ADDENDUM NO. 2

March 16, 2021

SCHOOL CITY OF HAMMOND -
HAMMOND CENTRAL HIGH SCHOOL
BID PACKAGE 3 - ATHLETIC FIELDS AND DEMOLITION
Hammond, IN 46320

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated February 17, 2021 by Schmidt Associates. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 2-1 through ADD 2-3 and attached Addendum No. 2 from Schmidt Associates dated March 16, 2021 and consisting of six (6) pages, Specification Sections 08 33 13 - Coiling Counter Doors, 12 93 00 - Site Furnishings, 13 34 16.01 - Home Grandstands, 13 34 17 - Metal Structure Pressbox, 28 23 00.99 - Video Surveillance Systems (VSS), and ten (10) drawings.

A. SPECIFICATION SECTION 00 00 20 - TABLE OF CONTENTS

1. **Add:**

   Section 13 34 16.01 - Home Grandstands
   Section 13 34 17 - Metal Structural Pressbox

2. **Delete:**

   Section 28 13 00.99 - Electronic Access Control Systems (ACS)

B. **SPECIFICATION SECTION 00 20 00 - INFORMATION AVAILABLE TO BIDDERS**

1. **Add:**

Mercury Sampling Gymnasium Concrete Report by Amereco, Inc.
Limited Asbestos Roofing Evaluation Report by Amereco, Inc.

C. **SPECIFICATION SECTION 00 31 00 - INDIANA BID FORM**

1. **Replace:**

Specification Section 00 31 00 - Indiana Bid Form with the attached revised form.

D. **SPECIFICATION SECTION 01 12 00 - MULTIPLE CONTRACT SUMMARY**

Under 3.03 Bid Categories make the following adjustments:

1. **BID CATEGORY NO. 3 - GENERAL TRADES**

a. **Add:**

Specification Section 13 34 16.01 - Home Grandstands
Specification Section 13 34 17 - Metal Structure Pressbox

2. **BID CATEGORY NO. 5 - ELECTRICAL**

a. **Delete:**

Specification Section 28 13 00.99 - Electronic Access Control Systems (ACS)

E. **SPECIFICATION SECTION 01 23 00 - BID ALTERNATES**

1. **Delete:**

Alternate Bid No. 4 - Integral Concrete Masonry Units in its entirety.

F. **SPECIFICATION SECTION 01 32 00 - GUIDELINE SCHEDULE**

1. **Replace:**

The Guideline Schedule in its entirety with the attached revised Guideline Schedule.

Mercury Sampling
Gymnasium Concrete

Site:

Hammond High School
5926 Calumet Avenue
Hammond, IN 46320

Prepared For:

Mr. Robert Moricz, Director of Buildings and Grounds
School City of Hammond
Maintenance Department
3751 E. 171st Street
Hammond, IN 46323

Project Number: 21.1359

Date of Report: March 16, 2021

AMERECO, INC.
CONSULTING • ENGINEERING • PROJECT MANAGEMENT ® 15
OVER 25 YEARS OF EXCEPTIONAL SERVICE

March 15, 2021

Mr. Robert Moricz, Director of Buildings and Grounds
School City of Hammond
Maintenance Department
3751 E. 171st Street
Hammond, IN 46323

Re: Mercury Sampling – Gymnasium Concrete
Hammond High School
5926 Calumet Avenue
Hammond, IN 46320
Project No. 21.1359

Dear Mr. Moricz:

Thank you for the opportunity to provide you with this service. The sampling event was conducted on March 8, 2021, by Devyn Unger. Samples of the concrete below the mercury-containing rubberized flooring in the gymnasium were collected to characterize the concrete for disposal purposes.

One (1) sample was collected from the main gymnasium floor (Sample HG-01) and one (1) sample was collected from the gymnasium balcony (Sample HG-02). Please see attached sample location map for reference. Sampling was performed in accordance with EPA Publication SW846

The samples were analyzed by STAT Analysis Corporation using Method SW1311/7470A Toxicity Characteristic Leaching Procedure (TCLP) for mercury and Method 7471B for total mercury. The EPA defined hazardous waste limit for mercury concentration is 0.2 milligrams per Liter (mg/L) by TCLP analysis.

Be advised that while total mercury was identified in both concrete samples, the TCLP results were below the RCRA hazardous waste threshold. Therefore, the concrete is not considered hazardous waste. However, due to mercury being present, the concrete under the mercury-containing rubber flooring should be disposed of appropriately. It should not be recycled.

The rubberized gym flooring was previously identified to be above the RCRA hazardous waste limit and therefore, is considered a hazardous waste. It should be handled, treated, and disposed of by properly OSHA trained personnel following all applicable OSHA, EPA and IDEM rules and regulations.

Please call if you have any questions.

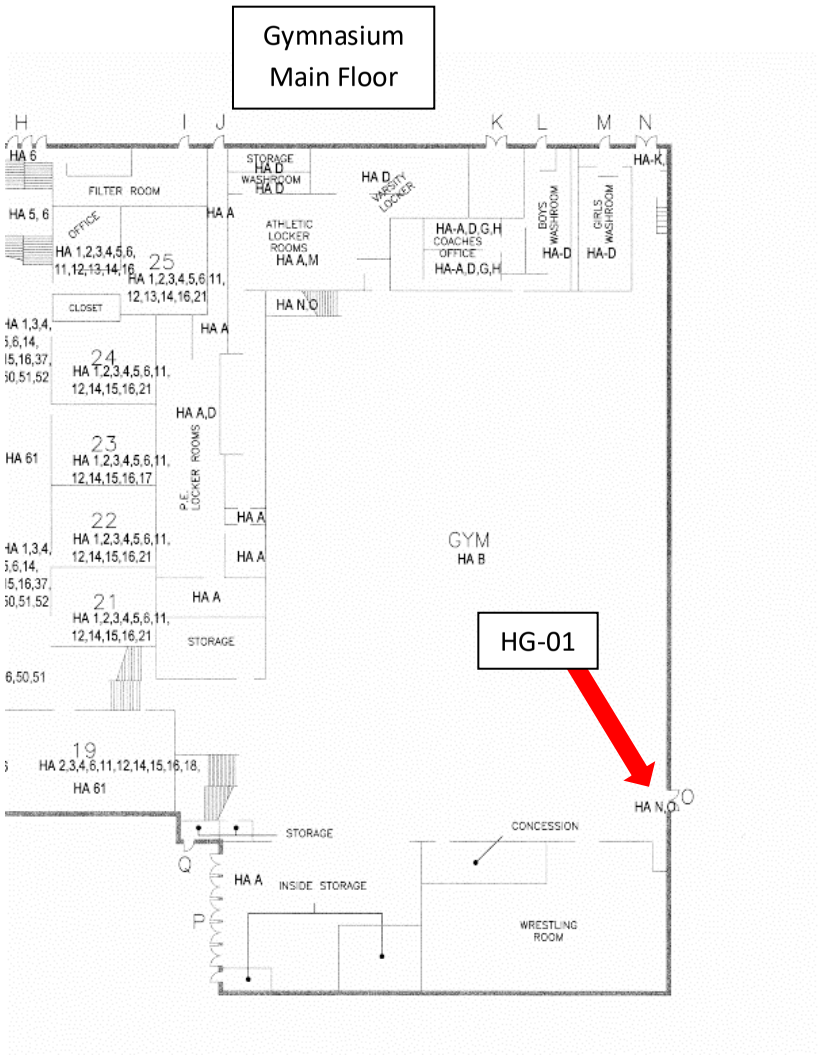
Respectfully submitted,

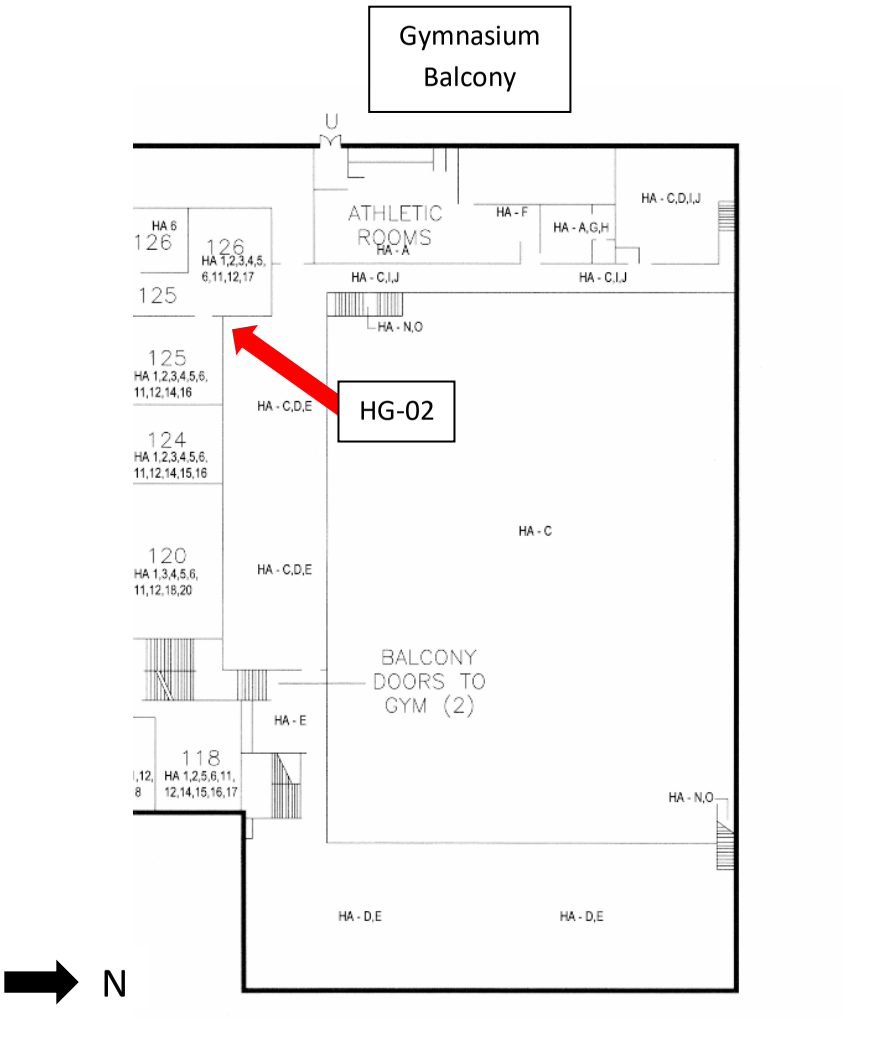
Devyn Unger
Project Manager

Attachments

Sample Location Map

Hammond High School – Gymnasium
5926 Calumet Avenue, Hammond, IN 46320





N

Mercury Sampling – Concrete Flooring
Hammond High School - Gymnasium
Project # 21.1359

Amereco Engineering
54 Michigan Avenue
Valparaiso, IN 46383
(219) 531-0531

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

March 11, 2021

Amereco Inc.
54 Michigan Avenue
Valparaiso, IN 46383
Telephone: (219) 531-0531
Fax: (219) 464-9166

Analytical Report for STAT Work Order: 21030242 Revision 0

RE: 21.1359, Hammond HS, Hammond, IN

Dear Amereco Inc.:

STAT Analysis received 2 samples for the referenced project on 3/8/2021 4:35:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAP standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Justice Kwateng
Project Manager

STAT Analysis Corporation

Date: March 11, 2021

Client: Amereco Inc.
Project: 21.1359, Hammond HS, Hammond, IN
Work Order: 21030242 Revision 0

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
21030242-001A	HG-01		3/8/2021	3/8/2021
21030242-002A	HG-02		3/8/2021	3/8/2021

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditations:IEPA ELAP 100445;ORELAP IL300001;AIHA-LAP, LLC 101160;NVLAP LabCode 101202-0

Date Reported: March 11, 2021
Date Printed: March 11, 2021

ANALYTICAL RESULTS

Client: Amereco Inc.
Project: 21.1359, Hammond HS, Hammond, IN **Work Order:** 21030242 Revision 0

Lab ID: 21030242-001 **Collection Date:** 3/8/2021
Client Sample ID HG-01 **Matrix:** Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
TCLP Mercury	**SW1311/7470A**			Prep Date: **3/10/2021**		Analyst: **LB**
Mercury	0.080	0.010		mg/L	50	3/10/2021
Mercury	**SW7471B**			Prep Date: **3/10/2021**		Analyst: **LB**
Mercury	15	1.6		mg/Kg	100	3/10/2021

Lab ID: 21030242-002 **Collection Date:** 3/8/2021
Client Sample ID HG-02 **Matrix:** Solid

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
TCLP Mercury	**SW1311/7470A**			Prep Date: **3/10/2021**		Analyst: **LB**
Mercury	0.060	0.0040		mg/L	20	3/10/2021
Mercury	**SW7471B**			Prep Date: **3/10/2021**		Analyst: **LB**
Mercury	20	1.7		mg/Kg	100	3/10/2021

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
HT - Sample received past holding time
* - Non-accredited parameter
RL - Reporting / Quantitation Limit for the analysis
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
H - Holding time exceeded

STAT Analysis Corporation
2242 W. Harrison, Suite 200, Chicago, Illinois 60612 Phone: (312) 733-0551 Fax: (312) 733-2386
e-mail address: STATinfo@STATAnalysis.com

CHAIN OF CUSTODY RECORD

Page : 1 of 1

Client:	Amereco Engineering
Street Address:	54 Michigan Avenue
City, State, Zip:	Valparaiso, IN 46383
Phone:	219-531-0531
Fax:	219-464-9166
e-mail/Alt. Fax:	labresults@amerecoeng.com
Project Number:	21.1359
Project Name:	Hammond H.S.
Project Location:	Hammond, In
Project Manager:	J. Blosky
P.O. Number:	030821.DV1

Turn Around: Immediate: ☐ 4 Hrs: ☐ 8 Hrs: ☐ 24 Hrs: ☐ 1 Day: ☐ 2 Days: ☐ 3 Days: ☑ 5 Days: ☐

Date Due: Time Due: Note: Not all turn around times are available for all analysis.

OFFICE USE ONLY BELOW

Batch No.: 21030242

Samples Acceptable: Yes: ☐ No: ☐

Checked by (Initial/Date):

QC by (Initial/Date):

Reported By (Initial/Date/Time/Method):

Comments:

Relinquished by:	Brendan [illegible] Date/Time: 3/8/21 2:00pm
Received by:	[illegible] Date/Time: 3/8/21 1400
Relinquished by:	[illegible] Date/Time: 3/8/21 1635
Received by:	[illegible] Date/Time: 3/10/21 1635
Relinquished by:	Date/Time:
Received by:	Date/Time:

Client Sample Number/Description:	Date Taken	Time On	Time Off	Rate (lpm)	Volume (Liters)	Area Wiped (ft^2)	Laboratory Sample No.	PCM Asbestos	PLM Asbestos (Bulk)	PLM Point Count	PLM Gravimetric	TEM Air Asbestos	TEM Bulk Asbestos	TEM Gravimetric Asb.	TEM Microvac Asb.	TEM Water		Other:		TCLP Mercury	Total Mercury			
HG-01	3/8/21						001													✓	✓			
HG-02	3/8/21						002													✓	✓			

Comments: NOTE: Stop when a positive result is reached for each Homogeneous Area. Only analyze Lab and Field Blanks if necessary. Analyze all QAQC Samples.

T: 0.6 °C

STAT Analysis Corporation

Sample Receipt Checklist

Client Name AMERECO | Date and Time Received: 3/8/2021 4:35:00 PM

Work Order Number 21030242 | Received by: EAA

Checklist completed by: _____ (Signature) 3/8/21 (Date) | Reviewed by: CT (Initials) 3/9/21 (Date)

Matrix: | Carrier name: STAT Analysis

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels/containers?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container or Temp Blank temperature in compliance?	Yes ☑	No ☐	Temperature 0.6 °C
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☐	No ☐
Water - Samples pH checked?	Yes ☐	No ☐	Checked by: _____
Water - Samples properly preserved?	Yes ☐	No ☐	pH Adjusted? _____

Any No response must be detailed in the comments section below.

Comments: _____

Client / Person contacted: _____ Date contacted: _____ Contacted by: _____

Response: _____

Limited Asbestos Roofing Evaluation

Site:

Hammond High School
5926 Calumet Avenue
Hammond, IN 46320

Prepared For:

Mr. Robert Moricz, Director of Buildings and Grounds
School City of Hammond
Maintenance Department
3751 E. 171st Street
Hammond, IN 46323

Project Number: 21.1359

Date of Report: March 16, 2021

AMERECO, INC.
CONSULTING • ENGINEERING • PROJECT MANAGEMENT ®15
OVER 25 YEARS OF EXCEPTIONAL SERVICE

March 15, 2021

Mr. Robert Moricz, Director of Buildings and Grounds
School City of Hammond
Maintenance Department
3751 E. 171st Street
Hammond, IN 46323

Re: Limited Asbestos Roofing Evaluation
Hammond High School
5926 Calumet Avenue
Hammond, IN 46320
Project No. 21.1359

Dear Mr. Moricz:

Thank you for the opportunity to provide you and the School City of Hammond with this service. This survey was conducted to provide a preliminary evaluation of the roofing and determine the roof matrix for demolition. Attached, please find the report associated with the roofing survey completed at the above-captioned location. This survey was conducted on March 8, 2021, by Devyn Unger, an Indiana Department of Environmental Management Licensed Asbestos Inspector, License No. 19A009608. All sampling and analyses were performed in accordance with all applicable local, state, and federal rules and regulations.

Three roof cores were collected from the building: Gymnasium, 1916 Building and Office. Samples were collected from the suspect-asbestos layers of built-up roofing and tar. All three samples were submitted to Stat Analysis Corporation and analyzed for asbestos content by Polarized Light Microscopy (EPA Method 600/R-93/116). Please see the attached site location map for reference of sampling locations.

The built-up roofing on the gymnasium and 1916 building were found to contain non-friable asbestos. The gymnasium roof includes 3-inches of foam insulation; the 1916 building includes 2-inches of foam insulation; and the office roof includes 1-inch of foam and 3-inches of fiberboard insulation.

The asbestos roofing must be handled following all local, state and federal rules and regulations. The asbestos roofing may be demolished and disposed along with the building. Care should be taken during demolition not to make the non-friable asbestos roofing friable and to keep the foam insulation from blowing offsite. If the built-up roofing is adhered to the concrete roof deck then the concrete roof deck should not be recycled unless the built-up roofing can be adequately removed. These are common considerations during demolition.

Please call if you have any questions or if additional assistance can be provided.

Respectfully,

Devyn Unger
Inspector

Attachments

AMERECO, INC.

Consulting ▫ Engineering ▫ Project Management
54 Michigan Avenue
Valparaiso, IN 46383
(219) 531-0531
Fax: (219) 464-9166

ROOF MATRIX REPORT

Client:	Mr. Robert Moricz School City of Hammond 3751 E. 171st Street Hammond, IN 46323	**Project:**	Asbestos Survey – Roofing Hammond High School 5926 Calumet Avenue Hammond, IN 46320
Date Sampled:	March 8, 2021	**Project No.**	21.1359

Core ID	Depth	Description	Analytical ID / Asbestos Content
Core #1 Gymnasium	Top – 1/8" 1/8' – 3 1/8" 3 1/8" – 3 3/8"	EPDM White Foamboard BUR Concrete Roof Deck	NA NA HHS-01 / Chrysotile 5-10% NA
Core #2 1916 Bldg	Top – 1/8" 1/8' – 1 1/8" 1 1/8" – 2 1/8" 2 1/8" – 2 3/8"	EPDM White Foamboard Pink Foamboard BUR Concrete Roof Deck	NA NA NA HHS-02 / Chrysotile 5-10% NA
Core #3 Office	Top – 1/8" 1/8' – 1 1/8" 1 1/8" – 4 1/8" 4 1/8" – 4 1/8"	EPDM White Foamboard Brown Fiberboard Tar Residue Concrete Roof Deck	NA NA NA HHS-03 / ND NA

BUR = Built-up Roofing
EPDM = Rubber Roofing Membrane (Ethylene Propylene Diene Monomer)
ND = None Detected
NA = Not Analyzed / Not a Suspect Asbestos Containing Material

Sampled by: _____
Devyn Unger
License No.19A009608
Exp. Date 08/13/2021

Sample Location Map

5926 Calumet Avenue
Hammond, IN 46320

Core #1
Gymnasium

Core #2
1916 Bldg

Core #3
Office

Amereco Engineering
54 Michigan Avenue
Valparaiso, IN 46383
(219) 531-0531

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

NVLAP Lab Code 101202-0

ASBESTOS ANALYSIS BY POLARIZED LIGHT MICROSCOPY

Method: EPA/600/R-93/116

Amereco Engineering
54 Michigan Avenue
Valparaiso, IN 46383
Phone: (219) 531-0531
Fax: (219) 464-9166

Reference:	030821.DV2 21.1359	Date Received:	03/08/2021
Location:	Hammond H.S.	Date Analyzed:	03/09/2021
Batch No.:	351381	Date Reported:	03/09/2021
Customer No.:	118	Turn Around Time:	2 Days

Laboratory Sample	Customer Sample Number	Asbestos Components (%)	Non-Asbestos Components (%)
351381001	HHS-01-A	Chrysotile 5-10%	Binder 90-95%
351381002	HHS-02-A	Chrysotile 5-10%	Binder 90-95%
351381003	HHS-03-A	ND	Binder 90-95% Other 5-10%

ND = Asbestos Not Detected (Not Present) NA = Not Analyzed NS = Not Submitted

Components of inhomogeneous samples are analyzed per our Standard Operating Procedure, or per customer request.

The use of the NVLAP logo does not imply endorsement by NVLAP or any agency of the US Government.

Analyzed by Name: Henry Robateau / Microscopist Date: 03/09/2021

STAT Analysis Corporation
2242 W. Harrison, Suite 200, Chicago, Illinois 60612 Phone: (312) 733-0551 Fax: (312) 733-2386
e-mail address: STATinfo@STATAnalysis.com

CHAIN OF CUSTODY RECORD

Page : 1 of 1

Client:	Amereco Engineering
Street Address:	54 Michigan Avenue
City, State, Zip:	Valparaiso, IN 46383
Phone:	219-531-0531
Fax:	219-464-9166
e-mail/Alt. Fax:	labresults@amerecoeng.com
Project Number:	21. 1359
Project Name:	Hammond H.S.
Project Location:	Hammond, IN
Project Manager:	J. Blosky
P.O. Number:	030821.DV2

Turn Around: Immediate: ☐ 4 Hrs: ☐ 8 Hrs: ☐ 24 Hrs: ☐ 1 Day: ☐ 2 Days: ☑ 3 Days: ☐ 5 Days: ☐

Date Due: Time Due: Note: Not all turn around times are available for all analysis.

OFFICE USE ONLY BELOW

Batch No.: 351381

Samples Acceptable: Yes: ☒ No: ☐

Checked by (Initial/Date):

QC by (Initial/Date):

Reported By (Initial/Date/Time/Method):

Comments:

Relinquished by:	Date/Time:	3/8/21 2:00pm
Received by:	Date/Time:	3/8/21 1400
Relinquished by:	Date/Time:	3/8/21 1635
Received by:	Date/Time:	3/8/21 16:35
Relinquished by:	Date/Time:	
Received by:	Date/Time:	

Client Sample Number/Description:	Date Taken	Time On	Time Off	Rate (lpm)	Volume (Liters)	Area Wiped (ft^2)	Laboratory Sample No.	PCM Asbestos	PLM Asbestos (Bulk)	PLM Point Count	PLM Gravimetric	TEM Air Asbestos	TEM Bulk Asbestos	TEM Gravimetric Asb.	TEM Microvac Asb.	TEM Water		Other:							
HHS-01-A	3/8/21								✓																
HHS02-A	"								✓																
HHS 03-A	"								✓																
~~HHS 04-A~~	"																								

Comments: NOTE: Stop when a positive result is reached for each Homogeneous Area. Only analyze Lab and Field Blanks if necessary. Analyze all QAQC Samples.

CONTRACTOR'S BID FOR PUBLIC WORKS FORM NO. 96

Format (Revised 2013)
(Amended for SCH & HMSBC)

School City of Hammond
Hammond Central High School -
Bid Package 3 - Athletic Fields and Demolition

School City of Hammond and
Hammond Multi-School Building Corporation

PART I

(To be completed for all bids. Please type or print)

Date (month, day, year):_____

BIDDER (Firm) _____

Address _____ P.O. Box _____

City/State/Zip _____

Telephone Number: _____ Email Address: _____

Person to contact regarding this Bid_____

Pursuant to notices given, the undersigned offers to furnish labor and/or materials necessary to complete the public works project of:

_____
Insert Category No. (s) and Name(s)

Of public works project, ***School City of Hammond New Middle/High School for Hammond - Bid Package II - Building,*** in accordance with Plans and Specifications prepared by ***Schmidt Associates, 415 Massachusetts Ave., Indianapolis, IN 46204***, as follows:

BASE BID

For the sum of _____
(Sum in words)

_____DOLLARS ($_____)
(Sum in figures)

The undersigned acknowledges receipt of the following Addenda:
Receipt of Addenda No. (s) _____

PROPOSAL TIME

Bidder agrees that this Bid shall remain in force for a period of sixty (60) consecutive calendar days from the due date, and Bids may be accepted or rejected during this period. Bids not accepted within said sixty (60) consecutive calendar days shall be deemed rejected.

Attended pre-bid conference YES _____ NO_____

Has visited the jobsite YES _____ NO_____

The Bidder has reviewed the Guideline Schedule in Section 01 32 00 and the intent
Of the schedule can be met. YES _____ NO_____

Bidder has included their Written Drug Testing Plan that covers all employees of the bidder who will perform work on the public work project and meets or exceeds the requirements set in IC 4-13-18-5 or IC 4-13-18-6. YES _____ NO_____

The undersigned further agrees to furnish a bond or certified check with this Bid for an amount specified in the Notice to Bidders. If Alternate Bids apply, submit a proposal for each in accordance with the Plans and Specifications.

If additional units of material included in the contract are needed, the cost of units must be the same as that shown in the original contract if accepted by the governmental unit. If the bid is to be awarded on a unit bases, the itemization of the units shall be shown on a separate attachment.

The contractor and his subcontractors, if any, shall not discriminate against or intimidate any employee, or applicant for employment, to be employed in the performance of this contract, with respect to any matter directly or indirectly related to employment because of race, religion, color, sex, national origin, or ancestry. Breach of this covenant may be regarded as a material breach of the contract.

CERTIFICATION OF USE OF UNITED STATES STEEL PRODUCTS
(if applicable)

I, the undersigned bidder, or agent as a contractor on a public works project, understand my statutory obligation to use steel products made in the United States (I.C. 5-16-8-2). I hereby certify that I and all subcontractors employed by me for this project will use U.S. steel on this project if awarded. I understand that violations hereunder may result in forfeiture of contractual payments.

ALTERNATE BIDS

A blank entry or an entry of "No Bid", "N/A", or similar entry on any Alternate will cause the bid to be rejected as non-responsive only if that Alternate is selected. If no change in the bid amount is required, indicate "No Change".

****MARK "ADD" OR "DEDUCT" FOR EACH ALTERNATE****

Alternate Bid No. 1 – Baseball and Softball Complex In Their Entirety

Change the Base Bid the sum of_____
(sum in words)

_____DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 2 – Video Boards

Change the Base Bid the sum of_____
(sum in words)

_____DOLLARS ($_____) ADD DEDUCT
(sum in figures)

Alternate Bid No. 3 – Added Bleachers

Change the Base Bid the sum of_____
(sum in words)

_____DOLLARS ($_____) ADD DEDUCT
(sum in figures)

PART II

(For projects of $150,000 or more – IC 36-1-12-4)

These statements to be submitted under oath by each bidder with and as a part of his bid. (Attach additional pages for each section as needed.)

SECTION I EXPERIENCE QUESTIONNAIRE

1. What public works projects has your organization completed for the period of one (1) year prior to the date of the current bid?

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

2. What public works projects are now in process of construction by your organization?

Contract Amount	Class of Work	Completion Date	Name and Address of Owner

3. Have you ever failed to complete any work awarded to you?_____If so, where and why?

_____

_____

_____

4. List references from private firms for which you have performed work.

_____

_____

_____

SECTION II PLAN AND EQUIPMENT QUESTIONNAIRE

1. Explain your plan or layout for performing proposed Work. (Examples could include a narrative of when you could begin, complete the project, number of workers, etc. and any other information which you believe would enable the governmental unit to consider your bid.)

2. Please list the names and addresses of all subcontractors (i.e. persons or firms outside your own firm who have performed part of the work) that you have used on public works projects during the past five (5) years along with a brief description of the work done by each subcontractor.

3. If you intend to sublet any portion of the work, state the name and addresses of each subcontractor, equipment to be used by the subcontractor, and whether you will required a bond. However, if you are unable to currently provide a listing, please understand a listing must be provided prior to contract approval. Until the completion of the proposed project, you are under a continuing obligation to immediately notify the governmental unit in the event that you subsequently determine that you will use a subcontractor on the proposed project.

4. What equipment do you have available to use for the proposed Project? Any equipment used by subcontractors may also be required to be listed by the governmental unit.

5. Have you into contracts or received offers for all materials which substantiate the prices used in preparing your proposal? If not, please explain the rationale used which corroborate the process listed.

SECTION III CONTRACTOR'S FINANCIAL STATEMENT

Attachment of Bidder's financial statement is mandatory. Any Bid submitted without said financial statement as required by statute shall thereby be rendered invalid. The financial statement provided hereunder to the governing body awarding the Contract must be specific enough in detail so that said governing body can make a proper determination of the Bidder's capability for completing the Project if awarded.

SECTION IV CONTRACTOR NON-COLLUSION AFFIDAVIT

The undersigned Bidder or agent, being duly sworn on oath, says that he has not, nor has any other member, representative, or agent of the firm, company, corporation or partnership represented by him, entered into any combination, collusion or agreement with any person relative to the price to be bid by anyone at such letting nor to prevent any person from bidding nor to induce anyone to refrain from bidding, and that this Bid is made without reference to any other bid and without any agreement, understanding or combination with any other person in reference to such bidding.

He further says that no person or persons, firms, or corporations has, have, or will receive directly or indirectly, any rebate, fee, gift, commission, or thing of value on account of such contract.

SECTION V OATH AND AFFIRMATION

I HEREBY AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE FACTS AND INFORMATION CONTAINED IN THE FOREGOING BID FOR PUBLIC WORKS ARE TRUE AND CORRECT

Dated at _____this _____ day of _____, 20

_____
(Name of Organization)

By
_____

_____
(Title of Person Signing)

ACKNOWLEDGEMENT

STATE OF _____)
) SS:
COUNTY OF _____)

Before me, a Notary Public, personally appeared the above-named
_____

Swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to before me this _____ day of _____,
_____
(Title)

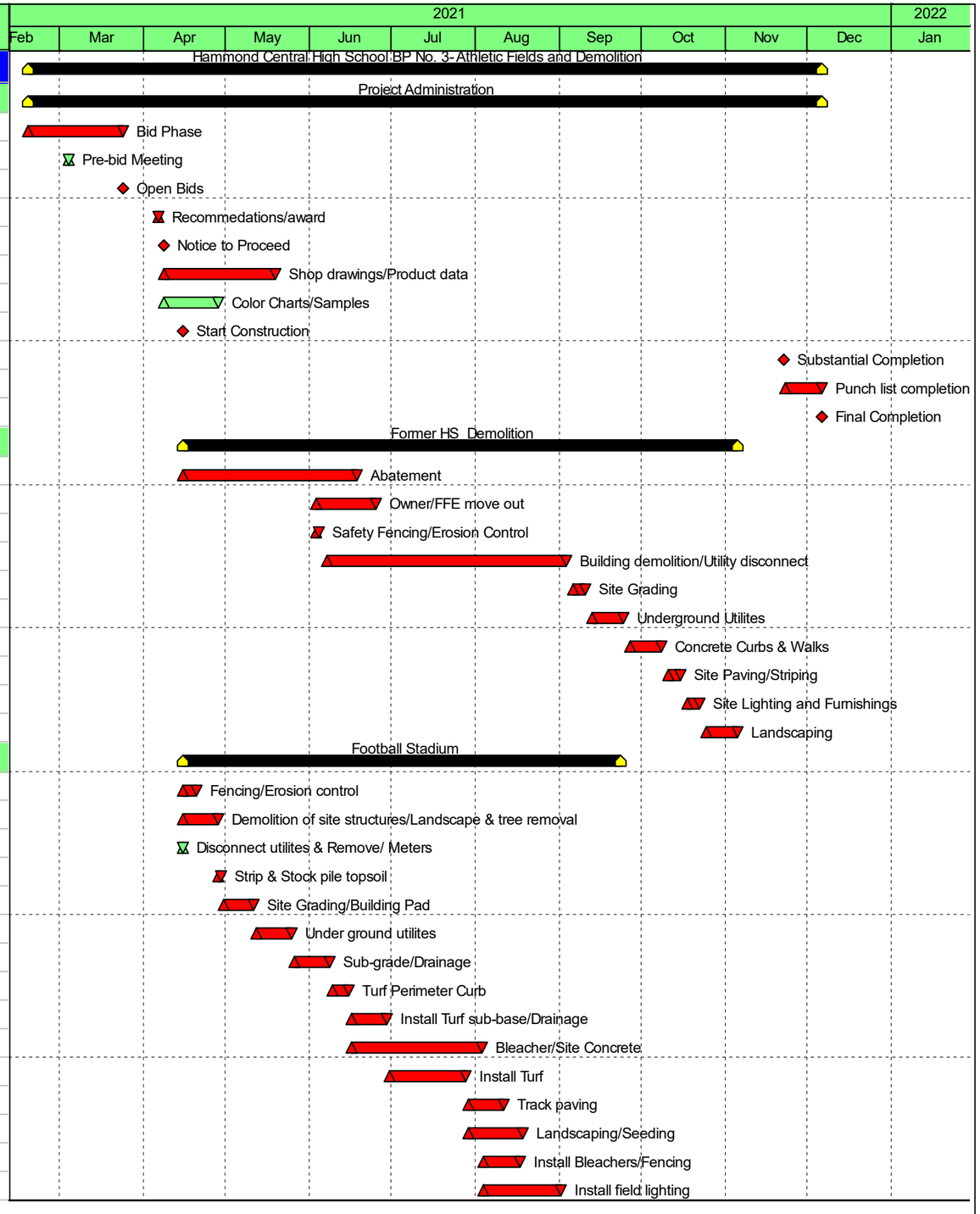
_____
Notary Public

My Commission Expires: _____

County of Residence: _____

END OF SECTION 00 31 00

Activity Name	Original Duration	Start	Finish
Hammond Central High School BP No. 3- Athletic Fields and Demolition	209	Feb-17-2021	Dec-06-2021
Project Administration	209	Feb-17-2021	Dec-06-2021
Bid Phase	26	Feb-17-2021	Mar-24-2021
Pre-bid Meeting	1	Mar-04-2021	Mar-04-2021
Open Bids	0		Mar-24-2021
Recommedations/award	1	Apr-06-2021	Apr-06-2021
Notice to Proceed	0	Apr-08-2021	
Shop drawings/Product data	30	Apr-08-2021	May-19-2021
Color Charts/Samples	15	Apr-08-2021	Apr-28-2021
Start Construction	0	Apr-15-2021	
Substantial Completion	0		Nov-22-2021
Punch list completion	10	Nov-23-2021	Dec-06-2021
Final Completion	0		Dec-06-2021
Former HS Demolition	147	Apr-15-2021	Nov-05-2021
Abatement	47	Apr-15-2021	Jun-18-2021
Owner/FFE move out	17	Jun-03-2021	Jun-25-2021
Safety Fencing/Erosion Control	2	Jun-03-2021	Jun-04-2021
Building demolition/Utility disconnect	65	Jun-07-2021	Sep-03-2021
Site Grading	5	Sep-06-2021	Sep-10-2021
Underground Utilites	10	Sep-13-2021	Sep-24-2021
Concrete Curbs & Walks	10	Sep-27-2021	Oct-08-2021
Site Paving/Striping	5	Oct-11-2021	Oct-15-2021
Site Lighting and Furnishings	5	Oct-18-2021	Oct-22-2021
Landscaping	10	Oct-25-2021	Nov-05-2021
Football Stadium	116	Apr-15-2021	Sep-23-2021
Fencing/Erosion control	4	Apr-15-2021	Apr-20-2021
Demolition of site structures/Landscape & tree removal	10	Apr-15-2021	Apr-28-2021
Disconnect utilites & Remove/ Meters	1	Apr-15-2021	Apr-15-2021
Strip & Stock pile topsoil	2	Apr-28-2021	Apr-29-2021
Site Grading/Building Pad	8	Apr-30-2021	May-11-2021
Under ground utilites	10	May-12-2021	May-25-2021
Sub-grade/Drainage	10	May-26-2021	Jun-08-2021
Turf Perimeter Curb	5	Jun-09-2021	Jun-15-2021
Install Turf sub-base/Drainage	10	Jun-16-2021	Jun-29-2021
Bleacher/Site Concrete	35	Jun-16-2021	Aug-03-2021
Install Turf	21	Jun-30-2021	Jul-28-2021
Track paving	10	Jul-29-2021	Aug-11-2021
Landscaping/Seeding	15	Jul-29-2021	Aug-18-2021
Install Bleachers/Fencing	10	Aug-04-2021	Aug-17-2021
Install field lighting	21	Aug-04-2021	Sep-01-2021



