

Statement of Qualifications

**Construction Phase Engineering Services for a
Freight Rail Expansion Project**

City of Rochelle

May 29, 2018



Engineering | Planning | Allied Services



Phase III Construction Engineering Inspection Services Freight Rail Expansion Project CITY OF ROCHELLE RAILROAD (CIR)

May 29, 2018

Mr. Jason Anderson
Economic Development Director
City of Rochelle
420 N 6th Street
Rochelle, IL 61068

Dear Mr. Anderson:

The City of Rochelle, with funding through the Economic Development Administration (EDA), is undertaking the next important step in the southern expansion of its freight rail service with the Phase III Construction Services portion of the work. The goals of the City of Rochelle Railroad (CIR) freight rail expansion project can be successfully accomplished with detailed construction oversight, proactive management, and thorough documentation of construction activities.

The Hanson project team – which includes Testing Service Corporation – has been organized to provide the City with experienced field professionals in the areas of freight rail construction, earthwork, railroad bridges, railroad coordination, and construction documentation. Hanson has worked with BNSF and Union Pacific on many capacity and facility improvements projects, including providing design engineering services for the design-build of Union Pacific's Global III Intermodal Facility in Rochelle.

Most of Hanson's team members annually maintain safety training and contractor orientation credentials with several Class 1 railroads – including Union Pacific, BNSF, Norfolk Southern, Canadian National and CSX. This team will provide the City with the highest level of professionalism and excellence in construction phase services, completed on schedule.

In selecting the Hanson team, you get recent and successful construction inspection experience provided by our proposed staff. That experience includes:

- Eastern Iowa Industrial Center Transload Facility Market Analysis
- Village of Timberlane Orth Road Bridge Replacement over Beaver Creek
- Chicago to Quad Cities, BNSF Eola Yard Expansion
- BNSF CREATE W4 Phase III (Rail and Bridges)
- BNSF Corwith, Cantilevered Rubber Tired Gantry (CRTG) Crane Expansion

We welcome this opportunity to be a part of the growth of CIR as it continues to develop its industrial rail service to freight carriers connecting to the BNSF and UP, and to provide switching of unit and manifest trains to the benefit service. Hanson has allocated all of the necessary resources to begin work immediately upon selection. We will leverage our extensive bridge and railroad engineering expertise, as well as our proximity to the project site. Please do not hesitate to contact me (skemp@hanson-inc.com or (815) 209-2553) or Steve Gaudette (see banner at right) with any questions that you may have regarding this proposal or our project team.

Sincerely,

Hanson Professional Services Inc.



Stuart Kemp, P.E., S.E.
Project Principal

FIRM NAME / ADDRESS / RESPONSIBLE OFFICES

Hanson Professional Services
Inc.

750 Warrenville Road
Lisle, IL 60532
(630) 990-3800
Fax: (630) 990-3801

6775 Fincham Drive
Rockford, IL 61108
(815) 398-4600
Fax: (815) 398-4200

POINT OF CONTACT

Steve Gaudette, P.E.,
Project Manager
Civil/Rail Engineer
(630) 368-2052(direct line)
sgaudette@hanson-inc.com

SUBCONSULTANT

Testing Service Corporation
650 Peace Road, Suite D
DeKalb, IL 60115



CONTENTS

LETTER OF INTEREST

SECTION 1 PROJECT TEAM OVERVIEW 1-1 to 1-2

Hanson Professional Services Inc. (Prime Consultant)	1-1
Testing Service Corporation (Materials Testing Subconsultant)	1-2

SECTION 2 TEAM COMPOSITION & ORGANIZATION 2-1 to 2-9

Team Organizational Chart	2-1
Summary of Project Team & Responsibilities	2-2
Proposed Key Personnel Resumes	2-3 to 2-9
• Steve Gaudette, P.E. – <i>Project Manager</i>	2-3
• Steve Norman – <i>Resident Project Representative</i>	2-4
• Frank Nauman, P.E., S.E. – <i>Bridge Construction Observer/ EDA Quality Assurance</i>	2-5
• Scott Stanton – <i>Construction Observer</i>	2-6
• Andrew Nicol, P.E., S.E. – <i>Structural Engineer</i>	2-7
• Stu Kemp, P.E., S.E. – <i>Project Principal/Quality Control</i>	2-8
• Matthew Malone & John Terdina-TSC – <i>Materials Testing</i>	2-9

SECTION 3 RELEVANT PROJECT EXPERIENCE 3-1 to 3-6

Portfolio of 5 Representative Projects	3-1 to 3-5
Client References	3-6

Section 1: Project Team Overview

Firm Qualifications

Hanson Professional Services Inc. (Prime Consultant)

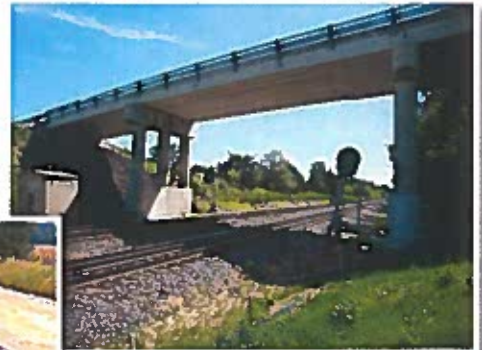
Founded in 1954, Hanson Professional Services Inc. is a national, award-winning, employee-owned consulting firm providing engineering, planning and allied services with approximately 400 employees. The firm's Lisle office is staffed with local, talented employees providing project management, civil and structural engineering, planning, and technical support. Hanson's Lisle office has served Illinois for almost 30 years, providing a variety of design and construction inspection services. Hanson's construction-phase services include shop drawing review, material testing oversight, construction management, construction administration, scheduling, procurement assistance, cost control and engineering during construction, and project closeout. Hanson construction staff also provide the following:

- Review of progress schedules
- Coordination of contractor's work
- Preparation of pay requests
- Full or part-time on-site observation
- Interpretation of contract documents
- Maintenance of job site records
- Management of construction change orders
- Review of punch lists for final completion
- Monitor environmental compliance
- Utility coordination

Our firm has a significant amount of experience in rail facility construction and constructing bridges over active railroad tracks. Because of this extensive portfolio of experience, we are familiar with standards of design and construction for these types of infrastructure improvements. This familiarity will help keep the Freight Rail Expansion project on schedule and running smoothly.

Hanson's mission is to assist our clients in meeting their business- or government-sector goals by providing quality professional engineering, architecture, and project management services, while protecting the public and environment, and continually improving teamwork and trust.

