



October 25th, 2013

HURRICANE SANDY: CONRAIL RESPONSE



ABOUT CONRAIL

- Conrail was split in 1999 by CSX and Norfolk Southern.
- In North Jersey, South Jersey/Philadelphia, and Detroit, there was not enough trackage to split Conrail evenly between CSX and NS.
- Conrail Shared Assets operates as a switching and terminal railroad jointly owned by CSX and NS.

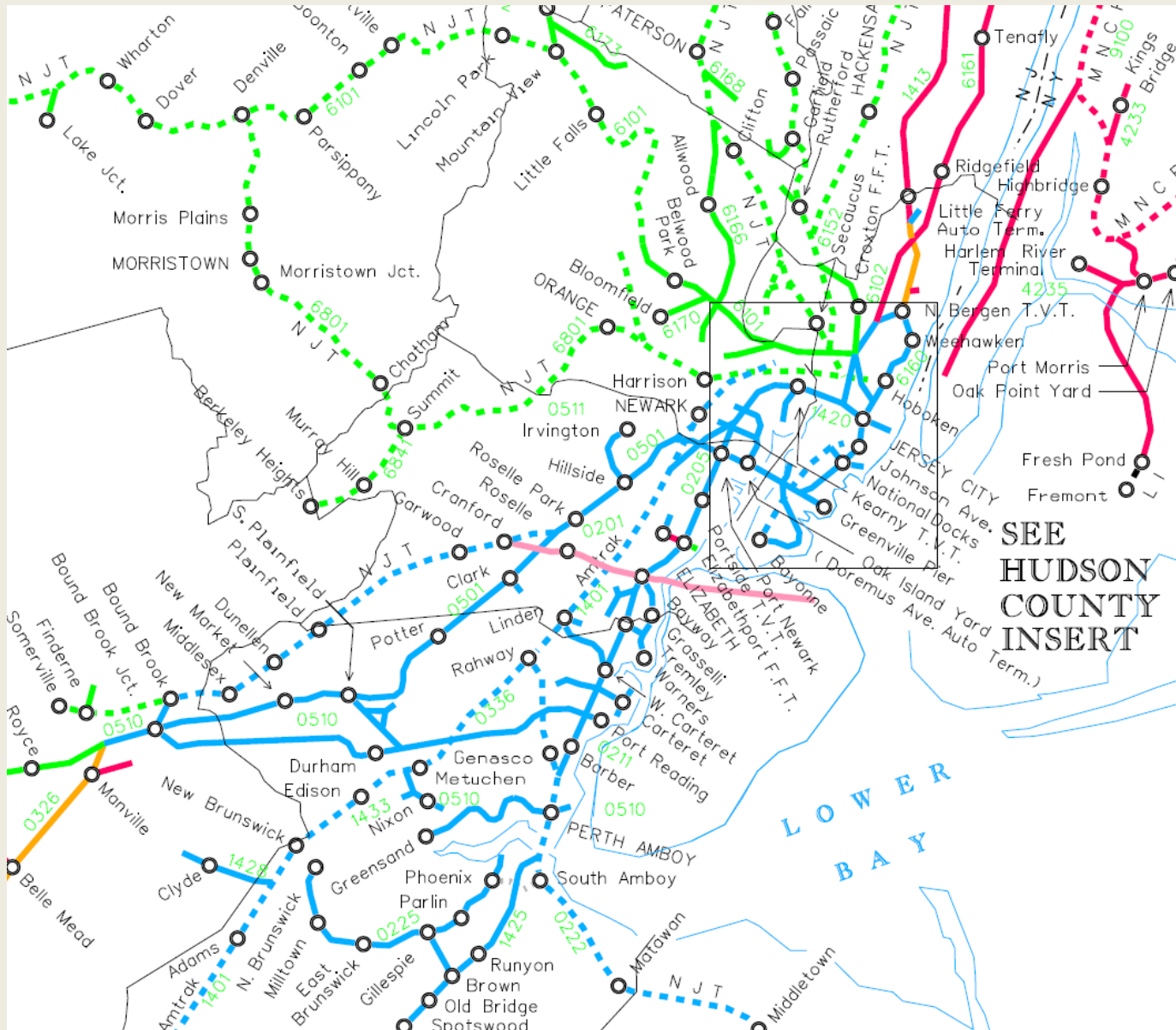


NORTH JERSEY SAA

- Conrail operates about 470 miles of track in North Jersey.
- Conrail also provides freight service on NJ Transit and Amtrak owned lines within the North Jersey SAA.



