

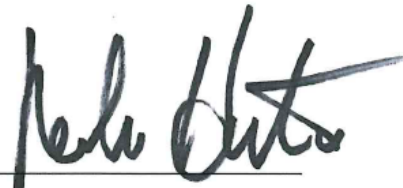


Construction Manual

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REVIEW AND APPROVAL RECORD

Reviewed By: 
Pedro Hurtado
Director, Project Management

Date: 5.23.2024.

Approved By: 
Glen Peters
Senior Director, Capital Projects

Date: 5/23/2024

Approved By: 
Mark Delaney
Chief Capital Delivery Officer

Date: 5/23/24

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1. INTRODUCTION

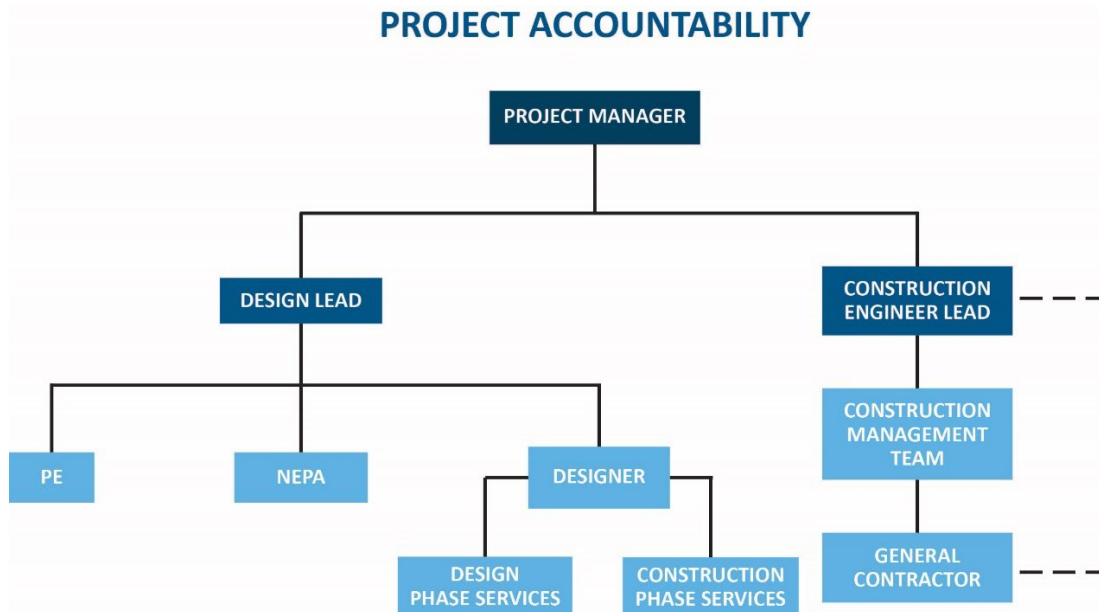
1.1 PURPOSE

The Construction Manual provides guidance for the Metra Construction Manager’s (CM) administration, management, and observation of Metra construction projects. The Construction Manual defines the required uniform construction project management practices across all projects managed within Metra’s Capital Delivery Department. Providing for the operation and maintenance of a safe, reliable, and convenient commuter railroad system, Metra's Capital Delivery Department includes projects that involve design, construction, and the procurement and installation of materials. However, this is not a contractual document in itself and serves Metra and the consultants who work on Metra’s behalf to guide the efforts in achieving the goal of successfully completing the construction Phase of the project.

The role of the CM is to coordinate, manage, monitor, and report on the Contractor’s activities associated with their construction contract, and interface with Metra operations as required. The CM verifies the construction activities are performed in accordance with the contractual requirements, open issues and/or activities are promptly resolved, and contract required construction documentation is adequately prepared and maintained. Volume 1 – General Provisions within the Construction Services Agreement defines the Construction Manager as “Metra’s designated manager for oversight of the day-to-day performance and management of the Contract”. The definition does not distinguish between a consultant contract or a Metra employee in the role of Construction Manager. To ensure the successful delivery of completed project(s) the Construction Manual is presented to outline the roles, processes, tasks, and documents supplementing the Contract Documents needed to effectively manage a construction phase Contractor with Metra. The CM will provide the Contractor with the applicable Metra procedural construction documentation, forms, logs, reports, etc., identified as part of the Contractor’s requirements in executing their work. The chart below illustrates how the various parties involved in the delivery of capital construction projects are accountable to the construction management team and to the Metra Project Manager.

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FIGURE 1-1: PROJECT ACCOUNTABILITY CHART



1.2 USE

The Construction Manual is beneficial for providing guidelines for first time Metra Project Managers, Metra Construction Managers, Owner’s Representatives (OR) and firms new to Metra’s project delivery methods, as they relate to Project/Construction Management. The manual describes procedures supporting the efficient processing of project information of the highest quality standards as outlined in the contract(s). This manual is not intended to be all inclusive nor does it represent instruction in all areas where instruction may ultimately be deemed necessary. It may be supplemented and/or revised by Metra during the life of the CM contract or task order and issued to the CM for implementation. This manual contains the procedural guidelines and processes that Metra expects the CM to perform while managing construction contracts, from award through contract closeout, under Metra’s Capital Delivery Department.

Throughout the Construction Manual there are various components available through Metra’s Third-Party Contracts Quality Management Plan (TPCQMP) which will form the framework for the CM in reaching the goal of contract compliance by the construction contractors. The TPCQMP provides various procedures, forms, logs, and templates designed to support the project management functions for change management (contract modifications and change orders), correspondence logging, daily reporting, meetings, nonconformances, project deliverables, project file naming, project organization chart, request for materials inspection, record of Contractor contact, project submittals, logs of training, testing, and equipment calibration, and transmittal of information.

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1.3 RESOURCES

This Construction Manual was developed with the assistance of studying other agencies and their best practices and relevant information along with guidance acquired from the Federal Transit Administration (FTA) that contributed to the formation of the overall views within this Construction Manual. Below is a list of resources researched that contributed to the input and guidance to the Construction Manual:

- Construction Management Handbook ([FTA](#)), February 2016
- Construction Inspection Manual, 8th Edition, Builders News, BNI Publications, Inc.
- Illinois Construction Manual, Illinois Department of Transportation ([IDOT](#))
- Construction Manager’s Manual, Illinois State Toll Highway Authority (ISTHA)
- Construction Manager Manual, Chicago Transit Authority (CTA)
- Construction Management Plan Manual, Northern Indiana Commuter Transportation District (NICTD)

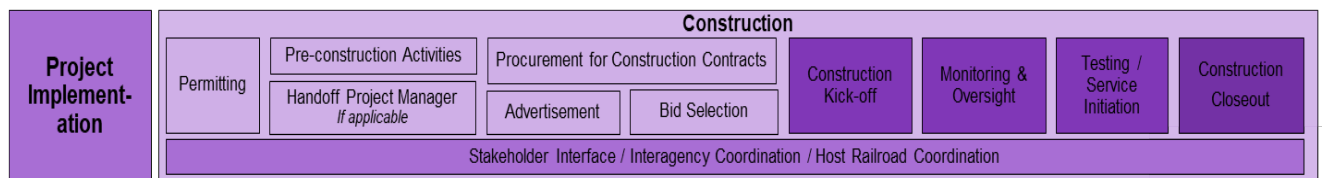
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2. PROJECT LIFE CYCLE – IMPLEMENTATION

The life cycle of a typical Metra capital improvement project can be visualized as proceeding through four distinct phases of work as illustrated in Figure A below. This manual is mainly focused on the Project Construction phase.

FIGURE 2-1: METRA PROJECT PHASES

Definition Phase / Preliminary Engineering/NEPA (Environmental/Historic Review) / Final Design / Construction / Close-Out & Archiving



Coordination of construction activities should begin during the final stages of design. The coordination may consist of kickoff of a Third-Party Contract (TPC) task or contract to perform construction management, constructability reviews, and other associated tasks. The Metra Construction Subject Matter Experts (SMEs) or the construction management team may assist in a formal project hand-off meeting. Likewise, the designer of record (DoR) must provide services during the bidding process including the answering of pre-bid questions and the preparation of addenda through and in support of Metra’s Procurement Division and staff. Additionally, the DoR’s contract must include services during the construction phase (typically referred to as Design Services During Construction (DSDC)) to provide Requests for Information (RFI) responses, permit support, technical design related change support, and submittal and shop drawing review.

It is a recommended practice for the Metra team to begin selection and start the Construction Management Task or Contract during the Project Development and Final Design phase (around the 60% submittal stage). Part of the construction work by the Construction Management team may commence during Project Development and Design by performing constructability reviews and preparing for the start of Contractor work.

The construction phase includes but is not limited to final permitting, bidding of the project, selection of contractors, material/equipment procurement, kick-off and progress meetings, material/equipment acceptance, construction/installation and service testing, progress schedule reviews, and all other coordination as discussed in this manual. This phase concludes when the project is placed into service and all construction, associated design, and construction management contracts are closed and Metra’s operations assumes control of the infrastructure.

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3. RESPONSIBILITY AND AUTHORITY – CONSTRUCTION PHASE

3.1 PURPOSE & SCOPE

All responsibility and authority relationships are governed by the specific project Contract Documents and contracts between Metra and the Designer of Record (DoR), the CM, and the Contractor. To be clear, the DoR, CM and the General Contractor have no contractual relationship with each other, and all have only a contractual relationship with Metra. The Requirements Section will provide guidance for the responsibility and authority of each respective party noted above.

3.2 REQUIREMENTS

3.2.1 METRA AUTHORITY

Metra awards contracts that include services for system management, studies, testing, project design, construction improvements, and construction management services. Metra has the authority to define the qualification, cost, and diversity requirements for each type of contract, solicit bids or proposals for solicited work, and make the final decision on the award of all contracts. Metra maintains overall authority over all work and administrative activities by Contractors who are party to a Metra contract.

Metra has the authority to select and implement system improvements, including capital improvements, that best utilize available funding. Metra also has the authority to evaluate all requests for payment for services rendered based on all contract requirements, including those that reference Metra and federal/local quality requirements, and to authorize or disapprove such payment.

Metra maintains the authority to mandate training requirements for all Metra and TPC personnel, as applicable, for each contract and require specific software and digital record-keeping requirements, including the use of the Project Management Information System (PMIS).

Metra Quality (personnel, staff, Department) maintains the authority to oversee all aspects of quality assurance as part of Metra project management responsibilities and to make periodic changes or adjustments to the policies of the Department. All policies and procedures specified in the TPCQMP are subject to audit to verify compliance. Audits may or may not be regularly scheduled and can address all aspects of quality including training, project documentation, and quality of work. Metra requires that all audit activities be properly documented. All deficiencies noted as part of any audit must be addressed. TPC Quality Assurance personnel shall be independent of the pressures and influences of production and of cost and schedule considerations in quality decisions and shall have direct accountability to responsible level where appropriate action may be taken.

3.2.2 DESIGNER OF RECORD RESPONSIBILITY

Details describing the responsibilities of the Metra DoR can be found in the Metra Design Manual. The Designer may, under the terms of their Metra contract/agreement, have the responsibility to

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respond to requests routed through the Metra PM from the CM, permit review issues, including RFI seeking clarification of design intent or details, change requests, substitution requests, submittal and shop drawing review and, on occasion, value engineering (VE) proposals.

3.2.3 DESIGNER OF RECORD AUTHORITY

Details describing the authority of the Metra DoR can be found in the Metra Design Manual. The DoR does not have any oversight of construction activities contractors or consultants, with the DoR’s involvement typically limited to design related construction support such as responses to RFIs or Contractor reviews as described herein.

3.2.4 CONSTRUCTION MANAGER RESPONSIBILITY

The CM is responsible for the proactive day-to-day management of the Metra project. The CM acts directly as the Metra representative on the project. Depending on the scope of a particular project, the oversight of various aspects of work may fall to different individuals, including subconsultants, all of whom are considered a part of the CM team. Details of the CM’s responsibility are to be prescribed in the formal agreement between Metra and the consultant (if used for the services). Generally, the CM is required to provide an up-to-date organizational chart detailing the responsibilities and authorities for everyone listed on the chart. Additionally, the CM will be tasked with tracking the relative accrual of hours and dollars expended against the overall contract/agreement value. This responsibility is paramount in continuing to focus on the professional services in delivering the construction of the project, uninterrupted by the administrative responsibilities of the contract/agreement with Metra.

The specific responsibilities of the CM are detailed in each contract/agreement. However, at an overview level, the responsibilities of the CM as detailed throughout this manual include:

- Communications with the PM, construction Contractor and all project stakeholders as it affects the progress of work
- Adherence to all applicable Metra quality guidelines including the TPCQMP documentation and record-keeping requirements
- Knowledge of project rail operations, utilities, adjacent land use, and concurrent contracts
- Understanding of environmental safety requirements, rail safety, regulations governing construction operations and the safety of Metra riders, workplace safety, and the safety of other facility users and drivers present in and around the construction site
- Working with Metra’s Procurement staff to review, evaluate, and manage changes to the construction contract as expeditiously as possible
- Identifying potential changes or risks for the leadership within Metra to manage and/or mitigate
- Providing for the timely administration of monthly/periodic pencil draws/pay applications
- Knowledge of and adherence to the fundamentals of the CM’s contract/agreement administration with Metra (if applicable)

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The Metra CM has responsibility for coordinating all project communications from the Metra PM and, as circumstances may require, other Metra offices, departments, and stakeholders. The CM must be in communication with the Contractor, both formally and informally, throughout the duration of the project. The CM must document all communications per the applicable guidelines. As circumstances warrant, the CM will function as the Metra on-site representative when dealing with other project stakeholders; project specific and adjacent property owners; utilities; state, county, local, and regulatory agencies; and the general public.