To accomplish our mission, we employ people who are highly trained and skilled in many disciplines and who share our values. Our objectives are to provide and maintain the professional environment of our practice, while offering our clients top-quality service.



Section 1: Project Team Overview

Testing Service Corporation (Materials Testing Subconsultant)

Testing Service Corporation (TSC) has a recognized reputation for provision of professional engineering services. Since its 1954 incorporation, the firm has completed more than 73,000 projects, primarily throughout Central and Northern Illinois. The corporate project list includes large scale residential, commercial, retail and industrial development, as well as medium to large scale structures. Public infrastructure items such as roadways, bridges, tunnels, underground and earth retention systems are also included.

TSC operates from its corporate headquarters in Carol Stream, Illinois. Our firm has branch facilities in Rockford, Bloomington, DeKalb, Gurnee, Shorewood, and Tinley Park, Illinois. TSC employs a staff of more than 150 people, including 22 professional engineers, structural engineers and geologists. Our Geotechnical Engineering and Material Engineering operational groups are supported by Laboratory and Drilling departments. These four departments can operate together or independently depending on client/project specific needs.

Geotechnical Engineering (GEO) - TSC has practiced geotechnical engineering since its 1954 incorporation. Our professional engineers have developed recommendations for standard spread footings, as well as deep foundations including driven piles and caissons. Lateral earth pressure criteria has been developed for evaluation and design of temporary and permanent support systems for deep excavations and tunnels. Data from inclinometers and Menard pressuremeters is regularly employed by TSC's geotechnical staff. In addition, our geotechnical staff is well experienced in roadway/infrastructure projects.

Construction Materials Engineering (CME) - Our CME department is staffed by about 80 personnel including eight Professional Engineers. TSC technicians provide testing, observation and sampling services for soils, Portland cement and bituminous concrete, structural steel and roofing materials on construction projects.

Technicians receive appropriate training for the services they are required to perform. Field technicians assigned to various projects are certified and well-versed in project specific requirements and information. TSC has in-house capability to provide technicians with the radiation safety training necessary for Nuclear/Moisture Density Gauge operators. Regular training for Structural Steel NDT Technicians (Certified to SNT-TC-1A for UT, Mt and PT), Illinois Department of Transportation QC/QA - Levels 1, 2 & 3, and Portland cement concrete testing using American Concrete Institute materials are elements of the continuing training provided our technicians.

TSC maintains and operates a dedicated pick-up van service for field samples. The personnel who perform this function are trained in ACI standards for handling of freshly cast concrete samples. There is a charge for this service. However, responsible and expedient treatment of sample materials makes this service a value.

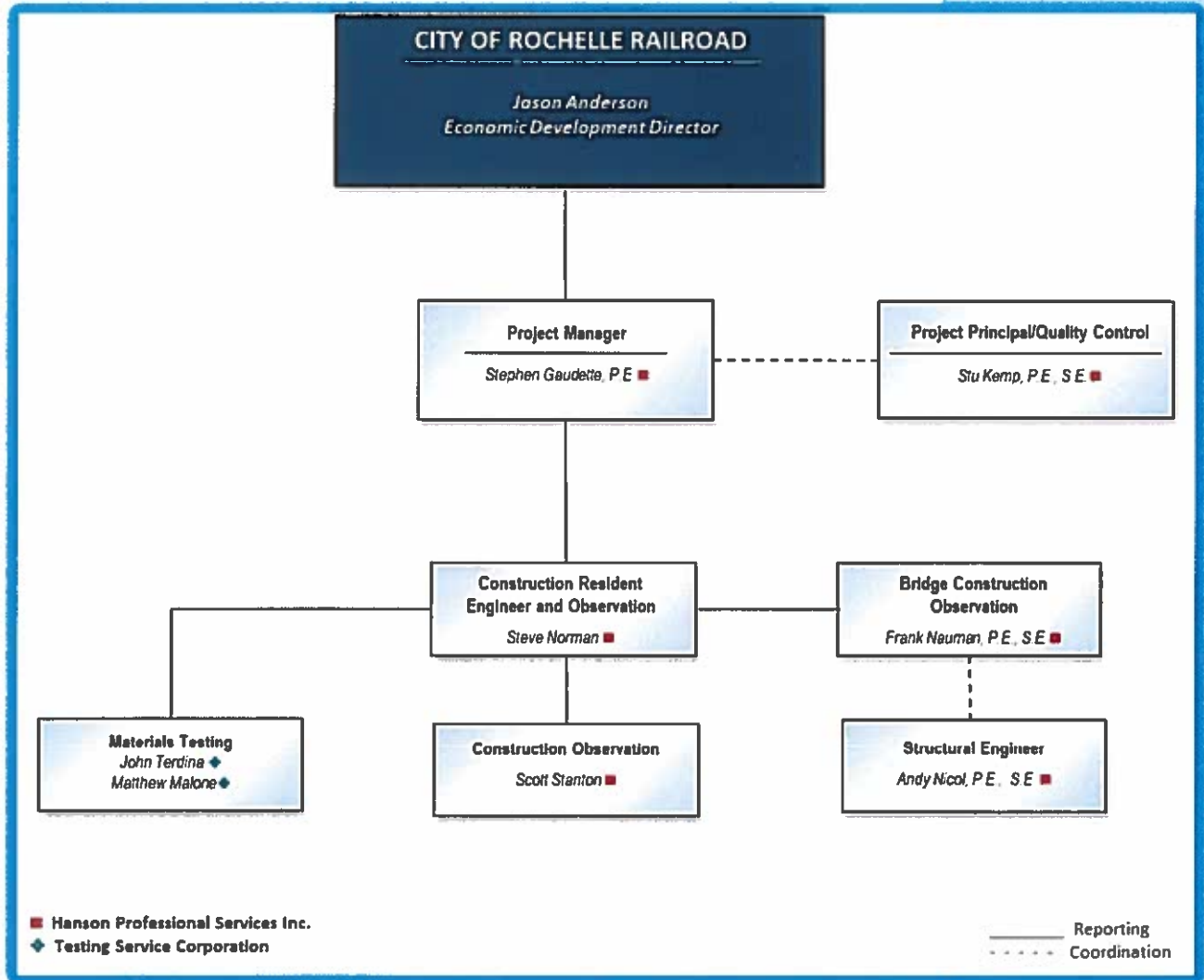
Laboratory - The physical materials testing laboratory at TSC's location in Carol Stream is the largest of its type in the state of Illinois. TSC is an active participant in the National Voluntary Laboratory Accreditation program. The firm is a member of the American Council of Independent Laboratories.