NORTH JERSEY SAA



PRE-STORM PREPARATION

- Conrail pre-storm preparation largely based on previous storms. Focus on preparation for heavy rains and known flood spots.
- Hurricane Irene – August 2011 – Many Conrail locations flooded, including Bound Brook, Manville, Bayway Yard, and Port Newark

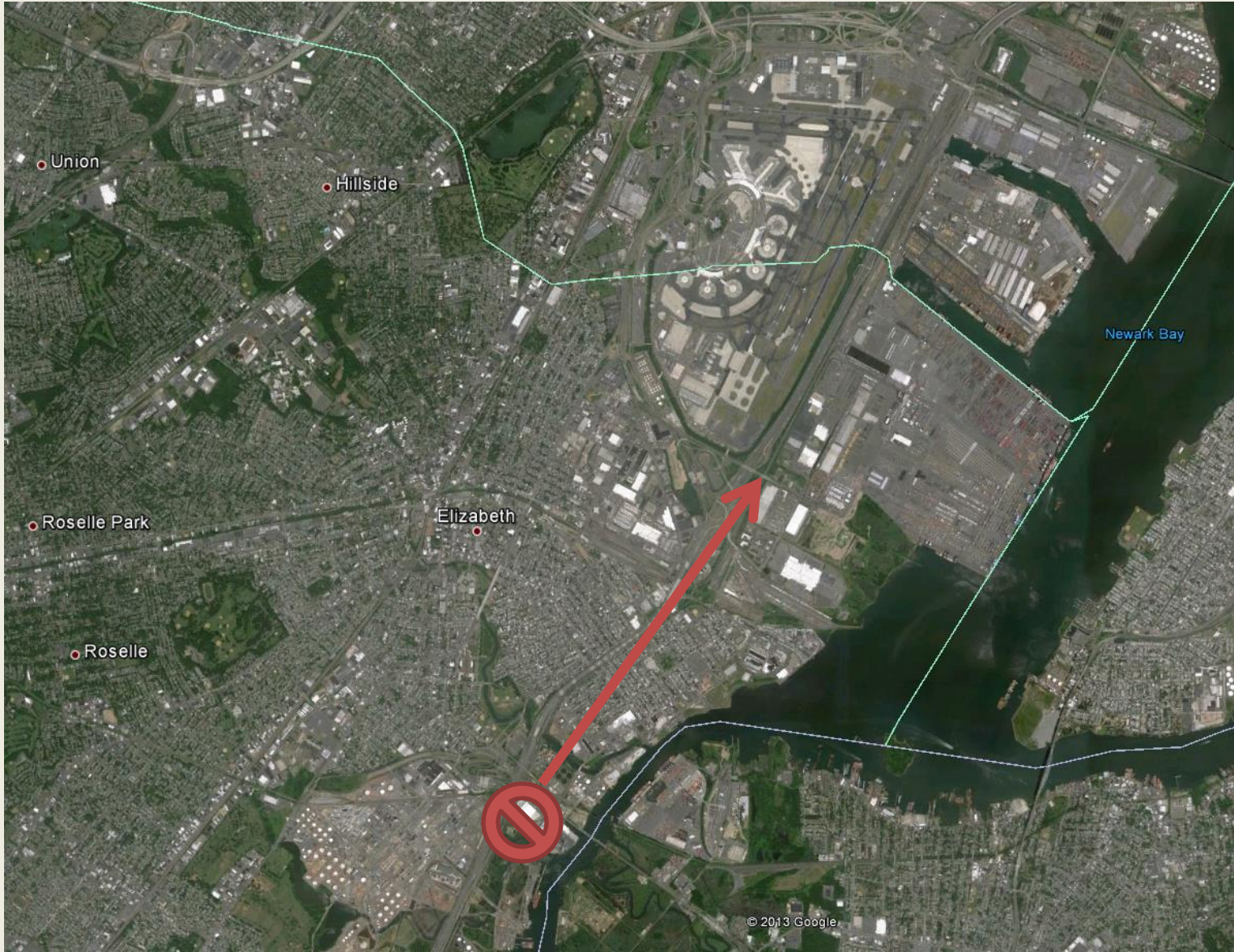


PRE-STORM PREPARATION

- Railcars were moved from all known flood areas to higher ground.
- Conrail offered to pull cars from customers and store on higher property on RR ground
- Most outlying engines were brought back to Oak Island Yard
- Left bridges closed during the storm, operators sent home



