



KUENY ARCHITECTS, L.L.C.

SPECIFICATION FOR

PROJECT:

**Kenosha County - Sheriff's Garage – Fire
Damage Repair**

OWNER:

Kenosha County
4777 88th Avenue
Kenosha WI 53144

SPECIFICATION DATE:

July 12, 2023

Bid #2320

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KENOSHA COUNTY – SHERIFF’S GARAGE – FIRE DAMAGE REPAIR

BID #2320

KENOSHA, WISCONSIN

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SECTION 01 10 00 SUMMARY OF WORK

SCOPE Applicable provisions of the General and Supplementary Conditions and Division 1 govern work under this Section

INDEX 1.1 Work Covered by Contract Documents 1.4 Work Sequence
1.2 Contracts 1.5 Contractors use of Premises
1.3 Work by Others

PART 1 GENERAL

1.1 Work Covered by Contract Documents

- A. The Project consists of fire damage restoration of a 4,345 square foot one story pre-engineered metal storage facility. The primary fire damaged area consists of a 1,350 square foot area.
All work is to be done in strict compliance with the plans and specifications prepared by Kueny Architects, L.L.C., of Pleasant Prairie, Wisconsin, which have heretofore been approved by Kenosha County.
- B. Bids under the **GENERAL CONTRACTOR** will include plumbing, heating and ventilation and the electrical work.
- C. Related Requirements Specified Elsewhere: The Conditions of the Contract – General and Supplementary, and these General Requirements shall apply with equal force and effect to all Contractors engaged in this Work.
- D. Contractor's Duties
1. Except as specifically noted, provide and pay for:
 - a. Labor and materials, tools and equipment. (See General Conditions).
 - b. Other facilities and services necessary for proper execution and completion of Work.
 2. Permits, fees licenses, notices: the contractor is required to obtain all permits.
 3. Comply with codes, ordinances, rules, regulations, orders and other requirements of public authorities which bear on performance of Work.
 4. Promptly submit written notice to Architect of observed variance of Contract Documents from legal requirements. It is not the Contractor's responsibility to make certain that Drawings and Specifications comply with codes and regulations.
 - a. Appropriate modifications to Contract Documents will adjust necessary changes.
 - b. Assume responsibility for work known to be contrary to such requirements, without notice.
 5. Enforce strict discipline and good order among employees. Do not employ Work of:
 - a. Unfit persons.
 - b. Persons not skilled in assigned tasks.
 6. It will be the affected Contractor's responsibility to call the utility companies prior to and while work is in progress to obtain utility locations and clearances within the work limits.

1.2 Contracts: (See General Conditions)

- A. Construct Work under one single prime Contract:
 - 1. Prime Restoration Contractor

1.3 Work Sequence

- A. Construct Work in stages: The General Contractor will determine the schedule. All Contractor's will be required to keep up with General Contractor's schedule.

1.4 Contractors use of Premises

- A. Confine operations at site to areas permitted by:
 - 1. Law
 - 2. Ordinances
 - 3. Permits
 - 4. Contract Documents
- B. Do not unreasonably encumber site with materials or equipment. Do not interfere with other projects underway during the same time period.
- C. Do not load structure with weight that will endanger structure.
- D. Assume full responsibility for protection and safe keeping of products stored on premises.
- E. Move any stored products which interfere with operations of Owner or other Contractors.
- F. Obtain and pay for use of additional storage or work areas needed for operations.
- G. Use Site: The contractor is required to work with and around Owner's existing operations.

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SECTION 01 30 00 PROJECT COORDINATION

SCOPE Applicable provisions of the General and Supplementary Conditions and Division 1 govern work under this Section.

INDEX

- 1.1 Description
- 2.1 Project Manager
- 3.1 General Duties of Project Managers
- 3.2 Coordination Between Contractors at the Project Site

PART 1 GENERAL

1.1 Description

- A. Work Included
 - 1. General Contractor will coordinate the Work of the entire Project.
 - 2. The General Contractor shall:
 - a. Coordinate work of their own employees and subcontractors.
 - b. Expedite their work to assure compliance with schedules.
 - c. Coordinate their work with that of other prime contractors and work by Owner.
 - d. Comply with orders and instructions of the Owner.
- B. Related Work Specified Elsewhere: Division 1.

PART 2 PERSONNEL

2.1 Project Manager

- A. The General Contractor and each of the Mechanical and Electrical sub-contractors shall designate a qualified project manager for the duration of the construction work.
 - 1. Qualification:
 - a. Experienced in field work of the type required for this Project.
 - 2. Submit name to Architect.

PART 3 EXECUTION

3.1 General Duties of Project Managers

- A. Construction Organization and Start-up
 - 1. Project Managers shall establish on-site lines of authority and communications:
 - a. Establish procedures for intra-project communication:
 - (1) Submittals
 - (2) Reports and records
 - (3) Recommendations
 - (4) Schedules
 - (5) Resolution of conflicts.
 - b. Interpret Contract Documents:
 - (1) Consult with Architect to obtain interpretations.
 - (2) Assist in resolution of questions or conflicts which may arise.
 - (3) Transmit written interpretations to Prime Contractors, and to other concerned parties.

- c. Assist in obtaining permits and approvals:
 - (1) Building permits and special permits required for Work or for temporary facilities.
 - (2) Verify that contractors and subcontractors have obtained inspections for Work and for temporary facilities.

- B. Project Manager Duties
 - 1. Prepare Coordination Drawings as required to resolve conflicts and to assure coordination of the work of, or affected by, mechanical and electrical trades, or by special equipment requirements.
 - a. Submit to Architect.
 - b. Reproduce and distribute copies to concerned parties after Architect review.
 - 2. Inspection and Testing:
 - a. Inspect work to assure performance in accord with requirements of Contract Documents.
 - b. Administer special testing and inspections of suspect Work.
 - c. Reject Work which does not comply with requirements of Contract Documents.
 - d. Coordinate Testing Laboratory Services:
 - (1) Verify that required laboratory personnel are present.
 - (2) Verify that tests are made in accord with specified standards.
 - (3) Review test reports for compliance with specified criteria.
 - (4) Recommend and administer any required retesting.
 - 3. Monitor the use of temporary utilities:
 - a. Verify that adequate services are provided and maintained.
 - b. Coordinate installation, operation and maintenance, to verify compliance with project requirements and with Contract Documents.
 - c. Coordinate use of Owner's facilities.
 - 4. Monitor Contractors' periodic cleaning:
 - a. Enforce compliance with Specification.
 - b. Resolve any conflicts.
 - 5. Arrange for delivery of Owner-furnished products.
 - a. Inspect for condition at delivery.
 - b. Turn over to appropriate Contractor, obtain receipt.
 - 6. Changes and Substitutions:
 - a. Recommend necessary or desirable changes to Owner and to Architect.
 - b. Review subcontractors' requests for changes and substitutions; submit recommendations to Owner and to Architect.
 - c. Assist Architect in negotiating Change Orders.
 - d. Promptly notify all subcontractors of pending changes or substitutions.
 - 7. Provide cost control for Project:
 - a. Revise and refine the approved estimate of construction cost periodically:
 - (1) Record actual costs, and estimates for uncompleted work.
 - (2) Incorporate approved changes as they occur.
 - (3) Develop cash flow reports and projections.
 - b. Maintain cost accounting records for authorized work performed under:
 - (1) Unit costs.
 - (2) Actual costs for labor and materials.
 - (3) Other basis requiring accounting records.
 - c. Implement procedures for review and processing of Contractor's applications for progress payments and for final payments.
 - (1) Review each application for payment, submit recommendations to Architect.

8. Maintain Reports and Records at Job Site, available to Architect and Owner.
 - a. Daily log of progress of Work.
 - b. Records:
 - (1) Contracts
 - (2) Purchase orders.
 - (3) Materials and equipment records.
 - (4) Applicable handbooks, codes and standards.
 - c. Obtain information from subcontractors, and maintain file of record documents.
 - d. Assemble documentation for handling of claims and disputes.
9. Coordinate the work schedules of the subcontractors:
 - a. Among the work of the trades specified in Division 23 and 26.
 - b. With the work of trades specified in Division 2 through 26.
10. Coordinate the schedules of subcontractors.
 - a. Verify timely deliveries of Products for installation by other trades.
 - b. Verify that labor and materials are adequate to maintain schedules.
11. Conduct conferences among subcontractors, and other concerned parties, as necessary to:
 - a. Maintain coordination and schedules.
 - b. Resolve matters in dispute.
12. Participate in Project Meetings:
 - a. Report progress of Work.
 - b. Recommend needed changes in schedules.
 - c. Transmit minutes of meetings to trades, as appropriate.
13. Temporary Utilities:
 - a. Coordinate installation, operation and maintenance, to verify compliance with Project requirements and with Contract Documents.
 - b. Verify adequacy of service at required locations.
14. Shop Drawings, Product Data Samples:
 - a. Prior to submittal, review for compliance with Contract Documents.
 - (1) Check field dimensions and clearance dimensions.
 - (2) Check relation to available space.
 - (3) Check anchor bolt settings.
 - (4) Review the effect of any changes on the work of other contracts or trades.
 - (5) Check compatibility with equipment and work of other trades.
 - (6) Check motor voltages and control characteristics.
 - (7) Coordinate controls and interlocks:
 - (a) Voltages
 - (b) Wiring of pneumatic electric switches or relays.
 - (8) Coordinate wiring and control diagrams.
15. Job Site Visits:
 - a. Project Managers shall visit Site monthly until work of their Contract begins.
 - b. Visit site weekly after Contractor has begun.
16. Verify that subcontractors maintain accurate record documents.
17. Observe Work for compliance with requirements of Contract Documents.
 - a. Maintain list of observed deficiencies and discrepancies.
 - b. Promptly report deficiencies or discrepancies to Architect.
 - c. Record results, including time and date of start-up.
18. Equipment Startup:
 - a. Check to assure that utilities and specified connections are complete and that equipment is in operable condition.
 - b. Observe test, adjust and balance.

- c. Record results, including time and date of start-up.
- 19. Inspection and Acceptance of Equipment:
 - a. Prior to inspection, check that equipment is clean, repainted as required, tested and operational.
 - b. Assist inspector; prepare list of items to be completed or corrected.
 - c. Should acceptance and operation of equipment constitute the beginning of the specified warranty period, prepare and transmit written notice to Architect for the Owner.
- 20. Assemble Record Documents from subcontractors, transmit to Architect.

C. Project Manager's Close-out Duties

- 1. Mechanical and Electrical equipment start-up:
 - a. Coordinate check-out of utilities, operational systems and equipment.
 - b. Assist in initial start-up and testing.
 - c. Record dates of start of operation of systems and equipment.
 - d. Submit to Owner written notice of beginning of warranty period for equipment put into service.
- 2. At completion of Work of each Contract, conduct an inspection to assure that:
 - a. Specified cleaning has been accomplished.
 - b. Temporary facilities have been removed from site.
- 3. Substantial Completion:
 - a. Conduct an inspection to confirm or supplement Contractor's list of work to be completed or corrected.
 - b. Assist Architect in inspection.
 - c. Supervise correction and completion of work as established in Certificate of Substantial Completion.
- 4. When Owner occupies a portion of Project prior to final completion, coordinate established responsibilities of Contractor and Owner.
- 5. Final Completion:
 - a. When each Contractor determines the Work is finally complete, conduct an inspection to verify completion of Work.
 - b. Assist Architect in inspection.
- 6. Administration of Contract Closeout:
 - a. Receive and review subcontractors' final submittals.
 - b. Transmit to Architect with recommendations for action.

D. Additional Duties of General Contractor's Project Manager

- 1. Control the use of Site:
 - a. Supervise field engineering and site layout.
 - b. Allocate space for each Prime Contractor's use for field offices, sheds and work and storage areas.
 - c. Allocate field office and storage space, and work and storage areas, for use of each Prime Contractor.
 - d. Establish access, traffic and parking allocations and regulations.
 - e. Monitor use of site during construction.
- 2. Construction Schedules:
 - a. Coordinate schedules of the several Prime Contractors.
 - b. Prepare a detailed schedule of basic operations for all Prime Contractors.
 - (1) Each Prime Contractor shall prepare sub-schedules to comply with critical phases.

- c. Monitor schedules as work progresses:
 - (1) Identify potential variances between scheduled and probable completion dates for each phase.
 - (2) Recommend to Owner adjustments in schedule to meet required completion dates.
 - (3) Adjust schedules of Contractors as required.
 - (4) Document changes in schedule, submit to Owner, Architect and to involved Contractors.
- d. Observe work of each Contractor to monitor compliance with schedule.
 - (1) Verify that labor and equipment are adequate for the work and the schedule.
 - (2) Verify that product procurement schedules are adequate.
 - (3) Verify that product deliveries are adequate to maintain schedule.
 - (4) Report noncompliance to Owner, with recommendation for changes.

3.2 Coordination Between Contractors at the Project Site

- A. All Contractors and all subcontractors shall coordinate their work with adjacent work and shall cooperate with all other trades so as to facilitate the general progress of the Work. Each trade shall afford all other trades every reasonable opportunity for the installation of their work and for the storage of their material. In no case will any Contractor be permitted to exclude from the premises or work, any other Contractor or their employees, or interfere with any Contractor in the executing or installation of their work.
- B. Each trade shall perform its work in proper sequence in relation to that of other contractors or trades and as approved by the Architect. Any cost caused by defective or ill-timed work shall be borne by the trade responsible therefore.
- C. Each Contractor shall arrange their Work and dispose of their materials so as not to interfere with the Work or storage of materials of other Contractors and each shall join their work to that of others in accord with the intent of the Drawings and Specifications.
- D. All mechanical and electrical contractors shall work in cooperation with the General Contractor and with each other, and fit their piping, ductwork, conduit, etc., into the structure as job conditions may demand. All final decisions as to the right-of-way and run of pipe, ducts etc., shall be made by the Architect or his/her representative at prearranged meetings with responsible representatives of the mechanical and electrical contractors.
- E. Each Contractor shall give due notice and proper information to other Contractors of any special provisions necessary for the placing or setting of their work coming in contact with work of other Contractors. Failing to do so in proper time, they will be held responsible and shall pay for any and all alterations and repairs necessitated by such neglect.
- F. It shall be the responsibility of all Contractors and all subcontractors to keep constant check on the progress of the Work so that the particular trade can insure proper preparation for installation of that trade's work and not cause delay in the progress of the Work. It shall be the responsibility of each contractor to periodically make inspections of work in progress and to notify the Architect when work is complete in compliance with Specifications and Drawings.
- G. Contractors for Fire Protection, Plumbing, Heating and Ventilating and Electrical Work shall check and cross check the Drawings and Specifications of other trades to inform

themselves of the work interrelated with their work.

- H. Any voluntary effort on the part of the Architect to expedite the notice to other Contractors shall not relieve any Contractor of their primary responsibility to give such notice.
- I. Contractors shall determine as far in advance as possible the exact size of openings and guarantee them to the General Contractor.
- J. All Contractors working on the site shall coordinate storage of materials on ground slabs and on above ground floor and roof members so as not to exceed the design live load shown on the Drawings. Material storage will not be allowed on any cantilevered members. Contractors will take immediate remedial action when so directed by the Architect.

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SECTION 01 31 19 PROJECT MEETINGS

SCOPE Applicable provisions of the General and Supplementary Conditions and Division 1 govern work under this Section.

INDEX

1.1 Description		
2.1 Pre-Construction Meetings		2.4 One Year Warranty Review Meetings
2.2 Progress Meetings		3.1 Representatives List
2.3 Completion Inspection Meeting		3.2 Meetings

PART 1 GENERAL

1.1 Description

- A. Work Included: Throughout the course of the Work, in order to provide coordination of the Project, the Architect will schedule meetings which will include but are not limited to:
 - 1. Preconstruction Conference
 - 2. Progress Meetings
 - 3. Completion Inspection Meeting

- B. Related Requirements Specified in Other Sections
 - 1. Summary of Work Section 01 10 00
 - 2. Quality Control Section 01 45 00
 - 3. Construction Schedules Section 01 30 00
 - 4. Submittals Shop Drawings and Samples Section 01 33 00
 - 5. Project Record Documents Section 01 70 00
 - 6. Operating and Maintenance Data Section 01 70 00

- C. Related Requirements in Other Parts of the Project Manual
 - 1. Pre-Bid Conference: Instruction to Bidders

- D. Definitions: See General Conditions

PART 2 PRODUCTS

2.1 Preconstruction Meeting

- A. Schedule within 15 days after date of Notice to Proceed.

- B. Location: The Architect will designate a central site convenient for all parties.

- C. Attendance
 - 1. All persons named on the Representatives List described in Part 3 of this Section.
 - 2. Major subcontractors.
 - 3. Major suppliers.
 - 4. Others as appropriate.

- D. Suggested Agendum
 - 1. Distribution and discussion of:
 - a. List of major subcontractors and suppliers
 - b. Projected construction schedules.

2. Critical work sequencing.
3. Major equipment deliveries and priorities.
4. Project coordination; designation or responsible personnel.
5. Procedures and processing of:
 - a. Field decisions
 - b. Proposal requests
 - c. Submittals
 - d. Change orders
 - e. Application for payment
6. Adequacy of distribution of Contract Documents.
7. Procedures for maintaining Record Documents.
8. Use of premises:
 - a. Office, work and storage areas.
 - b. Owner's requirements.
9. Construction facilities, controls and construction aids.
10. Temporary utilities.
11. Safety and first-aid procedures.
12. Security procedures.
13. Housekeeping procedures.

2.2 Progress Meetings

- A. Schedule regular periodic meetings, as required.
- B. Hold called meetings as required by progress of the Work.
- C. Location of the Meetings: The project site or location designated by the owner.
- D. Attendance
 1. Architect's, Owner's and Contractor's representatives as shown on Representatives List in Part 3 of this Section.
 2. Subcontractors as appropriate to the Agenda.
 3. Suppliers as appropriate to the Agenda.
 4. Others.
- E. Suggested Agendum
 1. Review, approval of minutes of previous meeting.
 2. Review of Work progress since previous meeting.
 3. Field observations, problems, conflicts.
 4. Problems which impede Construction Schedule
 5. Review of off-site fabrication; delivery schedules.
 6. Corrective measures and procedures to regain projected schedule.
 7. Revisions to Construction Schedule.
 8. Plan progress schedule, during succeeding work period.
 9. Coordination of schedule.
 10. Review submittal schedules; expedite as required
 11. Maintenance of quality standards
 12. Review proposed changes for:
 - a. Effect on Construction Schedule and on completion date.
 - b. Effect on other contracts of the Project.
 13. Other business.