Section 2: Team Composition & Organization

Team Organization Chart

Hanson has assembled a team of professionals, each dedicated to their field of expertise, with a history of performance and service to their clients. The individuals identified in this proposal and any Hanson personnel beyond this listing are prepared to dedicate the resources necessary to ensure the project proceeds on the established schedule. All personnel assigned to the City's project will have the necessary qualifications to adequately complete their project assignments.



Hanson Construction Inspection Commitment

Hanson stands ready to provide a high level of attention to detail that experience has shown is necessary to bring these types of projects to successful conclusion.

Our field personnel realize that even the smallest of oversights can create the potential for project overruns. No item, regardless of size, can be overlooked in order to achieve the standard of quality that Hanson expects of itself and what the City can and should expect of its consultant inspector.

Section 2: Team Composition & Organization

Our Resident Project Representative for the construction observation activities will be Steve Norman. Mr. Norman, from our Rockford office, has over 30 years of experience with construction-related activities and responsibilities, predominantly on Class I railroad projects involving mainline tracks, intermodal facilities and bridges. Frank Nauman and Scott Stanton will support him in the field on bridge and track/civil items, respectively. Our field team will be supported by our Hanson in-house project team from our Lisle (Chicago) and Rockford offices.

Prior to Construction

- Participate in the pre-bid activities (if needed)
- Assemble the agenda and run the pre-construction meeting
- Prepare and distribute meeting minutes to all attendees

During Construction

- Professionally represent the Owner to all project stakeholders. This includes holding informational meetings as needed and being available to provide updated project information as requested. We understand how the construction process can have an impact on rail movements and service. For this reason, communication with those associated -- but not directly involved -- with the project is a main priority.
- Conduct periodic progress meetings throughout the project to update CIR, BNSF and UP, resolve construction issues, and make certain the contractor is completing the project as scheduled.
- Complete Daily Inspection Reports documenting contractor activities, work force, equipment and material used, field measure and compile daily quantities for all pay items, including any other events or items related to or impacting the project.
- Prepare and compile reporting as required by the EDA.
- The Hanson team will either provide or coordinate all site testing as required per the project specifications and special provisions, i.e. concrete, density material testing, etc.
- Observe that the contractor utilizes the correct materials as specified for the project.
- Process all material and construction submittals.
- Digitally photograph the construction activities throughout the life of the project as support documentation, and provide as part of the Final Construction Record a pictorial record of the construction process, including any items of interest or concern as they occur.
- Coordinate directly with BNSF and UP personnel as necessary to keep all parties updated on the contractor status and work schedule when near any Class I railroad facilities.
- Work with the contractor throughout the project to assist in keeping construction on schedule and aid in avoiding foreseeable problems to reduce impacts that can lead to additional cost and schedule delays.
- The Hanson team offers construction observation/inspection and materials testing services for a wide variety of infrastructure projects. Testing Service Corporation's in-house laboratories are certified and equipped with all equipment necessary for the proper testing of materials used in your project. Our experienced field personnel are trained in the required regulatory procedures for project observation and documentation.

Post Construction

- Coordinate closeout documents for the City and prepare final documentation to the EDA as required.

In Summary...:

Our focus for the expansion of the CIR will start with communication with the client and contractor. With the client, we will work to understand your expectations for the project. With the contractor, we will emphasize our readiness to work as partners, in order to achieve the client's goals and allow for open communication to begin. Hanson knows that ongoing, open lines of communication will aid in minimizing change orders and added costs.

Starting on Day One, it is Hanson's charge to understand the contractor's progression of work and to assign the appropriate staff to monitor those activities. Our experience tells us if problems are identified early and resolved before they become the overriding focus, the project will likely run more smoothly, remain under budget and ultimately, complete on time.

The Hanson team has the combination of knowledge, experience, local understanding and staff availability to meet this project's requirements and challenges.

Section 2: Team Composition & Organization

Proposed Hanson Team Resumes & References

Mr. Gaudette joined Hanson in 1994. A project manager, he primarily serves the railways market. His experience includes civil, track, drainage and utility design for both the public and private sectors. As project engineer, he has been responsible for site design, utility design and coordination, and drainage design. Mr. Gaudette has served as the lead Civil/Track engineer and designer for multiple BNSF design and construction projects, including intermodal facilities, capacity improvement, and civil projects. Mr. Gaudette also has extensive construction management experience with railroad and rail related projects. His project experience includes the following highlighted in our submittal:

BNSF Eola Yard Expansion (Phase 2), Kane and DuPage Counties, IL.
Project manager and lead rail/civil design engineer. See project description on page 3-2.

BNSF CREATE Project WA4 Design Engineering, Chicago, IL.
Project design engineer. See project description on page 3-4.

BNSF Corwith Intermodal Facility Expansion, Chicago, IL.
Project Manager and lead rail/civil design engineer. See project description on page 3-5.

Mr. Gaudette's additional project experience includes:

BNSF Western Avenue Expansion, Chicago, IL.
Resident Project Representative. Hanson provided design engineering and construction management services for the construction of two support tracks between BNSF's Western Avenue Yard and Union Avenue near downtown Chicago. Design and CM efforts included consideration and coordination for two future track extensions adjacent to the project.

UP Strauss Intermodal Facility AGS, Santa Teresa, NM.
Task manager and civil engineer responsible for conceptual site layouts and final design of inbound and outbound gates, the gatehouse administration building and the maintenance facility. Hanson provided civil engineering design services for the installation of an Automated Gate System and pavement design engineering services at this proposed Intermodal Facility. Hanson provided design engineering services for the preparation of conceptual site layouts of inbound and outbound gates, the gatehouse administration building and maintenance facility. Final design engineering was based on the approved conceptual design.

Automated Gate System, UP Global I (Chicago, IL) and Global II (Northlake, IL) Facilities.
Project manager and lead civil engineer for planning and design of automated entrance and exit gates for these large UP intermodal facilities. Responsible for coordinating civil, electrical and communications design with the client and automated gate supplier, as well as the majority of civil site design plans, staging of design work at existing gates to minimize effects on intermodal operations, and bid documents all within an accelerated design schedule.

BNSF Logistics Park Chicago (LPC) Intermodal Expansion, Elwood, IL.
Prepared design plans and bid documents for the construction of additional intermodal tracks and trailer parking at this BNSF intermodal facility. Responsible for all civil site design, drainage design, and specification preparation. This project included the construction of two intermodal tracks, including grading, extension of large culverts under the new roadbed, one crane maintenance pad, asphalt parking lot expansion for trailers and chassis, and electrical improvements for the switches and crane pad.

