimeter Road, Suite 100	(315) 337-2156		
	i i				

GENERAL SPEED INSTRUCTIONS

SP-1 JOINTED RAIL

When freight trains handling one or more loaded cars are operated on jointed rail, the Engineer will avoid prolonged operation in speed range of 13 to 22 MPH. If speed cannot be maintained above 22 MPH, it must be reduced to 10 MPH.

SP-2 LOCOMOTIVES WITHOUT RECORDING DEVICES

A train whose controlling locomotive is not equipped with a functioning recording device is restricted to a speed not exceeding 30 MPH.

SP-3 MAXIMUM AUTHORIZED SPEEDS – ENGINES

SL- Singl	e Unit Light	ML- Multi	ML- Multiple Unit Light			WT- With Train		
Number	Model	Builder	HP	MPH SL	MPH ML	MPH WT	Note	
26	0-6-0	Baldwin	Steam	20	20	20	1,3	
211	R\$-32	ALCO	2000	30	50	70	3	
405, 414	C-420	ALCO	2000	30	50	70	3	
426	SC	EMC	600	30	30	30	3	
514	GP-9	EMD	1750	30	50	70	1,3	
663, 664	F-3	EMD	1500	30	50	70	1,3	
959	GP-7	EMD	1500	30	50	70	3	
1044	S-6	ALCO	900	30	30	30	3	
1554	RS-3	ALCO/GE	1600	30	30	70	2,3	
1670	80T	GE	470	20	20	20	3	
1901	SW-1	EMD	600	30	30	30	1,3	
1800-99	RS-11, RS-18	ALCO/MLW	1800	30	50	70	3	
1947-1951	44T	GE	400	20	20	20	3	
2000-2099	RS-32, M-420	ALCO/MLW	2000	30	50	70	3	
2400-2499	C-425	ALCO	2500	30	50	70	3	
3000-3099	C-630M	ALCO	3000	30	50	75	3	
3600-3699	C-636, M-636	ALCO	3600	30	50	75	3	
4000-4199	RS-3	ALCO/GE	1600	30	50	70	2,3	
Steam, Other							4	
<u>Note 1</u> -	Locomotive owned by or leased to Natio	onal Park Service - S	Steamtown NHS (SN	NCX)				
<u>Note 3</u> -	Unless instructed otherwise by the Train	master or the Gene	ral Superintendent,					
	RS-3 type locomotives are not to be use	ed as lead units on G	SVT freight trains.					
<u>Note 2</u> -	Light engines must not exceed maximum	n speed for freight tr	ains unless otherwis	se restricted.				
<u>Note 4</u> -	Maximum authorized forward speeds (u	p to track speed) of	any NPS-operated s	steam locomotive lar	ger than 0-6-0 type	will be		
	determined by the SNCX Trainmaster p	rior to operation.						
	- Steam locomotives operating	g tender in the lead v	with train will not exc	eed 25 MPH.				
- Steam locomotives operating tender in the lead light will not exceed 20 MPH.								

SP-4 MAXIMUM AUTHORIZED SPEEDS – SPECIAL EQUIPMENT

Equipment	МРН	Note
All Equipment Not Equipped With Roller Bearings	30	
Hauling Dead Steam Locomotives	15	
American Crane	-	1
Rotary/Swinging Type Equipment (Other Than American Crane)	-	2
Jordan Spreaders		2
Snow Plows/Flangers	30	
Snow Plows/Flangers - Passing over grade crossings (public, private, pedestrian or temp.)		
Note 1 - Movement to by made under direction of Chief Mechanical Officer.		
Note 2 - Movement to by made under direction of General Superintendent or Trainmaster.		

SA-1 REQUIRED BOOKS

The issue dates of current books and publications will be listed in the General Order of each new timetable. Employees will be notified of changes in these books via General Order, Bulletin Order or Division Notice.

SA-2 ADDITIONAL REQUIRED BOOKS

GVT Employees must have in their possession while on duty a copy of the current DOT Emergency Response Guidebook.

SA-3 REQUIRED BOOKS – FOREIGN CREWS

Foreign railroad crews operating on GVT lines are not required to carry GVT Air Brake, Haz-Mat or Safety Books providing they are carrying those books required by their home railroad.

SB-1 HUMAN FACTOR REGULATIONS

The Federal Railroad Administration (FRA) has issued certain regulations that pertain to railroad Operating Rules and operating practices, intending to reduce and/or eliminate accidents and incidents caused by the mishandling of equipment, switches and fixed derails.

Any employee who violates any of the these rules or instructions, or who orders or causes an employee to violate any of these rules or instructions, will be considered to have violated these regulations and is subject to disciplinary action. In addition, such an employee may be subject to sanctions from the FRA. Only those employees qualified on the operating rules are permitted to engage in the movement of train, engines or track cars, including operation of switches and derails.

SB-2 POLICY ON RIGHT TO CHALLENGE

A GVT employee has an absolute right to challenge in good faith whether procedures to be used to accomplish a specific task comply with the requirements of NORAC Operating Rules, GVT Special Instructions, Safety Rules or Federal Regulations regarding:

- 1. Operating trains from other than the leading end of the movement.
- 2. Handling cars, locomotives, and other on-track equipment; Fouling Points.
- 3. Position of Hand-operated Switches, Crossover switches and Fixed Derails.

The employee making such a good faith challenge shall not be required to comply with the directive in question until the challenge is resolved as provided herein and may refuse any directive to violate an operating rule.

The employee may be required to perform tasks unrelated to the challenge until the challenge is resolved.

Another employee may be directed to perform the challenged task prior to the challenge being resolved as long as the other employee is informed of the challenge and does not also make a good faith determination that the challenged task violates FRA regulations regarding the handling of equipment in shoving or pushing movements, leaving equipment in the clear, or operating hand-operated switches, crossover switches, or fixed derails. Detailed instructions and appropriate forms will be provided.

SC-1 PHYSICALS, COMPANY MEDICAL OFFICERS, RETURN TO WORK

GVT employees are required to have physical examinations as governed by FRA 49 CFR. Medical Officers for use in the application of Rule C and Rule G will be selected under Company authority.

Return to work clearance procedures for employees absent account injury or illness are described in the Employee Handbook.

SC-2 QUALIFICATIONS – PHYSICAL CHARACTERISTICS

Unless authorized by the General Superintendent, a Conductor, Engineer or Track Car Driver not making a trip within 12 months over a railroad to review physical characteristics of the territory on which they are to perform service must not be assigned until they are examined by the proper railroad official. Employee qualifications will be recorded on the "EMPLOYEE QUALIFICATIONS" page of the employee timetable.

Employees absent from duty for 30 days or more will not be permitted to return to duty unless they have qualified before their immediate supervisor on any changes that have occurred during their absence.

SC-3 ENGINEERS – REPORTING REQUIREMENTS

Each certified engineer or person seeking initial certification must report to GVT within 48 hours any conviction or completed state action to cancel, revoke, suspend or deny a MV driver's license for operating a MV while under the influence of, or impaired by, alcohol or a controlled substance, or refusal to undergo testing as required by state law when a law enforcement officer seeks to determine whether a person is operating a vehicle while under the influence of alcohol or a controlled substance.

SF-1 SEVERE WEATHER – DISPATCHER NOTIFICATION

Severe weather conditions and sudden changes in weather, such as high water, a sudden surge of water in river and streams under bridges, storms or fog must be immediately reported to the Train Dispatcher.

SG-1 DRUGS AND ALCOHOL

Accepting employment with GVT is deemed each employee's willingness to obey GVT rules and policies with respect to drug and alcohol use, possession, and testing, and each employee's agreement to be subject to the requirements of those policies in addition to any and all federal or state laws, regulations or directives which may be applicable and may modify or supersede GVT rules or policies.

In accordance with 49CFR 219.102, no regulated employee may use a controlled substance at any time, whether on duty or off duty, except if such substance is prescribed or authorized by a medical practitioner, and that its use will not affect the employee's performance of safety related duties.

SH-1 SMOKING/VAPING

Smoking and/or vaping inside any building owned, leased or rented by GVT is prohibited. Smoking is defined as: The burning of a lighted cigar, cigarette, pipe or any other matter that contains tobacco.

SL-1 PERSONS PERMITTED TO RIDE ENGINES

Only persons holding proper authorization from the General Superintendent are permitted in the cab of any GVT locomotive or on-track equipment. Federal and State transportation inspectors will be allowed in the cab of any locomotive or other on-track equipment provided they present proper identification and comply with Company rules and instructions. Where secured seating allows, no more than 4 persons are permitted to ride in the operating cab of a locomotive.

SN-1 ON/OFF MOVING EQUIPMENT

Bulletin Order, Division Notice or Timetable Division Special Instruction shall establish where employees are prohibited from getting on/off moving equipment.

All employees performing switch duties on joint service trackage must comply with the specific on/off moving equipment requirements of that railroad.

SQ-1 HOURS OF SERVICE

To perform service, employees who are subject to federal hours of service regulations must know and comply with the requirements contained therein.

SS-1 POSITIVE PROTECTION

All employees working in train service positions or other positions working with a train crew on GVT or NPS property must use positive protection when going between, under or onto equipment which is coupled to an occupied operating locomotive. Employees must request positive protection either by hand or by radio. The manner of hand or radio signal to be used will be discussed at the job briefing.

To apply positive protection the engineer must apply the locomotive brakes fully, the train brakes if necessary AND place the reverse lever in the center (neutral) position. The engineer must confirm the application of positive protection by horn/whistle signal or by radio.

Brakes must remain applied and the reverser centered until the crewmember requesting the protection gives a hand or radio signal to move, or to release the protection.

All employees performing switching duties on joint service trackage must comply with the specific requirements of positive protection for that railroad.

MAKE SAFETY A PART OF EVERYTHING YOU DO

S1-1 REPORTING FOR DUTY

When reporting for duty, employees whose duties are governed by this timetable must report to the employee governing movements over the territory which they are assigned to work regarding General Orders, Bulletin Orders, Division Notices, and other special instructions.

S1-2 GENERAL ORDERS, BULLETIN ORDERS AND DIVISION NOTICES

Locations of bulletin boards where general orders, bulletin orders and division notices are posted and available will be listed in the Timetable Special Instructions. Bulletin orders, division notices and other special instructions will be issued under separate heading for FRR/DLW, MA&N and DL by the GVT Train Dispatcher.

Employees must ensure all bulletin orders pertaining to trackage upon which they are qualified are complete.

Roadway workers performing service as a lone worker or as an employee-in-charge must ensure they have in their possession current operating manuals, timetable/general orders and bulletin orders.

S1-3 LOCATION OF TRAIN BULLETIN ORDERS, DIVISION NOTICES, EMPLOYEE REGISTER SHEETS AND STANDARD CLOCKS

BB - Bulletin Board ER - Employee Register	CLK - Standard Clock		SAF - Safety	' Register
LOCATION	BB	ER	CLK	SAF
Delaware-Lackawanna				
GVT Train Dispatcher Office, Bridge 60	Х	Х	X	Х
D-L Administrative Office, Bridge 60	Х	Х	X	Х
D-L Locomotive Shop	Х			Х
D-L Crew Trailer	Х	Х	Х	Х
Falls Road/DL&W				
FRR Lockport Locomotive Shop	Х	Х	X	Х
DL&W Lancaster Locomotive Shop	Х	Х	X	Х
DL&W Batavia Roundhouse	Х	Х	X	Х
GVT Batavia Administrative Office	Х	Х	Х	Х
Mohawk Adirondack & Northern				
MA&N Carthage Office	Х	Х	X	X
MA&N Utica Engine House	Х	Х	Х	Х

S2-1 EASTERN STANDARD/MILITARY TIME APPLIES

Standard Time of the Eastern Time Zone shall be advanced one hour commencing at 0201 hours on the second Sunday of March and set back one hour at 0201 hours on the first Sunday of November. The military 24-hour system is established as the Standard Time. When checking or setting a standard clock, the correct time must be obtained from the Train Dispatcher.

S4-1 JOB BRIEFINGS

Train Crews holding Form D line 2 in Both Directions, or a Crew Member issued an Out of Service Form D for train movement authority, will hold a job briefing which will include the Train Dispatcher, to confirm the position of all switches as well as the requirements of any temporary restrictions that affect their movement prior to their final return to point of origin.

S19-1 WHISTLE POST LOCATION

Engineers will adjust the onset of horn/whistle signals to comply with NORAC Rule 19(b) when whistle posts are located outside the start time required by the Rule.

S21-1 COMMUNICATION SIGNALS – PASSENGER TRAINS

Passenger trains operating cars not equipped with operative communicating signals must rely on radio communication between the train and the controlling locomotive.

S70-1 INSPECTION BEFORE DEPARTURE

At facilities where customers may have moved or repositioned railcars, train crews must inspect cars for defects and determine they are safe for movement prior to departure.

S80-1 STOP/OBSTRUCTION FUSEES

Company Officers are authorized to use burning fusees when conducting operational checks for compliance with Restricted Speed. An unattended fusee burning on a track governed by Restricted Speed is considered an "Obstruction" or a fixed signal representing a "Stop Signal." Train movements required to observe Restricted Speed must stop short of the fusee to be in compliance with the operational test.

S97-1 NORAC RULE 97 - MOVEMENT ON A RUNNING TRACK

Movement or Occupancy on any track governed by NORAC Rule 97 is authorized by the GVT Train dispatcher, and must be made at restricted speed, not to exceed the specific maximum authorized speed on each track. On-Track Safety (RWP) Non-Controlled Track Protocol applies in NORAC Rule 97 Territory.

S100-1 COUPLING OR SWITCHING PASSENGER EQUIPMENT

When passenger cars are handled in mixed or local freight trains, such equipment must be handled on the rear of trains, except as otherwise authorized by the General Superintendent. Normal speed for freight trains must not be exceeded.

When coupling passenger cars, the steam, air, power cables, communicating signal, safety chains between coaches and all other appliances must not be connected until cars have been stretched to be sure coupling has been made.

Before uncoupling passenger cars all steam, air, power cables, communicating signal, safety chains between coaches and all other appliances must be disconnected.

Steel skates must be used when passenger cars are left unattended on a grade and not coupled to a locomotive. Cars must be coupled and brakes functioning properly before making movements with passenger cars. Passenger cars must not be uncoupled while cars are in motion.

Trains making back-up moves with occupied passenger cars must have a back-up hose, platform valves or communicating signal operating before movement is begun. Such movements must approach all public grade crossings prepared to stop.

When picking up coaches, employees must be certain all hand brakes have been released prior to movement.

Whenever practical and operating conditions permit, passenger trains requiring a helper engine will have the helper engine coupled to the head end of the movement.

S109-1 UNATTENDED TRAINS AND EQUIPMENT

Definition: <u>Unattended</u> - Unattended equipment is equipment left standing and unmanned in such a manner that the brake system of the equipment cannot be readily controlled by a qualified person.

For example, if the individual is eating lunch or in the bathroom, full attention is not being given to the equipment. If the individual is in a crew room or talking on the phone, full attention is not being given to the equipment. Employees must be focused on the task at all times.

After a credible report of the presence of first responders on, under or between an unattended train or equipment, a qualified railroad employee must inspect the train or equipment for proper securement before it is left unattended. Every effort must be made to ascertain from the first responder what actions were taken and to notify a representative to remain at the location until the employee arrives.

S119-1 EQUIPMENT OF EXCESS DIMENSIONS OR WEIGHT

In Non-Electrified Territory

- Cars exceeding 286,000 lbs. (143 ton), or less than 42' on the DL, or 45' 8" on the FRR/DLWR & MHWA, may not be moved without permission of the Chief Railroad Engineer.
- Cars exceeding 18'6" high, or 10'6" wide, may not be moved without permission of the Train Dispatcher. The GVT Dispatcher must be supplied with a copy of dimensional paperwork before movement is made.
- Caboose/Cabin Cars and Maintenance of Way Equipment are exempt from this restriction.

S119-2 PROHIBITED EQUIPMENT

Self-powered rail bikes are prohibited unless authorized by a GVT corporate officer.

S131-1 FLAG PROTECTED WORKSITES – EMPLOYEE DUTIES

Contractors must not engage in any activity on railroad property without specific permission from the railroad and a qualified employee on site.

Employees assigned to protect railroad property where contractors are authorized to work will take orders and instructions from proper railroad officials, not contractors or their representatives. Assigned employees will provide themselves with proper flagging equipment and radio. They will communicate to the employee governing train movements over track at their location upon arrival and following any changes in their location. Assigned employees will ascertain the work to be performed and the equipment to be used from the responsible representative of the contractor involved.

S131-2 EMPLOYEE PROTECTED WORKSITES – TRAIN CREW RESPONSIBILITES

Bulletin Order shall establish locations where qualified employees have been assigned to protect private contractors whose work may effect the safe movement of trains. When specific work site locations cannot be provided by Bulletin Order, the Dispatcher will verbally communicate this information to train crews.

Approaching train crews must notify the flag person by radio, be alert for personnel or equipment near the tracks and sound required warning signals. If contact cannot be made to the flag person by radio, train crews must approach the work area at restricted speed until the area is observed to be clear before returning to governing speed.

S138-1 PUBLIC CROSSINGS AT GRADE – OTHER THAN MAIN TRACK

On running tracks, sidings, yard and industrial tracks, trains must approach crossings protected by automatic warning devices prepared to stop and, if warning device fails to operate, on-ground protection must be provided before proceeding over the crossing.

When movement is required over a road crossing on an Industrial Track or Industry Track where snow, ice or mud conditions prevail, extra precaution must be taken to avoid derailment or accident. When necessary, the engine must be used to cut flangeways at road crossings (public or private) prior to servicing or switching the industry. If operating conditions are such that the engine cannot be used and car(s) must be shoved over the crossing, employees are prohibited from riding the car over the crossing. On-ground employee(s) must be alert and prepared for possible derailment.

S138-2 RUSTY RAIL CONDITIONS

When rusty rail conditions exist, trains and engines must approach all crossings equipped with automatic warning device prepared to stop unless it is known that the automatic warning device has been operating properly for a minimum of 20 seconds prior to occupying the crossing.

S138-3 APPROACHING HIGHWAY/RAIL CROSSINGS - NO DISPATCHER ON DUTY

When approaching a pathway grade crossing or highway/rail grade crossing when a dispatcher is not on duty, trains will operate at restricted speed not exceeding 20 mph, head end only, until it can be determined that there is no malfunction to the crossing warning system, no disabled vehicle or obstruction blocking the railroad track, or any other condition that may interfere with safe passage.

S138-4 HIGHWAY CROSSING MALFUNCTION – AFTER HOURS REPORTING

Train crews will notify appropriate on-call maintainer and leave message on the GVT Dispatcher's voice mail,

when reporting signal malfunctions at highway-rail crossings during

dispatcher off-duty hours

On-call maintainers will notify all trains operating before or after Dispatcher hours of coverage of any signal malfunctions. Maintainers will also text or email the Dispatcher, in addition to leaving a message on the Dispatcher's voice mail, of reported signal malfunctions to highway-rail crossings or if taken out of service.

Information regarding anticipated train movements before or after dispatcher hours of coverage may be obtained from the GVT Dispatcher daily during on-duty times. Additionally, Dispatchers will inform on-call maintainers by text regarding after hours & weekend movements prior to closing office.

S138-5 INDICATOR LIGHTS

At crossings equipped with electric light AC power indicators on or adjacent to crossing instrument cases, employees must report to the Dispatcher when the indicator light is not displayed.

S138-6 AAR CROSSING NUMBERS

Will be used in any FRA/DOT/Police incident reports which occur at Public Highway-Rail crossings.

S139-1 COMPROMISED STOPPING ABILITY

Where slippery conditions exist, when returning to or assisting standing equipment, train crews will test for braking effectiveness within 1 mile of equipment to determine safe coupling procedure and speed. When coupling to passenger equipment, occupied or unoccupied, crews are to make a safety stop at least 50 feet but not more than 250 feet short of equipment before proceeding with the coupling.

S160-1 ISSUING FORM D'S

All Form D's issued by the GVT Train Dispatcher will be prefixed with the letter "L". Form D numbers will be numbered consecutively system wide and not broken into divisions or railroads.

S165-1 DICTATION OF FORM D BY RADIO, TELEPHONE OR IN PERSON

After dictation of a Form D by radio, telephone or in person and the Dispatcher's name has been given, the total number of lines circled and the specific line numbers must be specified (e.g. "There are two lines circled. They are lines 2 and 3.") In cases where a Form D is issued and a meet between trains/track cars is to occur, the Dispatcher must verbally inform the trains/track cars that a meet will take place. The information will be transmitted before the receiving employee repeats the Form D to the Dispatcher.

Before dictating the Time Effective the Dispatcher must once again confirm the total number of lines circled on the Form D and identify the individual line numbers in the same format as above.

S165-2 BULLETIN ORDER NOTATION

During dictation of a Form D, employees will write current Bulletin Order Number(s) above the physical delivery box at the top of the Form or in the Bulletin Order Notation Box when provided. Employees must include this information during read back of the Form.

S400-1 DCS STATIONS

- NORAC DCS signs are indicated in upper case bold letters: "SNOW", "LOCK", "GAP", etc.
- Non-DCS Stations are indicated in upper case non-bold letters: "SCRANTON", "WILNA", etc.

S400-2 PASSING DCS STATION SIGNS

Trains and Track Cars will announce via road channel, Identification, location, and direction of travel when passing DCS station signs. During periods of Temporal Separation, trolley cars are exempt from this procedure.

STUD-I FINED DAS	5700-1 FIXED DASE STATIONS/ RADIO CHANNELS					
Railroad &	Hours of	AAR Channel	Station Type &			
Location	Operation	TX/RX	Coverage			
DL - Bridge 60 Tower	0700 - 2300	90/90	Fixed Base / System			
DL - Scrub Oak Repeater		14/90	Remote / Scranton-MILL			
DL - Camelback Repeater	Continuous	71/71	Remote / Gouldsboro-Portland			
MHWA - Bowen Hill		24/90	Remote / LF main-Utica-Rome			
FRR - Albion MP 31.30		24/90	Wayside / Brockport-Lockport			

S706-1 FIXED BASE STATIONS/RADIO CHANNELS

S803-1 ANNOUNCING PRESENCE

All track cars will announce via proper radio channel: track, location, and direction when occupying any track for travel.

(fax)

S902-1 TRAIN DISPATCHING DISTRICTS

<u>GVT Train Dispatcher</u> :	, , , , , , , , , , , , , , , , , , , ,
-Carbondale Main Track	-Lyons Falls Line
-Falls Road Main Track	-Pocono Main Track
-Laurel Line Main Track	-Scranton Running Track
-Laurel Line Running Track	-Strawberry Hill Running Track

SAFETY FIRST because INJURIES LAST

<u>Note</u>: Phone numbers and personal information redacted.

S903-1 GVT TRAIN DISPATCHER COVERAGE - PROCEDURE FOR LIMITED HOURS OF OPERATION

- A. Crews and employees will report emergency situations immediately to the General Superintendent (or designated employee in charge) for instructions after dispatching hours of operation.
- B. Reporting, clearing and canceling procedures after hours:
- 1. <u>Outstanding Verbal Permission</u> The crew/employee will inform the dispatcher if they will be occupying track after hours of operation. The employee in charge will call the Dispatchers office (**Description**) and leave a message on voice mail indicating time clear. Notation will also be made as to any cars left remaining on main and siding tracks. All switches will be left in normal position unless previously arranged.
- One Direction Form D Written Authority The crew/employee will inform the dispatcher if they will be occupying track after hours of operation. The employee in charge will call the Dispatchers office
 and leave a message on voice mail indicating time Form D is fulfilled. Notation will also be made as to any cars left remaining on main and siding tracks. All switches will be left in normal position unless previously arranged.
- 3. <u>Both Direction Form D</u> The crew/employee will inform the dispatcher if they will be occupying track after hours of operation. Both direction Form D's requiring cancellation are to be taken back to the crew/employee sign up location and made accessible for cancellation. Form D's are not to be left on locomotive or personally kept unless agreed to by the Dispatcher. Employee in charge will inform the Dispatcher of train status/tie down location via voice mail at **Exercise**.
- 4. <u>Out-Of-Service Authority Form D</u> The employee named on Line 4 will inform the Dispatcher if he/she will be occupying track after hours of operation. If the track needs to be retained for the following day, the Form D may remain in the addressed employee's possession.

If work is completed after Dispatcher hours of operation, the addressed employee must contact the Dispatcher immediately at the onset of Dispatcher coverage. If another employee is to assume continuous out of service track, arrangements must be made with the addressed employee and his/her relief for the transfer of authority during Dispatcher hours of operation. If it is known track is to be taken out of service prior to dispatcher coverage, arrangements must be made the previous day during hours of operation.

S941-1 CONDUCTOR PAPERWORK

Conductors must sign and accurately and legibly complete all required data on industry work order and wheel report documents. They must send these to Batavia or Bridge 60, as applicable, at the completion of their tour of duty.

S950-1 LOCOMOTIVE IDLING/SHUT DOWN

When weather permits, if a locomotive will not be used for the next 30 minutes, it will be shut down. If a locomotive is not needed for tonnage, it will be set to idle.

THIS PAGE INTENTIONALLY LEFT BLANK

GENESEE VALLEY TRANSPORTATION

DELAWARE-LACKAWANNA RAILROAD COMPANY



TIMETABLE AND SPECIAL INSTRUCTION PAGES FOR:

POCONO MAIN TRACK CARBONDALE MAIN TRACK STRAWBERRY HILL RUNNING TRACK VINE STREET INDUSTRIAL TRACK LAUREL LINE

	POCONO M	AIN TRA	CK (PC)	
Direction	Station/Location	Milepost	Line Diagram	Rule in Effect
E	NAY AUG (Receiver Trk)	131.45		DCS
Δ	Dunmore (I-81)	130.65		
S	WINTON	127.75		
т	Erie Overpass (I-84/380)	127.40	4825'	
B	COBBS	126.60		
0	Elmhurst (Rte 435)	123.49		
	MOSCOW	120.80		
N	Moscow Station	120.58	1610'	
	DALE	120.37		
	Gouldsboro Station (Rte 507)	112.80		
	ARMY	109.85		
	West End Tobyhanna Siding	108.00		
	Tobyhanna Station (Rte 423)	107.52		
	ТОВҮ	107.49		
	Monadnock	103.45		
	Pocono Summit Sta. (Summit Ave)	102.59		
	SUMMIT	102.50		
	Harvest States Grain Mill	101.80	4775'	
	MILL	101.00]	
	Mount Pocono Station	100.30		
	Devil's Hole	97.00		
	CRESCO (Cresco Station)	94.58	1400'	
	Bestway Lumber	94.15		
	Henryville	89.23		
	Analomink	85.80		
	ANA	85.00		
	Gravel Place	83.50	2900' 5692'	
	GRAVEL	83.00] '\	
	East Stroudsburg Station	81.56] /	
	WestRock	78.65]	
	Delaware Water Gap Station	77.17		
	GAP	76.00] !	· · · · · · · · · · · · · · · · · · ·
	СНИСК	74.49] _{520'}	98
\checkmark	SLATE (PNRRA/NS)	73.75	1300'	

DELAWARE-LACKAWANNA RAILROAD

NOTES:

1 - Rule 98 in effect on all sidings and other non-controlled tracks between **NAY AUG** and **GAP**.

2 - Running locomotives are not to be tied down in the vicinity of Moscow Station

3 - Dropping of cars towards the Runaround at Harvest States Mill is prohibited.

4 - Semaphore at Cresco Station is for display purposes only. Does not convey a signal aspect.

5 - Permission to Occupy NS trackage at SLATE must be obtained from the NS Lehigh Line Dispatcher via NS Road Channel 1. Trains leaving NS trackage must report clear.

EQ-PC1 EQUIPMENT RESTRICTIONS

Location:	Note:
NAY AUG and COBBS	1
NAY AUG and GAP	2
Moscow Freight House Siding	3
Cramer Lumber Siding	3
Pocono Summit Grain Mill	3
National Lead	4

<u>Note 1:</u> Equipment with a height in excess of 19'0" must not move without prior authorization.

Note 2: Sidings and Main Tracks must not exceed 19 loaded Hazard Class 2.1 tank cars left unattended.

<u>Note 3:</u> Steam locomotives will not operate unless authorized.

<u>Note 4:</u> Due to conditions at National, crews must use a spacer when switching this customer.

A-PC1 ADDITIONAL REQUIRED BOOKS/BULLETINS

Train crews must have in their possession the current foreign railroad rule books when operating on the respective properties:

- NS Timetable and NS Air Brake Rulebook while on NS property.

Additionally, train crews must have in their possession the applicable bulletin orders for each road while operating on the respective properties:

- NS Dispatcher Bulletin, Operations Bulletin and Superintendent's Bulletin while on NS property.

B-PC1 CLOSE CLEARANCE AREAS

Crewmembers are not to ride on the side of cars or locomotives in the following locations. Keep hands, heads and arms inside the locomotive when operating in these close clearance areas:

- 1. Nay Aug Tunnel Along rock wall both tracks; between tracks when cars are occupying adjacent track.
- 2. High Switch Stand at: Tobyhanna Runaround East end and Keystone switch.
- 3. Horizon Milling High switch stands and light poles tracks 1-4.
- 4. Royal Chemical Both sides at unloading pit.
- 5. National Both sides of track.
- 6. Rock-Tenn North side at dock.

N-PC1 PERSONAL PROTECTIVE EQUIPMENT

All DL employees must wear GVT-approved vision and hearing protection while operating on NS property.

19-PC1 ENGINE WHISTLE OR HORN SIGNALS

- All train movements must sound horn/whistle when entering and exiting Nay Aug Tunnel.

SAFETY IS YOUR LIFE'S WORK

Name:	Milepost:	Lenath:	Note:
Nay Aug	131.45	9390'	
Winton	127.75	4825'	
Cobbs	126.60	"	
Freight House	120.90	200'	M/W use only unless authorized.
Moscow	120.80	1610'	
Dale	120.37	"	
Army	109.85	100'	
Keystone West	108.00	1681'	West leg of wye north of sdg for M/W use only unless authorized.
Keystone East	107.61	"	
Monadnock	103.45	600'	500' located inside gate.
Cramer Siding	102.71	500'	M/W use only unless authorized.
West Ramp	102.28	4775'	Trains must notify Harvest States Mill when switching Trevdan.
Mill Crossover	101.60	"	
East Ramp	101.30	"	
Paradise Stub	97.00	350'	M/W use only unless authorized.
Bestway	94.15	1400'	
Gravel West	83.85	2900'	Ensure staged cars are placed EAST of the "CUT" sign.
Gravel East	83.30	"	п
Boiler	82.44	5692'	Switch is secured with a #102 lock exclusively
Hughes	81.85	280'	M/W use only unless authorized.
WestRock	78.65	300'	
Slateford West	74.49	1300'	Additional 520' "Short Track" MP 74.39 to MP 74.29
Slateford East	74.19	"	

104-PC1 SWITCH/SIDING IDENTIFICATION

104-PC2 PERMANENT DERAILS

Track:	Location:	Milepost:	Note:
Winton Siding	West End	127.75	1
Moscow Siding	West End	120.80	1
Army Lead	North Side of Crossing/Inside Gate	109.85	
Monadnock	West End	103.45	
Cramer Siding	West End	102.71	
Trevdan	West End	102.30	
Mill Siding	East End at East Ramp Switch	101.30	
Bestway Lead	East End	94.15	
Royal chemical	Prior to entering plant.	84.00	
Boiler Siding	East End	82.44	
Hughes Siding	West End	81.85	
WestRock	West End	78.65	

<u>Note 1:</u> When track is clear of equipment fixed derails may be removed and locked in the off position when authorized by the GVT Train Dispatcher to allow for run through traffic.

109-PC1 SECURING CARS – NS INTERCHANGE

Train crews must apply sufficient hand brakes to cars left at NS interchange in accordance with NS requirements. The use of chocks or skates is prohibited.

124-PC1 MAXIMUM AUTHORIZED SPEEDS

	Type.	Frt.	Psgr.	Note:
NAY AUG and SUMMIT	Main Track	25	30	1
SUMMIT and GAP	Main Track	25	25	
RIDGE and GAP	Sidings	10	10	
GAP and CHUCK	Single Track	10	10	
CHUCK and SLATE	Single Track	10	10	

<u>Note 1:</u> Movement must not be made if speed cannot be maintained when operating through Nay Aug Tunnel.

138-PC1 HIGHWAY-RAIL CROSSINGS AT GRADE

MP	Crossing	Location	С	F	В	G	Note	DOT#
131.35	Myrtle Street	Scranton	Х	X	Х	Х		926 808B
120.58	Moscow Station (Ped)	Moscow						968 379R
114.92	Lehigh Road	Lehigh	X	X	Х	Х	1	931 1823
112.87	Route 507 (Main St.)	Gouldsboro	X	Х	Х	Х		264 061V
109.84	Tobyhanna Road	Tobyhanna	X				2	930 993E
107.61	Route 423 (Church St.)	11	X	X	Х	Х	3	264 059U
102.54	Summit Avenue	Pocono Summit	X	X	Х			264 0555
97.37	Devils Hole Road	Devil's Hole	X	X	Х	X		264 050H
92.27	Henry's Road	Henryville	Х	Х	Х	Х		264 048G
90.17	Brown Hill Road	n	Х	Х	Х	Х		264 047A
83.21	Mill Creek Road	Gravel Place	X	X	Х	Х	4	264 039H
82.32	Courtland Street	East Stroudsburg	X	X	Х	Х		264 038B
82.15	Burson Street	n	X	Х	Х	Х		264 037U
81.93	Broad Street	n	X	X	Х	Х		264 036M
81.66	Analomink Street	n	X	X	Х	X	2 41 	264 035F
81.57	Dansbury Depot (Ped)	n					5	930 992X
80.70	Forge Road	n	X	Х	Х	Х		923 747C
77.83	River Road	Delaware Water Gap	Х	Х	Х	Х		264 034Y
74.06	Private	Mount Bethel						968 380K
73.95	Decker Ferry Rd	Mount Bethel	Х					266 272Y
Note 1:Advance Warning of crossing activation is provided by wayside target signal at MP 115.05 (Eastbound) and MP 114.74 (Westbound). When target is unlit, trains must approach crossing at Restricted Speed and protect in accordance with NORAC Rule 138g2.								
Note 2:	Crossing located on Army	Depot Lead						
<u>Note 3:</u>	<u>Note 3:</u> Westbound switching moves performed at west end of siding are to be expedited. Cars left standing on Eastbound approach circuit will activate Rte 423 Grade Crossing after 10 minutes elapsed time.							
Note 4:	Crossing also located on	Boiler Siding. Siding Activa	ation v	ia Islar	nd Circ	uit onl	у.	
Note 5:	NORAC Rules 19 and 20 a	apply.						

