

Lee's Summit R7 District Athletics Facilities

Lee's Summit High School 400 SW Blue Parkway Lee's Summit, MO 64063

VOLUME 1 Cover Sheet

H-G000

September 28, 2020

Project Team:

Lee's Summit R-7 School District

301 NE Tudor Road

Lee's Summit, MO 64086

owner:

architect:

Gould Evans Kansas City, MO 64111

4200 Pennsylvania Avenue 816.931.6655 voice www.gouldevans.com

structural engineer:

Bob D. Campbell & Company, 4338 Belleview Avenue Kansas City, MO 64111 816.531.4144

civil engineer:

Kaw Valley Engineering 14700 West 114th Terrace Lenexa, KS 66215 913.485.0318

mechanical/electrical engineer:

Henderson Engineers 8345 Lenexa Drive | Suite 300 Lenexa, KS 66214 816.742.5000



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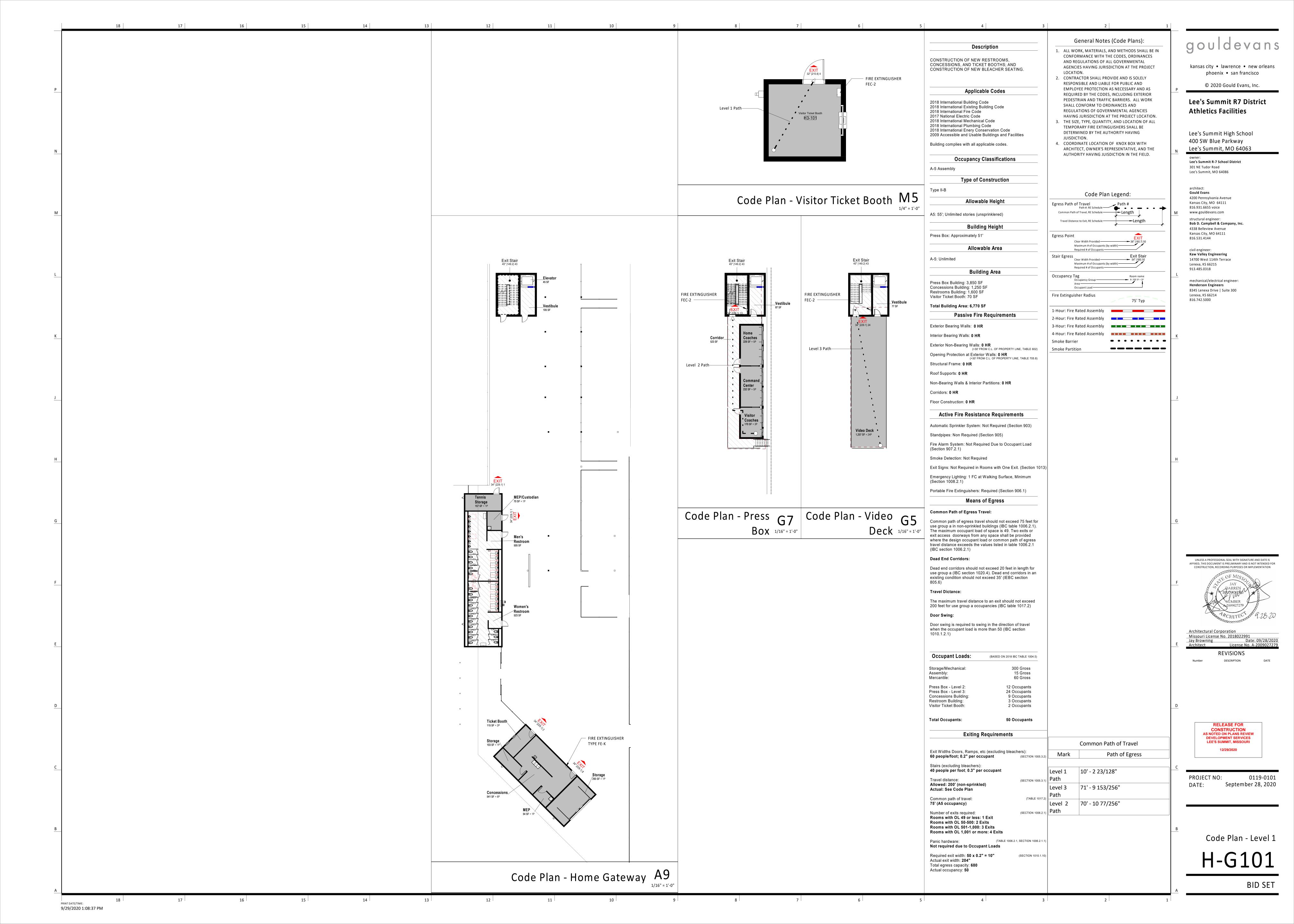
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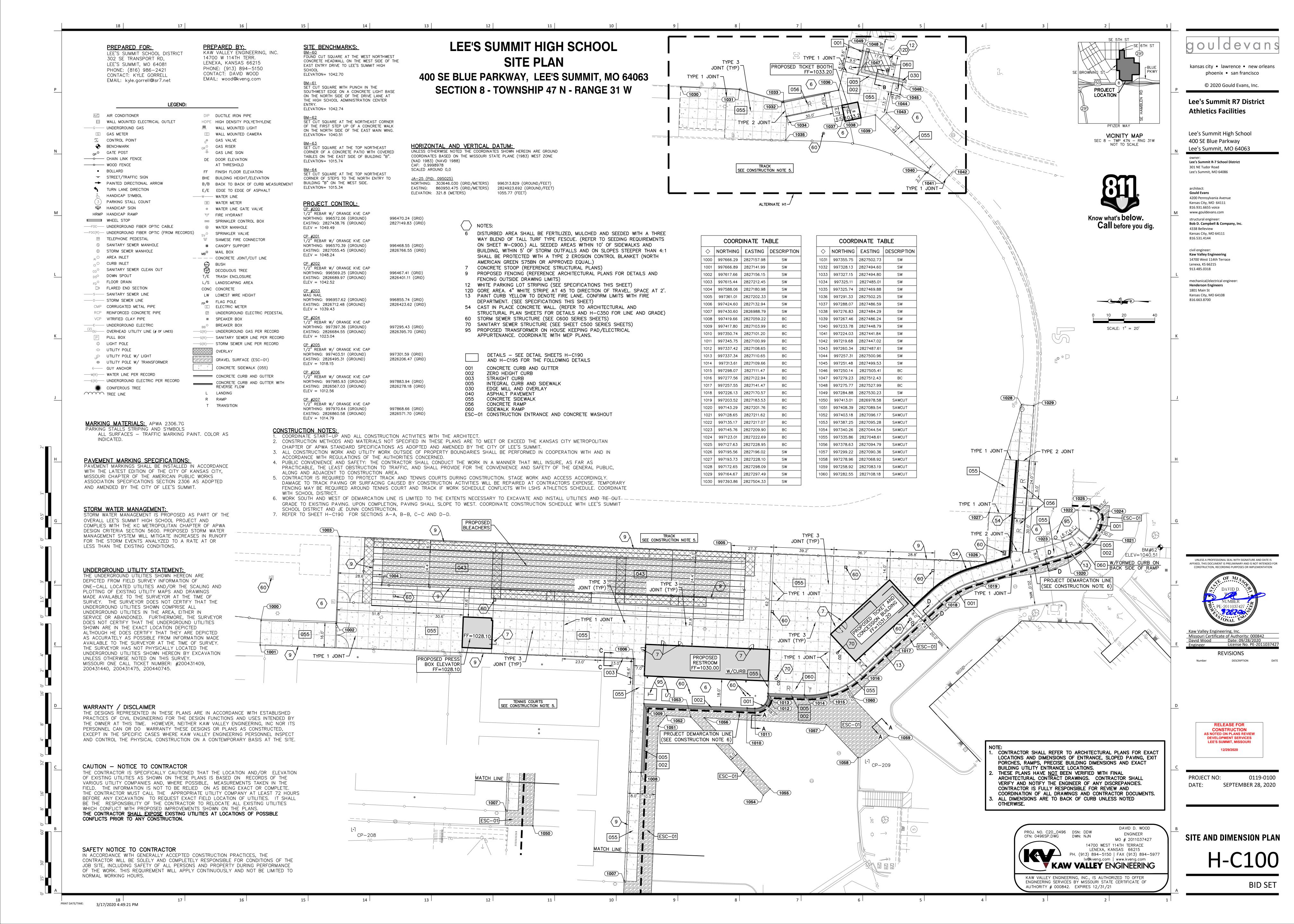
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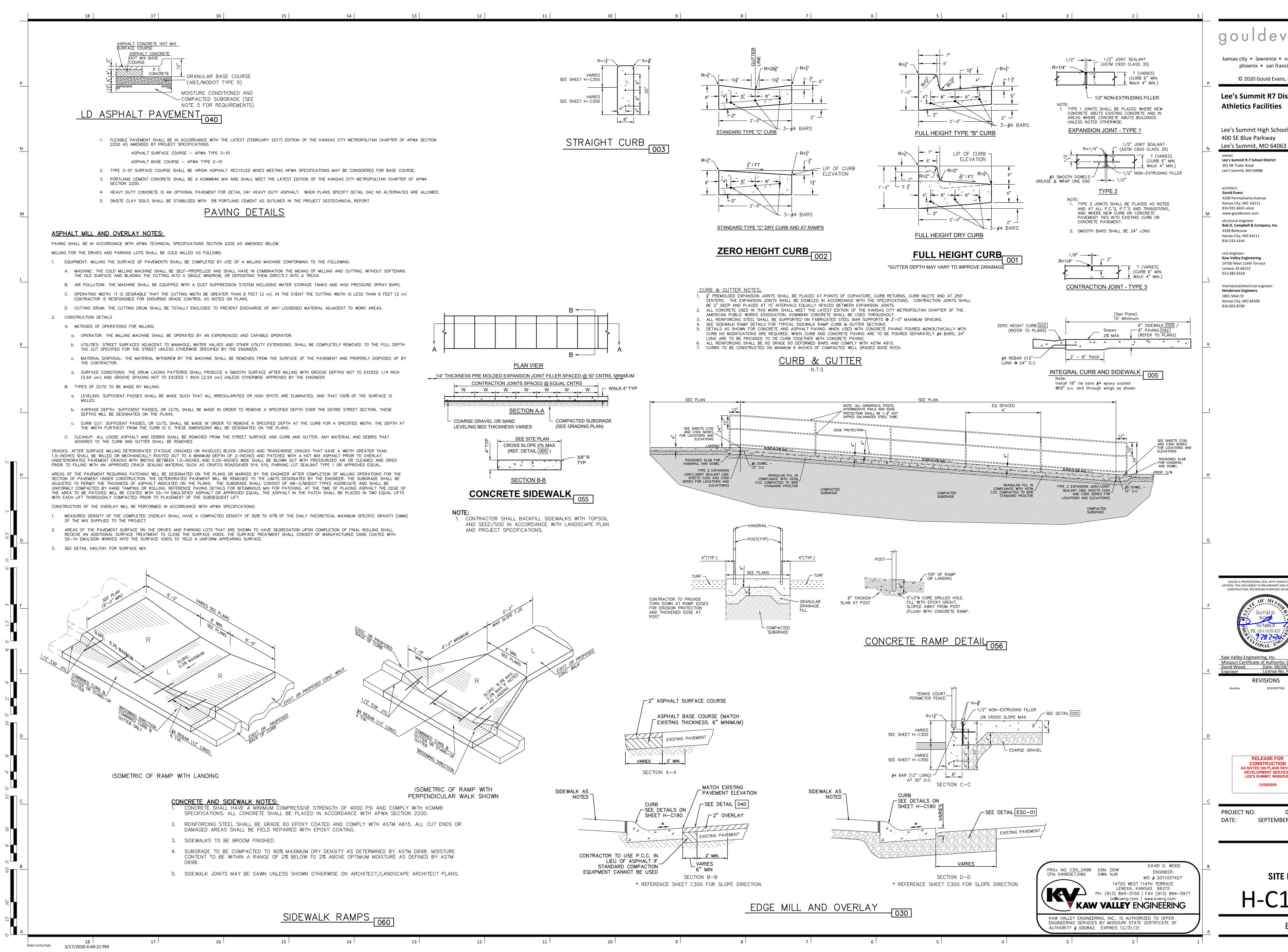