**Stephen Gaudette,
P.E.,
Project Manager**

Education
B.S./1990/Civil & Environmental
Engineering/University of Wisconsin
M.S./1993/Civil & Environmental
Engineering/University of Wisconsin

**Professional Registrations/
Certifications**
Professional Engineer/IL
Professional Engineer/WI
Annual Railroad Safety Training
• e-RailSafe
• BNSF/UPRR Contractor Orientation
• Hanson In-House Safety Training

Professional Affiliations
American Railway Engineering and
Maintenance-of-Way Association
(AREMA)

Total Years of Experience
25

Years of Experience with Hanson
23

Section 2: Team Composition & Organization

Mr. Norman joined Hanson in 1989. An engineering technician, he primarily serves the railways market. His experience includes providing drafting, design and surveying services. Additionally, he has performed construction staking, field inspections and materials testing. His project experience includes the following highlighted in our submittal:

BNSF Corwith Intermodal Facility Expansion, Chicago, IL.
Construction/civil inspector. See project description on page 3-5.

Mr. Norman's additional project experience includes:

BNSF Kelso to Martin's Bluff Tasks 5 and 6 Construction Management, Kelso/Kalama, WA.
Construction/civil inspector. Hanson served as the lead construction management firm for the construction of the civil portion of an \$81,700,000 American Recovery and Reinvestment Act (ARRA)-funded project in Kelso, Washington, and the civil portion of a \$44,900,000 ARRA-funded project in Kalama, Washington. Combined projects include more than 8 miles of triple track, numerous retaining walls, three mainline bridges and two pier protection walls.

BNSF Kelso to Longview Junction Construction Management, Kelso, WA.
Construction/civil inspector for the civil portion of an \$81,700,000 American Recovery and Reinvestment Act-funded project in Kelso, Washington. The triple-track project was designed to allow passenger trains to circumvent Longview Yard and minimize the effects of yard operating and switching. Design included converting an existing siding to a mainline, constructing 3 miles of new mainline track, realigning more than 6,000 feet of mainline track, three bridges, four turnouts, five crossovers, a pier protection wall for a highway overpass and modifications to three road crossings.

BNSF Bridge 106.58 & Bridge 110.26 over Bureau Creek, Near Princeton & Wyand, IL.
Construction observation. Projects involved the replacement of two existing double track truss bridges over Bureau Creek on the existing track alignment. Hanson collaborated with BNSF to develop a replacement scheme that facilitated foundation construction with minimal impact to railroad operations, as well as full superstructure replacements in a concurrent 48-hour double-track shutdown. The design for both structures included advance construction of the foundations to minimize the impact to rail operations. Hanson's extensive relationship with BNSF and knowledge of acceptable construction practices adjacent to/under railroad traffic was crucial to implementing a successful project.

BNSF Paymaster Siding, River Subdivision near Osceola, AR.
Construction observation. Hanson provided design and plan preparation for construction of a new siding including embankment, subballast, pipe culverts, grade crossings and associated work between MP 253.8 and MP 258.8 near Osceola, AR. Design tasks included environmental permitting, surveying, geotechnical studies, track and civil design, hydraulics and hydrology analysis, and bridge design.

BNSF Oklahoma/Avard Subdivision Siding Extensions and New Siding, Mannford, Morrison and Pawnee, OK.
Construction engineer. Hanson provided track design, structural engineering, hydrology and hydraulic engineering, environmental permitting, geotechnical engineering and construction management services for the construction of siding extensions and new siding.

Steven Norman Construction Manager

Education

High School Diploma
Harlem High School,
Loves Park, IL

Professional Registrations/ Certifications

- Annual Railroad Safety Training
- e-RailSafe
- BNSF/UPRR Contractor Orientation
- Hanson In-House Safety Training

Total Years of Experience

33

Years of Experience with Hanson

29

Section 2: Team Composition & Organization

With more than 32 years of experience, Mr. Nauman has worked on a variety of infrastructure projects. He has served as project manager, resident engineer, design engineer, and construction observer for numerous transportation projects. His experience includes structural investigations/bridge inspections (including fracture critical structures), design and construction observation of new structures and the repair of existing bridges. He has expertise in a variety of structural systems that utilize concrete, steel, masonry and timber. Mr. Nauman is a certified NBIS inspector, and is qualified to serve as either a bridge inspection Program Manager or a Team Leader by the State of Illinois. His experience includes the following projects highlighted in this proposal:

Village of Timberlane Orth Road Bridge Replacement, Timberlane, IL. Structural engineer and construction engineer. See project description on page 3-2.

BNSF CREATE WA4 Construction Management, Chicago, IL. Construction engineer. See project description on page 3-4.

Mr. Nauman's additional project experience includes:

Winnebago County Highway Department Perryville Road Bridge over North Branch of Kishwaukee River, Winnebago County, IL.

Project manager responsible for the construction engineering associated with the rehabilitation of the Perryville Road Bridge. The project includes concrete bridge deck removal and replacement, abutment backwall repairs, expansion joint and bridge rail removal and replacement, and pier scour remediation. The existing bridge is a three-span structure with steel wide flange composite beams and is about 209 feet long. Construction engineering consisted of construction observation, material testing, shop drawing review, and preparation of record drawings. All documentation conformed to IDOT Standards.

City of Rockford Horace Avenue Bridge over the South Fork of Kent Creek, Rockford, IL.

Project manager responsible for the construction engineering associated with the removal of a single span wide flange steel beam bridge with a new four-cell precast concrete box culvert. Each cell of the box culvert has a clear opening size of 10 ft. – 0 inches by 10 ft. – 0 inches. Construction engineering consisted of construction observation, construction layout, material testing, shop drawing review, and preparation of record drawings. All documentation conformed to IDOT Standards.

Winnebago County Highway Department Patterson Road Bridge over South Branch of Otter Creek, Durand, IL.

Project manager and resident engineer for the construction observation of a single span PPC deck beam bridge over the south branch of Otter Creek. Construction documentation conformed to IDOT Standards.

Dement Road Extension over Riley Ditch and Union Pacific Railroad, Rochelle, IL.

