Newkirk Novak Construction Partners
11200 West 79th Street
Lenexa, KS 66214
913.312.9535

Liberty School District – Baseball Sotball Complex
Addendum No: 004
Description Narrative
August 04, 2023

This Addendum is issued to all registered plan holders pursuant to the Instructions to Bidders and Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.

The Bidder shall acknowledge receipt of this Addendum in the appropriate space on the Bid Form.

A. CONSTRUCTION MANAGER'S FRONT END MANUAL

1. **Bid Date Change – Bid date has been changed to Friday the 11th 2pm.**

B. OTHER

NA

C. SPECIFICATIONS

1. **Please reference the attached Addendum No. 004 issued by Hollis + Miller dated August 04, 2023, for updates to Specifications.**

D. DRAWINGS

1. **Please reference the attached Addendum No. 004 issued by Hollis + Miller dated August 04, 2023, for updates to Drawings.**

Please direct any questions regarding the information in this addenda and the project to Newkirk Novak Construction Partners.

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ADDENDUM NO. 04

Issued: August 4, 2023

Project: LHS/LNHS Baseball and Softball Field Upgrades

Project No. 23023/23047

Owner: Liberty Public Schools
8 Victory Lane
Liberty, Missouri 64068

Bidding Documents Issued: July 12, 2023

This Addendum includes these 6 pages and the following attachments:

Supplemental Information:
Liquid and Plastic Limits Test Report ASTM D 4318 from Kruger Technologies, Inc consisting of 2 pages, one for each site

Project Manual:
Reissued Section 000105 "Certifications Page" consisting of 2 pages.
Reissued Section 000110 "Table of Contents" consisting of 2 pages.
Reissued Section 116673 "Exterior Athletic Equipment" consisting of 12 pages.
Reissued Section 323113 "Chain Link Fences and Gates" consisting of 8 pages.

Drawings:
Revised Architectural Sheets:
23023 – AS101, AS111, AS112, AS113, AS681, S001, S101, S310, S311, S400, S401, S402, S530, S540, S541, S560
23047 – AS112, AS681, S101, S530
Refer to MKEC, Civil Addendum No. 4
Refer to Smith & Boucher, MEP Addendum No. 4

PROJECT MANUAL REVISIONS

A1 SECTION 000005 – CERTIFICATIONS PAGE

A1.1 REPLACE existing Section 000005 "Certifications Page" with the attached revised Section 000005 "Certifications Page", dated August 4, 2023.

A2 SECTION 000110 - TABLE OF CONTENTS

A2.1 REPLACE existing Section 000110 "Table of Contents" with the attached revised Section 000110 "Table of Contents", dated August 4, 2023.

A3 SECTION 012300 – ALTERNATES

A3.1 REVISE Paragraph 3.1.A, and subsequent subparagraphs in Section 012300 "Alternates" as follows:

A. Alternate No. 1: Add Covered Scorer's Box at South end ~~of Home~~ **1st Base** Dugout at Liberty High School (LHS)

1. Alternate: Alternate includes all labor, materials, equipment, and appurtenances

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necessary to Add Covered Scorer's Box to South End ~~of Home~~ 1st Base Dugout at Liberty High School (LHS) as indicated on Drawings as Alternate No. 1.

A4 SECTION 116673 – EXTERIOR ATHLETIC EQUIPMENT

A4.1 REPLACE existing Section 116673 "Exterior Athletic Equipment" with the attached revised Section 116673 "Exterior Athletic Equipment", dated August 4, 2023.

A5 SECTION 323113– CHAIN LINK FENCES AND GATES

A5.1 REPLACE existing Section 323113 "Chain Link Fences and Gates" with the attached revised Section 323113 "Chain Link Fences and Gates", dated August 4, 2023.

C1 REFERENCE ATTACHED CIVIL ADDENDUM NO. 4

E1 REFERENCE ATTACHED MEP ADDENDUM NO. 4

DRAWINGS REVISIONS – 23023 Liberty High School

A6 SHEET G000 – COVER SHEET

A6.1 REVISE the description of Alternate No.1 to read as follows under the Alternates heading: "ADD COVERED SCORER'S BOX AT 1ST BASE DUGOUT"

A6.2 ADD sheet S402 - ENLARGED ALTERNATE FOUNDATION & ROOF FRAMING PLANS to the sheet index.

A7 SHEET AS101 – ARCHITECTURAL SITE PLAN - OVERALL

A7.1 REPLACE Sheet AS101 in its entirety. All changes clouded on this sheet represent drawing background changes at each field. These changes are further explained in the following descriptions on sheets AS111, AS112 and AS113.

A8 SHEET AS111 – SITE PLAN - BASEBALL

A8.1 RELOCATE the third base bullpen as clouded on re-issued sheet AS111.

A8.2 ADD dimensions to help locate sewn in home plate locations in the bullpen.

A9 SHEET AS112 – SITE PLAN – MULTI-PURPOSE FIELD

A9.1 REVISE the physical location of the bullpen, hitting cage area and bunt practice area to coordinate with what is shown on Civil drawings as clouded on re-issued sheet AS112.

A9.2 REVISE the taper of left field foul territory wing, and location of corner fence post to coordinate with what is shown on Civil drawings as clouded on re-issued sheet AS112.

A10 SHEET AS113 – SITE PLAN – SOFTBALL FIELD

A10.1 ADD keynote to overhead door at drawing D13.

A10.2 ADD dimensions to fence layout on drawing L10.

A10.3 ADD padded dugout rails to drawing Q10 and P1.

A10.4 ENLARGE 1st base side bullpen to accommodate width for two batting lanes in order that salvaged batting cage material can be reinstalled from existing baseball facility at drawing A1. ADD dimensions for recommended placement of sewn in home plate and pitching

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rubber.

A10.5 REDUCE area behind home plate to be 20'-0" in lieu of previously shown 25'-0" dimension at drawing A1.

A10.6 ADD 3'-0" in length to 3rd base bullpen. The updated dimension from home plate can be found clouded at drawing A1.

A11 SHEET AS681 – SCHEDULES AND DETAILS

A11.1 ADD drawings K17 and P17 for additional information on Alternate No. 1.

A11.2 REVISE curb dimensions on Drawing A6 that coordinate with the enlarged bullpens

A11.3 ADD drawing F7 for required distance signs to be provided.

A11.4 ADD chain-link fence portions and REVISE backstop netting dimensions at drawing J1.

A11.5 REVISE backstop netting dimensions at drawing A1 that responds to the reduced distance behind home plate.

S1 SHEET S001 – GENERAL NOTES, LEGENDS, & ABBREVIATIONS

S1.1 REVISE general note F.1.f to read the following: "All Clay Masonry lintels shall be U-shape blocks. Webs shall be sawcut to form lintel beam. Portions of web that are sawcut shall be removed prior to reinforcing and grout installation."

S1.2 REVISE general note F.1.h to read the following: "All Clay Masonry bond beams shall be sawcut per typical Clay Brick manufacturer details. Portions of bond beam that are knocked out shall be removed prior to reinforcing and grout installation."

S1.3 REVISE general note F.2.b to read the following: "See add bar detail E9/S540."

S1.4 REVISE general note K.8 to read the following: "Steel (includes structural steel and anchor rod placement)"

S2 SHEET S101 – FOUNDATION PLAN – OVERALL

S2.1 REMOVE plan reference notes at existing equipment.

S2.2 ADD plan note A to relocated light pole locations.

S2.3 ADD plan note E at batting tunnel footings.

S2.4 ADD callout A11/S402 at scorer's box alternate.

S2.5 REVISE plan reference note A to read the following: "Exist 70' Musco light pole to be relocated. Provide new pole footing per light pole mfr. RE M301."

S2.6 REMOVE plan reference note D

S2.7 ADD plan reference note E: "Batting tunnel footing per J9/S530."

S3 SHEET S310 – WALL SECTIONS

S3.1 REVISE A1/S310 to graphically show 4" structural clay masonry wall structure.

S3.2 ADD wood blocking and attachment above (2) LVL beam at A5/S310.

S3.3 ADD wood blocking and attachment above (2) LVL beam at A9/S310.

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S3.4 REVISE note at A9/S310 to read the following: "Col conn @ (2) LVL per J13/S560."

S3.5 REVISE A13/S310 to graphically show 4" structural clay masonry wall structure.

S3.6 ADD top of masonry wall elevation callout at A13/S310.

S3.7 ADD note to A13/S310 as follows: "Cut course as req'd."

S3.8 REVISE note at A13/S310 to read the following: "Post conn @ (2) 2x per J13/S560."

S3.9 ADD note to A13/S310 as follows: "Bear bm @ masonry wall per J9/S541."

S3.10 ADD note to A13/S310 as follows: "Cope (2) 2x as req'd @ col conn."

S4 SHEET S311 – WALL SECTIONS

S4.1 REVISE A1/S311 to graphically show 4" structural clay masonry wall structure.

S4.2 REVISE A5/S311 to graphically show 4" structural clay masonry wall structure.

S4.3 REVISE A9/S311 to graphically show 4" structural clay masonry wall structure.

S4.4 REVISE A13/S311 to graphically show 4" structural clay masonry wall structure.

S4.5 REVISE note to A13/S311 to read the following: "Overhead door conn to HSS lintel and roof per overhead door mfr."

S4.6 REMOVE roof joist size note at top left of A13/S311.

S4.7 ADD L13/S311 to show connection at top of wood 4x4 post.

S5 SHEET S400 – ENLARGED FOUNDATION & ROOF FRAMING PLANS

S5.1 ADD M3.0 footings at ends of 9'-0" shear walls on A1/S400 and REVISE foundation schedule.

S5.2 REVISE base plate callouts at CR3.4 on A1/S400 to read the following: "BP1A" and REVISE base plate schedule.

S5.3 REVISE structural column schedule to add C8.6.6 for use with Alternate.

S5.4 REVISE HSS lintel size on J1/S400 to HSS12x4x5/16.

S5.5 REVISE wood joist and outrigger sizes on J1/S400 to 2x8 @ 12" OC.

S5.6 REVISE wood joist size at outrigger connection to (2) 2x8 on J1/S400 and dimension to joist from gridlines.

S5.7 ADD (2) 2x8 and plan reference note E at overhead door connection on J1/S400.

S5.8 ADD plan reference note D at LVL bearing connection to masonry walls on J1/S400.

S5.9 ADD plan reference note D: "LVL bearing condition @ masonry wall per J13/S541."

S5.10 ADD plan reference note E: "Overhead steel door attachment to roof structure per overhead door mfr. Roof structure designed to support a maximum of 900# at each attachment location."

S5.11 ADD plan reference note F: "Metal roof deck and attachment to structure per Arch" for use with Alternate.

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S6 SHEET S401 – ENLARGED FOUNDATION & ROOF FRAMING PLANS

S6.1 ADD M3.0 footings at ends of 9'-0" shear walls on A1/S401 and REVISE foundation schedule.

S6.2 REVISE base plate callouts at CR3.4 on A1/S401 to read the following: "BP1A" and REVISE base plate schedule.

S6.3 REVISE structural column schedule to add C8.6.6 for use with Alternate.

S6.4 REVISE HSS lintel size on A9/S401 to HSS12x4x5/16.

S6.5 REVISE wood joist and outrigger sizes on A9/S401 to 2x8 @ 12" OC.

S6.6 REVISE wood joist size at outrigger connection to (2) 2x8 on A9/S401 and dimension to joist from gridlines.

S6.7 ADD (2) 2x8 and plan reference note E at overhead door connection on A9/S401.

S6.8 ADD plan reference note D at LVL bearing connection to masonry walls on A9/S401.

S6.9 ADD section cut L13/S311 at gridline E6 on A9/S401.

S6.10 ADD plan reference note D: "LVL bearing condition @ masonry wall per J13/S541."

S6.11 ADD plan reference note E: "Overhead steel door attachment to roof structure per overhead door mfr. Roof structure designed to support a maximum of 900# at each attachment location."

S6.12 ADD plan reference note F: "Metal roof deck and attachment to structure per Arch" for use with Alternate.

S7 SHEET S402 – ENLARGED ALTERNATE FOUNDATION & ROOF FRAMING PLANS

S7.1 ADD sheet with Alternate foundation and framing plans and details.

S8 SHEET S530 – TYPICAL CONCRETE DETAILS

S8.1 REMOVE J5/S530: Typical Batter's Eye Footing and REMOVE N5/S530: Typical 70' Musco Light Pole Footing.

S8.2 ADD J9/S530: Typical Batting Tunnel Footing.

S8.3 REVISE reinforcement steel sizes on N9/S530 per manufacturer details.

S8.4 REVISE reinforcement steel sizes on N13/S530 per manufacturer details.

S9 SHEET S540 – TYPICAL MASONRY DETAILS

S9.1 REMOVE brick veneer and associated callouts on J5/S540 and REMOVE general control joint note on J5/S540.

S10 SHEET S541 – TYPICAL MASONRY DETAILS

S10.1 ADD detail J9/S541: Typical Wood Beam Bearing Parallel to Masonry Wall.

S10.2 REVISE J13/S541 to graphically show 4" structural clay masonry wall structure.

S10.3 REVISE E5/S541 to graphically show 4" structural clay masonry wall structure.

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S10.4 REVISE E9/S541 to graphically show 4" structural clay masonry wall structure.

S10.5 REVISE A13/S541 to graphically show 4" structural clay masonry wall structure and revise lintel L1 depth to 10".

S11 SHEET S560 – TYPICAL WOOD FRAMING DETAILS

S11.1 REMOVE E5/S560: Wood Typical Roof Opening.

C2 REFERENCE ATTACHED CIVIL ADDENDUM NO. 4

M1 REFERENCE ATTACHED MEP ADDENDUM NO. 4

E2 REFERENCE ATTACHED MEP ADDENDUM NO. 4

P1 REFERENCE ATTACHED MEP ADDENDUM NO. 4

DRAWINGS REVISIONS – 23047 Liberty North High School

A12 SHEET G000 – COVER SHEET

A12.1 REVISE the description of Alternate No.1 to read as follows under the Alternates heading: "ADD COVERED SCORER'S BOX AT 1ST BASE DUGOUT"

A13 SHEET AS113 – SITE PLAN – SOFTBALL

A13.1 ADD 3'-0" in length (towards home plate) to 3rd base both bullpens. REVISE gate access to both bullpens and ADD dimensions for recommended placement of sewn in home plate at pitching rubber. Find these changes as clouded on drawing A7 on re-issued sheet AS112.

A14 SHEET AS681 – SCHEDULES AND DETAILS

A14.1 DELETE manufacturer's standard footing detail from location K7.

A14.2 ADD drawing F7 for required distance signs to be provided.

A14.3 ADD "(Alternate No. 3)" to description of drawing A1.

A14.4 REVISE curb dimensions on Drawing A6 that coordinate with the enlarged bullpens

S12 SHEET S101 – FOUNDATION PLAN – OVERALL

S12.1 REMOVE plan reference notes at existing equipment.

S12.2 ADD plan note D at batter's eye footings.

S12.3 REMOVE plan reference note A

S13 SHEET S530 – TYPICAL CONCRETE DETAILS

S13.1 REMOVE A1/S530: Typical 70' Musco Light Pole Footing.

C3 REFERENCE ATTACHED CIVIL ADDENDUM NO. 4

END OF ADDENDUM NO. 4

MKEC ENGINEERING SUCCESS

LIBERTY HIGH SCHOOL & LIBERTY NORTH HIGH SCHOOL ATHLETICS

ADDENDUM 04

August 4, 2023

The following are a summary of addendum items:

LIBERTY HIGH SCHOOL

DC101:

- Salvage baseball batting cage overhead netting to be reinstalled at the softball bullpen.
- Salvage softball sheds to owner.
- Removed additional length of 15" storm sewer piping north of the softball field.
- Removed an existing grate inlet north of the softball field.
- Removed portion of existing primary electrical service, and to coordinate with Evergy.

C103:

- The alignment of the baseball bullpen underdrains has changed, along with structure and storm pipe labels.
- Added proposed electrical primary service line relocated around baseball batting cages.

C104:

- Updated the storm pipe design information, including pipe size and flowlines.

C105:

- The alignment of the softball bullpen and exterior field underdrains has changed, along with structure and storm pipe labels.
- Updated the storm pipe design information, including pipe size and flowlines.
- Added additional proposed storm piping north of the softball field.
- Added a proposed grate inlet north of the softball field.

C107:

- Alignment of ramp has been adjusted.
- Bullpen location have been adjusted.
- Alignment of sidewalk has been adjusted.
- Future shed location had been identified.

C108:

- Alignment of sidewalk has been adjusted.
- Future shed location had been identified.

C109:

- Alignment of sidewalk has been adjusted.
- Bullpen size has increased.
- Distance to the backstop was decreased to 20 feet.

C111:

- Updated spot elevations for ramp, sidewalk, and bullpen adjustments.

C112:

- Updated spot elevations for sidewalk adjustments.

C113:

- Updated spot elevations for sidewalk, and bullpen adjustments.

C114:

- TRM removed for reduced grading area.

LIBERTY NORTH HIGH SCHOOL

C103:

- Updated softball bullpen grading and dimensions.

Addendum #4

LHS Field Replacements
Smith & Boucher Project No. 2314709

08.04.2023

To Documents Titled:
LHS Baseball and Softball Upgrades
07.12.2023

Architect-of-Record:
Hollis and Miller
1828 Walnut Street Suite 922
Kansas City, MO 64108

The Contract Documents for the above referenced project and the Work covered thereby are modified as described herein.

GENERAL NOTES AND CLARIFICATIONS

1. None

SPECIFICATIONS

a. None

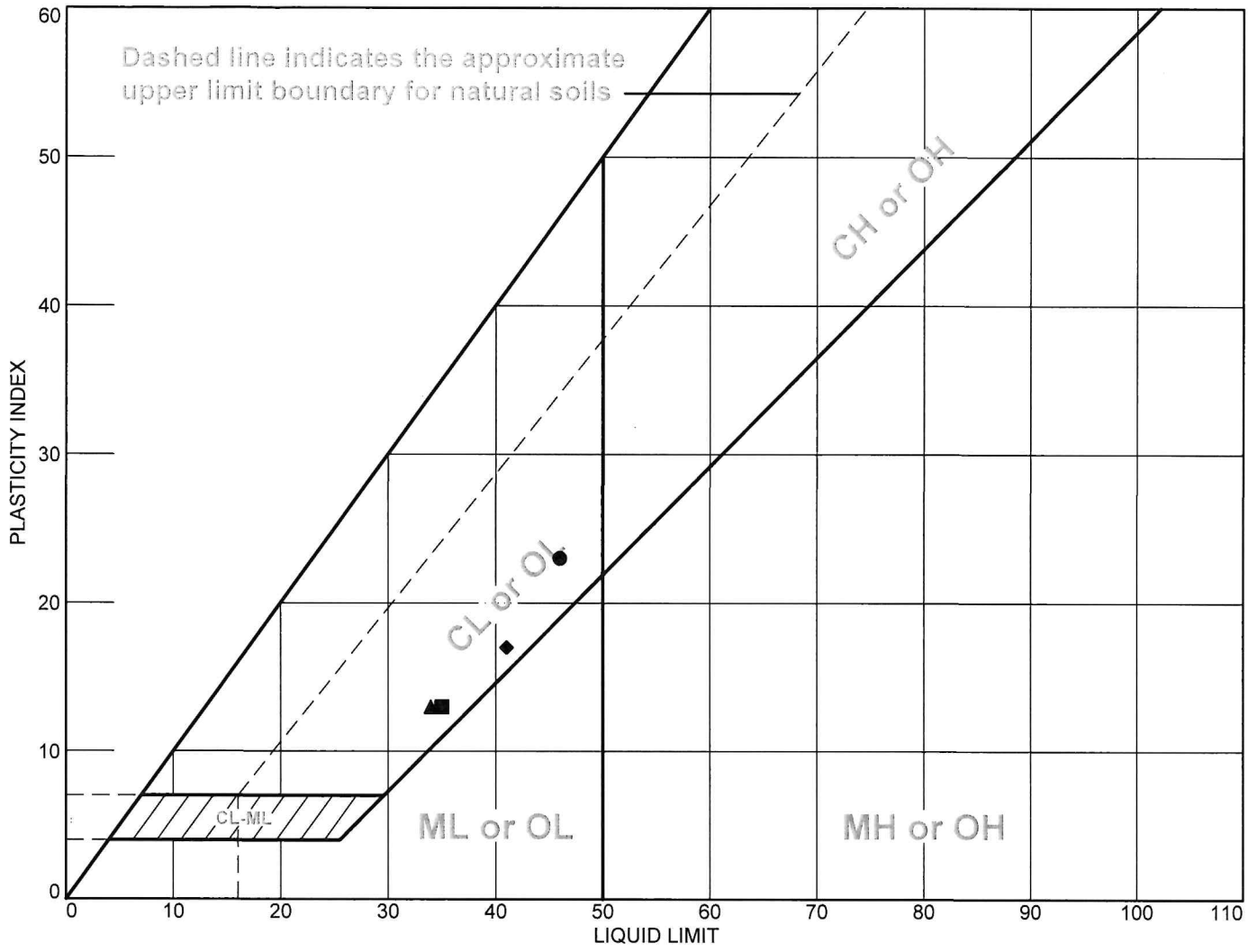
DRAWINGS

1. Sheet ME201 – Elec. – Site Plan
   a. Revised one Baseball Field quazite box location.
   b. Added Security lighting to Multipurpose Field.

2. Sheet ME301 – Schedules and Details – Elec.
   a. Added panel schedule “Sports Lighting Panel SP”.
   b. Added Sports Lighting Cabinet Schedule.
   c. Added Sports Lighting Zone Schedule.
   d. Revised Proposed Sports Lighting Pole Schedule.

Smith & Boucher, Inc.
25618 W 103rd St, Olathe KS, 66061
913.345.2127 smithboucher.com

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D 4318



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Fill, lean clay, stiff, brown, moist	46	23	23			CL
■	Lean clay, brown	35	22	13			CL
▲	Lean clay, brown	34	21	13			CL
◆	Lean clay, grayish brown	41	24	17			CL

Project No. 223146G **Client:** Hollis + Miller Architects

Project: LSD LNHS and LHS Baseball & Softball Upgrade

● **Source of Sample:** LHS-B1 **Depth:** 1 **Sample Number:** 1

■ **Source of Sample:** LHS-BB2

▲ **Source of Sample:** LHS-SB1

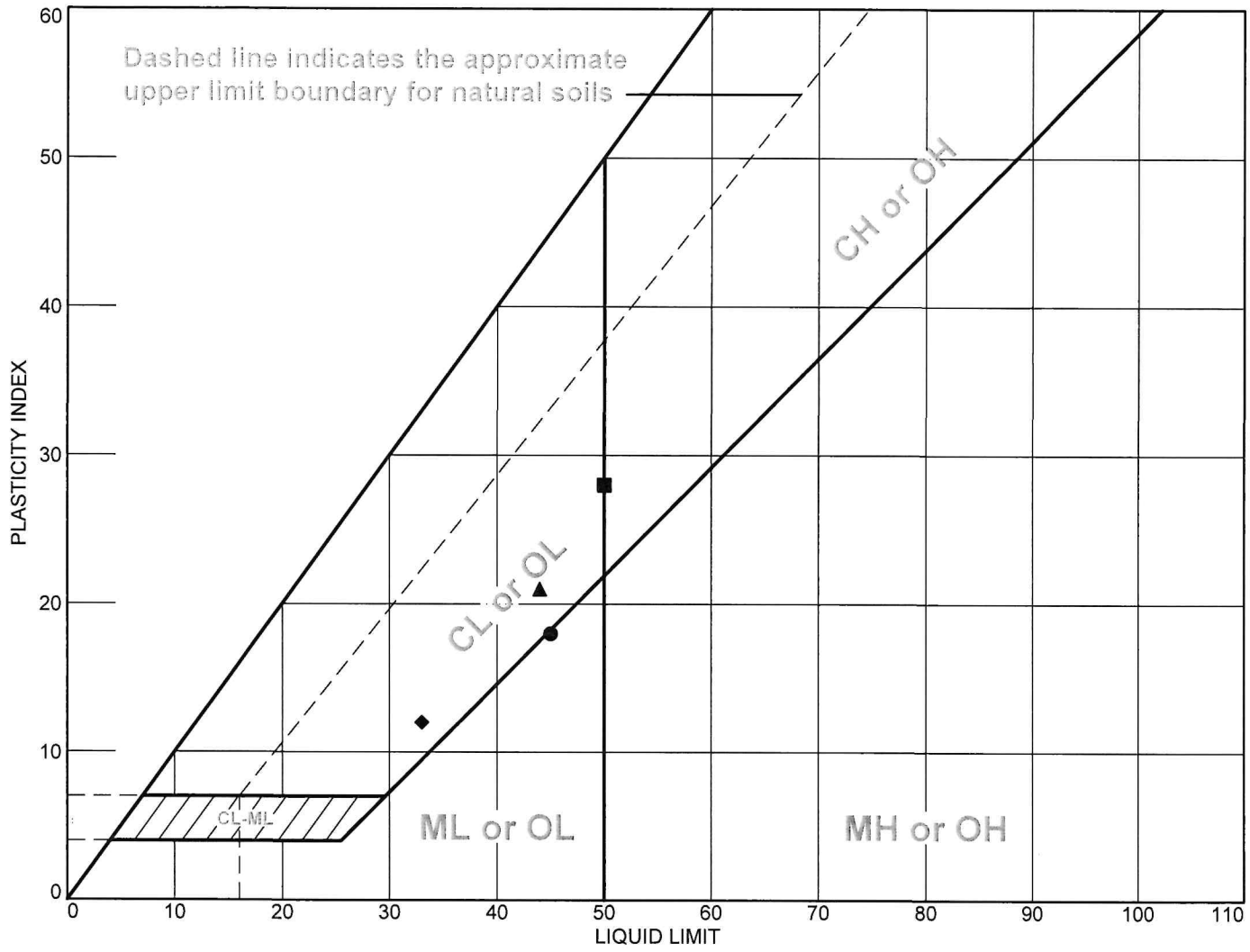
◆ **Source of Sample:** LHS-SB2

Remarks:

KTI

Figure

LIQUID AND PLASTIC LIMITS TEST REPORT ASTM D 4318



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Fill, lean clay, medium stiff, dark brown, moist	45	27	18			CL
■	Fat clay, dark brown	50	22	28			CH
▲	Lean clay, brown	44	23	21			CL
◆	Lean clay, brown	33	21	12			CL

Project No. 223146G **Client:** Hollis + Miller Architects

Project: LSD LNHS and LHS Baseball & Softball Upgrade

● **Source of Sample:** LNHS-B1 **Depth:** 1 **Sample Number:** 1

■ **Source of Sample:** LNHS-BB2

▲ **Source of Sample:** LNHS-SB1

◆ **Source of Sample:** LNHS-SB2

Remarks:

KTI

Figure

SECTION 000105 - CERTIFICATIONS PAGE

ARCHITECT

I HEREBY, PURSUANT TO RSMO 327.411, STATE THAT THE SPECIFICATIONS INTENDED TO BE AUTHENTICATED BY MY SEAL ARE LIMITED TO SPECIFICATIONS LISTED BELOW:

DIVISION 1 SECTIONS:	011000, 012100, **012300**, 012500, 013100, 013200, 013233. 013300, 014000, 014200, 014529, 016000, 017419, 017700, 017823, 017839, 017900
DIVISION 2 SECTION:	024119
DIVISION 5 SECTION:	055000
DIVISION 7 SECTIONS:	071900, 073113, 076200, 079200
DIVISION 8 SECTIONS:	081113, 083613
DIVISION 9 SECTION:	099113
DIVISION 11 SECTION:	**116673**
DIVISION 32 SECTIONS:	**321813,** 323113

I HEREBY DISCLAIM ANY RESPONSIBILITY FOR ALL OTHER SPECIFICATIONS, DRAWINGS, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE ARCHITECTURAL OR ENGINEERING PROJECT OR SURVEY.

KEVIN NELSON _____ AUGUST 4, 2023 _____

ARCHITECT DATE



DOCUMENT 000110 – TABLE OF CONTENTS

Revisions	Date
ADD 01	07.18.2023
ADD 03	08.01.2023
ADD 04	**08.04.2023**

Project Name: Liberty Public Schools - LHS/LNHS Baseball & Softball Upgrades

Project No.: 23023 & 23047

Site Addresses:

23023 LHS - 200 Blue Jay Drive, Liberty, Missouri 64068

23047 LNHS - 1000 NE 104th Street, Liberty, Missouri 64068

		Latest Revision	Original Issue
INTRODUCTORY INFORMATION			
000101	Project Team Directory		07.12.2023
000105	**Certifications and Seals**	**08.04.2023**	07.12.2023
000110	**Table of Contents**	**08.04.2023**	07.12.2023
BIDDING REQUIREMENTS			
	(Refer to Construction Manager's Front End Manual for additional Bidding Requirements)		
CONTRACTING REQUIREMENTS			
	(Refer to Construction Manager's Front End Manual for additional Contracting Requirements)		
DIVISION 1 – GENERAL REQUIREMENTS			
011000	Summary		07.12.2023
012100	Allowances		07.12.2023
012300	Alternates		07.12.2023
012500	Substitution Procedures		07.12.2023
013100	Project Management and Coordination		07.12.2023
013200	Construction Progress Documentation		07.12.2023
013233	Photographic Documentation		07.12.2023
013300	Submittal Procedures		07.12.2023
014000	Quality Requirements		07.12.2023
014200	References		07.12.2023
014529	Testing and Inspections		07.12.2023
016000	Product Requirements		07.12.2023
017419	Construction Waste Management & Disposal		07.12.2023
017700	Closeout Procedures		07.12.2023
017823	Operation and Maintenance Data		07.12.2023
017839	Project Record Documents		07.12.2023
017900	Demonstration and Training		07.12.2023
DIVISION 2 – EXISTING CONDITIONS			
024119	Selective Demolition		07.12.2023
DIVISION 3 – CONCRETE			
033000	Cast-in-Place Concrete		07.12.2023
DIVISION 4 - MASONRY			
042000	Unit Masonry		07.12.2023
DIVISION 5 - METALS			
051200	Structural Steel Framing		07.12.2023
055000	Metal Fabrications		07.12.2023

		Latest Revision	Original Issue
DIVISION 6 – WOOD AND PLASTICS			
061000	Rough Carpentry		07.12.2023
061063	Exterior Rough Carpentry		07.12.2023
061600	Sheathing		07.12.2023
DIVISION 7 - THERMAL AND MOISTURE PROTECTION			
071900	Water Repellents and Sealers		07.12.2023
073113	Asphalt Shingle Roofing System		07.12.2023
076200	Sheet Metal Flashing and Trim		07.12.2023
079200	Joint Sealants		07.12.2023
DIVISION 8 - DOORS AND WINDOWS			
081113	Hollow Metal Doors and Frames		07.12.2023
083613	Sectional Doors		07.12.2023
DIVISION 9 - FINISHES			
099113	Exterior Painting		07.12.2023
DIVISION 11 - EQUIPMENT			
116673	**Exterior Athletic Equipment**	**08.04.2023**	07.12.2023
DIVISION 26 - ELECTRICAL			
260500	Common Work Results for Electrical		07.12.2023
260519	Low-Voltage Electrical Power Conductors and Cables		07.12.2023
260526	Grounding and Bonding for Electrical Systems		07.12.2023
260529	Hangers and Supports for Electrical Systems		07.12.2023
260533	Raceway and Boxes for Electrical Systems		07.12.2023
260543	Underground Ducts and Raceways for Electrical Systems		07.12.2023
260553	Identification for Electrical Systems		07.12.2023
DIVISION 27 – COMMUNICATIONS			
270500	Common Work Results for Communications		07.12.2023
DIVISION 31 - EARTHWORK			
311000	Site Clearing		07.12.2023
312000	Earth Moving		07.12.2023
DIVISION 32 - EXTERIOR IMPROVEMENTS			
321313	Concrete Paving		07.12.2023
321373	Concrete Paving Joint Sealants		07.12.2023
321813	Synthetic Turf Surfacing for Athletics	08.01.2023	07.12.2023
323113	**Chain Link Fences and Gates**	**08.04.2023**	07.12.2023
DIVISION 33 - UTILITIES			
334100	Storm Utility Drainage		07.12.2023

END OF TABLE OF CONTENTS

SECTION 116673 - EXTERIOR ATHLETIC EQUIPMENT

PART 1 GENERAL

1.1 SUMMARY

A. This section includes providing the following equipment items complete:
   1. Baseball and Softball Equipment
      a. Bases - Softball/Baseball (116673.A16).
      b. Home plates (116673.A17)
      c. Pitching rubbers (116673.A18).
      d. Bat and Helmut Storage (116673.A19)
      e. Foul Poles (116673.A20).
      f. ~~**Pitcher's Mound.**~~
      g. Pitcher's Bull Pen Mound
      h. Tension Netting System with Integrared Wall Pad Backstop
      i. Batters Eye
      j. Batting Tunnel
      k. Modular Dugouts.
      l. **Portable Pitcher's Mound.**
      m. **Benches**

B. Related work in other sections:
   1. Section 012100 “Allowances” for related work.
   2. Section 012300 “Alternates” for related to work.
   3. Section 033000 “Cast-in-Place Concrete”.
   4. Section 055000 “Metal Fabrications” for fabricated metal supports for football scoreboard.
   5. Section 321813 “Synthetic Grass/Turf Surfacing”.
   6. Section 323113 “Chain Link Fencing”.
   7. Division 26 Sections for electrical service for operators, controls, and other powered devices for athletic equipment and scoreboards.

1.2 REFERENCES

A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern:
   1. Missouri State High School Activities Association (MSHSAA).
   2. National Federation of State High School Associations (NFHS).
   3. National Collegiate Athletic Association (NCAA).
   4. International Amateur Athletic Association (IAAF).
   5. American Sports Builders Association (ASBA).
   6. American Wood Preserver’s Association (AWPA).

1.3 ACTION SUBMITTALS

A. Product Data: Manufacturer's technical product data, for each type of product indicated.
   1. Include construction details, material descriptions, dimensions of individual components and profiles, features, and finishes.
   2. Include details of anchors, hardware, and fastenings. If applicable, include assembly, disassembly, and storage instructions.

B. Shop Drawings: Show location and extent of fully assembled equipment. Show location and extent of disassembled equipment and components and transport and storage accessories. Include elevations, sections, and details not shown in Product Data. Show method of field assembly, connections, installation details, mountings, inserts, attachments to other Work, operational clearances, and relationship to adjoining work.
   1. Include plans, elevations, sections, details, and attachments to other work.

2. Blocking and Reinforcement: Show locations of blocking and reinforcement required for support of athletic equipment.
3. Setting Drawings: For cast-in posts.
4. Include transport and storage accessories for removable equipment.
5. Athletic Equipment Operators: Show locations and details for installing operator components, switches, and controls. Indicate motor size, electrical characteristics, drive arrangement, mounting, and grounding provisions.
6. Contractor shall be responsible for providing full structural shop drawings, sealed by a Professional Engineer licensed in the State of Missouri for the following items:

C. Samples: Color sample chips for each item requiring color selections.

D. Delegated Design Submittal: For **modular dugout** ~~scoreboard and field timer~~ support structures and foundations.
1. Include structural analysis calculations for signs indicated to comply with design loads; signed and sealed by a qualified professional engineer responsible for their preparation.
2. Include design of structural metal supports, signage attachments, anchorage to signage frame, concrete base, concrete footing, and connections to electrical and data systems.

E. Substitution requests shall be governed by the relevant Specification Sections.
1. In all cases, substitutions for multi-component products shall match each specified component. The evaluation of equivalency will take into account the addition or reduction of components required.
2. Each ‘sport’ or ‘event’ equipment shall be a product line from a single manufacturer. Do not mix-and-match components from various manufacturers for a single sport / event.

1.4 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Field event, court and playing field layout plans and elevations drawn to scale and coordinating ground-insert penetrations, court lines and playing field lines and markers.

B. Qualification Data: For Installer.

C. Sample Warranty: For special warranty.

D. Product Certificates: For each type of equipment, signed by product manufacturer.

E. Manufacturer Certificates: Signed by manufacturers certifying that they comply with requirements. Include evidence of manufacturing experience.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For athletic equipment and scoreboards to include in emergency, operation, and maintenance manuals.

1.6 QUALITY ASSURANCE

A. Single Source Responsibility: All items of the same type shall be produced by the same manufacturer.

B. Manufacturer's Qualifications: Manufacturer shall have a minimum of ten (10) years continuous experience, under the current company name in the manufacturing of systems similar in complexity to those required for this Project, plus the following:
1. Successfully completed a minimum of fifty (50) comparable scale projects using the specified or similar system.
2. Manufacturer shall submit a reference list, complete with Owner, Architect, phone number of each, and listing of items of athletic equipment installed of at least nine (9) completed projects in the State[s] of similar in size and specification.

C. Installer Qualifications: Installers for athletic equipment shall be acceptable to the manufacturer and shall have at least three (3) years successful experience installing products of similar type and quality as required on this project.

D. Product/Material Qualifications: Manufacturer's catalog numbers are indicated for convenience in identifying equipment items. Unless otherwise indicated, catalog description for indicated number constitutes minimum standards of quality, design, and performance required for each item to be incorporated into the Project. Substitutions will be allowed, but must be submitted in accordance with the procedures set forth in Section 012500 and Section 016000 and must be approved by the Architect prior to bidding.
   1. It will be the responsibility of the Bidder to furnish with his Bid a list clarifying any deviations from these specifications written or implied, in order that a fair and proper evaluation be made. Those Bidders not submitting a list of deviations will be presumed to have Bid as specified.

E. 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.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver items to be cast in concrete or built-in masonry work in time to prevent delays to the work. Provide setting drawings and templates as required for proper installation.

B. Deliver equipment just prior to installation. Store above ground and under cover to prevent damage from moisture or the elements.

1.8 PROJECT CONDITIONS

A. Field Measurements: Check actual dimensions of construction affecting Athletic Equipment installation by accurate field measurements before fabrication; show recorded measurements on final shop drawings. Coordinate fabrications schedule with construction progress to avoid delay of Work.
   1. Verify position for football goal posts, soccer goal inserts and scoreboard support columns.

B. Coordinate electrical requirements of athletic equipment with related trades.

1.9 SERVICE GUARANTEE

A. The Athletic Equipment Contractor shall guarantee service and repair to any defective equipment within 24 hours from notification by Owner for a period of one (1) year after substantial completion.

1.10 GUARANTEE

A. The entire installation will be guaranteed against faulty materials and workmanship for a period of five (5) years for each scoreboard and field timer; and one (1) year, for remainder of equipment specified in this Section, unless otherwise specified.

1.11 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of exterior athletic equipment that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Faulty operation of equipment.
      b. Failure of finishes.
   2. Warranty Period: Two years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 EXTERIOR ATHLETIC EQUIPMENT FABRICATION

A. General: Provide sizes, strengths, thicknesses, wall thickness, and weights of components as indicated. Factory drill components for field assembly. Unnecessary holes in components, not required for field assembly, are not permitted.

B. Refer to Drawings and Equipment Schedules for quantity and location of equipment items.

2.2 BASEBALL AND SOFTBALL EQUIPMENT

A. Manufacturer and Product: Provide bases, pitching rubbers and home plates as manufactured by Hollywood Bases or comparable substitutes from other Manufacturers approved prior to bidding.

B. General: Each item of equipment shall meet all applicable requirements of the National Federation of State High School Association and the NCAA.

C. Pitching Rubber - ***TYPE BB-001***: Provide one (1) pitching rubber for each field.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Sportsfield Specialties "TurfBase" Model TBPR or comparable product meeting specified requirements, submitted to and accepted by Architect prior to bidding.
      a. Durable Rubber Mesh Reinforced Construction
      b. Specifically Designed Molded Pegs Embed in Synthetic Turf Infill Material Limiting Horizontal Movement in Synthetic Infill Turf Applications
      c. Size: 6” x 24”
      d. Color: White/Off-White

D. Home Plates (116673.A17) - ***TYPE BB-002***: Provide one (1) home plate for each baseball field. Home plate shall be professional grade, spike anchored Model.
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Sportsfield Specialties "TurfBase" Model TBHP or comparable product meeting specified requirements, submitted to and accepted by Architect prior to bidding.
      a. Durable Rubber Mesh Reinforced Construction
      b. Specifically Designed Molded Pegs Embed in Synthetic Turf Infill Material Preventing Horizontal Movement with No Ground Anchor Necessary in Synthetic Infill Turf Applications
      c. Official Size and Shape
      d. Color: White/Off-White

E. Bases (116673.A16) - ***TYPE BB-345***: Provide a complete set of three bases for each baseball and softball field. Each base set shall include 3 bases with anchors, anchor plugs and dugout tool. Bases shall be of the tapered lip design with cover and center cushion, stanchion pan, anchor and anchor sleeve.
   1. Basis-of-Design Product: Subject to compliance with requirements, Sportsfield Specialties "TurfBase" Base Sets - Model Nos. TBS and TBDS, or comparable product meeting specified requirements, submitted to and accepted by Architect prior to bidding.
      a. Durable Rubber Mesh Reinforced Construction
      b. Specifically Designed Molded Pegs Embed in Synthetic Turf Infill Material Preventing Horizontal Movement with No Ground Anchor Necessary in Synthetic Infill Turf Applications
      c. Official Size 15” x 15” x 3” Bases
      d. Set of Three (3) per field.
      e. Baseball Bases: Set of Three (3) White/Off-White Bases per field.
      f. Softball Bases: Set of Three (3) White/Off-White Bases and One (1) Safety Orange Base per field.

2.3 FOUL POLES (116673.A20)

A. Basis-of-Design Products: Subject to compliance with requirements, provide "Ground Sleeve Foul Poles with Wings" from SportsField Specialties, Inc.