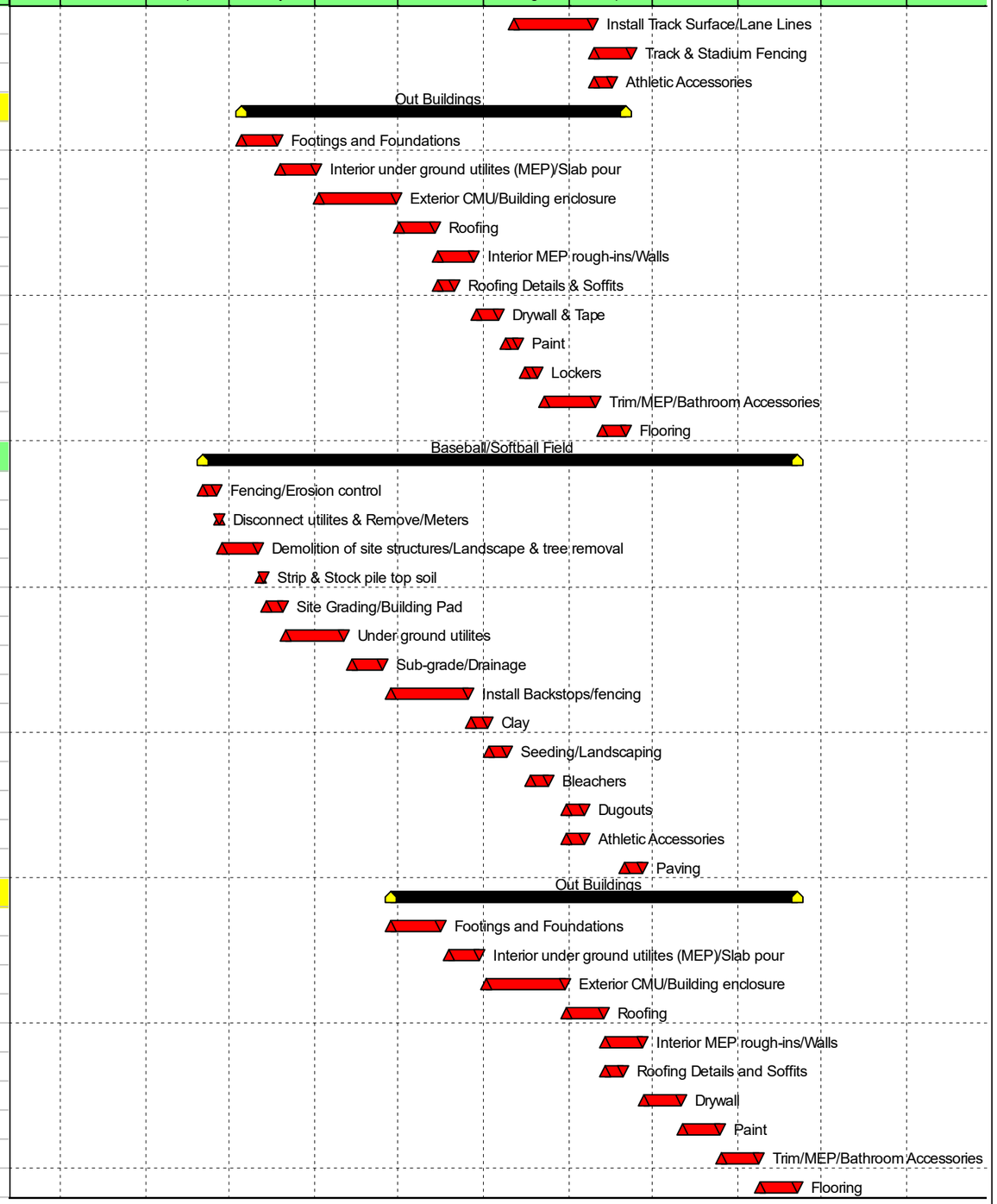
Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

218000.03 Hammond Central High School BP No. 3- Athletic Fields and Demolition

Guideline Schedule Mar-15-2021 (Revised Addendum 02)

SKILLMAN

Activity Name	Original Duration	Start	Finish
Install Track Surface/Lane Lines	21	Aug-12-2021	Sep-09-2021
Track & Stadium Fencing	10	Sep-10-2021	Sep-23-2021
Athletic Accessories	5	Sep-10-2021	Sep-16-2021
Out Buildings	100	May-05-2021	Sep-21-2021
Footings and Foundations	10	May-05-2021	May-18-2021
Interior under ground utilites (MEP)/Slab pour	10	May-19-2021	Jun-01-2021
Exterior CMU/Building enclosure	21	Jun-02-2021	Jun-30-2021
Roofing	10	Jul-01-2021	Jul-14-2021
Interior MEP rough-ins/Walls	10	Jul-15-2021	Jul-28-2021
Roofing Details & Soffits	5	Jul-15-2021	Jul-21-2021
Drywall & Tape	7	Jul-29-2021	Aug-06-2021
Paint	5	Aug-09-2021	Aug-13-2021
Lockers	5	Aug-16-2021	Aug-20-2021
Trim/MEP/Bathroom Accessories	15	Aug-23-2021	Sep-10-2021
Flooring	7	Sep-13-2021	Sep-21-2021
Baseball/Softball Field	154	Apr-21-2021	Nov-22-2021
Fencing/Erosion control	4	Apr-21-2021	Apr-26-2021
Disconnect utilites & Remove/Meters	1	Apr-27-2021	Apr-27-2021
Demolition of site structures/Landscape & tree removal	10	Apr-28-2021	May-11-2021
Strip & Stock pile top soil	2	May-12-2021	May-13-2021
Site Grading/Building Pad	5	May-14-2021	May-20-2021
Under ground utilites	16	May-21-2021	Jun-11-2021
Sub-grade/Drainage	10	Jun-14-2021	Jun-25-2021
Install Backstops/fencing	21	Jun-28-2021	Jul-26-2021
Clay	5	Jul-27-2021	Aug-02-2021
Seeding/Landscaping	5	Aug-03-2021	Aug-09-2021
Bleachers	5	Aug-18-2021	Aug-24-2021
Dugouts	5	Aug-31-2021	Sep-06-2021
Athletic Accessories	5	Aug-31-2021	Sep-06-2021
Paving	5	Sep-21-2021	Sep-27-2021
Out Buildings	106	Jun-28-2021	Nov-22-2021
Footings and Foundations	15	Jun-28-2021	Jul-16-2021
Interior under ground utilites (MEP)/Slab pour	10	Jul-19-2021	Jul-30-2021
Exterior CMU/Building enclosure	21	Aug-02-2021	Aug-30-2021
Roofing	10	Aug-31-2021	Sep-13-2021
Interior MEP rough-ins/Walls	10	Sep-14-2021	Sep-27-2021
Roofing Details and Soffits	5	Sep-14-2021	Sep-20-2021
Drywall	10	Sep-28-2021	Oct-11-2021
Paint	10	Oct-12-2021	Oct-25-2021
Trim/MEP/Bathroom Accessories	10	Oct-26-2021	Nov-08-2021
Flooring	10	Nov-09-2021	Nov-22-2021



Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

218000.03 Hammond Central High School BP No. 3- Athletic Fields and Demolition

Guideline Schedule Mar-15-2021 (Revised Addendum 02)

ADDENDUM NO. 2
MARCH 11, 2021

PREPARED BY SCHMIDT ASSOCIATES FOR:
HAMMOND ATHLETIC FIELDS
HAMMOND, SCHOOL CITY OF

This Addendum consists of 6 Addendum pages and 46 attachment pages totaling 52 pages.

Acknowledge receipt of this Addendum by inserting its number on the Bid Form. Failure to do so may subject the Bid to disqualification. This Addendum is part of the Contract Documents.

Bidder is encouraged to verify with reprographer of record all Addenda issued (do not rely exclusively on third party plan room services).

PART 1 - CHANGES TO PRIOR ADDENDA (NOT APPLICABLE)

PART 2 - CHANGES TO THE PROJECT MANUAL

Modifications described herein shall be incorporated in the Project Manual. All other Work shall remain unchanged.

2.1 DIVISION 04 – MASONRY

A. **Section 042200 "CONCRETE UNIT MASONRY"**

1. ADD Subparagraph 2.4.A.2.a. as follows:

   "a. Provide standard corners at decorative CMU locations."

2. DELETE AND REPLACE Paragraph 2.4.B. with the following:

   "B. Integral Water Repellent: Provide units made with integral water repellent for units on exterior walls."

3. DELETE AND REPLACE Subparagraph 2.4.C.1 as follows:

   "1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 2800 psi."

4. DELETE AND REPLACE Subparagraph 2.4.C.4. with the following:

   "4. Exposed Faces: Fabricator's standard."

5. DELETE AND REPLACE Subparagraph 2.4.D.1 with the following:

   "1. Density Classification: Normal weight."

6. DELETE AND REPLACE Subparagraph 2.4.D.3.a. with the following:

   "a. Standard pattern, standard finish."

7. DELETE AND REPLACE Subparagraph 2.10.D.2 as follows:

"2. Proportion grout in accordance with ASTM C 476, Table 1 or paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 2500 psi."

2.2 DIVISION 05 – METALS

A. Section 051200 "STRUCTURAL STEEL FRAMING"

1. ADD Paragraph 2.5 as follows:

"2.5 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Snug tightened.

B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.

1. Remove backing bars or runoff tabs, back gouge, and grind steel smooth.

2. Verify that weld sizes, fabrication sequence, and equipment used for architecturally exposed structural steel will limit distortions to allowable tolerances. Prevent weld show-through on exposed steel surfaces.

a. Grind butt welds flush.

b. Grind or fill exposed fillet welds to smooth profile. Dress exposed welds."

2.3 DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES

A. Section 061600 "SHEATHING"

1. DELETE AND REPLACE Subparagraph 2.3.A.2. as follows:

"2. Nominal Thickness: As shown on the Drawings."

2. DELETE AND REPLACE Subparagraph 2.3.B.2. as follows:

"2. Nominal Thickness: As shown on the Drawings."

2.4 DIVISION 08 – OPENINGS

A. Section 083313 "COILING COUNTER DOORS"

1. DELETE AND REPLACE Section 083313 in its entirety with the attached.

2.5 DIVISION 11 – EQUIPMENT

A. **Section 116843.43 "SCOREBOARDS/MESSAGE BOARDS"**

1. DELETE AND REPLACE Paragraph 2.3.E in its entirety as follows:

"E. ALTERNATE VIDEO BOARD AND SPONSOR PANELS

1. Video Display Series: LVX 2130 Series.

2. Pixel Spacing: 16 mt.

3. Lines & Columns: 132 x 242.

4. Dimensions (approx.): 7.2' H x 25' W.

5. Live Video and One Piece Cabinet.

6. Include vinyl side panels on each side of video display to the width of the scoreboard and height of the video display board."

2.6 DIVISION 12 – FURNISHINGS

A. **Section 129300 "SITE FURNISHINGS"**

1. DELETE AND REPLACE Section 129300 in its entirety with the attached.

2.7 DIVISION 13 - SPECIAL CONSTRUCTION

A. **Section 133416.01 "HOME GRANDSTANDS"**

1. ADD Section 133416.01 in its entirety.

B. **Section 133416.99 "GRANDSTANDS AND BLEACHERS"**

1. ADD Subparagraph 2.1.A.5 as follows:

"5. SturdiSteel."

C. **Section 133417 "METAL STRUCTURE PRESSBOX"**

1. ADD Section 133417 in its entirety.

2.8 DIVISION 27 – COMMUNICATIONS

A. **Section 271300 "COMMUNICATIONS BACKBONE CABLING"**

1. MODIFY Paragraph 2.2.B as follows:

"Description: Multimode, 50/125 micrometer, 6 fiber, nonconductive, tight buffer, OM4, Indoor/Outdoor optical fiber cable."

B. **Section 271513** "**COMMUNICATIONS COPPER HORIZONTAL CABLING**"

1. ADD Paragraph 2.3.H as follows:

   "H. Provide outdoor rated cabling for all instances where cabling is called for in outside underground conduit locations."

C. **Section 275120.99 "SOUND REINFORCEMENT (FOOTBALL/BASEBALL/SOFTBALL)"**

1. DELETE AND REPLACE Paragraph 2.3.D as follows:

   "D. Reference Product for Football field: Provide Community R2-52MAX on light pole for visitor coverage, or approved equal. Provide Community R.5-96MAX on light poles for home coverage, or approved equal.

   Reference Product for Baseball / Softball fields: Provide Community R.25-94Z, or approved equal."

2.9 DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

A. **Section 281300.99 "ELECTRONIC ACCESS CONTROL SYSTEM (ACS)"**

1. DELETE Section 281300.99 in its entirety.

A. **Section 282300.99 "VIDEO SURVEILLANCE SYSTEMS (VSS)"**

1. DELETE AND REPLACE Section 282300.99 in its entirety with the attached.

2.10 DIVISION 32 - EXTERIOR IMPROVEMENTS

A. **Section 321823.99 "SYNTHETIC TURF PLAYING SURFACE"**

1. MODIFY Paragraph 1.7.G. as follows:

   "G. The Shock Pad shall have a minimum warranty of 16 years."

2. ADD Subparagraph 2.1.A.6 as follows:

   "6. A-Turf, Inc."

3. Modify Subparagraph 2.1.B.1 for approved manufacturer and product:

   "1. Schmitz Foam Products, LLC, ProPlay Sport 23D"

4. Modify Subparagraph 2.1.B.2 for approved manufacturer and product:

   "2. Brock, SP14XL"

5. Modify Subparagraph 2.1.B.3 for approved manufacturer and product:

   "3. EnPlast, ShockDrain 580"

6. Modify Subparagraph 2.2.B.6. and 2.2.B. 7. as follows:

   "6. Primary Backing Weight: 7 oz/sy

7. Secondary Backing Weight: 20 oz/sy”

7. MODIFY Subparagraphs 2.2.C.1, 2, 6, 10, and 14 as follows:

“1. Mass per Unit Area: varies per manufacturer.”

“2. Thickness: varies per manufacturer.”

“6. Thickness after 72-hour recovery: varies per manufacturer.”

“10. Water Infiltration Rate: Equal to or greater that 750 in/hour.”

“14. G-max guarantee: 135 or less for life of field.”

8. MODIFY Paragraph 2.2.F as follows:
Delete the sentence, “The infill shall be placed generally to a depth of 1-3/4", leaving a void of 3/4" to the top of the fibers, depending on the manufacturer’s specific requirements.”

9. ADD Subparagraph 2.3.A.1 as follows:

“1. Field groomer shall be model TCA-1400, as manufacture by SMA, or approved equal.”

10. ADD Paragraph 3.4.K as follows:

“K. Field shall alternate green shades every 5-yards. Color selections will be from manufacturer’s standard green shades. “

11. ADD Subparagraph 3.5.D.1 as follows:

“1. End zone and logo colors shall be school colors, gray, white, and black, as selected from manufacturers full range of standard colors. Final colors to be determined through the submittal process”

12. Add Paragraph 3.9 as follows:

“3.9 Owner has first right of acceptance or approval of all excess turf after construction. Any turf not accepted shall be hauled off site and disposed of by the Contractor.”

B. **Section 329219.99** “**ATHLETIC FEED SEEDING**”

1. INSERT Subparagraph 1.7.b.2.a as follows

“a. T & J Services, Inc., Cedar Lake, IN is pre-qualified.”

PART 3 - CHANGES TO THE DRAWINGS

Modifications described herein shall be incorporated in the Drawings. All other Work shall remain un-changed.

3.1 DRAWING SHEETS: ADDITIONS, DELETIONS AND REPLACEMENTS

DRAWING NO.	INDICATE ACTION:
S-SERIES DRAWINGS	
S-001	DELETE AND REPLACE
E-SERIES DRAWINGS	
ES102	DELETE AND REPLACE
ES104	DELETE AND REPLACE
ES105	DELETE AND REPLACE
T-SERIES DRAWINGS	
TS101	DELETE AND REPLACE
TS-501	ADD
TF1A1	DELETE AND REPLACE
TF1B1	DELETE AND REPLACE
TF1C1	DELETE AND REPLACE
T-501	DELETE AND REPLACE

3.2 E-SERIES DRAWINGS

A. **Drawing Number EF1A1**

1. ADD Plan Note #9 to north wall in Room A100 as follows:

   "Refer to Sheet TF1A1 for digital display rough in location. Install a 20 amp. duplex receptacle on wall, (coordinate exact mounting height with T series drawings). Connect to circuit 12A1-35, branch circuit wire size F20."

2. ADD Plan Note #10 to wall in Room A113 as follows:

   "Refer to Sheet TF1A1 for digital display rough in location. Install a 20 amp. duplex receptacle on wall, (coordinate exact mounting height with T series drawings). Connect to circuit 12A1-35, branch circuit wire size F20. "

END OF ADDENDUM 2

SECTION 083313 - COILING COUNTER DOORS

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Counter door assemblies.

1.3 ACTION SUBMITTALS

A. Product Data: For each type and size of coiling counter door and accessory.

1. Include construction details, material descriptions, dimensions of individual components, profiles for slats, and finishes.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished accessories.
3. Include description of automatic closing device and testing and resetting instructions.

B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.

1. Include plans, elevations, sections, and mounting details.
2. Include details of equipment assemblies, and indicate dimensions, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
4. Show locations of controls, locking devices, and other accessories.
5. Include diagrams for power, signal, and control wiring.

C. Samples for Initial Selection: Manufacturer's finish charts showing full range of colors and textures available for units with factory-applied finishes.

1. Include similar Samples of accessories involving color selection.

D. Samples for Verification: For each type of exposed finish on the following components, in manufacturer's standard sizes:

1. Curtain slats.

2. Bottom bar.
3. Guides.
4. Brackets.
5. Hood.
6. Locking device(s).
7. Include similar Samples of accessories involving color selection.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For installer testing and inspecting agency.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For coiling counter doors to include in maintenance manuals.

B. Record Documents: For fire-rated doors, list of door numbers and applicable room name and number to which door accesses.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

1. Maintenance Proximity: Not more than two hours' normal travel time from installer's place of business to Project site.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain coiling counter doors from single source from single manufacturer.

1. Obtain operators and controls from coiling counter door manufacturer.

2.2 COUNTER DOOR ASSEMBLY

A. Counter Door: Coiling counter door formed with curtain of interlocking metal slats.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. C.H.I. Overhead Doors, Inc.
b. Clopay Building Products.

c. Cookson Company.
d. Cornell.
e. Lawrence Roll-Up Doors, Inc.
f. McKeon Rolling Steel Door Company, Inc.
g. Overhead Door Corporation.
h. Raynor.
i. Wayne-Dalton Corp.

B. Operation Cycles: Door components and operators capable of operating for not less than 20,000. One operation cycle is complete when a door is opened from the closed position to the fully open position and returned to the closed position.

1. Include tamperproof cycle counter.

C. Door Curtain Material: Aluminum.

D. Door Curtain Slats: Flat profile slats of 1-1/2-inch center-to-center height.

1. Gasket Seal. Manufacturer's standard continuous gaskets between slats.

E. Bottom Bar: Manufacturer's standard continuous channel or tubular shape, fabricated aluminum extrusion and finished to match door.

F. Curtain Jamb Guides: Aluminum with exposed finish matching curtain slats. Provide continuous integral wear strips to prevent metal-to-metal contact and to minimize operational noise. Provide removable post(s) and jamb guides where indicated on Drawings.

G. Hood: Match curtain material and finish.

1. Shape: Square.
2. Mounting: Face of wall.

H. Integral Frame, Hood, and Fascia: Galvanized steel.

1. Mounting: Face of wall.

I. Sill Configuration: Integral metal sill.

J. Locking Devices: Equip door with slide bolt for padlock.

1. Locking Device Assembly: Single-jamb side locking bars, operable from inside with thumbturn.

K. Manual Door Operator: Push-up operation.

L. Curtain Accessories: Equip door with push/pull handles pull-down strap.

M. Door Finish:

1. Aluminum Finish: .
2. Baked-Enamel or Powder-Coated Finish: Color matching Architect's sample.
3. Interior Curtain-Slat Facing: Match finish of exterior curtain-slat face .

2.3 DOOR CURTAIN MATERIALS AND FABRICATION

A. Door Curtains: Fabricate coiling counter door curtain of interlocking metal slats in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated, and as follows:

1. Aluminum Door Curtain Slats: ASTM B209 sheet or ASTM B221 extrusions, alloy and temper standard with manufacturer for type of use and finish indicated; thickness of 0.050 inch; and as required.
2. Metal Interior Curtain-Slat Facing: Match metal of exterior curtain-slat face.

B. Curtain Jamb Guides: Manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Slot bolt holes for guide adjustment. Provide removable stops on guides to prevent overtravel of curtain.

2.4 HOODS

A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.

1. Aluminum: 0.040-inch- thick aluminum sheet complying with ASTM B209, of alloy and temper recommended by manufacturer and finisher for type of use and finish indicated.

B. Integral Frame, Hood, and Fascia: Welded sheet metal assembly of the following sheet metal(s):

1. Galvanized Steel: Hot-dip galvanized-steel sheet with G90 zinc coating, complying with ASTM A653/A653M.

2.5 LOCKING DEVICES

A. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on both left and right jamb sides, operable from coil side.

2.6 CURTAIN ACCESSORIES

A. Weatherseals: Equip door with weather-stripping gaskets fitted to entire perimeter of door for air-resistant installation unless otherwise indicated.

1. At door head, use 1/8-inch- thick, replaceable, continuous-sheet baffle secured to inside of hood or field-installed on the header.
2. At door jambs, use replaceable, adjustable, continuous, flexible, 1/8-inch- thick seals of flexible vinyl, rubber, or neoprene.

B. Push/Pull Handles: Equip each push-up-operated or emergency-operated door with lifting handles on each side of door, finished to match door.

C. Pole Hooks: Provide pole hooks and poles for doors more than 84 inches high.

2.7 COUNTERBALANCE MECHANISM

A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.

B. Counterbalance Barrel: Fabricate spring barrel of manufacturer's standard hot-formed, structural-quality, seamless or welded carbon-steel pipe, of sufficient diameter and wall thickness to support rolled-up curtain without distortion of slats and to limit barrel deflection to not more than 0.03 in./ft. of span under full load.

C. Counterbalance Spring: One or more oil-tempered, heat-treated steel helical torsion springs. Size springs to counterbalance weight of curtain, with uniform adjustment accessible from outside barrel. Secure ends of springs to barrel and shaft with cast-steel barrel plugs.

D. Torsion Rod for Counterbalance Shaft: Fabricate of manufacturer's standard cold-rolled steel, sized to hold fixed spring ends and carry torsional load.

E. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

2.8 MANUAL DOOR OPERATORS

A. General: Equip door with manual door operator by door manufacturer.

B. Push-up Door Operation: Design counterbalance mechanism so that required lift or pull for door operation does not exceed 25 lbf.

2.9 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM/NOMMA 500 for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.10 ALUMINUM FINISHES

A. Mill Finish: Manufacturer's standard.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates areas and conditions, with installer present, for compliance with requirements for substrate construction and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Install coiling counter doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

B. Install coiling counter doors, hoods, controls, and operators at the mounting locations indicated for each door.

3.3 FIELD QUALITY CONTROL

A. Testing Agency: Owner may engage a qualified testing agency to perform tests and inspections and to furnish reports to Architect.

B. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

C. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

3.4 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. Test and adjust controls and safety devices. Replace damaged and malfunctioning controls and equipment.

3.5 ADJUSTING

A. Adjust hardware and moving parts to function smoothly so that doors operate easily, free of warp, twist, or distortion.

B. Lubricate bearings and sliding parts as recommended by manufacturer.

C. Adjust seals to provide tight fit around entire perimeter.

3.6 MAINTENANCE SERVICE

A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by skilled employees of coiling-door Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper door operation. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.

1. Perform maintenance, including emergency callback service, during normal working hours.
2. Include 24-hour-per-day, seven-day-per-week, emergency callback service.

3.7 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain coiling counter doors.

END OF SECTION 083313

SECTION 129300 - SITE FURNISHINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Seating.
2. Trash receptacles.
3. Bollards.

B. Related Sections include the following:

1. Division 03 Section "Cast-in-Place Concrete" for installation of anchor bolts cast in concrete footings.
2. Division 31 Section "Earth Moving" for excavation for installation of concrete footings.

C. Products furnished, but not installed under this Section, include anchor boltsto be installed in paving.

1.3 ACTION SUBMITTALS

A. Product Data,:

1. Product Data: For each type of product indicated.

B.

1.4 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Trash Receptacle Inner Containers: 2 full-size units for each size indicated, but no fewer than 2 units.
2. Anchors: 12.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated; free of surface blemishes and complying with the following:

1. Extruded Bars, Rods, Wire, Profiles, and Tubes: ASTM B 221.

B. Steel and Iron: Free of surface blemishes and complying with the following:

1. Plates, Shapes, and Bars: ASTM A 36/A 36M.
2. Steel Pipe: Standard-weight steel pipe complying with ASTM A 53, or electric-resistance-welded pipe complying with ASTM A 135.
3. Tubing: Cold-formed steel tubing complying with ASTM A 500.
4. Mechanical Tubing: Cold-rolled, electric-resistance-welded carbon or alloy steel tubing complying with ASTM A 513, or steel tubing fabricated from steel complying with ASTM A 1011/A 1011M and complying with dimensional tolerances in ASTM A 500; zinc coated internally and externally.
5. Sheet: Commercial steel sheet complying with ASTM A 1011/A 1011M.
6. Perforated Metal: From steel sheet not less than 0.0897-inch nominal thickness; manufacturer's standard perforation pattern.
7. Expanded Metal: Carbon-steel sheets, deburred after expansion, and complying with ASTM F 1267.
8. Malleable-Iron Castings: ASTM A 47/A 47M, grade as recommended by fabricator for type of use intended.
9. Gray-Iron Castings: ASTM A 48/A 48M, Class 200.

C. Stainless Steel: Free of surface blemishes and complying with the following:

1. Sheet, Strip, Plate, and Flat Bars: ASTM A 666.
2. Pipe: Schedule 40 steel pipe complying with ASTM A 312/A 312M.
3. Tubing: ASTM A 554.

D. Anchors, Fasteners, Fittings, and Hardware: Manufacturer's standard, corrosion-resistant-coated or noncorrodible materials; commercial quality, tamperproof, vandal and theft resistant.

1. Angle Anchors: For inconspicuously bolting legs of site furnishings to on-grade substrate; one per leg.

E. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107; recommended in writing by manufacturer, for exterior applications.

F. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring, patching, and grouting compound; resistant to erosion from water exposure without needing protection by a sealer or waterproof coating; recommended in writing by manufacturer, for exterior applications.

2.2 SEATING

A. Basis-of-Design Product: Subject to compliance with requirements, provide Forms + Surfaces "Ratio" Bench or a comparable product by one of the following:

1. A & T Iron Works, Inc.
2. Landscape Forms.
3. Landscape Structures, Inc.
4. Sitecraft.
5. Urban Accessories, Inc.

B. Frame: Cast aluminum .

C. Seat and Back:

1. Material:

a. Stainless Steel: Perforated metal.

2. Seat Height: 16.9 inches.
3. Seat Surface Shape: Contoured or dished.
4. Overall Height: 32.75 inches.
5. Overall Width: 77.00 inches.
6. Overall Depth: 24.25 inches.
7. Arms: Two, one at each end.

a. Arm Material: Match frame.

8. Seating Configuration: Multiple units as indicated.

D. Steel Finish: color coated.

E. Graphics: copy, content, and style as indicated on Drawings.

2.3 TRASH RECEPTACLES

A. Basis-of-Design Product: Subject to compliance with requirements, provide Forms + Surfaces "Universal" 30 gallon Litter Receptacle, side opening, standard opening or a comparable product by one of the following:

1. Landscape Forms.
2. Landscape Structures Inc.
3. L. A. Steelcraft.
4. Sitecraft.
5. Urban Accessories, Inc.

B. Stainless-Steel Facing Surrounds: Perforated-steel sheet.

C. Support Frames: Steel; welded.

D. Trash Receptacles:

1. Receptacle Shape and Form: Round cylinder ; with opening for depositing trash in receptacle side.
2. Lids and Tops: Stainless Steel secured by cable or chain, hinged, swiveled, or permanently secured.

    a. Description: Elevated flat or shallow dome rain-cap lid.

3. Overall Height: 37.5 inches.
4. Overall Width: 21.5 inches.
5. Weight: 50 lbs.
6. Inner Container: Rigid plastic container with drain holes; designed to be removable and reusable.
7. Capacity: Not less than 30 gal (114 L)~~] [32 gal. (121 L)] [40 gal. (151 L)] [55 gal. (208 L)] <Insert capacity>~~.
8. Service Access: Removable lid or top; inner container and disposable liner lift or slide out for emptying.

E. Stainless-Steel Finish: Dull Satin No. 6.

F. Graphics: copy, content, and style as indicated on Drawings.

2.4 BOLLARDS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Canterbury International.

B. Steel Finish: Color coated.

1. Color: As indicated by manufacturer's designation.

2.5 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.6 ALUMINUM FINISHES

A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

2.7 STEEL AND GALVANIZED STEEL FINISHES

A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

2.8 IRON FINISHES

A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

2.9 STAINLESS-STEEL FINISHES

A. Remove tool and die marks and stretch lines or blend into finish.

B. Grind and polish surfaces to produce uniform, directionally textured, polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.

1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.

B. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed.

C. Install site furnishings level, plumb, true, and securely anchored and positioned at locations indicated on Drawings.

3.3 CLEANING

A. After completing site furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION 129300

SECTION 133416.01
HOME GRANDSTANDS

PART 1 - GENERAL

1.01 SYSTEM DESCRIPTION

A. Provide labor, material, equipment and supervision necessary to complete installation of permanent steel grandstand, including the following:
   a.
1. Galvanized Steel Substructure
2. Seat, Decking, and Railing System
3. Concrete Foundation/Flatwork design.(min. 24” dia. pier over spread footing)
   a. Foundations designed to meet all code requirements and conditions listed in attached soils report.
4. Rear Crosswalk.
5. Complete pressbox and landing understructure, galvanized steel
6. 10' x 48' Steel framed pre-fabricated Type II pressbox per drawings and specifications.
   a. Rear landing providing access to individual rooms
   b. Roof filming area with external access stairs
   c. Sloped front face
7. Galvanized anchor Bolts/Template

B. Minimum Equipment to be supplied:
1. Fully Closed Interlocking aluminum deck system with secondary Gutters at all deck joints.
2. Permanent Galvanized Steel Free-Span I-Beam Understructure as shown on Drawings.
3. 13 inch rise x 26 inch tread spacing
4. 23 row section as indicated on Drawings.
5. 222 ft. total bank length
6. Front walkway elevated 48 inches above grade
7. Upper crosswalk, wheelchair spaces, and access steps from grandstand
8. Pre-Fabricated steel pressbox, 11' X 60' ' two levels with two rows of counters See specification for pressbox details
9. Provide Rear Pressbox Landing Structure allowing for access to the pressbox rooms, elevator, and roof camera area as shown on drawings
10. Riser mounted bench seat brackets
11. Surface mounted hardware (no through drilling of decking or risers).
12. Stairs/Portals/Ramps provided as shown.
13. Provide 32 ADA compliant wheelchair spaces and adjacent companion seats.
14. Kynar painted vertical tread risers and half step risers (from standard colors)
15. Black vinyl clad chain link fence at all guardrails
16. 2,800+/- bench seats plus 32 ADA spaces.

1.02 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturers must prove that they have contracted and provided the design, manufacture, and installation of bleachers/grandstands as current business organization for a minimum of 5 years. Bidders must provide a list of 5 similar projects completed in the State of Indiana in the past 5 years. Welders must be AWS certified. Manufacturers to be AISC Certified prior to bidding.

B. Installer Qualifications: Factory trained and Experienced in the proper installation of grandstands.

C. Source Quality Control: Mill Test Certification.

D. Manufacturer to have a local representative to insure proper quality control during construction.

1.03 SUBMITTALS

A. Manufacturer's Product Data: Submit manufacturer's descriptive product data for project.

B. Shop Drawings: Manufacturer to submit shop drawings sealed by an Indiana registered professional engineer and schedules for type, location, quantity, and details of steel and aluminum components required for project.

C. Certificates:
1. Insurance Certificate
2. Bid Bond.

D. One 18” sample of each of the following: seat plank, interlock foot plank and riser plank, if requested

E. Color Chart: Kynar painted riser plank.

1.04 SITE CONDITIONS

A. Field Site:
1. Owner to make site accessible.
2. Owner to verify site locations, benchmarks.

B. Underground Utility Line: Owner to clearly mark all underground utilities and obstructions and Owner to relocate all that conflict with grandstand.

C. Soil Test: Furnished by Owner.

1.05 BUILDING CODES

A. Manufacturer to confirm that design meets all applicable IBC 2012 Building Code and Federal ADA code.

1.06 WARRANTY

A. Permanent Grandstand shall be under warranty for a period of one year beginning at Date of Substantial Completion for Projects installed by Manufacturer. The Grandstand is warranted to be free from defect in materials and workmanship in the course of manufacture. This warranty excludes any other defects resulting from abnormal use in service, accidental or intentional damage or any occurrences beyond Manufacturer's control.

1.07 MAINTENANCE

A. Owner is to conduct annual inspection and required maintenance of grandstand to assure safe conditions. It is also recommended that a professional engineer or registered architect perform inspections biennially.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Southern Bleacher Company.
B. Dant Clayton Corporation
C. Sturdisteel
D. Approved equal.

E. Other manufacturers seeking to be approved must submit product literature on horizontal beam design and deck system to the Owner for review and receive approval
from Owner seven days prior to bid date. Prior to bidding, Manufacturers must provide a list of a minimum of three projects of similar product type and project size contracted and completed within the State of Indiana within the last 5 years.