Project manager for the construction observation of two box culverts, a grade separation structure over the UP mainline, embankment density testing, bituminous concrete pavement density testing and shop drawing review. The new superstructure for the new three-span grade separation structure consists of precast, prestressed concrete girders and a cast-in-place concrete deck. The substructure consists of pile supported multi-column piers and integral abutments. Bridge construction cost: \$660,000 (bridge & culverts),

**Francis Nauman,
P.E., S.E.**
Project Manager/
Construction Engineer

Education

B.S./1983/Civil Engineering/University of Illinois at Urbana-Champaign
M.S./1984/Civil Engineering/University of Illinois at Urbana-Champaign

Professional Registrations/ Certifications

Professional Engineer/IL, TX, OH, OK, WI, IA

Structural Engineer/IL

NBIS Program Manager

Annual Railroad Safety Training

- e-RailSafe
- BNSF/UPRR Contractor Orientation
- Hanson In-House Safety Training

Professional Affiliations

American Institute of Steel Construction

Illinois Society of Professional

Engineers

National Society of Professional

Engineers

Total Years of Experience

33

Years of Experience with Hanson

30

Section 2: Team Composition & Organization

Mr. Stanton joined Hanson in 2006. An engineering technician, he primarily serves the railways market. His experience includes construction management (CM), preparing designs, and engineer estimates. Additionally, he has conducted topographic surveys and inspected roadway rehabilitation projects. His experience includes the following projects highlighted in this proposal:

BNSF Eola Yard Expansion (Phase 2), Kane and DuPage Counties, IL.

Resident Project Representative on yard expansion and construction of relocated stream and new drainage features (detention ponds, storm sewer). . See project description on page 3-3.

BNSF Corwith Intermodal Facility Expansion, Chicago, IL.

Resident Project Representative. See project description on page 3-5.

Mr. Stanton's additional project experience includes:

BNSF/WSOR SW Connection, Crawford, WI.

Resident Project Representative. Hanson provided design engineering, environmental and construction management services for the construction of a connection track at the interchange of BNSF and WSOR railroads near Prairie du Chien, WI. Work included grading, drainage, and subballast placement for new track construction.

BNSF Western Avenue Expansion, Chicago, IL. Resident Project Representative. Hanson provided design engineering and construction management services for the construction of two support tracks between BNSF's Western Avenue Yard and Union Avenue near downtown Chicago. Design and CM efforts included consideration and coordination for two future track extensions adjacent to the project.

BNSF Cicero Yard – South Austin Avenue Overpass Realignment.

Resident Project Representative. Hanson provided design engineering and construction management services for the widening and realignment of the access road at the south end of Cicero Yard passing over the Austin Avenue Viaduct. Work included embankment and widening of the pavement cross section, new crossing panels for one support track, new electric ductbank, highmast light tower relocation, and installation of a new communications tower.

BNSF Cicero Track 802 Runway Pavement Repairs CM, Cicero, IL.

Resident Project Representative. Hanson provided construction management services associated with the construction of the Track 802 (Ogden Side) crane runway reconstruction and the installation of two grade crossings at the Cicero Intermodal Facility. The work included concrete pavement reconstruction of the Track 802 West crane runway, milling and resurfacing for the adjacent walkway and roadway asphalt pavements, and the reconstruction of the grade crossings at the east end of CECO Tracks 605 and 606.

BNSF Cicero Yard and Willow Springs Intermodal Facility Construction Engineering Services, Chicago and Willow Springs, IL.

Resident Project Representative responsible for conducting field oversight of pavement repairs and other engineering services at BNSF facilities. Additional duties included coordination with contractor personnel and BNSF operations forces. 2006-present.

Scott Stanton

Construction Observer

Education

B.S./1989
Civil Engineering Technology
Southern Illinois University

Professional Registrations

Documentation of Contract
Quantities/IL
IDOT(43)/IL
IDOT(04)/IL
Annual Railroad Safety Training

- e-RailSafe
- BNSF/UPRR Contractor Orientation
- Hanson In-House Safety Training

Professional Affiliations

American Society of Civil Engineers

Total Years of Experience

29

Years of Experience with Hanson

12

Section 2: Team Composition & Organization

Mr. Nicol joined Hanson in 2001. A structural engineer and project manager, his experience includes the planning, design, and construction of roadway and railroad bridge projects for both public and private clients. He has been involved in over 100 railroad related bridge projects, mainly serving the BNSF. Mr. Nicol is adept at coordinating complex phased railroad bridge construction with stakeholders to minimize impact to ongoing railroad operations and the traveling public. He has designed a wide variety of railroad bridge types, from precast prestressed concrete double voided box beams to steel superstructures composed of wide flange sections, built-up plate girders, and through plate girders. His design experience includes seismic design of several bridges, various styles of retaining walls, and culvert extensions/replacements.

BNSF CREATE Project WA4 Design Engineering, Chicago, IL.
Project Manager / Project design engineer. See project description on page 3-4.

BNSF CREATE WA4 Construction Management, Chicago, IL.
Project Manager. See project description on page 3-4.

BNSF Bridge 106.58 & Bridge 110.26 over Bureau Creek, Near Princeton & Wyanet, IL.
Structural engineer for the replacement of two existing double track truss bridges over of Bureau Creek on the existing tuck alignment. Hanson collaborated with BNSF to develop a replacement scheme that facilitated foundation construction with minimal impact to railroad operations, and full superstructure replacements in a concurrent 48-hour double track shutdown. The design for both structures included advance construction of the foundations to minimize the impact to rail operations. Hanson's extensive relationship with BNSF and knowledge of acceptable construction practices adjacent to/under railroad traffic was crucial to implementing a successful project.

ARRC Northern Rail Extension Tanana River Bridge, Salcha, AK.
Structural engineer involved in the final bridge design and preparation of drawings for a new dual-use bridge over the Tanana River to be used for roadway access to the Tanana Flats area for military training and also to eventually carry a single track for the Alaska Railroad Corporation. The 3,300-ft long structure consisted of 20 plate girder spans of 163 ft. The superstructure was designed for both ballast deck and direct fixation configuration of the track. The abutments consisted of cast-in-place caps on 2-ft diameter pipe piles.

CSX Intermodal Freight Container Transfer Facility Expansion, North Baltimore, OH.
Bridge Engineer. Hanson provided the surveying, geotechnical investigation, and design for the expansion of an existing CSX Intermodal facility. The design included extending 7 process tracks, 1 new receiving/departure track, 2 new engine ready tracks, 2 new bad order tracks, extending the existing wide span crane foundations, electrical power for the wide span crane, site lighting, power distribution for the switch heaters and signal/telecommunication equipment, extension of the yard compressed air system, and the associated paving and drainage.