1. Comparable products from other manufacturers meeting specified requirements will be considered when submitted to and accepted by Architect prior to bidding

B. Softball Field - ***TYPE FP-30:*** Provide Model No. FPW630.
   1. Exposed Pole Height: 30 feet
   2. Embedment Depth: As required by Local codes and soil conditions.
   3. Wings: 22 feet long with 4 panels.
   4. Pole Material: 6-5/8 inch O.D. x 0.280 inch Wall Aluminum

C. Baseball Field - ***TYPE FP-40:*** Provide Model No. FPW640.
   1. Exposed Pole Height: 40 feet
   2. Embedment Depth: As required by Local codes and soil conditions.
   3. Wings: 32 feet long with 6 panels.
   4. Pole Material: 6-5/8 inch O.D. x 0.280 inch Wall Steel

2.4 PITCHER'S BULLPEN MOUND - ***TYPE PM-13***:

A. Basis-of-Design Products: Subject to compliance with requirements, provide "PPBPBIT Synthetic Porta-Pitch Bull Pen Mound" from SportsField Specialties, Inc.
   1. Comparable products from other manufacturers meeting specified requirements will be considered when submitted to and accepted by Architect prior to bidding
      a. Welded Construction, Fabricated of Aluminum Plate, Structural Members and 1/8” (0.125”) Thick Aluminum Panel Factory Covered with a 6mm Rubber Shock Absorption Impact Pad and Brown Colored Synthetic Turf with Thatch Layer Securely Attached with NORDOT® Urethane Adhesive #34G
      b. Size: 6’-4”W x 13’-6”L
      c. Tapered Height of 10” Above Finish Grade and Sloped 1” Vertical Per 1’ Horizontal
      d. Four (4) Modular Pitching Mound Sections Designed to Rest on the Athletic Surface, No Ground Anchors Required
      e. Center Section Includes Synthetic Infill Turf with Black SBR Rubber, Flexible Gasket Seal Perimeter, One (1) Regulation Size 6”W x 24”L Professional Four (4) Sided Removable and Replaceable Pitching Rubber
      f. Detachable External Wheel System with Lifting Jack and Powder Coated Steel Tow Hitch for Portability and Transport Purposes
      g. Designed to be Set-up or Removed in +/- 20 Minutes with Three (3) Trained Adults

2.5 ~~**PITCHER'S MOUND**~~

A. ~~**Basis-of-Design Products: Subject to compliance with requirements, provide "PPBIT Synthetic Porta-Pitch Baseball Mound" from SportsField Specialties, Inc.**~~
   1. ~~**Comparable products from other manufacturers meeting specified requirements will be considered when submitted to and accepted by Architect prior to bidding**~~
      a. ~~**Welded Construction, Fabricated of Aluminum Plate, Structural Members and 1/8” (0.125”) Thick Aluminum Panel Factory Covered with a 6mm Rubber Shock Absorption Impact Pad and Brown Colored Synthetic Turf with Thatch Layer Securely Attached with NORDOT® Urethane Adhesive #34G**~~
      b. ~~**Official Size 18’ Outside Diameter with a Domed Height of 10” Above Finish Grade and Sloped 1” Vertical Per 1’ Horizontal Per Specifications, Rules and Requirements**~~
      c. ~~**Seven (7) Interlocking Tapered Pitching Mound Sections Designed to Rest on the Athletic Surface, No Ground Anchors Required**~~
      d. ~~**Center Section Includes Synthetic Infill Turf with Black SBR Rubber, Flexible Gasket Seal Perimeter, One (1) Regulation Size 6”W x 24”L Professional Four (4) Sided Removable and Replaceable Pitching Rubber**~~
      e. ~~**Detachable External Wheel System with Lifting Jack and Powder Coated Steel Tow Hitch for Portability and Transport Purposes**~~
      f. ~~**Designed to be Set-up or Removed in +/- 20 Minutes with Three (3) Trained Adults**~~
      g. ~~**Optional 5’W x 10’L x 17.5”H Aluminum Porta-Pitch Transport Cart for Stacking, Transporting and/or Storing Six (6) Perimeter Tapered Pitching Mound Sections, 12” Pneumatic Swivel Front and Rigid Rear Wheels and Tow Hitch for Portability and Transport Purposes**~~

2.6 TENSION NETTING SYSTEM WITH INTEGRARED WALL PAD BACKSTOP - ***TYPES BN-30 & BN-40:***

A. Basis-of-Design Products: Subject to compliance with requirements, provide "Tie-Back Tension Netting System with Integrated Wall Pad Backstop, #36 Nylon Netting, Model No. TNTB36WPB" from SportsField Specialties, Inc.
   1. Comparable products from other manufacturers meeting specified requirements will be considered when submitted to and accepted by Architect prior to bidding
   2. Sizes as indicated on drawings and Equipment Schetule.
   3. Tie-Back Tension Netting System Upright Support Posts and Pole Structures – Fabricated, Sized and Configured as Required:
      a. Height Above Finish Grade as Required
      b. Super Durable Powder Coated Black Finish with Enhanced Resistance to UV and Fade
      c. Ground Sleeve Embedment Mount
      d. Hot Dipped Galvanized Assembly Hardware - Quantities, Sizes and Configurations as Required
   4. Tie-Back Tension Netting System Wire Rope Support Structure:
      a. Length, Height and Configuration as Required
      b. 6 x 25 IWRC Galvanized Wire Rope - 5/8” Diameter Main Horizontal Support, 37,000 lb. Minimum Breaking Strength, 12,333 lb. Minimum Working Load Limit
      c. 7 x 19 GAC Galvanized Aircraft Cable - 3/8” Diameter
      d. Tie-Back Support, 14,400 lb. Minimum Breaking Strength, 4,800 lb. Minimum Working Load Limit
      e. 7 x 19 GAC Galvanized Aircraft Cable - 1/4” Diameter Vertical and Bottom Horizontal Supports, 7,000 lb. Minimum Breaking Strength, 2,333 lb. Minimum Working Load Limit
      f. Hot Dipped Galvanized Attachment and Assembly Hardware - Quantities, Sizes and Configurations as Required
   5. Tie-Back Tension Netting System Net and Rope Bound Border
      a. Length, Height and Configuration as Required
      b. #36 Twisted Knotted Netting
      c. 100% Nylon Construction
      d. 2.6 mm (0.1023”) Diameter Twine
      e. 87% Open Mesh Area (See-Through Visibility)
      f. 13,363 psi Minimum Breaking Strength
      g. 1-3/4” (44 mm) Square Mesh Size, 0.0425 lbs. per Square Foot
      h. Black Multi-Filament Polypropylene Solid Braid Derby Rope Sewn Binding on Perimeter Edges - 1/4” Diameter, 530 lb. Minimum Breaking Strength
      i. UV and Weather Treated
   6. Integrated Wall Pad Backstop Intermediate Support Poles:
      a. 4.00” Dia. HSS Intermediate Poles with 7 Gauge Steel Welded Mounting Tabs
      b. 30” Ground Sleeve Embedment Mount Standard for All Heights
      c. Super Durable Powder Coated Black Finish with Enhanced Resistance to UV and Fade
      d. Height Above Finish Grade, Configuration, and Quantity as Required
   7. Integrated Wall Pad Backstop Rail Support Structure and Mounting Brackets:
      a. Quantity and Configuration as Required
      b. 2 ½” SQ. x 11 Gauge Wall Thickness Steel Rail Support Structure
      c. 7 Ga. Steel Bracketry for Rail Mounting
      d. Super Durable Powder Coated Black Finish with Enhanced Resistance to UV and Fade
   8. BaseZone® Wall Pads and Backer Board:
      a. Length, Height, and Configuration as Required
      b. 18 oz. Exterior Vinyl (Various Colors Available)
      c. ¾” Advantech ® Water Resistant Sheathing Panel, Sealed and Stained with Exterior Grade Black Finish
      d. Optional Custom Digitally Printed Graphics for Padding
      e. Aluminum Z-Clip Style Mounting Brackets, (2) Sets per Pad
      f. 11 Ga. Steel U-Bracket for Backer Board Mounting, Super Durable Powder Coated Black Finish with Enhanced Resistance to UV and Fade
   9. Included Accessories and Border
      a. Hot Dipped Galvanized Attachment and Assembly Hardware - Quantities, Sizes and Configurations as Required
      b. Black Rope for Net Binding Attachment to Wire Rope Support Structure – Quantities and Configurations as Required

c. Stamped and Sealed Drawings and Calculations by a Licensed Professional Engineer of Record in the State of Project Location
d. Model Specific Hardware Kit and Installation Instructions
e. One (1) Year Limited Manufacturer's Product Warranty

10. Installer should have a minimum of five (5) tension netting system installations or similar experience in the previous three (3) years.

2.7 BAT AND HELMUT STORAGE - ***TYPE BH-16***

A. Basis-of-Design Products: Subject to compliance with requirements, provide "Helmut, Bat Bin and Side Storage Stand-up Cubby Unit, Model No. SUAHC12BBSS from SportsField Specialties, Inc.
1. Comparable products from other manufacturers meeting specified requirements will be considered when submitted to and accepted by Architect prior to bidding
2. Heavy-duty aluminum construction, with powder-coated finish.
3. Color as selected by Architect for manufacturer's standard range of colors.
4. Helmet Storage: Twelve (12) 10-11/16 inch x 10-3/4 inch x 18 inch deep cubbies.
5. Bat Bin: Eight (8) front, bat bins, 10-3/8 inch square.

B. Refer to Drawings for additional information.

2.8 BATTER'S EYE **-** ***TYPE BE-20***

A. Basis-of-Design Products: Subject to compliance with requirements, provide "Solid Vinyl Batter's Eye, Direct Embedment, **Model No. BE2040** ~~BE3060~~ from SportsField Specialties, Inc.
1. Comparable products from other manufacturers meeting specified requirements will be considered when submitted to and accepted by Architect prior to bidding.

B. Refer to Drawings for additional information.

2.9 BATTING TUNNEL - ***TYPE BT-03***

A. Basis-of-Design Products: Subject to compliance with requirements, provide "Ground Sleeve Overhead Batting Tunnel," - **Model No. BTTBT** by SportsField Specialties, Inc., as indicated on Drawings.
1. Comparable products from other manufacturers meeting specified requirements will be considered when submitted to and accepted by Architect prior to bidding.

2.10 MODULAR DUGOUTS - ***TYPE DG-30***

A. Basis-of-Design Products: Subject to compliance with requirements, provide "Gameshade Dugouts" by SportsField Specialties, Inc., as indicated on Drawings.
1. Comparable products from other manufacturers meeting specified requirements will be considered when submitted to and accepted by Architect prior to bidding.

2.11 **PORTABLE PITCHER'S MOUND - *TYPE PM-18***

A. **Basis-of-Design Products: Subject to compliance with requirements, provide "PPB Porta-Pitch Baseball Mound" from SportsField Specialties, Inc.**
1. **Comparable products from other manufacturers meeting specified requirements will be considered when submitted to and accepted by Architect prior to bidding**
a. **Welded Construction, Fabricated of Aluminum Plate, Structural Members and 1/8" (0.125") Thick Aluminum Panel Factory Covered with a 6mm Rubber Shock Absorption Impact Pad and Brown Colored Synthetic Turf with Thatch Layer Securely Attached with NORDOT® Urethane Adhesive #34G**
b. **Official Size 18' Outside Diameter with a Domed Height of 10" Above Finish Grade and Sloped 1" Vertical Per 1' Horizontal Per Specifications, Rules and Requirements**
c. **Seven (7) Interlocking Tapered Pitching Mound Sections Designed to Rest on the Athletic Surface, No Ground Anchors Required**

d. **Center Section Includes Hilltopper® Polymer Enhanced Mound Clay with Flexible Gasket Seal Perimeter, One (1) Regulation Size 6”W x 24”L Professional Four (4) Sided Removable and Replaceable Pitching Rubber**
e. **Detachable External Wheel System with Lifting Jack and Powder Coated Steel Tow Hitch for Portability and Transport Purposes**
f. **Designed to be Set-up or Removed in +/- 20 Minutes with Three (3) Trained Adults**
g. **Optional 5’W x 10’L x 17.5”H Aluminum Porta-Pitch Transport Cart for Stacking, Transporting and/or Storing Six (6) Perimeter Tapered Pitching Mound Sections, 12” Pneumatic Swivel Front and Rigid Rear Wheels and Tow Hitch for Portability and Transport Purposes.**

2.12 BENCHES (116673.A25) - ***TYPES DB-08 & DB-10***

A. **Single-Tier Portable Aluminum Benches (DB-08) - Basis-of-Design Products: Subject to compliance with requirements, provide: "Portable Aluminum Team Benc without Backrest," - Model No. ATBNBPT from SportsField Specialties, Inc.:**
   1. **Length: 8 feet.**
   2. **Fully Welded Frame Fabricated with 2” x 2” x 1/8” (0.125”) Square Aluminum Tubing**
   3. **Durable Powder Coated Finish, Various Standard Colors Available, Frame and Extrusions to be the Same Color**
   4. **Weather Resistant and Will Not Rust**
   5. **100% Preassembled; On-Site Assembly NOT Required**
   6. **5-Year Manufacturer’s Limited Product Warranty**
   7. **Color: As Selected by Architect from Manufacturer's Full Range of Standard Colors.**

B. Two Tier Aluminum Black Mat Team Benches (DB-10) - Basis-of-Design Products: Subject to compliance with requirements, provide: "Two-tier Alumiinum Dugout Bench, Model No. ATBTTBM10" from SportsField Specialties, Inc.:
   1. Length: 10 feet.
   2. Fully Welded Frame Fabricated with 1/8” (0.125”) Formed Aluminum and 2” x 2” x 1/8” (0.125”) Square Aluminum Tubing
   3. Upper Tier Textured Aluminum Extrusion Seating and Backrest
   4. Lower Tier Black Mat Seating in Bolt-on Tray
   5. Durable Powder Coated Finish, Various Standard Colors Available, Frame and Extrusions to be the Same Color
   6. Weather Resistant and Will Not Rust
   7. 100% Preassembled; On-Site Assembly NOT Required
   8. Two Tier Design Permits Player Seating on Lower Tier or Upper Tier
   9. Includes Anchoring Brackets and ½” x 3-3/4”L Concrete Wedge Anchors for Optional Surface Mounting
   10. 5-Year Manufacturer’s Limited Product Warranty

2.13 MATERIALS, GENERAL

A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated; mill finish or decorative, baked-enamel, powder-coat finish.
   1. Extruded Bars, Profiles, and Tubes: ASTM B 221.
   2. Cast Aluminum: ASTM B 179.
   3. Flat Sheet: ASTM B 209.

B. Steel: Comply with the following:
   1. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M, hot-dip galvanized.
   2. Steel Pipe: Standard-weight steel pipe complying with ASTM A 53.
   3. Cold-Formed Steel Tubing: ASTM A 500, Grade A, unless another grade is required by structural loads.
   4. Steel 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 569/A 569M and complying with the dimensional tolerances in ASTM A 500.
   5. Steel Sheet: ASTM A 1011/A 1011M.
   6. Malleable-Iron Castings: ASTM A 47, grade required by structural loads.

C. Castings and Hangers: Malleable iron, complying with ASTM A 47/A 47M; grade required for structural loading.

D. Anchors, Fasteners, Fittings and Hardware: Manufacturer's standard; corrosion-resistant or noncorrodible units; hot-dip galvanized or stainless steel; permanently capped, vandal and theft resistant. Provide as required for athletic equipment and scoreboard assembly, mounting, and secure attachment.

E. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107 with minimum strength recommended in writing by athletic equipment manufacturer.

2.14 CAST-IN-PLACE CONCRETE FOR SETTING POSTS/COLUMNS

A. General: Contractor’s option to provide one of the following:
   1. Concrete Materials and Properties: Comply with requirements in ACI 301 to produce normal-weight concrete with a minimum 28-day compressive strength of 3000 psi, 3-inch slump, and 1-inch- maximum-size aggregate.
   2. Concrete Materials and Properties: Dry-packaged concrete mix complying with ASTM C 387/C 387M and mixed at site with potable water, according to manufacturer's written instructions, to produce normal-weight concrete with a minimum 28-day compressive strength of 3000 psi, 3-inch slump, and 1-inch- maximum-size aggregate.
   3. Concrete anchoring foundations to be determined based on local soil conditions and building codes.

2.15 ALUMINUM FINISHES

A. Powder-Coat Finish: A minimum dry film thickness of 3 to 5 mils, medium gloss. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

2.16 IRON AND STEEL FINISHES

A. Galvanizing: Hot-dip galvanized products made from rolled-, pressed-, and forged-steel shapes, castings, plates, bars, and strips indicated to be galvanized to comply with ASTM A 123/A 123M.

B. Powder-Coat Finish: Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat. Comply with coating manufacturer's written instructions for applying and baking to achieve a minimum dry film thickness of 1.5 mils.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for play court layout, alignment of mounting substrates, installation tolerances, operational clearances, accurate locations of connections to building electrical system, and other conditions affecting performance. Notify the Architect of any condition that would adversely affect the installation or subsequent utilization of the equipment.
   1. Verify critical dimensions.
   2. Examine supporting structure, subgrades, and footings.
   3. Examine wall assemblies, where reinforced to receive anchors and fasteners, to verify that locations of concealed reinforcements have been clearly marked for installers. Locate reinforcements and mark locations if not already done.
   4. Coordinate equipment installation with work of other trades. Provide setting diagrams, dimensions, and templates for items that must be built in during other construction operations.
   5. Do not begin installation before final grading is completed unless otherwise permitted by Architect.

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

3.2 INSTALLATION, GENERAL

A. General: Comply with manufacturer's written installation instructions and competition rules indicated for each type of equipment. Complete equipment field assembly, where required.

B. Unless otherwise indicated, install athletic equipment after other finishing operations, including playing field and event marking, have been completed.

C. Concrete anchoring foundations to be determined based on local soil conditions and building codes.

D. Permanently Placed Athletic Equipment and Components: Rigid, level, plumb, square, and true; anchored securely to supporting structure; positioned at locations and elevations indicated on Shop Drawings; in proper relation to adjacent construction; and aligned with playing field layouts.
   1. Post and Footing Excavation: Excavate holes for posts and footings in firm, undisturbed or compacted subgrade soil.
   2. Post Location: Coordinate location with application of playing field lines and markers.
   3. Post Elevation: Coordinate installed heights of posts with installation height of athletic fields.
   4. Operating Athletic Equipment: Verify clearances for movable components of athletic equipment throughout entire range of operation and for access to operating components.
   5. Verify clearances for movable components of athletic equipment throughout entire range of operation and for access to operating components.
   6. Foul Poles: Coordinate locations with application of playing field lines and fencing.

E. Field Insert Setting: Grout sleeve for post standards in oversized, recessed voids in concrete footings. Clean holes of debris. Position sleeve and fill void around sleeves with grout, mixed and placed to comply with grout manufacturer's written instructions. Protect portion of sleeve above subgrade and footing from splatter. Verify that sleeves are set plumb, aligned, and at correct height and spacing; hold in position during placement and finishing operations until grout is sufficiently cured. Set insert so top surface of completed unit is flush with finished flooring surface.

F. Anchoring to In-Place Construction: Use anchors and fasteners where necessary for securing built-in and permanently placed athletic equipment to structural support and for properly transferring load to in-place construction.

G. Connections: Connect automatic operators to building electrical system.

H. Removable Athletic Equipment and Components: Assemble in place to verify that equipment and components are complete and in proper working order. Instruct Owner's designated personnel in properly handling, assembling, adjusting, disassembling, transporting, storing, and maintaining units. Disassemble removable athletic equipment after assembled configuration is approved by Architect and Owner, and store units in location indicated on Drawings.

3.3 ADJUSTMENT AND CLEANING

A. Adjust movable components of athletic equipment to operate safely, smoothly, easily, and quietly, free from binding, warp, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Lubricate hardware and moving parts.

B. Upon completion of installation, including work of other trades, lubricate, test, and adjust Athletic Equipment to operate easily and in compliance with manufacturer=s specifications.

C. Clean installed nets and posts on exposed and semi-exposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas. Remove spots, dirt, and debris and touch up damaged shop-applied finishes according to manufacturer's written instructions. Leave equipment clean and ready for use.

D. Provide final protection and maintain conditions acceptable to manufacturer and Installer that ensure athletic equipment is without damage or deterioration at time of Substantial Completion.
   1. Remove packaging and other debris from the project site.

E. Replace athletic equipment and finishes that cannot be cleaned and repaired, in a manner approved by Architect, before time of Substantial Completion.

3.4 PROTECTION

A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensures that Athletic Equipment are without damage or deterioration at time of Substantial Completion.

3.5 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain equipment. Refer to Section 017900.

END OF SECTION 116673

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SECTION 323113 - CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Polymer-coated chain-link fences (323113.A02).
   2. Swing gates (323113.A03).
   3. Windscreens. (323113.A08).
   4. **Plastic Fence Topper**

B. Related Sections:
   1. Section 033000 "Cast-in-Place Concrete" for cast-in-place concrete for post footings, concrete equipment bases/pads for gate operators and controls.

1.2 DESCRIPTION

A. The Contractor shall provide all labor, materials, equipment, and services necessary for, and incidental to, the installation of chain link fence and gates, as shown on the Drawings and as specified herein.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Chain-link fence and gate framework shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to ASCE/SEI 7:
   1. Minimum Post Size: Determine according to ASTM F 1043 for framework up to 6 feet high, and post spacing not to exceed 10 feet.

B. Delegated Design for Baseball Fencing: Design chain-link fence systems including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

C. Structural Performance for Baseball Fencing: All products and framework shall with stand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to ASCE/SEI 7:

   1. Chain Link for Baseball Fencing: Minimum Pose Size and Maximum Spacing shall be determined according to CLFMI WLG 2445, based on mesh size and pater specified and on the following:
      a. Wind Loads: 90 mph.
      b. Exposure Category: C
      c. Fence Height: 15 feet.
      d. Post Height: As required by design.
      e. Post Spacing: 10 feet unless indicated otherwise on Drawings.
      f. Uniform Live Load of 50 lbf/ft. applied in any direction.
      g. Concentrated Load of 200 lbf applied in any direction (Uniform and concentrated loads need not be assumed to act concurrently).

D. Delegated Design: Design chain-link fences and gates, and netting systems including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

E. Structural Performance: All products framework shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to ASCE/SEI 7:
   1. Chain-link: Minimum Post Size and Maximum Spacing: Determine according to CLFMI WLG 2445, based on mesh size and pattern specified and on the following:
      a. Wind Loads: 90 MPH
      b. Exposure Category: C
      c. Fence Height: 4-10 feet
      d. Post Height: 6.5 – 13.5 feet
      e. Post Spacing: 10 feet

f. Material Group: IA, ASTM F 1043, Schedule 40 steel pipe
g. Uniform live load of 50 lbf/ ft. applied in any direction
h. Concentrated load of 200 lbf applied in any direction (Uniform and concentrated loads need not be assumed to act concurrently)

2. Windscreen Systems: Designed to 2018 International Building Code based on the following:
a. Wind Loads: 120 MPH
b. Exposure Category: C
c. Pole Height: 10-35 feet
d. 150# Lateral Soil pressure
e. Netting Break Strength: 200 lbs minimum

F. Lightning Protection System: Maximum grounding-resistance value of 25 ohms under normal dry conditions.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project Site.
1. Inspect and discuss baseball and softball field layouts, verify fencing locations, and other preparatory work specified elsdwhere.
2. Review gate locations

1.5 ACTION SUBMITTALS

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

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

C. Samples: For each fence material and for each color specified.
1. Provide Samples 8 to 12 inches in length for linear materials and 12 inch square for fence fabric.

D. Delegated Design Submittal for Baseball Fencing: For chain-link fences and framework indicated to comply with requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.6 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of chain-link fence, from manufacturer.

B. Product Test Reports: For framing strength according to ASTM F 1043.

C. Sample of special warranty.

1.7 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.8 QUALITY ASSURANCE

A. Comply with standards of the Chain Link Fence Manufacturer’s Institute.

B. Preinstallation Conference: Conduct conference at Project site.

1.9 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

1.10 WARRANTY

A. Special Warranty: Manufacturer's standard form in which Installer agrees to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, deterioration of metals, metal finishes, and other materials beyond normal weathering.
   2. Warranty Period: Two (2) years from date of Substantial Completion.

PART 2 PRODUCTS

2.1 CHAIN-LINK FENCE FABRIC

A. General: Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist. Comply with CLFMI Product Manual and with requirements indicated below:
   1. Fabric Height: 8'-0" unless noted otherwise on Drawings.
   2. Steel Wire Fabric: Wire with a diameter of 0.148 inch.
      a. Mesh Size: 2 inches.
      b. Polymer-Coated Fabric: ASTM F 668, Class 2a over zinc-coated steel wire.
         1) Color: Black, complying with ASTM F 934.
      c. Coat selvage ends of fabric that is metallic coated before the weaving process with manufacturer's standard clear protective coating.
   3. Selvage: Knuckled at both selvages.

2.2 FENCE FRAMING

A. Posts and Rails for Baseball Fencing: Comply with ASTM F 1043 for framing, including rails, braces, and line; terminal; and corner posts. Provide members with minimum dimensions and wall thickness according to ASTM F 1043 or ASTM F 1083 based on the following:
   1. Fence Height: 8 feet unless otherwise indicated on Drawings.
   2. Heavy Industrial Strength: Material Group IA, round steel pipe, Schedule 40.
      a. Line Post: 2.875 inches in diameter.
      b. End, Corner and Pull Post: 4.0 inches in diameter.
   3. Horizontal Framework Members: Top, bottom and intermediate rails complying with ASTM F 1043.
      a. Top Rail: 1.66 inches in diameter.
      b. Bottom Rail: 1.66 inches in diameter.
      c. Intermediate Rail: 1.66 inches in diameter.
   4. Truss Rod Assemblies: As required to achieve performance criteria indicated.
   5. Metallic Coating for Steel Framing:
      a. Type A, consisting of not less than minimum 2.0-oz./sq. ft. average zinc coating per ASTM A 123/A 123M or 4.0-oz./sq. ft. zinc coating per ASTM A 653/A 653M.
   6. Polymer coating over metallic coating.
      a. Color: Black, complying with ASTM F 934.

2.3 TENSION WIRE

A. Polymer-Coated Steel Wire: 0.177-inch- diameter, tension wire complying with ASTM F 1664, Class 2a over zinc-coated steel wire.
   1. Color: Refer to Paragraph 2.1 A of this Section.

2.4 FITTINGS

A. General: Comply with ASTM F 626.

B. Post Caps: Provide for each post.
   1. Provide line post caps with loop to receive tension wire or top rail.

C. Rail and Brace Ends: For each gate, corner, pull, and end post.

D. Rail Fittings: Provide the following:
   1. Top Rail Sleeves: Pressed-steel or round-steel tubing not less than 6 inches long.
   2. Rail Clamps: Line and corner boulevard clamps for connecting intermediate rails in the fence line-to-line posts.

E. Accessories for Posts and Rails at Dugouts:
   1. Provide fencing manufacturer's standard post-mounting flange for anchoring posts to concrete with mechanical anchors.
   2. Provide fencing manufacturer's standard stirrup brackets for securing fencing posts to walls. Provide 2 stirrup brackets per post, one at mid-span and one near top.

F. Tension and Brace Bands: Pressed steel.

G. Tension Bars: Steel, length not less than 2 inches shorter than full height of chain-link fabric. Provide one bar for each gate and end post, and two for each corner and pull post, unless fabric is integrally woven into post.

H. Truss Rod Assemblies: Steel, hot-dip galvanized after threading rod and turnbuckle or other means of adjustment.

I. Tie Wires, Clips, and Fasteners: According to ASTM F 626.
   1. Standard Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, complying with the following:
      a. Hot-Dip Galvanized Steel: 0.106-inch- diameter wire; galvanized coating thickness matching coating thickness of chain-link fence fabric.

J. Finish:
   1. Metallic Coating for Pressed Steel or Cast Iron: Not less than 1.2 oz. /sq. ft. zinc.
      a. Polymer coating over metallic coating.

2.5 SWING GATES

A. General: ASTM F 900 for gate posts and double swing gate types.
   1. Gate Leaf Width: As indicated on Drawings.

B. Pipe and Tubing:
   1. Zinc-Coated Steel: ASTM F 1043 and ASTM F 1083; protective black PVC coating and finish to match fence framework.
   2. Gate Posts: Round tubular steel.
   3. Gate Frames and Bracing: Round tubular steel.

C. Frame Corner Construction: Welded for vehicular gates and assembled with corner fittings for pedestrian gates.

D. Hardware:
   1. Hinges: 180-degree swing in direction indicated. Basis-of-Design Products: Hinges shall be manufactured by "Cox Hinges."
   2. Latches permitting operation from one sides of gate. Refer to detail on Drawings. Basis-of-Design Products for latches is "DAK."
   3. Cane Bolt "Gate Stop": Provide gate stops for pedestrian gates consisting of mushroom-type flush plate with anchors, set in concrete, and designed to engage a center drop rod or plunger bar. Include a locking device and padlock eyes as an integral part of latch, permitting both gate leaves to be locked with a single padlock.
   4. Keeper: Provide a keeper for vehicular gates that automatically engages gate leaf and holds it in the open position until manually released.
   5. Padlock: Lockable and unlockable from both sides of gate with key.
   6. Closer: Manufacturer's standard.
   7. Exit Device: Manufacturer's standard as acceptable to Architect.

2.6 GROUT AND ANCHORING CEMENT

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

B. 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. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended in writing by manufacturer, for exterior applications.

2.7 **WINDSCREEN (323113.A08)**

A. **General: Provide open-mesh style polypropylene screen with 4-ply hems and all accessories necessary to install on chain link fence.**

B. **Basis-of-Design Product: Subject to compliance with requirements, provide Douglas, "PolyPro Plus Premium" Windscreen or comparable products, meeting specified requirements, which are submitted to and accepted by Architect prior to bidding.**

C. **Fabric: Open-mesh polypropylene constructed of 100 percent leno polypropylene, heat set, open mesh of 78%, 5.5 oz per s.y., tensile strength of 299 x 204.**
   1. **Color: As selected by Architect from manufacturer's full line of standard colors.**

D. **Hems: Reinforced 2-ply, double sewn with polyester thread and vinyl edging providing 4-ply hem. Provide #2 brass grommets at 18" o.c. on top and bottom and 12" o.c. on sides.**

E. **Miscellaneous Accessories:**
   1. **Braided lacing cord - 3/16 inch polyethylene for lacing top and bottom edges.**
   2. **Tie-Rap tasteners - lightweight, self-locking, adjustable plastic strips with 50-lb breaking strength.**
   3. **3" S-hook fasteners.**

2.8 **CHAIN-LINK FENCE TOPPER**

A. **Basis-of-Design Products: Subject to compliance with requirements, provide "Plasticap® Fence Topper" by Aer-Flo Sports.**
   1. **Comparable products from other manufacturers meeting specified requirements will be considered when submitted to and accepted by Architect prior to bidding**

B. **Product Characteristics:**
   1. **Size: 4-1/2 inch diameter x length required**
   2. **Material: 100 percent virgin resin.**
   3. **High UV Resistance**
   4. **Color: As selected by Architect from Manufacturer's Standard colors.**

C. **Locations:**
   1. **Baseball fields: At outfield fence only.**
   2. **Multi-purpose fields: At outfield fence only.**
   3. **Softball fields: At outfield fence and at foul territory fence starting at the dugout continuous to the outfield fence.**

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for a verified survey of property lines and legal boundaries, site clearing, earthwork, pavement work, and other conditions affecting

performance of the Work.
1. Do not begin installation before final grading is completed unless otherwise permitted by Architect.

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

3.2 PREPARATION

A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 INSTALLATION, GENERAL

A. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements indicated.
1. Install fencing on established boundary lines inside property line.

3.4 CHAIN-LINK FENCE INSTALLATION

A. General: Presence of hard matter and rock shall be assumed.

B. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacing indicated, in firm, undisturbed soil. Excavation for posts shall not be less than 3 feet in depth.

C. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.
1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.
   a. Concealed Concrete: Top 2 inches below grade to allow covering with surface material.
   b. Extend post to specified excavation depth, but not closer than 3 inches to bottom of concrete.

D. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 30 degrees or more.

E. Line Posts: Space line posts uniformly at 10 feet max. o.c.

F. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch- diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:
1. Extended along bottom of fence fabric. Install bottom tension wire within 6 inches of bottom of fabric and tie to each post with not less than same diameter and type of wire.

G. Top Rail: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer.

H. Chain-Link Fabric: Apply fabric to inside of enclosing framework. Leave 1 inch between finish grade or surface and bottom selvage unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

I. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 15 inches o.c.

J. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at one end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTM F 626. Bend ends of wire to minimize hazard to individuals and clothing.
1. Maximum Spacing: Tie fabric to line posts at 12 inches o.c. and to braces at 24 inches o.c.

K. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

L. Intermediate and Bottom Rails: Install and secure to posts with fittings.

M. Fencing at Dugouts: Fabricate fencing as individual units for each opening. Vertical and horizontal framework may be full welded together or connected together with fittings at Contractor's option. Underside of bottom rail shall be set at 2 inches above grade. Attached fabric to frame with ties wires and secure posts to adjacent walls with stirrup brackets. Construct one unit for Architect's review and acceptance prior to proceeding with remaining units.

3.5 GATE INSTALLATION

A. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.6 ADJUSTING

A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Automatic Gate Operator: Energize circuits to electrical equipment and devices. Adjust operators, controls, safety devices, and limit switches.
   1. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
   2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. Lubricate hardware, gate operator, and other moving parts.

3.7 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's personnel to adjust, operate, and maintain chain-link fences.

END OF SECTION 323113

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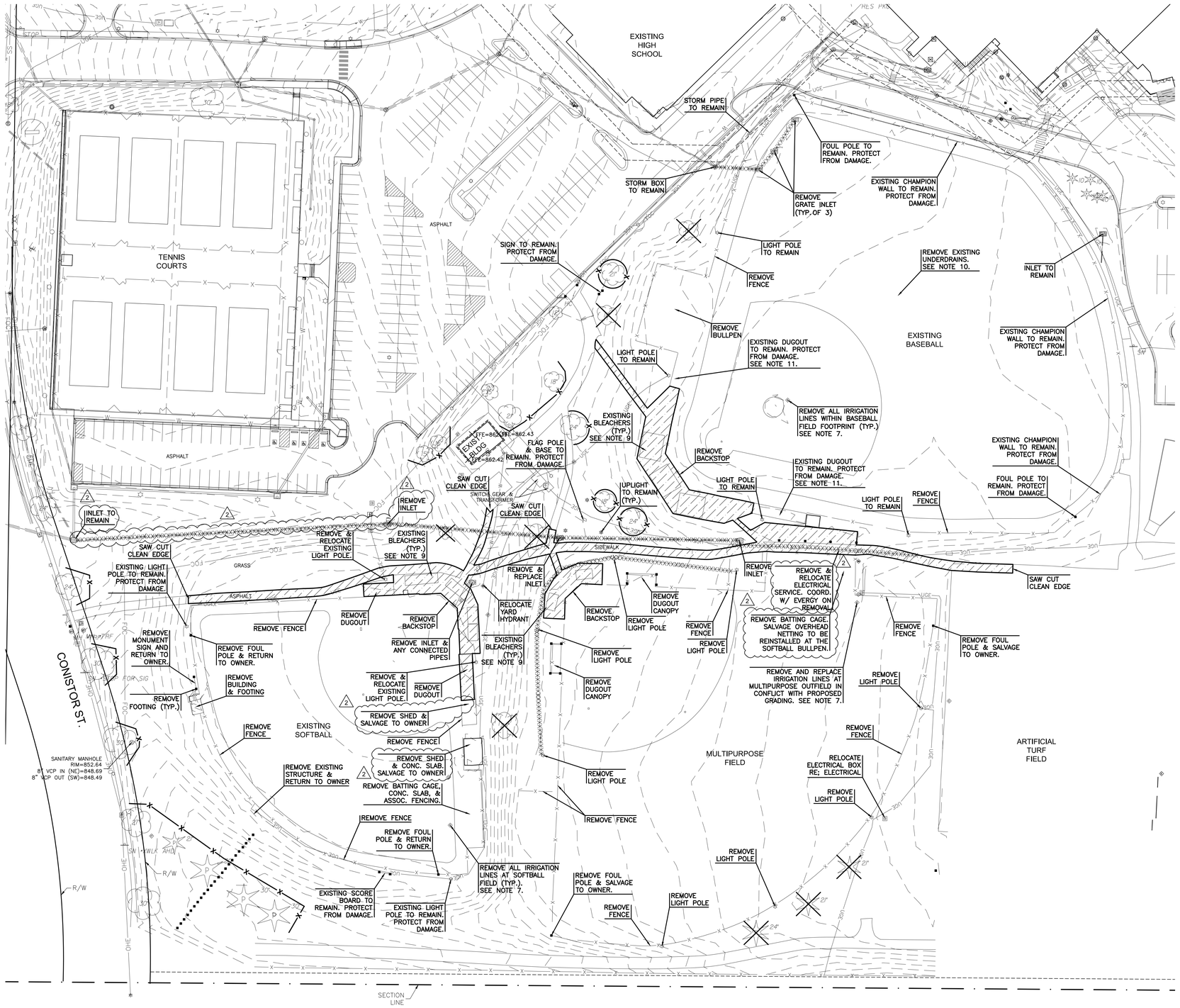

DEMOLITION NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR AND REPLACE EXISTING CONCRETE SIDEWALKS, CURB & GUTTER, AND ANY EXISTING PAVEMENT DAMAGED DURING CONSTRUCTION.
2. EXCAVATED MATERIAL THAT IS NOT IMMEDIATELY LOADED AND HAULED OFF SITE SHALL BE STOCKPILED ON SITE. CONTRACTOR SHALL PROVIDE AND MAINTAIN THE APPROPRIATE BMP (COMPOST SOCK, GRAVEL FILTER BAGS, WADDLES, SILT FENCE, ETC.) AROUND STOCKPILE AREA TO PROTECT ADJACENT INLETS OR AREAS, ETC., UNTIL SUCH TIME THAT STOCKPILE IS REMOVED.
3. CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, RIGHT-OF-WAY, HAULING, AND LAND DISTURBANCE PERMITS WITH THE APPROPRIATE LOCAL JURISDICTION.
4. CONTRACTOR SHALL DISPOSE OF ALL DEMOLITION ITEMS APPROPRIATELY PER LOCAL AND STATE REQUIREMENTS.
5. ALL LIGHT POLES NOTED ON THIS PLAN TO BE REMOVED OR RELOCATED, CONTRACTOR SHALL REMOVE LIGHT POLE FOOTING AND BACKFILL WITH COMPACTED BACKFILL PER GEOTECHNICAL ENGINEER.
6. CONTRACTOR TO RELOCATE AND LOWER EXISTING ELECTRICAL LINES AS NECESSARY TO MAINTAIN SERVICE TO EXISTING OR RELOCATED LIGHT POLES.
7. CONTRACTOR TO LOCATE ALL EXISTING IRRIGATION HEADS, VALVES, PIPING, BOXES, ETC. IDENTIFY IRRIGATION COMPONENTS TO BE IMPACTED FOR PROPOSED IMPROVEMENTS. CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL EXISTING IRRIGATION COMPONENTS AS NECESSARY IN CONFLICT WITH PROPOSED IMPROVEMENTS. CONTRACTOR SHALL VERIFY INSTALL AND SYSTEM IN WORKING ORDER PRIOR TO INSTALLATION OF ANY PROPOSED PAVEMENT OR ARTIFICIAL TURF SURFACING.
8. SEE ELECTRICAL PLANS FOR FINAL LOCATION OF RELOCATED FIELD LIGHT POLES.
9. EXISTING BLEACHERS IMPACTED BY PROPOSED IMPROVEMENTS SHALL BE SALVAGED TO OWNER FOR REINSTALLATION.
10. REMOVE ALL EXISTING BASEBALL FIELD UNDERDRAINS. BACKFILL TRENCHES WITH COMPACTED BACKFILL PER GEOTECHNICAL ENGINEER.
11. EXISTING DRAINS IN BOTTOM OF DUGOUTS TO REMAIN. CONTRACTOR TO LOCATE STORM PIPE FROM DRAIN JUST OUTSIDE THE DUGOUT AND DEMOLISH PIPE FROM DUGOUT TO THE STORM TRUNK LINE CONNECTION. SEE UTILITY PLAN FOR NEW STORM CONNECTIONS TO DUGOUT. ENSURE REMAINING PIPE UNDER DUGOUT (BOTH HORIZONTAL AND VERTICAL PORTIONS) ARE FREE FROM DEBRIS AND CLOGS).
12. BACKFILL ALL FENCE AND BACKSTOP POLE REMOVAL HOLES WITH COMPACTED FILL PER GEOTECHNICAL ENGINEER.

DEMOLITION LEGEND

- PAVEMENT REMOVAL
- TREE REMOVAL
- UTILITY REMOVAL
- TREE PROTECTION

N

SCALE: 1"=40'
0 40 80

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Liberty, MO 64068

CONSTRUCTION DOCUMENTS

REVISIONS:

#	Description	Date
1	Addendum No. 2	07.24.2023
2	Addendum No. 4	08.04.23

STATE OF MISSOURI
BRADEN L. TAYLOR
NUMBER PE-2021001896
PROFESSIONAL ENGINEER
7.24.23

BRADEN L. TAYLOR
LIC\# 2021001896

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JOB NO: 23023
DRAWN BY: MKB
CHECKED BY: BLT
DATE: 07-12-23

DC101

CIVIL DEMOLITION PLAN

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Please consider the environment before printing this.

