

SECTION 010010 – GENERAL REQUIREMENTS**WHL TOP ROOF WEST R001R12.1**

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SECTION 010010 – GENERAL REQUIREMENTS
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PART 1 GENERAL

1.1 PURPOSE

- A. The following specification provides the project-specific requirements that are supplementary to the requirements of the Fermi Research Alliance, LLC (FRA) Subcontract General Provisions and the FRA General Terms and Conditions for Construction.
- B. The Subcontractor is required to plan, control, and deliver the final project according to the project specifications. The project must possess complete functional systems and be assembled safely and in quality fashion following industry standards, regulatory requirements, and best practices.

1.2 SUMMARY

- A. The Subcontractor shall provide in the performance of the work under this subcontract all labor, materials, equipment, transportation, services, occupational exposure monitoring and supervision required to maintain work sites that meet the ES&H requirements found in Section **013100**.
- B. All major elements of the work are believed to be adequately described herein. The Subcontractor is expected, as a requirement of the Subcontractor's qualifications, to utilize his or her knowledge and experience to anticipate, and include in the cost of the work any incidentals of work which may be required, but are not specifically expressed herein, in order to provide a complete and fully functional facility and/or system.
- C. Definitions and roles and responsibilities can be found in Section **013100**.
- D. FRA Construction Management Office:
 - 1. Procurement Administrator: Ryan O'Sullivan, ryanosul@fnal.gov 630-840-2402
 - 2. Construction (Project) Manager: John Kent jwkent@fnal.gov
 - 3. Design Coordinator:
 - 4. Construction Coordinator: John Kent jwkent@fnal.gov 630-849-6987
 - 5. ES&H Coordinator: Jon Ylinen ylinenj@fnal.gov 630-873-9597
 - 6. Quality Assurance Coordinator,

1.3 REFERENCES

- A. The publications listed below form a part of this subcontract to the extent referenced.
 - 1. FRA General Terms and Conditions for Construction (01/2022)
 - 2. 010010 General Requirements
 - 3. 013100 Environment, Safety, and Health Requirements
- B. The publications listed below form a part of this specification to the extent referenced.
 - 1. 013300 Submittals

- C. Drawings:
 - 1. or Not Applicable

1.4 SITE LOCATION

- A. The Subcontractor shall confine all operations (including storage of materials) on Fermilab premises to areas authorized or approved by FRA. The Subcontractor shall hold and save FRA and the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Subcontractor's performance.
- B. The project is located on the Fermi National Accelerator Laboratory (Fermilab) Site, adjacent to the city of Batavia, Illinois. The project is located in Kane County on the West tower roof of Wilson Hall. Access to the site is via Wilson St. to road B to Discovery Rd to Pine Street to the west side parking lot of Wilson Hall

1.5

1.6 DESCRIPTION OF WORK

- A. The Subcontractor shall furnish all required supervision, labor, materials, tools, plant and appurtenances necessary to perform diligently and fully all work as described in the drawings and technical specifications. All work includes transportation, overhead, bonding costs, safety oversight, quality control oversight, and supervision as required to construct the project described in the drawings, technical specification and the detailed description contained herein.
- B. The Subcontractor's scope of work is not limited to the general work outline described below. The Subcontractor shall perform all work required to complete the construction work in accordance with the drawings and/or specifications. The description and quantities listed below are general in nature and are only intended to describe the range and complexity of this scope of work. The description and quantities provided below are not to be used as the basis for establishing a cost proposal. Specific quantities and definitions of the scope of work for providing a proposal shall be based solely on estimates developed by the Offer from the drawings, specifications, and the information obtained from examining of the project site.
 - 1. **Roofers to Furnish & Install Sika Sarnafil 621 Roof coating application.**

1.7 MATERIALS & EQUIPMENT FURNISHED BY FRA

- A. No materials and equipment is anticipated to be furnished for this project.

