



PATCO

STEWARDSHIP. SERVICE. COMMUNITY.

Contractor Safety Briefing

The PATCO System

- 14.39 Miles
- 2 Tracks
 - #1 Eastbound
 - #2 Westbound
- Reverse Cab Signaling
- Regular and Extra Trains



Lindenwold Yard

- 5 Miles of Track
- Manual Operation
- No Signaling
- Level Crossings
- Pedestrians
- Shops & Storage



Sharing the Right of Way

- Conrail
- 3/10th of a mile
- Hazardous Material Freight
- NJ Transit - (Phila-AC)
- ~ 5 miles between Haddonfield and Lindenwold
- Push-Pull Operation
- Lindenwold Station





Transit Services

- The Dispatcher has **ABSOLUTE AUTHORITY** over all movements (train or otherwise) on or about the Main Line Tracks.
- Primary Point of Contact for Emergencies 5555

A photograph of a train wheel on a track, viewed from a low angle. The wheel is dark and shows signs of wear. The track consists of wooden ties and gravel. A circular overlay is positioned in the lower right quadrant of the image, containing text. In the top right corner of the image, there is a red timestamp.

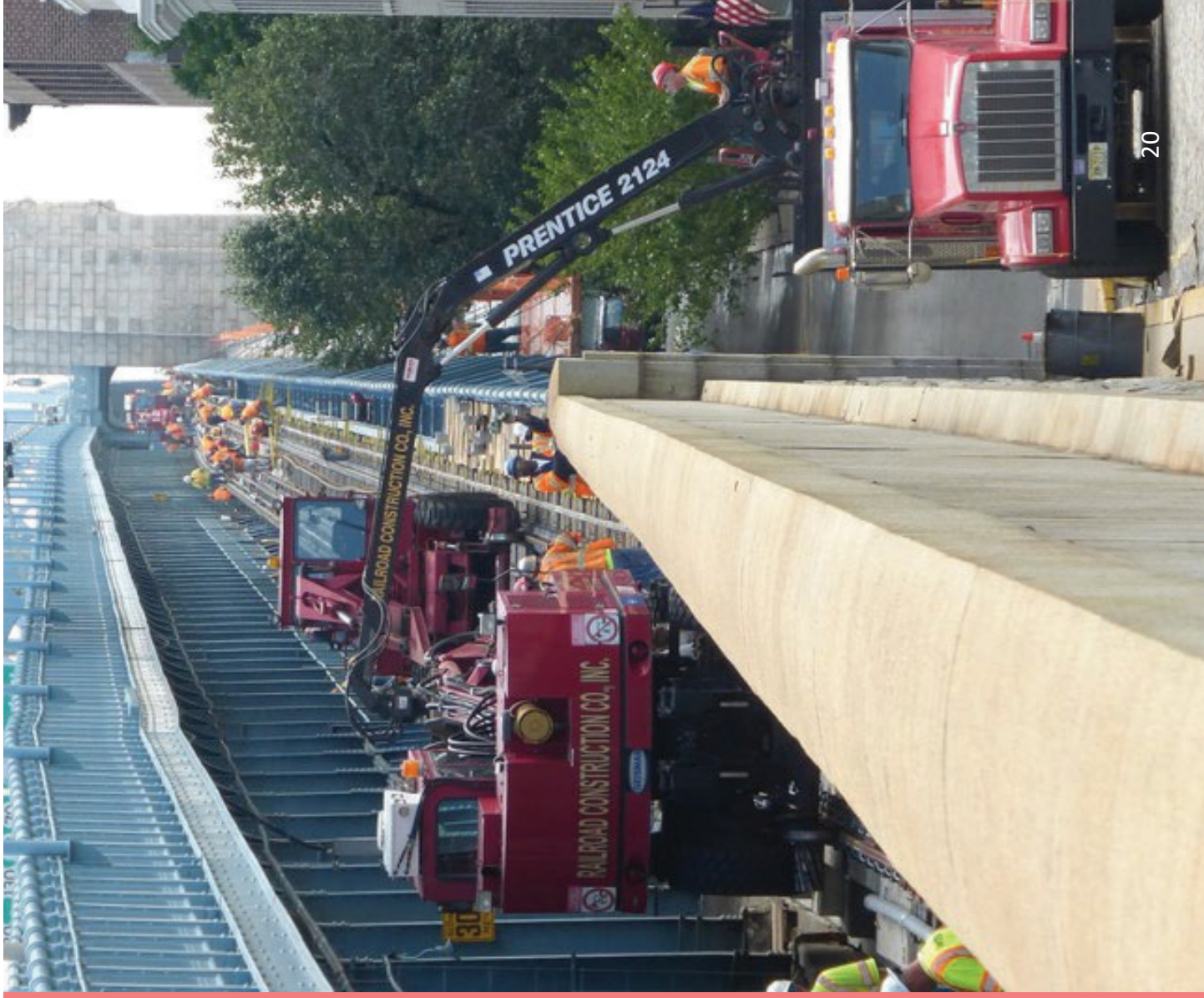
Safety Services

- State Oversight Function
- Contractor Safety & Compliance
- Employee Safety
- Incident/Accident Investigation
- Drug & Alcohol Testing
- Environmental Program

1 2:43PM

Requirements While at PATCO

- Class III Safety Vest
- Approved Hard Hat
- Sturdy Shoes
- Appropriate PPE
 - As prescribed by Your Employer





Drug & Alcohol Policy

- If you are working on PATCO property, you will fall under a Drug & Alcohol Testing Program.
- Prohibited
 - Use
 - Possession
 - Under the Influence
- Possession Includes in your vehicle, locker, tool box, etc...

Definitions

- Third Rail
 - Carries electricity, supplying power to car
- Running Rail
 - Rails on which a train moves
- Guard Rail
 - keep wheels in line in the event of a derailment
- 3rd Rail Cover Board
 - Protects from Contact
- Dynamic Envelope
 - 2 Feet within the platform edge
 - 4 feet from the field side of running rail
 - 13 feet vertical of running rail



The 3rd Rail

- ALWAYS look before stepping over the 3rd rail
- Cross at Brackets
- Consider the 3rd Rail “Live” at ALL TIMES
- Potheads provide the means for providing power from the Substation to the backside of the third rail
- Energized at 700 Volts DC
- Circuit Breaker Settings Over 1000 AMPS