2.02 PERMANENT STEEL GRANDSTAND

A. Product Description
1. Horizontal Beam Design: Net Seating capacity of 2,800+/-, 23 rows, and 222 feet long.

2. Vertical columns are placed 18 feet 0 inches on center laterally (exceptions noted on drawings) Must adhere to column spacing to insure building clearance

3. Horizontal beams are wide flange beams.

4. Traverse bays are free of cross-bracing the total length of the grandstand.

5. Stringers are wide flange with steel angle rise and depth fabrication and are placed 6 feet on center.

6. Front Walkway: Elevated 48”

7. Entry stairs to be firmly anchored to uniformly poured concrete bases.
   a. Stair rise: max. 8 inches per IBC 2012 Building Code with aluminum closure.
   b. Stair tread depth: 11.5 inches per IBC 2012 Building Code.
   c. Guardrails on Stair to be 34 inches above leading edge of step with intermediate rail spacing at 12 inches.
   d. Stairs to have handrail extension. The handgrip portion of handrails shall not be less than 1 1/2 inches or more than 2 inches in cross-sectional dimension or the shape shall provide an equivalent gripping surface. The handgrip portion of handrails shall have a smooth surface with no sharp corner. The top of handrails and handrail extensions shall be placed not less than 34 inches or more than 38 inches above the nosing of treads and landings. Handrails shall be continuous the full length of the stairs and shall extend in the direction of the stair run not less than 12 inches beyond the bottom riser. Ends shall be returned or shall terminate in newel posts or safety terminals.

8. Aisles:

a. Aisles with seating on both sides to have 34-inch high handrail with intermediate rail at approximately 22 inches above tread.
b. Anodized aluminum handrails with rounded ends are discontinuous to allow access to seating through a space 22 inches (min.) to 36 inches (max.).
c. Half steps shall provide equal rise and run throughout aisle. Each shall have aisle nosing with black powder coat finish and riser closure with clear anodized finish. If colored riser is specified for seating area, the aisle nose and riser closure shall be of same finish.

9. Interlock Deck System:
   a. Rise per row 13 inches, depth per row 26 inches.
   b. Each seat 17 inches above its respective tread.
   c. Decking Arrangement

      (1) The tread system shall be comprised of aluminum extrusions which interlock together lengthwise and form a .922" x .60" V-shaped gutter running the length of the planks. The interlocking mechanism will minimize deflection and will not separate due to loads being applied to individual planks. *The locking mechanism by design shall allow for expansion and contraction of individual planks without effecting performance of the system*. The system shall cause the deck planks to react together at all treads and cross walks to live load and form the appearance of a single tread system. By design, this system forms a solid, overlapping tread and riser installation.
      (2) The nose extrusion shall allow for a 1" extruded aluminum contrasting nose piece to be flush mounted on the leading edge and shall capture the vertical riser plank in an extruded pocket. The heel extrusion shall have a .70" vertical lip at the rear of the plank to allow for placement of vertical riser plank and inhibit fluids from escaping at the rear of the tread.
      (3) These extrusions shall be such that the attachment of the seat brackets, step brackets, mid-aisle rails and all other components is accomplished without deck penetrations. *No through bolting or drilling of the aluminum tread / riser system shall be permitted*.
      (4) The system shall allow for seat and aisle reconfiguration at any time without evidence of its previous configuration.
      (5) At all butt joint locations of the interlocking deck system, a secondary gutter shall be installed below the aluminum tread / riser system that allows fluids to be contained and gravity flow toward the first tread. This gutter will collect fluids and control them to specific areas.
      (6) The secondary gutter system shall be placed on to the structural steel support system of the grandstand such that the gutter is supported by stringers / raker beams at each side. These stringers / raker beams shall be a minimum 12" apart to allow for adequate gutter widths to properly collect fluids drainage.
      (7) These secondary gutters shall terminate at strategic locations dependent on the grandstand layout. At the termination points, a collection box will be provided such that the owner can make a connection to allow for desired fluid routing. Collection points are clearly marked on project drawings.
      (8) Entry stairs and ramps to be 2" x 12" mill finish aluminum.
      (9) Open ends of planks to be covered with aluminum end caps, securely fastened to the plank.
      (10) Joint sleeves: Dual joint sleeves to be inserted at each butt joint of each load bearing aluminum plank, and to penetrate 6 inches into

each plank at the joint. Joint sleeves are not required at secondary gutter locations.

10. Guardrailing: To be at all sides of bleacher, entry stairs and ramps, portals, and landings. Railing to be anodized aluminum with end plugs at ends of straight runs and/or elbows at corner. All guardrails shall be secured to angle rail risers by galvanized fasteners. Railing shall be 42" above walkways and entrances. Railing shall be 42" above any adjacent seat. Guardrailing to include Black vinyl clad chain link fence infill.

11. Cross Aisles:
    a. Clear width 60 inches.
    b. Guardrail to be 42 inches above tread
12. Ramps:
    a. Slope: 1:12
    b. Guardrail to be 42 inches above ramp with Black vinyl clad chain link fence and 2 x 6 toe board.
    c. Handrail: Ramps to have handrail extension. The handgrip portion of handrails shall not be less than 1 1/2 inches or more than 2 inches in cross-sectional dimension or the shape shall provide an equivalent gripping surface. The handgrip portion of handrails shall have a smooth surface with no sharp corners. The top of handrails and handrail extensions shall be placed not less than 34 inches or more than 38 inches above the ramp surface. Handrails shall be continuous the full length of the ramp and shall extend in the direction of the ramp not less than 12 inches beyond the end of the ramp. Ends shall be returned or shall terminate in newel posts or safety terminals.

13. Handicap provision:
    a. Quantity of wheelchair spaces: 32
    b. Riser area adjacent to wheelchair spaces to have intermediate construction so 4 inch sphere cannot pass through opening.

B. Materials/Finishes
1. Substructures:
    a. Structural shapes meet one of the following ASTM specifications: A36, A36/A572 grade 50, A572 grade 50, A529-50, or A500 grade B.
    b. Shop connections are seal welds.
    c. After fabrication, all steel is hot-dipped galvanized to ASTM-A-123 specifications.
    d. Painted steel finish is unacceptable.

2. Extruded Aluminum:
    a. Seat Planks and Railing are extruded aluminum alloy, 6063-T6 with clear anodized 204R1, AA-M10C22A31, Class II finish.
    b. Tread planks are extruded aluminum alloy 6063-T6 mill finish
    c. Vertical tread risers, half step risers, and façade to be extruded aluminum Alloy 6063-T6 Kynar painted to match (From standard colors)
    d. Joint Sleeve Assembly to be inserted in flat plank to maintain true alignment in joining together two plank pieces. Extruded aluminum alloy, 6063-T, mill finish. Splice cover is unacceptable between two flat seat plank pieces joined in a straight line.

3. Accessories:
    a. Channel End Caps: Aluminum alloy 6063-T6, clear anodized 204R1, AA-M10C22A31, Class II. Polyethylene end cap is unacceptable.
    b. Hardware:
        (1) Bolts, Nuts: Hot-dipped galvanized or mechanically galvanized.
        (2) Hold-down Clip Assembly: Aluminum alloy 6005A-T6, mill finish.

(3) Structural Hardware: Equal to or greater than hot-dipped galvanized ASTM-A307. No connections utilizing high strength bolts are classed as slip critical.

c. Aisle Nose and Stair Nose: Aluminum alloy, 6063-T6, non-skid powder coat finish

C. Fabrication:

1. Design Load:
   a. Live Load: 100 psf gross horizontal projection.
   b. Lateral Sway Load: 24 plf seat plank.
   c. Perpendicular Sway Load: 10 plf seat plank.
   d. Live Load of Seat and Tread Planks: 120 plf.
   e. Guardrail: Per IBC 2012 Building Code.

2. All manufactured connections to be shop welded.
   a. Manufactured by certified welders conforming to AWS Standards.

PART 3 - EXECUTION

3.01 INSTALLATION

A. All work performed by technicians experienced in bleacher seating installation.

B. Project as per approved shop drawings.

3.02 FOUNDATIONS/PIERS

A. Footings for the grandstand shall be designed to provide sufficient bearing areas to support the total live and dead loads of the grandstand without exceeding the allowable soil bearing pressure.

B. Design and depth of footings shown on drawings have been engineered by Southern Bleacher Co. for their products and based on soil conditions provided for this specific project. All other bidders must provide design calculations for their footings based on the same soils report with their proposals. All foundations must a minimum 24" diameter pier above spread footings.

C. Galvanized steel anchor bolts shall be used and secured in the concrete piers.

D. Concrete shall attain a working strength of 3,000 psi at 28 days.

3.03 CLEAN-UP

A. Clean up all debris caused by work of this section.

SECTION 133417
METAL STRUCTURE PRESS BOX SPECIFICATIONS

2.03 PRESS BOX WITH METAL STRUCTURE

NOTE: Bidder must provide proof of State of Indiana Approval to manufacture Press Boxes for projects within the State to be qualified to bid.

A. Product Description: Type II Construction

1. Press Box Support Structure: See design drawings.

2. Press Box Dimensions: 10 feet wide x 48 feet long.

3. Provide Landings to either side of pressbox and rear access walkway for access to Individual interior rooms. External stairs from rear access landing to roof filming area

4. Press Box to be of open construction, allowing inspection of electrical wiring, switches and other components without destructive disassembly.

5. Four internal rooms as drawn (divider walls to have windows at the front to allow downfield viewing). Two tier interior design with two rows of counters

6. All Welded Steel Frame Construction with steel doors/frames.

7. Provide Steel R-Panel Siding. Choice of standard manufacturer's colors

8. Sloped front of pressbox for better viewing and less glare. Vertical hung windows

9. Provide operable windows to the backside of the pressbox for ventilation

10. Interlocking anodized aluminum counters on welded steel support frames.

B. Materials/Finishes

1. Press Box Support Structure:
   a. Structural shapes meet one of the following ASTM specifications: A36, A36/A572 grade 50, A572 grade 50, A529-50, or A500 grade B.

   b. Shop connections are seal welds.

   c. After fabrication, all steel is hot-dipped galvanized to ASTM-A-123 specifications.

2. Press Box: All materials shall be new and shall comply with ASTM specifications.
   a. Floor
      (1) Main support to be a galvanized steel floor frame sized to support structure and metal belly pan for support of insulation.
      (2) Floor to be INTERLOCK Aluminum Decking System, extruded aluminum alloy 6063-T6, mill finish. Attach Decking System to steel floor frame with mechanical fasteners at end of plank and at intermediate supports. (Tongue & Groove or Standard extrusion is not acceptable.)
      (3) Insulation: Kraft faced fiberglass building insulation R-11, 3 1/2 inches thick. Batt or roll as manufactured by Owens-Corning Fiberglass Corp., or equal.

   b. Wall Structure
      (1) 4 inch x 4 inch x 11 gauge square tubing with maximum span of 14 feet on front wall and maximum span of 6 feet on back wall and 4 inch x 2 1/2

inch x 14 gauge steel "cees" with maximum spacing of 5 feet for all walls with siding. Spans greater than these require engineered calculations for design.

(2) Insulation: Kraft faced fiberglass building insulation R-11, 3 1/2 inches thick. Batt or roll as manufactured by Owens-Corning Fiberglass Corp., or equal.

(3) Interior Finish
- (a) 1/2 inch vinyl coated gypsum panels, Gold Bond vinyl-surfaced Durasan- Harvest Cotton.
- (b) Cove Base: Vinyl 4 inches x .080 equal to PRO CB-35 Nubian.

(4) Exterior Finish
- (a) 26 gauge pre-finished R-Panel paneling as manufactured by MBCI, Signature 200 color series, or equal.
- (b) Wall panels are attached with #12 TEK screws - 6” O.C. at the top and bottom of the panels.
- (c) Lap screws are placed at each end of the panels, at the intermediate supports, and at the mid point between supports (TEK #14).
- (d) All fasteners to be painted same color as exterior paneling.

c. Roof Structure
- (1) 4 inch x 4 inch x 11 gauge square tubing with maximum spacing of 6 feet on center and 4 inches x 2 1/2 inches x 14 gauge steel "cees" with maximum spacing of 2 feet on center.
- (2) Roof: 1/8 inch four way steel plate roof, continuous welded seams coated with acrylic metal primer as manufactured by Coronado and 36 mils of acrylic roof coating as manufactured by Isothermal Protective Coatings, or equal. Plate is welded on both sides of rafters with 1-1/2 inch long 1/8 inch fillet welds on 12 inch centers.
- (3) Insulation: Kraft faced fiberglass building insulation, R-19 (minimum) 6 inches thick. Batt or roll as manufactured by Owens-Corning Fiberglas Corp., or equal.
- (4) Cornice: 26 gauge steel pre-finished to match metal siding.
- (5) Ceiling: 24 inch x 24 inch x 5/8 inch acoustical ceiling tile (model #- USG Fissured 560) with USG grid main tee (model # DXL24), cross tee (model # DXL 216), wall angle (model # M7), wind clips and other components as manufactured by USG, or equal.

d. Exterior Door(s)
- (1) Full flush steel construction with honeycomb core. 18 gauge skin sheets. Dimensions: 3 feet 0 inches x 6 feet 8 inches. Color: Per Architect/Engineer color selection.
- (2) Steel door frame (16 gauge) complete with 1/2 inch threshold and weather-stripping.
- (3) Exterior Hardware: Yale 546F Exterior Trim, or equal. Handles shall be lever type that allow operation without tight grasping or twisting of the wrist. Keyed alike locks.
- (4) Interior Hardware: Yale 2100 Exit Device, or equal. Handle shall be panic bar that allows for opening without any grasping, twisting or turning.

e. Interior Walls as shown
- (1) Framing to be steel galvanized studs (25 gauge) 1 1/4 inch x 3 5/8 inch at maximum 2 feet on center.
- (2) Finishes to be consistent with all other interior finishes.

(3) Provide fixed windows at front counter of each wall (see drawing)

f. Windows
(1) Frame: Extruded aluminum single hung, vertical sliding unit, thermal break. Sloped windows per drawings.
(2) Sash: Tilt toward inside for easy cleaning.
(3) Glazing: Clear tempered panes.
(4) Dimensions of each unit: Dependent on compartment size. At interior wall locations or structural support locations the dimension between windows shall be no greater than 6 inches.
(5) Finish: Electrostatically applied acrylic enamel.

g. Work Bench
(1) 18 inch wide work bench constructed of 4 inch x 2 1/2 inch x 14 gauge steel with interlocking anodized aluminum surface. Counter top heights shall be constructed to allow wheelchair usage at all locations.

h. Roof camera deck with perimeter rails, Black vinyl clad chain link fence infill.

i. Painting: Materials equal to. Coronado, or equal.
(1) Surfaces: Exterior Door(s), Door Frame(s)
(a) Primer: Applied by Door Manufacturer.
(b) Finish: 2 coats acrylic latex semi-gloss enamel applied by press box manufacturer.
(2) Surfaces: Interior Doors (if applicable)
(a) Primer: Jones Blair Interior Exterior Oil Primer, or equal.
(b) Finish: 2 coats acrylic latex semi-gloss enamel.
(3) Surfaces: Exterior Siding
(a) Primer: Applied by Siding Manufacturer.
(b) Finish: Applied by Siding Manufacturer.
(c) Touchup: If applicable
(4) Surfaces: Wall and Roof Structure
(a) Primer: Coronado DTM Industrial 180-11 acrylic metal primer applied after welding, or equal.

j. Caulking: Sonneborn NP1 – Polyurethane sealant, All temperature, UV resistant, or equal. Silicone products are not acceptable.

j. Electrical:

Provide for all electrical as detailed in architects drawings as shown.
Includes 100 AMP service panel

2.04 WARRANTY

A. The Press Box is warranted to be free from defect in materials and workmanship in the course of manufacture. This warranty excludes any other defects resulting from abnormal use in service, accidental or intentional damage or any occurrences beyond manufacturer's control.

SECTION 282300.99 - VIDEO SURVEILLANCE SYSTEM (VSS)

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Camera Assemblies (camera, lens, housing, mount, heater, blower, etc.)
2. Audio/Video Recorders
3. Audio/Video Control Equipment
4. Video Transmission Systems
5. Complete System configuration
6. Complete System testing

B. System Connection Wiring

1. ANSI/TIA/EIA 568 Category Six Compliant horizontal structured cabling system with a fiber backbone is currently being installed under a separate Contract. One 48" copper patch cable is provided per each horizontal cable under that existing Contract. Six 36" dual multimode patch cables are provided per each fiber backbone cable under that existing Contract. Connect system components to this cabling system utilizing these patch cables. Provide additional patch cables as necessary for system connectivity.

1.2 REFERENCES

A. NFPA 70 - National Electrical Code - current version

1.3 DEFINITIONS

A. Words that are in common use are used throughout the Drawings and Specifications, except Words which have well-known technical or trade meanings which are used in accordance with such recognized meanings.

B. CCD: Charge-coupled device.

C. MPEG: Moving picture experts group.

D. NTSC: National Television System Committee.

E. UPS: Uninterruptible power supply.

F. IP – Internet Protocol.

1.4 SYSTEM DESCRIPTION

A. Section includes a video surveillance recording system consisting of cameras, network video recorder, associated wiring, and control station with its associated equipment.

B. Design Requirements

1. Contractor Design

a. The Project Drawings represent the level of system design to be provided. Contractor shall provide all additional system design work required, including:

1) Wire and cable layout and sizing.
2) Point-to-point wiring and equipment hook- up information.
3) Equipment mounting details.
4) Design of equipment cabinets.
5) Other detailed design work required.

b. Contractor's design shall conform to all applicable codes and ordinances. All electrical design, including the sizing and placement of conduit, raceways and conductors, shall be in accordance with NFPA 70: National Electrical Code unless local codes establish more stringent requirements.

c. Contractor's design work is subject to review and approval by Owner's Project Manager.

d. Miscellaneous

1) Provide wire, cable, conduit, connectors and junction boxes required for system operation.
2) Provide complete testing of all wiring and cables prior to connecting to any equipment or power.
3) Provide complete "as-built" documentation of all security systems, including documentation of existing equipment, wiring, conduits, and raceways.
4) Other Work as defined within the Project Drawings and Specifications.

1.5 ACTION SUBMITTALS

A. Product Data,:

1. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for equipment racks and cabinets. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For cameras, power supplies, infrared illuminators, monitors, videotape recorders, digital video recorders, video switches, and control-station components to include in emergency, operation, and maintenance manuals. In addition to items specified in Division 1 Section "Closeout Procedures" and "Operation and Maintenance Data," include the following:

1. Lists of spare parts and replacement components recommended being stored at the site for ready access.

B. Warranty: Special warranty specified in this Section.

1.7 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. Contractor shall perform Work in accordance with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents. Contractor shall maintain one set of complete instructions at the job site during installation and until completion.

C. Comply with the following as applicable:

1. NECA 1
2. NFPA 70.
3. UL 294, UL 1076, ULC
4. CE
5. F IEEE, RS 170 variable standard
6. IEEE, NTSC (color camera broadcast)
7. Microsoft® Open Database Connectivity (ODBC) interface)
8. ISO Software Coding Standards for C++ and C##
9. RoHS CC – Part 15, Part 68

D. Electronic data exchange between video surveillance system with an access control system shall comply with SIA TVAC.

E. Qualifications

1. Qualifications of Contractor

a. Contractor shall be an installation and service contractor regularly engaged in the sale, installation, maintenance and service of video surveillance systems.
b. Contractor shall have five (5) years experience with the installation, start- up and programming of systems of a similar size and complexity to the one proposed.
c. Contractor shall be a factory authorized dealer of the system proposed.

d. The Contractor shall maintain an office within fifty (100) miles of the construction site.
e. The Contractor shall have factory-certified technicians on-site.

2. Supervision of Work

a. Contractor shall employ a competent Foreman to be in responsible charge of the Work. Foreman shall be on the project site daily during the execution of the Work.
b. Contractor's Foreman shall be a regular employee, principle, or officer of Contractor, who is thoroughly experienced in projects of a similar size and type. Contractor shall not use contract employees or Subcontractors as Foremen.

3. Qualifications of Technicians

a. All electronic systems Work shall be performed by electronic technicians thoroughly trained in the installation and service of specialty low- voltage electronic systems.
b. Journeyman Wireman electrical workers may be used to install conduit, raceways, wiring, and the like, provided that final termination, hook-up, programming, and testing is performed by a qualified electronic technician, and that all such Work is supervised by the Contractor's Foreman.
c. All incidental Work, such as cutting and patching, hardware installation, painting, carpentry, and the like, shall be accomplished by skilled craftspersons regularly engaged in such type of work. All such Work shall comply with the highest standards applicable to that respective industry or craft.

F. Contractor shall perform Work in accordance with manufacturer's instructions. Do no omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents. Contractor shall maintain one set of complete instructions at the job site during installation and until completion.

G. Permits: The Contractor shall make application for and obtain any and all permits required by federal, state, county, city, or other authority having jurisdiction over the work.

H. Certifications: The system shall use U.L. Listed power supplies and lightning protection.

1.8 DELIVERY, STORAGE AND HANDLING

A. Delivery to Job Site: Contractor shall have total responsibility for safe and secure delivery of security equipment and tools to the job site. Arrange deliveries of Products in accord with construction schedules to avoid conflict.

B. Storage and Protection: Owner is not responsible for the care, storage or security of any of the Contractor's tools or equipment.

1.9 PROJECT / SITE CONDITIONS

A. Environmental Conditions: Capable of withstanding the following environmental conditions without mechanical or electrical damage or degradation of operating capability:

1. Control Station: Rated for continuous operation in ambient temperatures of 60 to 85 deg F and a relative humidity of 20 to 80 percent, noncondensing.
2. Interior, Controlled Environment: System components, except central-station control unit, installed in temperature-controlled interior environments shall be rated for continuous operation in ambient temperatures of 36 to 122 deg F dry bulb and 20 to 90 percent relative humidity, noncondensing. NEMA 250, Type 1 enclosures.
3. Interior, Uncontrolled Environment: System components installed in non- temperature-controlled interior environments shall be rated for continuous operation in ambient temperatures of 0 to 122 deg F dry bulb and 20 to 90 percent relative humidity, noncondensing. NEMA 250, Type 3R enclosures.
4. Exterior Environment: System components installed in locations exposed to weather shall be rated for continuous operation in ambient temperatures of minus 30 to plus 122 deg F dry bulb and 20 to 90 percent relative humidity, condensing. Rate for continuous operation when exposed to rain as specified in NEMA 250, winds up to 85 mph and snow cover up to 24 inches thick. NEMA 250, Type 3 enclosures.
5. Hazardous Environment: System components located in areas where fire or explosion hazards may exist because of flammable gases or vapors, flammable liquids, combustible dust, or ignitable fibers shall be rated, listed, and installed according to NFPA 70.
6. Corrosive Environment: System components subjected to corrosive fumes, vapors, and wind-driven salt spray in coastal zones. NEMA 250, Type 4X enclosures.
7. Security Environment: Camera housing for use in high-risk areas where surveillance equipment may be subject to physical violence.

1.10 SCHEDULING

A. The Contractor, within five (5) working days after being awarded the contract, shall prepare and submit for Owner’s information, an estimated progress schedule for the Work. The progress schedule shall be related to the entire project, and shall indicate start and completion dates.

1.11 WARRANTY

A. Contractor warrants that all Work furnished (material and labor) under this Contract will be of good quality, free from faults and defects, and in conformance with the Project Drawings and Specifications.

B. Contractor shall provide parts and labor guarantee on all Work. Unless otherwise specified herein, Contractor’s guarantee shall be for a period of two (2) years from date of Acceptance, except where any specific guarantees from a supplier or equipment manufacturer extends for a longer time.

C. Contractor's guarantee shall cover all costs associated with troubleshooting, repair, and replacement of defective Work, including costs of labor, transportation, lodging, materials, and equipment.

D. Guarantee shall not cover any damage to material or equipment caused by accident, misuse, unauthorized modification or repair by Owner, or acts of god.

E. Contractor shall promptly respond to Owner's requests for service during the guarantee period. Contractor shall provide repair service as soon as reasonably possible upon request from Owner, but in no case shall service response exceed 8 hours from time of request.

1.12 SYSTEM STARTUP

A. Power shall only be applied to the system after re-checking for proper grounding of the system and measuring all loops for lack of shorts, grounds, and open circuits.

1.13 OWNER'S INSTRUCTIONS

A. Coordination With Owner

1. Contractor shall closely schedule and coordinate his activities with designated Owner representatives. Contractor shall provide Owner's Project Manager with a work plan on a weekly basis. Such work plan will describe locations of intended activities, types of activities, and potential conflicts to facility operations.

B. Coordination With Manufacturer

1. Contractor shall perform Work in accordance with manufacturer's instructions. Do no omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents. Contractor shall maintain one set of complete instructions at the job site during installation and until completion.

1.14 COMMISSIONING

A. After all Work is completed, and prior to requesting the Acceptance test, Contractor shall conduct a final inspection, and pre-test all equipment and system features. Contractor shall correct any deficiencies discovered as the result of the inspection and pre-test.

B. Contractor shall submit a request for the Acceptance test in writing to the Owner Project Manager, no less than fourteen days prior to the requested test date. The request for Acceptance test shall be accompanied by a certification from Contractor that all Work is complete and has been pre-tested, and that all corrections have been made.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

B. Approved Manufacturers:

1. Central Control and Management system

a. Avigilon

2. Cameras and Lenses

a. As supported by Central Control and Management system

2.2 GENERAL

A. Contractor Responsibility

1. All products not provided by Owner shall be new and unused, and shall be of manufacturer's current and standard production. Where two or more equipment items of the same kind are provided, all shall be identical and provided by the same manufacturer. Drawings and Specifications indicate major system components, and may not show every component, connector, module, or accessory that may be required to support the operation specified. Contractor shall provide all components needed for complete and satisfactory operation.

2.3 SYSTEM REQUIREMENTS

A. Design Requirements

1. Contractor Design

a. The Project Drawings represent the level of system design to be provided. Contractor shall provide all additional system design work required, including:

1) Point-to-point wiring and equipment hook- up information.
2) Equipment mounting details.
3) Other detailed design work required.

b. Contractor's design shall conform to all applicable codes and ordinances. All electrical design, including the sizing and placement of conduit, raceways and conductors, shall be in accordance with NFPA 70: National Electrical Code unless local codes establish more stringent requirements.

c. Contractor's design work is subject to review and approval by the Architect.
d. Miscellaneous

1) Provide all connectivity required for system operation.
2) Provide complete testing of all wiring and cables prior to connecting to any equipment or power.

B. All products shall be new and unused, and shall be of manufacturer's current and standard production. Where two or more equipment items of the same kind are provided, all shall be identical and provided by the same manufacturer. Drawings and Specifications indicate major system components, and may not show every component, connector, module, or accessory that may be required to support the operation specified. Contractor shall provide all components needed for complete and satisfactory operation

2.4 PRODUCT AVAILABILITY

A. Contractor, prior to submitting a proposal, shall determine product availability and delivery time, and shall include such considerations into his proposed Contract Time.

B. Certain products specified may only be available through factory-authorized dealers and distributors. Contractor shall verify his ability to procure the products specified prior to submitting a proposal.

2.5 WIRE AND CABLE

A. ANSI/TIA/EIA 568 Category Six Compliant horizontal structured cabling system with a fiber backbone is currently being installed under a separate Contract. Connect system components to this cabling system utilizing required patch cables. Provide patch cables as necessary for system connectivity plus ten percent spare. Provide patch cable color and lengths as directed by Owner.

B. Conduit And Raceway Systems

1. Currently being installed under a separate Contract unless otherwise noted.
2. Provide sleeved penetrations as required for all exterior building-mounted cameras.

2.6 LIGHTNING PROTECTION

A. The Contractor shall provide suitable lightning protection for all equipment.

B. All lightning protection equipment shall be UL listed.

2.7 FUNCTIONAL REQUIREMENTS

A. General

1. The video surveillance system, hereafter referred to as “the system,” shall take IP camera input streams, digitally record these video streams, and make them available for live monitoring and investigative review purposes. Web-based systems are preferred, however a client/server platform, whereby any number of client workstations may connect to one or multiple recorders are acceptable.
2. The system shall provide recording of IP video cameras on a network video recorder using hardware provided by the system manufacturer or on non-proprietary hardware manufactured by third-party manufacturers.
3. Video Recording

    a. The system shall capture, digitize, compress, and store video onto an internal hard drive or external storage device. The recording software shall run as a service on a Windows XP Pro machine with a static IP address.
    b. The system shall support an unlimited number of cameras across multiple video recording hardware devices. The system shall support MJPEG or MPEG-4 compression encoding and decoding.
    c. The system shall record information about the time, date, and source of all video for easy search and retrieval. Each image of video shall be stored with a checksum to allow video authentication.
    d. The system shall provide for variable video storage duration. The system shall have the capability for recorded video to be saved until all available storage media are filled, and then the oldest video is replaced by new video. The system shall also provide for video to be saved for user-defined durations based on whether the video recorded motion or alarm events.
    e. The system shall be configurable to record video only while activity is occurring in the camera’s view. Users shall define the system’s level of motion sensitivity and configure the system to ignore subtle changes in light level. Motion masks shall eliminate areas of the camera view where motion events should not trigger recording. This configuration shall be set on a camera-by-camera basis.

2.8 CENTRAL SYSTEM HARDWARE

A. The system shall support hardware provided either by the system manufacturer or by a third-party manufacturer. Third-party hardware shall be manufacturer independent, and shall meet the minimum specifications.

B. All central system components shall be 19” rack-mounted.

1. Storage

    a. The external storage unit shall provide redundant RAID 5 data protection and power protection with sustained throughput up to 1GB/s. The hard drives and power supplies shall be hot-swappable. The unit shall be rack-mountable and connect to the system via iSCSI cable.

2.9 CAMERAS

A. Exterior Camera:

1. The power source capabilities shall be IEEE 802.3 af compliant 24VAC or 12VDC, and IEEE 802.3at compliant Power over Ethernet (PoE) (including heater). Utilize PoE unless otherwise indicated.
2. Provide PoE integrated heater.
3. Provide camera-side intelligent motion detection.
4. Provide Avigilon H5A 4MP cameras as shown on drawings.

B. Interior Camera:

1. The power source shall be IEEE 802.3 af compliant 24VAC or12VDC, and will be Power over Ethernet (PoE) capable.
2. Provide camera-side intelligent motion detection.
3. Provide Avigilon H5A 4MP cameras as shown on drawings.
4. Provide In-ceiling Bracket for all ceiling mounted installations.

C. 360/180 degree Camera:

1. The power source shall be IEEE 802.3 af compliant 24VAC or 12VDC, and will be Power over Ethernet (PoE) capable.
2. Provide camera-side intelligent motion detection.
3. Provide Avigilon H4 multisensor cameras where indicated.
4. Provide In-ceiling Support Bracket for all ceiling mounted installations.

2.10 EQUIPMENT CABINETS

A. Equipment Cabinets are provided under a separate Contract.

2.11 UNINTERRUPTIBLE POWER SUPPLY (UPS)

A. Provide true online UPS system for back-up power for system components in case of power interruption, brown-out, or fluctuations for a minimum of 30 minutes.

B. Provide CyberPower PR2200LCDRTXL2U UPS, or equal by APC.

2.12 SIGNAL TRANSMISSION COMPONENTS

A. ANSI/TIA/EIA 568 Category Six Compliant horizontal structured cabling system with a fiber backbone is currently being installed under a separate Contract. Connect system components to this cabling system utilizing required patch cables. Provide patch cables as necessary for system connectivity plus ten percent spare. Provide patch cable color and lengths as directed by Owner.

PART 3 - EXECUTION

3.1 PREPARATION

A. The Contractor shall order all required parts and equipment upon notification of award of the Work.

B. The Contractor shall bench test all equipment prior to delivery to the job site.

C. The Contractor shall verify the availability of power where required. If a new source of power is required, a licensed electrician shall be used to install it.

D. The Contractor shall arrange for obtaining all programming information prior to bringing the system to the project site.

3.2 INSTALLATION

A. General

1. The Contractor shall coordinate with the Owner's Project Manager for storage of the equipment in a secured location prior to installation.
2. The Contractor shall carefully follow the instructions in the manufacturers' Installation Manual to insure all steps have been taken to provide a reliable, easy to operate system.
3. The Contractor shall coordinate with the Owner's facilities coordinator to insure the proper location to tap into electrical power.
4. Perform all Work as indicated in the Drawings and Specifications.
5. The Contractor shall install the appropriate cables from the cameras to the monitoring and recording equipment.
6. All communications cables shall be kept away from power circuits.
7. The Contractor shall also execute adequate testing of the system to insure proper operation.
8. The Contractor shall provide adequate training of the system users to insure adequate understanding to prevent operating errors.
9. Import electronic floor plans into the system and setup per the Owner's request all graphical user features available with the system.

B. Workmanship

1. Comply with highest industry standards, except when specified requirements indicate more rigid standards or more precise workmanship.
2. Perform Work with persons experienced and qualified to produce workmanship specified.
3. Maintain quality control over suppliers and Subcontractors.
4. Quality of workmanship is considered important. Owner Project Manager shall have the authority to reject Work that does not conform to the Drawings and Specifications.

C. Equipment Pre-Test

1. All equipment shall be bench tested prior to delivery to job site and prior to installation. Bench test per manufacturers' installation instructions.

D. Wire And Cable

1. ANSI/TIA/EIA 568 Category Six Compliant horizontal structured cabling system with a fiber backbone is currently being installed under a separate Contract. Connect system components to this cabling system utilizing required patch cables. Provide patch cables as necessary for system connectivity plus ten percent spare. Provide patch cable color and lengths as directed by Owner.

E. Wire And Cable Terminations

1. Identify all inputs and outputs on terminal strips with permanent marking labels.
2. Neatly dress and tie all wiring. The length of conductors within enclosures shall be sufficient to neatly train the conductor to the terminal point with no excess. Run all wire and cable parallel or normal to walls, floors and ground.
3. Install connectors as required by equipment manufacturers.
4. Terminations shall be made so that there is no bare conductor at the terminal. The conductor insulation shall bear against the terminal or connector shoulder.
5. Do not obstruct equipment controls or indicators with wire or cable. Route wire and cable away from heat producing components such as resistors, regulators, and the like.

F. Conduit And Raceway Installation

1. Design, lay-out, size and plan new conduit and raceway systems as required.

G. Indoor Requirements:

1. Route exposed conduit and raceway parallel and perpendicular to walls and adjacent piping.
2. Maintain minimum a six (6) inch clearance between conduit and piping.
3. Group conduit in parallel runs where practical and use conduit rack constructed of steel channel with conduit straps or clamps.
4. Use conduit bodies to make sharp changes in direction, as around beams. Fasten conduits and raceways to structural steel using approved spring clips or clamps.
5. Where conduit penetrates fire-rated walls and floors, seal opening with UL listed fire rated sealer or other methods as approved by codes.
6. No exposed conduit, raceway, or junction box shall be installed within any office area.
7. Install all boxes straight and plumb.
8. Do not support conduit from mechanical, plumbing, or fire sprinkler systems.
9. Drill or core drill all holes in walls, ceilings, or floors where required for new conduits. Do not cause damage to any structural steel or other structural support member by drilling or cutting.
10. Do not use flexible conduit in lengths longer than six (6) feet.
11. Integrate system with Electronic Access Control (EAC) System at each access controlled and monitored door where a camera is installed and where otherwise indicated.
12. Provide In-ceiling Support Bracket for all ceiling mounted installations.

H. Outdoor Requirements:

1. Where conduit penetrates exterior walls, seal opening around conduit in an approved manner to make watertight.
2. Use galvanized straps and fasteners on all exterior conduit.
3. All exterior boxes will only be used to aid in pulling the cable between points.

I. Penetrations

1. Do not penetrate any roof, flashing, exterior wall, or parapet without prior approval from Owner's designated Construction Project representative.

J. Grounding

1. Provide earth grounding of equipment as required by equipment manufacturer. Earth ground shall be connected to ground rod or approved cold water pipe. Electrical or telephone ground connections shall not be used as earth grounds. Connections to mounting posts or building structural steel shall not be used as earth grounds.