NOTES:

1. SEE SHEET C102 FOR UTILITY NOTES.

STR 3-1
4' DOGHOUSE MANHOLE
TOP=867.67
FL IN (E)=860.50
FL IN (NE)=859.46
FL OUT (SW)=859.46

30.71 L.F. OF 12" HDPE @ 14.95%

12"X12" WYE
FL=863.6

ADS ADAVANEDGE DRAIN @ 0.50%
(ALL FIELD DRAINS)

372.2 L.F. OF 12" PERFORATED HDPE @ 1.85%

STORM MANHOLE
JUNCTION BOX
RIM=864.98
15" CMP IN (E)=858.23
15" CMP OUT (NW)=857.98

339.9 L.F. OF 12" PERFORATED HDPE @ 1.00%

CLEANOUT
TOP=869.23
FL=866.25

12"X6" WYE
FL=864.98

BULLPEN

6" PERFORATED HDPE @ 1.00% MIN.

CLEANOUT
TOP=869.30
FL=866.50

CLEANOUT
TOP=869.85
FL=865.60

CLEANOUT
TOP=869.90
FL=866.75

DUGOUT

REPLACE EXISTING DUGOUT DRAIN W/ 8" PVC INLINE DRAIN. TOP=MATCH DUGOUT BOTTOM ELEV.

6" HDPE @ 1.0% MIN. PROVIDE 2.0' COVER MIN.

EXISTING BUILDING FFE=862.39

SWITCH GEAR & TRANSFORMER

12"X12" CROSS W/ CLEANOUT BOTH DIRECTIONS FL=867.00

6" HDPE @ 1.0% MIN. PROVIDE 2.0' COVER MIN.

186.8 L.F. OF 12" PERFORATED HDPE @ 1.00%

DUGOUT

STR 1-5
24" PVC DRAIN BASIN W/ SOLID GRATE
TOP=869.25
FL IN(E)(15")=862.85
FL OUT(W)(15")=862.65

6" HDPE @ 1.0% MIN.

15"X6" WYE
FL=863.17

135.2 L.F. OF 15" HDPE @ 1.00%

12"X12" WYE
FL=865.13

REPLACE EXISTING DUGOUT DRAIN W/ 8" PVC INLINE DRAIN. TOP=MATCH DUGOUT BOTTOM ELEV.

RELOCATE PRIMARY ELECTRICAL SERVICE AS SHOWN. COORD. W/ EVERGY ON RECONNECTIONS.

CHAMPION WALL TO REMAIN. PROTECT FROM DAMAGE.

RECONNECT EXISTING INLET TO 12" PERFORATED HDPE PIPE

DUAL CLEANOUTS ON 12" PERFORATED HDPE PIPE
FL=870.50

ADS ADAVANEDGE DRAIN @ 0.50%
(ALL FIELD DRAINS)

349.6 L.F. OF 12" PERFORATED HDPE @ 1.54%

STR 1-3
4'X4' GRATE INLET
TOP=862.75
FL IN(E)(15")=856.00
FL OUT(SW)(15")=855.50

RELOCATE YARD HYDRANT & LOWER WATER LINE AS NEEDED FOR CONSTRUCTION

SWS LINE 1

117.7 L.F. OF 15" HDPE @ 3.40%

STR 1-4
24" PVC DRAIN BASIN W/ STANDARD GRATE
TOP=864.25
FL IN(E)(15")=861.50
FL IN(S)(8")=861.50
FL OUT(W)(15")=860.00

86.6 L.F. OF 15" HDPE @ 5.20%

57.9 L.F. OF 15" HDPE @ 1.99%

CLEANOUT
TOP=869.58
FL=867.05

CLEANOUT
TOP=869.10
FL=866.88

CLEANOUT
TOP=869.10
FL=866.61

8" PERFORATED HDPE @ 1.00% MIN.

BUNTING AREA

BATTING CAGE

CLEANOUT
TOP=870.89
FL=868.00

STR 1-6
24" PVC DRAIN BASIN W/ SOLID GRATE
TOP=870.87
FL IN(N)(12")=864.70
FL OUT(W)(15")=864.20

BULLPEN

CLEANOUT
TOP=872.20
FL=869.50

CLEANOUT
TOP=872.20
FL=869.50

6" PERFORATED HDPE @ 1.00% MIN.

45.3 L.F. OF 8" SOLID HDPE @ 8.20%

8" 45° BEND
FL=862.92

17.0 L.F. OF 8" SOLID HDPE @ 8.20%

159.6 L.F. OF 12" PERFORATED HDPE @ 1.00%

12"X12" WYE W/ CLEANOUT NORTH
FL=862.75

STR 1-2
30" PVC DRAIN BASIN W/ STANDARD GRATE

BASEBALL FIELD

RIDGE LINE

PIPE FLOW

20' (TYP.)

15' (TYP.)

SCALE: 1"=20'
0 20 40

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Landscape No. 2006027139
Surveying No. 2006027138

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Structure # 2006031333

MKEC Engineering, Inc.
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State Certificate of Authority #:
Engineering: 2001009364
Landscaping: 2006027139
Surveying: 2006027138
11827 W. 112th St, Ste 200
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913.317.9390 phone

Smith & Boucher Engineers
Mechanical, Electrical, Plumbing Engineers
State Certificate of Authority #EGC000178
25618 W 103rd St
Olathe, Johnson County, KS 66061
913.345.2127 phone

CONSTRUCTION DOCUMENTS

LHS Baseball & Softball Upgrades
Liberty Public Schools 53
200 Blue Jay Drive
Liberty, MO 64068

REVISIONS:

#	Description	Date
1	Addendum No. 2	07.24.2023
2	Addendum No. 4	08.04.23

STATE OF MISSOURI
BRADEN L. TAYLOR
NUMBER PE-2021001896
PROFESSIONAL ENGINEER
7.24.23

BRADEN L. TAYLOR
LICS# 2021001896

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JOB NO: 23023
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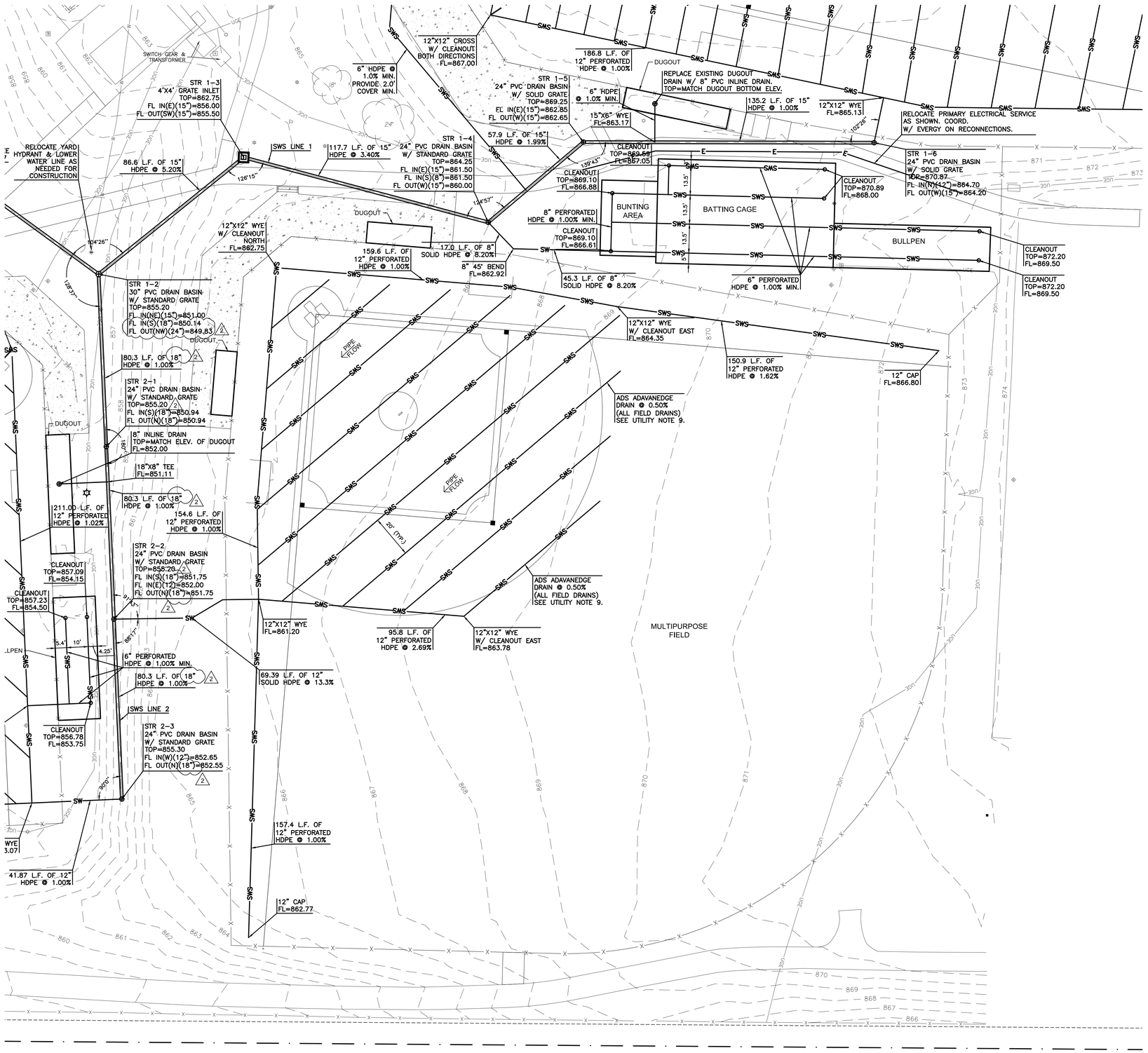
DATE: 07-12-23

C103

UTILITY PLAN (BASEBALL)

Please consider the environment before printing this.

P:\PROJECTS\2023\23023\02SD_LIBERTY_HS ATHLETICS\02 230290 CAD\SHTS\05 CIVIL\C03\230290-ES-2210-C03.DWG



NOTES:

1. SEE SHEET C102 FOR UTILITY NOTES.

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Architecture # 0003161
Structure # 2006031333

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CONSTRUCTION DOCUMENTS

LHS Baseball & Softball Upgrades

Liberty Public Schools 53

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REVISIONS:

#	Description	Date
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STATE OF MISSOURI
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C104

UTILITY PLAN (MULTIPURPOSE)

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P:\PROJECTS\2023\23023070290_LIBERTY HS ATHLETICS\09 230290 CAD\SHTS\05 CIVIL\230230905-2210-C03.DWG

NOTES:

1. SEE SHEET C102 FOR UTILITY NOTES.

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CONSTRUCTION DOCUMENTS

REVISIONS:

#	Description	Date
1	Addendum No. 2	07.24.2023
2	Addendum No. 4	08.04.23

STATE OF MISSOURI
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DATE: 07-12-23

C105

UTILITY PLAN (SOFTBALL)

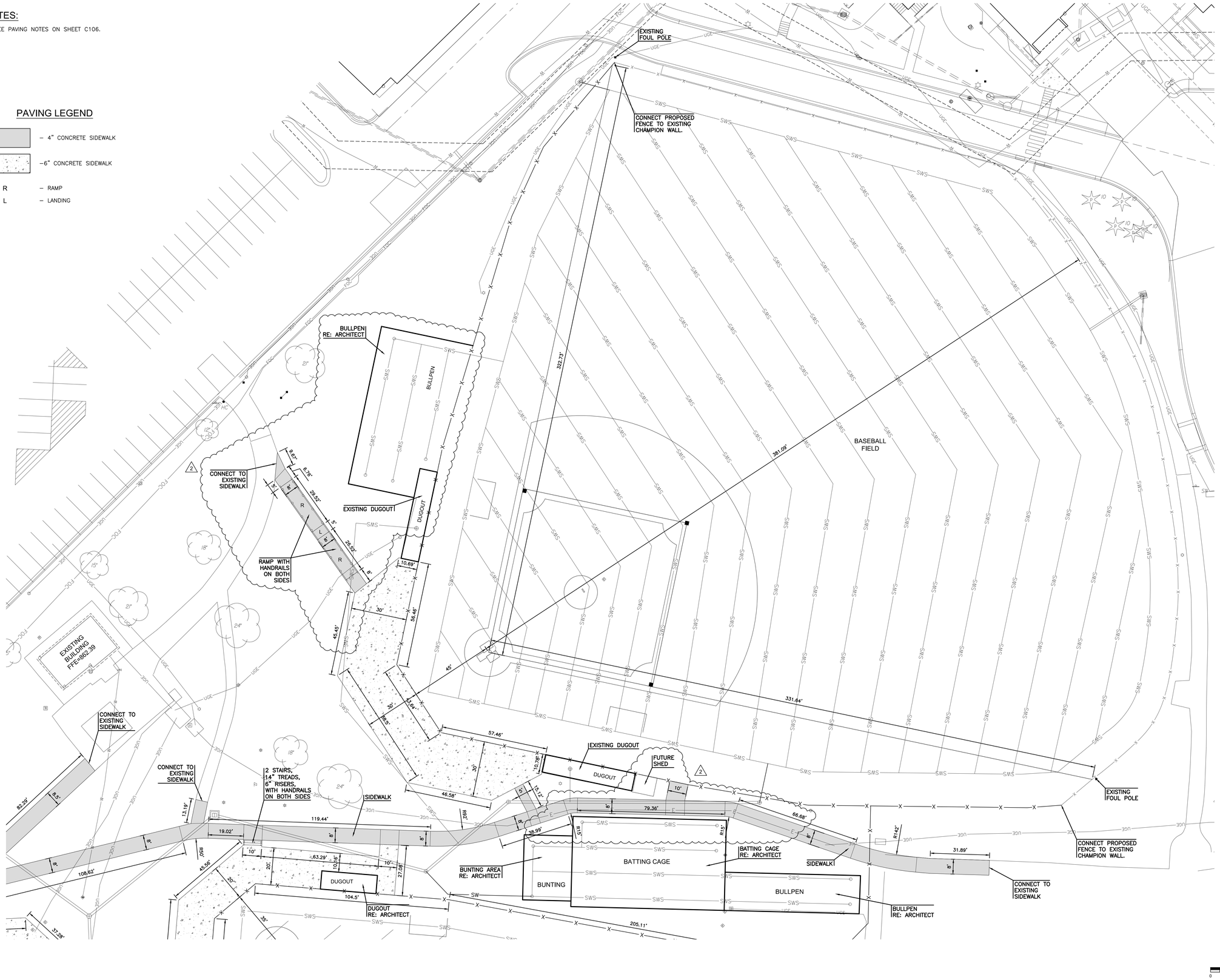
Please consider the environment before printing this.

NOTES:

1. SEE PAVING NOTES ON SHEET C106.

PAVING LEGEND

- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- R – RAMP
- L – LANDING



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CONSTRUCTION DOCUMENTS

LHS Baseball & Softball Upgrades

Liberty Public Schools 53

200 Blue Jay Drive
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REVISIONS:

#	Description	Date
1	Addendum No. 2	07.24.2023
2	Addendum No. 4	08.04.23

STATE OF MISSOURI
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DATE: 07-12-23

C107

PAVING PLAN (BASEBALL)

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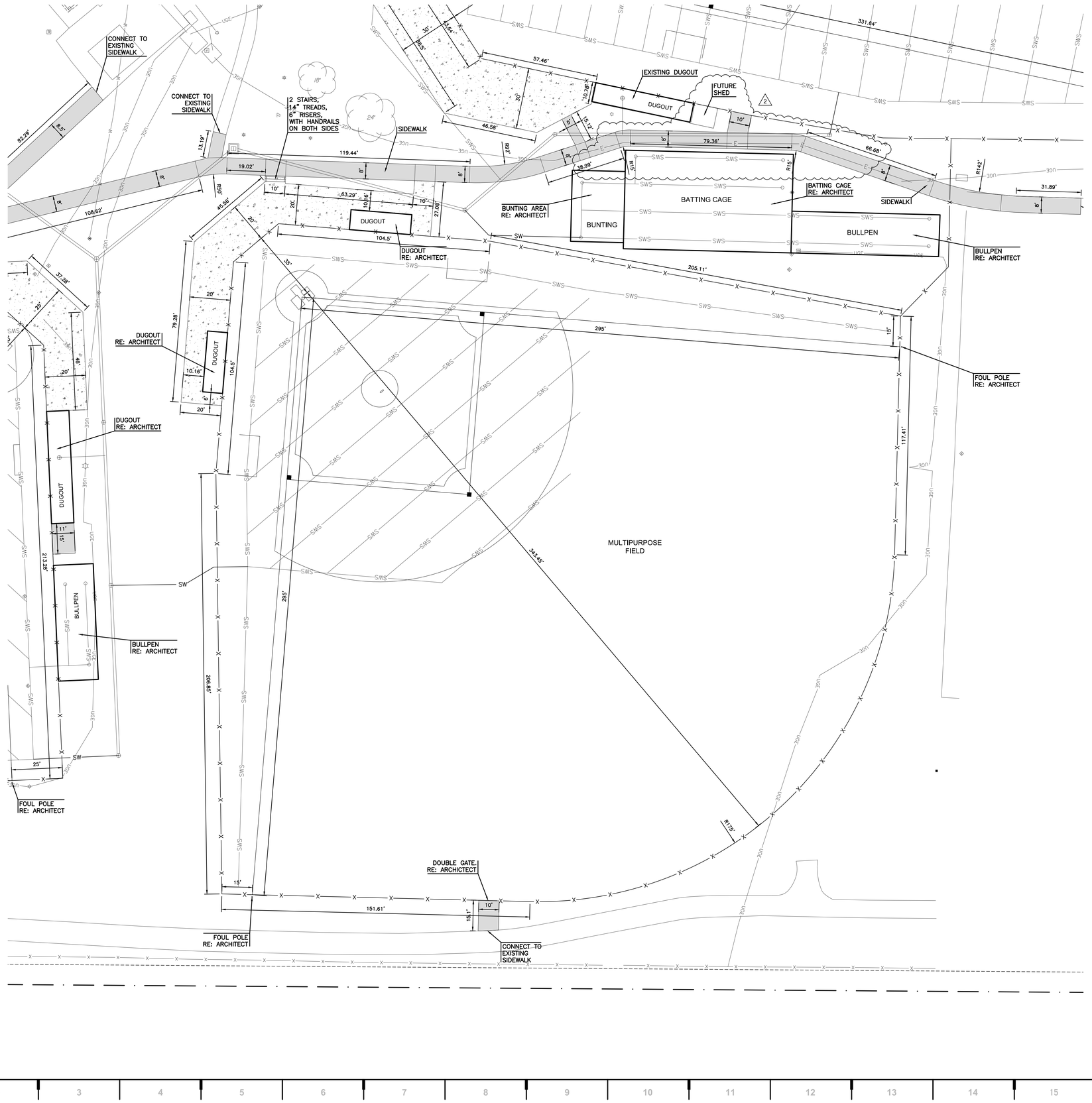

NOTES:

1. SEE PAVING NOTES ON SHEET C106.

PAVING LEGEND

- 4" CONCRETE SIDEWALK
- 6" CONCRETE SIDEWALK
- R – RAMP
- L – LANDING

N

SCALE: 1"=20'

0 20 40

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Surveying No. 2006027138

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CONSTRUCTION DOCUMENTS

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1	Addendum No. 2	07.24.2023
2	Addendum No. 4	08.04.23

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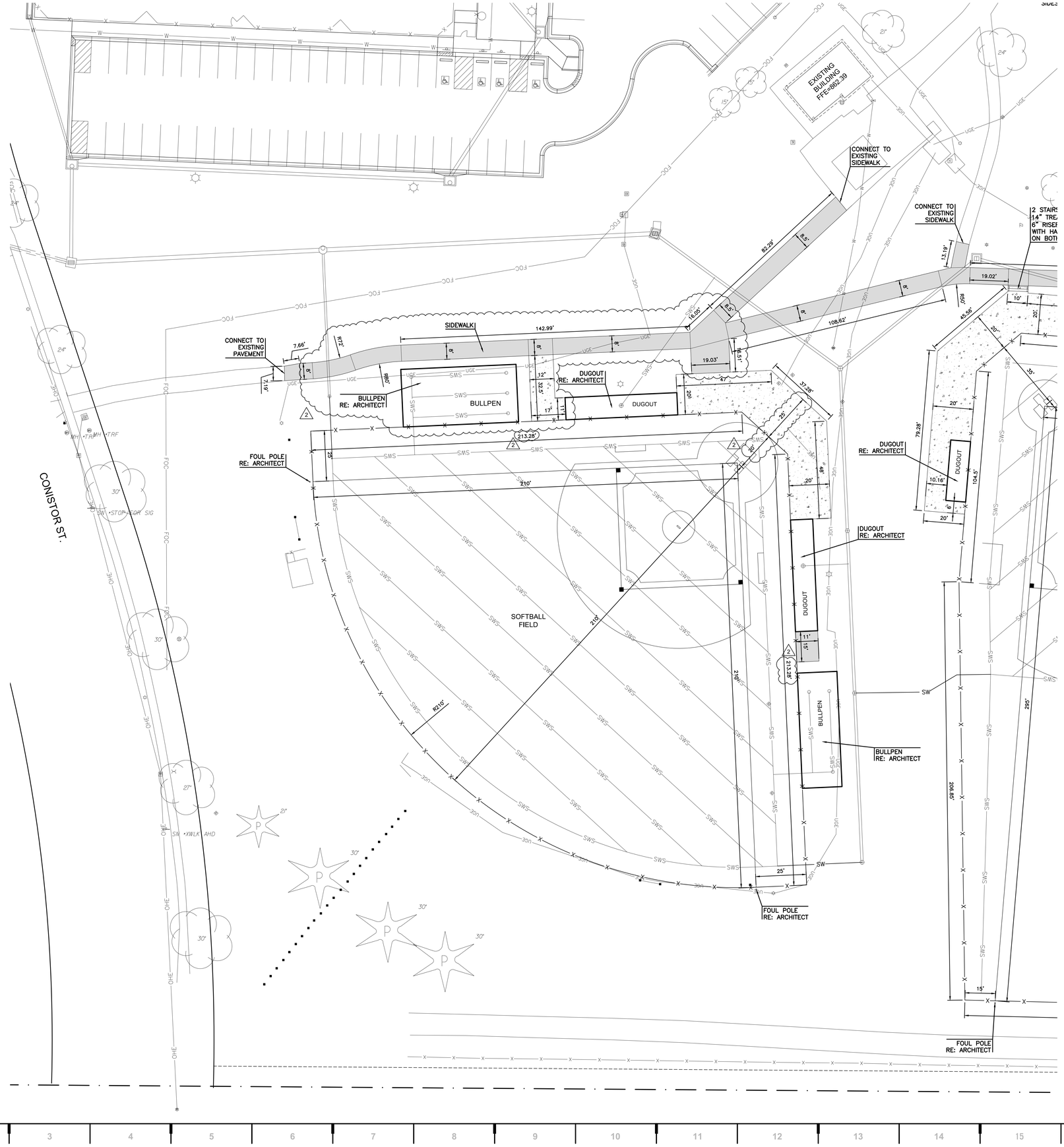
DATE: 07-12-23

C108

PAVING PLAN (MULTIPURPOSE)

Please consider the environment before printing this.

P:\PROJECTS\2023\23020102\90_LIBERTY HS ATHLETICS\00 23020 CAD\SHTS\05 CIVIL\D05\23020-05-52101-C0.DWG



NOTES:

1. SEE PAVING NOTES ON SHEET C106.

PAVING LEGEND

– 4" CONCRETE SIDEWALK

– 6" CONCRETE SIDEWALK

R – RAMP

L – LANDING

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LHS Baseball & Softball Upgrades
Liberty Public Schools 53
200 Blue Jay Drive
Liberty, MO 64068

CONSTRUCTION DOCUMENTS

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1	Addendum No. 2	07.24.2023
2	Addendum No. 4	08.04.23

STATE OF MISSOURI
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NUMBER PE-2021001896
PROFESSIONAL ENGINEER
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DRAWN BY: MKB
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C109

PAVING PLAN (SOFTBALL)

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P:\PROJECTS\2023\23023010290_LIBERTY_HS ATHLETICS\00 230290 CAD\SHTS\25 CIVIL\C109\230290-H25-SA10-A0.DWG

NOTES:

1. SEE SHEET C110 FOR GRADING NOTES.



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CONSTRUCTION DOCUMENTS

LHS Baseball & Softball Upgrades

Liberty Public Schools 53

200 Blue Jay Drive
Liberty, MO 64068

REVISIONS:

#	Description	Date
1	Addendum No. 2	07.24.2023
2	Addendum No. 4	08.04.23

STATE OF MISSOURI
BRADEN L. TAYLOR
NUMBER PE-2021001896
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JOB NO: 23023
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C111

GRADING PLAN (BASEBALL)

Please consider the environment before printing this.

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NOTES:

1. SEE SHEET C110 FOR GRADING NOTES.

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CONSTRUCTION DOCUMENTS

LHS Baseball & Softball Upgrades

Liberty Public Schools 53

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Liberty, MO 64068

REVISIONS:

#	Description	Date
1	Addendum No. 2	07.24.2023
2	Addendum No. 4	08.04.23

STATE OF MISSOURI
BRADEN L. TAYLOR
NUMBER PE-2021001896
7.24.23
PROFESSIONAL ENGINEER

BRADEN L. TAYLOR
LIC# 2021001896

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C112

GRADING PLAN (MULTIPURPOSE)

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P:\PROJECTS\2023\23023010290_LIBERTY HS ATHLETICS\05 CIVIL\CDR\23023010290-05-1210-C0.DWG

NOTES:

1. SEE SHEET C110 FOR GRADING NOTES.

CONISTOR ST.

SOFTBALL FIELD

BULLPEN

DUGOUT

58.15- BASE OF MOUND

EXISTING BUILDING FFE=862.39

SCALE: 1"=20'

0 20 40

N

MKEC

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CONSTRUCTION DOCUMENTS

REVISIONS:

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1	Addendum No. 2	07.24.2023
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C113

GRADING PLAN (SOFTBALL)

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Landscape No. 2006027139
Surveying No. 2006027138

FESCUE TURF NOTES:

1. INSTALL FESCUE TURF SOD PER NOTES BELOW.
2. SUBMITTALS SHALL INCLUDE: PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED, CERTIFICATION OF SOD AS KANSAS STATE FESCUE TRIAL MIX, PRODUCT CERTIFICATES: FOR SOIL AMENDMENTS AND FERTILIZERS, SIGNED BY PRODUCT MANUFACTURER, MATERIAL TEST REPORTS: FOR EXISTING SURFACE SOIL AND IMPORTED TOPSOIL, AND PLANTING SCHEDULE: INDICATING ANTICIPATED PLANTING DATES FOR SOD INSTALLATION.
3. INSTALLER QUALIFICATIONS: A QUALIFIED LANDSCAPE INSTALLER WHOSE WORK HAS RESULTED IN SUCCESSFUL LAWN ESTABLISHMENT.
4. INSTALLER'S FIELD SUPERVISION: REQUIRE INSTALLER TO MAINTAIN AN EXPERIENCED FULL-TIME SUPERVISOR ON PROJECT SITE WHEN PLANTING IS IN PROGRESS.
5. REPORT SUITABILITY OF TOPSOIL FOR LAWN GROWTH. STATE RECOMMENDED QUANTITIES OF NITROGEN, PHOSPHORUS, AND POTASH NUTRIENTS AND SOIL AMENDMENTS TO BE ADDED TO PRODUCE SATISFACTORY TOPSOIL.
6. DELIVERY, STORAGE, AND HANDLING FOR SOD: HARVEST, DELIVER, STORE, AND HANDLE SOD ACCORDING TO REQUIREMENTS IN TPI'S "SPECIFICATIONS FOR TURFGRASS SOD MATERIALS" AND "SPECIFICATIONS FOR TURFGRASS SOD TRANSPLANTING AND INSTALLATION" IN ITS "GUIDELINE SPECIFICATIONS TO TURFGRASS SODDING."
7. LAWN MAINTENANCE: BEGIN MAINTENANCE IMMEDIATELY AFTER EACH AREA IS PLANTED AND CONTINUE UNTIL ACCEPTABLE LAWN IS ESTABLISHED, BUT FOR NOT LESS THAN 60 DAYS FROM DATE OF SUBSTANTIAL COMPLETION. MAINTAIN AND ESTABLISH LAWN BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, REPLANTING, AND OTHER OPERATIONS. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS TO PRODUCE A UNIFORMLY SMOOTH LAWN. WATERING: PROVIDE AND MAINTAIN TEMPORARY IRRIGATION SYSTEM TO CONVEY WATER FROM SOURCES AND TO KEEP LAWN UNIFORMLY MOIST TO A DEPTH OF 4 INCHES.
8. WATER LAWN AT A MINIMUM RATE OF 1 INCH PER WEEK OR AS NECESSARY TO PROVIDE A HEALTHY GREEN APPEARANCE. A DEEP ROOT SYSTEM IS DESIRED THEREFORE DO NOT WATER LAWNS AFTER ESTABLISHMENT MORE THAN EVERY OTHER DAY.
9. MOW LAWN AS SOON AS TOP GROWTH IS TALL ENOUGH TO CUT. REPEAT MOWING TO MAINTAIN SPECIFIED HEIGHT WITHOUT CUTTING MORE THAN 33 PERCENT OF GRASS HEIGHT. REMOVE NO MORE THAN 33 PERCENT OF GRASS-LEAF GROWTH IN INITIAL OR SUBSEQUENT MOWINGS. DO NOT DELAY MOWING UNTIL GRASS BLADES BEND OVER AND BECOME MATTED. DO NOT MOW WHEN GRASS IS WET. SCHEDULE INITIAL AND SUBSEQUENT MOWINGS TO MAINTAIN THE FOLLOWING GRASS HEIGHT: MOW GRASS 2 INCHES HIGH IN SPRING AND FALL AND 2 ½ INCHES HIGH IN THE SUMMER. TRIM AND EDGE ALONG WALKS, WALLS, ETC.
10. LAWN POSTFERTILIZATION: APPLY FERTILIZER AFTER INITIAL MOWING AND WHEN GRASS IS DRY.
11. APPLY FERTILIZER 5 TIMES PER SEASON, SPRING: FERTILIZER PLUS WEED CONTROL FOR CRABGRASS, LATE SPRING: FERTILIZER PLUS WEED CONTROL FOR BROADLEAF WEEDS, SUMMER: FERTILIZER, EARLY FALL: FERTILIZER PLUS WEED CONTROL, LATE FALL: WINTERIZER.
12. AERATE LAWN A MINIMUM OF ONCE PER YEAR.
13. TURFGRASS SPECIES: GRASS SPECIES, BOTH SOD AND SEED, AS FOLLOWS, WITH NOT LESS THAN 95 PERCENT GERMINATION, NOT LESS THAN 85 PERCENT PURE SEED, AND NOT MORE THAN 0.5 PERCENT WEED SEED: MOST CURRENT AVAILABLE KANSAS STATE FESCUE TRIAL MIX, RATED IN TOP 1/3 OF VARIETIES TESTED FOR VISUAL APPEARANCE AVERAGE THROUGHOUT THE YEAR OR APPROVED EQUAL.
14. TOPSOIL: ASTM D 5268, PH RANGE OF 5.5 TO 7, A MINIMUM OF 4 PERCENT ORGANIC MATERIAL CONTENT; FREE OF STONES 1 INCH OR LARGER IN ANY DIMENSION AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.
15. TOPSOIL SOURCE: REUSE SURFACE SOIL STOCKPILED ON-SITE. VERIFY SUITABILITY OF STOCKPILED SURFACE SOIL TO PRODUCE TOPSOIL. CLEAN SURFACE SOIL OF ROOTS, PLANTS, SOD, STONES, CLAY LUMPS, AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH. SUPPLEMENT WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF-SITE SOURCES WHEN QUANTITIES ARE INSUFFICIENT. OBTAIN TOPSOIL DISPLACED FROM NATURALLY WELL-DRAINED CONSTRUCTION OR MINING SITES WHERE TOPSOIL OCCURS AT LEAST 4 INCHES DEEP; DO NOT OBTAIN FROM BOGS OR MARSHES. TOPSOIL TO BE PLACED IN AN 8" LIFT IN ALL PLANTING BED AREAS.
16. AMEND SOIL AS NECESSARY TO MEET TOPSOIL REQUIREMENTS OF ASTM D 5268.
17. EXAMINE AREAS TO RECEIVE LAWNS AND GRASS FOR COMPLIANCE WITH REQUIREMENTS AND OTHER CONDITIONS AFFECTING PERFORMANCE. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
18. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES, TREES, SHRUBS, AND PLANTINGS FROM DAMAGE CAUSED BY PLANTING OPERATIONS. PROVIDE EROSION-CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF SOILS AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS. ELIMINATE COMPETING GRASS VEGETATION IN ALL AREAS TO BE IMPROVED WITH "ROUNDUP" OR AN APPROVED EQUAL ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. SEVERAL APPLICATIONS MAY BE NECESSARY. WORK TO REMOVE COMPETING VEGETATION, SHALL BEGIN SEVERAL MONTHS BEFORE SODDING OPERATIONS COMMENCE.
19. LIMIT SOD SUBGRADE PREPARATION TO AREAS TO BE PLANTED THE SAME OR FOLLOWING DAY. NEWLY GRADED AREAS: LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 6 INCHES. REMOVE STONES LARGER THAN 1 INCH IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.APPLY FERTILIZER DIRECTLY TO SUBGRADE BEFORE LOOSENING. SPREAD TOPSOIL IF NECESSARY, APPLY SOIL AMENDMENTS AND FERTILIZER ON SURFACE, AND THOROUGHLY BLEND.
20. LEGALLY DISPOSE OF WASTE MATERIAL, INCLUDING GRASS, VEGETATION AND TURF OFF OWNER'S PROPERTY.
21. PRIOR TO LAYING SOD THE CONTRACTOR SHALL DEMONSTRATE TO THE OWNER AND OWNER'S REPRESENTATIVE THAT WATER IS AVAILABLE AND IN A WORKING ORDER TO ADEQUATELY COVER ALL SODDED AREAS. THE LANDSCAPE CONTRACTOR MUST COORDINATE WITH THE GENERAL CONTRACTOR AND OWNER, TO CONNECT TO BUILDING HOSE BIBS OR OTHER MEANS PRIOR TO SOD INSTALLATION. LAY SOD WITHIN 24 HOURS OF HARVESTING. DO NOT LAY SOD IF DORMANT OR IF GROUND IS FROZEN OR MUDDY.
22. LAY SOD TO FORM A SOLID MASS WITH TIGHTLY FITTED JOINTS. BUTT ENDS AND SIDES OF SOD; DO NOT STRETCH OR OVERLAP. STAGGER SOD STRIPS OR PADS TO OFFSET JOINTS IN ADJACENT COURSES. AVOID DAMAGE TO SUBGRADE OR SOD DURING INSTALLATION. TAMP AND ROLL LIGHTLY TO ENSURE CONTACT WITH SUBGRADE, ELIMINATE AIR POCKETS, AND FORM A SMOOTH SURFACE. WORK SIFTED SOIL OR FINE SAND INTO MINOR CRACKS BETWEEN PIECES OF SOD; REMOVE EXCESS TO AVOID SMOTHERING SOD AND ADJACENT GRASS. DO NOT ALLOW EDGES OF SOD TO TURN UP WHEN INSTALLING.LAY SOD ACROSS ANGLE OF SLOPES EXCEEDING 1:3. ANCHOR SOD ON SLOPES EXCEEDING 1:6 WITH WOOD PEGS OR STEEL STAPLES SPACED AS RECOMMENDED BY SOD MANUFACTURER BUT NOT LESS THAN 2 ANCHORS PER SOD STRIP TO PREVENT SLIPPAGE.SATURATE SOD WITH FINE WATER SPRAY WITHIN TWO HOURS OF PLANTING. DURING FIRST WEEK, WATER DAILY OR MORE FREQUENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A MINIMUM DEPTH OF 1-1/2 INCHES BELOW SOD. SATISFACTORY SODDED LAWN: WITHIN 60 DAYS AND AT END OF MAINTENANCE PERIOD, A HEALTHY, WELL-ROOTED, EVEN-COLORED, VIABLE LAWN HAS BEEN ESTABLISHED, FREE OF WEEDS, OPEN JOINTS, BARE AREAS, AND SURFACE IRREGULARITIES.
23. REESTABLISH LAWNS THAT DO NOT COMPLY WITH REQUIREMENTS AND CONTINUE MAINTENANCE UNTIL LAWNS ARE SATISFACTORY. SATISFACTORY SODDED OR SEEDED LAWN: WITHIN 60 DAYS AND AT END OF MAINTENANCE PERIOD, A HEALTHY, UNIFORM, CLOSE STAND OF GRASS HAS BEEN ESTABLISHED, FREE OF WEEDS AND SURFACE IRREGULARITIES, WITH COVERAGE EXCEEDING (90 PERCENT OVER ANY 10 SQ. FT. AND BARE SPOTS NOT EXCEEDING 5 BY 5 INCHES). CONTRACTOR SHALL BE RESPONSIBLE FOR IRRIGATION AND ESTABLISHMENT OF TURF GRASS UNTIL WRITTEN ACCEPTANCE IS RECEIVED FOLLOWING APPROVAL BY THE SCHOOL DISTRICT.
24. PROMPTLY REMOVE SOIL AND DEBRIS CREATED BY LAWN WORK FROM PAVED AREAS. CLEAN WHEELS OF VEHICLES BEFORE LEAVING SITE TO AVOID TRACKING SOIL ONTO ROADS, WALKS, OR OTHER PAVED AREAS. ERECT BARRICADES AND WARNING SIGNS AS REQUIRED TO PROTECT NEWLY PLANTED AREAS FROM TRAFFIC. MAINTAIN BARRICADES THROUGHOUT MAINTENANCE PERIOD AND REMOVE AFTER LAWN IS ESTABLISHED. REMOVE EROSION CONTROL MEASURES AFTER GRASS ESTABLISHMENT PERIOD.

EROSION CONTROL LEGEND

- INLET PROTECTION
- SILT FENCE
- TREE PROTECTION
- NORTH AMERICAN GREEN S75 TURF REINFORCEMENT MAT

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL SEED, MULCH, OR OTHERWISE STABILIZE ANY DISTURBED AREA WHERE THE LAND DISTURBANCE ACTIVITY HAS CEASED FOR MORE THAN 14 DAYS. INITIAL STABILIZATION ACTIVITIES SHALL BE COMPLETED WITHIN 14 DAYS AFTER SOIL DISTURBING ACTIVITIES HAVE CEASED. ALL SEEDING ACTIVITY SHALL INCLUDE MULCHING OR EQUIVALENT SOIL STABILIZING BMP MEASURE OF THE DISTURBED AREA. THE CONTRACTOR SHALL PERFORM INSPECTIONS OF EROSION AND SEDIMENT CONTROL MEASURES AT LEAST ONCE PER WEEK AND WHENEVER A RAINFALL TOTAL OF 0.5 INCHES OR GREATER IS OBSERVED BASED ON A SINGLE MONITORING EVENT; OR BASED ON THE CUMULATIVE TOTAL OF TWO CONSECUTIVE MONITORING EVENTS WHEN THE RAINFALL TOTAL OF THE FIRST MONITORING EVENT IS LESS THAN 0.5 INCHES. THE CONTRACTOR SHALL MAINTAIN AN INSPECTION LOG INCLUDING THE INSPECTOR'S NAME, DATE OF INSPECTION, OBSERVATIONS AS TO THE EFFECTIVENESS OF THE EROSION AND SEDIMENT CONTROL MEASURES, ACTIONS NECESSARY TO CORRECT DEFICIENCIES, WHEN DEFICIENCIES ARE CORRECTED, AND THE SIGNATURE OF THE PERSON PERFORMING THE INSPECTION. CONTRACTOR SHALL ADD EROSION CONTROL MEASURES AS NECESSARY TO CONTROL SEDIMENT RUNOFF FROM THE SITE, ADDITIONAL MEASURES SHALL BE AT THE CONTRACTORS EXPENSE.
2. CONTRACTOR TO HAVE A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) ON SITE AT ALL TIMES. INSPECTION LOGS AND ANY CHANGES TO EROSION CONTROL MEASURES SHALL BE ADDED TO THE SWPPP.
3. CONCRETE WASH OR RINSE WATER FROM CONCRETE MIXING EQUIPMENT, TOOLS AND/OR READY-MIX TRUCKS, TOOLS, ETC. MAY NOT BE DISCHARGED INTO OR BE ALLOWED TO RUN DIRECTLY INTO ANY EXISTING WATER BODY OR STORM INLET. ONE OR MORE LOCATIONS FOR CONCRETE WASH OUT WILL BE DESIGNATED ON SITE, SUCH THAT DISCHARGES DURING CONCRETE WASHOUT WILL BE CONTAINED IN A SMALL AREA WHERE WASTE CONCRETE CAN SOLIDIFY IN PLACE AND EXCESS WATER EVAPORATED OR INFILTRATED INTO THE GROUND.
4. CHEMICALS OR MATERIALS CAPABLE OF CAUSING POLLUTION MAY ONLY BE STORED ONSITE IN THEIR ORIGINAL CONTAINER. MATERIALS STORED OUTSIDE MUST BE IN CLOSED AND SEALED WATER-PROOF CONTAINERS AND LOCATED OUTSIDE OF DRAINAGE WAYS OR AREAS SUBJECT TO FLOODING. LOCKS AND OTHER MEANS TO PREVENT OR REDUCE VANDALISM SHALL BE USED. SPILLS WILL BE REPORTED AS REQUIRED BY LAW AND IMMEDIATE ACTIONS TAKEN TO CONTAIN THEM.
5. SEE SHEET C202 FOR EROSION CONTROL DETAILS.
6. CONTRACTOR TO KEEP ALL SEDIMENT FROM EXISTING OR PROPOSED PAVEMENT.
7. CONTRACTOR TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF CITY, STATE, AND FEDERAL REGULATIONS FOR EROSION CONTROL.
8. ALL DISTURBED AREAS SHALL BE PERMANENTLY SOD UPON COMPLETION OF PROJECT. REFER TO FESCUE TURF SOD NOTES FOR INSTALLATION INSTRUCTIONS. REMOVE S75 TRM FOR SOD PLACEMENT AS NEEDED.
9. REMOVE SEDIMENT AND DEBRIS FROM ALL STORM SEWER SYSTEM STRUCTURES AND PIPES ON-SITE, INCLUDING PERFORATED UNDERDRAINS PRIOR TO FINAL COMPLETION.