Additionally, the CM must have a thorough understanding of the nature of the construction project for which they have responsibility. This includes project development, the scope of the project as defined by the bid documents and executed construction contracts, all agreements and commitments associated with the improvement, work restrictions, permits, adjacent land use, the project schedule, its constraints and milestones, and rail and traffic operations in the vicinity of the improvement. As part of project oversight, the CM must also be familiar with and apply all referenced Metra and industry standards, manuals, details, codes, and regulatory requirements.

The CM’s contract shall outline the specific authority and responsibilities of the project stakeholders. This requires knowledge and application of all Metra quality requirements as given in the TPCQMP and other formal quality directives. The CM has the authority and responsibility to provide to the Contractor any information required to be used as a basis for notification of a possible quality deficiency.

The Metra CM is responsible for maintaining project records as outlined and included in the TPCQMP, and all others that may be contractually required, and ensuring that they are accurately completed, updated, and archived throughout the duration of the project. All project records shall be legible, identifiable, and retrievable. The CM shall use current standard Metra forms, logs, and checklists or Metra-approved modifications to those document templates. Records include, but are not limited to, meeting minutes, forms, logs, quantity calculations, RFIs, pay applications, shop drawings, change requests, schedules, organizational charts, delivery tickets, training and equipment certifications, Inspection Daily Reports (IDRs) or simply Daily Reports, Monthly Reports, and audits. The CM must continually monitor recordkeeping using the PMIS, including proper file structure and naming conventions. The CM must ensure that all digital drawing files created during the construction work, as part of the General Contractor’s deliverables, if any, meet Metra computer-aided design and drafting (CADD) standards, as well as any standards outlined by Permitting agencies or reviewing authorities. The CM must ensure the proper storage of all physical records including models, paper documents, test reports, and product samples.

As part of project oversight, the CM must have established within the project team a thorough understanding of rail, commuter, passenger, and freight operations on lines that traverse or border the work area. Communication with rail operators is essential. Therefore, knowledge concerning the availability of flaggers, per contract or agreement, proposed rail crossings, work within the railroad right-of-way (ROW) and work restrictions associated with rail operations are all part of the CM responsibility.

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The CM must also be aware of, and take the necessary measures to determine, all utilities within the work zone that may be affected by or come into conflict with construction activities. As such, it is expected that the CM will coordinate all work affecting adjacent properties, including the use of easements or rights-of-entry. Also, the CM must maintain coordination with outside Contractors and site managers who may be working adjacent to or within the project limits. These could include Metra contracted and non-Metra entities. It is the responsibility of the CM to determine, document, and resolve any issues related to property access, damage to adjacent properties, utility conflicts, and work zone conflicts between contracts. The primary goal of these efforts is to minimize adverse effects to the project’s costs and schedule.

The CM is responsible for providing the supporting documentation, which includes Independent Cost Estimates (ICEs), Time Impact Analyses (TIAs), dispositions, chronologies and supporting technical data of the original/current condition and the proposed changes for all Contract Modifications and/or Change Orders. It is incumbent on the CM to facilitate the expeditious execution of all necessary changes and to work in coordination with the PM and Metra’s Procurement Department. This work to facilitate the timely execution of all necessary changes may include providing supporting information, briefs, logs, and other tools made available within Metra.

The CM is responsible for the establishment of the initial Pay Application Schedule of Values (SoV) and the regular cadence of Pay Applications. This includes the receipt and review of all Pencil Draws, supporting data and submittals and the Pay Application itself as outlined in the contract documents.

Safety for the public, Contractors, Metra personnel, and rail personnel continues to be the priority of Metra and it is the responsibility of the CM to understand the specifics, as outlined within the contract documents, as well as typical jobsite safety risks and take the necessary measures to mitigate or eliminate them. These risks typically fall into several broad categories; environmental, rail operations, workplace safety as defined by the Occupational Safety and Health Administration ([OSHA](#)) and the safety of riders, bicyclists, and motorists in and around the project site.

3.2.5 CONSTRUCTION MANAGEMENT STAFF

The following sections describe the possible CM positions, roles, and responsibilities. The size, scope, and features of the contract will dictate which roles will be required. Due to the various project types that may involve work on facilities, systems, civil, structural, mechanical, electrical, environmental and rail mechanical, the roles noted below may need to be supplemented by SMEs to address responsibilities for construction.

The Construction Manager Project Manager (CM PM) is responsible for daily management of the Construction Management Task Order Engineering Services Contract, and Metra’s primary point of contact. The CM PM will be responsible for reporting status of the project to Metra. The CM PM must be available to provide solutions to engineering and administrative problems that occur on the construction project. In addition, the CM PM must be fully knowledgeable in construction engineering and construction management, client-oriented, assertive, well-rounded in technical

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training and experience, a strong personnel manager who is able to delegate effectively, and a good communicator. The CM PM must have experience in rail, commuter rail, rapid transit, and/or public infrastructure construction projects. The CM PM must have specific experience on projects involving construction of power & way renewal on a transit system and construction and rehabilitation of bridges, stations, retaining walls, rail maintenance facilities, and large-scale phased construction projects.

The Resident Engineer (RE) is responsible for monitoring the construction contract work to ensure the project is completed in accordance with Metra’s safety, quality, cost, and schedule objectives. The RE serves as Metra’s direct contact with the Contractor and all field personnel. The RE will utilize substantial administrative ability to coordinate CM Field Engineers for daily assignments and manage project technical staff. REs will provide final approval of the Contractor pay requests, oversee inspection, and manage project documentation. The RE must have experience in construction project management as an on-site RE and the ability to represent Metra professionally in the field, to determine Contractor compliance with the requirements of the Contract Documents. The RE must possess construction inspection experience and technical competence in the construction of projects of similar type and magnitude of the work. REs must have experience in rail, commuter rail, rapid transit, and/or public infrastructure construction projects. The RE must have specific experience on projects involving construction of power & way renewal on an existing, operating transit system and construction projects that include railroad structures and transportation facilities.

The Assistant Resident Engineer (ARE) is responsible for assisting the RE in implementing and managing all project technical staff and monitoring construction activities when the job complexities or size requires. The ARE may attend all meetings as required to assist in all technical aspects of the work and assists the RE in performing final approval of all Contractor Payment Application requests. The ARE assists the RE in evaluating, implementing, and maintaining the CM Training Log and Responsibility Matrix for CM staff. The ARE assists the RE with preparing monthly reporting and providing information requested by the Metra PM for funding and stakeholder reporting information. Due to varying degrees of project sizes and types, the ARE may function as the RE to fulfill the duties and responsibilities as the RE on a project. Such a designation for the ARE to function as the RE would be addressed in the CM scope of work for services on the project.

The Lead Field Engineer / Field Engineer (LFE/FE) is responsible for performing, managing, and coordinating field engineering duties to ensure the project is completed in accordance with Metra safety, quality, cost, and schedule objectives. The LFE/FE must be able to read and interpret plans and specifications to determine whether the work meets the requirements of the construction contract. The LFE/FE will perform the duties of site safety when no Safety Manager is on the CM team. The LFE/FE will possess familiarity with Contract Documents, handle material delivery inspection and inventory, photograph documentation of construction progress, provide site inspection, ensure Contractor material testing for quality assurance, monitor Contractor’s work including the punch list, prepare the Inspector Daily Report (IDR) for RE review and signature, and immediately report any of the Contractor’s work that is not in conformance with the Contract

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Documents. The LFE/FE will work with the Quality Manager ensuring the quality assurance requirements on the jobsite are met. The LFE/FE must have experience in rail, commuter rail, rapid transit, and/or public infrastructure construction projects. The LFE/FE must have specific experience on projects involving construction of power & way renewal on an existing operating transit system and construction projects that include railroad, railroad structures, transportation facilities, facility renewal, and public rail transit.

The Office Engineer (OE) is responsible for providing document control, monitoring project submittals and RFIs and maintaining the record set of construction drawings and specifications. The OE will process RFIs, maintain version updates of the Contract Documents, review the Contractor’s Submittal Schedule to verify all submittals have been listed, review construction submittals for contract specification conformance, and verify submittals are being submitted so work is not delayed. The OE will provide and assist with project documentation, including logs, correspondence, meeting agendas, meeting minutes, reports, pencil copies and pay applications, and assist with reviewing change orders and potential change orders and provide cost justification for the work. The OE must have substantial administrative ability including computer and organizational skills and a working knowledge of applicable terminology associated with the construction industry to manage the many facets of construction documentation.

The Project Controls Engineer (PCE) is responsible for performing project control duties to ensure the projects are completed in accordance with Metra cost and schedule objectives as defined in the Contract Documents. The PCE supervises the OEs, all documentation, and filing for the Project. The PCE coordinates usage of force account labor, oversees the preparation of the CM’s invoices, oversees the establishment and the monthly updates of the contractor’s SoV for use in the pay applications, oversees the establishment of the Contractor’s Baseline Schedule and the periodic progress updates , supervises the change order and scheduling efforts of the project, prepares Independent Cost Estimates (ICEs) and Time Impact Analyses (TIAs) for contract modifications and change orders, prepares schedule trend reports for Contractor delays, prepares and issues reports for RE review, prepares all documentation to support contract modifications and change order packages, and attends all meetings relating to contract progress, modifications, change orders, and cost and schedule related topics.

The Quality Manager (QM) is responsible for enforcing the CM and Contractor’s Quality Management System, in addition to the requirements outlined within the contract and in the TPCQMP, to ensure the project is completed in accordance with Metra’s quality objectives. The QM representative for the CM and the QM representative for the Contractor must be independent of the pressures of production cost and schedule considerations in quality decisions and shall have direct access to responsible management at a level where appropriate action may be taken to implement the contracted Quality Assurance and Quality Control processes and procedures.

To ensure Contractor conformance, the QM for the CM will review and provide recommendations to Metra for the various Contractor plans and the Testing and Inspection Plan. The QM for the CM will manage the Contractor quality audit process, scheduling, and reporting along with conducting the Contractor Quality Audit. The QM for the CM will provide oversight and management for the

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Nonconformance Report (NCR) Process including review of the root cause, corrective action, and preventive action provided by the Contractor with recommendations to Metra for approval, rejection, or closure. The QM for the CM will monitor the Contractor’s use of the Metra project file naming, NCR corrective and preventive actions for effectiveness, and Contractor maintenance and updating of quality records. The QM for the CM must have substantial knowledge of quality control, quality assurance, and audit procedures necessary for contract compliance. The CM contract/agreement outlines specific Quality Assurance and Quality Control personnel requirements, quality task requirements, and quality procedures.

The Safety Manager (SM) is responsible for reviewing, monitoring, and implementation of the Contractor Safety Plan to ensure all work is completed in accordance with Metra’s safety rules and objectives. Dependent on the project, the SM may attend Safety and Security Certification Committee (SSCC) meetings and Fire Life Safety and Security Committee (FLSSC) meetings for Metra capital improvement projects. The SM will communicate directly with the Metra Safety Department and as outlined within the construction contract to report if the Contractor is proceeding in an unsafe manner and to report all serious acts, conditions, accidents, and unusual occurrences on the project. The SM must have completed a 30-hour Occupational Safety and Health Training Course approved by OSHA. The SM must have experience in rail, commuter rail, rapid transit, and/or public infrastructure construction projects. The SM must have specific experience on projects involving construction of power & way renewal on an existing, operating rapid transit system and construction projects that include railroad, railroad structures, transportation facilities, facility renewal, commuter rail, and public rail transit.

The CM Scheduler will review the Contractor Baseline Schedule submission to evaluate and offer dispositions and requirements for acceptance of the proposed construction schedule. If the CM Scheduler finds the proposed Baseline Schedule unacceptable, the CM Scheduler will provide requirements to the Contractor to resolve schedule submission deficiencies. Additionally, the CM Scheduler will assist in facilitating the resubmission and acceptance of the Baseline Schedule. The CM Scheduler will be responsible for the review of Contractor Monthly Schedule Update submissions which compare construction progress to the Baseline Schedule plan. The CM Scheduler must be familiar with delay claim analysis and schedule recovery techniques. The CM Scheduler must have experience reviewing and interpreting Critical Path Method (CPM) schedules and the use of Primavera/Oracle P6 scheduling software (as prescribed in the Metra’s General Conditions of the Construction Contract). If a project is not of the size or does not support the position of a CM Scheduler, a designated and qualified individual within the CM staff will be presented to Metra for approval to function in the role as outlined herein and within the CM contract/agreement details.

Administrative / Clerical Assistants may be required due to the size and/or complexity of projects. The Administrative / Clerical Assistant will assist the OE and RE with project documentation tasks. The assistant shall have substantial administrative ability including computer and organizational skills.

SMEs may include staff with particular or focused skill sets that demonstrate experience and expertise in facilities, systems, civil, survey, testing (if necessitated by the contract), structural,

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mechanical, electrical, environmental, commissioning, integrated testing, and rail mechanical roles. The SME role may be identified in the CM contract/agreement to address the specific needs for the project.

3.2.6 CONSTRUCTION MANAGER’S AUTHORITY

As outlined in the Construction Contract documents, the CM generally has the authority to monitor all project work activities and requests for review and approval, all reports, logs, material delivery tickets, test results, checklists, drawings, training records and data related to those activities and provide Contractor requirements related to meetings, organizational charts, issue resolution, requests for information, payment requests, inspections, testing, delivery, and scheduling, as applicable to the project.