2.3 Completion Inspection Meeting

- A. Schedule after Punch List has been returned to Architect and before final payment.
- B. Location: A walk-through of the entire project.
- C. Attendance
 - 1. Architect
 - 2. Owner's Representatives
 - 3. Field Superintendent for each prime Contractor.
 - 4. Subcontractors as requested.
 - 5. Engineers
- D. Suggested Agendum
 - 1. Review of Punch List items not completed.
 - 2. Review of Project requirements for determination of final payment.

2.4 One Year Warranty Review Meeting: Approximately 11 months after the date of substantial completion the Architect, Owner and Contractor will inspect the project and develop a list of items to be corrected under the provisions of the One-Year Warranty division of the General Conditions.

PART 3 EXECUTION

3.1 Representative List: After Contracts are awarded, each Contractor will submit to the Architect the names of the Project Manager and Field Superintendent. The Architect will then compile a list of all the representatives of the Owner, Architect, Engineers and Contractors who are authorized to make decisions about the Project and distribute this list to all interested parties.

3.2 Meetings

- A. The General Contractor shall schedule and administer pre-construction meeting, periodic progress meetings and specially called meetings throughout the progress of Work.
 - 1. Prepare agenda for meetings.
 - 2. Distribute written notice of each meeting four days in advance of meeting date.
 - 3. Make physical arrangements for meetings.
 - 4. Preside at meetings.
 - 5. Record the minutes; include all significant proceedings and decision.
 - 6. Reproduce and distribute copies of minutes within three days after each meeting.
 - a. To all participants in the meeting.
 - b. To all parties affected by decisions made at the meeting.
- B. Representatives of Contractors, Subcontractors and suppliers attending the meeting shall be qualified and authorized to act on behalf of the entity each represents.

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SECTION 01 33 00 SUBMITTALS

SCOPE Applicable provisions of the General and Supplementary Conditions and Division 1 govern work under this Section.

INDEX

1.1 Description	2.2 Product Data
1.2 Submittals	2.3 Samples
2.1 Shop Drawings	3.1 Shop Drawings, Product Data and Samples

PART 1 GENERAL

1.1 Description

- A. Work Included
 - 1. To insure that the specified products are furnished and installed in accord with design intent, procedures have been established for advance submittal of design data and for its review by the Architect.
 - 2. Restoration Schedule
 - 3. Progress Reports
 - 4. Shop Drawings
 - 5. Product Data
 - 6. Samples
 - 7. Layout Data
 - 8. Schedule of Values
 - 9. Instruction Manuals

- B. Related Requirements Specified Elsewhere
 - 1. General Conditions
 - a. Progress Schedule
 - b. Shop Drawings, Product Data and samples
 - c. Schedule of Values
 - 2. Project Meetings Section 00 31 19
 - 3. Quality Control Section 01 45 00
 - 4. Material and Equipment Section 01 60 00
 - 5. Project Closeout Section 01 70 00

- C. Definitions
 - 1. Shop Drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are prepared by the Contractor or any subcontractor, manufacturer, supplier or distributor and which illustrate some portion of the Work.
 - 2. Samples are physical examples furnished by the Contractor to illustrate materials, equipment or workmanship and to assist in the establishment of standards by which the work will be judged.

1.2 Submittals

- A. Construction Schedule
 - 1. Submit initial schedules within 15 days after date of Award of Contract.
 - a. Architect will review schedules and return review copy within ten days after receipt.

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- b. If required, resubmit within seven days after return of review copy.
 2. Submit periodically updated schedules accurately depicting progress to first day of each month.
- B. Shop Drawings, Product Data and Samples
 1. Schedule submissions at least 14 days before dates reviewed submittals will be needed.
 2. Submit number of copies of Shop Drawings, Product Data and Samples which Contractor required for distribution plus two copies which will be retained by the Architect. An additional copy shall be submitted for mechanical engineers as required.
 3. Accompany submittals with transmittal letter, in duplicate, containing:
 - a. Date
 - b. Project title and number
 - c. Contractor's name and address
 - d. The number of each Shop Drawing, Product Data and Sample submitted.
 4. Submittals shall include:
 - a. Date and revision dates.
 - b. Project title and number.
 - c. The names of:
 - (1) Architect or Engineer
 - (2) Contractor
 - (3) Subcontractor
 - (4) Supplier
 - (5) Manufacturer
 - (6) Separate detailer when pertinent.
 - d. Identification of product or material.
 - e. Relation to adjacent structure or materials.
 - f. Field dimensions, clearly identified as such.
 - g. Specification Section number.
 - h. Applicable standards, such as ASTM number.
 - i. Identification of deviations from Contract Documents.
 - j. Contractor's stamp, initialed or signed, certifying to review of submittals, verification of field measurements and compliance with Contract Documents.
 5. Resubmission Requirements:
 - a. Shop Drawings:
 - (1) Revise initial drawings as required and resubmit as specified for initial submittal.
 - (2) Indicate on drawings any changes which have been made other than those requested by Architect.
 - (3) Product Data and Samples: Submit new data and samples as required for initial submittal.
 6. Distribution of submittals after review:
 - a. Distribute copies of Shop Drawings and Product Data which carry Architect's stamp to:
 - (1) Contractor's file
 - (2) Job-site file
 - (3) Record document file
 - (4) Other prime contractors
 - (5) Affected subcontractors
 - (6) Suppliers

- (7) Fabricator
- (8) Erector
- b. Distribute samples as directed.
- 7. Note: Architect will not accept any drawing or data that has been transmitted by means of telephone facsimile or electronic mail.
- 8. Provide sufficient space for both Contractors and Architect's Review Stamp.

PART 2 PRODUCTS

2.1 Shop Drawings

- A. Original drawings, prepared by Contractor, subcontractor, supplier or distributor, which illustrate some portion of the Work; showing fabrication, layout, setting or erection details.
- B. Prepared by a qualified detailer.
- C. Identify details by reference to sheet, room schedule, detail numbers or other identification for coordinating with Contract Drawings.
- D. Reproductions for Submittals: Five copies in blue or black line on white background.
- E. Unless otherwise specifically directed by the Architect, make all Shop Drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connection to the Work.
- F. One set of corrected drawings used for fabrication will be made available on the Owner's request.

2.2 Product Data

- A. Manufacturer's Standard Schematic Drawings:
 - 1. Modify drawings to delete information which is not applicable to project.
 - 2. Supplement standard information to provide additional information applicable to project.
- B. Manufacturer's catalog sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive data.
 - 1. Clearly mark each copy to identify pertinent materials, products or models.
 - 2. Show dimensions and clearances required.
 - 3. Show performance characteristics and capacities.
 - 4. Show wiring diagrams and controls.

2.3 Samples

- A. Physical examples to illustrate materials, equipment or workmanship, and to establish standards by which completed work is judged.
- B. Office Samples: Of sufficient size and quantity to clearly illustrate:
 - 1. Functional characteristics of product or material, with integrally related parts and attachment devices.

2. Colors: Submit accurate color charts and pattern charts to the Architect for review and selection as required. Indicate any cost differential between samples.
 3. After review, samples may be used in construction of Project.
- C. Field Samples and Mock-ups: Erect at Project site at location acceptable to the Architect.

PART 3 EXECUTION

3.1 Shop Drawings, Product Data and Samples

A. Contractor Responsibilities

1. Review Shop Drawings, Product Data and Samples prior to submission. The Contractor will be responsible to submit samples which are to be available during the period of construction.
2. Verify
 - a. Field measurements
 - b. Field construction criteria
 - c. Catalog numbers and similar data.
3. Secure all necessary approvals from public agencies and others and signify by stamp, or other means, that they have been secured.
4. Coordinate each submittal with requirements of Work, Contract Documents, all trades, and public agencies involved.
5. Contractor's responsibility for errors and omissions in submittals is not relieved by Architect's review of submittals.
6. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Architect's review of submittals, unless Architect gives written acceptance of specific deviations.
7. Notify Architect in writing at time of submission, of deviations in submittals from requirements of Contract Documents.
8. Begin no work which requires submittals until return of submittals with Architect's stamp and initials or signature indicating review. The Architect takes not responsibility for items delivered to the site and rejected if no Shop Drawings were submitted.
9. After Architect reviews, distribute copies.

B. Architect's Duties (General Conditions)

1. Review submittals with reasonable promptness.
2. Review for:
 - a. Design concept of project.
 - b. Information given in Contract Documents.
3. Review of separate item does not constitute review of an assembly in which item functions.
4. Affix stamp and initials or signature certifying to review of submittal.
5. Return submittals to Contractor for distribution.
6. Review of Shop Drawings by Architect/Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory.

Review of such drawings will not relieve Contractor of responsibility for any error which may exist in the submittals as Contractor shall be responsible for dimensions and design of adequate connections, details and satisfactory construction of all work.

7. The Architect will only check those submittals which have been prepared by the contractor or subcontractor that is actually supplying, fabricating or installing the product to be reviewed. Any evidence that the submittal was prepared by a prime contractor for a subcontractor without the subcontractors knowledge will result in the submittal being return marked Rejected/Resubmit.
8. The Architect's stamp, affixed to the Shop Drawing, means only what it says; that the submittal has been reviewed and is released for fabrication as is or as noted, must be resubmitted or has been rejected. The stamp does not represent a Change Order Authorization. The Contractor will bear all increased costs for reviewed products that have not been previously approved by the Architect for use on this project.

C. Timing

1. General
 - a. Make all submittals far enough in advance of scheduled dates of installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.
 - b. In scheduling, allow at least ten full working days for the Architect's review following receipt of the submittal.
 - c. Mechanical and Electrical submittals should be allowed additional lead time for Engineer's review.
 - d. Submittals pertaining to color selection are interdependent. No colors will be selected without all samples.
2. Delays: Costs of delays occasioned by tardiness of submittals may be backcharged as necessary and shall not be borne by the Owner. Such costs will include the purchase, installation and removal of temporary materials, equipment and fixtures, as required in writing by the Owner, to allow the project to be used or occupied until the permanent materials, equipment and fixtures can be installed. The Owner will not be forced to accept alternate materials, equipment, fixtures or colors because of the failure of the contractor's to make timely submission of Shop Drawings and product data.

- D. Submittal Schedule: Submittals required by the various Sections of these Specifications include, but are not necessarily limited to:

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Section	Work	Field Approval	Shop Drawings	Samples	Color Selections	Manuals	Instruction Methods	Product Data
01 70 00	Contract Close-out Items		X					
07 21 00	Insulation							X
13 34 19	Metal Building Systems	X	X	X	X		X	X
22	Plumbing	X				X	X	X
23	HVAC	X				X	X	X
26	Electrical	X				X	X	

SECTION 01 45 00 QUALITY CONTROL

SCOPE Applicable provisions of the General and Supplementary Conditions and Division 1 govern work under this Section.

INDEX	1.1 Description	2.2 Documents
	1.2 Quality Assurance	3.1 Contractor's Inspections
	1.3 Submittals	3.2 Architect's Inspections
	1.4 Product Handling	3.3 Updated Documents
	2.1 Inspections	

PART 1 GENERAL

1.1 Description

- A. Work Included: During the course of the Work the Contractors will maintain a means of insuring quality control of the Project. Such means of control shall include:
 - 1. On-site construction.
 - 2. Off-site operations.
 - 3. Testing laboratory.
 - 4. Reports
 - 5. Testing and inspection requirements.
 - 6. Updated documents.

- B. Related Work Specified Elsewhere: Requirements for quality controls, certification and tests may be described in various Sections of these Specifications and the General Conditions.

- C. Work Not Included
 - 1. Selection of testing laboratories employed by Owner.
 - 2. Payment of testing laboratories for initial testing.

1.2 Quality Assurance

- A. Qualifications of Inspectors: Quality control personnel shall be familiar with all aspects of the Work and experienced in controlling the finished quality of the Work.

- B. Codes and Standards: Testing, when required, will be in accord with all pertinent codes and regulations and with selected standards of the American Society for Testing and Materials.

1.3 Submittals: Test reports, inspection reports and other documents will be submitted to all interested parties.

1.4 Product Handling: Promptly process and distribute all required copies of reports and related instructions to ensure all necessary retesting and/or replacement of materials with the least possible delay in progress of the Work.

PART 2 PRODUCTS

2.1 Inspections

- A. On-Site: The Contractors will provide the necessary personnel to maintain continuous inspection of the Work to insure compliance with all the requirements of the Contract Documents, all applicable Codes and Manufacturer's recommendations.
- B. Off-Site Construction: The Contractors will provide the necessary inspections to insure the adequacy of all items manufactured off site and delivered to the job ready for installation.

2.2 Documents: The Contractors will prepare all documents necessary to comply with the requirements of this Section and deliver same to all interested parties.

PART 3 EXECUTION

3.1 Contractor's Inspections: The Contractor will continuously monitor the quality of the Work. Any work found to be inadequate will be corrected immediately. Any work found inadequate but requiring the consultation of the Architect will be reported to the Architect and then corrected immediately after clarification. Proper inspection procedures by the Contractor will eliminate the need for a Punch List at the completion of the job.

3.2 Architect's Inspections

- A. The Architect will perform a periodic inspection of the job as required by his/her agreement with the Owner. The Contractor will immediately carry out the Architect's instructions based on these inspections. The Architect will not assume the role of a full time inspector because of the inadequacies of the inspection procedures of the Contractors.
- B. As part of the Architect's inspections, the Contractor will provide the necessary tools and instruments to allow for the on-site verification of all dimensions, grades and elevations.

3.4 Updated Documents

- A. Latest Contract Documents: The Contractors will be responsible for prompt distribution to all parties of the latest revised Contract Documents as supplied by the Architect.
- B. Record Documents: The Contractors will supply the Architect with record documents for those items which differ from the Contract Documents. This will be done immediately and not be left to the end of the Construction.

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SECTION 01 50 00 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

SCOPE Applicable provisions of the General and Supplementary Conditions and Division 1 govern work under this Section.

INDEX	1.1 Description	2.6 Project Identification and Signs
	1.2 Requirements of Regulatory Agencies	2.7 Owner Occupancy
	2.1 Utilities	3.1 Removal
	2.2 Construction Aids	
	2.3 Barriers	
	2.4 Security	
	2.5 Temporary Controls	

PART 1 GENERAL

1.1 Description

- A. Work Included: Temporary facilities and controls required for this Work include, but are not necessarily limited to:
1. Temporary utilities such as ventilation and light.
 2. Sanitary facilities.
 3. Enclosures such as tarpaulins, barricades and canopies.
 4. Signs.
 5. Barriers.
 6. Construction elevators and hoists.
 7. Special controls such as noise, dust and water.
 8. Winter protection.
 9. Fire protection.
 10. Telephone.
 11. Traffic.
- B. Related Work Specified Elsewhere
1. Compliance with safety regulations: Comply with all requirements of pertinent regulations as described in the General Conditions of the Contract.
 2. Subcontractor equipment: Except that equipment furnished by subcontractors shall comply with all requirements of pertinent safety regulations, the ladders, hoists, planks and similar items normally furnished by individual trades in execution of their own portions of the Work are not part of this Section of these Specifications.
 3. Utility hook-up: Installation and hook-up of the various utility lines are described in the pertinent other Sections of these Specifications.
 4. Sitework Section 31 20 00
 5. Mechanical Materials Division 23
 6. Electrical Materials and Lighting Division 26

1.2 Requirements of Regulatory Agencies: Comply with Federal, State and Local codes and regulations.

PART 2 PRODUCTS

2.1 Utilities

- A. Temporary Heating, Cooling and Ventilating
 - 1. Conditions Required:
 - a. Provide and operate equipment required to control temperature and humidity, as necessary to facilitate progress of Work.
 - b. Provide ventilating and cooling required to maintain adequate conditions.
 - (1) To control humidity, and to prevent condensation which would have and adverse affect on products and finishes or which would affect application of materials.
 - (2) To cure installed materials.
 - c. Ventilation Required:
 - (1) General: To prevent hazardous accumulations of dust, fumes, mists, vapor or gases in areas occupied during construction.
 - (a) Provide local exhaust ventilation to prevent harmful dispersal of hazardous substances into atmosphere of occupied areas.
 - (b) Dispose of exhaust materials in a manner which will not result in harmful exposure to persons.
 - (c) Ventilate storage spaces containing hazardous or volatile materials.
 - 2. Use of Permanent System:
 - a. Prior to used of permanent system, obtain written permission of Owner, which will define:
 - (1) Conditions of use.
 - (2) Provisions relating to guarantees on equipment.
 - 3. Materials:
 - a. Comply with applicable Sections of Division 23, Mechanical.
 - b. Materials may be new or used, but must be adequate for the purposes intended, and must not violate requirements of applicable codes and standards.
 - 4. Equipment:
 - a. Provide required facilities, including piping, wiring and controls, as appropriate.
 - 5. Installation:
 - a. Comply with applicable Sections of Division 23, Mechanical.
 - 6. Removal:
 - a. Completely remove temporary materials and equipment when use is no longer required.
 - b. Restore existing equipment used for temporary services to original or better condition.
 - c. Restore permanent equipment used for temporary services to specified condition.
 - d. Remove temporary filters and install new.
- B. Temporary Electricity (See applicable sections of Division 26 Electrical)
 - 1. Use of Permanent System:
 - a. Prior to use of permanent system for construction purposes, obtain written permission of Owner.
 - b. Maintain permanent system as specified for temporary facilities.
 - 2. Materials and Equipment:
 - a. General:

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- (1) Comply with applicable sections – Division 26 Electrical.
 - (2) Products may be new or used, but must be adequate in capacity for required usage, and must not violate requirements of applicable codes and standards.
 - (3) Each trade will provide all extension cords.
 3. Installation:
 - a. Comply with applicable requirements specified in Sections of Division 26, Electrical.
 - b. Maintain system to provide continuous service.
 - (1) Verify proper operation of safety devices.
 4. Removal:
 - a. Completely remove temporary materials and equipment:
 - (1) When construction needs can be met by use of permanent installation.
 - (2) At completion of Project.
 - b. Restore existing facilities used for temporary services to original or better condition.
 - c. Restore permanent facilities used for temporary services to specified condition.
- C. Temporary Lighting
1. The Electrical Contractor will provide temporary artificial lighting in enclosed areas and for all areas when natural light does not meet minimum requirements for:
 - a. Construction work.
 - (1) For work areas: uniform illumination of 20 foot-candles minimum or as required for execution of work.
 - b. Security.
 - (1) For work areas: temporary security lighting at building entrances 1 foot-candle minimum within 10 feet of entrance.
 - (2) For staging and storage areas: temporary security lighting at staging and storage areas 1 foot-candle average.
 2. Use of Permanent System: Prior to use of permanent lighting system, obtain written permission of Owner. Use of permanent system shall not shorten guarantee period.
 3. Materials:
 - a. Comply with applicable requirements specified in Sections of Division 26, Electrical.
 - b. Maintain lighting and provide routine repairs.
 - c. Immediately prior to final inspection, clean fixtures and replace defective lamps and any other defective parts.
- D. Temporary Gas and Water
1. Construction Water and Gas:
 2. Use of Permanent System:
 - a. Prior to use of permanent system for construction purposes, obtain written permission of Owner.
 3. Materials:
 - a. General:
 - (1) Comply with applicable sections of Division 23 – Mechanical
 - (2) Materials may be new or used, but must be adequate for purpose required, must be sanitary, and must not violate requirements of applicable codes.
 4. Installation:
 - a. Comply with applicable requirements specified in Sections of Division 23, Mechanical.
 - b. Maintain system to provide continuous service.