N

SCALE: 1"=40'
0 40 80

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State Certificate of Authority #:
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Landscaping: 2006027139
Surveying: 2006027138
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Smith & Boucher Engineers
Mechanical, Electrical, Plumbing Engineers
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25618 W 103rd St
Olathe, Johnson County, KS 66061
913.345.2127 phone

CONSTRUCTION DOCUMENTS

LHS Baseball & Softball Upgrades
Liberty Public Schools 53
200 Blue Jay Drive
Liberty, MO 64068

REVISIONS:

#	Description	Date
1	Addendum No. 2	07.24.2023
2	Addendum No. 4	08.04.23

STATE OF MISSOURI
BRADEN L. TAYLOR
NUMBER PE-2021001896
7.24.23
PROFESSIONAL ENGINEER

BRADEN L. TAYLOR
LICS# 2021001896

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DATE: 07-12-23

C114

EROSION CONTROL PLAN

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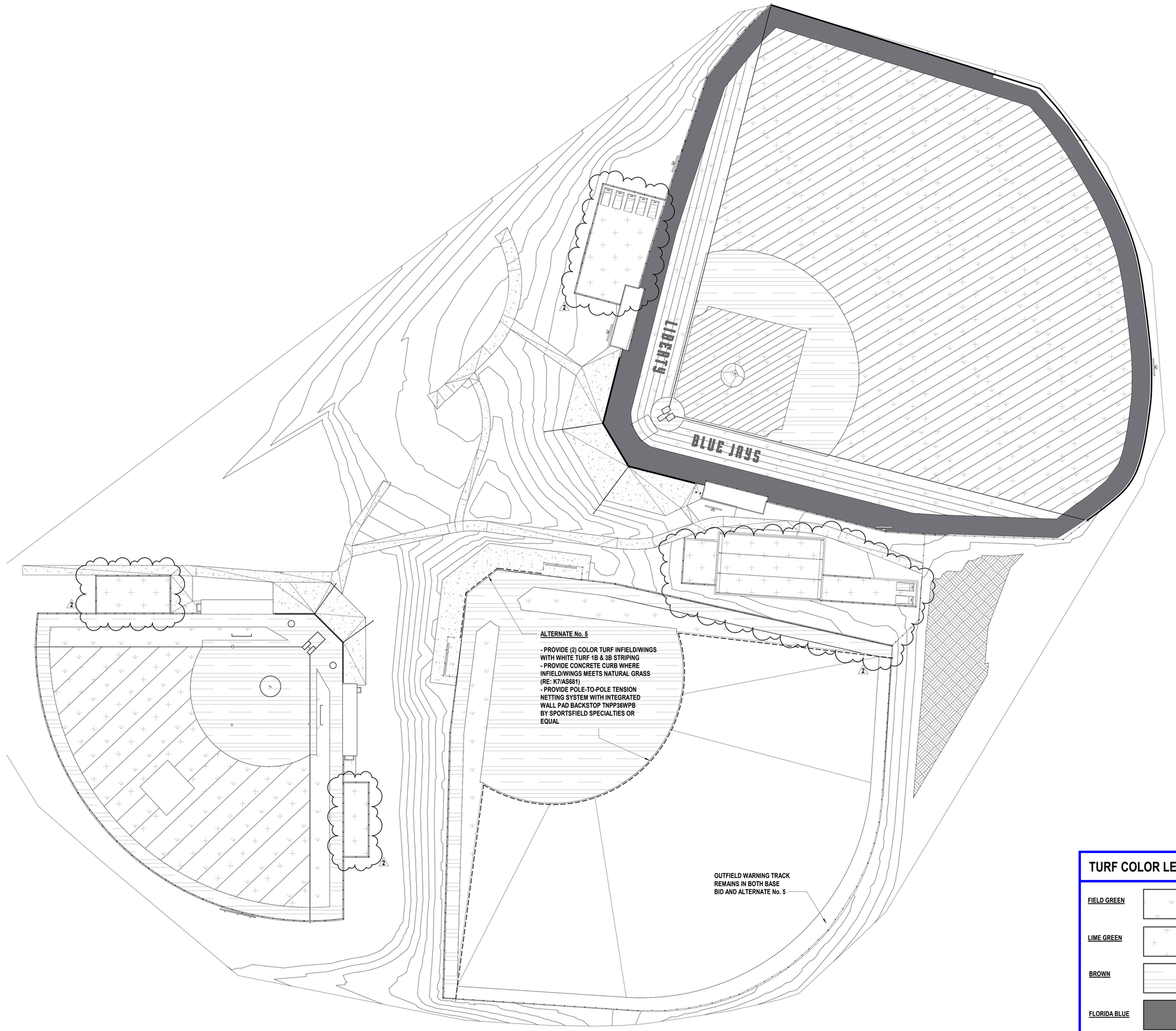

TURF COLOR LEGEND

FIELD GREEN	
LIME GREEN	
BROWN	
FLORIDA BLUE	

A1 | Scale: 1" = 30'-0" | Overall Site

ARCHITECTURAL SITE PLAN - OVERALL

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STATE OF MISSOURI
KEVIN E. NELSON
A-2019015618
ARCHITECT
AUGUST 4, 2023

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AS101

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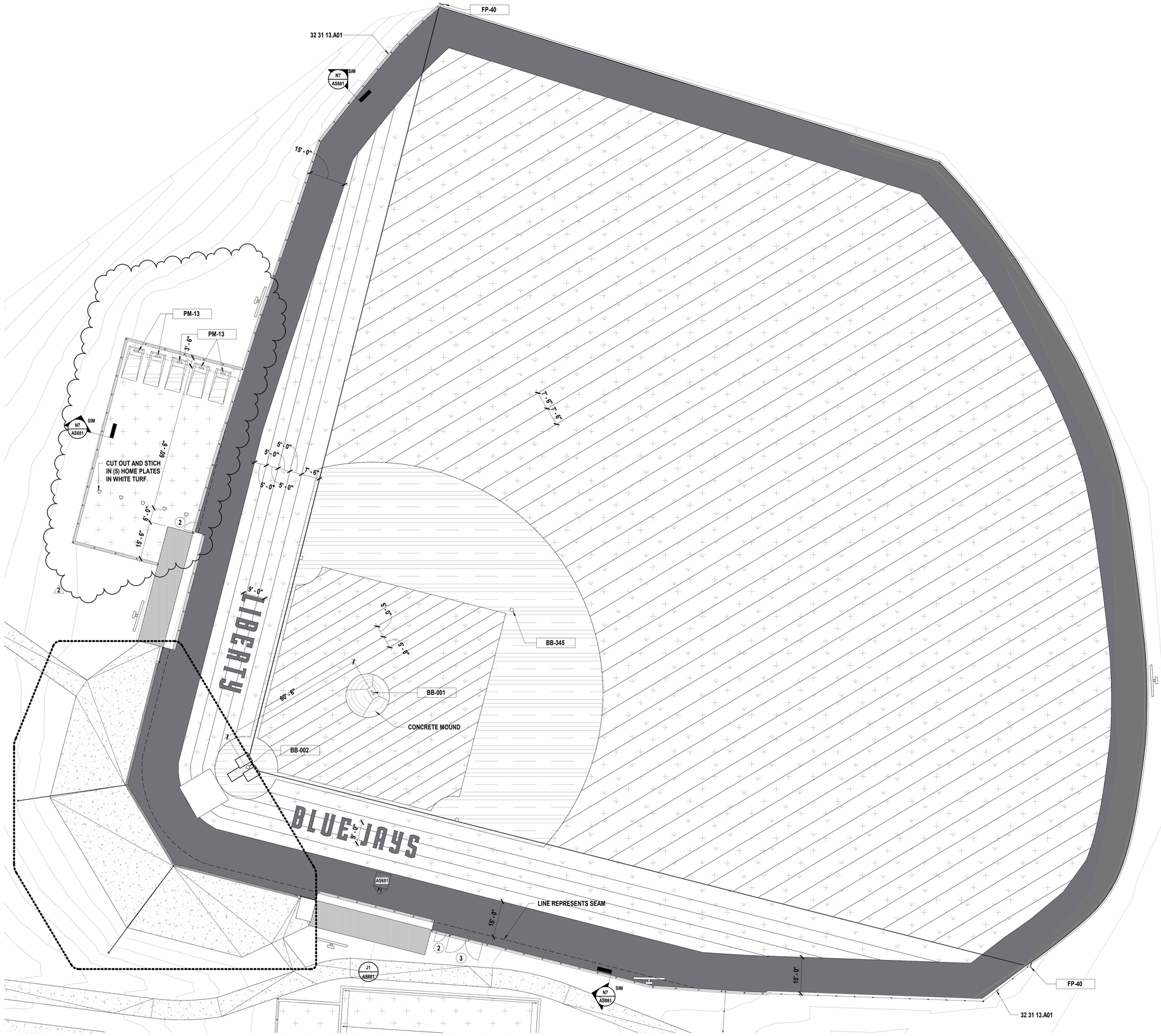

SHEET KEYNOTE LEGEND

SITE - GENERAL NOTES

1. REFER TO SHEET AS681 FOR EQUIPMENT SCHEDULE.
2. ALL CHAINLINK FENCE TO BE 8'-0" IN HEIGHT UNLESS NOTED OTHERWISE.
3. EXISTING FENCING POLES TO REMAIN SHALL BE PREPPED WITH ACRYLIC METAL PRIMER FOR GALVANIZED SURFACES PRIOR TO PAINTING.
4. BASE PATHS, FOUL LINES, BATTERS BOXES, COACHES BOXES AND ALL OTHER FIELD STRIPING TO BE STITCHED IN WHITE TURF.
5. INSTALLER RESPONSIBLE FOR MEETING ALL FIELD OF PLAY GUIDELINES AS ADOPTED BY MSHSAA AND NFHS

SITE - KEYED NOTES

(1) EXISTING PORTION OF FENCING TO REMAIN. AND ALL ASSOCIATED CONDUIT/SOUND SYSTEM COMPONENTS. PAINT FENCE POSTS BLACK. INSTALL BLACK PVC COATED CHAINLINK TO EXISTING POSTS. HEIGHTS VARY. VERIFY IN FIELD

(2) 4'-0" PASS THROUGH GATE

(3) 14'-0" ACCESS GATE

TURF COLOR LEGEND

FIELD GREEN

LIME GREEN

BROWN

FLORIDA BLUE

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REVISIONS:

#	Description	Date
1	Addendum No. 2	07.24.23
2	Addendum No. 4	08.04.23

STATE OF MISSOURI
KEVIN E. NELSON
A-2009015618
ARCHITECT
AUGUST 4, 2023

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AS111

A1 | Scale 1/16" = 1'-0" | Varsity Baseball

SITE PLAN - BASEBALL FIELD

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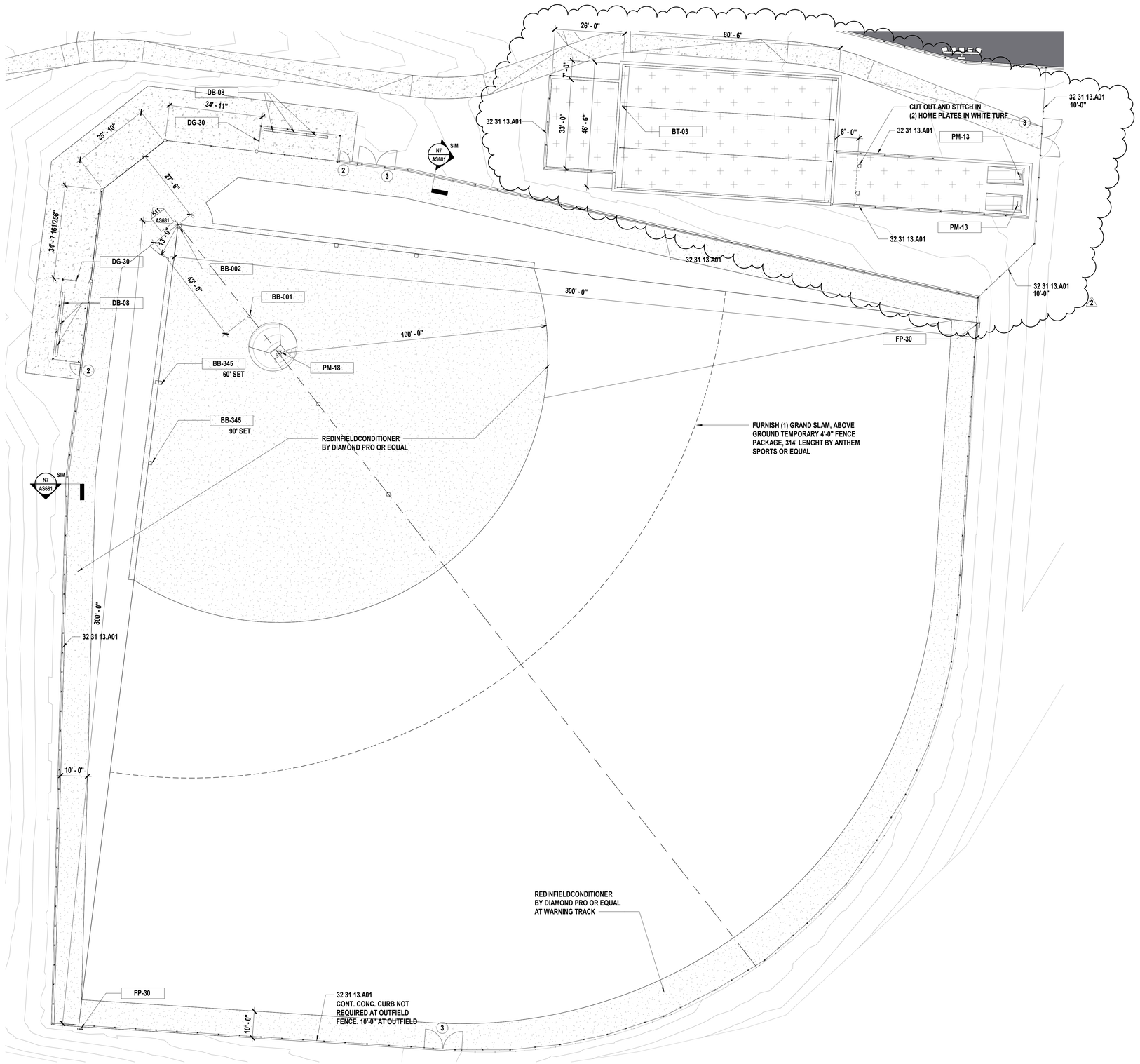

SHEET KEYNOTE LEGEND

32 31 13.A01	CHAIN LINK FENCING

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5. INSTALLER RESPONSIBLE FOR MEETING ALL FIELD OF PLAY GUIDELINES AS ADOPTED BY MSHSAA AND NFHS

SITE - KEYED NOTES

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2. 4'-0" PASS THROUGH GATE
3. 14'-0" ACCESS GATE

TURF COLOR LEGEND

FIELD GREEN

LIME GREEN

BROWN

FLORIDA BLUE

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STATE OF MISSOURI
KEVIN E. NELSON
A-2009015618
ARCHITECT

AUGUST 4, 2023

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AS112

A1 | Scale 1/16" = 1'-0" | Multi-purpose Field

SITE PLAN - MULTI-PUROPOSE FIELD

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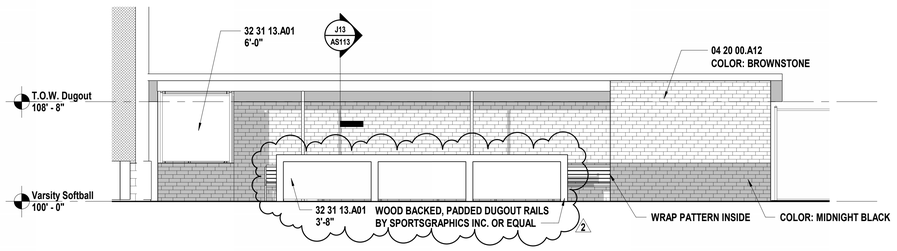
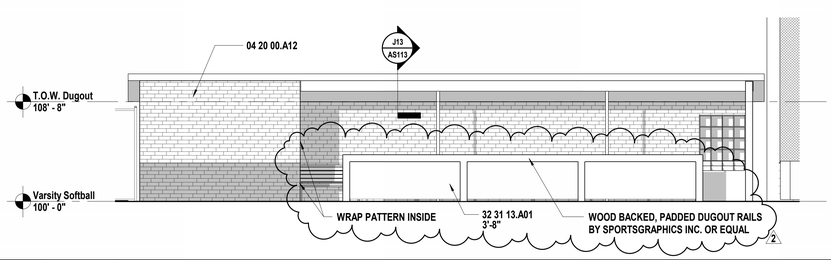
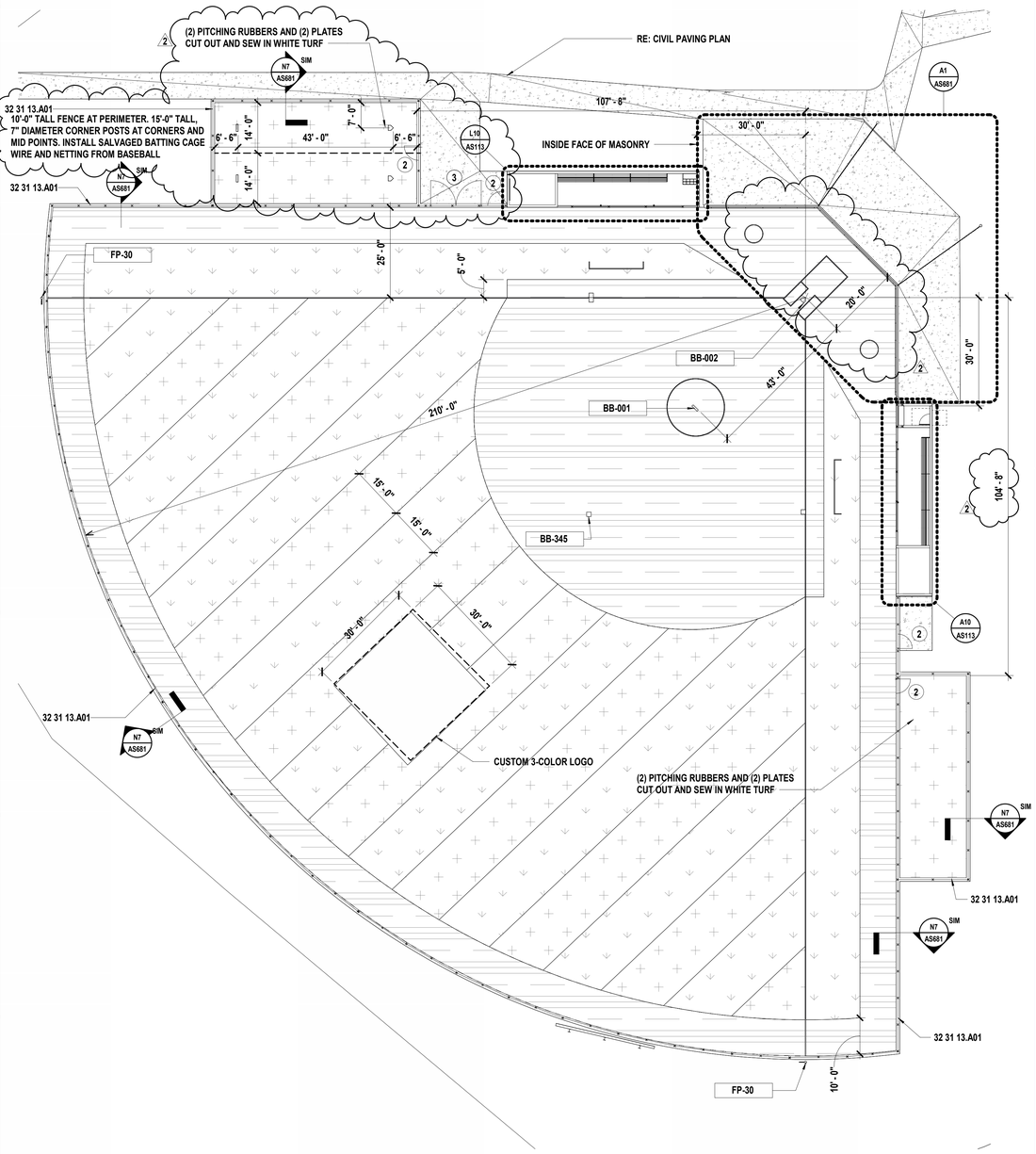


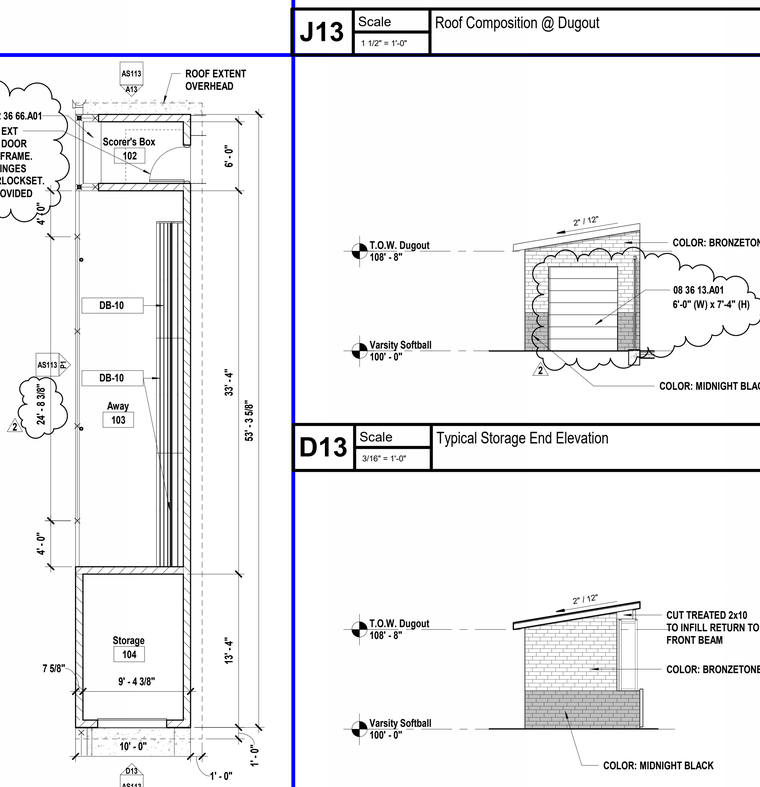
P1 Scale 3/16" = 1'-0" — Front Elevation - Away Dugout



Q10 Scale 3/16" = 1'-0" — Front Elevation - Home Dugout

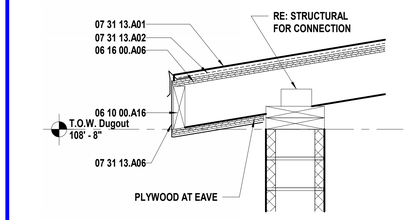


A1 Scale 1/16" = 1'-0" — Varsity Softball



L10 Scale 3/16" = 1'-0" — Enlarged Dugout Plan - Home

A10 Scale 3/16" = 1'-0" — Enlarged Dugout Plan - Away



NOTE: SHEET METAL FASCIA TO WRAP ALL FOUR SIDES OF DUGOUT ROOF

J13 Scale 1 1/2" = 1'-0" — Roof Composition @ Dugout

D13 Scale 3/16" = 1'-0" — Typical Storage End Elevation

A13 Scale 3/16" = 1'-0" — Scorer's Box Elevation - Away Dugout

SHEET KEYNOTE LEGEND

04 20 00.A12	FACE BRICK
06 10 00.A16	FIRE-RETARDANT TREATED WOOD BLOCKING & NAILERS
06 16 00.A06	ROOF SHEATHING
07 31 13.A01	ASPHALT SHINGLES
07 31 13.A02	FELT UNDERLAYMENT
07 31 13.A06	METAL FLASHING/TRIM
08 36 13.A01	SECTIONAL DOORS
12 36 66.A01	SOLID SURFACE COUNTERTOP
32 31 13.A01	CHAIN LINK FENCING

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KEVIN E. NELSON — STATE OF MISSOURI — A-2019015618 — ARCHITECT
AUGUST 4, 2023

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AS113

SITE PLAN - SOFTBALL FIELD

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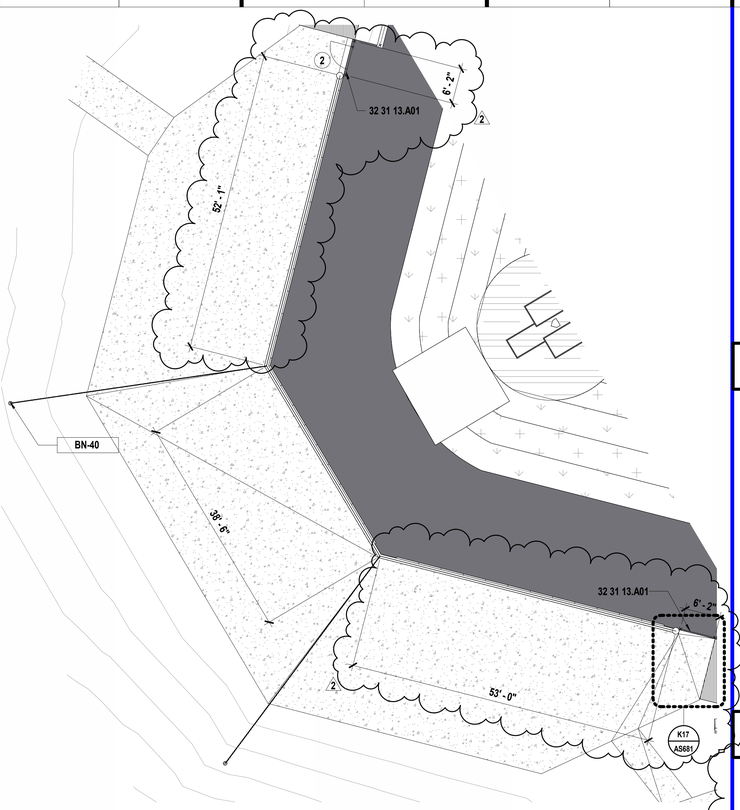
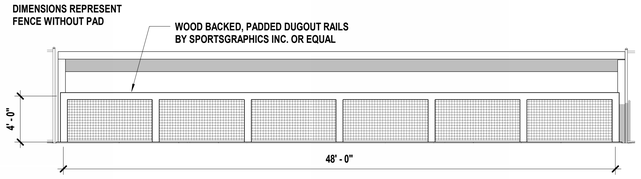
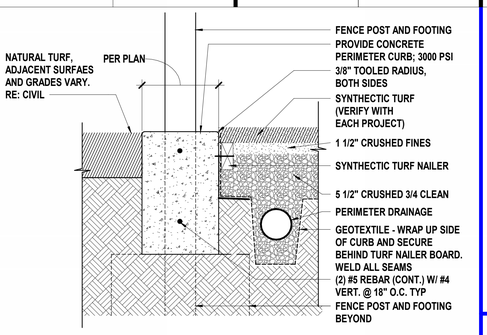


J1 Scale 3/32" = 1'-0" — Enlarged Plan - 40' Netted Backstop @ Baseball

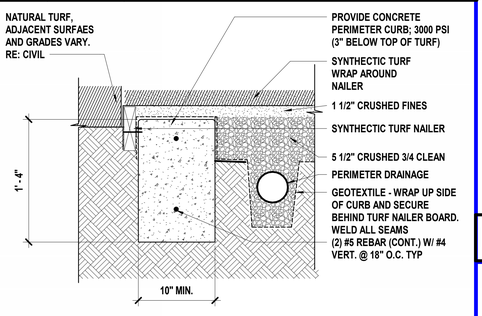


F1 Scale 3/16" = 1'-0" — Elevation - Padded Fence at Dugout

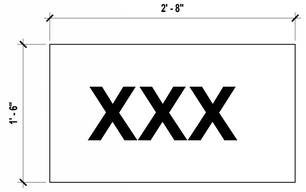
A1 Scale 3/32" = 1'-0" — Enlarged Plan - 30' Netted Backstop @ Softball



N7 Scale 1 1/2" = 1'-0" — Typical Perimeter Turf Curb with Fence



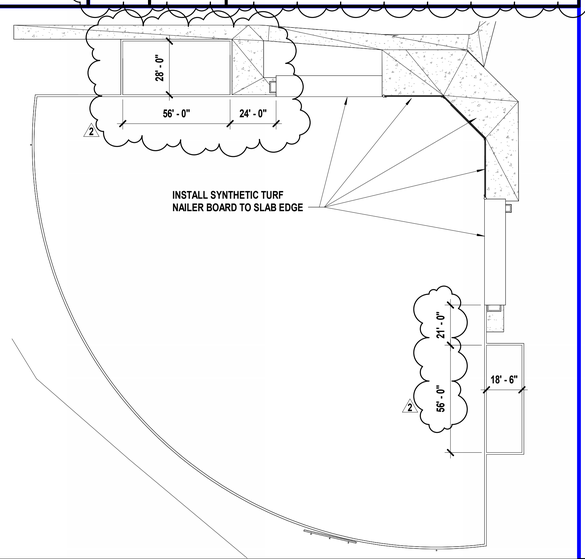
K7 Scale 1 1/2" = 1'-0" — Turf to Natural Grass Transition (Alternate #5)



32x18 INCH HORIZONTAL OUTFIELD DISTANCE SIGN
VINYL PRINT ON FLAT CUT ALUMINUM METAL WITH POLY PROPYLENE CORE

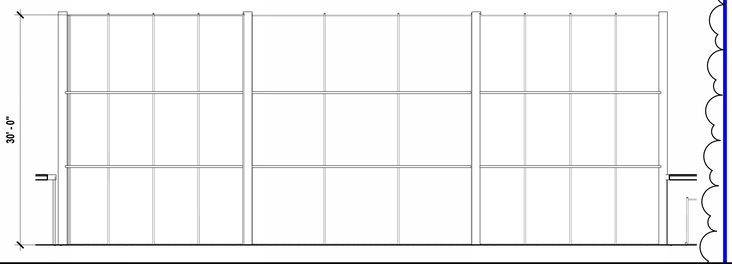
- PROVIDE (3) THREE PER FIELD
- FIELD VERIFY DISTANCE TO WALL FROM REAR POINT OF HOME PLATE PRIOR TO PRINTING

F7 Scale 1 1/2" = 1'-0" — Outfield Distance Signs

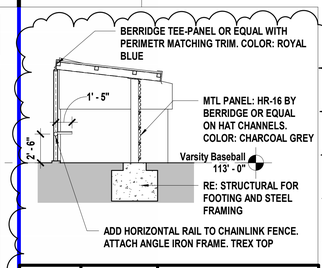


A6 Scale 1/32" = 1'-0" — Perimeter Concrete Turf Curb @ Softball

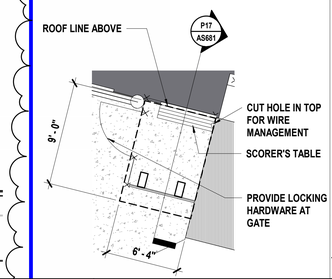
Specialty Equipment Schedule				
Mark	Keynote	Description	Manufacturer	Model
BB-001	11 66 73	Pitching Rubber	Sportsfield Specialties	TBPR
BB-002	11 66 73	Home Plate	Sportsfield Specialties	TBHP
BB-345	11 66 73	1st, 2nd, 3rd base set	Sportsfield Specialties	TBS
BH-16	11 66 73	Stand-up cubby with 16-helmet, 8 bat-bin and side storage	Sportsfield Specialties	SUAHCBBSS
BN-30	11 66 73	Custom tie-back tension softball backstop netting system with integrated wall pad and #36 nylon netting - 30'H x 120'L	Sportsfield Specialties	TNTB36WPB
BN-40	11 66 73	Custom tie-back tension baseball backtop netting system with integrated wall pad back stop and #36 nylon net - 40'H x 120'L	Sportsfield Specialties	TNTB36WPB
BT-03	11 66 73	Triple Tension baseball batting tunnel	Sportsfield Specialties	BTTBT
DB-08	11 66 73	Single-tier aluminum team bench, portable - 8' length	Sportsfield Specialties	ATBNBPT
DB-10	11 66 73	Two-Tier Aluminum Dugout Bench, 10'-0" length	Sportsfield Specialties	ATBTTBM10
DG-30	11 66 73	30'-0" x 10'-0" Modular Dugout	Sportsfield Specialties	GameShade
FP-30	11 66 73	Foul Pole with mesh wing, ground sleeve inserted - 30'H	Sportsfield Specialties	FPW630
FP-40	11 66 73	Foul Pole with mesh wing, ground sleeve inserted - 40'H	Sportsfield Specialties	FPW640
PM-13	11 66 73	Synthetic Portable Pitcher's bull Pen Mound	Sportsfield Specialties	PPBPBIT
PM-18	11 66 73	Porta-Pitch Portable Baseball Pitcher's Mound	Sportsfield Specialties	PPB



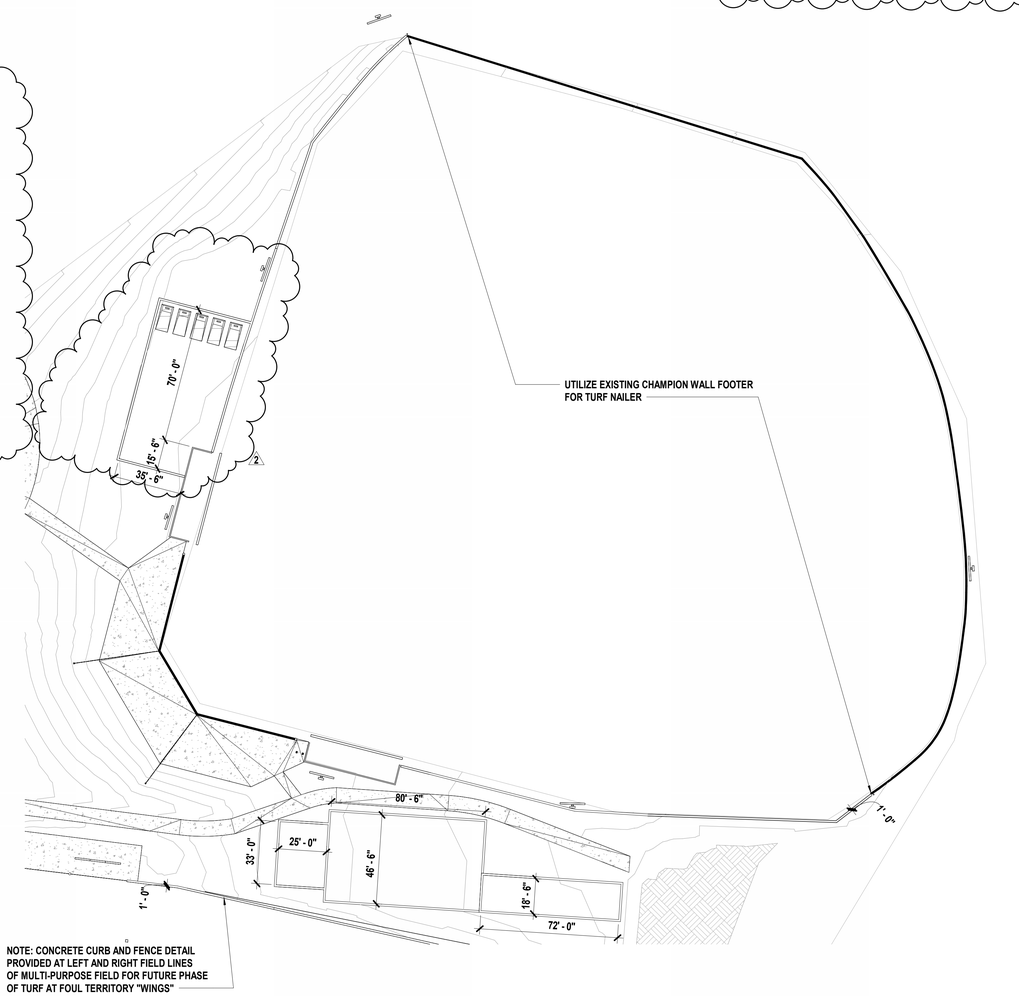
K11 Scale 1/8" = 1'-0" — Elevation - Chainlink Backstop



P17 Scale 3/16" = 1'-0" — Alternate No. 1 - Section



K17 Scale 3/16" = 1'-0" — Alternate No. 1 - Plan



NOTE: CONCRETE CURB AND FENCE DETAIL PROVIDED AT LEFT AND RIGHT FIELD LINES OF MULTI-PURPOSE FIELD FOR FUTURE PHASE OF TURF AT FOUL TERRITORY "WINGS"

A11 Scale 1/32" = 1'-0" — Perimeter Concrete Turf Curb @ Baseball

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Smith & Boucher
Mechanical, Electrical and Plumbing Engineers
State Certificate of Authority #EGC000178
25818 W 103rd St
Olathe, KS 66061
913.345.2127 phone

CONSTRUCTION DOCUMENTS

LHS Baseball & Softball Upgrades
Liberty Public Schools 53
200 Blue Jay Drive
Liberty, MO 64068

REVISIONS:

#	Description	Date
1	Addendum No. 2	07.24.23
2	Addendum No. 4	08.04.23

KEVIN E. NELSON
A-2019015618
ARCHITECT
STATE OF MISSOURI
AUGUST 4, 2023

The Professional Architects seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this architect, and this architect expressly disclaims any and all responsibility for such plan, drawings, or documents not exhibiting this seal.

JOB NO: 23023
DRAWN BY: GT
CHECKED BY: Checker
DATE: 07.24.23

AS681

SCHEDULES AND DETAILS

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A. **Building Code**

1. The design and construction shall conform to the 2018 International Building Code (IBC) as amended by the City of Liberty, Missouri.

B. **Design Loads**

1. This project is designed to resist the most critical loads resulting from the basic load combinations outlined in section 1605 of the code.

2. Dead Loads
   a. The roof mounted equipment weights used for design are indicated on the contract documents. The Contractor shall submit actual weights for all roof mounted equipment for review by the Engineer.
   b. Total service roof dead load: 25 psf (Includes 10 psf collateral load)

3. Live Loads
   a. Code Loads
      1. Roof 30 psf
   b. Live load reduction has not been utilized.

4. Snow - The snow load is in accordance with ASCE 7 with the following criteria:
   a. Ground snow load p_g = 20 psf,
   b. Exposure Factor C_e = 1.00
   c. Importance Factor I_s = 1.00
   d. Thermal Factor C_t = 1.10
   e. Roof Slope Factor C_s = 1.0
   f. Flat Roof Snow Load p_f = 15.4 psf
   g. Minimum Snow Load p_m = 22 psf

5. Wind - The wind load is in accordance with ASCE 7 with the following criteria:
   a. Basic wind speed V = 110 mph
   b. Allowable Stress Design Wind Speed V_{asd} = 86 mph
   c. Risk Category II
   d. Exposure Catergory C
   e. Internal Pressure Coefficient ± 0.55
   f. Components & Cladding Force per code

6. Seismic - The seismic design is in accordance with the general building code with the following criteria:
   a. Importance Factor I_E = 1.00
   b. Risk Category II
   c. 0.2 sec Spectral Response Acceleration S_S = 9.4%
   d. 1.0 sec Spectral Response Acceleration S_1 = 6.9%
   e. Soil Site Class D (Assumed)
   f. Design 0.2sec Spectral Response Acceleration S_{DS} = 10.1%
   g. Design 1.0sec Spectral Response Acceleration S_{D1} = 11.0%
   h. Seismic Design Category B
   i. Basic Seismic Force Resisting System Ordinary reinforced masonry shear walls

7. Rain - The rain load is in accordance with the general building code and ASCE 7 with the following criteria:
   a. Rainfall Intensity (15 minute) 7.59 in./hr
   b. Rainfall Intensity (60 minute) 3.66 in./hr

C. **Foundations**

1. Geotechnical Report
   a. A Geotechnical Engineering Report was not provided for this project.

2. Spread Footings, Trench Footing and Grade Beams
   a. All shallow foundations have been designed to bear on undisturbed soil or engineered fill for a net allowable bearing pressure of 1500 psf based on presumptive values per IBC table 1806.2.

D. **Concrete**

1. All concrete and reinforcing details shall conform to ACI 318 and CRSI "Manual of Standard Practice".

2. Strength - The following areas shall have a minimum 28 day compressive strength:
   a. Interior flatwork concrete: 4000 psi
   b. Exterior flatwork concrete: 4000 psi
   c. Footing and grade beams: 4000 psi

3. No water may be added to the concrete mix on the job site unless specifically withheld at the batch plant. The workability should be attained through the use of water-reducing agents and/or super-plasticizing chemical admixtures.