K. Power To Security Equipment

1. Power all equipment from 120 VAC circuit dedicated for security use, except as noted. Mark all panel circuit breakers with labels worded "Security Equipment - Do Not Operate", or equivalent.
2. All plug- in transformers shall be located at the security control panels. Secure all low-voltage plug- in transformers to outlet with screw or strap. Clearly label all transformers to identify purpose and use.

L. Cutting And Patching

1. The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work.

M. Painting

1. Paint all conduit, fittings, and junction boxes to match the existing surfaces they are mounted on.

N. Plywood Backing

1. Install the camera power supplies, and all other related equipment on a plywood backboard for testing in the shop. The mounted assembly will then be transported "as is" to the job site for mounting in the designated room.

3.3 FIELD QUALITY CONTROL

A. Final Tests & Inspection

1. The Contractor shall coordinate with the Owner's Project Manager for final tests and inspections in the presence of the Project Manager, System Designer/Consultant, and a factory support person from the manufacturer.

B. Training

1. The training of all personnel shall be performed on-site by a manufacture certified trainer.
2. Provide a training tutorial and all handout material.
3. Provide a minimum of 24 hours training.

END OF SECTION 282300.99

COORDINATION WITH OTHER TRADES

1. The Contractor shall coordinate and check all dimensions relating to Architectural finishes, mechanical equipment and openings, etc. and notify the Architect/Engineer of any discrepancies before proceeding with any work in the area under question.
2. The Structural Drawings shall be used in conjunction with the Drawings of all other disciplines and the Specifications. The Contractor shall verify the requirements of other trades as to sleeves, chases, hangers, inserts, anchors, holes, and other items to be placed or set in the Structural Work.
3. There shall be no vertical or horizontal sleeves set, or holes cut or drilled in any beam or column unless it is shown on the Structural Drawings or approved in writing by the Structural Engineer of Record.
4. Mechanical and electrical openings through walls, 8" diameter or larger, not shown on the Structural Drawings must be approved by the Structural Engineer of Record (SER). Openings less than 8" in diameter shall have at least 1' - 0" clear between openings, unless approved in writing by the SER.
5. Verify locations and dimensions of mechanical and electrical openings through walls shown on the Structural Drawings with the Mechanical and Electrical Contractors.
6. Do not install conduit in slabs on grade unless explicitly shown or noted on the Structural Drawings.
7. Do not suspend any items, such as ductwork, mechanical or electrical fixtures, ceilings, etc. from wood roof sheathing.
8. If drawings and specifications are in conflict, the most stringent restrictions and requirements shall govern.

GENERAL NOTES

1. The Contractor shall be responsible for complying with all safety precautions and regulations during the work. The Structural Engineer of Record will not advise on, nor issue direction as to safety precautions and programs.
2. The Structural Drawings herein represent the finished structure. The Contractor shall provide all temporary guying and bracing required to erect and hold the structure in proper alignment until all Structural Work and connections have been completed. The investigation, design, safety, adequacy and inspection of erection bracing, shoring, temporary supports, etc. is the sole responsibility of the Contractor.
3. The Structural Engineer of Record (SER) shall not be responsible for the methods, techniques and sequences are not specifically shown, similar details of construction shall be used, subject to approval of the SER.
4. Drawings indicate general and typical details of construction. Where conditions are not specifically shown, similar details of construction shall be used, subject to approval of the Structural Engineer of Record.
5. All structural systems which are to be composed of components to be field erected shall be supervised by the Supplier during manufacturing, delivery, handling, storage, and erection in accordance with the Supplier's instructions and requirements.
6. Loading applied to the structure during the process of construction shall not exceed the safe load-carrying capacity of the structural members. The live loading used in the design of this structure are indicated in the "Design Criteria Notes." Do not apply any construction loads until structural framing is properly connected together and until all temporary bracing is in place.
7. All ASTM and other referenced standards and codes are for the latest editions of these publications, unless otherwise noted.
8. Shop drawings and other items shall be submitted to the Structural Engineer of Record (SER) for review prior to fabrication. All Shop Drawings shall be reviewed by the Contractor before submittal. The SER's review is to be fore conformance with the design concept and general compliance with the relevant Contract Documents. The SER's review does not relieve the Contractor of the sole responsibility to review, check, and coordinate the Shop Drawings prior to submission. The Contractor remains solely responsible for errors and omissions associated with the preparation of Shop Drawings as they pertain to member sizes, details, dimensions, etc.
9. Submit Shop Drawings in the form of blueline/blackline prints (min. 2 sets/ max. 5 sets) and one reproducible blackline or sepia copy. In no case shall reproductions of the Contract Documents be used as shop drawings. As a minimum, submit the following items for review.
   - A. Concrete Mix Design(s).
   - B. Reinforcing Steel Shop Drawings.
   - A2 C. Structural Steel Shop Drawings.
   - D. Prefabricated Wood Truss and Wall Panel Systems.
10. Resubmitted Shop Drawings: Resubmitted shop drawings are reviewed only for responses to comments made in the previous submittal.
11. When calculations are included in the submittals for components of work designed and certified by a Specialty Structural Engineer (SSE), the review by the Structural Engineer of Record (SER) shall be for conformance with the relevant Contract Documents. The SER's review does not relieve the SSE from responsibility for the design of the system(s) and the coordination with the elements of the structure under the certification of the SER, or other SSE's. The SER's review does not constitute a warranty of the accuracy or completeness of the SSE's design.
12. Contractors shall visit the site prior to bid to ascertain conditions which may adversely affect the work or cost thereof.
13. No structural member may be cut, notched, or otherwise reduced in strength without written direction from the Structural Engineer of Record.
14. When modifications are proposed to structural elements under the design and certification of a Specialty Structural Engineer (SSE), written authorization by the SSE must be obtained and submitted to the Structural Engineer of Record for review, prior to performing the proposed modification.

DESIGN CRITERIA

1. DESIGN STANDARDS: The intended design standards and/or criteria are as follows:

General	The 2014 Indiana Building Code (2012 International Building Code (IBC) with Indiana Amendments)
Concrete	ACI 318
Masonry	ACI 530
A2 Steel	AISC Manual
Wood Framing	NDS
Wood Trusses	TPI

   All referenced standards and codes, as well as ASTM numbers, are for the editions of these publications referenced in the Building Code listed above, unless otherwise noted.
2. DEAD LOADS: Gravity Dead Loads used in the design of the structure are as computed for the materials of construction incorporated into the building, including but not limited to walls, floors, ceilings, stairways, fixed partitions, finishes, cladding & other similar architectural and structural items, as well as mechanical, electrical and plumbing equipment and fixtures, and material handling and fixed service equipment.
3. LIVE LOADS: Gravity live loads used in the design of the structure meet, or exceed the following table (IBC 2012, 1607.1):

OCCUPANCY OR USE	UNIFORM (PSF)	CONCENTRATED (LB)
A. Offices	50	2000
B. Stairs & Exits	100	300 on A=4in²

4. LIVE LOAD REDUCTION: Live loads for roof members have not been reduced.
5. COLLATERAL LOAD: Unless otherwise noted, a minimum uniform collateral load of 10 PSF has been used to account for ductwork, ceilings, sprinklers, lighting, etc. The collateral load is in addition to the weight of mechanical units, larger piping (greater than 4" diameter) and suspended fixtures or equipment that have been specifically accounted for in the design.
6. COLLATERAL LOAD ABOVE CORRIDORS & MECHANICAL ROOMS: A minimum uniform collateral load of 20 PSF has been used to account for large ductwork, sprinkler mains, concentrations of piping, and electrical distribution above corridors and mechanical rooms. The collateral load is in addition to the weight of mechanical units and larger piping (greater than 4" diameter) and suspended fixtures or equipment that have been specifically accounted for in the design.
7. ROOF LIVE/SNOW LOADS: Gravity Live Loads used in the design of the roof structure meet or exceed the following table:

A. Snow Load	
Ground Snow Load, Pg	30 PSF
Flat Roof Snow Load, Pf	25.2 PSF
Low Slope Minimum Snow Load, Pm	20 PSF
Exposure Factor, Ce	1.0
Risk Category (IBC Table 1604.5)	II
Snow Importance Factor, Is	1.0
Thermal Factor, Ct	1.2
B. Minimum Roof Live Load	20 PSF
C. Overhang Eaves & Projections	50.4 PSF

   1. Sloped roof snow loads calculated in accordance with Section 7.4, ASCE 7.
8. LATERAL LOADS: Lateral loads were computed using the following criteria:

A. Wind Load	
Ultimate Design Wind Speed, Vult	115 MPH
Nominal Design Wind Speed, Vasd	89 MPH
Wind Exposure Category	B
Risk Category (IBC Table 1604.5)	II
Internal Pressure Coefficient, GCpi	± 0.18 TYPICAL ± 0.55 UNIT D
B. Seismic Load	
Site Classification	D
Risk Category (IBC Table 1604.5)	II
Seismic Importance Factor, Ie	1.0
Mapped Spectral Response Acceleration, Ss	0.135g
Mapped Spectral Response Acceleration, S1	0.065g
Design Spectral Response Acceleration, Sds	0.144g
Design Spectral Response Acceleration, Sd1	0.103g
Seismic Design Category, SDC	B
Response Modification Coefficient, R	3.5 A2
Seismic Response Coefficient, Cs	0.041
Analysis Procedure	Equivalent Lateral Force
Base Seismic Force-Resisting System (ASCE 7-10, Table 12.2-1)	Intermediate Reinforced Masonry Shear Walls

9. SAFETY FACTORS: This structure has been designed with 'Safety Factors' in accordance with accepted principles of structural engineering. The fundamental nature of the 'Safety Factor' is to compensate for uncertainties in the design, fabrication, and erection of structural building components. It is intended that ' Safety Factors' be used such that the load-carrying capacity of the structure does not fall below the design load and that the building will perform under design load without distress. While the use of 'Safety Factors' implies some excess capacity beyond design load, such excess capacity cannot be adequately predicted and SHALL NOT BE RELIED UPON.

SPECIALTY STRUCTURAL ENGINEERING (SSE)

1. A Specialty Structural Engineer is defined as a Professional Engineer licensed in the State of Indiana, not the Structural Engineer of Record, who performs Structural Engineering functions necessary for the structure to be completed and who has shown experience and/or training in the specific speciality.
2. It is the Specialty Structural Engineer's responsibility to review the Construction Drawings and Specifications to determine the appropriate scope of engineering.
3. It is the intent of the Drawings and Specifications to provide sufficient information for the Specialty Structural Engineer (SSE) to perform his design and analysis. If the SSE determines there are details, features, or unanticipated project limits which conflict with the engineering requirements as described in the project documents, the SSE shall in a timely manner, contact the Structural Engineer of Record for resolution of conflicts.
4. The Specialty Structural Engineer (SSE) shall forward documents to the Structural Engineer of Record for review. Such documents shall bear the stamp of the SSE and include:
   - A) Drawings introducing engineering input, such as defining the configuration or structural capacity of structural components and/or their assembly into structural systems.
   - B) Calculations.
   - C) Computer printouts which are an acceptable substitute for manual calculations provided they are accompanied by sufficient design assumptions and identified input and output information to permit their proper evaluation. Such information shall bear the stamp of the Specialty Engineer as an indication that said engineer has accepted responsibility for the results.
5. Contractors are referred to the specific technical specification sections and the structural drawings for those elements requiring Specialty Structural Engineering. Examples of components requiring Specialty Structural Engineering include, but are not limited to the following:
   - A) Shoring and Bracing Systems.
   - B) Prefabricated Wood Trusses.
   - C) Prefabricated Wood Wall Panels.
   - D) Steel Stairs.
   - E) Structural Steel Connections.
6. When modifications are proposed to elements under the design and certification of the Specialty Structural Engineer (SSE), written authorization by the SSE must be obtained and submitted to the Engineer of Record for review, prior to performing the proposed modification.

FOUNDATIONS

1. Proofroll slab on grade areas with a medium-weight roller or other suitable equipment to check for pockets of soft material hidden beneath a thin crust of better soil. Any unsuitable materials thus exposed should be removed and replaced with compacted, engineered fill as outlined in the specifications. Proofrolling operations shall be monitored by the Geotechnical Testing Agency.
2. All engineered fill beneath slabs and over footings should be compacted to a dry density of at least 93% of the Modified Proctor maximum dry density (ASTM D-1557). All fill which shall be stressed by foundation loads shall be approved granular materials compacted to a dry density of at least 95% (ASTM D-1557). Coordinate all fill and compaction operations with the Specifications and the Subsurface Investigation.
3. Compaction shall be accomplished by placing fill in approximate 8" lifts and mechanically compacting each lift to at least the specified minimum dry density. For large areas of fill, field density tests shall be performed for each 3,000 square feet of building area for each lift as necessary to insure adequate compaction is being achieved.
4. Column footings and wall footings to bear on firm natural soils or well-compacted engineered fill with allowable bearing pressures of 2,000 PSF for column and wall footings respectively.

   It is essential that the foundations be inspected to insure that all loose, soft, or otherwise undesirable material (such as organics, existing uncontrolled fill, etc.) is removed and that the foundations will bear on satisfactory material. The Geotechnical Testing Agency shall inspect the subgrade and perform any necessary tests to insure that the actual bearing capacities meet or exceed the design capacities. The Geotechnical Testing Agency shall verify the bearing capacity at each spread column footing and every 10 feet on center for strip footings prior to placement of concrete.
5. If possible, place footings the same day the excavation is performed. If this is not possible, the footings shall be adequately protected against any detrimental change in condition, such as from disturbance, rain, or freezing.
6. It is the responsibility of the Contractor and each Sub-Contractor to verify the location of all utilities and services shown, or not shown; and establish safe working conditions before commencing work.
7. The Contractor shall layout the entire building and field verify all dimensions prior to excavation.
8. The assumptions made regarding the soils must be verifed by the Geotechnical Testing Agency.

CONCRETE REINFORCING

1. Reinforcement shall have deformed surfaces in accordance with ASTM A305.
2. Reinforcing steel shall conform to ASTM A615, Grade 60, unless noted.
3. Where hooks are indicated, provide standard hooks per ACI and CRSI for all bars unless other hook dimensions are shown on the plans or details.
4. Reinforcement in footings shall be continuous. Lap bars a minimum of 40 diameters, unless noted otherwise.
5. Reinforcement shall be supported and secured against displacement in accordance with the CRSI 'Manual of Standard Practice'.
6. Details of reinforcing steel fabrication and placement shall conform to ACI 315 'Details and Detailing of Concrete Reinforcement' and ACI 315R 'Manual of Engineering and Placing Drawings for Reinforced Concrete Structures', unless otherwise indicated.
7. Field bending of reinforcing steel is prohibited, unless noted on drawings.
8. Minimum concrete cover over reinforcing steel shall be as follows, unless noted otherwise on plan, section or note:

MINIMUM COVER FOR REINFORCEMENT

	MINIMUM COVER
FOOTINGS & BASE SLABS	
AT FORMED SURFACES & BOTTOMS BEARING ON CONCRETE WORK MAT	2"
AT UNFORMED SURFACES & BOTTOMS IN CONTACT WITH EARTH	3"

CAST IN PLACE CONCRETE

1. Details of fabrication of reinforcement, handling and placing of the concrete, construction of forms and placement of reinforcement not otherwise covered by the Plans and Specifications, shall comply with the ACI Code requirements of the latest revised date.
2. Cold weather concreting shall be in accordance with ACI 306. Cold weather is defined as a period when for more than 3 successive days the average daily air temperature drops below 40F and stays below 50F. The Contractor shall maintain a copy of this publication on site.
3. Hot weather concreting shall be in accordance with ACI 305. Hot weather is defined as any combination of the following conditions that tends to impair the quality of the freshly mixed or hardened concrete: high ambient temperature, high concrete temperature, low relative humidity, wind speed, or solar radiation The Contractor shall maintain a copy of this publication on site.
4. A certified Testing Agency shall be retained to perform industry standard testing including measurement of slump, air temperature, concrete cylinder testing, etc. to ensure conformance with the Contract Documents. Submit reports to Architect/Engineer.
5. Finishing of Slabs: After screeding, bull floating and floating operations have been completed, apply final finish as indicated below, and as described in the Division 3 Cast In Place Concrete Specification of the Project Manual.
   - A2 A. Floor Slabs — Hard Trowel Finish
   - B. Surfaces to Receive Topping Slab — Float Finish

   Sample Finishes: See Specifications for sample and mockup requirements, if any.

   Floor Tolerances: See the Specifications for specified Ff and Fl tolerances. Ff and Fl testing shall be performed by the Testing Agency in accordance with ASTM E-1155. Results, including acceptance or rejection of the work will be provided to the Contractor and the Architect/Engineer within 48 hours after data collection. Remedies for out-of-tolerance work shall be in accordance with the Specifications. When approved by the Structural Engineer of Record, measurement of the gaps beneath a 10-foot straight edge may be used in lieu of Ff and Fl testing. Approval must be obtained in writing prior to the beginning of concrete operations.
6. Finishing of Formed Surfaces: Finish formed surfaces as indicated below, and as described in the Division 3 Cast In Place Concrete Specification of the Project Manual.
   - A. Sides of Footings — Rough Form Finish
   - B. Surfaces not exposed to public view — Rough Form Finish
   - C. Surfaces exposed to public view — Smooth Form Finish
7. The Contractor shall consult with the Structural Engineer of Record before starting concrete work to establish a satisfactory placing schedule and to determine the location of construction joints so as to minimize the effects of shrinkage in the floor system.
8. Sawn or tooled control/contraction joints shall be provided in all slabs on grade. For a framed structure, joints shall be located on all column lines. If the column spacing exceeds 15' - 0", provide intermediate joints. Exterior slabs, and interior slabs without column shall have joints spaced a maximum of 15' - 0" apart. Layout joints so that maximum aspect ratio (ratio of long side to short side) does not exceed 1.5.
9. Where vinyl composition tile, vinyl sheets goods, thin-set epoxy terrazzo, or other similar material is the specified finish floor material, the Contractor shall coordinate the locations of control/contraction and construction joints with the Finish Flooring Contractor. Submit a dimensioned plan showing joint locations and proposed sequence of floor pours.
10. Joints in slabs to receive a finished floor may remain unfilled, unless required by the finish flooring contractor. All exposed slabs shall be filled with sealant specified in Division 7. Defer filling of joints as long as possible, preferably a minimum of 4 to 6 weeks after the slab has been cured. Prior to filling, remove all debris from the slab joints, the fill in accordance with the manufacturer's recommendations.
11. Refer to the Architectural Drawings for chamfer requirements for corners of concrete. Where not indicated, provide 3/4" chamfers on exposed corners of concrete, except those abutting masonry.
12. Refer to the Architectural Drawings for exact locations and dimensions of recessed slabs, ramps, stairs, thickened slabs, etc. Slope slabs to drains where shown on the Architectural and Plumbing Drawings.
13. Sidewalks, drives, exterior retaining walls, and other site concrete are not indicated on the Structural Drawings. Refer to the Site/Civil and Architectural Drawings for locations, dimensions, elevations, jointing, and finish details.

CONCRETE MIX CLASSES

FOOTINGS	
COMPRESSIVE STRENGTH	4000 PSI
MINIMUM CEMENTITIOUS MATERIAL CONTENT	470 LB/CU YD
MAXIMUM WATER/CEMENT RATIO	0.50
AIR CONTENT	0 - 3 PERCENT
WATER-REDUCING ADMIXTURE	REQUIRED
SLUMP	4" TO 6"
INTERIOR CONCRETE BASE SLABS	
COMPRESSIVE STRENGTH	4000 PSI
MINIMUM CEMENTITIOUS MATERIAL CONTENT	530 LB/CU YD
AIR CONTENT	0 - 3 PERCENT
WATER-REDUCING ADMIXTURE	REQUIRED
FIBERFORCE 300 (OR APPROVED EQUAL)	1.5 LB/CU YD
E5 INTERNAL CURE ADMIXTURE BY SPECIFICATION PRODUCTS, INC. (OR APPROVED EQUAL)	4 OZ/CWT
SLUMP	4" TO 6"
EXTERIOR CONCRETE SUBJECT TO FREEZE-THAW	
COMPRESSIVE STRENGTH	4000 PSI
MINIMUM CEMENTITIOUS MATERIAL CONTENT	564 LB/CU YD
AIR CONTENT	5 - 7 PERCENT
WATER-REDUCING ADMIXTURE	REQUIRED
SLUMP	4" TO 6"
COARSE AGGREGATE	CRUSHED STONE*
INCREASE COMPRESSIVE STRENGTH TO 4500 PSI FOR EXTERIOR REINFORCED CONCRETE SUBJECT TO THE USE OF DE-ICERS. A2 *FOR STAIR PAN FILL, THE CONTRACTOR SHALL CONSIDER THE EFFECTS OF CAMBER AND TOLERANCE ON THE MINIMUM TOPPING THICKNESS AND LIMIT THE SIZE OF LARGE AGGREGATE ACCORDINGLY.	
LEAN CONCRETE FILL	
COMPRESSIVE STRENGTH	2000 PSI
MAXIMUM WATER/CEMENT RATIO	0.70
AIR CONTENT	5 - 8 PERCENT
WATER-REDUCING ADMIXTURE	REQUIRED
SLUMP	3" TO 6"

1. SLUMP:
   - MIXES CONTAINING TYPE A WRDA — 5" MAXIMUM
   - MIXES CONTAINING MID-RANGE WRDA — 5 - 6 1/2"
   - MIXES CONTAINING HIGH-RANGE WRDA — 5 - 8"
2. SPECIFIED MINIMUM CEMENTITIOUS MATERIAL CONTENTS ARE BASED ON THE USE OF WATER REDUCING ADMIXTURES.
3. INCLUDE AN AIR-ENTRAINING ADMIXTURE FOR ALL CONCRETE EXPOSED TO FREEZING AND THAWING IN SERVICE AND FOR ALL CONCRETE EXPOSED TO COLD WEATHER DURING CONSTRUCTION, BEFORE ATTAINING ITS SPECIFIED DESIGN COMPRESSIVE STRENGTH. REF. ACI 306 FOR DEFINITION OF COLD WEATHER.
4. CLASS C FLY ASH MAY BE USED AS A CEMENT SUBSTITUTE WITH A MAXIMUM 20% SUBSTITUTION RATE ON A POUND-PER-POUND BASIS.
5. SLAG CEMENT MAY BE USED AS A SUBSTITUTE FOR PORTLAND CEMENT WITH A MAXIMUM 50% SUBSTITUTION RATE ON A POUND-PER-POUND BASIS WITH THE EXCEPTION OF CLASS E CONCRETE, WHICH SHALL BE LIMITED TO 30%.
6. WHEN SLAB CEMENT AND FLY ASH ARE USED IN THE SAME CONCRETE MIX, THE MAXIMUM SUBSTITUTION RATES SHALL COMPLY WITH THE FOLLOWING:

   PORTLAND CEMENT/SLAG/FLY ASH RATIO:
   - CLASS E EXTERIOR CONCRETE — 70% / 20% / 10%
   - ALL OTHER CLASSES — 50% / 30% / 20%
7. FOR CONCRETE TO BE CAST DURING COLD WEATHER, THE MAXIMUM SUBSTITUTION RATE FOR SLAG CEMENT SHALL BE 30%. IF SLAG CEMENT AND FLY ASH ARE USED IN THE SAME MIX, THE MAXIMUM SUBSTITUTION RATES SHALL COMPLY WITH A RATIO OF PORTLAND CEMENT/SLAG/FLY ASH OF 70% / 20% / 10%.
8. PROPORTION CONCRETE MIXES TO PROVIDE WORKABILITY AND CONSISTENCY TO PERMIT CONCRETE TO BE WORKED READILY INTO THE CORNERS AND ANGLES OF THE FORMS AND AROUND REINFORCEMENT BY THE METHODS OF PLACEMENT AND CONSOLIDATION TO BE EMPLOYED, WITHOUT SEGREGATION AND EXCESSIVE BLEEDING.
9. ADJUSTMENTS TO THE APPROVED MIX DESIGNS MAY BE REQUESTED BY THE CONTRACTOR WHEN JOB CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT. THESE REVISED MIX DESIGNS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO USE.

WOOD FRAMING NOTES

1. For wood connections not specifically noted or detailed, follow the requirements of IBC 2012 Table 2304.9.1 or ESR 1539.
2. All nails are common nails unless noted otherwise. All nails shall be carefully driven and not overdriven. Submit all proposed fasteners for approval prior to construction. Installation of all fasteners shall meet the requirements of NDS and ISANTA guidelines, including those in ESR 1539, and Section 2303.6 of the IBC.
3. Refer to the Framing Plans for size, spacing, and species of wall studs and plates. If not shown otherwise, studs and plates are to be #1 or #2 Spruce-Pine-Fir (SPF) with stud spacing 16" o/c maximum. If not shown otherwise, bearing wall headers are to be #2 Southern Pine (SYP).
4. Unless otherwise noted on plan or detail, anchor wall plates to supporting structure using Simpson Strong-Tie Titen HD Heavy Duty Screw Anchors, 5/8" diameter with minimum 5" embedment. Space anchors at 24" o.c. for load-bearing and non-load-bearing walls.
5. Coordinate final floor and roof framing including joist or truss layout & truss member configuration with Mechanical, Electrical, & Plumbing (MEP) drawings. Obtain additional MEP information as needed for complete coordination. Keep all mechanical chases free of framing. Do not locate joists or trusses at parallel plumbing walls.
6. Design roof joists or trusses to support the weight of snow drifting where it applies, as well as rooftop exhaust fans, access hatches, etc. Confirm weights & locations before final design and show the loads for these units/fixtures on the sealed drawings. The Contractor shall ensure the units are installed at their design locations.
7. Where framing supported by a joist or truss can cause uplift on that joist or truss (such as at cantilevered balcony framing) the designer shall consider a load case that maximizes the uplift load in combination with no live load applied to the joist or truss supporting the uplift.
8. All exposed framing to be pressure preservative treated wood (PPT) as described in the Specifications. All PPT wood to be kiln dried after treatment (KDAT). Hardware used with PPT wood to be hot-dip galvanized or stainless steel.
9. All hardware to be Simpson Strong-Tie or approved equal. Where hardware is not specifically designated, submit proposed hardware for approval. Where more than one type of fastener or fastener pattern is allowed by the hardware manufacturer, hardware fasteners are to be of the type, size, and quantity to maximize the load capacity of the hardware in the specific application shown on these plans, unless noted otherwise.
10. Reference the Architectural Plans for layout of all walls, openings, wall types, etc. Verify all dimensions prior to design of wall panels & immediately notify the Architect and Engineer of any discrepancies.

STRUCTURAL WOOD PANEL/SHEATHING NOTES

1. All plywood and Oriented Strand Board (OSB) construction shall be in accordance with the American Plywood Association (APA) Specifications and DOC PS1 or PS2.
2. All roof panel sheathing for roofs with slopes greater than or equal to 3 in 12 shall be 5/8", APA-rated sheathing. Suitable edge support shall be provided by use of panel clips or blocking between framing unless otherwise noted. Fasten roof sheathing with 8d common (0.131" x 2 1/2") nails spaced 6" o.c. at supported edges and 12" o.c. at intermediate supports. For roofs with slopes less than 3 in 12, the roof sheathing shall be 3/4" nominal sheathing with 10d common (0.148" x 3") nails spaced 6" o.c. at supported edges and 12" o.c. at intermediate supports.
3. All floor sheathing shall be 3/4" nominal (23/32" actual), APA-rated Sturd-I-floor, with tongue-and-groove edges, unless otherwise noted. Fasten floor sheathing/subfloor with 10d common (0.148" x 3") nails spaced 6" o.c. at supported edges and 12" o.c. at intermediate supports. Field-glue using adhesives meeting APA-specification AFG-01, applied in accordance with the manufacturer's recommendations.
4. All structural wall panel sheathing shall be 7/16", APA-rated PS2 sheathing, unless otherwise indicated. Fasten wall sheathing with 8d common (0.131" x 2 1/2") nails spaced 6" o.c. at supported panel and 12" o.c. at intermediate supports, unless otherwise noted.
5. Provide 2x blocking with specified edge nailing at unsupported panel edges as follows:
   - A) Roofs and Floors - Not required unless indicated on the plans, noted, or details.
   - B) Walls - Required at all wood panel joints, unless noted otherwise.
6. Unless otherwise noted or shown, install plywood sheathing with the strength axis of the panel across supports and with panel continuous over two or more spans. Allow 1/8" spacing at panel ends and edges unless otherwise recommended by the sheathing manufacturer.
7. Wood structural panels shall be 4' x 8' minimum. These panels may only be cut at wall or wall opening boundaries. All panel edges shall fall on framing members. Block all horizontal joints and fasten with edge nailing.
8. Where a vertical sheathing joint falls on the joint between two adjacent studs (such as the ends of shop or site built panels or at a vertical step in the building floor), fasten the end studs together with 0.131"x3" nails at same spacing as for the shear wall sheathing.
9. In all wood-framed roof, floor, ceiling, and wall areas where wood sheathing is applied, attach the sheathing to all wood framing members regardless of the closeness of their spacing.
10. The requirements shown on the structural drawings for sheathing are the minimum requirements for the structural needs of the structure. They do not account for all possible quality, aesthetic, and other considerations. The contractor is expected to be familiar with APA's construction guidelines and other common construction practices necessary to avoid quality and aesthetic issues. The use of panel edge gaps to avoid panel buckling is an example. Another is the allowance of the application of wood sheathing to walls with the face grain vertical, which can lead to greater buckling possibilities. The contractor will need to consider stud size, stud spacing, and sheathing thickness in these situations.
11. For wood sheathed walls, wood shear wall sheathing must extend the full length of the wall to maintain a smooth wall and avoid an offset/bump in the wall. Sheathing must continue to a corner or offset in the wall.
12. The use of heavily loaded drywall carts or similar conveyances to transport building materials and/or debris can exceed the APA PS2 concentrated load test standard capacity. In areas subject to cart traffic (eg. corridors, elevator lobbies, etc.), the contractor shall place a temporary second layer of dry wood structural panel to help avoid failures of the floor panels. Refer to APA Technical Note TT-024, February 2008.

PREFABRICATED, PLATE-CONNECTED WOOD TRUSSES

1. Wood trusses shall be designed by the manufacturer to support the following loads:
   - A) Roof Trusses:
     - Top Chord Loading:
       - Ground Snow Load: Refer to the Design Criteria Notes for design info.
       - Dead Load: 12 psf
     - Bottom Chord Loading:
       - Dead Load: 8 psf
     - Wind & Seismic Loading: Per the 2014 Indiana Building Code. Refer to the Design Criteria Notes for design info.

   Trusses shall meet the following deflection criteria, unless otherwise noted. Maximum live load deflection shall not exceed L/360.
2. Wood trusses shall be designed by the manufacturer in accordance with the applicable provisions of the latest edition of the National Design Specification of the National Forest Products Association, The Design Specification for Metal Plate Connected Wood Trusses of the Truss Plate Institute (TPI), Wood Structural Building Components Association (SBCA) and the Indiana Building Code.
3. Wood trusses shall be fabricated by a Truss Manufacturer who maintains written procedural and quality control manuals and engages in periodic auditing of fabrication practices and inspections as required by ANSI/TPI 1, Chapter 3. In addition, the Truss Manufacturer shall engage in periodic, unannounced auditing by an approved third-party inspection agency such as TPI for review. If the Truss Manufacturer cannot fulfill these requirements, the Structural Engineer of Record may, at his discretion, require or accept from the Truss Manufacturer, a letter sealed by a Professional Engineer registered in the State of Indiana verifying his inspection of the manufactured wood trusses supplied for this project. The SSE shall verify that the trusses are in compliance with the quality standards of ANSI/TPI 1, Chapter 3. The SSE shall have significant prior experience in the inspection of metal plate-connected wood trusses.
4. Wood materials shall be Southern Pine, or Douglas Fir-Larch and shall be kiln-dried and used at 19% maximum moisture content. Provide Grade No. 2 or better as required to satisfy stress requirements.
5. Connector plates shall be not less than 0.036 inches (20 gauge) in coated thickness, shall meet or exceed ASTM Grade A or higher and shall be hot-dip galvanized according to ASTM A-653 (coating G60). Minimum steel yield stress shall be 33,000 psi.
6. Trusses shall be fabricated in a properly-equipped manufacturing facility of a permanent nature. Trusses shall be manufacture by experienced workmen, using precision cutting, jigging and pressing equipment under the requirements in quality control as indicated in ANSI/TPI 1, Chapter 3.
7. Secondary bending stresses in truss top and bottom chords due to dead, live, and wind loads shall be considered in the design. Load duration factors shall be per the "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION".
8. All girder trusses supporting other trusses of 2x framing members shall be a MINIMUM of (2) plies, unless otherwise approved. Refer to the Manufacturer's Truss Design Drawing for girder ply-to-ply connection requirements. Attach framing members or loads only after all girder plies are in place and properly fastened together, and the girder truss is properly braced to prevent lateral displacement. Refer to BCSI-B9 "Multi-Ply Girders" as published by SBCA and TPI for additional information.
9. Truss-to-girder connection information shall be on the Mfr's Truss Design Drawing of the carried truss or girder truss, or the Mfr's Truss Placement Drawing. Unless otherwise approved, all truss/joist hangers, strapping, ties, etc. shall be as manufactured by the Simpson Strong-Tie Company.
10. Unless otherwise shown or noted, ALL truss bearings shall be anchored using a mechanical fastener. As a minimum, provide SDWC screw anchor by by the Simpson Strong-Tie, installed as shown in the details on these plans.
11. Wood trusses shall be erected in accordance with the Truss Manufacturer's requirements. This work shall be done by a qualified and experienced contractor. Truss erection by an inexperienced or non-qualified contractor can result in construction collapse and/or serious injury damage.
12. The contractor shall provide all temporary and permanent bracing/restraints as required for safe erection and performance of the trusses. The guidelines set forth by the following joint publications of the Truss Plate Institute (TPI) and Structural Building Components Association (SBCA) shall be adhered to unless otherwise noted in the Contract Documents:
    - BCSI-B1 GUIDE FOR HANDLING, INSTALLING, RESTRAINING & BRACING OF TRUSSES
    - BCSI-B2 TRUSS INSTALLATION & TEMPORARY RESTRAINT/BRACING
    - BCSI-B3 PERMANENT RESTRAINT/BRACING OF CHORDS & WEB MEMBERS
    - BCSI-B4 CONSTRUCTION LOADING
    - BCSI-B5 TRUSS DAMAGE, JOBSITE MODIFICATIONS, AND INSTALLATION ERRORS
    - BCSI-B7 GUIDE FOR HANDLING, INSTALLING AND BRACING OF 3x2 & 4x2 PARALLEL CHORD TRUSSES
    - BCSI-B8 USING TOE-NAILED CONNECTIONS TO ATTACH TRUSSES AT BEARING LOCATIONS
    - BCSI-B9 MULTI-PLY GIRDERS
    - BCSI-B10 POST FRAME TRUSS INSTALLATION & TEMPORARY RESTRAINT/BRACING
    - BCSI-B11 FALL PROTECTION & TRUSSES
13. Unless otherwise shown or noted, permanent bracing shall consist of 2x4 stress-graded members spanning a minimum of four trusses and nailed at each intersection with a minimum of (2) 16d nails. Lap continuous bracing a minimum of 2' - 0" (2 trusses).
14. Refer to Manufacturer's Truss Design Drawing for web members requiring web member permanent restraint or reinforcement. Continuous lateral restraints must ALWAYS be diagonally braced for rigidity.
15. Wherever possible, the temporary erection bracing as described in BCSI-B2 shall be left in place to function as permanent bracing.
16. 'T' or 'L' reinforcement of the type described in BCSI-B3 shall be used as the means of resisting web member buckling forces in girder trusses and small-quantity trusses. Girder trusses shall be those trusses supporting other trusses, beams, or framing, or trusses more than 24" o.c. Small quantity trusses shall be those where because of the small quantity of similar trusses with aligned web members requiring bracing/restraint (such as parallel step-down trusses), the installation of continuous lateral restraints and the diagonal bracing for the continuous lateral braces is impractical using the methods of BCSI. Such 'T' or 'L' reinforcement shall be designed by the Truss Design Engineer and shown on the sealed Truss Design Drawings.
17. Design all wood truss bearings using the compression perpendicular-to-grain value of the truss lumber OR the wall plate lumber/nailer, WHICHEVER IS LESS. The bearing length or area shown on the sealed truss drawings shall be based on this lesser value. Use additional truss plies or truss bearing enhancement devices to achieve the required bearing area. If the bearing enhancement device has a valid ESR report, it may be shown on the Truss Placement Plan instead of being shown on the sealed Truss Drawings.
18. Trusses which are too tall for delivery to the jobsite in one piece may be manufactured in two or more sections and "piggybacked" at the jobsite. The contractor MUST install temporary and permanent bracing for the lower supporting trusses as shown on the Manufacturer's Truss Design Drawing and/or the Contract Documents BEFORE installing the cap trusses. The connection between the cap and base truss shall be shown on the sealed Truss Design Drawing. Provide, as minimum, 4x2 sleepers laid flat on the top chord with a minimum of two 16d nails (see Truss Design Drawing for any other or additional requirement). Provide 4' o.c. (brace to brace) diagonal bracing at 45 degrees to brace the sleepers. Install diagonal braces on the bottom side of the top chord in the cap area, unless otherwise specified by the Truss Design Engineer.
19. When indicated on the plans or when a cap truss length exceeds 20', in lieu of the sleepers and diagonal bracing indicated above, structural wood sheathing on the top chord of the base truss in the cap area shall be used as the means of bracing/restraining the base truss in the cap area. The connection between the cap and base truss, shown on the sealed Truss Design Drawing, shall take this into account. Cap trusses must be directly above base trusses.
20. Truss members and components shall not be cut, notched, drilled nor otherwise altered in any way without the written approval of the Truss Design Engineer (See Specialty Structural Engineer notes).
21. Where trusses and/or wood joists are called to be supported by steel beams, provide continuous double 2x nailer(s) field-bolted to the top of the steel beam with 1/2" diameter carriage bolts spaced a maximum of 24" on center and staggered each side of beam web. Width of nailer to be width of beam flange +½"/-¼", unless otherwise noted. arriage bolts may be over-tightened to compress the rounded head in the nailer to facilitate installation of continuous band/rim joists, trusses, etc.
22. Coordinate final truss layout and truss web member configuration with mechanical, electrical and plumbing trades. Keep all mechanical chases free of trusses. Do not locate trusses at parallel plumbing walls.
23. Submit complete shop drawings for all wood trusses showing member sizes, species, grade, moisture content, span, camber, dimensions, number of plies and truss ply-to-ply connections, reactions and bearing requirements, chord pitch, restraint/bracing requirements, and loadings including any girder loads, field assembly of multi-part trusses, and required cap truss to base truss connection. No reference to another drawing sheet, note external to that individual truss drawing, or detail not shown on that individual truss drawing may be used to convey any of this required information. Shop Drawings shall be submitted to the Structural Engineer of Record and shall bear the seal of a Professional Engineer registered in the State of Indiana.

