INVITATION TO BID
BID NO. 9954
TROY HIGH SCHOOL GYM BLEACHER REPLACEMENT PROJECT

The Troy School District will receive firm, sealed bids for all labor, material, equipment and all other services to complete Bid No. 9954 Troy High School Gym Bleacher Replacement Projects.

Specifications and proposal forms can be obtained online at http://www.troy.k12.mi.us. From the main page menu click the "Menu" tab then click "Departments", then click "Purchasing" then click "Bids and Invitations" and scroll down to locate and access the bid document. Bid documents will be placed on Buildingconnect.com with the following link: https://app.buildingconnected.com/public/5cc9d7f637c1a90018cb55dc by December 7, 2022, at 5:00 PM local time.

Sealed bids should be submitted through Buildingconnect.com with the following link: https://app.buildingconnected.com/public/5cc9d7f637c1a90018cb55dc. No physical bids will be accepted in person or via delivery service. Bids are to be submitted no later than **10:30 AM Local Time Wednesday, December 21, 2022.** The District will not consider or accept a bid received after the date and time specified for bid submission. Bids will be publicly opened immediately following the close of receiving bids with the following virtual meeting link **meet.google.com/tnn-ecnz-vou** or phone number (856) 500-2937 PIN 712 417 956#. No oral, email, telephonic or telegraphic proposals shall be considered.

No pre-bid walk through has been scheduled. Any bidder wanting to visit the site, contact Mark Paulus at lecoleplanners3@gmail.com or (248) 880-6791 to schedule a time. Bidders are not allowed to visit the building without an appointment. All questions regarding the services specified, the bid specified, or the bid terms and conditions will be accepted in writing ONLY and subsequently answered through an addendum to all interested parties. Questions must be received no later than 1:00 pm Local Time, Thursday, December 15, 2022; at no other time prior to the bid opening will questions/concerns be addressed or accepted and may be faxed to: 248.823.4077, or emailed as a Word document to: PurchasingOffice@troy.k12.mi.us.

All bidders must provide familial disclosure in compliance with MCL 380.1267 & attach this information to the bid proposal. The bid proposal will be accompanied by a sworn & notarized statement disclosing any familial relationship that exists between the owner or any employee of the bidder & any member of the Troy School Board or the Troy School District's Superintendent. Also, a sworn and notarized Affidavit of compliance for the Iran Economic Sanctions Act certifying the vendor does and will comply with Public Act 517 of 2012 shall accompany all proposals. Both forms will be enclosed in the specification booklet that shall be used for this purpose. The District will not accept a bid proposal that does not include these sworn and notarized disclosure statements. Certified check, money order or Bid Bond by an approved surety company must accompany each proposal in an amount not less than 5% of the bid amount. The price proposal shall be good for a period of no less than 60 days from the bid date, unless otherwise noted. Bid Bond can be included with the bid through Buildingconnected.com. Certified check and money order must be received prior to the bid due date and time at 1140 Rankin, Troy, MI 48083.

In accordance with Michigan Compiled Laws Section 129.201, successful bidders whose proposals are $50,000 or more, for any bid category, will be required to furnish a U.S. Treasury Listed Company Performance and Payment Bond in the amount of 100% of their bid. The cost of the Bond shall be identified within each proposal.

The Troy Board of Education reserves the right to accept or reject any or all bids, either in whole or in part; to award contract to other than the low bidder; to waive any irregularities and/or informalities; and in general to make awards in any manner deemed to be in the best interest of the owner.

INSTRUCTIONS TO BIDDERS

PROPOSAL/INTENT

1. The Troy School District will receive firm, sealed bids for all labor, material, equipment, and all other services to complete Bid No. 9954 Troy High School Gym Bleacher Replacement Project.

2. Sealed bids should be submitted through Buildingconnect.com with the following link: https://app.buildingconnected.com/public/5cc9d7f637c1a90018cb55dc. No physical bids will be accepted in person or via delivery service. Bids are to be submitted no later than **10:30 AM Local Time Wednesday, December 21, 2022.** The District will not consider or accept a bid received after the date and time specified for bid submission. Bids will be publicly opened immediately following the close of receiving bids with the following virtual meeting link: **meet.google.com/tnn-ecnz-vou** or phone number **(856) 500-2937 PIN 712 417 956#**. No oral, email, telephonic, or telegraphic proposals shall be considered.

3. Proposals will be made in conformity with all the conditions set forth in the specifications. All products must conform to the specifications.

4. No pre-bid walk through has been scheduled. Any bidder wanting to visit the site, contact Mark Paulus at lecoleplanners3@gmail.com or (248) 880-6791 to schedule a time. Bidders are not allowed to visit the building without an appointment. Questions must be received no later than 1:00 PM Local Time, Thursday, December 15, 2022.

5. Bidder shall be reputable and a recognized organization, with at least five (5) years successful experience on work of this type and scope, of equal or better quality than this project.

6. References in the specifications to any article, product, material, fixture, form or type of construction, etc., by proprietary name, manufacturer, make or catalog number will be interpreted as establishing a standard quality of design and will not be construed as limiting proposals.

7. Bid bond or certified check, for an amount not less than five (5%) percent of the amount of the bid, must accompany each bid. Failure to submit proper bid security shall constitute rejection of bid.

8. A performance bond shall be required for the project if the cost is in excess of $50,000 and must be listed separately on the proposal form as an individual line item.

9. A completed Familial Disclosure and an Iran Economic Sanctions form must be included with each proposal submitted or the proposal will not be accepted, please note these forms must be notarized.

10. The Troy Board of Education reserves the right to accept or reject any or all proposals either in whole or in part; to waive any irregularities and/or informalities; and in general to make awards or cancel this proposal, if deemed to be in the best interests of the owner.

SCOPE

This bid includes Troy High School Gym Bleacher Replacement Project per the attached documents. Proposals will be on a line item lump sum basis, according to the schedule listed below and where specified only the qualified products listed will be considered in this proposal.

WARRANTY

All material and equipment will be guaranteed to be free from defects in both workmanship and materials for no less than two years from date of receipt/installation. If manufacturer warranty exceeds this minimum requirement, the manufacturer warranty will prevail. Any item(s) found to be defective will be replaced or repaired within seven working days at Vendor(s) expense.

WITHDRAWAL OF BIDS

Any bidder may withdraw their bid at any time prior to the scheduled time for receipt of bids. No proposal may be withdrawn until after 45 days after bid opening.

FIRM PRICING

Unit pricing will prevail when computing total quantity on bids. No price allowance or extra consideration on behalf of the bidder will subsequently be allowed by reason of error or oversight on the part of the bidder. The successful bidder(s) will hold bid prices firm for all purchase orders placed for a period of approximately one full year.

PERMITS, FEES AND REGULATIONS

The Contractor shall obtain and pay for all permits, assessments, fees, bonds, and other charges as necessary to perform and complete the work of this contract, including disconnection charges, capping and unplugging utilities.

The Contractor shall be responsible for obtaining all permits and licenses necessary for the proper completion of project. Permits and licenses are available from the appropriate agencies having jurisdiction. The Contractor shall give all notices, pay all fees and comply with all laws, ordinances, rules and regulations bearing on the work. At the completion of the project, the Contractor will provide to the District all paperwork related to the full execution of the permits(s), including all payments and inspections.

If any of the work of the Contractor is done contrary to such laws, ordinance rules and regulations without such notice, he shall bear all costs arising therefrom. The Contractor shall include all cost and taxes in its bid, and make proper provisions for payment of all other State and Federal applicable taxes, fees or other costs.

TAXES

Troy School District is not automatically exempt from State of Michigan Sales and Use Taxes. The District must pay these taxes when materials are to be incorporated into reality. Materials that are permanently attached i.e lockers, built-in, incorporated or otherwise made part of the structure all applicable taxes shall be paid by the Vendor. Troy School District shall not be responsible for any taxes that are imposed on the Vendor. Furthermore, the Vendor understands that it cannot claim exemption from taxes by virtue of any exemption that is provided to Troy School District.

DELIVERY/INSTALLATION

Time of delivery is part of the consideration. It is understood that the bidder agrees to deliver prepaid to the schools, specified from the resulting contract, all items. All cost of delivery, drayage, freight, packing, unpacking, and setup are to be included in the prices bid.

The Contractor is responsible for removing from the project all waste materials and rubbish resulting from his operations and installation including all packing cartons and debris. Removal is to occur on a daily basis. Failure to do so will result in the Owner doing so and the cost thereof shall be charged to the Contractor as a deduction in his contract price.

The Contractor shall provide an adequate number of qualified, experienced installers, in harmony with other works at the site.

BID SECURITY

Bid Bond or certified check, for an amount not less than five (5%) percent of the amount of the bid, must accompany each bid. The check or bond of each unsuccessful bidder will be returned within ten (10) days after the bid is awarded. Failure of any accepted bidder to enter into a contract to complete the specified work may forfeiture of his bid security. Failure to submit proper bid security shall constitute rejection of bid. A bid bond can be submitted with the bid through the buildingconnected.com link. Certified check must be received in person at the Troy School District Purchasing Office at 1140 Rankin Road, Troy, MI 48083 prior to the due date and time.

PERFORMANCE BOND/PAYMENT BOND

Within fourteen (14) days after date of issuance of written notice of selection for the award of a contract, which shall be considered as the notice to proceed, the successful bidder shall enter into a contract with the Owner and shall execute and file with the Owner, the following in the amount 100% equal to full contract sum.

A performance bond shall be required for the project if the cost is in excess of $50,000 and must be listed separately on the proposal form as an individual line item. The Performance Bond must insure the faithful performance of all provisions of the contract and satisfactory completion of the specified work, within the time agreed upon.

The payment bond must insure the payment and protection of claimants supplying labor or materials to the principal contractor or his subcontractors in the prosecution of the work provided for in the contract. The successful contractor's bond company must be listed by the State of Michigan as a licensed carrier and have an excellent or superior rating from AM Best Company.

SAFETY

Under the "General Conditions of the Contract for Construction" of the contract to be awarded, the Contractor;

a) shall be solely responsible for and have control over construction means, methods, techniques, sequences and procedures;
b) shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the contract;
c) shall take reasonable precautions for safety of all persons who may be affected, including employees of the Contractor and Subcontractor; and
d) shall have an accident prevention representative at the site.

The general conditions of the contract for construction and the agreement also require that the Contractor indemnify the Owner in the event of certain claims arising out of the performance of the work.

INSURANCE REQUIREMENTS

The Contractor shall protect, defend and indemnify the Owner, its officers, agents, servants, volunteers, and employees from any and all liabilities, claims, liens, demands, and costs of whatsoever kind and nature which may result in injury or death to any persons, and for any result in injury or death to any person, and for loss or damage to any property, including property owned or in the care, custody, or control of the Owner in connection with or in any way incident to or arising out of the occupancy, use, with this Agreement resulting in whole or in part from negligent acts or omissions of the Contractor, any Subcontractor, or any employee, agent or representative of the Contractor or any Subcontractor.

The Contractor shall maintain, at its expense, during the term of this contract the following insurance:

a) Worker's Compensation Insurance with statutory limits and Employer's Liability Insurance with a minimum limit of $1,000,000 each occurrence.

b) Comprehensive General Liability Insurance with a minimum combined single limit of $1,000,000 per occurrence, $1,000,000 aggregate, in the same amount made for bodily injury and property damage. The policy is to include products and completed operations, cross liability, broad form property damage, independent contractors, and contractual liability coverage. The policy shall be endorsed to provide sixty (60) days written notice to the District of any material change of coverage, cancellation, or non-renewal of coverage.

c) If Subcontractors are likely to be used, the Comprehensive General Liability policy shall include coverage for independent Contractors.

d) Owner's Contractor's Protective Policy-comprehensive in the name of the Owner, with a minimum combined single limit of $1,000,000 per occurrence in the same amount for bodily injury or property damage.

e) Automobile Liability insurance covering all owned, hired, and non-owned vehicles with personal protection insurance and property insurance to comply with the provisions of the Michigan no-fault Insurance Law, including residual liability insurance with a minimum combined single limit of $1,000,000 each occurrence of bodily injury and property damage.

f) All insurance policies shall be issued by companies licensed to do business in the State of Michigan. The companies issuing the policies must be domestic (on-shore) companies and have an A rating by AM Best.

g) The Contractor shall be responsible for payment of all deductibles contained in any insurance policy required in this contract.

COMPLIANCE WITH SCHOOL SAFETY INITIATIVE LEGISLATION

Meeting the requirements of the School Safety Initiative Legislation, being MCL 380.1230, 80.1230a, 380.1230c, 380.1230d and 380.1230g.

The Bidder acknowledges and agrees that the Bidder will have any and all of its installation personnel (including sub-contractors) subjected to criminal history and background checks. **Personnel that fall into this group will be working on District premises for more than one continuous week.** Criminal history and background checks will be done within a year of the beginning of the project and should be completed before worked begins on this project.

The Bidder is required to provide written documentation listing all personnel who fall into the group indicated in the above paragraph. The documentation will also verify that none of the personnel have a "listed offense" as indicated below. This documentation is to be provided before the beginning of the project and updated as necessary for any additions or subtractions from the list as long as the project lasts.

The Bidder shall indemnify, defend and hold the District, its employees, Board of Education, and each member thereof, agents and consultants, harmless from and against any and all claims, counter-claims, suits, debts, demands, actions, judgments, liens, liabilities, costs, expenses, including actual attorney's fees and actual expert witness fees, arising out of or in connection with any violation of, or the Bidder's failure to comply with the above paragraphs.

The Bidder shall be responsible for all costs and expenses associated with the above-required criminal history and background checks.

LISTED OFFENSES

1. MCL 750.145a - Accosting, enticing or soliciting child (less than 16 years of age) for immoral purposes.
2. MCL 750.145b - Accosting, enticing or soliciting childe (less than 16 years of age) immoral purposes – second or subsequent offenses.
3. MCL 750.145c - Involvement in child sexually abusive activity or material, including possession of child sexually abusive material ("child" is a person less than 18 years of age who has not been legally emancipated.)
4. MCL 750.158 - Crime against nature (i.e., sodomy and beastiality) if the victim is an individual less than 18 years of age.
5. A third of subsequent violation of any combination of the following:
    a. MCL 750.167(1)(f) - indecent or obscene conduct in a public place;
    b. MCL 750.335a - indecent exposure;
    c. A local ordinance of a municipality substantially corresponding to a section described in (a) or (b), *supra.*
6. Except for juvenile disposition or adjudication, a violation of:
    a. MCL 750.338 - gross indecency between males; fellatio or masturbation;
    b. MCL 750.338a - gross indecency between females; oral sex;
    c. MCL 750.338b - gross indecency between male and female persons;
    if the victim is an individual less than 18 years of age.
7. MCL 750.349 - Kidnapping, if victim is an individual less than 18 years of age.
8. MCL 750.350 - Kidnapping; child under 14 years of age with intent to detain or conceal from child's parent or legal guardian.
9. MCL 750.448 - Soliciting or accosting by a person 16 years of age or older, if victim is an individual less than 18 years of age.
10. MCL 750.455 - Pandering
11. MCL 750.520b - First degree criminal sexual conduct.
12. MCL 750.520c - Second degree criminal sexual conduct.
13. MCL 750.520d - Third degree criminal sexual conduct.
14. MCL 750.520e - Fourth degree criminal sexual conduct.
15. MCL 750.520g - Assault with intent to commit criminal sexual conduct.

16. Any other violation of a law of the state or a local ordinance of municipality that by its nature constitutes a sexual offense against an individual who is less than 18 years of age.
17. MCL 750.10a - Offense by sexually delinquent person (i.e., "any person whose sexual behavior is characterized by repetitive or compulsive acts which indicate a disregard of consequences or the recognized rights of others, or by the use of force upon another person in attempting sexual relations of either a heterosexual or homosexual nature, or by the commission of sexual aggressions against children under the age of 16").
18. An attempt or conspiracy to commit an offense described in (1) through (17).
19. An offense substantially similar to an offense described in (1) through (17) under a law of the United States, any state, or any country or any tribal or military law.

TERMINATION BY THE DISTRICT FOR CONVENIENCE

The District may, at any time, terminate the Contract for the District's convenience and without cause.

Upon receipt of written notice from the District of such termination for the District's convenience, the Contractor shall:

a) Cease operations as directed by the District in the notice;
b) Take actions necessary, or that the District may direct, for the protection and preservation of the Work; and
c) Except for Work directed to performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further Subcontracts and purchase orders.

Owner Is An Equal Opportunity Employer

The Owner is an Equal Opportunity Employer. Pursuant to the Executive Order 11246 as amended, you are advised that under the provisions of this order, Contractors and Subcontractors are obligated to take affirmative action to provide equal opportunity without regard to race, creed, color, national origin, age or sex.

Michigan Right to Know Law

Troy School District will comply with the Michigan Right to Know Law by informing Contractors of hazardous chemicals to which they may be exposed. All Contractors will be required to provide Material Safety Data Sheets for any hazardous chemicals brought to the workplace. The Contractor shall comply with all applicable provisions of the Occupational Safety and Health Act for the duration of the specified work.

Asbestos Hazard Emergency Response Act

As required by the Environmental Protection Agency Asbestos Hazard Emergency Response Act, each school district is responsible for providing contractors with information regarding locations of known or assumed asbestos containing material prior to the Contractor entering a building under the school district's jurisdiction. The successful bidder will be required to complete the school district's Contractor Notification forms.

Notification of Assumed Lead-Containing Materials

The intent of this section is to formally notify all Contractors and Sub-Contractors applying for or bidding on work covered within this specification that, due to the age of the facilities within this District, there is the presumption that building components do contain lead-based paint pursuant to OSHA definition. The District has not conducted lead-based paint inspections. As a result, all Contractors and Sub-Contractors bidding must assume that building components do contain lead-based paint.

Furthermore, all awarded Contractors and Sub-Contractors shall be responsible to comply with all applicable Federal and Michigan State lead regulations including, but not limited to, 29 CFR Part 1926.62 of the OSHA Lead Construction Standard, (Part 603 of the Michigan State Standards). All costs associated with regulatory compliance shall be borne by the Contractor and/or Sub-Contractor.

General Conditions

The District reserves the right to accept or reject any or all proposals, to waive irregularities, and to accept a proposal which, in the District's opinion, is in the District's best interest.

The District reserves the right to declare as non-responsive, and reject, any bid which is incomplete or where material information requested in not furnished, or where indirect or incomplete answers or information is provided.

In the event, the Administration Building is closed due to unforeseen circumstances on the day Proposals are due, Proposals will be due at the same time on the next day that the District and/or the Administration Building is open.

Negligence in preparation, improper preparation, errors in, or omissions from, proposal shall not relieve a bidder from fulfillment of any and all obligations and requirements of the proposed Contract Documents.

The District expects that the awarded bidder will complete the work as outlined in the specifications for the amount bid by the bidder. Any additional costs above the amount bid and awarded, must be approved by the District in advance of any work.

Voluntary alternates for bids are acceptable but should NOT be put in the space for the Base Bid on the Bid Response Form but on an attached sheet, clearly labeled Voluntary Alternative. Such Alternates should be described in enough detail for the District to understand the Bidder's intent.

Owner may choose to conduct testing to verify correct products and installation. If the materials and installation are found not to be per spec, owner will require subsequent tests to be performed by Owners testing company at contractors' expense.

Any exceptions to the terms and conditions contained in this RFP or any special considerations or conditions requested or required by the Contractor MUST be specifically enumerated by the Contractor and be submitted as part of its Proposal, together with an explanation as to the reason such terms and conditions of this RFP cannot be met by, or in the Contractor's opinion should not be applicable to, the Contractor. The Contractor shall be required and expected to meet the specifications and the requirements as set forth in this RFP in their entirety, except to the extent exceptions or special considerations or conditions are expressly set forth in the Contractor's Proposal and those exceptions or special considerations or conditions are expressly accepted by the District.

No responsibility shall attach to the District, or the authorized representatives of either one, for the premature opening of any proposal, which is not properly addressed and identified.

The Contract Documents, as outlined in the executed Agreement, shall imply the inclusion of the entire agreement between the parties thereto, and the Contractor shall not claim any modification thereof resulting from any representation or promise made at any time by an officer, agent or employee of the District or by any other person.

The bidders shall include an allowance of $5,000.00 to be used at the District discretion

Opening and Awarding of Bids

Bids will be publicly opened and read aloud immediately following the close of receiving bids with the following virtual meeting link: **meet.google.com/tnn-ecnz-vou** or phone number **(856) 500-2937 PIN 712 417 956#** at 10:30 AM. Local Time, Wednesday, December 21, 2022.

The recommendation for award will be submitted to the Board of Education at the regular Board of Education Meeting to be held in January 2023.

Scope of Work \ Specifications

Drawings and Specifications

Drawings

#	Description	Date
TS.1	Cover Sheet	12/6/22
TG.1	General Information	12/6/22
A0.2B	Second Level Demolition Plan – Zone 'B'	12/6/22
A02.C	Second Level Demolition Plan – Zone 'C'	12/6/22
A1.2B	Second Level Floor Plan – Zone 'B'	11/4/22
A1.2C	Second Level Floor Plan – Zone 'C'	12/6/22
E0.1	Electrical Standards and Drawing Index	12/6/22
E0.2	Electrical Standard Schedules	12/6/22
E0.3	Electrical Specifications	12/6/22
E0.4	Electrical Composite Plan	12/6/22
ED1.1	Electrical Demolition Plan	12/6/22
E3.1	Electrical New Work Plan	12/6/22
E5.1	One Line Diagram	12/6/22

Specifications

#	Description	Pages
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00 0101	Title Page	1
00 0110	Table of Contents	2
00 0115	List of Drawings	2
00 8200	Availability of Electronic Files	1
00 8200.02	TMP Electronic File Release Form (Free)	1
DIVISION 01 – GENERAL REQUIREMENTS		
01 2500	Substitution Procedures	2
01 2500.01	TMP Substitution Request Form	2
01 3000	Administrative Requirements	6
01 3000.01	TMP Submittal and Sample Transmittal Form	2
01 4000	Quality Requirements	20
01 4100	Regulatory Requirements	1
01 4216	Definitions	1
01 4219	Reference Standards	1
01 6000	Product Requirements	4
DIVISION 02 – EXISTING CONDITIONS		
02 4100	Demolition	8
DIVISION 12 – FURNISHINGS		
12 6616	Telescoping Bleachers	4

Work Schedule

- Start Date: June 19, 2023
- Substantial Completion Date: August 4, 2023
- Final Completion Date: August 15, 2023
- Final Closeout: 45 Days after Substantial Completion

DUE: 10:30 AM Local Time, Wednesday, December 21, 2022
PROPOSAL: BID 9954 Troy High School
Gym Bleacher Replacement Project

PROPOSAL FORM

We propose to furnish all material, labor and equipment, as per the specifications, for the Troy School District. and all other services to complete BID 9954 Troy High School Gym Bleacher Replacement Project.

BASE BID – BID 9954 TROY HIGH SCHOOL GYM BLEACHER REPLACEMENT PROJECT

Base Bid Amount:	$ _____
Bond Amountl:	$ _____
Allowance Amount Base Bid:	$ 5,000.00
Grand Total Base Bid -	$ _____
ADDENDUMS NOTED:	_____

BIDDER'S FIRM NAME_____

ADDRESS_____

CITY/STATE _____ ZIP _____

CELL NUMBER_____FAX # _____

SIGNED BY_____TITLE _____

TYPED NAME_____DATE_____

E-MAIL ADDRESS_____

VENDOR: LIST FIVE RECENT REFERENCES, PREFERABLY SCHOOL DISTRICTS:

School District	Person to Contact	Phone Number
School District	Person to Contact	Phone Number
School District	Person to Contact	Phone Number
School District	Person to Contact	Phone Number
School District	Person to Contact	Phone Number

Interested vendors will note in this space only any additional information, criteria or contingencies affecting their proposal, understanding that this additional information, criteria or contingency may be utilized in the evaluation process and subsequent award.

_____
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SWORN AND NOTARIZED FAMILIAL DISCLOSURE STATEMENT
FAMILIAR DISCLOSURE AFFIDAVIT

The undersigned, the owner or authorized office of the below–named contractor (the 'Contractor"), pursuant to the familial disclosure requirement provided to Troy Schools, hereby represents and warrants that, excepts as provided below, no familial relationship exists between the owner or key employee of the Contractor, and any member of the Troy School Board or the Troy School Superintendent. A list of the School District's Board of Education Members and its Superintendent may be found at http://www.troy.k12.mi.us.

List any Familial Relationships:

Contractor:

_____
Print Name of Contractor

By: _____

Its: _____

Subscribed and sworn before me, this _____ Seal:

day of _____, 20 ____, a Notary Public

in and for _____ County, _____

_____
(Signature)
NOTARY PUBLIC

My Commission expires _____

CERTIFICATION OF COMPLIANCE – IRAN ECONOMIC SANCTIONS ACT

Michigan Public Act No. 517 of 2012

The undersigned, the owner, or authorized officer of the below-named Company, pursuant to the compliance certification requirement provided in Troy School District's Request For Proposal, the "RFP", hereby certifies, represents, and warrants that the Company and its officers, directors and employees, is not an "Iran Linked Business" within the meaning of the Iran Economic Sanctions Act, Michigan Public Act No. 517 of 2012 (the "Act"), and that in the event the Company is awarded a contract by Troy School District as a result of the aforementioned RFP, the Company is not and will not become an "Iran Linked Business" at any time during the course of performing any services under the contract.

The Company further acknowledges that any person who is found to have submitted a false certification is responsible for a civil penalty of not more than $250,000.00 or two (2) times the amount of the contract or proposed contract for which the false certification was made, whichever is greater, the cost of Troy School District's investigation, and reasonable attorney fees, in addition to the fine. Moreover, any person who submitted a false certification shall be ineligible to bid on a request for proposal for three (3) years from the date the it is determined that the person has submitted the false certification.

_____

NAME OF COMPANY

_____

NAME AND TITLE OF AUTHORIZED REPRESENTIVE

_____

SIGNATURE

_____

DATE

Acceptance of Proposal

The undersigned agrees to execute a Contract for work covered by this Proposal provided that he is notified of its acceptance within thirty days after the opening of the Proposal.

It is agreed that this bid will not be withdrawn until after forty-five (45) days after receipt of bids.

The undersigned affirms that the bid was developed without any collusion, undertaking, or agreement, either directly or indirectly, with any other bidder(s) to maintain the prices of indicated work or prevent any other bidder(s) from bidding the work.

BIDDER'S FIRM NAME _____

BUSINESS ADDRESS _____

_____

TELEPHONE NUMBER _____

CELL NUMBER _____

FAX NUMBER _____

BY (SIGNATURE) _____

PRINTED NAME _____

TITLE _____

SIGNED THIS _____ DAY OF _____, 20 _____

E-MAIL ADDRESS _____

PROJECT MANUAL FOR THE CONSTRUCTION OF:

PROJECT: BLEACHER REPLACEMENT

BID PACKAGE NO. 37

TROY HIGH SCHOOL

OWNER:

TROY SCHOOL DISTRICT
4400 Livernois
Troy, Mi. 48098

TMP PROJECT NO.: 13174J

DATE: December 6, 2022

ISSUED FOR CONSTRUCTION

ARCHITECT

TMP ARCHITECTURE, INC.
1191 West Square Lake Road
Bloomfield Hills, Michigan 48302-0374

PH (248) 338-4561
FX (248) 338-0223
Email info@tmp-architecture.com

ELECTRICAL ENGINEER

PETER BASSO ASSOCIATES, INC
Consulting Engineers
5145 Livernois, Suite 100
Troy, Michigan 48098

PH (248) 879-5666
FX (248) 879-0007
Email info@pbanet.com

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PROCUREMENT AND CONTRACTING REQUIREMENTS GROUP

DIVISION 00 – PROCUREMENT AND CONTRACTING REQUIREMENTS

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FACILITY CONSTRUCTION SUBGROUP

DIVISION 02 – EXISTING CONDITIONS

DIVISION 03 THRU DIVISION 11

Not Used

DIVISION 12 - FURNISHINGS

DIVISION 13 THRU DIVISION 14

Not Used

FACILITY SERVICES SUBGROUP

DIVISION 20 THRU DIVISION 25

Not Used

DIVISION 26 – ELECTRICAL

Note: Specifications on drawings

DIVISION 27 THRU DIVISION 28

Not Used

SITE AND INFRASTRUCTURE SUBGROUP

DIVISION 31 THRU DIVISION 33

Not Used

END OF SECTION

SECTION 00 0115 - LIST OF DRAWINGS

LIST OF DRAWINGS

1.01 GENERAL

A. Drawings: Drawings consist of the Contract Drawings including drawings listed on the TITLE SHEET page of the separately bound drawing set titled 2013 BOND PROGRAM – TROY HIGH SCHOOL STEM LAB dated 08/10/2022, and any subsequent Addenda and Contract modifications which may occur.