Track Safety

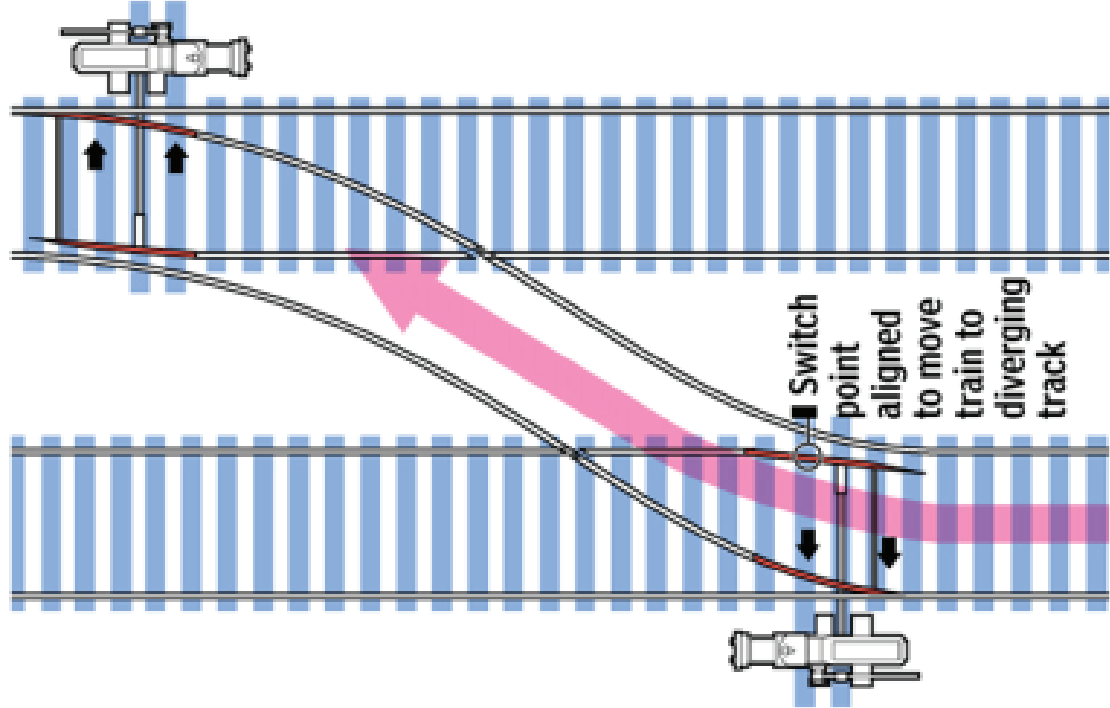
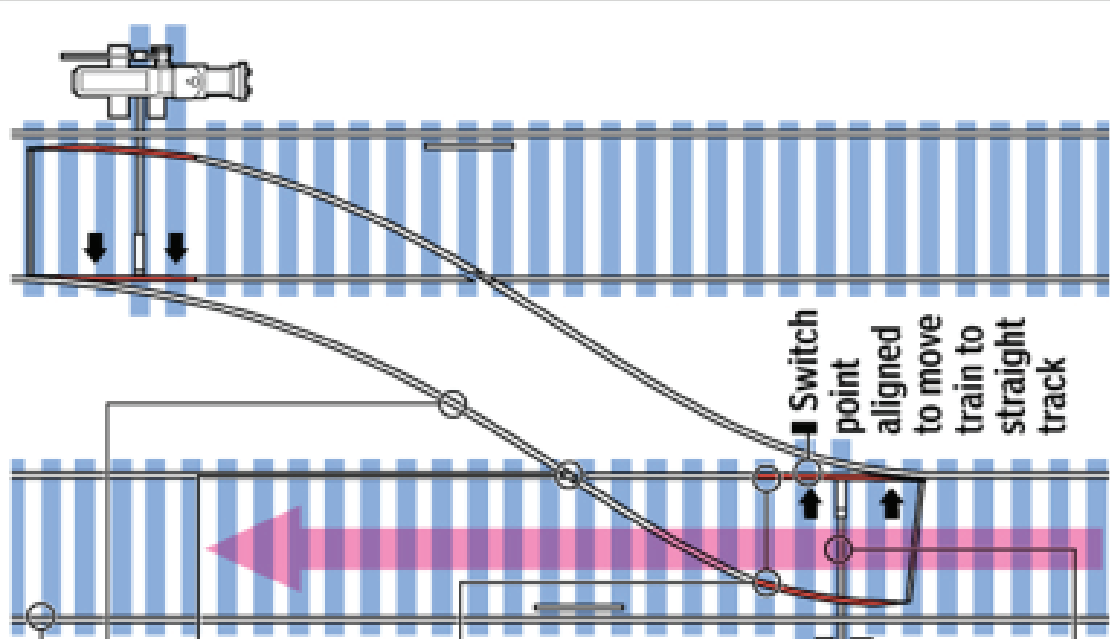
- Have a sufficient amount of light to permit walking and working safely
- Clear approaching equipment by standing well clear of the track until equipment is clear
- When necessary to cross tracks, stop and look in both directions.
 - When safe to proceed, step over the rails perpendicular to the axis of the track