242-PC1 SIGNAL ASPECTS NOT IN CONFORMITY



ASPECT: Green target

NAME: Crossing Protection Activation Signal

INDICATION: When lit, proceed. When unlit, approach next crossing at Restricted Speed and protect in accordance with Rule 138g. Locations of Crossing Protection Activation Signals are indicated in railroad special instructions.

706-PC1 SCRUB OAK REPEATER

All switching operations on the Pocono Main Track as far East as "MILL" will utilize DL Channel 1 (AAR Channel 090/090). This includes the Scranton Running Track.

To contact the GVT Dispatcher, radios with sub-audible tone capability shall be turned to DL Channel 2 (AAR Channel 014/090) in order to Activate the Scrub Oak Repeater.

Radios without sub-audible tone capability must be turned DL Channel 2 (AAR Channel 014/090) and "211" must be entered into the DTMF keypad to activate the Scrub Oak Repeater. Upon conclusion "211#" must be entered to deactivate the Scrub Oak Repeater.

706-PC2 CAMELBACK REPEATER

All movements taking place east of "MILL" will operate on DL Channel 4 (AAR Channel 071/071)

To activate the Camelback Repeater press "111" on the DTMF keypad and speak. After 15 seconds of no radio activity the Camelback Repeater will automatically deactivate.

INSTRUCTIONS RELATING TO AIR BRAKE AND TRAIN HANDLING INSTRUCTIONS

16.1-PC1 RUNNING BRAKE TESTS

All freight and passenger trains will make a running air brake test before approaching the summit of the following heavy descending grades: - Steam Shovel Curve (MP 106.40) –Eastbound

- Steam Snovel Curve (MP 106.40) -Eastbound
- Lehigh Summit (MP 114.60) –Westbound
- MP 120 and MP 121 –Westward (For trains originating west of Lehigh)

DELAWARE-LACKAWANNA RAILROAD

	CARBONDALE	MAIN T	RACK (CD)	
Direction	Station/Location	Milepost	Line Diagram	Rule in Effect
S	End of Track	20.50		98
0	Carbondale Bulk Terminal	19.93		↓
U U	wc	18.80		
т	Carbondale Station	18.60		DCS
и Ц	Carbondale Runaround North	17.90	1750'	
п	Carbondale Runaround South	17.55	1/30	
В	Mayfield	16.00		
0	Jermyn	14.50		
U	ARCH	12.90	500' L	
N	Archbald Station	12.80		
D	Co-Gen Runaround North	12.20		
	Co-Gen Runaround South	12.00	1000	
	Jessup Station	10.70		
	Olyphant Station	8.80		
	Dickson City Station	7.50	400'	
	MARVIN	7.00		
	DEAN	5.60	/20	
	Green Ridge Siding North	5.40	2900'	98
	Vine Industrial Track	5.00	750' \	
	Green Ridge Siding South	4.56		
	CJ (Strawberry Hill Running Track)	4.09		
	South Scranton	2.70		
	Cherry Street Siding	2.10	400'	
	DL Shop	2.00		
	Valley Distributing	1.60		
V	Carbon (Norfolk Southern)	0.00		Ý

NOTES:

- 1 Rule 98 in effect on all sidings and other non-controlled tracks between **DEAN** and **WC**.
- 2 Normal position of switch at CJ is as last used.
- 3 All tracks between north engine house derail and south scale track derail are designated as the Scranton Engine Servicing Track.
- 4 Permission must be obtained from NS Dispatcher before entering or fouling NS Main at Carbon.
- 5 NS trains and M/W will contact DL Dispatcher for permission North of Carbon.
- 6 Equipment parked on Cherry Street siding is to be spotted no closer than 30 feet to roadway.
- 7 All movements on the Carbondale Main Track will use DL Channel 3 (AAR Channel 09/09)
- 8 Laminations Lead (Scranton) Track severed South of Greenridge Siding MP 4.57. Switch Removed.
- 9 Six axle locomotives are prohibited from operating over Lackawanna Recycling (@Marvin).
- 10 Six axle locomotives are prohibited from operating over industry tracks without permission from Management.

CARBONDALE MAIN TRACK SPECIAL INSTRUCTIONS

B-CD1 CLOSE CLEARANCE AREAS

Crewmembers are not to ride on the side of cars or locomotives in the following locations. Keep hands, heads and arms inside the locomotive when operating in these close clearance areas:

- 1. Diesel Shop all tracks entering building from both North and South ends.
- 2. Lackawanna Recycling Warehouse East side at loading dock.
- 3. Cogen Siding coal loading piers, both sides.
- 4. Pine Street Underpass MP 16.10 West side, no walkways west & east side.
- 5. Walnut Street Underpass MP 16.25 West side, no walkways west & east side.
- 6. Chestnut Street Underpass MP 16.35 West side, no walkways west & east side.
- 7. MP 16.80 east side at concrete barriers/loading dock.
- 8. Carbondale Runaround West side at loading dock.

104-CD1 SWITCH/SIDING IDENTIFICATION

Name:	Milepost:	Siding Length:	Note:
Linde	19.93		
Carbondale R/A North	17.90	1750'	
Carbondale R/A South	17.55	п	
Brojack	12.70	500'	
Laminations Lead	12.40		
Cogen North	12.20	1000'	
Cogen South	12.00	п	
Brick City	9.00		M/W use only unless authorized.
Dickson Siding	7.60	400'	
Recycle Lead	6.90	720'	Measured from switch to bridge.
Greenridge Siding North	5.40	2900'	
Green Ridge Stub	5.09	750'	Switch located on Greenridge Siding.
Vine Industrial Track	5.00		
Greenridge Siding South	4.56	п	
CJ	4.10		
Maple Street Siding	2.60		M/W use only unless authorized.
Cherry Street Siding	2.10	400'	
Engine House Lead	2.05		
North Runaround	2.04	1580'	
South Runaround	1.70	ш	
Valley Lead	1.60		
Carbon (NS)	0.00		

104-CD2 PERMANENT DERAILS

Track:	Location:	Milepost:
Carbondale Main	Rule 98 North of Dundaff Street	19.35
Carbondale Main	Rule 98 North of Dundaff Street	19.08
Laminations	North End of lead and inside plant	12.40
Brojack Lumber	South End of lead	12.70
Cogen Siding	South End	12.00
Greenridge Siding	North End	5.35
Greenridge Siding	South End	4.60
Cherry St. Siding	South End	2.10
DiMare Sdg.	North End of lead	2.05
S. Scranton R/A	South End	1.70
Carbon	At NS	0.00

CARBONDALE MAIN TRACK SPECIAL INSTRUCTIONS

	Туре.	Frt.	Psgr.	Note:
Carbon and CJ	Single Track	10	10	
CJ and WC	Main Track	10	15	Steam locomotives restricted to 10 MPH.
WC and End of Track	Single Track	10	10	
All other tracks	Single Track	5	5	

124-CD1 MAXIMUM AUTHORIZED SPEEDS

138-CD1 HIGHWAY-RAIL CROSSINGS AT GRADE

MP	Crossing	Location	С	F	В	G	Note	DOT#
19.95	Linde (Private)	Carbondale					2	968 375N
18.85	Dundaff Street		X	Х	Х			250 310H
18.50	Seventh Avenue	11	X	Х	X	Х		249 605D
18.40	8 ^m Ave - Rt. 6	11	X	Х	Х			249 606K
18.20	Pike Street	Mayfield	X	Х	Х	Х		249 607S
16.00	Poplar Street	11	X	Х	Х	Х		249 614C
13.30	Hill Street	Archbald	X	Х	Х	Х		249 616R
13.10	Salem Street	11	X	Х	Х	Х		249 617X
12.80	Pike Street	11	X	Х	Х	Х		249 619L
12.72	Brojack Access (Private)	11					1	968 371L
11.70	Breaker Street	Jessup	X				.c	249 623B
10.90	Hill Street	11	X	Х	Х	Х	4	249 622U
10.70	Church Street	11	X	Х	Х	Х		249 621M
9.20	N. Valley Avenue	Olyphant	X	Х	Х	Х		249 625P
8.90	E. Grant Street	n	X	Х	Х	Х		249 626W
8.80	S. Valley Avenue	11	X	Х	Х		2	249 627D
8.40	DeNaples Crossing (Private)						2	926 802K
7.80	Eagle Lane	Dickson City	X					926 803S
7.50	Boulevard Avenue	"	X	Х	Х	Х		249 6295
7.30	Bowman Street	11	X	Х	Х	Х		249 630L
6.05	Parker Street	Scranton	X	Х	Х	Х	25 26	249 632A
5.60	Dean Street		Х	Х	Х	Х		249 633G
5.50	Depot Street	11	X	Х	Х	X		249 634N
4.50	Glen Street	"	X	Х	X	X	1. 	249 652L
4.40	Poplar Street	"	Х	Х	Х	Х		249 653T
4.10	Olive Street	"	Х	Х	Х	Х	-	249 655G
3.20	Bridge Street	"	Х					249 661K
2.90	Hickory Street	11	X	Х	Х	X		249 6625
2.70	South Washington Avenue	11	X	Х	X			249 664F
2.60	Maple Street	11	X	X	Х	Х		249 665M
2.50	Elm Street	11	X	Х	Х	X		249 667B
2.30	Cherry Street		X	Х	Х	Х		249 668H
1.95	Shop Crossing (Private)	n						968 370E
1.10	Sewer Authority (Private)		X					249 669P
0.02	Cogen Road (Private)	Archbald					2	968 374G
0.03	Greenhouse Road (Private)	1					2	968 373A
0.26	Pumphouse Road (Private)						2	968 372T
0.72	Glen Street	Scranton	X				3,4	249 688U
0.71	Dickson Avenue		X				3,4	249 687M
Note 1	Note 1: Crossing located on Brojack Lead							
Note 2	<u>Crossing located on Lam</u>	inations (Archbald) Lead						
Note 3	<u>3:</u> Crossing located on Lam	inations (Scranton) Lead						
Note 4	Note 4: Crossing Closed: Rail Isolated							

DELAWARE-LACKAWANNA RAILROAD

STRAWBERRY HILL RUNNING TRACK (SH)						
Direction	Station/Location	Milepost	Line Diagram	Rule in Effect		
S	CJ (Carbondale Main)	0.65	J	97		
Ο	Straw (Vine Industrial)	0.30				
U	Lackawanna Avenue	0.19				
T	State/Intermodal Lot	0.07				
<u>H</u> ¥	Diamond (N. Leg Bridge 60 Wye)	0.00		V		

NOTES:

1 - Normal position of switch at CJ is as last used.

2 - Idling locomotives are not to be left standing between crossings at the Intermodal Center parking lot.

104-SH1 SWITCH/SIDING IDENTIFICATION

Name:	Milepost:
CJ	0.65
Straw	0.30
Diamond	0.00

124-SH1 MAXIMUM AUTHORIZED SPEEDS

	Гуре.	Frt.	Psgr.
Diamond Switch and CJ – Northbound S	Single Track	5	5
Diamond Switch and CJ – Southbound N	Main Track	10	10

138-SH1 HIGHWAY-RAIL CROSSINGS AT GRADE

MP	Crossing	Location	С	F	В	G	Note	DOT#
0.19	Lackawanna Avenue	Scranton	Х				1	264 084C
0.17	Mall Outbound	n	Х				1	926 804Y
0.16	Mall Inbound	11	Х				1	926 805F
0.15	State Lot North	11	Х				1	926 806M
0.07	State Lot South " X 1 926 807U							
Note 1:	Trains & light engine movements must stop & provide on ground flag protection for							
leading end of movement over crossing.								

SAFE WORKING BEGINS WITH SAFE THINKING

DELAWARE-LACKAWANNA RAILROAD

VINE STREET INDUSTRIAL TRACK (VN)						
Direction	Station/Location	Milepost	Line Diagram	Rule in Effect		
S	Connection to Carbondale Main Track	2.00	l. J.	98		
0	Marion Siding	1.95				
U	Cold Storage Lead	1.10				
Т	Wyoming Siding	1.07	8			
Н	Wyoming Avenue/SNO Management	1.00))			
	Back Dock	0.87				
	Gordon Avenue Stub Sidings	0.57, 0.60				
\checkmark	STRAW (Strawberry Hill Running Trk)	0.30		V V		
NOTEC.						

NOTES:

1 - Vine Street Industrial Track between MP0.8 and MP2.0 is Excepted Track.

2 - Track is severed North of Sanderson Avenue and South of New Street.

EQ-VN1 EQUIPMENT RESTRICTIONS/TRACK RESTRICTIONS

Location:	Note:
Straw and MP 2.00	1,2,3
MP .05 and MP 2.00	4

Note 1: 6-Axle Locomotives are prohibited.

<u>Note 2:</u> Propane Cars, loaded or empty are prohibited.

Note 3: Passenger Cars are prohibited.

Note 4: Equipment with height in excess of 17'0" is prohibited

B-VN1 CLOSE CLEARANCE AREAS

Crewmembers are not to ride on the side of cars or locomotives in the following locations. Keep hands, heads and arms inside the locomotive when operating in these close clearance areas:

- 1. Cold Storage Siding East side at loading dock.
- 2. SNO Management Back Dock track and along west side of building.

104-VN1 SWITCH/SIDING IDENTIFICATION

Name:	Milepost:	Siding	g Length:	Note:	
Marion Siding	1.95			M/W use only unless authorized.	
Cold Storage Lead	1.10			M/W use only unless authorized.	
Wyoming Siding	1.07	290'			
SNO North	1.00	566'			
SNO South	0.90	п			
Back Dock	0.87	70'			
West Gordon Stub	0.60	600'			
East Gordon Stub	0.57	120'			
Straw (Strawberry Hill)	0.30				
124-VN1 MAXIMUM AUTHORIZED SPEEDS					
	Type.		Frt. Psgr.	<u>_</u>	
MP 2.00 and Straw	Single Trac	<	5 5		

VINE STREET INDUSTRIAL TRACK SPECIAL INSTRUCTIONS

MP	Crossing	Location	С	F	В	G	Note	DOT#
1.99	Private Crossing	Scranton						968 376V
1.91	Marion Street	11	X				2	249 637J
1.86	Sanderson Avenue	11					4	249 638R
1.79	New York Street	11					4	249 639X
1.75	Monsey Avenue	11					4	249 6405
1.59	Larch Street	11					4	249 641Y
1.59	Capouse Avenue	11					4	249 642F
1.50	Walnut Street	11					4	249 644U
1.38	Poplar Street	11					4	249 645B
1.27	Ash Street	11					4	249 646H
1.18	Phelps Street						4	249 647P
1.11	New Street	11					4	249 648W
1.10	Wyoming Avenue	11	X				1,3	249 649D
1.04	E. Gibson Street	11	X				1	249 650X
0.65	Gordon Avenue	11	X				1	249 657V
Note 1:	All train movements mus	t Stop and provide Flag Pro	otectio	n.				
Note 2:	Rusty rail conditions prev	vail. NORAC Rule 138C app	lies.					
Note 3:	Crossing located on Cold	Storage Lead.						
Note 4:	Crossing closed, rail isola	ited.						

138-VN1 HIGHWAY-RAIL CROSSINGS AT GRADE

SAFETY ALWAYS

DANGER NEVER TAKES A HOLIDAY

DELAWARE-LACKAWANNA RAILROAD

LAUREL LINE (LL)							
Direction	Station/Location	Milepost	Line Diagram	Rule in Effect			
S	S. Washington Avenue (Brady Lead)	0.00		97			
0	Trolley Barn	0.10	N				
U	Iron Furnace Lead	0.34					
Т	Brady Yard North	0.54					
н	Brady Yard South	0.79	000	V V			
R	BROOK	0.83	ę.				
0	TUNNEL	1.80					
0	Stafford Avenue	1.95					
U	Virginia Siding North	3.35	800'				
N	Virginia Siding Sou <mark>th</mark>	3. <mark>5</mark>					
D	VIRGINIA (Minooka Industrial Trk)	3.62					
	Trolley Shop Lead	4.30	\sim				
<u> </u>	VC (End of Track)	4.33	~				

NOTES:

1 - Overhead Electric Trolley Wire is to be considered energized at all times.

2 - Cars must not be staged on the Virginia Runaround when Temporal Separation is in effect.

3 - The Trolley Shop Lead Track in its entirety is designated for Trolley use only.

4 - Trolley Shop Tracks 2 and 3 are designated as Trolley Car Servicing and Repair Track Area.

EQ-LL1 EQUIPMENT RESTRICTIONS/TRACK RESTRICTIONS

Location:	Note:
MP 0.00 and VC	1
Cedar Ave. MP 0.15 and VC	2
Trolley Shop Lead	1

<u>Note 1:</u> Equipment in excess of 17'0" is prohibited on all electrified tracks.

Note 2: 6 Axle locomotives are prohibited south of Cedar Avenue without proper authorization

B-LL1 CLOSE CLEARANCE AREAS

Crewmembers are not to ride on the side of cars or locomotives in the following locations. Keep hands, heads and arms inside the locomotive when operating in these close clearance areas:

- 1. Brady Yard All Tracks
- 2. Tunnel Both sides
- 3. Stafford Avenue Overpass Both sides
- 4. MP 2.0 MP 2.1 Retaining Wall East Side
- 5. Plastics Plant Piping and Silos (Minooka Industrial Track)
- 6. Trolley Shop All doors, both sides (Trolley Shop Lead)

19-LL1 ENGINE WHISTLE OR HORN SIGNALS

All trains and trolley cars must sound horn when entering and exiting the Laurel Line tunnel and the Stafford Avenue Overpass.

LAUREL LINE SPECIAL INSTRUCTIONS

Name:	Milepost:	Siding Length:	Note:					
Trolley Barn	0.10		Trolley use only unless authorized.					
Iron Furnace	0.34	450'						
Brady Yard North	0.54	800'						
Brady Yard South	0.79	п						
Virginia North	3.35	800'						
Virginia South	3.55	11						
MIT Switch	3.62		Switchback Tail Track 490'					
Erie Switch	3.83		Equipment must not enter this track.					
Trolley Lead Switch	4.30		Trolley use only unless authorized.					

104-LL1 SWITCH/SIDING IDENTIFICATION

104-LL2 PERMANENT DERAILS

Track:	Location:	Milepost:
Brady Yard	Track 4 North End	0.56
Brady Yard	Track 3 North End	0.56
End of Track	VC	4.33

104-LL3 SWITCHING PROCEDURES - BRADY YARD

During periods when Temporal Separation is not in effect, train crews switching Brady Yard and retrieving cars from Scranton may have derails in the non derailing position for the purposes of switching and building a train. Sufficient hand brakes must be applied to Brady Yard Cars while retrieval is being made. Upon completion, derails must be restored and locked in the derailing position.

124-LL1 MAXIMUM AUTHORIZED SPEEDS

	Туре.	Frt.	Psgr.	Trolley
S. Washington Ave and BROOK	Single Track	10	10	10
Brady Yard Tracks	Yard Track	5		
BROOK and VC	Main Track	25	25	30
Trolley Shop Lead	Single Track			10
Minooka Industrial	Single Track	10		

<u>Note:</u> TROLLEY CONTROL - When traversing frogs in overhead wire, trolleys are not to exceed 10 MPH. Controller must be in the off position (coasting) when traversing section insulators.

Note: Trolley Shop Tracks 1-3: Speed not to exceed 5 MPH.

138-LL1 HIGHWAY-RAIL CROSSINGS AT GRADE

MP	Crossing	Location	С	F	В	G	Note	DOT#
0.00	South Washington Avenue	Scranton	Х				1	264 082N
0.15	Cedar Avenue	11	X				1	264 083V
4.39	Glenmaura National Boulevard	Moosic	X	X	X	Х	2	926 811J
4.57	Trolley Works (Private)						2	968 378]
1.10	Montage Mountain Road	11	X	X	X	Х	3	926 810C
1.60	Private (Two Crossings)	Scranton					3	968 377C
Note 1:	All train movements must Stop	and provide Flag Pro	otectio	n.				
Note 2:	Crossing located on Trolley Shop Lead.							
Note 3:	Crossing located on Minooka Ind	dustrial Track.						

TEMPORAL SEPARATION INSTRUCTIONS

TS-LL1 SAFETY IN ELECTRIFIED TERRITORY

Electrified portions of the Laurel Line have an overhead contact system of trolley wires transmitting 600 Volts DC of electricity. All personnel working in proximity to electrified territory must adhere to the following rules:

- Conduct a Job Briefing on the dangers of working in electrified territory before commencing work.
- Consider trolley wires **Electrified At All Times.**
- Do not touch any wires even if it is known that the power has been turned off.
- Do not go near or contact any dangling wire, or attempt to move them by any means.
- Report the location of any dangling wire or foreign items entangled in wire to the Train Dispatcher.
- Do not ride or climb on top of any equipment.

TS-LL2 REQUIRED BOOKS AND PUBLICATIONS - TROLLEY OPERATORS

In addition to other required books and publications in effect, all Trolley operating personnel must have in their possession while on duty: Historic Trolley Excursion Emergency Response and Evacuation Plan dated April 1, 2005, Safety Rules for Trolley Operators-Delaware Lackawanna Railroad dated April 1, 2005, and Operating Rules Supplement for Historic Trolley dated August 1, 2005.

TS-LL3 TEMPORAL SEPARATION

A. Method of Operation

For the purposes of trolley operation by the Delaware-Lackawanna Railroad on Steamtown National Historic Site and Pennsylvania Northeast Regional Railroad Authority property, temporal separation is defined as the complete separation of conventional and light rail equipment at completely distinct periods of the day. During periods when temporal separation procedures are in effect, the D-L Dispatcher will not allow any conventional rail equipment to enter the limits of the temporal separation area.

B. Hours of Operation

Hours of operation are posted by bulletin order and represent the period when temporal separation rules are in effect. Freight and other conventional rail movements on the excursion route are only permitted outside of posted hours of operation.

C. Temporal Separation Prohibitions

During temporal separation freight service or other conventional rail movements are prohibited on the following tracks:

- The Brady Lead Track and Laurel Line Track from the West End Coal Yard Lead/Brady Lead switch to VC Station, including the electrified runaround at Little Virginia.
- The Depot Run-around Track between the east and west connection switches on the Scranton Running Track.
- The Chamberlain Siding.
- Brady Yard tracks 1 to 4 inclusive.
- Minooka Industrial Lead to the first switchback.

TEMPORAL SEPARATION INSTRUCTIONS

D. Temporal Separation Procedures

After the scheduled start time for trolley operation, the GVT Dispatcher will confirm with the trolley crewperson that conventional equipment is clear of the Trolley Track. Once confirmation has occurred, the trolley will occupy the Trolley Track and proceed at Restricted Speed for the purpose of applying blocking devices and inspecting the route before initial loading of passengers for excursion service.

ROUTING:

SWITCH:

-	-	
1.	West End Depot Runaround	Lined/Locked for Scranton Running Track: Straight Move
2.	West End Depot Runaround Crossover	Lined/Locked for the Depot Runaround Crossover
3.	East End Depot Runaround Crossover	Lined/Locked for the Depot Runaround Crossover
4.	East End Depot Runaround	Lined/Locked for Scranton Running Track: Straight Move
5.	West End Coal Yard lead at Brady Lead	Lined/Locked for Coal Yard Lead
6.	Coal Yard Lead at Coal Yard Track 5	Lined/Locked for Coal Yard Track 5
7.	East End Coal Yard Lead at Brady Lead	Lined/Locked for Brady Lead: Straight Move
8.	Chamberlain Siding	Lined/Locked for Brady Lead
9.	N E Brady Yard Track 3	Lined/Locked for Laurel Line
10.	N E Brady Yard Track 4	Lined/Locked for Laurel Line
11.	S E Brady Yard Track 4	Lined/Locked for Laurel Line
12.	S E Brady Yard Track 3	Lined/Locked for Laurel Line
13.	Minooka Industrial Track	Lined/Locked for Laurel Line
14.	Trolley Shop Lead	Lined/Locked for Trolley Shop Lead
DER	AIL:	POSITION:

15. Milepost 4.33

Applied and Locked to protect Laurel Line

After completion of passenger excursion service and prior to conclusion of hours of operation, the trolley crew will commence procedures for the removal of blocking devices. The GVT Dispatcher will be notified when all blocking devices have been removed and the trolley is in the clear of the Trolley Track consistent with proper verbal clearing procedures.

E. Annulment of Temporal Separation

The GVT Dispatcher may annul temporal separation when notified of an emergency condition such as electrical system failure, trolley failure or any other condition that would affect trolley operation or prevent its ability to safely clear the Trolley Track. When required, on-track rescue equipment will be utilized to assist a disabled trolley. Form D Lines 4 and 13, or 8, 9 and 13 will be issued in accordance with DCS Rules. The disabled trolley will provide flag protection in the direction of the approaching rescue equipment. The flagman will physically escort the rescue equipment to the disabled trolley.

On scheduled days of operation when circumstances require cancellation of the trolley before it occupies the Trolley Track, the GVT Dispatcher may annul temporal separation. During the scheduled hours of operation window, and only during this period, conventional rail equipment requesting permission to enter or cross the Trolley Track will be issued Form D Line 13 notifying of the cancellation.

DELAWARE-LACKAWANNA TELEPHONE DIRECTORY

EMERGENCY CONTACT NUMBERS - IN CASE OF EMERGENCY ALL AREAS DIAL 911 LOCATION: JURISDICTION: TELEPHONE: RAILROAD CONTACT NUMBERS

<u>Note</u>: Phone numbers and personal information redacted.

61

This page Intentionally left blank.

NATIONAL PARK SERVICE STEAMTOWN NATIONAL HISTORIC SITE

GENESEE VALLEY TRANSPORTATION

STEAMTOWN NATIONAL HISTORIC SITE - SNCX

DELAWARE-LACKAWANNA RR

JOINT TRACKAGE





TIMETABLE AND SPECIAL INSTRUCTION PAGES FOR: SCRANTON RUNNING TRACK CHAMBERLAIN LEAD BRADY LEAD



NOTES:

- 1 Permission must be obtained to leave any switch connected to GVT Dispatcher controlled track in reverse position.
- 2 Permission must be obtained from the Norfolk Southern Dispatcher before entering or fouling the NS Main Track at HYDE PARK (N. Leg Bridge 60 Wye) or BLOOM (S. Leg Bridge 60 Wye).
- 3 Trains operating on the North Leg of the Bridge 60 Wye onto the Strawberry Hill Running Track will consist of no more than 40 loaded cars and 16 powered axles unless authorized by the Trainmaster or General Supt.
- 4 All cars left for staging on the North Leg Bridge 60 Wye will be positioned between the Diamond Switch and the derail at HYDE PARK (NS Connection). Unless waived by the D-L Train Dispatcher, the Diamond Switch will remain clear at all times to allow access to and from the Strawberry Hill Running Track.
- 5 Normal Position of Divider Switch is lined for the North Leg Bridge 60 Wye.
- 6 Normal Position of the Bridge Switch is lined for the Divider.
- 7 Normal Position of the Independent Switch is lined for the Independent Track.
- 8 Running locomotives are not to be tied down in the vicinity of: Cedar Avenue, Jacobson Hat or Harrison Avenue.

SCRANTON RUNNING TRACK (SR) SPECIAL INSTRUCTIONS

EQ-SR1 EQUIPMENT RESTRICTIONS

Note:
1
2
3
4
5

<u>Note 1:</u> Steam locomotives will not operate unless authorized.

<u>Note 2:</u> Steam locomotives larger than the 0-6-0 type will not operate without authorization.

<u>Note 3:</u> Six-axle diesel locomotives prohibited East of the Shop Lead switch without authorization.

<u>Note 4:</u> Snow plow movement prohibited.

<u>Note 5:</u> Equipment with a height in excess of 19'0" must not move without prior authorization.

Between/At:	Rule:	Note:	
Scranton Running Track to NAY AUG	97	1	
Mall Siding	97	1	
Receiver Track, Storage Track, Hat Track	98		
Chamberlain Lead	97	1,2	
Brady Lead	97	1,3	
Brady to Depot Crossover	97	1,3	
Depot Runaround	97	1,3	
All Other Tracks	98	4	

B-SR1 RULES IN EFFECT

Note 1: All train movements controlled by GVT Train Dispatcher

<u>Note 2:</u> SNCX movements must contact the GVT Dispatcher prior to crossing the Chamberlain Diamond.

<u>Note 3:</u> Electrified Trackage. Refer to Electrified Territory and Temporal Separation Protocols.

Note 4: All train movements controlled by SNCX Yardmaster.

B-SR2 CLOSE CLEARANCE AREAS

Crewmembers are not to ride on the side of cars or locomotives in the following locations. Keep hands, heads and arms inside the locomotive when operating in these close clearance areas:

- 1. Doors 1 through 9 of the Locomotive Shop.
- 2. Locomotive Shop Track Lead (track 1 and 2) at the coal dock (south side).
- 3. Office Storage Building, tracks on north and south side.
- 4. Scrap dock, tracks on north and south side.
- 5. Chamberlain Lead, at the northeast corner of the Locomotive Shop and Inside General Dynamics Plant.
- 6. Old Cliff Street underpass, south side.
- 7. East End of Bridge 60, south side.
- 8. North Chutes Track, North Side at Mall Walkway, South Chutes Track when cars on adjacent tracks.
- 9. Coal Yard, all tracks, both sides when cars are present on adjacent tracks.
- 10. The entire Core Complex area including:
 - The Gangway, North and South Turntable Leads from the Chamberlain Lead Switch to the Roundhouse including the turntable.
 - Entering/leaving all Roundhouse and Exhibit Building tracks and core complex gates.
 - South side of South Chutes Track and north side of North Chutes Track
- 11. Scranton Running Track and Receiver Track between Receiver Switch MP 133.19 and East Station Crossing MP 133.10 when cars are present on adjacent track.

SCRANTON RUNNING TRACK (SR) SPECIAL INSTRUCTIONS

104-SR1 PERMANENT DERAILS

Track:	Location:	Milepost:	Note:
Receiver Track	East of West Station Crossing	133.18	1
Receiver Track	East of the East Station Crossing	133.10	1
Receiver Track	East of W. Univ. of Scranton Crossing	132.85	1
Receiver Track	East of East Receiver Crossover	132.55	1
Hat Track	East of the West Hat Switch	132.80	1

<u>Note 1:</u> Apply derails and lock secure at West end of all equipment left standing. When track is clear of equipment, fixed derails located on Receiver Track and Hat Track may be removed and locked in the off position when authorized by the GVT Train Dispatcher to allow for run through traffic.

124-SR1 MAXIMUM AUTHORIZED SPEEDS

Between/At:	Туре.	Frt.	Psgr.	Note:
HYDE PARK to Cliff Street (Divider Switch)	Running Track	10	10	
BLOOM and Cliff Street (Divider Switch)	Running Track	10	10	
Divider Switch and NAY AUG	Running Track	10	10	
Mall Siding	Siding	10	10	
Receiver Track	Siding	10	10	
Chamberlain Lead	Yard Track	10	10	
Brady Lead	Yard Track	10	10	1
Depot Run-A-Round	Yard Track	10	10	1
All Other Tracks Cliff Street to RIDGE	Yard Tracks	5	5	
Note 1: For Trolley Operation passenger spe	ede will apply			

<u>Note 1:</u> For Trolley Operation, passenger speeds will apply.

138-SR1 HIGHWAY/PEDESTRIAN CROSSINGS AT GRADE - SCRANTON RUNNING TRACK

MP	Crossing	Location	С	F	В	G	Note	DOT#
133.76	Cliff Street (Private)	Scranton						930 998N
133.70	Boardwalk (Ped)	11	Х				1,2	930 944H
133.57	400 Block (Private)	11						971 131H
133.35	500 Block (Private)	11						971 130B
133.18	West Station (Ped)	11	Х				1	930 997G
133.10	East Station (Ped)	11	Х				1	930 996A
132.85	West University (Ped)	11	Х				1	930 995T
132.65	East University (Private)	11	Х				1	926 809H
Note 1:	Sound horn/whistle warning as prescribed by NORAC Rule 19.							
Note 2:	Stop and flag all head end movements with exception of Scranton Running Trk. and Mall Sdg.							

138-SR2 PRIVATE CROSSINGS LOCATED WITHIN STEAMTOWN YARD AREA

Track	Location	С	F	В	G	Note	DOT#	
Trolley Museum Lead	Cliff Street/Bridge 60 Access Road	Х				1	930 943B	
Brady Lead	At Mall Overhead	Х					930 345P	
Chamberlain Lead	Sand House	X					930 943B	
Shop Lead	Park Access Road	X				1	930 943B	
Note 1: All train/trolley movements must stop and provide Flag Protection, head end only.								

138-SR3 PEDESTRIAN CROSSING CLEARANCE

All rail equipment left standing on the Receiver Track must be no nearer than twenty (20) feet in proximity to the following crossings: - East Station Crossing MP 133.10

- West University of Scranton Crossing MP 132.85

NATIONAL PARK SERVICE STEAMTOWN NATIONAL HISTORIC SITE



MISSION STATEMENT

Steamtown National Historic Site was created to further public understanding and appreciation of the role steam railroading played in the development of the United States.

GUIDING PRINCIPALS

- 1. We do it right do it safely or don't do it!
- 2. Our most important resource is our employees and volunteers.
- 3. We provide high quality, professional service to our customers, partners and the community.
- 4. We abide by all NPS, local, state and federal regulations and policies including, but not limited to, FRA and OSHA regulations
- 5. We are accountable for our actions and ensure our actions represent Steamtown and the National Park Service Well.
A-1S ADDITIONAL REQUIRED BOOKS

In addition to the required books outlined in NORAC Rule A, all Steamtown NHS personnel must maintain and have with them while on duty copies of the following documents:

Docui	ment:	Effective Date:
-	Air Brake & Train Handling Manual & Passenger Car	August 1, 2015
	Air Brake Systems Manual	
-	Steamtown NHS Passenger Car Manual	January 1, 2016
-	Railroad Operations On Board Service & Crew Resource	January 1, 2013
	Management Manual	
-	Steamtown NHS Emergency Evacuation Procedures	January 1, 2012
-	Railroad Safety Rules & Procedures	January 1, 2013
-	Steamtown Excursion Emergency Operations Plan	April 1, annually.
-	Steamtown Mechanical Instructions	April 1, 2006

C-1S PHYSICALS/COMPANY MEDICAL OFFICER

National Park Service policies will govern physical examinations for NPS employees and volunteers. Company medical officers for use in application of Rule C and Rule G will be selected by NPS Trainmaster.