END OF SECTION

SECTION 00 8200 - AVAILABILITY OF ELECTRONIC FILES

AVAILABILITY OF ELECTRONIC FILES

1.01 POLICY

A. As a service to Contractor, subcontractors, vendors, material suppliers and others needing electronic copies of Drawings, the Architect will provide CAD files electronically in accordance with the following policy:

1. By acceptance it is understood and agreed that the data and medium being supplied is to be used only for the project referenced.
2. It is further understood and agreed that the undersigned will hold TMP Architecture, Inc. and its Consultants harmless and indemnify TMP Architecture, Inc. and its Consultants from all claims, liabilities, losses, and so forth, including attorney's fees arising out of the use or misuse of the transferred files.
3. It is understood and agreed that the files transmitted are prepared from CAD files current at the time of preparation. All files are AutoCAD version 2014 dwg files.
4. This information does not waive the need to verify and review current field conditions and the status of Addenda and/or Bulletin documentation.
5. As a record of information to be transmitted, TMP Architecture, Inc. will prepare a duplicate electronic back-up for its record.
6. Compensation Fee for providing this material will be as follows:
   a. Base Fee of $250 for 1 to 3 Drawings.
   b. Base Fee of $500 for 4 to 10 Drawings.
   c. For each additional Drawing after 10, the fee is $40 per Drawing.
      1) Example: 11 Drawings = $540.
7. A signed copy of the Release Form and Fee must be provided before files will be released.

1.02 REQUEST PROCEDURE

A. To receive Drawing CAD files the Release Form must be completed in full and submitted to the Construction Manager to be forwarded to the Project Manager at TMP Architecture, Inc.

1. A signed copy of the Release Form must be submitted.
   a. Faxed or emailed copies will be accepted.
2. Upon remittance of the signed Release Form and Fee, allow five working days for processing.
3. Transmission of Drawings will be provided electronically after the receipt of Fee.

1.03 RELEASE FORM

A. Release Form is located immediately after this Section. Refer to Section 00 8200.01 Electronic Files Release Form.

END OF SECTION

SECTION 00 8200.02 - TMP ELECTRONIC FILES RELEASE FORM (FREE)

RE: AUTHORIZATION FORM FOR CAD FILE TRANSFERS

I. PROJECT NAME: _____

I. TMP PROJECT NO. : _____ BID PACK NO. _____

1.
1. Dear Sir/Madam:
1. Per your request, TMP Architecture, Inc. will electronically transmit requested CAD files upon receipt of an original signed copy of this form which states the conditions of agreement and the receipt of the required compensation fee.
    1. By acceptance it is understood and agreed that the data and medium being supplied is to be used only for the project referenced.
    2. It is further understood and agreed that the undersigned will hold TMP Architecture, Inc. and its Consultants harmless and indemnify TMP Architecture, Inc. and its Consultants from all claims, liabilities, losses, and so forth, including attorney's fees arising out of the use or misuse of the transferred files.
    3. It is understood and agreed that the items transmitted are prepared from CAD files current at the time of preparation. All files are [AutoCAD version 2014 dwg files].
    4. This information does not waive the need to verify and review current field conditions and the status of Addenda and/or Bulletin documentation.
    5. As a record of information to be transmitted, TMP Architecture, Inc. will prepare a duplicate electronic back-up for its record.
    6. Compensation for providing this material will be as follows: **$0.00 / No Charge**
    7. A signed copy of this form must be provided before files will be released. Please remit to [Construction Manager] to be forwarded to the Project Manager at TMP Architecture, Inc. and allow five working days for processing.

I.

I. REQUESTED DRAWINGS: _____

I. _____

I. _____

I.

I. FIRM REQUESTING FILES:

1. Company: _____
1. Address: _____
1. Signed:_____Date: _____
1. Printed Name / Title: _____
1. Email: _____

TO BE COMPLETED BY TMP ARCHITECTURE, INC.

I.

1. Released(signed by): _____TMP Architecture, Inc.
1. Printed Name/Title:_____ Date: _____
1.

END OF SECTION

SECTION 01 2500 - SUBSTITUTION PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedural requirements for proposed substitutions.

1.02 RELATED REQUIREMENTS

A. Section 01 2500.01 - TMP Substitution Request Form.

1.03 DEFINITIONS

A. Substitutions: Changes from Contract Documents requirements proposed by Contractor to materials, products, assemblies, and equipment.
   1. Substitutions for Cause: Proposed due to changed Project circumstances beyond Contractor's control.
   2. Substitutions for Convenience: Proposed due to possibility of offering substantial advantage to the Project.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

A. A Substitution Request for products, assemblies, materials, and equipment constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product, equipment, assembly, or system.
   2. Agrees to provide the same warranty for the substitution as for the specified product.
   3. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
   4. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
   5. Waives claims for additional costs or time extension that may subsequently become apparent.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents. Burden of proof is on proposer.
   1. Note explicitly any non-compliant characteristics.

C. Content: Include information necessary for tracking the status of each Substitution Request, and information necessary to provide an actionable response.
   1. Forms included in the Project Manual are adequate for this purpose, and must be used.

D. Limit each request to a single proposed substitution item.
   1. Submit an electronic document, combining the request form with supporting data into single document.

3.02 SUBSTITUTION PROCEDURES DURING PROCUREMENT

A. Substitution Request Form: TMP Substitution Request Form must be completed and provided at the beginning of each substitution request.
   1. Refer to Section 01 2500.01 - TMP Substitution Request Form.
   2. Submittals without a completed TMP Substitution Request Form will not be acknowledged, reviewed, or returned. Use only this form; other forms of submission are unacceptable.

B. Instructions to Bidders specifies time restrictions for submitting requests for substitutions during the bidding period.

3.03 SUBSTITUTION PROCEDURES DURING CONSTRUCTION

A. Substitution Request Form: TMP Substitution Request Form must be completed and provided at the beginning of each substitution request.
   1. Refer to Section 01 2500.01 - TMP Substitution Request Form.

2. Submittals without a completed TMP Substitution Request Form will not be acknowledged, reviewed, or returned. Use only this form; other forms of submission are unacceptable.

B. Submit request for Substitution for Cause immediately upon discovery of need for substitution, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

C. Submit request for Substitution for Convenience immediately upon discovery of its potential advantage to the project, but not later than 14 days prior to time required for review and approval by Architect, in order to stay on approved project schedule.

1. In addition to meeting general documentation requirements, document how the requested substitution benefits the Owner through cost savings, time savings, greater energy conservation, or in other specific ways.
2. Document means of coordinating of substitution item with other portions of the work, including work by affected subcontractors.
3. Bear the costs engendered by proposed substitution of:
   a. Owner's compensation to the Architect for any required redesign, time spent processing and evaluating the request.
   b. Other unanticipated project considerations.

D. Substitutions will not be considered under one or more of the following circumstances:

1. When they are indicated or implied on shop drawing or product data submittals, without having received prior approval.
2. Without a separate written request.

3.04 RESOLUTION

A. Architect may request additional information and documentation prior to rendering a decision. Provide this data in an expeditious manner.

B. Architect will notify Contractor in writing of decision to accept or reject request.

1. During construction, Architect's decision following review of proposed substitution will be noted on the submitted form.
2. During bidding, Architect will approve substitution requests by issuing an Addendum. Substitutions not approved by addendum are rejected.

3.05 ACCEPTANCE

A. Accepted substitutions change the work of the Project. They will be documented and incorporated into work of the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments provided for in the Conditions of the Contract.

3.06 CLOSEOUT ACTIVITIES

A. See Section 01 7800 - Closeout Submittals, for closeout submittals.

END OF SECTION

SECTION 01 2500.01 - TMP SUBSTITUTION REQUEST FORM

SUBSTITUTION REQUEST NUMBER: _____ DATE SUBMITTED: _____
TMP PROJECT NUMBER _____PROJECT NAME: _____

SPECIFIED ITEM

SPECIFICATION TITLE:_____
SPECIFICATION SECTION_____SPECIFICATION ARTICLE/PARAGRAPH: _____
SPECIFIED PRODUCT / DESCRIPTION: _____
SPECIFIED MANUFACTURER: _____
SPECIFIED PRODUCT / MODEL: _____
REASON SPECIFIED ITEM CANNOT BE PROVIDED: _____
_____
_____

PROPOSED SUBSTITUTION

DESCRIPTION OF PROPOSED SUBSTITUTION: _____
_____
PROPOSED MANUFACTURER: _____
ADDRESS: _____
WEBSITE: _____
PRODUCT / MODEL: _____
YEARS PRODUCT/MODEL HAS BEEN MANUFACTURED: _____
DIFFERENCES BETWEEN PROPOSED SUBSTITUTION AND SPECIFIED ITEM: _____
_____
_____
_____
_____

WILL PROPOSED SUBSTITUTION AFFECT OTHER PARTS OF WORK? ☐ NO ☐ YES
IF YES, EXPLAIN HOW: _____
_____
_____
_____

HOW WILL SUBSTITUTION BENEFIT THE OWNER: ☐ COST SAVINGS ☐ TIME SAVINGS ☐ OTHER
PROVIDE SPECIFIC DETAILS: _____
_____
_____
_____

THE FOLLOWING INFORMATION IS REQUIRED; CHECK TO INDICATE INFORMATION IS ATTACHED. (REQUEST WILL BE REJECTED WITHOUT REQUIRED DATA)

32.01

A. ☐ List of references where proposed product has been installed; include address, owner, architect, and date installed.
B. ☐ Product data sheets.
C. ☐ Applicable certificates and test reports.

D. ☐ Comparative Data: Provide point-by-point, side-by-side comparison of specified product and proposed substitution addressing essential attributes specified.

INDICATE WHICH OF THE FOLLOWING VOLUNTARY INFORMATION IS ATTACHED, IF ANY:
☐ DRAWINGS.
☐ SAMPLES.
☐ OTHER ITEMS: _____

SIGNATURE

THE UNDERSIGNED CERTIFIES:

I.

1. The proposed substitution meets or exceeds the quality level of the specified product, equipment, assembly, or system.
1. To provide the same warranty for the substitution as for the specified product.
1. Agrees to provide same or equivalent maintenance service and source of replacement parts, as applicable.
1. Agrees to coordinate installation and make changes to other work that may be required for the work to be complete, with no additional cost to Owner.
1. The proposed substitution will have no adverse effects on other work.
1. The proposed substitution will not affect project schedule.
1. Waives claims for additional costs or time extension that may subsequently become apparent.

CONTRACTOR / COMPANY: _____
SIGNED BY: _____PRINTED NAME: _____
TITLE: _____
ADDRESS: _____
EMAIL: _____ PHONE: _____

ARCHITECT'S RESPONSE

I.

A. During bidding, Architect will approve substitution requests by issuing an Addendum. Substitutions not approved by addendum are rejected.
B. During construction, Architect will notify Contractor in writing (see below) of decision to accept or reject request, and incorporate the substitution into the project by Change Order, Construction Change Directive, Architectural Supplementary Instructions, or similar instruments as provided for in the Conditions of the Contract.

☐ SUBSTITUTION APPROVED - PROVIDE SUBMITTALS PER SECTION 01 3000 AND RESPECTIVE SECTION FOR WHICH SUBSTITUTION WAS MADE.
☐ SUBSTITUTION REJECTED - PROVIDE SPECIFIED MATERIALS.

SIGNED BY: _____PRINTED NAME: _____
ARCHITECT'S COMMENTS: _____
_____
_____

END OF SECTION

SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Submittals for review, information, and project closeout.
B. Number of copies of submittals.
C. Requests for Interpretation (RFI) procedures.
D. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. Section 01 3000.01 - TMP Submittal and Sample Transmittal Form.

1.03 REFERENCE STANDARDS

A. AIA G716 - Request for Information 2004.
B. CSI/CSC Form 13.2A - Request for Information Current Edition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 REQUESTS FOR INTERPRETATION (RFI)

A. Definition: A request seeking one of the following:
   1. An interpretation, amplification, or clarification of some requirement of Contract Documents arising from inability to determine from them the exact material, process, or system to be installed; or when the elements of construction are required to occupy the same space (interference); or when an item of work is described differently at more than one place in Contract Documents.
   2. A resolution to an issue which has arisen due to field conditions and affects design intent.
B. Preparation: Prepare an RFI immediately upon discovery of a need for interpretation of Contract Documents. Failure to submit a RFI in a timely manner is not a legitimate cause for claiming additional costs or delays in execution of the work.
   1. Prepare a separate RFI for each specific item.
      a. Review, coordinate, and comment on requests originating with subcontractors and/or materials suppliers.
      b. Do not forward requests which solely require internal coordination between subcontractors.
   2. Prepare in a format and with content acceptable to Architect. Use one of the following:
      a. Use AIA G716 - Request for Information .
      b. Use CSI/CSC Form 13.2A - Request for Interpretation.
      c. Other format acceptable to Architect.
   3. Combine RFI and its attachments into a single electronic file. PDF format is preferred.
C. Reason for the RFI: Prior to initiation of an RFI, carefully study all Contract Documents to confirm that information sufficient for their interpretation is definitely not included.
   1. Include in each request Contractor's signature attesting to good faith effort to determine from Contract Documents information requiring interpretation.
   2. Improper RFIs: Requests not prepared in conformance to requirements of this section, and/or missing key information required to render an actionable response. They will be returned without a response and may include an explanatory notation.
   3. Frivolous RFIs: Requests regarding information that is clearly indicated on, or reasonably inferable from, the Contract Documents, with no additional input required to clarify the question. They will be returned without a response and may include an explanatory notation.
      a. The Owner reserves the right to assess the Contractor for the costs (on time-and-materials basis) incurred by the Architect, and any of its consultants, due to processing of such RFIs.
D. Content: Include identifiers necessary for tracking the status of each RFI, and information necessary to provide an actionable response.

1. Official Project name and number, and any additional required identifiers established in Contract Documents.
2. Discrete and consecutive RFI number, and descriptive subject/title.
3. Issue date, and requested reply date.
4. Reference to particular Contract Document(s) requiring additional information/interpretation. Identify pertinent drawing and detail number and/or specification section number, title, and paragraph(s).
5. Annotations: Field dimensions and/or description of conditions which have engendered the request.
6. Contractor's suggested resolution: A written and/or a graphic solution, to scale, is required in cases where clarification of coordination issues is involved, for example; routing, clearances, and/or specific locations of work shown diagrammatically in Contract Documents. If applicable, state the likely impact of the suggested resolution on Contract Time or the Contract Sum.

E. Attachments: Include sketches, coordination drawings, descriptions, photos, submittals, and other information necessary to substantiate the reason for the request.

F. RFI Log: Prepare and maintain a tabular log of RFIs for the duration of the project.
1. Indicate current status of every RFI. Update log promptly and on a regular basis.
2. Note dates of when each request is made, and when a response is received.
3. Identify and include improper or frivolous RFIs.

G. Review Time: Architect will respond and return RFIs to Contractor within seven calendar days of receipt. For the purpose of establishing the start of the mandated response period, RFIs received after 3:00 PM will be considered as having been received on the following regular working day.
1. Response period may be shortened or lengthened for specific items, subject to mutual agreement, and recorded in a timely manner in progress meeting minutes.

H. Responses: Content of answered RFIs will not constitute in any manner a directive or authorization to perform extra work or delay the project. If in Contractor's belief it is likely to lead to a change to Contract Sum or Contract Time, promptly issue a notice to this effect, and follow up with an appropriate Change Order request to Owner.
1. Response may include a request for additional information, in which case the original RFI will be deemed as having been answered, and an amended one is to be issued forthwith. Identify the amended RFI with an R suffix to the original number.
2. Do not extend applicability of a response to specific item to encompass other similar conditions, unless specifically so noted in the response.
3. Upon receipt of a response, promptly review and distribute it to all affected parties, and update the RFI Log.
4. Notify Architect within seven calendar days if an additional or corrected response is required by submitting an amended version of the original RFI, identified as specified above.

3.02 SUBMITTAL SCHEDULE

A. Submit to Architect for review a schedule for submittals in tabular format.
1. Submit at the same time as the preliminary schedule.
2. Coordinate with Contractor's construction schedule and schedule of values.
3. Format schedule to allow tracking of status of submittals throughout duration of construction.
4. Arrange information to include scheduled date for initial submittal, specification number and title, description of item of work covered, and role and name of subcontractor.
5. Account for time required for preparation, review, manufacturing, fabrication and delivery when establishing submittal delivery and review deadline dates.

a. For assemblies, equipment, systems comprised of multiple components and/or requiring detailed coordination with other work, allow for additional time to make corrections or revisions to initial submittals, and time for their review.

3.03 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
   1. Product data.
   2. Shop drawings.
   3. Samples for selection.
   4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for compliance with information given and the design concept expressed in Contract Documents.

C. Samples will be reviewed for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 7800 - Closeout Submittals.

3.04 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.05 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout in compliance with requirements of Section 01 7800 - Closeout Submittals:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.06 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy.

B. Samples: Submit the number specified in individual specification sections, but not less than 3; one (minimum) of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.07 SUBMITTAL PROCEDURES

A. Transmittal Form: TMP Submittal and Sample Transmittal Form must be completed and provided at the beginning of each submittal.
   1. Refer to Section 01 3000.01 - TMP Submittal and Sample Transmittal Form.
   2. Submittals without a completed TMP Submittal and Sample Transmittal Form will not be acknowledged, reviewed, or returned.

B. Submittals shall be submitted in electronic form.
   1. Exceptions: Physical samples.

a. Physical Samples must be accompanied by an electronic copy and a hard/physical copy of the completed TMP Submittal and Sample Transmittal Form.

C. Electronic Submittals: Comply with the following:
1. Submittal process shall be through a data management system (i.e. Submittal Exchange) or other approved method agreed to by the Architect and Owner.
2. File Format: Portable Document Format (PDF).
3. File Naming: File naming shall be in the following format:
a. Specification section number, followed by a hyphen, and a consecutive number indicating sequential submittals for that section; followed by a general description of the submittal contents.
1) Examples:
(a) Section 07 9200; first submittal:
(1) 07 9200-01 Joint Sealants
(b) Section 07 9200; second submittal:
(1) 07 9200-02 Joint Sealant Color
b. Resubmittals. For revised resubmittals use original number and a sequential combination numerical and alphabetical suffix; hyphen followed by "R" and a two-digit consecutive number indicating sequential resubmittals for that particular submittal.
1) Examples:
(a) Section 07 9200; resubmittal of first submittal of section:
(1) 07 9200-01-R01 Joint Sealants.
(b) Section 07 9200; second resubmittal of first submittal of section:
(1) 07 9200-01-R02 Joint Sealants
(c) Section 07 9200; first resubmittal of second submittal of section:
(1) 07 9200-02-R01 Joint Sealant Color
4. Each Submittal shall be one file, complete with all attachments.
a. Multi-file submittal will not be acknowledged, reviewed, or returned.

D. General Requirements:
1. Use a single transmittal for related items.
a. Each transmittal shall be for one specification section only; do not submit items for multiple sections under the same transmittal.
1) Multi-section submittals will be acknowledged and returned; stamped "X - Not Approved - Resubmit".
2. Submit separate packages of submittals for review and submittals for information, when included in the same specification section.
3. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and Contract Documents.
a. Submittals from sources other than the Contractor, or without Contractor's stamp will not be acknowledged, reviewed, or returned.
4. Deliver each submittal on date noted in submittal schedule, unless an earlier date has been agreed to by all affected parties, and is of the benefit to the project.
5. Schedule submittals to expedite the Project, and coordinate submission of related items.
a. For each submittal for review, allow 14 calendar days excluding delivery time to and from the Contractor.
b. For sequential reviews involving Architect's consultants, Owner, or another affected party, allow an additional 7 calendardays.
6. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of the completed work.
7. When revised for resubmission, identify all changes made since previous submission.
8. Distribute reviewed submittals. Instruct parties to promptly report inability to comply with requirements.
9. Incomplete submittals will not be reviewed, unless they are partial submittals for distinct portion(s) of the work, and have received prior approval for their use.

10. Submittals not requested will be recognized and returned; stamped "NA - No Action Taken - Not Reviewed"

E. Product Data Procedures:
1. Submit only information required by individual specification sections.
2. Collect required information into a single submittal.
3. Submit concurrently with related shop drawing submittal.
4. Do not submit (Material) Safety Data Sheets for materials or products unless specifically called for in individual sections.

F. Shop Drawing Procedures:
1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting Contract Documents and coordinating related work.
2. Do not reproduce Contract Documents to create shop drawings.
3. Generic, non-project-specific information submitted as shop drawings do not meet the requirements for shop drawings.
4. Non-complying submittals will be acknowledged and returned; stamped "X - Not Approved - Resubmit".

G. Samples Procedures:
1. Transmit related items together as single package.
2. Identify each item to allow review for applicability in relation to shop drawings showing installation locations.
3. Submit actual physical samples.
4. Electronic submittals will not be accepted unless prior approval is received from the Architect. Electronic samples without prior approval will be acknowledged and returned; stamped "X - Not Approved - Resubmit."

3.08 SUBMITTAL REVIEW

A. General: Submittals that do not conform to the requirements of this section will not be acknowledged, reviewed, or returned.

B. Submittals for Review: Architect will review each submittal, and approve, or take other appropriate action.

C. Submittals for Information: Architect will acknowledge and may review. See below for actions to be taken.

D. Architect's actions will be reflected by marking each returned submittal using virtual stamp on electronic submittals.
1. Where more than one action has been indicated, each shall apply to that portion of the submittal for which the action is indicated.

E. Architect's review shall not indicate approval of dimensions, quantities or fabrication processes unless specific notations are made by the Architect regarding same.

F. Architect's and consultants' actions on items submitted for review:
1. Authorizing purchasing, fabrication, delivery, and installation:
   a. "Reviewed - No Exceptions Taken", "Approved", or language with same legal meaning.
   b. "Reviewed with Corrections Noted", "Approved as Noted, Resubmission not required", or language with same legal meaning.
      1) At Contractor's option, submit corrected item, with review notations acknowledged and incorporated.
   c. "Approved as Noted, Resubmit for Record", or language with same legal meaning.
      1) Resubmit corrected item, with review notations acknowledged and incorporated. Resubmit separately, or as part of project record documents.
2. Not Authorizing fabrication, delivery, and installation:
   a. "Not Approved - Resubmit", "Revise and Resubmit", or language with the same legal meaning.
      1) Resubmit revised item, with review notations acknowledged and incorporated.

G. Architect's and consultants' actions on items submitted for information:
   1. Items for which no action was taken:
      a. "No Action Taken - Not Reviewed" or "Received" - to notify the Contractor that the submittal has been received for record only.

END OF SECTION

SECTION 01 4000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

Section includes administrative and procedural requirements for quality assurance and quality control.

A. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
   1. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
   2. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner or authorities having jurisdiction are not limited by provisions of this Section.

1.02 DEFINITIONS

A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

B. Field Quality-Control Tests: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
   1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

D. Mockups: Full-size physical assemblies that are constructed on-site either as freestanding temporary built elements or as part of permanent construction. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.
   1. Integrated Exterior Mockups: Mockups of the exterior envelope constructed on-site as freestanding temporary built elements, consisting of multiple products, assemblies, and subassemblies.

E. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

F. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) according to 29 CFR 1910.7, by a testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.

G. Source Quality-Control Tests: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

J. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Architect.

1.03 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1.04 CONFLICTING REQUIREMENTS

A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements are specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for direction before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.05 ACTION SUBMITTALS

A. Delegated-Design Services Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.06 INFORMATIONAL SUBMITTALS

A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:

1. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.

B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

C. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.07 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, telephone number, and email address of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspection.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.

12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:
1. Statement on condition of substrates and their acceptability for installation of product.
2. Statement that products at Project site comply with requirements.
3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
5. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:
1. Statement that equipment complies with requirements.
2. Results of operational and other tests and a statement of whether observed performance complies with requirements.
3. Other required items indicated in individual Specification Sections.

1.08 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

H. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

J. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
   1. Contractor responsibilities include the following:
      a. Provide test specimens representative of proposed products and construction.
      b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
      c. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
      d. When testing is complete, remove test specimens and test assemblies, and mockups; do not reuse products on Project.
   2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.

K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
   1. Build mockups of size indicated.
   2. Build mockups in location indicated or, if not indicated, as directed by Architect.
   3. Notify Architect seven days in advance of dates and times when mockups will be constructed.
   4. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed to perform same tasks during the construction at Project.
   5. Demonstrate the proposed range of aesthetic effects and workmanship.
   6. Obtain Architect's approval of mockups before starting corresponding work, fabrication, or construction.
   7. Allow seven days for initial review and each re-review of each mockup.
   8. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
   9. Retain subparagraph below as the default requirement and add specific requirements in individual Specification Sections.
   10. Demolish and remove mockups when directed unless otherwise indicated.

1.09 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
   1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspection they are engaged to perform.
   2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
   1. Engage a qualified testing agency to perform quality-control services.
      a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
   2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
   3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
   4. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
   5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
D. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
   1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
   2. Determine the locations from which test samples will be taken and in which in-situ tests are conducted.
   3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
   4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
   5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
   6. Do not perform duties of Contractor.
E. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 01 3300 "Submittal Procedures."
F. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
G. Associated Contractor Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
   1. Access to the Work.
   2. Incidental labor and facilities necessary to facilitate tests and inspections.
   3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
   4. Facilities for storage and field curing of test samples.
   5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
   6. Security and protection for samples and for testing and inspection equipment at Project site.
H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
   1. Schedule times for tests, inspections, obtaining samples, and similar activities.

1.010 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified testing agency/special inspector to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, as indicated in the Statement of Special Inspections on the drawings and the schedule of Special Inspections attached to this Section, and as follows:
   1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
   2. Notifying Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
   3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
   4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.

5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.01 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Architect.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's reference during normal working hours.