4. Reinforcing
   a. Grade
      1. Typical reinforcing ASTM A615, Grade 60
      2. Welded reinforcing ASTM A706
   b. Lap splices and development lengths in reinforcement shall be per the Typical Reinforcing Splice Length Table (J1/S530) unless indicated elsewhere in the drawings and specifications. Lap welded wire reinforcing one full mesh space plus 2 inches.
   c. Welded Wire Reinforcing ASTM A1064
      1. All welded wire reinforcing for slab on grade shall be supported on metal chairs specifically designed for soil bearing conditions. Pulling reinforcing up during concrete placement is not allowed.
      2. All welded wire for metal deck supported slab shall be supported by metal chairs with a maximum spacing of 4'-0" OC. Pulling reinforcing up during concrete placement is not allowed.
   d. All concrete shall be reinforced unless specifically identified on the drawings as unreinforced. Reinforce sections with similar conditions located elsewhere on the project.
   e. All synthetic and steel fiber reinforcement shall be considered secondary reinforcing only.

5. Concrete cover shall be the following:
   a. Concrete cast against and exposed to earth 3"
   b. Concrete exposed to earth or weather #5 and smaller 1 ½"
   c. Concrete exposed to earth or weather #6 and larger 2"

6. All openings in slabs, walls, foundations, etc. shall have an additional (2) #5's on each side, in each corner of the opening and each face of the member. Extend reinforcing 2'-6" beyond edge of opening.

7. The Contractor shall provide an additional (10) #4 x 20'-0" and (10) #5 x 20'-0" of reinforcing to be used at the direction of the Structural engineer. The Contractor shall include all costs associated with material, field fabrication, and placing.

8. Aluminum items shall not be embedded in concrete.

F. **Masonry**

1. **General:**

   a. Engineered masonry is designed in accordance with "Building Code Requirements for Masonry Structures" (TMS 402/602, Latest Edition).

   b. Materials:
      Atlas Hollow Brick, ASTM C-652
      Minimum Compressive Strength = 9000 PSI
      Mortar: Type S (for reinforced masonry)
      Grout: ASTM C476, Minimum Compressive strength = 3000 PSI
      Reinforcing steel: ASTM A615, Grade 60

   c. All walls shall be running bond type construction UNO.

   d. All Clay Masonry cells with reinforcing or anchors shall be filled with grout.

   e. All vertical Clay Masonry wall reinforcing shall have full contact lap splices with dowels from foundation.

   2 f. All Clay Masonry lintels shall be U-shape blocks. Webs shall be sawcut to form lintel beam. Portions of web that are sawcut shall be removed prior to reinforcing and grout installation.

   g. Inserting dowels into fresh or partially hardened concrete or grout is prohibited. Bars shall be secured per CRSI in-place prior to concrete or grout pour.

   2 h. All Clay Masonry bond beams shall be sawcut per typical Clay Brick manufacturer details. Portions of bond beam that are knocked out shall be removed prior to reinforcing and grout installation.

   i. Vertical Clay Masonry reinforcement shall be continuous through lintels and shall extend the entire height of the wall.

   k. Bond beam located at first course above and below bearing elevations and at top of walls are structural bond beams and shall have reinforcement continuous through control joints.

   l. Joint reinforcing and intermediate bond beam (those not included in Note 1.j above) reinforcing shall be discontinuous at control joints.

   m. Reinforcing lap splice lengths (UNO) per schedule on S54# series of sheets.

2. **Vertical Reinforcement:**

   a. Refer to masonry wall elevations for individual structures for vertical reinforcement, unless otherwise indicated, provide (1) #5 vertical centered in the wall at the following spacing: 48" OC.

   b. Provide an additional vertical reinforcement at each side of control joints, at intersection of exterior walls, and at each side of all masonry openings greater than 10" in width. In openings wider than 24" provide additional vertical reinforcement in two adjacent cells on each side of the opening. Added vertical reinforcement shall be continuous for the full height of wall UNO. See add bar detail E9/S540. Provide foundation dowel same size and location as vertical bars in all above. Dowel bars shall be located at each vertical wall reinforcement and shall extend a minimum of 18" into the concrete foundation. 2

   c. Extend all vertical bars from the bottom course through the top most bond beam.

3. **Horizontal Reinforcement:**

   a. Construct bond beams using (1) #5 horizontal in 8" Clay Masonry.

   b. Locate bond beams at the bottom-most course and the top-most.

   c. Provide bond beam below all masonry openings and extend a minimum of 16" beyond each side of opening.

   d. Discontinue bond beam reinforcement at all wall control joints except at elevated floor and roof levels and as indicated in note 1.k of these notes and S54# series of sheets.

   e. Provide horizontal joint reinforcement at every other course or a maximum 16" spacing. Begin joint reinforcing at the top of second block course above floor slab

4. **Control Joint:**

   a. Use premolded control joint key inserts with sash block; use corrugated metal separator at bond beam locations.

   b. Locate control joint where indicated on the floor plans; or when not indicated as listed below:
      1. Locate approximately 1/2 the wall height from wall intersections. Locate at spacing not greater than 24'-0" in interior walls; 15'-0" in exterior walls UNO.
      2. Avoid creating slip planes at door or window locations.
      3. Locate above expansion and control joints in supporting concrete floor, beams or walls.
      4. Do not provide intermediate control joints in parapet walls unless so indicated on the architectural drawings

   c. Expansion/Contraction Joints:
      1. Provide continuous compressible filler or fire safing insulation as required (full width and full length) of the same thickness as the joint.

5. **Lintels:**

   a. Provide masonry lintels above openings in masonry walls as required. See A13/S541.

6. **Grout:**

   a. Grout shall be consolidated by means of mechanical vibration unless self-consolidating grout is used.
   b. Grout solid all units below finished floor elevation.

G. **Structural Steel**

1. All steel fabrication and erection shall be in accordance with the requirements and recommendations of the American Institute of Steel Construction (AISC) Code of Standard Practice for Steel Buildings and Bridges, Latest Edition.
   a. Steel design shall be per Allowable Stress Design as outlined by AISC.

2. Grade
   a. Channels, angles and plates ASTM A36
   b. Square hollow structural shapes ASTM A500, Grade C (50 ksi)
   c. Round hollow structural shapes ASTM A500, Grade C (46 ksi)
   d. Connection material ASTM A36

3. Anchor Rods
   a. Anchor rods shall conform to ASTM F1554, Grade 55.

   b. Steel or plywood templates shall be used for all anchor rod placement in concrete and masonry. Provide a nut above and below the template to control vertical alignment.

4. Thermal cutting is not allowed in the field.

5. The contractor shall supply all miscellaneous steel as required by the contract documents. Miscellaneous steel shall include, but is not limited to, shelf angle, glass support, lintels, catwalks and other steel required for stabilization of architectural elements.

6. The Contractor shall provide an additional allowance of 2% of the steel bid (includes specification sections 051200, 052100, 053100, 055000) for steel material, fabrication and erection to be used at the direction of the Structural Engineer. Any unused portion of the allowance shall be returned to the owner.

H. **Post Installed Anchors**

1. All post installed anchors shall be designed assuming cracked concrete at the anchorage.
2. All post installed anchors shall be installed per the manufacturers recommendations.
   a. Install expansion anchors per the manufacturers recommended standard embedment unless otherwise noted in the contract documents.
   b. The embedment of all post installed anchors shall be defined as the distance from the surface of the loaded material and the deepest part of the anchor after the anchor is placed but not expanded.

3. All expansion anchors shall perform to a minimum load capacity of the Hilti Kwik Bolt 3 or approved equal.

4. All adhesive anchors embedded in concrete shall perform to a minimum load capacity of the Hilti Hit HY-200-R V3 Adhesive Anchors.

5. All anchors shall be stainless steel at exterior exposed conditions.

I. **Wood**

1. All wood framing shall be designed and erected in accordance with the recommendations of the latest edition of the National Design Specification (NDS) For Wood Construction Manuals.

2. All wood framing shall be Douglas Fir-Larch #2 or better with 19% maximum moisture content at the time of manufacture.

3. Plywood
   a. Stagger panel ends of roof sheathing.
   b. H-Clips shall be used for all roof sheathing.

4. All Engineered LVL Lumber shall have the following minimum material properties.
   a. Fb = 2600 psi
   b. Fv = 285 psi
   c. E = 1,900,000 psi
   d. Fcll = 2510 psi
   e. Fc⊥ = 750 psi
   f. G = 125,000 psi

5. Reference IBC Table 2304.10.1 for minimum fastening requirements.

6. Any wood member that rests on or is in contact with concrete, earth or masonry shall be exterior preservative pressure treated.

7. All metal wood connectors shall perform to a minimum load capacity of the Simpson Strong Tie products. All connectors shall be capable of resisting the corrosive effects of the exterior preservative pressure treatment and shall be completely installed prior to loading the connections.

8. Roof sheathing shall be OSB panels 7/16" minimum nominal thickness, exterior rated sheathing, exposure 1. Run panels perpendicular to the supports, stagger panel ends 1/2 panel length. Attach with 8D common or deformed shank nails (1 3/8" minimum penetration) 2" on center along building perimeter and continuous panel edges, 2" on center at panel edges and 12" on center at intermediate supports. Space nails at 2" on center within 3'-0" of building corners and edges. Provide 2x blocking at all plywood boundaries. Maximum diaphragm shear (service level) = 700 LB/FT.

J. **Miscellaneous**

1. Periodic site observation by field representatives of Hollis and Miller Architects, if provided, is solely for the purpose of determining if the work of the contractor is proceeding in general accordance with the structural contract documents. This limited site observation should not be construed as exhaustive or continuous to check the quality or quantity of the work, but rather periodic in an effort to guard the owner against defects or deficiencies in the work of the contractor. Observations by the engineer shall not be considered inspections, and in no way relieves the contractor of any requirements of the contract documents.

2. The building is designed to function as a unit upon completion and is not structurally stable until all connections, framing, shearwalls, permanent bracing, metal decking, and exterior load bearing walls (where applicable) are complete and have achieved their design strength. Contractor is solely responsible for maintaining structural stability during erection and construction and is responsible for furnishing all temporary bracing and/or support that may be required as the result of the contractor's construction methods and/or sequences. Temporary bracing plans should include installation and removal sequencing as applicable. Temporary bracing systems are not to be removed until structural work is complete.

3. The contractor shall not alter or modify work shown on the structural drawings without receiving written approval from the engineer. When conflicts occur between the drawings and specifications, the strictest interpretation shall govern.

4. The contract structural drawings and specifications represent the finished structure, and except where specifically shown, do not indicate the method or means of construction. The contractor shall supervise and direct the work and shall be solely responsible for all construction means, methods, procedures, techniques, sequence, and safety precautions and programs. The engineer will not be responsible for the acts or omission of the contractor, subcontractor, or any other persons performing any of the work, or for the failure of any of them to carry out the work in accordance with the contract documents.

5. See architectural, mechanical, electrical, and civil drawings for other pertinent information related to the structural work and coordinate as required. These structural drawings are intended to be utilized as a complete set of documents that represent the building's structural systems. No single sheet or series of sheets is intended to "stand alone". Typical details may or may not be cut at specific locations throughout the drawings, but are to be applied where required. These structural drawings are intended to be included in a complete set of construction documents, including but not limited to, architectural drawings, civil drawings, and mechanical/electrical/plumbing drawings. Contractor shall verify coordination of these drawings with contents of above sets specified and only proceed with bidding and construction after such has taken place.

6. All existing field and building conditions shall be verified by the Contractor before any other work shall begin. Coordinate with Engineer of Record regarding any discrepancy with existing building dimensions.

7. Submittals
   a. Submittals are to be based upon the latest submitted contract documents. This includes all addendums, Architectural Supplemental Instructions (ASIs), Structural Supplemental Drawings (SSD's), and Requests for Information (RFI's).
   b. Submittals shall be original documents. Shop drawings shall not be a duplication, in any way,of the contract documents. This includes, but is not limited to, photocopies, electronic drawing copying or electronic scanning. Any submitted shop drawing that is not original will be rejected and returned without review.
   c. Prior to submission of the submittals to the Architect, the Contractor shall review the shop drawings for conformance to the means, methods, techniques, sequences, and operations of construction. The submittal shall be coordinated with all other trades and shall include responses to all Contractor directed questions. After all aspects of the Contractor's review are complete, the Contractor's review stamp shall be affixed to the shop drawings and those shop drawings forwarded to the Architect or Structural Engineer for review. Shop drawings not bearing the Contractor's review stamp will be returned without review.
   d. Submittals - Provide the following submittals for review:
      1. Concrete Mix Design and Materials
      2. Concrete Reinforcing
      3. Embedded Items (plates, angles, etc.)
      4. Masonry Products and Materials
      5. Masonry Reinforcing
      6. Structural Steel
      7. Miscellaneous Steel including lintels, stairs, etc.
   e. Substitutions are allowed prior to bid only. Reference the specifications for timing of submission

K. **Special Inspections (based on 2018 IBC, Chapter 17)**

1. Special inspection reports shall be submitted to the Building Official, Owner, Architect, Engineer, Contractor, Sub-Contractor and any other pertinent entity in a timely manner.

2. All discrepancies found by the special inspector shall immediately be brought to the attention of the general contractor and corrected. If the contractor is unable to correct the discrepancy, the special inspector shall notify the Architect and Engineer.

3. Upon completion of the project, the special inspector shall submit a final report delineating that the work was, to the best of the inspector's knowledge, completed in conformance with the approved contract documents and applicable building code.

4. The Owner shall retain special inspection services for the items listed below. The Contractor shall provide light general labor as required to assist with special inspections.

5. Foundations
   a. See Schedule of Special Inspections Table on Sheet S002.

6. Concrete
   a. See Schedule of Special Inspections Table on Sheet S002.

7. Masonry
   a. See Schedule of Special Inspections Table on Sheet S002.

8. Steel (includes structural steel and anchor rod placement) 2
   a. See Schedule of Special Inspections Table on Sheet S002.

9. Wood
   a. See Schedule of Special Inspections Table on Sheet S002.

10. Post installed Anchors

SYMBOLS LEGEND

- PLAN NOTE
- STRUCTURAL MASONRY WALL
- CONTROL JOINT
- FLOOR OR ROOF SLOPE ARROW
- ELEVATION SYMBOL
- DRAWING REVISION NUMBER
- REVISION CLOUD
- GRID LINE
- WELDED WIRE FABRIC
- EARTH HATCH
- GRAVEL HATCH
- CONCRETE HATCH
- GROUT HATCH
- BUILDING SECTION CUT OR DETAIL — SHEET NUMBER
- ENLARGED DETAIL OR PLAN NUMBER — SHEET NUMBER

Symbols

&	And
@	At

A

A	Axial Load
ADDL	Additional
AFF	Above Finished Floor
AHU	Air Handling Unit
ALT	Alternate
ALUM	Aluminum
APPROX	Approximate
AR	Anchor Rod
ARCH	Architect/Architectural Drawings
ATS	Anchor Tie-Down System

B

BAL	Balance
BL	Brick Ledge
BLDG	Building
BLKG	Blocking
BM	Beam
BO	Bottom of
BOD	Bottom of Deck
BOS	Bottom of Steel
BOT	Bottom
BRG	Bearing
BS	Both Sides
BTWN	Between

C

C	Compression
CANT	Cantilever
CFSF	Cold-Formed Steel Framing
CIP	Cast-in-Place
CJ	Control Joint
CJP	Complete Joint Penetration
CL	Center Line
CLR	Clear
CMU	Concrete Masonry Unit
COL	Column
CONC	Concrete
CONN	Connection
CONST	Construction
CONT	Continuous/Continue
COORD	Coordinate
CSJ	Construction Joint
CTRD	Centered

D

D	Dead Load
d	Penny
DBA	Deformed Bar Anchor
DIA or Ø	Diameter
DIM	Dimension
DN	Down
DT	Precast Double Tee
DTL	Detail
DWG	Drawing
DWL	Dowel

E

E	Seismic Load
EA	Each
EF	Each Face
EJ	Expansion Joint
EL	Elevation
ELEV	Elevator
EMBED	Embedment/Embedded
ENGR	Engineer
EOD	Edge of Deck
EOR	Engineer of Record
EOS	Edge of Slab
EQ	Equal
EQUIP	Equipment
EQUIV	Equivalent
ES	Each Side
EW	Each Way
EXIST or (E)	Existing
EXT	Exterior

F

FAB	Fabricate
f'c	28-day Concrete Strength
FD	Floor Drain
FFE	Finished Floor Elevations
FIN	Finish/Finished
FLR	Floor
f'm	28-day Masonry Strength
FND	Foundation
FO	Face of
FRAM	Framing
FS	Far Side
FT	Foot/Feet
FUT OR (F)	Future
FV	Field Verify
Fy	Yield Strength

G

GA	Gauge/Gage
GALV	Galvanize/Galvanized
GEN	General
GR	Grade
H	Horizontal Shear

H

HSA	Headed Stud Anchor
HD	Headed/Hold Down
HGR	Hanger
HK	Hook
HORIZ	Horizontal
HT	Height

I

ID	Inside Diameter
IF	Inside Face
IN	Inch
INT	Interior

J

JST	Joist
JT	Joint

K

K	Kip (1000 lbs)
KSF	Kips per Square Foot
KSI	Kips per Square Inch

L

L	Live Load
LBS	Pounds
LG	Length
LLBB	Long Leg Back to Back
LLH	Long Leg Horizontal
LLV	Long Leg Vertical
LOC	Location
LONG	Longitudinal
LR	Roof Live Load
LSH	Long Side Horizontal
LSV	Long Side Vertical
LWC	Light-Weight Concrete
LWT	Light-Weight

M

MAS	Masonry
MAX	Maximum
MCJ	Masonry Control Joint
MECH	Mechanical
MEP	Mechanical/Electrical/Plumbing
MEZZ	Mezzanine
MFR	Manufacturer
MIN	Minimum
MIR	Mirror
MISC	Miscellaneous
MO	Masonry Opening
MTL	Metal
MX	Strong Axis Moment
MY	Weak Axis Moment

N

NIC	Not in Contract
NM	Non-Metallic
NO or #	Number
NS	Near Side/Non-Shrink
NTS	Not to Scale
NWC	Normal-Weight Concrete
NWT	Normal-Weight

O

OC	On Center
OD	Outside Diameter
OF	Outside Face
OH	Opposite Hand
OPNG	Opening
OPP	Opposite

P

PAF	Powder Actuated Fastener
PAR	Parallel
PC	Precast Concrete
PCF	Pounds per Cubic Foot
PERP	Perpendicular
PL	Plate
PLF	Pounds per Linear Foot
PREFAB	Prefabricated
PRELIM	Preliminary
PSF	Pounds per Square Foot
PSI	Pounds per Square Inch
PT	Point or Post-Tensioned

Q

QTY	Quantity

R

R	Radius
REF	Reference/Refer to
REINF	Reinforcing/Reinforced/Reinforcement
REQD	Required
REQT	Requirement
RET	Return
REV	Revision
RO	Rough Opening
RTU	Roof Top Unit

S

S	Snow Load
SCHED	Schedule/Scheduled
SC	Slip Critical
SDS	Self-Drilling Screw
SECT	Section
SF	Square Foot
SHT	Sheet
SIM	Similar
SLBB	Short Leg Back to Back
SOG	Slab-on-Grade
SP	Spacing
SPEC	Specification
SQ	Square
SS	Stainless Steel
STD	Standard
STIF	Stiffener
STL	Steel
STR	Structure/Structural
SW	Shear Wall
SYM	Symmetrical

T

T	Tension
T&B	Top and Bottom
THK	Thickness
THRD	Threaded Rod
TO	Top of
TOC	Top of Concrete
TOF	Top of Foundation
TOM	Top of Masonry
TOS	Top of Steel/Top of Slab
TOW	Top of Wall
TRANS	Transverse
TYP	Typical

U

UNO	Unless Noted Otherwise

V

V	Vertical Shear
VAR	Varies
VERT	Vertical

W

W	Wind Load
W/	With
W/O	Without
WF	Wide Flange
WP	Work Point/Waterproofing
WS	Waterstop
WT	Weight
WWR	Welded Wire Reinforcing

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CONSTRUCTION DOCUMENTS

LHS Baseball & Softball Upgrades
Liberty Public Schools 53
200 Blue Jay Drive
Liberty, MO 64068

REVISIONS:

#	Description	Date
2	Addendum 04	08.04.2023

STATE OF MISSOURI
07/04/2023
DAVID A. KRELL
NUMBER PE-2021014172
PROFESSIONAL ENGINEER

David A. Krell - Engineer
MO# PE-2021014172

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DRAWN BY: JCH
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DATE: 07.12.2023

S001

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GENERAL NOTES, LEGENDS, & ABBREVIATIONS

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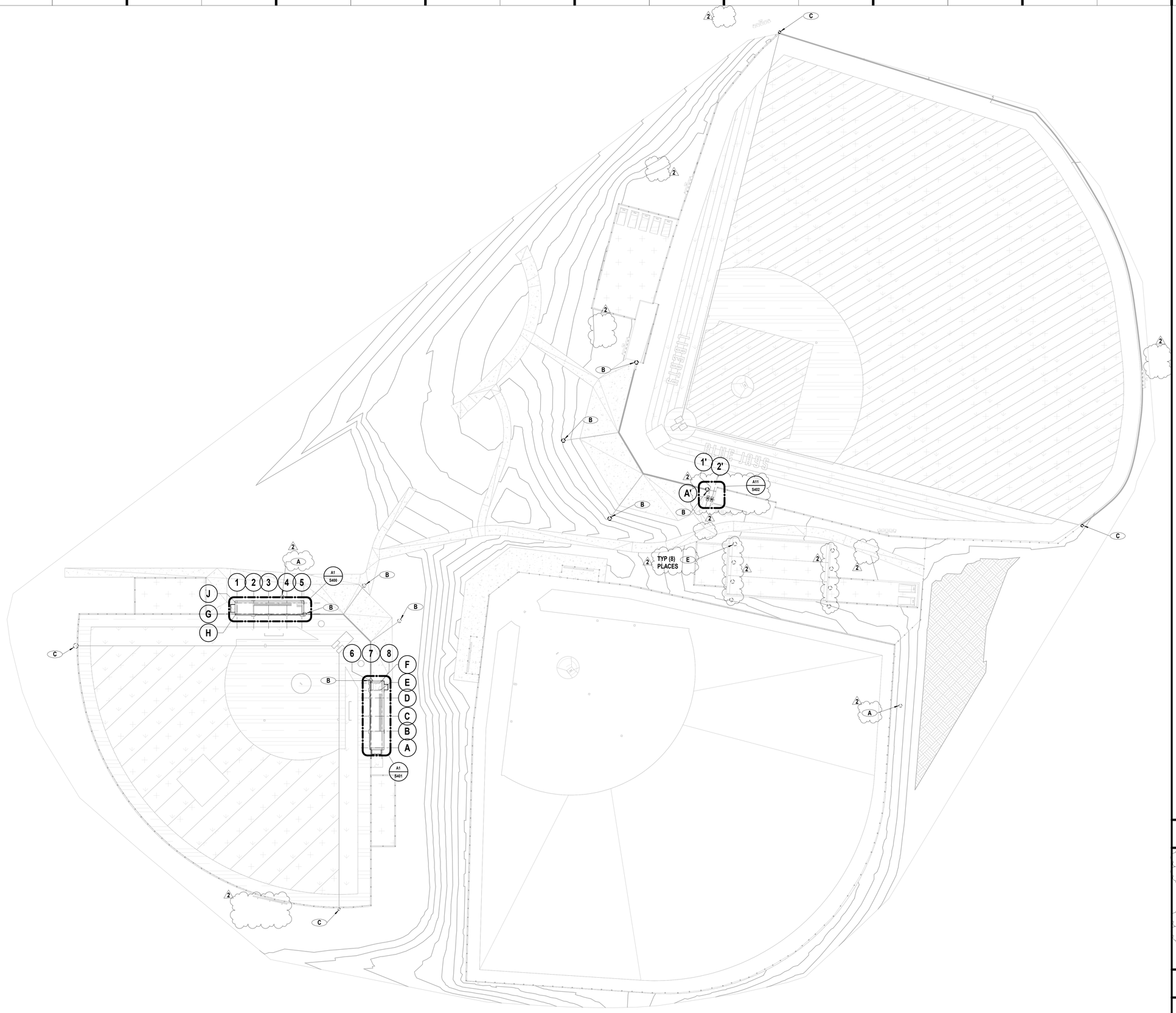

PLAN REFERENCE NOTES

- (A) EXIST 70' MUSCO LIGHT POLE TO BE RELOCATED. PROVIDE NEW POLE FOOTING PER LIGHT POLE MFR. RE M301.
- (B) TENSION BACKSTOP NETTING FOOTING PER N9 / S530.
- (C) FOUL POLE FOOTING PER N13 / S530.
- (D) NOT USED.
- (E) BATTING TUNNEL FOOTING PER J9 / S530.

FOUNDATION NOTES

1. TOP OF SITE POLE FOOTINGS ELEVATION = FINISHED GRADE UNO. REF CIVIL FOR GRADE ELEVATION.
2. REFERENCE ARCHITECTURAL FOR LOCATION AND QUANTITY OF SITE POLE FOOTINGS.

A1 | Scale 1" = 30'-0" | Foundation Plan - Overall

NORTH

FOUNDATION PLAN - OVERALL

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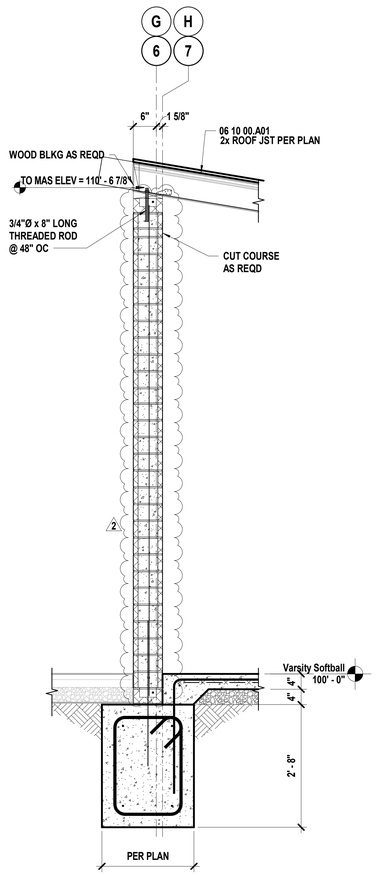
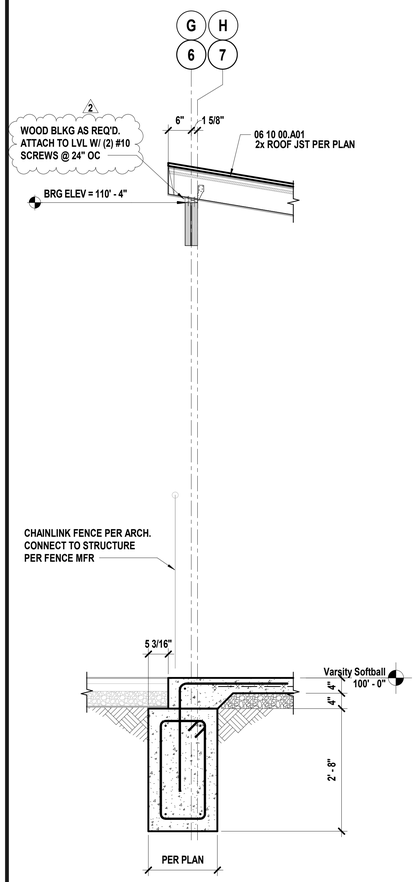


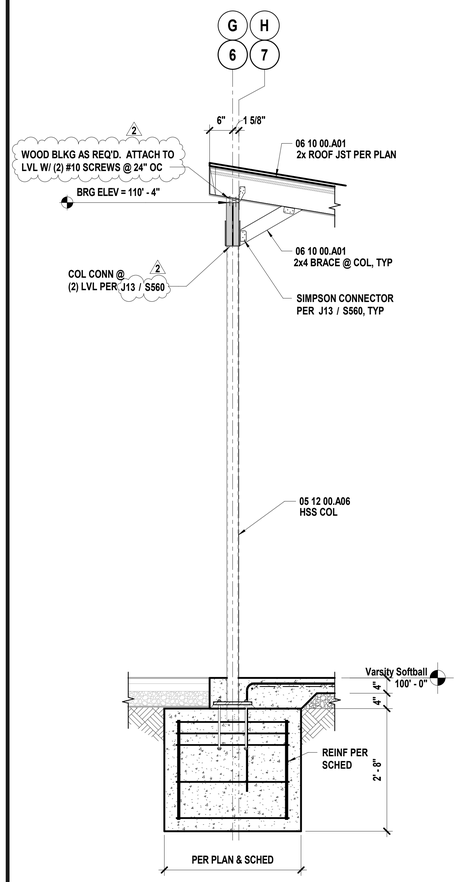
RE: A13/S310
FOR INFORMATION NOT SHOWN

A1 Scale 3/4" = 1'-0" Wall Section



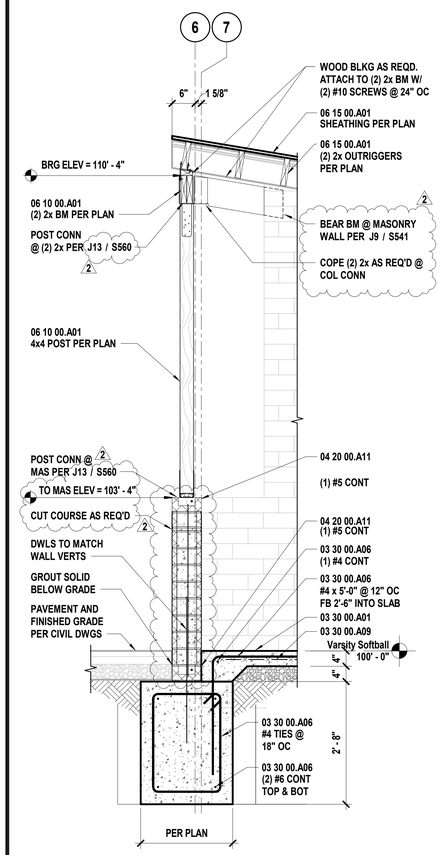
RE: A13/S310
FOR INFORMATION NOT SHOWN

A5 Scale 3/4" = 1'-0" Wall Section



RE: A13/S310
FOR INFORMATION NOT SHOWN

A9 Scale 3/4" = 1'-0" Wall Section



A13 Scale 3/4" = 1'-0" Wall Section

SHEET KEYNOTE LEGEND

03 30 00.A01	CAST-IN-PLACE CONCRETE
03 30 00.A06	REINFORCING BARS
03 30 00.A09	WELDED WIRE REINFORCEMENT
04 20 00.A11	MASONRY BOND BEAM
05 12 00.A06	HSS SHAPE
06 10 00.A01	DIMENSION LUMBER FRAMING
06 15 00.A01	WOOD ROOF DECKING

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STATE OF MISSOURI

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S310

WALL SECTIONS

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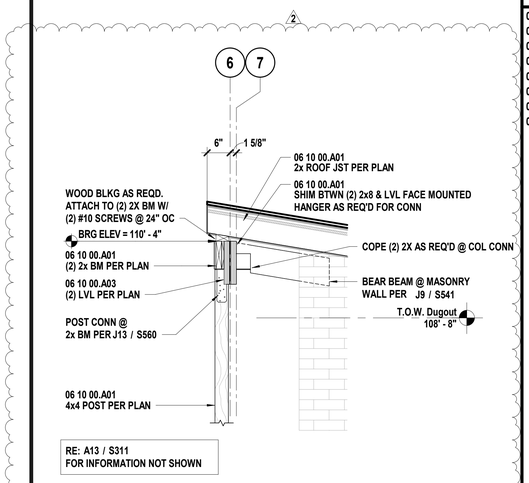
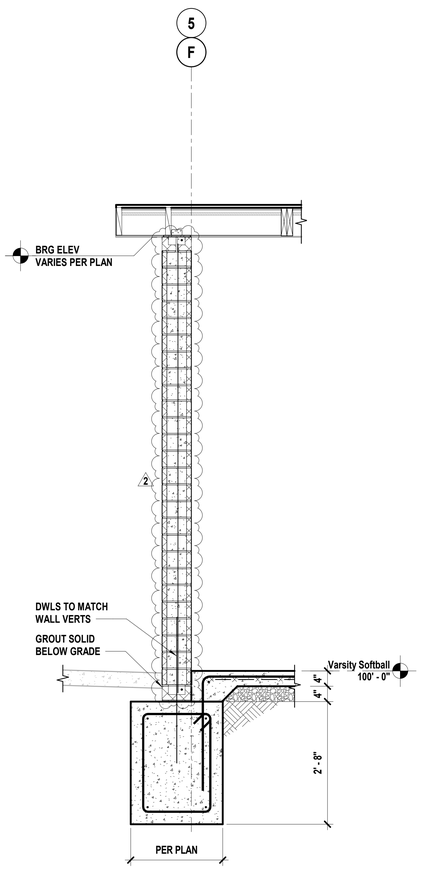
SHEET KEYNOTE LEGEND

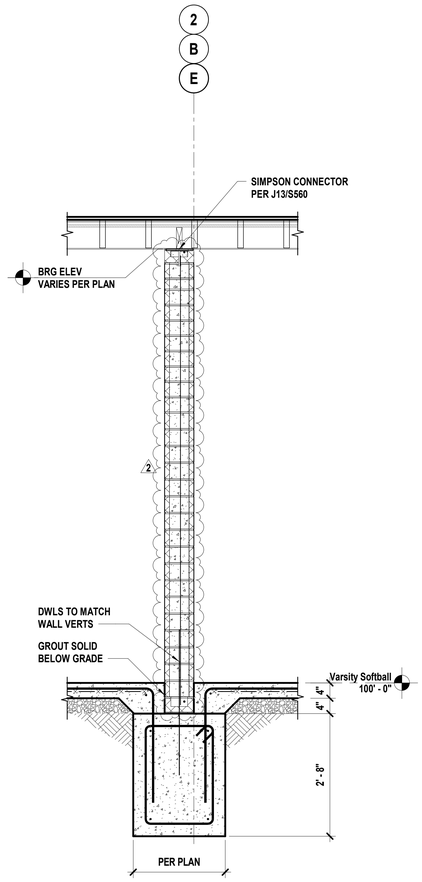
03 30 00.A01	CAST-IN-PLACE CONCRETE
03 30 00.A06	REINFORCING BARS
03 30 00.A09	WELDED WIRE REINFORCEMENT
04 20 00.A11	MASONRY BOND BEAM
05 12 00.A06	HSS SHAPE
06 10 00.A01	DIMENSION LUMBER FRAMING
06 10 00.A03	LAMINATED-VENEER LUMBER
06 15 00.A01	WOOD ROOF DECKING



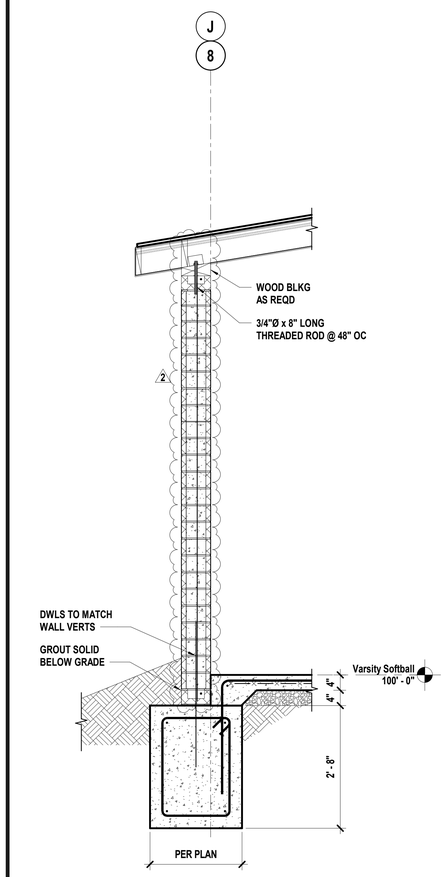
L13 Scale 3/4" = 1'-0" — Wall Section



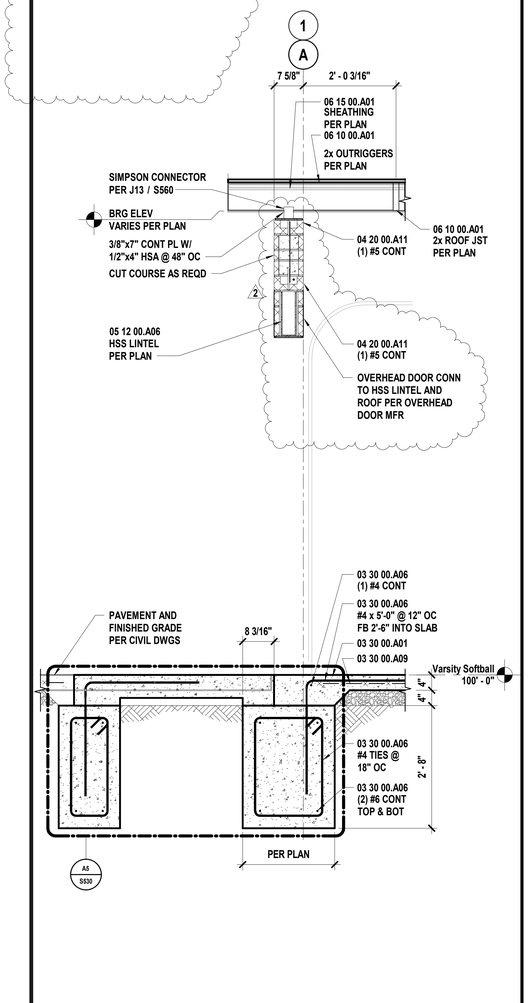
A1 Scale 3/4" = 1'-0" — Wall Section



A5 Scale 3/4" = 1'-0" — Wall Section



A9 Scale 3/4" = 1'-0" — Wall Section



A13 Scale 3/4" = 1'-0" — Wall Section

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Liberty Public Schools 53

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Liberty, MO 64068

REVISIONS:

#	Description	Date
2	Addendum 04	08.04.2023

STATE OF MISSOURI
07/04/2023
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NUMBER PE-2021014172
PROFESSIONAL ENGINEER

David A. Krell - Engineer
MO# PE-2021014172

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S311

WALL SECTIONS

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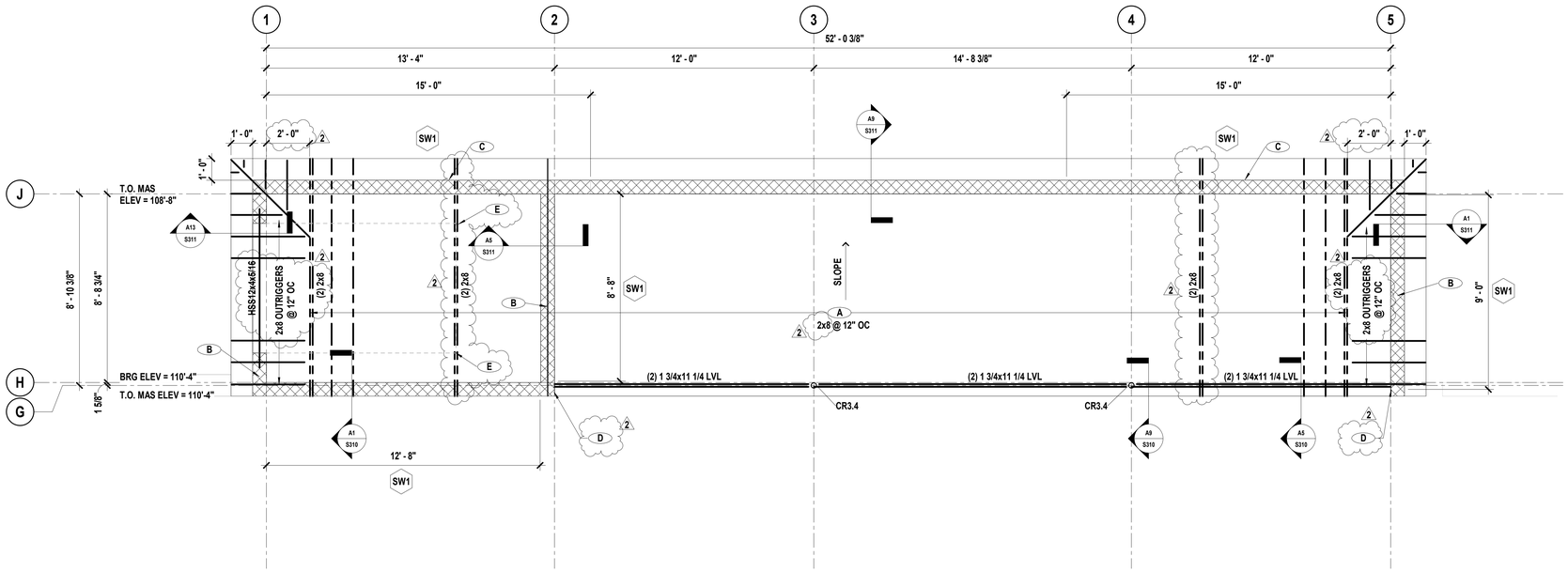
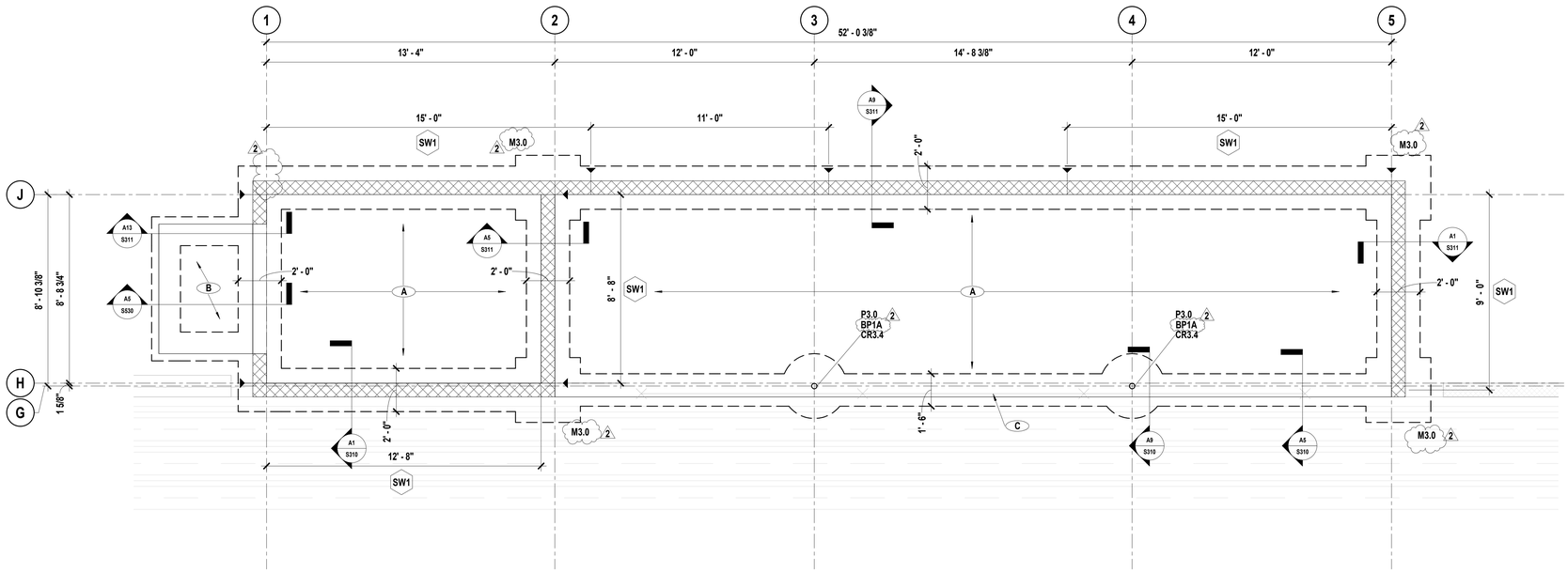


J1 | Scale 3/8" = 1'-0" | North Dugout Roof Framing Plan

NORTH



A1 | Scale 3/8" = 1'-0" | North Dugout Foundation Plan

NORTH

ROOF FRAMING PLAN REFERENCE NOTES

- A — ALL ROOF SHEATHING SHALL BE OSB PANELS 7/16" MIN NOMINAL THICKNESS, EXTERIOR RATED SHEATHING WITH 40/20 SPAN RATING, ATTACH PER NOTES ON S001.
- B — PROVIDE CONT BRG PL @ TOP OF MASONRY PER TYP DET ON S54# SERIES OF SHEETS.
- C — PROVIDE 2x BLOCKING BTWN ROOF JOISTS @ SHEARWALLS PER TYP DET ON S56# SERIES OF SHEETS.
- D — LVL BEARING CONDITION @ MASONRY WALL PER J13 / S541 .
- E — OVERHEAD STEEL DOOR ATTACHMENT TO ROOF STRUCTURE PER OVERHEAD DOOR MFR. ROOF STRUCTURE DESIGNED TO SUPPORT A MAXIMUM OF 900# AT EACH ATTACHMENT LOCATION.
- F — METAL ROOF DECK AND ATTACHMENT TO STRUCTURE PER ARCH.

