

TRANSPORTATION CIVIL ENGINEER, P.E.

Dedicated rail engineer with more than twelve years of experience in the design, inspection and management of complex development projects. Rail industry experience with exposure to passenger and freight rail projects. Possess an excellent command of railway engineering principles including NR, LUL, EN and AREMA standards. Forward-thinking professional with project management and supervisory experience, which includes quality control and quality assurance measures.

AREAS OF EXPERTISE

- MathCAD
- MicroStation v8i
- Bentley Rail Track v8i
- Project Management
- AutoCAD
- DataMap
- SAP2000
- AASHTOWare
- Vampire
- ArcGIS
- Track Design
- Structural Analysis
- Technical Aptitude
- Technical Writing
- Track Alignment

PROFESSIONAL EXPERIENCE

London Underground – London, UK

Track Design Engineer

2020

- Produced track designs using CAD and Bentley Rail Track to maintain and improve the safety and ride quality of the track. Lead designer for Woodford Siding ballasted track renewal and East Putney maintenance tamp. Created horizontal and vertical alignment designs to correct significant vertical and horizontal alignment defects due to existing poor formation. Realignment design ensured tie-in to existing switch and crossing layouts. Design addressed conductor rail gapping issues, drainage improvements such as crossfall requirements and geotextile membrane installation, interfaces with drainage and signaling assets, and installation on site expansion switches.
- Conducted clearance assessments to ensure designs met standard regulations and did not adversely impact civil and track infrastructure. Design also included risk assessments and design issues logs which highlighted any possible adverse impacts to environment, railway network and installation staff.
- Lead designer on the bullhead to flat bottom re-rail conversion project for entire London Underground network. Project comprised of the conversion of existing bullhead running rails to new 56E1 flat bottom rail. Completed reports that assessed the site's existing track geometry condition by analyzing track recorded data in DataMap compiled from track recording vehicles. Analysis identified exceedances of critical values and proposed rectifications. Reports also outlined clearances and considered any infringements with respect to gauge correction. Clearances were assessed by reviewing clearance survey reports. Design assessment survey was used to ensure safety of the line for re-railing project.

Rail for London – London, UK

Principal Maintenance Support Technician

2017-2020

- Assisted the Discipline Infrastructure Maintenance Engineers and Infrastructure Maintenance Engineer, by ensuring that the new Elizabeth Line is safely and effectively brought into service. Managing the technician team and ensuring the completion of accurate technical analysis of all track works achieve compliance in safety and quality.
- Developed all technical engineering forms including Critical Rail Temperature calculator, Rail Strength calculator and Minimum Rail Depth assessment. Developed compliance documents for the engineering acceptance of the Infrastructure Maintenance Vehicle, which will be responsible for the automated inspection of the track asset. In addition, completed pre-qualification questionnaires involved with the procurement of the IMV and participated in moderation meetings reviewing contractor responses to each.
- Assisted in FMECA sessions which established failure modes, failure detection, severity classification and risk priority for each track asset. Sessions also established associated standard job lists for each track asset failure.

- Developed and delivered technical courses to delivery and engineering teams in CWR Management, and Rail Lubrication. Performed review of Network Rail standards, which will be adopted by RFLI, and determined associated role dispositions.
- Carried out routine inspections of the infrastructure. Inspections included use of MiniProf Rail to monitor rail profile, and S053 derailment hazard switch inspections. Created dynamic models using VAMPIRE software to analyze the response of Elizabeth Line's new rolling stock to real measured track geometry, proposed traffic tonnage and differing lubrication regimes.
- Coordinated trial operations delivery group by compiling lists prioritizing processes the Infrastructure Maintenance team requires to test during trial operations, differentiating processes to be tested during possession or with running trains and ensuring the processes comply with the testing schedules of engineering and operations.

London Underground (Secondment) – London, UK

Track Design Engineer

2019-2020

- Created horizontal and vertical alignment designs for ballasted track renewal to bring track up to a state of good repair. Design included risk assessments and design issues logs.
- Assisted in assurance checks for new S&C layout with composite sleepers to be installed in LU infrastructure.
- Created track survey request forms for ballasted track renewal sites by referencing cab ride files, WebGIS and track plans.