1. Submit log at Project closeout as part of Project Record Documents.

3.02 REPAIR AND PROTECTION

A. General: On completion of testing, inspection, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 01 7300 "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

SCHEDULE OF SPECIAL INSPECTION SERVICES					
PROJECT					
		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	SERVICE	Y/N	EXTENT	AGENT*	DATE COMPLETED
1704.2.5 Inspection of Fabricators					
Verify fabrication/quality control procedures	In-plant review (3)	Y	Periodic		
1705.1.1 Special Cases (work unusual in nature, including but not limited to alternative materials and systems, unusual design applications, materials and systems with special manufacturer's requirements)	Submittal review, shop (3) and/or field inspection	N			
1705.2 Steel Construction					

1. Fabricator and erector documents (Verify reports and certificates as listed in AISC 360, chapter N, paragraph 3.2 for compliance with construction documents)	Submittal Review	Y	Each submittal		
2. Material verification of structural steel	Shop (3) and field inspection	Y	Periodic		
3. Embedments (Verify diameter, grade, type, length, embedment. See 1705.3 for anchors)	Field inspection	Y	Periodic		
4. Verify member locations, braces, stiffeners, and application of joint details at each connection comply with construction documents	Field inspection	Y	Periodic		
5. Structural steel welding:					
a. Inspection tasks Prior to Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-1)	Shop (3) and field inspection	Y	Observe or Perform as noted (4)		
b. Inspection tasks During Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-2)	Shop (3) and field inspection	Y	Observe (4)		
c. Inspection tasks After Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-3)	Shop (3) and field inspection	Y	Observe or Perform as noted (4)		
d. Nondestructive testing (NDT) of welded joints: *see Commentary*					
1) Complete penetration groove welds 5/16" or greater in *risk category* III or IV	Shop (3) or field ultrasonic testing - 100%	N	Periodic		
2) Complete penetration groove welds 5/16" or greater in *risk category* II	Shop (3) or field ultrasonic testing - 10% of welds minimum	Y	Periodic		
3) Thermally cut surfaces of access holes when material t > 2"	Shop (3) or field magnetic Partical or Penetrant testing	N	Periodic		
4) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.1	Shop (3) or field radiographic or Ultrasonic testing	N	Periodic		
5) Fabricator's NDT reports when fabricator performs NDT	Verify reports	Y	Each submittal (5)		

6. Structural steel bolting:	Shop (3) and field inspection				
a. Inspection tasks Prior to Bolting (Observe, or perform tasks for each bolted connection, in accordance with QA tasks listed in AISC 360, Table N5.6-1)		Y	Observe or Perform as noted (4)		
b.Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360, Table N5.6-2)		Y	Observe (4)		
1) Pre-tensioned and slip-critical joints					
a) Turn-of-nut with matching markings		Y	Periodic		
b) Direct tension indicator		Y	Periodic		
c) Twist-off type tension control bolt		Y	Periodic		
d) Turn-of-nut without matching markings		Y	Continuous		
e) Calibrated wrench		Y	Continuous		
2) Snug-tight joints		Y	Periodic		
c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA tasks listed in AISC 360, Table N5.6-3)		Y	Perform (4)		
7. Inspection of steel elements of composite construction prior to concrete placement in accordance with QA tasks listed in AISC 360, Table N6.1	Shop (3) and field inspection and testing	N			
1705.2.2 Steel Construction Other Than Structural Steel					
1. Material verification of cold-formed steel deck:					
a. Identification markings	Field inspection	Y	Periodic		
b. Manufacturer's certified test reports	Submittal Review	Y	Each submittal		
2. Connection of cold-formed steel deck to supporting structure:	Shop (3) and field inspection				
a. Welding		Y	Periodic		
b. Other fasteners (in accordance with AISC 360,Section N6)		Y	Periodic		

1) Verify fasteners are in conformance with approved submittal		Y	Periodic		
2) Verify fastener installation is in conformance with approved submittal and manufacturer's recommendations		Y	Periodic		
3. Reinforcing steel	Shop (3) and field inspection				
a. Verification of weldability of steel other than ASTM A706		N			
b. Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, boundary elements of special concrete structural walls and shear reinforcement		N	Continuous		
c. Shear reinforcement		N	Continuous		
d. Other reinforcing steel		N	Periodic		
4. Cold-formed steel trusses spanning 60 feet or greater					
a. Verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package	Field inspection	Y	Periodic		
1705.3 Concrete Construction					
1. Inspection of reinforcing steel installation (see 1705.2.2 for welding)	Shop (3) and field inspection	Y	Periodic		
2. Inspection of prestressing steel installation	Shop (3) and field inspection	N	Periodic		
3. Inspection of anchors cast in concrete where allowable loads have been increased per section 19 08.5 or where strength design is used	Shop (3) and field inspection	Y	Periodic		
4. Inspection of anchors and reinforcing steel post-installed in hardened concrete: Per research reports including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, concrete minimum thickness, anchor embedment and tightening torque	Field inspection	Y	Periodic or as required by the research report issued by an approved source		

5. Verify use of approved design mix	Shop (3) and field inspection	Y	Periodic		
6. Fresh concrete sampling, perform slump and air content tests and determine temperature of concrete	Shop (3) and field inspection	Y	Continuous		
7. Inspection of concrete and shotcrete placement for proper application techniques	Shop (3) and field inspection	Y	Continuous		
8. Inspection for maintenance of specified curing temperature and techniques	Shop (3) and field inspection	Y	Periodic		
9. Inspection of prestressed concrete:	Shop (3) and field inspection				
a. Application of prestressing force		N	Continuous		
b. Grouting of bonded prestressing tendons in the seismic-force-resisting system		N	Continuous		
10. Erection of precast concrete members	Field Inspection	Y	Periodic		
a. Inspect in accordance with construction documents	Field inspection	N	In accordance with construction documents		
b. Perform inspections of welding and bolting in accordance with Section 17 05.2	Field inspection	N	In accordance with Section 17 05.2		
11. Verification of in-situ concrete strength, prior to stressing of tendons in post tensioned concrete and prior to removal of shores and forms from beams and structural slabs	Review field testing and laboratory reports	N	Periodic		
12. Inspection of formwork for shape, lines, location and dimensions	Field inspection	Y	Periodic		
13. Concrete strength testing and verification of compliance with construction documents	Field testing and review of laboratory reports	Y	Periodic		
1705.4 Masonry Construction					
(A) Level A, B and C Quality Assurance:					
1. Verify compliance with approved submittals	Field Inspection	Y	Periodic		
(B) Level B Quality Assurance:					

1. Verification of f'm and f'_{AAC} prior to construction	Testing by unit strength method or prism test method	Y	Periodic		
(C) Level C Quality Assurance:					
1. Verification of f'm and f'_{AAC} prior to construction and for every 5,000 SF during construction	Testing by unit strength method or prism test method	N	Periodic		
2. Verification of proportions of materials in premixed or preblended mortar, prestressing grout, and grout other than self-consolidating grout, as delivered to the project site	Field inspection	N	Continuous		
3. Verify placement of masonry units	Field Inspection	N	Periodic		
(D) Levels B and C Quality Assurance:					
1. Verification of Slump Flow and Visual Stability Index (VSI) of self-consolidating grout as delivered to the project	Field testing	Y	Continuous		
2. Verify compliance with approved submittals	Field inspection	Y	Periodic		
3. Verify proportions of site-mixed mortar, grout and prestressing grout for bonded tendons	Field Inspection	Y	Periodic		
4. Verify grade, type, and size of reinforcement and anchor bolts, and prestressing tendons and anchorages	Field Inspection	Y	Periodic		
5. Verify construction of mortar joints	Field Inspection	Y	Periodic		
6. Verify placement of reinforcement, connectors, and prestressing tendons and anchorages	Field Inspection	Y	Level B – Periodic		
		N	Level C – Continuous		
7. Verify grout space prior to grouting	Field Inspection	Y	Level B – Periodic		

		N	Level C – Continuous		
8. Verify placement of grout and prestressing grout for bonded tendons	Field Inspection	N	Continuous		
9. Verify size and location of structural masonry elements	Field Inspection	Y	Periodic		
10. Verify type, size, and location of anchors, including details of anchorage of masonry to structural members, frames, or other construction.	Field inspection	Y	Level B – Periodic		
		N	Level C – Continuous		
11. Verify welding of reinforcement (see 1705.2.2)	Field inspection	N	Continuous		
12. Verify preparation, construction, and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F)	Field inspection	Y	Periodic		
13. Verify application and measurement of prestressing force	Field Inspection	N	Continuous		
14. Verify placement of AAC masonry units and construction of thin-bed mortar joints (first 5000 SF of AAC masonry)	Field inspection	N	Continuous		
15. Verify placement of AAC masonry units and construction of thin-bed mortar joints (after the first 5000 SF of AAC masonry)	Field inspection	N	Level B – Periodic		
		N	Level C – Continuous		
16. Verify properties of thin-bed mortar for AAC masonry (first 5000 SF of AAC masonry)	Field inspection	N	Continuous		
17. Verify properties of thin-bed mortar forAAC masonry (after the first 5000 SF of AAC masonry)	Field inspection	N	Level B – Periodic		

		N	Level C – Continuous		
18. Prepare grout and mortar specimens	Field testing	Y	Level B – Periodic		
		N	Level C – Continuous		
19. Observe preparation of prisms	Field inspection	Y	Level B – Periodic		
		N	Level C – Continuous		
1705.5 Wood Construction					
1. Inspection of the fabrication process of wood structural elements and assemblies in accordance with Section 17 04.2.5	In-plant review (3)	N	Periodic		
2. For high-load diaphragms, verify grade and thickness of structural panel sheathing agree with approved building plans	Field inspection	N	Periodic		
3. For high-load diaphragms, verify nominal size of framing members at adjoining panel edges, nail or staple diameter and length, number of fastener lines, and that spacing between fasteners in each line and at edge margins agree with approved building plans	Field inspection	N	Periodic		
4. Metal-plate-connected wood trusses spanning 60 feet or greater: verify temporary and permanent restraint/bracing are installed in accordance with the approved truss submittal package	Field inspection	N	Periodic		
1705.6 Soils					
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Field inspection	Y	Periodic		
2. Verify excavations are extended to proper depth and have reached proper material.	Field inspection	Y	Periodic		
3. Perform classification and testing of controlled fill materials.	Field inspection	Y	Periodic		

4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of controlled fill	Field inspection	Y	Continuous		
5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly	Field inspection	Y	Periodic		
1705.7 Driven Deep Foundations					
1. Verify element materials, sizes and lengths comply with requirements	Field inspection	N	Continuous		
2. Determine capacities of test elements and conduct additional load tests, as required	Field inspection	N	Continuous		
3. Observe driving operations and maintain complete and accurate records for each element	Field inspection	N	Continuous		
4. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element	Field inspection	N	Continuous		
5. For steel elements, perform additional inspections per Section 17 05.2	See Section 17 05.2	N	See Section 17 05.2		
6. For concrete elements and concrete-filled elements, perform additional inspections per Section 17 05.3	See Section 17 05.3	N	See Section 17 05.3		
7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge	Field inspection	N	In accordance with construction documents		
8. Perform additional inspections and tests in accordance with the construction documents	Field Inspection and testing	N	In accordance with construction documents		
1705.8 Cast-in-Place Deep Foundations					
1.Observe drilling operations and maintain complete and accurate records for each element	Field inspection	N	Continuous		

2. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end-bearing strata capacity. Record concrete or grout volumes	Field inspection	N	Continuous		
3. For concrete elements, perform additional inspections in accordance with Section 17 05.3	See Section 17 05.3	N	See Section 17 05.3		
4. Perform additional inspections and tests in accordance with the construction documents	Field Inspection and testing	N	In accordance with construction documents		
1705.9 Helical Pile Foundations					
1. Verify installation equipment, pile dimensions, tip elevations, final depth, final installation torque and other data as required.	Field inspection	N	Continuous		
2. Perform additional inspections and tests in accordance with the construction documents	Field Inspection and testing	N	In accordance with construction documents		
1705.10.1 Structural Wood Special Inspections For Wind Resistance					
1. Inspection of field gluing operations of elements of the main windforce-resisting system	Field inspection	N	Continuous		
2. Inspection of nailing, bolting, anchoring and other fastening of components within the main windforce-resisting system	Shop (3) and field inspection	N	Periodic		
1705.10.2 Cold-formed Steel Special Inspections For Wind Resistance					
1.Inspection during welding operations of elements of the main windforce-resisting system	Shop (3) and field inspection	N	Periodic		
2.Inspections for screw attachment, bolting, anchoring and other fastening of components within the main windforce-resisting system	Shop (3) and field inspection	N	Periodic		

1705.10.3 Wind-resisting Components					
1. Roof cladding	Shop (3) and field inspection	Y	Periodic		
2. Wall cladding	Shop (3) and field inspection	Y	Periodic		
1705.11.1 Structural Steel Special Inspections for Seismic Resistance					
Inspection of structural steel in accordance with AISC 341	Shop (3) and field inspection	N	In accordance with AISC 341		
1705.11.2 Structural Wood Special Inspections for Seismic Resistance					
1. Inspection of field gluing operations of elements of the seismic-force resisting system	Field inspection	N	Continuous		
2. Inspection of nailing, bolting, anchoring and other fastening of components within the seismic-force-resisting system	Shop (3) and field inspection	N	Periodic		
1705.11.3 Cold-formed Steel Light-Frame Construction Special Inspections for Seismic Resistance					
1. Inspection during welding operations of elements of the seismic-force-resisting system	Shop (3) and field inspection	N	Periodic		
2. Inspections for screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system	Shop (3) and field inspection	N	Periodic		
1705.11.4 Designated Seismic Systems Verification					
Inspect and verify that that the component label, anchorage or mounting conforms to the certificate of compliance in accordance with Section 17 05.12.3	Field inspection	N	Periodic		

1705.11.5 Architectural Components Special Inspections for Seismic Resistance					
1. Inspection during the erection and fastening of exterior cladding and interior and exterior veneer	Field inspection	N	Periodic		
2. Inspection during the erection and fastening of interior and exterior nonbearing walls	Field inspection	N	Periodic		
3. Inspection during anchorage of access floors	Field inspection	N	Periodic		
1705.11.6 Mechanical and Electrical Components Special Inspections for Seismic Resistance					
1. Inspection during the anchorage of electrical equipment for emergency or standby power systems	Field inspection	N	Periodic		
2. Inspection during the anchorage of other electrical equipment	Field inspection	N	Periodic		
3. Inspection during installation and anchorage of piping systems designed to carry hazardous materials, and their associated mechanical units	Field inspection	N	Periodic		
4. Inspection during the installation and anchorage of HVAC ductwork that will contain hazardous materials	Field inspection	N	Periodic		
5. Inspection during the installation and anchorage of vibration isolation systems	Field inspection	N	Periodic		
1705.11.7 Storage Racks Special Inspections for Seismic Resistance					
Inspection during the anchorage of storage racks 8 feet or greater in height	Field inspection	N	Periodic		
1705.11.8 Seismic Isolation Systems					

Inspection during the fabrication and installation of isolator units and energy dissipation devices used as part of the seismic isolation system	Shop and field inspection	N	Periodic		
1705.12.1 Concrete Reinforcement Testing and Qualification for Seismic Resistance					
1. Review certified mill test reports for each shipment of reinforcement used to resist earthquake-induced flexural and axial forces in reinforced concrete special moment frames, special structural walls, and coupling beams connecting special structural walls	Review certified mill test reports	N	Each shipment		
2. Verify reinforcement weldability of ASTM A615 reinforcement used to resist earthquake-induced flexural and axial forces in reinforced concrete special moment frames, special structural walls, and coupling beams connecting special structural walls	Review test reports	N	Each shipment		
1705.12.2 Structural Steel Testing and Qualification for Seismic Resistance					
Test in accordance with the quality assurance requirements of AISC 341	Shop (3) and field testing	N	Per AISC 341		
1705.12.3 Seismic Certification of Nonstructural Components					
Review certificate of compliance for designated seismic system components.	Certificate of compliance review	N	Each submittal		
1705.12.4 Seismic Isolation Systems					
Test seismic isolation system in accordance with ASCE 7 Section 17.8	Prototype testing	N	Per ASCE 7		

1705.13 Sprayed Fire-resistant Materials					
1. Verify surface condition preparation of structural members	Field inspection	N	Periodic		
2. Verify application of sprayed fire-resistant materials	Field inspection	N	Periodic		
3. Verify average thickness of sprayed fire-resistant materials applied to structural members	Field inspection	N	Periodic		
4. Verify density of the sprayed fire-resistant material complies with approved fire-resistant design	Field inspection and testing	N	Per IBC Section 17 05.13.5		
5. Verify the cohesive/adhesive bond strength of the cured sprayed fire-resistant material	Field inspection and testing	N	Per IBC Section 17 05.13.6		
1705.14 Mastic and Intumescent Fire-Resistant Coatings					
Inspect mastic and intumescent fire-resistant coatings applied to structural elements and decks	Field inspection	N	Periodic		
1705.15 Exterior Insulation and Finish Systems (EIFS)					
1. Verify materials, details and installations are per the approved construction documents	Field inspection	N	Periodic		
2. Inspection of water-resistive barrier over sheathing substrate	Field inspection	N	Periodic		
1705.16 Fire-Resistant Penetrations and Joints					
1. Inspect penetration firestop systems	Field testing	N	Per ASTM E2174		
2. Inspect fire-resistant joint systems	Field testing	N	Per ASTM E2393		
1705.17 Smoke Control Systems					
1. Leakage testing and recording of device locations prior to concealment	Field testing	N	Periodic		
2. Prior to occupancy and after sufficient completion, pressure difference testing, flow measurements, and detection and control verification	Field testing	N	Periodic		

*** INSPECTION AGENTS**

FIRM	ADDRESS	TELEPHONE NO.
1.		
2.		
3.		
4.		

Notes: 1. The inspection and testing agent(s) shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of the Special Inspector(s) and/or testing agencies may be subject to the approval of the Building Official and/or the Design Professional.

2. The list of Special Inspectors may be submitted as a separate document, if noted so above.

3. Special Insepctions as required by Section 17 04.2.5 are not required where the fabricator is approved in accordance with IBC Section 17 04.2.5.2

4. Observe on a random basis, operations need not be delayed pending these inspections. Perform these tasks for each welded joint, bolted connection, or steel element.

5. NDT of welds completed in an approved fabricator's shop may be performed by that fabricator when approved by the AHJ. Refer to AISC 360, N7.

Are *Requirements for Seismic Resistance* included in the *Statement of Special Inspections*? **Yes** **No**

Are *Requirements for Wind Resistance* included in the *Statement of Special Inspections*? **Yes** **No**

DATE:

END OF SECTION

SECTION 01 4100 - REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 SUMMARY OF REFERENCE STANDARDS

A. Regulatory requirements applicable to this project are the following:
   1. Barrier Free Code: Comply with the following:
      a. Michigan Building Code; 2015.
      b. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.
   2. School Fire Safety Rules: Michigan School Fire Safety Rules; 2016.
      a. Includes NFPA 101-2012 - Life Safety Code; 2012, plus amendments.
   3. Building Code: Michigan Building Code; 2015.
   4. Plumbing Code: Michigan Plumbing Code; 2015.
   5. Mechanical Code: Michigan Mechanical Code; 2015.
   6. Electrical Code: NFPA 70 - National Electric Code; 2017.
      a. Includes 2017 Michigan Construction Code - Part 8 Electrical Code Rules.
   7. Elevator Code: Comply with the following:
      a. ASME A17.1 - Safety Code for Elevators and Escalators; 2010.
      b. ASME A18.1- Safety Standard for Platform Lifts and Stairway Chairlifts; 2011.
      c. Michigan Elevator Safety Board General Rules.
   8. Boiler Code: Michigan Boiler Code.
      a. Includes the following:
         1) ASME Boiler and Pressure Vessel Codes; 2010, plus 2011 addenda.
         2) National Board Inspection Code; 2011.
         3) PA 407 Skilled Trades Regulation Act; 2016.
   9. Energy Code: Michigan Energy Code; 2015.
      a. Includes ASHRAE Std 90.1 I-P-2013- Energy Standard for Buildings Except Low-Rise Residential Buildings; 2013.
   10. Existing Building Code: Michigan Rehabilitation Code; 2015.
B. Where specification sections reference more current standards or codes, comply with the more restrictive requirements unless notified in writing by Architect.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 4216 - DEFINITIONS

PART 1 GENERAL

1.01 SUMMARY

A. This section supplements the definitions contained in the General Conditions.

B. Other definitions are included in individual specification sections.

1.02 DEFINITIONS

A. Furnish: To supply, deliver, unload, and inspect for damage.

B. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.

C. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.

D. Project Manual: The book-sized volume that includes the procurement requirements (if any), the contracting requirements, and the specifications.

E. Provide: To furnish and install.

F. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 4219 - REFERENCE STANDARDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements relating to referenced standards.

1.02 QUALITY ASSURANCE

A. For products or workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

B. Comply with the reference standard of date of issue specified in this section, except where a specific date is established by applicable code.

C. Should specified reference standards conflict with Contract Documents, request clarification from the Architect before proceeding.

D. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of the Architect shall be altered by Contract Documents by mention or inference otherwise in any reference document.

PART 2 PRODUCTS -- NOT USED

PART 3 EXECUTION -- NOT USED

END OF SECTION

SECTION 01 6000 - PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Re-use of existing products.
B. Transportation, handling, storage and protection.
C. Product option requirements.
D. Substitution limitations.
E. Procedures for Owner-supplied products.
F. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Do not use materials and equipment removed from existing premises unless specifically required or permitted by Contract Documents.
B. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.
C. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.
D. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is required.
   1. Refer to Drawings and Section 02 4100 - Demolition.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by Contract Documents.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.
B. Products Specified by Naming One or More Manufacturers: Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
C. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.
D. Available Products: Products specified by naming one or more Manufacturers as an Available Product indicates that these Manufacturers' products may be provided but other comparable products and Manufacturers not named may also be provided without submitting a request for substitution.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver and place in location as directed; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION LIMITATIONS

A. See Section 01 2500 - Substitution Procedures.

3.02 OWNER-SUPPLIED PRODUCTS

A. Owner's Responsibilities:
   1. Arrange for and deliver Owner reviewed shop drawings, product data, and samples, to Contractor.
   2. Arrange and pay for product delivery to site.
   3. On delivery, inspect products jointly with Contractor.
   4. Submit claims for transportation damage and replace damaged, defective, or deficient items.
   5. Arrange for manufacturers' warranties, inspections, and service.

B. Contractor's Responsibilities:
   1. Review Owner reviewed shop drawings, product data, and samples.
   2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
   3. Handle, store, install and finish products.
   4. Repair or replace items damaged after receipt.

3.03 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

F. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

G. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.04 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weathertight, climate-controlled enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Provide off-site storage and protection when site does not permit on-site storage or protection.

G. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

H. Comply with manufacturer's warranty conditions, if any.

I. Do not store products directly on the ground.
J. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
K. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
L. Prevent contact with material that may cause corrosion, discoloration, or staining.
M. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
N. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 02 4120 – SELECTIVE DEMOLITION

PART 1 GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:
   1. Demolition and removal of selected portions of a building or structure.
   2. Demolition and removal of selected site elements.
   3. Repair procedures for selective demolition operations.

B. Related Sections include the following:
   1. Division 1 Section "Cutting and Patching" for cutting and patching procedures for selective demolition operations.
   2. Division 23 Sections for demolishing, cutting, patching, or relocating mechanical items.
   3. Division 26 Sections for demolishing, cutting, patching, or relocating electrical items.

1.03 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.

C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.04 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

B. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during selective demolition remain Owner's property. Carefully remove and salvage each item or object in a manner to prevent damage and deliver promptly to Owner.

1.05 SUBMITTALS

A. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

B. Proposed Dust-Control and Noise-Control Measures: Submit statement or drawing that indicates the measures proposed for use, proposed locations, and proposed time frame for their operation. Identify options if proposed measures are later determined to be inadequate.

C. Schedule of Selective Demolition Activities: Indicate the following:
   1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
   2. Interruption of utility services.
   3. Coordination for shutoff, capping, and continuation of utility services.
   4. Use of elevator and stairs.
   5. Locations of temporary partitions and means of egress.
   6. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

D. Inventory: After selective demolition is complete, submit a list of items that have been removed and salvaged.

E. Predemolition Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by selective demolition operations. Submit before Work begins.

F. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

G. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.06 QUALITY ASSURANCE

A. Demolition Firm Qualifications: An experienced firm that has specialized in demolition work similar in material and extent to that indicated for this Project.

B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.

C. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

D. Standards: Comply with ANSI A10.6 and NFPA 241.

E. Predemolition Conference: Conduct conference at Project site to comply with requirements in Division 1. Review methods and procedures related to selective demolition including, but not limited to, the following:
   1. Inspect and discuss condition of construction to be selectively demolished.
   2. Review structural load limitations of existing structure.
   3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
   4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.

1.07 PROJECT CONDITIONS

A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

B. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.

1. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.

C. Owner assumes no responsibility for condition of areas to be selectively demolished.
   1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
   1. Hazardous materials will be removed by Owner before start of the Work.
   2. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.

E. Storage or sale of removed items or materials on-site will not be permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
   1. Maintain fire-protection facilities in service during selective demolition operations.

1.08 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.
   1. If possible, retain original Installer or fabricator to patch the exposed Work listed below that is damaged during selective demolition. If it is impossible to engage original Installer or fabricator, engage another recognized experienced and specialized firm.
      a. Ornamental metal.
      b. Preformed metal panels.
      c. Roofing.
      d. Firestopping.
      e. Window wall system.
      f. Terrazzo.
      g. Finished wood flooring.
      h. Swimming pool finishes.
      i. HVAC enclosures, cabinets, or covers.

PART 2 PRODUCTS

2.01 REPAIR MATERIALS

A. Use repair materials identical to existing materials.
   1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
   2. Use materials whose installed performance equals or surpasses that of existing materials.

B. Comply with material and installation requirements specified in individual Specification Sections.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that utilities have been disconnected and capped.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

E. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.

F. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

3.02 UTILITY SERVICES

A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.

B. Do not interrupt existing utilities serving occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to authorities having jurisdiction.
   1. Provide at least 72 hours' notice to Owner if shutdown of service is required during changeover.

C. Utility Requirements: Locate, identify, disconnect, and seal or cap off indicated utilities serving areas to be selectively demolished.
   1. Owner will arrange to shut off indicated utilities when requested by Contractor.
   2. Arrange to shut off indicated utilities with utility companies.
   3. If utility services are required to be removed, relocated, or abandoned, before proceeding with selective demolition provide temporary utilities that bypass area of selective demolition and that maintain continuity of service to other parts of building.
   4. Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit after bypassing.
   5. Refer to Divisions 23 and 26 for other applicable requirements and limitations.

3.03 PREPARATION

A. Dangerous Materials: Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with selective demolition operations.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
   1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
   2. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
   3. Protect existing site improvements, appurtenances, and landscaping to remain.

4. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.

C. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
   1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
   2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
   3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
   4. Cover and protect furniture, furnishings, and equipment that have not been removed.

D. Temporary Enclosures: Provide temporary enclosures for protection of existing building and construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
   1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.

E. Temporary Partitions: Erect and maintain dustproof partitions and temporary enclosures to limit dust and dirt migration and to separate areas from fumes and noise.

F. Temporary Shoring: Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of construction to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
   1. Strengthen or add new supports when required during progress of selective demolition.

3.04 POLLUTION CONTROLS

A. Dust Control: Use water mist, temporary enclosures, and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations.
   1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
   2. Wet mop floors to eliminate trackable dirt and wipe down walls and doors of demolition enclosure. Vacuum carpeted areas.

B. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
   1. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

C. Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.05 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
   a. Remove debris from elevated portions by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
5. Maintain adequate ventilation when using cutting torches.
6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly.
10. Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.
11. Explosives: Use of explosives is not permitted.

B. Existing Facilities: Comply with building manager's requirements for using and protecting elevators, stairs, walkways, loading docks, building entries, and other building facilities during selective demolition operations.

C. Removed and Salvaged Items: Comply with the following:
   1. Clean salvaged items.
   2. Pack or crate items after cleaning. Identify contents of containers.
   3. Store items in a secure area until delivery to Owner.
   4. Transport items to Owner's storage area on-site .
   5. Protect items from damage during transport and storage.

D. Removed and Reinstalled Items: Comply with the following:
   1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
   2. Pack or crate items after cleaning and repairing. Identify contents of containers.
   3. Protect items from damage during transport and storage.
   4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable,

protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

F. Concrete: Demolish in small sections. Cut concrete to a depth of at least 3/4 inch (19 mm) at junctures with construction to remain, using power-driven saw. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete indicated for selective demolition. Neatly trim openings to dimensions indicated.

G. Structural Steel: Dismantle field connections without bending or damaging steel members. Do not use flame-cutting torches unless otherwise authorized by Architect.
   1. Transport steel trusses and joists as whole units without dismantling them further.

H. Below-Grade Construction: Demolish in sections. Remove below-grade construction, including basements, foundation walls and footings, completely to at least 12 inches below grade unless otherwise indicated on Drawings.

I. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.

J. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.

K. Building Components: Remove metal gratings, metal ladders, doors, windows, door hardware, cabinets, mirrors, chalkboards and marker boards, tackboards, toilet accessories, plumbing fixtures, and light fixtures, as whole units, intact and undamaged.

L. Elevators: Remove as whole units as much as practical.

M. Equipment: Disconnect equipment at nearest fitting connection to services, complete with service valves. Remove as whole units, complete with controls.

N. Air-Conditioning Equipment: Remove equipment without releasing refrigerants.

O. Carpet and Pad: Remove in large pieces and roll tightly after removing demolition debris, trash, adhesive, and tack strips.

P. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI-WP and its Addendum.
   1. Remove residual adhesive and prepare substrate for new floor coverings by one of the methods recommended by RFCI.

Q. Roofing: Remove no more existing roofing than can be covered in one day by new roofing. Refer to applicable Division 7 Section for new roofing requirements.

R. Existing Utilities: Unless otherwise indicated on Drawings, demolish existing utilities and below-grade utility structures that are within 5 feet (1.5 m) outside of footprint indicated for new construction. Abandon utilities outside this area.
   1. Fill abandoned utility structures with satisfactory soil materials according to backfill requirements in Division 2 Section "Earthwork."
   2. Piping: Disconnect piping at unions, flanges, valves, or fittings.
   3. Wiring Ducts: Disassemble into unit lengths and remove plug-in and disconnecting devices.

3.06 PATCHING AND REPAIRS

A. General: Promptly repair damage to adjacent construction caused by selective demolition operations.

B. Patching: Comply with Division 1 Section "Cutting and Patching."

3.07 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.08 SELECTIVE DEMOLITION SCHEDULE

A. Existing Items and Construction to Be Removed: As indicated on Drawings.

B. Existing Items to Be Removed and Salvaged: As indicated on Drawings.

C. Existing Items to Be Removed and Reinstalled: As indicated on Drawings.

D. Existing Items to Remain: As indicated on Drawings

END OF SECTION

SECTION 12 6616 - TELESCOPING BLEACHERS - REMOVE AND REINSTALL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Telescoping bleachers remove and reinstall.

1.02 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design 2010.
B. ICC A117.1 - Accessible and Usable Buildings and Facilities 2017.
C. NFPA 101 – 2015 Life Safety Code
D. NFPA 102 - Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures 2021.
E. ICC 300 - ICC Standards for Bleachers, Folding and Telescopic Seating and Grandstands 2017.

1.03 SUBMITTAICC 300 LS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Shop Drawings: Complete layout with dimensions of existing location, points of connection to substrate, and material types and finishes.
   1. Provide drawings customized to this project.
   2. Include the following:
      a. Plans and attachment details.
      b. Wiring Diagrams: Show locations of motors, electrical wiring, and moving connections.
C. Submit existing condition photos.
D. Installer's Qualification Statement.
E. Warranty: Submit installer's warranty and ensure that forms have been completed in Owner's name.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified in this section, with not less than 5 years of documented experience.

1.05 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.
B. Installer agrees to repair or replace components of telescoping bleachers that fail in materials or workmanship within specified warranty period as follows:
   1. Warranty Period: 5 years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Telescoping Bleachers:
   1. Interkal LLC: www.interkal.com.
   2. Irwin Seating Company: www.irwinseating.com.
   3. Hussey Seating Company: www.husseyseating.com.
   4. Substitutions: See Section 01 6000 - Product Requirements.

2.02 TELESCOPING BLEACHERS

A. Telescoping Bleachers: Factory assembled tiered benches that retract horizontally into depth approximately the same as a single row depth, with fixed seats mounted on leading edge of platforms.
   1. Provide a design certified by a licensed Professional Engineer licensed in the State in which the Project is located.