1.8 BUY AMERICAN ACT

- A. FRA maintains a preference for domestic construction material. In accordance with FRA General Terms and Conditions for Construction, the following construction material or components are exempt from the Buy American Act.
- B. There are no exemptions for this project.

1.9 SERVICES FURNISHED BY FRA

A. FRA will furnish the services as described below:

1. **Electrical Power:** Electrical power at 120v for hand tools will or will not be provided at the project site.
2. **Drinking Water:** FRA will or will not provide drinking water for this project.
3. **Toilet Facilities:** FRA will or will not provide toilet facilities for this project.
4. **Utility Locates:** FRA will provide locates of existing known utilities as defined in Section **013100** Articles 1.12 and 3.1. The Subcontractor shall excavate electrical, fiber optics, and gas utilities, in accordance with Section **013100** Article 1.12, paragraph A, 4.

B. Fermilab existing utility and building services shall be coordinated with the FRA Construction Coordinator:

1. FRA will de-energize and re-energized the existing Domestic Water System (DWS), Industrial Cooling Water (ICW), Low Conductivity Water (LCW), fire protection suppression system, electrical services entering facilities, and fire detection in the building(s). These activities shall be coordinated through the FRA Construction Coordinator. The construction Coordinator shall be notified a minimum 48 hour prior to systems needing to be de-energized.

C. FRA furnished services shall be coordinated with the FRA Construction Coordinator.

1. The FRA Construction Coordinator coordinates issuance of permits, reference Section **013100** for additional information;
2. The FRA Construction coordinator or designee requests for and provides disablement of existing systems; Availability and use of existing Fermilab utility services will comply with Section **013100**, Article 1.12, paragraph B.

D. Electrical Power:

1. Article 1.8, paragraph A.1 above describes the electric power that will be furnished by FRA for the Subcontractor's use;
2. Installation of the Subcontractor's electrical power distribution shall include ground-fault circuit protection and shall be subject to FRA approval;
3. Any additional power required not specified shall be furnished and paid for by the Subcontractor.

E. Drinking Water:

1. Article 1.8, paragraph A.2 above describes the drinking water that will be furnished by FRA for the Subcontractor's use;
2. The FRA Construction Coordinator shall approve drinking water distribution containers. Water shall be adequate, clean and dispensed from a fully enclosed potable water container with individual paper drinking cups;
3. The Subcontractor shall furnish and pay for any additional potable water required.

F. Toilet Facilities:

1. Article 1.8, paragraph A.3 above describes the Fermilab toilet facilities that will be available for the Subcontractor's use;
2. When Fermilab toilet facilities are not available to the Subcontractor, the Subcontractor shall provide an adequately serviced chemical toilet for every twenty (20) personnel on the project;

3. The FRA Construction Coordinator shall approve of the toilet type and locations.

1.10 ITEMS AFFECTING WORK PLANNING

- A. Safety Representative: State: "Subcontractor Safety Representative "is not required on the project." Reference Section **013100**, Article 1.15 for further information.
- B. Additional Training: Additional training provided by FRA other than the subcontractor's orientation as specified in Section **013100**, Article 1.17 for further information.
 1. No additional training is anticipated for this project.
- C. Erosion Control: State if Erosion Control is required on this project, if so, reference in accordance with Section **013100** Article 1.13. No erosion control is anticipated for this project as delineated in Section **013100**, Article 1.13.
- D. Metal Recycling: FRA Construction Coordinator will arrange for a FRA provided metal recycle dumpster for the subcontractor to locate the metal in, reference Section **013100**, Article 1.18, paragraph C for additional information.
- E. Waste Disposal: The laboratory will dispose of existing regulated waste or laboratory generated regulated waste. The Subcontractor is permitted to dispose of any regulated waste that is generated during the performance of this subcontract. However, the subcontractor is required to notify the Construction Coordinator prior to the commencement of any regulated waste generation and off-site shipments of any waste materials destined for disposal.
 1. No regulated waste is anticipated for this project.
- F. Reporting: Subcontractor shall submit recycling data from vendor, reference Section **013100** Article 1.18, paragraph F for additional information.
- G. Property Protection: Subcontractor has to accommodate, covering and protecting equipment. This includes the Wilson Hall elevators are accessible for the subcontractor before 7am and from 9am to 11am and from 1pm to 3pm, and after 5pm. Access elevator pads and coordinate elevator usage with FRA's Construction Coordinator.
- H. Fermilab On-Going Operations: Subcontractor is responsible to provide covering or enclosure to protect existing equipment and employees as necessary.