The CM will request various project plans from the Contractor to review, accept, monitor, and require updates for, consistent with the contract and Metra quality, safety, and administrative requirements. These include:

- Project Schedule
- Contractor’s Safety Plan
- Contractor Organizational Chart
- Inspection and Testing Plan
- Calibration Log

The CM has the authority to establish meeting schedules and agendas to monitor the progress of work. All Contractor submittals are subject to CM review. The CM will implement the format of all correspondence consistent with Metra quality guidelines.

The CM may instruct Contractors and their subcontractors to limit or revise work activities consistent with worksite constraints imposed by Metra, the railroads, regulatory agencies, municipal agencies, and adjacent property owners or in coordination with other construction around the project location. All workplace activities performed by the Contractor are subject to CM management and oversight. These can include, but are not limited to, installation, demolition, material delivery and stockpiling, testing, traffic control, access to railroad or adjacent right-of-way, surveying, tree removal, erosion control, site security and progress cleaning and are detailed within the construction contract.

The CM can instruct the Contractor to furnish records or submittals as required to satisfy quality and contractual obligations. Examples of these may include but are not limited to training records, schedule baselines and updates, change cost estimates, inspection reports, equipment calibration data and delivery tickets.

All Contractor requests are subject to CM review and acceptance including, but not necessarily limited to, the following:

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- Change requests (including supporting documentation)
- Pencil Draws/Pay Applications
- Shop drawings
- Substitutions/Value Engineering proposals
- Requests for Information
- Product verification
- Punch List
- As-built drawings
- Daily reports

The CM has the authority to review, accept, and submit all Contractor requests involving compensation and disposition of audit findings. The CM has an obligation to respond to all requests in a timely manner and must recognize those issues which may be project schedule-critical or which may impact the cost of the project. See the applicable sections of this manual for more details.

3.2.7 CONTRACTOR RESPONSIBILITY

The Metra Contractor is responsible for the satisfactory completion of the work as described in the Contract Documents. Completion of the work consists of meeting all Metra requirements governing the construction scope of work, its quality, schedule, safety, and cost. The specifics of the Contractor’s responsibilities as well as their authority are outlined in the contract documents (between Metra and the Contractor) and the associated procedures.

3.2.8 CONTRACTOR AUTHORITY

The Contractor has overall authority over the suppliers, vendors, subcontractors and subconsultants that are party to their agreement with Metra and as established as a contractor working within the state of Illinois.

3.3 OTHER ROLES AND RESPONSIBILITIES

The CM will be expected to manage communications and stakeholder issues as described below. These will include stakeholder management resulting from communications initiated by the Contractor, on-site interactions, and ongoing coordination. Record keeping will be performed per documentation requirements and issues requiring action by the Metra PM shall be brought to their attention in a timely fashion.

3.3.1 COMMUNITY AND PUBLIC RELATIONS

The Metra System encompasses a diverse geographic area and includes diverse project types as part of the regional transportation network throughout Northeast Illinois, Southeast Wisconsin, and Northwest Indiana. Project scopes can vary greatly and can encompass construction of power & way renewal on the existing, operating commuter rail system including; construction and rehabilitation of bridges, stations, retaining walls, rail maintenance facilities, and large-scale multiple

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staged/phased construction projects. Projects and work on the Metra System can involve work on or adjacent to private and public property. Private properties can include individual homeowners, commercial properties, and any non-governmental property, land, or another railroad. In contrast, public property may be owned and under the authority of a district, state, federal or local government including county, state, or federal transportation departments. To coordinate the work and construction projects adjacent to private and public property, **Metra Community Relations** is the communications interface between Metra and the private and public entity. The CM and Contractor’s field personnel are often those in daily contact with, and under the critical eyes of, the public. All initial contacts, communications, correspondence, and meetings taking place with the private and public individuals, groups or entities must begin with Metra Community Relations and Metra Communication Department. When requested by Metra, the CM is responsible for assisting Metra Community Relations with coordination of public relations activities.

The CM must emphasize that the Contractor and field personnel refer any public relations questions to the CM. The CM must then refer any public relations questions directly to the Metra PM or Metra Community Relations representative for answers or further referral.

When approached by the media and per the Metra Media Policy, avoid saying that you “. . . are not permitted to speak to the media.” Be courteous, friendly, professional, respectful and advise that it is Metra policy to refer all media inquiries to the Metra Communication Department and Metra Community Relations. Provide the contact with the information necessary to contact the Metra Community Relations representative for the project.

Invite the Metra Community Relations Representative to project meetings inclusive of the project preconstruction kick-off and project progress meetings.

3.3.2 EXTERNAL STAKEHOLDERS

All entities, private or public, impacted by the project or regulating the work in some capacity, are external stakeholders. The CM, as the daily point of contact on the project, is the prime interface with these external stakeholders.

Typical external stakeholders to Metra projects include:

- Burlington Northern Santa Fe Railway (BNSF)
- Union Pacific Railroad (UP)
- Amtrak (National Railroad Passenger Corporation)
- NICTD (“South Shore Line”)
- Norfolk Southern Corporation (NS)
- Canadian Pacific Railway (CP)
- Canadian National Railroad (CN) including subsidiaries
 - IC Illinois Central Railroad and
 - WCL Wisconsin Central Ltd.
- Local Municipalities

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- Counties
- Utility Companies
- CTA
- PACE bus service
- Regional Transportation Authority (RTA)
- Illinois Department of Transportation (IDOT)
- Chicago Department of Transportation (CDOT)
- City of Chicago (CoC)
- county or municipal transportation departments
- major employment centers

As noted in the Community and Public Relations Section, all initial contacts, communications, correspondence, and meetings taking place with private and public individuals, groups, or entities must begin with Metra Community Relations and Metra Communication Department. When requested by Metra, the CM is responsible for assisting Metra Community Relations with coordination of public relations activities.

3.3.3 ADJACENT PROPERTY OWNERS

Metra operates near both private and public property owners. Private property owners may be owners of private residences and/or commercial properties. Commercial property owners may experience financial and operational impacts resulting from the work being performed on the project. The adjacent property owners may require permission and authorization as outlined in an agreement or approved right-of-entry in order to permit work on their property or perform work that impacts their property.

3.3.4 OTHER RAIL PROPERTIES

Metra operates near and on other rail properties and rail transportation entities with which Metra has formulated operational agreements, requirements, or guidelines for these operations and the use and ownership of that infrastructure. Often separate permission and authorization in the form of an agreement is required to permit work on their property or work that impacts their property. In addition, the other rail entities may require specific training for Metra project personnel, CM, or contractor, beyond the Metra Contractor Orientation.

3.3.5 GOVERNMENT ENTITIES

Various government entities including IDOT, CDOT, CoC, ISHTA, county and local municipalities, maintain jurisdiction over the surrounding areas encompassing access points to Metra property and facilities. The entities that govern these access points often require permission to perform modifications or other forms of work to their property or ROW. Additionally, the government entities may require coordination, permits, or agreements to be in place by Metra or the Contractor related to the Metra project and its associated work.

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3.3.6 RIGHT OF ENTRY (ROE) AND MEMORANDUMS OF UNDERSTANDING (MOU)

Agreements or permissions to access or perform work on Metra property may be in the form of a ROE or MOU between the stakeholder and Metra. The adjacent property owners, other rail properties, and government entities may also require the Contractor to enter into a ROE or MOU agreement as the entity that is actually performing the physical work. The CM will coordinate with the Metra PM for review by Metra’s Law and Risk department review of any proposed Contractor ROE or MOU for accuracy as well as its relation to existing Metra agreements and any cost impacts.

3.3.7 ADDITIONAL REFERENCES

The CM can refer to the listed documents for more information regarding Metra project management and responsibilities.

3.3.8 FORCE ACCOUNT (METRA FORCES)

The CM has the responsibility of coordinating with Metra’s work force to schedule needed flagging protection if required under the construction contract. Additionally, Metra labor and or Metra supplied equipment and materials may need to be synchronized with the Contractor’s work plan in order to successfully complete the project. Metra related labor and/or supplied materials and/or equipment should be outlined in the construction contract documents but relies on the CM to implement the supply and work plans to accomplish the project.

REFERENCES
Volume 1 – Construction Contract
Third Party Contracts Quality Management Plan
ADDITIONAL DOCUMENTATION
Metra Media Policy AC-03.1
Metra Legislative Affairs
Metra Media Relations

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4. CONSTRUCTION DOCUMENTATION AND DELIVERABLES

4.1 MEETINGS

4.1.1 PURPOSE

To establish effective project communications with the project stakeholders, various project meetings provide for the initiation of construction, progress status monitoring, coordination with individual stakeholder, task specific detailed reviews and project turnover to the stakeholder end user. The meetings provide a means to communicate and coordinate among all stakeholders the various issues encountered during the project delivery and a forum by which discussions may be held and resolutions reached or identified requiring further discussion/information. The CM takes the lead role to chair, document and distribute the meeting agenda, minutes, and attendance sheets to the stakeholders.

4.1.2 REQUIREMENTS

Typically, each construction project will provide for a pre-construction / kick-off meeting that involves participation by all project stakeholders. Following the initiation of the construction phase, weekly progress meetings and task specific meetings are to be conducted by the CM team. In the event the Contractor or Metra is responsible for chairing the meeting, the CM will participate as deemed necessary by the PM. The following are examples of standard meeting types for all projects:

- Pre-Construction / Kick Off
- Permit
- Weekly or Bi-Weekly Progress
- Construction Process / Pre-activity
- Pencil Draw/Pay Application
- Change Management (which includes Potential Changes, Contract Modifications and Change Orders)
- Schedule Meeting (both establishing or revising the Project’s Baseline Schedule as well as monthly updates)
- Closeout
- Safety
- Quality
- Jobsite briefings for Track Access or Outages
- RFI and Submittal reviews

All meetings will be documented in the project record folder. The folder will include agendas, meeting minutes, attendance sheets, project logs and copies of information reviewed at the meetings.

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4.1.2.1 PRE-CONSTRUCTION / KICK-OFF MEETING

The purpose of this meeting is to discuss the execution of the project as well as the start and completion dates for construction. Prior to the meeting, the CM must visit the project site, review, and become familiar with the construction Contract Documents and identify critical pre-construction discussion items prior to the pre-construction meeting. After award and Notice to Proceed (NTP) to the Contractor and prior to commencement of the work, Metra will schedule a pre-construction meeting. The following items will be reviewed and discussed:

- Introduction of Metra and Contractor key personnel assigned to the project
- Scheduling time/date for weekly field progress meetings
- Construction procedures
- Construction schedules
- Pay application procedures
- Submittal and shop drawing procedures
- Project controls
- Disadvantaged Business Enterprise (DBE)/Equal Employment Opportunity (EEO) requirements
 - Sustainability expectations

In addition, the pre-construction meeting outlines coordination, communications, reporting and documentation requirements, and other procedures necessary for compliance with Contract Documents, standards, and user requirements. A pre-construction meeting typically occurs within 15 calendar days after issuance of the NTP.

4.1.2.2 PROGRESS MEETINGS

The CM is responsible for conducting weekly or, at a minimum, bi-weekly progress meetings that will be on the same day/time as mutually agreed upon by all parties attending. At a minimum, the Contractor, the CM’s RE, and OE are required to lead these meetings. The CM will invite the Contractor, Metra representatives, and any other affected agencies or stakeholders. A meeting attendance sheet will be provided and managed by the CM to document those in attendance. If the meeting has participants who are attending remotely (via Microsoft Teams, etc.), the issuer of the Meeting Minutes shall provide a Teams printout of the meeting attendees and provide this form as an attachment to the Minutes. If the meeting’s attendees are all participating remotely, Metra’s Meeting Attendance Form is not required to be provided. The progress meeting will facilitate review of the current project status, open items from the previous progress meeting, and new discussion items. In preparation for the progress meeting, the CM will prepare a meeting agenda, using Metra’s Agenda form, with the current project logs and distribute to the invitees for review in advance of the meeting. The meeting agenda should discuss:

- Administrative Items (i.e., personnel, site logistics)
- Safety
- Progress schedule (depending on contract requirements, but recommended minimum):

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- Baseline schedule and current performance
- Upcoming updates
- Critical and Near Critical paths
- Contractor Performance
 - Substantial Completion
 - Final Completion
- 3 or 4 Week Look-Ahead (and look-behind) Schedule
- Permits
- Pay Applications
 - Past Payments
 - Current Pencil Copy
 - Labor Compliance
 - Trailing Waivers/Release of Liens/Prompt Payments
- Submittal Status
 - Outstanding
 - In Process
 - Overdue
 - From GC
 - From DoR
 - From CM
 - Upcoming
- Quality Assurance/Control
 - General Performance
 - Upcoming Tests/Inspections
 - Audits
 - NCR (Non-Conformance Reports)
- RFIs
 - New
 - Overdue
 - In Process
- Changes
 - Claims
 - Change Orders
 - Contract Modifications
 - Disputes
 - Potential Changes
- Third Party Issues (i.e., Host Railroad, Adjacent Properties)
- Punch lists/Close-out

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Specifics of the meeting content and format can be found in the TPCQMP and other procedural and instructional documents provided to the CM and on Metra’s website. The list provided herein should be considered to help bolster performance and accountability during construction. Each topic should be brought up, reviewed and actions assigned against relevant topic with due dates and actionee (sometimes referred to as “Ball-in-Court” or BIC). Subsequent meeting should monitor progress against the action items until retired/closed/resolved.

- Action items shall be tracked and numbered as described and shown in Metra’s Instructions and Samples at the links listed in the table below.