2. Design to comply with applicable requirements of NFPA 102 and requirements of code authorities having jurisdiction; where conflicts between requirements occur, comply with whichever is more stringent.
3. Design with solid fascia (riser) or seat fronts that conceal interior mechanisms when fully retracted, fitting tightly enough to prevent climbing up face; at front row provide key locked, hinged fascia (skirt) to cover gap between seat riser/fascia and floor.
4. Standard Extension (Forward-Folding): Top row fixed to floor, adjacent to wall, forward extension (away from wall); attachment to wall acceptable.
5. Recoverable Wheelchair Seating:
   a. Provide in accordance with ICC A117.1 and ADA Standards,
   b. Recoverable wheelchair seating shall be manually retracted without affecting other rows to provide wheelchair seating, or manually extended to provide regular bench seating.
   c. Provide manufacturer's standard recoverable wheelchair notch outs; one row(s) deep.
      1) Provide where indicated, but not less than 2 spaces.
      2) Where accessible seating is not indicated, locate at bank ends.
6. Cutouts: Fit units to irregular wall surfaces, columns, pilasters, roof drain leaders, and other obstructions; take field measurements prior to fabrication.
7. Operation: Motor operated.

B. Design Loads: Design to withstand the following loading conditions:
   1. Live Load on Structural Supports: 100 psf, minimum, of gross horizontal projection.
   2. Live Load on Seats and Walking Surfaces: 120 pounds per linear foot.
   3. Lateral Sway Stress on Structural Supports: 24 pounds per linear foot of seat plank.
   4. Perpendicular Sway Stress on Structural Supports: 10 pounds per linear foot of seat plank.

C. Dimensions: Unless otherwise indicated or required to meet maximum allowable seating area or seating capacity.
   1. See drawings for overall dimensions.
   2. Rise Per Row: 10 1/4 inches.
   3. Row Depth: 24 inches.
   4. Seat Height Above Tread: 6 inches.

D. Structural Supports: Steel or aluminum; manufacturer's standard wheeled carriages supporting each tier separately, with moving parts permanently lubricated and metal parts cushioned to prevent metal-to-metal contact during operation.
   1. Design each row carriage to individually support design loads and be self-supporting when fully assembled without dependence on platform panels or boards, seats, or fascia.
   2. Welding: In accordance with AWS D1.1/D1.1M and AWS D1.3/D1.3M.
   3. Bolting: Use lock-washers or locknuts.
   4. Wheels: Minimum 5 inch diameter by 1-1/4 inch wide, with non-marring rubber tires; ball, roller, or oil-impregnated metal bearings; minimum of 2 wheels at each floor support.
   5. Finish: Manufacturer's standard enamel or powder coating.
   6. Row Locking: Automatically mechanically lock each carriage to adjacent carriages when fully extended.
   7. Unlocking: Automatically unlock all rows before engaging retraction mechanism.

E. Motor Operation: Traction wheels, with non-marring rubber covering, using motor adequately sized for the purpose.
   1. Provide UL listed electrical components and wiring.
   2. Controls: Start, Stop, Forward, and Reverse in a single control unit.
   3. Control Station:
      a. Provide removable plug-in low-voltage pendant station, with first-row plug-in location for each motor as secondary means of control; provide 2 pendants.

4. Provide all wiring internal to bleacher units, to junction box located where indicated; ensure that wiring is not energized except during operation.
5. Electrical Characteristics: 208/230V, 5 wire, 3-phase, 60 Hz.

2.03 SEAT AND PLATFORM COMPONENTS

A. Seat/Fascia Assembly: Continuous, molded UV-stabilized high-density polyethylene plastic, seat minimum 1 inch thick, textured finish, homogeneous color throughout, colors as selected from manufacturer's standard selection; approximately 18 inch long sections independently removable with tongue-and-groove or rabbeted interlock at end joints.
   1. Colors: Up to 3 standard colors as selected by Architect.
      a. Colors shall be installed in patterns or letters as indicated by Architect.
   2. Shape: Ergonomically contoured, with internal ribs spaced for natural flexibility; rear edge cantilevered to provide toe room of not less than 3 inches; no openings to trap debris.
   3. Seat Depth: 10 inches.
   4. Provide end caps of same material and finish on each exposed end.
   5. Supports: Internal steel reinforcement of each seat segment bolted to platform nose member; minimum two bolts per segment.

B. Platform, Tread, and Step Structure: Plywood continuously supported on front and rear with side joints tongue-and-grooved.
   1. Plywood: PS 1, 5-ply polyethylene-overlaid douglas fir or southern pine, Grade C-C.
   2. Plywood Thickness: 5/8 inch, minimum.
   3. Front (Nose), Rear, and Intermediate Supports: Steel channel or tube, hot-dipped galvanized.
   4. Provide end caps of same material and finish on each exposed end.
   5. Finish: Polyethylene plastic; 0.030 inch thick, minimum.
      a. Color: 1 standard color as selected by Architect
   6. Nosings: Extruded aluminum; mill finish.
   7. At aisles provide permanently attached intermediate steps of same construction and finish.
   8. At bottom of aisles provide step in front of first riser, hinged to first platform to fold for storage.

2.04 HANDRAILS AND RAILINGS

A. Provide the following railings:
   1. Aisle Handrails: Single post self storing railing segment mounted in center of aisle at every other row beginning at row 2.

B. Design handrails and railings to withstand the following loads:
   1. Concentrated Load on Handrails: 200 pounds in any direction.
   2. Live Load on Handrails: 50 pounds per linear foot, applied in any direction.

C. Railing Construction: Round steel pipe or tube, with formed elbows at corners and caps at ends of straight runs.
   1. Finish Colors: 1 standard color as selected by Architect.

2.05 ACCESSORIES

A. Fillers and Closures:
   1. Top Row: Provide seat level rear filler panels to close openings between top row seat and wall; finish to match platforms.

B. Fasteners: Provide hardware and fasteners in accordance with manufacturer's recommendations.

C. Anchorage: As indicated on drawings; provide hardware in accordance with manufacturer's recommendations.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are consistent with those on the shop drawings.
B. Verify that electrical connection are able to be used for moving the bleachers and are accessible.
C. Verify that existing floor have been properly prepared and area has been cleared of obstructions for moving of the bleachers for both from the wall and back to be re-attached.

3.02 PREPARATION

A. Confirm exisiting floor is level to allow bleacher to move to center of wood floor without any damage to bleachers or flooring or problems that might cause misalignment or reattachment to wall.
   1. Coordinate with flooring installer necessary condition of flooring (including any temporary flooring conditions) for successful removal and reinstallation of bleachers.
   2. If there are issues with the existing floor for moving the bleachers out from the wall; notify the Architect immediately.

3.03 DETACHMENT

A. Inspect bleachers prior to removal of anchors for item that may cause issue when the bleachers are disconnect from wall and moved.
B. Remove all anchors into wall and bleachers as required to move the bleachers
C. Using the motorized to move the bleachers as far away from the wall as possible The distance to be close to center of the floor.
D. Protect bleachers in stored location from tipping

3.04 INSTALLATION

A. Re-install in accordance with manufacturer of the bleachers instructions.
B. Do not modify seats, fascia, or structural members.
C. Bleacher manufacturer's field representative must inspect completed installation and provide written confirmation to Architect that installation meets manufacturer’s and code requirements.

3.05 ADJUSTING

A. Lubricate, test, and adjust each moving assembly to ensure proper operation in compliance with manufacturer's recommendations.

3.06 CLEANING

A. Clean exposed and semi-exposed assembly surfaces.
B. Touch up finishes on damaged areas.

3.07 CLOSEOUT ACTIVITIES

A. Demonstration and Training: Provide manufacturer's field representative to demonstrate to and train Owner's operating personnel in proper operation of equipment.
   1. Location: On site using installed equipment.
   2. Time: As agreed between Owner and Contractor.

3.08 PROTECTION

A. Provide protection of moved bleachers when moved away from the wall for safe storage.
   1. Cover bleacher during the floor replacement to ensure dust does not contaminate bleachers.
B. Protect re-installed products until completion of the flooring project.
C. Touch-up, repair, or replace damaged products before Date of Substantial Completion.

END OF SECTION

ARCHITECTURE

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TROY HIGH SCHOOL BLEACHER REPLACEMENT

TROY SCHOOL DISTRICT - TROY, MICHIGAN

2013 BOND PROGRAM - BID PACKAGE NO. 37

PROJECT NUMBER 13174J

CONSTRUCTION DOCUMENTS

CONSULTANTS:

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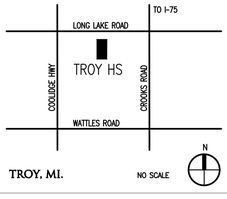
LIST OF DRAWINGS

FOOD SERVICE EQUIPMENT
NOT USED

REGISTRATION SEALS

PROJECT DATA:

LOCATION MAP



TROY, MI.

ADDRESS: TROY HIGH SCHOOL
4777 NORTHFIELD PARKWAY
TROY, MICHIGAN 48098

TROY SCHOOL DISTRICT
ADMINISTRATIVE BUILDING
4400 LIVERNOIS
TROY, MICHIGAN 48098

BUILDING:

CODE:

GOVERNING CODES :
- 2016 SCHOOL FIRE SAFETY RULES
  (2012 Life Safety Code, plus amendments)
- 2015 MICHIGAN BUILDING CODE
- 2015 MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS
- 2015 MICHIGAN PLUMBING CODE
- 2015 MICHIGAN MECHANICAL CODE
- 2009 MICHIGAN UNIFORM ENERGY CODE
  (ANSI/ASHRAE/IESNA Standard 90.1-2007)
- 2017 MICHIGAN ELECTRICAL RULES (2017 NEC, plus Part 8 Rules)
- 2010 MICHIGAN ELEVATOR RULES
  (ASME A17.1-2010, ASME A18.1-2011)
- MICHIGAN BARRIER FREE CODE
  (Michigan Building Code 2015 and ICC A117.1-2009)
- 2013 MICHIGAN BOILER CODE RULES
  (ASME Boiler and Pressure Vessel Code, 2010 edition, plus 2011a addenda)
  (National Board Inspection Code [NBIC], 2011 edition)

CONSTRUCTION CLASSIFICATION: II-B(MBC)/11(000)NFPA

USE GROUP CLASSIFICATION: E-EDUCATION

DATE	ISSUED FOR:
12-6-2022	CONSTRUCTION DOCUMENTS

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PROJECT TITLE
TROY HS BLEACHER REPLACEMENT

PROJECT NO.
13174J

DRAWING NO.
TS.1

ABBREVIATIONS

A

ABV.	ABOVE
A.F.F.	ABOVE FINISH FLOOR
A.R.F.	ABOVE REFERENCE FLOOR
ABR.	ABRASIVE
ABS.	ABSORBING
ACC.	ACCESS
ACC. PNL	ACCESS PANEL
AC.	ACOUSTIC/ACOUSTICAL
ACT	ACOUSTIC TILE
AC. INSUL.	ACOUSTIC INSULATION
ADD.	ADDENDUM
ADDN.	ADDITION
ADDNL.	ADDITIONAL
ADH.	ADHESIVE
ADJ.	ADJUSTIBLE
AGGR.	AGGREGATE
A.C.B.	AIR CIRCUIT BREAKER
A/C	AIR CONDITIONING
A.C.C.	AIR CONDITIONING COMPRESSOR
A.C.U.	AIR CONDITIONING UNIT
A.H.U.	AIR HANDLING UNIT
ALT.	ALTERNATE
ALUM./AL	ALUMINUM
AMT	AMOUNT
AMP	AMPHERE
AMPL.	AMPLIFIER
ANCH.	ANCHOR
A.B.	ANCHOR BOLT
&	AND
ANG./ L or ∠	ANGLE
ANOD.	ANODIZED
APT.	APARTMENT
APPR.	APPROVED
APPROX.	APPROXIMATE
ARCH.	ARCHITECT/ARCHITECTURAL
A-	ARCHITECTURAL DRAWING-NO.
A.T.	ASH TRAY
ATM	AUTOMATIC TELLER MACHINE
ASPH.	ASPHALT
ASSY.	ASSEMBLY
@	AT
AUTO.	AUTOMATIC
A.S.R.	AUTOMATIC SPRINKLER RISER
AUX.	AUXILIARY
AVG.	AVERAGE

B

B/B	BACK-TO-BACK
B.F.P.	BACK FLOW PREVENTER
B.D.D.	BACK DRAFT DAMPER
B.F.	BARRIER FREE
B.B.R.	BASE BOARD RADIATION
B.PL	BASE PLATE
BSMT	BASEMENT
B.	BATH ROOM
BM	BEAM
B/C	BACK OF CURB
BRG	BEARING
B.R.	BEDROOM
B.M.	BENCH MARK
BT	BENT
BETW.	BETWEEN
BEV.	BEVEL
BIT.	BITUMINOUS
B.I.	BLACK-IRON
BLK	BLOCK
BLKG	BLOCKING
BD	BOARD
BLR	BOILER
BLR. F.	BOILER FEED
BLR. H.	BOILER HOUSE
BK. SH.	BOOK SHELVES
B.S.	BOTH SIDES
B.W.	BOTH WAYS
BOT.	BOTTOM
BOT. EL.	BOTTOM ELEVATION
BLVD	BOULEVARD
BDRY	BOUNDARY
BRKT	BRACKET
BR.	BRASS
BRKR	BREAKER
BRK	BRICK
BTU	BRITISH THERMAL UNIT
BRZ	BRONZE
BLDG.	BUILDING
B.L.	BUILDING LINE
B.U.R.	BUILT-UP ROOFING
B.N.	BULLNOSE
BLKD	BULKHEAD
BULL.	BULLETIN
B.A.	BURGLAR ALARM
BUZZ.	BUZZER

C

CAB.	CABINET
C.U.H.	CABINET UNIT HEATER
CAP.	CAPACITY
CPT	CARPET
C.R.S.	CARPET REDUCER STRIP
CSMT	CASMENT
CSWRK	CASEWORK
CSG	CASING
C.I.	CAST IRON
C.I.F.	CAST IRON FRAME
C.I.P.	CAST IRON PIPE/CAST-IN-PLACE
CSTG	CASTING
CAT. NO.	CATALOG NUMBER
C.B.	CATCH BASIN
CLG.	CEILING
C.D.	CEILING DIFFUSER
CLG. HT.	CEILING HEIGHT
CEM.	CEMENT
CEM. PLAS.	CEMENT PLASTER
CTR	CENTER
℄	CENTERLINE
C/C	CENTER-TO-CENTER
CER.	CERAMIC
C.T.	CERAMIC TILE
C.BD.	CHALKBOARD
CHAM.	CHAMFER
CHG.	CHANGE
CHAN. or [	CHANNEL
CHKD. PL.	CHECKERED PLATE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CHD	CHORD
CIRCUM.	CIRCUMFERENCE
CIR.	CIRCLE/CIRCULAR
CIRC.	CIRCUIT
C.BR	CIRCUIT BREAKER
C-	CIVIL DRAWING-NO.
CL.	CLASS
CLRM	CLASSROOM
C.O.	CLEAN OUT
CLR	CLEAR
CLR GL	CLEAR GLASS
CLR W.GL	CLEAR WIRE GLASS
CL.	CLOSET
CLO.	CLOSURE
C.CL.	COAT CLOSET
COEF.	COEFFICIENT
CW	COLD WATER
COL.	COLUMN
CO.	COMPANY
COMPT.	COMPARTMENT
COMPO.	COMPOSITION
CA	COMPRESSED AIR
COMPR.	COMPRESSOR
CONC.	CONCRETE
C.M.U.	CONCRETE MASONRY UNIT
CWR	CONDENSING WATER RETURN
CWS	CONDENSING WATER SUPPLY
COND.	CONDUIT
CONF.	CONFERENCE
CONN.	CONNECT
CONST.	CONSTRUCTION
C.J.	CONTROL JOINT
CONT.	CONTINUE/CONTINUOUS
CONTR.	CONTRACTOR
C.P.	CONTROL PANEL
CONV.	CONVECTOR
CNVYR	CONVEYOR
COR.	CORNER
C.G.	CORNER GUARD
CORR.	CORRIDOR/CORRUGATED
CPR	COPPER
CNTR	COUNTER
CTSK	COUNTERSINK
CRS.	COURSE
COV.	COVER
COV. PL.	COVER PLATE
C.C.T.	CUBICAL CURTAIN TRACK
CU.FT.	CUBIC FEET/ CUBIC FOOT
CFM	CUBIC FEET PER MINUTE
CY	CUBIC YARD
CULV.	CULVERT
C.D.	CUP DISPENSER
CYL.	CYLINDER
CYC.	CYCLES

D

DMPR	DAMPER
DMPFG	DAMPPROOFING
D.L.	DEAD LOAD
DB	DECIBLE
D.	DEEP
DWG.	DRAWING
DMT. PARTN	DEMOUNTABLE PARTITION
DEPT.	DEPARTMENT
DEPR.	DEPRESSED
DES.	DESIGN
DET.	DETAIL
D.E. CO.	DETROIT EDISON COMPANY
DIAG.	DIAGONAL
DGM	DIAGRAM
DIA.	DIAMETER
DIFF.	DIFFUSER
DIM.	DIMENSION
D.R.	DINING ROOM
DIR.	DIRECTORY
DISC.	DISCONNECT
DISCONT.	DISCONTINUOUS
DW	DISHWASHER
DISP.	DISPENSER
DIST.	DISTANCE
D.P.	DISTRIBUTION PANEL
DO	DITTO (DO OVER)
DIV.	DIVIDER/DIVISION
DR.	DOOR
D.O.	DOOR OPENING
DR. OP.	DOOR OPERATOR
DBL.	DOUBLE
D.A.	DOUBLE ACTING
D.H.	DOUBLE HUNG
DWL.	DOWEL
DN	DOWN
D.S.	DOWNSPOUT
DRN	DRAIN
D.T.	DRAIN TILE
D.T.C.	DRAIN TILE CONNECTOR
DWR	DRAWER
DWG	DRAWING
D.F.	DRINKING FOUNTAIN
D.B.	DRY BULB
D.S.P.	DRY STAND PIPE
DBWTR	DUMBWAITER
DUP.	DUPLICATE
D.DR.	DUTCH DOOR

E

EA	EACH
E.F.	EACH FACE
E.W.	EACH WAY
E	EAST
E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM
ELAST.	ELASTOMERIC
ELAST. FLASH.	ELASTOMERIC FLASHING
ELAST. W.P.	ELASTOMERIC WATERPROOFING
E.S.R.	ELASTOMERIC SHEET ROOFING
ELEC.	ELECTRIC/ELECTRICAL
ELEC. CL.	ELECTRICAL CLOSET
ELEC. CAB.	ELECTRICAL CABINET
E.C.	ELECTRICAL CONTRACTOR
E-	ELECTRICAL DRAWING-NO.
E.P.	ELECTRICAL PANEL
EWC	ELECTRIC WATER COOLER
ELEC. OPER.	ELECTRICALLY OPERATED
EL.	ELEVATION
ELEV.	ELEVATOR
EMERG.	EMERGENCY
ENCL.	ENCLOSURE
ENGR	ENGINEER
E/E	END-TO-END
ENTR.	ENTRANCE/ENTRY
EP.	EPOXY
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ.	EQUAL
EQUIP.	EQUIPMENT
EQUIV.	EQUIVALENT
ESC.	ESCALATOR
EST.	ESTIMATE
EXC.	EXCAVATED
EXH.	EXHAUST
E.D.	EXHAUST DUCT
E.F.	EXHAUST FAN
E.G.	EXHAUST GRILLE
E.R.	EXHAUST REGISTER
EXIST.	EXISTING
EXP.	EXPANSION
EXP.B.	EXPANSION BOLT
E.J.	EXPANSION JOINT
EXPL.P.	EXPLOSION PROOF
EXP'D	EXPOSED
EXT'N	EXTENSION
EXT.	EXTERIOR
E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM
E.H.	EXTRA HEAVY
EXTR.	EXTRUDED
E.S.P.	EXTERNAL STATIC PRESSURE

F

FAB.	FABRICATED/FABRIC
F/F	FACE-TO-FACE
F. FIN.	FACTORY FINISH
F.C.U.	FAN COIL UNIT
F.S.	FAR SIDE
FAS.	FASTENER
FDR	FEEDER
FT or '	FEET/FOOT
FPM	FEET PER MINUTE
FN	FENCE
F.BD.	FORM BOARD
FIG.	FIGURE
FIN.	FINISH/FINISHED
FIN. FLR/F.F.	FINISH FLOOR
F.T.R.	FINNED TUBE RADIATION
F.A.	FIRE ALARM
F.A.C.P.	FIRE ALARM CONTROL PANEL
F. BRK	FIRE BRICK
F.D.	FIRE DAMPER
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.H.C.	FIRE HOSE CABINET
F.H.	FIRE HYDRANT
F.L.	FIRE LINE
F.R.	FIRE RETARDANT/FIRE RATED
F.R.T.WD	FIRE RETARDANT TREATED WOOD
F.V.C.	FIRE VALVE CABINET
FP.	FIREPLACE
FPRFG.	FIREPROOFING
FIXT.	FIXTURE
FLASH.	FLASHING
FHMS	FLAT HEAD MACHINE SCREW
FHWS	FLAT HEAD WOOD SCREW
F.C.	FLEXIBLE CONNECTION
FLR	FLOOR
F.C.O.	FLOOR CLEAN OUT
F.D.	FLOOR DRAIN
FLR. FIN.	FLOOR FINISH
FLUOR.	FLUORESCENT
FLDG	FOLDING
FTG	FOOTING
FM. BD	FORMBOARD
FDN	FOUNDATION
FR.	FRAME
FR/COV.	FRAME AND COVER
FRMG	FRAMING
FRZR	FREEZER
F.S.	FULL SIZE
FURN.	FURNISH/FURNISHED
FURR.	FURRING/FURRED
FUT.	FUTURE

G

GA.	GAUGE
GAL.	GALLON
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GALV.	GALVANIZED
GALV. I.	GALVANIZED IRON
G	GAS
GSKT	GASKET
G.V.& B.	GATE VALVE AND BOX
GEN'L.	GENERAL
GL.	GLASS
GLZ	GLAZING
G.H.T.	GLAZED HOLLOW TILE
G.B.	GRAB BAR
GR.	GRADE/GRILLE
GB	GRADE BEAM
GRAT.	GRATING
G.L.	GRID LINE
GRN	GRANITE
G.S.	GREASE SEPARATOR
G.T.	GREASE TRAP
GND	GROUND
G.F.I.	GROUND FAULT INTERRUPTOR
GT	GROUT
G.	GUTTER ELEVATION
GYP.	GYPSUM
GYP.BD.	GYPSUM BOARD

H

HNDCP	HANDICAPPED
H.R.	HANDRAIL
H.BD	HARDBOARD
HDWE	HARDWARE
HDWD	HARDWOOD
HD	HEAD
HDR	HEADER
H.A. GL.	HEAT ABSORBING GLASS
H.R.U.	HEAT RECOVERY UNIT
HTR	HEATER
HTG	HEATING
H/V	HEATING AND VENTILATING
H.V.A.C.	HEATING, VENTILATING AND AIR CONDITIONING
HHWR	HEATING HOT WATER SUPPLY
HHWS	HEATING HOT WATER RETURN
HGT	HEIGHT
HEX.	HEXAGON
H.	HIGH
H.I.D.	HIGH INTENSITY DISCHARGE
H.P.	HIGH POINT
H.PR.	HIGH PRESSURE
H.S.	HIGH STRENGTH
H.S.B.	HIGH STRENGTH BOLT
H.V.	HIGH VOLTAGE
HWY	HIGHWAY
HSTWY	HOISTWAY
H.C.	HOLLOW CORE
H.M.	HOLLOW METAL
HNYCB	HONEYCOMB
HK	HOOK
HORIZ.	HORIZONTAL
HP	HORSEPOWER
H.B.	HOSE BIBB
H.S.P.	HOSE STAND PIPE
H.V.C.	HOSE VALVE CABINET
HOSP.	HOSPITAL
H.W.	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HR.	HOUR
H.O.	HUB OUTLET
HYD.	HYDRANT/HYDRAULIC
H	HYDROGEN

I

I.D.	IDENTIFICATION
INCAND.	INCANDESCENT
IN. or "	INCH/INCHES
INCIN.	INCINERATOR
INCL.	INCLUDE/INCLUDING
I.W.	INDIRECT WASTE
INFO.	INFORMATION
I.D.	INSIDE DIAMETER
I.F.	INSIDE FACE
INST'L.	INSTALL/INSTALLATION
INSUL.	INSULATE/INSULATION
INT.	INTERIOR
INTER.	INTERMEDIATE
INV.	INVERT
I.E.	INVERT ELEVATION

J

J.C.	JANITOR CLOSET
JT	JOINT
JST	JOIST
J.B.	JUNCTION BOX
JR	JUNIOR

K

K.P.	KICK PLATE
KV	KILOVOLT
KVA	KILOVOLT AMPHERE
KW	KILOWATT
K	KIP (1000#)
KIT.	KITCHEN
K.S.	KNEE SPACE
K.D.	KNOCK DOWN
K.O.P.	KNOCK-OUT PANEL

L

LBL.	LABEL
LAB.	LABORATORY
LAD.	LADDER
L.B.	LAG BOLT
LAM.	LAMINATE/LAMINATED
LDG	LANDING
L-	LANDSCAPE DRAWING-NO.
LGE	LARGE
LDRY	LAUNDRY
LAV.	LAVATORY
L.H.	LEFT HAND
L.H.R.B.	LEFT HAND REVERSE BEVEL
LGTH	LENGTH
LEV.	LEVEL
LIB.	LIBRARY
LT.	LIGHT
LPRF	LIGHTPROOF
LTG	LIGHTING
L.P.	LIGHTING PANEL
L.R.P.	LIGHTING RECEPTACLE PANEL
LTWT	LIGHTWEIGHT
LTWT. CONC.	LIGHTWEIGHT CONCRETE
LMS	LIMESTONE
LTL	LINTEL
LIN. DIFF.	LINEAR DIFFUSER
L.F.	LINEAR FEET/FOOT
LIQ	LIQUID
LPG	LIQUID PROPANE GAS
L.P.G.	LIQUID PETROLEUM GAS
L.L.	LIVE LOAD
L.R.	LIVING ROOM
LOC.	LOCATION
LKR	LOCKER
LG	LONG
L.L.H.	LONG LEG HORIZONTAL
L.L.V.	LONG LEG VERTICAL
LVR	LOUVER
L.O.	LOUVER OPENING
L.P.	LOW POINT
L.PR.	LOW PRESSURE
LBR	LUMBER
LBS. or #	POUNDS

M

MACH.	MACHINE
M.B.	MACHINE BOLT
MACH. RM	MACHINE ROOM
M.A.U.	MAKE-UP AIR UNIT
M.D.P.	MAIN DISTRIBUTION PANEL
M.S.B.	MAIN SWITCH BOARD
MAINT.	MAINTENANCE
MH.	MANHOLE
MFR	MANUFACTURER
MAR.	MARBLE
MK	MARK
MAS.	MASONRY
M.O.	MASONRY OPENING
MATL	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
M-	MECHANICAL DRAWING-NO.
M.C.	MEDICINE CABINET
MED.	MEDIUM
MEMB.	MEMBRANE
MET.	METAL
M.D.S.	METAL DIVIDER STRIP
M.E.S.	METAL EDGE STRIP
M.L.	METAL LATH
M.L.& PLAS.	METAL LATH AND PLASTER
M.T.	METAL THRESHOLD
MET. W.P.	METALLIC WATERPROOFING
MEZZ.	MEZZANINE
MDOT	MICHIGAN DEPARTMENT OF TRANSPORTATION
MWK	MILLWORK
MIN.	MINIMUM
MIR.	MIRROR
M.& S.	MIRROR AND SHELF
MISC.	MISCELLANEOUS
M.I.	MISCELLANEOUS IRON
MOD.	MODEL
MON.	MONUMENT
M.S.& S.	MOP STRIP AND SHELF
M.O.D.	MOTOR OPERATED DAMPER
MLDG	MOULDING
MTD	MOUNTED
MTG	MEETING/MOUNTING
MOV.	MOVEABLE
MOV. PARTN.	MOVEABLE PARTITION
MULL	MULLION
M	THOUSAND (1000)

N

NAT.	NATURAL
N.S.	NEAR SIDE
NEUT.	NEUTRAL
NRC	NOISE REDUCTION COEFFICIENT
NOM.	NOMINAL
NOR.	NORMAL
N	NORTH
NOS.	NOSING
N.I.C.	NOT-IN-CONTRACT
N.T.S.	NOT-TO-SCALE
NO. or #	NUMBER

O

OBS.	OBSCURE
OBS.GL.	OBSCURE GLASS
OFF.	OFFICE
O.C.	ON CENTER
OPQ.	OPAQUE
OPG.	OPENING
OPER.	OPERATOR
OPP.	OPPOSITE
OPP.HD.	OPPOSITE HAND
ORIG.	ORIGINAL
ORN.	ORNAMENTAL
OZ.	OUNCE
O/O	OUT-TO-OUT
O.A.	OUTSIDE AIR
O.D.	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
O.H.S.	OVAL HEAD SCREW
O.A.	OVERALL
OHD	OVERHEAD
OHD.DR	OVERHEAD DOOR
OXY.	OXYGEN