UP CREATE Project B2, Bellwood, IL.
Structural engineer for the design of a new flyover bridge connecting Union Pacific Railroad mainline to Indian Harbor Belt Railroad. The flyover bridge is over 1,250-ft-long and spans three mainline tracks with a main span 156-ft through plate girder constructed on a skewed and curved alignment. The main span foundations consist of concrete piers on drilled shafts. The approach spans utilize rolled beams with steel ballast pan bearing on precast concrete pier caps and tall H-pile bents. Additional structures included in the project are various retaining walls and a new bridge over Addison Creek.

Andrew Nicol, P.E., S.E. Structural Engineer

Education
B.S./2001/Civil Engineering/University of Illinois at Urbana-Champaign

Professional Registrations
Professional Engineer/IL
Structural Engineer/IL
Civil Engineer/CA
National Council of Engineering Examiners/ NCEES

- a-RailSafe
- UPRR Contractor Orientation
- Hanson In-House Safety Training

Professional Affiliations
American Railway Engineering and Maintenance-of-Way Association (AREMA)

- Member of Committee 9 (Seismic)

Structural Engineers Association of Illinois
American Institute of Steel Construction

Total Years of Experience
17

Years of Experience with Hanson
17

Section 2: Team Composition & Organization

Mr. Kemp is responsible for supervising a staff of engineers, scientists and support staff and oversees all operations, programs and services for Hanson's Rockford office. He has managed large, multi-disciplined projects involving Phase I, II and III engineering services. Mr. Kemp has been responsible for numerous bridge/ infrastructure projects, including vehicular, railroad and pedestrian structures. His project experience includes the following highlighted in our submittal:

Village of Timberlane Orth Road Bridge Replacement, Timberlane, IL.
Project manager. See project description on page 3-2.

Mr. Kemp's additional experience includes:

City of Rochelle Dement Road Extension over Riley Ditch and Union Pacific Railroad, Rochelle, IL. Project manager and structural engineer for the design of a three-span grade-separation structure over a tributary of the Kyte River and Union Pacific Railroad mainline tracks. Preliminary engineering included the evaluation of various structure types, as well as assisting the City of Rochelle through the Illinois Commerce Commission hearing process. In addition to the grade separation structure, two new concrete box culverts were designed to convey the re-aligned channel through the embankment for the south abutment. Construction engineering services included construction staking, material testing and full-time observation during bridge construction.

Winnebago County Highway Department Kishwaukee Road Bridge over Kishwaukee River Replacement, Winnebago County, IL.

Project manager and structural engineer responsible for Phase I, II and III engineering for the replacement of a four-span bridge over Kishwaukee River. The new three-span bridge is approximately 460 feet long and 44 feet wide and accommodates two lanes of traffic and a separated multi-use path. The superstructure consists of 54-inch plate girders and reinforced concrete deck. The substructure consists of concrete wall piers and spill-through abutments founded on H-piles.

City of Rockford Morsay Drive Bridge Rehabilitation Construction Engineering Services, Rockford, IL.

Project manager for Phase III construction engineering services associated with the superstructure replacement for a two-span concrete slab bridge. Project included all material testing and documentation required for federal funding. The new slab was designed to current LRFD standards. Project also included substructure concrete repairs and the installation of scour countermeasures under the bridge.

City of DeKalb Taylor Street Bridge Replacement, DeKalb, IL.

Project manager and structural engineer for the replacement of Taylor Street Bridge over the Kishwaukee River. The project scope included field surveys, hydraulic studies, a geotechnical investigation, project reports, land acquisition, construction documents and construction engineering. The proposed bridge consists of a three-span reinforced concrete slab superstructure supported by pile-bent piers and abutments. Construction engineering services included on-site observation, material testing, and documentation.

City of Dixon Peoria Avenue Bridge, Dixon, IL.

Project manager responsible for overseeing Phase I, II and III engineering services associated with the replacement of a nine-span bridge over Rock River. Construction engineering services included full-time on-site observation throughout the 12-month construction schedule. The new five-span structure is 660 feet long, with a total deck width of about 70 feet. The superstructure consists of a reinforced concrete slab on welded steel-plate girders. Footings for the concrete wall piers are founded on steel piles driven to rock.

**Stuart Kemp, P.E.,
S.E.**

Project Principal/
Quality Control

Education

B.S./1983/Civil Engineering/University
of Illinois at Urbana-Champaign
M.S./1985/Civil Engineering/University
of Illinois at Urbana-Champaign

Professional Registrations/ Certifications

Professional Engineer/IL, WI
Structural Engineer/IL
Annual Railroad Safety Training

- e-RailSafe
- BNSF/UPRR Contractor Orientation
- Hanson In-House Safety Training

Professional Affiliations

American Society of Testing and
Materials
Illinois Society of Professional
Engineers
National Society of Professional
Engineers
American Society of Civil Engineers

Total Years of Experience

32

Years of Experience with Hanson

29

Section 2: Team Composition & Organization

Mr. Malone has worked on numerous Construction Materials Engineering (CME) projects including bituminous paving projects in the field performing density tests on the compacted bituminous materials. He has observed and tested mass-grading projects for residential developments. He has tested railroad subgrade suitability, embankment and subbase compaction. He has reviewed boring logs and project drawings and has observed and field tested soils by obtaining soil samples and performing in-place density and strength testing. Performed proof rolls to evaluate subgrade soils and aggregate base courses. Performs footing inspections for commercial and residential projects. Conducted standard field tests on Portland cement concrete and checks reinforcing steel for size, number and spacing. Performed QC tests for several Geopier installation projects. Performed laboratory testing on soil boring and technician soil samples and has performed laboratory proctor tests.

His project experience includes:

- Rail Extension to Boyle Farm, Rochelle, IL
- Industrial Rail Improvements, Contract 2, Rochelle, IL
- Illinois River Energy Ethanol Plant, Rochelle, IL
- Grain Handling Plant, Rochelle, IL
- Top Crop II Wind Farm, Grundy County, IL
- Gordon Road Reconstruction, Sugar Grove, IL
- Rt 72 & 47 Resurfacing, Hampshire, IL
- UPS Air Cargo, Rockford, IL

Mr. Terdina joined Testing Service Corporation in 2002 as a CME technician. He has completed numerous mass-grading projects. His field experience includes the review of boring logs and building plans and the observation and field testing of soils. He performs proof rolls for subgrade evaluations and undercut determinations for building pads and roadways. He conducts footing inspections for commercial and residential projects. He regularly observes the placement of, and performs in-place nuclear density tests on, fill materials and bituminous concrete. He conducts all standard field tests required on Portland Cement Concrete and checks reinforcing steel for size, number and spacing. His laboratory experience includes sieve analysis of granular material and cohesive soil identification and evaluation. He has run laboratory tests for proctor determination of moisture content and unit weight of fill materials. Additional experience includes inspection of mortar and grout sampling. His experience has included a broad range of construction materials testing of soils for foundation bearing capacity, determination of the extent and depth of undercutting, proof rolling, in-place compaction testing of engineered fill and bituminous pavement, use of dynamic cone penetrometer, sieve analysis, plasticity of cohesive soil and soil classifications.