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- c. Modify and extend service as work progress requires.
- d. When necessary to maintain pressure, provide temporary pumps, tanks and compressors.
- 5. Removal:
 - a. Completely remove temporary materials and equipment.
 - (1) When construction can be met by use of permanent installation.
 - (2) At completion of Project.
 - b. Clean and repair damage caused by installation or use of temporary facilities.
 - c. Restore existing facilities, used for temporary services, to original or better condition.
 - d. Restore permanent facilities, used for temporary services, to specified condition.
- E. Temporary Sanitary Facilities
 - a. Toilet Facilities:
 - (1) Portable toilets or temporary flush toilets at Contractor's option.
 - 2. Removal:
 - a. Remove portable units when no longer required.
 - b. Remove temporary flush toilets when the space is ready for finishing and adequate facilities are provided elsewhere.
 - c. Completely remove temporary materials and equipment at completion of project.
 - d. Clean and repair areas used for temporary purposes; replace damaged fixtures, surfaces and accessories.
- F. Temporary Fire Protection: The General Contractor shall provide and maintain, in working order, during the entire construction period, a minimum of three (3) fire extinguishers on each floor level including basement of the building, one in temporary office and such other fire protective equipment and devices as is deems necessary and suitable for any possible class of type of fires. They shall be non-freeze type such as A-B-C rated dry chemical extinguishers of not less than 10 pound capacity each. In addition each contractor who maintains an enclosed shed on the premises shall install and maintain in an accessible location one or more similar non-freezing type of fire extinguisher in each shed. Provisions of Local, State or Federal requirements, where more restrictive, shall comply.

2.2 Construction Aids

- A. General: Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.
- B. Construction Aids
 - 1. Provide construction aids and equipment required by personnel to facilitate the execution of the Work; scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes and other such facilities and equipment.
 - 2. When permanent stair framing is in place, provide temporary treads, platforms and railings, for use by construction personnel.
- C. Construction Elevators and Hoists: The Contractors shall furnish, install and maintain all necessary material hoists, skips, tools, equipment, scaffolding, etc., in approved locations and in sufficient quantities to properly expedite the Work and protect the public. The Contractors will be responsible for the operation of their equipment and allow all

contractors to use it as the progress of the work requires. This equipment shall be installed according to State and local requirements and shall be removed by the Contractors at the completion of the Work. The permanent elevator may not be used.

D. Temporary Enclosures

1. Provide temporary weather-tight enclosures of exterior walls for successive areas of the building as work progresses, as necessary to provide acceptable working conditions, provide weather protection for interior materials, allow for effective temporary heating, and to prevent entry of unauthorized persons.
 - a. Provide temporary exterior doors with self-closing hardware and padlocks.
 - b. Other enclosures shall be removable as necessary for work and for handling of materials.
 - c. Exterior partitions or enclosures shall be covered with 3 inch insulation on interior face.
2. Provide temporary enclosures to separate work areas from the areas of existing building occupied by Owner; to prevent penetration of dust or moisture into occupied areas, to prevent damage to existing equipment, and to protect Owner's employees and operations.
 - a. Temporary partition and ceiling enclosures: Framing and sheet materials which comply with structural and fire rating requirements of applicable codes and standards.
 - (1) Close joints between sheet materials, and seal edges and intersections with existing surfaces, to prevent penetrations of dust or moisture.

E. Installation

1. Preparation: Consult with Architect, review site conditions and factors which affect construction procedures and construction aids, including adjacent properties and public facilities which may be affected by execution of the Work.
2. General:
 - a. Preparation: Consult with Architect, review site conditions and factors which affect construction procedures and construction aids, including adjacent properties and public facilities which may be affected by execution of the Work.
 - b. Relocate construction aids as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements of Owner and other Contractors employed at the site.

F. Removal

1. Completely remove temporary materials, equipment and services:
 - a. When construction needs can be met by use of permanent construction.
 - b. At completion of the Project.
2. Clean and repair damage caused by installation or by use of temporary facilities.
 - a. Remove foundations and underground installations for construction aids.
 - b. Grade the areas of the site affected by temporary installations to required elevations and slopes, and clean this area.
3. Restore existing facilities used for temporary purposes to specified, or to original condition.
4. Restore permanent facilities used for temporary purposes to specified condition.

2.3 Barriers

- A. Materials, General: Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.
- B. Installation
 - 1. General:
 - a. Install facilities of neat and reasonable uniform appearance, structurally adequate for the required purposes.
 - b. Maintain barriers during entire construction period.
 - c. Relocate barriers as required by progress of construction.
- C. Removal
 - 1. Completely remove barricades; silt fence, when construction has progressed to the point that they are no longer needed, and when approved by Architect.
 - 2. Clean and repair damages caused by installation, fill and grade the areas of the Site to required elevations and slopes, and clean the area.

2.4 Security

- A. Responsibility: During the course of construction, up until the time the Owner accepts the Work as completed, the General Contractor only assumes care and custody of the Work and will be responsible for the Work.
- B. Personnel
 - 1. Identification:
 - 2. Exclude from Site personnel not properly identified.
- C. Entrance Control
 - 1. Provide control of all persons and vehicles entering and leaving Project Site.
 - a. Allow no visitors except with issuance of temporary identification.
 - 2. Owner will control deliveries and vehicles related to his/her own operations.
 - 3. All contractors and sub-contractors will be subject to background checks as required by the County for entering the job site.

2.5 Temporary Controls

- A. Dust Control: All Contractors will provide positive methods and apply dust control materials to minimize raising dust from construction operations, and provide positive means to prevent air-borne dust from dispersing into the atmosphere.
- B. Water Control
 - 4. The General Contractor will provide methods to control surface water to prevent damage to the Project, the Site, or adjoining properties. See silt fence location and construction on Site Plan.
 - a. Control fill, grading and ditching to direct surface drainage away from excavations, pits, tunnels and other construction areas; and to direct drainage to proper runoff.
 - 5. Provide, operate and maintain hydraulic equipment of adequate capacity to control surface and water.

6. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the Site or to adjoining areas as required by applicable codes and ordinances.

C. Debris Control

1. Maintain all areas under Contractor's control free of extraneous debris.
2. Initiate and maintain a specific program to prevent accumulation of debris at construction Site, storage and parking areas, or along access roads and haul routes.
 - a. Provide containers for deposit of debris as specified in Section 01 77 16, Cleaning.
 - b. Prohibit overloading of trucks to prevent spillages on access and haul routes.
 - (1) Provide periodic inspection of traffic areas to enforce requirements.
7. Schedule periodic collection and disposal of debris as specified in Section 0 77 16, Cleaning.
 - a. Provide additional collections and disposals of debris whenever the periodic schedule is inadequate to prevent accumulation.

D. Pollution Control

1. All Contractors will provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by discharge of noxious substances from construction operations.
2. Provide equipment and personnel, perform emergency measures required to contain any spillages, and to remove contaminated soils or liquids.
 - a. Excavate and dispose of any contaminated earth off-site, and replace with suitable compacted fill and topsoil.
3. Take special measure to prevent harmful substances from entering public waters.
 - a. Prevent disposal of wastes, effluents, chemicals or other such substances adjacent to streams, or in sanitary or storm sewers.
4. Provide systems for control of atmospheric pollutants.
 - a. Prevent toxic concentration of chemicals.
 - b. Prevent harmful dispersal of pollutants into the atmosphere.

2.6 Project Identification and Signs

- A. Allow no other signs or advertising of any type on the job Site except as specifically approved by the Architect.

2.7 Owner Occupancy: As portions of the building are completed the space should be made so the Owner can set up their equipment, if so requested. In those areas occupied, the General Contractor will take the necessary precautions to protect Owner's equipment against damage and dust.

PART 3 EXECUTION

3.1 Removal: Maintain all temporary facilities and controls as long as needed for the safe and proper completion of the Work; remove all such temporary facilities and controls as rapidly as progress of the Work will permit or as directed by the Architect.

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3. For products specified under reference standards, include with listing of each product.
 - a. Name and address of Manufacturer
 - b. Trade name.
 - c. Model or catalog designation.
 - d. Manufacturer's data.
 - (1) Performance and test data.
 - (2) Reference standards.
- B. Substitutions
 1. Architect will consider substitutions quoted with Base bid, and requests submitted with Bid.
 2. Within 15 days after date of Contract, Architect will consider formal requests from Contractor for substitution of products in place of those specified.

PART 2 PRODUCTS

2.1 Materials and Equipment

- A. General
 1. Materials and equipment incorporated into the Work"
 - a. Conform to applicable Specifications and Standards.
 - b. Comply with size, make, type and quality specified, or as specifically approved in writing by the Architect.
 - c. Manufactured and Fabricated Products:
 - (1) Design, fabricate and assemble in accord with the best engineering and shop practices.
 - (2) Manufacture like parts of duplicate units to standard sizes and gages, to be interchangeable.
 - (3) Two or more items of the same kind shall be identical, by the same Manufacturer.
 - (4) Products shall be suitable for service conditions.
 - (5) Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.
 - d. Do not use material or equipment for any purpose other than that for which it is designed or is specified.
 - B. Manufacturer's Instructions
 1. When Contract Documents require that installation of work shall comply with Manufacturer's printed instructions, obtain and distribute copies of such instructions, obtain and distribute copies of such instructions to parties involved in the installation and until completion.
 - a. Maintain one set of complete instructions at the job site during installation and until completion.
 2. Handle, install, connect, clean, condition and adjust products in strict accord with such instructions and in conformity with specified requirements.
 - a. Should job conditions or specified requirements conflict with Manufacturer's instructions, consult with Architect for further instructions.
 3. Perform work in accord with Manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

- C. Identifying Markings: Nameplates and markings required by codes of regulations or as required for proper operation of equipment shall be affixed for ready access but shall not be placed in exposed surfaces unless required otherwise.

2.2 Transportation and Handling

A. Delivery

1. Arrange deliveries of products in accord with construction schedules and in ample time to facilitate inspection prior to installation.
2. Coordinate deliveries to avoid conflict with work and conditions at site:
 - a. Work of other Contractors or Owner.
 - b. Limitations of storage space.
 - c. Availability of equipment and personnel for handling products.
 - d. Owner's use of premises.
3. Deliver products in undamaged condition in original containers or packaging, with identifying labels intact and legible.
4. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.
5. Immediately on delivery, inspect shipment to assure:
 - a. Product complies with requirements of Contract Documents and reviewed submittals.
 - b. Quantities are correct.
 - c. Containers and packages are intact, labels are legible.
 - d. Products are properly protected and undamaged.

B. Product Handling

1. Provide equipment and personnel necessary to handle products, including those provided by Owner by methods to prevent soiling or damage to products or packaging.
2. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.
3. Handle products by methods to prevent bending or overstressing.
4. Lift heavy components only at designated lifting points.

2.3 Storage and Protection

A. Storage

1. Store products immediately on delivery, and protect until installed in the Work.
 - a. Store in accord with Manufacturer's instructions, with seals and labels intact and legible.
2. Store products subject to damage by elements in substantial weathertight enclosures.
3. Exterior Storage:
 - a. Provide substantial platforms, blocking or skids to support fabricated products above ground, prevent soiling or staining.
 - (1) Cover products, subject to discoloration or deterioration from exposure to the elements, with impervious sheet coverings. Provide adequate ventilation to avoid condensation.
 - b. Store loose granular materials on solid surfaces such as paved areas, or provide plywood or sheet materials to prevent mixing with foreign matter.
 - (1) Provide surface drainage to prevent flow or ponding of rain water.

- (2) Prevent mixing of refuse or chemically injurious materials with liquids.
 4. Arrange storage in manner to provide easy access for inspection.
- B. Maintenance of Storage
1. Maintain periodic system of inspection of stored products on scheduled basis to assure that:
 - a. State of storage facilities is adequate to provide required conditions.
 - b. Required environmental conditions are maintained on continuing basis.
 - c. Surfaces of products exposed to elements are not adversely affected.
 - (1) Any weathering of products, coating and finishes is acceptable under requirements of Contract Documents.
 2. Mechanical and electrical equipment which requires servicing during long term storage shall have complete Manufacturer's instructions for servicing accompanying each item, with notice of enclosed instructions shown on exterior of package.
 - a. Comply with Manufacturer's instructions on scheduled basis.
 - b. Space heaters which are part of electrical equipment shall be connected and operated continuously until equipment is placed in service.
- C. Protection After Installation
1. Provide protection of installed products to prevent damage form subsequent operations. Remove when no longer needed, prior to completion of Work.
 2. Control traffic to prevent damage to equipment and surfaces.
 3. Provide coverings to protect finished surfaces from damage.
 - a. Cover projections, wall corners and jambs, sills and soffits of openings, in areas used for traffic and for passage of products in subsequent work.
 - b. Protect finished doors and stairs from dirt and damage:
 - (1) In areas subject to foot traffic, secure heavy paper, sheet goods or other materials in place.
 - (2) For movement of heavy products, lay planking or similar materials in place.
 - (3) For storage of products, lay tight wood sheathing in place.
 - (4) Cover walls and floor of elevator cars, and surfaces of elevator car doors, used by construction personnel.
 4. Waterproofed and roofing surfaces:
 - a. Prohibit use of surfaces for traffic of any kind, and for storage of any products.
 - b. When some activity must take place, in order to carry out the Contract, obtain recommendations of installer for protection of surface.
 - (1) Install recommended protection, remove on completion of that activity.
 - (2) Restrict use of adjacent unprotected areas.
 5. Lawns and Landscaping: Prohibit traffic of any kind across planted lawn and landscaped areas.

2.4 Substitution and Product Options

- A. Product Approval Standard
1. Definitions:
 - a. The term "**product**" shall include material, equipment, assembly methods, Manufacturer, brand, trade name, or other description.
 - b. References to "approved equal" or similar terms mean that approval of the Architect is required.

2. Contractors Options:
 - a. For products specified only by reference standards, select any product meeting standards, by any Manufacturer.
 - (1) Proof of Compliance: Whenever the Contract Documents require that a product be in accord with Federal Specifications, ASTM designation, ANSI Specifications or other association standards, the Contractor shall present an affidavit from the Manufacturer certifying that the product complies therewith. Where requested or specified submit supporting test data to substantiate compliance.
 - b. For products specified by naming several products or Manufacturers, select any product and Manufacturer named.
 - c. For products specified by naming one or more products, but indicating the option of selecting equivalent products by stating "or equal" after specified product, Contractor must submit request, as required for substitution, for any product not specifically named.
 - d. For products specified by naming only one product and Manufacturer, there is no option, and no substitution will be allowed.
- B. Availability of Specified Items: Verify prior to bidding that all specified items will be available in time for installation during orderly and timely progress of the Work. In the event specified item or items will not be so available, so notify the Architect prior to receipt of Bids. Costs or delays because of non-availability of specified items, when such delays could have been avoided by the Contractor, will be backcharged as necessary and shall not be borne by the Owner.
- C. Substitutions
 1. For a period of 30 days after Contract Date, Architect will consider written requests from Contractor for substitutions of Products.
 2. Submit five copies of request for substitution. Include in request:
 - a. Complete data substantiating compliance of proposed substitution with Contract Documents.
 - b. For products:
 - (1) Product identification, including Manufacturer's name and address.
 - (2) Manufacturer's literature:
 - (a) Product description.
 - (b) Performance and test data.
 - (c) Reference standards.
 - (3) Samples
 - (4) Name and address of similar projects on which product was used, and date of installation.
 - c. For construction methods:
 - (1) Detailed description of proposed method.
 - (2) Drawings illustrating methods.
 - d. Itemized comparison of proposed substitution with product or method specified.
 - e. Data relating to changes in construction schedule.
 - f. Relation to separate contracts.
 - g. Accurate cost data on proposed substitution in comparison with product or method specified.
 2. In making request for substitution, Contractor represents:
 - a. They have personally investigated proposed product or method, and determined that it is equal or superior in all respects to that specified.

- b. They will provide the same warranty for substitution as for product or method specified.
- c. They will coordinate installation of accepted substitution into Work, making such changes as may be required for Work to be complete in all respects.
- d. They waive all claims for additional costs related to substitution which consequently becomes apparent.
- e. Cost data is complete and includes all related costs under the Contract, but excludes:
 - (1) Costs under separate Contracts.
 - (2) Architects or Engineer's redesign.
- 3. Substitutions will not be considered if:
 - a. The substitutions will result in any increased cost for the Owner over the cost of the item as it was originally specified.
 - b. They are indicated or implied on Shop Drawings or project data submittals without a formal request submitted to the Architect.
 - c. Acceptance will require substantial revision of Contract Documents.