REINFORCED MASONRY NOTES

1. All construction of reinforced masonry walls to be in accordance with the Building Code Requirements for Concrete Masonry Structures (ACI 530) and Commentary.
   - A) f'm = 2000 PSI
   - B) Maximum height of masonry lift: 5'-0"
   - C) Maximum height of grout lift: 5'-0"
   - D) See Specifications for additional masonry wall information.
2. CONCRETE BLOCK: Minimum compressive test strength on the net cross-sectional area: 2800 PSI.
3. MORTAR: Type S required.
4. GROUT: ASTM C476, 2500 PSI with a slump of 8" min. and 11" max.
5. REINFORCING: fy = 60000 PSI with a min. lap of 48 bar diameters. As a minimum there shall be (1) #5 vertical at 24" o.c. with additional bars at jambs of all openings.
6. Provide bond beams above all openings and at the top of all CMU walls unless noted otherwise.

A2

LINTEL SCHEDULE

1. Where lintels are not specifically shown or noted on the Structural or Architectural Drawings, provide the following lintels over all openings and recesses in both interior and exterior non-load-bearing walls.
   - A) Block: For openings up to 8' - 0" long, use lintel block filled with grout. Grout all exposed joints and reinforce as follows:
     - 1) For 6" thick block: 1 - #5 bar
     - 2) For 8" thick block: 2 - #5 bars
     - 3) For 10" thick block: 2 - #6 bars
     - 4) For 12" thick block: 2 - #6 bars
   - B) Block: For openings over 8' - 0" & up to 12' - 0" long exposed in the finished room, use lintel block filled with grout. Grout all exposed joints and reinforce per the "Long Masonry Lintel Detail" on the Typical Masonry Detail Drawing.

STEEL STAIRS

1. Refer to the Design Criteria notes for live load and handrail requirements.
2. All stair designs shall be provided by the Stair Manufacturer/Fabricator's Specialty Structural Engineer and shall be stamped by a Professional Engineer registered in the State of Indiana. Stair designs shall be in accordance with all applicable code provisions of the IBC.
3. The Stair Manufacturer/Fabricator's Specialty Structural Engineer shall provide the Structural Engineer of Record with drawings showing location, direction and magnitudes of all stair load reactions on the building structure for approval, prior to fabrication.
4. The Stair Manufacturer/Fabricator shall coordinate the transition between the supported structural floor slab and the stair structure with the Structural Steel Fabricator, prior to fabrication.
5. Refer to the Architectural Drawings for stair width, rise, run, tread and riser geometry, handrail and guardrail design, shaft wall construction, etc.

STRUCTURAL STEEL NOTES

1. Structural steel construction shall conform to the American Institute of Steel Construction "Specification for Structural Steel Buildings".
2. All structural wide flange members shall be ASTM A992, Fy=50 ksi
3. All plates, channels, and angles shall be ASTM A36, unless noted.
4. All round structural tube members shall be ASTM A500, Grade C, Fy = 46 ksi unless noted.
5. Details for design, fabrication and erection of all structural steel shall be in accordance with the latest AISC Standards, unless otherwise noted or specified.
6. Provide temporary erection guying and bracing as required.
7. Provide 8" minimum bearing each end for all beams.
8. Steel columns below grade shall be encased in a minimum of 4" concrete or painted with 2 coats of asphaltum paint, unless otherwise shown.
9. Fabricate simple span beams not specifically noted to receive camber so that after erection, any minor camber due to rolling or shop assembly be upward.
10. Refer to the Division 5 Structural Steel Specification of the Project Manual for structural steel surface preparations and prime painting requirements.
11. Provide cap plates/end plates to close off exposed, open ends of all tubular members, unless noted. Seal weld with partial penetration square groove welds for watertight condition.

STEEL CONNECTION NOTES

1. Typical beam-to-beam and beam-to-column connections shall be bearing type using A325 bolts, unless noted otherwise.
2. Shop connections unless otherwise shown, may be either bolted or welded. All field connections shall be bolted unless otherwise shown on the Structural Drawings.
3. Connections shall be designed by the Steel Fabricator to support the reactions shown on the framing plan(s). Simple span connections without reactions listed on the Structural Drawings shall be designed by the Steel Fabricator in accordance with Table 3-6 of the AISC "Manual of Steel Construction, 14th Edition". For non-composite beams where reactions are not indicated, design connections for 50% of the Maximum Total Uniform Load ASD value for the applicable beam size and span given in Table 3-6.
4. Submit calculations for connections not detailed on the Structural Drawings and not covered by the AISC Tables.
5. All beam-to-column connections shall be at the column centerline, unless noted otherwise. Shear tab connections to tubes are permitted unless otherwise noted or detailed.
6. Typical beam-to-column field-bolted connections may be tightened to the snug-tight condition.
7. All welding shall be in conformance with AWS D1.1, using E70XX electrodes, unless shown or noted otherwise. Welding, both shop and field, shall be performed by welders certified for the weld types and positions involved according to the current edition of AWS D1.1. Perform all AESS welds with care to provide a clean, uniform appearance.
8. Backup bars required for welded connections shall be continuous.
9. Holes in steel shall be drilled or punched. All slotted holes shall be provided with smooth edges. Burning of holes in structural steel shall not be allowed without approval of the Structural Engineer of Record.
10. Where steel beams are called to have wood nailers supporting wood roof framing, provide 1/2" diameter carriage bolts spaced at 24" on center, unless noted otherwise. Carriage bolts may be over-tightened to compress the rounded head in the nailer to facilitate installation of continuous band/rim joists.
11. A2 The minimum thickness of all connection material shall be 5/16" unless noted.
12. A qualified independent Testing Agency shall be retained to perform inspection and testing of structural steel field weldaments as follows:

WELD INSPECTION SCHEDULE

WELD TYPE	VT	MT	UT	PT	CRT	COMMENTS
FILLET & FLARE BEVEL	25%	-	-	-	-	ROOT PASS AND FINISHED WELD

- A) Test procedures:
  - VT = Visual Test (inspection)
  - MT = Magnetic Particle Test: ASTM E109, cracks or incomplete fusion or penetration not acceptable.
  - UT = Ultrasonic Test: ASTM E164.
  - PT = Penetrant Test: ASTM E165.
  - RT = Radiographic Test: ASTM E94 and ASTM E142, min. quality level 2-21.
- B) Acceptance standards in AWS D1.1 shall be followed for each test procedure.
- C) Test procedures may be substituted to meet feasibility requirements of test based upon weld geometry or other factors with the approval of the Structural Engineer of Record.
- D) Samples shall occur at random locations.
- E) Weld Procedure Specifications (WPS) shall be produced and maintained in accordance with AWS D1.1. The independent Testing Agency shall have access to all WPS's during the course of testing and inspection.

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Project No. 2017-105.ATF
Project Date 02.17.2021
Produced LKB

ROBERT M. DEE
REGISTERED
No. 10100205
STATE OF INDIANA
PROFESSIONAL ENGINEER

#	Revision	Date
A2	Addendum #2	03.11.2021

5926 Calumet Ave
Hammond, IN 46320

KEY PLAN

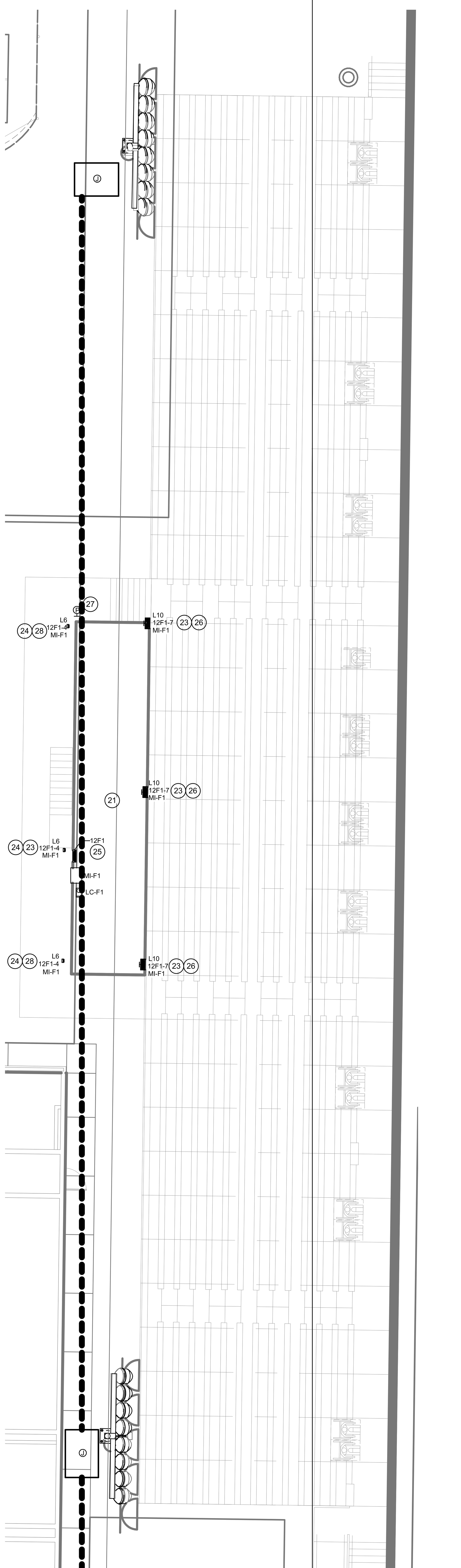
School City of Hammond

School City of Hammond

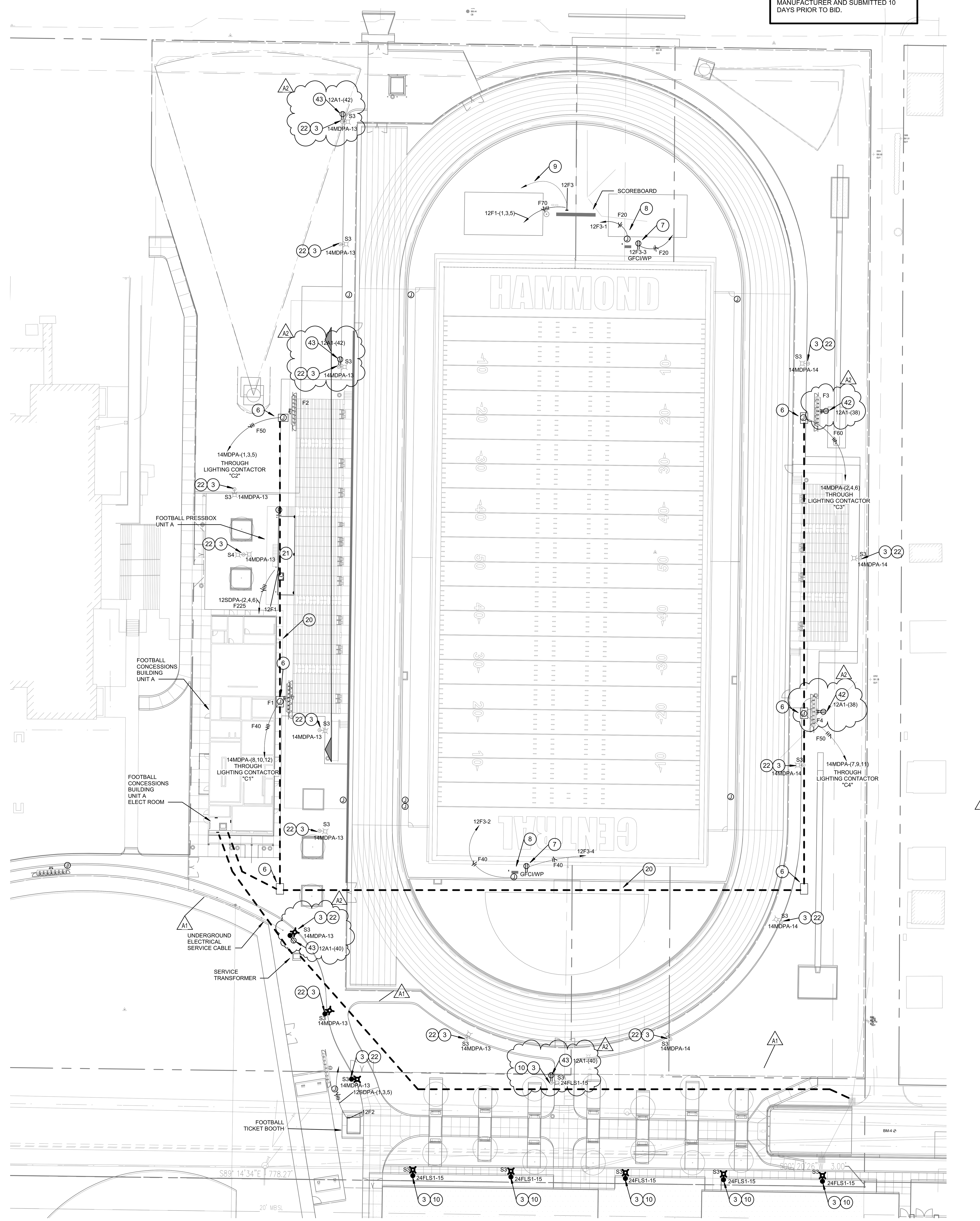
Hammond Central HS - BID PACKAGE 3

STRUCTURAL NOTES

S-001



5A FOOTBALL PRESSBOX/BLEACHERS
1/8" = 1'-0"



2A FOOTBALL FIELD SITE PLAN
1" = 30'-0"

BASIS OF DESIGN: MUSCO

ALL MANUFACTURERS TO BE CONSIDERED MUST PROVIDE COMPLETE PHOTOMETRICS THAT MEET BASIS OF DESIGN AS INDICATED ON SITE LAYOUT, DETAILS, SCHEDULE SHEETS, AND SPECIFICATIONS. REFER TO THIS SHEET FOR AREAS/ZONES TO PERFORM CALCULATIONS. ANY CHANGE IN DESIGN AND COST IN CIRCUITING, MOUNTING, ETC. WILL BE DESIGNED BY ALTERNATE MANUFACTURER AND SUBMITTED 10 DAYS PRIOR TO BID.

GENERAL SITE NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.
B	REFER TO LOCAL UTILITIES GUIDE FOR DETAILS AND REQUIREMENTS. INCLUDING, BUT NOT LIMITED TO, SERVICE REQUIREMENTS FOR UNDERGROUND PRIMARY, PROTECTIVE POLES FOR PAD-MOUNTED EQUIPMENT, UTILITY TRANSFORMER CONCRETE PAD DETAIL, ETC. INCLUDE ALL UTILITY FEES REQUIRED IN BID.

SITE PLAN NOTES

#	NOTES
1	EXISTING POLE MOUNT LIGHT FIXTURE TO REMAIN, PROTECT DURING CONSTRUCTION.
2	REFER TO DETAILS 1A/E-501 AND 4A-/E-501 FOR POLE BASE DETAILS (42").
3	REFER TO DETAILS 2A/E-501 AND 4A/E-501 FOR POLE BASE DETAILS (6").
4	CONTROL LIGHTING CIRCUIT THROUGH EXISTING LIGHTING CONTACTOR LC-D1 LOCATED IN ELEC RM CM101.
5	CONTROL LIGHTING CIRCUIT THROUGH EXISTING LIGHTING CONTACTOR LC-B1 LOCATED IN ELEC RM BM101.
6	NEW FLUSH-MOUNTED QUAZITE BOX.
7	PLAYCLOCK RECEPTACLE MOUNTED ON PLAYCLOCK POST. REFER TO E-502 FOR DETAIL.
8	FOOTBALL PLAYCLOCK. REFER TO E-502 FOR DETAIL.
9	(1) 2" CONDUIT WITH PULL STRING TO PRESS BOX.
10	CONTROL LIGHTING CIRCUIT THROUGH EXISTING LIGHTING CONTACTOR LC-F1 LOCATED IN MECH RM BM202.
11	ELECTRICAL ROOM BM101. EXISTING PANEL 14B1 AND EXISTING CONTACTOR LC-B1 LOCATED IN THIS ROOM.
12	ELECTRICAL ROOM CM101. EXISTING PANEL 12D1, EXISTING PANEL 14D1 AND EXISTING CONTACTOR LC-D1 LOCATED IN THIS ROOM.
13	APPROXIMATE LOCATION OF MECHANICAL ROOM CBM202. EXISTING PANEL 24FLS-1 AND EXISTING CONTACTOR LC-F1 LOCATED IN THIS ROOM.
14	EXTEND EXISTING CONDUIT AND WIRING FROM EXISING LIGHT POLE TO NEW LIGHTING POLES INDICATED.
15	1" UNDERGROUND SCHEDULE 40 PVC CONDUIT FOR SITE SIGNAGE POWER. CONNECT TO 120/208V CIRCUIT 12D1-(35,37). PROVIDE NEUTRAL. INSTALL F30 WIRE.
16	1" UNDERGROUND SCHEDULE 40 PVC CONDUIT FOR SITE SIGNAGE TELECOMMUNICATIONS.
17	ELECTRONIC MEDIA BOARD.
18	IN GROUND FLAG POLE LIGHT FIXTURES. REFER TO DETAIL 4C/E-501. (TYPICAL)
19	CONTROL LIGHTING CIRCUIT FROM LIGHTING CONTACTOR LC-D1.
20	NEW PROPOSED ROUTING FOR SPORTS LIGHTING FEEDERS.
21	PRE-FABRICATED PRESSBOX BY OTHERS. EXTERIOR LIGHT FIXTURES TO BE FURNISHED AND INSTALLED BY DIVISION 26.
22	CONTROL LIGHTING CIRCUIT THROUGH LIGHTING CONTACTOR LC-A1 LOCATED IN FOOTBALL CONCESSIONS BUILDING.
23	LIGHT FIXTURE CONTROLLED THROUGH LIGHTING CONTACTOR LC-F1. ROUTE THROUGH INVERTER INDICATED. REFER TO DETAIL 1D/E-501 AND 5D/E-501.
24	FIXTURE MOUNTED ABOVE DOOR TO PRESSBOX.
25	VERIFY EXACT LOCATION OF PRESSBOX PANELBOARD WITH PRESSBOX MANUFACTURER.
26	FIXTURE MOUNTED TO PRESSBOX WITH 24" POLE. COORDINATE LOCATION WITH PRESSBOX PRIOR TO INSTALLATION. INSTALL FIXTURE ABOVE PRESSBOX WINDOWS AND BELOW LANDING ON TOP OF PRESSBOX. FIELD ADJUST LIGHT FIXTURE FOR MAXIMUM COVERAGE OF BLEACHERS.
27	PHOTOCELL FOR LIGHTING CONTACTOR CONTROL.
28	LIGHT FIXTURE CONTROLLED THROUGH LIGHTING CONTACTOR LC-A1.
29	UTILITY SERVICE TRANSFORMER FEED. COORDINATE EXACT LOCATION OF SERVICE TRANSFORMER.
30	UNDERGROUND FEEDER FROM 14MDPA TO 14MDPB.
31	FOOTBALL FIELD TICKET BOOTH. REFER TO ES102 FOR MORE INFORMATION.
32	BASEBALL AND SOFTBALL FIELD CONCESSION STAND BUILDING ELECTRICAL ROOM. SEE SHEET ES104 FOR MORE INFORMATION.
33	FOOTBALL FIELD CONCESSION STAND BUILDING ELECTRICAL ROOM. SEE SHEET ES104 FOR MORE INFORMATION.
34	MAIN CAMERA LOCATION (400M, 800M, 1600M, 3200M, 10000M) JB1 CONNECTIONS: A. POWER FOR CAMERA A SWITCH IF MULTIPLE CAMERAS. B. BELDEN 1700A (CAT5 OR CAT 5+) WITH RJ45 CONNECTORS FROM PC1 TO PRESS BOX WITH A MAXIMUM LENGTH OF 100M (328'). C. BELDEN 9533 (START CABLE) WITH XLR-3 CONNECTORS FROM PC1 TO PC4 (SPLICE A FEMALE AND MALE XLR CONNECTOR AT PC1)(THE FEMALE CONNECTOR PLUGS INTO THE STARTER CABLE AND MALE CONNECTOR WILL PLUG INTO THE CONNECTION BOX FOR THE FINISHLYNX CAMERA).
35	MAIN OUTSIDE CAMERA LOCATION (400M, 800M, 1600M, 3200M, 10000M) JB1A CONNECTIONS: A. POWER FOR CAMERA. B. BELDEN 1700A (CAT5 OR CAT5+) WITH RJ45 CONNECTORS FROM JB1 TO JB1A.
36	START LOCATIONS (1500M, 300M) JB3 CONNECTIONS: A. BELDEN 9533 (START CABLE) WITH XLR-3 CONNECTORS FROM PC3 TO PC2. (TERMINATE WITH A FEMALE XLR AT PC2)(THE FEMALE CONNECTOR PLUGS INTO THE STARTER CABLE.)
37	START LOCATIONS (200M, 5000M) A. BELDEN 9533 (START CABLE) WITH XLR-3 CONNECTORS FROM PC3 TO PC4. PC4 (SPLICE TWO FEMALE XLR CONNECTORS AT PC3)(ONE FEMALE CONNECTOR PLUGS INTO THE STARTER CABLE AND THE OTHER FEMALE CONNECTOR WILL PLUG INTO A MALE CONNECTOR CONTINUING THE GUN CABLE CIRCUIT.) THIS CAN ALSO BE A CONTINUOUS RUN WITH A WHIP AND FEMALE XLR. B. OPTION 200M FINISH - BELDEN 1700A (CAT5 OR CAT5+) WITH RJ45 CONNECTORS FROM PC2 TO PC3 WITH A MAXIMUM LENGTH OF 100M (328').
38	ALTERNATE CAMERA LOCATION (100M, 110M) JB4 CONNECTIONS: A. POWER FOR CAMERA. B. BELDEN 1700A (CAT5 OR CAT5+) WITH RJ45 CONNECTORS FROM PC1 TO PC4 WITH A MAXIMUM LENGTH OF 100M (328'). C. A. BELDEN 9533 (START CABLE) WITH XLR-3 CONNECTORS FROM PC1 TO PC4. PC4 (SPLICE TWO FEMALE XLR CONNECTORS AT PC4)(ONE FEMALE CONNECTOR PLUGS INTO THE STARTER CABLE AND THE OTHER FEMALE CONNECTOR WILL PLUG INTO A MALE CONNECTOR CONTINUING THE GUN CABLE CIRCUIT.) THIS CAN ALSO BE A CONTINUOUS RUN WITH A WHIP AND FEMALE XLR.
39	ALTERNATE CAMERA LOCATION (100M, 110M) JB4 CONNECTIONS: A. POWER FOR CAMERA. B. BELDEN 1700A (CAT5 OR CAT5+) WITH RJ45 CONNECTORS FROM JB4 TO JB2-A.
40	INSTALL #8 WIRE TO TIMING SYSTEM RECEPTACLES IN JUNCTION BOXES SHOWN ON DRAWINGS. REFER TO DETAIL ON THIS SHEET.
41	INSTALL (1) 1-1/4" CONDUIT AND 3/4" CONDUIT WITH PULL-STRING UP TO PRESSBOX. COORDINATE WHERE TO TERMINATE CONDUIT IN PRESSBOX WITH OWNER.
42	INSTALL 20 AMP GFCI DUPLEX RECEPTACLE WITH WEATHERPROOF "IN-USE" COVER AT 18'-0" ON POLE FOR POWER TO CAMERA. BRANCH CIRCUIT WIRING F30.
43	INSTALL 20 AMP GFCI DUPLEX RECEPTACLE WITH WEATHERPROOF "IN-USE" COVER AT 10'-0" ON POLE FOR POWER TO CAMERA. BRANCH CIRCUIT WIRING F30.

A2

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Project No. 2017-105.ATF
Project Date 02.17.2021
Produced JF/KE/JH/JR

SARAH KATHLEEN HEMPSTEAD
REGISTERED
NO. AR10400134
STATE OF INDIANA
ARCHITECT

#	Revision	Date
A1	ADD.1	3/5/2021
A2	ADDENDUM #2	03/15/21

5926 Calumet Ave
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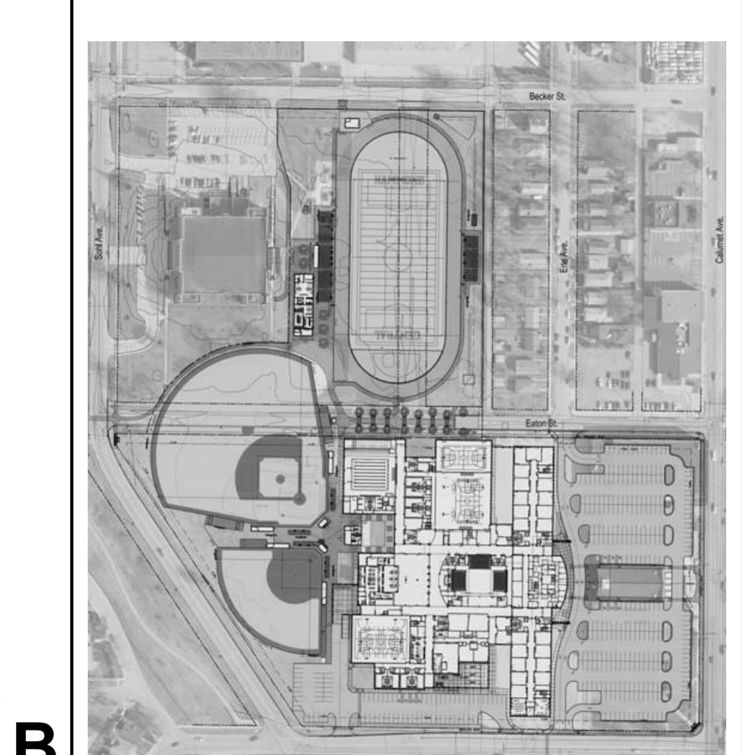

KEY PLAN

School City of Hammond

School City of Hammond

Hammond Central HS - BID PACKAGE 3

FOOTBALL FIELD SITE PLAN

ES102

BASIS OF DESIGN: MUSCO

ALL MANUFACTURERS TO BE CONSIDERED MUST PROVIDE COMPLETE PHOTOMETRICS THAT MEET BASIS OF DESIGN AS INDICATED ON SITE LAYOUT, DETAILS, SCHEDULE SHEETS, AND SPECIFICATIONS. REFER TO THIS SHEET FOR AREAS/ZONES TO PERFORM CALCULATIONS. ANY CHANGE IN DESIGN AND COST IN CIRCUITING, MOUNTING, ETC. WILL BE DESIGNED BY ALTERNATE MANUFACTURER AND SUBMITTED 10 DAYS PRIOR TO BID.

GENERAL SITE NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.
B	REFER TO LOCAL UTILITIES GUIDE FOR DETAILS AND REQUIREMENTS. INCLUDING, BUT NOT LIMITED TO, SERVICE REQUIREMENTS FOR UNDERGROUND PRIMARY, PROTECTIVE POLES FOR PAD-MOUNTED EQUIPMENT, UTILITY TRANSFORMER CONCRETE PAD DETAIL, ETC. INCLUDE ALL UTILITY FEES REQUIRED IN BID.