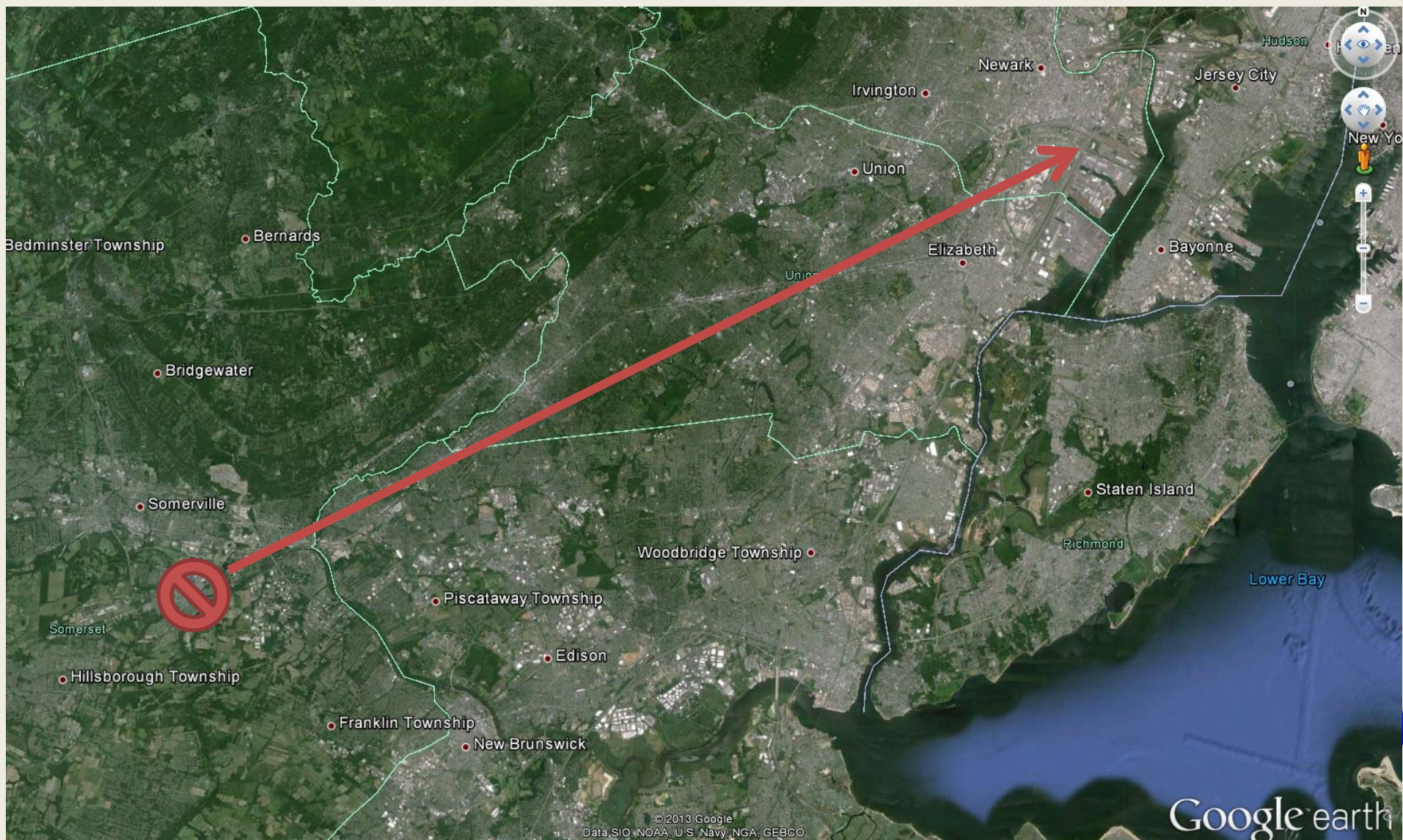
BAYWAY TO CHEMICAL COAST



PORT READING TO EAST/WEST TRACKS



MANVILLE YARD TO OAK ISLAND



THE STORM

- October 29th, 2012: Hurricane Sandy makes landfall south of Atlantic City, NJ
- Wind gusts up to 100 mph
- 12 inches of rain



THE STORM

- 37 fatalities in New Jersey
- Over 2,000,000 households lost power
- 346,000 homes damaged or destroyed
- Immediate gasoline shortages, 60% of gas stations closed without power



AFTERMATH





SEASIDE HEIGHTS



SEASIDE HEIGHTS PIER



MANHATTAN'S EAST VILLAGE



BREEZY POINT, QUEENS NY

**NO
GAS**

Do NOT know
when

CONRAIL PHYSICAL PLANT DAMAGE

- Trees down almost everywhere
- Empty intermodal containers blown onto railroad tracks in Oak Island
- Major washouts on Staten Island Travis Running Track and Chemical Coast



CONRAIL PHYSICAL PLANT DAMAGE

- Water came up higher than ever before. Most water was the tidal surge, not rain.
- Normal flood zones, such as Bound Brook and Manville, remained dry.
- All coastal areas, such as Port Newark, Staten Island, Kearny, and Bayway were under water.



CONRAIL PHYSICAL PLANT DAMAGE

- Water brought with it large amounts of grass, weeds, and debris.
- When water receded, these objects were deposited on the railroad tracks.
- Point-No-Point Bridge Fender Walkways were lost
- Hack Bridge had no commercial power



CONRAIL PHYSICAL PLANT DAMAGE

- Electrical components were compromised in flood areas.
- CP PN (north end of Pt. Newark) underwater and compromised



CONRAIL MECHANICAL DAMAGE

- >1100 wheels compromised
- Many brake valves compromised, tank cars raised off-center
- Brown's Yard (Sayreville, NJ) power switches destroyed