CHANGING TRACKS

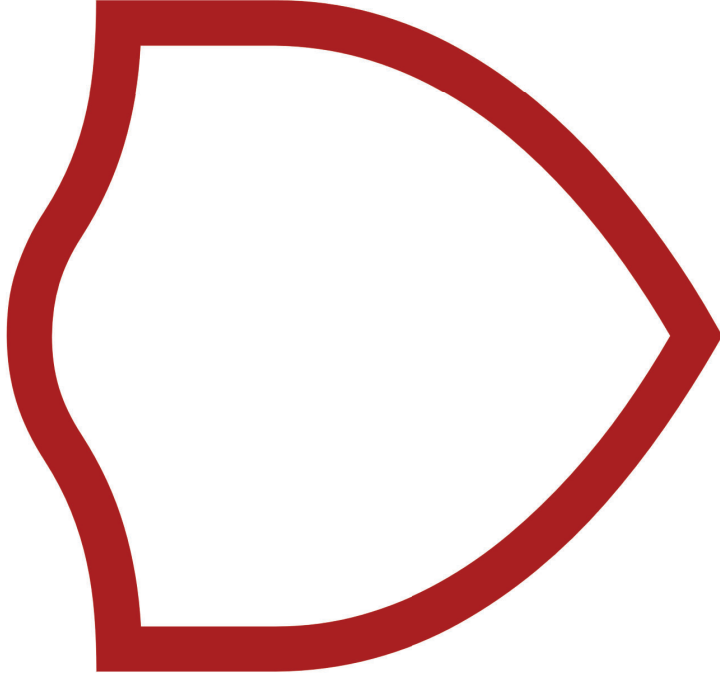
RAILROAD SWITCH

- Straight track
- Diverging track
- Frog: Designed to ensure wheel crosses the gap in the rail without dropping into the gap.
- Switch point: Movable rails guide wheels of train to either the straight track or the diverging track
- Switch machine: Aligns the switch points with one of the possible routes
- Pull rod



Types of Protection

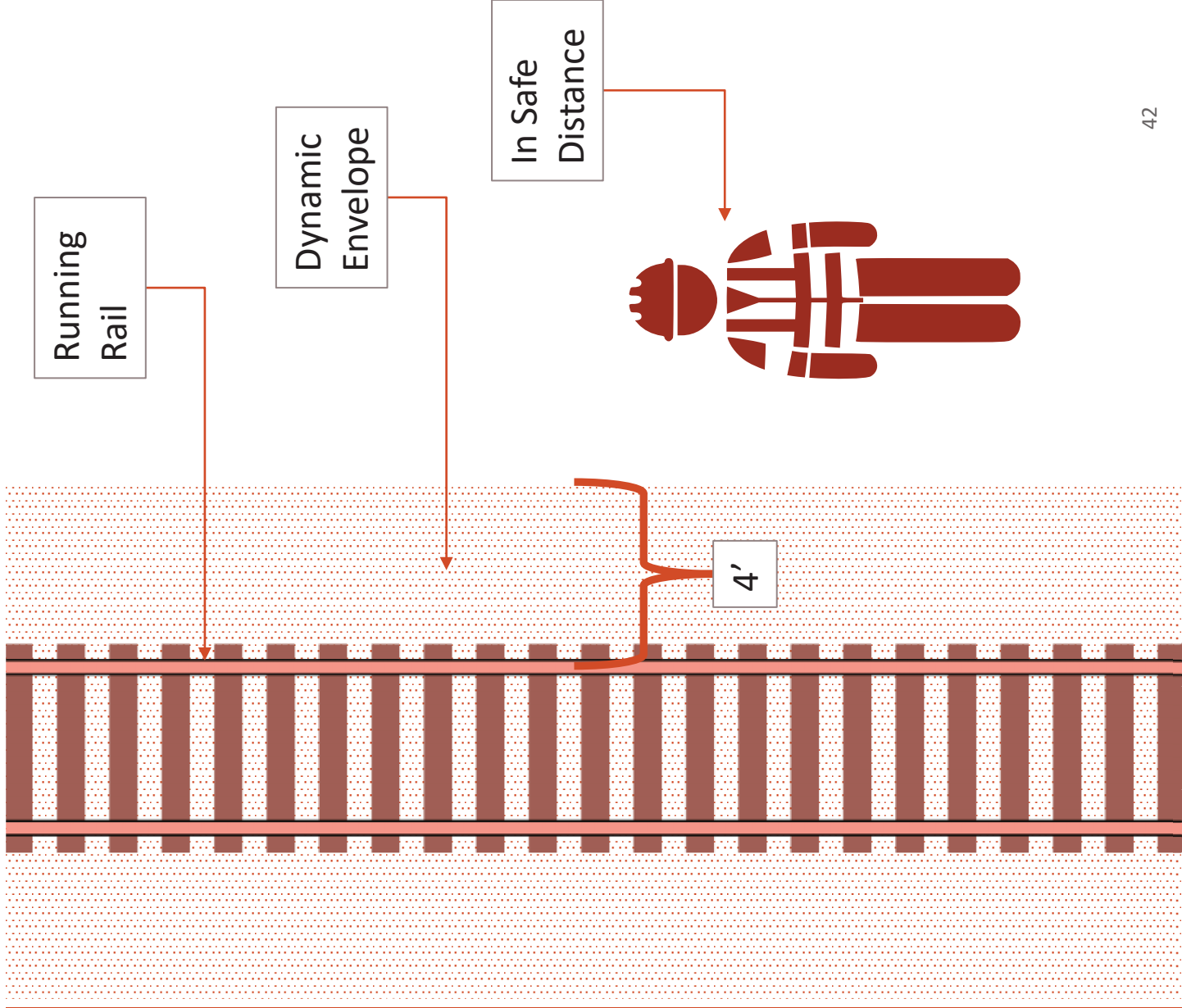
- **STAY CLEAR**
- **TRAIN APPROACH WARNING**
- **TRAFFIC PROTECTION (DISPATCHER)**
- **TRACK OUT OF SERVICE**