1.11 ELECTRONIC PROJECT DRAWINGS

- A. FRA may, at the Subcontractor's request and in accordance with technical specifications, release "electronic" project drawings for use in preparation of shop drawings by the Subcontractor or Sub-tier subcontractors or vendors.
- B. These electronic drawings will be distributed to the Subcontractor utilizing FRA's current file and media format.
- C. The project design drawings reflect the intent and scope of the project and general routing. The routing of utilities and building/facility services indicated on the design drawings is for providing proposal only. The Subcontractor and/or Sub-subcontractors are expected to

make a site visit and make allowances for all necessary adjustments for the actual system installation and to examine physical conditions which may be material to the performance of his or her work, and coordinate the actual routing as necessary to accommodate the existing conditions, obstructions, and the work of other trades.

1.12 PARKING AND STAGING AREA

- A. Parking of the Subcontractor's and the Sub-tier subcontractor's vehicles shall be confined to the Subcontractor's designated construction area or general public parking spaces.
- B. The Subcontractor shall provide and maintain temporary barricades, fences, or other means to delineate the construction limits, as required for the protection of public and FRA employees. Provide signage at all entrances to the construction site with the Subcontractor's company's name and contact information. Signage shall include: Danger Construction Area, Do Not Enter. Visitors shall sign-in with the Subcontractor's representative and must be aware of the current hazards and conditions and be escorted either by the Subcontractor or a representative of the Construction Management Office.
- C. The Subcontractor's parking and staging area is described in. Wilson Hall, Subcontractor expected to park in the lot with the rest of us.
- D. No material shall be stored beyond the construction limits unless prior written arrangements have been made through the FRA Construction Coordinator.

1.13 SITE ACCESS AND HAULING

- A. The Subcontractor shall, under regulations prescribed by FRA, use only established roadways and use such temporary roadways constructed by the Subcontractor when and as may be authorized by FRA. Where materials are transported during the course of the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicles or prescribed by any Federal, State or local law or regulation. When it is necessary to cross curbs or sidewalks, the Subcontractor shall protect them from damage. The Subcontractor shall repair or pay for the repair of any damaged curbs, sidewalks or roads.
- B. Construction equipment and delivers to the site are restricted to the Wilson Street Gate Entrance. At the discretion of FRA, the Kautz Road access point from Butterfield Road may be used on unique deliveries, such as concrete. Access must be arranged at a minimum of 48 hours prior to the use of this access point through the Construction Coordinator.
- C. Fermilab site access and hauling shall be subject to the following conditions:
 - 1. Electronic communication devices, such as cell phones, texting devices, laptops, etc. must not be used while driving any motor vehicle on Fermilab's site;
 - 2. All roads shall remain open to emergency traffic at all times;
 - 3. All equipment and vehicles shall be confined to operating along defined construction roads and approved access routes;

4. No overland hauling or off-road travel shall be permitted without prior approval of the FRA Construction Coordinator;
5. Interruption of normal traffic patterns or temporary road closings necessitated by movement of equipment or delivery of materials or utility installations shall require advance notice and shall require proper barricades, signage and flag persons to divert normal traffic safely;
6. Traffic on paved roads shall be restricted to rubber-tired vehicles. Where crawler mounted equipment is required to cross paved roads or areas, the pavement shall be suitably protected from damage to the satisfaction of the FRA Construction Coordinator;
7. Dust, debris mud, and litter on any Fermilab roads caused by the Subcontractor's operations shall be removed by the Subcontractor in a manner as directed by the FRA Construction Coordinator;
8. Illinois Rules of the Road shall apply to the Subcontractor's use of all existing roads.