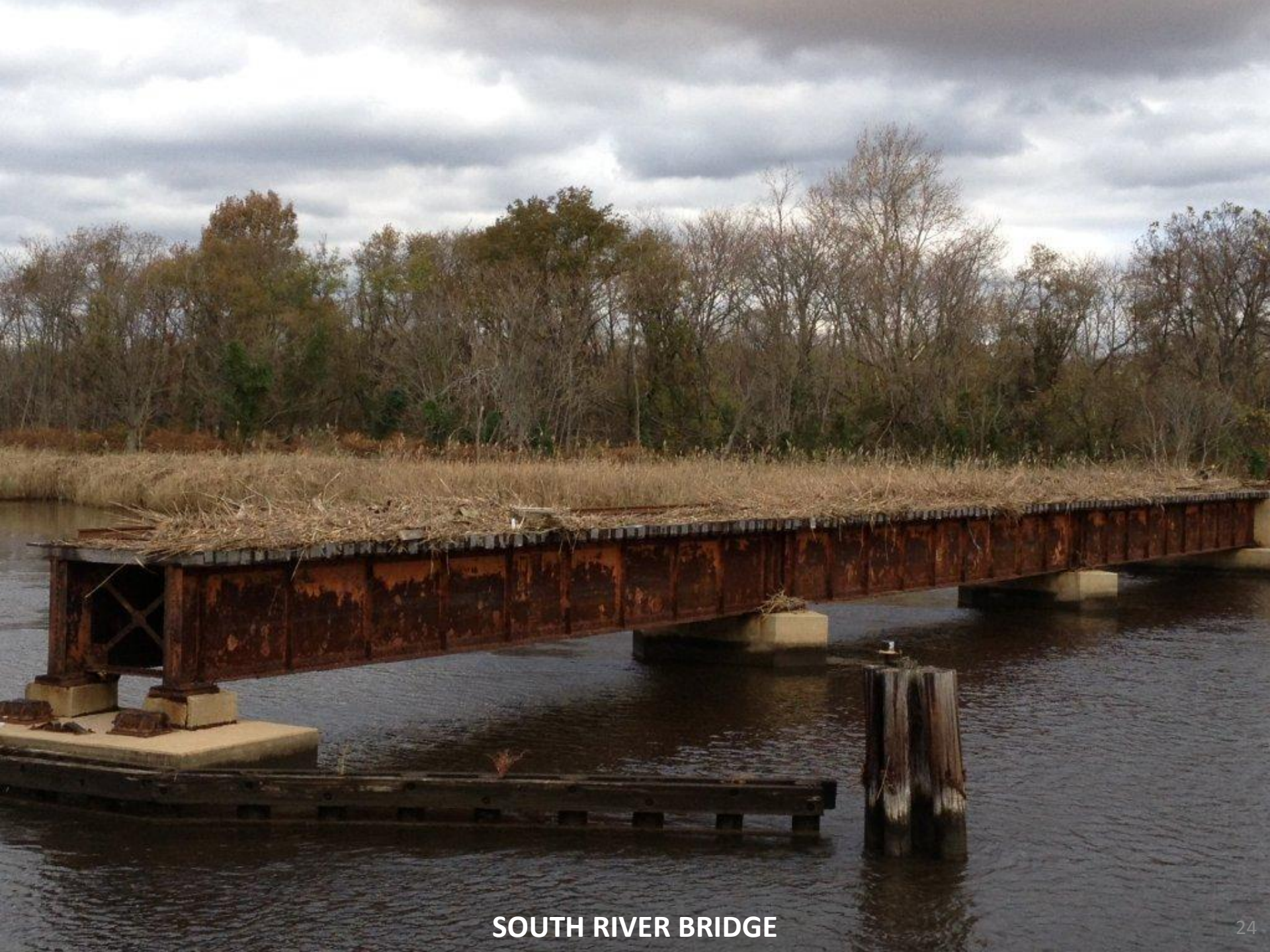




CP PIKE NEWARK NJ



POINT NO POINT KEARNY NJ



SOUTH RIVER BRIDGE



ISO TANKS ON NJ TURNPIKE EXIT 12



PORT READING YARD



PORT READING YARD



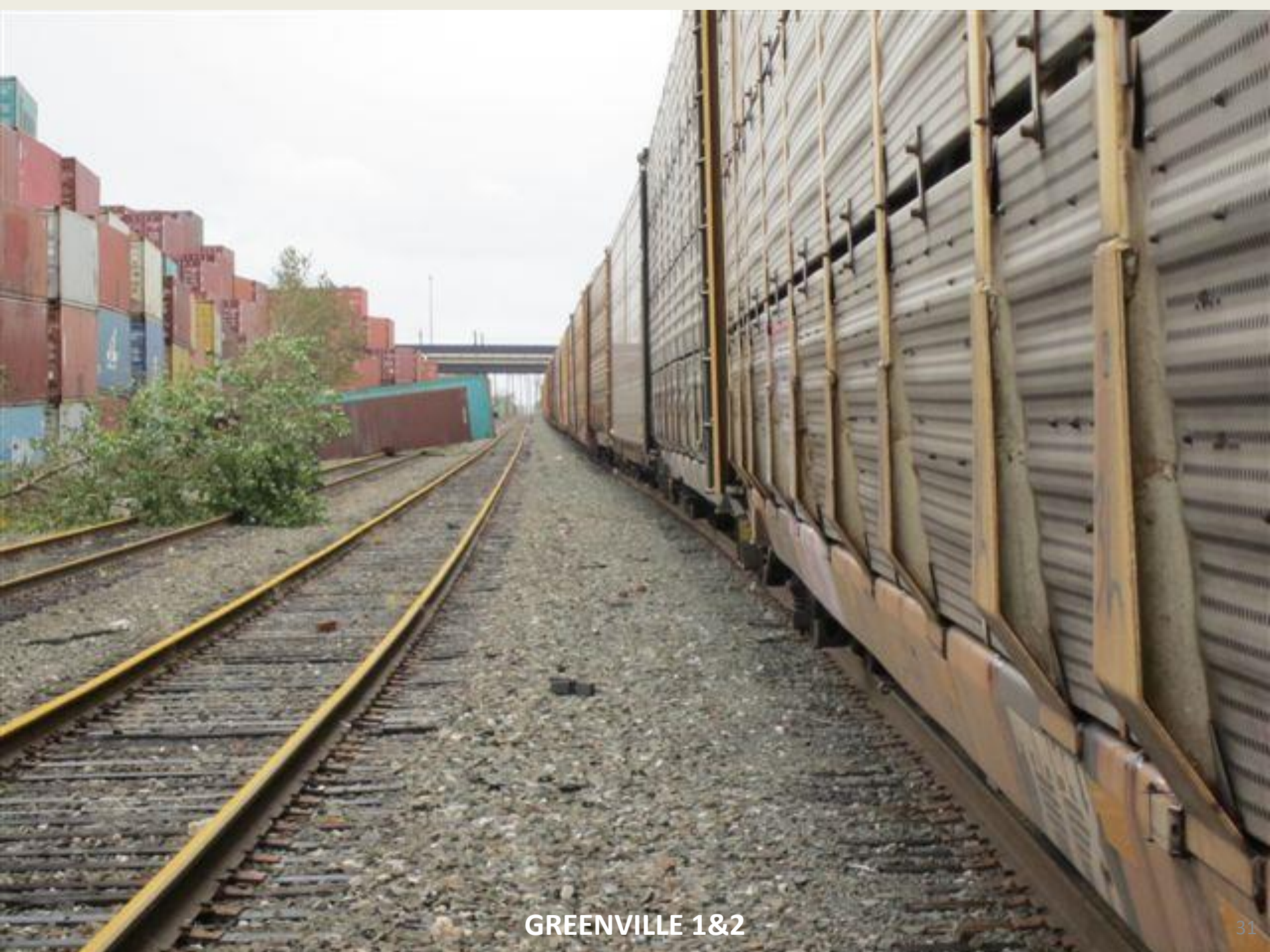
KEARNY YARD



EAST END TOWER OAK ISLAND



INTERPORT CONTAINERS OAK ISLAND



GREENVILLE 1&2



GREENVILLE 1&2



2 LEFT LANES
MUST
TURN LEFT

SEA LINK
↑





PNCT PORT NEWARK NJ



LOAD HERE
LOAD 50%
DUAL BLOCK

REL
ROD

B-END

JACK
LIFT
HERE



SOUTH SIDE LEAD PORT NEWARK