PART 3 EXECUTION

3.1 Storage of Materials

A. General

- 1. All Contractors shall confine their equipment, apparatus, storage of materials and operations to limits indicated and shall not bring materials onto the site until needed for the progress of the Work.
- 2. Storage of materials within the building shall at no time exceed the design carrying capacity of the structural system.
- 3. The General Contractor shall slot space to other Contractors and subcontractors for storage of their materials, erection of their sheds.
- 4. The Owner assumes no responsibility for materials stored in building or on the Site. The Contractors assumes full responsibility for damage due to the storing of material.

3.2 Protection

A. General

- 1. Precaution shall be exercised at all times for the protection of persons, including employees, and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery equipment and all hazards shall be guarded or eliminated.
- 2. Notify Owners of corporate or private property if their property interferes with the Work so the arrangements for proper protection can be made.
- 3. Provide and maintain proper shoring and bracing to prevent earth from caving or washing into the building excavation. Provide temporary protection around openings through floors and roofs, including elevator openings, stairwells and edge of slabs.

B. Finish Construction

- 1. Each Contractor shall assume the responsibility for the protection of all finished construction under this Contract and shall repair and restore any and all damage of finished Work to its original state.

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2. Where responsibility can be fixed, the cost shall be charged to the party responsible. If responsibility cannot be fixed, the cost shall be pro-rated among all Contractors in proportion to their activities at the building at the time the damage was done.
3. No wheeling of any loads over finished floors, either with or without plank protection will be permitted in anything except rubber tired wheelbarrows, buggies, trucks or dollies. This applies to all finished floors and to all concrete floors exposed as well as those covered with composition tile or other applied surfacing, and shall apply to all Contractors and subcontractors.
4. Where structural concrete is also the finished surface care must be taken to avoid marking or damaging those surfaces.

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SECTION 01 70 00 CONTRACT CLOSEOUT

SCOPE Applicable provisions of the General and Supplementary Conditions and Division 1 govern work under this Section.

INDEX	1.1 Description	3.6 Punch Lists
	1.2 Quality Assurance	3.7 Substantial Completion
	1.3 Submittals	3.8 Final Inspection
	2.1 Project Close Out	3.9 Reinspection Fees
	3.1 Damage Repair	3.10 Contractor's Closeout Submittals to Architect
	3.2 Tests and Adjustments	3.11 Final Adjustment for Accounts
	3.3 Project Record Documents	3.12 Final Application for Payment
	3.4 Operating and Maintenance Data	
	3.5 Warranties and Bonds	

PART 1 GENERAL

1.1 Description

- A. Work Included: Such work as will be necessary to turn the project over to the Owner in a clean and usable condition. The Work shall include but is not limited to:
 - 1. Damage repair
 - 2. Test and adjustments
 - 3. Punch lists
 - 4. Warranties
 - 5. Final waiver of lien
 - 6. Operation and maintenance instructions
 - 7. Project record documents

- B. Related Work Specified Elsewhere
 - 1. Partial Owner Occupancy Section 01 10 00
 - 2. Coordination Section 01 30 00
 - 3. Shop Drawings, Product Data and Samples Section 01 30 00
 - 4. Operation and Maintenance Data Section 01 30 00
 - 5. Cleaning Section 01 77 16
 - 6. Closeout Submittals Required of Trades:
The respective Sections of Specification
 - 7. Various Sections of these Specifications describe. Procedures, for individual items, to make finished Construction ready for acceptance by Owner.

1.2 Quality Assurance

- A. The Contractor will promptly make any necessary corrections to the Work as directed by the Architect so as to expedite final payments.

- B. Preparation of operating and maintenance data shall be done by personnel:
 - 1. Trained and experienced in maintenance and operation of the described products.
 - 2. Completely familiar with requirements of this Section.
 - 3. Skilled as a technical writer to the extent required to communicate essential data.
 - 4. Skilled as a draftsman competent to prepare required Drawings.

- 1.3 Submittals:** The Contractors will submit all warranties, manuals, Drawings, waivers and test reports as required by the various Sections of this Specification to the Owner at the close of the Project.

PART 2 PRODUCTS

- 2.1 Project Closeout:** The Contractors will provide the manpower to promptly close out the Project so that Owner may occupy the building on the date of completion.

PART 3 EXECUTION

- 3.1 Damage Repair:** The Contractors will make final resolution of the repairing of damaged Work.

- 3.2 Tests and Adjustments:** Each Contractor will perform all tests and make all final adjustments under the actual working condition of each piece of equipment. Comply with Manufacturer's recommendations and turn over a complete and workable installation to the Owner.

3.3 Project Record Documents

A. Maintenance of Documents

1. Maintain at jobsite, one copy of:
 - a. Contract Drawings.
 - b. Specifications
 - c. Addenda
 - d. Reviewed Shop Drawings
 - e. Change Orders
 - f. Other modifications to Contract
 - g. Field test records.
2. Store documents in field office, apart from documents used for construction.
3. Maintain documents in a clean, dry and legible condition.
4. Do not use record documents for construction purposes.
5. Make documents available at all times for inspection by the Architect and Owner.

B. Recording

1. Label each document "PROJECT RECORD".
2. Keep record documents current.
3. Do not permanently conceal any work until required information has been recorded.
4. Shop Drawings: Maintain as Record Documents; legibly annotate following Drawings to record changes made after review.

C. Submittals

1. At completion of Project, deliver Record Documents to Architect.
2. Accompany submittal with transmittal letter, in duplicate containing:
 - a. Data.
 - b. Project title and number.
 - c. Contractor's name and address.
 - d. Title and number of each record document.
 - e. Certification that each document is submitted is complete and accurate.
 - f. Signature of Contractor, or his authorized representative.

3.4 Operating and Maintenance Data

A. General

1. Compile product data and related information appropriate for Owner's maintenance and operation of products furnished under the Contract.
 - a. Prepare operating and maintenance data as specified in this Section and as referenced in other pertinent Sections of Specifications.
2. Instruct Owner's personnel in the maintenance of products and in the operation of equipment and systems.
3. This portion of these Specifications will be strictly enforced. Final Payment will not be made until all data has been submitted to the Architect. Any money or time spent by the Architect to obtain information from manufacturer shall be deducted from contractors final payments.

B. Form of Submittal

5. Prepare data in the form of an instructional manual for use by Owner's personnel.
2. Format:
 - a. Size: 8-1/2 inch by 11 inch.
 - b. Text: Manufacturer's printed data, or neatly typewritten.
 - c. Drawings:
 - (1) Provide reinforced punched binder tab, bind in with text.
 - (2) Fold larger Drawings to the size of the text pages.
 - d. Provide fly-leaf for each separate product, or each piece of operating equipment.
 - (1) Provide typed description of product, and major component parts of equipment.
 - (2) Provide indexed tabs.
 - e. Cover: Identify each volume with typed or printed title "OPERATING AND MAINTENANCE INSTRUCTIONS". List:
 - (1) Title of Project
 - (2) Identify of general subject matter covered in the Manual.
3. Binders: Commercial quality three-ring binders with durable and cleanable plastic covers.

C. Content of Manual

1. Neatly typewritten table of contents for each volume, arranged in a systematic order.
 - a. Contractor, name of responsible principal, address and telephone number.
 - b. A list of each product required to be included, indexed to the content of the volume.
 - c. List, with each product, the name, address and telephone number of:
 - (1) Subcontractor or installer.
 - (2) Maintenance contractor, as appropriate.
 - (3) Identify the area of responsibility of each.
 - (4) Local source of supply for parts and replacement.
 - d. Identify each product by product name and other identifying symbols as set forth in Contract Documents.
2. Product Data:
 - a. Include only those sheets which are pertinent to the specific product.
 - b. Annotate each sheet to:
 - (1) Clearly identify the specific product or part installed.
 - (2) Clearly identify the data applicable to the installation.
 - (3) Delete references to inapplicable information.

3. Written text, as required to supplement product data for the particular installation:
 - a. Organize in a consistent format under separate headings for different procedures.
 - b. Provide a logical sequence of instructions for each procedure.
 4. Copy of each warranty, bond and service contract issued.
 - a. Provide information sheet for Owner's personnel, give:
 - (1) Proper procedures in the event of failure.
 - (2) Instances which might affect the validity of warranties or bonds.
- D. Manual for Materials and Finishes
1. Content, for architectural products, applied materials and finishes.
 - a. Instructions for care and maintenance.
 - (1) Manufacturer's recommendation for types of cleaning agents and methods.
 - (2) Cautions against cleaning agents and methods which are detrimental to the product.
 - (3) Recommended schedule for cleaning and maintenance.
 2. Content, for moisture-protection and weather-exposed products:
 - a. Manufacturer's data, giving full information on products.
 - (1) Applicable standards.
 - (2) Chemical composition.
 - (3) Details of installation.
 - b. Instructions for inspection, maintenance and repair.
 3. Additional requirements for maintenance data: The respective Sections of Specifications.
- E. Submittal Schedule: Submit specified number of copies or approved data in final form ten days after final inspection or acceptance.
- F. Instruction of Owner's Personnel
1. Prior to final inspection or acceptance, fully instruct Owner's designated operating and maintenance personnel in the operation, adjustment and maintenance of all products, equipment and systems.
 2. Operating and maintenance manual shall constitute the basis of instruction.
 - a. Review contents of manual with personnel in full detail to explain all aspects of operations and maintenance.

3.5 Warranties and Bonds

- A. General
1. Compile specified warranties and bonds.
 2. Compile specified service and maintenance contracts.
 3. Co-execute submittals when so specified.
 4. Review submittals to verify compliance with Contract Documents.
 5. Submit to Architect for review and transmittal to Owner.
- B. Submittal Requirements
1. Assemble warranties, bonds and service and maintenance contracts, executed by each of the respective manufacturer's, suppliers and subcontractors.
 2. Number of original signed copies required: Two each.
 3. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.

- a. Product or work item.
 - b. Firm, with name of principal, address and telephone number.
 - c. Scope.
 - d. Date of beginning of warranty, bond or service and maintenance contract.
 - e. Duration or warranty, bond or service maintenance contract.
 - f. Provide information for Owner's personnel:
 - (1) Proper procedure in case of failure.
 - (2) Instance which might affect the validity of warranty or bond.
 - g. Contractor, name of responsible principal, address and telephone number.
- C. Form of Submittals
1. Prepare in duplicate packets.
 2. Format:
 - a. Size 8-1/2 inches by 11 inches, punch sheets for 3-ring binder.
 - (1) Fold larger sheets to fit into binders.
 - b. Cover: Identify each packet with typed or printed title "WARRANTIES AND BONDS". List:
 - (1) Title of Project.
 - (2) Name of Contractor.
 - c. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.
 - d. CD/Flash drive (3) of all documents.
- D. Time of Submittals
1. For equipment or component parts of equipment put into service during progress of construction:
 - a. Submit documents within 10 days after inspection and acceptance.
 2. Otherwise make submittals within ten days after Date of Substantial Completion, prior to final request for payment.
 3. For items of Work, where acceptance is delayed materially beyond the Date of Substantial Completion, provide updated submittal within ten days after acceptance, listing the date of acceptance as the start of the warranty period.
- E. Submittals Required: Submit warranties, bonds, and service and maintenance contracts as specified in the respective Sections of Specifications.

3.6 Punch Lists

- A. Prior to substantial completion, the Architect will inspect the project and publish all items of the Work found unacceptable in the form of a Punch List. The Work described should be done immediately and the Punch list returned to the Architect with each item initialed and dated. The Contractors should not use the punch list as a final inspection service because of their own lack of quality control.
- B. Contractor will, within 7 days of issuance of Punch List by Architect, provide in writing to the Architect a Schedule of Completion for the Punch List items.

3.7 Substantial Completion

- A. When Contractor considers the Work is substantially complete, they shall submit to Architect:

1. A written notice that the Work, or designated portion thereof, is substantially complete.
 2. A list of items to be completed or corrected.
- B. Within a reasonable time after receipt of such notice, Architect will make an inspection to determine the status of completion.
- C. Should Architect determine that the Work is not substantially complete:
1. Architect will promptly notify the Contractor in writing giving the reasons therefore.
 2. Contractor shall remedy the deficiencies in the Work, and send a second written notice of substantial completion to the Architect.
 3. Architect will reinspect the Work.

3.8 Final Inspection

- A. When Contractor considers the Work is complete, he shall submit written certification that:
1. Contract Documents have been reviewed.
 2. Work has been inspected for compliance with Contract Documents.
 3. Work has been completed in accord with Contract Documents.
 4. Equipment and systems have been tested in the presence of the Owner's representative and are operational.
 5. Work is completed and ready for final inspection.
- B. Architect will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.
- C. Should Architect consider that the Work is incomplete or defective:
1. Architect will promptly notify the Contractor in writing, listing the incomplete or defective work.
 2. Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to Architect that the Work is complete.
 3. Architect will reinspect the Work.
- D. When the Architect finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.

3.9 Reinspection Fees

- A. Should Architect perform reinspections due to failure of the Work to comply with the claims of status of completion made by the Contractor:
1. Owner will compensate Architect for such additional services.
 2. Owner will deduct the amount of such compensation from the final payment to the Contractor.

3.10 Contractor's Closeout Submittals to Architect: Documents required prior to Final Payment: Prior to final payment, and before the issuance of final certificate for payment the following items must be filed with the Architect:

- A. Evidence of compliance with requirements of governing authorities:
1. Certificates of Inspection

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- a. Elevators
 - b. Mechanical
 - c. Electrical
- B. Project Record Documents: to requirements of Section 01 70 00.
- C. Operating and Maintenance Data, Instructions to Owner's Personnel: to requirements of Section 01 70 00.
- D. Warranties and Bonds: to requirements of Section 01 70 00.
- E. Spare Parts and Maintenance Materials.
- F. Final Waiver of Lien: To indicate that all debts and claims against this Project have been paid in full or otherwise satisfied, and to give final evidence of release of all liens against the Project and its Owner, the Contractors shall submit a certification to that effect.
- G. Provide the Architect with a written statement that the Owner's maintenance personnel have received operation and maintenance manuals and have received complete instructions on the operation of all equipment under every possible condition.
- H. Certificate of Insurance for Products and Completed Operations.

3.11 Final Adjustment of Accounts

- A. Submit a final statement of accounting to the Architect.
- B. Statement shall reflect all adjustments to the Contract Sum:
- 1. The original Contract Sum.
 - 2. Additions and deductions resulting from:
 - a. Previous Change Orders.
 - b. Unit Prices.
 - c. Deductions for uncorrected work.
 - d. Deductions for reinspection payments.
 - e. Other adjustments.
 - 2. Total Contract Sum, as adjusted.
 - 3. Previous payments.
 - 4. Sum remaining due.
- C. Architect will prepare a final Change order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

3.12 Final Application for Payment

- A. Contractor shall submit the final Application for Payment in accord with procedures and requirements stated in the Conditions of the Contract.

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SECTION 01 73 29 CUTTING AND PATCHING

SCOPE Applicable provisions of the General and Supplementary Conditions and Division 1 govern work under this Section.

INDEX	1.1 Description	3.1 Inspection
	1.2 Submittals	3.2 Preparation Prior to Cutting
	1.3 Payment for Costs	3.3 Performance
	2.1 Materials	

PART 1 GENERAL

1.1 Description

- A. Related Requirements Specified Elsewhere
 - 1. General Conditions
 - a. Cutting and patching of work
 - b. Tests
 - c. Uncovering and correction of work
 - 2. Summary of Work Section 01 10 00
 - 3. Coordination Section 01 30 00
 - 4. Excavating and Backfilling Section 31 20 00
 - 5. General Provisions, Mechanical Section Division 23
 - 6. General Provisions, Electrical Section Division 26
- B. Execute Cutting (including excavating), Fitting or Patching of Work, required to:
 - 1. Make several parts fit properly.
 - 2. Uncover Work to provide for installation of ill-timed work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to requirements of Contract Documents.
 - 5. Remove samples of installed work as specified for testing.
 - 6. Install specified work in existing construction.
 - 7. To receive the work of other contractors as shown or reasonably implied by the Drawings or Specification
- C. In addition to Contract requirements, upon written instructions of Architect:
 - 1. Uncover work to provide for Architect's observation of covered work.
 - 2. Remove samples of installed materials for testing.
 - 3. Remove work to provide for alteration of existing work.
- D. Do not endanger any work by cutting or altering work or any part of it.
- E. Do not cut or alter work of another Contractor without written consent of Architect.

1.2 Submittals

- A. Prior to cutting which affects structural safety of Project, or work of another Contractor, submit written notice to Architect, requesting consent to proceed with cutting, including:
 - 1. Identification of project.
 - 2. Description of affected work.
 - 3. Necessity for cutting.

4. Affect on other work, on structural integrity of project.
 5. Description of proposed work – designate:
 - a. Scope of cutting and patching.
 - b. Contractor and trades to execute work.
 - c. Products proposed to be used.
 - d. Extent of refinishing.
 6. Alternatives to cutting and patching.
 7. Designation of party responsible for cost of cutting and patching.
- B. Prior to cutting and patching done on instruction of Architect, submit cost estimate.
- C. Should conditions of work, or schedule, indicate change of materials or methods, submit written recommendation to Architect, including:
1. Conditions indicating change.
 2. Recommendations for alternative materials or methods.
 3. Submittals as required for Substitutions.
- D. Submit written notice to Architect, designating time Work will be uncovered, to provide for observation.

1.3 Payment for Costs

- A. Costs caused by ill-timed or defective Work or Work not conforming to Contract Documents, including cost for additional services of Architect: Party responsible for ill-timed, rejected or nonconforming work.
- B. Work done on instructions of Architect, other than defective or nonconforming work: Owner.
- C. Work caused by the damage of a Contractor's installation or equipment by another Contractor: Contractor responsible for causing the damage.

PART 2 PRODUCTS

- 2.1 Materials:** For replacement of Work removed, comply with Specifications for type Work to be done.

PART 3 EXECUTION

3.1 Inspection

- A. Inspect existing conditions of Work, including elements subject to movement or damage during:
 1. Cutting and patching
 2. Excavating and backfilling.
- B. After uncovering work, inspect conditions affecting installation of new products.

3.2 Preparation Prior to Cutting

- A. Provide shoring, bracing and support as required to maintain structural integrity of Project.
- B. Provide protection for other portions of Project.