1.14 TRANSPORTATION OF EQUIPMENT AND MATERIALS

- A. Transportation of equipment and materials shall be subject to the following conditions:
 1. Transportation of equipment and materials used by the Subcontractor at the job site shall be furnished by the Subcontractor at his/her own expense;
 2. The Subcontractor shall be responsible for minimizing any interference with local traffic, other Subcontractors and Fermilab operations;
 3. The Subcontractor shall coordinate the anticipated schedule for major material deliveries and site hauling of excavated materials with the FRA Construction Coordinator.

1.15 TEMPORARY SERVICES AND FACILITIES

- A. Temporary services and facilities shall be subject to the following conditions:
 1. Temporary services and facilities required during the construction period shall be furnished, installed, and paid for by the Subcontractor;
 2. All installations shall be subject to FRA approval;
 3. Temporary lighting shall be installed throughout the project to provide safe access and exit conditions and adequate lighting for the various work operations. The installation shall comply with the National Electrical Code (NFPA 70);
 4. Telephone/Internet service for the project will be provided by and paid for by the Subcontractor;
 5. Temporary fire protection shall be in accordance with the OSHA (29 CFR 1926);
 - a. An approved fire extinguisher shall be provided by the Subcontractor on all trucks and similar equipment, at all enclosures, and at on-site construction offices;
 - b. Each extinguisher shall be inspected monthly and a date tag certifying adequacy of the charge and workability of the extinguisher shall be affixed;
 - c. The Subcontractor shall remove the temporary extinguishers at the conclusion of the job.

- B. Temporary ventilation shall be sufficient to provide a safe working environment for construction personnel, in accordance with OSHA 29 CFR 1926.57. Subcontractor shall provide exhaust and supply air fans, ducting and other equipment as needed.
- C. Temporary heating shall include heating devices, protective coverings and temporary enclosures as necessary to protect the work and to provide a safe working environment for personnel.
 - 1. Coal or kerosene type salamanders, pots or open fires shall not be permitted;
 - 2. Where permanent heating equipment has been installed and made operational prior to completion of the project, the Subcontractor may request temporary use of such equipment, at no cost, provided it is properly maintained by the Subcontractor and that all required warranties are extended to include the period of use by the Subcontractor prior to Final Acceptance of the project by FRA. Such equipment shall be turned over to FRA in like-new condition, including new filters and similar consumables.
- D. Temporary Drainage shall be sufficient to remove standing water and prevent flooding.
 - 1. Subcontractor shall furnish pumping equipment and other dewatering equipment as required for proper operation;
 - 2. Pump discharges from dewatering activities shall be intercepted by silt removal or sedimentation basins before being directed to natural drainage courses and away from adjacent work limits of other subcontractors.
- E. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Subcontractor only with the FRA approval and shall be built with labor and materials furnished by the Subcontractor without expense to FRA. The temporary buildings and utilities shall remain the property of the Subcontractor and shall be removed by the Subcontractor at its expense upon completion of the work. With the written consent of FRA, the buildings and utilities may be abandoned and need not be removed.