P

PTD	PAINTED
PR	PAIR
PG.	PAGE
PNL	PANEL
P.T.D.	PAPER TOWEL DISPENSER
P.T.W.R.	PAPER TOWEL WASTE RECEPTACLE
PRL	PARALLEL
PKG	PARKING
P.BD	PARTICLE BOARD
PRTN	PARTITION
PASS.	PASSAGE
PAT.	PATENT
PVMT	PAVEMENT
PVG	PAVING
PED.	PEDESTAL
PERF.	PERFORATED
PERIM.	PERIMETER
PERM.	PERMANENT
PERP.	PERPENDICULAR
P. or ϕ	PHASE
PHOTO.	PHOTOGRAPH
P.H.	PHYSICALLY HANDICAPPED
PC.	PIECE
PCS.	PIECES
PLAS.	PLASTER
PL. LAM.	PLASTIC LAMINATE
PL.	PLATE
PL. GL.	PLATE GLASS
PLAT.	PLATFORM
PLBG	PLUMBING
PLWD	PLYWOOD
PT	POINT
P.T.	POINT OF TANGENCY
P.C.	POINT OF CURVATURE
POL.	POLISH/POLISHED
PVC	POLYVINYLCLORIDE
PORC.	PORCELAIN
PORC. ENAM.	PORCELAIN ENAMEL
POR.	POROUS
PORT.	PORTABLE
POS.	POSITION
P.I.V.	POST INDICATOR VALVE
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PCF	POUNDS PER CUBIC FOOT
P.P	POWER PANEL
P/C	PRECAST
P.T.R.	PRECAST TERRAZZO RECEPTOR
PREFAB.	PREFABRICATED
PFN.	PREFINISHED
P.T.WD	PRESERVATIVE TREATED WOOD
P.G.	PRESSURE GAUGE
P.R.V.	PRESSURE REDUCING VALVE
PRIM.	PRIMARY
PROJ.	PROJECT/PROJECTION
PROP.	PROPERTY/PROPOSED
P.L.	PROPERTY LINE
P.A.	PUBLIC ADDRESS
P.S.	PURSE SHELF
P.B.	PUSH BUTTON

Q

QTY	QUANTITY
Q.T.	QUARRY TILE
QTR	QUARTER
QTR. RD	QUARTER ROUND

R

RBT	RABBET
RAD. or R.	RADIUS
R.W.C.	RAIN WATER CONDUCTOR
R.R.	RAILROAD
RECV.	RECEIVE/RECEIVING
RECPT.	RECEPTACLE
R.P.	RECEPTACLE PANEL
REC.	RECESS
RECT.	RECTANGLE/RECTANGULAR
RED.	REDUCER
RWD	REDWOOD
REF.	REFER/REFERENCE
REFL.	REFLECTED/REFLECTIVE
REFR.	REFRIGERATOR
REG.	REGISTER
REINF.	REINFORCE/REINFORCING/ REINFORCEMENT
REM.	REMOVE/REMOVABLE
REP.	REPAIR
REQ'D.	REQUIRED
RESIL.	RESILIENT
RET.	RETURN
R.A.	RETURN AIR
R.A.D.	RETURN AIR DIFFUSER
R.A.F.	RETURN AIR FAN
REV.	REVISED/REVISION
RPM	REVOLUTIONS PER MINUTE
R.	RISER
R.H.	RIGHT HAND
R.H.R.B.	RIGHT HAND REVERSE BEVEL
R.O.W.	RIGHT OF WAY
RVT	RIVET
RD	ROAD
R.S.C.	ROLLING STEEL CURTAIN
RF	ROOF
R.C.	ROOF CONDUCTOR
R.D.	ROOF DRAIN
RF.H.	ROOF HATCH
R.S.	ROOF SUMP
R.V.	ROOF VENTILATOR
RFG	ROOFING
R.T.U.	ROOF TOP UNIT
RM	ROOM
R.O.	ROUGH OPENING
RND or ϕ	ROUND
RHMS	ROUND HEAD MACHINE SCREW
RHWS	ROUND HEAD WOOD SCREW
R.T.	RUBBER TILE

S

SAN.	SANITARY
S.N.D.	SANITARY NAPKIN DISPENSER
S.N.R.	SANITARY NAPKIN RECEPTACLE
SCHED.	SCHEDULE
SCN	SCREEN
STG	SEATING
SECT.	SECTION
SERV.	SERVICE
S.S.	SERVICE SINK
SHTHG	SHEATHING
SHT	SHEET
SHT. MET.	SHEET METAL
SH.& R.	SHELF AND ROD
SHWR	SHOWER
S.C.R.	SHOWER CURTAIN ROD
S.DR	SHOWER DOOR
S.W.	SIDEWALK
SIM.	SIMILAR
SGL.	SINGLE
SK	SINK
S.D.	SOAP DISPENSER
S.C.	SOLID CORE
STC	SOUND TRANSMISSION CLASS
S	SOUTH
SP.	SPACE
SPR.	SPARE
SPKR	SPEAKER
SPEC.	SPECIFICATIONS
S.D.	SPLITTER DAMPER
SPRYD	SPRAYED
SPKLR	SPRINKLER
SQ.	SQUARE
S.F.	SQUARE FEET/SQUARE FOOT
STAG.	STAGGERED
ST.STL	STAINLESS STEEL
STD	STANDARD
SP.	STANDPIPE
S.P.	STATIC PRESSURE
STA.	STATION
STM	STEAM
STL	STEEL
STL. PL.	STEEL PLATE
STIFF.	STIFFENER
STO. FR.	STOREFRONT
STOR.	STORAGE
STR.	STRAIGHT
ST.	STREET
STRUCT.	STRUCTURAL
S-	STRUCTURAL DRAWING-NO.
S.G.F.T.	STRUCTURAL GLAZED FACING TILE
S.STL	STRUCTURAL STEEL
SS.D.	SUBSOIL DRAIN
SS.D.C.	SUBSOIL DRAIN CONNECTION
SUB.	SUBSTATION
S.A.G.	SUPPLY AIR GRILLE
S.D.	SUPPLY DIFFUSER/ DUCT
SUBST.	SUSTITUTE
S.A.R.	SUPPLY AIR REGISTER
S.F.	SUPPLY FAN

S

SW.	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMBOL/ SYMMETRICAL
SYS.	SYSTEM
SUPP.	SUPPORT
SURF.	SURFACE/ SURFACING
SUSP.	SUSPEND/ SUSPENSION

T

T.BD	TACKBOARD
TAN.	TANGENT
TECH.	TECHNICAL
TEL.	TELEPHONE
TEL. CAB.	TELEPHONE CABINET
TV	TELEVISION
TV.M	TELEVISION MONITOR
TEMP.	TEMPERATURE
TEMP. GL.	TEMPERED GLASS
T.U.	TERMINAL UNIT
TERR.	TERRAZZO
T.B.	TEST BORING
T.	THERMOSTAT
THK	THICK/ THICKNESS
T.S.	THICKENED SLAB
THD	THREAD
THRESH.	THRESHOLD
THRU	THROUGH
T.	TILE
T./ TOIL.	TOILET
T.P.D.	TOILET PAPER DISPENSER
T.P.H.	TOLET PAPER HOLDER
T & G	TONGUE AND GROOVE
T & B	TOP AND BOTTOM
T/C	TOP OF CURB
T/EL.	TOP ELEVATION
T/F	TOP OF FOOTING
T/G	TOP OF GUTTER
T/M	TOP OF MASONRY
T/P	TOP OF PARAPET
T/P	TOP OF PAVEMENT
T/R	TOP OF RIM
T/S	TOP OF STEEL
T/W	TOP OF WALL
T.B.	TOWEL BAR
T.D.	TOWEL DISPENSER
TD & WR	TOWEL DISPENSER AND WASTE RECEPTACLE
T.G.	TRANSFER GRILLE
TRFR	TRANSFORMER
TRAN.	TRANSOM
T	TREAD
T.D.	TRENCH DRAIN
TS	TUBE SECTION
T.V.	TURNING VANE
T.T.	TWIN TEE
TYP.	TYPICAL

U

U.C.	UNDERCUT
U.G.	UNDER GROUND
UL	UNDERWRITER'S LABORATORY
ULT.	ULTIMATE
UNFIN.	UNFINISHED
U.H.	UNIT HEATER
U.SUB.	UNIT SUBSTATION
U.V.	UNIT VENTILATOR
USGS	UNITED STATES GEOLOGICAL SURVEY
U.O.N.	UNLESS OTHERWISE NOTED
UR.	URINAL

V

VAC.	VACUUM
V.B.	VACUUM BREAKER
V.C.O.	VACUUM CLEANER OUTLET
V. BARR.	VAPOR BARRIER
VAR.	VARIABLE
VARN.	VARNISH
VNR	VENEER
V. PLAS.	VENEER PLASTER
V.	VENT
VTR	VENT THRU ROOF
VENT.	VENTILATE/ VENTILATION
V.I.F.	VERIFY IN FIELD
VS.	VERSUS
VERT.	VERTICAL/ VERTICALLY
VERT. C.	VERTICAL CURVE
VEST.	VESTIBULE
V.I.	VIBRATION ISOLATOR
VNY	VINYL
VCT	VINYL COMPOSITION TILE
VIN. FAB.	VINYL FABRIC
V.R.S.	VINYL REDUCER STRIP
VIT.	VITREOUS
VCP	VITRIFIED CLAY PIPE
VOL.	VOLUME
V.D.	VOLUME DAMPER
V	VOLTS

W

WAINS.	WAINSCOT
W.CAB.	WALL CABINET
W.C.O.	WALL CLEAN OUT
W.H.	WALL HYDRANT
W/W	WALL-TO-WALL
W.V.	WALL VENT
WHSE	WAREHOUSE
W.F.	WASH FOUNTAIN
W.	WASTE/ WATTS
W & V	WASTE AND VENT
W.R.	WASTE RECEPTACLE
W.C.	WATER CLOSET
W.G.	WATER GAUGE
W.H.	WATER HEATER
WP	WATERPROOFING
W.PRFG.	WEATHERPROOFING
W.STPG.	WEATHERSTRIPPING
WT.	WEIGHT
W.W.F.	WELDED WIRE FABRIC
W	WEST
W.B.	WET BULB
W.	WIDE/ WIDTH
W_x_	WIDE FLANGE SECTION
WT	WIDE FLANGE TEE SECTION
W.O.	WINDOW OPENING
W.GL.	WIRE GLASS
W.M.	WIRE MESH
w/	WITH
w/o	WITHOUT
WD	WOOD
W.L.	WORK LINE
W.P.	WORK POINT
W.I.	WROUGHT IRON

X

Y

YD	YARD
Y.P.	YIELD POINT
Y.S.	YIELD STRENGTH
YR	YEAR

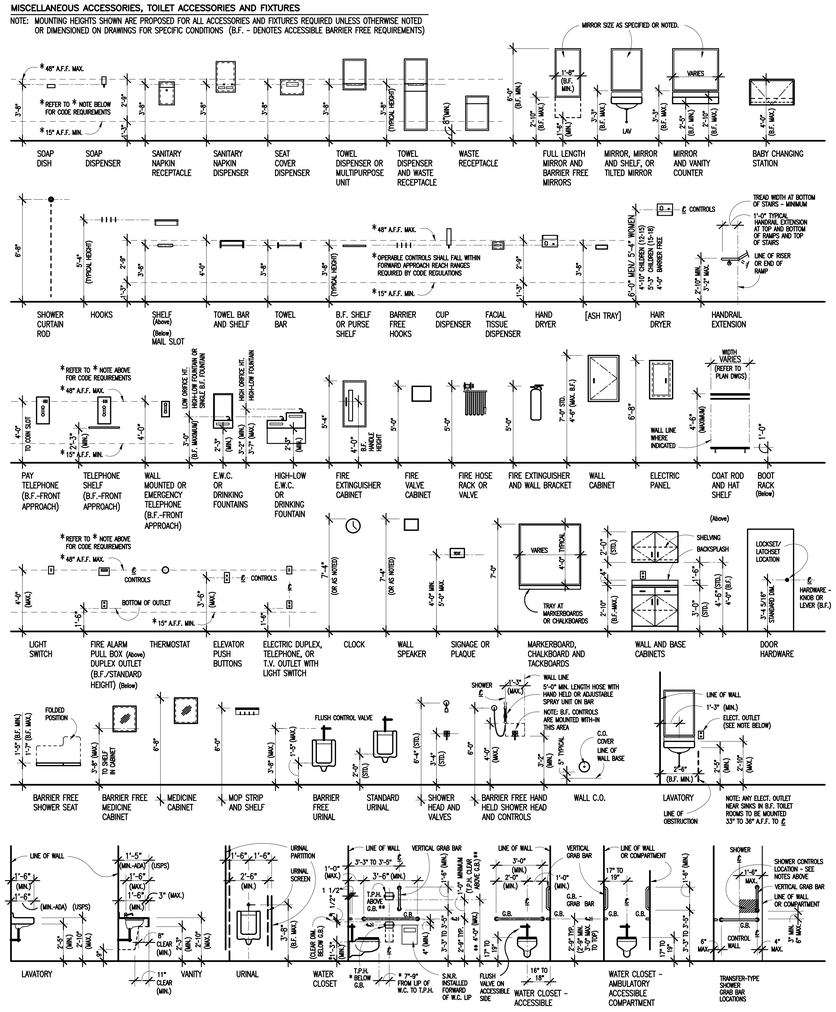
Z

ZC	ZINC

TYPICAL MOUNTING HEIGHTS

MISCELLANEOUS ACCESSORIES, TOILET ACCESSORIES AND FIXTURES

NOTE: MOUNTING HEIGHTS SHOWN ARE PROPOSED FOR ALL ACCESSORIES AND FIXTURES REQUIRED UNLESS OTHERWISE NOTED OR DIMENSIONED ON DRAWINGS FOR SPECIFIC CONDITIONS (B.F. - DENOTES ACCESSIBLE BARRIER FREE REQUIREMENTS)



MATERIAL DESIGNATIONS

ELEVATION	SECTION	MATERIAL	ELEVATION	SECTION	MATERIAL	ELEVATION	SECTION	MATERIAL
▤	▨	BRICK	▤	▨	FINISH HARDWOOD	▨	▬	GYPSUM DRYWALL (WALLBOARD)
▤	▨	CONCRETE MASONRY UNITS (BLOCK)		☒	WOOD BLOCKING/ NAILER (Continuous)	▨	▬	PLASTER OR VENEER PLASTER
	▩	SOLID CONCRETE MASONRY UNITS		⧄	WOOD BLOCKING/ NAILER (Non-continuous)	▨	▬	CEMENT PLASTER AND METAL LATH
	▨	PREFACED CONCRETE MASONRY UNITS		▬	PARTICLE BOARD (Large Scale)	▦	▬	CERAMIC TILE (Large Scale)
	▩	STRUCTURAL GLAZED FACING TILE	▤	▬	PLYWOOD (Large Scale)		▬	TERRAZZO (Large Scale)
▨	▨	CONCRETE	▥	▬	HARDWOOD VENEER PLYWOOD (Large Scale)		▬	CARPET (Large Scale)(Large Scale)
▨	▨	STONE/ SLATE/ OR GRANITE		▬	PLASTIC LAMINATE CLAD PLYWOOD OR PARTICLE BOARD (Large Scale)		═	VINYL COMPOSITION TILE (V.C.T.)
	▩	EARTH		▬	BATT OR BLANKET INSULATION		▭	SEALANT AND BACKER ROD (Large Scale) (Depth Equal to Half Joint Width)
	▩	POROUS FILL (GRAVEL OR STONE)		▦	RIGID INSULATION		▩	JOINT FILLER MATERIAL OR ISOLATION JOINT FILLER (Large Scale)
	▤	COMPACTED DRAINAGE FILL (SAND)		▬	ACOUSTICAL CEILING TILE OR PANEL		⊏	COLD FORMED METAL FRAMING
▨	▨	MARBLE					I	STRUCTURAL STEEL SHAPES (Continuous Sections Hatched or Solid, Non-continuous Sections Open)
▨	▬	STEEL AND FERROUS METAL (Large Scale)	▨	▤	GLASS (Large Scale)			
▨	▬	ALUMINUM AND NON-FERROUS METAL (Large Scale)	▨	━	GLASS (Small Scale)			

REFERENCE SYMBOLS

DETAIL IDENTIFICATION

DETAIL IDENTIFICATION NUMBER (SAME NUMBER ON SHEET WHERE DRAWN OR REFERENCED)

1. / A1.1 DETAIL TITLE

SCALE: 1/8" = 1'-0"

SHEET IDENTIFICATION NUMBER (INDICATES SHEET NUMBER WHERE DETAIL IS DRAWN OR SHEET NUMBER(S) TO REFER TO WHEN REFERENCED ON THE SHEET WHERE THE DETAIL IS DRAWN)

DETAIL LOCATION INDICATION

DETAIL IDENTIFICATION NUMBER

1. / A1.1 (WALL SECTIONS)

1. / A1.1 (PLAN SECTIONS)

SHEET IDENTIFICATION NUMBER (INDICATES SHEET NUMBER WHERE DETAIL IS DRAWN)

DETAIL LOCATION INDICATION FOR ENLARGED PLANS

DETAIL IDENTIFICATION NUMBER

1. / A1.1

SHEET IDENTIFICATION NUMBER (INDICATES SHEET NUMBER WHERE DETAIL IS DRAWN)

SECTION IDENTIFICATION

SECTION IDENTIFICATION NUMBER (SAME NUMBER ON SHEET WHERE DRAWN OR REFERENCED)

1. / A1.1 SECTION TITLE

SCALE: 1/8" = 1'-0"

SHEET IDENTIFICATION NUMBER (INDICATES SHEET NUMBER WHERE SECTION IS DRAWN OR SHEET NUMBER(S) TO REFER TO WHEN REFERENCED ON THE SHEET WHERE THE SECTION IS DRAWN)

SECTION LOCATION INDICATION

SECTION IDENTIFICATION NUMBER

1. / A1.1 — 1. / A1.1

SHEET IDENTIFICATION NUMBER (INDICATES SHEET NUMBER WHERE SECTION IS DRAWN)

ELEVATION IDENTIFICATION

ELEVATION IDENTIFICATION NUMBER (SAME NUMBER ON SHEET WHERE DRAWN OR REFERENCED)

1. / A1.1 ELEVATION TITLE

SCALE: 1/8" = 1'-0"

SHEET IDENTIFICATION NUMBER (INDICATES SHEET NUMBER WHERE ELEVATION IS DRAWN OR SHEET NUMBER(S) TO REFER TO WHEN REFERENCED ON THE SHEET WHERE THE ELEVATION IS DRAWN)

ELEVATION INDICATION

ELEVATION IDENTIFICATION NUMBER(S) (SAME LETTER ON SHEET WHERE DRAWN OR REFERENCED)

1. / A1.1

INDICATES DIRECTION OF VIEW OR MULTIPLE VIEWS

1. 2. 3. 4. A1.1

SHEET IDENTIFICATION NUMBER (INDICATES SHEET NUMBER WHERE ELEVATION IS DRAWN)

MATCH LINE INDICATION

SHEET IDENTIFICATION NUMBER (INDICATES SHEET NUMBER OF DRAWING)

A1.1 / A1.2 ZONE 'A' ZONE 'B' — ZONE 'A' ZONE 'B' A1.1 / A1.2

SHEET IDENTIFICATION NUMBER (INDICATES SHEET NUMBER WHERE DRAWING IS CONTINUED)

DOOR INDICATION

DOOR SWING INDICATION- NEW DOOR

DOOR SWING INDICATION- EXISTING DOOR

DOOR SWING INDICATION- EXISTING DOOR TO BE REMOVED

ROOM NAME AND NUMBER INDICATION

SAMPLE ROOM NAME

101 ROOM IDENTIFICATION NUMBER

ROOM IDENTIFICATION BY FLOOR AND/OR ZONE SHALL BE AS FOLLOWS:

BASEMENT DOORS ·········· 001 ZONE A ··· A101
FIRST FLOOR DOORS ······· 101 ZONE B ··· B101
SECOND FLOOR DOORS ··· 201 ZONE C ··· C101
THIRD FLOOR DOORS ······· 301
⋮
CONTINUES FOR AS MANY FLOORS REQUIRED.

DOOR IDENTIFICATION

DOOR TO ROOM SHALL REPEAT ROOM NUMBER ASSIGNED TO ROOM. MULTIPLE DOORS TO ROOM SHALL REPEAT ROOM NUMBER WITH A POSTSCRIPT LETTER FOR EACH ADDITIONAL DOOR REQUIRED.

101 / 101A / 101B FOR NUMBER NEEDED

DOOR IDENTIFICATION BY FLOOR AND/OR ZONE SHALL BE AS FOLLOWS:

BASEMENT DOORS ·········· 001 ZONE A ··A101
FIRST FLOOR DOORS ······· 101 ZONE B ··B101
SECOND FLOOR DOORS ··· 201 ZONE C ··C101
THIRD FLOOR DOORS ······· 301
⋮
CONTINUES FOR AS MANY FLOORS REQUIRED.

COLUMN INDICATION

A — COLUMN IDENTIFICATION LETTER OR NUMBER FOR NEW CONSTRUCTION

A — COLUMN IDENTIFICATION LETTER OR NUMBER FOR EXISTING CONSTRUCTION

NORTH INDICATION

N

ASSUMED NORTH IF NOT TRUE NORTH OR PLAN NORTH WHERE TRUE NORTH IS INDICATED BY ARROW NOTATION

TRUE NORTH

WALL TYPE NOTATION

1. WALL CONSTRUCTION TYPE NUMBER AS LISTED IN 'WALL TYPE LEGEND'

DESCRIPTION ORIGINATES AT WALL SURFACE DESIGNATED

CASEWORK NOTATION

CASEWORK IDENTIFICATION NUMBER BASED ON MANUFACTURERS CATALOG NUMBERS AS NOTED IN SPECIFICATIONS OR 'CASEWORK LEGEND'

A1-100-36

KEYED NOTE INDICATION

1. KEYED NOTE IDENTIFICATION NUMBER AS LISTED IN 'NOTES' LEGEND.

(PLAN NOTATION)

1. KEYED NOTE IDENTIFICATION NUMBER AS LISTED IN 'NOTES' LEGEND.

(DEMOLITION NOTATION)

ADDENDUM INDICATION

1. ADDENDUM NUMBER

(CURRENT REVISIONS SHALL BE SHOWN ENCIRCLED BY A FREEFORM LINE)

BULLETIN INDICATION

1. BULLETIN NUMBER

(CURRENT REVISIONS SHALL BE SHOWN ENCIRCLED BY A FREEFORM LINE)

STAIR DIRECTION NOTATION

10 T. (11 R.) UP (DN)

STAIR DIRECTION TO FLOOR ABOVE (UP) OR BELOW (DOWN)

NUMBER OF TREADS (OR RISERS) IN STAIR RUN

DRAWING DIMENSION LINE INDICATION

10'-0"

NOTE: DO NOT SCALE DRAWINGS WITHOUT GRAPHIC SCALES WITH PROPORTIONS OTHER THAN 1:1

MATERIAL OR WORK DIVISION NOTATION

MATERIAL 'A' (NEW CONST.) | MATERIAL 'B' (EXIST. CONST.)

JOINT BETWEEN MATERIALS (OR CONSTRUCTION WORK DIVISION LINE)

DRAWING NOTATION INDICATION

MATERIAL NOTATION AND INFORMATION (REFER TO TECHNICAL SPECIFICATIONS FOR MATERIAL DESCRIPTIONS AND METHODS OF CONSTRUCTION)

ARCHITECTURE

TMP ARCHITECTURE INC
1191 WEST SQUARE LAKE ROAD
BLOOMFIELD HILLS · MICHIGAN · 48302
PH · 248.338.4561 FX · 248.338.0223
EM · INFO@TMP-ARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE

**Troy High School
Bleacher
Replacement
Bid Package No. 37**

**Troy School Diustrict
Troy, Michigan**

DRAWING TITLE

General Information

ISSUE DATES

DATE:	ISSUED FOR:
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12-6-2022	CONSTRUCTION DOCUMENTS

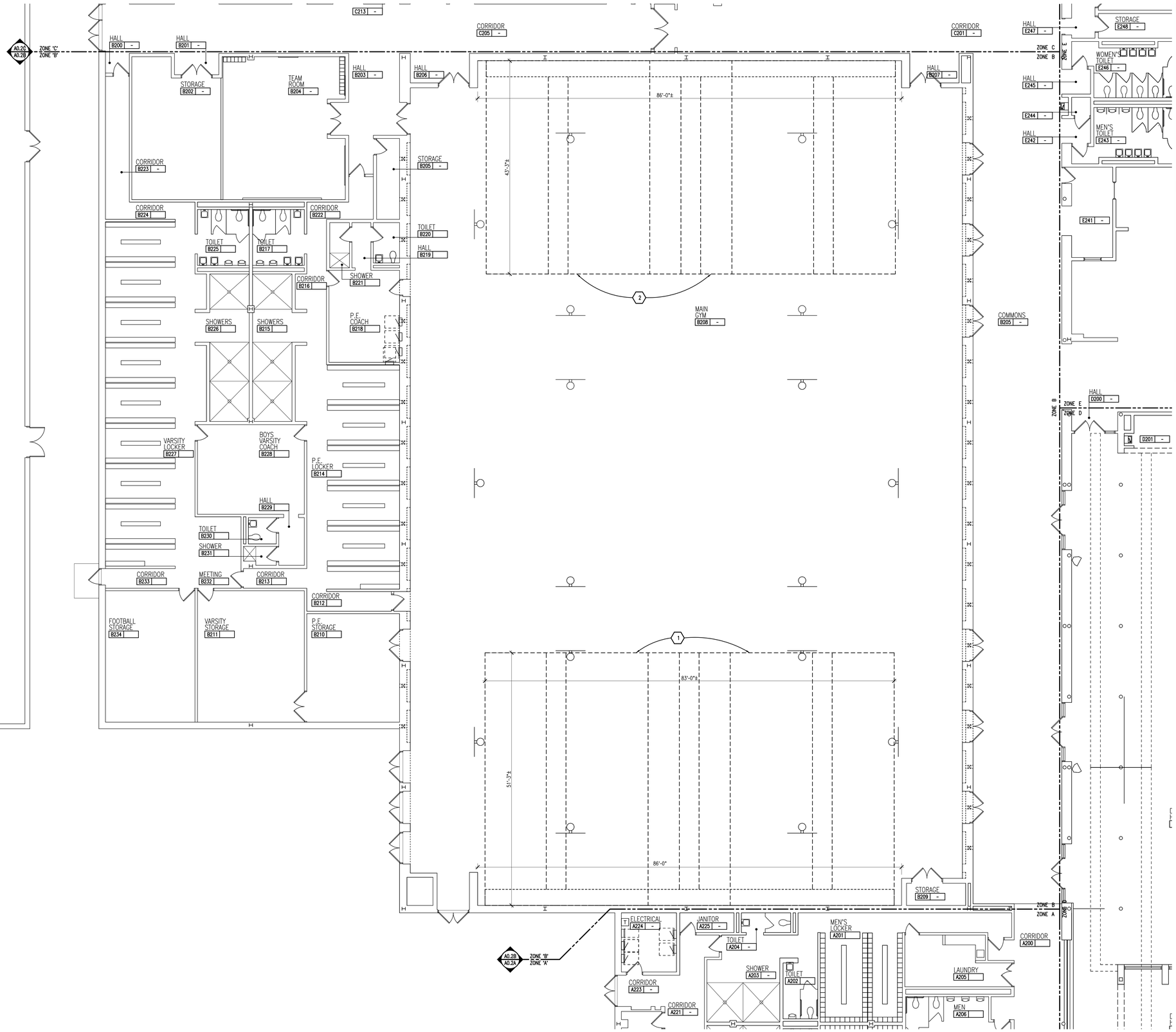
DRAWN	JRB
CHECKED	.
APPROVED	JRR

PROJECT NO.

13174J

DRAWING NO.

TG.1



SECOND LEVEL DEMOLITION PLAN - ZONE B

SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR RELATED AND ADDITIONAL DEMOLITION AND PATCHING WORK BY MECHANICAL AND ELECTRICAL TRADES.
2. WHERE REMOVAL OF CASEWORK, MILLWORK, CHALKBOARDS, TACKBOARDS, OR EQUIPMENT IS INDICATED, FILL HOLES AND PATCH EXISTING WALLS, BASE AND CEILINGS WHICH ARE TO REMAIN EXPOSED.
3. UNLESS OTHERWISE INDICATED, TOOTH NEW MATERIAL, INTO EXISTING, WHEREVER INFILL REMAINS EXPOSED.
4. SEE SPECIFICATION SECTIONS 017329 AND 024119 FOR ADDITIONAL DEMOLITION AND PATCHING REQUIREMENTS.

DEMOLITION KEYNOTES

1. REMOVE 26 ROW WOOD BLEACHER SYSTEM INCLUDING ASSOCIATED MOUNTING HARDWARE, REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL NOTES AND DETAILS. PATCH, REPAIR AND/OR FILL EXPOSED ADJACENT SURFACES TO MATCH EXISTING (U.O.N.).
2. REMOVE 22 ROW WOOD BLEACHER SYSTEM INCLUDING ASSOCIATED MOUNTING HARDWARE, REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL NOTES AND DETAILS. PATCH, REPAIR AND/OR FILL EXPOSED ADJACENT SURFACES TO MATCH EXISTING (U.O.N.).
3. REMOVE 5 ROW WOOD BLEACHER SYSTEM INCLUDING ASSOCIATED MOUNTING HARDWARE, REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL NOTES AND DETAILS. PATCH, REPAIR AND/OR FILL EXPOSED ADJACENT SURFACES TO MATCH EXISTING (U.O.N.).