L-1S PERSONS PERMITTED TO RIDE ENGINES

Only persons holding proper authorization from the Steamtown NHS Superintendent are permitted in the cab of any STEA/SNCX locomotive or other track equipment.

With the exception of scheduled locomotive cab tours, no more than four (4) crew members are allowed in the cab of any operating STEA/SNHX locomotives.

FRA inspectors will be permitted in the cab of any locomotive or other track equipment upon presentation of proper identification

N-1S GETTING ON/OFF MOVING EQUIPMENT

It is permissible to get on and off moving equipment provided the individual has been properly trained and the equipment is NOT moving faster than 3 MPH. This is strictly voluntary and will be left up to each individual.

N-2S SETTING OUT CARS WITHIN STEAMTOWN YARD

D-L cars and engines, except for normal switching, will not be left on Steamtown National Historic Site Property without permission from the SNCX Yardmaster.

SAFETY IS JOB #1

S-1S POSITIVE PROTECTION

All employees working in Hours of Service positions on GVT or NPS property must use Positive Protection when going between, under or onto equipment which is coupled to an occupied, operating locomotive.

To apply Positive Protection, the engineer must apply the locomotive brakes fully, the train brakes if necessary, AND place the reverse lever in the center (neutral) position. The engineer must confirm the application of positive protection by radio.

Brakes must remain applied and the reverser centered until the crewmember requesting Positive Protection instructs release of protection by radio.

The employee requesting Positive Protection must ensure that no other NPS/SNCX personnel will give a signal or instruction to the engineer to move the equipment.

Positive Protection applied to steam locomotives is as follows: Apply locomotive brakes and train if necessary, throttle closed and pinned, reverser in neutral position and cylinder cocks open.

Only the person requesting positive protection may be the one to give the instruction to release it.

S-2S HAND FIRING LOCOMOTIVES

All Steam locomotives will be "hand fired" when operating on other than main track. In order to reduce the need to "cut" coal during the high heat/humidity weather, all main line excursions will receive coal on a daily basis unless otherwise instructed by Operations Supervisor Willard Sturdevant. When "cutting" coal is necessary, dust masks will be worn at all times.

S-3S VISITOR USE AREAS – PROCEDURES

All tracks between the West End of the Pedestrian Crossing to the East End of the Steamtown Depot platform and the Northeast corner of the Locomotive Shop building are designated visitor use areas.

ALL forward and reverse train movements in these areas will be physically preceded by a crewmember, two if available, one on each side of movement.

EXCEPTIONS:

- 1. This protection is not required for movements on the Brady Lead or the Mall Siding.
- 2. This protection is not required when the park is closed, except during special events.

S-4S OPERATIONAL STEAM LOCOMOTIVES IN VISITOR USE AREAS

All operating steam locomotives in visitor use areas will utilize extreme caution.

When on display, the Conductor and/or Engineer will ensure that a crewmember is positioned at the side of the engine cautioning visitors that many parts of the engine are hot.

Additionally, the use of injectors or other devices which have the potential to spray, burn, scald, or in any way injure a park visitor are prohibited until visitors are removed a safe distance from the locomotive.

S-5S VISITOR PROTECTION

Steamtown Passenger Depot – When receiving or discharging passengers at the Steamtown NHS Passenger Depot, on either the North or South Side, the conductor will coordinate with the GVT Train Dispatcher to ensure that no trains pass the depot until all passengers are protected and clear of the passing train.

Outlying Locations – When a meet is planned with a freight train while a passenger train is standing or receiving/discharging passengers, the conductor will coordinate with the GVT Train Dispatcher and the engineer of the passing freight train to ensure that all passengers are protected and clear of the passing train.

S-6S ROUNDHOUSE PROCEDURES

No locomotive will enter or exit the roundhouse until the conductor has ensured that the protective mezzanine chains/gates are in place so the mezzanine area above the track the locomotive is operating on is blocked off. A member of the crew, a member of the interpretive staff or a member of the roundhouse staff will physically provide visitor protection.

S-7S CORE COMPLEX OPERATING PROCEDURES

All locomotives and trains entering and/or exiting the core complex using either the Gangway Track or the North/South Turntable Leads will be governed as follows:

Entering and leaving the Turntable via the Gangway Track:

- 1. ALL forward and reverse train movements south of the Chamberlain Lead diamond and off the Turntable will be physically preceded (on the ground) by a crew member, two if available, one on each side of movement.
- ALL movements will stop short of the protective gates. The Conductor (and Trainman if available) will, when pedestrian traffic allows, open the gates and provide flag protection on both sides of the crossing.
- 3. When the movement is complete, the conductor will be responsible to ensure that all protective gates are closed.

Entering and leaving the Turntable via the North and South Turntable leads:

- 1. ALL movements between the Chamberlain Lead and the Visitors Center North Exhibit Building and coming off the Turntable will be physically preceded (on the ground) by a crew member, two if available, one on each side of movement.
- ALL movements will stop short of the protective gates, the Conductor (and Trainman if available) will, when pedestrian traffic allows, open the gates and provide flag protection on both sides of the crossing.
- 3. When the movement is complete, the conductor will be responsible to ensure that all protective gates are closed.

S-8S TURNTABLE BARRIERS

Turntable barriers on the core complex tracks 10 through 26 separate visitor use areas from active operational roundhouse tracks and the turntable pit. When placing equipment in excess of 90 feet (coupler to coupler) on the turntable, it must be determined the equipment clears all barriers before moving the table.

If the equipment does not clear the barriers, the conductor will assign crew members to ensure park visitors remain clear of the turntable pit and assist in barrier removal and replacement.

S-9S TURNTABLE ALIGNMENT AND OPERATION

When the turntable is aligned for track #7 (North Exhibit Building) it will not align with track #31 (South Exhibit Building). Track #7 and Track #31 will line up individually with the turntable.

Spot and align all movements using the "A" end of the turntable.

Getting on or off the turntable during operation is strictly prohibited.

S-10S TROLLEY MUSEUM LEAD

All tracks between the east side of the Trolley Museum building and the connection with the South Turntable Lead are under the control of the SNCX Yardmaster. These tracks are designated (north to south) as Trolley 1, 2, 3 and 4.

All train crews (motorman and/or conductor) and mechanical personnel wishing to operate on these tracks for any reason will, prior to any movement outside the building, contact the NPS Yardmaster for permission.

The NPS Yardmaster in conjunction with the GVT Train Dispatcher will ensure that no conventional rail equipment is allowed in the immediate area during light non-revenue trolley car movements to and from the Trolley Museum and the Steamtown Depot until complete.

The normal position of the Trolley Lead switch, connecting to the South Turntable Lead, is lined for the South Turntable Lead.

THERE ARE NO SHORTCUTS TO SAFETY

S-11S TROLLEY SYSTEM ELECTRICFICATION

Trolley Museum tracks 1 and 2 to the South Turntable Lead and the Depot run-a-round track from the Steamtown Passenger Depot to South Washington Avenue are designated as "Electrified Territory".

Equipment with a height in excess of 17'0" is prohibited in electrified territory.

All employees and volunteers are <u>strictly</u> prohibited from climbing or riding on the top of <u>any</u> rail equipment in electrified territory.

All employees and volunteers will consider these areas as "Electrified" AT ALL TIMES.

S-12S TEMPORAL SEPARATION PROCEDURES

All trolley movements on NPS and D-L trackage between the Steamtown NHS Passenger Depot and South Washington Avenue are under the control of the D-L Dispatcher in accordance with Temporal Separation Procedures. Procedures for the application and removal of Temporal Separation are located in the D-L Laurel Line section of the timetable.

S-13S PERSONAL PROTECTIVE EQUIPMENT

All SNCX engine crews are required to wear safety glasses and hearing protection when in the cab of operating locomotives. Proper High-Cuff gloves are to be worn in the cabs of operating steam locomotives.

S-14S CROSSING PROTECTION – OUTLYING AREAS

When freight cars are set on the Receiver Track and/or the West Crossover Receiver Runaround Track between South Washington Ave. and the SCRANTON station sign:

- The assigned conductor will advise the interpretive ranger in charge of the tour to advise passengers to keep their hands, arms and heads inside the coach at all times.
- The engineer will ensure that the engine bell is ringing and appropriate horn/whistle signals are used at all times.

- When the West Station, East Station and West University crossings are cut and visibility is in any way obstructed, all yard excursion train movements must stop and provide flag protection over these crossings. If close clearances will not allow a crewmember to safely get off the train to flag the crossings, the conductor will make a determination on how far the train should proceed.

1-1S BULLETIN ORDERS AND DIVISION NOTICES

Bulletin Orders, Division Notices and other Special Instructions concerning trackage controlled by the NPS Yardmaster will be issued by and over the signature of the Steamtown Trainmaster. Additions and deletions to Bulletin Orders will be made by the SNCX Yardmaster when instructed to do so by the Trainmaster.

A copy of all Bulletin Orders must be posted at each Bulletin Board location listed in the Timetable Special Instructions.

1-2S LOCATION OF TRAIN BULLETIN ORDERS, DIVISION NOTICES, EMPLOYEE REGISTER SHEETS AND STANDARD CLOCKS

		Location:	BB	ER	CLK	SAF
BB -	Bulletin Board	Bridge 60 Tower	Х		Х	Х
ER -	Employee Register	DL Crew Trailer	Х	Х	Х	Х
CLK -	Standard Clock	SNCX Locomotive Shop	Х	Х	Х	Х
SAF -	Safety Register (GVT)	SNCX Yardmaster	Х		Х	Х

1-3S GVT RAIL SYSTEM SAFETY NOTICES

The SNCX Yardmaster will be responsible for insuring that when GVT Rail System Safety Notices are received the following actions are taken:

- 1. The GVT Rail System Safety Notice will be immediately posted on both the Steamtown Train and Engine Service Bulletin Board and the SNCX Yardmaster Bulletin Board.
- 2. The SNCX Yardmaster will, as part of their normal morning at the Crew Safety Briefing, read and discuss each GVT Rail System Safety Notice. The normal "Crew Safety Briefing" sign in sheet will be used to document that this procedure was complied with as well as other SNCX safety and operational related topics.

It is not required for crew members to have a copy of the GVT Rail System Safety Notice in their possession while on duty.

1-4S BLUE FLAGS – TAGGING REQUIREMENT

All Blue Flags/Signals placed on any location/equipment must have a blue tag affixed to the Blue Flag/Signal and the employee's name who is working under this signal clearly written on the blue tag.

All employees from the Locomotive Shop, Roundhouse, Rail Operations, Yardmasters, Buildings and Utilities, Custodial, and Track will be issued four tags; the tags will have the employee's name clearly written on the tag using indelible ink.

1-5S SNCX TRAIN MOVEMENTS

Engineers and conductors must be in the immediate vicinity of and directly oversee any and all directives to crew members who are in trainee status.

1-6S SPOTTING OF SNCX TRAINS

All SNCX trains are to be spotted per the conductor's signals. The use of pre placed markers other than foul point markers is strictly prohibited.

1-7S TURNTABLE OPERATION

All SNCX employees and volunteers are prohibited from stepping on or off the turntable while it is in motion.

20-1S ENGINE BELL/TROLLEY GONG

Engine bell/trolley gong must be sounded when passing through areas designed for Visitor Use.

101-1S FOUL POINT MARKERS

Yellow Cone Foul Point Markers are installed on NPS controlled tracks and indicate the location where equipment can be left in the clear. These markers also constitute a possible tripping hazard.

104-1S SAFETY BRIEFINGS/READING SWITCHES

Before any operating or switching moves, SNCX Crews will discuss all of the switches that will be encountered while mapping out tracks that will be utilized.

108-1S UNATTENDED ENGINES

Except when under the control of mechanical department personnel in the shop and roundhouse, operating steam and diesel locomotives will not be left unattended.

109-1S SECURING COACHES – HAND BRAKES

A minimum of 50% handbrakes will be applied to all SNCX and foreign excursion coaches being used that are left standing at any location when the locomotive is uncoupled.

119-1S HAZMAT OPERATING PRACTICES

Trains carrying Hazardous Material cars into or through NPS park property will be governed as follows:

- 1. Before entering NPS park property GVT personnel will provide the NPS Yardmaster with a copy of the waybill and any other special handling or emergency instructions via fax, radio, phone or in person.
- 2. Cars containing hazardous materials will not be set out or stored within NPS park boundaries.

706-1S FIXED BASE STATIONS

Designated fixed base stations are in service at the following locations:

- SNCX Yardmaster's Office
- MOW Building, fixed broadcast/recorder.

901-1S DISPATCHING DISTRICTS – STEAMTOWN NATIONAL HISTORIC SITE YARD

Steamtown National Historic Site Yard extends from the Cliff Street Underpass East to the NPS/PNRRA property border as well as all tracks south of the Mall Siding East to Washington Avenue, with the exception of those tracks owned by the PNRRA.

Permission must be obtained from the SNCX Yardmaster on GVT Channel 1 prior to entering any/all yard tracks governed by NORAC Rule 98 between Cliff Street and South Washington Avenue.

Permission to occupy the Scranton Running Track, Mall Siding, Chamberlain Lead, Brady Lead, Depot/Brady Crossover and the Depot Run-Around must be obtained from the GVT Train Dispatcher on GVT Channel 1.

940-1S COMPLETING REPORTS AND FORMS

All SNCX crews must complete all required FRA and Steamtown Forms. Such as, Conductors Reports, Air Brake Tests and Daily Locomotive Inspection Reports at the completion of their tour of duty and promptly forward those forms to the proper authority.

941-1S **CELL PHONE**

Conductors issued a Steamtown supplied cell phone for excursion trains are governed by NORAC 716, b, 1 (a), (b), (c) (1) (2), exclusively.

951-1S FIREMAN DUTIES AND RESPONSIBILITES

Firemen will comply with the proper method of firing and caring for the engine, and with the instructions of the Designated Supervisor of Locomotive Engineers, Locomotive Shop Supervisory Exhibits Specialist and the Roundhouse Foreman on mechanical methods. They will comply with the instructions of the engineman in the performance of their duties with rules and safety.

When placed in charge of an engine, in the absence of the engineman, they must not leave it or move it until his/her return, unless authorized by the Operations Supervisor Willard Sturdevant. If the engineman becomes disabled, the fireman will stop the engine and report to the conductor and not permit any movement or unauthorized person upon it.

When their duties permit, they must look out in the direction of movement and immediately warn the engineman of any obstructions or danger and while switching, must observe hand signals from the train crew, communicating them to the engineman. When practicable, they must see that the switches near the engine are properly lined.

YARDMASTER DUTIES AND RESPONSIBILITIES 981-1S

The assigned SNCX Yardmaster is required to have the cell phone turned on and in their possession at all times while on duty.

STEAMTOW	/N NATIONAL HIST	ORIC SITE TELEPH	ONE DIRECTORY
NAME:	TITLE:	TELEPHONE:	
		-	

Note: Phone numbers and personal information redacted.

This page Intentionally left blank.

GENESEE VALLEY TRANSPORTATION

DELAWARE-LACKAWANNA RAILROAD CO., INC. DEPEW, LANCASTER AND WESTERN RAILROAD CO., INC. FALLS ROAD RAILROAD CO., INC. MOHAWK ADIRONDACK AND NORTHERN RAILROAD CORP.

NATIONAL PARK SERVICE -STEAMTOWN NATIONAL HISTORIC SITE

GENERAL ORDER 5-1 EFFECTIVE 0001 Hours, January 14, 2019

A. TIMETABLE IN EFFECT.

- 1) Employees must replace their Employee Timetable and Bulletin Order information with Employee Timetable No. 5, and associated Bulletin Orders.
- 2) Records of current qualifications or training contained in the employee's previous timetable editions must be transferred to the "Employee Qualifications" page of Timetable No.5.
- 3) Employees must review timetable pages to ensure completeness of information and knowledge of the changes. The review must include changes incorporated, or carried to Bulletin Orders.
- 4) The following pages are required for railroads governed by Timetable 5:
 - Pages 1-32 as well as Page 77 (G.O. 5-1) FRR/DLWR
 - Pages 1-20, 33-44 as well as Page 77 (G.O. 5-1) MHWA
 - Pages 1-20, 45-76 as well as Page 77 (G.O. 5-1) DL/SNCX

B. REQUIRED BOOKS

NORAC Operating Rules, Eleventh Edition, effective February 1, 2018 GVT System Timetable Number 5, dated January 1, 2019 GVT Air Brake and Train Handling Rules, dated August 8, 2016 GVT On-Track Safety Program, amended July 1, 2013. GVT Safety Rules, dated November 1, 2012 Eastern Code Hazardous Materials Rules - HM-1

GENERAL ORDERS IN EFFECT:

5-1 Dated January 14, 2019



Pocono Mainline Track Assessment





Scranton-New York City Intercity Passenger Rail Analysis Infrastructure Assessment

TECHNICAL REPORT

Prepared for the Amtrak National Network Planning Department

2 TRACK

1. TR	RACK AND ROADBED CONDITION ASSESSMENT	1
1.1.	BACKGROUND	
1.2.	Discussion	3
1.	.2.1. Condition of Rail	
1.	.2.2. Condition of Tie Plates	
1.	.2.3. Condition of Ties	
1.	.2.4. Condition of Ballast and Roadbed	5
1.3.	RECOMMENDED ACTIONS	6
1.	.3.1. Recommended Actions – Rail	6
1.	3.2. Recommended Actions – Tie Plates	6
1.	3.3. Recommended Actions- Ties	6
1.	.3.4. Recommended Actions – Ballast and Roadbed	7
1.4.	Ехнівітѕ	8
2. TR	RACK CONFIGURATION & SPECIAL WORK	
2.1.	BACKGROUND	
2.2.	Discussion	
2.	.2.1. Existing Trackwork	
2.2	.2.2. Assumed Track Configuration	
2.3.	RECOMMENDED ACTIONS	14
2.4.	Ехнівітѕ	
3. AI	NALYSIS OF CURVE SPEEDS	
3.1.	BACKGROUND	
3.2.	Discussion	
3.	.2.1. Strategies to Increase Track Speeds	
3.2	.2.2. Existing Line Geometry	
3.3.	RECOMMENDED ACTIONS	
3.4.	Ехнівітѕ	
4. A1	T-GRADE CROSSING SURFACE CONDITION ASSESSMENT	
4.1.	BACKGROUND	
4.2.	Discussion	
4.	.2.1. At-Grade Crossing Surface Improvements	
4.3.	RECOMMENDED ACTIONS	
4.4.	Ехнівіту	
5. CC	ONCLUSIONS	
5.1.	LOST ESTIMATES	

APPENDICES

- APPENDIX 2A Pocono Mainline Track Chart (Existing Conditions)
- APPENDIX 2B: Pocono Mainline Track Charts (Assumed Configuration)
- APPENDIX 2C Delaware Lackawanna & Western Railroad Excerpts from 1951 Employee Timetable
- APPENDIX 2D Assumed Track Speed Improvements through Curves with Suggested Special Instructions for Amtrak Northeast Corridor Employee Timetable
- APPENDIX 2E Assumed Track Speed Improvements through Curves Applied to 191 DL&W Right-of-Way and Track Maps
- APPENDIX 2F. Pocono Mainline Track Cost Estimates



Scranton-New York City Intercity Passenger Rail Analysis Infrastructure Assessment

TECHNICAL REPORT

Prepared for the Amtrak National Network Planning Department

2 TRACK

Amtrak engaged Jacobs Engineering Group, Inc., to assess just over 60 route miles of rail line owned by Pennsylvania Northeast Regional Railroad Authority (PNRRA), a joint authority of Monroe and Lackawanna Counties, between Scranton and the Delaware Water Gap for its suitability for intercity passenger train operations. The purpose of the assessment is to provide cost estimates for economically elevating the line up to a condition consistent with FRA Track Class 3 or 4 (where geometry permits) based upon an assessment of current conditions gathered from existing records supplemented with field sampling and investigation.

This technical report focuses primarily on track and associated infrastructure assets, consisting of an inventory of track assets accompanied by an evaluation as to their present suitability to support passenger train operations and the degree of work necessary to make them passenger train ready including estimated costs for design and construction.

This technical report is organized around discussion of four core topics:

- 1. Track and Roadbed Condition Assessment
- 2. Track Configuration and Special Trackwork Assessment
- 3. Analysis of Curve Speeds
- 4. Grade Crossing Road Surface Condition Assessments

1. TRACK AND ROADBED CONDITION ASSESSMENT

This portion of the technical memorandum presents a preliminary analysis of the condition of rails, ties, other track material, ballast, and roadbed on the Pocono Mainline and the need for upgrading and replacement of the track structure to support the reintroduction of passenger service.

1.1. BACKGROUND

The PNRRA Pocono Mainline was originally the historic Delaware Lackawanna and Western Railroad Company (DL&W) Scranton Division Main Line, opened in 1856 and was also known as the "Route of Phoebe Snow" and the "Road of Anthracite" (see Figure 2-1). The former mainline stretches 60.25 miles from a connection to the Norfolk Southern (NS) Stroudsburg Secondary Track on the Delaware River at Slateford Junction (Milepost (MP) 73.75) to dual connections in Scranton with the NS Sunbury Line at BLOOM and HYDE PARK (MP 133.9 and MP 134.0, respectively). Train operations on the Pocono Mainline are currently conducted by the Delaware-Lackawanna Railroad Company, Inc. (D-L), a subsidiary of the Genesee Valley Transportation Company(GVT).



Figure 2-1. Pocono Mainline

.The majority of the Pocono Mainline is owned by the PNRRA except about a mile in Scranton owned by the United States National Park Service (NPS) as part of its Steamtown National Historic Site (NHS). The PNRRA owns from the SCRANTON block station marker (MP 132.75) east to the end of track at the SLATE block station marker (MP 73.75) and from the Cliff Street undergrade bridge (MP 133.76) west to the connections with NS at BLOOM and HYDE PARK

This section of the former DL&W main line in Northeast Pennsylvania was originally a densely trafficked multiple track mainline, fully signaled on a very wide and generous roadbed, designed to simultaneously host long, slow coal drags and some of the higher-speed passenger trains for its day. It is a former mountain helper district with constant grades up to 1.5% in both direction to the plateau between Pocono Summit and Lehigh Summit supporting a rise in grade from 311 feet at Slateford Junction to 1,968 feet at Tobyhanna and back down to 736 feet in Scranton. DL&W had two tracks from Slateford Junction to East Stroudsburg (with a short section of single track over Broadhead Creek), four tracks from East Stroudsburg to Analomink (numbered north to south 3 1 2 4), three tracks from Analomink to West Henryville (numbered 3 1 2), two tracks from West Henryville to Mount Pocono, three tracks from Mount Pocono to Pocono Summit (numbered 3 1 2), three tracks from Pocono Summit to Scranton (numbered 1 2 4). This arrangement provided for overtaking of slow manifest and mineral trains on the grades without delay to faster passenger trains and supported helper operations at the bottom and top of the grades. The slow main tracks were the outside tracks (Tracks ③ and ④). Downhill freight train operation on the mountain grades were limited to 25 mph for heavy manifest trains and 18 mph for mineral trains. Uphill operations were limited to 30 mph on the slow main tracks. Yards supporting mountain and helper operations existed just east of Gouldsboro and just west of Tobyhanna. The Gouldsboro Yard had four tracks on the eastbound side of the triple track main and two on



the westbound side. Tobyhanna Yard had one track on the eastbound side of the triple track main and two on the westbound side.

With the advent of dieselization with locomotives with dynamic brakes and the end of major coal mining and transportation activities in the anthracite region, DL&W was able to rationalize the physical plant of the line by retiring Track ③ from Analomink to West Henryville and Track ④ from Pocono Summit to Scranton. The final section of Track ④ from Elmhurst to Tobyhanna was retired in 1964. In the process of rationalization and the repairs to damage caused by Hurricane Diane, the DL&W also performed curve easements by using the abandoned track bed, including easing the third, fourth, and fifth curves west of High Bridge to 2°00 and the Henryville Station Curve and first curve to the west of Henryville Station to 3°55' and 3°46'. These easements are shown on the 1960 Valuation Maps but were never revised onto the Track Charts. Additional line swings were performed from Lehigh Summit to Nay Aug by throwing curves to use either Tracks ① and ② or ② and ④, alternately removing sections of Track ① or Track ④ and cutting and throwing the remaining tracks. The plant rationalizations performed by DL&W included the complete removal of the former track structure, including the entire retired ballast section.

The Erie Lackawanna Railroad (EL) performed a heavy rebuild of the line in 1975. Relay 131RE welded rail was installed in a number of areas, the ballast section was undercut and cleaned for the entire length of the line on both tracks, and a tie and surfacing project was performed.

By 1986, the Consolidated Rail Corporation (Conrail) performed additional plant rationalization and removed Track **2** from MP 120 at Moscow to MP 101 at Mount Pocono and Track **1** from Mount Pocono to MP 85 near Analomink. Subsequent further track rationalizations removed additional portions of Track **2** from Nay Aug to Moscow and of Track **1** from Analomink to MP 79. Generally, only the tie plates and rails were removed, with the ties and ballast left behind on the roadbed in the rationalizations performed by Conrail. Conrail also lowered operating speed to 10 mph to avoid line maintenance, so that only FRA Class I standards had to be followed. D-L currently operates freight service on the line at FRA Class 2 (25 mph speed limit).

1.2. DISCUSSION

Rails, tie plates, ties, and ballast and roadbed are each discussed separately below. The existing conditions are shown on the Existing Track Chart in Appendix 2A, which summarizes both record information and our inspection reports.

Total existing quantities of material in service on the line are approximately 123 miles of rail including passing sidings, and 193,000 ties.

1.2.1. Condition of Rail

The existing rail on the line is a mix of different types/sections of 6" base rail:

- 130RE bolted 39 feet rails from 1928 and 1929
- 131RE bolted 39 feet rails from 1935 to 1947
- 131RE CWR from 1975
- 132RE bolted 39 feet rails 1950 to 1955
- 136RE bolted 80 feet rails from 2020 and 2021

131RE rail is in service from Scranton to Pocono Summit and from East Stroudsburg to Slateford Junction 132RE is installed from Pocono Summit to East Stroudsburg and also in select locations between Moscow and



Pocono Summit. Most of the 132RE rail was installed as a result of emergency repairs after the floods caused by Hurricane Diane in 1956. Delaware Lackawanna is installing 136RE on the high rail of curves from Scranton to Moscow and intends to continue installing from Moscow to Gouldsboro. After completion of the high rails in the curves, Delaware Lackawanna intends to continue the rail program with renewal of the low rails.

Rails rolled before 1937 are not control cooled and are subject to sudden fracture. The older rail from the 1920s to 1930s also is exhibiting joint bending, chipping of the rail head at joints and excessive wear in curves. The ride quality provided by this rail was noted to be poor during the inspection. It appears that a great deal of rail marked as 1939 on the Conrail Track Charts of the line refers to the



Figure 2-2. 136RE Rail Section

year the rail was laid by the DL&W. When compared to the DL&W and EL track charts, these ages are noted as laying dates and the rail heat date is earlier, often by a few years.

The newer jointed rail from the 1950's exhibited less distress and is acceptable for continued service at this time. Similarly, the relay welded rail installed in 1975 was mostly found to be in acceptable condition for continued service.

1.2.2. Condition of Tie Plates

Three different style of tie plates was noted on the line. These are standard 13" double shoulder AREMA tie plates from the 1930s and onwards, standard 16" double shoulder AREMA tie plates from recent rehabilitation, and a custom style double shoulder tie plate with 4 round holes in the corner unable to accept cut spikes. Some of the older custom double shoulder plates showed signs of bending under the rail as they were not spiked in the outside round holes.

These tie plates also complicate maintenance, as they can only be normally spiked with rail holding cut spikes, while the installation of plate holding spikes requires screw spikes, which can only be installed by pre-drilling the tie and using air-or electric powered machinery.

1.2.3. Condition of Ties

Counts of ties were taken during periodic stops during the hi-rail tour. Generally, ties were spaced at 19-1/2" resulting in 24 ties per 39 feet and 3249 ties per mile. 8 to 12 ties per 39 feet were found to be in sound condition, sufficient to maintain the track in service to FRA Class 2. The overall average of good ties for the entire line is 3 ties of every 7, or 43%, which is equivalent to 10 ties per 39 ft. The ties not in sound condition exhibited splitting, plate cutting, and general decay. Because of the relatively low number of good ties, visual inspection of line and gauge showed a need for significant corrective work by surfacing and tightening gauge through replacement of bad ties additional sound crossties.



Especially bad tie condition was noted from Analomink to the east. From Cresco to Henryville, the track was noted for having cross-level in tangents and being in generally poor condition.

On average, only every fourth tie is box anchored. The standard is to box anchor every other wood tie and box anchor all ties near turnouts and grade crossings to prevent rail creep.

The minimum safety limit in order to upgrade to Class 4 track is 12 to 14 ties per 39 feet must be sound, with no more than one bad tie in track in a row. This limit must be exceeded in construction so that the track does not immediately lose class as remaining existing ties continue to decay. In track with jointed rails and at insulated joints all ties under the joint bars should be sound ties to prevent the development of low joints and surface bending in the rail.

1.2.4. Condition of Ballast and Roadbed

The ballast was inspected continuously from the hi-rail vehicle and on the ground at periodic stops. The ballast section was generally made of a high-quality granite or trap rock like material, situated high above the subballast of the roadbed, well drained, and clean. The cleanliness of the ballast section was confirmed by occasionally removing the top surface of stone to look for signs of fouling, which were not found. In addition to the ballast of the existing track mostly being clean, the ballast of the abandoned track is also clean and could be considered for reuse as a source of new material for surfacing.

The ballast shoulders between Nay Aug and Tobyhanna were damaged by constant trespassing by ATV riders on right of way. The ATV's often ride on the ballast shoulder and the effect of this is to erode away the shoulder and destroy it so that only a small triangle of ballast remains. The Delaware Lackawanna lacks a crib and shoulder compactor to maintain a hard-packed ballast shoulder. To deter the ATV's from riding on the shoulder would require removing of obstacles along the right of way such as the abandoned adjacent track, fallen timber and old wood ties to create access roads. Further deterrence would require fencing the right of way. The use of continuous welded rail requires maintenance of sound ballast shoulders extending a foot off the end of the tie.

A continuous access road is possible on the right of way but is currently blocked by the abandoned track bed, fallen timber and other debris.

Trees and vegetation encroach towards the track to such a degree that timber frequently falls across the track and leaves fall on the track and cause slippery rail conditions. One fallen tree had to be manually removed from across the tracks during the hi-rail inspection. The only areas of the line not requiring brush cutting are in Scranton, Gouldsboro, and East Stroudsburg.

Abandoned signal/railroad telephone cables and poles are present along parts of the line. The condition of these is such that they can be expected to eventually fall over onto the tracks or elsewhere on the right of way, and the loose copper wires are a potential source of shunting the track or encouragement of theft. They should all be removed from the right of way.

The right of way is partially drained by many dozens of buried culverts crossing under the track. A handful of washouts of the side of the roadbed were noted at some of these culverts. These appeared to be caused by either blocked or insufficiently sized culverts at normally dry creek beds on the mountainsides.



1.3. RECOMMENDED ACTIONS

The work proposed to rehabilitate the track and roadbed for passenger service is summarized below. This program is based on Amtrak standards in its MW 1000 manual and Amtrak Standard Plans.

1.3.1. Recommended Actions – Rail

- Replace all pre-1939 130RE and 131RE bolted rail during initial rehabilitation with new CWR
- Complete replacement of curve worn rail, including existing CWR. This could either be done by continuing to install 80-foot sticks of jointed 135RE rail or using welded rail.
- Crop and weld 1940-era 131RE and 1950-era 132RE rail after further inspection of rail condition by Sperry car and remaining useful life based on wear. This action could also be deferred to later maintenance work if head bonds are installed to support the signal system. Alternately, the rail could be programmed for future earlier renewal.
- Crop and weld 136RE bolted rail recently installed by Delaware Lackawanna.
- Retain in service 1975-era 131SRE relay continuous welded rail where rail is free of defects and excessive head and gauge wear
- The extent of rail replacement will be governed by the project budget. The minimum work required is
 replacement of the pre-1941 rail with new CWR to eliminate non-control cooled rail, and eliminate rail
 with surface bending and head defects. However, if sufficient funds are available, cropping and welding
 all bolted rail not being initially replace would be highly desirable.

1.3.2. Recommended Actions – Tie Plates

- Replace 13" double shoulder AREMA tie plates with new 14-3/4" or longer tie plates as ties are changed out.
- Replace all round hole double shoulder tie plates due to the plates being of inadequate size and their non-ability to accept the spiking pattern on Amtrak Standard Plan 72051 (3 cut spikes per plate on tangents and gentle curves, 4 cut spikes per plate on curves over 1 degree). Where these are installed on existing sound ties, the ties should be plugged and respiked. Note that the total number of these tieplates in service is not known and remains to be quantified.
- Add cut spikes as required in remaining tie plates to conform to Amtrak Standards. This appeared to be an average of one spike per tie plate.
- It could be desirable to use Pandrol plates with e-clips where welded rail is installed. We defer to
 Amtrak guidance on this on track that is not fully reconstructed or built 100% new. Pandrol plates
 should only be used if entire sections of line are built new or are changed over to them with the
 installation of welded rail, they should not be interspersed with the standard AREMA tie plates.

1.3.3. Recommended Actions- Ties

- Install an average of at least 8 new ties per 39 feet (1083 ties per mile, 33% tie renewal) for most of the line. Additional ties may also be required after surfacing if downed ties result from raising the track. The target would be a minimum of 18 sound ties per 39 feet, consisting of 6 to 10 new ties, 8 to 12 existing good ties, leaving no more than 6 older unsound ties for a future tie replacement program. Remaining unsound ties cannot be located under remaining bolted joints or be a tie that requires box anchoring.
- New ties to have new AREMA tie-plates for cut spikes at least 14-3/4" long.