ROOF FRAMING PLAN NOTES

1. ALL LINTELS IN MASONRY WALLS NOTED ON PLANS PER S54# SERIES OF SHEETS UNO.
2. PROVIDE 3/8"x7"x7" WITH (4) 1/2"ø x 4" HSA AT ALL BEAM BEARING LOCATIONS.

Structural Drilled Pier Schedule

Type	Size	Reinforcement	
		Size	Placement
P3.0	3'-0"Ø x 2'-8"	(12) #6	#3 @ 12" OC

Structural Foundation Schedule

Type	Size	Reinforcement	
		Size	Placement
M3.0	3'-0 x 3'-0 x 2'-8"	4-#5	TOP & BOT EA WAY
M4.2	4'-0 x 2'-0 x 2'-8"	#5 @ 12" OC	TOP & BOT EA WAY

Structural Base Plate Schedule

Type	Plate Size	Anchor Rods	Edge Distance
BP1A	3/4X10X0'-10"	AR-1	1 1/2"
BP1B	3/4X12X1'-2"	AR-1	1 1/2"

Structural Column Schedule

Type	Size
C8.6.6	HSS8x6x3/8
CR3.4	HSS3x1/4

FOUNDATION PLAN REFERENCE NOTES

- A — 4" CONCRETE SLAB ON GRADE WITH 15 MIL VAPOR RETARDER AND 4" CRUSHED ROCK DRAINAGE FILL PER SPECIFICATION. REINFORCE PER TYPICAL DETAILS. TOP OF CONCRETE ELEVATION = 100'-0" UNO.
- B — 6" CONCRETE SLAB ON VOID WITH 4" CRUSHED ROCK DRAINAGE FILL PER SPECIFICATION. REINFORCE PER TYPICAL DETAILS. TOP OF CONCRETE ELEVATION = 100'-0" UNO.
- C — CHAINLINK FENCE PER ARCH. CONNECT TO HSS COLS PER FENCE MFR.
- SW# — INDICATES MASONRY SHEAR WALL, PER SCHEDULE ON S54# SERIES OF SHEET. MASONRY SHEAR WALLS ARE NOT DESIGNED AS PERFORATED SHEAR WALLS AND SHALL NOT ACCOMMODATE FUTURE OPENINGS UNLESS NOTED OTHERWISE.
- INDICATES SHEAR WALL CONTROL JOINT PER SPECIFICATIONS AND S54# SERIES OF SHEETS. INTERIOR 8" MASONRY WALL CONTROL JOINTS TO BE PLACED PER S001.

FOUNDATION NOTES

1. TOP OF FOOTING ELEVATION = 99'-4" UNO.
2. PROVIDE SLAB BLOCK OUT AROUND COLUMNS AT CONTRACTORS OPTION PER S53# SERIES OF SHEETS.
3. GRIDS INDICATE INSIDE FACE OF MASONRY WALL = CENTERLINE OF STEEL.
4. ALL TRENCH FOOTINGS ARE CENTERED ON MASONRY WALLS UNO.
5. PROVIDE CONSTRUCTION JOINT IN TRENCH FOOTING AS REQUIRED FOR ELECTRICAL CONDUIT.
6. ALL 8" MASONRY WALLS SHALL BE REINFORCED W/ (1) #5 VERT @ 48" OC IN FULLY GROUTED CELLS UNO PER TYP DET ON S54# SERIES OF SHEETS.

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ENLARGED FOUNDATION & ROOF FRAMING PLANS

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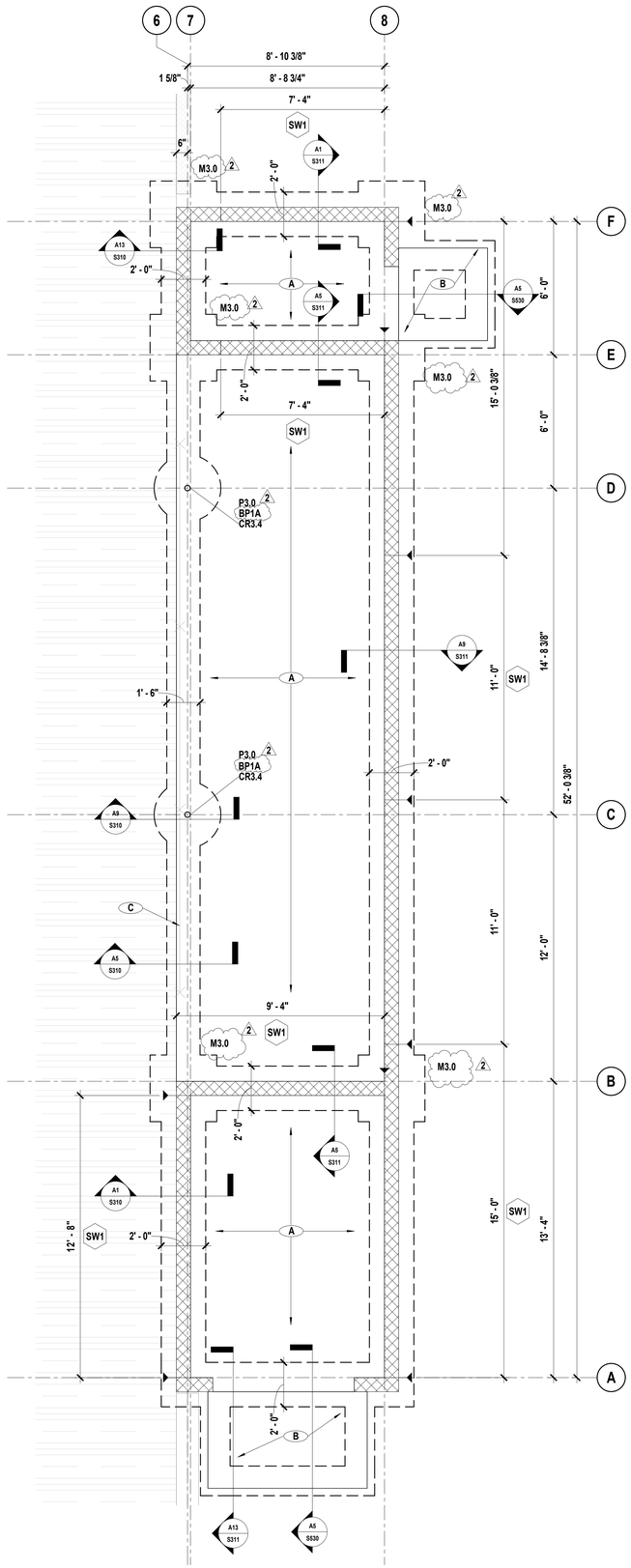

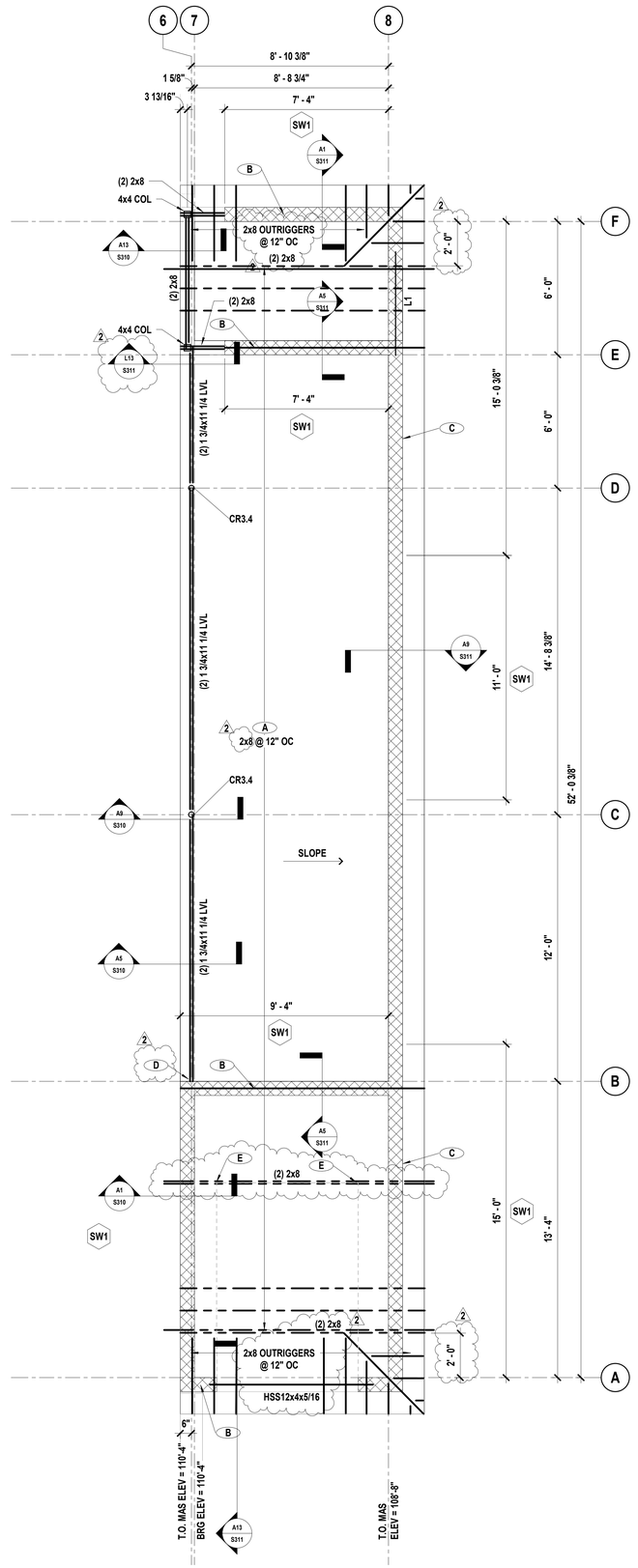

ROOF FRAMING PLAN REFERENCE NOTES

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- B PROVIDE CONT BRG PL @ TOP OF MASONRY PER TYP DET ON S54# SERIES OF SHEETS.
- C PROVIDE 2X BLOCKING BTWN ROOF JOISTS @ SHEARWALLS PER TYP DET ON S56# SERIES OF SHEETS.
- D LVL BEARING CONDITION @ MASONRY WALL PER J13 / S541 .
- E OVERHEAD STEEL DOOR ATTACHMENT TO ROOF STRUCTURE PER OVERHEAD DOOR MFR. ROOF STRUCTURE DESIGNED TO SUPPORT A MAXIMUM OF 900# AT EACH ATTACHMENT LOCATION.
- F METAL ROOF DECK AND ATTACHMENT TO STRUCTURE PER ARCH.

ROOF FRAMING PLAN NOTES

1. ALL LINTELS IN MASONRY WALLS NOTED ON PLANS PER S54# SERIES OF SHEETS UNO.
2. PROVIDE 3/8"x7"x7" WITH (4) 1/2"ø x 4" HSA AT ALL BEAM BEARING LOCATIONS.

Structural Drilled Pier Schedule

Type	Size	Reinforcement	
		Size	Placement
P3.0	3'-0"Ø x 2'-8"	(12) #6	#3 @ 12" OC

Structural Foundation Schedule

Type	Size	Reinforcement	
		Size	Placement
M3.0	3'-0 x 3'-0 x 2'-8"	4-#5	TOP & BOT EA WAY
M4.2	4'-0 x 2'-0 x 2'-8"	#5 @ 12" OC	TOP & BOT EA WAY

Structural Base Plate Schedule

Type	Plate Size	Anchor Rods	Edge Distance
BP1A	3/4X10X0'-10"	AR-1	1 1/2"
BP1B	3/4X12X1'-2"	AR-1	1 1/2"

Structural Column Schedule

Type	Size
C8.6.6	HSS8x6x3/8
CR3.4	HSS3x1/4

FOUNDATION PLAN REFERENCE NOTES

- A 4" CONCRETE SLAB ON GRADE WITH 15 MIL VAPOR RETARDER AND 4" CRUSHED ROCK DRAINAGE FILL PER SPECIFICATION. REINFORCE PER TYPICAL DETAILS. TOP OF CONCRETE ELEVATION = 100'-0" UNO.
- B 6" CONCRETE SLAB ON VOID WITH 4" CRUSHED ROCK DRAINAGE FILL PER SPECIFICATION. REINFORCE PER TYPICAL DETAILS. TOP OF CONCRETE ELEVATION = 100'-0" UNO.
- C CHAINLINK FENCE PER ARCH. CONNECT TO HSS COLS PER FENCE MFR.
- SW# INDICATES MASONRY SHEAR WALL, PER SCHEDULE ON S54# SERIES OF SHEET. MASONRY SHEAR WALLS ARE NOT DESIGNED AS PERFORATED SHEAR WALLS AND SHALL NOT ACCOMMODATE FUTURE OPENINGS UNLESS NOTED OTHERWISE.
- INDICATES SHEAR WALL CONTROL JOINT PER SPECIFICATIONS AND S54# SERIES OF SHEETS. INTERIOR 8" MASONRY WALL CONTROL JOINTS TO BE PLACED PER S001.

FOUNDATION NOTES

1. TOP OF FOOTING ELEVATION = 99'-4" UNO.
2. PROVIDE SLAB BLOCK OUT AROUND COLUMNS AT CONTRACTORS OPTION PER S530.
3. GRIDS INDICATE INSIDE FACE OF MASONRY WALL = CENTERLINE OF STEEL.
4. ALL TRENCH FOOTINGS ARE CENTERED ON MASONRY WALLS UNO.
5. PROVIDE CONSTRUCTION JOINT IN TRENCH FOOTING AS REQUIRED FOR ELECTRICAL CONDUIT.
6. ALL 8" MASONRY WALLS SHALL BE REINFORCED W/ (1) #5 VERT @ 48" OC IN FULLY GROUTED CELLS UNO PER TYP DET ON S54# SERIES OF SHEETS.

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REVISIONS:

#	Description	Date
2	Addendum 04	08.04.2023



David A. Krell - Engineer
MO# PE-2021014172

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DATE: 07.12.2023

S401

A1 Scale 3/8" = 1'-0" East Dugout Foundation Plan NORTH

A9 Scale 3/8" = 1'-0" East Dugout Roof Framing Plan NORTH

ENLARGED FOUNDATION & ROOF FRAMING PLANS

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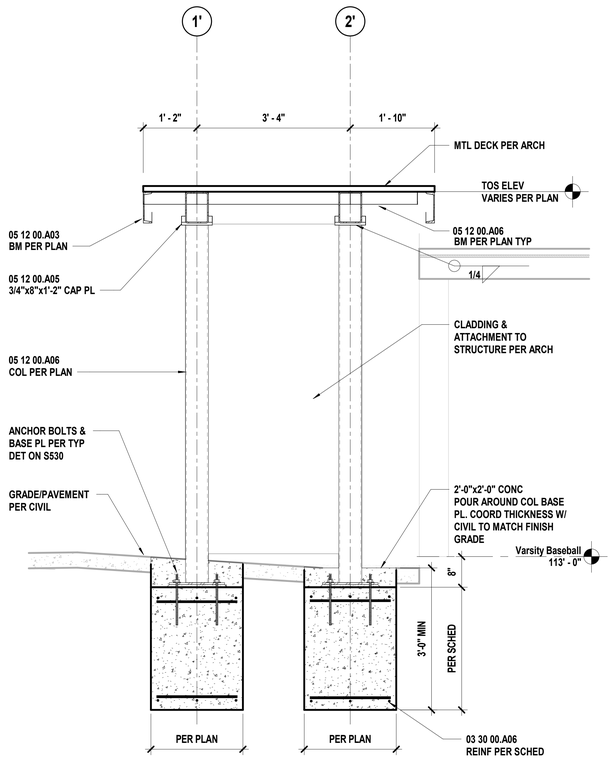
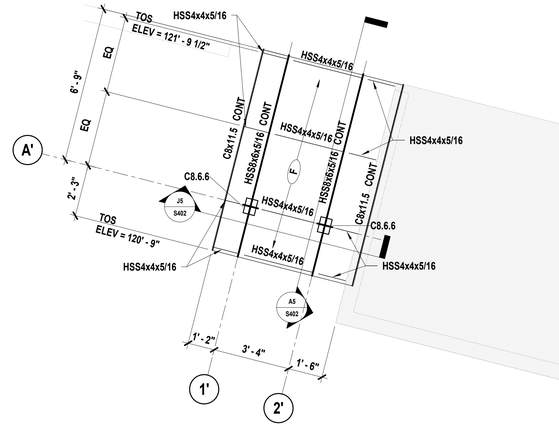


J5 Scale 3/4" = 1'-0" — Section @ Scorer's Box



J11 Scale 3/8" = 1'-0" — Alternate Roof Framing Plan - Scorer's Box — NORTH

ROOF FRAMING PLAN REFERENCE NOTES

- (A) ALL ROOF SHEATHING SHALL BE OSB PANELS 7/16" MIN NOMINAL THICKNESS, EXTERIOR RATED SHEATHING WITH 40/20 SPAN RATING, ATTACH PER NOTES ON S001.
- (B) PROVIDE CONT BRG PL @ TOP OF MASONRY PER TYP DET ON S54# SERIES OF SHEETS.
- (C) PROVIDE 2X BLOCKING BTWN ROOF JOISTS @ SHEARWALLS PER TYP DET ON S56# SERIES OF SHEETS.
- (D) LVL BEARING CONDITION @ MASONRY WALL PER J13 / S541 .
- (E) OVERHEAD STEEL DOOR ATTACHMENT TO ROOF STRUCTURE PER OVERHEAD DOOR MFR. ROOF STRUCTURE DESIGNED TO SUPPORT A MAXIMUM OF 900# AT EACH ATTACHMENT LOCATION.
- (F) METAL ROOF DECK AND ATTACHMENT TO STRUCTURE PER ARCH.

ROOF FRAMING PLAN NOTES

1. ALL LINTELS IN MASONRY WALLS NOTED ON PLANS PER S54# SERIES OF SHEETS UNO.
2. PROVIDE 3/8"x7"x7" WITH (4) 1/2"ø x 4" HSA AT ALL BEAM BEARING LOCATIONS.

Structural Foundation Schedule

Type	Size	Reinforcement	
		Size	Placement
M3.0	3'-0 x 3'-0 x 2'-8"	4-#5	TOP & BOT EA WAY
M4.2	4'-0 x 2'-0 x 2'-8"	#5 @ 12" OC	TOP & BOT EA WAY

Structural Base Plate Schedule

Type	Plate Size	Anchor Rods	Edge Distance
BP1A	3/4X10X0'-10"	AR-1	1 1/2"
BP1B	3/4X12X1'-2"	AR-1	1 1/2"

Structural Column Schedule

Type	Size
C8.6.6	HSS8x6x3/8
CR3.4	HSS3x1/4

FOUNDATION PLAN REFERENCE NOTES

- (A) 4" CONCRETE SLAB ON GRADE WITH 15 MIL VAPOR RETARDER AND 4" CRUSHED ROCK DRAINAGE FILL PER SPECIFICATION. REINFORCE PER TYPICAL DETAILS. TOP OF CONCRETE ELEVATION = 100'-0" UNO.
- (B) 6" CONCRETE SLAB ON VOID WITH 4" CRUSHED ROCK DRAINAGE FILL PER SPECIFICATION. REINFORCE PER TYPICAL DETAILS. TOP OF CONCRETE ELEVATION = 100'-0" UNO.
- (C) CHAINLINK FENCE PER ARCH. CONNECT TO HSS COLS PER FENCE MFR.
- SW# INDICATES MASONRY SHEAR WALL, PER SCHEDULE ON S54# SERIES OF SHEET. MASONRY SHEAR WALLS ARE NOT DESIGNED AS PERFORATED SHEAR WALLS AND SHALL NOT ACCOMMODATE FUTURE OPENINGS UNLESS NOTED OTHERWISE.
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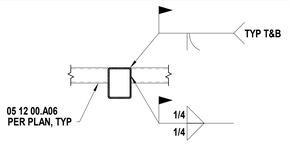
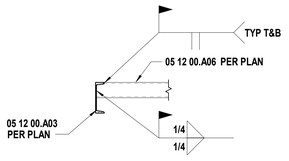
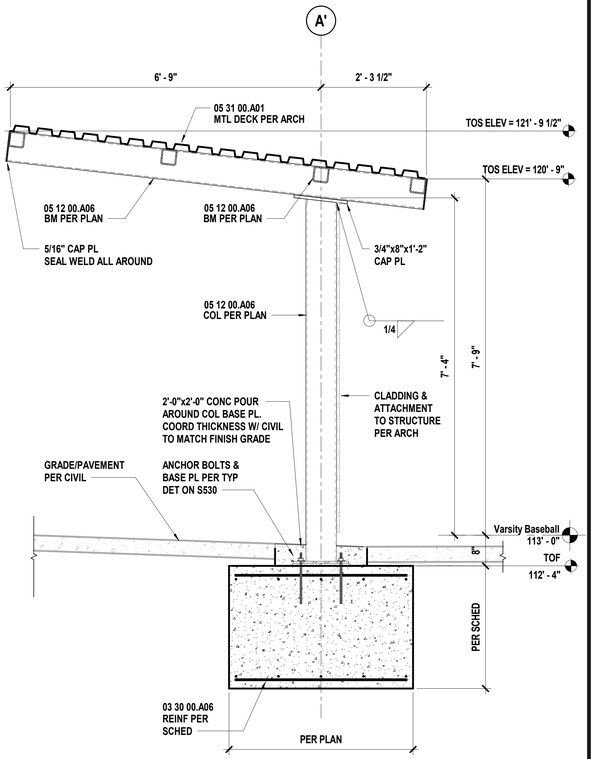


HSS-TO-HSS CONNECTION

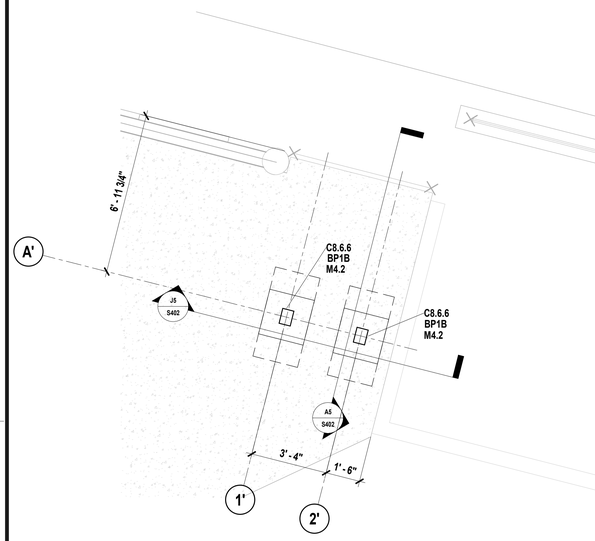


HSS-TO-CHANNEL CONNECTION

A1 Scale 3/4" = 1'-0" — Typical HSS Connections



A5 Scale 3/4" = 1'-0" — Section @ Scorer's Box



A11 Scale 3/8" = 1'-0" — Alternate Foundation Plan - Scorer's Box — NORTH

ENLARGED ALTERNATE FOUNDATION & ROOF FRAMING PLANS

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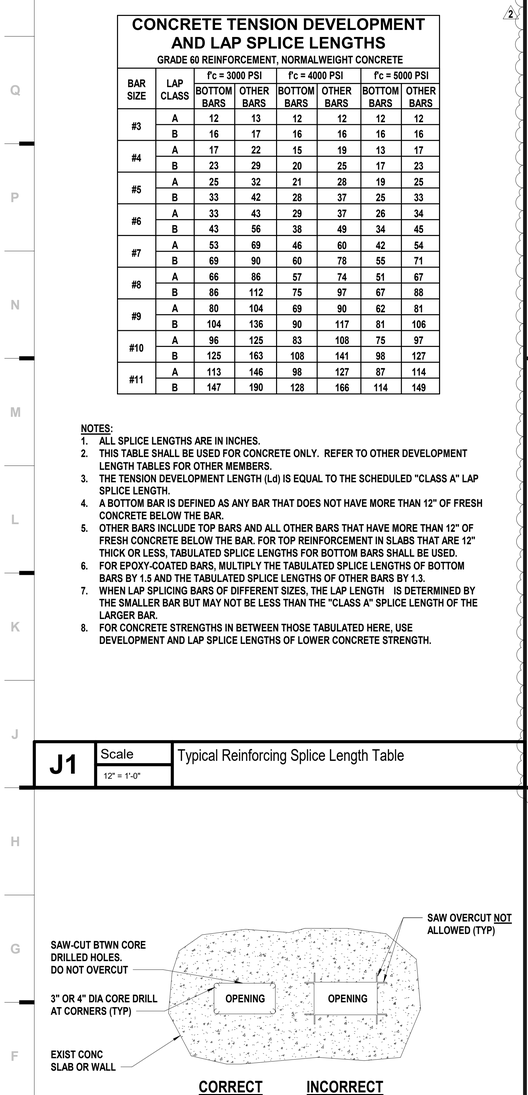
CONCRETE TENSION DEVELOPMENT AND LAP SPLICE LENGTHS

GRADE 60 REINFORCEMENT, NORMALWEIGHT CONCRETE

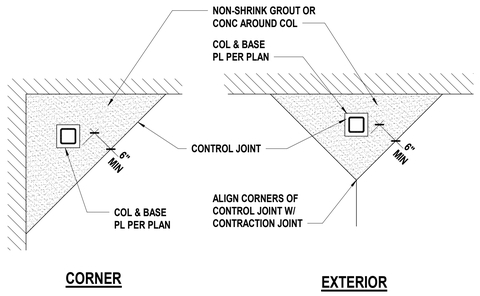
BAR SIZE	LAP CLASS	f'c = 3000 PSI		f'c = 4000 PSI		f'c = 5000 PSI	
		BOTTOM BARS	OTHER BARS	BOTTOM BARS	OTHER BARS	BOTTOM BARS	OTHER BARS
#3	A	12	13	12	12	12	12
	B	16	17	16	16	16	16
#4	A	17	22	15	19	13	17
	B	23	29	20	25	17	23
#5	A	25	32	21	28	19	25
	B	33	42	28	37	25	33
#6	A	33	43	29	37	26	34
	B	43	56	38	49	34	45
#7	A	53	69	46	60	42	54
	B	69	90	60	78	55	71
#8	A	66	86	57	74	51	67
	B	86	112	75	97	67	88
#9	A	80	104	69	90	62	81
	B	104	136	90	117	81	106
#10	A	96	125	83	108	75	97
	B	125	163	108	141	98	127
#11	A	113	146	98	127	87	114
	B	147	190	128	166	114	149

NOTES:
1. ALL SPLICE LENGTHS ARE IN INCHES.
2. THIS TABLE SHALL BE USED FOR CONCRETE ONLY. REFER TO OTHER DEVELOPMENT LENGTH TABLES FOR OTHER MEMBERS.
3. THE TENSION DEVELOPMENT LENGTH (Ld) IS EQUAL TO THE SCHEDULED "CLASS A" LAP SPLICE LENGTH.
4. A BOTTOM BAR IS DEFINED AS ANY BAR THAT DOES NOT HAVE MORE THAN 12" OF FRESH CONCRETE BELOW THE BAR.
5. OTHER BARS INCLUDE TOP BARS AND ALL OTHER BARS THAT HAVE MORE THAN 12" OF FRESH CONCRETE BELOW THE BAR. FOR TOP REINFORCEMENT IN SLABS THAT ARE 12" THICK OR LESS, TABULATED SPLICE LENGTHS FOR BOTTOM BARS SHALL BE USED.
6. FOR EPOXY-COATED BARS, MULTIPLY THE TABULATED SPLICE LENGTHS OF BOTTOM BARS BY 1.5 AND THE TABULATED SPLICE LENGTHS OF OTHER BARS BY 1.3.
7. WHEN LAP SPLICING BARS OF DIFFERENT SIZES, THE LAP LENGTH IS DETERMINED BY THE SMALLER BAR BUT MAY NOT BE LESS THAN THE "CLASS A" SPLICE LENGTH OF THE LARGER BAR.
8. FOR CONCRETE STRENGTHS IN BETWEEN THOSE TABULATED HERE, USE DEVELOPMENT AND LAP SPLICE LENGTHS OF LOWER CONCRETE STRENGTH.

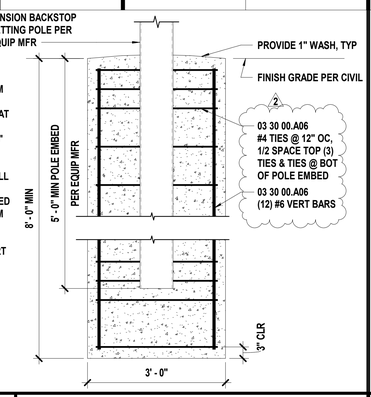
J1 Scale 12" = 1'-0" — Typical Reinforcing Splice Length Table



E1 Scale 1/4" = 1'-0" — Typical Concrete Slab & Wall Sawcut Detail

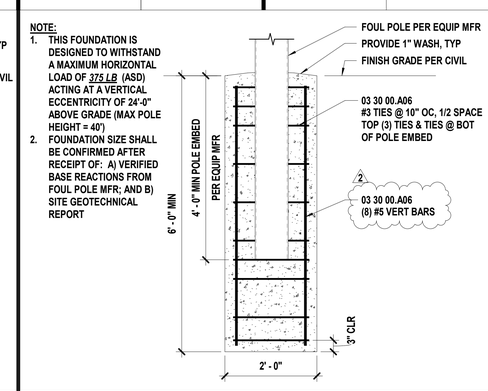


A1 Scale NTS — Typical Slab Blockout Details



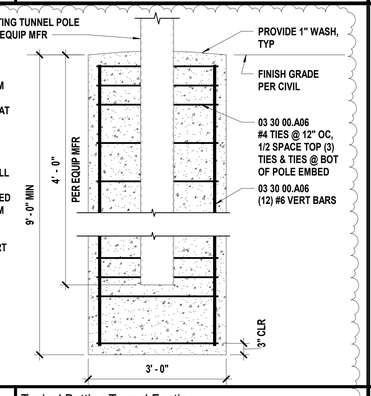
NOTE:
1. THIS FOUNDATION IS DESIGNED TO WITHSTAND A MAXIMUM HORIZONTAL LOAD OF *1375 LB* (ASD) ACTING AT A VERTICAL ECCENTRICITY OF 21'-6" ABOVE GRADE (MAX POLE HEIGHT = 43')
2. FOUNDATION SIZE SHALL BE CONFIRMED AFTER RECEIPT OF: A) VERIFIED BASE REACTIONS FROM TENSION BACKSTOP MFR; AND B) SITE GEOTECHNICAL REPORT

N9 Scale 3/4" = 1'-0" — Typical Tension Backstop Netting Footing



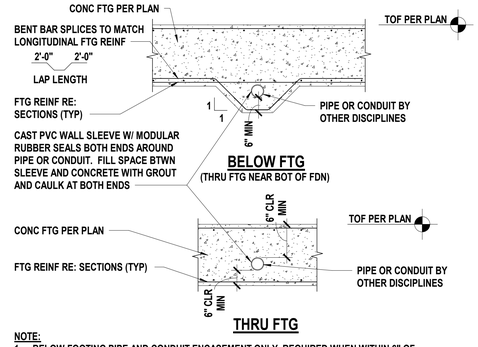
NOTE:
1. THIS FOUNDATION IS DESIGNED TO WITHSTAND A MAXIMUM HORIZONTAL LOAD OF *375 LB* (ASD) ACTING AT A VERTICAL ECCENTRICITY OF 24'-0" ABOVE GRADE (MAX POLE HEIGHT = 40')
2. FOUNDATION SIZE SHALL BE CONFIRMED AFTER RECEIPT OF: A) VERIFIED BASE REACTIONS FROM FOUL POLE MFR; AND B) SITE GEOTECHNICAL REPORT

N13 Scale NTS — Typical Foul Pole Footing



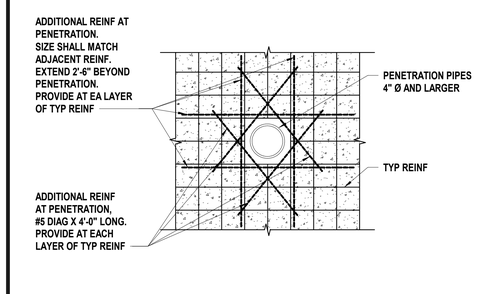
NOTE:
1. THIS FOUNDATION IS DESIGNED TO WITHSTAND A MAXIMUM HORIZONTAL LOAD OF *3725 LB* (ASD) ACTING AT A VERTICAL ECCENTRICITY OF 7' ABOVE GRADE (MAX POLE HEIGHT = 14')
2. FOUNDATION SIZE SHALL BE CONFIRMED AFTER RECEIPT OF: A) VERIFIED BASE REACTIONS FROM BATTING TUNNEL MFR; AND B) SITE GEOTECHNICAL REPORT

J9 Scale 3/4" = 1'-0" — Typical Batting Tunnel Footing

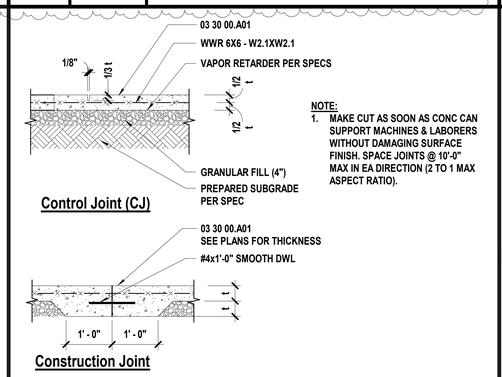


NOTE:
1. BELOW FOOTING PIPE AND CONDUIT ENCASEMENT ONLY REQUIRED WHEN WITHIN 6" OF FOOTING BEARING ELEVATION

J13 Scale 1/2" = 1'-0" — Typical Conduit/Pipe Penetration at Footing Detail

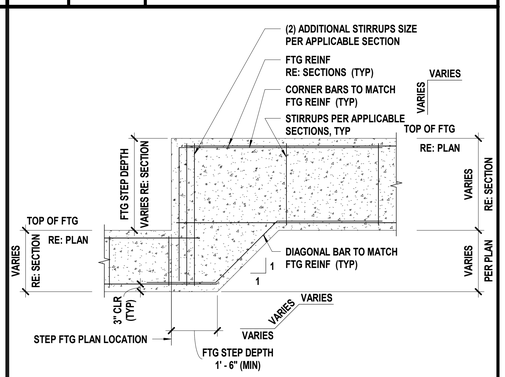


E5 Scale 3/4" = 1'-0" — Concrete Penetration Reinforcing

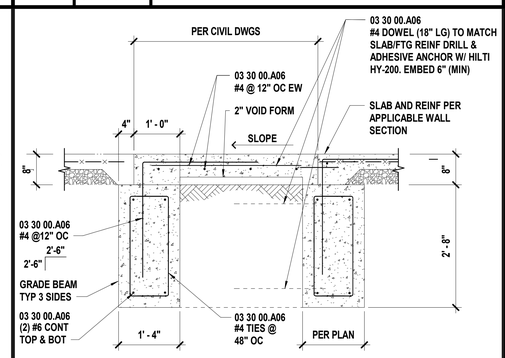


NOTE:
1. MAKE CUT AS SOON AS CONC CAN SUPPORT MACHINES & LABORERS WITHOUT DAMAGING SURFACE FINISH. SPACE JOINTS @ 10'-0" MAX IN EA DIRECTION (2 TO 1 MAX ASPECT RATIO).

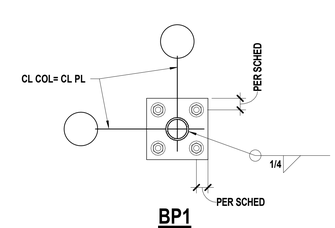
E9 Scale 3/4" = 1'-0" — Typical Slab on Grade Details



E13 Scale NTS — Typical Footing Step

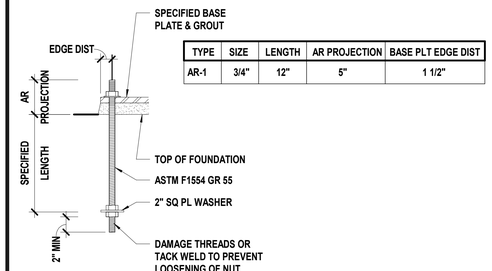


A5 Scale NTS — Typical Concrete Stoop



NOTE:
1. ALL BASE PLATE SIZES AND THICKNESS PER SCHEDULE.