1.16 FERMILAB CLOSURE

- A. The Fermilab site is closed for major holiday and no construction activities shall occur, unless specifically approved by the FRA Construction Coordinator, on these days:
 - 1. New Year's Day – January 1st
 - 2. Martin Luther King Jr. Day – 3rd Monday in January
 - 3. Memorial Day – Last Monday in May
 - 4. Juneteenth Day – June 19th
 - 5. Independence Day – July 4th
 - 6. Labor Day – 1st Monday in September
 - 7. Thanksgiving Day – 4th Thursday in November
 - 8. Day After Thanksgiving – Friday after Thanksgiving
 - 9. Christmas Eve (1/2 Day) – December 24th
 - 10. Christmas Day – December 25th
 - 11. New Year's Eve (1/2 Day) – December 31st
- B. If any of these holidays occur on a weekend day, a weekday will be used for the holiday.

1.17 MATERIAL SUBSTITUTIONS

- A. In accordance with FRA General Terms and Conditions for Construction, products or materials that are equivalent of those specified will be considered for approval by FRA. The submittal procedure described elsewhere will be followed, with the following additional conditions:
1. In addition to the required information for the proposed substitute material, the submittal shall contain the same information pertaining to the original specified product for purposes of comparison;
 2. The submittal shall explain fully the differences, if any, between the original specified product and proposed substitute product;
 3. Any change to the drawings or specifications for related work required for proper installation of the proposed substitute product shall be indicated in the submittal;
 4. If the proposed substitute product requires alterations of any kind to other equipment or construction, or necessitates any engineering design changes for its proper installation, such alterations and engineering design changes shall be accomplished at no cost to FRA;
 5. The substitute submittal must contain a statement detailing the cost and schedule impact of the proposed substitution;
- B. FRA is the sole judge of the acceptability of the proposed substitution.

1.18 DOCUMENTATION

- A. The FRA Construction Coordinator may prepare weekly progress meeting minutes including on-going punch list items, ESH issues, corrective actions, and status of these items. These minutes will become part of the FRA project file. At the discretion of the FRA Construction Management Office, the weekly progress meeting may be reduced or eliminated depending on safety, quality, and schedule of the project.
- B. Quality Control Documentation reference article 3.3.
- C. On-going punch list: During the duration of the project, the FRA Construction Coordinator shall identify deficient items that do not adhere to the technical specifications/drawings. This list will be kept current through the duration the project by the Subcontractor's Field Superintendent and made part of the Weekly Progress Meeting Minutes. At a minimum, the subcontractor shall, within five (5) working days, submit a proposed corrective action plan that details the mitigation method including a schedule for the correction of the noncompliance. Reference Attachment B.
- D. Notification of punch list items: The FRA Construction Coordinator will notify the Subcontractor of deficiencies and/or discrepancies in the quality of the construction. These notifications will include:
1. Date Identified;
 2. Identifier;
 3. Location;
 4. Description, including specification or drawing reference.
- E. As-Builts (Record Documents):

1. The Subcontractor shall maintain a set of prints of the Subcontract drawings in the construction office at the project site;
 2. A daily record, in red, shall be kept on these prints of the work installed with all modifications or changes thereon. This set of prints shall be available to FRA for inspection at all times and print copies provided upon request to FRA within 24 hours of the request being made;
 3. The FRA Construction Management Office and the Subcontractor's Field Superintendent should review the as-built drawings prior to the Monthly Construction Schedule Updates described elsewhere, in order to determine if the as-built mark-up set is current and accurate. The processing of the monthly payment request is contingent of the up-to-date status of the as-built documentation;
 4. Prior to Final Acceptance described elsewhere in article 3.4, the Subcontractor shall transmit the complete set of marked-up prints to FRA.
 5. The Final Acceptance submittal shall include a statement from the Subcontractor that indicates that the work was installed as shown thereon;
 6. Final Acceptance of the work is contingent on the receipt and approval of the complete as-built documentation.
- F. Final Acceptance Documentation: Final Acceptance of the work is contingent on the receipt and approval of the following documentation:
1. As-built documentation as described elsewhere in the subcontract documents;
 2. Shop drawing record set as described in (Specifications and Drawings for Construction) in accordance with FRA General Terms and Conditions for Construction;
 3. Warranty documentation;
 4. Spare stock (material and consumables), if required by the technical specifications/drawings;
 5. Operations and Maintenance manuals.