Stay Clear

Persons who will not foul the track

- >4' from the nearest running rail
- Not within the Dynamic Envelope
- Includes directly crossing tracks per Safety Rule 203
- Must notify the dispatcher, wear reflective clothing, use hand signals, and job briefings are still required
- Under these circumstances, Lone Workers are OK



Stay Clear

If you have to measure, you're too close

Any track crossings will need other protection

Large Groups may need other protection

Consider tools, equipment, and materials required.

A lone worker may only foul active track in an emergency with permission and protection from dispatcher



Train Approach Warning

Group (2 or more), led by
Employee in Charge (EIC)

Used for non-engrossing work

Ideally used for light maintenance
and Inspections

Considered to be the **Lowest
Level of Protection**

Under this protection it is
required to clear for trains



Train Approach Warning

1 or more employee(s) assigned to watch for trains (flagperson)

On approach:

- Warn workers using a whistle or horn
- Issue proceed hand signal when workers are clear
- Issue stop hand signal if workers don't clear



Train Approach Warning



Flagperson can only watch for trains



Consider sight lines and speed



Flagperson must provide warning as soon as headlights appear



Always consider Flagperson's attention span



Personnel must know where to clear; always consider safe zone locations

Train Approach Warning

Least reliable form of on-track protection

- Relies on people paying attention
- Leaves room for error
- Used for limited time intervals
- Watch the watcher



Traffic Protection a.k.a. C-24 Protection

Dispatcher holds trains at
interlocking signals or
routes trains around the
track block

Can be **Reverse** or
Normal/Reverse

Protection can be used with
Train Approach Warning for
one direction



Traffic Protection a.k.a. C-24 Protection

- Limited in time (less than 1 hour)
 - Limited in to one group protected in a particular track block
 - Relies on the Train Dispatcher's Performance and Capacity
 - Still need to be alert and prepared for approaching trains
-

Track Out of Service

- Group, led by Employee in Charge (EIC)
- Engrossing Work
 - Work that cannot provide required 15 seconds clearance
 - Required when dismantling track or third rail
 - On-site track equipment
- Most reliable method of on-track protection



Takes time and personnel to set-up



Requires planning and coordination with the Dispatcher



Still requires PPE, situational and locational awareness, pre-job briefing, verification of set-up

Track Out of Service

Stay Clear in Tunnels

350

4 CLEAR

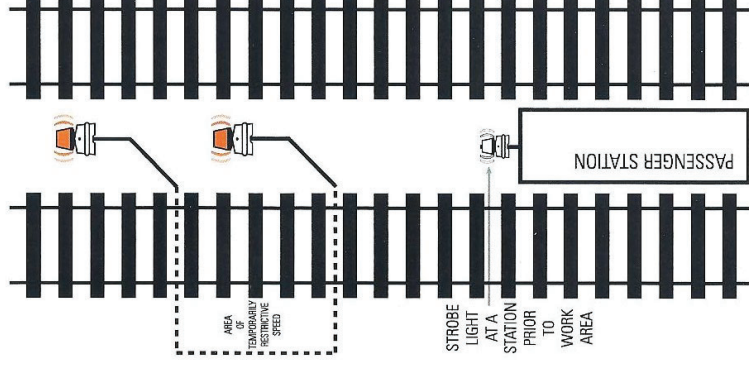


Westbound
15-16th & Locust

Work Area Protection

- Wayside Restrictions are issued if conditions require that speed be reduced passing a work area
- Two methods are used to temporarily restrict speed through work area(s)
 - Flashing Amber Lights can be used to identify the beginning and the end of the work area(s)
 - Temporary Speed Limit Signals are used:
 - Temp. Advance Speed-limit Sign
 - Temporary Speed Limit Sign
 - Temporary Resume Speed Sign