4.1.2.3 TASK SPECIFIC MEETINGS

During the implementation of a construction project, additional meetings outside of the progress meetings may be required. A source or requirement for additional meetings may be found in the construction Contract Documents. Often the requirements for technical specific meeting content will be defined in the construction contract specifications. In addition, technical meetings may be required to review, coordinate, and resolve action or open items from the progress meetings. Examples of task specific meetings may include task or work item pre-activity, pay application, change order, schedule, submittal, safety, quality, turnover, or contract closeout meetings.

REFERENCES
Third-Party Contracts Quality Management Plan
ADDITIONAL DOCUMENTATION
Meeting Forms (Pre-Construction / Kick Off, Progress Meeting Agenda and Meeting Minutes, Attendance Sheet)
Meeting Instructions
Meeting Samples

4.2 SCHEDULE REVIEWS

4.2.1 PURPOSE & SCOPE

A project schedule captures all aspects of the project’s work scope in several activities and their associated logic, and the duration of those activities. The construction contract’s construction schedule requirements are detailed in the General Requirements under 013216 Construction Progress Schedule. The construction schedule provides for the planned construction work contained within the contract documents. This serves several functions:

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- Illustrates or communicates how the contractor intends to complete the project while meeting all the contract requirements.
 - There is an objective and comprehensive plan for the work.
 - Can be completed within the contract duration.
- Communicates to Metra’s CM periods where SMEs, outside testing agencies, significant deliveries or events are to take place so that Metra can respond if necessary.
- Notes a “Critical Path” which is the earliest the project can be completed.
- Establishes a baseline (or a plan) for measuring monthly performance against

The CM should review the schedule first and be reviewing basic and more complex issues. Some of these include things is the critical path clearly shown, are the contractual obligations met, does it clearly identify milestones at a minimum including substantial completion, punch-list, and project close-out. The initial project schedule review is also a team effort requiring the CM to engage Metra staff to provide a comprehensive assessment of the work plan. The review may include conversations with the contractor to clarify approaches noted within the schedule itself. All reviews and acceptance of the planned schedule should be done at the earliest opportunity to ensure that the contractor does not proceed without a formal and viable plan in place. The Baseline Project Construction Schedule, including a schedule narrative describing the approach or flow of how the contractor will progress the work, must be accepted by the CM and METRA prior to the contractor performing any work on the Project and prior to the contractor’s first Application for Payment and acceptance by the CM and METRA. This also applies to each Progress Project Construction Schedule prior or contractor’s monthly Application for Payment. It should also be noted that this is the contractor’s plan. Elements of the schedule may differ from how some on the CM or Metra team may have envisioned approaching the work, but the contractor is responsible for meeting the specific requirements within the contract documents. Additionally, “No Plan is Perfect” and adjustments to the plan as the project progresses are acceptable as long as actions meet the specific requirements outlined within the contract. Any revisions to the schedule must be reviewed and accepted by the CM. Any requests for extensions of time must be done by Change Order and reviewed and accepted by the CM.

To document the record of reviews and review dispositions, all schedule submissions and review dispositions are documented in the PMIS.

REFERENCES	
Third-Party Contracts Quality Management Plan	

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4.3 PROGRESS PAYMENTS

4.3.1 PURPOSE & SCOPE

The CM is responsible for reviewing and coming to a mutual agreement with the contractor on the level of progress achieved (value of work earned) on the contract and attesting to that agreement in the “Pencil Copy” process. This can be one of the most contentious periods of the project and it is necessary to extend a fair and balanced approach. The Pencil Draw and Pay Application generally should not be wielded as a punitive contracting tool. Discussion and verifications during that Pencil Copy period are encouraged and should take place in an environment of “trust but verify” and mutual respect. Generally, the contract specifies the requirements for Pencil Draws and Pay Applications which are detailed in the General Provisions of the Contract for Construction Article 9.2 Progress Payments and Final Payment and the General Requirements under 012900 Payment Procedures. The Progress Payment period covered under each application for payment is a minimum of once-a-month.

- Metra has developed and set in place a number of checklists which outline the conditions for progressing through the Payment process
- The Pencil Copy is the first step in the monthly process for what will eventually lead to the official Pay Application and payment by Metra
 - The checklist of required data and actions needs to be completed
 - The CM then indicates that the Pencil Copy is ready for further processing
- The contractor receives the Pencil Copy for final signature
- The contractor submits the Pay Application with the requisite documents to Metra’s invoicing email addresses

The contractor shall develop and maintain a Schedule of Values which is a list of allocated relative values of the Contract Price to the various items of the Work described in the Contract, Specifications, and Drawings. It is used to determine the value of work completed and as the basis for the Contractor's Applications for Payment. The CM may provide the contractor with a framework for the Schedule of Values which the contractor must then follow. The requirements for the Schedule of Values are detailed in the General Requirements under 012900 Payment Procedures. The CM along with METRA are responsible for reviewing and accepting the Schedule of Values which the contractor must submit no later than fourteen (14) calendar days before the submittal of initial Applications for Payment. The CM is responsible for reviewing each Pay Item on the contractor’s Application for Payment and verifying the Contractor's measurement and percent complete status indicated for each Pay Item on each Application for Payment. The CM’s decision shall be final regarding the eligible items for payment and their values. The CM is responsible for acceptance of any Schedule of Value revisions proposed by the contractor.

PROCEDURES	
Application for Payment Procedure	

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<p>Metra's Third Party Consultant Applications for Payment and Summary of DBE Participation are available on the following File Transfer Protocol (FTP) site: https://ftp.metrarr.com/ User Name: metragrants Password: M3tr@u9r3</p>
REFERENCES
<p>Third-Party Contracts Quality Management Plan</p>
ADDITIONAL DOCUMENTATION
<p>Application for Payment Form (see above)</p>
<p>Application for Payment Instructions (see above)</p>
<p>Application for Payment Samples (see above)</p>

4.4 CHANGE MANAGEMENT

4.4.1 PURPOSE & SCOPE

The process of Change Management for a Metra project utilizes the CM to function as an early warning system to identify conditions that could lead to a potential contract change or may be the source of a dispute. Typically changes result from:

- Items not shown in the Contract Documents
- Differing Site Conditions
- Design Omissions
- Discovered through an RFI (Request for Information)
- Added in the Submittal process
- Items required by changes in the permitting requirements
- Items shown in error within the Contract Documents
- Items requested by Metra
- Items requested by a Stakeholder
- A Critical Delay not caused solely by the Contractor to the project
- Changes in the Standards (i.e., OSHA, NEC)
- An Approved Substitution (outlined in 012500 Substitution Procedure)

Metra utilizes the terms Contract Modification and Change Order as components of the change management process. To document and record the correspondence, supporting information, contract modifications and change orders, all documents are to be input into the PMIS.

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The Contract Documents provide the parameters for the change management process inclusive of notifications, modifications, change orders, delays, price adjustment, time impacts, disputes, and contract modification documentation. Specifically, the Contractor and CM are to utilize the forms, instructions, and samples for contract modifications and change orders. The CM must follow the contract requirements to develop and evaluate the components of a Contract Modification and Change Order.

The Contract provides the definitions, requirements, and process for notification of delay, unavoidable delays, modifications to the contract, written change orders, change order procedure, price adjustment, and disputes. For an adjustment in the Contract time, the time extension must be based upon and supported by a time impact analysis derived from the Contractor's construction schedule justifying the time delay as part of the Contractor's time extension request submittal. Extensions of Contract time are granted only through an executed Change Order.

4.4.2 REQUIREMENTS

4.4.2.1 CONTRACT MODIFICATION

A request for a Contract Modification can be initiated by Metra, CM, or the Contractor. Regardless of the initiator, the Contractor must submit a written request to Metra for a Contract Modification with a detailed price, time impact, and schedule breakdown for changes that involve a time impact. The Contractor's written request for the change work must be submitted providing a breakdown of labor, material, equipment, and subcontractors. Each subcontractor is required to provide labor, material, and equipment costs to support the summary information provided by the Contractor. The CM will provide direction to the contractor on the format for the materials provided for any changed work. For changes requiring an adjustment to Contract Price, Contract Time or Milestones, the CM will direct the contractor on the method for the adjustment. This request will either be accepted, rejected, or require modification by the Contractor to comply with the Contract and Metra requirements. Upon agreement, detailed modifications will be executed in writing by authorized persons of both parties. The CM has the authority to order minor changes in the Work, consistent with the intent of the Contract Documents, that do not require an adjustment in the Contract Price or extension of the Contract Term or Period of Performance. Disagreements that cannot be resolved will be resolved in accordance with the Contract Dispute Clause. Metra Forms, Instructions and Samples shall be used when documenting contract modifications, except as approved by the Metra PM. See links in the table below.

4.4.2.2 CHANGE ORDER

Only an executed Contract Modification or Change Order provides the written authorization for the Contractor to proceed with the changed work and only a Change Order provides the authorization to modify the Contract time. A Contract Modification provides authorization for a change in the scope of work or time while payment for the fully executed Contract Modification can only occur after the Contract Modification is incorporated into an executed Change Order. The Change Order is the Contract mechanism that formally incorporates the change in scope or time into the Contract.

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The Contractor will be liable for all costs resulting from any change not authorized by written modification to the Contract.

4.4.2.3 EXTRA WORK DOCUMENTATION

In the instance where conditions and corresponding remedies are not known without a portion of work being performed by the Contractor, the CM or Metra Project Manager will issue a written notification to perform the work on a Time and Material basis. Metra Procurement must provide prior review of the change conditions and scope to permit work on a Time and Material basis. For work performed on a Time and Material basis, the CM and Contractor are to follow the Metra process for a Contract Modification. Oral direction, oral construction modifications, or oral change orders are not permitted and are not acknowledged as the means to modify the Contract price, time, and terms. The Contractor will be liable for all costs resulting from a change not authorized by written modification to the Contract.

4.4.2.4 CM SUMMARY ANALYSIS

The CM Summary is an intricate part of the Contract Modification and Change order documentation. The CM Summary Analysis Memo provides a summary explanation addressing the components of the change so that a person not familiar with the project and change would be able to understand the merit and necessity for the change. The explanation is to address the following components:

- Description and background of problem and justification for the contract modification
- Authorization
- ICE
- Contractor Cost Estimate
- Documentation on how it was determined that the price was fair and reasonable
- Recommendation
- Attachments

There is further information provided in the Description and Background of Issue/Change and Justification for the Contract Modification sections of the CM Summary Analysis Memo. In these sections key questions are answered to provide background information to those responsible for authorizing the work that are not intimately familiar with the details and circumstances of the change. The key questions are as follows:

- Description as originally existed
- Description of item changed
- Why was the work required
- Who requested the change
- What is the effect of this change
- Opinion for error or omission
- Cost Impact

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- Impact on Flagger shifts, Power or System outages, Track or Facility access

4.4.2.5 ALLOWANCES

An allowance, or allowances, may be specified in the Construction Contract Documents. If so, the CM will monitor and report current and potential allowances throughout the project. Approval from Metra is required prior to expending costs against an allowance item. Typical allowances on a project could be one or a combination of the following: Utility or Third-Party Allowances, Repair replacement allowance, or items defined in the Contract Documents. The CM must track the allowance authorizations and expenditures as submitted as part of the Application for Payment process.

4.4.2.6 CLAIMS

The Contractor is required to provide immediate notification to Metra upon discovering any conditions or circumstances that may require an adjustment to the contract price and/or contract time. The Contractor must then follow up and provide written notice of claim to Metra within the timeframe specified in the Contract Documents. The CM should review and become familiar with the Construction Contract Documents for greater detail on requirements for a claim. The CM must immediately notify the Metra PM when a notice of claim is submitted. The CM will confer with the Metra PM on the appropriate action for each claim, but at a minimum, the CM must gather relevant documentation and provide an initial summary review of the claim and a recommendation to Metra on the merits of the claim. A written response should be provided to the Contractor within 30 days of the written request from the Contractor. The response from the CM will either be a determination of the claim or a determination that additional time or documentation is required to evaluate the claim and include the additional documentation required and the time allotted to provide this documentation and/or the amount of additional time the CM requires to evaluate the claim. The CM is not required to respond to a Potential Notice of Claim until a Notice of Claim is submitted. If the contractor disagrees with the CMs determination of the claim, the claim will then be handled through the disputes process outlined in General Provisions of the Contract for Construction Article 12. The CM will assign a number to each claim submitted and all correspondence and related issues or documents will reference that number. The claim correspondence will be documented and recorded in the PMIS.

4.4.2.7 UNFORESEEN CONDITIONS

If the contractor encounters any unforeseen conditions related to a subsurface or latent physical condition at the site differing materially from conditions indicated in the existing conditions data provided by Metra; or an unknown physical condition at the site of an unusual nature differing materially from the conditions ordinarily encountered and generally recognized as inherent in work of the kind provided for in the Contract, the contractor shall promptly notify the CM of such conditions. The CM will review the information provided in the notice and the conditions so indicated, determine the necessity for further explorations or tests and then advise METRA in writing, with a copy to the contractor, of the findings and recommendations.

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4.4.2.8 REJECTION LETTER

Rejection letters to the Contractor requests for changes and claims must be prepared by the CM unless directed otherwise by the Metra PM. The preparation of the rejection letter serves as a recommendation relative to the subject claim. The rejection letter must specifically identify the contract drawings or specifications that serve as the basis for rejecting the Contractor’s proposed change request or claim. The Metra PM will need to obtain the review and approval of the Rejection Letter from the Metra Director. Rejection letters will be documented and input into the PMIS.