1.19 SUBCONTRACTOR'S REQUESTS FOR INFORMATION (RFI)

- A. When the Subcontractor is unable to determine from the Contract Documents, the exact material, process or system to be installed; or when the items of construction are required to occupy the same space (interference); or when an item of work is described differently at two places in the Contract Documents; or when other clarification is required; FRA shall be requested to make a clarification of the indeterminate or interfering item through the RFI procedure given shall be the method for requesting the clarification.
- B. RFIs shall be submitted on a form found in Attachment A or FRA approved Subcontractor's form. Each RFI shall be given a discrete, consecutive number. Each page of the RFI and of attachments to the RFI shall bear the RFI number and Project number. Resubmitted RFIs with additional information shall be RFI number with a .01 prefix for the first resubmitted RFI, .02 for the second, and so on.
- C. RFIs from sub-subcontractors shall be submitted through, reviewed by, given a number, and signed by the Subcontractor prior to submittal to FRA. The Subcontractor shall keep a log of the RFIs. RFIs submitted directly by sub-subcontractors would be returned

unanswered to the sender and the Subcontractor. Subcontractor shall be responsible for delays resulting from the necessity to resubmit an RFI.

- D. Subcontractor shall carefully study the subcontract documents to assure that the requested information is not available therein.
- E. In all cases where RFIs are issued to request clarification of coordination issues (e.g., pipe and duct routing, clearances, specific locations of work shown diagrammatically, apparent interference and similar items) the Subcontractor shall furnish all information required for FRA to analyze and/or understand the circumstances causing the RFI in order to prepare a clarification or direction as to how Subcontractor shall proceed.
- F. RFIs shall not be used for the following purposes:
 - 1. To request approval of submittals;
 - 2. To request approval of substitutions;
 - 3. To request changes which entail additional cost or credit;
 - 4. To request different methods of performing work than those indicated on the drawings and/or specified.
- G. In the event the Subcontractor believes that a clarification by FRA results in additional cost, Subcontractor shall not proceed with the work indicated by the RFI until authorized by FRA Procurement Administrator to proceed by an approved Change Order.
- H. FRA will return RFIs to the Subcontractor within 10 calendar days of receipt. RFIs received after 12:00 noon shall be considered received on the next regular workday for the purpose of establishing the start of the 10-calendar day response period.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 NOTICE TO PROCEED

- A. The Notice To Proceed (NTP) represents the basis of the start of the project duration. The following describes the requirements for the NTP:
 - 1. The NTP is issued by the FRA Procurement Administrator;
 - 2. The issuance of the NTP establishes the start of work on the Fermilab Site.
 - 3. A project kickoff meeting may be required prior to the issuance of the NTP.
- B. Submittals Required Prior to NTP. Within ten (10) business days after subcontract award, the Subcontractor shall submit the following to FRA for acceptance. These items must be submitted and accepted by FRA prior issuance of NTP.
 - 1. Insurance Certificates
 - 2. Payment and Performance Bonds
 - 3. Project Hazard Analysis (if NTP is waived, a project Hazard Analysis is still required prior to commencement of work);
 - 4. Cost-loaded Construction Schedule;
 - 5. Soil Erosion and Sediment Control Plan (if required in Article 1.9;
 - 6. Project-specific Quality Control Plan (if required in Article 3.3);