3.3 Performance

- A. Each prime Contractor will arrange for all cutting and patching, for their portion of the Work. Hire only skilled workmen qualified in the type of work required.
- B. Each Prime Contractor will be expected to cut, bore, drill, etc. through all materials as required including concrete, steel and wood.
- C. Execute fitting and adjustment of products to provide finished installation to comply with specified tolerances, finishes.
- D. Execute cutting and demolition by methods which will prevent damage to other work, and will provide proper surfaces to receive installation or repairs and new work.
- E. Restore work which has been cut or removed; install new products to provide completed work in accord with requirements of Contract Documents.
- F. Refinish entire surfaces as necessary to provide an even finish.
 - 1. Continuous Surfaces: to nearest intersections.
 - 2. Assembly: entire refinishing.

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SECTION 01 77 16 PROGRESS CLEANING AND FINAL CLEANING

SCOPE Applicable provisions of the General and Supplementary Conditions and Division 1 govern work under this Section.

INDEX	1.1 Description	2.3 Containers
	1.2 Quality Assurance	3.1 Progress Cleaning
	2.1 Cleaning Materials & Equipment	3.2 Final Cleaning
	2.2 Compatibility	3.3 Cleaning During Owner’s Occupancy

PART 1 GENERAL

1.1 Description

- A. Work Included
 - 1. Throughout the construction period, maintain the building, the site and adjacent private and public property in a standard of cleanliness as described in this Section.
 - 2. It shall be the duty of each Prime Contractor to keep the premises free of accumulations of surplus materials and rubbish caused by his operations and the operations of this subcontractors unless otherwise stated.

- B. Related Work Specified Elsewhere
 - 1. General Conditions
 - a. Cleaning up
 - b. Owner’s right to clean-up
 - 2. Summary of Work Section 01 10 00
 - 3. Coordination Section 01 30 00
 - 4. Cutting and Patching Section 01 73 29
 - 5. Temporary Controls Section 01 50 00
 - 6. Project Closeout Section 01 70 00
 - 7. In addition to standards described in this Section, comply with all requirements for cleaning up as described in various other Sections of these Specifications.

1.2 Quality Assurance

- A. Site Assessment: All prime contractors are required to conduct a site assessment as part of the project. All quantiles (SF and LF) are listed for reference of the scope of work involved. The contractor is required to provide cleaning of the full space to remove all fire related soot, dust, and dirt. Site assessment to include all walls, ceilings, floors, equipment, fixtures, piping, ductwork, devices, millwork, doors, and windows.

- B. Inspection: Conduct daily inspections, and more often if necessary, to verify that requirements of cleanliness are being met.

- C. Codes and Standards: In addition to the standards described in this Section, comply with all pertinent requirements of governmental agencies having jurisdiction.

PART 2 PRODUCTS

2.1 Cleaning Materials and Equipment: Provide all required personnel, equipment and materials needed to maintain the specified standards of cleanliness.

2.2 Compatibility: Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the Architect.

2.3 Containers: Each Contractor for the General Work will provide metal containers for storage of rubbish which will be used by all persons working for that contractor.

2.4 Odor Elimination:

1. Dry Vapor Smoke and Odor Eliminator “The WAXIE”
 - A. “Dry” dispersion system
 - B. Fragrances: Free from harsh chemicals and synthetic masking fragrances
 - C. Toxicity: Non-toxic and readily biodegradable
 - D. Hazard: Classified non-hazardous under the Global Harmonized System (GHS)
 - E. ETL certified for safety and quality
 - F. Fresh Wave IAQ Air & Surface Liquid HMIS:
 - Health – 0, Flammability – 0, Reactivity – 0
 - G. Fresh Wave IAQ Smoke Away Air & Fabric Liquid HMIS:
 - Health – 0, Flammability – 0, Reactivity – 0

2. Smoke De-odorizing Agent: WAXIE Solution 640 Smoke Away Natural Odor Eliminator or Approved Equal.
 - A. Appearance: White Liquid
 - B. Odor: Mint
 - C. pH: 5.5-8.0
 - D. VOC: Not determined.
 - E. Melting Point / Freezing Point: <32 degrees (F)
 - F. Flammability: N/A
 - G. Relative Density: 8.24 lbs/gal.
 - H. Solubility: Complete in water
 - I. Ingredients: Orange Oil 5-Fold Terpeneless <3.744% / Wintergreen / Plant Oil blend.

PART 3 EXECUTION

3.1 Progress Cleaning

- A. General
 1. Retain all stored items in an orderly arrangement allowing maximum, not impeding drainage or traffic, and providing the required protection of materials.
 2. Do not allow the accumulation of scrap, debris, waste material and other items not required for construction of this work.
 3. At least twice each month, and more often if necessary, completely remove all scrap, debris and waste material from the job site and legally dispose of at public or private dumping areas off Owner’s propriety.
 4. The General Contractor will assign adequate storage for all items awaiting removal from the job site, observing all requirements for fire protection and protection of the ecology.

5. No burning of rubbish or debris will be allowed at site. No rubbish shall be thrown through openings or from heights without proper protection.
6. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
7. The General Contractor will vacuum-clean interior building areas when ready to receive finish painting and continue vacuum cleaning on an as needed basis until building is ready for substantial completion or occupancy.
8. Schedule cleaning operations so that dust and other contaminants resulting from cleaning process will not fall on wet, newly painted surfaces.
9. The General Contractor shall perform a broom cleaning of all appropriate surfaces, each Friday afternoon.

B. Safety Requirements

1. Hazards Control
 - b. Store volatile wastes in covered metal containers, and remove from premises daily.
 - c. Prevent accumulation of wastes which create hazardous conditions.
 - d. Provide adequate ventilation during use of volatile or noxious substances.
 - e. Keep work areas, passageways, ramps, stairs, free of debris and scrap.
 - f. Form and scrap lumber shall have nails withdrawn or bent over and lumber shall be stacked or removed.
 - g. Remove spills of oil, grease or other liquids immediately or sprinkle with sand.
2. Conduct cleaning and disposal operation to comply with local ordinances and anti-pollution laws.
 - a. Do not bury rubbish and waste materials on project site.
 - b. Do not dispose of volatile wastes such as mineral spirits, oil or paint thinner in storm or sanitary drains.
 - c. Do not dispose of wastes into streams or waterways.

C. Site

1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris and waste material. Remove all such items to the place designated for their storage.
2. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site, restack, tidy or otherwise service all arrangements to meet the requirements of paragraph 3.1-A-1 above.
3. Maintain the site in a neat and orderly conditions at all times to the approval of the Architect.

D. Structures

1. Weekly, and more often if necessary, each prime contractor will inspect the structures and pick up all their scrap, debris and waste material. Remove all such items to the place designated for their storage.
2. Weekly, and more often if necessary, the General Contractor will sweep all interior spaces clean. "Clean", for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other material capable of being removed by reasonable diligence using a hand-held broom.
3. As required preparatory to installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using all equipment and materials required to achieve the required cleanliness.
4. Following the installation of finished floor materials, the General Contractor will clean the finished floor daily (and more often if necessary) at all times while work is being

performed in the space in which finish materials have been installed. “Clean”, for the purpose of this subparagraph, shall be interpreted as meaning free from all foreign material which, in the opinion of the Architect, may be injurious to the finish floor material.

5. Daily cleanup, within all Owner occupied areas in which work has occurred, will be the responsibility of the Contractor doing the work.

E. Disputes Over Responsibility for Cleaning: If, during the course of construction, disputes should arise over which parties are responsible for cleaning all or a portion of the work, the Architect will require each prime contractor, working at the site, to supply one employee for a clean-up crew, which will be under the direction of the General Contractor.

3.2 Final Cleaning

A. Definition: Except as otherwise specifically provided, “Clean” (for the purpose of this Article) shall be interpreted as meaning the level of cleanliness generally provided by commercial quality building maintenance equipment and materials. Employ experienced workers, or professional cleaners, as approved by the Owner, for final cleaning.

B. General: Prior to completion of the Work, all Contractors will remove from the job site all tools, surplus materials, equipment, scrap, debris and waste. Conduct final progress cleaning as described in Article 3.1 above.

C. Site: Unless otherwise specifically directed by the Architect, the General Contractor will hose down all paved areas on the site and all public sidewalks directly adjacent to the site. Completely remove all resultant debris. Rake clean other surfaces of grounds. Remove snow and ice from access to building.

D. Structures

1. Interior: The General Contractor will visually inspect all interior surfaces and remove all traces of soil, waste material, smudges, soot, dust, dirt and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. Use only the specified cleaning materials equipment.

2. Window Washing: General Contractor shall wash all glass immediately prior to occupancy of this project. Work shall include the removal of labels, paint splattering, putty or compound, etc. Surfaces shall include both sides of all glass in windows, borrowed lights, partitions, doors.

3. Mechanical Systems (HVAC Contractor)

a. Clean ducts, blowers and coils, if air conditioning units were operated without filters during construction.

b. Replace air conditioning filters if units were operated during construction.

4. Electrical Fixtures (Electrical Contractor)

a. Lenses and louvers should be free of dirt and dust.

E. Timing

1. Schedule final cleaning as approved by the Architect to enable the Owner to accept a completely clean project.

2. The General Contractor will notify all prime contractors of the dates for the final cleaning of the building. After those dates, but prior to issuance of the prefinal

- inspection Punch List, any soiling of cleaned areas will be cleaned by the responsible Contractor or cleaned by the General Contractor and charged to the responsible Contractor.
3. After issuance of the prefinal inspection Punch List, recleaning will be done by the responsible Contractor or cleaned by the General Contractor or Owner and charged to the responsible Contractor.
 4. Maintain cleaning until Project, or portion thereof, is occupied by Owner.

3.3 Cleaning During Owner's Occupancy: Should the Owner occupy the work, or any portion thereof, prior to its completion by the Contractor and acceptance by the Owner, responsibilities for interim and final cleaning of the occupied spaces shall be determined by the Architect in accord with the General Conditions of Contract.

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SECTION 02 41 16 STRUCTURE DEMOLITION

SCOPE Applicable provisions of the General and Supplementary Conditions and Division 1 govern Work under this Section.

INDEX	1.1 Description	2.4 Explosives
	1.2 Quality Assurance	2.5 Other Materials
	1.3 Submittals	3.1 Inspection
	1.4 Job Conditions	3.2 Preparation
	2.1 Tools	3.3 Demolition
	2.2 Dust Control Partitions	3.4 Disposal
	2.3 Miscellaneous	

PART 1 GENERAL

1.1 Description

- A. Work Included: Demolition and rubbish removal for the Work includes but is not necessarily limited to:
 - 1. Removal of existing roof insulation liner.
 - 2. Removal of all debris.
 - 3. Removal of miscellaneous items.
 - 4. Dust control.

- B. Related Work Specified Elsewhere
 - 1. Removal or capping of existing mechanical systems as described in these Specifications.
 - 2. Temporary utilities Section 01 50 00
 - 3. Temporary enclosures Section 01 50 00
 - 4. Barriers Section 01 50 00
 - 5. Guardrails and barricades Section 01 50 00
 - 6. Dust control Section 01 50 00
 - 7. Waste material disposal Division 31

- C. Definitions: The term "Demolition" as used herein, includes the removal of all existing objects (except for those objects designated to remain) plus such other Work as is described in this Section of these Specifications.

1.2 Quality Assurance

- A. Qualifications of Contractors
 - 1. Minimum of five years experience in demolition of comparable structures and components.
 - 2. Provide continuous inspection by a Superintendent capable of immediately detecting any possible structural problems that may occur and to insure strict compliance with dust control procedures.

- B. In addition to complying with all pertinent codes and regulations, comply with the requirements of all insurance carriers providing coverage for this Work.

1.3 Submittals

- A. Permits and notices authorizing building demolition.
- B. Permit for transport and disposal of debris.
- C. Demolition procedures and operational sequence for review and acceptance by Architect.

1.4 Job Conditions

- A. Protection
 - 1. Erect barriers, fences, guard rails, enclosures, chutes, and shoring to protect personnel, structures and utilities remaining intact.
 - 2. Use all means necessary to protect existing objects designated to remain and, in the event of damage, immediately make all repairs and replacements necessary to the requirements of the Architect and at no additional cost to the Owner.
- B. Dust Control
 - 1. Use all means necessary to prevent spread of dust during performance of the Work of this Section. Thoroughly moisten all surfaces as required to prevent dust being a nuisance to the public, neighbors and concurrent performance of other Work on the Site.
 - 2. Provide dust tight enclosures to isolate areas of demolition from the remainder of the building.
- C. Burning: On-site burning will not be permitted.
- D. Maintaining Traffic
 - 1. Ensure minimum interference with roads, streets, driveways, sidewalks and adjacent facilities.
 - 2. Do not close or obstruct streets, sidewalks, alleys or passageways without permission from authorities having jurisdiction.
 - 3. If required by governing authorities, provide alternate routes around closed or obstructed traffic ways.

PART 2 PRODUCTS

- 2.1 Tools:** Use only those tools which will not interrupt the Owner's operation by creating excessive noise, vibration or dust. Do not use tools that will emit carbon monoxide gas into occupied areas of the building.
- 2.2 Dust Control Partitions:** Construct temporary partitions for dust control from plastic sheeting attached to wood stud frame work. Partitions shall run floor to ceiling and completely across all openings. Patch all tears in plastic. Loosely hung canvas tarpaulins or plastic will not be accepted.
- 2.3 Miscellaneous:** Remove from the site any and all other materials within the confines of the addition not necessary for construction purposes. Project demolition should include all items necessary to complete the scope of the project.

2.4 Explosives: Do not use explosives on this Work.

2.5 Other Materials: All other materials, not specifically described but required for proper completion of the Work of this Section shall be as selected by the Contractor subject to the review of the Architect.

PART 3 EXECUTION

3.1 Inspection

- A. Verify that structures to be demolished are unoccupied and discontinued in use.
- B. Do not commence Work until conditions are acceptable to Architect.
- C. Prior to all work of this Section, carefully inspect the entire site and all objects designated to be removed and to be preserved.
- D. Locate all existing lines and determine all requirements for protection.
- E. Locate all existing active utility lines traversing the site and determine the requirements for their protection.

3.2 Preparation

- A. Notification: Notify the Architect at least two full working days prior to commencing the Work of this Section.
- B. Remove items scheduled to be salvaged for Owner, and place in designated storage area.
- C. Clarification
 - 1. The Drawings do not purport to show all objects existing on the Site.
 - 2. Before commencing the Work of this Section, verify with the Architect all objects to be removed and all objects to be preserved.
- D. Scheduling
 - 1. Schedule all Work in a careful manner with all necessary consideration for neighbors and the public.
 - 2. Avoid interference with the use of, and passage to and from adjacent buildings and facilities.
- E. Disconnection of Utilities: Before starting site operations, disconnect or arrange for the disconnection of all utility services designated to be removed, performing all such work in accord with the requirements of the utility company or agency involved.
- F. Protection of Utilities: Preserve in operating condition all active utilities traversing the Site and designated to remain.
- G. Take out and pay for all required fees and permits.

3.3 Demolition

- A. Demolish components in accord with demolition procedures submitted to and accepted by Architect.
- B. The demolition contractor must be a Lead Safe certified contractor.

3.4 Disposal

- A. Remove demolition debris as soon as practicable. All combustible debris must be removed before the end of each working day.
- B. Do not store or burn materials on site.
- C. Transport demolition debris to disposal area.

* * * * *

SECTION 13 34 19 METAL BUILDING SYSTEMS

SCOPE Applicable provisions of the General and Supplementary Conditions and Division 1 govern work under this Section.

INDEX	1.1	Description	1.6	Warranties
	1.2	Quality Assurance	2.1	Materials
	1.3	Submittals	2.2	Acceptable Manufacturers
	1.4	Product Delivery, Storage and Handling	2.3	Fabrication
	1.5	Job Conditions	3.1	Surface Conditions

PART 1 GENERAL

1.1 Description

- A. Work Included: This Specification covers the material for and the fabrication of metal building roofing insulation and ceiling liner replacements (Refer to Attachments).
- B. Related Work Specified Elsewhere
 - 1. Cutting and Patching Section 01 73 29
- E. Description of System
 - 1. Roof System: Preformed metal panels of vertical profile, with girt, anchorage fasteners, insulation, liner sheets and accessory components as noted on drawings.
- C. Definitions: Refer to "Metal Building Systems Nomenclature" of the Metal Building Manufacturers Association.

1.2 Quality Assurance

- A. Qualifications of Manufacturers: The Manufacturer of the building system used shall have been in the manufacture of metal buildings for at least 5 years; shall have the capabilities of supplying the specified materials in the quantities required to meet the construction schedule; shall have full engineering capabilities to meet all design requirements; and shall be able to transport the material to the job site.
- B. Qualifications of Installer
 - 1. A firm with a least 5 years experience in the type of work required that will be under the direct supervision of the metal building Contractor.
 - 2. Qualifications of Welders: AWS D 1.1
- E. Allowable Tolerances: American Institute of Steel Construction, "Code of Standard Practice of Steel Buildings and Bridges".
- F. Source Quality Control
 - 1. Material Compliance: Manufacturer will supply on request of Engineer, certificates showing mechanical, physical and strength properties of all materials supplied.
- G. Reference Standards

1. Applicable Building Codes.
2. Metal Building Manufacturers Association (MBMA)
 - a. Metal Building Systems Manual
 - b. Recommended Design Practices Manual
3. Aluminum Association (AA)
 - a. Specification for Aluminum Structures
 - b. Aluminum Formed Sheet Building Sheathing Design Guide
4. American Society for Testing and Materials (ASTM)
 - a. A 1, Carbon-Steel Rails
 - b. A 36, Structural Steel
 - c. A 53, Pipe, Steel, Black and Hot-Dipped, Zinc Coated Welded and Seamless Steel Pipe
 - d. A 164, Electrodeposited Coatings of Zinc on Steel
 - e. A 165, Electrodeposited Coatings of Cadmium on Steel
 - f. A 233,
 - g. A 307, Carbon Steel Externally Threaded Standard Fasteners
 - h. A 325, High Strength Bolts for Structural Steel Joints
 - i. A 386, Zinc-coating (Hot-Dip) on Assembled Steel Products
 - j. A 446, Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, Structural (Physical) Quality
 - k. A 490, Quenched and Tempered Alloy Steel Bolts for Structural Steel Joints
 - l. A 500, Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
 - m. A 501, Hot-Formed Welded and Seamless Carbon Steel Structural Tubing
 - n. A 515,
 - o. A 525, Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process, General Requirements.
 - p. A 529, Structural Steel with 42,000 psi Minimum Yield Point
5. American National Standards Institute (ANSI)
 - a. B 27.2
 - b. B 27.4
6. Commercial Standards (CS)
 - a. 214,
7. Federal Specifications (FS)
 - a. HH-I-521, Insulation Blankets, Thermal, Mineral Fiber
 - b. TT-E-496, Enamel, Semi-gloss, Rust-inhibiting
 - c. TT-P-31, Paint, Oil: Iron-Oxide, Ready Mixed, Red and Brown

1.3 Submittals: Within 35 days after award of Contract, and before any of the materials of this Section are delivered to the job site, submit complete to the Engineer in accordance with these Specifications; the following:

- A. Samples: Submit color samples for approval.