A9 Scale 1 1/2" = 1'-0" — Typical Base Plate Layout



TYPE	SIZE	LENGTH	AR PROJECTION	BASE PLT EDGE DIST
AR-1	3/4"	12"	5"	1 1/2"

A13 Scale NTS — Anchor Rod Schedule

SHEET KEYNOTE LEGEND

03 30 00.A01	CAST-IN-PLACE CONCRETE
03 30 00.A06	REINFORCING BARS

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07/04/2023
DAVID A. KRELL
NUMBER PE-2021014172
PROFESSIONAL ENGINEER
STATE OF MISSOURI

David A. Krell - Engineer
MO# PE-2021014172

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TYPICAL CONCRETE DETAILS

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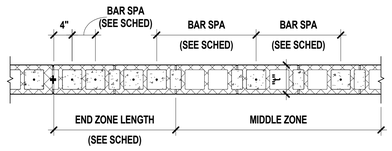


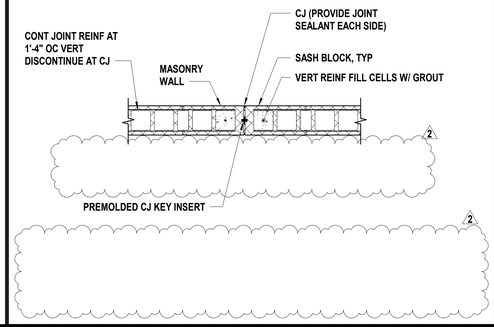
SHEAR WALL SCHEDULE

MARK	MAS SIZE "t"	WALL LENGTH	END ZONE			MIDDLE ZONE		NOTES
			LENGTH	REINF	SPACING	REINF	SPACING	
SW-1	8"	PER PLAN	8"	(1) #5 VERT	8" OC	PER PLAN	PER PLAN	1
SW-2	8"	PER PLAN	16"	(1) #5 VERT	8" OC	PER PLAN	PER PLAN	1

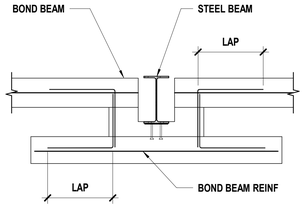
Note:

1. CELLS WITH REINF SHALL BE GROUTED FULL HEIGHT OF WALL PER GENERAL NOTES.

J1 Scale 3/4" = 1'-0" — Typical Masonry Shear Wall Schedule



J5 Scale NTS — Typical Masonry Control Joint Detail



NOTE:

1. LOWER BOND BEAM MUST BE AN ENTIRE FULL COURSE HEIGHT. ANY DISCREPANCY SHALL BE REPORTED TO ENGINEER FOR REVIEW.

J9 Scale NTS — Typical Bond Beam Reinforcing Step Detail

MASONRY WALL, PILASTER, AND COLUMN VERTICAL BAR TENSION DEVELOPMENT AND LAP SPLICE LENGTHS

GRADE 60 REINFORCEMENT, STANDARD BLOCK (fm = 2500 PSI)

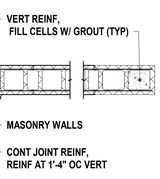
BAR SIZE	4" MAS	6" MAS		8" MAS		10" MAS		12" MAS	
	1 BAR /CELL	1 BAR /CELL	2 BARS /CELL	1 BAR /CELL	2 BARS /CELL	1 BAR /CELL	2 BARS /CELL	1 BAR /CELL	2 BARS /CELL
#3	14	12	NP	12	12	12	12	12	12
#4	25	16	NP	12	22	12	16	12	17
#5	NP	25	NP	18	35	14	25	12	27
#6	NP	47	NP	34	NP	26	47	21	51
#7	NP	NP	NP	47	NP	36	NP	29	NP
#8	NP	NP	NP	NP	NP	NP	NP	45	NP
#9	NP	NP	NP	NP	NP	NP	NP	NP	NP
#10	NP	NP	NP	NP	NP	NP	NP	NP	NP
#11	NP	NP	NP	NP	NP	NP	NP	NP	NP

NP - NOT PERMITTED

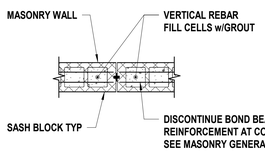
NOTES:

1. ALL DEVELOPMENT AND LAP SPLICE LENGTHS ARE IN INCHES.
2. THIS TABLE SHALL BE USED FOR ALL REINFORCED MASONRY WALLS, PILASTERS, AND COLUMNS UNLESS NOTED OTHERWISE IN DETAILS.
3. INCREASE TABULATED VALUES BY 50% FOR EPOXY COATED REINFORCEMENT.
4. WITH APPROVAL BY THE ENGINEER, WELDED SPLICES AND MECHANICAL SPLICES DEVELOPING AT LEAST 125% OF THE YIELD STRENGTH, Fy OF THE BAR MAY BE SUBSTITUTED IN SOME LOCATIONS.
5. WHEN LAP SPLICING BARS OF DIFFERENT SIZES, THE LAP LENGTH IS DETERMINED BY THE SMALLER BAR.
6. REFER TO DETAIL A1 ON THIS SHEET FOR BAR POSITIONING IN CELLS.

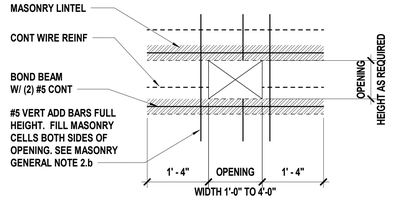
J13 Scale NTS — Typical Masonry Vertical Reinforcing Splice Length Table



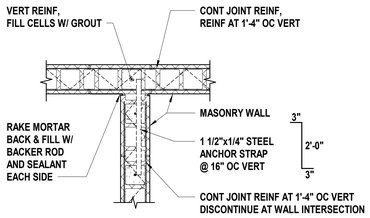
E1 Scale NTS — Typical Masonry Wall End & Corner Reinforcing Detail



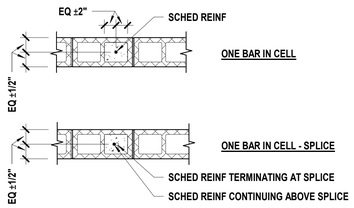
E5 Scale NTS — Typical Control Joint Detail at Bond Beams



E9 Scale NTS — Additional Reinforcing at Masonry Wall Opening Detail



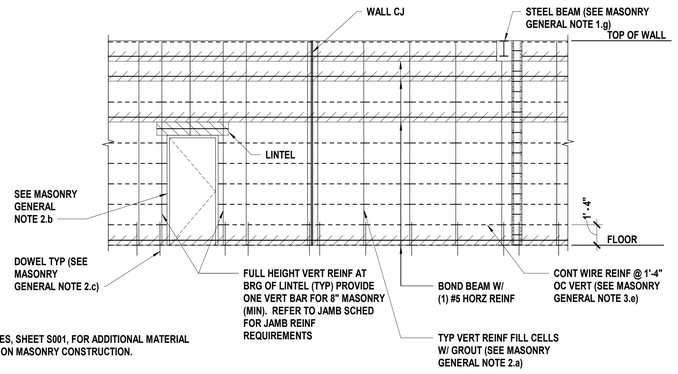
E13 Scale NTS — Typical Masonry Wall Intersection Reinforcing Detail



NOTES:

1. REINFORCEMENT MUST BE PLACED USING REINFORCING BAR POSITIONERS THAT LOCATE THE BAR AS SPECIFIED AND PREVENT MOVEMENT OF THE BAR DURING CONSTRUCTION.
2. SPLICED REINFORCEMENT MUST BE A CONTACT LAP SPLICE WITH SPICED BARS ALIGNED PARALLEL TO THE WALL AS SHOWN.
3. THE ENGINEER MUST BE NOTIFIED PRIOR TO PLACEMENT OF REINFORCEMENT THAT IS REQUIRED TO BE PLACED OUTSIDE OF THE TOLERANCES OF THIS DETAIL SUCH AS TO AVOID INTERFERENCE WITH OTHER REINFORCEMENT, CONDUITS, OR EMBEDDED ITEMS.

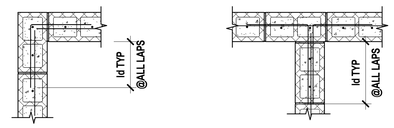
A1 Scale NTS — Typical Masonry Vertical Reinforcing Bar Placement Detail



NOTES:

1. SEE GENERAL NOTES, SHEET S001, FOR ADDITIONAL MATERIAL AND INFORMATION ON MASONRY CONSTRUCTION.

A5 Scale NTS — Typical Masonry Wall Elevation



Corner Intersection **T-Intersection**

NOTES:

1. APPLIES TO ALL MASONRY BOND BEAMS.
2. CORNER BARS TO MATCH SIZE & SPACING OF HORIZONTAL REINFORCING.

A13 Scale NTS — Typical Bond Beam Reinforcing @ 8" Masonry Wall Intersection

SHEET KEYNOTE LEGEND

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CONSTRUCTION DOCUMENTS

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REVISIONS:

#	Description	Date
2	Addendum 04	08.04.2023

STATE OF MISSOURI
07/04/2023
DAVID A. KRELL
NUMBER PE-2021014172
PROFESSIONAL ENGINEER

David A. Krell - Engineer
MO# PE-2021014172

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S540

TYPICAL MASONRY DETAILS

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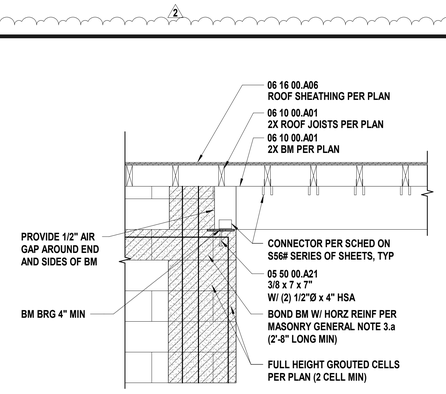
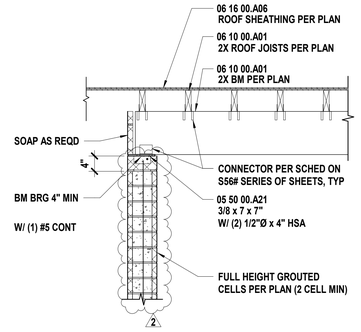
SHEET KEYNOTE LEGEND

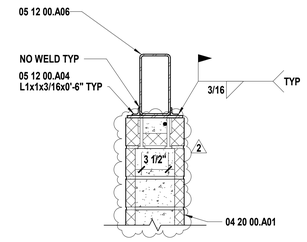
03 30 00.A06	REINFORCING BARS
04 20 00.A01	CONCRETE MASONRY UNITS
04 20 00.A11	MASONRY BOND BEAM
05 12 00.A02	W SHAPE
05 12 00.A04	ANGLE
05 12 00.A05	PLATE AND BAR
05 12 00.A06	HSS SHAPE
05 50 00.A21	LOOSE BEARING/LEVELING PLATES
06 10 00.A01	DIMENSION LUMBER FRAMING
06 16 00.A06	ROOF SHEATHING



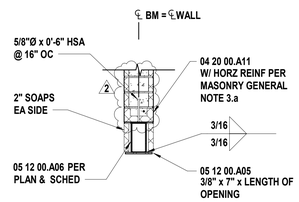
J9 Scale 3/4" = 1'-0" — Typical Wood Beam Bearing Parallel to Masonry Wall



J13 Scale 3/4" = 1'-0" — Typical Wood Beam Bearing Perpendicular to Masonry Wall

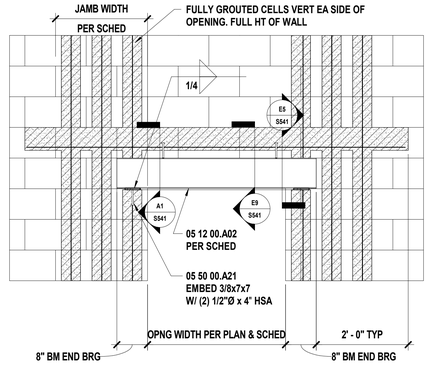


E5 Scale NTS — Typical Steel Lintel Bearing

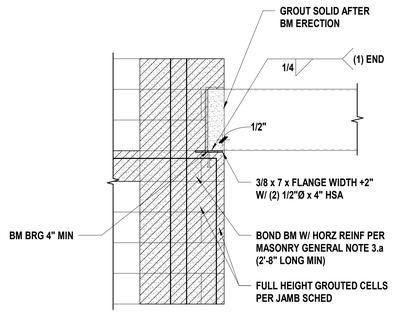


NOTES:
1. ALL EXTERIOR LINTELS SHALL BE HOT DIPPED GALV WHERE UNSUPPORTED WALL HEIGHT DOES NOT EXCEED 15'-0".
2. APPLIES TO LOAD BEARING WALL LINTELS AS INDICATED ON PLANS.

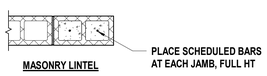
E9 Scale NTS — Typical Steel Beam Lintel Section Exterior



E13 Scale NTS — Typical Steel Beam Lintel Partial Elevation Exterior

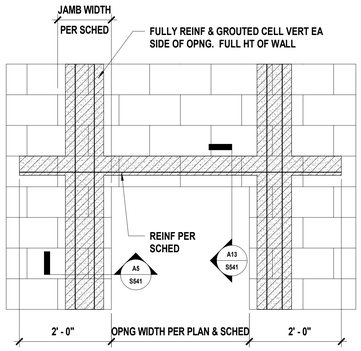


A1 Scale 3/4" = 1'-0" — Typical Beam Bearing Parallel to Masonry Wall



MASONRY WALL JAMB SCHEDULE		
LINTEL CLEAR SPAN, L	REINF FULL HT WALL - 8" OR 10" MASONRY	JAMB WIDTH
L ≤ 4'-0"	(1) #5	8"
4'-0" < L ≤ 8'-0"	(1) #5 EA CELL	16"
8'-0" < L ≤ 12'-0"	(1) #5 EA CELL	24"

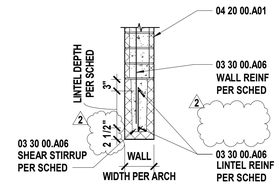
A5 Scale 3/4" = 1'-0" — Typical Masonry Wall Jamb Schedule



A9 Scale 3/4" = 1'-0" — Typical Lintel Partial Elevation

Lintel Mark	Opening Rough Width "W"	8" MASONRY		
		Lintel Depth	Reinf	Shear Stirrup
L1	W < 4'-0"	10"	(1) #5 BOT	"NA"

NOTES:
1. APPLIES TO LOAD BEARING WALL LINTELS AS INDICATED ON PLANS.



A13 Scale 3/4" = 1'-0" — Typical Lintel Section

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CONSTRUCTION DOCUMENTS

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REVISIONS:

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2	Addendum 04	08.04.2023

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NUMBER PE-2021014172
PROFESSIONAL ENGINEER

David A. Krell - Engineer
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TYPICAL MASONRY DETAILS

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SHEET KEYNOTE LEGEND

04 20 00.A14 STRUCTURAL CLAY MASONRY UNITS

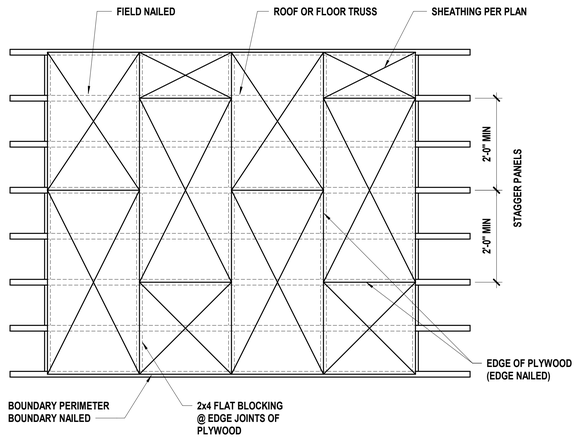
MEMBER	CONNECTION TO	SIMPSON CONNECTOR
4x4 POST	MASONRY WALL	ABU46Z W/ HIT-HY 270 HAS-E-55 5/8"x8" A.R.
(2) 2x8	4x4 POST MASONRY WALL	ECCLR 3 1/4-4 ECCLL 3 1/4-4 MBHA3.12/9.25
(2) 1 3/4 x 11 1/4 LVL	CR3.4 COLUMN (2) 2x8	CCO46-SDS2.5** HWP 3.5 H = 11.25
2x8 JOIST	(2) 1 3/4 x 11 1/4 LVL	H2.5A
2x4 BRACE	(2) 1 3/4 x 11 1/4 LVL (2) 2x8 JOIST	A23 A23
WOOD BLOCKING	(2) 2x8 EMBED PLATES*	A21 LSTA9 (2) A23** LSTA18
OUTRIGGER	MASONRY EMBED PLATE (2) 2x8	(2) A23** (2) A23

NOTES:
1. ALL HANGERS MUST BE ATTACHED WITH ALL MANUFACTURER'S SPECIFIED ATTACHMENTS.
2. ALL HANGERS SHALL HAVE ADEQUATE CORROSION RESISTANCE IF EXTERIOR EXPOSED CONDITION.
3. CONTRACTOR MAY PROVIDE SHIMS AS REQ'D AT BEAMS TO FIT CONNECTIONS.
4. *(3) 10d TOENAILS EACH SIDE TO ROOF JOISTS.
5. **3/16" WELD TO EMBED PLATE OR HSS COLUMN.

J13 Scale 3/4" = 1'-0" — Wood Connector Schedule

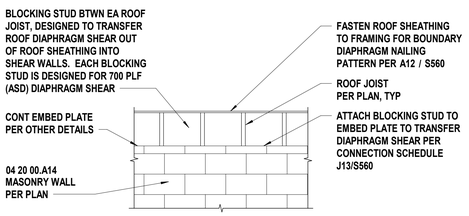


E9 Scale 1 1/2" = 1'-0" — Wood Blocking Detail



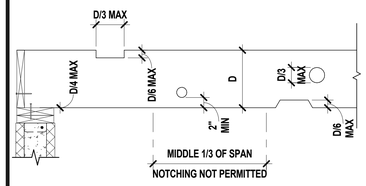
NOTES:
1. RUN LONG DIMENSION OF PLYWOOD PANELS PERPENDICULAR TO JOIST OR RAFTER.
2. STAGGER END JOINTS 2'-0" MIN AS SHOWN.
3. NAILING SIZE AND SPACING AS NOTED ON PLANS AND S001.
4. NAILS SHALL HAVE A MIN 3/8" EDGE DISTANCE.
5. ANY OPENINGS SHALL BE FULLY BLOCKED AND NAILED TO MATCH BOUNDARY CONDITION.

ROOF DIAPHRAGM ATTACHMENT IS DESIGNED FOR A SERVICE LEVEL SHEAR LOAD OF ***700 LB/FT***.



ROOF

A5 Scale 1/2" = 1'-0" — Roof Diaphragm Chord Detail



BMS & JOISTS

WWPA AND NDS PRESCRIPTIVE RECOMMENDATIONS

A9 Scale NTS — Notches and Penetrations in Solid Sawn Joists

A12 Scale NTS — Diaphragm Attachment Detail

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DATE: 07.12.2023

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TYPICAL WOOD FRAMING DETAILS

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ELECTRICAL - SITE PLAN

SCALE: 1"=40'-0"

GENERAL NOTES:

1. ALL BRANCH CIRCUITS TO BE PROVIDED WITH #10 AWG UNLESS NOTED OTHERWISE.
2. PRIOR TO CONSTRUCTION CONTRACTOR SHALL LOCATE ALL UTILITIES. (PRIVATE AND PUBLIC) IF "HIT" CONTRACTOR IS RESPONSIBLE FOR REBUILD TO WORKING CONDITION. ALL REPAIRS SHALL BE APPROVED BY OWNER.
3. RESTORATION/REPAIR OF SITE:
   a. BACKFILL AND COMPACT EACH REMOVED LOCATION USING CS-1 MATERIALS (PEA GRAVEL IS ACCEPTABLE, BUT NOT SAND). COMPACT VIA POWER TAMPERS IN 6-INCH (MAXIMUM) LAYERS.
   b. ALL TRENCHING SHALL BE BACKFILLED/COMPACTED LOCATION USING CS-1 MATERIALS (PEA GRAVEL IS ACCEPTABLE, BUT NOT SAND). COMPACT VIA POWER TAMPERS IN 6-INCH (MAXIMUM) LAYERS. REFER TO TRENCH DETAIL FOR ADDITIONAL INFORMATION.
   c. REPAIR ALL ASPHALT/CONCRETE TO MATCH EXISTING. PROVIDE 6" ASPHALT (4" BASE & 2" BM2 TOP COURSE). OVERCUT ASPHALT BY 12" ON EACH SIDE OF TRENCH. REMOVE 6" P.C. CONCRETE. FIELD VERIFY PRIOR TO BID ALL WORK REQUIRED.
   d. REPAIR/RESTORE ALL DIRT WORK BACK TO ORIGINAL GRADE. PROVIDE GRASS SEED/SOD AS REQUIRED.
   e. ALL REPAIRS/PATCHING SHALL BE DONE BY A LICENSED
4. CONTRACTOR FROM THAT FIELD OF WORK. COORDINATE ALL LOCATIONS OF REQUIRED JUNCTION BOXES WITH OWNER PRIOR TO CONSTRUCTION. REFER TO IN-GRADE ELECTRICAL JUNCTION/PULL BOX DETAIL FOR ADDITIONAL INFORMATION.
5. PRIOR TO CONSTRUCTION VERIFY ACTUAL LOCATIONS OF NEW POLES WITH SPORTS LIGHTING MANUFACTURER. IF THERE IS EXISTING CIRCUMSTANCES THAT DO NOT ALLOW POLE TO BE INSTALLED AT THAT LOCATION REVISE POLE LOCATIONS AND COORDINATE WITH SPORTS LIGHTING MANUFACTURER.
6. ALL ELECTRICAL SPLICES/CONNECTIONS OUTSIDE SHALL USE ILSCO NIMBUS PRE-INSULATED CONNECTORS OR APPROVED EQUAL. IDENTIFICATION SHALL BE PROVIDED ON THE ENDS OF ALL CONDUCTORS INDICATING THE PANEL AND CIRCUIT NUMBER IN WHICH IT IS FED FROM.
7. ALL UNATTENDED HOLES/TRENCHES MUST BE FENCED OFF.
8. COORDINATE STAGING AREAS WITH OWNER IF REQUIRED.
9. ALL WORK SHOWN THIN LINE (HALF TONE) IS EXISTING, ALL WORK SHOWN THICK LINE (BOLD) IS NEW.

ELECTRICAL PLAN NOTES:

1. PROVIDE DIVIDED ASSEMBLY QUAZITE BOX SERIES PG1730Z611 OR EQUAL. MOUNT FLUSH AT GRADE AT LOCATION SHOWN FOR FUTURE POWER AND DATA CONNECTIONS. COORDINATE EXACT LOCATION OF QUAZITE BOX WITH LHS FACILITIES PRIOR TO INSTALLATION. STUB UP (2) 2" CONDUITS, ONE FROM LOW VOLTAGE SIDE AND ONE FROM THE LINE VOLTAGE SIDE OF THE QUAZITE BOX, INTO AN ABOVE GROUND CABLING PEDESTAL.
2. STUB UP CONDUIT IN EXISTING CHASE TO EXISTING IT RACK.
3. EXISTING POLE MOUNTED MUSCO CABINET TO BE REINSTALLED AT NEW POLE LOCATION. EXISTING WIRE AND CONDUIT TO BE REROUTED TO NEW LOCATION. EXTEND/MODIFY CONDUIT AND WIRE AS NECESSARY FOR COMPLETE INSTALLATION.
4. EXISTING FOOTBALL FIELD LIGHTING RETAINED DURING DEMOLITION TO BE PLACED ON NEW POLE. EXISTING CONDUIT AND WIRE TO BE INTERCEPTED AND SPLICED AT LOCATION OUTSIDE OF NEW MULTIPURPOSE FIELD FENCE LINE AND EXTENDED/MODIFIED AS NECESSARY TO NEW LOCATION. RE-AIM FIXTURES AS NECESSARY.
5. NEW LOCATION OF EXISTING ELECTRICAL METER. PROVIDE CONDUIT FROM NEW METER LOCATION TO EXISTING SUBMETER IN SUBDIVISION. EXISTING CONDUCTORS TO BE REUSED. COORDINATE WITH EVERGY FOR RESETTING EXISTING METER.
6. EXISTING RECEPTACLE CIRCUIT AND SOUND ENCLOSURE RETAINED FROM FIELD DURING DEMOLITION TO BE REROUTED TO NEW SOUND BOX. SURFACE MOUNT RECEPTACLE AND SOUND ENCLOSURE UNDERCOUNTER. EXTEND MODIFY ALL WIRE, CABLING, AND CONDUIT AS NECESSARY FOR COMPLETE INSTALLATION.
7. SURFACE MOUNT RECEPTACLE ON INSIDE OF DUGOUT WALL.
8. PROVIDE ROUGH-IN FOR FUTURE LIGHT POLES AT LOCATION SHOWN. STUB UP (1) 2" CONDUIT AND CAP AT GRADE FOR FUTURE LIGHT POLE POWER.
9. EXISTING MUSCO LIGHT FIXTURE AND POLE RETAINED DURING DEMOLITION TO BE PLACED IN APPROXIMATE LOCATION SHOWN. PROVIDE NEW POLE BASE FOR EXISTING POLE. EXTEND/MODIFY EXISTING CONDUIT AND CONDUCTORS TO NEW POLE LOCATION AS NECESSARY.
10. EXISTING SPORTS LIGHTING CONDUIT TO BE CAPPED AT GRADE.
11. INTERCEPT EXISTING CONDUIT AND CONDUCTORS FOR FOOTBALL FIELD SPORTS LIGHTING AND EXTEND TO NEW POLE LOCATION.
12. EXISTING RECEPTACLE CIRCUIT AND SOUND ENCLOSURE RETAINED FROM FIELD DURING DEMOLITION TO BE REROUTED TO LOCATION SHOWN.
13. PROVIDE NEMA L6-50 RECEPTACLE IN WEATHERPROOF ENCLOSURE. SURFACE MOUNT RECEPTACLE ON UNISTRUCT OF LOCKABLE ENCLOSURE. CIRCUIT WITH 2#8,#10G, 3/4"C.
14. PROVIDE 24" X 24" X 8" LOCKABLE WALL MOUNT ENCLOSURE, HOFFMAN SERIES ECL606020 OR EQUAL. MOUNT ENCLOSURE TO UNISTRUT NEXT TO QUAZITE BOX. STUB UP (1) 2" CONDUIT FROM LOW VOLTAGE SIDE OF QUAZITE BOX INTO BOTTOM OF ENCLOSURE.
15. PROVIDE 12" X 12" X6" LOCKABLE WALL MOUNT ENCLOSURE, HOFFMAN SERIES ECL303015 OR EQUAL. STUB UP (1) 2" CONDUIT FROM LOW VOLTAGE SIDE OF QUAZITE BOX INTO BOTTOM OF ENCLOSURE. MOUNT TO SIDE OF BUILDING.
16. PROVIDE 12" X 12" X6" LOCKABLE WALL MOUNT ENCLOSURE, HOFFMAN SERIES ECL303015 OR EQUAL. PROVIDE UNISTRUT FOR MOUNTING. STUB UP (1) 2" CONDUIT FROM LOW VOLTAGE SIDE OF QUAZITE BOX INTO BOTTOM OF ENCLOSURE.
17. MOUNT RECEPTACLE ON UNISTRUT OF WALL MOUNT ENCLOSURE.
18. LOCATION OF EXISTING PANEL 'NLAB'.
19. REFER TO POLE SCHEDULE FOR MOUNTING OF MULTIPURPOSE FIELD SECURITY FIXTURE.

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Structure # 2006031535

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Smith & Boucher
Mechanical, Electrical and Plumbing Engineers
State Certificate of Authority #EGC000178
25618 W 103rd St
Olathe, KS 66061
913.345.2127 phone

CONSTRUCTION DOCUMENTS

LHS Baseball & Softball Upgrades
Liberty Public Schools 53
200 Blue Jay Drive
Liberty, MO 64068

REVISIONS:

#	Description	Date
1	ADDENDUM #2	07.24.2023
2	ADDENDUM #4	08.04.2023

STATE OF MISSOURI
RYAN JEROD DIEDIKER
NUMBER PE-2010006511
REGISTERED PROFESSIONAL ENGINEER
7/12/23

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JOB NO: 23023
DRAWN BY: SBI
CHECKED BY: RJD
DATE: 07.12.2023

ME201

ELEC. - SITE PLAN

smith & boucher engineers
25618 west 103rd St olathe, ks 66061
phone 913.345.2127 fax 913.345.0617
project number 2314709

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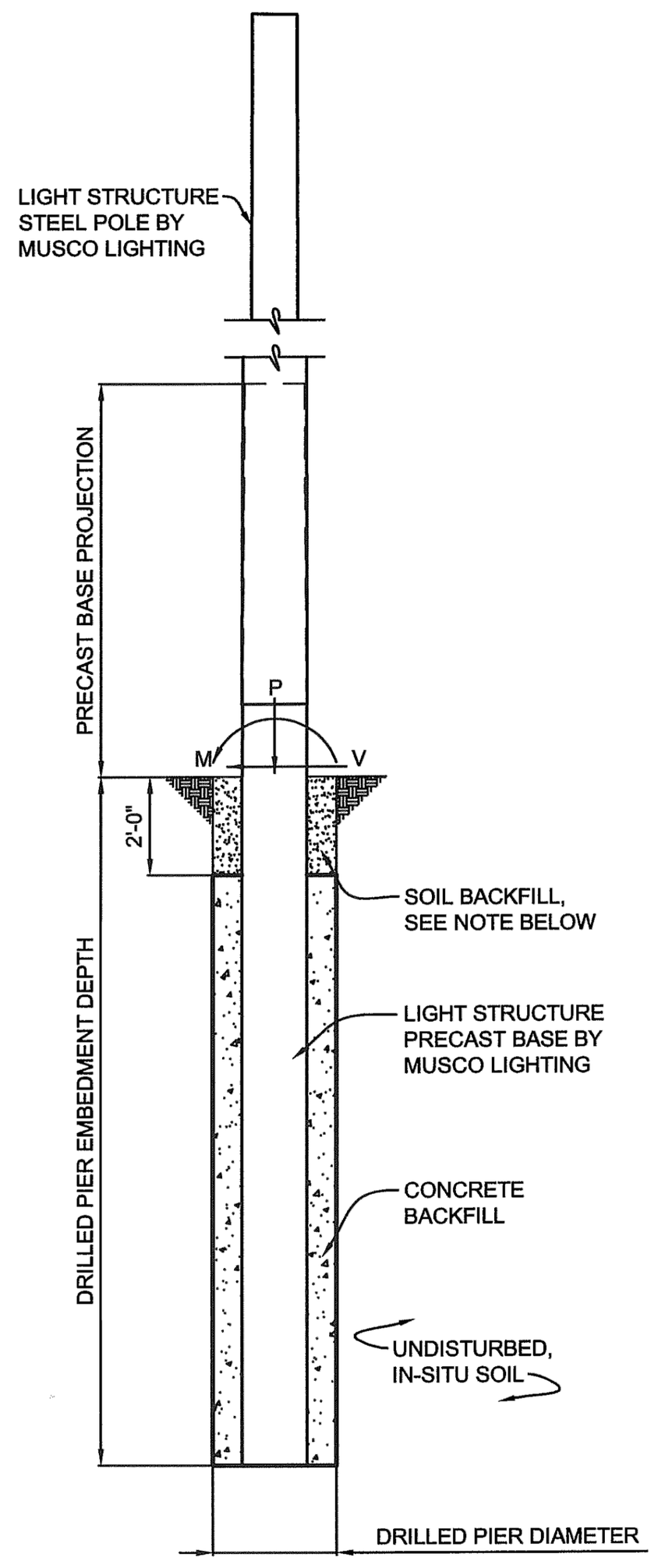
2314709 Liberty SD 2023 - LHS Field Replacement
X:\2023\2314709\23147ME201.dwg ME201.dwg
Kevin Johnson Thursday, August 3, 2023 4:12:28 PM
Booty Properties Thursday, August 3, 2023 4:16:5 PM
PROJECT NAME ◆ LOCATION \ NAME:
LAST CORRECTION BY ◆ DATE ◆ TIME:
PLOTTED BY ◆ DATE ◆ TIME:



POLE FOUNDATION ELEV.

SCALE: NOT TO SCALE

SOIL BACKFILL NOTE:
THE TOP TWO FEET OF ANNULUS SHALL BE BACKFILLED WITH SOIL, WITH A CLASSIFICATION OF CLASS 5 (TABLE 1806.2) OR BETTER. COMPACTION, 95% FOR COHESIVE SOIL AND 98% FOR A COHESIONLESS SOIL BASED UPON STANDARD PROCTOR TESTING (ASTM D698).

DESIGN NOTES

DESIGN PARAMETERS:
WIND: V_{ult} = 110 MPH, V_{asd} = 85 MPH (EXPOSURE C, RISK CATEGORY II) PER INTERNATIONAL BUILDING CODE, 2018 EDITION (ASCE 7-16). DESIGN WIND PARAMETERS ARE AS NOTED, ACTUAL EXPOSURE MUST BE VERIFIED FOR THE SITE BY THE PROPER GOVERNING OFFICIAL.

GEOTECHNICAL PARAMETERS:
ALLOWABLE END BEARING SOIL PRESSURE: 3,000 PSF
ALLOWABLE LATERAL SOIL BEARING PRESSURE:
F1: 0 PSF/FT (GRADE TO -2'-0"); 75 PSF/FT (-2'-0" TO -6'-0"); 150 PSF/FT (BELOW -6'-0")
F2 - F4: 0 PSF/FT (GRADE TO -2'-0"); 150 PSF/FT (BELOW -2'-0")
IN ACCORDANCE WITH THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE, CHAPTER 18.

DESIGN SOIL PARAMETERS ARE AS NOTED. ACTUAL ALLOWABLE SOIL PARAMETERS MUST BE VERIFIED ON SITE. REFERENCE SOILS AND FOUNDATION REPORT, NO. 81235, PREPARED BY KLEINFELDER; LENEXA, KS.

A GEOTECHNICAL ENGINEER OR REPRESENTATIVE OF IS RECOMMENDED (NOT REQUIRED) TO BE AVAILABLE AT THE TIME OF THE FOUNDATION INSTALLATION TO VERIFY THE SOIL DESIGN PARAMETERS AND TO PROVIDE ASSISTANCE IF ANY PROBLEMS ARISE IN FOUNDATION INSTALLATION.

ENCOUNTERING SOIL FORMATIONS THAT WILL REQUIRE SPECIAL DESIGN CONSIDERATIONS OR EXCAVATION PROCEDURES MAY OCCUR. POLE FOUNDATIONS WILL NEED TO BE ANALYZED ACCORDING TO THE SOIL CONDITIONS THAT EXIST. IF ANY DISCREPANCIES OR INCONSISTENCIES ARISE, NOTIFY THE ENGINEER OF SUCH DISCREPANCIES. FOUNDATIONS WILL THEN BE REVISED ACCORDINGLY. REVISIONS WILL BE ANALYZED PER RECOMMENDATIONS DIRECTED BY A REGISTERED ENGINEER.

ALL EXCAVATIONS MUST BE FREE OF LOOSE SOIL AND DEBRIS PRIOR TO FOUNDATION INSTALLATION AND CONCRETE BACKFILL PLACEMENT. TEMPORARY CASINGS OR DRILLERS SLURRY MAY BE USED TO STABILIZE THE EXCAVATION DURING INSTALLATION. CASINGS MUST BE REMOVED DURING CONCRETE BACKFILL PLACEMENT. CONCRETE BACKFILL MUST BE PLACED WITH A TREMIE WHEN SLURRY OR WATER IS PRESENT WITHIN THE EXCAVATION.

CONTRACTOR MUST BE FAMILIAR WITH THE COMPLETE SOIL INVESTIGATION REPORT AND BORINGS, AND CONTACT THE GEOTECHNICAL FIRM (IF NECESSARY) TO UNDERSTAND THE SOIL CONDITIONS AND THE POSSIBILITY OF GROUND WATER PUMPING AND EXCAVATION STABILIZATION OR BRACING DURING PRECAST BASE INSTALLATION AND PLACEMENT OF CONCRETE BACKFILL.

CONCRETE:
CONCRETE SHALL BE AIR-ENTRAINED AND HAVE A MINIMUM COMPRESSIVE DESIGN STRENGTH AT 28 DAYS OF 3,000 PSI. 3,000 PSI CONCRETE SPECIFIED FOR EARLY POLE ERECTION, ACTUAL REQUIRED MINIMUM ALLOWABLE CONCRETE STRENGTH IS 1,000 PSI. ALL PIERS AND CONCRETE BACKFILL MUST BEAR ON AND AGAINST FIRM UNDISTURBED SOIL.

GENERAL NOTES:
FIXTURES MUST BE LOCATED TO MAINTAIN 10'-0" MINIMUM HORIZONTAL CLEARANCE FROM ANY OBSTRUCTION. ENGINEER MUST BE NOTIFIED IF FOUNDATIONS ARE NEAR ANY RETAINING WALLS OR WITHIN / NEAR ANY SLOPES STEEPER THAN 3H : 1V. POLES, FIXTURES, PRECAST BASES, ELECTRICAL ITEMS AND INSTALLATION PER MUSCO LIGHTING.

PROPOSED SPORTS LIGHTING POLE SCHEDULE

POLE	CIRCUIT NAME	# FIXTURES/POLE	LUMINAIRE TYPE	POLE TYPE	POLE HEIGHT	MOUNTING HEIGHT
P1	SECURITY	1	TLC-LED-400	ROUND STEEL TAPERED	60'-0" (NOTE 1)	45'-0
P2	SECURITY	1	TLC-LED-400	ROUND STEEL TAPERED	60'-0" (NOTE 1)	45'-0"
P1	FOOTBALL FIELD	3	EXISTING	ROUND STEEL TAPERED	60'-0" (NOTE 1)	60'-0" (NOTE 2)
P2	FOOTBALL FIELD	3	EXISTING	ROUND STEEL TAPERED	60'-0" (NOTE 1)	60'-0" (NOTE 2)

2

NOTES:
1. PROVIDE POLE AND POLE BASE PER MANUFACTUER'S RECOMMENDATIONS.
2. MOUNT EXISTING LIGHTS RETAINED DURING DEMOLITION ON NEW POLE AT EXISTING HEIGHT. RE-AIM FIXTURES AS NECESSARY.

2

SPORTS LIGHTING CABINET SCHEDULE

CABINET #	CIRCUIT DESCRIPTION	CONTACTOR SIZE (AMPS)	CONTACTOR ID	PANEL & CIRCUIT
1	POLE P1	15	C1 (NOTE 1)	SP-2,4
1	POLE P2	15	C1 (NOTE 1)	SP-2,4

GENERAL NOTES:
1. PROVIDE CONTACTOR IN SPACE IN EXISTING SPORTS LIGHTING CONTACTOR CABINET LOCATED IN EXISTING ELECTRICAL GEAR NEAR CONCESSIONS.

SPORTS LIGHTING ZONE SCHEDULE

ZONE	SELECTOR SWITCH	ZONE DESCRIPTION	POLE ID	CONTACTOR ID
ZONE 1	1	SECURITY MULTIPURPOSE	P1 P2	C1 C1

PANEL CDP (ETR)

MAIN BUS AMPS: 60 A — AIC: 65,000 A
MAIN BREAKER: 60 A — SECTIONS: 1-24 SPACE — EQUIPMENT GROUND BUS
VOLTAGE: 240/120 V — MOUNTING: SURFACE
PHASES/WIRES: 1 PH / 3 W — ENCLOSURE TYPE: NEMA 1 — SERVICE ENTRANCE

CIRCUIT DESCRIPTION	POLES	AMPS	CKT NO	CKT NO	AMPS	POLES	CIRCUIT DESCRIPTION
EXISTING LOAD	1	20	1	2	20	1	EXISTING LOAD
	2	20	3	4	20	1	EXISTING LOAD
			5	6	20	1	EXISTING LOAD
EXISTING LOAD	1	20	7	8	20 (NOTE 1)	1	**REC - SOFTBALL / DOCK POWER**
EXISTING LOAD	1	20	9	10	20 (NOTE 1)	1	**REC - MULTIPURPOSE / BASEBALL**
EXISTING LOAD	2	20	11	12	30	2	EXISTING LOAD
			13	14			
EXISTING LOAD	2	20	15	16	30	2	EXISTING LOAD
			17	18			
EXISTING LOAD	1	20	19	20			
EXISTING LOAD	2	30	21	22	40	2	EXISTING LOAD
			23	24			

NOTES:
1. IRRIGATION POWER TO BE REMOVED FROM PANEL PER SCOPE, RE:CIVIL. CONTRACTOR TO VERIFY LOAD ON CIRCUIT BREAKERS POST DEMOLITION PRIOR TO INSTALLATION OF NEW LOADS AS SHOWN.

PANEL NLAB (ETR)

MAIN BUS AMPS: 100 A — AIC: 65,000 A
MAIN BREAKER: 100 A — SECTIONS: 1 - 42 SPACE — EQUIPMENT GROUND BUS
VOLTAGE: 208Y/120 V — MOUNTING: SURFACE
PHASES/WIRES: 3 PH / 4 W — ENCLOSURE TYPE: NEMA 1 — SERVICE ENTRANCE

CIRCUIT DESCRIPTION	POLES	AMPS	CKT NO	CKT NO	AMPS	POLES	CIRCUIT DESCRIPTION
EXISTING LOAD	1	20	1	2	20	1	EXISTING LOAD
EXISTING LOAD	1	20	3	4	20	1	EXISTING LOAD
EXISTING LOAD	1	20	5	6	20	1	EXISTING LOAD
EXISTING LOAD	1	20	7	8	20	1	EXISTING LOAD
EXISTING LOAD	1	20	9	10	20	1	EXISTING LOAD
EXISTING LOAD	1	20	11	12	20	1	EXISTING LOAD
EXISTING LOAD	1	20	13	14	20	1	EXISTING LOAD
EXISTING LOAD	1	20	15	16	20	1	EXISTING LOAD
EXISTING LOAD	1	20	17	18	40	2	EXISTING LOAD
EXISTING LOAD	1	20	19	20			
EXISTING LOAD	2	30	21	22	40	2	EXISTING LOAD
			23	24			
EXISTING LOAD	2	30	25	26	30	2	EXISTING LOAD
			27	28			
EXISTING LOAD	2	30	29	30	20	1	EXISTING LOAD
			31	32	20	1	EXISTING LOAD
DOCK SPECIAL RECEPT.	**2**	**50**	33	34	20	2	EXISTING LOAD
			35	36			
SPACE	1		37	38	100	3	MAIN BREAKER
SPACE	1		39	40			
SPACE	1		41	42			

PANEL SPORTS LIGHTING PANEL SP (ETR)

MAIN BUS AMPS: 400 A — AIC: 65,000 A
MAIN BREAKER: N/A — SECTIONS: 1 - 42 SPACE — EQUIPMENT GROUND BUS
VOLTAGE: 480Y/277 V — MOUNTING: SURFACE
PHASES/WIRES: 3 PH / 4 W — ENCLOSURE TYPE: NEMA 1 — SERVICE ENTRANCE

CIRCUIT DESCRIPTION	POLES	AMPS	CKT NO	CKT NO	AMPS	POLES	CIRCUIT DESCRIPTION
SOFTBALL POLE A3	3	20	1	2	**15**	**2**	**MULTIPURPOSE SECURITY**
			3	4			**(NOTE 1)(NOTE 2)**
			5	6		**1**	**SPACE**
SOFTBALL POLE A4	3	20	7	8	20	3	**SPARE**
			9	10			**(NOTE 1)**
			11	12			
BASEBALL POLE A1	3	30	13	14	30	3	SOFTBALL POLE B4
			15	16			
			17	18			
BASEBALL POLE A2	3	30	19	20	30	3	**SPARE**
			21	22			**(NOTE 1)**
			23	24			
SOFTBALL POLE B3	3	30	25	26	30	3	**SPARE**
			27	28			**(NOTE 1)**
			29	30			
BASEBALL POLE B2	3	60	31	32	60	3	BASEBALL POLE C1
			33	34			
			35	36			
BASEBALL POLE C2	3	80	37	38	60	3	BASEBALL POLE B1
			39	40			
			41	42			

NOTES:
1. EXISTING MULTIPURPOSE SPORTS LIGHTING SHCEDULED TO BE DEMOLISHED SHALL BE DISCONNECTED FROM CIRCUIT BREAKER. MARK CIRCUIT BREAKER AS SPARE.
2. REPLACE EXISTING 20A/3P CIRCUIT BREAKER WITH 15A/2P CIRCUIT BREAKER FOR NEW SECURITY LIGHTING.