SITE PLAN NOTES

#	NOTES
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2	REFER TO DETAILS 1A/E-501 AND 4A-/E-501 FOR POLE BASE DETAILS (42").
3	REFER TO DETAILS 2A/E-501 AND 4A/E-501 FOR POLE BASE DETAILS (6").
4	CONTROL LIGHTING CIRCUIT THROUGH EXISTING LIGHTING CONTACTOR LC-D1 LOCATED IN ELEC RM CM101.
5	CONTROL LIGHTING CIRCUIT THROUGH EXISTING LIGHTING CONTACTOR LC-B1 LOCATED IN ELEC RM BM101.
6	NEW FLUSH-MOUNTED QUAZITE BOX.
7	PLAYCLOCK RECEPTACLE MOUNTED ON PLAYCLOCK POST. REFER TO E-502 FOR DETAIL.
8	FOOTBALL PLAYCLOCK. REFER TO E-502 FOR DETAIL.
9	(1) 2" CONDUIT WITH PULL STRING TO PRESS BOX.
10	CONTROL LIGHTING CIRCUIT THROUGH EXISTING LIGHTING CONTACTOR LC-F1 LOCATED IN MECH RM BM202.
11	ELECTRICAL ROOM BM101. EXISTING PANEL 14B1 AND EXISTING CONTACTOR LC-B1 LOCATED IN THIS ROOM.
12	ELECTRICAL ROOM CM101. EXISTING PANEL 12D1, EXISTING PANEL 14D1 AND EXISTING CONTACTOR LC-D1 LOCATED IN THIS ROOM.
13	APPROXIMATE LOCATION OF MECHANICAL ROOM CBM202. EXISTING PANEL 24FLS-1 AND EXISTING CONTACTOR LC-F1 LOCATED IN THIS ROOM.
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15	1" UNDERGROUND SCHEDULE 40 PVC CONDUIT FOR SITE SIGNAGE POWER. CONNECT TO 120/208V CIRCUIT 12D1-(35,37). PROVIDE NEUTRAL. INSTALL F30 WIRE.
16	1" UNDERGROUND SCHEDULE 40 PVC CONDUIT FOR SITE SIGNAGE TELECOMMUNICATIONS.
17	ELECTRONIC MEDIA BOARD.
18	IN GROUND FLAG POLE LIGHT FIXTURES. REFER TO DETAIL 4C/E-501. (TYPICAL)
19	CONTROL LIGHTING CIRCUIT FROM LIGHTING CONTACTOR LC-D1.
20	NEW PROPOSED ROUTING FOR SPORTS LIGHTING FEEDERS.
21	PRE-FABRICATED PRESSBOX BY OTHERS. EXTERIOR LIGHT FIXTURES TO BE FURNISHED AND INSTALLED BY DIVISION 26.
22	CONTROL LIGHTING CIRCUIT THROUGH LIGHTING CONTACTOR LC-A1 LOCATED IN FOOTBALL CONCESSIONS BUILDING.
23	LIGHT FIXTURE CONTROLLED THROUGH LIGHTING CONTACTOR LC-F1. ROUTE THROUGH INVERTER INDICATED. REFER TO DETAIL 1D/E-501 AND 5D/E-501.
24	FIXTURE MOUNTED ABOVE DOOR TO PRESSBOX.
25	VERIFY EXACT LOCATION OF PRESSBOX PANELBOARD WITH PRESSBOX MANUFACTURER.
26	FIXTURE MOUNTED TO PRESSBOX WITH 24" POLE. COORDINATE LOCATION WITH PRESSBOX PRIOR TO INSTALLATION. INSTALL FIXTURE ABOVE PRESSBOX WINDOWS AND BELOW LANDING ON TOP OF PRESSBOX. FIELD ADJUST LIGHT FIXTURE FOR MAXIMUM COVERAGE OF BLEACHERS.
27	PHOTOCELL FOR LIGHTING CONTACTOR CONTROL.
28	LIGHT FIXTURE CONTROLLED THROUGH LIGHTING CONTACTOR LC-A1.
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35	MAIN OUTSIDE CAMERA LOCATION (400M, 800M, 1600M, 3200M, 10000M) JB1A CONNECTIONS: A. POWER FOR CAMERA. B. BELDEN 1700A (CAT5 OR CAT5+) WITH RJ45 CONNECTORS FROM JB1 TO JB1A.
36	START LOCATIONS (1500M, 300M) JB3 CONNECTIONS: A. BELDEN 9533 (START CABLE) WITH XLR-3 CONNECTORS FROM PC3 TO PC2. (TERMINATE WITH A FEMALE XLR AT PC2)(THE FEMALE CONNECTOR PLUGS INTO THE STARTER CABLE.)
37	START LOCATIONS (200M, 5000M) A. BELDEN 9533 (START CABLE) WITH XLR-3 CONNECTORS FROM PC3 TO PC4. PC4 (SPLICE TWO FEMALE XLR CONNECTORS AT PC3)(ONE FEMALE CONNECTOR PLUGS INTO THE STARTER CABLE AND THE OTHER FEMALE CONNECTOR WILL PLUG INTO A MALE CONNECTOR CONTINUING THE GUN CABLE CIRCUIT.) THIS CAN ALSO BE A CONTINUOUS RUN WITH A WHIP AND FEMALE XLR. B. OPTION 200M FINISH - BELDEN 1700A (CAT5 OR CAT5+) WITH RJ45 CONNECTORS FROM PC2 TO PC3 WITH A MAXIMUM LENGTH OF 100M (328').
38	ALTERNATE CAMERA LOCATION (100M, 110M) JB4 CONNECTIONS: A. POWER FOR CAMERA. B. BELDEN 1700A (CAT5 OR CAT5+) WITH RJ45 CONNECTORS FROM PC1 TO PC4 WITH A MAXIMUM LENGTH OF 100M (328'). C. A. BELDEN 9533 (START CABLE) WITH XLR-3 CONNECTORS FROM PC1 TO PC4. PC4 (SPLICE TWO FEMALE XLR CONNECTORS AT PC4)(ONE FEMALE CONNECTOR PLUGS INTO THE STARTER CABLE AND THE OTHER FEMALE CONNECTOR WILL PLUG INTO A MALE CONNECTOR CONTINUING THE GUN CABLE CIRCUIT.) THIS CAN ALSO BE A CONTINUOUS RUN WITH A WHIP AND FEMALE XLR.
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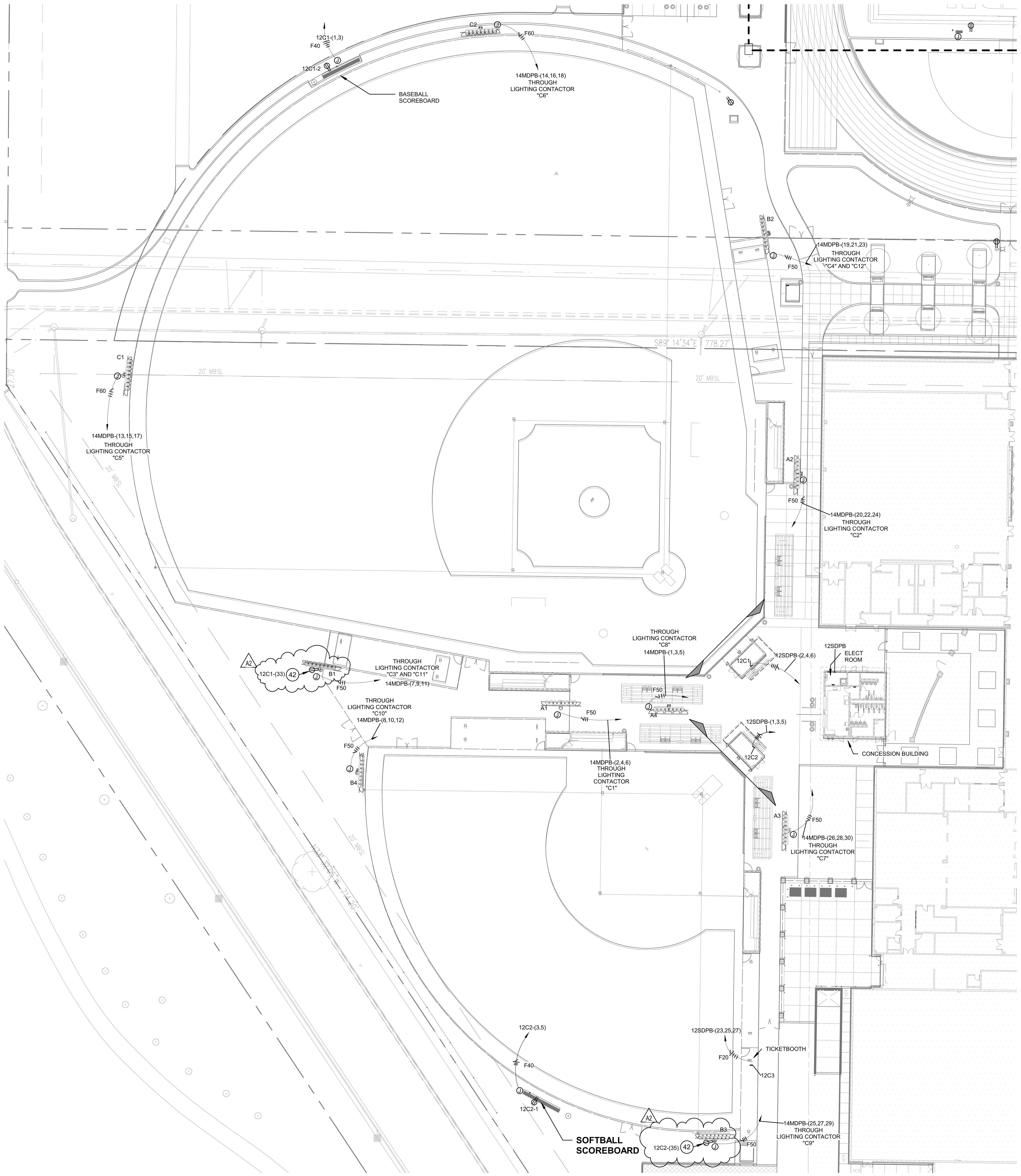
40	INSTALL #8 WIRE TO TIMING SYSTEM RECEPTACLES IN JUNCTION BOXES SHOWN ON DRAWINGS. REFER TO DETAIL ON THIS SHEET.
41	INSTALL (1) 1-1/4" CONDUIT AND 3/4" CONDUIT WITH PULL-STRING UP TO PRESSBOX. COORDINATE WHERE TO TERMINATE CONDUIT IN PRESSBOX WITH OWNER.
42	INSTALL 20 AMP GFCI DUPLEX RECEPTACLE WITH WEATHERPROOF "IN-USE" COVER AT 18'-0" ON POLE FOR POWER TO CAMERA. BRANCH CIRCUIT WIRING F30.
43	INSTALL 20 AMP GFCI DUPLEX RECEPTACLE WITH WEATHERPROOF "IN-USE" COVER AT 10'-0" ON POLE FOR POWER TO CAMERA. BRANCH CIRCUIT WIRING F30.

A2



2A BASEBALL/SOFTBALL FIELDS SITE PLAN
1" = 30'-0"

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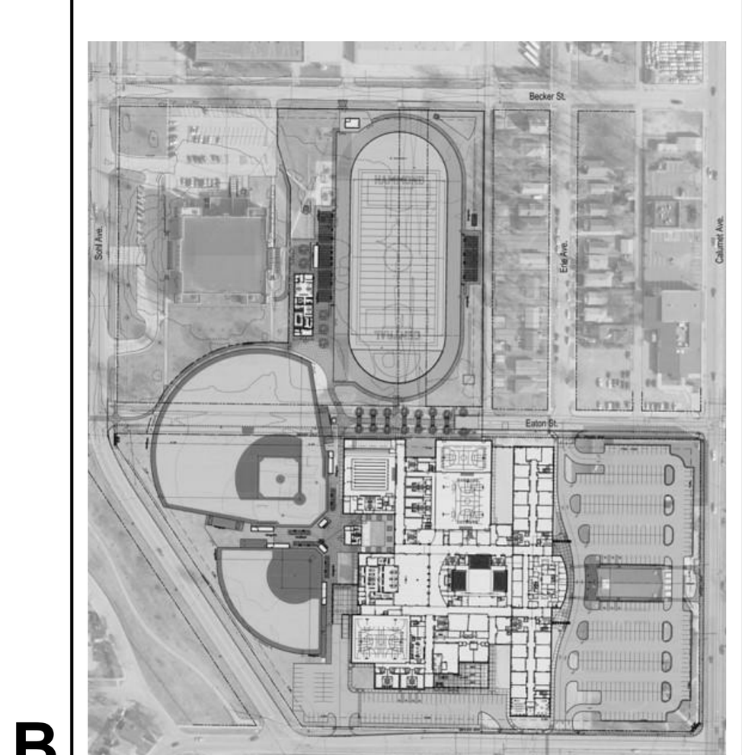
Project No. 2017-105.ATF
Project Date 02.17.2021
Produced JF/KE/JH/JR

SARAH KATHLEEN HEMPSTEAD REGISTERED ARCHITECT NO. AR10400134 STATE OF INDIANA

#	Revision	Date
A2	ADDENDUM #2	03/15/21

5926 Calumet Ave
Hammond, IN 46320



KEY PLAN

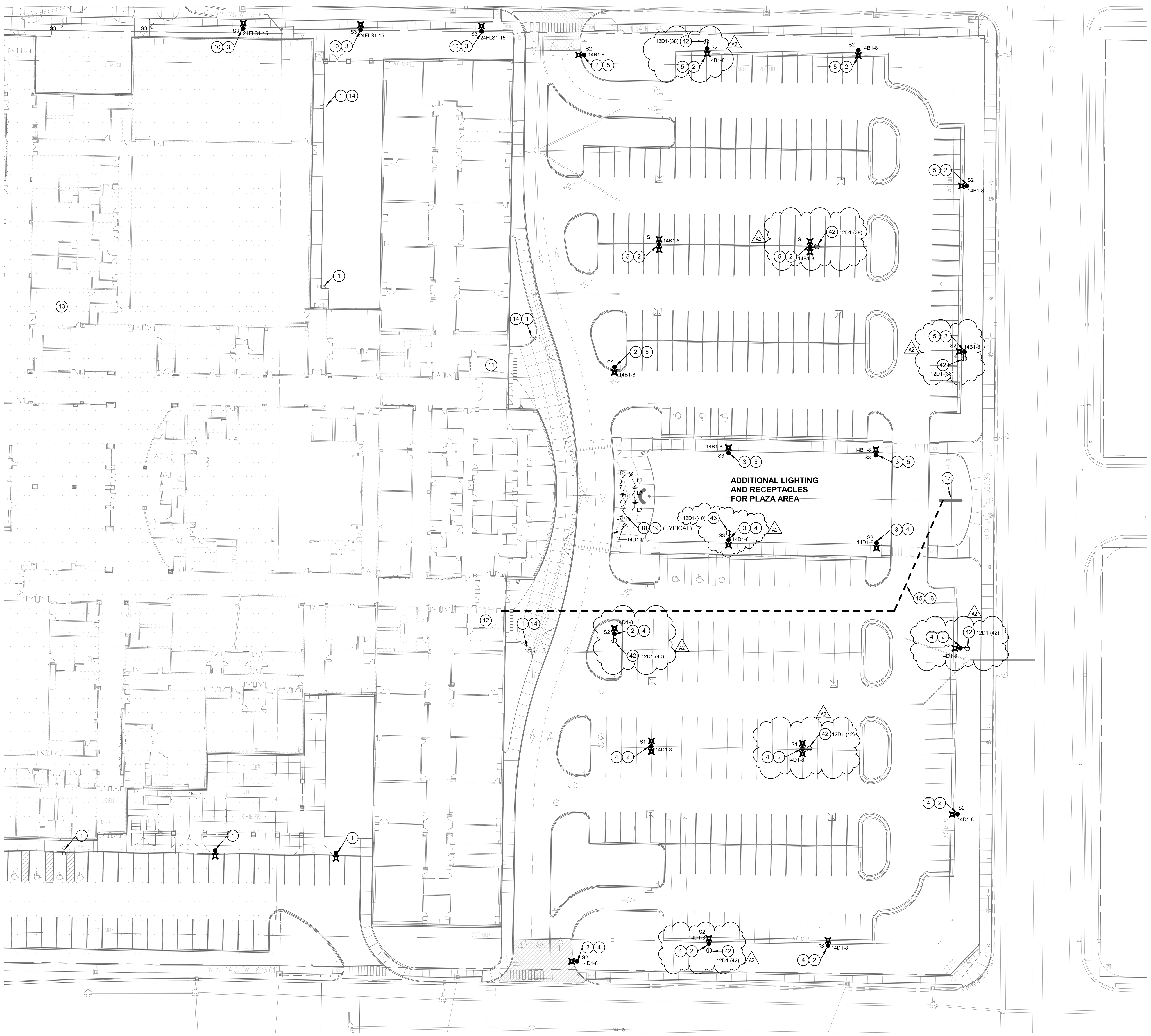
School City of Hammond

School City of Hammond

Hammond Central HS - BID PACKAGE 3

BASEBALL/SOFTBALL SITE PLAN - ALTERNATE BID

ES104



2A PARKING LOT SITE PLAN
1" = 30'-0"

GENERAL SITE NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.
B	REFER TO LOCAL UTILITIES GUIDE FOR DETAILS AND REQUIREMENTS. INCLUDING, BUT NOT LIMITED TO, SERVICE REQUIREMENTS FOR UNDERGROUND PRIMARY, PROTECTIVE POLES FOR PAD-MOUNTED EQUIPMENT, UTILITY TRANSFORMER CONCRETE PAD DETAIL, ETC. INCLUDE ALL UTILITY FEES REQUIRED IN BID.

SITE PLAN NOTES

#	NOTES
1	EXISTING POLE MOUNT LIGHT FIXTURE TO REMAIN, PROTECT DURING CONSTRUCTION.
2	REFER TO DETAILS 1A/E-501 AND 4A-/E-501 FOR POLE BASE DETAILS (42").
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5	CONTROL LIGHTING CIRCUIT THROUGH EXISTING LIGHTING CONTACTOR LC-B1 LOCATED IN ELEC RM BM101.
6	NEW FLUSH-MOUNTED QUAZITE BOX.
7	PLAYCLOCK RECEPTACLE MOUNTED ON PLAYCLOCK POST. REFER TO E-502 FOR DETAIL.
8	FOOTBALL PLAYCLOCK. REFER TO E-502 FOR DETAIL.
9	(1) 2" CONDUIT WITH PULL STRING TO PRESS BOX.
10	CONTROL LIGHTING CIRCUIT THROUGH EXISTING LIGHTING CONTACTOR LC-F1 LOCATED IN MECH RM BM202.
11	ELECTRICAL ROOM BM101. EXISTING PANEL 14B1 AND EXISTING CONTACTOR LC-B1 LOCATED IN THIS ROOM.
12	ELECTRICAL ROOM CM101. EXISTING PANEL 12D1, EXISTING PANEL 14D1 AND EXISTING CONTACTOR LC-D1 LOCATED IN THIS ROOM.
13	APPROXIMATE LOCATION OF MECHANICAL ROOM CBM202. EXISTING PANEL 24FLS-1 AND EXISTING CONTACTOR LC-F1 LOCATED IN THIS ROOM.
14	EXTEND EXISTING CONDUIT AND WIRING FROM EXISING LIGHT POLE TO NEW LIGHTING POLES INDICATED.
15	1" UNDERGROUND SCHEDULE 40 PVC CONDUIT FOR SITE SIGNAGE POWER. CONNECT TO 120/208V CIRCUIT 12D1-(35,37). PROVIDE NEUTRAL. INSTALL F30 WIRE.
16	1" UNDERGROUND SCHEDULE 40 PVC CONDUIT FOR SITE SIGNAGE TELECOMMUNICATIONS.
17	ELECTRONIC MEDIA BOARD.
18	IN GROUND FLAG POLE LIGHT FIXTURES. REFER TO DETAIL 4C/E-501. (TYPICAL)
19	CONTROL LIGHTING CIRCUIT FROM LIGHTING CONTACTOR LC-D1.
20	NEW PROPOSED ROUTING FOR SPORTS LIGHTING FEEDERS.
21	PRE-FABRICATED PRESSBOX BY OTHERS. EXTERIOR LIGHT FIXTURES TO BE FURNISHED AND INSTALLED BY DIVISION 26.
22	CONTROL LIGHTING CIRCUIT THROUGH LIGHTING CONTACTOR LC-A1 LOCATED IN FOOTBALL CONCESSIONS BUILDING.
23	LIGHT FIXTURE CONTROLLED THROUGH LIGHTING CONTACTOR LC-F1. ROUTE THROUGH INVERTER INDICATED. REFER TO DETAIL 1D/E-501 AND 5D/E-501.
24	FIXTURE MOUNTED ABOVE DOOR TO PRESSBOX.
25	VERIFY EXACT LOCATION OF PRESSBOX PANELBOARD WITH PRESSBOX MANUFACTURER.
26	FIXTURE MOUNTED TO PRESSBOX WITH 24" POLE. COORDINATE LOCATION WITH PRESSBOX PRIOR TO INSTALLATION. INSTALL FIXTURE ABOVE PRESSBOX WINDOWS AND BELOW LANDING ON TOP OF PRESSBOX. FIELD ADJUST LIGHT FIXTURE FOR MAXIMUM COVERAGE OF BLEACHERS.
27	PHOTOCELL FOR LIGHTING CONTACTOR CONTROL.
28	LIGHT FIXTURE CONTROLLED THROUGH LIGHTING CONTACTOR LC-A1.
29	UTILITY SERVICE TRANSFORMER FEED. COORDINATE EXACT LOCATION OF SERVICE TRANSFORMER.
30	UNDERGROUND FEEDER FROM 14MDPA TO 14MDPB.
31	FOOTBALL FIELD TICKET BOOTH. REFER TO ES102 FOR MORE INFORMATION.
32	BASEBALL AND SOFTBALL FIELD CONCESSION STAND BUILDING ELECTRICAL ROOM. SEE SHEET ES104 FOR MORE INFORMATION.
33	FOOTBALL FIELD CONCESSION STAND BUILDING ELECTRICAL ROOM. SEE SHEET ES104 FOR MORE INFORMATION.
34	MAIN CAMERA LOCATION (400M, 800M, 1600M, 3200M, 10000M) JB1 CONNECTIONS: A. POWER FOR CAMERA A SWITCH IF MULTIPLE CAMERAS. B. BELDEN 1700A (CAT5 OR CAT 5+) WITH RJ45 CONNECTORS FROM PC1 TO PRESS BOX WITH A MAXIMUM LENGTH OF 100M (328'). C. BELDEN 9533 (START CABLE) WITH XLR-3 CONNECTORS FROM PC1 TO PC4 (SPLICE A FEMALE AND MALE XLR CONNECTOR AT PC1)(THE FEMALE CONNECTOR PLUGS INTO THE STARTER CABLE AND MALE CONNECTOR WILL PLUG INTO THE CONNECTION BOX FOR THE FINISHLYNX CAMERA).
35	MAIN OUTSIDE CAMERA LOCATION (400M, 800M, 1600M, 3200M, 10000M) JB1A CONNECTIONS: A. POWER FOR CAMERA. B. BELDEN 1700A (CAT5 OR CAT5+) WITH RJ45 CONNECTORS FROM JB1 TO JB1A.
36	START LOCATIONS (1500M, 300M) JB3 CONNECTIONS: A. BELDEN 9533 (START CABLE) WITH XLR-3 CONNECTORS FROM PC3 TO PC2. (TERMINATE WITH A FEMALE XLR AT PC2)(THE FEMALE CONNECTOR PLUGS INTO THE STARTER CABLE.)
37	START LOCATIONS (200M, 5000M) A. BELDEN 9533 (START CABLE) WITH XLR-3 CONNECTORS FROM PC3 TO PC4. PC4 (SPLICE TWO FEMALE XLR CONNECTORS AT PC3)(ONE FEMALE CONNECTOR PLUGS INTO THE STARTER CABLE AND THE OTHER FEMALE CONNECTOR WILL PLUG INTO A MALE CONNECTOR CONTINUING THE GUN CABLE CIRCUIT.) THIS CAN ALSO BE A CONTINUOUS RUN WITH A WHIP AND FEMALE XLR. B. OPTION 200M FINISH - BELDEN 1700A (CAT5 OR CAT5+) WITH RJ45 CONNECTORS FROM PC2 TO PC3 WITH A MAXIMUM LENGTH OF 100M (328').
38	ALTERNATE CAMERA LOCATION (100M, 110M) JB4 CONNECTIONS: A. POWER FOR CAMERA. B. BELDEN 1700A (CAT5 OR CAT5+) WITH RJ45 CONNECTORS FROM PC1 TO PC4 WITH A MAXIMUM LENGTH OF 100M (328'). C. A. BELDEN 9533 (START CABLE) WITH XLR-3 CONNECTORS FROM PC1 TO PC4. PC4 (SPLICE TWO FEMALE XLR CONNECTORS AT PC4)(ONE FEMALE CONNECTOR PLUGS INTO THE STARTER CABLE AND THE OTHER FEMALE CONNECTOR WILL PLUG INTO A MALE CONNECTOR CONTINUING THE GUN CABLE CIRCUIT.) THIS CAN ALSO BE A CONTINUOUS RUN WITH A WHIP AND FEMALE XLR.
39	ALTERNATE CAMERA LOCATION (100M, 110M) JB4 CONNECTIONS: A. POWER FOR CAMERA. B. BELDEN 1700A (CAT5 OR CAT5+) WITH RJ45 CONNECTORS FROM JB4 TO JB2-A.
40	INSTALL #8 WIRE TO TIMING SYSTEM RECEPTACLES IN JUNCTION BOXES SHOWN ON DRAWINGS. REFER TO DETAIL ON THIS SHEET.
41	INSTALL (1) 1-1/4" CONDUIT AND 3/4" CONDUIT WITH PULL-STRING UP TO PRESSBOX. COORDINATE WHERE TO TERMINATE CONDUIT IN PRESSBOX WITH OWNER.
42	INSTALL 20 AMP GFCI DUPLEX RECEPTACLE WITH WEATHERPROOF "IN-USE" COVER AT 18'-0" ON POLE FOR POWER TO CAMERA. BRANCH CIRCUIT WIRING F30.
43	INSTALL 20 AMP GFCI DUPLEX RECEPTACLE WITH WEATHERPROOF "IN-USE" COVER AT 10'-0" ON POLE FOR POWER TO CAMERA. BRANCH CIRCUIT WIRING F30.

A2

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Project No. 2017-105.ATF
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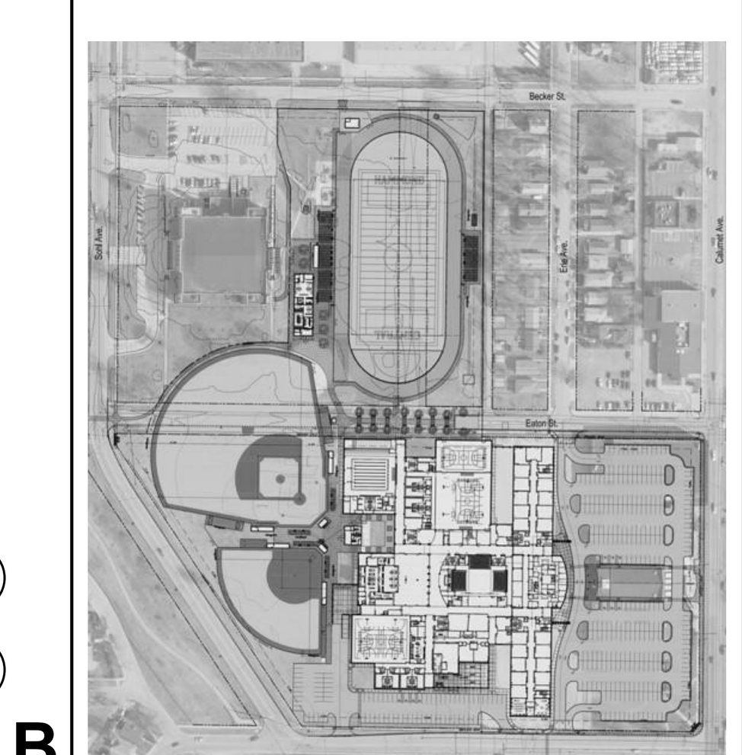
Produced JF/KE/JH/JR

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

Sarah K Hempstead

#	Revision	Date
A2	ADDENDUM #2	03/15/21

5926 Calumet Ave
Hammond, IN 46320



KEY PLAN

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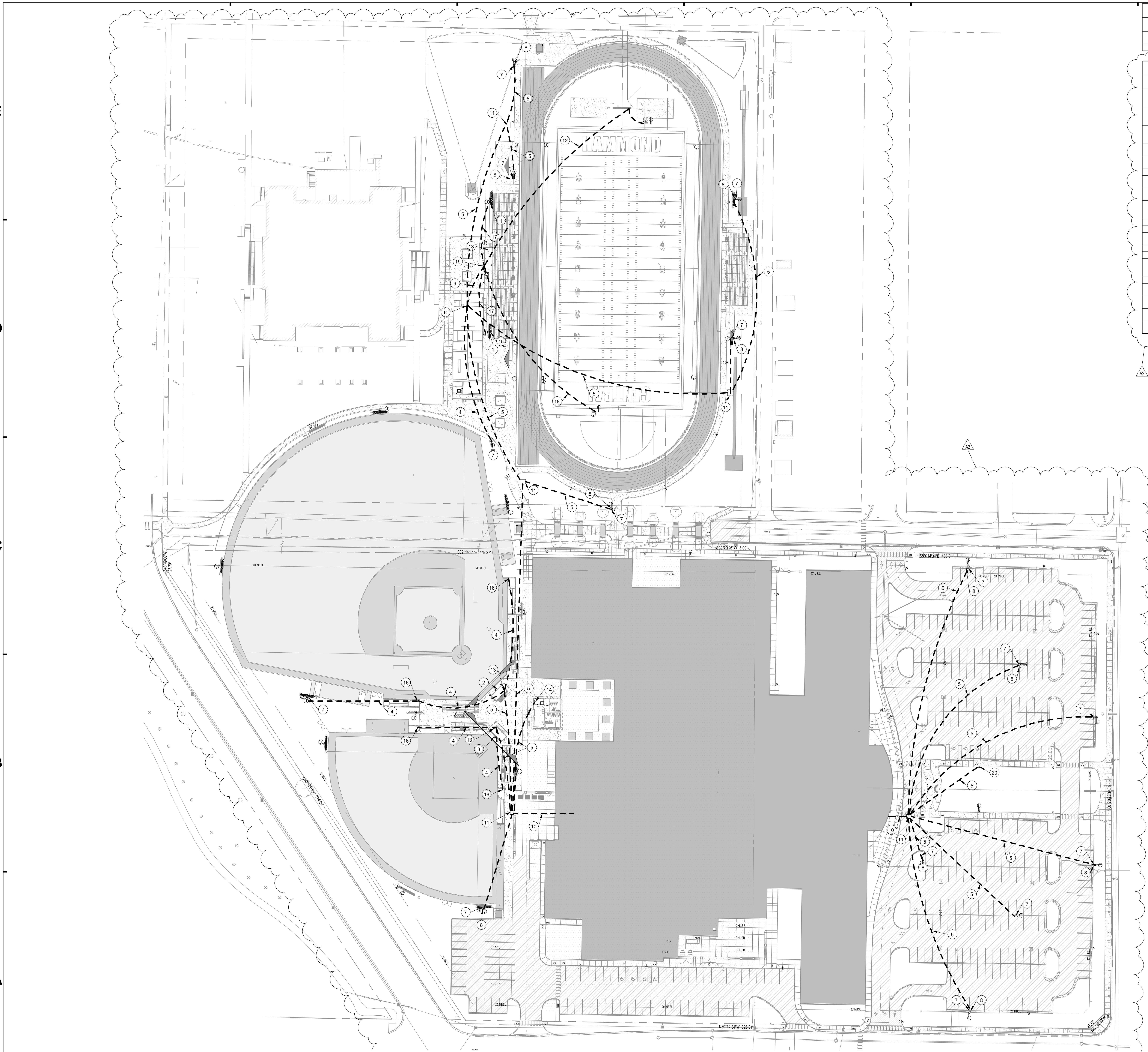
School City of Hammond

School City of Hammond

Hammond Central HS - BID PACKAGE 3

PARKING LOT SITE PLAN

ES105



1 OVERALL SITE PLAN TELECOM
1" = 50'-0"

GENERAL NOTES

#	NOTES
A	REFER TO SHEET T-001 AND T-500 SERIES SHEETS FOR ADDITIONAL INFORMATION.
B	ALL UNDERGROUND CONDUIT TO BE INSTALLED WITH PULL STRINGS.

TELECOMMUNICATIONS PLAN NOTES

#	NOTES
1	PROVIDE SPEAKERS (AS SPECIFIED) FOR FOOTBALL PA SYSTEM. SPEAKERS SHALL BE MOUNTED TO LIGHT POLE 45' A.F.F. AND PROVIDE AUDIO COVERAGE FOR HOME BLEACHERS. ROUTE CABLING TO PA SYSTEM IN PRESS BOX.
2	PROVIDE SPEAKERS (AS SPECIFIED) FOR BASEBALL SOUND SYSTEM TO BE MOUNTED ON FACE OF PRESSBOX NEAR ROOF. ROUTE CABLING TO PA SYSTEM IN PRESS BOX.
3	PROVIDE SPEAKERS (AS SPECIFIED) FOR SOFTBALL SOUND SYSTEM TO BE MOUNTED ON FACE OF PRESSBOX NEAR ROOF. ROUTE CABLING TO PA SYSTEM IN PRESS BOX.
4	PROVIDE 2" UNDERGROUND CONDUIT FOR CONTRACTOR PROVIDED OUTDOOR RATED CATEGORY 6 CABLING.
5	PROVIDE 2" UNDERGROUND CONDUIT FOR CONTRACTOR PROVIDED OUTDOOR RATED OPTICAL FIBER AS SPECIFIED.
6	PROVIDE 2" STUB UP IN COACHES ROOM FOR 2" UNDERGROUND CONDUIT.
7	PROVIDE VIDEO SURVEILLANCE CAMERA ROUGH IN 16' A.F.F. EQUIPMENT WILL BE MOUNTED TO LIGHT POLE.
8	PROVIDE WIRELESS ACCESS POINT ROUGH IN 18' A.F.F. EQUIPMENT WILL BE MOUNTED TO LIGHT POLE.
9	PROVIDE 2" UNDERGROUND CONDUIT FOR CONTRACTOR PROVIDED OUTDOOR RATED SINGLE MODE FIBER. ROUTE CONDUIT UP TO PRESSBOX WALL MOUNTED RACK.
10	EXISTING 2" UNDERGROUND CONDUIT FROM PREVIOUS PHASE.
11	PROVIDE QUAZITE BOX FOR FIBER PULLS.
12	PROVIDE 1-1/2" UNDERGROUND CONDUIT FROM PRESSBOX FOR SCOREBOARD COMMUNICATIONS.
13	STUB UP UNDERGROUND CONDUITS IN PRESSBOX BUILDING.
14	STUB UP UNDERGROUND CONDUIT IN BUILDING.
15	PROVIDE SPEAKER (AS SPECIFIED) FOR FOOTBALL SOUND SYSTEM. SPEAKER SHALL BE MOUNTED TO LIGHT POLE 45' A.F.F. AND PROVIDE AUDIO COVERAGE FOR AWAY BLEACHERS. ROUTE CABLING TO PA SYSTEM IN PRESS BOX.
16	PROVIDE 2" STUB UP IN STORAGE ROOM FOR 2" UNDERGROUND CONDUIT.
17	PROVIDE 1-1/2" UNDERGROUND CONDUIT FROM PRESSBOX TO LIGHT POLE FOR OVERHEAD LOUD SPEAKERS.
18	PROVIDE 1-1/2" UNDERGROUND CONDUIT FROM PRESSBOX FOR TIMECLOCK COMMUNICATIONS.
19	ROUTE ALL CONDUITS UP TO PRESSBOX. COORDINATE WITH STRUCTURE ON FINAL RISER LOCATION.
20	PROVIDE VIDEO SURVEILLANCE CAMERA ROUGH IN 14' A.F.F. EQUIPMENT WILL BE MOUNTED TO LIGHT POLE.