1.4 Product Delivery, Storage and Handling

- A. Protection: Use all means necessary to protect the materials of this Section before, during, and after installation and to protect the installed Work and materials of all other trades.
- B. Delivery and Handling: Handle all components in a manner consistent with their shape and design. Lift or support units only at points shown on erection drawings.

Protect components from dirt and damage during transport and handling. Protect and support units during shipping.

- C. Storage at Jobsite: Deliver to job site in quantities only as needed for erection. Store location set aside by General Contractor. Store components to protect from contact with soil, staining, abrasions and general physical damage. Protect finished roof and wall panels, trim, doors, frames and sash by covering with plastic sheets.
- D. Delivery of Materials to be Installed Under Other Sections: Anchor bolts and other anchorage devices which are embedded in cast-in-place concrete or masonry construction shall be delivered to the project site in time to be installed before the start of cast-in-place concrete operations or masonry work.
- E. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Engineer and at no additional cost to the Owner.

1.5 Job Conditions

- A. Site Conditions and Scheduling: Immediately after award of the Contract this Contractor will verify with General Contractor the requirements for site access for erection and the scheduling for erection. The General Contractor will be responsible for providing this Contractor access to the site so that all erection equipment can be used.

1.6 Warranties: At completion of Work, Manufacturer will provide Owner with written warranties as follows:

- A. Manufacturer's standard warranty covering complete assembly.
- B. Weather tightness endorsement – 50 year.
- C. Extended life endorsement on coated steel.
- D. Manufacturer warranty and weather tight warranty must remain with replacement being completed.

PART 2 PRODUCTS

2.1 Materials

- A. General: All materials furnished shall meet or exceed the stated design requirements.
- B. Aluminum: The Aluminum Association's, "Specification for Aluminum Structures" and "Aluminum Formed Sheet Building Sheathing Design Guide" shall be the guide in the design of aluminum parts for building components.
- C. Minimum Standards for Thickness (except as specified elsewhere)
 - 1. Individual structural members of steel other than roof covering to be a minimum of 18 gage.
 - 2. Roof Covering:
 - a. Steel: minimum of 24 gauge.

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- b. Aluminum: minimum of 0.032 inch thickness.
- c. Plastic: minimum of 0.045 inch thickness.

H. Roof Covering

1. Panel Description: MBCI 16" wide BattenLok HS (24 ga.)
 - a. Panels shall be produced on a precision roll forming machine.
 - b. Panels of maximum possible lengths shall be used with no end laps. Lengths shall be used min. 53'-0" (or) maximum final design length.
 - c. Roof panels shall be factory pre-punched at panel end to match pre-punched holes in the eave structural member. Panel end splices shall be prepunched and prenotched.
 - d. Profile: Match Existing roof panel
 - e. Edges: Male/female, Double lock standing seam
2. Panel Design:
 - a. Panels shall be designed in accord with AISI Specifications for the Design of Light Gage Cold Formed Steel Structural Members and in accord with sound engineering methods and practices.
 - b. Panels shall be designed to support design live loads and roof traffic during construction.
 - c. The roof shall provide for expansion/contraction without detrimental effect on the roof panel when ambient air temperature varies \pm 100 degrees F. from the temperature at which the roof was installed.

K. Insulation System

Roof Insulation: R-38 fiberglass system with liner panel.

1. Insulation: Formaldehyde free, 12" total thickness fiberglass batt insulation; thermal resistance R=38; ASTM C-991, Type I / ASTM E-136 / ASTM E-84; Flame Spread Classification of 25/50 or less flame spread / smoke developed rating. Lower layer 8" and upper layer 4"
2. Fabric Liner System:
 - a. Strapping: Corrosion resistant, 1" wide x 0.020 UVMAX strapping, 100,000 psi tensile strength. No field splicing. Color matched to fabric.
 - b. Fasteners: Color matched with sealing washers, size and type appropriate for substrate use.
 - c. Tapes and Sealants: As recommended by system manufacturer, compatible with system components.
 - d. Fabric Liner: Woven, high density polyethylene fabric which provides a Class A fire retardant rating.

2.2 Acceptable Manufacturers

- | | |
|---------------------------------|----------------------------------|
| A. Foremost Building, Inc. | D. Ceko Building Systems, Butler |
| B. Kirby | E. Varco Pruden Buildings |
| C. Nucor Building Systems Group | F. Approved Manufacturers |

2.3 Fabrication

- A. General: Fabricate all Work in accord with the approved Shop Drawings and referenced standards. Be responsible for accurate fit of all Work.

PART 3 EXECUTION

3.1 Surface Conditions

- A. Inspection: Before fabrication or erection examine the Site, inspect bearing surfaces, take field measurements, and carefully inspect the installed Work of all other trades and verify that all such Work is complete and that the Work of this Section can be installed in accord with the original design and approved Shop Drawings. In the event of discrepancies, notify Engineer immediately for clarification. Do not proceed with the work of this Section until all such discrepancies have been fully resolved.

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WORK AREA QUANTITIES – ATTACHMENT A

SCOPE Quantities provided are for bidding reference. The restoration contractor will be responsible for a site assessment and review of all areas. The quantities represent the restoration scope intent for the project. Upon project completion the investigation room 101 is to be cleaned of all fire damage, debris, and odor.

Room: Investigation Garage 101

Garage Gross Area:	4345	Average Wall Height:	18'-8"
SF Walls:	5260	SF Ceiling:	4345
LF Floor Perimeter:	300	SF Flooring:	4345
		Primary Fire Damaged SF:	1350

Legend:

SF = Square Feet LF = Lineal Feet EA. = Individual Units (FV) Field Verify

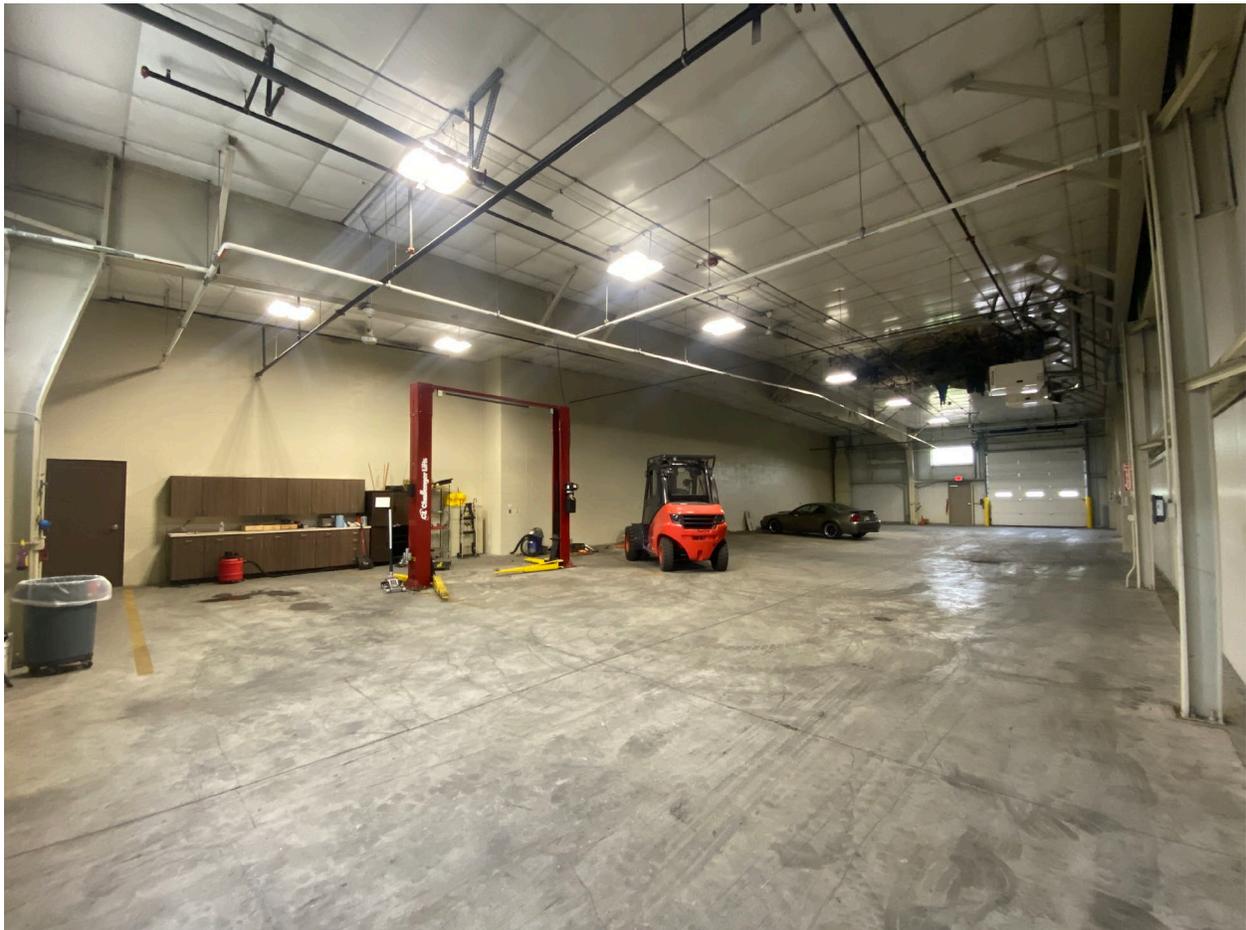
Description	Qty.	Unit
1 Remove Batt Insulation at underside of roof deck (R-38)	4345	SF
2 Remove vapor barrier at underside of roof deck	4345	SF
3 Clean roof deck exposed to direct fire damage	1350	SF
4 Clean exposed overhead beams (main beams and kickers)	200	LF
5 Clean overhead beams and purlins at primary fire area	700	SF
6 Clean overhead garage door, track, and opener	2	EA.
7 Clean overhead garage door hardware	2	EA.
8 Clean man doors and hardware	3	EA.
9 Clean windows (3'-0" x 6'-0")	3	EA.
10 Clean architectural woodwork (base and upper cabinets - inside and out)	22	LF
11 Clean counter tops	23	SF
12 Clean existing shelving and lateral cabinets	4	EA.
13 Clean forklift (inside and out - complete clean)	1	EA.
14 Clean vehicle lift; complete clean of unit	1	EA.
15 Clean all wall surfaces	5260	SF
16 Clean exposed ductwork - EG1, IEF-1, UH-3/4 (All exposed ductwork in Northwest corner)	2	EA.
17 Clean ceiling fans (deep clean)	2	EA.
18 Clean light fixtures (deep clean)	8	EA.
19 Clean exhaust fans	2	EA.
20 Clean electrical panels	1	EA.
21 Remove, clean, and re-install Unit Heaters (UH-3 / UH-4).	2	EA.

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22	Clean 3/4" diameter NG line piping	65	LF
23	Remove conduit (ceiling pipe and wiring to nearest junction box) Primary fire damaged area	800 (FV)	LF
24	Replace 3/4" conduit in Primary fire dam. area (ceiling runs and wiring to nearest junction box)	800 (FV)	LF
25	Replace Junction Boxes (Primary Fire Damaged Area)	6 (FV)	EA.
26	Clean all exposed plumbing piping (1" / 3/4" CW - Horizontal and Vertical)	350	LF.
27	Clean out catch basin and floor drains (CB-1 / FD-1)	3	EA.
28	Clean all exposed PVC vent piping	40	LF
29	Clean all fire suppression piping and FP heads	300 (FV)	LF
30	Clean all fire detection and alarm devices	3	EA.
31	Verify existing roof purlins. Contractor to verify condition when insulation is removed.	10	EA.

EXISTING PHOTOS – ATTACHMENT B

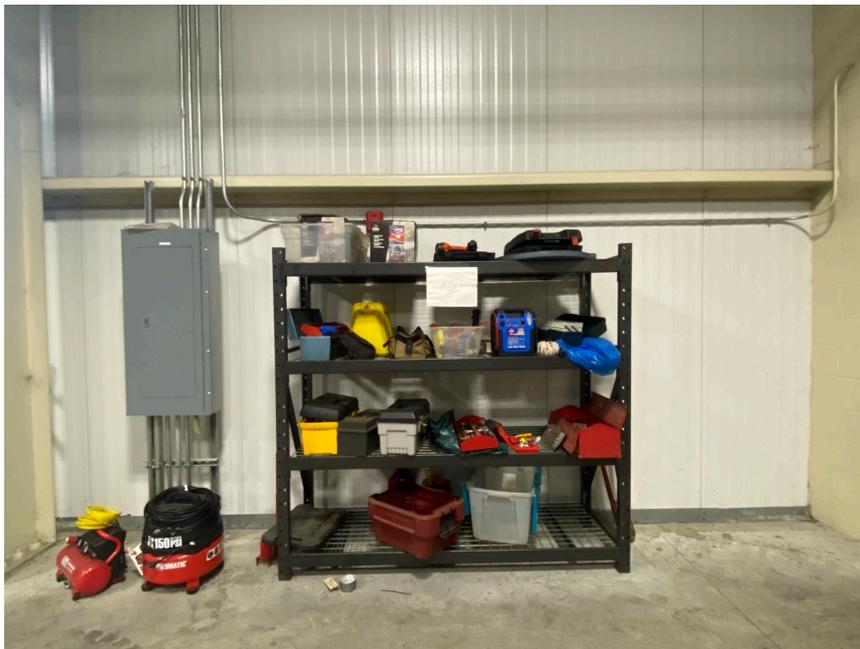
SCOPE Photos provided are for bidding reference. All prime contractors are required to conduct a site assessment as part of the project. All quantiles (SF and LF) are listed for reference of the scope of work involved. The contractor is required to provide cleaning of the full space to remove all fire related soot, dust, and dirt. Site assessment to include all walls, ceilings, floors, equipment, fixtures, piping, ductwork, devices, millwork, doors, and windows.



Southeast Corner – Looking Northwest



Southwest Corner – Looking Northeast – Full work area

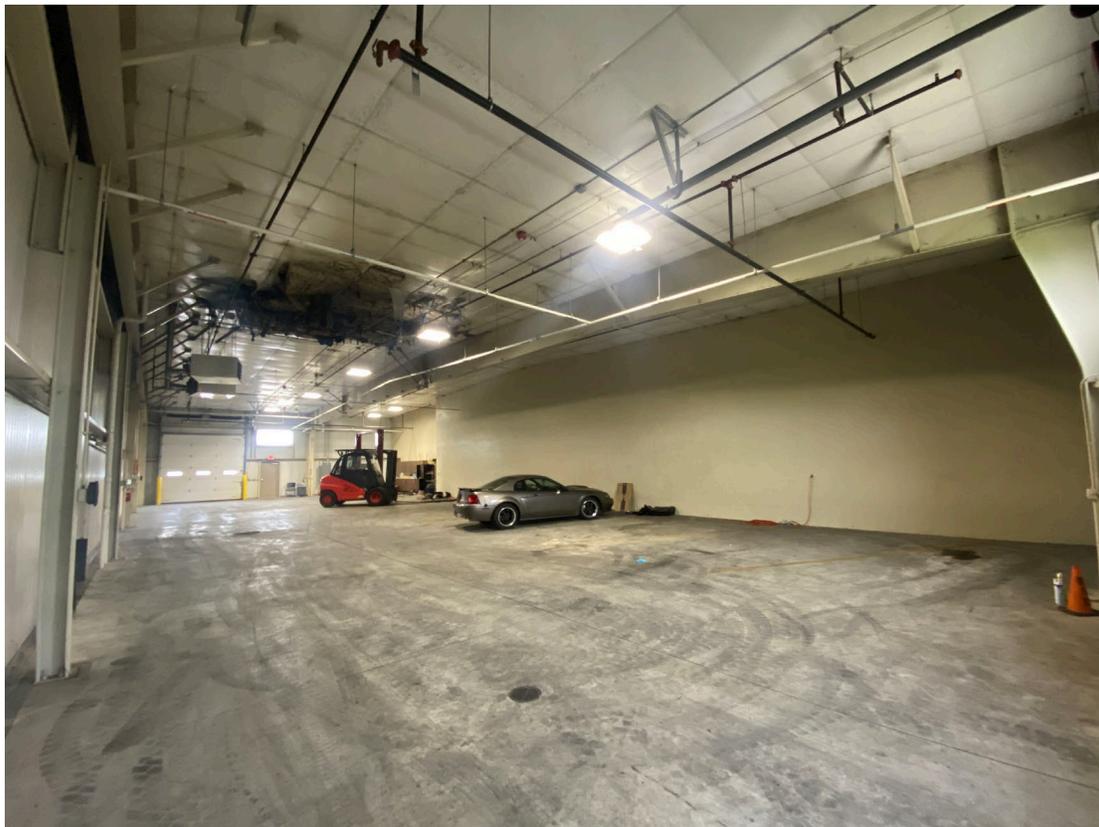


South wall – Metal shelving and Electrical Panel

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West wall – Millwork and metal shelving