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Olathe, KS 66061
913.345.2127 phone

CONSTRUCTION DOCUMENTS

LHS Baseball & Softball Upgrades
Liberty Public Schools 53

200 Blue Jay Drive
Liberty, MO 64068

REVISIONS:

#	Description	Date
2	ADDENDUM #4	08.04.2023

STATE OF MISSOURI — RYAN JEROD DIEDIKER — NUMBER PE-2015006511 — REGISTERED PROFESSIONAL ENGINEER
7/12/23

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DRAWN BY: SBI
CHECKED BY: RJD
DATE: 07.12.2023

smith & boucher engineers
25618 west 103rd St olathe, ks 66061
phone 913.345.2127 fax 913.345.0617
project number 2314709

ME301

SCHEDULES AND DETAILS - ELEC.

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PROJECT NAME: 2314709 Liberty SD 2023 - LHS Field Replacements
AUTOCAD FILE LOCATION \ NAME: X:\23\23147\2314709\Drawings\01-2314709_ME301.dwg
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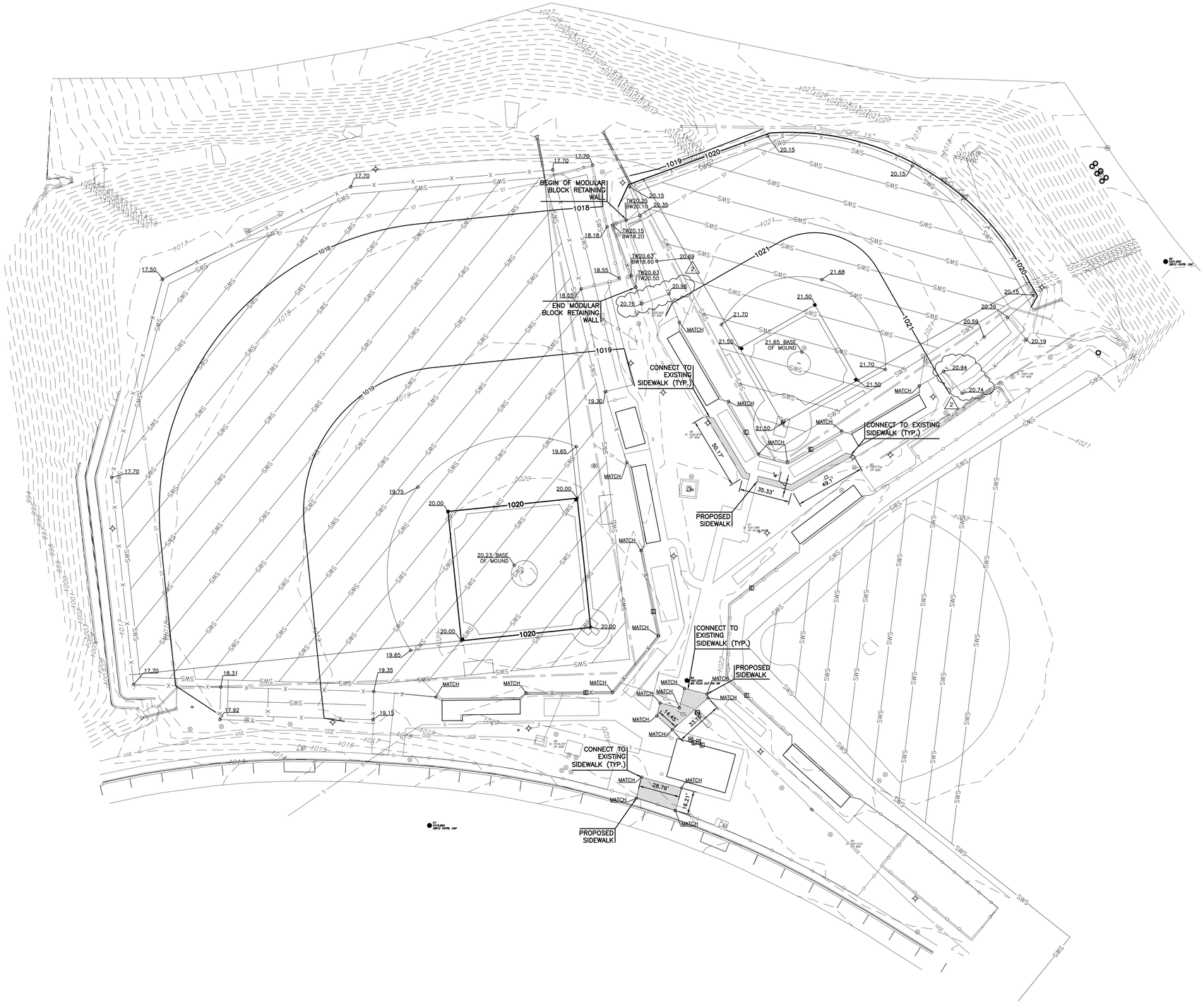
PLOTTED BY ◆ DATE ◆ TIME: Booty Charles Thursday, August 3, 2023 4:29:31 PM



GRADING NOTES:

1. ALL SPOT ELEVATIONS REPRESENT FINISHED GRADE.
2. ALL CURB SPOT ELEVATIONS ARE TOP OF CURB UNLESS OTHERWISE NOTED.
3. SATISFACTORY SOIL AND FILL MATERIAL SHALL BE PROVIDED PER THE SPECIFICATIONS. SEE SPECIFICATIONS FOR MAXIMUM FILL LIFT THICKNESS.
4. CLEAR AND GRUB IMPROVEMENT AREA. REMOVE ALL ORGANIC AND TOPSOIL MATERIAL REGARDLESS OF SIZE AND DEPTH. ALL CLEARED AND EXCESS MATERIAL SHALL BECOME CONTRACTORS PROPERTY AND SHALL BE REMOVED FROM THE PROJECT SITE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE EARTHWORK QUANTITIES. ALL IMPORT AND EXPORT OF SOIL MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT HIS EXPENSE.
6. NOTIFY TESTING AGENCY WHEN EXCAVATIONS HAVE REACHED REQUIRED SUBGRADE. SUBGRADE SHALL BE PREPARED AND COMPACTED PER THE SPECIFICATIONS.
7. IF GEOTECHNICAL ENGINEER DETERMINES THAT UNSATISFACTORY SOIL IS PRESENT, CONTINUE EXCAVATION AND REPLACE WITH COMPACTED BACKFILL OR FILL MATERIAL AS DIRECTED.
8. SEE EARTH WORK SPECIFICATIONS FOR COMPACTION & PROOF–ROLLING REQUIREMENTS.
9. RECONSTRUCT SUBGRADES DAMAGED BY FREEZING TEMPERATURE, FROST, RAIN, ACCUMULATED WATER, OR CONSTRUCTION ACTIVITIES, WITHOUT ADDITIONAL COMPENSATION.
10. COMPACTED SUBGRADE AND AGGREGATE BASE UNDER PAVEMENTS SHALL EXTEND A MINIMUM OF 2' BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB, WHICHEVER IS APPLICABLE.
11. ALL EXCESS SOIL AND WASTE MATERIAL SHALL BECOME THE CONTRACTORS PROPERTY AND SHALL BE REMOVED FROM THE SITE.

PAVING NOTES:

1. SEE SHEET C200 FOR PAVEMENT DETAILS.
2. ALL DIMENSIONS ARE TO BACK OF CURB.
3. PORTLAND CEMENT CONCRETE SHALL CONFORM WITH THE KANSAS CITY METRO MATERIALS BOARD MINIMUM 4000 PSI GRANITE MIX (KCMMB 4K).
4. ALL SIDEWALKS SHALL BE 4" UN–REINFORCED CONCRETE.
5. SIDEWALK RAMPS ON PRIVATE PROPERTY DO NOT REQUIRE 2' WIDE DETECTABLE WARNING STRIPS (TRUNCATED DOMES).
6. COMPACTED SUBGRADE AND AGGREGATE BASE UNDER PAVEMENTS SHALL EXTEND A MINIMUM OF 2' BEYOND THE EDGE OF PAVEMENT OR BACK OF CURB, WHICHEVER IS APPLICABLE.
7. ALL CURBS SHALL BE CG–1 UNLESS OTHERWISE NOTED.
8. 5' WIDE SIDEWALKS SHALL HAVE A MAXIMUM OF 5' CONTRACTION JOINT SPACING. 6' WIDE SIDEWALKS SHALL HAVE A MAXIMUM CONTRACTION JOINT SPACING OF 6'. 8' WIDE SIDEWALKS SHALL HAVE A MAXIMUM 4' CONTRACTION JOINT SPACING WITH A LONGITUDINAL CONTRACTION JOINT DOWN THE MIDDLE OF THE SIDEWALK.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED TRAFFIC CONTROL NECESSARY ON SURROUNDING STREETS FOR CONSTRUCTION. TRAFFIC CONTROL SHALL COMPLY WITH THE LATEST EDITION OF MUTCD AND CITY SPECIFICATIONS.
10. COORDINATE INSTALLATION OF PVC SLEEVES AND GRANULAR TRENCH BACKFILL FOR IRRIGATION PRIOR TO PAVEMENT INSTALLATION.

GRADING LEGEND

100 – PROPOSED MAJOR CONTOUR

101 – PROPOSED MINOR CONTOUR

00.00 – FINISH GRADE

PAVING LEGEND

– 4" CONCRETE SIDEWALK

N

SCALE: 1"=30'

0 30 60

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Overland Park, KS 66210
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Landscape No. 2006027139
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LNHS Baseball & Softball Upgrades
Liberty Public Schools 53
1000 NE 104th Street
Liberty, MO 64068

CONSTRUCTION DOCUMENTS

REVISIONS:

#	Description	Date
1	Addendum No. 2	07.24.23
2	Addendum No. 4	08.04.23

STATE OF MISSOURI
BRADEN L. TAYLOR
NUMBER PE-2021001896
7.24.23
PROFESSIONAL ENGINEER

BRADEN L. TAYLOR
LIC\# 2021001896

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DATE: 07-12-23

C103

GRADING & PAVING PLAN

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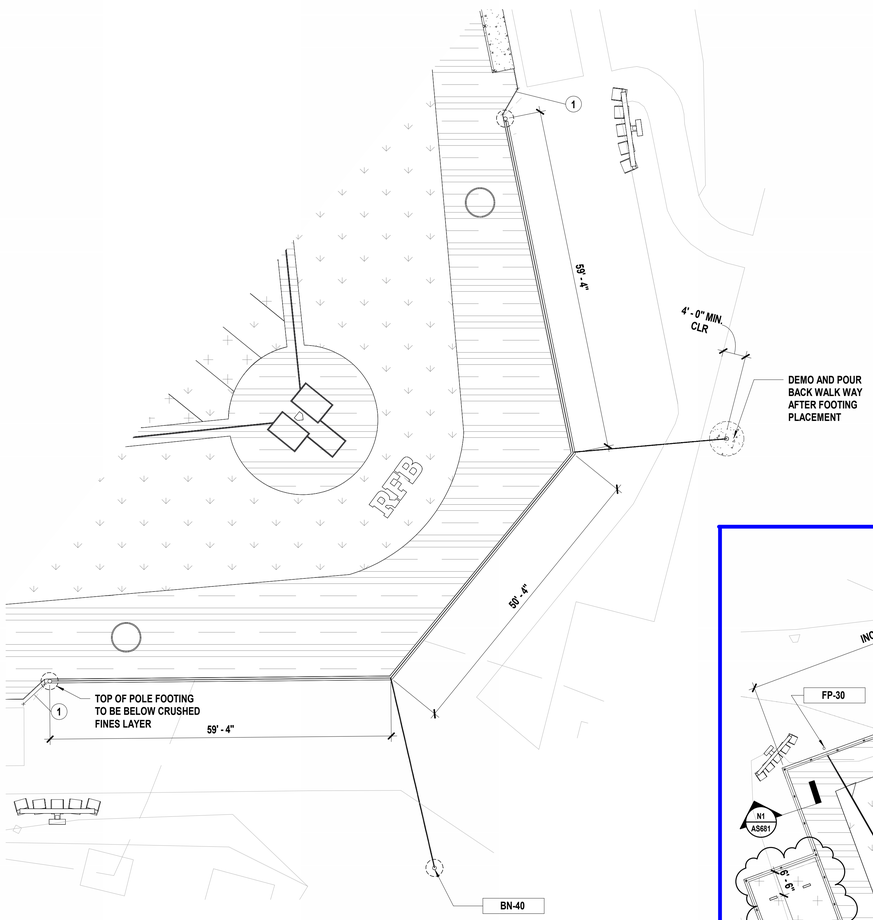
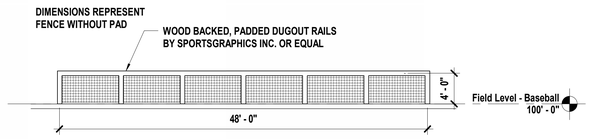
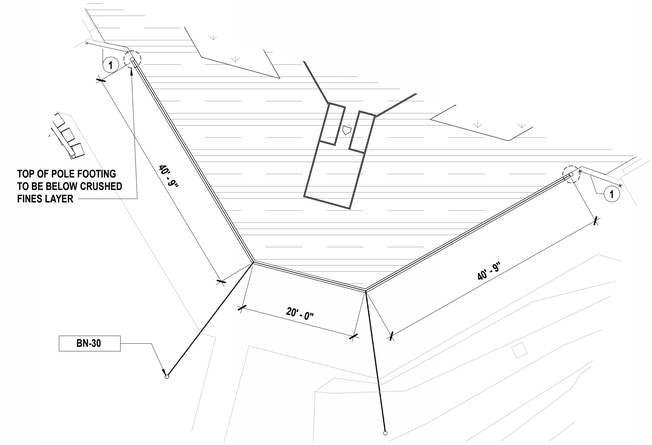
P:\PROJECTS\2023\23020\0291_LIBERTY NORTH HS ATHLETICS\00 23029I CAD\SHTS\05 CIVIL\C05\C23029I-05-1200-GD.DWG



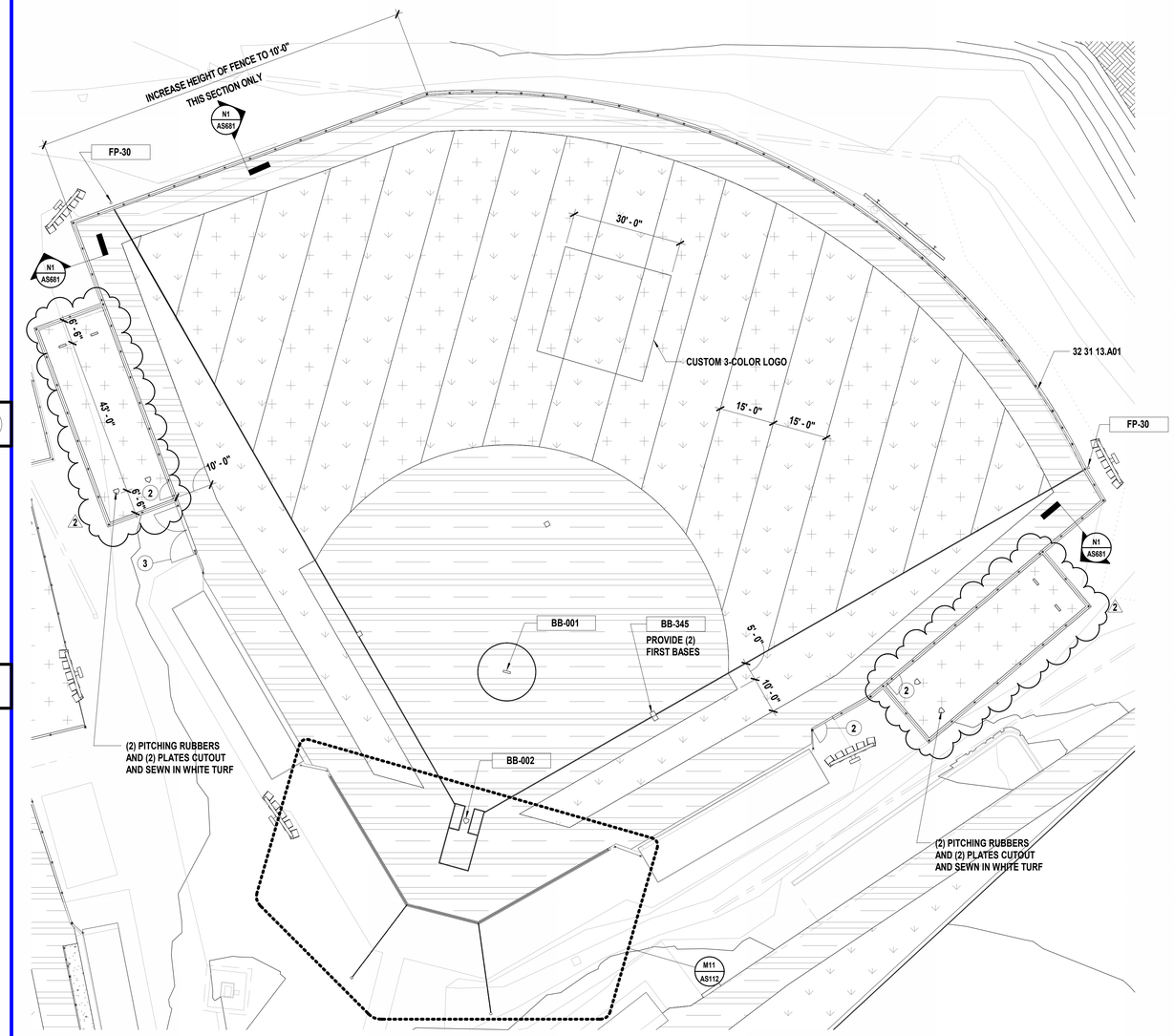
G1 Scale 3/32" = 1'-0" — Enlarged Plan - 40' Netted Backstop @ Baseball



E1 Scale 1/8" = 1'-0" — Elevation - Padded Fence at Dugout



M11 Scale 3/32" = 1'-0" — Enlarged Plan - 30' Netted Backstop @ Softball



A7 Scale 1/16" = 1'-0" — Field Level - Softball

SHEET KEYNOTE LEGEND

32 31 13.A01	CHAIN LINK FENCING

SITE - GENERAL NOTES

1. REFER TO SHEET AS681 FOR EQUIPMENT SCHEDULE.
2. ALL CHAINLINK FENCE TO BE 8'-0" IN HEIGHT UNLESS NOTED OTHERWISE.
3. EXISTING FENCING POLES TO REMAIN SHALL BE PREPPED WITH ACRYLIC METAL PRIMER FOR GALVANIZED SURFACES PRIOR TO PAINTING.
4. BASE PATHS, FOUL LINES, BATTERS BOXES, COACHES BOXES AND ALL OTHER FIELD STRIPING TO BE STITCHED IN WHITE TURF.
5. INSTALLER RESPONSIBLE FOR MEETING ALL FIELD OF PLAY GUIDELINES AS ADOPTED BY MSHSAA AND NFHS

SITE - KEYED NOTES

1. EXISTING PORTION OF FENCING TO REMAIN. AND ALL ASSOCIATED CONDUIT/SOUND SYSTEM COMPONENTS. PAINT FENCE POSTS BLACK. INSTALL BLACK PVC COATED CHAINLINK TO EXISTING POSTS. HEIGHTS VARY. VERIFY IN FIELD
2. 4'-0" PASS THROUGH GATE
3. PAIR OF 7'-0" ACCESS GATES

TURF COLOR LEGEND

FIELD GREEN

LIME GREEN

BROWN

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Liberty, MO 64068

REVISIONS:

#	Description	Date
2	Addendum No. 4	08.04.23

STATE OF MISSOURI
KEVIN E. NELSON
A-2009015618
ARCHITECT
AUGUST 4, 2023

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AS112

ARCHITECTURAL SITE PLAN - SOFTBALL

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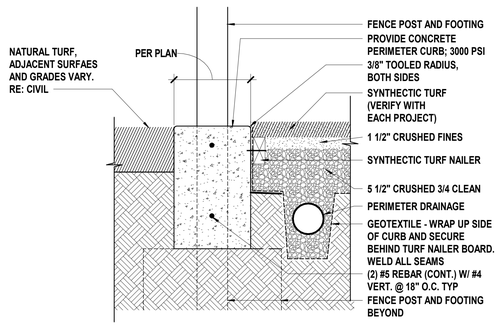
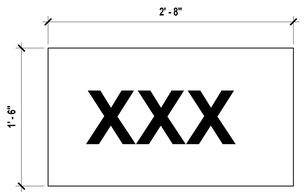


N1 Scale 1 1/2" = 1'-0" — Typical Perimeter Turf Curb with Fence



32x18 INCH HORIZONTAL OUTFIELD DISTANCE SIGN
VINYL PRINT ON FLAT CUT ALUMINUM METAL WITH POLY PROPYLENE CORE

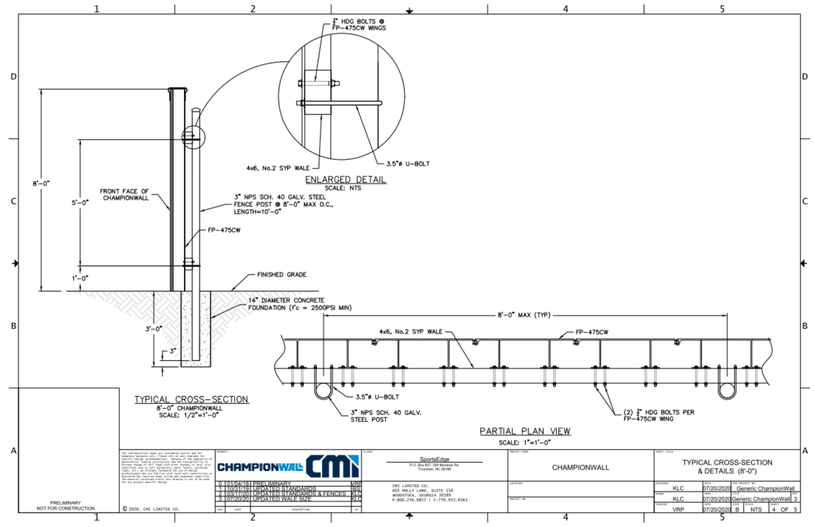
- PROVIDE (3) THREE PER FIELD
- FIELD VERIFY DISTANCE TO WALL FROM REAR POINT OF HOME PLATE PRIOR TO PRINTING

N7 Scale 1 1/2" = 1'-0" — Outfield Distance Sign

EQUIPMENT SCHEDULE

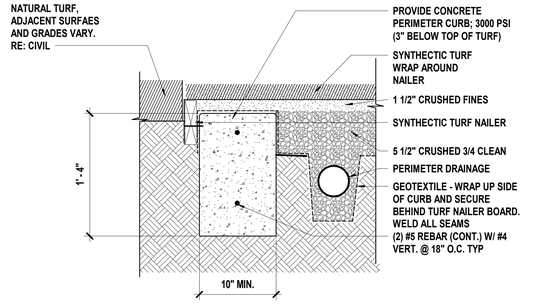
Specialty Equipment Schedule

Mark	Keynote	Description	Manufacturer	Model
BB-001	11 66 73	Pitching Rubber	Sportsfield Specialties	TBPR
BB-002	11 66 73	Home Plate	Sportsfield Specialties	TBHP
BB-345	11 66 73	1st, 2nd, 3rd base set	Sportsfield Specialties	TBS
BE-20	11 66 73	Batter's Eye - 20'H x 40'L solid vinyl enclosure, direct embedment	Sportsfield Specialties	BE2040
BN-30	11 66 73	Custom tie-back tension softball backstop netting system with integrated wall pad and #36 nylon netting - 30'H x 120'L	Sportsfield Specialties	TNTB36WPB
BN-40	11 66 73	Custom tie-back tension baseball backtop netting system with integrated wall pad back and #36 nylon net - 40'H x 180'L	Sportsfield Specialties	TNTB36WPB
FP-30	11 66 73	Foul Pole with mesh wing, ground sleeve inserted - 30'H	Sportsfield Specialties	FPW630
FP-40	11 66 73	Foul Pole with mesh wing, ground sleeve inserted - 40'H	Sportsfield Specialties	FPW640
PM-13	11 66 73	Synthetic Portable Pitcher's bull Pen Mound	Sportsfield Specialties	PPBPBIT

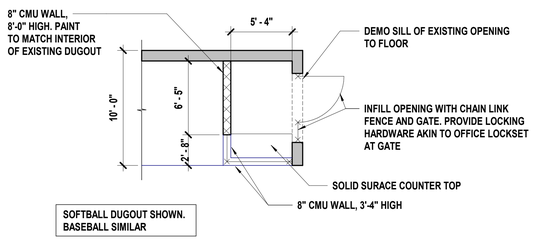


NOTE: MANUFACTURER'S STANDARD DETAIL INCLUDED FOR BIDDING PURPOSES ONLY. IF ALTERNATE IS TAKEN, ENGINEER OF RECORD TO RELEASE REVISED FOOTING DESIGN SPECIFIC TO GEOTECHNICAL REPORT'S FINDINGS

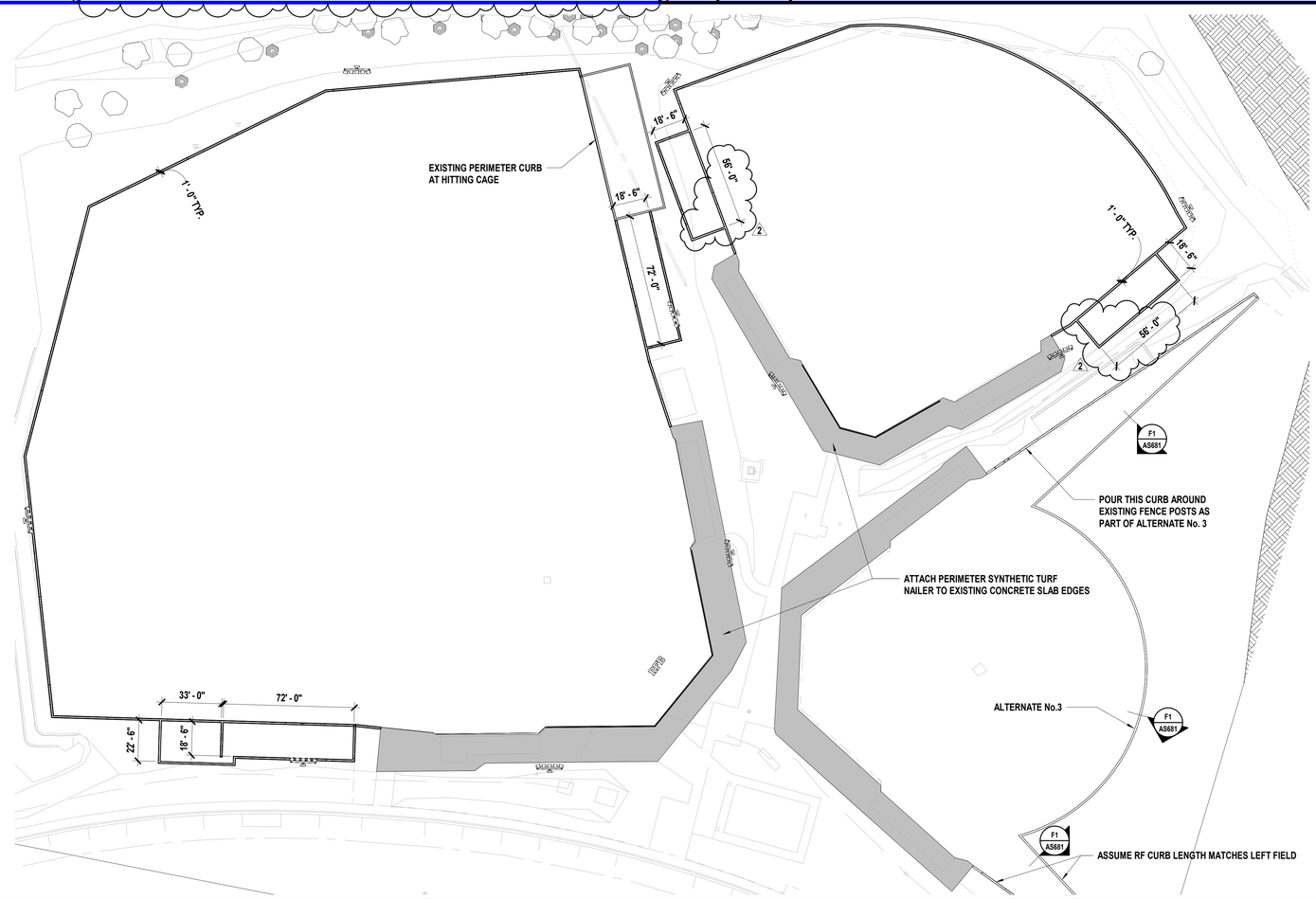
K12 Scale 12" = 1'-0" — Typical Championwall Footing Detail - Alternate No. 4



F1 Scale 1 1/2" = 1'-0" — Typical Perimeter Turf Curb to Natural Grass Transition (Alternate No. 3)



A1 Scale 3/16" = 1'-0" — Dugout Scorer's Box Retrofit (Alternate No. 3)



A6 Scale 1/32" = 1'-0" — Perimeter Concrete Turf Curb

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Mechanical, Electrical and Plumbing Engineers
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Olathe, KS 66061
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CONSTRUCTION DOCUMENTS

LNHS Baseball & Softball Upgrades
Liberty Public Schools 53
1000 NE 104th Street
Liberty, MO 64068

REVISIONS:

#	Description	Date
1	Addendum No. 2	07.24.23
2	Addendum No. 4	08.04.23

KEVIN E. NELSON — A-2009015618 — ARCHITECT — STATE OF MISSOURI
AUGUST 4, 2023

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CHECKED BY: Checker
DATE: 07.24.23

AS681

SCHEDULES & CONCRETE DETAILS

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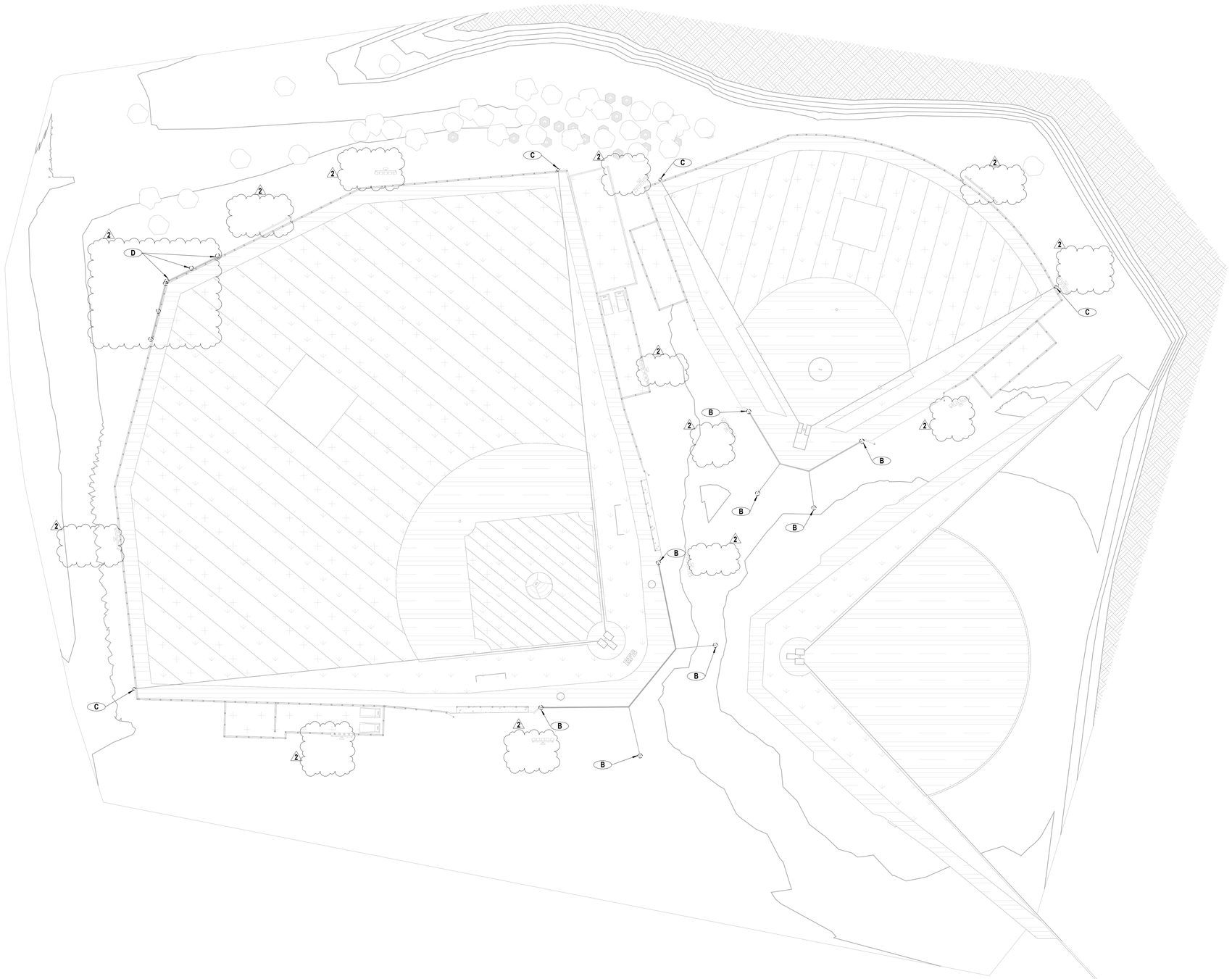

PLAN REFERENCE NOTES

- (A) NOT USED (2)
- (B) TENSION BACKSTOP NETTING FOOTING PER A5/S530.
- (C) FOUL POLE FOOTING PER A9/S530.
- (D) BATTER'S EYE FOOTING PER E9/S530.

NORTH

A1 | Scale 1" = 30'-0" | Foundation Plan - Overall

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1000 NE 104th Street
Liberty, MO 64068

REVISIONS:

#	Description	Date
2	Addendum 04	08.04.2023

STATE OF MISSOURI
07/04/2023
DAVID A. KRELL
NUMBER PE-2021014172
PROFESSIONAL ENGINEER

David A. Krell - Engineer
MO# PE-2021014172

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S101

FOUNDATION PLAN - OVERALL

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SHEET KEYNOTE LEGEND

03 30 00.A06 REINFORCING BARS

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REVISIONS:

#	Description	Date
2	Addendum 04	08.04.2023



David A. Krell - Engineer
MO# PE-2021014172

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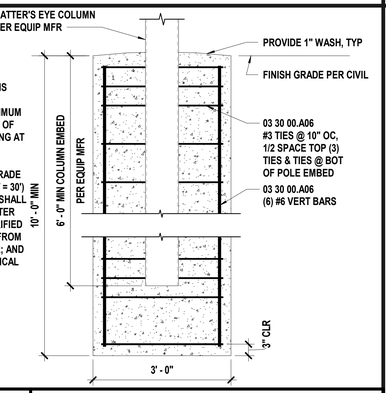
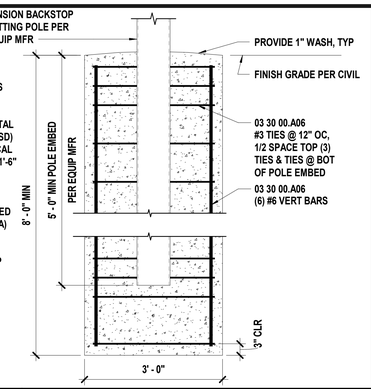


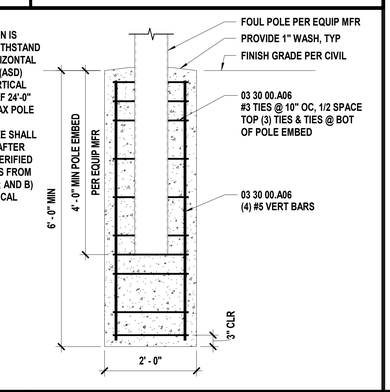
NOTES:
1. THIS FOUNDATION IS DESIGNED TO WITHSTAND A MAXIMUM HORIZONTAL LOAD OF ***3050 LB*** (ASD) ACTING AT A VERTICAL ECCENTRICITY OF 16'-4 1/2" ABOVE GRADE (MAX POLE HEIGHT = 30')
2. FOUNDATION SIZE SHALL BE CONFIRMED AFTER RECEIPT OF A) VERIFIED BASE REACTIONS FROM BATTER'S EYE MFR; AND B) SITE GEOTECHNICAL REPORT

E9 Scale 3/4" = 1'-0" — Typical Batter's Eye Footing



NOTES:
1. THIS FOUNDATION IS DESIGNED TO WITHSTAND A MAXIMUM HORIZONTAL LOAD OF ***1375 LB*** (ASD) ACTING AT A VERTICAL ECCENTRICITY OF 21'-6" ABVE GRADE (MAX POLE HEIGHT = 43')
2. FOUNDATION SIZE SHALL BE CONFIRMED AFTER RECEIPT OF A) VERIFIED BASE REACTIONS FROM TENSION BACKSTOP MFR; AND B) SITE GEOTECHNICAL REPORT

A5 Scale 3/4" = 1'-0" — Typical Tension Backstop Netting Footing



NOTES:
1. THIS FOUNDATION IS DESIGNED TO WITHSTAND A MAXIMUM HORIZONTAL LOAD OF ***375 LB*** (ASD) ACTING AT A VERTICAL ECCENTRICITY OF 24'-0" ABVE GRADE (MAX POLE HEIGHT = 40')
2. FOUNDATION SIZE SHALL BE CONFIRMED AFTER RECEIPT OF A) VERIFIED BASE REACTIONS FROM FOUL POLE MFR; AND B) SITE GEOTECHNICAL REPORT

A9 Scale 3/4" = 1'-0" — Typical Foul Pole Footing

CONCRETE TENSION DEVELOPMENT AND LAP SPLICE LENGTHS

GRADE 60 REINFORCEMENT, NORMALWEIGHT CONCRETE

BAR SIZE	LAP CLASS	f'c = 3000 PSI		f'c = 4000 PSI		f'c = 5000 PSI	
		BOTTOM BARS	OTHER BARS	BOTTOM BARS	OTHER BARS	BOTTOM BARS	OTHER BARS
#3	A	12	13	12	12	12	12
	B	16	17	16	16	16	16
#4	A	17	22	15	19	13	17
	B	23	29	20	25	17	23
#5	A	25	32	21	28	19	25
	B	33	42	28	37	25	33
#6	A	33	43	29	37	26	34
	B	43	56	38	49	34	45
#7	A	53	69	46	60	42	54
	B	69	90	60	78	55	71
#8	A	66	86	57	74	51	67
	B	86	112	75	97	67	88
#9	A	80	104	69	90	62	81
	B	104	136	90	117	81	106
#10	A	96	125	83	108	75	97
	B	125	163	108	141	98	127
#11	A	113	146	98	127	87	114
	B	147	190	128	166	114	149

NOTES:
1. ALL SPLICE LENGTHS ARE IN INCHES.
2. THIS TABLE SHALL BE USED FOR CONCRETE ONLY. REFER TO OTHER DEVELOPMENT LENGTH TABLES FOR OTHER MEMBERS.
3. THE TENSION DEVELOPMENT LENGTH (Ld) IS EQUAL TO THE SCHEDULED "CLASS A" LAP SPLICE LENGTH.
4. A BOTTOM BAR IS DEFINED AS ANY BAR THAT DOES NOT HAVE MORE THAN 12" OF FRESH CONCRETE BELOW THE BAR.
5. OTHER BARS INCLUDE TOP BARS AND ALL OTHER BARS THAT HAVE MORE THAN 12" OF FRESH CONCRETE BELOW THE BAR. FOR TOP REINFORCEMENT IN SLABS THAT ARE 12" THICK OR LESS, TABULATED SPLICE LENGTHS FOR BOTTOM BARS SHALL BE USED.
6. FOR EPOXY-COATED BARS, MULTIPLY THE TABULATED SPLICE LENGTHS OF BOTTOM BARS BY 1.5 AND THE TABULATED SPLICE LENGTHS OF OTHER BARS BY 1.3.
7. WHEN LAP SPLICING BARS OF DIFFERENT SIZES, THE LAP LENGTH IS DETERMINED BY THE SMALLER BAR BUT MAY NOT BE LESS THAN THE "CLASS A" SPLICE LENGTH OF THE LARGER BAR.
8. FOR CONCRETE STRENGTHS IN BETWEEN THOSE TABULATED HERE, USE DEVELOPMENT AND LAP SPLICE LENGTHS OF LOWER CONCRETE STRENGTH.

A13 Scale 1/2" = 1'-0" — Typical Reinforcing Splice Length Table

TYPICAL CONCRETE DETAILS

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