REFERENCES
Third-Party Contracts Quality Management Plan
Contract Documents (Refer to the Project Contract Documents)
ADDITIONAL DOCUMENTATION
Contract Modification Form
Contract Modification Instructions
Contract Modification Samples
Contract Modification Log Form
Contract Modification Log Instructions
Contract Modification Log Samples
CM Summary Analysis Form
CM Summary Analysis Instructions
CM Summary Analysis Samples
Contract Modification T&M Form
Contract Modification T&M Instructions
Contract Modification T&M Samples

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4.5 REQUESTS FOR INFORMATION

4.5.1 PURPOSE & SCOPE

The RFI is the contractual documentation process used to provide additional knowledge or clarification as related to questions about the project. For example, the RFI may be seeking clarification on information not identified within the Contract Documents, interpretation of the Contract Documents, discrepancy within the Contract Documents, or issues discovered in the field where the Contractor is seeking direction from Metra. Under no circumstances does an RFI modify Contract time or cost. Any time or cost impacts, negative or positive, will be processed via the appropriate Change Management process. The CM administers the RFI process for the project. To document and record the RFI requests, correspondence, supporting information, and response, all RFI documents will be input into the PMIS.

4.5.2 REQUIREMENTS

The Contractor must submit an RFI in writing to the CM when requesting a clarification or interpretation of the Contract Documents.

The CM must first review the RFI to determine whether it meets the requirements of a standard RFI. The CM may return the RFI if the following occurs:

- Additional information or clarification is required prior to reviewing content
- There is not a detailed statement of the clarification requested
- Contractor is requesting a change in the scope of work
- Contractor is requesting additional payment
- Contractor is requesting additional contract time
- RFI includes multiple unrelated issues
- RFI is for an item that is clearly not part of the scope of work

The CM may inform the Contractor in writing if additional review time is necessary.

The CM must enforce and administer the RFI process and maintain an RFI Log for the project. For the RFI process, the CM must be diligent in the review of each RFI and endeavor to ensure the review process time does not extend beyond the review time as set forth in the Contract Documents. The CM will distribute the RFI as deemed necessary to the appropriate qualified project participants for review and RFI response. After RFI responses are returned to the CM, the CM must diligently review the responses to ensure the responses are accurate and effectively answer the RFI.

Prior to closing each RFI, the CM must review RFI responses and add language that is applicable to schedule or cost impacts, as necessary.

Where an RFI requires clarification from Metra internal stakeholders, the Metra PM is required to coordinate RFI issues and gather information from the Metra internal stakeholders for the RFI

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resolution. The CM will gather all responses, prepare final disposition of the RFI, and transmit to the Contractor.

In the absence of a CM, the Metra PM will perform the duties and responsibilities of the CM. When the Metra PM is acting as the CM on the project, the RFI is to be prepared by the Metra PM, processed, and maintained by the Metra PM.

Any RFI reply that the Contractor believes does not answer the question must be the subject of a new RFI which must reference the previous RFI number.

REFERENCES
Third-Party Contracts Quality Management Plan
Contract Documents (Refer to the Project Contract Documents)
ADDITIONAL DOCUMENTATION
RFI Form
RFI Instructions
RFI Sample
RFI Log Form
RFI Log Instructions
RFI Log Sample

4.6 SUBMITTALS

4.6.1 PURPOSE & SCOPE

The CM is responsible for administering the submittal review process between the Contractor, Metra, and DoR. This includes the process of monitoring, coordinating, and reviewing deliverables, schedules, plans, shop drawings, catalog cuts, product data, and samples submitted by the Contractor. Submittal procedures are detailed in General Requirements under 013300 Submittal Procedures. The requirements for submittals will vary based on the Contract Documents, therefore, the CM must develop a submittal log of anticipated contract deliverables prior to receipt of the Contractor’s Submittal Schedule, which indicates lead-times of all materials. The Contractor shall provide this information to the Metra PM or designee for review/approval before the start of

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construction activities. The Contractor shall provide an updated Submittal Log at each construction progress meeting. The CM is responsible for monitoring and coordinating the process.

Other CM team members will assist in the technical review and daily administration requirements to process, monitor, control, and coordinate the Contractor submittals. To document and record the submittal requests, correspondence, supporting information, and responses, all submittal documents are to be input into the PMIS.

4.6.2 REQUIREMENTS

4.6.2.1 SUBMITTAL SCHEDULE AND SUBMITTAL LOG

The Contractor is required to develop, submit, and maintain a Submittal Schedule with the dates for when submittals will be submitted and reviewed in relationship to activities in the Project Schedule. The Contractor Submittal Schedule submission will be provided immediately after the pre-construction kick-off meeting or as defined in the Construction Contract and prior to starting the project work. The Contractor and CM are to utilize the forms, instructions, and samples for submittals. The CM will review Contract Document requirements for submittals and utilize the submittal log required per specifications, scope of work, or other contractual requirements. The CM will review the Contractor Submittal Schedule for conformance with the Contract Documents and list any deficiencies for Contractor correction.

As a minimum, the CM must review the Contract Documents and compile a list of required submittals for the project inclusive of closeout submittals. The list of required submittals compiled by the CM will be used to confirm Contractor compliance with submittal requirements. The contractor shall submit an Initial Submittal Schedule, concurrently with the Baseline Schedule submission, detailing the submittals required during the first 60 days of construction for review and acceptance by the CM. The contractor shall submit a Final Submittal Schedule, concurrently with the first Schedule Update submission, detailing all required submittals and to reflect changes in current status and timing for submittals for review and acceptance by the CM..

4.6.2.2 SUBMITTAL ADMINISTRATION

Throughout the Project, the CM will review and monitor the scheduled dates for submittal packages and inform the Contractor of the items that have not yet been submitted and require the Contractor to provide expected dates. The CM must review the Submittal Schedule and subsequent monthly Submittal Schedule updates to confirm that sufficient time is permitted for review and processing of submittals in advance of construction needs or work activities and provide review comments to Metra. The contractor shall maintain a submittal log and update and issue the submittal log to the CM at each Progress Meeting and when requested by the CM

In the absence of a CM, the Metra PM will perform the duties and responsibilities of the CM. When the Metra PM is acting as the CM on the project, the submittals are to be submitted to the Metra PM, processed, and maintained by the Metra PM.

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4.6.2.3 SUBMITTAL VERIFICATION

The CM must be diligent in the review of each submittal and endeavor to ensure that the turnaround time is within the stipulated review cycle timeframes identified in General Requirements under 013300 Submittal Procedures or elsewhere in the Contract documents, to not affect critical path activities. The CM will review the Contractor submittal for conformance with the Contract Documents. In the absence of a CM on the Project, the submittal is to be submitted to the Metra PM and processed by the Metra PM to closure. Upon Contractor submission, the CM will review the submittal, if the submittal is missing any required information, the CM must return it to the Contractor as Revise and Resubmit. Examples where the CM must return the submittal are as follows:

- The submittal has not been reviewed for compliance with the Contract Documents by the contractor and/or does not include an approval stamp
- The submittal requires coordination and concurrent review with other submittals which have not been submitted
- The product data submission does not identify the product for the submission
- There are multiple variations or model(s) without identifying the model(s) for the project
- The submission is not a specified product or manufacturer
- The product in the submission does not meet the Contract Document requirements
- The submittal is a substitution without following the contract substitution requirements
- There are multiple items from other contract specification sections
- Project information is incorrect
- Contract required identification information has not been provided or is incomplete
- Submittal does not utilize the forms, instructions, and procedures of Metra
- There is no relevance to the project scope of work
- A submittal is received from sources other than the contractor

4.6.2.4 SUBMITTAL REVIEW

Once the submittal has been validated by the CM, the CM must identify which parties will be reviewing the submittal and coordinate the review process for consolidated review comments. The CM will work with the Metra PM to confirm the appropriate parties have completed the technical review of a submittal or submittal packages. The CM will route the submittal to the DoR for review when applicable. There may be projects where Metra acts as the DoR for the project. For projects where Metra acts as the DoR, the CM will route the submittal to Metra for review. In addition to the DoR submittal review, Metra may require a Metra internal review or employ the assistance of other parties for technical review of specific submittals. Unless otherwise specified, the reviewing parties will need to review and return all submittals within the contractual timeframe. When an outside DoR is being utilized, the CM must be familiar with the contractual timeframe the DoR has to review submittals. The CM may obtain this information from the Metra PM. The CM will need to be diligent in reviews, as well as coordinating with Metra, DoR, and third parties, so as not to exceed the contractual review period and potentially cause a delay to the Contractor.

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The CM will conduct up to two reviews of each submittal at no cost to the contractor. Additional reviews will be at contractor’s expense.

4.6.2.5 SUBMITTAL COMMENTS

The CM will consolidate the submittal review information and review the comments or disposition with the Metra PM. The CM will prepare the final disposition and consolidation of submittal comments and return to the Contractor either for implementation or correction. The submittal can be returned with one of the following review dispositions found in the Contract Documents: Accepted, Accepted as Noted – Work to Proceed, Revise and Resubmit, or Received For Record – Do not Resubmit. Once the required submittal has received a submittal disposition of Accepted or Accepted as Noted – Work to Proceed, work activities associated with the submittal are permitted to proceed. The submittal comments are not a contractual document for changed work that modifies the Contract time or cost.

The CM will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action and return the number of paper or PDF copies to the contractor as indicated in General Requirements under 013300 Submittal Procedures

REFERENCES
Third-Party Contracts Quality Management
ADDITIONAL DOCUMENTATION
Submittal Form
Submittal Form
Submittal Instructions
Submittal Sample
Submittal Log Form
Submittal Log Instructions
Submittal Log Samples

4.7 QUALITY DOCUMENTATION

The CM shall implement Quality Assurance and Quality Control procedures as part of their contracted scope of work, in accordance with the [TPCQMP](#) and as described below.

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4.7.1 QUALITY REQUIREMENTS

4.7.1.1 QUALITY CONTROL CONSTRUCTION ACTIVITY

The contractor shall maintain primary quality control responsibilities for their products and/or services provided to Metra, from initiation through completion of the project. The Contractor shall assign Quality Control (QC) personnel to oversee the contracted work. QC personnel shall monitor and verify the Contractor’s work is completed per the Contract Documents, in accordance with the Contractor's Quality Plan. The CM contract/agreement outlines specific Quality Control personnel requirements, quality task requirements, and quality procedures for the CM. Some of these requirements and procedures are noted in Section 3.2.5 Construction Management Staff under The Quality Manager (QM) subsection.

4.7.1.2 QUALITY ASSURANCE CONSTRUCTION ACTIVITY

The CM and contractor shall also assign Quality Assurance (QA) personnel, who shall verify that the contracted work is being executed per the procedures required in the Contract, Capital Delivery Construction Manual, Quality Manual, and all other applicable documents. QA personnel shall be independent of the pressures of production, cost and schedule considerations and shall have direct access to responsible management at a level where appropriate action may be taken. Some of these requirements and procedures are noted in Section 3.2.5 Construction Management Staff under The Quality Manager (QM) subsection.

4.7.1.3 TPCQMP

Refer to the Third-Party Contracts Quality Management Plan ([TPCQMP](#)) for additional information regarding QC and QA personnel, requirements, and procedures.

4.7.1.4 QA/QC CM TASKS AND DELIVERABLES

The same procedures discussed within Section 3.2.5 under Quality Manager should be utilized on all tasks and deliverables to Metra. Routine scheduled reviews by the Quality Manager should occur with a report and corrective actions. Prior to the CM making submittals to Metra QA procedures should be followed to ensure the highest quality submittal documents.

4.7.1.5 QUALITY AUDITS

The CM and contractor shall cooperate with Metra Corporate QA personnel during all Quality Assurance Audits of the CM and/or the Contractor as may be required. The QA Audits will verify the adherence to Metra’s TPCQMP procedures and documentation as well as the execution of work as required in the Contract by the CM and their Subcontractors. QA Audits will at a minimum be performed annually. For additional information about Quality Audit procedures and requirements, refer to the TPCQMP.

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4.7.2 METRA FORMS AND INSTRUCTIONS

The Contractor, CM, and Metra team shall use Metra’s current Forms, Instructions, and Samples when executing their contracted work. ([Metra FORMS / INSTRUCTIONS / SAMPLES](#)) Any deviations or additions to Metra Forms shall be reviewed and approved by the Metra PM or designee prior to the start of the Work.

4.7.3 NONCONFORMANCE

The CM shall identify and document all construction nonconformances using Metra Forms, Instructions and Procedures, including the Nonconformance Report and Nonconformance Log, and as described in the TPCQMP. Remediation of nonconformances may include the following:

- Nonconforming Remediation Disposition
 - Use-As-Is
 - Use-As-Is for Alternate Applications
 - Repair
 - Rework to Meet Requirements
 - Scrap
 - Corrective and Preventive Action
 - Continuous Improvement Procedures
 - Root Causes
 - Reporting and Tracking
 - Revised Procedures

Information and documentation associated with Nonconformance Reports, Log, and supporting documentation is input into the PMIS.

REFERENCES
TPCQMP
Contract Documents (Refer to the Project Contract Documents)
ADDITIONAL DOCUMENTATION
Nonconformance Report Form
Nonconformance Report Instructions
Nonconformance Report Sample
Nonconformance Log Form

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Nonconformance Log Instructions
Nonconformance Log Sample

4.8 SAFETY

4.8.1 PURPOSE & SCOPE

Safety is a critical aspect of all METRA projects. The safety of the public, Contractors, Metra personnel, and rail personnel continues to be the priority of Metra. Safety encompasses construction site safety, environmental safety, METRA rail safety, other railroad operators rail safety, safety of Metra riders, workplace safety, and the safety of other facility users, pedestrians and drivers present in and around the construction site. Safety is the responsibility of all individuals working on METRA Projects: METRA personnel, contractors, consultants, and the CM.