SCRANTON-NEW YORK CITY INTERCITY PASSENGER RAIL ANALYSIS

TRACK

- Track to be fully box anchored at every other tie per Amtrak Standards. Rail anchors are not required if Pandrol e-clips are used.
- Program future replacement of remaining bad ties. A possibility over a 10 year planning horizon is a triannual program to renew a further 7 to 10% of the ties, which would put the line in a state of good repair.
- It may be advisable to make two passes of tie replacement of no more than 4 or 5 ties per 39 feet to
 avoid triggering maintenance of way rules governing out of face renewal and surfacing. The
 performance of such a program could also focus on first eliminating all locations with more than one
 bad tie in a row, which might allow for a more economical rehabilitation with a slightly lower need for
 immediate tie replacements.

1.3.4. Recommended Actions – Ballast and Roadbed

- Remove ballast and ties of the abandoned track. The upper section of the existing abandoned ballast could be permitted to be reused on the existing track or new track elsewhere on the project. Spreading the abandoned ballast on the right of way is only possible on fill sections where excess material can be pushed off the side of the fill. It should not be considered in cut sections, where this material would obstruct drainage to the ditches. In cut sections the existing ballast should be fully graded down and removed to facilitate drainage.
- Rebuild ballast shoulders of in-service track and compact the final ballast section continuously with a crib and shoulder compactor. Ballast shoulders should be built up now to the required width to accommodate future placement of welded rail.
- Remove all fallen timber on the right of way.
- Cut down and cut back all vegetation and trees from the active part of the roadbed. The removal should extend to the far side of any ditch or to at least 25 feet from the centerline of the existing or any former track. The clear-cut line should extend at 110 degrees outward to the sky angling away from the track, which is a slope of roughly 1 feet back for every 3 feet in height.
- Grub tree roots and stumps left from the tree cutback and removals.
- Remove abandoned timber signal poles and cables and abandoned signal cases.
- Repair washouts with backfill, rip-rap, clearing and cleaning of all pipes and culverts, or installation of new larger pipes as required to accommodate peak water flows.
- Consider fencing high-trespassing areas and through the Borough of East Stroudsburg.



1.4. EXHIBITS

Photographs of the PNRRA Pocono Mainline taken under the supervision of D-L personnel in April 2022.







Figure 2-4A Examples of Custom DL&W Tie Plates.







Figure 2 5. Washout at MP 89.50 near Henryville.

Figure 2-5A. Roadbed with degraded ballast shoulders, abandoned old ties and abandoned ballast section, with abandoned track bed and ballast removed near MP 119





TRACK

2. TRACK CONFIGURATION & SPECIAL WORK

This portion of the technical report presents a preliminary analysis of the condition of special trackwork on the Pocono Mainline and describes the operating configuration changes needed to support the reintroduction of passenger service.

2.1. BACKGROUND

D-L currently operates freight service on the Pocono Mainline in accordance with the strictures of FRA Class 2 and its 25 mph speed limit for freight trains. D L operations are inclusive of the Pocono Mainline, the Laurel Line, the Diamond Branch, Carbondale Line, and several industrial tracks.

D-L moves 10,000 carloads per year on the Pocono Mainline and as many as 1,100 carloads per month. This is equivalent to as many as 52 carloads per day in a peak month and an average of 32 carloads per day. Each car moves loaded inbound and empty outbound, so total daily and annual car movements are twice these numbers.

D-L currently conducts freight operations 6 days per week, including local shifting, with a train start around 8 am at Scranton. D-L operations typically extend over the Mainline to Mount Pocono and Cresco at least 3 days per week. Two days per week typically continue further to East Stroudsburg. There is no regular service on the final 6 miles of the line beyond the siding for RockTenn as there are no customers there and no regular interchange with Norfolk Southern at Slateford Junction.

Customers at Tobyhanna, Mount Pocono, and Cresco are presently shifted directly off the Mainline. The customers in East Stroudsburg are shifted off of the Gravel Siding and the Mainline. These freight operation will remain with the Amtrak operations.

Amtrak plans to initially operate six daily trains (three trains in each direction), presumably with scheduled meets occurring in multi-track NJ Transit territory east of Dover, so there should only be one Amtrak on the Pocono Mainline at a time. Nonetheless, there may not be sufficient time between Amtrak movement to reliably continue the present practice of shifting freight customers directly off the Pocono Mainline track.

The new operational configuration must support the existing volumes of freight interchange operations, car classification, and daytime customer freight shifting requirement without impact on Amtrak operations.

Revisions to the Pocono Mainline operational configuration are discussed in length in Technical Report #1 (Corridor Overview). It concluded that it would be necessary designate and upgrade one track between Scranton and Slateford Junction as the <u>Pocono Main Track</u> for priority use by Amtrak with limited availability to D-L and NPS when Amtrak is not present. The main track will be improved to condition consistent with FRA Class 3 or 4 standards for higher speed operation and signalized with Positive Train Control (PTC) and Automatic Block Signals (ABS). Two signal-controlled sidings supplemented (in addition to a signal controlled terminal at Scranton) with three independent freight hostling zones (IFHZs) were assumed to facilitate the safe and reliable comingling of the three carriers' operations (see Figure 2-6).



2.2. DISCUSSION

2.2.1. Existing Trackwork

Almost all existing turnouts in track were hand thrown No. 10 turnouts with rail-bound manganese (RBM) frogs and timber ties. Most sidings these turnouts lead to were only protected with flip head derails. This is not a PTC compliant arrangement, and the No. 10 turnouts make the sidings useless for rolling meets. The derails were located on the downhill side of the siding to prevent cars from rolling away if they lose their brakes.

Table 2-1 lists the turnouts and derails are currently in track.

2.2.2. Assumed Track Configuration

The new line configuration is summarized in Figure 2-6 and outlined in greater detail in appendix 2B on the Assumed Track Chart. The basis of the configuration is to end the storage of freight cars on passing sidings and to consolidate freight activity at Scranton, Mount Pocono, and East Stroudsburg.

The mainline sidings used for car storage at Winton, Moscow, and Tobyhanna would be replaced by additional storage at Scranton between the Intermodal Station and Ridge and a new yard in Tobyhanna.

Freight operations at Mount Pocono and Scranton would be separated onto their own track by building a new passenger main track around the primary areas of freight operation. At Mount Pocono, the freight track would extend to at least MP 104 to encompass most of the freight customers, and, if sufficient funds are available, up to the new Tobyhanna Yard. In East Stroudsburg, as part of configuring the track for the new station and realigning curves west of town, the main near Gravel Siding would become its own track and a new main built on top of the existing Boiler Siding.

The existing MOW spurs would be removed and replaced with short spurs at key passing sidings or interlockings that could double function as a derail protecting the main line and a short spur track to hold MOW equipment.

At Scranton, the Hat Track would be extended west to the old station, and a new siding provided west of Cedar Avenue to replace freight storage and interchange capabilities in Scranton that would need to be modified to keep the main track clear for Amtrak. The Receiver Yard would function as the primary switching yard at Scranton to allow trains to be broken up between traffic for the Laurel Line and Carbondale Line and the Pocono Mainline. Nay Aug Siding would be used to provide switching headroom of this yard to breakdown and build up interchange trains daily apart from the main line used by Amtrak.

LOCATION	MILEPOST	SIZE	DERAIL	USE
Depot	133.52	#10 LH		East End of Depot Siding
Mall Siding Switch	133.21	#15 RH		East end of Mall siding
West Receiver	133.13	#15 LH	Х	West end Receiver Track 1
West Receiver 2	132.97	#10 RH	Х	West end Receiver Track 2
West Hat Switch	132.75	#10 RH	Х	West end Hat Track
East Receiver 2	132.65	#10 LH		East end Receiver Track 2
East Hat Switch	132.62	#15 RH		East end Hat Track
East Receiver Xover	132.55	#15 RH		Main Track to Receiver Track
East Receiver Xover	132.51	#15 RH		Main Track to Receiver Track
Nay Aug	131.35	#10 LH		End Receiver Track/Nay Aug siding
Winton	127.75	#10 RH	Х	West end 4825 feet Winton siding
Cobbs	126.60	#10 LH		East end 4825 feet Winton siding
Freight House Sw.	120.88	#10 LH		MOW siding
Moscow	120.71	#10 RH	Х	West end 1610 feet Moscow siding
Dale	120.32	#10 LH		East end 1610 feet Moscow siding
Army	109.85	#10 LH	Х	US Army Depot Lead (Out of Service)
Toby Siding	108.00	#10 LH		West end 1681 feet Toby siding
Toby West Wye		#10 LH		Out of Service
Toby East Wye		#10 RH		Customer Siding (Keystone Propane)
Toby Siding	107.61	#10 LH		East end 1681 feet Toby siding
Monadnock Switch	103.45	#10 LH	Х	Customer Siding (Monadnock)
Cramer Switch	102.71	#10 LH	Х	Customer Siding (Out of Service)
West Ramp Switch	102.28	#10 LH	Х	West end 4775 feet Mill siding
Trevdan Switch		#10 LH	Х	Customer Siding (Trevdan Supply)
Mill Crossover	101.60	#10 LH		Crossover
East Ramp Switch	101.30	#10 RH	Х	East end 4775 feet Mill siding
Paradise Stub	97.00	#10 LH		MOW siding
Bestway Switch	94.15	#16 LH	Х	Customer Siding (Bestway Lumber)
Gravel West End	83.85	#10RH		West end 2900 feet Gravel siding
Royal Switch		#8 LH	Х	Customer Siding (Royal Chemical)
USP Switch		#10 RH		Customer Siding (Out of Service)
National Switch		#8 RH		Customer Siding (Morgan Materials)
Gravel East End	83.30	#10LH		West end 2900 feet Gravel siding
Boiler Siding	82.44	#10 RH		East end 5692 feet Boiler siding (stub)
Hughes Switch	81.85	#10 RH		Customer Siding (Out of Service)
WestRock Switch	78.75	#10 LH		Customer Siding (RockTenn)
Chuck	74.49	#10 LH		West end 1300 feet Slateford siding
Slateford East	74.19	#10 LH		East end 1300 feet Slateforiding

Controlled sidings would be provided in East Stroudsburg and Moscow. These would allow meets of Amtrak trains, meets with Steamtown trains, and meets with the freight operator. The freight tracks at Tobyhanna,



Mount Pocono, and Gravel Place would be on semi-controlled running tracks equipped with electric lock switches and interconnected derails.

The station in Scranton would be on its own controlled siding separate from the main and capable of having two tracks. Maintenance of equipment areas would be provided either at the station or just to the west along the main line.

2.3. RECOMMENDED ACTIONS

The assumed changes to turnouts and derails for the final track configuration are listed in Table 2-2. Green Type refers to new work while red type refers to turnouts assumed to be removed. It is recommended to consider Amtrak standard No. 20 and No. 24 turnouts for the controlled passing sidings to achieve the most favorable operating conditions. The freight tracks would use No. 10 switches or possibly No. 15 switches.

LOCATION	MILEPOST	SIZE	D	Е	CHANGES
Intermodal West	133.76	#10 LH			New interlocked switch
Intermodal East	133.52	#15 RH			New interlocked switch
Depot East End	133.52	#10 LH			Retire and remove, relocate 1500 feet east
Scranton West Crossover	133.25	#10 RH			New interlocked crossover
Depot East End	133.23	#10 LH			Salvaged and relocated from 1500 feet west
Mall Siding Switch	133.21	#15 RH			Retire and remove existing
Scranton West Crossover	133.21	#10 RH			New interlocked crossover
Scranton East Crossover	133.19	#10 LH			New interlocked crossover
Scranton East Crossover	133.14	#15 RH			New interlocked crossover
West Receiver	133.13	#15 LH			Retire and remove existing
West Receiver 2	132.97	#10 RH	Х		No change
Depot MOW	132.90	#10 RH	Х		New handthrown switch
West Hat Switch	132.75	#10 RH			Retire and remove existing
East Receiver 2	132.65	#10 LH			No change
East Hat Switch	132.62	#15 RH			No change
East Receiver Crossover	132.55	#15 RH			Interlock crossover
East Receiver Crossover	132.51	#15 RH			Interlock crossover
Ridge	132.49	#15 RH			New interlocked crossover
Ridge	132.44	#15 RH			New interlocked crossover
Nay Aug	131.35	#20 LH			New interlocked switch
Nay Aug	131.35	#10 LH			Retire and remove existing
Winton	127.75	#10 RH	Х		Retire and remove existing
Cobbs	126.60	#10 LH			Retire and remove existing
CP MOSCOW	120.90	#24 RH			Relocate and upgrade to signalized #24 right
					hand turnout; protect downhill end of siding
					with interlocked #10 lefthand
Moscow MOW	120.84	#10 LH			Interlocked #10 lefthand protecting downhill
					end of Moscow Siding
Freight House Switch	120.88	#10 LH			Retire and remove existing
Moscow	120.71	#10 RH	Х		Retire and remove existing
Dale	120.37	#10 LH			Retire and salvage existing, use as stub turnout
					at end of siding at new
CP DALE	119.90	#24 LH			Relocate 2500 feet east and upgrade to
					signalized #24 lefthand

Table 2-2. Proposed Turnouts and Derails



TRACK

LOCATION	MILEPOST	SIZE	D	Ε	CHANGES
Tobyhanna West		#20 RH	Х		New signalized Yard Lead with interlocked split
					switch derail
West Ladder 1		#10 RH			New Yard turnout
West Ladder 2		#10 LH			New Yard turnout
West Ladder 3		#10 LH			New Yard turnout
East Ladder 3		#10 RH			New Yard turnout
East Ladder 2		#10 RH			New Yard turnout
East Ladder 1		#10 LH			New Yard turnout
Tobyhanna East		#10 LH	Х	2	New hand throw Yard Lead with electric lock
					and electric lock split switch derail
Army	109.85	#10 LH	Х	1	Protect with electric lock
Toby Siding	108.00	#10 LH		1	Protect with electric lock
Toby West Wye		#10 LH			No change
Toby East Wye		#10 RH			No change
Toby Siding	107.61	#10 LH		1	Protect with electric lock
West Summit	103.95	#24 LH			New signalized passing siding switch
Monadnock Switch	103.45	#10 LH	Х	1	Protect with electric lock
Monadnock East Switch	103.36	#10 RH	Х	1	New switch to facilitate serving customer clear
					of the main, protect with electric lock and
					sliding derail
Cramer Switch	102.71	#10 LH	Х	1	Protect with electric lock
West Ramp Switch	102.28	#10 LH	Х	1	Protect with electric lock
Trevdan Switch		#10 LH	Х		No change
Mill Crossover	101.60	#10 LH		1	Protect with electric lock
East Ramp Switch	101.30	#10 RH	Х	1	Protect with electric lock
East Summit	101.05	#10 LH	Х		Interlocked #10 lefthand protecting downhill
					end of Summit Siding
East Summit	101.00	#24 RH	Х		New signalized passing siding turnout; protect
					downhill end of siding with interlocked #10
					lefthand
Paradise Stub	97.00	#10 LH			Retire and remove existing
Bestway Switch	94.15	#10 LH	X	2	Replace existing customer switch as part of
					track realignment, protect with electric lock
					and electric lock split switch derail
CPHENWOOD	84.00	#24 RH			New signalized passing siding switch
Gravel West End	83.85	#10RH		1	Protect with electric lock
Royal Switch		#8LH	Х		No change
USP Switch		#10 RH			No change
National Switch		#8 RH			No change
Gravel East End	83.30	#10LH		1	Protect with electric lock
Boiler Siding	82.44	#10 RH			Retire and remove existing
Hughes Switch	81.85	#10 RH	Х	1	Relocate to new track and protect with electric
					lock and sliding derail
	81.30	#24 LH			New signalized passing siding switch
WestRock Switch	78.75	#10 LH	X	1	Protect with electric lock and sliding derail
Slateford Junction	74.55	#10 LH	X	2	New branchline switch, protect with electric
					IOCK and Interlocked split, switch derail
	74.49	#10 LH	<u> </u>		west end 1300 feet Slateford siding
Slateford East	74.19	#10 LH			East end 1300 feet Slateford siding

D – Derail E – Electric Locks



SCRANTON-NEW YORK CITY INTERCITY PASSENGER RAIL ANALYSIS

TRACK

Total new switches needed by type is as follows:

- #24 Turnouts 6
- #20 Turnouts 2
- #15 Turnouts 4
- #10 Turnouts 18
- Split Switch Derails 4
- Sliding Derails 4

Existing switches available for salvage, relocation, and reuse due to reconfiguration (provide with new ties).

- #15 Turnouts 2
- #10 Turnouts 10

Total signal equipment for switches including switch machines, electric lock circuit controllers, electric lock signal cases, and switch heater cases needed:

- M3 Switch Machines 20
- T-20 Switch Mechanisms 19
- Electric Lock Circuit Controllers 19
- Electric Lock Signal Cases 16
- Switch Heater Cases and Transformers 10
- Switch Heaters on Turnouts 26

2.4. EXHIBITS

Photographs of the PNRRA Pocono Mainline taken under the supervision of D-L personnel in April 2022.

Figure 2-7. East end of former Tobyhanna Yard Looking West – Note Wide Roadbed.





Figure 2-8. East End of former Gouldsboro Yard Looking East – Note Wide Roadbed.

3. ANALYSIS OF CURVE SPEEDS

This portion of the track technical memorandum presents a preliminary analysis of the feasibility of improving curve speeds and curve geometry on the Pocono Mainline.

3.1. BACKGROUND

Amtrak wishes to restore operations on the Pocono Mainline with the highest possible speeds for the entire length of the line. Amtrak has defined this as achieving Class 4 speeds of 80 mph in the tangents and gentle curves from Moscow to Pocono Summit (MP 120.1 to MP 102.4) and West Henryville to East Stroudsburg (MP 91.4 to MP 82.5). Outside these areas in curvy portions of the line Amtrak has defined the operating goal as speeds as close to 60 mph as possible.

The DL&W and EL operated trains over the present alignment at much higher speeds than today. An excerpt of the 1951 Employee Timetable for the New York and Scranton

Screinton Contraction Contrac

Figure 2-9. Amtrak Desired Maximum Speeds

1.10

Divisions is included for reference in Appendix 2C.

In the intervening years, the speed potential of the line has been degraded by four different factors:

- 1. Maintaining the track structure (specifically the number of good ties) by Conrail and Delaware Lackawanna to FRA Class 2 or less.
- 2. Installation of low-speed cut and throws by Conrail during removal of the second main track.
- 3. Removal of superelevation by Delaware Lackawanna to minimize rail wear.
- 4. Modern curve design criteria being more conservative than the standards of the DL&W and EL.

In-service line geometry works against maximizing speed with (1) short reverse tangents preventing installation of longer spirals for higher curve speeds, (2) short, shallow angle curves where the length of circular curve becomes negative between spirals when desired spiral length is imposed, and (3) short sections of sharp compound curvature limiting curve speed, especially at the ends of the curve.

3.2. DISCUSSION

3.2.1. Strategies to Increase Track Speeds

To maximize the speed potential of the line, the four factors above must be reversed or countered.

FACTOR 1: CROSS TIES. The survey of the line found that approximately 43% of the existing ties can be considered sound, while the remaining ties should be planned to be replaced. FRA Class 2 track requires 8 or 9 good ties per 39 feet (out of 24 ties per 39 feet at 19-1/2" spacing) and Amtrak requires no more than 2 defective ties in a row. The existing track can therefore be considered as being maintained with 10% more ties good than required as an absolute minimum. The requirements for Class 3 track are similar to Class 2 except for needing 10 good ties per 39 feet in curves. For Class 4 and 5 track, the number of good ties increases to 12 on tangents and 14 on curves for Class 4 and 5. Additionally, not more than 1 defective tie can be permitted in a row and the ties must be sufficient to support the track geometry and hold gauge.

In order for track to not constantly lose class between maintenance activity, the track at a minimum should be upgraded so that generally 3 of 4 ties are sound/three good ties in a row are present between any one defective tie. Additional ties should be installed in Class 4 areas to ensure achievement of gauge, line and surface tolerances and eliminate all areas where there are not at least 3 good ties between every defective tie. Because the areas with a lower class of track are curvy, we think a similar number of ties will require replacement as in the straighter, faster stretches in order to hold and support geometry. This is summarized in the table below.

FRA Track Class	Zones	FRA Safety Limit (Ties/39 feet)	Current Condition (Ties/39 feet)	Target Condition (Ties/39 feet)	Net Tie Renewal (Ties/39 feet)	Defective Ties Permitted In a Row
2	Entire Line	8 (33%)* 9 (37.5%)†	~10 (42.5%)	N/A	N/A	2
3	MP 75.3-82.5 MP 91.4-102.3 MP 120.1-133.7	8 (33%)* 10 (42.5%)†	10 (42.7%)	18 (75%)	8 (33%)	2
4 & 5	MP 74.3-75.3 MP 82.5-91.4 MP 102.3- 120.1	12 (50%)* 14 (58%)†	10 (42.2%)	18 (75%)	8. (33%)	1

Table 2-3.	Cross Tie	e Criteria
------------	-----------	------------

The total number of ties to be initially replaced is estimated to be about 78,000. When completed, roughly 159,000 of 191,000 ties would be good (83%).

FACTOR 2: LOW SPEED CUT AND THROWS. These cut and throws are present at Mount Pocono, at Bestway Lumber in Cresco, at East Stroudsburg Station, and at Bells Bridge. These areas of low-speed curvature must be removed by reworking the track geometry in these areas. The one at Mount Pocono would be removed by restoring Track 2 as the track for Amtrak operations. The one at Cresco by rebuilding the Bestway Lumber siding with a smaller switch and new lead and adjusting the adjacent curve geometry back into the Track 2 roadbed. The ones at East Stroudsburg Station by a general realignment of the track east and west of the station to the roadbed of former Tracks 3 and 1 in East Stroudsburg instead of Track 2.



TRACK

The one at Bells Bridge by realigning the track to enter Bells Bridge curve to the west via the roadbed of Track **1** instead of Track **2**.

FACTOR 3: RESTORATION OF SUPERELEVATION. The average superelevation currently is around 2" per curve. It is assumed to increase this to an average of 4.5" per curve to support higher operating speeds. This requires extensive resurfacing of the grade and elevation of the track in every single curve on the line, especially in the areas noted above as intended to be FRA Class 2 which are mostly curved alignment. It is assumed an average of 3" of ballast is required to restore proper profile and increase the superelevation of the track to the required values.

FACTOR 4: CURVE DESIGN CRITERIA. Amtrak's curve design criteria in Specification 63 are more conservative than the practice of the DL&W and EL. Practically, this means that DL&W and EL could assign a higher timetable speed to a curve of given geometry than Amtrak can, because they permitted higher superelevation runoff rates, used higher maximum superelevation, did not consider spiral comfort criteria which did not yet exist, and allowed almost direct reverse curvature and elevation with only the most minimal of tangency in between, as illustrated in Figures 2-13 and 2-14. DL&W Superelevation Criteria is provided in Figure 2-15 and EL Superelevation Criteria is provided in Figure 2-16.

CRITERIA	DL&W / EL PRACTICE	AMTRAK PRACTICE
Max. Superelevation (Ea)	6.5" [DL&W] / 6" [EL]	5.5" [Specification 63] 6" [MW-1000 §57.2(C)]
Superelevation Runoff	<55 mph: 3/4"/39' (0.6"/31') 56 – 70 mph: 1/2"/39' (0.4"/31') >71 mph: 3/8"/39' (0.3"/31')	<60 mph: 1/2"/31' 61-125 mph: 3/8"/31'
Runoff in Tangent	Up to 1/2" in 39 feet	Not permitted in new design by Specification 63, but permitted by MW-1000 §59.0(C)(c).
Minimum Reversing Tangent	None	100 feet
Unbalanced Elevation (Eu)	No criteria, tables imply ideal of Eu ~ 2" and Ee ~8.75"	5" maximum, but 3-4" in normal practice

Table 2-4 Comparitive Criteria

Three design variances from Amtrak criteria that would be helpful to avoid having curves rated for low speeds than otherwise possible:

- The first would be to adopt a runoff practice used by Norfolk Southern that is similar to the EL practice noted above. Norfolk Southern on their Standard Plan 7-2 "SUPERELEVATION OF CURVES FOR MAXIMUM SPEED" and in their document MWS-090 "CURVES: DESIGN, CONSTRUCTION, MAINTENANCE, AND INSPECTION" allows 5/8" runoff in 31 feet in curves up to 40 mph (see Figure 2-17). For this line, it would be helpful to extend this criteria to 45 mph.
- 2. The second would be to permit reversing tangents to be as short as 79 feet. This is the distance between curves in a No. 20 crossover and is sufficient to allow a carbody to come level before beginning to reverse its twist in the superelevation of the following curve.

3. The third would be to permit up to 1/2" superelevation run off on tangents, with a limitation that this can only be used for reverse curvature where the reversing tangent is at least 125 feet long to provide a section of track 62 feet long with zero cross level.

CRITERIA	SUGGESTED PRACTICE FOR POCONO MAINLINE
Max. Superelevation (Ea)	5.5″
Superelevation Runoff	<45 mph: 5/8"/31' (maximum), 1/2"/31' (desired) 46-60 mph: 1/2"/31'61-110 mph: 3/8"/31'
Runoff in Tangent	Up to 1/2" where spiral length is constrained
Minimum Reversing Tangent	125 feet (with runoff); 100 feet (desired); 79 feet (minimum)
Unbalanced Elevation (Eu)	5" maximum Conform to Ls=1.63EuV and use V+5 to set speeds where practical

Table 2-5. Suggested Design Criteria Variances

3.2.2. Existing Line Geometry.

While only a single track today, the Pocono Mainline was formerly ③ or ④ tracks wide for most of its distance with tracks numbered ③①②④ from north to south. From Analomink Street in East Stroudsburg to DL&W station West Henryville (MP 81.7 to MP 91.1) the roadbed is 4 tracks wide (Tracks ④②④) and the operating track is in the roadbed of Track ②. From West Henryville to Mount Pocono (MP 91.1 to MP 100.4) the roadbed is 2 tracks wide and the operating track is in the roadbed of Track ②. From Mount Pocono to Scranton (MP 100.4 to MP 131.4) the roadbed is 3 tracks wide (Track ①②④) and the operating track is in the roadbed of Track ③. Examples of the roadways described can be found in Figures 2-18 to 2-21 and 2-23 to 2-25.

With this additional roadbed width, the space is available to throw track between roadbeds at short reverse tangents, which can increase the length of reversing tangents by over 100 feet allowing significant increases in spiral length. The space is also available to ease short low angle curves to a lower degree of curvature, which permits both higher speeds and lengthens the circular curve while allowing longer spirals. Lastly, space is available to eliminate sections of compound curvature by transitioning gentler curvature between roadbeds.

The areas below list areas of concern for these types of geometry problems, using the DL&W Curve Name and Amtrak Curve Number. Resolutions of each area are noted where a solution was determined using CAD by bringing in the Valuation Maps as PDF underlays and drawing existing and assumed curve geometry in the file. Examples of this work are shown in Appendix 2E.

Perform cut and throws to lengthen reversing tangents at the following locations

- Between Point of Gap Curve and second and third Curves west of Point of Gap
 - Increases speed from 35 to 50 mph from MP 75.7 to MP 76.2
- Between Bells Bridge Curve and first Curve west of Bells Bridge (restore track to straight alignment in former turnout, then cut and throw back to Track 2) and between first Curve west of Power Dam Curve and Forge Cut Curve (move alignment to Track 1) roadbed in Forge Cut Curve)
 - Increases speed from 40 to 45 mph from Bells Bridge (MP 78.8) to MP 81

SCRANTON-NEW YORK CITY INTERCITY PASSENGER RAIL ANALYSIS

- TRACK
- Between fourth and fifth Curves west of High Bridge Curve and Henryville Station Curve (move alignment to Track 1 roadbed in fifth Curve west of High Bridge Curve)
 - Increases speed from 50 to 80 mph in fourth Curve west of High Bridge
- Between fourth and fifth Curves west of Henryville (move alignment to Track ① roadbed from reverse tangent to midway through second curve
 - Increases speed from 35 to 45 mph from MP 92.5 to MP 93.5
- Between sixth Curve west of Henryville and Cresco Station Curve (move alignment to Track 1 roadbed between curves, realign Bestway Lumber lead)
- Between first and fifth Curves west of Paradise Cut (move alignment to Track ① roadbed for first, third, and fifth Curves)
- Between sixth and seventh Curves west of Gardners Cut Curve (move alignment to Track 2 roadbed)
 - Increases speed from 40 to 45 mph from MP 125.6 to 126.8
- Between ninth and tenth Curves west of Gardners Cut Curve (move alignment to Track 2 roadbed and swing back in tenth Curve)
 - Increases speed from 40 to 45 mph from MP 126.8 to 127.7
- Between first, second, and third Curves west of Nay Aug (DL&W Nay Aug) (extend alignment from Winton Siding on Track 2 roadbed, swing into Track 4 roadbed in first Curve, then return to Track 1 roadbed in second Curve then return to Track 4 roadbed in third Curve)
 - Increases speed from 30 to 45 mph from MP 127.7 to 128.5
- Between fifth and sixth Curves west of Nay Aug (DL&W Nay Aug) (continuing alignment in Track roadbed and return to Track roadbed in sixth Curve)
 - Increases speed from 30 to 45 mph from MP 128.5 to 129.2
- Between Nay Aug Breaker Curve and first Curve west of Nay Aug Breaker
 - Increases speed from 30 to 45 mph from MP 129.2 to 130.3

Perform curve easements to maximize speeds from MP 74.3 to MP 100.4 while limiting overall superelevation at curves:

- Curve 4 / second Curve west of Slateford Junction from 3º00' to 2º00' (increase speed 65 to 75 mph, also increases curve length > 100 feet)
- sixth Curve west of Point of Gap ease from 2º03' to 1º00' (increases curve length > 100 feet)
- Curve 19 / first Curve west of East Stroudsburg from 3007' to 2045' (increase speed 55 to 60 mph, also increases curve length > 100 feet)
- Curve 20 / second Curve west of East Stroudsburg from 4º12' to 2º45' (increase speed 55 to 60 mph)
- Curve 22 / Analomink Curve from 4º00' to 3º30' (increase speed 55 to 60 mph)
- Curve 24 / High Bridge Curve from 3º00' to 2º30' (increase speed 65 to 75 mph)
- Curve 25 / second Curve west of High Bridge from 2º00' to 1º15' (increase speed 75 to 80 mph)
- Curve 28 / fifth Curve west of High Bridge from 2º00' to 1º30' (increase speed 50 to 80 mph also with lengthening of reverse tangent)
- Curve 31 / second Curve west of Henryville Sta. from 4°36' to 1°30' (increase speed 75 to 80 mph and makes length of curve > 100 feet)
- Curve 37 / sixth Curve west of West Henryville from 6º18' to 5º13' (increase speed 40 to 45 mph and eliminate sharper compound curve)
- Curve 38 / Cresco Station Curve from 6º09' to 5º13' (increase speed from 40 mph to 45 mph) (note this change may have already been made by DL&W)
- Curve 39 / first Curve west of Cresco Station from 3º05' to 2º15' (increase speed 65 to 75 mph)
SCRANTON-NEW YORK CITY INTERCITY PASSENGER RAIL ANALYSIS

- Curve 48 / fourth Curve west of Paradise Cut from 6º30' to 5º30' (increase speed from 40 mph to 45 mph and eliminate sharper compound curve)
- Curve 49 / fifth Curve west of Paradise Cut from 5ºo6' to 4º57' (increase speed from 40 mph to 50 mph with lengthening of reverse tangent)
- Perform curve easements to increase speed to 80 mph from MP 114.7 to MP 120.6 at curves:
- Curve 59 / fourth Curve west of Lehigh Cut from 2º00' to 1º15' (increase speed 70 to 80 mph)
- Curve 60 / fifth Curve west of Lehigh Cut from 2º00' to 1º15' (increase speed 70 to 80 mph)

Perform curve easements to increase speed from 50 to 60 mph from MP 120.6 to MP 125.6 at curves:

- Curve 63 / first Curve west of Moscow from 5º00' to 3º30'
- Curve 64 / second Curve west of Moscow from 4ºoo' to 3ºoo'
- Curve 66 / Gardners Cut Curve from 4º37' to 3º30'
- Curve 68 / second Curve west of Gardners Cut from 5º00' to 3º10'
- Curve 69 / third Curve west of Gardners Cut from 4º45' to 3º10'
- Curve 71 / fifth Curve west of Gardners Cut from 3°50' to 3°10'

Perform curve easements to increase speed to 45 or 50 mph from MP 125.6 to MP 132.5 at curves:

- Curve 74 / eighth Curve west of Gardners Cut from 5°25' to 5°00'
- Curve 78 / first Curve west of Nay Aug from 5º00' to 5º00'
- Curve 81 / fifth Curve west of Nay Aug from 5º20' to 5º00'
- Curve 87 / No 6 Junction Curve from 5º32' to 5º00'

Investigate in future design work modification of compound curves with segments over 5 degrees for easement of curvature in these sections to alleviate speed restrictions.

- Curve 12 / Tinkertown Curve 751 feet at 6º10' in 1677 feet of curve
- Curve 15 / Slide Curve west of Bells Bridge 977 feet at 6º00' in 1907 feet of curve
- Curve 44 / Paradise Cut Curve (see Figures 2-9A & 2-22 and Sheet 2E-09 in Appendix 2E)—restoring the curve through the Paradise Cut reduces curvature from 8°45' to original 5°45' (increases speed from 35 mph to 45 mph). Would require removing vegetation and scarifying the rock face in the cut and installing rock netting and/or slide fencing and signals.

Figure 2-9A. Paradise Cut Curve (Cv 44)



3.3. RECOMMENDED ACTIONS

Given the above criteria and assumed changes, an evaluation table of the curve design can be finalized. This is shown in Appendix 2D. From this table, an assumed Timetable Special Instruction can be generated for the line providing the intended line speeds which would guide finalizing the simulation.

Besides the geometry changes listed above, it is also recommended to smooth timetable speeds by judicious use of the V+5 speed, especially to minimize braking on uphill grades. Comparing the Curve Analysis to TPC results and the grade of the line suggests doing this in Amtrak Curves 1, 5, 9, 10, 22, 24, 27, 29, 30, 33, 52, 53, 62, 76, 83, and 88.



3.4. EXHIBITS

Photographs of the PNRRA Pocono Mainline taken under the supervision of D-L personnel in April 2022 and other supportive images.