TMP ARCHITECTURE

TMP ARCHITECTURE INC

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REGISTRATION SEAL

CONSULTANT

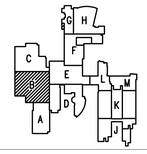
PROJECT TITLE

Troy High School Bleacher Replacement Bid Package No.37

Troy School District
Troy, Michigan

DRAWING TITLE

Second Level Demolition Plan - Zone B



ISSUE DATES

DATE:	ISSUED FOR:
12-6-2022	CONSTRUCTION DOCUMENTS

DRAWN	JPW
CHECKED	JPW
APPROVED	JJC

PROJECT NO.

13174J

DRAWING NO.

A0.2B

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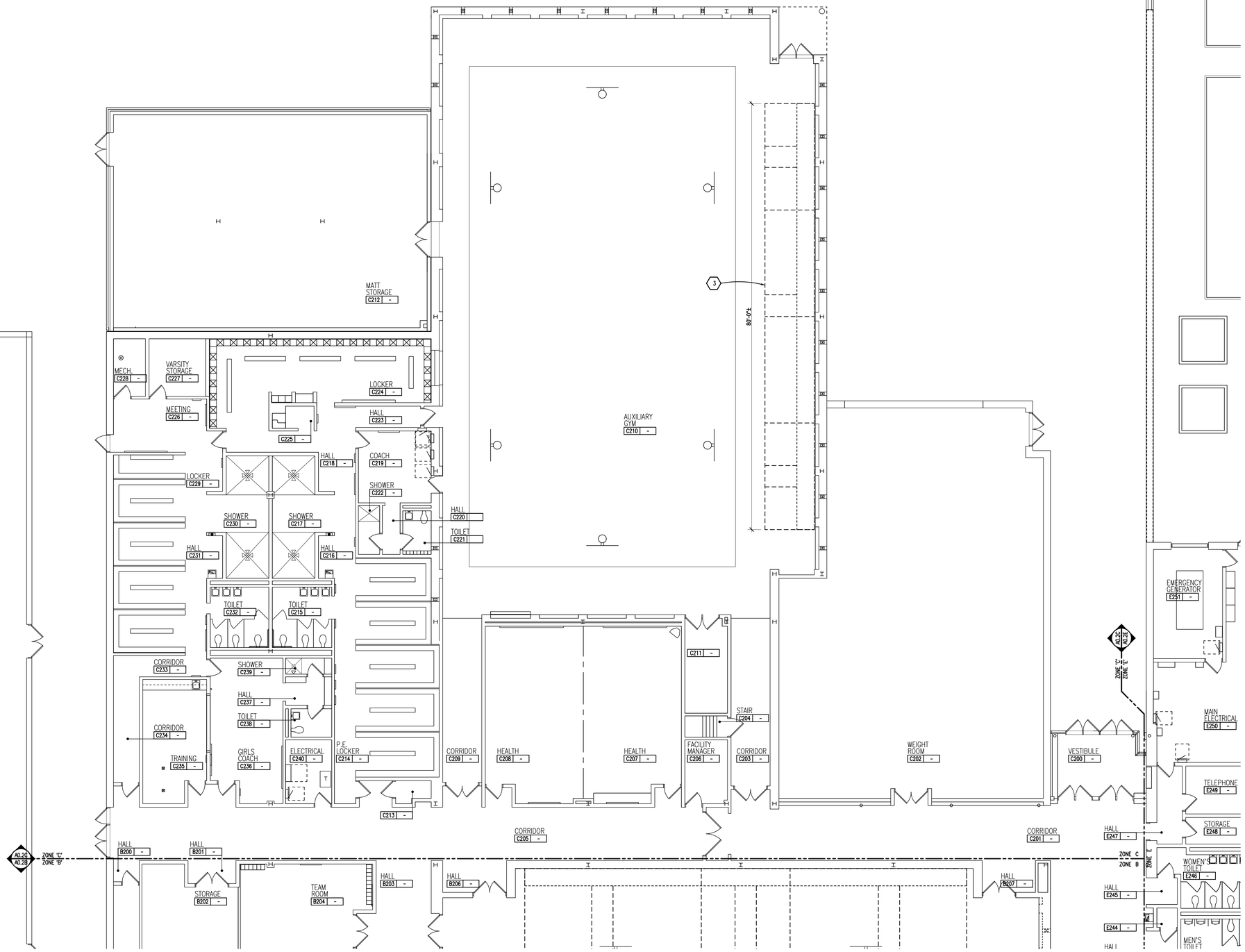

SECOND LEVEL DEMOLITION PLAN - ZONE C

SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR RELATED AND ADDITIONAL DEMOLITION AND PATCHING WORK BY MECHANICAL AND ELECTRICAL TRADES.
2. WHERE REMOVAL OF CASEWORK, MILLWORK, CHALKBOARDS, TACKBOARDS, OR EQUIPMENT IS INDICATED, FILL HOLES AND PATCH EXISTING WALLS, BASE AND CEILINGS WHICH ARE TO REMAIN EXPOSED.
3. UNLESS OTHERWISE INDICATED, TOOTH NEW MATERIAL, INTO EXISTING, WHEREVER INFILL REMAINS EXPOSED.
4. SEE SPECIFICATION SECTIONS 017329 AND 024119 FOR ADDITIONAL DEMOLITION AND PATCHING REQUIREMENTS.

DEMOLITION KEYNOTES

1. REMOVE 26 ROW WOOD BLEACHER SYSTEM INCLUDING ASSOCIATED MOUNTING HARDWARE, REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL NOTES AND DETAILS. PATCH, REPAIR AND/OR FILL EXPOSED ADJACENT SURFACES TO MATCH EXISTING (U.O.N.).
2. REMOVE 22 ROW WOOD BLEACHER SYSTEM INCLUDING ASSOCIATED MOUNTING HARDWARE, REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL NOTES AND DETAILS. PATCH, REPAIR AND/OR FILL EXPOSED ADJACENT SURFACES TO MATCH EXISTING (U.O.N.).
3. REMOVE 5 ROW WOOD BLEACHER SYSTEM INCLUDING ASSOCIATED MOUNTING HARDWARE, REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL NOTES AND DETAILS. PATCH, REPAIR AND/OR FILL EXPOSED ADJACENT SURFACES TO MATCH EXISTING (U.O.N.).

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REGISTRATION SEAL

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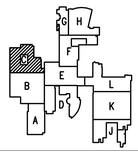
PROJECT TITLE

Troy High School Bleacher Replacement Bid Package No.37

Troy School District
Troy, Michigan

DRAWING TITLE

Second Level Demolition Plan - Zone C



ISSUE DATES

DATE:	ISSUED FOR:
12-6-2022	CONSTRUCTION DOCUMENTS

DRAWN	JPW
CHECKED	JPW
APPROVED	JJC

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A0.2C

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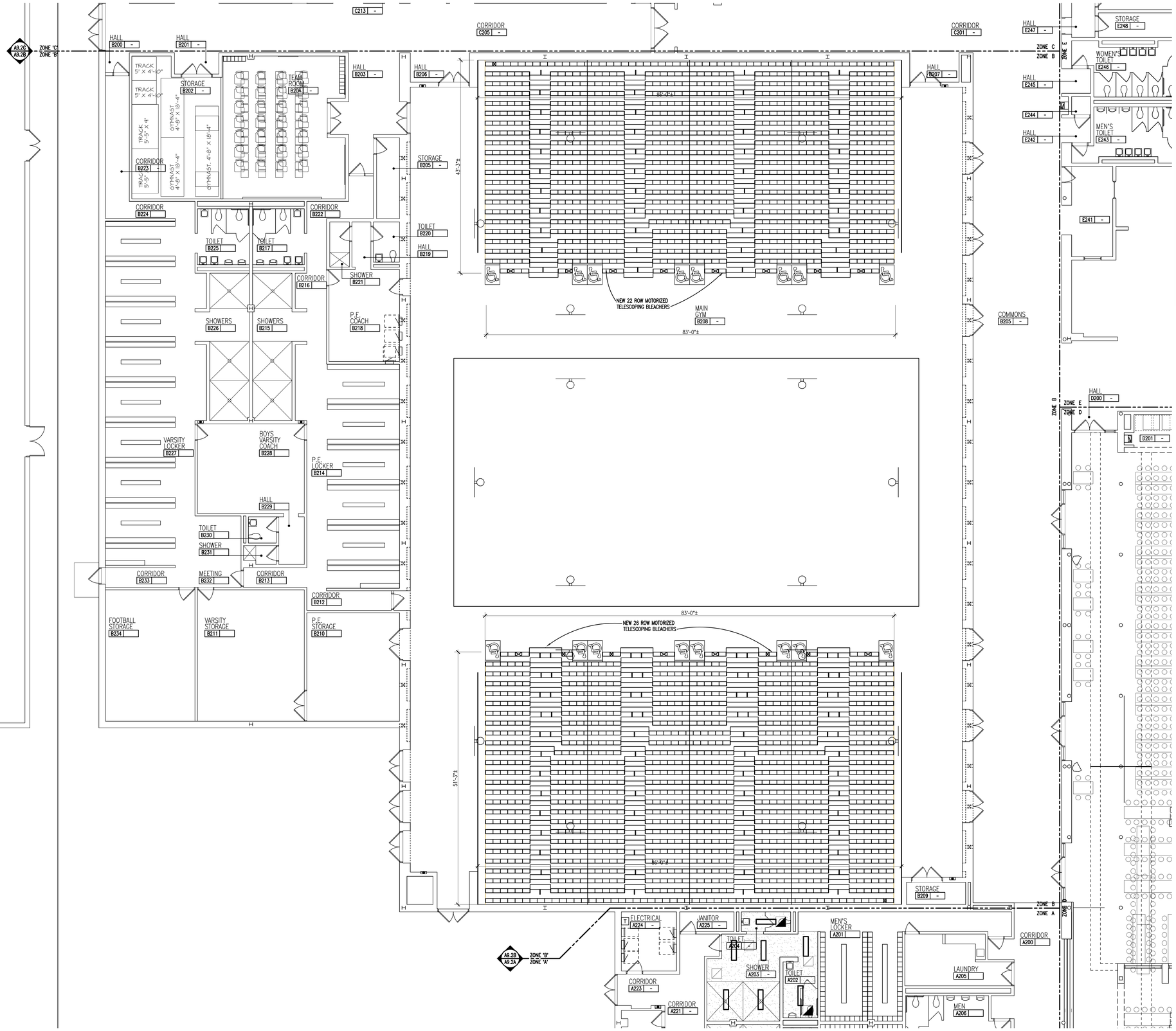

GENERAL NOTES

1. CONTRACTORS SHALL VERIFY ALL EXISTING BUILDING DIMENSIONS, PARTITION AND WALL LOCATIONS, AND FLOOR ELEVATIONS IN THE FIELD AND NOTIFY THE ARCHITECTS REPRESENTATIVE OF ANY DISCREPANCIES BEFORE START OF WORK.
2. FLOOR PLANS ARE DIMENSIONED TO NOMINAL WALL THICKNESS - TYPICAL.
3. DIMENSIONS FOLLOWED BY ± SHOULD BE REVIEWED AND ALL NECESSARY ADJUSTMENTS MADE PRIOR TO FABRICATION AND/OR INSTALLATION OF AFFECTED WORK. NOTIFY ARCHITECTS REPRESENTATIVE IF DISCREPANCIES ARISE BEFORE PROCEEDING WITH THE WORK.

PATCHING NOTES

1. REFER TO DEMOLITION PLANS FOR ADDITIONAL PATCHING NOTES.
2. FOR ALL FLOOR SURFACES RECEIVING NEW FLOOR FINISHES, PREPARE SUBSTRATE BY PROVIDING LEVELING AND PATCHING COMPOUNDS RECOMMENDED BY FINISH FLOORING MANUFACTURERS. CONTRACTOR'S BASE BID PROPOSAL SHALL ASSUME THAT ALL AREAS, INDICATED TO RECEIVE NEW FINISHES, WILL REQUIRE FLOOR PREPARATION.
3. PATCH AND REPAIR ALL FLOOR AND WALL SURFACES LEFT DAMAGED OR INCOMPLETE FROM REMOVAL OF EXISTING PARTITIONS, MILLWORK, CASEWORK, CHALKBOARDS, TACKBOARDS, DISPLAY CASES OR OTHER FIXED EQUIPMENT WITH MATERIALS TO MATCH EXISTING, AS ACCEPTABLE TO THE ARCHITECT.
4. MATCH EXISTING MASONRY COURSING ADJACENT IN EACH AREA AND TOOTH NEW WORK INTO EXISTING, UNLESS OTHERWISE INDICATED.
5. AT EXISTING FLOOR FINISHES TO REMAIN, THAT BECOME SUBSTRATES FOR NEW FLOOR FINISHES, PATCH AND FILL EXISTING AS REQUIRED TO PREPARE FOR NEW FLOOR FINISH UNTIL ACCEPTABLE TO NEW FLOOR FINISH CONTRACTOR.
6. TOOTH-IN MASONRY INTO EXISTING, U.O.N., INCLUDING JAMBS OF DOOR AND OTHER OPENINGS.

N

SECOND LEVEL FLOOR PLAN - ZONE B

SCALE: 1/8" = 1'-0"

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REGISTRATION SEAL

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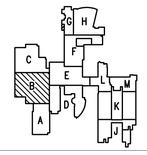
Troy School District
Troy, Michigan

DRAWING TITLE

Second Level Floor Plan - Zone B



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DATE:	ISSUED FOR:
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CHECKED	JPW
APPROVED	JJC

PROJECT NO.

13174J

DRAWING NO.

A1.2B

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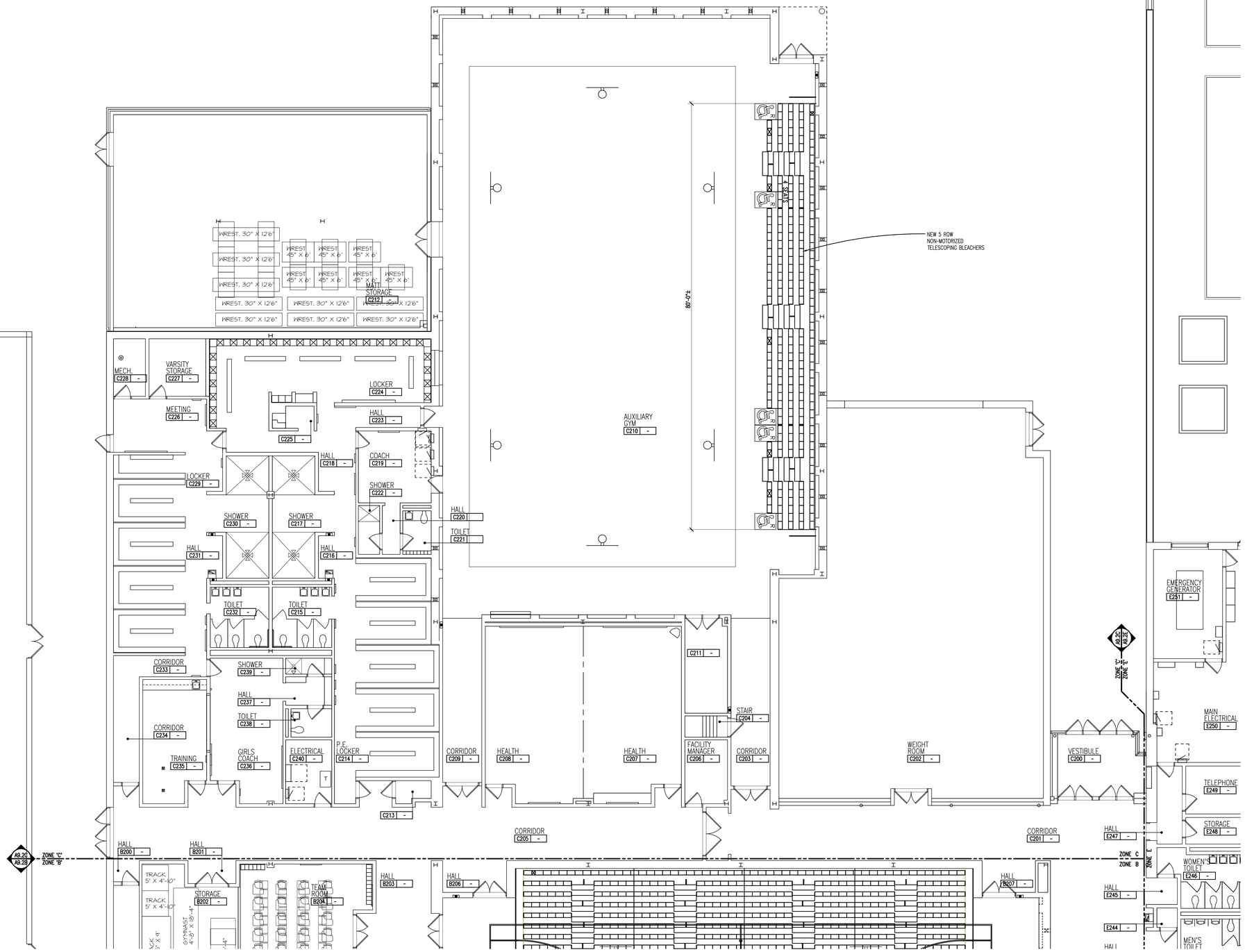

SECOND LEVEL FLOOR PLAN - ZONE C

SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. CONTRACTORS SHALL VERIFY ALL EXISTING BUILDING DIMENSIONS, PARTITION AND WALL LOCATIONS, AND FLOOR ELEVATIONS IN THE FIELD AND NOTIFY THE ARCHITECTS REPRESENTATIVE OF ANY DISCREPANCIES BEFORE START OF WORK.
2. FLOOR PLANS ARE DIMENSIONED TO NOMINAL WALL THICKNESS - TYPICAL.
3. DIMENSIONS FOLLOWED BY ± SHOULD BE REVIEWED AND ALL NECESSARY ADJUSTMENTS MADE PRIOR TO FABRICATION AND/OR INSTALLATION OF AFFECTED WORK. NOTIFY ARCHITECTS REPRESENTATIVE IF DISCREPANCIES ARISE BEFORE PROCEEDING WITH THE WORK.

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1. REFER TO DEMOLITION PLANS FOR ADDITIONAL PATCHING NOTES.
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6. TOOTH-IN MASONRY INTO EXISTING, U.O.N., INCLUDING JAMBS OF DOOR AND OTHER OPENINGS.

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REGISTRATION SEAL

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Troy School District
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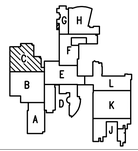
Second Level Floor Plan - Zone C



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12-6-2022	CONSTRUCTION DOCUMENTS

DATE:	ISSUED FOR:
DRAWN	JPW
CHECKED	JPW
APPROVED	JJC

PROJECT NO.

13174J

DRAWING NO.

A1.2C

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Nov 30, 2022 - 3:53pm

ELECTRICAL SYMBOL LIST

(NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT)

SYMBOL	DESCRIPTION
FX (NL)	FIXTURE TYPE (NL INDICATES NIGHT LIGHT)
	LIGHTING FIXTURE
	DIRECT/INDIRECT LIGHTING FIXTURE
	EMERGENCY FIXTURE
	LIGHTING FIXTURE
	WALL MOUNTED LIGHTING FIXTURE
	LIGHTING FIXTURE
	DIRECTIONAL LIGHTING FIXTURE
	PENDANT LIGHTING FIXTURE
	WALL SCONCE
	LIGHTING TRACK
	TRACK LIGHTING FIXTURE
	POLE MOUNTED LIGHTING FIXTURE
	POLE MOUNTED LIGHTING FIXTURE – POST TOP
	BOLLARD LIGHTING FIXTURE
	EMERGENCY LIGHTING UNIT
	EXIT LIGHTING FIXTURE WITH DIRECTIONAL ARROWS (SHADED AREA INDICATES FACE)
	EXIT LIGHTING FIXTURE WITH DIRECTIONAL ARROWS (SHADED AREA INDICATES FACE)
	EXIT LIGHTING FIXTURE – WALL MOUNTED
	EXIT/EMERGENCY LIGHTING COMBO
BCELTS	BRANCH CIRCUIT EMERGENCY LIGHTING TRANSFER SWITCH
ALCR	AUTOMATIC LOAD CONTROL RELAY
LC	LIGHTING CONTROL DEVICE – REFER TO LIGHTING CONTROL SCHEDULE
XX	ROOM CONTROL DESIGNATION – REFER TO LIGHTING CONTROL SCHEDULE
S	SINGLE POLE TOGGLE SWITCH
S_2	TWO POLE TOGGLE SWITCH
S_3	3 WAY TOGGLE SWITCH
S_4	4 WAY TOGGLE SWITCH
K	KEY OPERATED SWITCH
K_3	3 WAY KEY OPERATED SWITCH
K_4	4 WAY KEY OPERATED SWITCH
D	DIMMER SWITCH
D_3	3 WAY DIMMER SWITCH
D_O	DIMMER OCCUPANCY SENSOR SWITCH
DL	LOW VOLTAGE DIMMER SWITCH
S_P	PILOT SWITCH

SYMBOL	DESCRIPTION
TWC	TWO-WAY COMMUNICATION SYSTEM CALL STATION
TWCD	TWO-WAY COMMUNICATION SYSTEM AUTO DIALER
TWCA	TWO-WAY COMMUNICATION SYSTEM ANNUNCIATOR & COMMUNICATION PANEL
TWCP	TWO-WAY COMMUNICATION SYSTEM POWER SUPPLY WITH BATTERY BACK-UP
TWCDP	TWO-WAY COMMUNICATION SYSTEM AUTO DIALER POWER SUPPLY WITH BATTERY BACK-UP
RGP	REMOTE GENERATOR ANNUCIATOR PANEL
ATS	AUTOMATIC TRANSFER SWITCH
UPS	UNINTERRUPTIBLE POWER SUPPLY
CSX	LOW VOLTAGE CONTROL STATION "X" INDICATES TYPE
"X"	SINGLE / DUPLEX RECEPTACLE OUTLET "X" INDICATES TYPE
	SINGLE/DUPLEX RECEPTACLE OUTLET CONTROLLED BY AUTOMATIC CONTROL DEVICE/SYSTEM
	QUAD RECEPTACLE OUTLET
	ABOVE COUNTER DUPLEX RECEPTACLE (SIMILAR FOR TAMPER RESISTANT, QUADS, EMERGENCY AND GFCI RECEPTACLES)
	DUPLEX RECEPTACLE-GROUND FAULT CIRCUIT INTERRUPTER
	DEAD FRONT-GROUND FAULT CIRCUIT INTERRUPTER
	DUPLEX EMERGENCY RECEPTACLE OUTLET
	DUPLEX TAMPER RESISTANT RECEPTACLE OUTLET
	QUAD TAMPER RESISTANT RECEPTACLE OUTLET
	ABOVE COUNTER DUPLEX TAMPER RESISTANT RECEPTACLE OUTLET
	DUPLEX UPS RECEPTACLE
	DUPLEX RECEPTACLE WITH 2 USB PORTS OUTLET
	4 PORT USB CHARGING STATION
	CEILING MOUNTED DUPLEX/QUAD RECEPTACLE
	POWER POLE
	WALL/CEILING MOUNTED SPECIAL RECEPTACLE – REFER TO ELECTRICAL STANDARD SCHEDULES
	MULTI-OUTLET SURFACE RACEWAY
"X"	MULTI-SERVICE DROP SEE ELECTRICAL DETAILS AND DIAGRAMS SHEET "X" INDICATES TYPE
PTX	POKE-THROUGH ASSEMBLY "X" INDICATES TYPE
FBX	FLOOR SERVICE FITTING "X" INDICATES TYPE
AFX	ACCESS FLOOR SERVICE FITTING "X" INDICATES TYPE
RX	CORD REEL "X" INDICATES TYPE
5^{S}	DUAL SWITCHING FOR INNER/OUTER LAMPS OF FLUORESCENT LIGHT FIXTURES
$5^{S}3_3$	3-WAY DUAL SWITCHING FOR INNER/OUTER LAMPS OF FLUORESCENT LIGHT FIXTURES
$5^{S}4_4$	4-WAY DUAL SWITCHING FOR INNER/OUTER LAMPS OF FLUORESCENT LIGHT FIXTURES
S_T	DIGITAL TIME SWITCH
S_I	ILLUMINATED TOGGLE SWITCH FOR CONTROL OF LIGHTING ON CRITICAL POWER-ILLUMINATED WHEN SWITCH IS IN "OFF" POSITION
S_L	LOW VOLTAGE SWITCH
S_O	OCCUPANCY SENSOR REFER TO ELECTRICAL STANDARD SCHEDULES
S_{O2}	OCCUPANCY SENSOR
OS X	OCCUPANCY SENSOR "X" INDICATES TYPE

SYMBOL	DESCRIPTION
CP	CONTROL PANEL
	MOTOR
VFC	VARIABLE FREQUENCY CONTROLLER.
	MANUAL CONTROLLER
	MAGNETIC CONTROLLER
	COMBINATION MAGNETIC CONTROLLER
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
CB	ENCLOSED CIRCUIT BREAKER
	PUSH BUTTON STATION
J	JUNCTION BOX
	HARD WIRE POWER CONNECTION
	GROUND ROD
	GROUND CONNECTION
HH	HANDHOLE
X	CONDUIT SLEEVE WITH BUSHINGS LENGTH AS REQUIRED "X" INDICATES CONDUIT SIZE
	CONDUIT UP
	CONDUIT DOWN
	EMPTY BOX FOR FUTURE TELECOMMUNICATION OUTLET
	ABOVE COUNTER EMPTY BOX FOR FUTURE TELECOMMUNICATION OUTLET
	EMPTY BOX FOR FUTURE CEILING MOUNTED TELECOMMUNICATION OUTLET
X	TELECOMMUNICATION OUTLET "X" INDICATES TYPE
X	ABOVE COUNTER TELECOMMUNICATION OUTLET "X" INDICATES TYPE
X	TELECOMMUNICATION CEILING MOUNTED OUTLET "X" INDICATES TYPE
	REFER TO ELECTRICAL STANDARD SCHEDULES
	TELECOMMUNICATION BACKBOARD
TGB	TELECOMMUNICATION GROUNDING BUS BAR
TMGB	TELECOMMUNICATION MAIN GROUNDING BUS BAR
IC	INTERCOM OUTLET
S	SPEAKER
S	SPEAKER – WALL MOUNTED
MIC	MICROPHONE
VC	VOLUME CONTROL/STATION SELECTOR
B	SIGNALING BELL
	SINGLE FACE CLOCK – CEILING MOUNTED
	SINGLE FACE CLOCK – WALL MOUNTED
	DOUBLE FACE CLOCK – CEILING MOUNTED
S	DOUBLE FACE COMBINATION CLOCK/SPEAKER CEILING MOUNTED
	DOUBLE FACE CLOCK – WALL MOUNTED
S	DOUBLE FACE COMBINATION CLOCK/SPEAKER WALL MOUNTED
T/C	TIME CLOCK
C	CONTACTOR
P	PHOTOCELL
TT	TWIST TIMER

SYMBOL	DESCRIPTION
	SECURITY CAMERA
MD	MOTION DETECTOR
	SECURITY KEY SWITCH
DC	DOOR CONTACT
KP	KEY PAD
CR	CARD READER
DB	DURESS PUSH BUTTON STATION
DE	DELAYED EGRESS
REX	REQUEST TO EXIT STATION
PP	AUTOMATIC DOOR PUSH PAD OPERATOR
DO	DOOR OPERATOR
DA	DOOR ACTUATOR
AC	ACCESS CONTROL STATION
ACCP	ACCESS CONTROL CONTROL PANEL
ACPS	ACCESS CONTROL POWER SUPPLY
	CIRCUIT BREAKER
	DRAWOUT CIRCUIT BREAKER MANUALLY/ OPERATED
	DRAWOUT CIRCUIT BREAKER ELECTRICALLY/ OPERATED
	SWITCH
	AUTOMATIC OR MANUAL TRANSFER SWITCH
	FUSE
	TRANSFORMER
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	LIGHTNING ARRESTOR
X	PANELBOARD "X" INDICATES PANELBOARD NAME
	GROUND
	STRESS CONE TERMINATION
K	SECURITY KEY INTERLOCK
G	ENGINE GENERATOR
M	UTILITY METER
EMU	ELECTRONIC METERING UNIT
A	AMMETER
V	VOLTMETER
AS	AMMETER SWITCH
VS	VOLTMETER SWITCH
SPD	SURGE PROTECTIVE DEVICE
CR	CONTROL RELAY
TDR	TIME DELAY RELAY
PRM	PHASE ROTATION MONITOR
	CAMLOK – MALE
	CAMLOK – FEMALE
	THERMAL OVERLOAD RELAY
	NORMALLY OPEN CONTACTS
	NORMALLY CLOSED CONTACTS
	N.O. PUSH BUTTON SINGLE CIRCUIT
	N.C. PUSH BUTTON SINGLE CIRCUIT
X-X	CABLE VAULT "X-X" INDICATES TYPE
	BRANCH CIRCUIT PANELBOARD
	LOAD CENTER
	MOTOR CONTROL CENTER
T	TRANSFORMER
	DISTRIBUTION PANEL
GB	GROUND BUS
PB	PLUG IN BUSWAY
FB	FEEDER BUSWAY