4.8.1.1 REQUIREMENTS

The contractor is responsible for site specific safety and shall submit a Site Specific Safety Plan to the CM/METRA prior to the start of any work, for review and acceptance, that meets all METRA safety requirements. The contractor shall obtain and pay for all permits necessary to protect persons and property from damage as a result of the Work and provide the CM with a copy of all permits. The Contractor shall obtain and pay for all documents required by Environmental Laws to perform or complete the Work and provide the CM with a copy of all such documents.

Subject to the CM’s acceptance, the contractor shall furnish and install all necessary facilities to provide safe means of access to all points where the Work is being performed and make all necessary provisions to ensure the safety of workers, Metra personnel, and inspectors during the performance of the Work. In the event of an accident, the contractor shall immediately notify the CM and furnish the CM with full information relative to the accident.

If the contractor fails to comply with project safety requirements, the CM may take the following steps:

- A minor infraction will be brought to the attention of the Contractor’s Superintendent
- For repeated minor infractions the CM will advise the contractor in writing of such violations. The Contractor shall respond in writing as to what steps will be taken to correct the infractions and shall take immediate corrective action.
- For a serious violation METRA will issue the Superintendent a written “Stop Work Order” that requires the Contractor and all its subcontractors to immediately and safely cease work activities on the project and for all non-supervisory personnel of the Contractor and its subcontractors to immediately vacate Metra’s premises.

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REFERENCES
Third-Party Contracts Quality Management Plan
Contract Documents (Refer to the Project Contract Documents)

4.9 ENVIRONMENTAL

4.9.1 PURPOSE & SCOPE

Metra projects support a diverse group of stations, facilities, track, bridges and supporting infrastructure over 11 commuter rail lines and 110 communities with varying construction types and ages. Through the process to bring the stations, facilities, track, bridges, and supporting infrastructure into a good state of repair, renovations, updates, and even reconstructions are required. Since the stations, facilities, track, bridges, and supporting infrastructure were constructed over decades of time, the materials often used in the original construction were subsequently found decades later to be hazardous.

During the planning and design phases, an environmental and hazardous materials survey is performed to identify potential materials impacted by the planned renovations or construction that contain hazardous materials. The most common hazards are asbestos and materials containing lead. Other hazards can be found in fluorescent light bulbs and gas equipment regulators. Once the hazardous materials survey is completed, the design phase incorporates remediation criteria in the Contract Documents for the project.

Projects with hazardous materials provide provisions in the Contract Documents for hazardous and universal waste management. The hazardous and universal waste management provides requirements for a plan that describes the segregation, packaging, labeling, transport, and disposal and/or recycling of the waste materials typically generated by demolition/renovation activities. All hazardous materials resulting from demolition/renovation activities, once properly packaged and labeled, will be disposed of at open, permitted, and state-approved disposal sites.

Metra monitors the action of the Contractor and CM to confirm the hazardous and universal waste is being remediated and disposed of in accordance with Metra, state, and federal requirements. Each entity may require specific information regarding the hazardous and universal waste being disposed which identifies the type, quantity, source, and chain of custody tracking from the source to the disposal location. Through the Contract, the Contractor provides the plan, means, and methods which is reviewed for compliance by Metra Safety and Environmental and the CM. The CM monitors the approved plan during implementation.

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4.9.2 REQUIREMENTS

4.9.2.1 HAZARDOUS AND UNIVERSAL WASTE MANAGEMENT PLAN

On specific projects, the Contract Documents may require the Contractor to develop, submit, and maintain a Hazardous and Universal Waste Management Plan. This plan would be identified as a required submittal which would outline the procedures the Contractor would be responsible for removing all hazardous waste material(s) from the project site as defined in the Contract Documents. The CM is responsible for developing and implementing a system of monitoring and tracking the Contractor’s compliance with the approved Hazardous Waste Plan. To document and record the Hazardous and Universal Waste Management Plan, submittals, correspondence, supporting information, response, and all safety documentation are to be input into the PMIS.

4.9.2.2 HAZARDOUS WASTE TRACKING

As each station, facility, track, bridge, and supporting infrastructure project is unique, the project Contract Documents provide requirements for the Hazardous and Universal Waste tracking. A Hazardous Waste Tracking Log is created and maintained by the Contractor. The CM provides review, verification, and oversight to ensure the chain of custody requirements and tracking of hazardous material removals are documented from source to disposal. The Hazardous Waste Tracking Log must include information pertaining to the type of waste, manifest document number, date, truck number, truck weight/volume, and disposal facility. Information and documentation associated with Hazardous Waste Tracking Log is documented in the PMIS.

REFERENCES

[TPCQMP](#)

4.10 CONSTRUCTION WORK PRODUCT DOCUMENTATION

4.10.1 PURPOSE & SCOPE

Construction Work Product Documentation is a process to provide verification that the work and work activities completed on capital projects are completed in accordance with the Contract Documents, TPCQMP, and funding source requirements. The Construction Document processes capture documents inclusive of project forms, checklists, logs, inspections, communications, work activities and quality records, generated or received by the CM, Contractor, Metra PM and other project stakeholders through the implementation, construction, and closeout of the project.

Construction Work Product Documentation requirements are not limited to solely this section of the Construction Manual. Previous and successive sections of the Construction Manual provide Work Product Documentation requirements as they pertain to specific processes or project requirements. All project communications generated by the CM, Contractor, Metra, other project stakeholders, other agencies, and other entities engaged by the Contractors must be documented using the

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processes and adhering to the requirements as outlined in this manual. It is an essential requirement of the work that Metra quality processes, as documented in the TPCQMP, be followed in every respect. This will apply to the PM, the CM, and the Contractor. It is the intent of Metra that all communications relevant to the project design, construction, schedule, and payments as well as the management of human resources and stakeholder impacts are systematically recorded and archived. A consistent adherence to quality documentation will result in a reduction of errors which benefits Metra and all its Contractors.

Project personnel shall use Metra’s forms, instructions and samples to control project records and data during all phases of the project. Project personnel shall not change forms, checklists and logs provided by Metra without prior Metra approval. Proposed changes to forms referenced in the TPCQMP shall be submitted by the CM or Contractor in writing to the Metra PM for review and approval prior to use. The revised form cannot be used until the CM or Contractor has received written approval from the Metra PM. Use of unauthorized forms will be considered a Noncompliance and will require completion of a Nonconformance Report (NCR).

Metra may contractually require the use of a Metra-approved PMIS in executing project management for some capital projects. For the purposes of this Construction Manual, it is assumed that the PMIS will be used

4.10.2 PROJECT DOCUMENTATION

Project documentation is produced, controlled, and maintained to verify conformance to the requirements of the FTA QMS guidelines. Written procedures are implemented and maintained for the control of project documents and data during all phases of project completion.

All project personnel inclusive of CM, Metra PM, Contractor, and subcontractors are required to implement the Project File Naming and Directory Structure nomenclature included in the Construction Manual to comply with Metra TPCQMP requirements as the method for filing, indexing, distribution, storage, maintenance, and retrieval of project records.

Designated project personnel, including CM, Metra PM, Contractor, and subcontractor personnel are required to complete and maintain all required forms, records and other project reference materials required as part of the contractual, regulatory, or Metra procedural requirements, and as objective evidence for the implementation of the project. The Contractor must require its subcontractors to complete, submit and maintain all documentation in compliance with the Metra requirements.

All project records shall be submitted, inclusive of:

- Project Deliverables List
- Meeting agenda
- Meeting minutes
- Schedules

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- Pencil draft application for payment
- Change documents
- RFI
- Submittals
- Quality plan supplements
- Nonconformance reports
- Project logs
- Safety documents
- Unusual occurrence reports
- Environmental documentation
- Daily reports
- Record of Contractor contact
- Requests for inspections of materials
- Request for materials received
- Commissioning documentation
- Closeout documentation
- Lessons learned

Information provided during the course of the project is to include the transmittal cover sheet. Each transmittal cover sheet and/or documents that are not already being logged on other formal log(s) (RFI, Submittal, etc.) must be included on the Project Correspondence Log in numerical sequence. For Project Documentation all documents, plans, submittals, correspondence, supporting information, and responses are to be input into the PMIS.

4.10.3 RAILROAD COORDINATION

Documentation of railroad coordination is essential to the successful delivery of Capital Projects to ensure delays and impacts are minimized to the Project, Metra, and non-Metra operations. The Contractor must thoroughly understand Metra and non-Metra rail operations, use of the site by Metra customers, surrounding land use, traffic control, Metra occupancy requirements, and adjacent non-Metra railroad operations. Railroad coordination documentation may involve meetings, schedules, and submittals to ensure the coordination is documented and communicated to the appropriate stakeholders. The safety of Metra customers, employees, personnel of other railroads, and the public must be the highest priority for any Contractor activity on or near an operational rail system.

Railroad coordination refers to the scheduling and coordination activities that take place between the Contractor and Metra Transportation Supervision (including the supervision of non-Metra railroads where appropriate) to ensure that the Contractor activities do not interfere with the safe and timely operation of rail traffic. Delays refer to any Project work delayed by Metra or non-Metra railroad agencies' inability to furnish previously agreed-upon resources such as flaggers or on-track occupancy as opposed to delays to rail operations that occur due to failure of the Contractor to allow for the timely passage of rail traffic. Transportation Supervision refers to the Metra railroad

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transportation supervisors for the Metra Operating District on which the project is located, in addition to the similar roles of Railroad Transportation Supervision for the Metra districts that operate on BNSF, Canadian National, Union Pacific, or other host railroads.

The Contractor shall devise a project schedule which details week-by-week activities. In conjunction with the documentation requirements for coordination, the initial meeting between the Contractor and Metra’s Rail Operations Group, to discuss the specific rail operations coordination requirements for the project, will be scheduled by the CM and minutes of the meeting will be recorded by the CM. After the initial coordination meeting, the Contractor shall meet weekly, at a minimum, with Railroad Transportation Supervision to coordinate the following week’s project work plan schedule and discuss those activities scheduled for the following week which require resources such as flaggers (generally any work within 25 feet of a rail) or traction power support personnel and to arrange for such resources to facilitate the safe execution of the project without impact to rail operations. More frequent meetings may be necessary where the work requires train schedule modifications or requires tracks to be removed from service, especially in the case of an extended outage period or when work is scheduled on weekends or holidays. When work requires special assistance from Transportation Supervision such as tracks out of service or traction power deenergizing the lead time for arranging such assistance is generally three weeks or more in advance of the planned work. Operating Districts within Metra and other railroads have varying methods for the scheduling resources in addition to the meetings. The Contractor must be familiar with these requirements and must follow these methods for coordination (Metra maintains an online resource containing such requirements and contact information.

Any unusual occurrences, such as delays to rail traffic, public impacts, or safety violations, must be fully documented as to cause, length of delays, and plan to prevent further such occurrences. This documentation must be immediately forwarded to Transportation Supervision and the Metra Safety Department for review and acceptance.

For Transportation Coordination Documentation, all documents, plans, schedules, submittals, correspondence, supporting information, and response are to be input into the PMIS.

4.10.4 OTHER PROJECT DOCUMENTATION

The Construction Manual includes references and links to the checklists, logs, templates, instructions, and samples for the documentation of required work activities. Due to the uniqueness of specific projects, the CM, Metra PM, or Contractor may be required to develop additional written procedures, special forms, or other documentation. The Contractor must submit proposed documents to the CM or Metra PM, as applicable, for signature approval prior to initial use. Proposed changes to existing forms must also be approved in advance. The use of unauthorized forms is considered as noncompliance of contractual requirements.

Information and documentation associated with Other Project Documentation is to be input into the PMIS.

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4.10.5 PHOTOGRAPHIC DOCUMENTATION

The contractor shall engage the services of a professional photographer to take photos documenting the construction of the project. Preconstruction photographs shall be taken prior to commencement of the work of the Project Site, surrounding properties and existing items to remain during construction as directed by the CM. Periodic construction photographs shall be taken in quantities, locations, and intervals acceptable to the CM and not less than once per quarter. Completion construction photographs shall be taken after date of agreed Substantial Completion and Final Completion for submission as Project Record Documents as instructed by the CM. CM may request additional photographs to be taken.

4.10.6 VIDEO MONITORING AND DOCUMENTATION

If Time-Lapse sequence construction video recordings shall be taken to show status of construction and progress at vantage points selected by the CM. As directed by METRA for certain projects, the contractor shall provide a Project webcam with online interface at location determined by the CM.

4.10.7 PROJECT MANGEMENT INFORMATION SYSTEM (PMIS)

METRA’s Web-Based Project Management Information System (PMIS) is used for purposes of hosting Project records and managing Project communications throughout the term of the contract. All CM and contractor personnel working on the Project will receive PMIS training. The CM will monitor the PMIS to ensure all project documentation including, Drawings, Specifications, shop drawings, RFIs, submittals, Minor Changes in the Work, Directive Letters, Contract Modifications, Change Orders, payment applications, meeting minutes, construction progress photographs and videos, and if required by METRA, e-mail communications are properly organized in the system. At completion of the Project, the CM will ensure all project records are submitted in the PMIS in the format prescribed by Metra and the CM at the time of project completion. The CM will monitor documents uploaded to the PMIS to ensure files are named according to Metra’s file naming conventions in accordance with the Project’s quality management requirements established in General Requirements under 01 43 00 Quality Assurance.