His project experience includes:

- Union Pacific Global III Intermodal Facility, Rochelle, IL
- Top Crop II Wind Farm, Grundy County, IL
- Illinois Wind (Nextera) Wind Farm, DeKalb and Lee Counties, IL
- Lakewood Creek West Subdivision, Montgomery, IL
- Grande Reserve Subdivision, Yorkville, IL
- Grande Reserve Elementary School, Yorkville, IL
- Foxmoor Elementary School, Montgomery, IL
- Various Elementary School Additions and Expansions, DeKalb, IL
- Windsor Pointe, Sugar Grove, IL
- New Kane County Jail, St. Charles, IL
- Rush Copley Lobby and P.O.B. Addition, Aurora, IL



Matthew Malone Materials Testing (CME Technician)

Education

High School Diploma/2002
Kishwaukee Community College, 2003

Professional Registrations/ Certifications

IDOT Bituminous Concrete Density
Tester
IDOT Mixture Aggregate Technician
IDOT Bituminous Concrete Technician
Level I
IDOT Portland Cement Concrete
Technician Level 1/ACI Level 1

Total Years of Experience

14

Years of Experience with TSC

14

John Terdina Materials Testing (CME Technician)

Education

High School Diploma/West Chicago
High School

Professional Registrations/ Certifications

Use of Nuclear Moisture/Density
Gauges
IDOT Mixture Aggregate Technician
IDOT Bituminous Concrete Density
Tester
IDOT Portland Cement Concrete
Technician Level I and II/ACI Level 1

Total Years of Experience

16

Years of Experience with TSC

16

Section 3: Relevant Project Experience

Portfolio of Representative Project Experience & References



The City of Davenport received Economic Development Administration (EDA) funding for the construction of a transload facility to assist with the economic growth of the City. This project required combining competitive rail access issues, developing a freight logistics market analysis over all development of final designs for the facility that fit within these findings and grant funding limits, and providing construction management oversight for the City and EDA.



The final project allows for transloading liquid and dry bulk commodities (with containment systems), warehouse space with inside unloading capabilities, and outside lay down yards. The facility supports multiple commodity types in a highly efficient operational design. The initial phase can accommodate up to 1,500 railcars annually. The design provides room for expansion to meet the demands of the market and can be built out without impacting ongoing operations.

ERS (now Hanson) recommended revising the property acquisition to meet rail geometry requirements, provided analysis and verified CP branch line serviceability, negotiated on behalf of the City to extend the EDA schedule due to changes by CP Railway, and prepared final designs, performed EDA Construction Management services, prepared the RFP to solicit a long term operator, and assisted with the operator selection. ERS (now Hanson) kept the project moving forward despite many design, funding and rail service challenges.



Eastern Iowa Industrial Center Transload Facility Market Analysis, Design & Construction Management Davenport, IA

Owner
City of Davenport
226 W. 4th Street
Davenport, IA 52801

Owner Contact
Jim Bengtson
(563) 327-5141

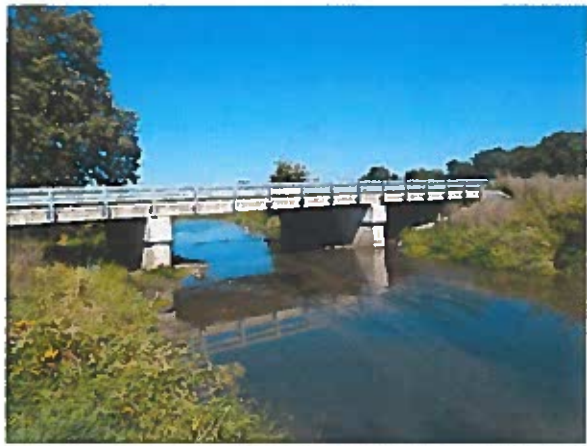
Year Started
2004

Year Completed
2016

Project Cost
\$1,350,000

Lead Hanson Office
McHenry, IL (formerly ERS)

Section 3: Relevant Project Experience



The Village of Timberlane selected Hanson to provide Phase I and II engineering design services for the replacement of the structure carrying Orth Road (FAU 5208) over Beaver Creek. The new structure is classified as collector (rural) and is 32 ft. wide and 108 ft. in length, back-to-back abutments. The project included replacing the existing bridge with a three-span continuous concrete slab superstructure on pile bent piers and abutments. In addition to the

new structure, engineers designed roadway approach improvements to accommodate the structure replacement. The bridge is constructed on the existing horizontal alignment, and the vertical profile accommodates the new hydraulic requirements of the structure.

Phase I engineering services involved the preparation of a Bridge Condition Report; stream and floodplain hydraulic surveys; the preparation of a preliminary hydraulic report (including economic analysis of bridge/culvert types and the high water effects on roadway overflows and bridge approaches); application submittals for Section 404 permitting and Illinois Department of Natural Resources - Office of Water Resources permitting; and generation of the Project Development Report.

Phase II services included final design and preparation of plans, specifications and estimates to federal funding standards.

In 2014, the Village of Timberlane and Boone County retained Hanson to provide **Phase III construction engineering services**. Phase III services included construction observation, submittal reviews, pay requests and change orders, IDOT documentation and material testing, and final project close-out.

Orth Road Bridge Replacement (Phase I, II & III Engineering Services) Timberlane, IL

Owner
Village of Timberlane
P.O. Box 56
Caledonia, IL 61011

Owner Contacts
Stephen Rapp
(815) 633-2209
president@villageoftimberlane.org

Richard Lundin
(815) 544-2066
boonecshwy@comcast.net

Year Started
2012

Year Completed
2013 (design)
2014 (construction)

Project Cost
\$700,000

Proposed Project Team Involved
Frank Nauman
Stuart Kemp

Section 3: Relevant Project Experience



Hanson provided preliminary and final design engineering and construction engineering services to BNSF for the extension of the third main from Eola Yard to downtown Aurora and the extension of five yard tracks at Eola Yard.