Figure 2-9B. Existing Cut and Throw at Former Mount Pocono Station

Figure 2-10. Bestway Lumber Siding Occupying Track 2 Roadbed





Figure 2-11. Low Speed Cut and Throw at East Stroudsburg

Figure 2-12. RockTenn Switch in Spiral of Curve Directly Off Bridge





Figure 2-13. Short Reverse Curve Near Paradise Cut

Figure 2-14. Short Reverse Curve at Devils Hole Road



Figure 2-15. DL&W Superelevation Table

		D	. L.	& v	N. :	STA	ND	AR	D				
	TABLE OF ELEVATIONS												
DECREE			50	PER	2-EL	EVA	TION	IN IT	REV.	JAN I	1,194	5	
OF	ž	1"	12"	2"	2 ± "	3"	32	4"	42"	5	52	6'	6
CURVE		-	- 6	PPEE	DIN	MIL	ES P	ER H	OUR	-			
0-30	65	16				14							1
1-00	50	58	63	69	74	78							
1° 30'	46	52	56	61	65	69	72	75					
2:00	42	46	50	54	57	60	63	65	68	70	73	75	
2:30	39	42	45	49	51	54	57	60	62	63	65	68	70
3:00	36	39	41	44	46	49	52	54	56	58	60	62	6
3º30'	33	36	39	41	43	46	49	51	52	53	55	57	5
4º 00'	30	33	35	38	40	42	44	46	48	49	51	53	5
4º 30'	28	31	33	35	37	40	41	43	45	47	49	51	5
5.00	26	29	31	33	35.	37	39	41	43	45	46	47	4
5-30	21	25	27	29	32	34	36	38	40	42	43	45	44
6-00'		23	25	28	30	32	34	36	38	40	41	42	4.
6°-30		22	24	27	29	31	34	35	37	38	39	41	4
7800		21	23	26	28	30	32	34	35	36	38	39	40
8º00		20	22	25	27	29	30	31	33	34	35	36	3
9º00'		18	21	23	25	27	28	29	31	32	33	34	3
10:00		17	19	22	23	25	26	27	28	29	50	31	3
				-	1		-						







Figure 2-17. Norfolk Southern Superelevation Table Plan 7-2







Figure 2-18. Former Three Track Roadbed at MP 130

Figure 2-19. Former Three Track Roadbed at MP 125







Figure 2-21. Former Three Track Roadbed at MP 118







Figure-2-23. Former Four Track Roadbed at MP 90.17 Browns Hill Road





Figure 2-25. Former Four Track Roadbed at MP 81.93 Broad Street Crossing



4. AT-GRADE CROSSING SURFACE CONDITION ASSESSMENT

This portion of the technical memorandum presents a preliminary analysis of the surface condition of at-grade crossings on the Pocono Mainline and the need for upgrading and replacement to support the reintroduction of passenger service. There are 23 at-grade crossings on the Pocono Mainline, six of which are for pedestrians only (see Figure 2-26). Most of the crossings (81%) are clustered in close proximity to one another in Scranton or East Stroudsburg.

Note that this analysis neither considers the sufficiency of existing crossing protective devices nor which crossings, if any, should be eliminated. Those discussions can be found separately in Technical Reports 3 and 1, respectively.





4.1. BACKGROUND

The Pocono Mainline is wholly in the Commonwealth of Pennsylvania, placing its highway crossings are under the jurisdiction of the Commonwealth's Public Utility Commission and Department of Transportation (PennDOT). Local jurisdiction divided between PennDOT Districts 4-0 and 5-0 (Lackawanna and Monroe Counties, respectively. The Railroad is responsible for maintaining highway crossing surfaces within two feet of its outermost rails. PennDOT requirements and procedures regarding crossings are detailed in the PennDOT Grade Crossing Manual (Publication 371)¹

¹ Available at <u>https://www.dot.state.pa.us/public/pubsforms/Publications/PUB%20371.pdf</u>

	5,													,			
10			FRA CROSSING	INVENTORY ST	ATIST	ICS					sed	ier cks	ion	e ct			
1D #	N 411	AAR	Nierze	NA . L. C. L	TRA	INS		HIGH	WAY		spe:	umb Tra	ndit	ote evia			
#	Milepost	Number	Name	Material	Day	Day Night S		eed AADT Trucks		Buses	Prc RR	of ⁻ N	Cor	D J			
A	133.75	930998N	Access Driveway	Asphalt	10	10	5	n/a	8%	0	30	1	Good	None			
B	133.54	971131H	Boardwalk	Concrete	5	1	PED	PED	٥%	0	40	7	Good	*			
Θ	133.18	930997G	West Station	Timber/Asphalt	12	6	PED	PED	0%	0	40	2	Good	· *			
D	133.10	930996A	East Station	Asphalt	12	12	PED	PED	о%	0	40	2	Poor	×			
Ø	132.85	930995T	West University	Asphalt	10	10	PED	PED	о%	0	40	4	Good	×			
Ø	132.65	926809H	East University	Asphalt	n/a	n/a	n/a	n/a	n/a	n/a	40	3	Poor	ж			
G	131.35	926808B	Myrtle St	Concrete	4	4	25	1000	20%	10	50	1	Good	***			
0	120.58	None	Moscow Station	Asphalt	n/a	n/a	PED	PED	n/a	n/a	80	2	Good	None			
0	114.92	931182J	PA Route 346 (Lehigh Rd)	Rubber	2	2	35	844	10%	4	80	1	Fair				
0	112.87	264061V	PA Route 507 (Main St)	Concrete	2	2	35	3371	7%	0	80	1	Good	***			
6	107.61	264059U	PA Route 423 (Church St)	Concrete	4	4	35	2431	6%	0	80	1	Fair				
0	102.54	264055S	PA Route 940 (Summit Av)	Asphalt/Epflex	4	4	35	377	9%	20	80	1	Fair				
0	97.37	264050H	Devil's Hole Rd	Timber/Asphalt	2	2	25	518	2%	8	45	1	Fair				
۵	92.27	264048G	Henry's Crossing Rd	Asphalt	2	2	25	518	10%	10	55	1	Good				
0	90.17	264047A	Browns Hill Rd	Timber/Asphalt	1	1	15	518	1%	4	75	1	Poor	***			
0	83.21	264039H	Mill Creek Rd	Asphalt	2	2	40	5456	3%	0	75	2	Poor	***			
0	82.32	264038B	PA Rte 309 (N Courtland St)	Concrete	2	2	35	11969	2%	0	60	1	Good	***			
0	82.15	264037U	Burson St	Timber/Asphalt	1	1	25	302	4%	8	60	1	Poor				
6	81.93	264036M	E Broad St	Timber/Asphalt	2	2	25	1302	6%	20	60	2	Poor				
Û	81.66	264035F	Analomink St	Timber/Asphalt	2	2	25	302	6%	20	60	1	Poor	*** ***			
0	81.57	930992X	Danbury Depot	Timber/Asphalt	2	2	PED	PED	о%	0	60	1	Good	None			
V	80.70	923747C	Forge Rd	Asphalt	2	2	25	1000	5%	0	45	1	Poor	***			
W	77.83	264034Y	River Rd	Timber/Asphalt	2	2	40	518	25%	20	60	1	Fair	***			

Table 2-6. Pocono Mainline At-Grade Crossing Roadway Surface Condition Inventory

CROSSING TYPE: 🕘 - Highway crossing 💿 - Pedestrian only crossing CROSSING PROTECTION: 📍 - Crossbucks only 🎉 Active lights, bells & gates 💭 Active lights, bells & gates with gantry

The existing physical condition of highway crossing surfaces were inventoried and assessed to determine the degree of work required to support the introduction of intercity passenger rail. The highway surfaces at eight crossings—over a third—were rated "poor" and in need of immediate reconstruction. Another five were rated "fair", in need of reconstruction within five to ten years.

Details of existing grade crossings are provided in Table 2-6, based on railroad and FRA records, confirmed through direct field observations. Pictures depicting the surface conditions at each crossing follow in the Exhibits section. The speeds shown in the table reflect the assumed upgraded speeds desired by Amtrak.

4.2. DISCUSSION

The recommended degree of work is discussed below by crossing. Improvements reflect Amtrak standards using precast concrete panels for wood ties. The location of some crossings will cause work to be performed despite being in sound conditions.

4.2.1. At-Grade Crossing Surface Improvements

West University. Pedestrian crossing is located in the middle of what is assumed will become D-L's Hat Yard, bracketed on either side by the Pocono Main Track and Scranton Running Track. This is a difficult crossing and it is assumed that it will be replaced by a pedestrian bridge.

SCRANTON-NEW YORK CITY INTERCITY PASSENGER RAIL ANALYSIS

- Myrtle Street. Crossing is located in No. 6 Junction Curve. This curve requires an additional 1.5" of superelevation, necessitating the reconstruction of the crossing. Track speed in this curve would need to be 35 mph until the superelevation can be increased, or Amtrak accepts a V+5 mph unbalanced elevation of 5.84" and a jerk rate of 1.43.
- Lehigh Road. Crossing is located in Lehigh Cut Curve. This curve requires an additional 1.5" of superelevation, necessitating the reconstruction of the crossing. Track speed in this curve would need to be 70 mph until the superelevation can be increased if the crossing is not improved during reconstruction. Note that the road is on an upgrade that runs counter to the slope caused by the superelevation of the tracks, causing reverse profile on the road.
- Henry's Crossing Road. Crossing is located at the end of the third Curve west of West Henryville. The road is downhill against the slope of the superelevation. The crossing surface should be monitored for needing earlier renewal if curve modifications are required.
- **P** Mill Creek Road. Crossing is already arranged for the two tracks of the assumed alignment
- <u>Cortland Street</u>. Crossing requires the restoration of a second track. The warning devices are already placed to permit restoration of this track.
- Burson Street. Crossing requires heavy realignment for curve throws and reconstruction with 4" of superelevation to achieve design speed of 60 mph. It is assumed that this crossing will be closed.
- S <u>Broad Street</u>. Crossing requires the addition of a second track. The warning devices are already placed to permit restoration of this track.
- <u>Analomink Street</u>. Crossing requires the addition of a second track. The warning devices are already placed to permit restoration of this track.
- Forge Road. Crossing is in the Forge Cut Curve and requires reconstruction of the abandoned track with 5.5" of superelevation. The superelevation is counter to the profile of the road. This level of superelevation was previously in the road but iwas removed and the profile of the road changed. If the road profile cannot be modified immediately to accommodate the old superelevation, the speed in the curve would need to be 30 mph instead of 45 mph.

4.3. RECOMMENDED ACTIONS

Six crossings warrant removal and replacement of the existing surface material. They are: East University, PA Route 507, Browns Hill Road, Mill Creek Road, Broad Street, Analomink Street, and Forge Road

Lehigh Road crossing would be removed and rebuilt with existing crossing material after increasing the superelevation of the curve.

Additional tracks are assumed at Church Road and Summit Avenue without reconstructing the existing crossing surface. This will require repositioning of the warning devices.

West Station, West University, and Burson Street crossings are assumed to be removed and closed.

4.4. EXHIBITS

Figure 2-27. East University Av (MP132.61)



Figure 2-29. Lehigh Road (MP114.92)





Figure 2-30. PA Route 507 (MP112.87)





TRACK

Figure 2-31. Church Road (MP107.67)



Figure 2-33. Devil's Hole Road (MP97.37)



Figure 2-32. Summit Avenue (MP102.54)



Figure 2-34. Henrys Crossing Road (MP92.27)





TRACK

Figure 2-35. Browns Hill Road (MP90.17)



Figure 2-37. Cortland Street (MP82.31)

Figure 2-36. Mill Creek Road (MP83.21)



Figure 2-38. Burson Street (MP82.15)







Figure 2-39. Broad Street (MP81.93)



Figure 2-41. Forge Road (MP80.70)





Figure 2-42. River Road (MP77.83)





5. CONCLUSIONS

This technical report has presented changes and upgrades to track and associated infrastructure assets deemed necessary adapt the existing PNRRA Pocono Mainline to safely and reliably accommodate shared operations by Amtrak intercity passenger trains, D-L freights train, and NPS Steamtown excursions. It specifically addresses the degree of work required to economically bring the line up to a standard consistent with FRA Track Class 3 or 4 condition where geometry permits for higher-speed operation.

The degree of work set out in the technical report and accompanying cost estimate represents the <u>Suggested Program</u>, designed to achieve Amtrak's operating goals along with reducing life-cycle maintenance costs for the physical plant. The geographic extent of Suggested Program trackwork is illustrated in Figure 2-43, which encompasses:

- Crop & Weld Existing Rail into Continuous Welded Rail (CWR);
- New CWR Installation;
- New Track Installation (on Main Track sidings and key running tracks) with new 136RE rail;
- Relocate Track;
- New Tie Installation (to 75% acceptability);
- Restoration of Superelevation and Spirals; and
- Restoration of Right-of-Way Conditions.

This technical report also considers a <u>Minimum Program</u> that would defer some non-safety-critical improvements of the Suggested Program for up to ten years in order to reduce the initial amount of capital outlay prior to the start of revenue service by nearly half. Suggested deferments include:

- Defer Crop & Weld of Existing Rail;
- Defer 66% of New CWR Installation;
- Construct all new tracks with 136RE relay rail;
- Reduce Initial New Tie Installation to 65% acceptability; and
- Defer Restoration of Right-of-Way Conditions.

While reducing initial capital investment, it is expected the deferred work elements will need to be completed during the first decade of operations and, until that is done, will result in increased maintenance of way expense.

Figure 2-43 Geographic Distrbution of Suggested Program Trackwork

MP

134	9		
133 - Scranton Terminal IFHZ			
132			
131			
130			
120			
129			
120			
127	ļ		
126			
125			
124			
123			
122			
121 - Moscow Siding			
120			
119			
118			
117			
116			
115			
114			
114			
113			
112			
111			
110			
109			
108-			+ +
107 -			
106-			
105 - Summit IFHZ			
104			
103-			
102-			
101			
100			
99			
98			
97			
96			
90			
94			
02			
LEGEND			
CROP & WELD CWR			
00			
01			
ö0			
80			
84 Boiler IEH7			
83			
82 East Stroudsburg Siding			
81			
80			
79			
78			
77			
76			
75			
75			

5.1. COST ESTIMATES

Cost estimates including soft costs (contingency, design, mobilization) were prepared for track and associated infrastructure assets and documented in the *Pocono Mainline Track Cost Estimates* (Appendix 2F). Cost estimates for the Suggested and Minimum Programs are presented in eight broad categories, as summarized in Table 2-7.

	SU	GGESTED	N	/INIMUM
	Ρ	ROGRAM	Ρ	ROGRAM
CROP & WELD CONTINUOUS WELDED RAIL	\$	8,498,518		Deferred
NEW CONTINUOUS WELDED RAIL	\$	8,695,247	\$	2,817,682
NEW TRACK (136RE CWR)	\$	14,165,534	\$	9,521,856
RELOCATE TRACK	\$	2,368,941	\$	2,368,941
NEW TIES	\$	7,912,793	\$	7,714,589
RESTORE SUPERELEVATION AND SPIRALS	\$	2,695,861	\$	2,695,861
RESTORE RIGHT-OF-WAY CONDITION	\$	12,466,365		Deferred
SPECIAL WORK	\$	3,100,000	\$	3,100,000
CROSSSING SURFACE IMPROVEMENTS	\$	218,800	\$	218,800
TOTAL (Materials & Set-Up)	\$	60,122,059	\$	28,437,729
ROM Estimate with Labor	\$	120,244,119	\$	56,875,458

Table 2-7. Track Cost Estimate Summary

Pocono Mainline Track Chart

EXISTING CONDITIONS

APPENDIX





EXISTING TRACK CHART MP 134 TO MP 116.5

APPENDIX 2A

POCONO MAINLINE: EXISTING TRACK CONFIGURATION

No.	Revisions	Date	By	
01	Revise title & legend blocks	01-13-23	TRH	
				This material is owned by and is the sole and exclusive property of the National Railroad Passeng Corporation (Amtrak) National Network Planning Department and supplied on a confidential ba
				solely for use in connection with the design and construction of Amtrak facilities and equipment. The reproduction display sale or other disposition of this document without the express written permission of the sole of the expression of the sole of the expression of the sole of the expression of t
				reproduction, display, date, or other disposition or this document without the express written permissi

Amtrak National Network Planning Department National Railroad Passenger Corporation 30th Street Station, Philadelphia, Pennsylvania 19104

Date proved Joseph Black, JEG QA/QC 09-07-2 TR Hickey, JEG Project Manager 09-12-2





JOINT MEMORY	GOOD	JOINT MEMORY	GOOD	GOOD				
5"	3"	4"	2"	3"				
50%	25%	20%	25%	50%				
REPLACE RAIL	REPLACE RAIL	REPLACE RAIL						
	131 RE 19	936-1939	131 RE 1947					
	MP 120.	7-118.5	MP 118.5-116.3					
			25 MPH I	MP 133.7-101.0				
	► <mark>55</mark> ◄		60 MPH M	IP 120.1-115.4				

LEGEND: ————————————————————————————————————
I





ОК	ОК	ОК	ОК	ОК	ОК	C	ок	POOR	POOR		ОК	ОК	ОК	POOR
c "	411	<u> </u>	C "	0"			4.11		0"		0"	0"	40"	40"
0 60%	4 60%	20%	0	0 60%	0	5	1		0		U 40%	50%	50%	10
REPLACE	00 /8	30 //	40 %	00 /6	REPLAC	E 5	U /0	SURFACE BENT	SURFACE B	ENT	40 /6	SURFACE BENT	REPLACE	REPLACE
LOW RAIL 132 RE 1951-19	53			132 RE CWR 197	LOW RA	AIL		AT JOINTS	AT JOINT	S _ 132 RE 1950-1953		AT JOINTS	RAIL	RAIL 131 RE
MP 100.4-94.6	;			20 MPH	93.0 MP 101.0-86.0 <mark>-</mark>					MP 93.0-85.7			<mark>_</mark>	
	55	70 MPH MP 9	6.8-94.7	- 40 - <mark></mark> 45 M	MPH	50 MPH	45 50	70 MPH	<mark>→</mark> 60 <mark>→</mark> 70 →	50 - 55 - 70 6	0 - 70 - 60 70	<mark>→ 60 →</mark> 70 → 6	0 🗕 70 55 🗲	
\sim	\sim	\sim	\sim	\sim	\sim	/	\sim	\sim	\wedge	\sim	\sim	\sim	~	\sim
98 289 5	97 280	96 5277	95 5288	94 5276	93 5280	5280	92>	91 5238	90 5392	89 5144	88 5462	87 5104	86 5298	85 5278
				ol 10 100		~								
UG 97.92	MP 97.26 MP 97.06			0H 94.63 MP 78.99 MP 78.92 MP 28.11		MP 92.27			MP 90.11			UG 87.37	UG 86.06	
	(M0													
ä	IOLE CREEL			90 ZTHROW		Ŕ			S HILL RD.			AD CREEK	AD CREEK	
TANK CR	DEVILS H			CUT AND CUT AND BEESTANG		HENRYS			BROWNS	WEAT		вкорне	BRODHE	
			CR MP	ESCO 94.58						MEST HENRYVILLE MP 89.23				ANA MP 85.00
			C	iresco tation				West Henryville DL&W MP 91.10		Henryville DL&W MP 89.23				
, <mark>,</mark> (9 <mark>.</mark> 											_	<mark>u</mark> 	
, n				/1400' Bestway Lumber					+			f	<mark>_</mark> +	
DLE CURVE				TA. CURVE	11, PT-PC					L5' PT-PC E STA. CUI 58' PT-PC		0GE CURVI	NK CURVE	
DEVILS HO				CRESCO S CURVE: 15	CURVE: 20					CURVE: 41 HENRYVILL CURVE: 25		HIGH BRID	ANALOMI	
3°31' 5°00'	5°05' 3°05'			6°09' REVERSE 6°18'	5°00' Reverse	4°30' 4°00'	5°26'	3°40'	1°00'	4°36' 3°46' REVERSE 3°55' I 2°00'	2°00' 2°00'	3°00'	2 ⁻ 20' 4°00'	
	+ -													
2.25" 2.25"	3.25"			2.50" 3.00"	2.75"	3.25" 3.00"	3.25"	2.50	0.75	3.25" 3.50" 4.00' 2.75"	2.00	1.75	3.25	
1.53%														
								1 4 49/						
								1.44%					. 1.05%	0.540/
													558	
											ADT			
								M	P 98.5	TO MP 8	0.5			
Revisions & legend blocks	Dote 01-13-2	By 3TRH			Amtral	National	Netwo		ed h Black, JEG QA/O	Date	Passenger Rail Analys			_
			АМТІ	RAK®	Plan	ning Depa	rtment	t	ckey, JEG Project N	lanager 09-12-22		Hastructur	200	he
		This material is owned by an Corporation (Amtrak) Nation solely for use in connection w reproduction, display, sale, or of the Amtrak National Network	d is the sole and exclusive property of al Network Planning Department and ith the design and construction of Aml other disposition of this document with k Planning Department is prohibited	the National Railroad Passenger I supplied on a confidential basis trak facilities and equipment. The out the express written permission	National R 30th Street Stati	Railroad Passenge ion, Philadelphia,	er Corporati , Pennsylvaı	ion nia 19104			A THE REAL PROPERTY OF THE REA		avv	NJ
		solely for use in connection w reproduction, display, sale, or of the Amtrak National Networ	nun use design and construction of Aml other disposition of this document with k Planning Department is prohibited.	uak lacilities and equipment. The out the express written permission	30th Street Stati	ion, Philadelphia,	, Pennsylvaı	nia 19104			Wanzy manzy			





Pocono Mainline Track Chart

ASSUMED IMPROVEMENTS

APPENDIX





APPENDIX 2B POCONO MAINLINE: ASSUMED FUTURE TRACK CONFIGURATION

No. Revisions Date B. 01 Revise title & legend blocks 01-13-23 TR	<u>ж</u> RH	Amtrak National Network	Approved Joseph Black, JEG QA/QC	Dote 09-07-22	ity assenger Rail Analisti	
	This material is runned hu and is the sole and exclusive promotivi of the National Patitned Passessore	Planning Department	TR Hickey, JEG Project Manager	09-12-22	Vork Inte	Jacobs
	The inteletion is obtained by and is the adde the occupant polycely of the income in calcular discup- Corporation (Amrkal) National Network Planning Department and supplied on a confidential basis solely for use in connection with the design and construction of Amrkal Kaillibes and equipment. The reproduction (display, sale, or other disposition of this document within during the express written permission of the Amrka National Network Planning Department is prohibited.	National Railroad Passenger Corporation 30th Street Station, Philadelphia, Pennsylvania 19104		(The second second	UUUUNS
					-	





BRUSH CUTTING MP 112.3-82.4

.

DS	
	Des







PROPOSED TRACK CHART MP 80.5 TO MP 73

Date

09-07-22

09-12-22



			REI	MOVE TRAC LOCATED TF	K RACK	
SCRANTO	N-NEWYOR	K INTERCITY	PASS	ENGER	File No: Work Elem No:	
RAILI	NFRASTRU	CTURE ASSES	SSME	NT	Sheet No.	1. OF 4
	å	<u>4 ·· 7</u>				
AS	ž 2	B-7				
Designed AB	Drawn MK	Checked JH	Date	8/19/22	ă —	- т

-EXISTING TRACK -ABANDONED TRACKBED PROPOSED TRACK

LEGEND:

EXCERPTS FROM 1951 DL&WRR Employee Timetable

APPENDIX



Switch at mines leading from empty track to loaded track mus be left locked for loaded track.

Spur track switch leading from loaded track to spur track at south end must be left open and locked to serve as derail.

Engine bell must be rung continuously while passing through operating territory at the mines.

Operation of Three or More Tracks

137. Tracks are assigned for operation as follows and are signalled accordingly: (See Rules D251-D254-D261-D264.)

Between Hoboken and Grove Street Tower-

T	rack	3—	Reversible.	

- Track I-Reversible.
- Track 2—Reversible. Track 4—Reversible.
- Track 6-Reversible.
- Between Grove Street Tower and East End Hacken. sack Bridge-
- Track 3-Reversible.
- Track 1-Reversible.
- Track 2—Reversible.

Track 4-Reversible.

- Between East End of Hackensack Bridge and Newark Interlocking-
 - Track 3-Reversible between east end of Hackensack Bridge and Harrison Tower.
 - Track I-Reversible between east end of Hackensack Bridge and Newark Interlocking.
 - Track 2-Eastward, reversible between Harrison Station and Newark Interlocking.

Between Newark and Millburn-

Track 3-Westward.

Track 1-Reversible.

Track 2-Eastward.

- Between Lyndhurst Draw Bridge and Paterson Junction-
 - Track 3-Westward.
 - Track 1-Reversible.
 - Track 2-Eastward.
- Between Pompton River Bridge and Denville Interlocking-
- Track 3-Westward. Track 1-Reversible.
- Track 2-Eastward.

Between Denville Interlocking and Dover-

Track 3-Westward.

- Track 1-Reversible.
- Track 2—Reversible.

Between Mt. Arlington and Port Morris Junction Interlocking-

Track 3–	-Westward.
Track 1-	-Westward.
Track 2-	Eastward.
Track 4-	Eastward.

When conditions require, and tracks are with the current of traffic, passenger trains may run over tracks other than those scheduled for, and enginemen will accept signal indications provided the route will take them to destination and permit them to make their scheduled station stops.

138. Speed Restrictions-Local

(See General Instructions #61)	
morer trains:	Miles
(A) Between Dover and Slateford Junction:	Per Hou
When handled by engines numbered as follows-	
Nos. 801 to 805, incl.; 810 to 820, incl.; 1151 to	,
1155 incl.; are permitted maximum speed of	. 79
When handled by engines numbered as follows-	-
Nos. 1115 to 1130 incl.; 1137 to 1140, incl.; are	2
permitted maximum speed of	. 75
(B) Between Stroudsburg and Slateford Junction and Eas	t
of Dover maximum speed of passenger trains	. 7 0
stward general freight Port Morris to Towaco with more	e
than 25 Coal	. 40

MORRISTOWN LINE (HOBOKEN-DENVILLE)

	Mile	Pos	Speed
Location	From	To	To Miles Per Hour
oboken- Between station and West End of M. U. Shed.			15
Beiween West End M. U. Shed and West end Bergen Tunnel.			50
Interlocking switches (on "Clear-Medium" signal)			15 50
Agen Tunnel to Sub-station (straight route)			30
and of West End Tower: "Clear-Medium" Senal.			13
Crossover track 1 to 3 Crossover track 3 to 1			25 30
Ist curve east of Harrison Station West end Harrison Station to west end Newark Passenger Station (3 curves and drawbridge) 0. "Clear Medium" simal east of Newark	6.6 7.2	6.9 7.8	55 {35 Electric 30 Steam
Tower: Track 1 to Track 3			30
Ist curve west of	8.1 8.4 8.6	8.2 8.5 8.7	55 55 55
Between east end of junction switches and west end of Roseville Station platforms	8.9	9.1	30
On "Clear-Medium" signal east of Roseville Ave. Tracks 2 and 3 to Track 1 On "Clear-Medium" signal east of Roseville		n:	30
Ave. Track 3 to Montclair Branch ave Street— 2st Orange—			15
Curves at east end of Station Curves at west end of Station	9.9 10.1	10.0 10.2	60 60Tracks1-3
Curves (4) east and west of Station	10.4	10.8	60 Tracks 1-3
Utange Interlocking	11.1	11.9	50 40 Track 3
Curves at west end of Station (2 curves) aplewood-	13.9	14.0	40 Track 3
Garve at station	15.0	15.2	05 Track 2 /10 Track 3 50 Track 3
Carve west of station	15.3 16.1	15.4 16.4	40 Track 3 65

BOONTON LINE-	BERGEN	JCT.	TO STROUDSBUD
	(Via Cut.	nm -	-DOKG

BOONTON LINE—BERGEN JCT. 7 (Via Cut-Off)	то	STROUDSBURG
---	----	-------------

-	-		_	_	•	-	_	_	-	-
•		-	~	2						
1	ıı	-	Л	Γ.						
-				•,						

(*** *********	a large states		N 0 7
Location	Mile E	Post	Speed Restricted To Miles Per Hour
Bridge curve. Ist curve west of	78.7	78.8 79.1 79.5	45 45 45
over Dam curve	79.9	80.2	45 Track 1 50 Track 2
let curve west of	80.5	80.6 80.0	145 Track 1 50 Track 2
soudsburg-		00.9	

PORT MORRIS JCT. TO SLATEFORD JCT. (Via Washington Line)

		Post	Speed	
Location	From	To	Restricted To Miles Per Hour	
Part Morris to Washington			50 40	
Interlocking junction switches Interlocking junction switches to signal O-467. Port Morris-			20 20	
Surger Branch Jct.— Movements over spring switches Westward trains, Track 1, west end of crossover				
Track 1 to Track 2			25	
Westward trains, Irack I to single track			25	
Eastward trains, Sussex Branch to Track 2			15	
Eastward trains, Washington Line, from single track to eastward Track 2			15	
Netcong-				
Between "End of Highway Circuit" sign and Main Street crossing			25	
Hackettstown— EASTWARD trains between Main and High				
Streeks			35	
Spring switch at west end of siding—Trains moving from siding to main track			15	
Spring switch at west end of siding-Trains			15	
Curve through Washington Station	б б. 5	66. 7	30	
Curve east end of Oxford Tunnel	59.5	69.6	20	
Through Oxford Tunnel-All trains			20	
lst curve west of	10.2	70.3	20	
and curve weat of		70.4	20	
Oxford Furnace-	0.4	10.5	30	
Spring witch at east end of siding-Trains				
moving from siding to main track		1	15	
Request River-	4.0			
Bridgeville				
Aanurka Chunk—				
Curve at east end Manunka Chunk Tunnel	7.1	77.2	20	
Through Manunka Chunk Tunnel-All trains.			20	
Carve at west end of Manunka Chunk Tunnel	17.3	77.4	20	
44 Curve west of	17.4	77.5	20	
Between "End of Highway Circuit Sign" and Columbia Bridge highway crossing			10	

		- 515	
	Mile	Post	
Location		() ()	Pert
			To Mil
	F	F	Per Hon
East Dover—	26 5	26 0	
	30.3	30.9 27 E	55 Tracks 1.7
	31.2	51.5	55 Tracks 1-2
Dover Station "Fastward" siding to Main			-
Track 2 ("Clear-Medium" Signal)			15
	10.1	20.0	140 Tonal
lst curve west of,	38.3	38.3	35 Track
2nd curve weat of	38.7	38.9	150 Track
			55 Track 2
1st curve east of Wharton	39.3	39.6	60
Wharton-	40.0		
lat curve west of	4 U.0	4 U.8	(60 Track 1
lat average each of Chapter Intention	41 1	41 2	OS Track 2
tet curve east of Chester Junction	TI - 1	11.2	70 Track 1
Chester Ict			(10 Track 2
lat curve weat of	41.5	41.2	(75 Tmake
			160 Track 2
Mount Arlington-			Low Irack I
Junction tracks 4 and 2; leaving track 4 (on		l í	
"Clear-Medium" signal)	43 .5		30
Mile Post 43.5 and Port Morris, tracks 3			
and 4		• • • •	45
1-	120	10 1	55 Track 1
Ist curve east of Hopatcong	4 0.0	¥J. I	105 Track 2
Happtoog	i I		(35 Track 3
Curve through Hopstrong station	45.4	45.8	145 Track 1
Curve through hopecong seation			40 Teach 2
Port Morris Ict.—			(IC INCL Z
Track 3 to Track 1, west of Tower			15
Eastward Siding; trains entering siding at			-
Remote Control ewitch (on "Clear-			
Medium" signal)	47.0		30
Ist curve west of	46.8	47.1	70
2nd curve west of	4/.0	40.1 40 E	70 Track 2
	10.3	40.5	70 Track 2
Recevile Tuppel	51 6	51 8	70 Itack &
lat curve west of	52.5	53.0	70 Track 2
Johnsonburg—			
1st curve west of	63.1	63.4	70 Track 2
1st curve east of Blairstown	64.1	64.3	70 Track 2
Blairstown-			
1st curve west of	65.5	65.7	70 Track 2
2nd curve west of	08.3	08.0	70 Track 2
Ath curve west of	70 7	70 0	70 Track 2
Sth curve well of	72 3	72 0	175 Track 1
	12.0	12.5	70 Track 2
Delaware River-	2		(*******
1st curve west of Bridge	73.2	73.5	55
y	· · · ·		/50 Track I
Slateford Jct.—Interlocking	74.1	74.3	60 Track 2
1st curve west of	74.4	74.9	55 Track 1
	74 0	70 0	160 Track 4
2nd curve west of	14.9	13.0	100 Tmak 1
and anyme most of	75 2	75 2	50
Point of Gan curve	75 A	75 7	40
2nd curve west of	75 8	75 0	50
3rd curve west of	75.9	76.2	50
4th curve west of	76.3	76.5	55
5th curve west of	76.6	76.9	55
6th curve west of	77.0	77.1	60
Water Gap-			(0)
Ist curve west of	17.3	17.5	00
1 linkertown curve	10.3	10.0	40

RETAINERS-STEAM POWER AND 801, 810 AND 901 DIESEL POWER OR OTHER DIESEL POWER WITHOUT DYNAMIC BRAKE OPERATING ON ANY OR ALL UNITS.

Eastward Trains

332. (a) CLARKS SUMMIT TO SCRANTON: On trains consisting of more than 2,500 tons, turn up retainers on 25 consecutive cars after first car, and 10 retainers alternately on next 20 cars.

Freight trains with 30 M. P. H. speed limit, turn up retainets on the head half of the train except the first car, and alternate retainets on the balance of train.

Heavy commodity trains with 18 M. P. H. speed limit, turn up one retainer for each car, except head car and rear 4 cars.

On trains consisting of 75 or more empty cars, turn up 20 retainers, beginning with second head car.

(b) CAYUGA TOWER TO HAMPTON (via K. V. Bch.): On trains of more than 60 loaded cars, retainers required on 20 head cars, starting with second car.

(c) LEHIGH OR GOULDSBORO TO POCONO SUMMIT: On trains consisting of more than 4,500 tons, turn up 15 retainers.

(d) POCONO SUMMIT TO ANALOMINK: Manifest trains consisting of more than 2,500 tons, with 35 M.P.H. speed limit, turn up retainers 25 head cars except first, alternately on next 20 cars (10 retainers).

Freight trains with 25 M.P.H. speed limit, turn up retainer for each car in head half of train, and alternate retainers on balance.

Trains with 18 M.P.H. speed limit, turn up retainer for each car, except head car and rear four cars.

On trains consisting of more than 75 empties, turn up 20 retainers on head end starting at second car.