REFERENCES
TPCQMP
ADDITIONAL DOCUMENTATION
Transmittal Cover Sheet Form
Transmittal Cover Sheet Instructions
Transmittal Cover Sheet Sample

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Daily Report Form
Daily Report Instructions
Daily Report Sample
Project Deliverables List Form
Project Deliverables List Instructions
Project Deliverables List Sample
Record of Contractor Contact (ROCC) Form
Record of Contractor Contact (ROCC) Instructions
Record of Contractor Contact (ROCC) Sample
ROCC Log Form
ROCC Log Instructions
ROCC Log Sample
Drawing Log Form
Drawing Log Instructions
Drawing Log Sample
Training Log Form
Training Log Instructions
Training Log Sample
Disposition of Review Comments Form
Disposition of Review Comments Instructions
Disposition of Review Comments Sample

4.11 CONSTRUCTION INSPECTION

This section establishes requirements and assigns responsibilities for planning and performing inspection and testing of all items and activities during all phases of work on a project. In addition, the inspection and testing also provides assurance that all final accepted parts, materials, service, installation, construction, or any other work activity conforms to the specified requirements.

The responsibilities for various inspection and testing processes are defined in the Contract Documents and require the CM and Contractor to take a proactive approach to complying with the inspection, testing, and subsequent documentation of the results. All parties involved in testing and inspection activities must perform these duties in conformance with the Metra TPCQMP and all standards as defined in the Contract Documents.

4.11.1 GENERAL

The Contractor has the responsibility to ensure that all testing and inspection requirements are clearly communicated, understood, and implemented by its project personnel, which includes all subconsultants and subcontractors. In addition, the CM will ensure that all tools, equipment, and processes used for inspection, measuring and testing adhere to these requirements.

The Contractor has the responsibility to develop a complete list of all inspections and tests contractually required for each project (See the Inspection and Testing Plan). This list must include the personnel and equipment required for each inspection/test along with training/certification requirements and testing schedules, as can be determined. The list should be updated as specific material delivery, construction, and installation schedules become available.

The parties contractually responsible for inspection or testing services are required to ensure that any personnel performing the inspections and tests are qualified for the task. Qualifications must be documented, kept current and verifiable. Training, certification, and licensing for qualification must be included on the training log provided in the TPCQMP.

The Contractor is responsible to ensure that all items, parts, equipment, materials, batches, and deliveries received are in conformance with the Contract Documents. Inspection or testing of any materials performed off-site such as at a fabrication location must have all inspection and testing documented and the documentation should contain or reference the requirements and acceptance/rejection limits per the contractual requirements, codes, standards, or regulatory requirements along with the testing frequency, location, and test data. These testing and inspection reports must be made available to CM by the Contractor and properly documented and approved prior to shipment.

For Project Documentation related to inspection and testing, all documents, plans, reports, submittals, correspondence, supporting information, and responses are to be input into the PMIS.

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4.11.2 INSPECTION AND TESTING PLAN (ITP)

Prior to the start of work, Contractors are required to prepare and submit an Inspection and Testing Plan (ITP) in accordance with TPCQMP Section 8.2 that lists all of the inspections and tests required per the specifications, drawings and Contract Documents for the distinct items, parts, equipment, materials, batches, services and other work activities included as part of the improvement. To avoid delays and negative impacts to the project schedule, it is imperative that the ITP be coordinated with the CM and Metra PM and the detailed project schedule.

The ITP is to list and address the testing required at the receipt, installation, location, frequency, factory, and criteria for acceptance. The Contractor may provide one consolidated ITP or two separate ITPs, breaking out the off-site testing.

The Contractor must submit the ITP to the CM. The CM will distribute to the appropriate stakeholders for review and consolidate the review comments and return to the Contractor noting the submittal disposition. The CM will review the ITP submittal to ensure that it includes all the contractually required inspection and testing activities for the project. The ITP must be approved prior to the performance of any testing.

The ITP, at a minimum, must reference the item to be inspected or tested with the applicable specification section, drawing number, or other applicable documentation, the testing schedule or required testing frequency for the item and the proposed location of the inspection/test (site, laboratory, fabrication site, storage site). If CM or Metra personnel are responsible for the specific testing, for example, material testing or accessibility compliance, the ITP must reference this requirement and the personnel or agency specifically responsible for the inspection or testing and the date and time, if available. The CM will coordinate the testing with Metra when required. If witnessing of the testing by the CM or Metra stakeholder is required, that must also be noted on the ITP.

As a part of the ITP, the Contractor shall develop and implement written test procedures to demonstrate design and performance characteristics are as specified in design and operating requirements. Test procedures shall include the following, as applicable:

- Condition of equipment and item(s) to be tested
- Test objectives
- Test prerequisites, if any
- Required equipment and instrumentation
- Required inspection ‘witness’ and ‘hold points’
- Required environmental conditions
- Precautions to be taken in preparation and performance of test
- Personnel qualifications
- Data to be collected

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- Recognized industry standard test methods, supplier manuals, maintenance instructions or approved drawings may be used in place of specially prepared test procedures as long as these documents include adequate instructions to ensure satisfactory performance of the test
- Acceptance / rejection criteria.

All changes or updates to the ITP must be submitted to the CM. Copies of both the original and revised ITP must be placed in the same location. All file naming conventions must be followed. Each document must be identified by a revision level and date.

For Project Documentation related to the ITP, all documents, plans, submittals, correspondence, supporting information, and responses are to be input into the PMIS.

4.11.3 INSECTION AND TESTING LOG

The contractor shall prepare a Testing and Inspection Log which is a record of tests and inspections. The Log shall include the following:

- Date test or inspection was conducted.
- Description of the Work tested or inspected.
- Date test or inspection results were transmitted to the CM.
- Identification of testing agency or special inspector conducting test or inspection.

The contractor shall maintain the Log and post changes and revisions as they occur. The contractor shall provide access to the Inspection and Testing Log for the CM's and authorities' having jurisdiction reference during normal working hours. Contractor shall submit the Log at Project closeout as part of Project Record Documents.

4.11.4 INSPECTION AND TESTING – ON SITE

The Contractor is contractually responsible for scheduling and coordinating the testing required by the Contract Documents as it pertains specifically to their scope of work.

The Contractor must ensure that all items pass the applicable acceptance criteria. Upon completion of the testing or inspection, inspection and test results are to be transmitted to all applicable parties.

Inspections and tests failing to meet the required acceptance criteria are to be documented on the NCR as provided in the TPCQMP and distributed to all applicable parties, including the party responsible for corrective action. The party responsible for the testing will also be responsible for the disposition of nonconforming items including the corrective action taken.

The Contractor must inspect all items, including materials and equipment brought on site for incorporation into the work. The Request for Inspection of Material Form (RFIM) and Request for Material Received Form (RFMR), provided in the TPCQMP, are to be used to ensure that the items delivered are following Contract requirements, and to verify that the items, parts, materials,

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batches, and deliveries are accompanied by a delivery ticket noting the project information and or purchase order associated with the delivery of such items.

The Contractor must manage inspection and testing and coordination with the CM and Metra PM. The CM and Metra PM must review all testing and inspection documents submitted by the Contractor to ensure that testing has been performed per the ITP, the results are acceptable, and the documentation has a complete traceability to each item, part, material, equipment, as received.

For Project Documentation related to inspection/testing, all documents, plans, submittals, correspondence, supporting information, and responses are to be input into the PMIS.

4.11.5 INSPECTION AND TESTING AT FABRICATION FACILITY PRIOR TO SHIPPING

For inspection and testing that is conducted at a factory or off-site location, the Contractor must ensure that the acceptance/rejection criteria for that item are clearly identified in the applicable Contract Documents prior to shipping, and that the required inspection and test results are obtained from the supplier and provided to all applicable parties for review and approval prior to shipping.

The CM must review the inspection and testing submittals and coordinate with the Metra PM and other stakeholders regarding inspection and testing as identified in the ITP for any testing being performed at the fabrication or source facility. This includes CM, Metra PM, and other stakeholders review and acceptance of the submitted inspection and testing reports to verify that the results are acceptable or that a nonconformance is being mitigated and to ensure the documentation is complete and traceability to each item, part, material, equipment received.

4.11.6 EQUIPMENT CALIBRATION

The Contractor and CM are responsible to ensure the accuracy of the tools and equipment used for the inspection and testing of their equipment respectively. All equipment must meet all specified requirements throughout their period of use on the project. The quality procedures for establishing and documenting the maintenance and calibration status of all equipment are found in the TPCQMP. The testing/inspection party must maintain an Equipment Calibration Log for each piece of equipment used to obtain quality-critical results.

The Contractor and CM must provide an Equipment Calibration Log as a deliverable for review and approval which includes a list of all required inspection, measuring and testing equipment requiring calibration, including its up-to-date status, test dates, results, calibration history, who performed calibrations and other pertinent comments. The log must also contain information including equipment description, model, and serial number.

Daily Use or “Prior to Use” calibration may be required for certain equipment. Only trained, qualified project personnel may perform these calibration checks and it should be done at the point-of-use. The Contractor must develop an approved log sheet to document these calibration checks for submission with the test results.

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Acceptance criteria for the tools and equipment to be calibrated must be performed according to manufacturer’s requirements and/or national standards. If no manufacturer requirement exists, the national standard shall take precedence. If a contradiction exists between the manufacturer’s requirements and national standard, the strictest of the two shall apply.

The status of calibration should be listed, where practicable, on the equipment itself or on the item’s case or container. If the equipment is stationary, the calibration status can be posted in the immediate area.

Equipment found to be out of calibration must be taken out of service immediately. If it is determined that an item was tested with improperly or non-calibrated equipment, the test and inspection must be repeated with equipment meeting the calibration and accuracy standards. If it is determined that items were tested with nonconforming equipment, those items may also be nonconforming and are subject to recall and/or re-testing. In cases where the calibration is determined to be deficient, the items are subject to recall. Inspection and testing equipment shall be removed and tagged when any of the following occur:

- Equipment does not perform to specifications
- Equipment is prone to go out of adjustment
- Equipment has been damaged, or
- Equipment calibration cannot be verified.

An NCR must be generated for any testing/inspection equipment determined to be out of compliance. The NCR must be submitted to the CM for corrective action to determine whether item tested was compromised and needs to have the testing redone per the test and inspection requirements.

In the case of a conflict between the Metra TPCQMP and a written submittal describing procedures for control of inspection, measuring and testing equipment, the Contractor must identify the conflict prior to testing to allow adequate time to utilize the RFI process to clarify the necessary requirements for conformance with the Contract Documents.

Information and documentation associated with equipment calibration and testing must be documented and input into the PMIS.

4.11.7 NONCONFORMANCE

All instances of nonconformance to the Contract Requirements due to test, inspection, results, deficiencies, calibration, or equipment, must be completely documented by the Contractor as an NCR in accordance with the Construction Manual, TPCQMP, and the Contract requirements. An NCR must be submitted to the CM to provide disposition of the action required to correct the nonconformance.

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Complete documentation of all instances of nonconformance is required as part of the NCR. This can include photographic evidence, logs, test reports, calibration reports, written descriptions, a documented deficiency in the training of personnel performing the testing and inspection, equipment output or any other pertinent information. Documentation shall be traceable back to the original findings, disposition, and corrective actions to which they are applicable. The contractor shall match information listed on the NCR such as dates, descriptions, contract info, etc., to the information recorded on the NCR Log.

The Contractor must document the status of any item which is documented as nonconforming. A nonconforming item must be set aside and work to incorporate the nonconforming item must not take place and the nonconforming item may not be installed or utilized pending a disposition of the nonconforming item. Materials or items should be appropriately labeled and segregated to avoid the use of the item in error.

As part of the resolution process, the Contractor is responsible to supply testing of the nonconforming item and must have CM inspection and oversight of the testing. The Contractor must determine the root cause of the deficiency and, subsequently, determine the proper resolution for bringing the item in compliance with the documented standards. This Contractor requested resolution disposition may request a use as is, use as is for alternate application, repair, rework to meet requirements, or scrap for the proposed NCR resolution disposition. The CM must review the proposed resolution disposition. For any proposed resolution disposition other than rework, the CM will review with the Metra PM and when applicable the DoR for Metra’s acceptance of the proposed resolution disposition.

Refer to TPCQMP Elements 11 and 12 for specific nonconformance and corrective actions process and procedures.

REFERENCES
Project Manager’s Manual
Third-Party Contracts Quality Management Plan
ADDITIONAL DOCUMENTATION
Request for Inspection of Materials (RFIM) Form
RFIM Instructions
RFIM Sample
Request for Materials Received-Signals (RFMR) Form
RFMR Instructions

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RFMR Sample
Equipment Calibration Log Form
Equipment Calibration Log Instructions
Equipment Calibration Log Sample
Nonconformance Report Form - See TPCQMP
Nonconformance Report Instructions - See TPCQMP
Nonconformance Report Sample - See TPCQMP
Nonconformance Log (Section 12) Form - See TPCQMP
Nonconformance Log (Section 12) Instructions - See TPCQMP
Nonconformance Log (Section 12) Sample - See TPCQMP

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5. LESSONS LEARNED

5.1 PURPOSE & SCOPE

The purpose of Lessons Learned is to define the process of identifying and utilizing lessons learned from previous projects to employ them into the current project. Lessons Learned is the practice of utilizing opportunities for improvement/knowledge from previous experiences. Lessons Learned from previous experiences may help a current project avoid repeat shortfalls, which had a negative impact on a project. Lessons Learned may also assist in offering improvements based on previous experiences that had a proactive and/or beneficial impact on a project.

Another purpose of Lessons Learned is to define the process of identification, documentation, communication, review and recording of lessons learned throughout the project life cycle. Capturing and utilizing lessons learned is an integral requirement of every project and critical to continuous improvement.