7. Quality Control Plan (if required in Article 3.3);
8. Reference **013100** for ES&H Submittals.

3.2 CONSTRUCTION SCHEDULE

- A. This project includes the following milestones:
 1. Milestone 0 – 0 Calendar Days – NTP, This milestone marks the point where construction work may begin;
 2. Milestone 1 – XX Calendar Days – All material submittals;
 3. Milestone 2 – work to be completed in 3 to 5 Calendar Days
- B. This Project Complete milestone marks the completion of the project including punch list items, clean-up and acceptance of as-built drawings and if required, submittals.
- C. Weekly progress meetings will be held, unless the FRA Construction Management Office reduces or eliminates the progress meetings, to coordinate the work with Subcontractor and FRA. The roles and responsibilities of the participants are as follows:
 1. FRA Construction Coordinator:
 - a. Responsible for chairing the weekly progress meetings;
 - b. Responsible for meeting documentation;
 - c. Identification of the work completed since the previous progress meeting;
 - d. Identification of deficiencies in the quality of construction.
 2. FRA ES&H Safety Coordinator:
 - a. Responsible for discussion on corrective action and preventative actions on ES&H items;
 - b. Can provide guidance on safe work practices and answer questions related to ES&H by the subcontractor.
 3. FRA Design Coordinator or FRA Construction Coordinator:
 - a. Submittal status;
 - b. Status of Request for Information.
 4. FRA Procurement Administrator
 - a. Provide status on any sub-contractual changes;
 - b. Any administration concerns related to the subcontract.
 5. Subcontractor's Field Superintendent:
 - a. Prior to the weekly progress meeting, the Subcontractor shall submit a "two week look ahead" schedule that will present the status of activities that are currently in progress or expected to begin within two (2) calendar weeks from the date of the weekly progress meeting;
 - b. Subcontractor's Environment, Safety and Health observations;
 - c. Submit Quality Control documents (if required by article 3.3);
 - d. Status of deficiency list of those items of the work that do not conform to the subcontract documents;
 - e. Providing a summary of the work-hours worked during the previous week;
 - f. Identification of any impact to the project cost or schedule due to the activities of Fermilab operations;
 - g. Identification of any work activities commenced or expected to commence that are outside the scope of the subcontract.

- D. Monthly construction schedule update meetings shall accurately reflect the execution of the project. This is required for payment. The construction schedule update shall include the following:
1. Actual start and completion dates for activities that finished during the update period;
 2. Percent complete and predicted completion date for those activities that are in progress;
 3. Any necessary changes to the schedule required to accurately reflect the actual sequence of work;
 4. Clear identification of the critical path work activities and logic ties;
 5. The FRA Construction Coordinator and the Subcontractor shall jointly review all construction schedule updates prior to formal submittal;
 6. The date of the update will be selected by FRA to coincide with accepted FRA financial accounting periods;
 7. The construction schedule shall reflect all subcontract changes that have been issued via supplemental agreement;
 8. A revision summary of the changes shall be maintained on the schedule;
 9. The Subcontractor shall submit a Schedule Variance (SV) report when any of the projected FRA specified milestones are behind schedule by more than 5% ($SV=0.95$ or less) of the total remaining project schedule. This report shall identify those activities that are contributing to the schedule variance;
 10. When the construction schedule indicates that an FRA-specified milestone will be late by more than 5% of the total remaining schedule the Subcontractor shall submit a recovery schedule that will mitigate the schedule variance. This recovery shall identify those activities that are contributing to the schedule variance and the actions the Subcontractor is proposing to mitigate.

3.3 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. The Subcontractor is responsible for all activities necessary to manage, control, and document that work complies with the Subcontract documents. The Subcontractor's responsibility includes ensuring adequate Quality Control services are provided for work accomplished on- and off-site by his/her organization, suppliers, sub-tier contractors, technical laboratories, and consultants.
- B. For critical projects, the Subcontractor shall furnish a project specific Quality Control plan which identifies the personnel, procedures, controls, instructions, test, records, and forms to be used specific to this project at Fermilab. Section 014100 provides additional guidance and expectations for this plan, as well as how to determine if a project is deemed critical from a Quality perspective.
- C. The work activities include safety, submittal management, testing and inspection, and all other functions relating to the requirement for quality construction. Subcontractor is responsible to respond to Non-Compliance Notices that may be issued by the Subcontractor or by FRA. Further, the Subcontractor shall contain procedures for tracking construction deficiencies from identification through acceptable corrective action. The Subcontractor shall track and log deficiencies on form found in Attachment B or FRA approved Subcontractor's form.