PNCT PORT NEWARK NJ



GATX 32685
CAPY 20000 US GAL
GATX 32685 A

PORT NEWARK NJ



TRAVIS BRANCH



TRAVIS BRANCH



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NORTH JERSEY COAST LINE – BETWEEN SOUTH AMBOY AND MATAWAN STATIONS



NJ TRANSIT – RIVER DRAWBRIDGE

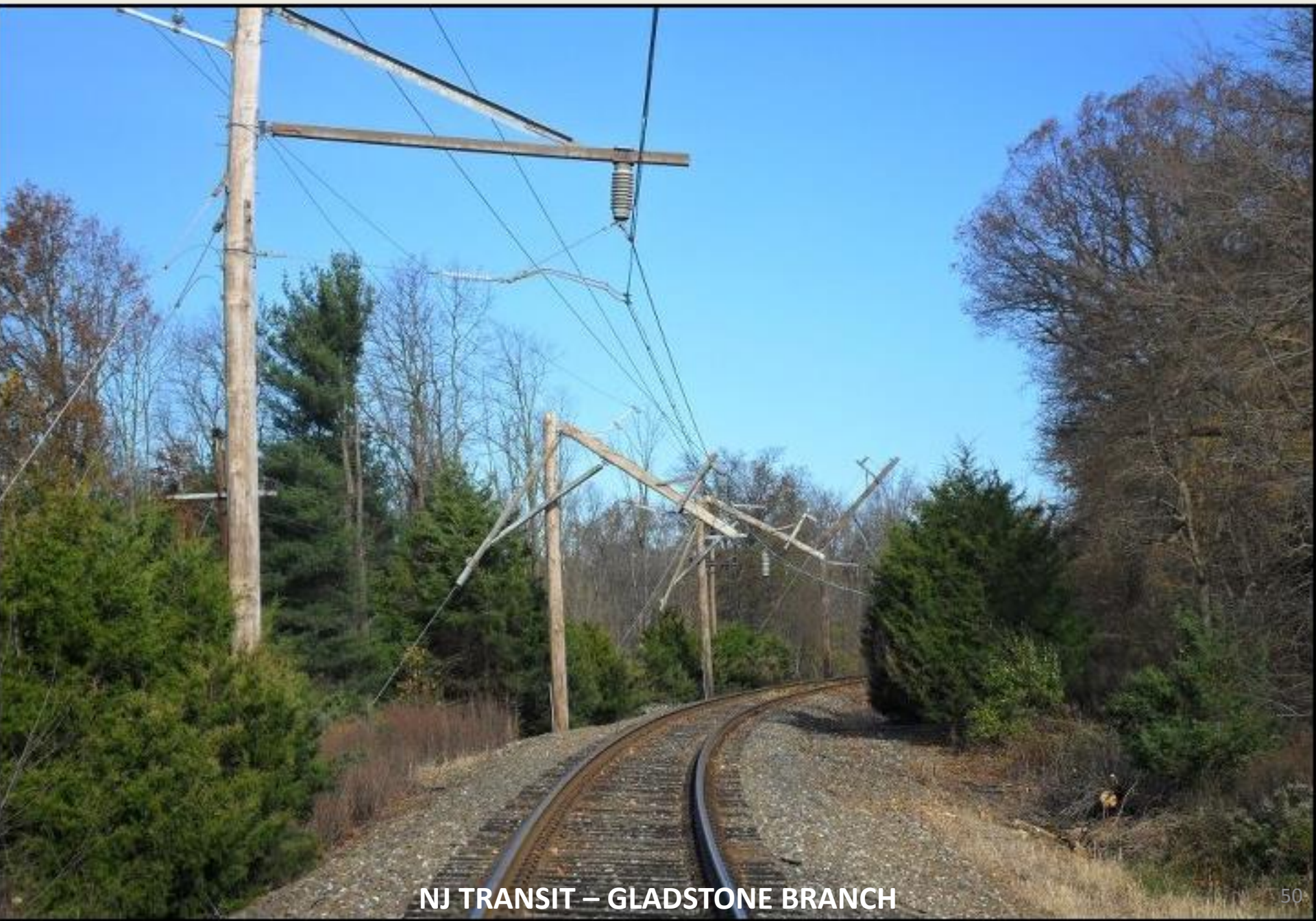




NJ TRANSIT – MORGAN DRAWBRIDGE







NJ TRANSIT – GLADSTONE BRANCH





NJ TRANSIT – GLADSTONE BRANCH



RESPONSE



CONRAIL RESPONSE

- Immediate difficulty getting employees to work due to widespread gas shortages.
- Widespread electrical outages closed stores, many employees needed food for homes.
- Some employees lost homes during the storm



CONRAIL RESPONSE

- Conrail brought in gasoline and diesel fuel for employees and trucks
- Employees who came to work were given 10 gallons of gas per day + additional gas for home generators
- Conrail brought in Hulcher food services, provided hot food for employees & local families



CONRAIL RESPONSE

- 2 tractor trailers full of water and ice were brought in, distributed to employees
- Also provided for employees' families: non-perishable food, water, diapers, etc.
- Lent portable generators to employees, put employee families in hotels



DAMAGE SURVEYING

- Track inspectors and engineering forces focused on restoring mainline tracks.
- On smaller industrial tracks, train crews took lite engines and examined tracks for debris or damage.
- Train crews helped clean up minor debris on industrial tracks and in yards.