5.2 REQUIREMENTS

5.2.1 PRELIMINARY IDENTIFYING AND UTILIZING

At the beginning of the project, the CM shall review the Lessons Learned from previous Metra and/or TPC projects to identify potentially helpful examples that may be relevant to the current project. The CM may call on the TPC, PM, QA/QC, EOR, DOR, SM, CM and/or Metra for input during this process. The CM and TPC shall work with the stakeholders to ensure that appropriate lessons are appropriately employed during the project.

5.2.2 IDENTIFYING AND DOCUMENTING

5.2.2.1 EVENTS OR PRACTICES

Throughout every phase of a project there are opportunities to identify and capture events or practices that may improve future projects. Any party in a project may initiate a Lessons Learned Report at any time during the project. Lessons Learned can emerge at any point in a project and it is crucial they are recorded as they develop.

As Lessons Learned opportunities arise throughout the project, the initiator is responsible for filling out the Lessons Learned Report and delivering it to the Metra CM (or PM) as they occur, or at the time(s) established by the Metra CM (or PM).

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5.2.2.2 POSITIVE AND NEGATIVE IMPACTS

Positive impacts are crucial to developing projects and processes that provide opportunities for continuous improvement. Capturing the positive or negative impacts across Planning, Design, Procurement, and Construction may improve processes on future projects and the future phases of current or developing projects.

5.2.2.3 DOCUMENTING

At the beginning of a project, the CM shall set up the project specific Lessons Learned Log to begin tracking lessons learned as they occur. The CM or designee will maintain the Lessons Learned Log throughout the project.

Lessons Learned can be identified at any time during a project and entered in the Lessons Learned Log for the project as they occur. All NCR's have the potential to be Lessons Learned and should be entered into the log for tracking through mitigation. Any issue or risk may be entered into the log for tracking prior to mitigation.

Each Lesson Learned shall be recorded in a Lesson Learned Report. The Lesson Learned Report should include all relevant details and documents and be filed in accordance with the project's TPCQMP. The documentation of Lessons Learned must be detailed enough to provide value for future use. All project stakeholders are encouraged to contribute to identified Lessons Learned. Information and documentation associated with the Lessons Learned Project Log is documented and input into the PMIS. Lessons Learned recording should include all related cross references to NCRs, RFIs, Submittals, pictures, Contract Modifications, Change Orders, or any other associated documents.

5.2.3 LESSONS LEARNED MEETING AND REVIEW

Based on the project duration, the CM is to establish a routinely reoccurring time to capture Lessons Learned from the project stakeholders. In the interest of imparting a culture of continuous improvement, Lessons Learned should be regularly discussed during project progress meetings.

At a minimum, the CM shall chair an annual Lessons Learned meeting with all project stakeholders and team members. Depending on the subject(s) to be discussed, the meeting may include the CM, PM, QC, QA, DOR, EOR, TPC, and/or Metra. The meeting should include review of all open Lessons Learned reports, as well as any new potential Lessons Learned brought up during the meeting.

The CM shall forward all Lessons Learned reports completed during the meeting to Metra for review. If Metra approves the report, the Lesson Learned will be incorporated into the Lessons Learned database for future reference. If Metra requests further information or modification(s) to the report, the CM shall work with the relevant project stakeholders and team members to revise the report for Metra's approval.

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REFERENCES
Third Party Contracts Quality Management Plan (TPCQMP)
PMIS Manual
Lessons Learned Report
Contract Documents

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6. CLOSEOUT

6.1 PURPOSE & SCOPE

For the CM, closeout must begin prior to the Contractor’s NTP. Project closeout takes place throughout the project’s life. The CM staff should understand their portion of the project’s close-out requirements and begin by making plans to complete the project at the onset of the project. General Requirements under 01 77 00 Closeout Procedures outlines the contractor’s requirements for closeout. Additionally, the CM’s contract with Metra should include a series of deliverables required beyond those outlined within the construction contract and the CM must provide a plan that indicates how these deliverables can and should be achieved within the shortest time possible.

6.2 REQUIREMENTS

6.2.1 CM CONTRACT OR TASK ORDER CLOSEOUT

The CM Contract Task Order closeout requires the Contractor closeout to be completed for a phase, stage, milestone, or the project. The CM is to ensure that all project record documents, training and commissioning information has been turned over to Metra. Contractor closeout completion is inclusive of financial closeout. Once the Contractor has completed the project closeout, the CM Contract or Task Order can be financially closed.

6.2.2 AGREEMENT TO FINAL QUANTITY

At the beginning of the project the CM must set up the project specific closeout requirements. With the development of the submittal schedule and list of required project submittals, information necessary for the project closeout are compiled and a closeout plan can be created by the contractor. The CM must manage the closeout plan development and contents with the Contractor. At the fifty (50) percent point in the project or phase, the CM shall lead closeout meetings to manage the closeout plan. Information and documentation associated with the construction Contract closeout is documented in the PMIS.

6.2.3 COMMISSIONING

Commissioning is required for all new and refurbished equipment. Operation and Maintenance (O&M) Manuals shall be submitted prior to any training to allow review of the O&M Manuals by Metra personnel. Commissioning activities are associated with the operation of items of equipment or facilities in preparation for start-up. Along with commissioning, the spare parts for all the new and refurbished equipment should be tracked utilizing the Spare Parts Log.

6.2.4 SUBSTANTIAL COMPLETION INSPECTION

The contractor shall notify the CM in writing that the Work or a portion of the Work will be ready for Substantial Completion Inspection on a specified date, along with a list of items that are complete or incomplete. Upon receipt of the notice, the CM will verify whether or not the work is ready for

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inspection and if so, arrange for the inspection. Within a reasonable time following the inspection, the CM will notify the contractor that the work is Substantially Complete by issuing a Certification of Substantial Completion and a contractor prepared Punchlist of remaining items of work, that are minor in nature and METRA can safely and efficiently use the completed Work, along with a schedule for completion of the Work; or that the work is not Substantially Complete and the items that are not Substantially Complete.

6.2.5 PUNCH LIST

The contractor’s Punchlist should be created with the end of the project in mind. The CM can add items to the Punchlist as items are completed to close out the project more quickly. All items on the Punchlist must be remediated prior to the project being submitted to Metra for final pay estimate and completion. The Punchlist Form should be utilized to track all items.

6.2.6 REDLINE DOCUMENTS

Redline/Record Drawings Requirements for red lining the Contract Documents are identified in the Contract. Monthly, at a minimum, the CM shall review the Contractor compliance with maintaining the redlined documents addressing field conditions, RFI clarifications, concealed and as-built conditions. The maintenance of the redlined documents establishes the information necessary to produce the project record documents required for the project closeout.

6.2.7 AS-BUILT DRAWINGS AND UPDATED DIGITAL FILE

As provided in the project Contract Documents, the project closeout submittal requirements for as-built drawings and updated digital files are identified and must be included in the closeout plan. The CM is required to review and monitor the Contractor compliance with the necessary progress updates for the as-built drawings and corresponding digital files. Immediately before Substantial Completion Inspection, the contractor shall review record digital data files of CADD files with the CM. The contractor and each Subcontractor must certify that the as-built drawings are complete, accurate, have been coordinated between disciplines and other as-built documents, and are otherwise in accordance with the Specifications.

6.2.8 WARRANTY SUBMITTALS/TIMELINE

Warranty for each piece of equipment should be submitted at the time of commissioning for said equipment. All other warranties should be submitted just prior to the Final Pay Estimate. The Warranty Log should be utilized to track all warranties.

6.2.9 FINAL BUILDING INSPECTION

Upon receipt of the contractor's written notice that all Punchlist items have been completed, the CM will notify the contractor of date(s) for the Final Building Inspection. If any prerequisites have not been met, the CM will notify the Contractor in writing of unfulfilled requirements. If Final Building Inspection reveals deficiencies in completing the Punchlist or providing the required

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submittals, the Final Completion shall not be achieved until all items are resolved and verified as resolved after reinspection by the CM and METRA. Metra will issue a Certificate of Final Completion only after a successful completion of the Final Building Inspection

6.2.10 FINAL COMPLETION

Final Completion of all the Work or any particular discrete portion of the Work deemed complete will occur after successful completion of all testing, deficiency and punch list items, and the receipt by the CM/Metra of all deliverables under the Contract and Metra’s determination that the Work conforms in all respects to all the Contract requirements. Metra will inform the Contractor of such acceptance of the Work by issuing a Certificate of Final Completion to the Contractor, stating that the Work has been completed in accordance with the Contract requirements and is accepted under the terms and conditions thereof.

6.2.11 FINAL PAY ESTIMATE

The CM Contract Task Order closeout requires the Contractor closeout to be completed for a phase, stage, milestone, or the project. The CM is to ensure that all project record documents, training and commissioning information has been turned over to Metra. Contractor closeout completion is inclusive of financial closeout. Once the Contractor has completed the project closeout, the CM Contract or Task Order can be financially closed. This will be handled using a Final Pay Estimate. All of the “Additional Documentation” forms listed below should be utilized as part of the project closeout.

REFERENCES
TPCQMP
PMIS Manual
Contract Documents (Refer to the Project Contract Documents)
ADDITIONAL DOCUMENTATION
Contract Finalization Checklist
Spare Parts Log
Warranty Log
Punch List Form
Final Building Inspection Form

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APPENDIX A: ACRONYMS AND ABBREVIATIONS

ACRONYM	DEFINITION
ARE	Assistant Resident Engineer
BNSF	Burlington Northern Santa Fe Railway
CADD	Computer-Aided Design and Drafting
CDOT	Chicago Department of Transportation
CM	Construction Manager
CM PM	Construction Manager Project Manager
CN	Canadian National Railroad
CoC	City of Chicago
CP	Canadian Pacific Railway
CPM	Critical Path Method
CTA	Chicago Transit Authority
DBE/EEO	Disadvantaged Business Enterprise / Equal Employment Opportunity
DoR	Designer of Record
FE	Field Engineer

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ACRONYM	DEFINITION
FLSSC	Fire Life Safety and Security Committee
FTA	Federal Transit Administration
IDR	Inspector Daily Report
IDOT	Illinois Department of Transportation
ISTHA	Illinois State Toll Highway Authority
ITP	Inspection and Testing Plan
LFE	Lead Field Engineer
MOU	Memorandums of Understanding
NCR	Nonconformance Report
NICTD	Northern Indiana Commuter Transportation District
NS	Norfolk Southern Corporation
NTP	Notice to Proceed
OE	Office Engineer
OR	Owner’s Representatives
OSHA	Occupational Safety and Health Administration

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ACRONYM	DEFINITION
PCE	Project Controls Engineer
PM	Project Manager
PMIS	Project Management Information System
QA	Quality Assurance
QC	Quality Control
QM	Quality Manager
QMS	Quality Management System
RE	Resident Engineer
RFI	Requests for Information
RFIM	Request for Inspection of Material Form
RFMR	Request for Material Received Form
ROCC	Record of Contractor Contact
ROE	Right of Entry
ROW	Right-of-Way
RTA	Regional Transportation Authority

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ACRONYM	DEFINITION
SM	Safety Manager
SME	Subject Matter Experts
SSCC	Safety and Security Certification Committee
TPCQMP	Third-Party Contracts Quality Management Plan
UP	Union Pacific Railroad
VE	Value Engineering

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APPENDIX B: REVISION HISTORY

REVISION DATE	SECTION	PAGE #	REVISION DESCRIPTION
MAY, 2024	1.1	6	Added Figure 1 accountability diagram
MAY, 2024	1.3	8	Revised wording for clarity
MAY, 2024	2	9	New Phase definition graphic added
MAY, 2024	2	9	Revised wording for clarity of Design Services During Construction
MAY, 2024	3.1	10	Revised some language
MAY, 2024	4.1.2.1	25	Bulletpointed list of items
MAY, 2024	4.2.1	28	Added direction for CM when reviewing baseline schedule.
MAY, 2024	4.3.1	29	Added direction for CM when reviewing pencil draws pay applications
MAY, 2024	4.3.1	29	Added direction for CM for schedule of values & pay applications
MAY, 2024	4.4.2.1	31	Revised wording for clarity of CM's responsibilities for Contract modifications
MAY, 2024	4.4.2.6	33	Revised wording for clarity of CM's responsibilities for Notice of Claim
MAY, 2024	4.5.2	36	Added wording for CM handling RFIs to qualified participants
MAY, 2024	4.6.1	37	Added Submittal Procedures detailed in General Requirements under 013300 Submittal Procedures
MAY, 2024	4.6.2.1	38	Added information about contractor's submittal of Initial and Final Submittals.
MAY, 2024	4.6.2.2	38	Added wording for clarity of submittal log requirements
MAY, 2024	4.6.2.3	39	Added clarity for submittal review cycle and timeframes
MAY, 2024	4.6.2.3	39	Added a list of situations when CM should return a submittal to a contractor

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MAY, 2024	4.6.2.4	40	Added a paragraph describing the potential reviews that could be needed.
MAY, 2024	4.6.2.5	40	Updated to include submittal review dispositions to match with 013300 Submittal Procedures.
MAY, 2024	4.6.2.5	40	Updated submittal review dispositions to match with 013300 Submittal Procedures.
MAY, 2024	4.8	44	Added contractor role regarding safety and CM's response to a failure by the contractor
MAY, 2024	4.10.3	48	Removed a section and revised this section to provide clarity not previously covered.
MAY, 2024	4.10.5	50	Added a section on photographic documentation
MAY, 2024	4.10.7	50	Added a section on Project Management Information System
MAY, 2024	4.11.3	54	Added a section on Inspection & Testing Log
MAY, 2024	4.11.6	56	Added a section on Equipment Calibration
MAY, 2024	4.11.7	57	Added additional requirements for NCR documentation.
MAY, 2024	5	60	Added section 5 Lessons Learned
MAY, 2024	6	63	Added section 6 Closeout

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