A2

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SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	ADDENDUM #2	03/15/21

5926 Calumet Ave
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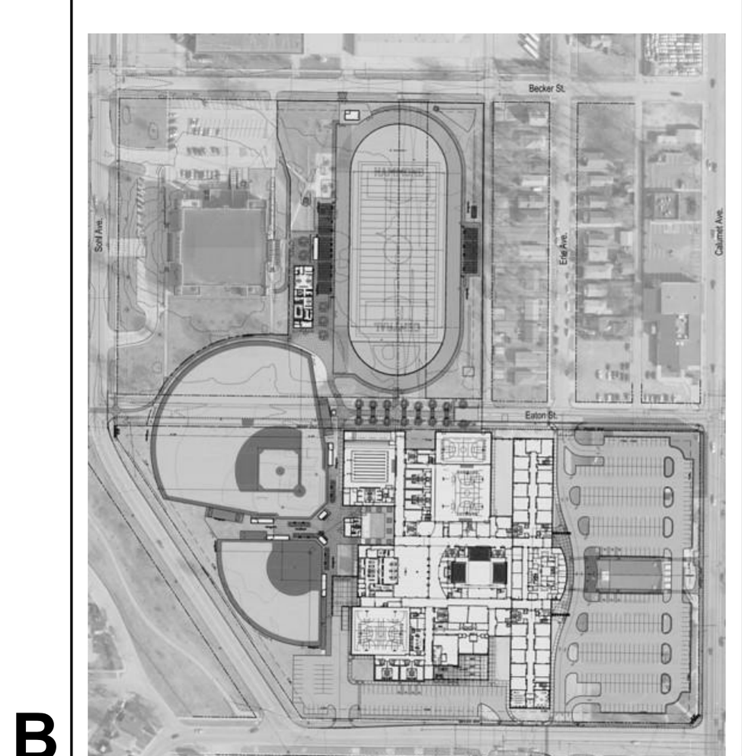


KEY PLAN

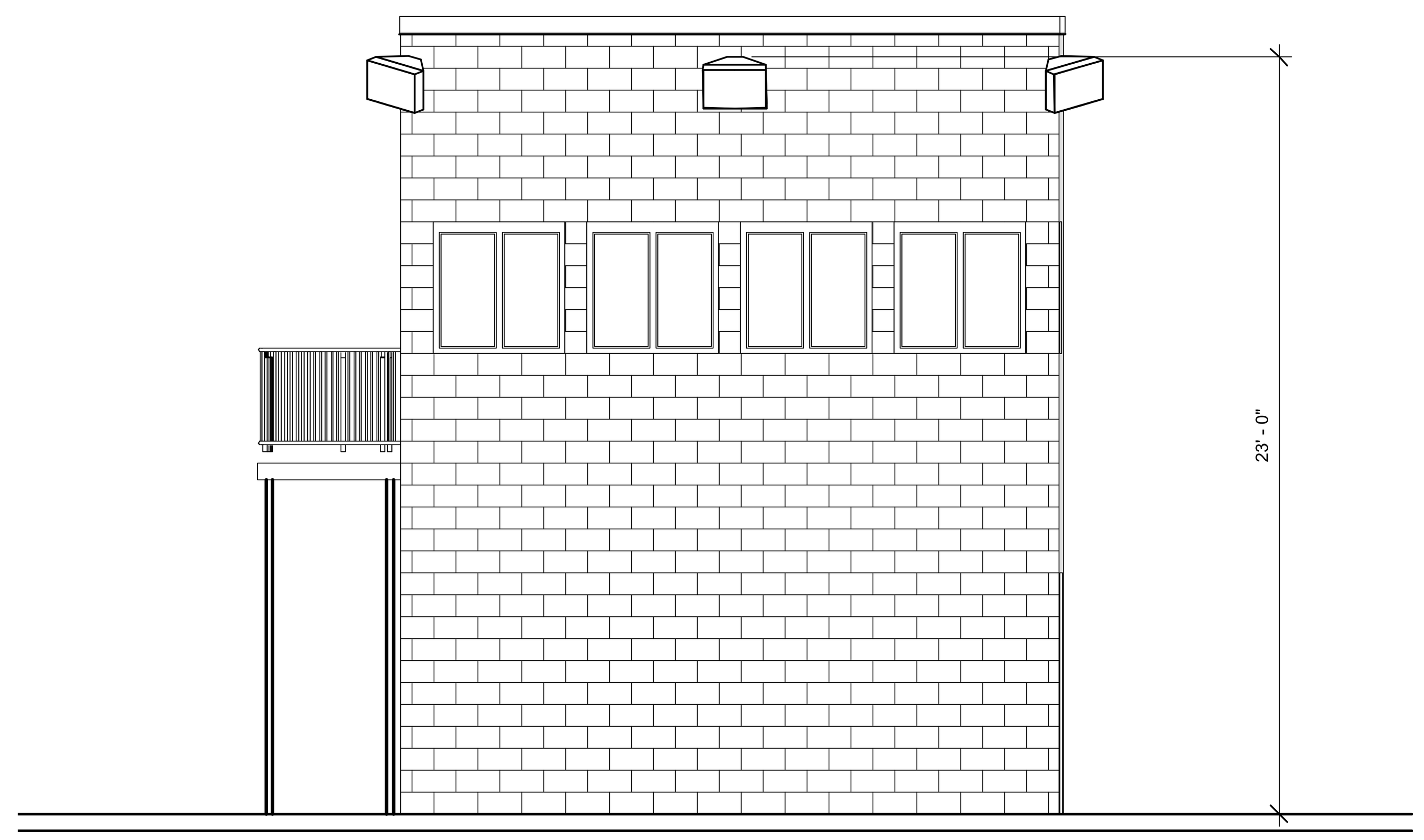
School City of Hammond

School City of Hammond

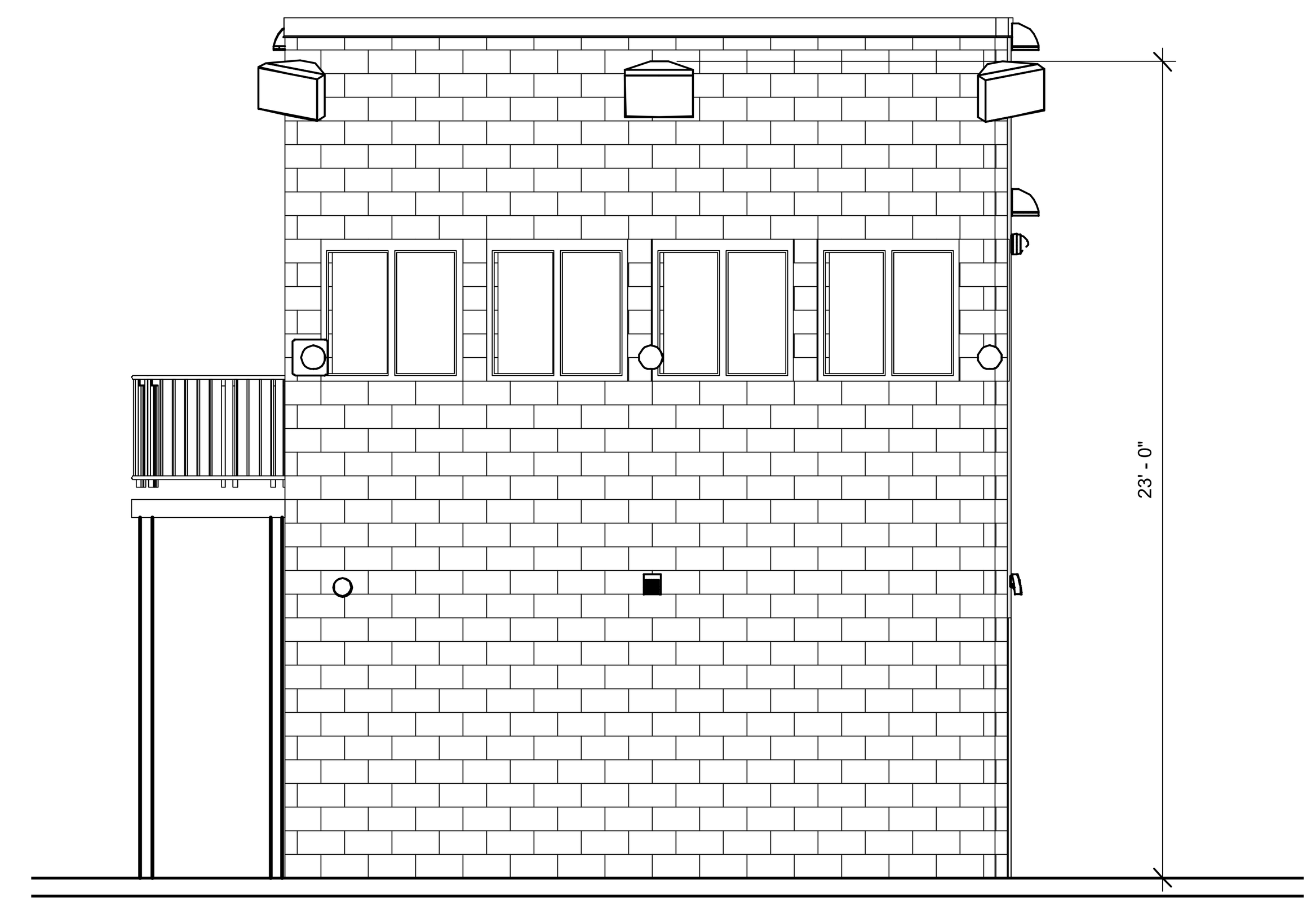
Hammond Central HS - BID PACKAGE 3

TELECOMMUNICATIONS SITE PLAN

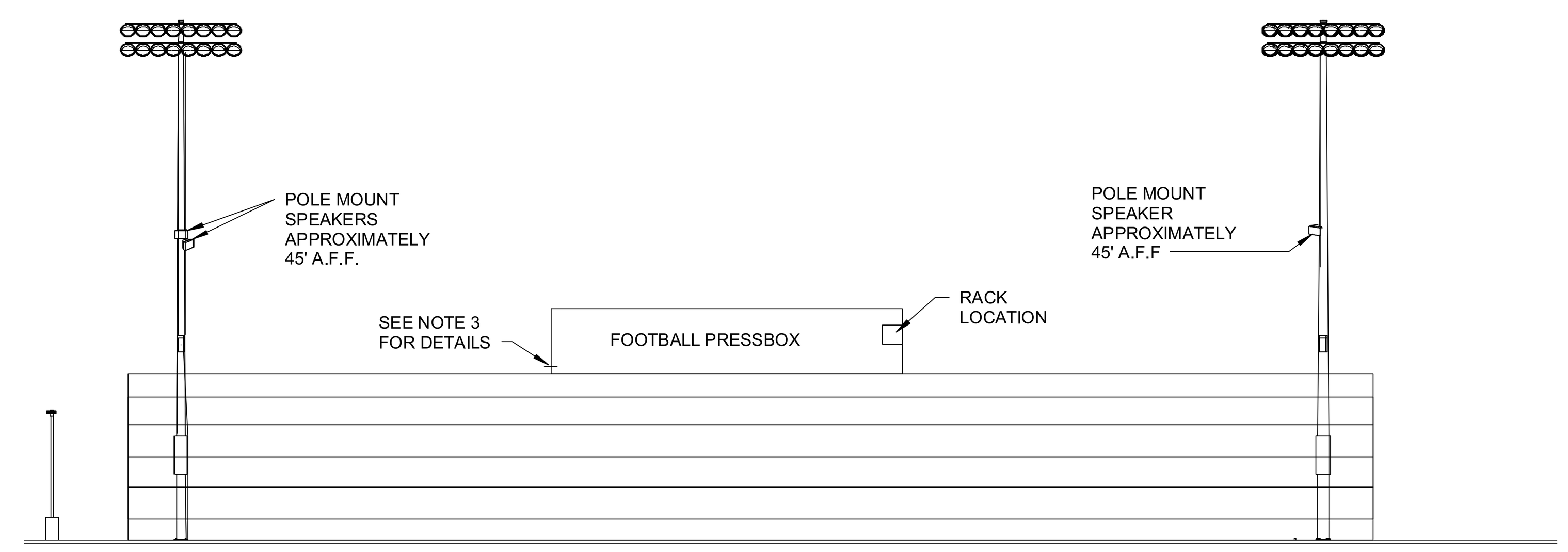
TS101



2 **SOFTBALL ELEVATION**
1/4" = 1'-0"



3 **BASEBALL PRESS BOX ELEVATION**
1/4" = 1'-0"



NOTES:
1. PROVIDE SPEAKERS AS SPECIFIED.
2. ROUTE CABLING FROM SPEAKERS TO WALL MOUNTED RACK IN THE FOOTBALL PRESSBOX.
3. PROVIDE (1) 2" CONDUIT AND (1) 2-GANG WEATHERPROOF OUTLET COVER FOR OWNER PROVIDED VIDEO CAMERA EQUIPMENT. ROUTE CONDUIT TO TELECOM RACK LOCATION IN FOOTBALL PRESS BOX.

1 **FOOTBALL PRESS BOX ELEVATION**
1" = 20'-0"

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STATE OF INDIANA
ARCHITECT

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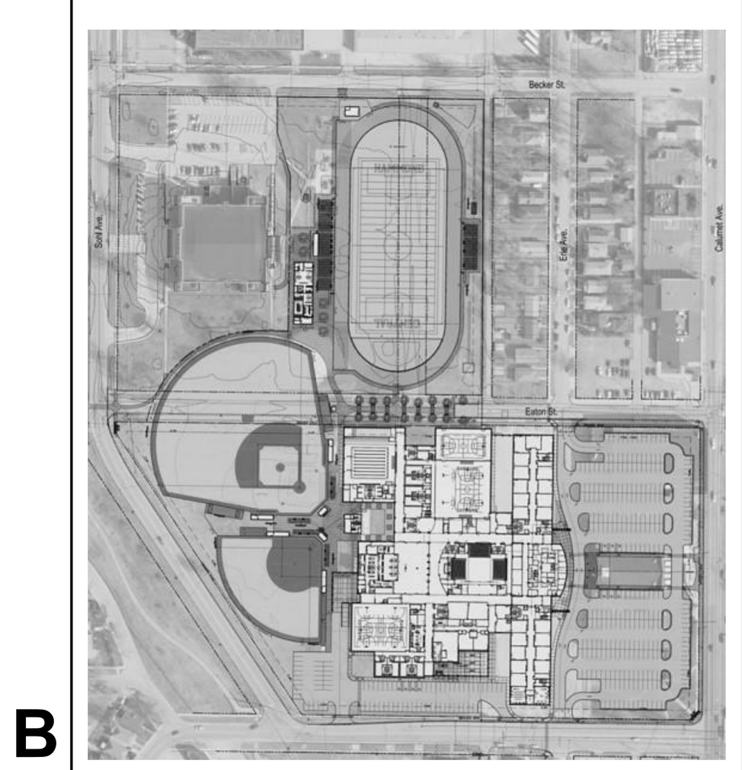


KEY PLAN

School City of Hammond

School City of Hammond

Hammond Central HS - BID PACKAGE 3

TELECOMMUNICATIONS SITE PLAN DETAILS

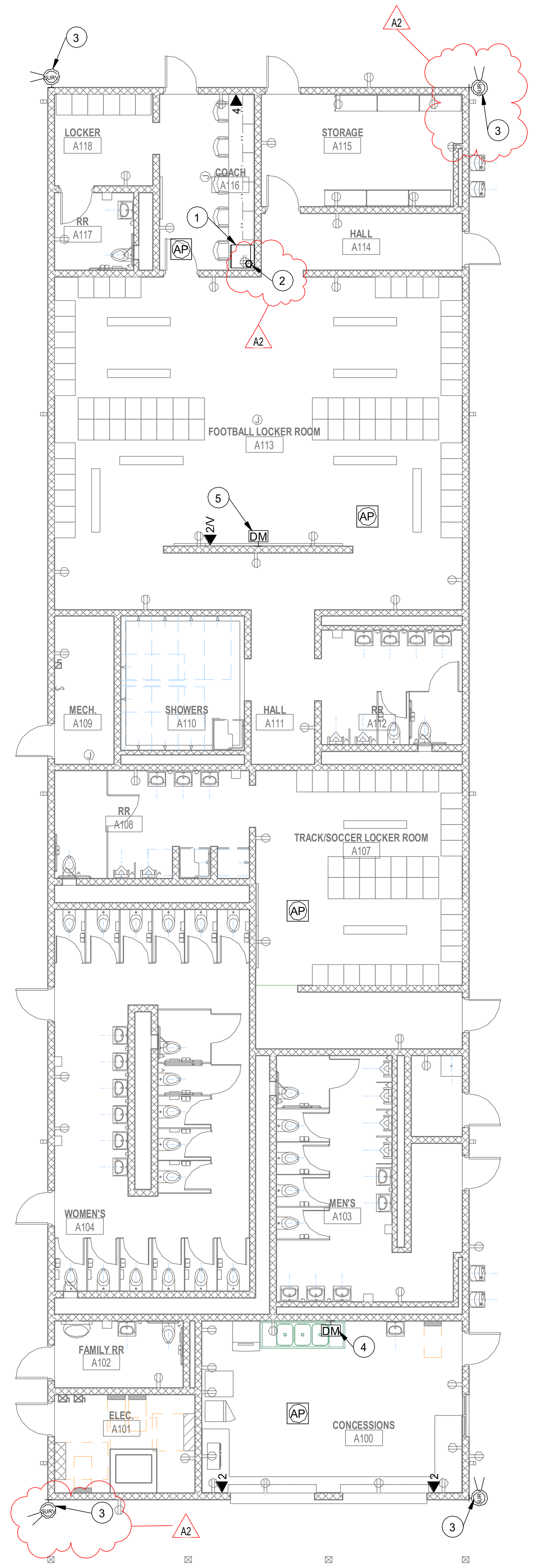
TS-501

GENERAL TELECOMMUNICATIONS NOTES

#	NOTES
A	REFER TO SHEET T-001 FOR ADDITIONAL INFORMATION.

TELECOMMUNICATIONS PLAN NOTES

#	NOTES
1	PROVIDE ROUGH IN 6' A.F.F. FOR WALL MOUNTED TELECOMMUNICATIONS CABINET. CABINET SHALL BE (MIDDLE ATLANTIC PRODUCTS CWR-18-32PD) OR APPROVED EQUAL.
2	STUB UP LOCATION FOR UNDERGROUND CONDUITS. SEE SHEET TS101 FOR CONDUIT LOCATIONS.
3	PROVIDE VIDEO SURVEILLANCE CAMERA ROUGH IN 9' A.F.F.
4	PROVIDE DIGITAL DISPLAY ROUGH IN 8' A.F.F.
5	PROVIDE ROUGH IN FOR 7'6" A.F.F. FOR OWNER PROVIDED DIGITAL DISPLAY.



1 TELECOMMUNICATIONS PLAN - UNIT A
1/8" = 1'-0"

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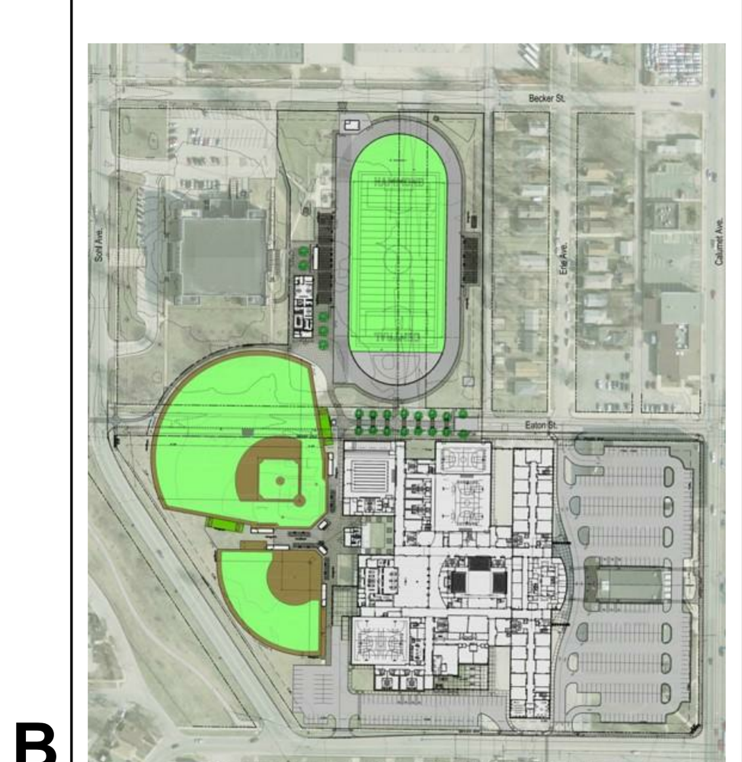


KEY PLAN

School City of Hammond

School City of Hammond

Hammond Central HS - BID PACKAGE 3

TELECOMMUNICATIONS PLAN

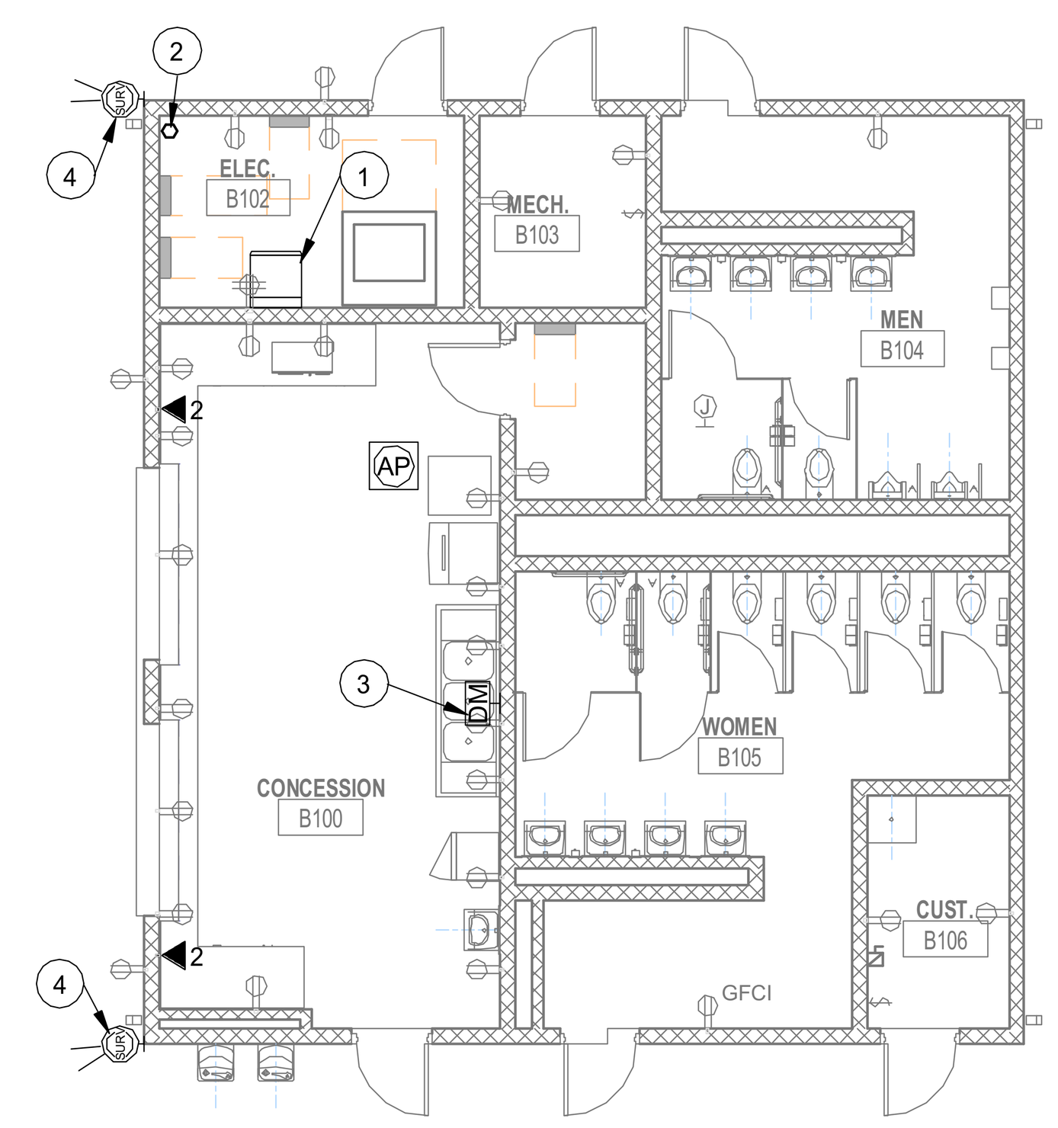
TF1A1

GENERAL TELECOMMUNICATIONS NOTES

#	NOTES
A	REFER TO SHEET T-001 FOR ADDITIONAL INFORMATION.

TELECOMMUNICATIONS PLAN NOTES

#	NOTES
1	PROVIDE ROUGH IN 6' A.F.F. FOR WALL MOUNTED TELECOMMUNICATIONS CABINET. CABINET SHALL BE (MIDDLE ATLANTIC PRODUCTS CWR-18-32PD) OR APPROVED EQUAL.
2	PROVIDE 2" STUB UP FOR UNDERGROUND CONDUIT. SEE SHEET TS101 FOR CONDUIT LOCATION.
3	PROVIDE ROUGH IN AND POWER 8' A.F.F. FOR OWNER PROVIDED DIGITAL DISPLAY.
4	PROVIDE ROUGH IN FOR VIDEO SURVEILLANCE CAMERA 9' A.F.F.



1 TELECOMMUNICATIONS PLAN - UNIT B
1/8" = 1'-0"

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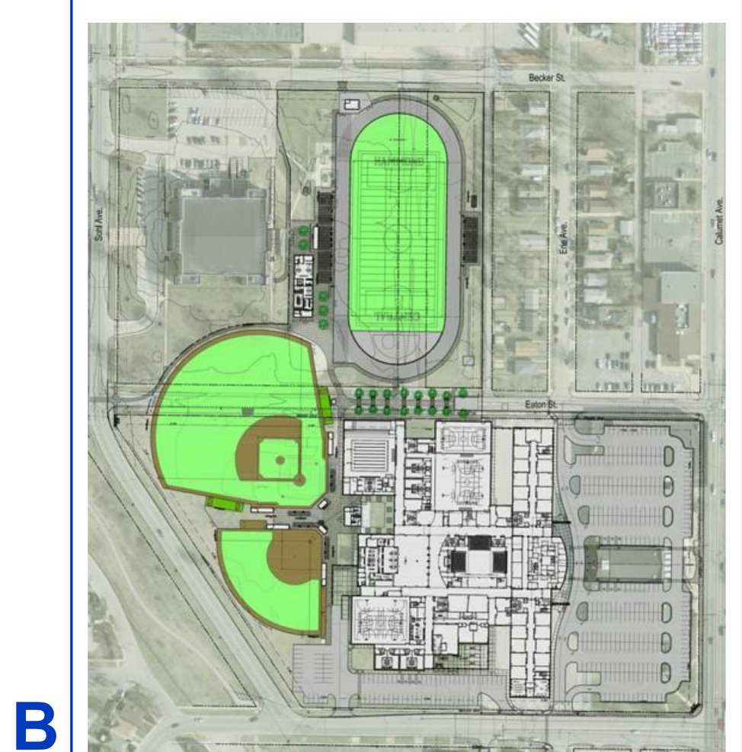


KEY PLAN

School City of Hammond

Hammond Central HS - BID PACKAGE 3

TELECOMMUNICATIONS PLAN

TF1B1

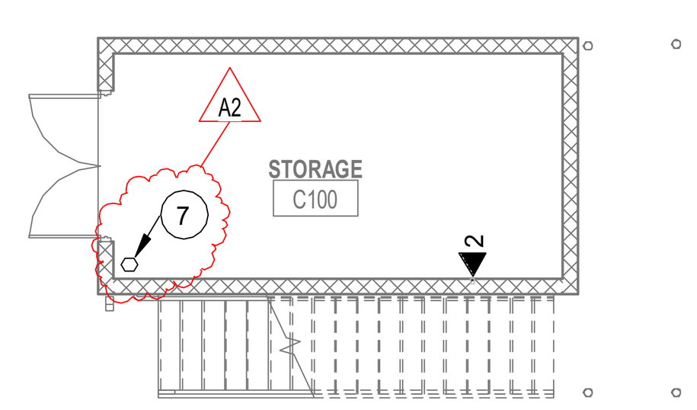
GENERAL TELECOMMUNICATIONS NOTES

#	NOTES
A	REFER TO SHEET T-001 FOR ADDITIONAL INFORMATION.

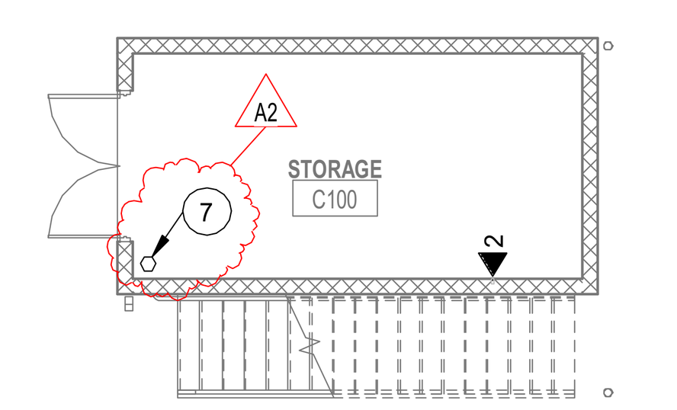
TELECOMMUNICATIONS PLAN NOTES

#	NOTES
1	PROVIDE PA EQUIPMENT RACK ROUGH 4' A.F.F.
2	PROVIDE XLR ROUGH IN 1'6: A.F.F. FOR PA SYSTEM. ROUTE CABLING TO PA WALL MOUNTED RACK IN THIS ROOM.
3	PROVIDE ROUGH IN 6' A.F.F. FOR WALL MOUNTED TELECOMMUNICATIONS CABINET. CABINET SHALL BE (MIDDLE ATLANTIC PRODUCTS CWR-18-32PD) OR APPROVED EQUAL.
4	PROVIDE (1) 2" CONDUIT AND (1) 2-GANG WEATHERPROOF OUTLET COVER FOR OWNER PROVIDED VIDEO CAMERA EQUIPMENT. ROUTE CONDUIT TO TELECOM RACK LOCATION IN C200.
5	PROVIDE ROUGH IN FOR WIRELESS ACCESS POINT 15' A.F.F.
6	PROVIDE ROUGH IN FOR VIDEO SURVEILLANCE CAMERA 15' A.F.F.
7	LOCATION FOR 2" UNDERGROUND CONDUIT PROVIDING DATA SERVICES TO BUILDING. ROUTE UP TO SECOND FLOOR PRESSBOX.
~~8~~	~~PROVIDE ROUGH IN FOR SOUND SYSTEM SPEAKER AT 1'-10" BELOW ROOF LINE.~~
9	REFER TO SHEET TS-501 FOR SPEAKER ROUGH IN HEIGHTS AND DETAILS.

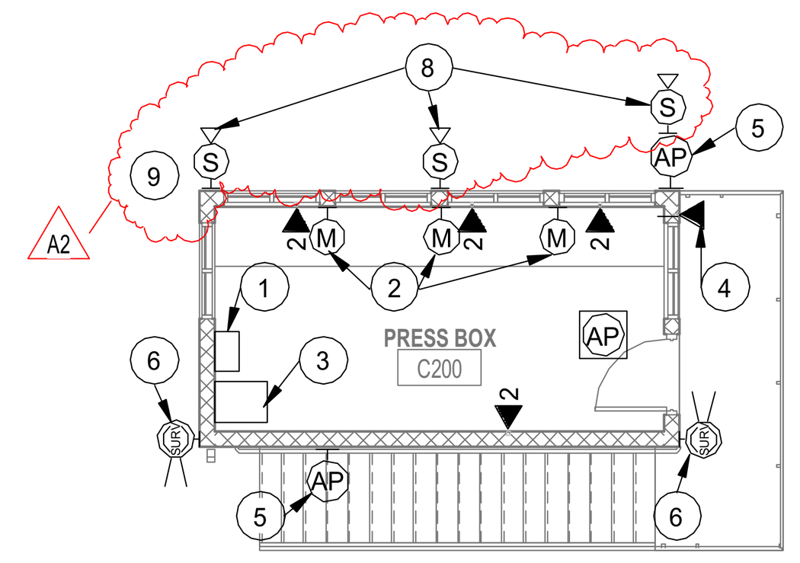
A2



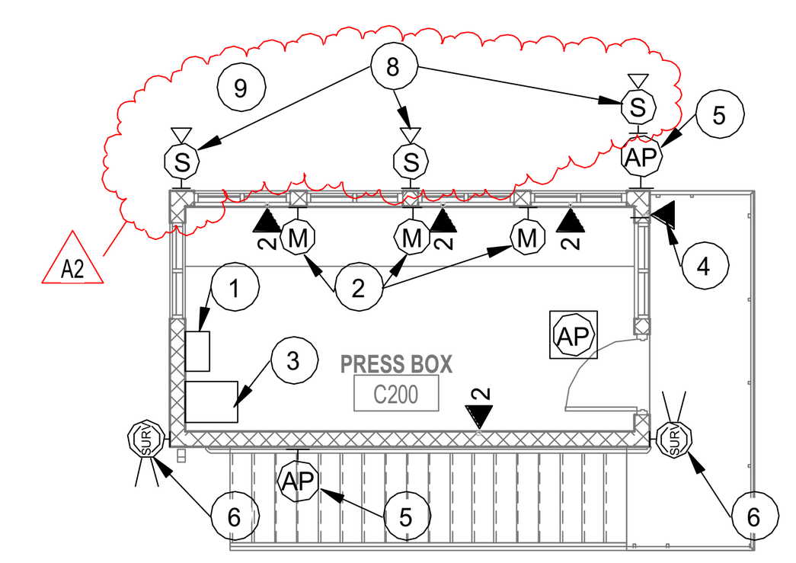
1 FIRST FLOOR TELECOMMUNICATIONS PLAN - BASEBALL
1/8" = 1'-0"



3 FIRST FLOOR TELECOMMUNICATIONS PLAN - SOFTBALL
1/8" = 1'-0"



2 SECOND FLOOR TELECOMMUNICATIONS PLAN - BASEBALL
1/8" = 1'-0"



4 SECOND FLOOR TELECOMMUNICATIONS PLAN - SOFTBALL
1/8" = 1'-0"

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Sarah K Hempstead

#	Revision	Date
A2	ADDENDUM #2	03.15.2021

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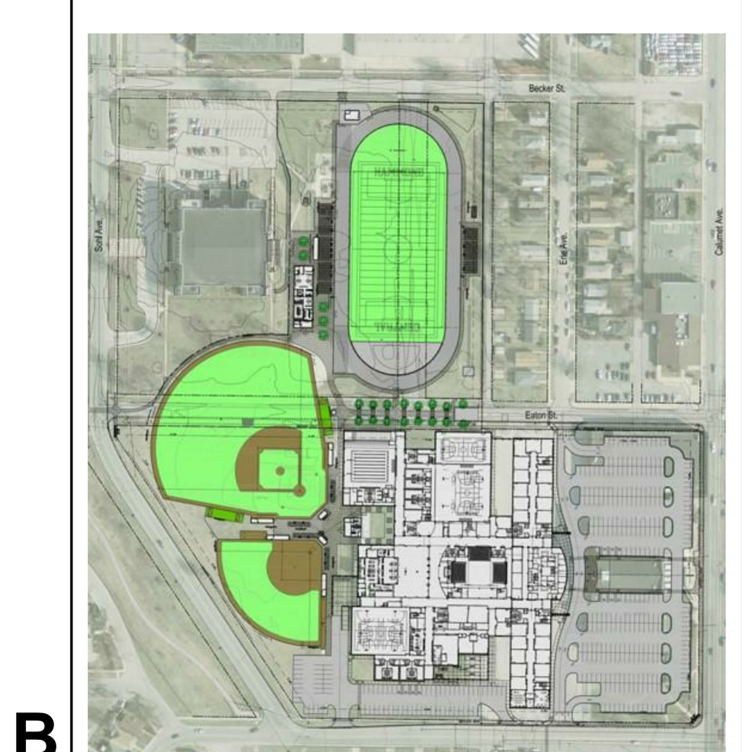

KEY PLAN

School City of Hammond

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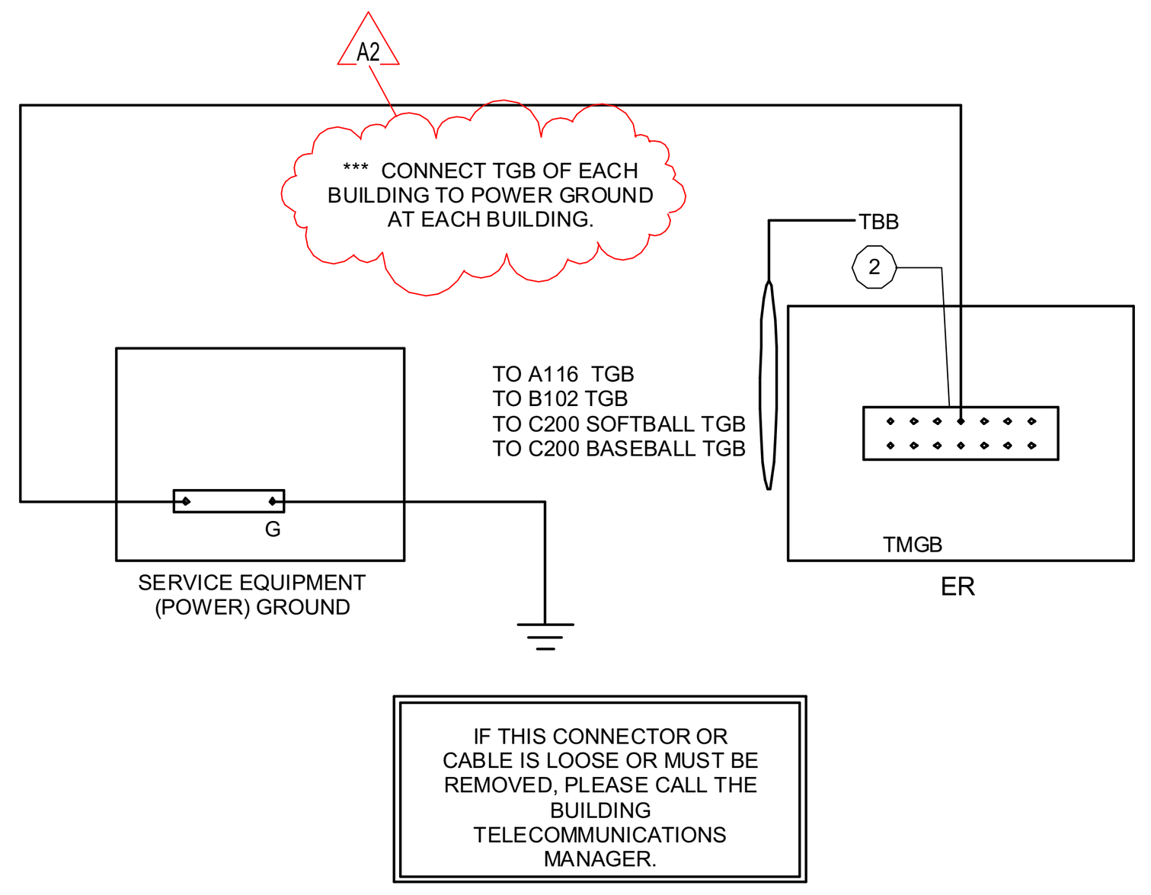
Hammond Central HS - BID PACKAGE 3

TELECOMMUNICATIONS PLAN

TF1C1

SIZING OF THE TBB	
TBB LENGTH (FEET)	TBB SIZE (AWG)
LESS THAN 13	6
14-20	4
21-26	3
27-33	2
34-41	1
42-52	1/0
53-66	2/0
67-84	3/0
85-105	4/0
106-125	250 kcmil
126-150	300 kcmil
151-175	350 kcmil
176-250	500 kcmil
251-300	600 kcmil
Greater than 301	750 kcmil
CONFIRM ALL SIZING WITH J-STD-607-A	