Westward and Northward Trains

(e) LEHIGH TO SCRANTON: Manifest trains consisting of more than 2,500 tons will stop at Throops Tank and turn up retainers on second to sixteenth head cars, and five alternate on next ten.

Other than manifest trains may turn up retainers at Gouldsboro or Lehigh-25 and ten alternate.

On trains consisting of more than 75 empties or mixed trains of loads and empties when less than 10 loaded cars, turn up 20 retainers.

On trains consisting of loads and empties when more than 10 loads, turn up one retainer for each 125 tons.

Ore trains should have all retainers turned up. (Except first car.)

(f) APULIA-SYRACUSE: Freight trains, or trains of loads and empties mixed, up to 2,000 tons, when train consists of less than 15 cars of coal, may be handled on grades between Apulia and Syracuse without retainers.

On trains of loads and empties mixed, over 2,000 tons, with more than 15 and less than 30 cars of heavy commodities, turn up 15 consecutive retainers.

On trains consisting of all coal or more than 30 cars of coal m mixed trains, turn up 30 consecutive retainers on head end. (Except head car.)

(g) PARIS-CHADWICKS: Freight trains consisting of loads and empties mixed, turn up retainers on forward half of train except the first car. On trains of all loads, turn up retainers on all cars except the first car and the rear 4 cars.

Heavy Commodities-

NOTE:

Coal, oil, ore, pig iron, grain, etc.

(Note)—Manifest trains include BH-2, BH-4, BH-8, BH-12, NE-4, NE-6, BS-2, SB-3, HB-1, HB-3, HB-5, HB-7, HB-9. When such trains have less than 15 cars of heavy commodity, and include extra trains of loads handling primarily freight (with less than 15 cars of heavy commodity) and with tonnage not more than 3,400 tons.

OPERATION OF THREE OR MORE TRACKS

333. (a) No. 1 track, westward

No. 3 track, westward Stroudsburg to West Henryville. Mount Pocono to Pocono Summit. Cayuga to Clarks Summit (adjacent to eastward main track)

(b) No. 2 track, eastward No. 4 track, eastward Dalton to Clarks Summit Scranton to Pocono Summit. Analomink to Stroudsburg.

(c) No. 4 track, reversible Cayuga to Scranton. Rules D-261 to D-264, inclusive, govern

334. Speed Restrictions—Local

(See General Instruction 61)

Enginemen will check speedometer on engine at first opportunity and if speedometer is found to be inaccurate, will operate to comply with speed restrictions, taking into consideration the speedometer variation. Speedometer inaccuracy, as found, will be reported on completion of trip.

MAIN LINE, STROUDSBURG-JOHNSON CITY

	Miles Per Hour
All Trains—Tracks 3-4	30
Passenger trains:	
"A" Between Clarks Summit and Johnson City: When handled by engines numbered as follows-	
When handled by engines numbered as follows— No. 1115 to 1130 incl.; No. 1137 to 1140, incl.; are	- 80 -
permitted maximum speed of	75
"B" Between Stroudsburg and Clarks-Summit-Passen- pr trains unless otherwise restricted	70
<i>Exception (1)</i> Between Pocono Summit and Lehigh when andled by engines numbered as follows—	I
No. 801 to 820 incl.; No. 1151 to 1155 incl	79
No. 1115 to 1130 incl.; No. 1137 to 1140, incl	75
Exception (2) (See Notes Page 113).	
Lehigh to Moscow	60
Moscow to Nay Aug	50
Ivay Aug to Scranton	40

Miles Per Hour

1

-	er 11001
Freight trains:	
Pocono Summit to Analomink:	
Manifest freight trains when handled by 601, 611, 621, 631, 651, 801, 810, 901, 1100, 1600 or 2100 class engines. Manifest trains handling 15 or more cars of heavy com-	35
modities Other freight trains, solid heavy commodity trains, or trains	25
with 35 cars of heavy commodities or over	18
Mixed freight trains consisting of loads and empties or mixed heavy commodities and other freight when number of heavy commodity cars is less than 35, or all other freight exclusive of heavy commodities Freight trains consisting of empty cars. Steam power, light	25 30 30
Lehigh to Nay Aug: Manifest freight trains or trains of empties when handled by 601, 611, 621, 631, 651, 801, 810, 901, 1100, 1600 or 2100 class engines Other freight trains	40 30
Nay Aug to Scranton: Manifest freight trains or trains of empties when handled by 601, 611, 621, 631, 651, 801, 810, 901, 1100, 1600 or 2100 class engines	35 20 30 30
Clarks Summit to Scranton: Manifest freight trains when handled by 601, 611, 621 631, 651, 801, 810, 901, 1100, 1600 or 2100 class engines Trains consisting of 50 cars of heavy commodities Other freight trains Steam power, light Mine Branch Main Tracks (except as otherwise specified)	, 35 . 18 . 30 . 30 . 25

Grade restriction schedule showing distance and minimum run-ning time between stations for authorized speed, in miles per hour, permitted on the following grades:

			-					
	MILES PER HOUR							
		18	20	25	30	35		
	Miles	Mins.	Mins.	Mins.	Mins.	Mins.		
Pocono Summit Remote Con- trol to Mount Pocono Mount Pocono to Cresco Cresco to West Henryville	2.2 5.8 3.5	7 19 12	7 17 11	5 14 8	4 12 7	4 10 6		
West Hearyville to Analo- mink Nay Aug to East End Tower. Clarks Summit to Cayuga Cayuga to Scranton Lehigh to Nay Aug	5.9 5.3 4.1 3.2 13.1	20 18 14 11	18 16 12 10 39	14 13 10 8 31	12 11 8 6 26	10 9 7 5 22		

203 MAIN LINE, STROUDSBURG-JOHNSON CITY

		Post	Speed Restricted
Location	From	To	to Miles Per Hour
Stroudsburg- Westward trains entering Track 3 east of			20
Passenger station 1st curve west of	82.0 82.2	82.1 82.3	20 30 40 Tracks 1-2 (40 Track 1 45 Track 2
Milford Crossing curve	82.4	82.5	45 Track 1
Analomink Analomink curve 2nd curve west of	85.8 86.3	86.1 86.9	55 Tracks 1-2 55 Tracks 1 55 Track 1
ligh Bridge-Curve	87.2	87.5	55 Track 1
2nd curve west of	87.5	87.6	55 Track 1
3rd curve west of	87.9	88.0	55 Track 1
4th curve west of	88.5	88. 7	/50 Track 1
5th curve west of	88.9	89 .0	/50 Track 1
Henryville- Curve at station	89.0	89.3	(50 Track 1
lst curve west of	89.3	89.5	55 Track 2 50 Track 1
2nd curve west of 3rd curve west of	89.7 90.3	89.8 90.4	{55 Track 2 50 Tracks 1-2 ∫50 Track 1
West Henryville From Track 3 to Track 1 (Clear Medium) 1st curve west of 2nd curve west of 3rd curve west of	91.4 91.7 92.0	91.6 91.9 92.3	60 Track 2 30 50 45 (45 Track 1 50 Track 1
4th curve west of	92.5	93.0	(50 Track 2 (45 Track 1
5th curve west of 6th curve west of Cresco—	93.1 93.9	93.6 94.1	45 45 45
Curve at station	94.2	94.7	35 Track 1 40 Track 2
lat curve west ol	96.8	96.9	45 Track 1 55 Track 2
2nd curve west of	97.2	97.4	45 Track 1 50 Track 2
Uevils Hole curve	97.4	97.6	(45 Track 1 50 Track 2
lst curve west of	97.8	98.2	45 Track 1 50 Track 2
2nd curve west of	98.2	98.5	45
Paradise Cut curve lst curve west of 2nd curve west of	98.7 99.1 99.2	99.1 99.2 99.3	35 40 (40 Track 1)45 Track 2
3rd curve west of 4th curve west of 5th curve west of	99.4 99.8 100.0	99.7 100.0 100.2	45 45 {45 Track 1
At. Pocono lst curve west of	100.4	100.6	145 Track 1
Mammy Heaters curve	101.8	102.2	50 Track 2 45 Track 1 50 Track 2

MAÏN LINE, STROUDSBURG-JOHNSON CITY

		Post	Speed
Location	From	To	Restricted to Miles Per Hour
Pocono Summit— From Track 4 to Track 2 (Clear Medium). From Track 3 to Track 1 (Clear Medium). Steam Shovel curve	 106.4	 106.7	30 30 (60 Track 1 (65 Track 2
Warnertown Branch Cross Keys curve	108.8	109.1	10 60
Gouldsboro- Ist curve west of	114.0	114.2	70 Track 2
Lehigh Summit- Lehigh Summit Interlocking-Eastward trains crossing from No. 2 track to No. 4 track. Lehigh Cut curve. 2nd curve west of. 3rd curve west of. 5th curve west of. 5th curve west of. 7th curve west of. 1at curve west of. 3rd curve west of. 2nd curve west of. 3rd curve west of. 3rd curve west of. 3rd curve west of. 4th curve west of. 3rd curve west of. 5th curve west of. 3rd curve west of. 5th curve west of. 3rd curve west of. 5th curve west of. 1th curve west of. 1th curve west of. 1th curve west of.	114.7 114.7 115.9 116.8 119.3 119.6 120.1 120.4 120.4 121.0 121.6 121.9 122.2 123.2 123.2 125.0 125.7 125.9 126.7 126.9 126.7 126.9	115.3 116.3 117.2 119.4 119.9 120.3 120.6 121.1 121.7 122.1 122.3 122.7 123.3 123.9 124.4 125.4 125.9 126.5 126.5 126.5 126.5 127.0	20 55 Track 2 50
Nay Aug- list curve west of	127.8	127.9	45 Track 2
2nd curve west of	128.0	128.2	40 (rack 2
3rd curve west of 4th curve west of	128.2 128.3	128.3 5128.6	40 Track 2 40 Track 2
5th curve west of	128.6	128.8	40 Track 2
6th curve west of	128.9	129.0	40 Track 2
Nay Aug Breaker curve	129.0	129.7	40 Track 2
1st curve west of	129.9	130.2	40 Track 2
2nd curve west of	130.4	130.5	40 Track 2
Bunker Hill curve	130.5	130.7	40 Track 2
No. 6 Junction curve	130.8 131.5	8 131.4 5 131.6	40 Track 2 40 Track 2

MAIN LINE, STROUDSBURG-JOHNSON CITY

ŋ

Location	Mile Post		Speed
	From	To	to Miles Per Hour
Nay Aug Tunnel First class trains and passenger extras Other trains Curve west of Ist curve west of Ind curve west of Ird curve west of It curve west of	131.7 131.9 132.0 132.6 133.0	131.8 132.0 132.4 132.7 133.2	30 20 30 Track 2 35 Track 2 35 Track 2 35 Track 2 25 Tracks 1-2
Stranton Movement over No. 5 crossover 400 feet east of passengers tation	133.2 134.3 134.5 134.8	 133.4 134.4 134.8 135.3	10 25 Tracks 1-2 25 (40 Track 1 50 Track 2 (45 Track 1 50 Track 2 45 Track 2
Sth curve west of Gyuga Through switch at Keyser Valley Branch Jct Curve at Tower	135.5	135.9	15 Track 1 15 Track 2 15 Track 4
lat curve west of	136.6 136.8	136.7 137.0	40 Track 2 45 Track 1 50 Track 2 45 Track 2 45 Track 1
Lazerne Cut curve	137.0 137.4 137.7	137.4 137.5 137.8	50 Track 2 45 Tracks 1-2 45 Tracks 1-2 (45 Track 1 50 Track 2
6th curve west of	137.9 138.4	138.3 138.5	45 Track 1 50 Track 2 45 Track 1
8th curve west of	(38.5 138.8	138.6 138.9	45 Track 2 50 Track 1 50 Track 2
10th curve west of	139.1	139.3	50 Track 2 (45 Track 1 (55 Track 2
From Extension Track to Track 3 through spring switch	140.3	40.4	60 Track 1 30
Carles Summit— Ist curve west of 2ad curve west of	141.21 142.21	41.7	70 Tracks 1-2 65 Track 2
deaburn— lst curve west of	143.3	43.6	65 Track 2
Alton- lst curve west of	144.7	45.2	65 Track 2
2nd curve west of	146.7	47.0	65 Track 2
storyville	148.31	48.5	75 Track 1 60 Track 2

Assumed Track Speed Improvements through Curves

WITH SUGGESTED SPECIAL INSTRUCTIONS FOR AMTRAK NORTHEAST CORRIDOR EMPLOYEE TIMETABLES

APPENDIX


SCRANTON-NEW YORK INTERCITY PASSENGER RAIL ANALYSIS INFRASTRUCTURE ASSESSMENT POCONO MAINLINE TRACK UPGRADES AND IMPROVEMENTS

CURVE-SPEED DATA

	CURVE NAME & LOCATION HISTORIC TIMETABLE SPEEDS			VALUATION MAP CURVE & TANGENT GEOMETRY			GEOMETRY DATA			AMTRAK SPEED		GEOMETRY CAR Adde		Added												
				Revised												Curv	e Designx		Tangent		"Туре Е		Rail	pod	Ea	NOTES
Amtrak	DL&W Employee Timetable (ETT)	Mile	Post	Speed	1946 E	DL&W	1951 [DL&W 19	66 EL	PC	1	PT		Curve 1	Tangent	Dc Ls E	a Runoff	Lcs	Lts	V E	u Jerk V	<u>-5 E∪</u> Jerl	Tangent	Ea		
		From	То		Track 1	Track 2	Track 1	Track 2 Track 1	. Track 2	Station	MP	Station	MP	Lc	Lt	DMS ft ir	"/31	ft	ft	mph ir	n ^{•••••} m	ph in ser	ft	in	in	
1	1st Cv west of Delaware River Bridge	73.2	73.5	70	50	50	55	55	55	3865+66.0	73.21	3879+87.2	73.48	1421.15	3168.80	3º00' 558 5.0	0.306	1080.15	2827.8	65 3.3	37 2.55 7	4.79 1.6	5			Ease Curve & Use V+5 Speed
2	Slateford Junction	74.1	74.3	70	50	50	50	60	60	3911+56.0	74.08	3920+55.9	74.25	899.93	491.20	2000' 341 4.0	0 0.364	558.93	150.2	70 2.8	86 1.70 7	5 3.88 1.17	,			
3	1st Cv west of Slateford Jct.	74.4	74-9	70	55	60	55	60	60	4481+47.6	74.34	4505+19.9	74.79	2372.30	490.60	2000' 341 4.0	0 0.364	2031.30	149.6	70 2.8	86 1.70 7	5 3.88 1.17	'	Missing		
4	2nd Cv west of Slateford Jct	74.9	75.0	70	60	60	55	60	60	4510+10.5	74.88	4513+99.3	74.95	388.80	933.40	2000' 341 4.0	0 0.364	242.20	468.4	70 2.8	86 1.70 7	5 3.88 1.17	'	2.25	1.75	Ease Curve
5	3rd Cv west of Slateford Jct.	75.2	75.3	70	50	50	50	50	50	4523+32.7	75.13	4531+37.6	75.28	804.90	664.70	<u>3°04' 589 5.</u>	0.289	215.90	246.2	65 3.5	57 2.54 7	0 5.02 1.6 8	3	2.25	3.25	Use V+5 Speed
				40					_	4538+02.3	75.41	4542+33.1	75.49	430.80	0.00	6º13' 248 4.0	0 0.500	182.80		40 2.9	96 2.09 4	5 4.81 1.15				
6	Point of Gap Curve	75.4	75.7	40	40	40	40	40	40	4542+33.1	75.49	4551+96.9	75.67	963.80	0.00	6º50' 155 4.7	0.950	808.80		40 2.9	90 1. <u>33</u> 4	5 4.94 0.70	71	2.00	2.75	
				40					_	4551+96.9	75.67	4555+09.1	75.73	312.20	265.40	4038 186 2.4	0 0.417	126.20	79-4	40 2.6	69 1.73 4	5 4.07 1.02	2			
7	2nd Cv west of Point of Gap	75.8	75.9	50	50	50	50	50	50	4557+74-5	75.78	4562+69.1	75.87	494.60	323.00	2°45' 186 3.0	0 0.500	308.60	75.0	50 1.8	81 2.05 5	5 2.82 1.20	72	0.50	2.50	Lengthen Reverse Tangent
8	3rd Cv west of Point of Gap	75.9	76.2	50	50	50	50	50	50	4563+75.8	75.89	4580+34.3	76.21	1658.50	911.20	4°43' 310 5.0	0 0.500	1348.50	601.2	50 3.2	25 1.91 5	5 4.99 1.1		3.75	1.25	
9	Ath Cowest of Point of Gap	76.3	76.5	60	50	50	55	55	55	4589+45.5	76.38	4598+79.1	76.56	933.60	226.70	2°38 310 3.	0 0.350	623.60	-176.3	55 2.0		0 3.14 1.6	110	1.00	2.50	Use V+5 Speed
10	Sth CV west of Point of Gap	76.6	76.9	60	50	50	55	55	55	4601+05.8	76.60	4613+71.2	76.84	1265.40	530.30	407 496 5.	0 0.344	769.40	220.3	55 3.2	22 2.80	0 4.87 1.70)	2.00	3.50	Use V+5 Speed
11	ast Cywest of Water Cap	//.0	77.1	60	60	60	60	60	60	4019+01.5	/0.94	4020+95.5	/0.90	194.00	1401.20	1°00 124 1.5	0 0.3/5	675.00	1220./	60 1.0		5 1.40 1.3		0.00	1.50	Ease Curve
11A	Tinkertown Curve	7/.3	77.5	00	00	00	00	00	20	4035+50.7	78.20	4045+/3.5	78.62	1677.20	449/.30	<u>3°25 341 5.</u>	15 0.4//	1267.00	41/1.0	00 3.	16 2 50 (5 4.05 1.00	,	1.00	4.25	
12	Bells Bridge Curve	78.7	78.8	40	45	45	45	45	30	4090+70.0	78.70	4707+40.0	78.81	£88.50	260.00	6º20' 217 4	<u>5 0.4/5</u>	271 50	81.0	40 2.	02 1 70 4	5 3.99 1.73	7 51	0.75	3.75	Lise r/8"/21 ft Runoff
1/	1st Cy west of Bells Bridge Curve	78.0	70.0	40	45	45	45	45	25	4/11:0/.3	78.86	4722+22.0	70.01	1166.00	601 70	5°56' 241 54	0 0 500	825.00	260.7	40 5.0	$\frac{03}{1260}$	5 4.90 0.9	<u> </u>	2.00	3.50	050 5/0 /51 /2. (0000)
15	Slide Cy west of Bells Bridge Curve	70.9	79.1	45	45	45	45	45 55	.55	4728+22.7	70.00	4/32+22.0	79.09	1002.50	1221 80	6°00' 241 51		1562.50	1027.2	45 2.	01 2 52 5	0 5 00 1 26	/	1.75	3.30 3.7E	
-5 16	Power Dam Curve	79.9	80.2	45	45 50	50	45	50 45	50	4730+23.7	79.20	4737+27.2	80.12	1627.30	1555.30	5°07' 248 4.0	0 0.500	1379.30	1353.8	45 3.0	25 1.69 5	0 4.95 1.00	,)	1.00	3.00	
17	1st Cy west of Power Dam Curve	80.5	80.6	45	50	50	45	50 45	50	4802+31.6	80.41	4807+38.3	80.51	506.70	360.00	2%5' 155 2.1	0 0.500	351.70	112.0	45 1./	40 2.46 5	0 2.31 1.37	98	1.75	0.75	Lengthen Reverse Tangent
-/ 18	Forge Cut Curve	80.6	80.9	45	45	45	45	45 40	40	4809+27.8	80.54	4827+54.3	80.89	1826.50	5793.30	6º00' 341 5.	0 0.500	1485.50	5483.3	45 3.0	01 2.52 5	0 5.00 1.36	<u>j</u>	1.00	4.50	
19	1st Cv west of Stroudsburg	82.0	82.1	60	50	50	40	40 40	40	4885+47.6	81.99	4888+93.1	82.05	345.50	409.40	2 ⁰ 45' 279 4.2	5 0.472	105.45	130.4	60 2.6	68 1.74 6	5 3.88 1.11	290	0.25	4.00	Ease Curve
20	2nd Cv west of Stroudsburg	82.2	82.3	60	50	50	40	45 40	45	4893+02.5	82.13	4899+79.5	82.26	677.00	346.10	2°45' 279 4.2	5 0.472	754.96	98.1	60 2.6	68 1.74 6	5 3.88 1.11	238	1.25	3.00	Ease Curve
21	Milford Crossing Curve	82.4	82.5	60	50	50	45	60 45	60	4903+25.6	82.32	4907+42.9	82.40	417.30	17916.23	2 ⁰ 15' 217 3.4	0 0.500	200.30	17544.2	60 2.3	17 1.67 6	5 3.15 1.06	;	1.00	2.50	
22	Analomink Curve	85.8	86.1	65	50	50	55	55 55	55	5086+59.1	85.80	5102+54.5	86.10	1595.37	981.40	3°35' 527 5.	5 0.338	1253.88	485.4	60 3.2	28 2.68 6	5 4.85 1.6	7	4.00	1.75	Ease Curve & Use V+5 Speed
23	2nd Cv west of Analomink	86.3	86.9	75	70	70	55	60 55	60	5112+35.9	86.28	5143+53.8	86.88	3117.90	1244.20	2º20' 465 5.	0 0.367	2652.90	748.2	75 3.6	69 1.68 8	0 4.95 1.17	'	3.00	2.50	
24	High Bridge Curve	87.2	87.5	75	60	60	55	60 55	60	5155+98.0	87.11	5169+66.9	87.37	1368.90	609.00	2º30' 527 5.	0.324	1115.68	190.5	70 3.0	07 2.45 7	5 4.34 1.62	2	4.00	1.50	Ease Curve & Use V+5 Speed
25	2nd Cv west of High Bridge	87.5	87.6	75	70	70	55	60 55	60	5175+75.9	87.49	5180+28.4	87.57	452.50	1431.60	1015' 310 2.5	0.250	414.00	1059.6	75 2.4	42 1.71 8	0 3.10 1.2	5	1.75	0.75	Ease Curve
26	3rd Cv west of High Bridge	87.9	88.0	75	70	70	55	60 55	60	5194+60.0	87.84	5201+92.9	87.98	732.90	2489.80	2 ⁰ 00' 434 4.	0.321	298.90	2009.3	75 3.3	38 1.71 8	0 4.46 1.22	2	2.00	2.50	
27	4th Cv west of High Bridge	88.5	88.7	75	60	70	50	60 50	60	5226+82.7	88.45	5235+48.6	88.62	865.90	1093.70	2º30' 527 5.	0.324	512.08	675.2	70 3.0	07 2.45 7	5 4.34 1.62	2	3.75	1.75	Ease Curve & Use V+5 Speed
28	5th Cv west of High Bridge	88.9	89.0	75	50	70	50	55 50	55	5246+42.3	88.82	5251+28.5	88.92	486.20	561.00	1º30' 310 3.	0.350	338.27	173.5	75 2.4	41 1.72 8	0 3.22 1.20	195	2.75	0.75	Lengthen Reverse Tangent & Ease Curve
29	Hernyville Station Curve	89.0	89.3	60	50	55	50	55 50	55	5253+86.9	88.97	5267+59.2	89.23	1372.30	559.00	<u>3°55' 465 5.:</u>	5 0.350	907.30	94.0	55 3.0	04 2.78 6	0 4.62 1.6 8	243	4.00	1.25	Lengthen Reverse Tangent & Use V+5 Speed
30	1st Cv west of Henryville Station	89.3	89.5	60	50	50	50	55 50	55	5271+74.3	89.30	5280+13.7	89.46	839.40	1144.10	<u>3°46' 465 5.0</u>	0 0.333	374.40	725.6	55 2.9	98 2.84 6	• 4.49 1.7 3	3	3.50	1.50	Use V+5 Speed
31	2nd Cv west of Henryville Station	89.7	89.8	75	45	45	50	50 50	50	5291+57.8	89.68	5295+13.3	89.75	355.50	2830.00	1º30' 372 3.0	0 0.250	576.00	2566.5	75 2.9	91 1.71 8	0 3.72 1.2	5	3.25	-0.25	Ease Curve
31A	3rd Cv west of Henryville Station	90.3	90.4	75	70	70	50	60 50	60	5323+43.3	90.28	5326+81.6	90.35	338.30	5439.30	<u>0°30' 155 0.</u>	0.150	521.60	5253.3	75 1.2	22 1.70 8	0 1.49 1.30)	0.75	0.00	Ease Curve
32	1st Cv west of West Henryville	91.4	91.6	65	50	55	50	50 50	50	5381+20.9	91.38	5390+38.1	91.55	917.20	673.50	3000 589 5.2	0.276	532.02	146.5	65 3.6	62 2.50 7	5.04 1.67	'	2.50	2.75	
33	2nd CV west of West Henryville	91.7	91.9	55	45	45	45	45 45	45	5397+11.6	91.68	5413+91.1	92.00	1679.50	542.70	500 405 5.	5 0.383	1214.50	139.7	50 3.:	18 2.93 5	5 5.05 1.6	/	3.50	2.25	Ease Curve & Use V+5 Speed
34	3rd CV west of West Henryville	92.0	92.3	55	50	55	45	50 45	50	5419+33.8	92.02	5433+66.3	92.29	1432.50	924.20	4000 341 5.2	0.477	1091.50	645.2	55 3.2	22 1.93 b	0 4.83 1.18		3.00	2.25	Longthon Doverso Tangent
35	th Cywest of West Honnwille	92.5	93.0	45	50	50	45	50 45	50	5442+90.5	92.4/	54/1+0/.5	93.00	2017.00	320.00	$4^{\circ}30$ 21/ 3.5	0 0.500	2000.00	0/.5	45 2.0	00 1.00 5	0 4.3/ 0.9	39	3.25	0.25	
30	6th Cy west of West Henryville	93.1	93.0	45	45	45	45	50 45	45	54/3+08.5	93.04	5493+30.8	93.42	2020.30	2092.40	5°00 240 4.0		1161.30	2459.9 67.0	45 3.0	16 1 F2 F	$\frac{0}{4.75}$ 1.02	120	2./5	1.25	Face Curve & Lise r/8"/or ft Runoff
3/	Cresco Station Curve	93.9	94.1	45	45	45	45	45 45	45	5520+29.2	04.18	5531172.5	94.15	2110 20	10567.50	5 13 21/ 4.	5 0.007	2662.22	10272.0	45 3.	16 1 53 5	0 4.80 0.8	129	2.75	1.50	Ease Curve & Use 5/8 /3111. Runoff
20	1st Cy west of Cresco Station	06.8	94.7 06 0	- 45 60	55	45	55	55 /5	55	5670+46 9	06.78	5677+56 7	06 01	700 80	1181.00	2005' 272 /	5 0.25/	227 80	886 5	60 2 K	52 1 76 6	5 4.87 1.18	,	1.50	2 75	
40	2nd Cy west of Cresco Station	97.2	97.4	45	45	50	45	50 45	50	5689+37.7	97.13	5701+71.2	97.37	1233.50	316.00	5°05' 217 4.2	5 0.607	1016.50	99.0	45 2.0	96 1.63 5	0 4.65 0.93	37	3.25	1.00	Lengthen Reverse Tangent & Use 5/8"/31 ft. Runoff
41	Devils Hole Curve	97.4	97.6	45	45	50	45	50 45	50	5703+80.4	97.41	5715+04.4	97.62	1124.00	769.00	5°00' 217 4.2	5 0.607	907.00	567.5	45 2.8	84 1.70 5	0 4.50 0.96	5	2.25	2.00	Use 5/8"/31 ft. Runoff
42	1st Cv west of Devils Hole	97.8	98.2	45	50	55	45	50 45	50	5722+73.4	97.77	5743+27.1	98.15	2053.70	353.70	3º31' 186 3.0	0 0.500	1867.70	105.7	45 1.0	98 2.08 5	0 3.15 1.18	165	2.25	0.75	
43	2nd Cv west of Devils Hole	98.2	98.5	45	40	45	45	45 45	45	5746+80.8	98.22	5766+06.6	98.59	1925.80	1120.00	5°07' 310 5.0	0 0.500	1615.80	810.0	45 2.2	25 3.06 5	0 3.95 1.57	'	3.75	1.25	
44	Paradise Cut Curve	98.7	99.1	35	35	35	35	35 35	35	5777+26.6	98.80	5791+71.4	99.07	1444.80	461.89	8º45' 310 5.0	0 0.500	1134.80	198.4	35 2.	50 3.54 4	0 4.80 1.6:	190	2.25	2.75	
45	1st Cv west of Paradise Cut	99.1	99.2	45			40	40 40	40	5796+33.3	99.16	5798+98.8	99.21	265.51	366.00	5º45' 248 4.7	′5 0.594	17.51	133.5	45 3.4	40 1.62 5	0 5.31 0.93	3 119	1.50	3.25	Lengthen Reverse Tangent & Use 5/8"/31 ft. Runoff
46	2nd Cv west of Paradise Cut	99.2	99.3	45	40	45	40	45 40	45	5797+87.9	99.19	5804+10.9	99.31	623.00	286.00	5 ⁰ 02' 217 4.:	5 0.607	462.04	69.0	45 2.9	95 1.64 5	0 4.64 0.94	67	3.00	1.25	Lengthen Reverse Tangent & Use 5/8"/31 ft. Runoff
47	3rd Cv west of Paradise Cut	99.4	99.7	45	40	45	45	45 45	45	5805+68.9	99.34	5823+61.2	99.68	1792.30	435.00	5 ⁰ 02' 217 4.2	5 0.607	1575.30	202.5	45 2.9	95 1.64 5	0 4.64 0.94	164	3.00	1.25	Lengthen Reverse Tangent & Use 5/8"/31 ft. Runoff
48	4th Cv west of Paradise Cut	99.8	100.0	45	40	45	45	45 45	45	5827+15.9	99.74	5838+45.6	99.96	1129.70	362.00	5º30' 248 4.	o 0.563	847.47	67.5	45 3.3	30 1.67 5	0 5.13 0.9	39	3.00	1.50	Ease Curve & Use 5/8"/31 ft. Runoff
49	5th Cv west of Paradise Cut	100.0	100.2	50	45	50	45	50 45	50	5841+36.0	100.01	5853+01.0	100.23	1165.00	1172.70	4°57' 341 5.	0.500	859.30	831.7	50 3.3	16 2.16 5	5 4.98 1.24		3.25	2.25	Ease Curve
50	1st Cv west of Mt. Pocono	100.4	100.6	50	70	70	45	50 45	50	5864+73.7	100.45	5881+61.2	100.77	1687.50	5582.30	4º45' 341 5.:	0.477	1346.50	5241.3	50 3.0	06 2.23 5	5 4.81 1.29)	1.50	3.75	
51	Mammy Heaters Curve	101.8	102.2	50	45	50	45	50 45	50	5937+43.5	101.83	5959+97.5	102.26	2254.00	21513.10	5000' 341 5.	0.500	1913.00	21063.6	50 3.2	25 2.10 5	5 5.09 1.22	-	2.75	2.75	
52	Steam Shovel Curve	106.4	106.7	70	55	60	60	65 60	65	6175+10.6	106.33	6192+00.0	106.65	1689.40	11419.20	3'00' 558 5.	0 0.306	1131.40	10861.2	65 3.3	37 2.55 7	4 .79 1.6	>	2.75	2.75	Use V+5 Speed
53	Cross Keys Curve	108.8	109.1	70	60	60	60	60 60	60	6306+19.2	108.82	6322+66.4	109.13	1647.20	13648.80	3'00' 558 5.	0 0.306	1089.20	13245.8	65 3.3	37 2.55 7	0 4.79 1.6)	2.50	3.00	Use V+5 Speed
54	NOT LISTED			80	70	70	80	80 70	70	6459+15.2	111.71	6468+35.2	111.89	920.00	11069.30	0°30' 248 1.0	0 0.125	672.00	10805.8	80 1.2	24 2.50 8	5 1.53 1.92		1.00	0.00	
55	1st Curve West of Gouldsboro	114.0	114.2	80	70	70	80	70 70	70	6579+04.5	113.98	6592+47.8	114.24	1343.30	2521.90	1.00 279 2.	0 0.278	1064.30	2118.9	80 1.9	98 1.76 8	5 2.56 1.28	, 	3.25	-0.75	
56	Lenigh Cut Curve	114.7	115.3	80	70	65	60	55 60	55	0017+69.7	114.72	45+23.8 ا	115.24	2754.10	3433.00	2 02 527 5.2	5 0.309	2227.10	2906.0	80 3.8	00 1.71 8	5 5.03 1.23		3.75	1.50	

SCRANTON-NEW YORK INTERCITY PASSENGER RAIL ANALYSIS INFRASTRUCTURE ASSESSMENT POCONO MAINLINE TRACK UPGRADES AND IMPROVEMENTS