The project goal was to create a minimum clear length of 7,300 feet for coal train storage. As part of this project, Hanson's work helped support BNSF's efforts to improve operations at Eola Yard and advance project-funding discussions with the Federal Railroad Administration (FRA) and Amtrak.



A significant element to the design was dividing the project into two phases in order to complete the lead extension (3rd main) earlier in the construction process:

- Phase 1 design included almost 11,000' of new track for the lead extension, earthwork, new subballast, track underdrain, and an access road.
- Phase 2 included a channel relocation to accommodate the extra storage track, culvert extensions, compensatory storage for the flood plain along the channel, storm sewer access additional track and new subballast, road demolition and realignment of road to run parallel to newly extended tracks, and coordination of property acquisition.

In addition, Phase 2 design involved coordination with multiple agencies: U.S. Army Corps of Engineers, City of Aurora, Kane County, Illinois EPA, and Illinois DNR.

Construction Management services included:

- Phase 1:
 - Coordinating work in a limited space between the existing Main #2 and the Right-of-way
 - Administering work on an accelerated schedule
- Phase 2:
 - Project phasing and scheduling to meet in-service deadline
 - Communication with multiple stakeholders and maintain yard operations

Chicago to Quad Cities BNSF Eola Yard Expansion (Phase I, II & III Engineering Services) Kane and DuPage Counties, IL

Owner
BNSF Railway
3611 W. 38th St.
Chicago, IL 60632

Owner Contact
John Stille
(913) 551-4519
john.stille@bnsf.com

Year Started
2013

Year Completed
2014 (design)
2017 (construction)

Project Cost
\$5,500,000 (General contractor)

Proposed Project Team Involved
Steve Gaudette
Scott Stanton
Andy Nicol

Section 3: Relevant Project Experience

Hanson provided Phase II design and Phase III construction engineering services for the civil, track and bridge design for the CREATE WA4 BNSF Panhandle Connection Track from the BNSF Chicago Subdivision (MP 4.0) to the BNSF Chillicothe Subdivision (MP 4.6). The rail corridor is located between 18th Street to the north and 31st Street to the south, and between California Avenue to the west and Western Avenue to the east.

Bridge design includes the design of new superstructure and rehabilitation of the substructure for structures carrying the new track over 21st Street, 22nd Street, 23rd Street, 24th Street, 25th Street, 26th Street, 31st Street, 31st Boulevard, and the Sanitary & Ship Canal.

Hanson performed an evaluation of the structures within the CREATE WA4 corridor. Structures that were found to be beyond their likely lifespan were recommended for replacement. In addition, Hanson analyzed the remaining life of the steel structures using AREMA fatigue based analysis. This required some educated assumptions on the rail traffic (tonnage) that has passed over the structures since original construction and the anticipated future traffic projections. Utilizing a practical way to estimate the likely remaining life span for the steel structural components, Hanson incorporated fatigue considerations at each structure to account for the unique bridge details and past repairs.

Construction management services for BNSF's CREATE WA4 project involved proactively managing construction activities, including reconstruction of 10 railroad bridges and more than 1.3 miles of trackbed grading, to assist the contractor in meeting the specified quality requirements, schedule and budget. The scope of services included providing day-to-day observation and inspection; performing specialized structural inspections; conducting soil erosion and sediment control inspections and monitoring; coordinating meetings; reviewing documentation and schedules; monitoring permit compliance; reviewing construction submittals and developing record documents; tabulating construction quantities; and processing invoices.



BNSF CREATE Project WA4 (Phase II & III Engineering Services) Chicago, IL

Owner
BNSF Railway
3611 W. 38th St.
Chicago, IL 60632

Owner Contact
John Stilley
(913) 551-4519
john.stilley@bnsf.com

Year Started
2009 (design)

Year Completed
2013 (design)
2017 (construction)

Project Cost
\$46,000,000

Proposed Project Team Involved
Andy Nicol
Steve Gaudette
Frank Nauman
Scott Stanton

Section 3: Relevant Project Experience



Hanson provided design engineering and construction management services for the cantilevered rubber tire gantry (CRTG) crane expansion at BNSF's Corwith Intermodal Facility.

Design included the westward expansion of two additional tracks and one relocated track to accommodate the use of wider-span CRTG cranes. Design elements included conceptual layouts,

support track reconfiguration, pavement thickness calculations, drainage modifications, new high-mast light poles and new compressed air tank and lines.

In addition, the project layout had to accommodate the use traditional rubber-tired gantry cranes (RTG's, with 65' wheel centers) for an alternate operation along the same track expansion.

Construction Management included observation for asphalt paving along the strip tracks; 20"-25" cast-in-place concrete paving for crane runways; storm sewer and track underdrain installation; foundation pouring for electrical and mechanical infrastructure, high-mast light pole erection, electric conduit and panel box installations; compressed air tank and airline installations; trailer parking and crane runway striping; and the 4-foot raise of an asphalt-paved 9-acre trailer parking lot.

In addition, one of the 3200' tracks was paved in with asphalt so that the track could accommodate both train and truck traffic for both CRTG and RTG crane operations.

Coordination during construction included regular communication with Intermodal and Transportation personnel, well as the BNSF construction gang that was onsite for over 2 months of the 7-month long project.



Cantilevered Rubber Tired Gantry (CRTG) Crane Expansion BNSF Corwith Intermodal Facility, Chicago, IL

Owner
BNSF Railway Co.
4515 Kansas Ave
Kansas City, KS 66106

Owner Contact
Ross Thomas
(913) 551-4410
Ross.Thomas@bnsf.com

Year Started
2016

Year Completed
2017 (construction)

Project Cost
\$10,100,000 (general contractor)

Proposed Project Team Involved
Steve Gaudette
Steve Norman
Scott Stanton
Frank Nauman

Section 3: Relevant Project Experience

CLIENT REFERENCES

Joe Vanderwerff

Winnebago County, Illinois Highway Dept.
424 N. Springfield Ave.
Rockford, IL 61101
(815) 319-4000
JVanderwerff@WinColl.us

Luke Baatz

Union Pacific Railroad
1400 Douglas St.
Omaha, NE 68179
(402) 544-3527
LMBaatz@up.com

John Stilley

BNSF Railway
4515 Kansas Ave
Kansas City, KS 66106
(913) 551-4519
John.Stilley@bnsf.com

Stephen Rapp

Village of Timberlane, Illinois
P.O. Box 56
Caledonia, IL 61011
(815) 633-2209
president@villageoftimberlane.org