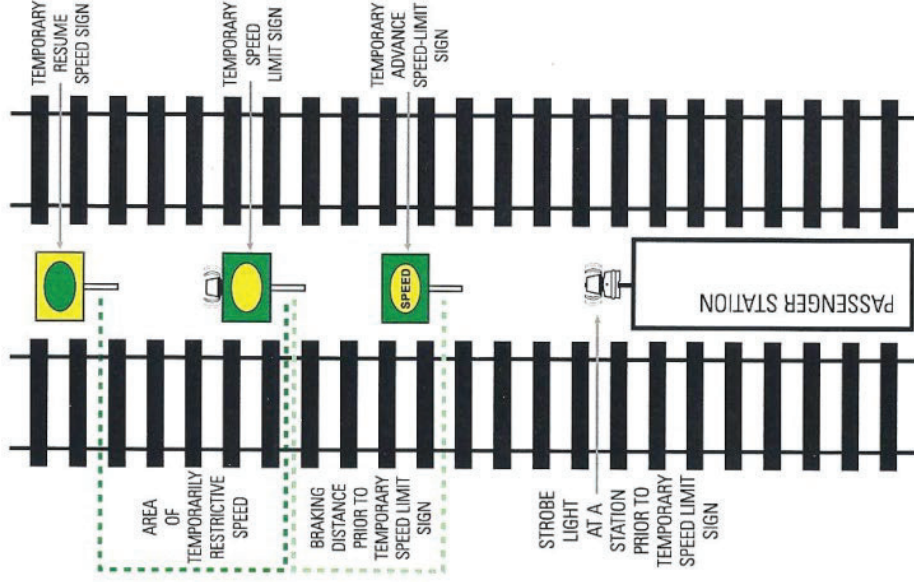
1002. TEMPORARILY RESTRICTIVE SPEED AREA USING FLASHING AMBER LIGHTS



Work Area Protection



1003. TEMPORARILY RESTRICTIVE SPEED AREA USING TEMPORARY SPEED LIMIT SIGNALS





Red Flag

10/26/2009



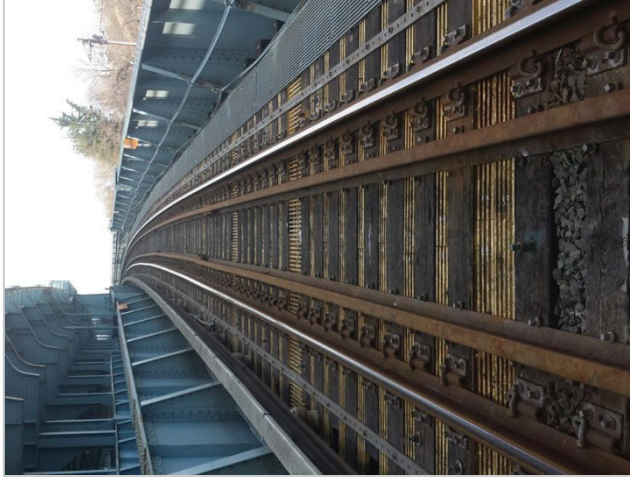
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Before Your Group Enters The Track Area

- Flagperson gets permission from Dispatcher
- Conduct Job Briefing
- Have all the PPE and tools you need
- Communications
- Plan Your Work and Work Your Plan



Close Clearance Areas



- Train Operators observing persons in close clearance area not clear for train movement will place their train into Emergency and contact the Dispatcher
- Protection is required when working in a Close Clearance Area
- Stand clear of approaching trains on the BFB
 - Red Handrail
 - Blue Handrail