- D. Subcontractor shall perform periodic inspection for potential suspect counterfeit materials. The most common suspects counterfeit materials found at US Department of Energy facilities have been threaded fasteners fraudulently marked as high strength bolts. Also included are electrical circuit breakers with false certifications. If the subcontractor suspects any counterfeit material being utilized, contact the Construction Coordinator immediately. Suspect/Counterfeit Items (S/CI) should be removed from the material supply inventory, labeled as S/CI, and quarantined to prevent inadvertent use until the nature of the item has been determined.
- E. If required by article 1.3, reference Section **014100** for additional quality requirements.

3.4 ACCEPTANCE

- A. Authorization to Use and Possession (AUP) prior to completion: An interim inspection process used when FRA assumes responsibility for portions of the work. The following details concern Authorization to Use and Possession:
 - 1. The Subcontractor shall provide a 10-day notice to the FRA Construction Coordinator before this inspection is performed;
 - 2. The Subcontractor's punch list with status noted shall be attached to the AUP documentation;
 - 3. The FRA Construction Coordinator will complete the AUP form;
 - 4. For further information, reference (Use and Possession Prior to Completion) of FRA General Terms and Conditions for Construction.
- B. Final punch list Inspection: An inspection of the uncompleted items of the subcontract documents. The following describes the punch list process:
 - 1. When the Subcontractor believes the work is substantially complete, the Subcontractor shall update the deficiency list for presentation to the FRA Construction Coordinator;
 - 2. The Subcontractor shall provide a 10-day notice to the FRA Construction Coordinator in order to make arrangements for the final inspection of the construction project with FRA personnel;
 - 3. The FRA Construction Coordinator will arrange for a final inspection visit of FRA stakeholders to verify the accuracy of the Subcontractor's deficiency list and to add, as necessary, those items of work that are not complete;
 - 4. The FRA Design Coordinator will develop a comprehensive punch list and issue it to the Subcontractor after the final inspection;
 - 5. The Subcontractor and the FRA Construction Coordinator will sign off on the completion of each punch list item.
- C. Final Acceptance: This inspection will document the completion of the project scope. The following describes this process:
 - 1. The Subcontractor shall provide a five (5) day notice prior to the Final Acceptance inspection;
 - 2. The Subcontractor shall submit documentation that the work associated with the punch list is complete;
 - 3. The FRA Construction Coordinator will coordinate the final inspection walkthrough with FRA stakeholders;
 - 4. The FRA Construction Coordinator will develop and issue the final acceptance documentation when the punch list items have been completed.

END OF SECTION



ATTACHMENT A



REQUEST FOR INFORMATION

Date:

| | |
|---------------|---------------|
| Project Name: | RFI No.: |
| To: | Project No.: |
| Subject: | Submitted By: |

| | | | |
|-------------|---------------|------------|---------|
| Spec.. No.: | Article/Par.: | Drwg. No.: | Detail: |
|-------------|---------------|------------|---------|

Request:

Response:

ATTACHMENT B



QA/QC Punch List Item Status

| Item# | Room/ Location | Description | Author Initials | Subcontractor Responsible | Date Inspected | Date Due | Date Completed | Subs Initials | Closed/ Confir med By | Notes |
|-------|-------------------|-------------|--------------------|------------------------------|-------------------|----------|-------------------|------------------|-----------------------------|-------|
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QA/QC Punch list Items Status

| <Subcontractor> | Assigned Items | Closed Items | Open Items | % Closed | % Open |
|-----------------|-------------------|--------------|---------------|----------|---------|
| | 0 | 0 | 0 | #DIV/0! | #DIV/0! |
| Totals | | | | | |
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