Northeast corner – Looking Southwest – Full work Area

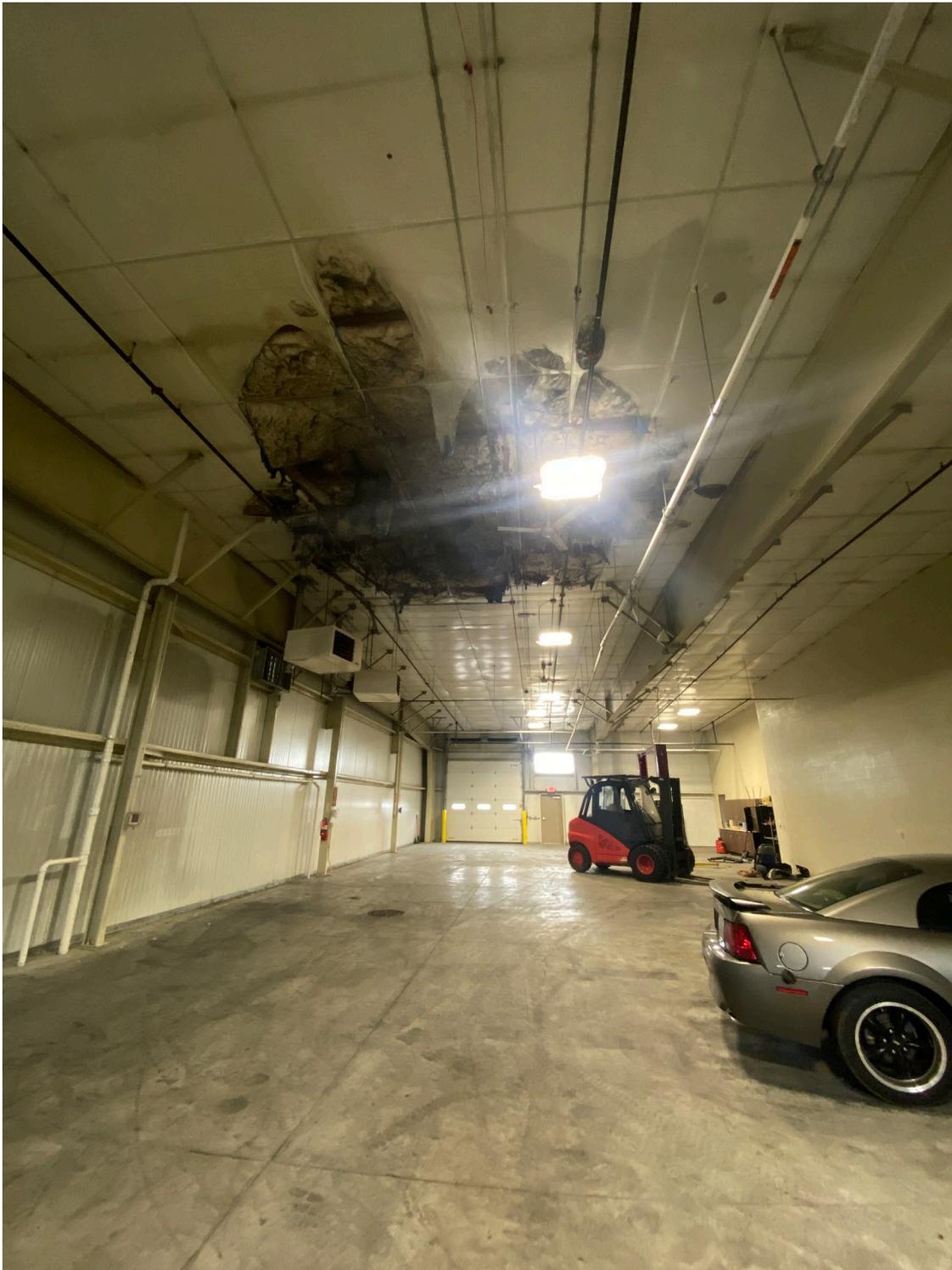


Northwest corner – Looking Southeast– Full work Area



East wall – Heaters to be removed, cleaned and replaced

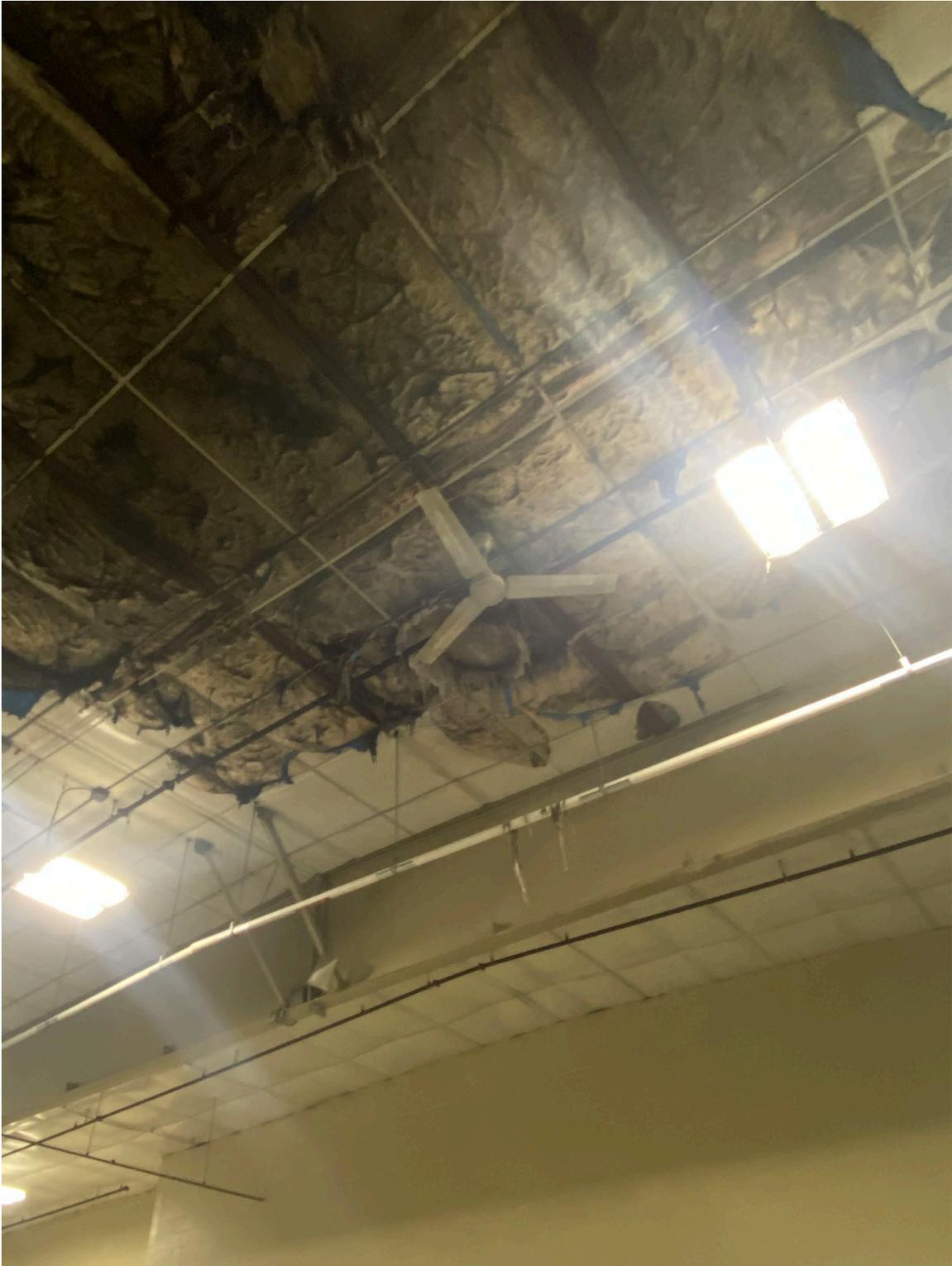
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Primary Fire Damaged Area – Looking South

July 12, 2023

ATTACHMENT B
PHOTOS



Primary Fire Damaged Area – Ceiling

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North wall – Exposed Ductwork



North wall – Window, overhead door and man door

July 12, 2023

ATTACHMENT B
PHOTOS



South wall – Window, overhead door and man door



Forklift to be cleaned inside and out

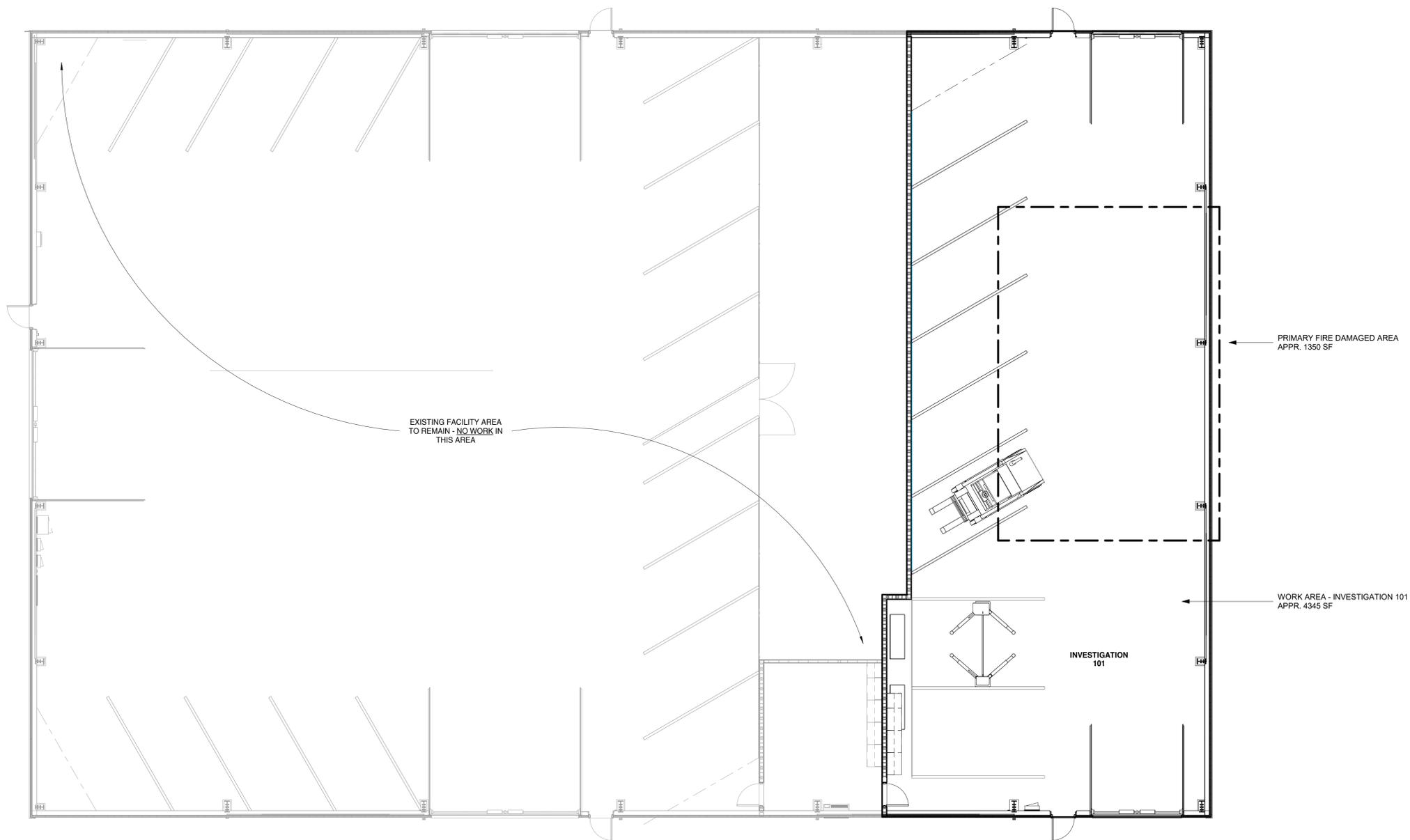
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East wall – Primary fire damaged area