SYMBOL	DESCRIPTION
F	MANUAL FIRE ALARM BOX
SD	SMOKE DETECTOR
DD	DUCT SMOKE DETECTOR
CO	CARBON MONOXIDE DETECTOR
RT	REMOTE TEST STATION (FOR DUCT DETECTOR)
TD	THERMAL DETECTOR
BD	PROJECTED BEAM DETECTOR
F	FIRE ALARM BELL
F	FIRE ALARM AUDIBLE NOTIFICATION APPLIANCE
XX	FIRE ALARM VISUAL NOTIFICATION APPLIANCE "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
XX	FIRE ALARM COMBINATION VISUAL/ AUDIBLE "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
F XX	FIRE ALARM COMBINATION VISUAL/ AUDIBLE NOTIFICATION APPLIANCE- CEILING MOUNTED "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
XX	FIRE ALARM VISUAL NOTIFICATION APPLIANCE CEILING MOUNTED "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
F	FIRE ALARM AUDIBLE NOTIFICATION APPLIANCE – CEILING MOUNTED
F	FIREFIGHTERS PHONE JACK
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM ANNUNCIATOR PANEL
NAC	NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL
IM	ADDRESSABLE MONITORING MODULE
CM	ADDRESSABLE CONTROL MODULE
TS	TAMPER SWITCH
FS	FLOW SWITCH
DR	MAGNETIC DOOR RELEASE

ELECTRICAL DRAWING INDEX

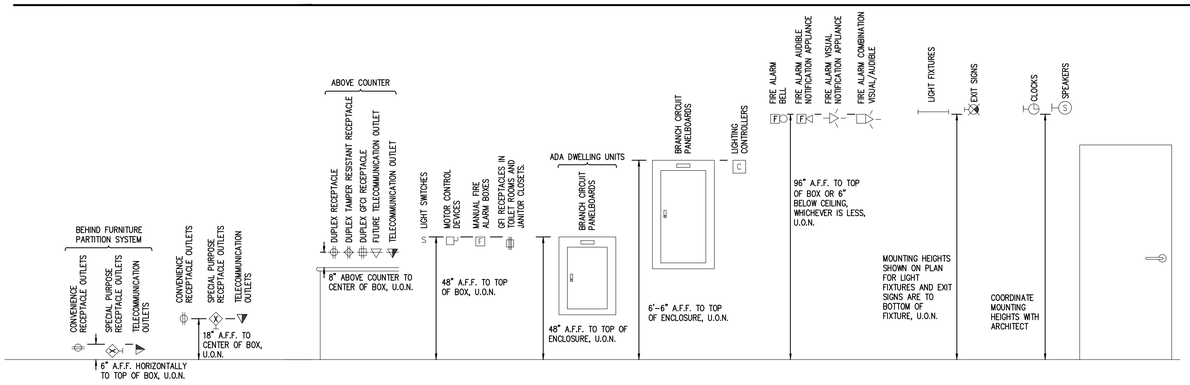
ELECTRICAL ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
A	AMPERES
AER	ARC ENERGY REDUCTION
AF	AMPERES FRAME (BREAKER RATING)
AFCI	ARC FAULT CIRCUIT INTERRUPTER
A.F.F.	ABOVE FINISH FLOOR
AIC	AMPS INTERRUPTING CAPACITY
AL	AUDIENCE LEFT
ALCR	AUTOMATIC LOAD CONTROL RELAY
AR	AUDIENCE RIGHT
AT	AMPERES TRIP (BREAKER SETTING)
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
BCELTS	BRANCH CIRCUIT EMERGENCY LIGHTING TRANSFER SWITCH
BKR	BREAKER
BPS	BOLTED PRESSURE SWITCH
C	CONDUIT
CB	CIRCUIT BREAKER
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CKT	CIRCUIT
CT	CURRENT TRANSFORMER
DEMO	DEMOLITION
DIM	DIMENSION
DISC	DISCONNECT
DP	DISTRIBUTION PANEL
DS	DOWNSTAGE
DWG	DRAWING
EBU	EMERGENCY BATTERY UNIT
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRICAL
EM/ EMERG	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EO	ELECTRICALLY OPERATED
EPO	EMERGENCY POWER OFF
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
FA	FIRE ALARM
FLA	FULL LOAD AMPS
FLR	FLOOR
FOH	FRONT OF HOUSE
FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR
FU	FUSE

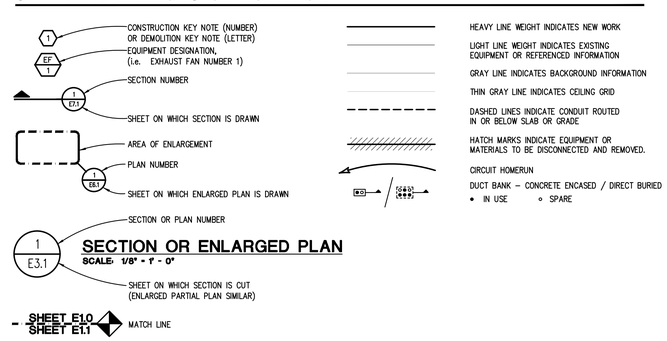
ABBREVIATION	DESCRIPTION
G/GRD/EG	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HV	HIGH VOLTAGE
HZ	HERTZ
IG	ISOLATED GROUND
JB	JUNCTION BOX
KA	THOUSAND AMP
KV	KILOVOLT
KVA	KILOVOLT – AMPERES
KW	KILOWATT
KWH	KILOWATT – HOURS
LA	LIGHTNING ARRESTOR
LP	LIGHTING PANEL
LDP	LIGHTING DISTRIBUTION PANEL
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MIN	MINIMUM
MISC.	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MOP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
MTG	MOUNTING
MTR	MOTOR
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSIBLE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE

ABBREVIATION	DESCRIPTION
OC	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
P	POLE
PB	PUSHBUTTON STATION
PH	PHASE
PT	POTENTIAL TRANSFORMER
PDP	POWER DISTRIBUTION PANEL
RECEPT.	RECEPTACLE
RDP	RECEPTACLE DISTRIBUTION PANEL
RP	RECEPTACLE PANEL
RSC	RIGID STEEL CONDUIT
SCCR	SHORT CIRCUIT CURRENT RATING
SCHED	SCHEDULE
SPD	SURGE PROTECTION DEVICE
ST	SHUNT TRIP
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TB	TERMINAL BOX
TELECOM	TELECOMMUNICATIONS
TR	TAMPER RESISTANT
TTB	TELEPHONE TERMINAL BACKBOARD
TYP	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
US	UPSTAGE
V	VOLTS
W	WIRE OR WATTS
WG	WIRE GUARD
WP	WEATHERPROOF
WR	WEATHER RESISTANT
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
(E)	EXISTING
(R)	RELOCATED

STANDARD MOUNTING HEIGHTS



STANDARD METHODS OF NOTATION



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PROJECT TITLE

Troy High School Bleacher Replacement

Troy School District
Troy, Michigan

DRAWING TITLE

ELECTRICAL STANDARDS AND DRAWING INDEX

ISSUE DATES

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FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE - GENERAL PURPOSE

OVERCURRENT DEVICE RATING (AMPERES)	COPPER CONDUCTORS						KEYED NOTES
	WIRE SIZE (AWG OR KCMIL)		CONDUIT SIZE				
	PHASE & NEUTRAL	GROUND	SINGLE PHASE 2 WIRE+G (1PH, 1N, 1G, 2PH, 1G)	SINGLE PHASE 3 WIRE+G (2PH, 1N, 1G)	THREE PHASE 3 WIRE+G (3PH, 1G)	THREE PHASE & NEUTRAL 4 WIRE+G (3PH, 1N, 1G)	
15–20	12	12	3/4"	3/4"	3/4"	3/4"	
25–30	10	10	3/4"	3/4"	3/4"	3/4"	
35–40	8	10	3/4"	3/4"	3/4"	3/4"	
45–50	8 (6)	10	3/4"	3/4"	3/4"	3/4"	1
60	6 (4)	10	3/4" (1")	3/4" (1")	3/4" (1")	1" (1 1/4")	1
70	4	8	1"	1 1/4"	1 1/4"	1 1/4"	
80	4 (3)	8	1"	1 1/4"	1 1/4"	1 1/4"	1
90–100	3 (2)	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"	1
110	2 (1)	6	–	1 1/4"	1 1/4"	1 1/4" (1 1/2")	1
125	1 (1/0)	6	–	1 1/4" (1 1/2")	1 1/4" (1 1/2")	1 1/2"	1
150	1/0	6	–	1 1/2"	1 1/2"	1 1/2"	
175	2/0	6	–	2"	2"	2"	
200	3/0	6	–	2"	2"	2 1/2"	
225	4/0	4	–	2"	2"	2 1/2"	
250	250	4	–	2 1/2"	2 1/2"	2 1/2"	
300	350	4	–	2 1/2"	2 1/2"	3"	
350	500	3	–	3"	3"	3"	
400	500	3	–	3"	3"	3"	

GENERAL NOTES:
1. CONTRACTOR TO SIZE FEEDERS AND BRANCH CIRCUITS BASED ON THIS SCHEDULE AND OVER CURRENT DEVICE SIZE, UNLESS NOTED OTHERWSE.
2. CONTRACTOR MAY COMBINE 20A CIRCUITS AS NOTED IN SPECIFICATION.
3. CONDUCTORS ARE BASED ON THHN/THWN UP TO AND INCLUDING #4/0. LARGER THAN #4/0 ARE BASED ON TYPE XHHW.
4. CONDUIT SIZES ARE VALID FOR EMT OR RGS. CONDUIT SIZES SHALL BE ADJUSTED AS REQUIRED FOR OTHER TYPES OF CONDUIT.
5. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE REQUIRED WIRE SIZES TO ACCOMMODATE MECHANICAL EQUIPMENT LUG SIZES.
6. SIZE OF DISCONNECT SWITCH LOCATED AT EQUIPMENT SHALL BE SIZED BASED UPON OVERCURRENT PROTECTION OF THAT DEVICE.
7. OBTAIN APPROVAL FROM ENGINEER PRIOR TO INSTALLING DIFFERENT SIZE/QUANTITY OF CONDUCTORS TO OBTAIN AN EQUIVALENT AMPACITY.
8. SPLICE FROM ALUMINUM TO COPPER PRIOR TO ENTERING EQUIPMENT LISTED FOR USE WITH COPPER CONDUCTORS ONLY OR USE COPPER CONDUCTORS FOR THE ENTIRE LENGTH OF FEEDER.

KEYED NOTES:
1. CONDUCTORS ARE BASED ON 90°C, 600V. INSULATED WIRE APPLIED AT 75°C FOR TERMINATION RATED 60/75°C OR 75°C. FOR TERMINATION RATED AT 60°C, USE CONDUCTORS AND CONDUIT SIZES INDICATED IN PARENTHESES.

RACEWAY / CONDUCTOR / CABLE APPLICATION SCHEDULE

		WIRE		RACEWAY								CABLE/CORD	
		COPPER, TYPE THHN/THWN-2	COPPER, TYPE XHHW-2	ELECTRICAL METALLIC TUBING (EMT)	INTERMEDIATE METAL CONDUIT (IMC)	RIGID STEEL CONDUIT (RSC)	PVC COATED RIGID STEEL CONDUIT	RIGID NON-METALLIC CONDUIT (RNC) TYPE EPC-40	FLEXIBLE METAL CONDUIT (FMC)	LIQUID TIGHT FLEXIBLE METAL CONDUIT (LFMC)	SURFACE RACEWAY	METAL CLAD TYPE CABLE WITH INSULATED GROUND WIRE (TYPE MC)	POWER LIMITED CABLE
BRANCH CIRCUITS – INTERIOR	CONCEALED, ACCESSIBLE CEILINGS	X		X	X							X	
	CONCEALED, INACCESSIBLE CEILINGS	X		X	X								
	CONCEALED IN GYPSUM BOARD PARTITION WALLS	X		X	X				X			X	
	CONCEALED IN CMU WALLS	X		X	X								
	EXPOSED, BELOW 10' AFF AND SUBJECT TO DAMAGE	X			X	X	X						
	EXPOSED, BELOW 10' AFF AND NOT SUBJECT TO DAMAGE	X		X	X						X		
	EXPOSED, ABOVE 10' AFF UNFINISHED SPACES	X		X	X								
	EXPOSED, FINISHED SPACES	X									X		
	DAMP AND WET LOCATIONS	X			X	X	X	X		X			
SPECIAL APPLICATIONS	CLASS 1 CONTROL CIRCUITS	X		X	X	X							
	CLASS 2 CONTROL CIRCUITS	X		X	X	X							X
	CLASS 3 CONTROL CIRCUITS	X		X	X	X							X
	CONNECTIONS TO TRANSFORMERS, MOTORS AND VIBRATING EQUIPMENT		X							X			

GENERAL NOTES:
1. REFER TO SPECIFICATIONS FOR RESTRICTIONS ON MC/AC CABLE INSTALLATION.
2. EMT SHALL NOT BE USED ON THE EXTERIOR OF A BUILDING OR IN AREAS SUBJECT TO DAMAGE BELOW 10' AFF.
3. INSTALL SURFACE RACEWAYS ONLY WHERE INDICATED ON DRAWINGS.

BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE FOR SINGLE PHASE CIRCUITS

BRANCH CKT RATING (A)	WIRE SIZE (AWG)	MAXIMUM BRANCH CIRCUIT LENGTH (IN FEET)				
		120V	208V	240V	277V	480V
20A	12	83	143	165	191	331
	10	128	222	256	295	511
	8	201	348	402	464	804
	6	313	542	625	721	1250
30A	10	85	148	170	197	341
	8	134	232	268	309	536
	6	208	361	417	481	833
	4	313	542	625	721	1250

GENERAL NOTES:
1. THE ABOVE TABLE VALUES ARE BASED ON COPPER CONDUCTORS, IN STEEL CONDUIT, WITH A LOAD POWER FACTOR OF 0.85 PER NEC CHAPTER 9, TABLE 9.
2. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.
3. CONDUCTOR SIZES ARE BASED ON MAXIMUM OF 9 CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT.
4. LIMITS FOR CONDUCTOR LENGTHS SHOWN ARE BASED ON A MAXIMUM BRANCH CIRCUIT LOADING OF 64% OF THE BRANCH BREAKER RATING AND A MAXIMUM OF 3 PERCENT VOLTAGE DROP TO COMPLY WITH ASHRAE 90.1 AND THE NEC. FOR CIRCUITS LOADED GREATER THAN 64% OF BRANCH BREAKER RATING, THE CONTRACTOR SHALL PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.

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260010 – ELECTRICAL GENERAL REQUIREMENTS

A. SCOPE OF WORK: ALL MATERIAL SHALL BE NEW UNLESS OTHERWISE INDICATED. FURNISH ALL LABOR, EQUIPMENT, TECHNICAL SUPERVISION, AND INCIDENTAL SERVICES REQUIRED TO COMPLETE, TEST, AND LEAVE READY FOR OPERATION THE ELECTRICAL SYSTEMS AS SPECIFIED AND AS INDICATED ON DRAWINGS.
B. ORDINANCES AND CODES: PERFORM ALL WORK IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL ORDINANCES AND REGULATIONS, THE RULES AND REGULATIONS OF NFPA, NECA, AND UL, UNLESS OTHERWISE INDICATED.
C. UNLESS OTHERWISE INDICATED, ALL REQUIRED PERMITS, LICENSES, INSPECTIONS, APPROVALS AND FEES FOR ELECTRICAL WORK SHALL BE SECURED AND PAID FOR BY THE CONTRACTOR. ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES, RULES AND REGULATIONS.
D. THE DRAWINGS SHOW THE LOCATION AND GENERAL ARRANGEMENT OF EQUIPMENT, ELECTRICAL SYSTEMS AND RELATED ITEMS. THEY SHALL BE FOLLOWED AS CLOSELY AS ELEMENTS OF THE CONSTRUCTION WILL PERMIT.
E. EXAMINE THE DRAWINGS OF OTHER TRADES AND VERIFY THE CONDITIONS GOVERNING THE WORK ON THE JOB SITE. ARRANGE WORK ACCORDINGLY, PROVIDING SUCH FITTINGS, CONDUIT, JUNCTION BOXES AND ACCESSORIES AS MAY BE REQUIRED TO MEET SUCH CONDITIONS.
F. COORDINATE ARRANGEMENT, MOUNTING AND SUPPORT OF ELECTRICAL EQUIPMENT WITH OTHER TRADES.
G. VISIT THE SITE, EXAMINE AND VERIFY THE CONDITIONS UNDER WHICH THE WORK MUST BE CONDUCTED BEFORE SUBMITTING PROPOSAL. THE SUBMITTING OF A PROPOSAL IMPLIES THAT THE CONTRACTOR HAS VISITED THE SITE AND UNDERSTANDS THE CONDITIONS UNDER WHICH THE WORK MUST BE CONDUCTED. NO ADDITIONAL CHARGES WILL BE ALLOWED BECAUSE OF FAILURE TO MAKE THIS EXAMINATION OR TO INCLUDE ALL MATERIALS AND LABOR TO COMPLETE THE WORK.
H. BIDS SHALL BE BASED UPON MANUFACTURED EQUIPMENT SPECIFIED. VOLUNTARY ALTERNATES MAY BE SUBMITTED FOR CONSIDERATION, WITH LISTED ADDITION OR DEDUCTION TO THE BID.
I. WARRANTY: CONTRACTOR SHALL WARRANTY THAT THE ELECTRICAL INSTALLATION IS FREE FROM DEFECTS AND AGREES TO REPLACE OR REPAIR, TO THE OWNER'S SATISFACTION, ANY PART OF THIS ELECTRICAL INSTALLATION WHICH BECOMES DEFECTIVE WITHIN A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION FOLLOWING FINAL ACCEPTANCE, PROVIDED THAT SUCH FAILURE IS DUE TO DEFECTS IN THE EQUIPMENT, MATERIAL, WORKMANSHIP OR FAILURE TO FOLLOW THE CONTRACT DOCUMENTS.
J. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY TEMPORARY SERVICES INCLUDING EQUIPMENT AND INSTALLATION REQUIRED TO MAINTAIN OPERATION AS A RESULT OF ANY EQUIPMENT FAILURE OR DEFECT DURING WARRANTY PERIOD.
K. FILE WITH THE OWNER ANY AND ALL WARRANTIES FROM THE EQUIPMENT MANUFACTURERS INCLUDING THE OPERATING CONDITIONS AND PERFORMANCE CAPACITIES THEY ARE BASED ON.
L. CONSULT WITH THE OWNER'S REPRESENTATIVE AS TO THE METHODS OF CARRYING ON THE WORK SO AS NOT TO INTERFERE WITH THE OWNER'S OPERATION ANY MORE THAN ABSOLUTELY NECESSARY. ACCORDINGLY, ALL SERVICE LINES SHALL BE KEPT IN OPERATION AS LONG AS POSSIBLE AND THE SERVICES SHALL ONLY BE INTERRUPTED AT SUCH TIME AS WILL BE DESIGNATED BY THE OWNER'S REPRESENTATIVE.
M. ALL CUTTING, PATCHING AND REPAIR WORK SHALL BE PERFORMED BY THE CONTRACTOR THROUGH APPROVED, QUALIFIED SUBCONTRACTORS. CONTRACTOR SHALL INCLUDE FULL COST OF SAME IN BID.
N. INSPECT THE INSTALLATION OF ALL EQUIPMENT PER THE MANUFACTURER'S RECOMMENDATION AND APPLICABLE CODES.
O. PROVIDE UL APPROVED FIRE–STOPPING SYSTEM FOR ALL PENETRATIONS PASSING THROUGH FIRE RATED ASSEMBLIES.
P. COMPLY WITH NECA 1.
Q. PROVIDE COMPLETE OPERATION AND MAINTENANCE INSTRUCTIONAL MANUALS COVERING ALL ELECTRICAL EQUIPMENT HEREIN SPECIFIED, TOGETHER WITH PARTS LISTS.
R. CONTRACTOR SHALL SUBMIT TO THE ARCHITECT/ENGINEER, RECORD DRAWINGS ON ELECTRONIC MEDIA OR MYLAR WHICH HAVE BEEN NEATLY MARKED TO REPRESENT AS–BUILT CONDITIONS FOR ALL NEW ELECTRICAL WORK.
S. SUBMIT FOR REVIEW SHOP DRAWINGS FOR ELECTRICAL SYSTEMS OR EQUIPMENT LISTED BELOW:
   1. DISCONNECT SWITCHES

DEMOLITION WORK

A. IN GENERAL, DEMOLITION WORK IS INDICATED ON THE DRAWINGS. HOWEVER, THE CONTRACTOR SHALL VISIT THE JOB SITE TO DETERMINE THE FULL EXTENT AND SCOPE OF THIS WORK.
B. UNLESS SPECIFICALLY NOTED TO THE CONTRARY, REMOVED MATERIALS SHALL NOT BE REUSED IN THE WORK. SALVAGED MATERIALS THAT ARE TO BE REUSED SHALL BE STORED SAFE AGAINST DAMAGE AND TURNED OVER TO THE APPROPRIATE TRADE FOR REUSE. SALVAGED MATERIALS OF VALUE THAT ARE NOT TO BE REUSED SHALL REMAIN THE PROPERTY OF THE OWNER UNLESS SUCH OWNERSHIP IS WAIVED. ITEMS ON WHICH THE OWNER WAIVES OWNERSHIP SHALL BECOME THE PROPERTY OF THE CONTRACTOR, WHO SHALL REMOVE AND LEGALLY DISPOSE OF SAME, AWAY FROM THE PREMISES.
C. WHERE EQUIPMENT OR FIXTURES ARE REMOVED AND WALLS REMAIN, OUTLETS SHALL BE PROPERLY BLANKED OFF, CONDUITS CAPPED, AND CONDUCTORS REMOVED BACK TO SOURCE OR NEAREST UPSTREAM DEVICE REMAINING IN SERVICE. AFTER ALTERATIONS ARE DONE, THE ENTIRE INSTALLATION SHALL PRESENT A "FINISHED" LOOK, AS APPROVED BY THE ARCHITECT/ENGINEER. THE ORIGINAL FUNCTION OF THE PRESENT ELECTRICAL WORK TO BE MODIFIED SHALL NOT BE CHANGED UNLESS REQUIRED BY THE SPECIFIC REVISIONS TO THE SYSTEM AS SPECIFIED OR AS INDICATED.
D. ALL ELECTRICAL WORK IN ALTERED AND UNALTERED AREAS SHALL BE RUN CONCEALED WHEREVER POSSIBLE. USE OF SURFACE RACEWAY OR EXPOSED CONDUITS WILL BE PERMITTED ONLY WHERE APPROVED BY THE ARCHITECT/ENGINEER.

260519 – CONDUCTORS AND CABLES

A. CONDUCTOR MATERIAL: COPPER COMPLYING WITH NEMA WC 70; STRANDED CONDUCTOR.
B. CONDUCTOR INSULATION TYPES: TYPE THHN–THWN, XHHW–2, SO, COMPLYING WITH NEMA WC 70.
C. CONCEAL CABLES IN FINISHED WALLS, CEILINGS, AND FLOORS, UNLESS OTHERWISE INDICATED.
D. USE CONDUCTOR NOT SMALLER THAN 12 AWG FOR POWER AND LIGHTING CIRCUITS. UNLESS INDICATED OTHERWISE, ALL CIRCUITS SHALL BE 2#12, 1#12G, 3/4"C.
E. USE CONDUCTOR NOT SMALLER THAN 14 AWG FOR CONTROL CIRCUITS, PROVIDED BY ELECTRICAL CONTRACTOR.
F. SUPPORT COMMUNICATION CABLES ABOVE ACCESSIBLE CEILING, USING SPRING METAL CLIPS OR PLASTIC CABLE TIES TO SUPPORT CABLES FROM STRUCTURE. DO NOT REST CABLE ON CEILING PANELS.
G. USE "STA–KON" CONNECTORS TO TERMINATE STRANDED CONDUCTORS #10 AWG AND SMALLER TO SCREW TERMINALS.
H. CONDUCTOR AND INSULATION APPLICATIONS:
   1. REFER TO APPLICATION SCHEDULE INCLUDED ON THE DRAWINGS.
   2. CORD DROPS AND PORTABLE APPLIANCE CONNECTIONS: TYPE SO, HARD SERVICE CORD

260526 – GROUNDING AND BONDING

A. EQUIPMENT GROUNDING: COMPLY WITH NFPA 70, ARTICLE 250, FOR TYPES, SIZES, AND QUANTITIES OF EQUIPMENT GROUNDING CONDUCTORS, UNLESS SPECIFIC TYPES, LARGER SIZES, OR MORE CONDUCTORS THAN REQUIRED BY NFPA 70 ARE INDICATED.
B. PROVIDE EQUIPMENT GROUNDING CONDUCTORS IN EACH RACEWAY.

260533 – RACEWAYS AND BOXES

A. SURFACE METAL RACEWAYS: GALVANIZED STEEL WITH SNAP–ON COVERS. FINISH WITH MANUFACTURER'S STANDARD PRIME COATING. WIREMOLD OR EQUAL. SIZE/TYPE AS SHOWN ON DRAWINGS.
B. MINIMUM RACEWAY SIZE: 3/4–INCH TRADE SIZE.
C. INSTALL CONDUIT IN ACCORDANCE WITH NECA "NATIONAL ELECTRICAL INSTALLATION STANDARDS".
D. ROUTE CONDUITS IN FINISHED AREAS WITH EXPOSED CEILINGS AT UNDERSIDE OF STRUCTURAL DECK OR AS HIGH AS POSSIBLE. WHERE STEEL METAL DECK ON STEEL JOIST CONSTRUCTION, ROUTE CONDUITS ABOVE JOISTS. DO NOT SECURE CONDUIT TO BOTTOM OF JOISTS.
E. RACEWAY APPLICATIONS: REFER TO RACEWAY APPLICATIONS SCHEDULE INCLUDED ON THE DRAWINGS.
F. FITTINGS FOR EMT: STEEL, COMPRESSION OR SET SCREW TYPE.
G. CONCEAL CONDUIT AND EMT WITHIN FINISHED WALLS, CEILINGS, AND FLOORS UNLESS OTHERWISE INDICATED.

260553 – ELECTRICAL IDENTIFICATION

A. COMPLY WITH ANSI A13.1, ANSI C2, NFPA 70, AND 29 CFR 1910.145.
B. COORDINATE IDENTIFICATION NAMES, ABBREVIATIONS, COLORS, AND OTHER FEATURES WITH REQUIREMENTS IN THE CONTRACT DOCUMENTS, SHOP DRAWINGS, MANUFACTURER'S WIRING DIAGRAMS, AND THE OPERATION AND MAINTENANCE MANUAL, AND WITH THOSE REQUIRED BY CODES, STANDARDS, AND 29 CFR 1910.145. USE CONSISTENT DESIGNATIONS THROUGHOUT PROJECT.
C. COORDINATE INSTALLATION OF IDENTIFYING DEVICES WITH COMPLETION OF COVERING AND PAINTING OF SURFACES WHERE DEVICES ARE TO BE APPLIED, WITH LOCATION OF ACCESS PANELS AND DOORS.
D. INSTALL IDENTIFYING DEVICES BEFORE INSTALLING ACOUSTICAL CEILINGS AND SIMILAR CONCEALMENT.
E. INSTALL ENGRAVED, LAMINATED ACRYLIC OR MELAMINE LABEL THAT ARE PUNCHED OR DRILLED FOR SCREW MOUNTING WITH SELF TAPPING STAINLESS STEEL SCREWS. LABELS SHALL HAVE BLACK LETTERS ON A WHITE BACKGROUND. MINIMUM LETTER HEIGHT SHALL BE 3/8 INCH (10 MM). LABELS SHALL BE INSTALLED ON ALL ELECTRICAL EQUIPMENT AFFECTED BY PROJECT.
   1. PANELBOARD AND TRANSFORMER NAMEPLATES: IDENTIFY SOURCE FED FROM, VOLTAGE, SIZE, AND NAME.
   2. ENCLOSED CONTROLLERS, CIRCUIT BREAKERS, DISCONNECT SWITCHES: IDENTIFY SOURCE AND LOAD SERVED.
F. USE THE COLORS LISTED BELOW FOR UNGROUNDED SERVICE, FEEDER, AND BRANCH–CIRCUIT CONDUCTORS.
   1. COLOR SHALL BE FACTORY APPLIED OR, FOR SIZES LARGER THAN NO. 10 AWG IF AUTHORITIES HAVING JURISDICTION PERMIT, FIELD APPLIED.
   2. COLORS FOR 208/120–V CIRCUITS:
      a. PHASE A: BLACK.
      b. PHASE B: RED.
      c. PHASE C: BLUE.
      d. NEUTRAL: WHITE.
   3. FIELD–APPLIED, COLOR–CODING CONDUCTOR TAPE: APPLY IN HALF–LAPPED TURNS FOR A MINIMUM DISTANCE OF 6 INCHES FROM TERMINAL POINTS AND IN BOXES WHERE SPLICES OR TAPS ARE MADE. APPLY LAST TWO TURNS OF TAPE WITH NO TENSION TO PREVENT POSSIBLE UNWINDING. LOCATE BANDS TO AVOID OBSCURING FACTORY CABLE MARKINGS.
G. WARNING LABELS FOR INDOOR CABINETS, BOXES, AND ENCLOSURES FOR POWER AND LIGHTING: COMPLY WITH 29 CFR 1910.145 AND APPLY SELF–ADHESIVE WARNING LABELS. IDENTIFY SYSTEM VOLTAGE WITH BLACK LETTERS ON AN ORANGE BACKGROUND. APPLY TO EXTERIOR OF DOOR, COVER, OR OTHER ACCESS.
   1. EQUIPMENT REQUIRING WORKSPACE CLEARANCE ACCORDING TO NFPA 70: UNLESS OTHERWISE INDICATED, APPLY TO DOOR OR COVER OF EQUIPMENT BUT NOT ON FLUSH PANELBOARDS AND SIMILAR EQUIPMENT IN FINISHED SPACES.