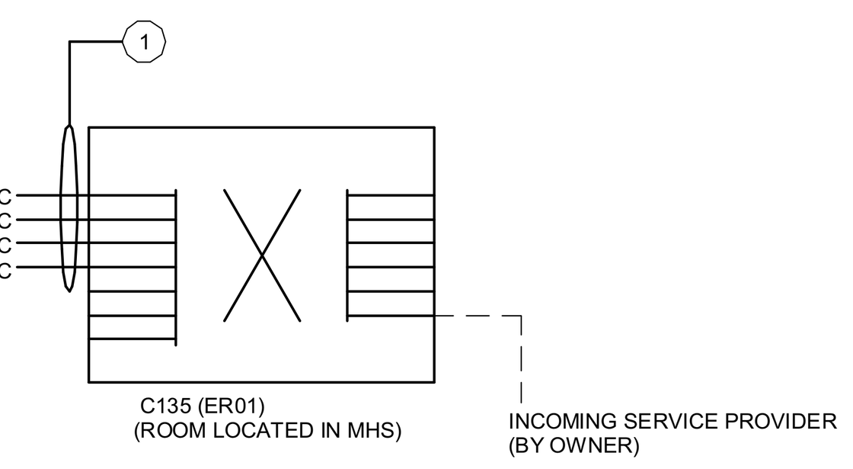
PROVIDE THE ABOVE LABEL ON ALL TMGB / TGB

GROUNDING

ABBREVIATIONS:
MC - MAIN CROSS-CONNECT
HC - HORIZONTAL CROSS-CONNECT
ER - EQUIPMENT ROOM
TR - TELECOMMUNICATIONS ROOM
TBB - TELECOMMUNICATIONS BONDING BACKBONE
TGB - TELECOMMUNICATIONS GROUNDING BUSBAR
TMGB - TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
BC - TELECOMMUNICATIONS BOUNDING CONDUCTOR

DRAWING NOTES: (A2)

1. PROVIDE TELECOMMUNICATIONS BACKBONE CABLING AND GROUNDING / BONDING TBB BETWEEN THE MC AND EACH HC/IC AS FOLLOWS:
   - (1) 6 STRANDS OF MULTI-MODE FIBER AS SPECIFIED.
   - TBB SIZED PER STANDARDS
2. WITHIN THE TELECOMMUNICATIONS EQUIPMENT ROOM (ER) AND EACH TELECOMMUNICATIONS ROOM (TR) BOND THE TMGB AND EACH TGB TO THE FOLLOWING:
   - STRUCTURAL STEEL
   - ALL METALLIC MATERIAL
   - CABLE TRAY
   - EQUIPMENT CABINETS AND RACKS



BACKBONE

GENERAL NOTES:

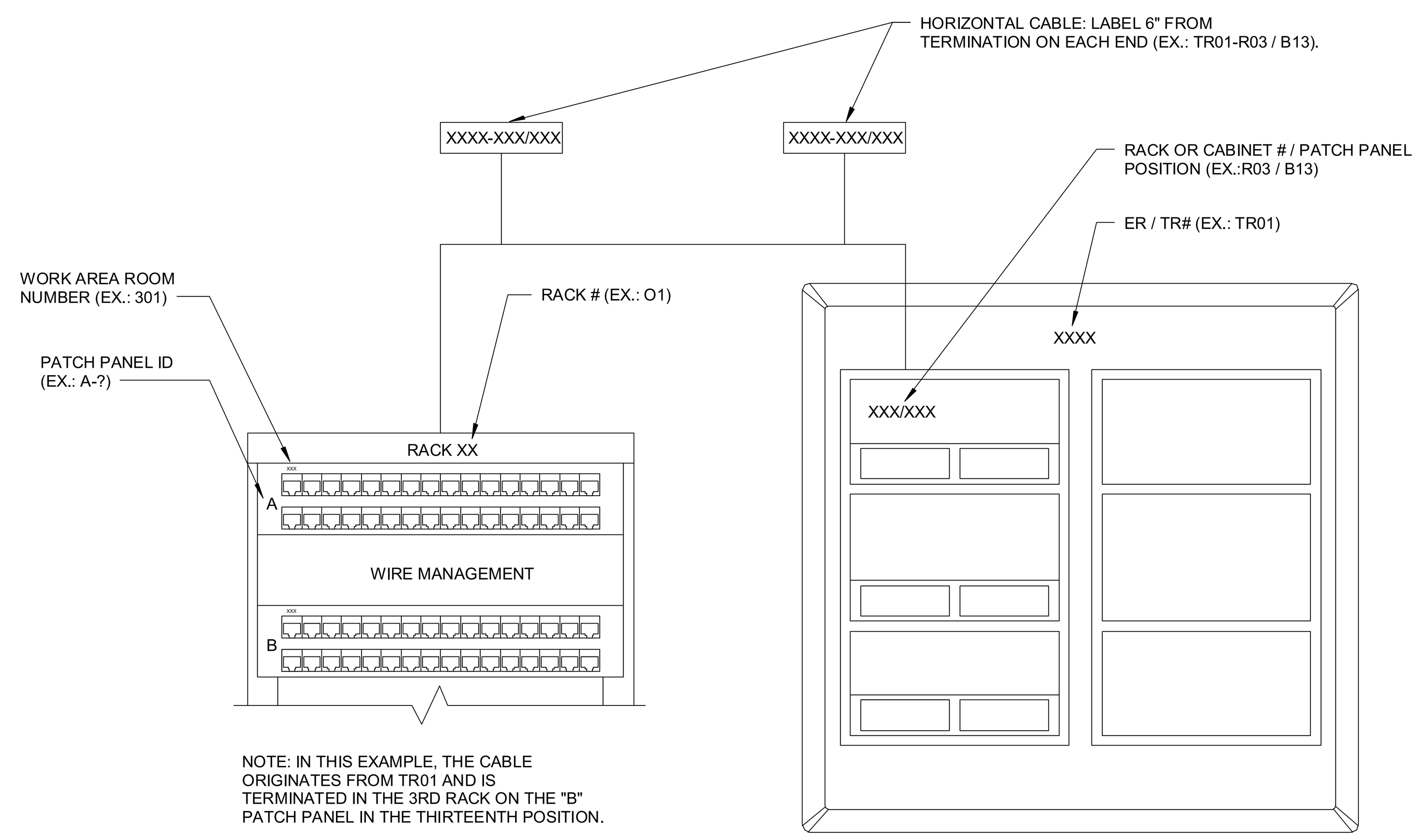
1. ALL WORK INDICATED SHALL BE FULLY COMPLIANT WITH THE FOLLOWING STANDARDS.

A. ANSI / TIA / EIA - 568 - B COMMERCIAL BUILDING TELECOMMUNICATIONS STANDARD PART 1, PART 2 AND PART 3 INCLUDING ALL SUB-PARTS AND ADDENDUMS.
B. TIA - 569 - B COMMERCIAL BUILDING STANDARD FOR TELECOMMUNICATIONS PATHWAYS AND SPACES INCLUDING ALL SUB-PARTS AND ADDENDUMS.
C. ANSI / TIA / EIA - 606 - A ADMINSTRATION STANDARD FOR COMMERCIAL TELECOMMUNICATIONS INFRASTRUCTURE INCLUDING ALL SUB-PARTS AND ADDENDUMS.
D. ANSI - J - STD - 607 - A COMMERCIAL BUILDING GROUNDING (EARTHING) AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.

2. ROUTE ALL TBB ALONG PRIMARY PATHWAY WITH TELECOMMUNICATIONS CABLING.

3. COORDINATE SPECIFIC EQUIPMENT ELEVATIONS WITH ARCHITECT ENGINEER.

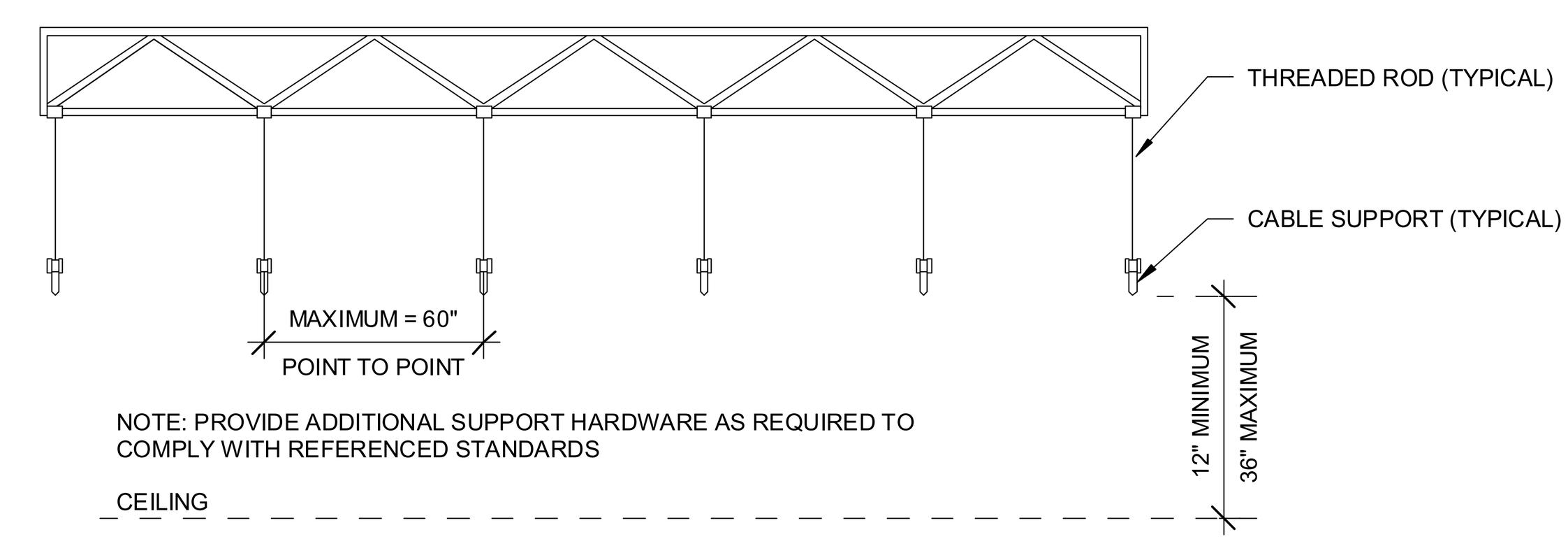
6D BACKBONE / GROUNDING SCHEMATICS
1/8" = 1'-0"



NOTE: IN THIS EXAMPLE, THE CABLE ORIGINATES FROM TR01 AND IS TERMINATED IN THE 3RD RACK ON THE "B" PATCH PANEL IN THE THIRTEENTH POSITION.

NOTES:
1. AFFIX LABELS DIRECTLY TO FACEPLATE. DO NOT USE LABEL WINDOW.
2. CONFIRM FINAL LABELING SCHEME W/ OWNER.

4E ER/TR RACK/PATCH PANEL, WORK AREA OUTLET FACEPLATE LABELING
1/8" = 1'-0"

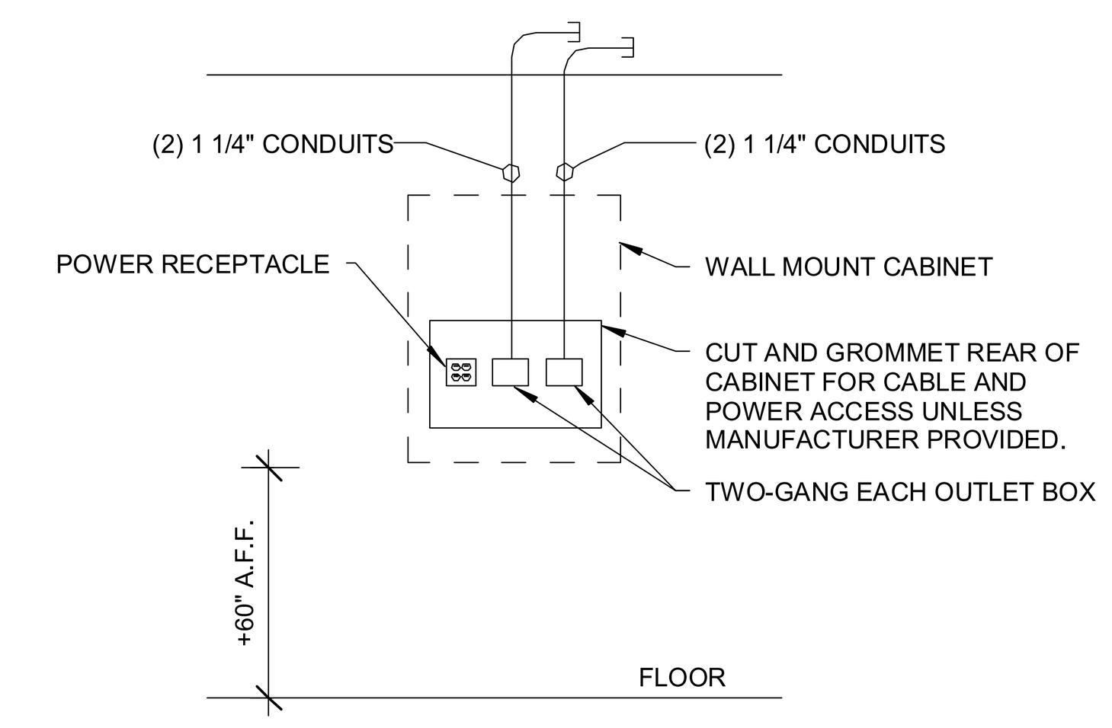


NOTE: PROVIDE ADDITIONAL SUPPORT HARDWARE AS REQUIRED TO COMPLY WITH REFERENCED STANDARDS

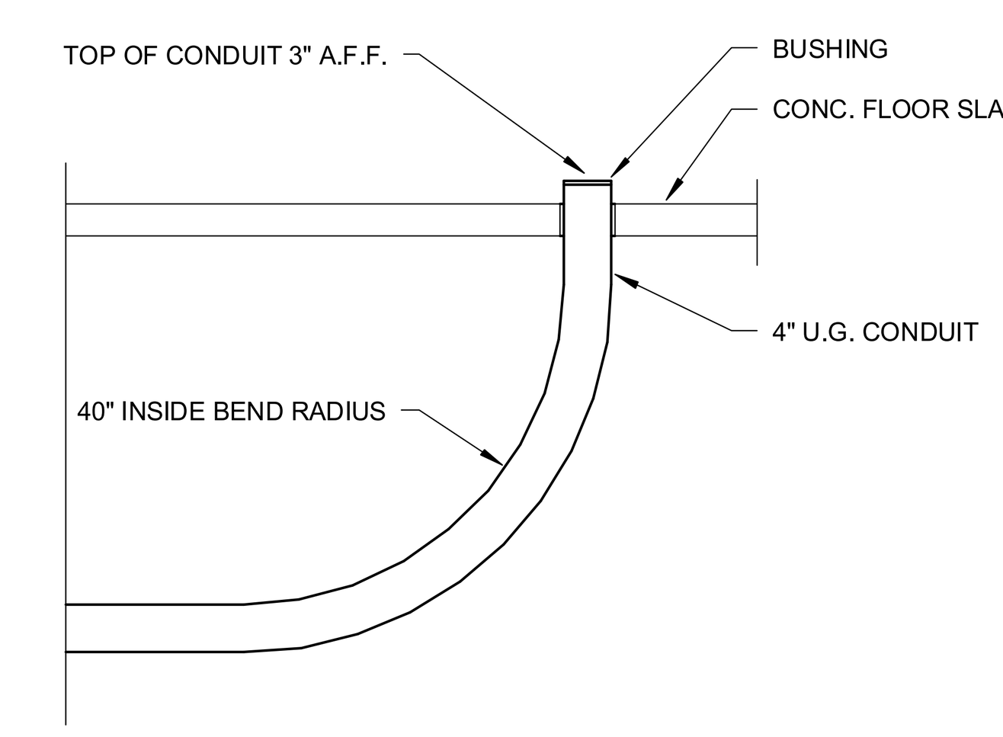
4C CABLE SUPPORT DETAIL
1/8" = 1'-0"

ROUGH-IN GENERAL NOTES:

1. TERMINATE ALL ROUGH-IN CONDUITS WITH 90 DEGREE SWEEP AND BUSHINGS IN NEAREST CONCEALED ACCESSIBLE CEILING SPACE.
2. CONDUIT BEND RADIUS TO BE COMPLIANT WITH BICSI TDMM MANUAL 12TH ED.
3. ALL ROUGH-IN CONDUITS ARE 1" UNLESS OTHERWISE NOTED.
4. PROVIDE NO MORE THAN THE EQUIVALENT OF (2) 90 DEGREE BENDS IN A SINGLE CONDUIT RUN.
5. ROUGH-IN OUTLET BOXES TO HAVE 90 DEGREE OPENING CORNERS ON FACE OF BOX.
6. ALL ROUGH-INS BY ELECTRICAL CONTRACTOR.

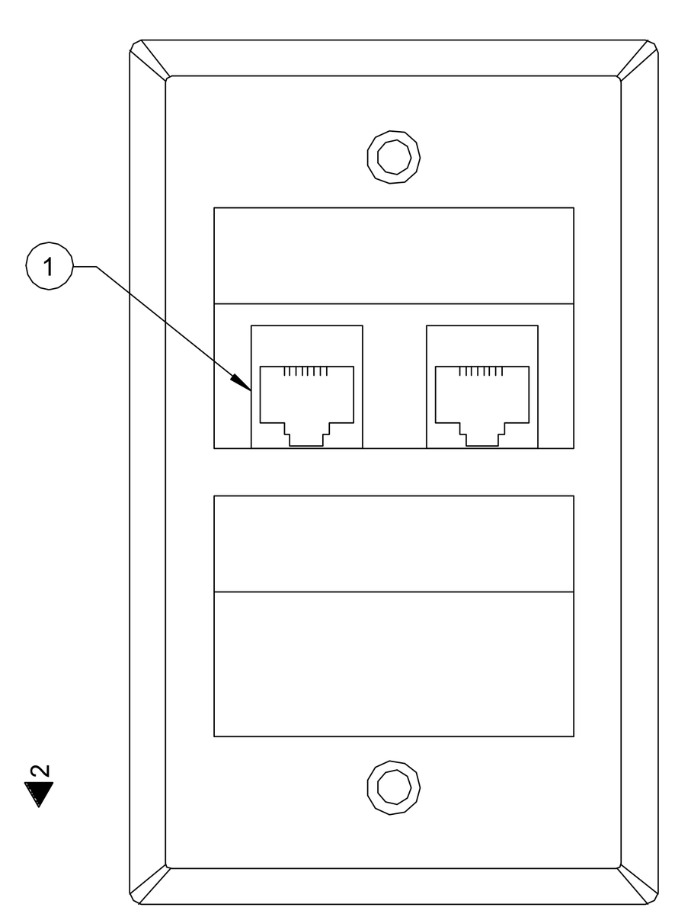


1D WALL-MOUNT SOUND CABINET ROUGH-IN DETAIL
1/8" = 1'-0"

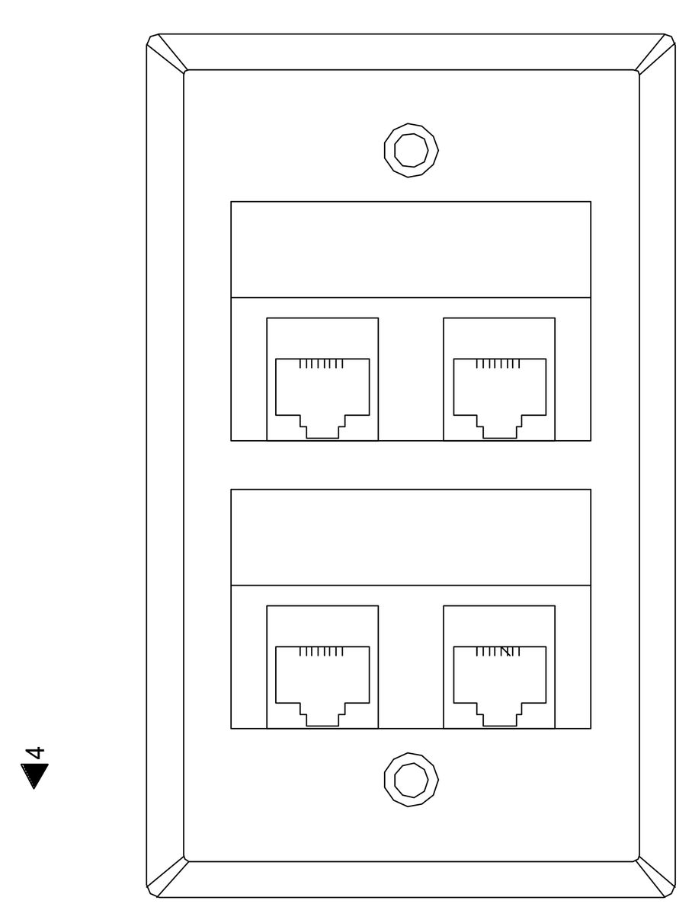


NOTES:
1. REFER TO SPECIFICATIONS FOR CONDUIT TYPE.
2. REFER TO TELECOMMUNICATIONS FLOOR PLANS FOR CONDUIT LOCATIONS.

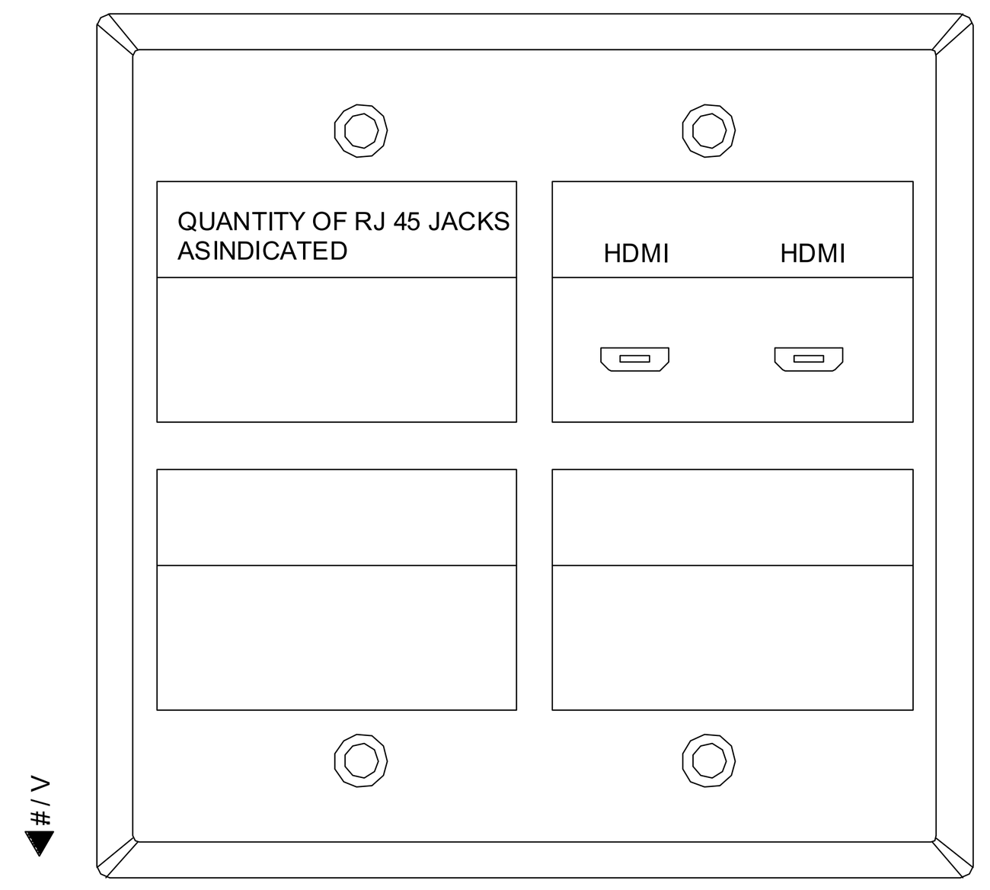
1B UNDER GROUND CONDUIT FLOOR TERMINATION DETAIL
1/8" = 1'-0"



PROVIDE (2) HORIZONTAL UTP CABLES



PROVIDE (4) HORIZONTAL UTP CABLES



PROVIDE QUANTITY OF HORIZONTAL UTP CABLES AS INDICATED

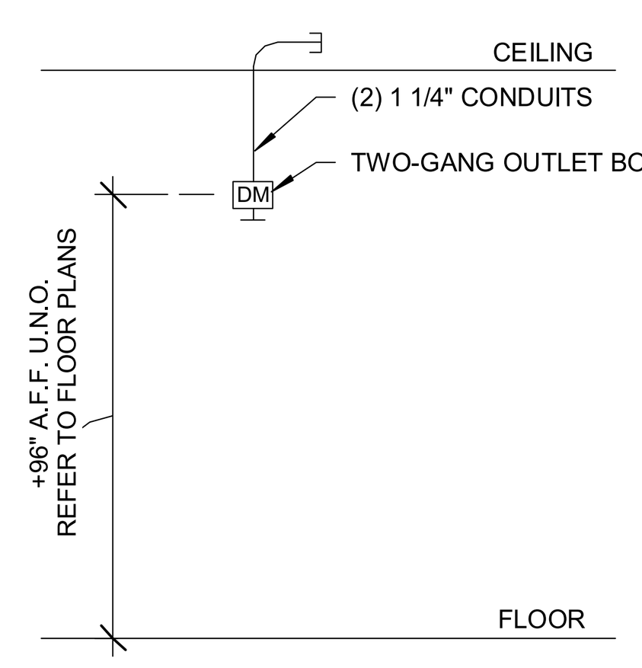
GENERAL NOTES:

GENERAL NOTES
1. WHERE TELECOMMUNICATIONS OUTLETS ARE INSTALLED IN MULTI-COMPARTMENT SURFACE RACEWAY, PROVIDE 106 JACK FRAMES AS REQUIRED AND STANDARD FACEPLATES TO MATCH ELECTRICAL POWER OUTLET.

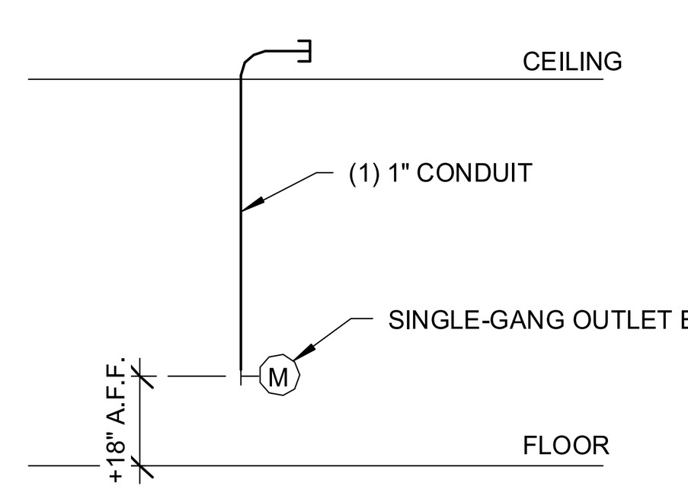
PLAN NOTES:

1. FIRST POSITION DESIGNATED FOR VOICE SERVICES AT FACULTY AND STAFF DESK LOCATIONS.

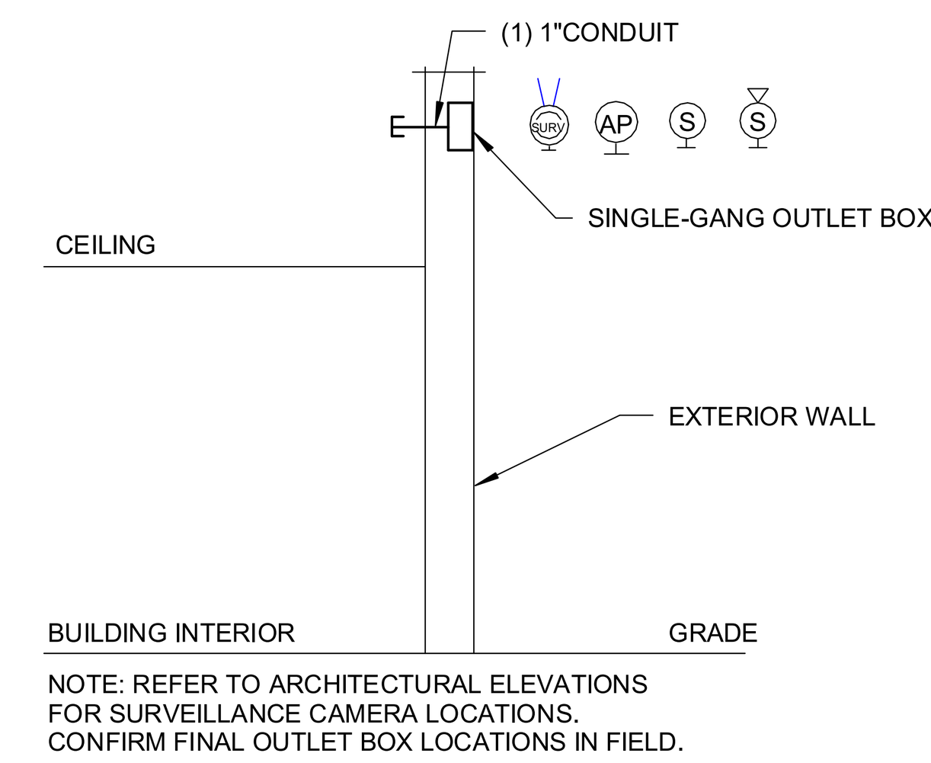
6A FACE PLATE DETAILS
1/8" = 1'-0"



4B WALL-MOUNTED DISPLAY MONITOR ROUGH-IN
1/8" = 1'-0"

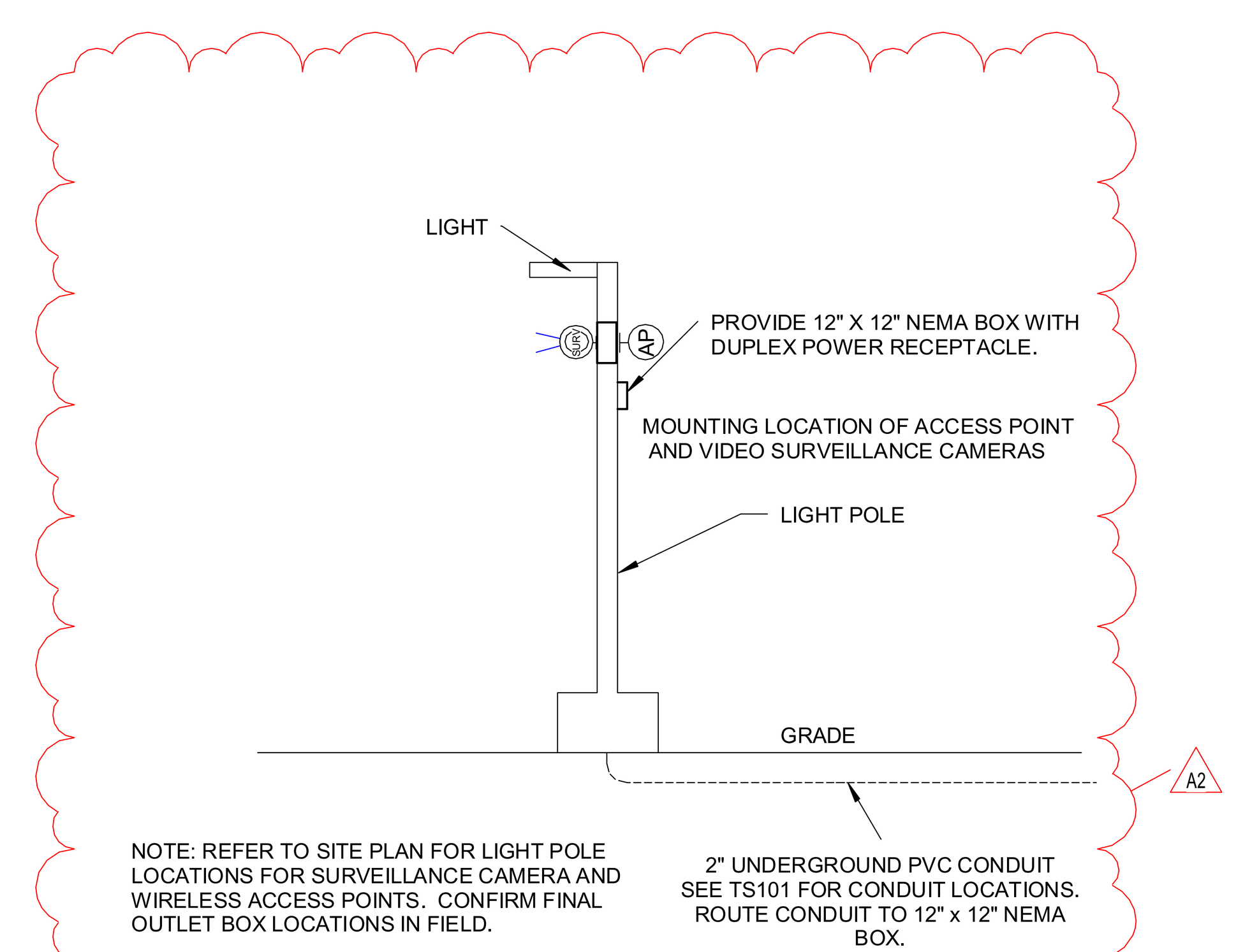


4A MICROPHONE ROUGH-IN
1/8" = 1'-0"



NOTE: REFER TO ARCHITECTURAL ELEVATIONS FOR SURVEILLANCE CAMERA LOCATIONS. CONFIRM FINAL OUTLET BOX LOCATIONS IN FIELD.

2A EXTERIOR SURVEILLANCE ROUGH-IN
1/8" = 1'-0"



NOTE: REFER TO SITE PLAN FOR LIGHT POLE LOCATIONS FOR SURVEILLANCE CAMERA AND WIRELESS ACCESS POINTS. CONFIRM FINAL OUTLET BOX LOCATIONS IN FIELD.

1A VIDEO SURVEILLANCE CAMERA/AP MOUNTING TO LIGHT POLE
NOT TO SCALE

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Project No. 2017-105.ATF
Project Date 02.17.2021
Produced JB

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	ADDENDUM #2	03.15.2021

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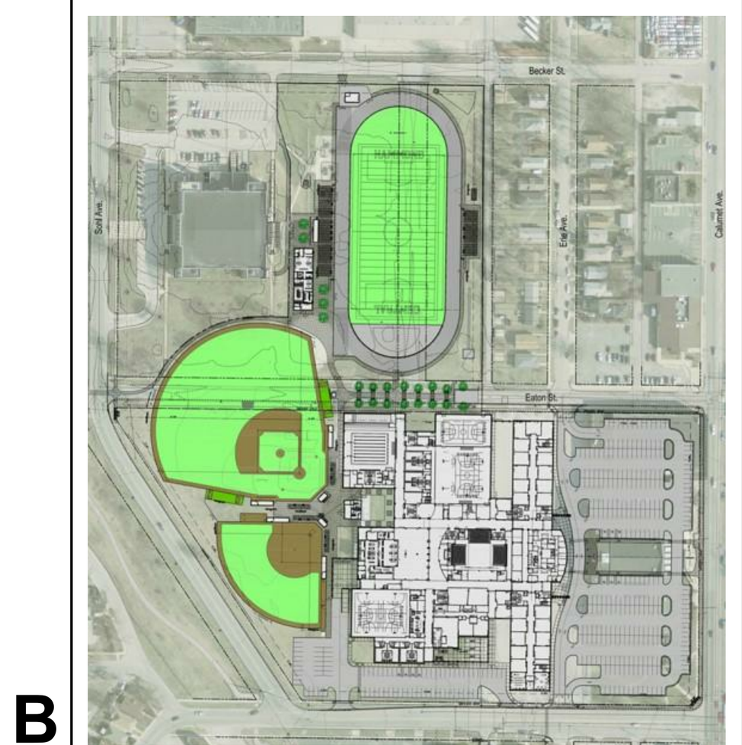

KEY PLAN

School City of Hammond

School City of Hammond

Hammond Central HS - BID PACKAGE 3

TELECOMMUNICATIONS DETAILS

T-501