Close Clearance Areas

- Location:
- #2 Track, Lindenwold
Crew Room

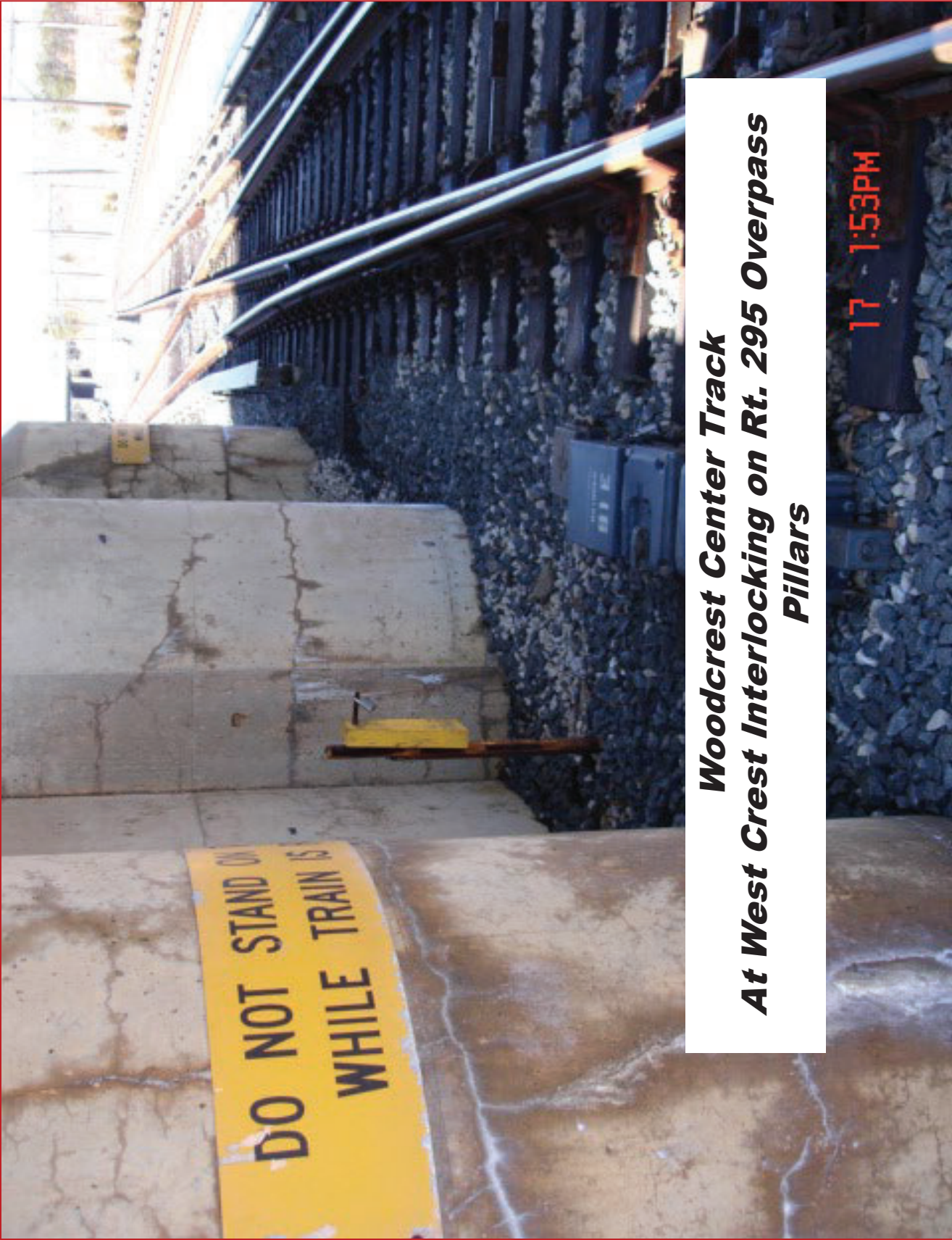
Close Clearance

- Philadelphia/Camden Portal, #1 and #2 Tracks
- M.P.M. 3.00, just west of Camden Portal, BFB, #1 and #2 Tracks

18 11:10AM



Broadway and the East End Of City
Hall #1 Track



***Woodcrest Center Track
At West Crest Interlocking on Rt. 295 Overpass
Pillars***