262816 – ENCLOSED SWITCHES AND CIRCUIT BREAKERS

A. SUBJECT TO COMPLIANCE WITH REQUIREMENTS; PROVIDE PRODUCTS BY SQUARE D.
B. NON–FUSIBLE SWITCHES: NEMA KS 1, QUICK MAKE, QUICK–BREAK LOAD INTERRUPTER ENCLOSED KNIFE SWITCH TYPE HD, EXTERNALLY OPERABLE LOCKABLE HANDLE WITH CAPABILITY TO ACCEPT TWO PADLOCKS, AND INTERLOCKED WITH COVER IN CLOSED POSITION. SQUARE D.
C. MOLDED–CASE CIRCUIT BREAKER: NEMA AB 1, WITH INTERRUPTING CAPACITY TO MEET AVAILABLE FAULT CURRENTS. THERMAL–MAGNETIC CIRCUIT BREAKER WITH INVERSE TIME–CURRENT ELEMENT FOR LOW–LEVEL OVERLOADS AND INSTANTANEOUS MAGNETIC TRIP ELEMENT FOR SHORT CIRCUITS.
D. COMPLY WITH APPLICABLE PORTIONS OF NECA 1, NEMA PB 1.1, AND NEMA PB 2.1 FOR INSTALLATION OF ENCLOSED SWITCHES AND CIRCUIT BREAKERS.

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Troy School District
Troy, Michigan

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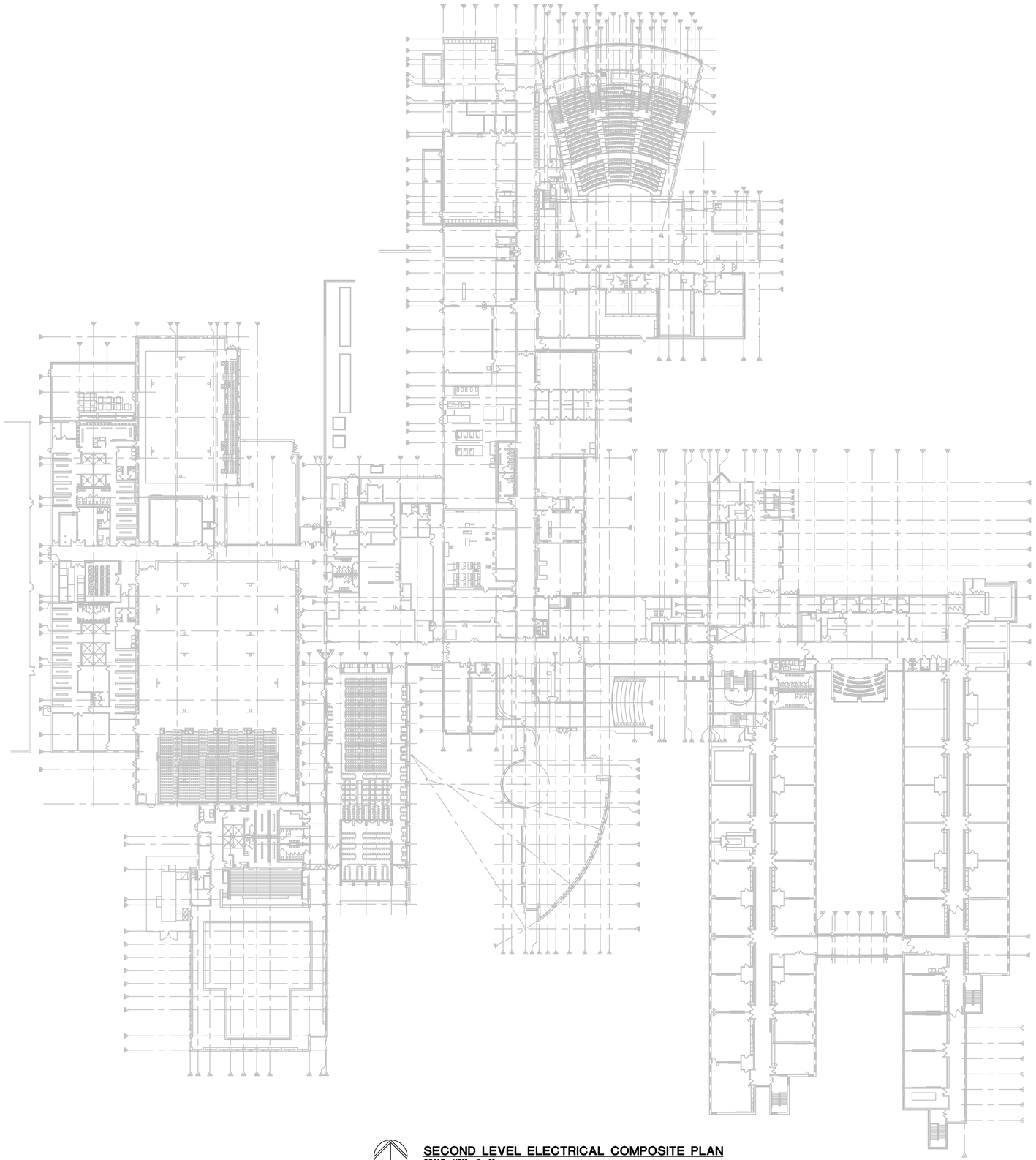

SECOND LEVEL ELECTRICAL COMPOSITE PLAN
SCALE: 1/32" = 1' - 0"

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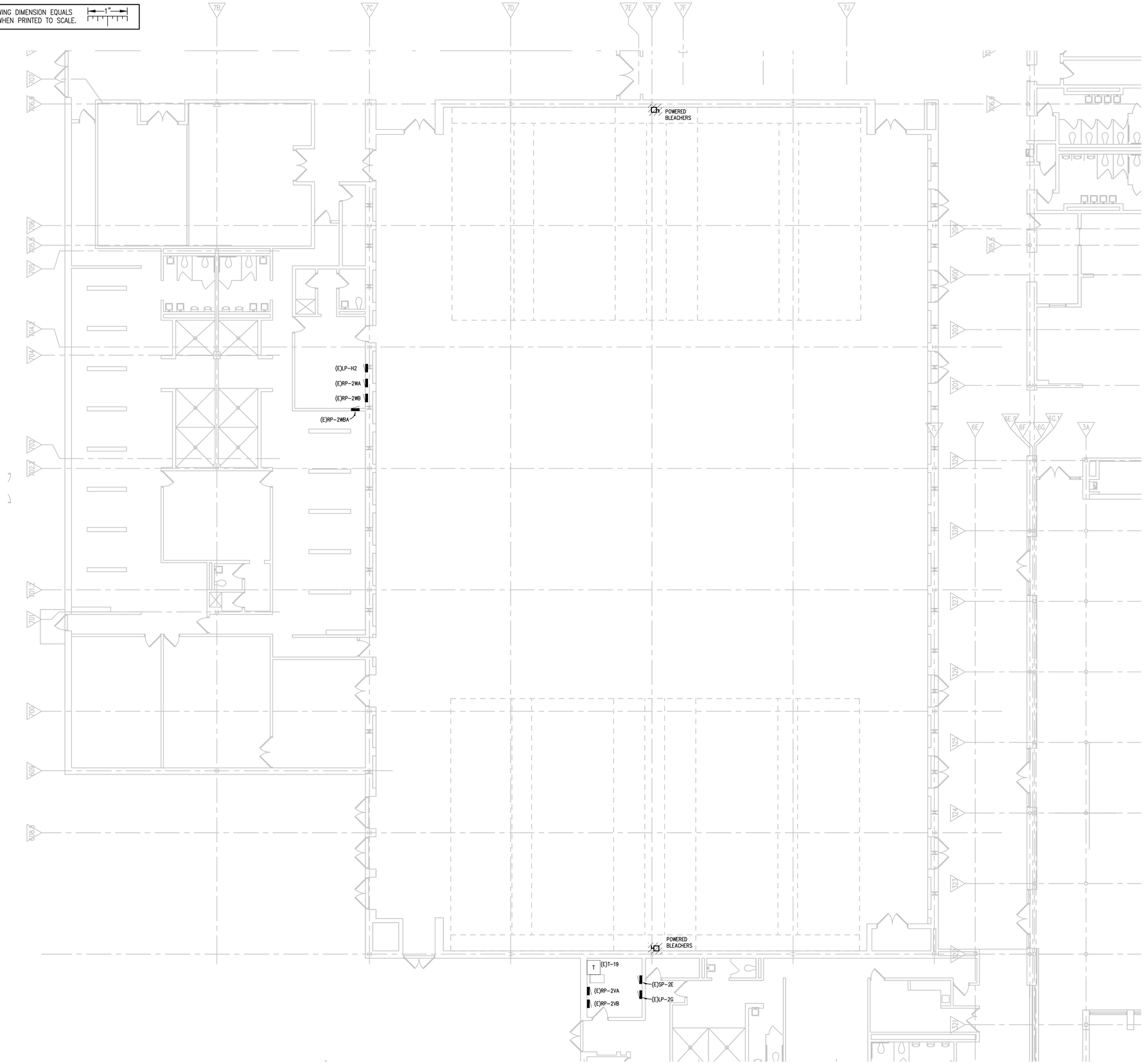
THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE. 1"



SECOND LEVEL ELECTRICAL DEMOLITION PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

ELECTRICAL DEMOLITION GENERAL NOTES:

1. VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK.
2. EXAMINE THE DRAWINGS OF OTHER TRADES AND BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES, WHETHER OR NOT SPECIFICALLY INDICATED.
3. REMOVE EQUIPMENT OR MATERIALS AS INDICATED ON PLAN WITH CROSS HATCHING. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO, THOSE COMPONENTS SHOWN.
4. COORDINATE WITH NEW WORK PLANS, ONE LINE DIAGRAMS AND RISER DIAGRAMS FOR EXTENT OF DEMOLITION WORK.
5. PROVIDE PROPER SUPPORT FOR EXISTING TO REMAIN CONDUITS AND BOXES WHERE EXISTING SUPPORT IS TO BE REMOVED. RE-ROUTE BRANCH CIRCUIT CONDUITS AND RELOCATE JUNCTION BOXES AS REQUIRED TO FACILITATE INSTALLATION OF NEW EQUIPMENT AND SYSTEMS IN CEILING SPACES.
6. REMOVE ALL CONDUIT AND WIRE BACK TO THE SOURCE OR NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.
7. MAINTAIN ELECTRICAL SERVICE TO ALL LIGHTING FIXTURES, DEVICES AND EQUIPMENT THAT ARE TO REMAIN. EXTEND CONDUIT AND WIRE AS REQUIRED WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM LOADS THAT ARE TO REMAIN.
8. DISPOSE OF ALL MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. ALL MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, INCLUDING TCLP TESTING, PROPER DISPOSAL AND/OR RECYCLING OF FLUORESCENT LAMPS.
9. PROVIDE BLANK COVER PLATES WHERE SWITCHES AND DEVICES ARE REMOVED BUT EXISTING WALLS REMAIN INTACT.
10. RING OUT AND TAG ALL CIRCUITS AFFECTED BY THIS ALTERATION AT BOTH ENDS. MARK ALL UNUSED CIRCUIT BREAKERS "SPARE".
11. PROVIDE UPDATED TYPED-IN DIRECTORIES FOR ALL PANELS AFFECTED BY THIS ALTERATION.
12. COORDINATE ANY SHUT DOWN OF EXISTING SERVICES AND EQUIPMENT THAT ARE REMAINING IN USE WITH THE OWNER'S REPRESENTATIVE. WHERE EXISTING BUILDING SERVICE IS REQUIRED TO BE SHUT DOWN, INCLUDE ALL ASSOCIATED OVERTIME COSTS TO PERFORM THIS WORK DURING WEEKENDS AND EVENINGS INCLUDE ALL COSTS FOR PROVIDING TEMPORARY POWER WHERE SHUT DOWNS MUST OCCUR FOR PERIODS LONGER THAN THESE HOURS. COORDINATE ELECTRICAL SHUT DOWNS WITH THE OWNER 72 HOURS PRIOR TO SHUT DOWN.

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PBA Project No.: x

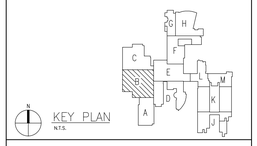
PROJECT TITLE

Troy High School Bleacher Replacement

Troy School District
Troy, Michigan

DRAWING TITLE

SECOND LEVEL ELECTRICAL DEMOLITION PLAN - ZONE B



ISSUE DATES

DATE:	ISSUED FOR:
12-6-2022	CONSTRUCTION DOCUMENTS

DRAWN ZDB
CHECKED STP
APPROVED STP

PROJECT NO.

13174J

DRAWING NO.

ED1.1

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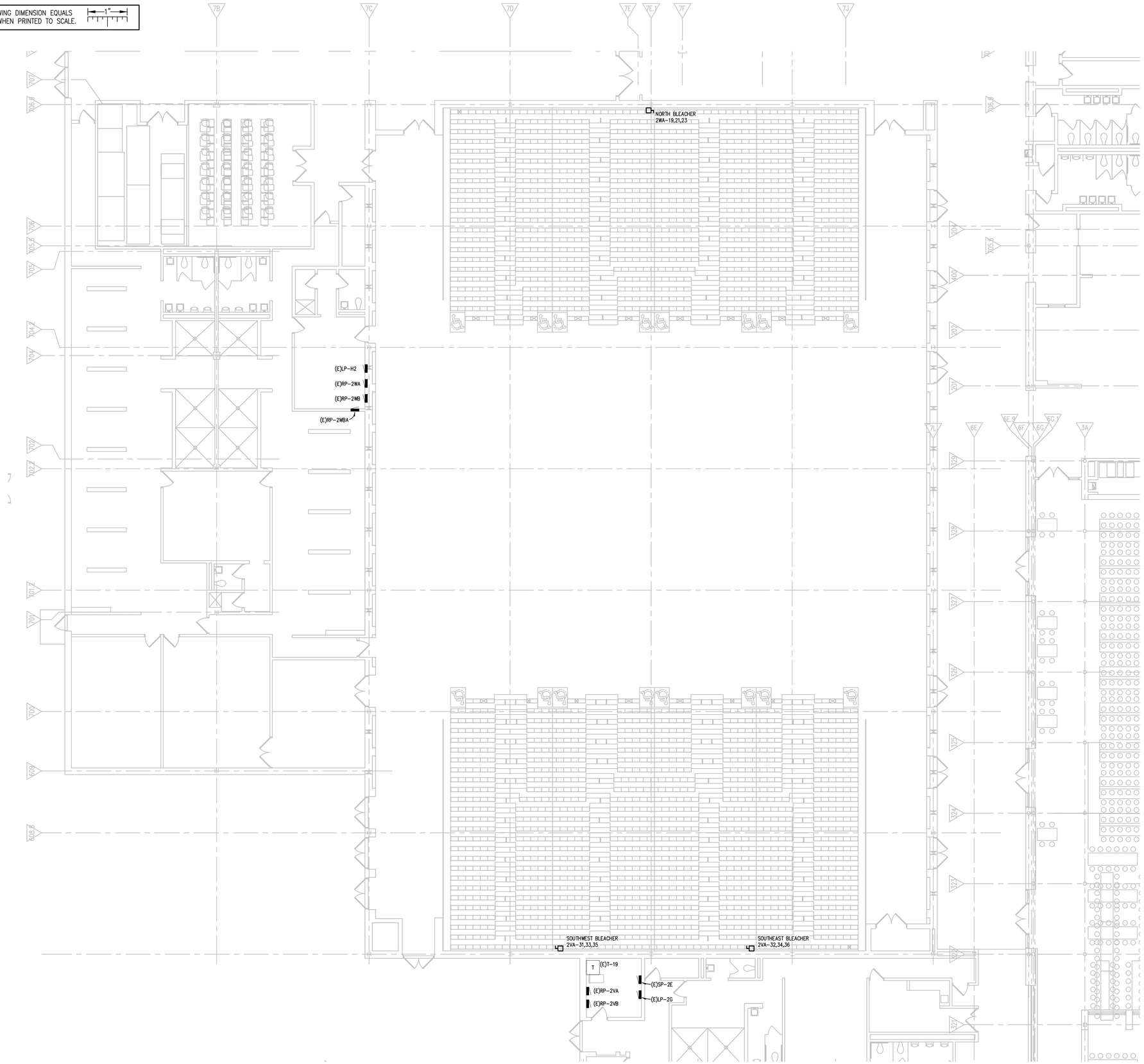

SECOND LEVEL ELECTRICAL NEW WORK PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

ELECTRICAL GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.

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PBA Project No.: x

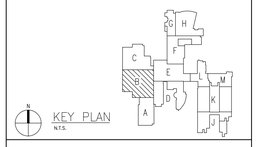
PROJECT TITLE

Troy High School Bleacher Replacement

Troy School District
Troy, Michigan

DRAWING TITLE

SECOND LEVEL ELECTRICAL NEW WORK PLAN - ZONE B



ISSUE DATES

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12-6-2022	CONSTRUCTION DOCUMENTS

DRAWN	ZDB
CHECKED	STP
APPROVED	STP

PROJECT NO.

13174J

DRAWING NO.

E3.1

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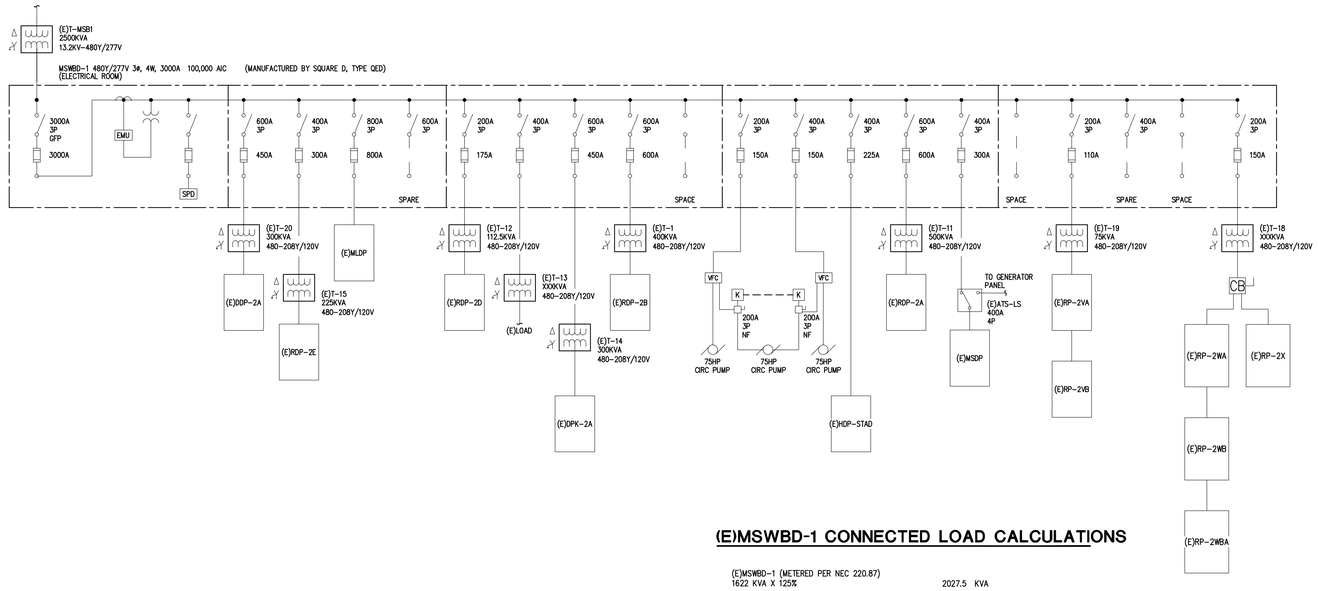

(E)MSWBD-1 CONNECTED LOAD CALCULATIONS

(E)MSWBD-1 (METERED PER NEC 220.87) 1622 KVA X 125%	2027.5	KVA
(E)RP-2VA AND (E)RP-2WA (REMOVED LOAD)	(13.5)	KVA
(E)RP-2VA AND (E)RP-2WA (ADDED LOAD)	11.1	KVA
(E)MSWBD-1 TOTAL CONNECTED LOAD	2025.1	KVA

EXISTING RP-2WA

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
2	NC	EXISTING LOAD		20	500	1000			500	20		EXISTING LOAD	NC	1
4	NC	EXISTING LOAD		20	500		1000		500	20		EXISTING LOAD	NC	3
6	NC	EXISTING LOAD		20	500			1000	500	20		EXISTING LOAD	NC	5
8	NC	EXISTING LOAD		20	500	1000			500	20		EXISTING LOAD	NC	7
10	NC	EXISTING LOAD		20	500		1000		500	20		EXISTING LOAD	NC	9
12	NC	EXISTING LOAD		20	500			1000	500	20		EXISTING LOAD	NC	11
14	NC	EXISTING LOAD		20	500	1000			500	20		EXISTING LOAD	NC	13
16	NC	EXISTING LOAD		20	500		1000		500	20		EXISTING LOAD	NC	15
18	NC	EXISTING LOAD		20	500			1000	500	20		EXISTING LOAD	NC	17
20	NC	EXISTING LOAD		20	500	2080			1580		NEW		NC	19
22	NC	EXISTING LOAD		20	500		2080		1580	15	NEW	NORTH BLEACHERS	NC	21
24	NC	EXISTING LOAD		20	500			2080	1580		NEW		NC	23
26	NC	EXISTING LOAD		20	500	500						SPACE		25
28	NC	EXISTING LOAD		20	500		1000		500	20		EXISTING LOAD	NC	27
30	NC	EXISTING LOAD		20	500			1000	500	20		EXISTING LOAD	NC	29
						5580	6080	6080						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 400A
MAIN TYPE: MLO
MINIMUM A.I.C.:
MOUNTING: FLUSH

☐ FEED-THROUGH LUGS
☐ DOUBLE LUGS
☐ INTEGRAL SPD

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD		DEMAND FACTOR	CALCULATED LOAD	FEEDER AND OVERCURRENT SIZING		NOTES:
CONTINUOUS LOAD (C)		100%		125%		
ELECTRIC HEAT (E)		100%		100%		
NON-CONTINUOUS LOAD (NC)	17740	100%	17740	100%	17740	
KITCHEN LOAD (K)		100%		100%		
RECEPTACLE BASE LOAD (R)		100%		100%		
RECEPTACLE DEMAND LOAD (R)		50%		100%		
LIGHTING LOAD (L)		100%		125%		
				100%		
ADDITIONAL TRACK LIGHTING LOAD				100%		
MOTORS, HIGHEST LOAD (MH)		125%		100%		
MOTORS, REMAINING LOAD (M)		100%		100%		
		TOTAL(KVA):	17.74			
NOTE: DEMAND AND SIZING INFORMATION IS CALCULATED FROM CONNECTED LOAD		TOTAL (AMPS):	49	TOTAL (AMPS):	49	

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EXISTING RP-2VA

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1		SPACE				500			500	20		EXISTING LOAD	NC	2
3		SPACE					500		500	20		EXISTING LOAD	NC	4
5		SPACE						500	500	20		EXISTING LOAD	NC	6
7		SPACE				500			500	20		EXISTING LOAD	NC	8
9	NC	EXISTING LOAD		20	500		1000		500	20		EXISTING LOAD	NC	10
11	NC	EXISTING LOAD		20	500			1000	500	20		EXISTING LOAD	NC	12
13	NC	EXISTING LOAD		20	500	1000			500	20		EXISTING LOAD	NC	14
15	NC	EXISTING LOAD		20	500		1000		500	20		EXISTING LOAD	NC	16
17	NC	EXISTING LOAD		20	500			1000	500	20		EXISTING LOAD	NC	18
19	NC	EXISTING LOAD		20	500	1000			500	20		EXISTING LOAD	NC	20
21	NC	EXISTING LOAD		20	500		1000		500	20		EXISTING LOAD	NC	22
23	NC	EXISTING LOAD		20	500			1000	500	20		EXISTING LOAD	NC	24
25	NC	EXISTING LOAD		20	500	1000			500	20		EXISTING LOAD		26
27	NC	EXISTING LOAD		20	500		1000		500	20		EXISTING LOAD	NC	28
29	NC	EXISTING LOAD		20	500			1000	500	20		EXISTING LOAD	NC	30
31	NC		NEW		1050	2100			1050		NEW		NC	32
33	NC	SOUTHEAST BLEACHERS	NEW	15	1050		2100		1050	15	NEW	SOUTHWEST BLEACHERS	NC	34
35	NC		NEW		1050			2100	1050		NEW		NC	36
37		SPARE		20		750			750	30		EXISTING LOAD	NC	38
39		SPACE										SPACE		40
41		SPACE										SPACE		42
						6850	6600	6600						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: 175A MCB
MINIMUM A.I.C.:
MOUNTING: SURFACE

☐ FEED-THROUGH LUGS
☐ DOUBLE LUGS
☐ INTEGRAL SPD

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD		DEMAND FACTOR	CALCULATED LOAD	FEEDER AND OVERCURRENT SIZING		NOTES:
CONTINUOUS LOAD (C)		100%		125%		
ELECTRIC HEAT (E)		100%		100%		
NON-CONTINUOUS LOAD (NC)	19550	100%	19550	100%	19550	
KITCHEN LOAD (K)		100%		100%		
RECEPTACLE BASE LOAD (R)		100%		100%		
RECEPTACLE DEMAND LOAD (R)		50%		100%		
LIGHTING LOAD (L)		100%		125%		
ADDITIONAL TRACK LIGHTING LOAD				100%		
MOTORS, HIGHEST LOAD (MH)		125%		100%		
MOTORS, REMAINING LOAD (M)		100%		100%		
		TOTAL(KVA):	19.55			
NOTE: DEMAND AND SIZING INFORMATION IS CALCULATED FROM CONNECTED LOAD		TOTAL (AMPS):	54	TOTAL (AMPS):	54	

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DIAGRAM GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
2. FEEDER AND BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH THE "FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE—GENERAL PURPOSE" ON THE "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS SPECIFICALLY NOTED OTHERWISE.
3. BASIS OF DESIGN IS SQUARE D DISTRIBUTION EQUIPMENT. IF THE CONTRACTOR ELECTS TO PROVIDE EQUIPMENT FROM OTHER APPROVED MANUFACTURERS, THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THE LAYOUT AND CLEARANCE REQUIREMENTS IN ALL SPACES CONTAINING ELECTRICAL EQUIPMENT AND PROVIDE EQUIPMENT MEETING THE SPECIFICATIONS AND ACHIEVING CODE REQUIRED CLEARANCES WITHIN THE SPACE PROVIDED.

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PBA Project No.: x

PROJECT TITLE

Troy High School Bleacher Replacement

Troy School District
Troy, Michigan

DRAWING TITLE

ONE LINE DIAGRAM

ISSUE DATES

DATE:	ISSUED FOR:
12-6-2022	CONSTRUCTION DOCUMENTS

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CHECKED STP
APPROVED STP

PROJECT NO.
13174J

DRAWING NO.
E5.1

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Addendum 1

Project: **BID NO. 9954 TROY HIGH SCHOOL GYM BLEACHER REPLACEMENT PROJECT**

Bid Due date: 10:30 AM Local Time, Wednesday, December 22, 2022 (UNCHANGED)

This Addendum is issued as modifications to the RFP previously issued to provide clarifications to the scope of work. This Addendum supersedes the original RFP. This along with the RFP becomes the bid documents.

I. General Information

1. For questions e-mail purchasingoffice@troy.k12.mi.us or through Buildingconnected.com.

II. Questions and Answers.

Q1. The drawings show permanent ADA notches without safety rails (rails are not required by code) and not recoverable ADA notches as stated in Specification Section Article 2.02.5.a, b and c. They are available on the 5 row bleachers in the auxiliary gymnasium.

A1. All ADA spaces in the main gym to be permanent notch outs and in the auxiliary gym to be recoverable notches.

Q2. Who is responsible for submitting the documents for plan review in order to obtain the required permits?

A2. The architect will submit the documents for plan review to the authority having jurisdiction, the State. The plan review cost shall not be included in this scope, but the bidder is responsible to obtain permits and all permit costs.

END

TROY SCHOOL DISTRICT
BID 9954 TROY HIGH SCHOOL
GYM BLEACHER REPLACEMENT PROJECT
BID DUE DATE AND TIME: DECEMBER 21, 2022 AT 10:30 AM

Bidders Name	Bidders Location	Bid Security	Addendum 1 Noted	Familial Relationship Affidavit	Iran Linked Business Affidavit	Grand Total	Remarks
Irwin Seating Company	Altamont, IL	Y	Y	Y	Y	$567,229.67	Qualification included
Interkal, LLC	Kalamazoo, MI	Y	Y	Y	Y	$467,044.00	