CURVE-SPEED DATA

					шсто										TDV		GE	OMETR	Y DATA			AMTRAK	SPEED	GEO	IETRY CAR	Addad	
	CURVE NAME & LOCATION		Revised		HISTO		I ABLE SP	EEDS		VALU		IAP CURVE 8	ANGER	VI GEOME			Curve D	esignx		Tangent		"Typ	e B"		ailpod		NOTES
A		Mile Post	Speed	1946 E	DL&W	1951 D	L&W	196	6 EL	PC	:	PT		Curve	Tangent	Dc L	s Ea	Runoff	Lcs	Lts	VE	u	V+5 Eu	, Tange	nt Ea	Ea	NOTES
Amtrak	DL&W Employee Timetable (ETT)	From To		Track 1	Track 2	Track 1	Track 2	Track 1	Track 2	Station	MP	Station	MP	Lc	Lt	DMS f	t in	"/31'	ft	ft	mph i	n Jerk	mph in	erκ ft	in	in	
57	2nd Cv west of Lehigh Summit	115.9 116.3	80	70	60	60	50	60	50	6679+56.8	115.89	6700+94.3	116.29	2137.50	2574.20	2000' 5	27 5.25	0.309	1610.50	2047.2	80 3.1	71 1.78	85 4.87 3	.27	2.50	2.75	
58	3rd Cv west of Lehigh Summit	116.8 117.2	80	70	65	60	50	60	50	6726+68.5	116.78	6746+76.5	117.16	2008.00	7560.30	2000' 5	27 5.25	0.309	1481.00	7141.8	80 3.3	71 1.78	85 4.87 :	.27	2.50	2.75	
59	4th Cv west of Lehigh Summit	118.6 118.7	80	70	65	60	50	60	50	6822+36.8	118.59	6826+82.6	118.68	445.80	5807.50	1015' 3	10 3.25	0.325	403.28	5497.5	80 2.	35 1.65	85 3.07 3	.19	1.75	1.50	Ease Curve
60	5th Cv west of Lehigh Summit	119.3 119.4	80	70	60	60	50	60	50	6884+90.1	119.26	6890+46.8	119.36	556.70	1182.60	1015' 3	10 3.25	0.325	580.72	764.1	80 2.	35 1.65	85 3.07 2	.19	1.50	1.75	Ease Curve
6oA	6th Cv west of Lehigh Summit	119.6 119.9	80	70	60	60	50	60	50	6902+29.4	119.59	6918+24.2	119.89	1594.80	1013.60	2000' 5	27 5.25	0.309	1067.80	579.6	80 3.3	71 1.78	85 4.87 :	.27	2.50	2.75	
61	7th Cv west of Lehigh Summit	120.1 120.3	60	55	50	55	50	55	50	6928+37.8	120.08	6937+82.1	120.26	944.30	568.40	3º30' 3	41 5.50	0.500	603.30	180.9	60 3.3	32 1.71	65 4.85 :	.08	1.75	3.75	
62	Cv at Moscow Station	120.4 120.6	55	50	45	50	50	50	50	6943+50.5	120.37	6953+38.7	120.55	988.20	2007.20	5 ⁰ 00' 4	34 5.75	0.411	554.20	1619.7	50 3.0	00 2.89	55 4.84 1	.63	2.00	3.75	Use V+5 Speed and Ea=5.75"
63	1st Cv west of Moscow	121.0 121.1	60	50	45	50	50	50	50	6973+45.9	120.93	6979+42.5	121.05	596.60	2465.80	3º30' 3	41 5.50	0.500	511.29	2124.8	60 3.3	32 1.71	65 4.85 2	.08	1.75	3.75	Ease Curve
64	2ndCv west of Moscow	121.6 121.7	60	50	45	50	50	50	50	7004+08.3	121.51	7009+53.1	121.62	544.80	1459.50	3030' 3	41 5.50	0.500	281.63	1103.0	60 3.3	32 1.71	65 4.85 2	08	1.50	4.00	Ease Curve
65	3rd Cv west of Moscow	121.9 122.1	60	55	45	50	50	50	50	7024+12.6	121.89	7033+91.8	122.08	979.20	687.10	3000, 3.	72 4.00	0.333	607.20	330.6	60 3.5	56 1.74	65 4.87	.17	1.75	2.25	
66	Gardeners Cut Curve	122.2 122.3	60	50	45	50	50	50	50	7040+78.9	122.21	7048+40.3	122.35	761.40	510.90	3030' 3	41 5.50	0.500	663.32	123.4	60 3.3	32 1.71	65 4.85 :	.08	2.50	3.00	Ease Curve
67	1st Cv west of Gardners Cut	122.5 122.7	55	50	45	50	50	50	50	7053+51.2	122.45	7064+05.8	122.65	1054.60	2799.60	5 ⁰ 00' 4	34 5.75	0.411	620.60	2396.6	50 3.0	00 2.89	55 4.84 1	.63	2.25	3.50	Use V+5 Speed and Ea=5.75"
68	2nd Cv west of Gardners Cut	123.2 123.3	60	50	45	50	50	50	50	7092+05.4	123.18	7097+67.1	123.29	561.70	2303.80	3010' 3	72 4.50	0.375	514.89	1931.8	60 3.4	48 1.78	65 4.87 :	.18	2.25	2.25	Ease Curve
69	3rd Cv west of Gardners Cut	123.8 123.9	60	50	45	50	50	50	50	7120+70.9	123.72	7123+71.9	123.78	301.00	1823.00	3010' 3	72 4.50	0.375	79.50	1451.0	60 3.4	48 1.78	65 4.87 :	.18	1.00	3.50	Ease Curve
70	4th Cv west of Gardners Cut	124.2 124.4	60	55	50	50	50	50	50	7141+94.9	124.12	7150+19.3	124.28	824.40	3883.90	3010' 3	72 4.50	0.375	452.40	3511.9	60 3.4	48 1.78	65 4.87 :	.18	1.25	3.25	
71	5th Cv west of Gardners Cut	125.0 125.4	60	55	50	50	50	50	50	7189+03.2	125.02	7207+83.5	125.37	1880.30	1401.80	3010' 3	72 4.50	0.375	1904.15	1107.3	60 3.4	48 1.78	65 4.87 :	.18	1.00	3.50	Ease Curve
72	6th Cv west of Gardners Cut	125.7 125.9	45	55	50	50	50	50	50	7221+85.3	125.64	7231+61.7	125.82	976.40	382.77	4 ⁰ 30' 2	17 3.50	0.500	759.40	134.8	45 2.	88 1.68	50 4.37	.99 122	1.50	2.00	Lengthen Reverse Tangent
73	7th Cv west of Gardners Cut	125.9 126.5	45	45	45	45	45	45	45	7234+02.9	125.87	7264+09.9	126.44	3007.00	1175.20	5 ⁰ 21' 2	79 4.25	0.472	2728.00	896.2	45 3.3	33 1.86	50 5.11 2	09	3.00	1.25	
74	8th Cv west of Gardners Cut	126.7 126.9	45	45	45	45	45	45	45	7275+85.1	126.66	7283+29.0	126.80	743.90	416.50	5 ⁰ 00' 2	79 4.50	0.500	526.89	184.0	45 2.	59 2.40	50 4.25	.31 33	1.50	3.00	Ease Curve
75	9th Cv west of Gardners Cut	126.9 127.0	45	50	45	45	45	45	45	7287+45.5	126.88	7292+78.8	126.98	533.30	367.00	3º30' 18	36 3.00	0.500	347.30	103.5	45 1.9	96 2.11	50 3.13 2	.19 52	1.00	2.00	Lengthen Reverse Tangent
76	10th Cv west of Gardners Cut	127.1 127.5	45	45	45	40	45	40	40	7295+00.3	127.02	7313+94.6	127.38	1894.30	427.00	6º33' 3	41 4.75	0.432	1514.74	179.0	40 2.	59 3.30	45 4.53 1	.67 224	2.75	2.00	Use V+5 Speed
77	11th Cv west of Gardners Cut	127.5 127.6	45	50	45	45	45	45	45	7316+62.4	127.43	7321+78.1	127.53	515.70	1258.50	3000' 1	55 2.25	0.450	360.70	1057.0	45 2.0	00 1.72	50 3.00 2	.03	0.75	1.50	
78	1st Cv west of Nay Aug	127.8 127.9	45	50	45	40	45	40	45	7334+36.6	127.77	7341+00.0	127.89	663.40	415.27	5 ⁰ 00' 2.	48 3.75	0.469	415.40	151.8	45 3.3	34 1.65	50 5.00 0	99 47	2.00	1.75	Lengthen Reverse Tangent & Ease Curve
79	2nd Cv west of Nay Aug	128.0 128.2	45	45	50	40	40	40	40	7342+51.2	127.92	7356+59.5	128.19	1408.30	457.32	5 ⁰ 25' 2	79 4.50	0.500	1129.30	193.8	45 3.3	18 1.95	50 4.98 :	.12 35	2.25	2.25	Lengthen Reverse Tangent
80	3rd Cv west of Nay Aug	128.2 128.3	45	50	45	40	40	40	40	7357+89.5	128.21	7364+29.3	128.34	639.80	425.90	5 ⁰ 00' 2.	48 3.75	0.469	391.80	255.4	45 3.3	34 1.65	50 5.00 0	99	2.00	1.75	
8oA	4th Cv west of Nay Aug	128.5 128.6	45	70	70	40	40	40	40	7368+55.2	128.42	7370+97.0	128.46	241.80	543.00	1º30'	93 1.00	0.333	148.80	372.5	45 1.:	13 1.83	50 1.63 :	.14	Missing		
81	5th Cv west of Nay Aug	128.6 128.8	45	45	45	40	40	40	40	7376+40.0	128.56	7388+31.9	128.79	1191.90	401.00	5 ⁰ 00' 24	48 3.75	0.469	1023.36	106.5	45 3-3	34 1.65	50 5.00 0	.99 60	1.25	2.50	Lengthen Reverse Tangent & Ease Curve
82	6th Cv west of Nay Aug	128.9 129.0	45	45	40	40	40	40	40	7390+89.6	128.84	7402+78.2	129.06	1188.60	1086.90	6º00' 3	41 5.50	0.500	847.60	745-9	45 3.0	01 2.52	50 5.00 :	.36	3.00	2.50	
83	Nay Aug Breaker Curve	129.0 129.7	50	45	40	40	40	40	40	7413+65.1	129.27	7447+57.8	129.91	3392.70	477.73	5000' 3	41 5.50	0.500	3051.70	105.7	50 3.3	25 2.10	55 5.09 2	22 60	1.50	4.00	Lengthen Reverse Tangent
84	1st curve west of Nay Aug Breaker	129.9 130.2	50	40	40	40	40	40	40	7449+09.5	129.94	7460+09.7	130.15	1100.20	932.90	6º00' 4	5.50	0.423	697.20	607.4	45 3.0	01 2.98	50 5.00 1	.61	1.75	3.75	Use V+5 Speed
85	2nd curve west of Nay Aug Breaker	130.4 130.5	50	50	45	40	40	40	40	7469+42.6	130.33	7472+43.9	130.38	301.30	476.96	4 ⁰ 00' 24	48 4.00	0.500	53.30	198.0	50 3.0	00 1.65	55 4.47	.01 69	1.00	3.00	Lengthen Reverse Tangent
86	Bunker Hill Curve	130.5 130.7	50	50	45	40	40	40	40	7475+29.4	130.44	7487+49.1	130.67	1219.70	649.90	4 ⁰ 45' 3	10 5.00	0.500	909.70	324.4	50 3.3	31 1.87	55 5.06	.11	1.25	3.75	
87	No. 6 Junction Curve	130.8 131.4	50	45	40	40	40	40	40	7493+99.0	130.79	7522+44.6	131.33	2845.60	554.90	5000' 3	41 5.50	0.500	2504.60	182.9	50 3.3	25 2.10	55 5.09 2	22	2.00	3.50	Ease Curve
88	1st Cv west of No. 6 Junction	131.5 131.6	50	40	40	40	40	30	30	7527+99.5	131.44	7537+43.7	131.61	944.20	1369.50	6º00' 4	5.50	0.423	541.20	1013.0	45 3.0	01 2.98	50 5.00 1	.61	Missing		Use V+5 Speed
89	1st Cv west of Nay Aug Tunnel	131.9 132.0	50	40	35	40	35	30	30	7551+13.2	131.87	7556+61.6	131.98	548.40	663.70	4 ⁰ 45' 3	10 5.00	0.500	238.40	384.7	50 3.3	31 1.87	55 5.06	.11	Missing		
90	2nd Cv west of Nay Aug Tunnel	132.0 132.4	50	45	40	40	35	40	35	7563+25.3	132.10	7576+99.7	132.36	1374.40	369.50	4 ⁰ 00' 24	48 4.00	0.500	1812.40	233.4	50 3.0	00 1.65	55 4.47	.01	Missing		
91	Not Listed		50	70	70	40	40	40	35	7580+69.2	132.43	7583+88.6	132.49	319.40	463.00												
92	3rd Cv west of Nay Aug Tunnel	132.6 132.7	40	50	40	40	35	40	35	7588+51.6	132.58	7596+29.2	132.73	777.60	1088.60	4 ⁰ 14' 2	17 1.75	0.250	560.60	887.1	40 2.9	99 1.81	45 4.25	.13	Missing		
93	4th Cv west of Nay Aug Tunnel	133.0 133.2	40	25	25	25	25	25	25	7607+17.8	132.94	7615+33.5	133.09	815.70	285.90	4 ⁰ 00' 18	36 1.75	0.292	629.70	99.9	40 2.	73 1.70	45 3.92	05	Missing		
94	1st Cv west of Scranton Station	133.2 133.4	40	25	25	25	25	25	25	7618+19.4	133.14	7629+43.0	133.36	1123.60	2304.50	4 ⁰ 00' 18	36 1.75	0.292	937.60	2211.5	40 2.1	73 1.70	45 3.92 :	05	Missing		



Revised Track Geometry Value Reduced Superelevation Indicated

. Reccomended Speed to be Used

Critical Value Near Absolute Minimum

Length of Tangent between Spirals

Superelevation Runoff



POCONO MAIN TRACK

37-S1. PASSENGER TRAIN AND FREIGHT TRAIN MAXIMUM SPEEDS AND RESTRICTIONS, UNLESS OTHERWISE RESTRICTED

Locations and speeds shown in normal type are maximum authorized speeds. Locations and speeds shown in **bold type** are speed restrictions.

Where speeds change at an interlocking and the specific point where the speed change occurs is not specified, the lower speed will apply through the entire interlocking.

PASSENGER & FREIGHT TRAIN TYPE "A", "B", "D"	& "E" SPEEDS
--	--------------

Train Type A refers to High Speed Trainsets (HST) with tilt system *active*. *Train Type B** refers to (1) HST's with tilt system *disabled*; and (2) trains consisting *exclusively* of HHP-8 or AEM-7 engines, and Amfleet, Horizon, Capitoliner Control Cars, MARC III control/coach cars, or US DOT test car T16.

Train Type C † refers to passenger trains that do not meet the criteria for train types A, B, or D.

Train Type D refers to passenger trains with mail,baggage or express cars in consist, that meet the Train Type D criteria defined elsewhere in the Special Instruction.

Train Type E‡ refers to freight trains.							DL&W
Potwoon/At	Train	Type B"	Train "(Type C"	Train	Type E"	Employee Timetable
DetweenAt	Tracl	« Nos.	Track	Nos.	Track	« Nos.	Curve Names
	2	1	2	1	2	1	(for reference)
CP Phoebe (MP 133.8) & Ridge (MP 132.5)	40	40	30	30	25	25	
All moves thru MP Phoebe (MP 133.8)		25		25		25	
Diverging moves thru CP Snow (MP 133.5)		25		10		10	
All moves to/from Running Tracks		25		25		25	
Ridge (MP 132.5) & MP 129		50		45		45	83-91
MP129 & MP 125.6		60		55		25	68-82
MP125.6 & MP 120		60		55		40	
1st Cv west of Gardners Cut (2nd Cv west of MP 123)	1	55	[45			
Diverging moves thru CP Moscow (MP 120.9)	45	45	45	45	25	25	67
Moscow Curve (MP 120.5) 2nd Cv west of MP 120	55	55	45	45	25	25	61
Diverging moves thru CP Dale (MP 120.4)	45	45	45	45	25	25	
MP 120 & Summit (MP 102.5)		80		75		40	
Cross Keys Curve (Cv at MP 109)		70		60			55
Steam Shovel Cut Curve (1st Cv west of MP 106)		70		60			54
Summit (MP 102.5) & MP 100		50		45		25	
MP 100 & MP 97		45		40		25	40-41, 45-48
Paradise Cut Curve (Cv at MP 99)		35		30			44
MP 97 & MP 91.5		60		55		25	
Cresco Curve (MP 95) & 4th Cv west of Henryville (MP 94)		45		40		25	35-38
2nd & 3rd Cvs west of Henryville (MP 93)		55		50		25	33, 35
MP 91.5 & MP 82.5		75		70		40	
Freight Trains MP 91.5 & MP 86						25	
1st Cv west of Henryville (MP 89)		65		55		25	32
Henryville Curve (MP 89) & 1st Cv west of Henryville		60		50		25	29, 30
Analomink Curve (Cv at MP 86)		65		55		25	22
MP 82.5 & MP 75.4	60	60	55	55	40	40	
Diverging moves thru CP Henwood (MP 81.9)	45	45	45	45	25	25	
Diverging moves thru CP Warrior (MP 81.0)	45	45	45	45	25	25	
Forge Cut Curve (MP 80.9) & Bells Bridge Curve (MP 78.3)		45		40		40	14-18
Bells Bridge Curve (MP 783)		40		35		30	13
Tinkertown Curve (MP 78.8 to MP 78.3)		40		35		30	12
2nd Cv west of Point of Gap (MP 76) & 3rd Cv west of MP 75)		50		45			7, 8
Point of Gap Curve (2nd Cv west of MP 75)		40		35		30	6
MP 75.4 & Delaware River Bridge		70	· · · ·	65		40	

* - The new Amtrak Airo intercity trainsets are assumed will be included in this category.

+ - NPS historic locomotives equipped with Postiive Train Control are asssumed will be included in this category.

‡ - D-L locomotives equipped with Postiive Train Control are asssumed will be included in this category.

Assumed Track Speed Improvements through Curves

APPLIED TO 1914 DL&W RIGHT-OF-WAY AND TRACK MAPS

APPENDIX



65:59.4 nt File Nº 1335 " 1422 0.057 - Vacation of portion of William St.; ext. of William St. to King St.; const.of conc. ret. Wall & sidewolk, & matters incident thereto Release of Water Rights See No 2 -----John Stillwell. STOSE .. and the first of the second se 2-15-CLP Univre. R, NATIONAL PARK SERVICE tood SA Grassing LACKARIANNA ---------. F Mew York Plano Stool & Mig Co. Dated Sept 15 1914 Saa DF. Trock Agree File 407 Note 125: Joverhead wires dear 35' Citizens Gas & Elect 60 Agree Bated Morch 13 1913 Jee DE Agree File 86 Nota 7.1. 5 x x Noté 26 ~ * ۰. . . Mate 22:10 verhead wire: clear 26. Citizens Gas & Elect Co Agree Dated Dec. 2. 1911 See DE Agree Elle 778 SPEED a., ; ... (MPH) Mote"27: 2" 905 pipe crossing Citizans Gas & Elect Co Agrae Dotad Nay 31 191 See D.E. Agrae File 677 EXISTING Note 23 Agree with Boro. of E. Stroudsburg Doted March 1, 1923 Wall and Sidewalk, N.E. Side of King St. Sec. D.E. Agree. file #882 PROPOSED Mote 28: 32 Overhead wires en NOTES: EASE CURVE, INCREASE CURVE 100' Mestern Union Telsgrap NOTES: EASE CURVE, INCREASE CURVE 100' Yote 24 Overhead cable crossinc. Clear 35' Bell Telephone Co of Po Agree darge Will 24 1913 See DE Letter File No. 10044 Note 29: Eqsement for laying and maintenning 1 REVISE TITLE & REVISION BLOCKS 01-13-23 TRH AMTRAK NATIONAL NETWO **AMTRAK**[®] PLANNING DEPARTMENT is moteriol is owned by ond is the sole ond exclusive property of the National Railroad Passenger Corporation (Amtrak) National Network Planning Department and is supplied on a confidential basis solely for use in connection with the design and construction of Amtrok National Railroad Passenger Corporation 30th Street Station, Philadelphia, Pennsylvania 19104 facilities and equipment. The reproduction, display, sale or other disposition of this docun without the express written consent of the Amtrak National Network Planning Department is prohibited



		Dute
RK	JOSEPH BLACK, JEG QA/QC 0	09/07/202
	TR HICKEY, JEG PROJECT MGR 0	09/12/202





		1-1	attarms	A=1470	
			· · · · ·		
		- be be ,	· · · · ·	i in in i	
	•				the set of
		х ан		-	
· · · · · · · · · · · · · · · · · · ·		· · · · ·			the second s
	in de la companya de La companya de la comp		مستلم المراجعة . المراجعة		
					A Company and a
				and the second sec	
	an in the second se	ه د معامد . ۲۰۰۰ هم محمد ا	الم		
	5				
Notes					
					Charles cot
	trate 1				por por 2
UDSBU	RG)				
ELEVATION		ENT ()			C BERT
a,IN)	BEFORE	AFTER		1	
.5	— ,				
4.25	-	-	- coo	RTLAND	A Province
					Hotel X-15TA
A Contraction of the second	1		- Par		A XXX
		IT V			(LAN)
	Lee .	1 <u>/</u>			
		a. At			
			But		
	- Sec	80		Note A	
iclear 26	TY-	T performance			With the Fast Stro
	Shea				Jee ar Horas File
	T	나부르		A COLOR OF THE STREET	Dated M
	of Warmphant				See DE TOCE A
THE S YOUR				Noten	Lecsed Boro of
	410				Term Syrs - 6200
nodder A	Note 29	inico 1	50 PD		See DE. lease file
Nº15	A the crock	Forming	ectors		Penna Power on
		argoku no. Joolvan	300	Note	No.Agreement
-85					Bell Telephone Co
			products	Co	See D.E. Ale #147
1		Galvan	orrold Est		D.E. Files Ala
1			EGEND:	And	an waran in gari yari ya mangan angan a Ngan angan
101				FORMER TRACK	K NOW ABANDONED
12		WIRS		ABANDONED TF PROPOSED TRA	RACKBED ACK
14	H H	campile		REMOVE TRACK	K TO REMAIN
		Morte 32			
	SCRANTON-	NYC INTE	RCITY PA	SSENGE	File No: Work Elem. No:
	RAIL INFR	ASTRUCTU	JRE ASSE	SSMENT	Sheet No. 1 OF 19
	EST OF FL	AND CHE	UDSBUR	G	
				-	



			· · · /	
CU	RVE	22	(ANALOMINK	CURVE)

EED	DEGREE OF CURVE	LENGTH OF SPIRAL	SUPERELEVATION	TANC (F	GENT T)	
,	(00)	(_3,)	(Ed, NY)	BEFORE	AFTER	
55	4d0'0"	-	3.25	<u></u> 2	-	- ince
65	3d35'0"	527	5.75		-	
						N 1

5100+092 PT

33' High

THROWING CURVE APPROXIMATELY 30' INWARDS FROM TRACK 1 LOCATION.

BRODHEADS CREEK

-46%3

- A/6. 9 1= 787.9

AMTRAK NATIONAL NETWORK PLANNING DEPARTMENT National Railroad Passenger Corporation 30th Street Station, Philadelphia, Pennsylvania 19104

JOSEPH BLACK, JEG QA/QC 09/07/2022 TR HICKEY, JEG PROJECT MGR 09/12/2022





Ň	POCONO TOWNS ONROE COUNTY STATE OF PENNS	HIP SYLVANIA			
AND TO MONTON STATIS	Thos. 11.	Dilles			
о <i>A=/9°86</i> <i>D=4-33</i> <i>Crig</i> <i>T 2//9</i> <i>L=4/9.6</i> Мор.	0 0 0 0 0 0 0 0 0 0 0 0 0 0	STIDA STIDA	Ba Oddarfant	HIGHCAY DO THE	To Mit. Pacon
Mon.	ADS valve of the minimized		Bridge Nee 7.42 Sub-struct. Conc B.Y. to B.Y. 85'53 Sub-struct. Conc B.Y. Struct. Conc Sub-struct. Conc	2000 100 100 100 100 100 100 100 100 100	H SIII CA MARKEN
WAY Burndhan	Hotel Thos. H. Shites	Street 2. Street	The Harden		
				POLSE ABARADIS	

	CURVE 24 (I	HIGH BRIDGE C	CURVE)			
ED	DEGREE OF CURVE	LENGTH OF SPIRAL		TANC (F	GENT T)	
	(DC)	(LS,FT)	(Ed,IN)	BEFORE	AFTER	
5	3d0'0"	~	44	-	_	1
5	2d30'0"	527	5.50	-	_	- 10
5						

THROWING CURVE APPROXIMATELY 26' INWARDS.

IONAL NETWORK			
DEDADTAENT	TF		
DEPARIMENT			
Passenger Corporation			

Dote JOSEPH BLACK, JEG QA/QC 09/07/2022 TR HICKEY, JEG PROJECT MGR 09/12/2022

	1		- * <u>8</u>		
С	URVE 29 (HENR	XYVILLE STATIO	N CURVE)		
EED	DEGREE OF CURVE	LENGTH OF SPIRAL	SUPERELEVATION	TANC (F	GENT T)
- ⊓)		(LS,FT)	(Ed,IN)	BEFORE	AFTER
5	3d55'0"	—	4		-
0	3d55'0"	465	5.25		-
NGENT	& LISE V+5 SPEED				

Meridia	∞	ल. ⁵⁰ ज	ine ²⁴⁰ R _a	2 2 2
	Date			

IONAL	NETWO	RK
DEPAR	TMENT	
Passenger iladelphia, P	Corporation ennsylvania	19104

201 2			1	· · ·		
31	(SECOND CURV	E WEST OF HE	INRYVILLE ST	ATION)		
ED	DEGREE OF CURVE	LENGTH OF SPIRAL	SUPERELEVATION	TAN((F	GENT T)	
,		(LS, FT)		BEFORE	AFTER	
5	4d36'0"	-	4		-	
5	1d30'0"	372	3.00		-	
					3 	

	T
DEPARTMENT	-
Passenger Corporation ladelphia, Pennsylvania 19104	

							Date
03	SEPH	BLA	λCΚ,	JEG	QA/C	QC	09/07/2022
R	HICK	ΕY,	JEG	PRO	JECT	MGR	09/12/2022

o agreement ortion)Not responsible for slope encroachments. o agreement
ortion) Pacel NºI. No ogreement. For Par#2 see NºIA precession
n na serie de la serie de l Nota de la serie
TE R. HEAry.
N.23*06'W.# 1153'5"
5.23°06'E 14.55' ² 50 N
TOWNSHIP MONROE COUNTY
FORMED TOACK NOW ADANDONED
ABANDONED TRACKBED
REMOVE TRACK
EXISTING TRACK TO REMAIN
SCRANTON-NYC INTERCITY PASSENGER
CURVE 31-SECOND CURVE
WEST OF HENRYVILLE STATION 2E-05

e ^{020*}	· · · ·			전 한 전		
. 8	ne n			an an t 2 an		
200	а з ⁴		: • (<u>)</u>	2		
22 7.92	6 [*]		CURVE	36 (FIFTH (CURVE WEST OF	
	* *		SPEED (MPH)	DEGREE OF CURVE (Dc)	LENGTH OF SPIRAL (Ls,FT)	
: مە ۱	E)	KISTING	35	5d0'0"		
	PR	OPOSED	45	5d0'0"	248	
5 SEA	NOTES: RE	ELOCATED FROM IROWING CURVE	TRACK 2 ROAD APPROXIMATELY	BED TO TRACK 1 ROADB 10' INWARDS.	BED BEFORE AND THROUGH CUR	/E.
	TTERSON		s a			
14	IOHN PA'	2007 2017 2017	5 5	2	KRall	
			94) 1	0	* (10 C.T.P+ 9)	1.23
		а на . 				903
ä		Sem #		•	- Pin in Rock.	-
y ii		932				Ő
		· · · · ·	Iwall-In-			125
<u>81</u>						
1.		P 9930		1		
		No.		and the second sec	· · · · · · · · · · · · · · · · · · ·	
			27 g.		n n n n n n n n n n n n n n n n n n n	
			ſ	AX .	5 <u>7</u> 5	
				No. 1		- 24 - 14 - 24
	S DEPENDER ON	81 B		The second se	JOHN HOGEL	IN.
191	State Store &	•		A State		
			2	RANN	2	
	Contraction of the second seco	×	н.	NAR	in in its second sec	-3
			TERSOI		· · ·	
10	Jer /		NPAT	ыя -	A = 101-25	
0	And the second s	* *	JOHIN	<i>5</i> .	$D = 5 \circ 00^{\circ}$ $T = 1401.1.^{\circ}$ $I = 2028.3.^{\circ}$	1
22	Contra 1	108.5		4 B		í.
		Sec	i.		· · · · · · · · · · · · · · · · · · ·	
/			ned a transformer and a transformer and a state of the second sec	5	ೆ ಇವಿ ಶ ಶ ಶ	
/	A A A A A A A A A A A A A A A A A A A	55 - X	1.40 (11) M. M.	. X		
	Co Strange	∞ 2				
	93.				а.	
æ						25
8 .5		* *	*			X
×			×			5
6 6		A		E.		
30-1		20 20 20	2. S	Mer	2 X 2 Z	
5			ž.	dian	*	
						×
2	×		3 *	· · · · · · · · · · · · · · · · · · ·	\mathbf{Y}	ž
и	i ke s		· * *	а — — — — — — — — — — — — — — — — — — —		
RVE	35 (FOURTH	CURVE V	VEST OF	HENRYVILL	E)	
ED	DEGREE OF CURVE	LENGTH O	F SPIRAL	SUPERELEVATION		
РН)	(Dc)	(Ls,I	FT)	(Ea,IN)	BEFORE AFTFR	٠
		8				

of Th

and Western Railroad from to Survey Station 5491+20

IONAL NETWORK	JOS	SE
DEPARTMENT	TR	H
Passenger Corporation iladelphia, Pennsylvania 19104		

4d30'0"

4d30'0"

							Date
05	SEPH	BLA	ΑCΚ,	JEG	QA/C	QC	09/07/2022
R	HICK	ΕY,	JEG	PRO	JEC⊤	MGR	09/12/2022

<u>0 -</u>10

217

3.25

3.50

14

201

320

EDelaware, Lectawarie Survey: Sking seast-as SCRANTON-NYC INTERCITY PASSINGER CURVE JSF ANTRUCTURE ASSESSMENT CURVE ASS	₽ ² ₽ St	• 7			
E Delamane, Lackavanna Survey Skick Sasta do SCRANTON-NYC INTERCITY PASSENGER CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION SCRANTON-HICK INTERCITY PASSENGER CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION AB Low March 2014 CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION AB Low March 2014 CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION AB Low March 2014 CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION AB Low March 2014 CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION AB Low March 2014 CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION AB Low March 2014 CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION AB Low March 2014 CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION AB Low March 2014 CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION AB Low March 2014 CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION AB Low March 2014 CURVE 355 AND CURVE 36 WEST OF HENRYVILLE STATION	ಜ ಕ್ಲಿ ಪ್ರತಿ	80. 87 a 10 1991 a 1	×		* * *
EURRYVILLE) SUPERELEVATION (co.iii) 2.75 2.7	an ă			2	an Al Sar
ELRYVILLE) SUPERELEVATION TANGENT (r) AFTER 2.75 20 4.00 320 4.00 320 600 100 100 100 100 100 100 10		*	× 1		2 - 195
SUPERELEVATION (E.g.N) 2.75 4.00 2.05 4.00	HENRYVILLE)	1		
E Delaware, Lackswama Surray Station 54287+0 TO SCRANTON-NYC INTERCITY PASSENGER TALL INFYCST INTERCITY PASSENGER CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION MERCENT	SUPERELEVATION	TANG (FT	ENT)		•
2.75 201 4.00 320 TORMER TRACK NOW ADMIDDINE BURRY Station 5432+60 Surry Station 5432+60 SCRANTON-NYC INTERCITY PASSENCET CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION WEST OF HENRYVILLE STATION SET 00 HENR	(Ea,IN)	BEFORE	AF⊤ER		:
Control of the second	4.00	201 320			ан 2 а
CONST.			1		t ge a we w ^{a with}
CURVE 35 AND CURVE 36 SCRANTON-NYC INTERCITY PASSENGER RAII. N:FASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WFST OF HENRYVILLE STATION SUMMER AND AND ADMINISTRATION SUMMER ADMINISTRATIO	а " ^р	ж. 19 17			**** * *
		3 5		8 4	20 A.
	5 0 0				er * 2
CONTACT		0		٠. ٦	
CONVERT	No	2		Ollina	Tread
			1300		
	20 10 11				4 6 8
Contract of the second	n ta A an ar a	, M ^{re}			2 3 ⁵ 2 3 ⁵ 2
PRECONT.		1015 M	and a second		`
E Delaware, Lachawanna Survey Station 5438140 T S S S S S S S S S S S S S S S S S S	e e e e e e e e e e e e e e e e e e e	+65493° 5	poilt	A Contraction	
E Delaware, Lackawarne Surrey Station 5438+00	s ²³ - 2 3	r?	DOJ NEW SHE		
E Delaware, Lackawanne Surrey Station 5+38++0 T SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION WEST OF HENRYVILLE STATION Begine AB Draw MK (Decker JH Did 1/13/22) # 2E-06	WARRANT	й (р. 	TO MORE FOR		
E Delaware, Lackawania survey station 5438+40 SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION WEST OF HENRYVILLE STATION Exigure A3 Draw MK Oracter JH Date 1/13/22			Hard I		30.0
E Delaware, Lackawanie survey Station 9438440 SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Deagre AB Deven MK (Deced JH Date 1/13/22					
Control Product And Andread Strength S		¥.		36.8. P.L	
e Delaware, Leckawanna surrey. Station 5438 + 40 FORMER TRACK NOW ABANDONED ABANDONED TRACKBED PROPOSED TRACK EMPOYE TRACK T FORMER TRACK NOW ABANDONED ABANDONED TRACKBED PROPOSED TRACK REMOVE TRACK SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designet AB Drom MK (Decket JH Date 1/13/22)	· ·	2	54937		\sim
E E FORMER TRACK NOW ABANDONED FORMER TRACK NOW ABANDONED ABANDONED TRACKBED FORMER TRACK TRACK NOW ABANDONED ABANDONED TRACKBED FORMOVE TRACK PROPOSED TRACK SURVEY Station 5938 +00 PROPOSED TRACK SURVEY Station 5938 +00 FORMER TRACK TO REMAIN SCRANTON-NYC INTERCITY PASSENGER Form Machine Home Noc SCRANTON-NYC INTERCITY PASSENGER Form Machine Home Noc CURVE 35 AND CURVE 36 West of HENRYVILLE STATION WEST OF HENRYVILLE STATION # 2E-06	ž.	· · · .	e E g	بې	
E Delaware, Lackavanna surrey Station 5438740 Image: Station S438740 Image: Station S438740 Image: Station S4387400 Image: Station S438740<	e	3	a S	22 24 24	tollinsh
Color Elegend: Former track now abandoned abandoned abandoned trackbed Former track now abandoned abandoned trackbed Survey Station 5438+40 T Former track now abandoned trackbed PROPOSED track Remove track Remove track Scranton-NYC INTERCITY PASSENGER Rail INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Beigned AB Dram MK	2 00 Xe		an X	9 20 17 20	eod.
E Delaware, Lackawanna survey Station 5438+40 FORMER TRACK NOW ABANDONED ABANDONED TRACKBED PROPOSED TRACK REMOVE TRACK REMOVE TRACK REMOVE TRACK TO REMAIN S SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Dram MK Onecked JH Date 1/13/22 The Main Main Main Main Main Main Main Main	8 (2) -	đ.		· · · ·	
Constraint Image: Station s438140 FORMER TRACK NOW ABANDONED ABANDONED TRACKBED PROPOSED TRACK PROPOSED TRACK REMOVE TRACK EXISTING TRACK TO REMAIN SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 The No: West of HENRYVILLE STATION Designed AB Drawn MK Cnecked JH Date 1/13/22	2 "" 2 2 14 - 14 - 14	* 1 E • • • • •	200 200		
E FORMER TRACK NOW ABANDONED ABANDONED TRACKBED PROPOSED TRACK EXISTING TRACK TO REMAIN T FORMER TRACK NOW ABANDONED ABANDONED TRACKBED PROPOSED TRACK EXISTING TRACK TO REMAIN S SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Dram MK Onecked JH Date 1/13/22	2 30 2 2 ⁸	an n Na an n		× 1 1 1	
e Delaware, Lackswanna survey Station 5438+40 FORMER TRACK NOW ABANDONED ABANDONED TRACKBED PROPOSED TRACK REMOVE TRACK EXISTING TRACK TO REMAIN S SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Drown MK Crecked JH Date 1/13/22		· •			
To belaware, Lackawanna surrey Station 5438+40 Surrey Station 5438+40 To belaware, Lackawanna To belaware, Lackawanna Surrey Station 5438+40 To belaware, Lackawanna To belaware, Lackawanna To belaware, Lackawanna Surrey Station 5438+40 To belaware, Lackawanna To belaware, Lackawanna Surrey Station 5438+40 To belaware, Lackawanna Surrey Station 5438+40 To belaware, Lackawanna Surrey Station 5438+40 Sure		2		* <u>9</u>	
To BCA Ite Delaware, Lackawanna Surrey Station 5438140 To Belaware, Lackawanna Surrey Station 5438140 Sector Station Station 543810 Sector Station 543810 Designed AB Drawn MK Oneoked JH Date 1/13/22	, i	9	л. П.	5. 10 - 10	
To be law are, Lackswanna survey station 5438+40 Image: Composed track set of the set	* * *	2 11	e Î	8 	3
To be laware, Lackawanna survey station 5438 + 40 Image: Station 5438 + 40	e.	ж.	a X	90 ⁶⁰ . v	
To Belaware, Lackawanna Survey Station 5438+40 FORMER TRACK NOW ABANDONED ABANDONED TRACKBED PROPOSED TRACK REMOVE TRACK EXISTING TRACK TO REMAIN S SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Drown MK Checked JH Date 1/13/22		e S	2	8 B B	· · · · · · · · · · · · · · · · · · ·
Tobelaware, Lackawanna LEGEND: Survey Station 5438+40 FORMER TRACK NOW ABANDONED ABANDONED TRACKBED PROPOSED TRACK REMOVE TRACK REMOVE TRACK SCRANTON-NYC INTERCITY PASSENGER File No: RAIL INFRASTRUCTURE ASSESSMENT Work Elem. No: Scrantor of HENRYVILLE STATION g 2E-06 Beigned AB Drawn MK Checked JH Date 1/13/22	е е 30 2 2	e 3		4	2
LEGEND: The Delaware, Lackawanna surrey Station 5438+40 SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Drown MK Checked JH Date 1/13/22	2		• *	70	811
LEGEND: FORMER TRACK NOW ABANDONED ABANDONED TRACK BED PROPOSED TRACK REMOVE TRACK EXISTING TRACK TO REMAIN SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Drawn MK Checked JH Date 1/13/22	a ann	x	ж.	10	10004
T FORMER TRACK NOW ABANDONED ABANDONED TRACKBED PROPOSED TRACK REMOVE TRACK EXISTING TRACK TO REMAIN S SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Drawn MK Checked JH Date 1/13/22 File No: Work Lem. No: Sheet No. 6 OF 19 Signed AB Drawn MK	•			ື່, ^ເ	· · · · ·
ABANDONED TRACKBED PROPOSED TRACK REMOVE TRACK EXISTING TRACK TO REMAIN SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Drawn MK Checked JH Date 1/13/22	а ² а	e (20)		FORMER TRAC	K NOW ABANDONFD
Survey Station 5438+40 TI REMOVE TRACK EXISTING TRACK TO REMAIN SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Drawn MK Checked JH Date 1/13/22	he Delaware,Lackawar	าทล		ABANDONED T PROPOSED TR	RACKBED
SCRANTON-NYC INTERCITY PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Drawn MK Checked JH Date 1/13/22	Survey Station 5438	<i>+40</i> Т	-1	REMOVE TRAC EXISTING TRAC	K CK TO REMAIN
SURAINTON-INTO INTERCITE PASSENGER RAIL INFRASTRUCTURE ASSESSMENT CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Drawn MK Checked JH Date 1/13/22				CCENCED	File No:
S CURVE 35 AND CURVE 36 WEST OF HENRYVILLE STATION Designed AB Drawn MK Checked JH Date 1/13/22	RAIL	INFRASTRU	TURE ASS	ESSMENT	Work Elem. No:
Designed AB Drawn MK Checked JH Date 1/13/22	CURVE	35 AND C	URVE 36	ON	
	VV ESIO Designed AB	Drawn MK	Checked JH	Date 1/13/22	ZE-06