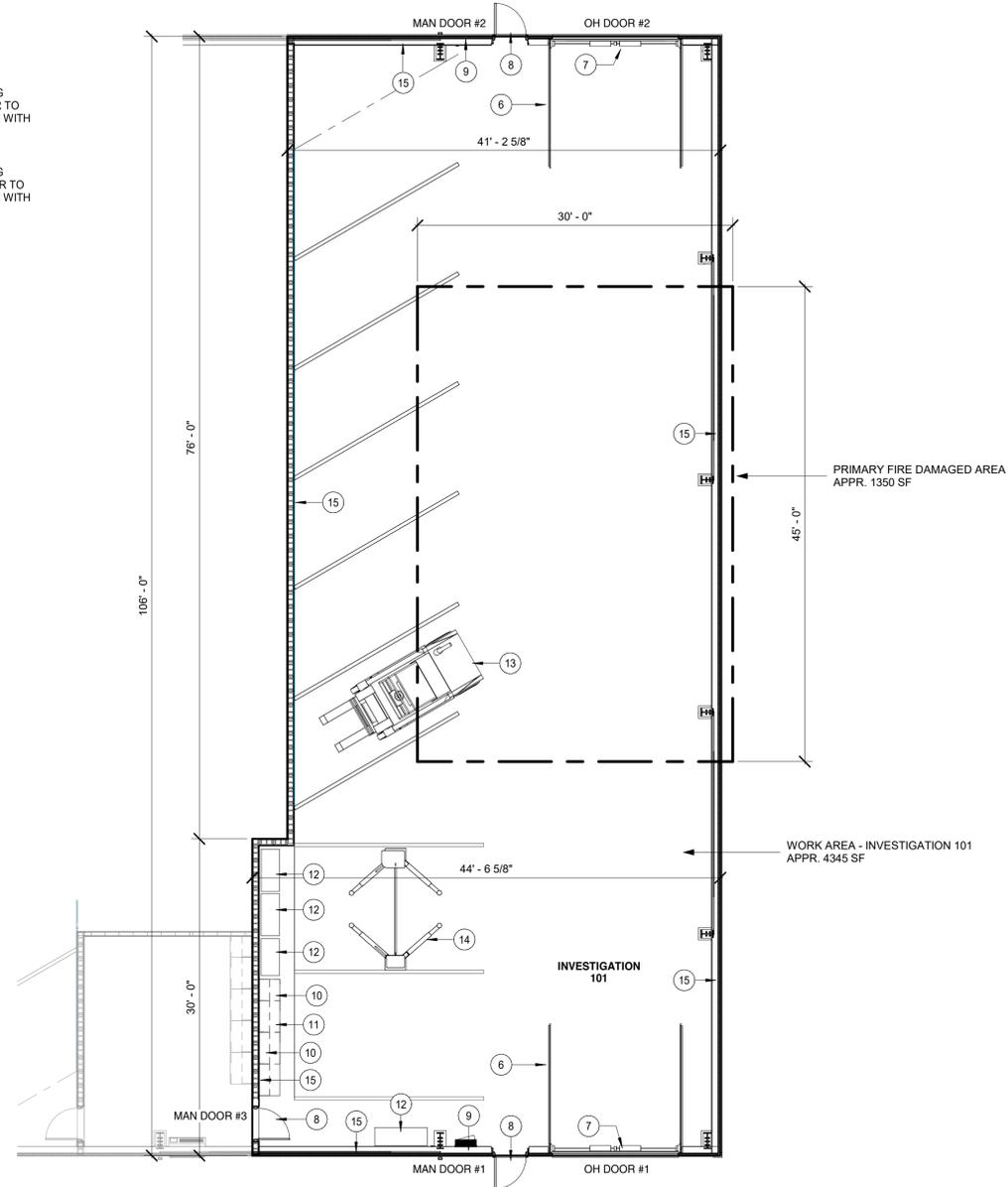
July 12, 2023

ATTACHMENT B
PHOTOS

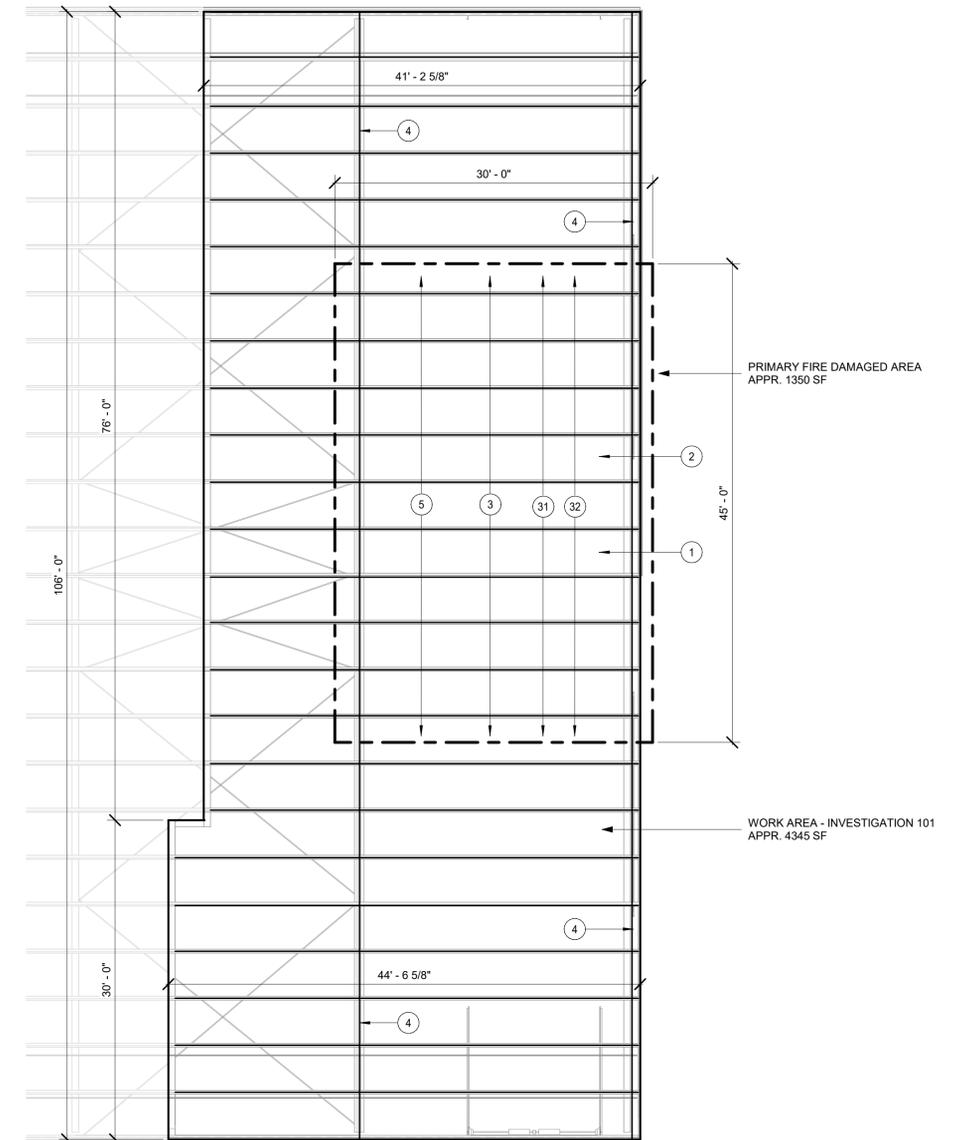


RESTORATION NOTE LEGEND

- | | |
|---|--|
| <p>1 REMOVE AND REPLACE BATT INSULATION AT UNDERSIDE OF ROOF DECK; MIN R-38</p> <p>2 REMOVE AND REPLACE EXISTING LINER AT THE UNDERSIDE OF THE EXISTING BATT INSULATION; REFER TO METAL BUILDING SYSTEMS SPECIFICATIONS</p> <p>3 CLEAN THE EXISTING ROOF DECK AT THE PRIMARY FIRE DAMAGED AREA</p> <p>4 CLEAN THE MAIN METAL BUILDING FRAMES AND KICKERS</p> <p>5 CLEAN OVERHEAD BEAMS AND PURLINS AT PRIMARY FIRE AREA; CLEAN AFTER REMOVAL OF BATT INSULATION AND LINER</p> <p>6 CLEAN OVERHEAD GARAGE DOOR, TRACK, AND OPENER</p> <p>7 CLEAN ALL OVERHEAD DOOR HARDWARE</p> <p>8 CLEAN MAN DOOR, FRAMES, AND DOOR HARDWARE</p> <p>9 CLEAN WINDOW AND FRAME</p> <p>10 CLEAN ARCHITECTURAL WOODWORK - UPPER AND LOWER CABINETS (INSIDE AND OUT)</p> <p>11 CLEAN PLASTIC LAMINATE COUNTER TOP - ALL SURFACES</p> <p>12 CLEAN EXISTING SHELVING AND LATERAL CABINET UNITS</p> <p>13 CLEAN FORKLIFT - INSIDE AND OUT (COMPLETE CLEAN)</p> <p>14 CLEAN VEHICLE LIFT; COMPLETE CLEAN</p> <p>15 CLEAN ALL WALL SURFACES; COMPLETE WALL AND BASE AS NEEDED</p> <p>16 CLEAN EXPOSED DUCTWORK; ALL EXPOSED IN WORK AREA</p> <p>17 CLEAN CEILING FANS; COMPLETE CLEAN - ALL COMPONENTS</p> | <p>18 CLEAN LIGHT FIXTURES; COMPLETE CLEAN - REMOVE, CLEAN AND REPLACE</p> <p>19 CLEAN EXHAUST FANS; COMPLETE CLEAN</p> <p>20 CLEAN ELECTRICAL PANELS INSIDE AND OUT</p> <p>21 CLEAN UNIT HEATERS; REMOVE, CLEAN, AND REPLACE (UH-3 / UH-4)</p> <p>22 CLEAN 3/4" NG LINE PIPING</p> <p>23 REMOVE CONDUIT (CEILING PIPE AND WIRING TO NEAREST JUNCTION); PRIMARY FIRE DAMAGED AREA</p> <p>24 REPLACE 3/4" CONDUIT IN PRIMARY FIRE DAMAGED AREA (TO NEAREST JUNCTION)</p> <p>25 REPLACE JUNCTION BOXES IN PRIMARY FIRE DAMAGED AREA; TYP. ALL</p> <p>26 CLEAN ALL EXPOSED PLUMBING PIPING (1" / 3/4" CW)</p> <p>27 CLEAN OUT CATCH BASIN AND FLOOR DRAINS (CB-1 / FD-1)</p> <p>28 CLEAN ALL PVC VENT PIPING; COMPLETE CLEAN</p> <p>29 CLEAN ALL FIRE SUPPRESSION PIPING</p> <p>30 CLEAN ALL FIRE DETECTION DEVICES AND ALARMS</p> <p>31 RESTORATION CONTRACTOR TO VERIFY CONDITION OF EXISTING ROOF PURLINS IN PRIMARY FIRE DAMAGED AREA. CONTRACTOR TO REPORT CONDITION THROUGH A COORDINATED WALKTHROUGH WITH THE ARCHITECT PRIOR TO CLEANING AND NEW ROOFING INSTALLATION</p> <p>32 RESTORATION CONTRACTOR TO VERIFY CONDITION OF EXISTING ROOFING PANEL IN PRIMARY FIRE DAMAGED AREA. CONTRACTOR TO REPORT CONDITION THROUGH A COORDINATED WALKTHROUGH WITH THE ARCHITECT PRIOR TO CLEANING AND NEW ROOFING INSTALLATION</p> |
|---|--|



Floor Plan - Work Area

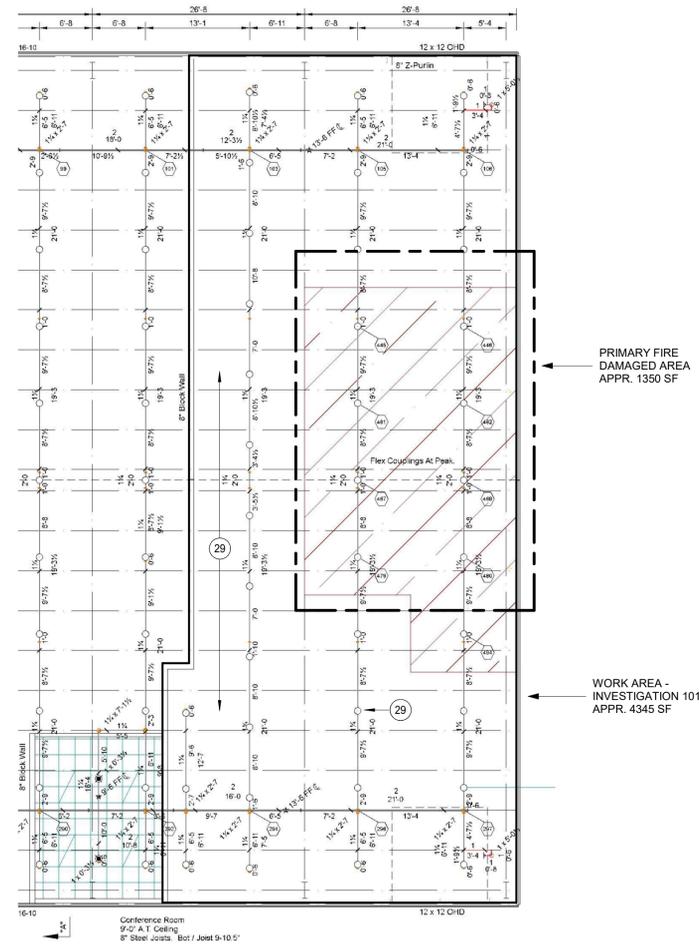


Structural Plan - Work Area

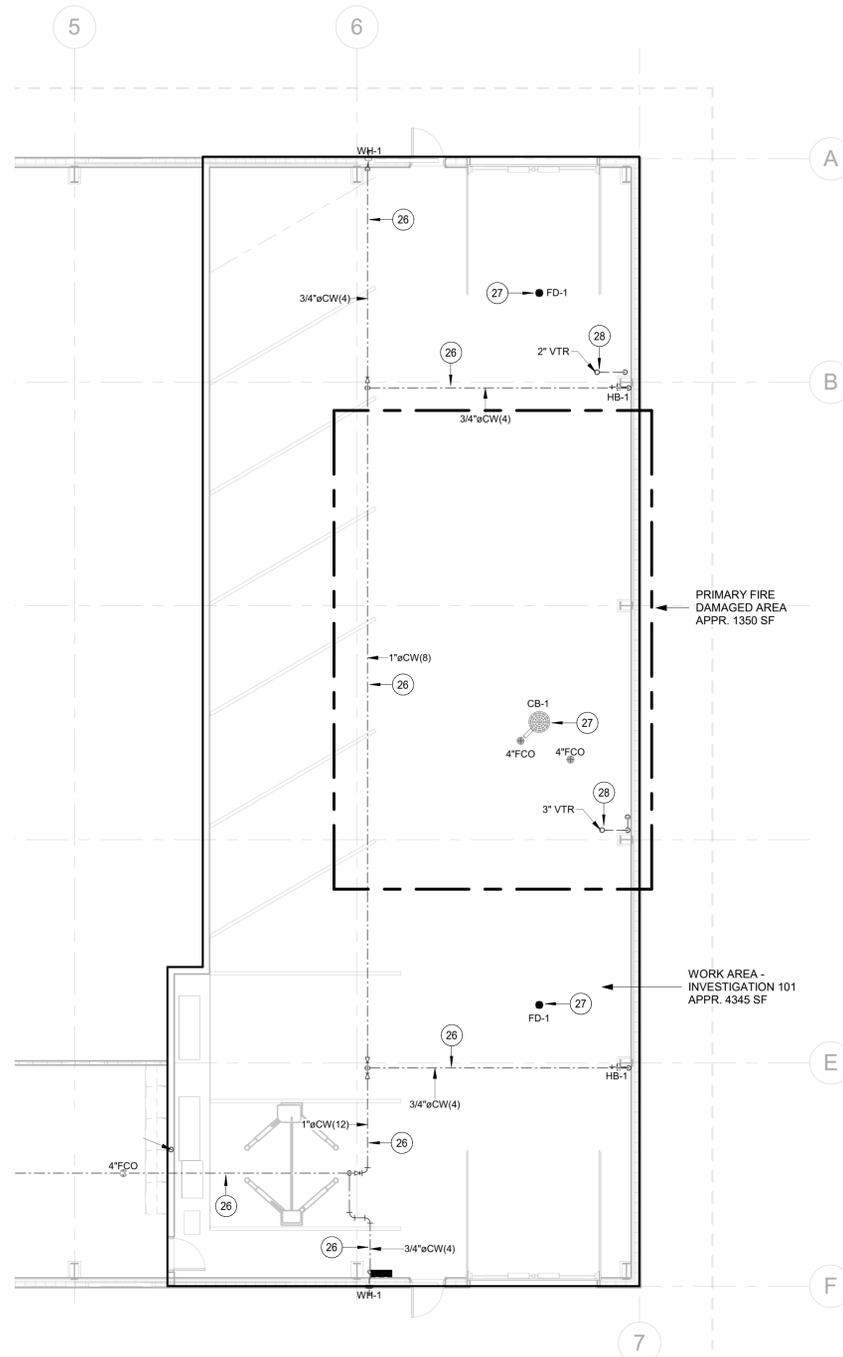


RESTORATION NOTE LEGEND

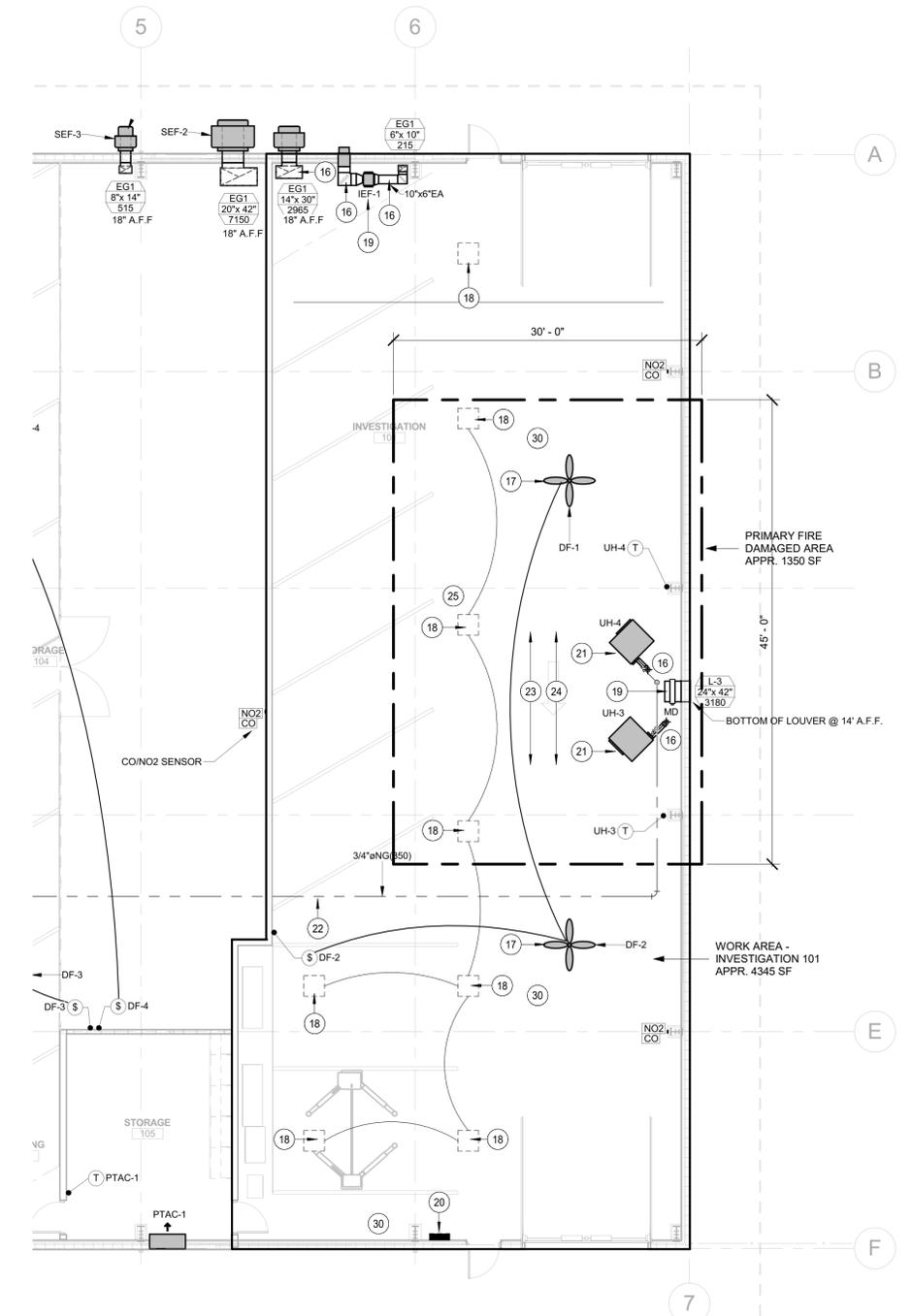
- 1 REMOVE AND REPLACE BATT INSULATION AT UNDERSIDE OF ROOF DECK; MIN R-38
- 2 REMOVE AND REPLACE EXISTING LINER AT THE UNDERSIDE OF THE EXISTING BATT INSULATION; REFER TO METAL BUILDING SYSTEMS SPECIFICATIONS
- 3 CLEAN THE EXISTING ROOF DECK AT THE PRIMARY FIRE DAMAGED AREA
- 4 CLEAN THE MAIN METAL BUILDING FRAMES AND KICKERS
- 5 CLEAN OVERHEAD BEAMS AND PURLINS AT PRIMARY FIRE AREA; CLEAN AFTER REMOVAL OF BATT INSULATION AND LINER
- 6 CLEAN OVERHEAD GARAGE DOOR, TRACK, AND OPENER
- 7 CLEAN ALL OVERHEAD DOOR HARDWARE
- 8 CLEAN MAN DOOR, FRAMES, AND DOOR HARDWARE
- 9 CLEAN WINDOW AND FRAME
- 10 CLEAN ARCHITECTURAL WOODWORK - UPPER AND LOWER CABINETS (INSIDE AND OUT)
- 11 CLEAN PLASTIC LAMINATE COUNTER TOP - ALL SURFACES
- 12 CLEAN EXISTING SHELVING AND LATERAL CABINET UNITS
- 13 CLEAN FORKLIFT - INSIDE AND OUT (COMPLETE CLEAN)
- 14 CLEAN VEHICLE LIFT; COMPLETE CLEAN
- 15 CLEAN ALL WALL SURFACES; COMPLETE WALL AND BASE AS NEEDED
- 16 CLEAN EXPOSED DUCTWORK; ALL EXPOSED IN WORK AREA
- 17 CLEAN CEILING FANS; COMPLETE CLEAN - ALL COMPONENTS
- 18 CLEAN LIGHT FIXTURES; COMPLETE CLEAN - REMOVE, CLEAN AND REPLACE
- 19 CLEAN EXHAUST FANS; COMPLETE CLEAN
- 20 CLEAN ELECTRICAL PANELS INSIDE AND OUT
- 21 CLEAN UNIT HEATERS; REMOVE, CLEAN, AND REPLACE (UH-3 / UH-4)
- 22 CLEAN 3/4" NG LINE PIPING
- 23 REMOVE CONDUIT (CEILING PIPE AND WIRING TO NEAREST JUNCTION), PRIMARY FIRE DAMAGED AREA
- 24 REPLACE 3/4" CONDUIT IN PRIMARY FIRE DAMAGED AREA (TO NEAREST JUNCTION)
- 25 REPLACE JUNCTION BOXES IN PRIMARY FIRE DAMAGED AREA; TYP. ALL
- 26 CLEAN ALL EXPOSED PLUMBING PIPING (1" / 3/4" CW)
- 27 CLEAN OUT CATCH BASIN AND FLOOR DRAINS (CB-1 / FD-1)
- 28 CLEAN ALL PVC VENT PIPING; COMPLETE CLEAN
- 29 CLEAN ALL FIRE SUPPRESSION PIPING
- 30 CLEAN ALL FIRE DETECTION DEVICES AND ALARMS
- 31 RESTORATION CONTRACTOR TO VERIFY CONDITION OF EXISTING ROOF PURLINS IN PRIMARY FIRE DAMAGED AREA. CONTRACTOR TO REPORT CONDITION THROUGH A COORDINATED WALKTHROUGH WITH THE ARCHITECT PRIOR TO CLEANING AND NEW ROOFING INSTALLATION
- 32 RESTORATION CONTRACTOR TO VERIFY CONDITION OF EXISTING ROOFING PANEL IN PRIMARY FIRE DAMAGED AREA. CONTRACTOR TO REPORT CONDITION THROUGH A COORDINATED WALKTHROUGH WITH THE ARCHITECT PRIOR TO CLEANING AND NEW ROOFING INSTALLATION



Fire Suppression - Work Area
3/32" = 1'-0"



Plumbing Plan - Work Area
1/8" = 1'-0"



Mechanical and Electrical - Work Area
1/8" = 1'-0"