Network Rail (Secondment) – London, UK

Track Inspection and Maintenance Technician, Euston Track Technical Team

2019 - 2019

- Carried out routine inspections of the infrastructure on foot and on track inspection vehicles. Inspections included use of Amber trolley to monitor track geometry parameters, S053 derailment hazard switch inspections, S054 cast crossing inspections, basic visual inspection through track patrolling, plain line and S&C gauging, use of Geismar and Leica laser gauges to measure structure gauging, rail wear measurements, cab rides, and inspection vehicle rides.
- Provided data input to the Asset Management System following inspections and other quality and defect measuring activities. Managed databases associated with the inspections and associated works to provide a proactive maintenance regime geared to delivering complete asset reliability.
- Performed data analysis from track asset information and monitoring systems; created spreadsheets tracking correlation between switch lubrication and associated wear patterns as well as lubrication regimes for curved sections.

Metro-North Railroad – North White Plains, NY

Senior Engineer Track Geometry & Analysis

2016 - 2016

- Scheduled Geometry, Sperry, GREX and TLV car runs throughout Metro-North territory. Performed quantitative and qualitative analysis of track geometry data and assisted maintenance forces to locate repair defects. Supervised track geometry team to deliver corrective action forms on conditions where analysis of track data indicated immediate repairs. Coordinated and maintained data to identify trends for forecasting future needs. Developed maintenance and Capital programs to maintain the track structure in a state of good repair.

Long Island Railroad - Hollis, New York

Designer Structures

2014 - 2016

- Reviewed and provided comments on design plans and specifications of railroad structures, site layout and track geometry to ensure adherence to FRA regulations and AREMA standards; involved with the Colonial Road improvement project which included bridge replacement, improved drainage and extension of the existing pocket track and the Morris Park Yard reconfiguration which involved site rail layout with tight geometry.
- Performed timely Construction Phase Services leading to successful completion of work by reviewing shop-drawing submittals and performing periodic field visits to ensure work was being performed in accordance with design intent for 65th. Street Bridge Replacement and Fresh Pond Yard bridge rehabilitation.
- Developed plans and specifications, by providing calculations, analysis, impact evaluation and recommendations for North Main Street and Accabonac Road bridge replacements, emergency management equipment foundations design, and Woodside and Smithtown station rehabilitations.

- Served as an emergency incident team member responsible with responding to any structural deficiencies needing immediate attention. Coordinated with MTA police, Transportation, and all relevant railroad departments to ensure safety of the site and structure.
- Performed visual condition inspections on bridges, viaducts, culverts, stations and all other railroad facilities.
- Supplied input for development of the schedule and budget parameters governing design work to ensure all design efforts complied with the established schedule and budget.

Project Manager Assistant

2012 - 2014

- Assisted with the coordination and administration of line structure projects in the MTA Capital Program; involved with the Massapequa Pocket Track project, Woodhaven Boulevard Bridge and 150th Street Bridge Rehabilitations, Right of Way maintenance projects (which included culverts, drainage control, fencing, track stability/retaining walls) and bridge waterproofing.
- Tracked charges and coordinated LIRR Force Account and third-party contract work. Managed the Comprehensive Inspection Study of all LIRR bridges, culverts and viaducts; conducted cost comparison analysis of bidding consultants, reviewed technical proposals, tracked inspection progress, and conducted site visits.
- Assisted in the coordination of bridge waterproofing; developed work plans, coordinated scheduling according to available track outages and formulated contingency plans. Created budget and cost estimation spreadsheets to track project expenditures. Developed project forecasting indicators to identify project growth, slippage and potential problems that could adversely impact the project.

Louis Berger U.S. (formerly Ammann & Whitney) - New York, New York

Structural Designer

2009-2012

- Performed visual and physical condition inspections on bridges, viaducts, culverts and sign structures for New York State DOT, New York City DOT, Maryland DOT, New Hampshire DOT, and Port Authority of New York and New Jersey. Performed structural analysis calculations to evaluate inspected bridges, reviewed engineering plans and specifications for construction of roads and bridges.

CDM Smith (formerly Wilbur Smith Associates) - Poughkeepsie, New York

Assistant Team Leader

2008 - 2009

- Performed visual and physical condition inspections on bridges and culverts in Region 9 of New York State DOT. Inspections involved operating bridge inspection equipment, performing on-site non-destructive testing (ultrasonic and dye penetrant), climbing structural members, sketching and preparing plans for bridge repair, making recommendations for structural replacement/repair/rehabilitation based on field data, detailing bridge structure type, collecting and recording data for bridge management system.
- Performed allowable stress calculations to determine capacity of inspected structures and used AASHTOWare software to determine inventory and operating ratings of bridges.

AFILLIATIONS

- Permanent Way Institution (PWI)
- American Railway Engineering and Maintenance-of-Way Association (AREMA)

EDUCATION

Norwich University
Masters of Science
Civil Engineering

The Cooper Union
Bachelor of Science
Engineering

Professional Engineer
State of Connecticut
Civil Engineering