	2	2.	4 	ž.	
ow water from Tank. case from all damages. Enough ad	taitional land to cove	er all cuts, slopes and en	nbankments.	27	
by daming stream.			₽.	8 360	ii je je
क कि कि स कबर्स		3 <u>45</u>	9 9 25	82 #85 \$2	/ × 2
16 (% ≥+) 26 ₹?		9 	e en		р 6
· r	* *	x			No.
ж Г	18-1 2	ē.	9	8 9 80 8 1	ur K
	-61 1			* * 8 x	ι. «
22 - 24 VAR	v	<u>5</u>	(4) (4)	к К	d. a
0 <u>8</u> 0	*		x ² ¹⁴	ji ar	19. R
HIP MOHF	ROEC	OUNTY .	· Stat	e of pe	HHBYL
2	*	1 x ²⁴ x 7		х 3. м. "	3 2
· · · · · ·	* *				•
	1	i e e e e e e e e e e e e e e e e e e e			
	and a second		· · ·	5 8 A	*
No.	and the second			the Cra	. o. win
			3	30 Ho	Supplements of the second s
/	where an incompany is the stranger of the second			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	E BOX
Contraction of the second seco			The Participation of the	/ .0	
O SG70 MORA	anna a tha an	56750			Telephone
All and a star bar was an and a star and a s		56750		A A A A A A A A A A A A A A A A A A A	\$ 5 N
		36750 			A SK o Telephone
		367.50			2000 - 20
		36750		Terme Tournal and the second sec	A 54 0 Telephone
		36750		Old Crane Focure 6	
A CONTRACTOR OF A CONTRACTOR O		56750 A = 21*53* 0 = 3*05* 7 = 359.4 L = 709.8		Old Creme Rounder	A SN OCTOBER
SG700 Montained and and and and and and and and and an		1 = 2/*53* 0 = 3*05* 7 = 359.4 L = 709.8		Old Crume Terminal	A Save
		10750 1 = 21°53 0 = 3°05 7 = 359.4 L = 709.8		Old Crane Roundering	
And		16750 D = 21°53' D = 3°05' T = 359.4 L = 709.8		Old Crane Rooman A	
All and a second a		1 = 2/*53* 0 = 3*05* 7 = 359.4 L = 709.8		Carlie Contract of the second	
		1 = 21*53* 0 = 3*05* 7 = 359.4 L = 709.8		del come come en	A La
A Company of the second		26750 2 21'53' 0 2 3'05' 7 2 359.4 L 2 709.8		Old Crane Contract of the second of the seco	
A CONTRACTOR AND A CONT		1 = 2/*53* 0 = 3*05* 7 = 359.4 L = 709.8		del competition de la compet	JOHN RE
And		d = 2/ 53 0 = 3 05 7 = 359;4 1 = 709;8			JOHN RE
		d = 2/33 0 = 3'05 7 = 359:4 1 = 709:8			JOHIN RE

EED	DEGREE OF CURVE	LENGTH OF SPIRAL	SUPERELEVATION	TAN((F	GENT T)	
)				BEFORE	AFTER	
5	3d5'0"	<u></u>	1.75	<u>. </u>		2
0	2d15'0"	372	4.25	-	1048	

AFFRUMMAILLI IJ INWARDS TO ADANDONED TRACK I ROADDEL

AMTRAK NATIONAL NETWORK PLANNING DEPARTMENT National Railroad Passenger Corporation 30th Street Station, Philadelphia, Pennsylvania 19104

Date JOSEPH BLACK, JEG QA/QC 09/07/2022 TR HICKEY, JEG PROJECT MGR 09/12/2022

Jacobs

LE NAME: LOT SCALE: FANDARD PEN TAB

19-14-0	57388 5788	# 1943 1 = 87° 27-30 D= 8° 45' L: 993:52 Nº. 2	auecer			
	Sc. Strong Star	R= 1050.0° L-1546.5° Portal of Old Parad,	Statute Statute Sec. Tennos	C.5. 57824000 + 20		*
a Series	sti di	And Wolf Old Lining of Tunnel Wolf Old Lining of Tunnel Paradise Cut formerly Tun	annon gener man an anno	12 A	A3 40 00 000	South Contraction of the second
State State			519121	A ET STATI	Hermen and a contraction	
A Good No of	Contraction of the second cont			99 1	Stear	52
					51 ⁵	5.36.7.5
420	A CONTRACTOR					
		08/G/11AL \$ 1 = 135°2/ 0 = 5°24 7 = 23186 L = 2326.71				194 +3
EED PH)	CURVE 44 DEGREE OF CURVE (Dc)	(PARADISE CUT C LENGTH OF SPIRAL (Ls,FT)	SURVE) SUPERELEVATION (Ea,IN)	TANG (FT	ENT)	
35 45 ED TO A	8d45'0" 5d45'0" BANDONED PARADISE POI TO REOPEN THE CUT	248NT_CUT.	2.25 4.75	BEFORE -	AFTER 355 435	
419 FT.		" MONROE (STATI		P
IONAL DEPAI	NETWORK TR HI	TH BLACK, JEG QA/QC 09/07/2022 CKEY, JEG PROJECT MGR 09/12/2022		724		h

1 = 111 = 59' D = 12:00' T = 708.9 L = 933.2

22014

Tunnel Abandoneat

		21		
in a s va				स्वभूते कर्ष द्वान् द्वान् व्याप्त
		ter Karaj se		a a a a a a a a a a a a a a a a a a a
			6	
			a de la companya de la	ي مرجعية. المرجعية.
			pr'	
. 0	•	, A ⁰		
		-		
·····	°			
		and the owner	<u> </u>	
	· · · · · · · · · · · · · · · · · · ·			
	s and t			
		8 8 8 1 1 1 1 1		°`
3	ta t		\sim	They of
		200 2 2015 - 15		
	a X <u>a</u> 5.2 5.2 52 6		. /.	
15 (ž 16			st st	
* 1			telle offer.	
		582	4/8	N
			6	and the second sec
ST OF	PARADISE PO	DINT)		
		TAN	GENT	-
OF SPIRAL	SUPERELEVATION (Eq. IN)	(1	-T)	
,	(23,117)	BEFORE	AFTER	
	3	166	355	
17	4.25	275	435	
2 ¹⁰ 20	5 az 20			۲
·			1	्र स्ट स्टब्स् स्ट
а в И		° 4 (*) 2	<u>.</u>	27 28 26 28
	a ^N a ⁿ X	68 - 12 		5 5 10 (2)
MON	6 a			
	OE		8 8 64 . 90	and ¹⁰ and
10 - 10 - 1	COUNT		in the	12-1 H
• 1	11	·≻	ä	10 152
				·**
t na a	04 04		RAF	
· ·	* * *			
			a j	On
i yan ya	e la calante de	• * * * * * * *	а. Ал	2
		180 ⁻	a 7	
		n n n n n n n n n n n n n n n n n n n	i e i e	
				n a Million de Carlos de Carlos Carlos de Carlos de Ca
				at Maria Ka
	Construction of the American States			
		LEGEND:		· · ·
			FORMER TRAC	NOW ARANDONED
			ABANDONED TH	RACKBED
			REMOVE TRACK	ACK (
			EXISTING TRAC	k to Remain
				File No.
	SUKANIUN-NYC INI	LKUILY PAS	SMENT	Work Elem. No:
			X X B //	
	LIRVES 15 16 &	47		Sheet No. 10 OF 19
	URVES 45, 46 & VEST OF PARADISE	47 E POINT		Sheet No. 10 OF 19

2	SPEED (MPH)	DEGREE OF CURVE (Dc)	LENGTH (
EXISTING PROPOSED	40 50	5d6'0" 4d57'0"	3
NOTES: EASE CURVE	AND LENGTHEN REVE	RSE CURVE	
Mare Original and Present &	0 ° °	Ne2	`
3.53:25 W			
Withor .			And I have been a series of the series of th
13 and 13	0 53°06 7 641.2 11650		
DISE POINT)			
(Ea,IN) (FT) 3 355 290			<u>s</u>
4.50 435 362		DATE AUTHORITY MADE 41-64 C-27899 A.P.C	EVISION RECORD CHECKED DESC
PRANZ		7.3.73 P.R. 17286 E.F.B.	Acquisition of Acquisitio of Acquisition of Acquisition of Acquisition of Acquisi
DAMY LEE MAR		1/7	Boro of Mount Person
- CORINT			
STATE .			
SP PENNSYLVA			
ONAL NETWORK DEPARTMENT Passenger Corporation adelphia Pennsulvania 19104	2022	Jac	Ob
ONAL NETWORK DEPARTMENT Possenger Corporation adelphic, Pennsylvania 19104		Jacobi Contraction of the second state of the	CHECKED BY DESC ACQUIST DESC ACQUIST STORE SOFO OF ACCURE SOFO OF

	SPEED (MPH)	DEGREE OF CURVE	LENGTH OF SPIRAL	SUPERELEVATION	
EXISTING	70	2d0'0"	-	1.75	
PROPOSED	80	1d15'0"	310	3.25	
	li -		<i>1</i>	â l	2

		- 1			
	CURVE	60 (FIFTH CUR	RVE WEST OF I	LEHIGH SUMM	IT
	SPEED (MPH)	DEGREE OF CURVE (Dc)	LENGTH OF SPIRAL (Ls,FT)	SUPERELEVATION (Ea,IN)	
EXISTING	70	2d0'0"		1.50	
PROPOSED	80	1d15'0"	310	3.25	

to be provided with crossing

NOTES: EASE CURVE

17.77.74	art 144 21-1		- N.A	10	1		-
a see "		5555 Ø	aller .	9	2. 510	1990 Sector	600
	1		00				. 06
	D - 11°09	ane d d	44	\$			15
	T = 279.6		9.6		12		100 -
······································	L = 5575	/	10 A	5	4		4
a	y as a t <u>a</u> i		- 010	- 10		N ·	$\dot{\gamma} = \chi$
6	েন বাজে ুই না বাজে ুই		t it	· [-	Roil	And a state of the second
	/	• •	0.0		······································		· · · · · · · · · · · · · · · · · · ·
· · · · · · · · · · · · · · · · · · ·	، ممر الأشتاح		212		200		· · · · ·
			, ; 3 4,	1 100	BEI	\	· . \`:
			· · · · · · · · · · · · · · · · · · ·	-	ಕ್ಷ ಕ್ರೀಯಾನ ಕಾರ್ಯಕ್ಷ್ಮಿಕ್		. \
	10.00 10			Standard			·
			Y		an anna an taonn an t	185-	· .
Q	60			·	<u></u>		
	1	A W	1.1	F.		·	N
	ω. G	NSP		- Andre Maria -	······································	5UND 68930	
	·· ₽	B WITE FERGE		· 0	- ww		· · · · · ·
Por Fence 2	- And	H	· · · · · · · · · · · · · · · · · · ·	GIEA	N.49°48 W.	L= 488-7 288	3 -
		331'35'E 44	O. W. ITHE	No. of Concession, Name	R= 1096.0	-6830	
1925, 1926	· · · · · · · · · · · · · · · · · · ·	· · ·	TO		E No	-6895	0
- 6085.0				50' C	ASU	2	
6885 0	and a second				Origina	· · · · ·	
- Mon.		1	. /	, - Mon	electrica de la composición de la compo	State of the state	
	and the second		(j				
			N	Rail	A CONTRACTOR OF		
		· · · ·			ge in de la companya de la companya Esta companya de la co		à
ve la			· · · ·	REVISION	PECORD	Prot (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	1 -
		â		MINE CHECKE	<u>ALCONO</u>	T DEAFOR	, ,
A A A A A A A A A A A A A A A A A A A	at the set of the set		DATE AUTHORITY	BY BY	DESCRIPTION	PROJECT	X
	i i ta mana an		1		Refire East Slow Main		3
			FI7-64 P.R.14432	A.P.C.	To PS 7076+30.		× ****
				1			N. STE
				1. A.		· ·	<i>x</i> .
	Ča same s s		4 · · · · · · · · · · · · · · · · · · ·			1	\· .
the state of the second s	е	an bin an an	a la		1	· · · · ·	20. Al 1. (61)
		- <u></u>	1.21 A	್ಷ-೧೯			
i i sai se					water a station of the state of		2 (C. 15) 7 (A
effene per a de la	- · · · · · · · · · · · · · · · · · · ·	-	· · · · · · · · · · · · · · · · · · ·		a	· · · ·	
	*= ==?	niene saj ni so alto sin nie	a a til sa sao	·····, ()) , −•·		· · · · ·	- 1446 -
·	in the second second		N 2 2	~			λ.
	a she a sa h	2 ⁰⁴⁰ 1				1 ee ee	N.,
den an Andre and		7				· · · · · ·	1
and the second	d'a set a constant de la constant de					iller in	7
	1	n Ten tyl Art	ب المرد الثر ا			- Call	<i>T</i>
and the set of the second s	1945 - 1946 - 1946 - 1946 - 1946 - 1946 - 1946 - 1946 - 1946 - 1946 - 1946 - 1946 - 1946 - 1946 - 1946 - 1946 -	.7	· · · · · · · · · · · · · · · · · · ·	سان روندشور برد ۲۰۰ 		· · · · · · · · · · · · · · · · · · ·	ALL STREET
a 🖙 6 g		111 年 111 111 111 111 111 111 111 111 1		े के दिन हैं।	· · · · ·	н н н ж. н к	All I
			· · · · · ·	1. CON	internance in the	n sana ani N	AND IN
	<u>anan kata</u> bi	· · · · · · · · ·	* }	555 			Mer .
in the second				ан ал			
	and a second to the first the		≡ . ' - \ *	1			·
i internet i	······································	್ ಭಾ ಮೇಶ್	* 1	1		•	
				·····			-
	2006 10 000 000 1 00			*	, ¹	e ^{ore} e	
ya a ta	್ದ ಕಿಲ್ಲಿಂಗ ಎಂದ				이 이전(2011) 이 가 		
green 🛶 🧯 🔤 🖉			F F . 4	10) 1775-0-17	مېرمەردە ي	1	
	en es a la trace.		· · · · · · · · · · · · · · · · · · ·	8) (121)			
						f an 's an in 1111. = t	
الله مەرىپ ال	्रहरू २ २ म्स्	ා න සලකා	a 6. 9.			ిి ్ి ఉ	
	7 a. 44 7 5 7	1. S.			- *	,1 ^{be} 44 ^e s	
	2 중. · · · · · · · · · · · · · · · · · · ·		alaan ta		ta di Lizizi		- 14
	· · · · · · · · · · · · · · · · · · ·		્ય કુ ને 👼		· · · · · · · · · · · · · · · · · · ·		28 a. 1. a.
						ېد شد و اړو و	æ '
	1. (i i and	. se s				
				a an		9 8 7	2
•••	an at "		ాలి మాహా సిగి.	j	21 **	-X	t
internet of a last	· ·	 ■ • • • • • • • • • • • • • • • • • • •		<u>.</u>			2 (***) 24 (*)
	i i 🕅 🛓 🛶 👘 karaka i	· per i ···	. · · ·		الم المسر الجار المن		-
	Alter i a se a curt	/ ⁴	······································	· ·	-7-4	1 1 1 1 1 1 1 1	
and a second s A second secon		an a	الم المراجع ال مسلح المراجع ال	5 c e 3	and the set of the set		· · · · · · · · · · · · · · · · · · ·
		• • • • •	·				
		Date					
IONAL NETWORK	JOSEPH BLACK, JEG	QA/QC 09/07/2022	A ssenger Kall Analiz				
	TR HICKEY. JEG PROJ	ECT MGR 09/12/2022					
DEPARTMENT	, ,		ork in				
Pappongar Corporation			• •	/			
russenger corporation Iadelphia Pennsylvania 19104							
adapina, i annsyrvania 19104			632 man				

Deed Release Deed eed & Agreem	Mar. 22, 185 Mar. 15, 186 Oct. 13, 190 ent Apr. 1, 19 - Apr. 1, 19	74 " 66 " 05 Lackawonna 25 " 725 "	** ** ** ** ** ** ** ** ** ** ** ** ** *	" 66, p 234. " 109, p 264. " 212, p 314. " 352, p.111 " 352, p.111	89 - 33 89 - 35 89 - 54 140 - 2 140 - 2	Area = 5.493 " Area = 5.493 - " Area = 0.503 "	(Portion) Not re (Portion) Compo No agreement. Parcel #2. Parcel #3.
			- - - 2				
i in s konservent og och riger och						· · · ·	
			ు తెయాటే బ తా జే				
	ಶ್ ಕಿಲ್ಲೆ ಎ ಕಿ.ಎ. ಜ್. ಕಿ.ಎ. ಕ್ರಿ.ಎ.	بند منه			ENRY DRINKL	RWARRANT	WILLIAM S
1-29-41	······································						
T. 304'5 L. 595'0							
	₽°.						
Ven 15		Andrew Condense				Roil	0-0-0 0-0-0-0-0 0-0-0-0-0-0 0-0-0-0-0-0
9.W 0.2.6		AT-		0	0	original	
Revik 3	100	davy	- Gavy	Pri Corr. P.	2°	25 Roll	
Nez	50	Won TZ	3-03-14 2525	20.0		+	
N23	11 2=119622 00-	Cparce1 # 2	+ + tore				
							- 5010
	₹						
<u></u>							

CURVE 63 (FIRST CURVE WEST OF MUSCOW)

	SPEED	DEGREE OF CURVE	LENGTH OF SPIRAL SUPERELEVATION (FT)			GENT T)
(MPH)	(MITT)	(66)			BEFORE	AFT
	50	5d0'0"		2	_	61 -
6	60	3d30'0"	341	5.50	_	02

IONAL NETWORK DEPARTMENT Passenger Corporation iladelphia, Pennsylvania 19104	JOSEPH BLACK, JEG QA/QC TR HICKEY, JEG PROJECT MGR	Date 09/07/2022 09/12/2022	The second secon	cob

sponsible for slope e	ncroa
any released from fenc	e ogreement with Anthony Mulloney.
21 21 14	
); · · · · · · · · · · · · · · · · · · ·	
-	
an a san . 	
	이 20 전 10 10 10 10 10 10 10 10 10 10 10 10 10
· · · · · · · · · · · · · · · · · · ·	
್ಷ ಒಂದ ಕ್ಷೇತ್ರಿಯೆ.	
γ .'#*** - *****	
in a second s The second se The second se	
SONISONA WOODDAN	
DHIV JOINT TVHRRHIV	
a den elle antiparte de la comparte	
and a second	
The second secon	A Gov
· ····································	0 1 0950 NO 6
0	
0	
0.52W2 29300	
	1 × + + + + + + + + + + + + + + + + + +
1. Transfer of the second second	
CONTRACTOR OF	
· · · · · · · · · · · · · · · · · · ·	
	DATE AUTHORITY
	DATE AUTHORITY
	DATE AUTHORITY 20-64PE14432
	DATE AUTHORITY 20-G4PR 14432
	DATE AUTHORITY 120-G4PR 14432
	DATE AUTHORITY 20-64PR14432
	DATE AUTHORITY 20-64PR14432
	DATE AUTHORITY 20-GAPE 14432
	DATE AUTHORITY 120-64PR14432
	DATE AUTHORITY 20-GAPE 14432
	DATE AUTHORITY 120-64 PR 14432
	OATE AUTHORITY 20:64PE14432
	OATE AUTHORITY 20-64PRI4432 00 SCRANTON 8-16-85
	OATE AUTHORITY 2064PR14432 OF SCRANTON 8-16-85 -
70 C178	DATE AUTHORITY 20:64FE14432 OF SCRANTON 8-16-85
	DATE AUTHORITY 2064PPE14432 0F SCEANTON 8-16-85
	DATE AUTHORITY 2004PRIA432
	OATE AUTHORITY 20-CAPELIA432
	B OATE MUTHORITY 20 GAPE 14432
	OF SCRANTON S-16-85
TER	DATE AUTHORITY 20 CAPE 14432 07 SCEANTON S-16-85
	OATE AUTHORITY 2064PE (4432 444 0F SCEANTON 8-16-85
	DATE AUTHORNY 20:CAPEILLASZ 4 5 SELENTON S-16-85 -
	OATE AUTHORITY
	OF SCEANTON 8-16-85
	OATE AUTHORITY 2000 PRE14432 OR SCRANTON 8-16-85
	DATE AUTHORITY 2064PE14432 OF SCRANTON S-16-85
	DATE AUTHORITY 2064FEILAA32
TER	OR SCENTON S-16-35
TER	OLTE AUTHORITY 2004F214432 OT SCEANTON SCEANTON LEGEND: FORMER TRACK NOW ABANDONED
TER	
TER	OR OCEANTON 8-16-85
TER	
TER BOF	
TER BOF	OK SCEANTON B-10-85 COUCH LEGEND: FORMER TRACK NOW ABANDONED ABANDONED TRACKBED PROPOSED TRACK REMOVE TRACK REMOVE TRACK EXISTING TRACK TO REMAIN TON-NYC INTERCITY PASSENGER INFRASTRIICTURE ASSESSMENT
	ONTE AUTROPHY 2064FE14432 2064FE144 2064F
	OUGH LEGEND: FORMER TRACK NOW ABANDONED ROUGH LEGEND: FORMER TRACK NOW ABANDONED PROPOSED TRACK REMOVE TRACK TON-NYC INTERCITY PASSENGER TRACK TO REMAIN TON-NYC INTERCITY PASSENGER TRACK TO REMAIN TON TRACK TO REMAIN
TER ES SCRAN RAIL CURVE 1ST CU	DATE AUTMORITY 20:64FE14432 20:64FE14432 OT SCEANTON ST SCEANTON BIGEND: FORMER TRACK NOW ABANDONED ABANDONED TRACK PROPOSED TRACK REMOVE TRACK REMOVE TRACK TON-NYC INTERCITY PASSENGER Former track to remain TON-NYC INTERCITY PASSENGER Former track to remain FORMER TRACK TO REMAIN Speet No. 14 OF 19 G3 F2 E - 1 4

		· · · ·	/	
				a 40 a 8 2
	. 18			.2
			· · · · · · · · · · · · · · · · · · ·	· · · · ·
	o	 	2 (22) 2 2	
	• •			-
		* 		i na ser
· · · ·		·		
	1			
(*)				
			ः भग्नः = २०१२	5 80 2 1 5 5 8 2 2 5 5 2
			n a an	
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	in the state in the state	554	
	2		40.24	
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		D. 5.45	
		ana a sa ana a	Dice *	
			Stor Stor	an a
1	entral de la companya de la company La companya de la comp		Zeo P	
ية. شاريخ موجود ومسترجع	· · · · ·	· · · · · · · · · · · · · · · · · · ·	13.00	
		· · · · · · · · · · · · · · · · · · ·	in the states	
			- <u>1</u> +	
· · · · · · · · · · · · · · · · · · ·				
			Corp 6 - W	49.5
	- Alerai	0	0 49.5 MOP 70050	N
		o Dry Wall		R.13832 195
	····/·································		APS Roll NO10	1 ++ Conc. 80' 20' Post 36 3'2'
Nº 70	A3.8 7000 0		Roil	COLORIAN CARD
	461.04			400
I NOS	43× Nº9			20
NºTSO Rails				
			teo	
A Break				
				- A = 2154
			States and States	T=277.2
				- 2347.3
40				್ಯಾ ಆರ್ಥಿಕ್ ಮೇಲ್ಗಳ ಎಂದು ಸಮ್ಮಿನ ಇವರಿ ಎಂದು ಸಾಹಿತ್ರ ಸ್ಥಾನ ಸಾಹಿತ್ರ ಸಂಗ್ರೆ
REVISION	ECORD	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	a la senare e series presente e series e serie	The second secon
MADE CHECKED	DESCRIPTION PROJECT			
A.P.C.	Etire East Slow Main = 4. P.S. G3G0+40			
5				
			د. ۲۰ - ۲۰۰۰ میلیسید ۲۰ - ۲۰۰۰ میلیسید	
$\sum_{i=1}^{n} a_i = \sum_{i=1}^{n} a_i $			na ser a companya da ser a companya da En general da ser a companya da ser a co	
·				
		· · · · · · · · · · · · · · · · · · ·	an a	
the second se				n an an <u>an an a</u>
	Second subsection in the			
			And the second s	
	3 3 - 1	CURV	E 64 (SECOND	CURVE WEST
	22			
		SPEED	DEGREE OF CURVE	LENGTH OF SPIRAL
		(MPH)	(Dc)	(Ls,FT)
	EXISTING	50	4d0'0"	_
	PROPOSED	60	3d0'0"	341
		1 C C C	ಸ್ವಾನಗಳ ಎಸ್.	<u>।</u> । ।
	NOTES: EASE CURVE			
	an a	· · · · · · · · · · · · · · · · · · ·		a rational and a second s
		and the second s		
MANN	A COUNTY	STATE	OF PENNSY	LVANIA
in the second se				
No. 01 REVISE TITLE	Revisions	Date By 01-13-23 TRH		7. 1977
			AMTRAK	B AMTRAK NAT
		This material is a	wined by and is the sole and exclusive property of the National	PLANNING
		Passenger Corpor confidential basis facilities and equi	auon (Amtrak) National Network Planning Department and is sup solely for use in connection with the design and construction of ipment. The reproduction, display, sale or other disposition of th	of Amtrok National Railroad Nis document 30th Street Station Ph
		without the expre	ss written consent of the Amtrak National Network Planning Dep	artment South Sciool Studion, 111

SCAL

SCRANTON OF ~0 50-0 EXISTIN PROPOSE NOTES: EASE CURVE Or Revisions Date 01 REVISE TITLE & REVISION BLOCKS 01-13-23 TRH **AMTRAK**[®] material is awned by and is the sale and exclusive properly of the National Railroad Passenger Corporation (Amtrak) National Network Planning Department and is supplied on a confidential basis solely for use in connection with the design and construction of Amtrak facilities and equipment. The reproduction, display, sole or other disposition of this document without the express written consent of the Amtrak National Network Planning Department is portibled. s prohibited

		•				
	SPEED	DEGREE OF CURVE	LENGTH OF SPIRAL SUPERELEVATION		TANG (F	;ent t)
			(LS,FT)		BEFORE	
G	50	4d37'0"	-	2.5	-	
ED	60	3d30'0"	341	5.50		
				2402002 (b. 1992)		

""""""""""""""""""""""""""""""""""""""	66, 2, 248 197, P 112. 263, P 517. 263, P 517. 205, P 226. 161 - 46 162 - 27 162 - 27 162 - 27 162 - 46 161 - 46 269, P 591. 162 - 46 269, P 591. 162 - 46 D.E. File 921 D.E. Agree. File 118: 190 - 1. 101 100 100 100 - 2 100 100 - 2 100 100 100 100 100 - 2 100 100 100 100 100 100 100 10	$H_{red} = 0.080 ,, \ Greating = 0.100 ,, \ Greating = 1.032 ,, \ Greating = 1.032 ,, \ Greating = 0.054 ,, \ Greating = 0.14^{\pm} ,, \ Greating =$	anne elease from all damages co paid by D.L. zw.R.R. Co See Agr. file #1673 for P.U.G Jo definitely and permanently Parce 1423. Grantee to hav NT	for on Recanon in the boundary line bein the here have been and a set of the show of warrant
JGH OF EL	MAURST	-KAMATIA COU	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	OF PERIC
	Wine Ferrer Roll	NO NO NO NO NO NO NO NO NO NO	501/ 501/ 60/ 60/ 60/ 60/ 60/ 60/ 60/ 60	4,9 4,9 4,9 4,9 5,0 6,0 4,9 5,0 6,0 4,9 5,0 6,0 4,9 5,0 6,0 4,9 5,0 6,0 4,9 5,0 6,0 4,9 5,0 6,0 4,9 5,0 6,0 4,9 5,0 6,0 4,9 5,0 6,0 4,9 5,0 6,0 4,9 5,0 6,0 6,0 6,0 6,0 6,0 6,0 6,0 6
-708.5 0 Origin N. 21°46'Wa	018 Presente 380 NºS	5 Nº6 55' N.21º 14'W. 426:42 52146E.1017.4 Nº20 (Pd	Nº 6 1 Nº 9 R=1/88.28 rce/#3) R=1/96.28 L=242.14 rce/#3	
CURVE 68	DEGREE OF CURVE (Dc)	VE WEST GARD LENGTH OF SPIRAL (Ls,FT)	NERS CUT C SUPERELEVATION (Ea,IN)	URVE) tangent (ft) before

ELM Formerly D	HURST. HURST.	MADLE AVE	ELANHUR ELANHUR CONTRACTOR CONTRA	ST BU DI	
00			LENGTH OF SPIRAL		TANGENT
	(MPH)	(Dc)	(Ls,FT)	(Ea,IN)	(FT) BEFORE
G ED	50 60	4d45'0" 3d10'0"	372	1 4.50	_
URVE SED TRACK	LAYOUT FLIMI	NATES SMALL CURVE AND TA	NGENT BEFORE CURVE 68		· · · · ·
IONAL DEPAR Passenger (ladelphia, Pe	NETWORK TMENT Corporation ennsylvania 19104	JOSEPH BLACK, JEG QA/Q TR HICKEY, JEG PROJECT	Date C 09/07/2022 MGR 09/12/2022	RIGHT-OF AWARE LACKAWANNA AWARE LACKAWANNA MAIN LINE DI MAIN LINE DI STATION 7075 + 20 STATION 70 STATION 70 STAT	AND WESTERN R. VISION TO STATION 7120+00 NEER :