STATEN ISLAND

- On Staten Island, power lines were down across CR right of way
- Conrail's major non-intermodal customer on Staten Island is NY Department of Sanitation
- Garbage started backing up until track was cleared, Con Ed had to provide expedited service clearing power lines



STATEN ISLAND

- Contractors cleared Travis I.T. right of way and rebuilt washed-out track
- AK Bridge to Staten Island had backup generator, was able to function in the absence of commercial power



MECHANICAL RESPONSE

- Storm surge came above the bearings and brake valves of many customer cars
- When coming across cuts of cars, angle cocks were opened and water typically took 10 – 20 minutes to drain
- CR Teams went out examining all customer cars for water damage



MECHANICAL RESPONSE

- Many customers had to replace wheels and brake valves, Conrail performed much of this work
- Cars at Port Newark had to be lifted back on-center, wheels and brake valves changed
- Progress Rail performed work along with Conrail Mechanical forces
- >1100 wheels changed



TRANSPORTATION RESPONSE

- Difficult to get crews at first due to gas shortages and home-issues.
- Cars had to be returned to pre-storm locations, difficult because of compromised cars and impassable rail lines.



TRANSPORTATION RESPONSE

- 1st road train operated on October 31st, 2012.
- Many customers were shut down without power, some were out of business.
- Worked with CSX & NS to hold customer cars outside of North Jersey when customers weren't working.



TRANSPORTATION RESPONSE

- Because customers had no electricity, many had to be physically approached to see their service requirements.
- NJ Transit/Conrail route to Browns Yard was compromised, cars had to take alternate route via Amtrak.



SIGNAL RESPONSE

- Portable generators were brought to mainline road crossings to restore power.
- Until generators were installed, Conrail employees flagged crossings for incoming trains.



SIGNAL RESPONSE

- Switch tenders were put in at the north end of Port Newark until interlocking electronics were rebuilt.
- New interlocking bungalows in known flood spots are elevated to protect electronics.





CONRAIL GAS STATION



11/04/2012 14:33

TANK CAR GAS



CONRAIL GAS LINES



HULCHER FOOD TRUCK



HULCHER FOOD TRUCK



HULCHER FOOD TRUCK



CONRAIL RELIEF FOR EMPLOYEES





FOOD TRAILER OAK ISLAND



TRAVIS BRANCH





VANDAL-RESISTANT GENERATORS



VANDAL-RESISTANT GENERATOR



PORT READING WHEEL CHANGE

GOING FORWARD...



FUTURE PLANNING

- NJT has entered into an agreement with Conrail for use of Linden Yard for emergency car storage.
- Overflow NJT traffic can also be stored in Conrail's Metuchen Yard (both yards are located off of Amtrak's NEC).



CONRAIL LESSONS

- Move all cars to the highest ground possible, not just past the point where locations normally flood.
- If you need to, store cars on main line. It may be operationally challenging but worth it if it offers higher ground.



CONRAIL LESSONS

- Don't rely on the "last storm" to plan.
- Conrail's recent storms were rain intensive, and included flooding near streams and rivers.
- Hurricane Sandy was wind intensive, and included flooding near the coast from the storm surge.



CONRAIL LESSONS

- Pre-arrange with contractors to make sure they can provide services and equipment based on the expected storm.
- Pre-arrange with Law Enforcement to allow employee access to evacuated areas.
- Move equipment away from objects which are susceptible to falling in the wind.



CONRAIL LESSONS

- Leave engines running during the storm, it prevents water entering the engine through the exhaust and condensation buildup. This was existing policy, and was effective in protecting engines during Sandy.
- Empty locomotive ecology tanks. This was also done before Sandy, and was effective at allowing water drainage.



CONRAIL LESSONS

- Take care of employees and make sure their needs are provided for first.
- Conrail was able to rebound quickly because employees were able to meet family and work needs.



SPECIAL THANKS

- Jeff Kovacs, N.J. Transit
- Eric Levin and Neil Ferrone, Conrail
- Conrail North Jersey Team



THANK YOU