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	Index of Drawings		SITE LOCATION MAP	General Notes:	gouldeva
Volume 1 - LSHS	Volume 2 - LSNHS	Volume 3 - LSWHS		THE INTENT OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK BY THE	gooraor
00 Covers H-G000 VOLUME 1 Cover Sheet	00 Covers N-G000 VOLUME 2 Cover Sheet	00 Covers W-G000 VOLUME 3 Cover Sheet		CONTRACTOR. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL;	kansas city • lawrence • new phoenix • san francisc
01.0 General Information	01.0 General Information	01.0 General Information		PERFORMANCE BY THE CONTRACTOR SHALL BE REQUIRED ONLY TO THE EXTENT CONSISTENT WITH	© 2020 Gould Evans, In
H-G001 Index of Drawings & General Project Notes	N-G001 Index of Drawings & General Project Notes	W-G001 Index of Drawings & General Project Notes		THE CONTRACT DOCUMENTS AND REASONABLY INFERABLE FROM THEM AS BEING NECESSARY TO PRODUCE THE INDICATED RESULTS.	Lee's Summit R7 Dist
01.1 Code Information H-G101 Code Plan - Level 1	01.1 Code Information N-G100 Site Context	01.1 Code Information W-G100 Site Context		2. ORGANIZATION OF THE SPECIFICATIONS INTO DIVISIONS, SECTIONS AND ARTICLES, AND	Athletics Facilities
02.0 - Civil	N-G101 Code Summary - Stadium, Press Box, & Ticket Booths N-G102 Code Summary - Home Press Box & Ticket Booths N-G103 Code Summary - Athlatica Building & Consequence	W-G101 Code Summary - Stadium & Home Press Box W-G102 Code Summary - Press Box		ARRANGEMENT OF DRAWINGS SHALL NOT CONTROL THE CONTRACTOR IN DIVIDING THE WORK AMONG SUBCONTRACTORS OR IN ESTABLISHING THE EXTENT	Landa Como d'All'ab Caband
H-C100 Site and Dimension Plan H-C190 Site Details	N-G103 Code Summary - Athletics Building & Concessions	W-G103 Code Summary - Visitor Concessions & South Ticket Booth W-G104 Code Summary - North Ticket Booth W-G200 Fire Rated Assemblies		OF WORK TO BE PERFORMED BY ANY TRADE. 3. DRAWINGS, SPECIFICATIONS, GENERAL AND	Lee's Summit High School 400 SE Blue Parkway
H-C195 Erosion Control Details H-C200 Demolition and Erosion Control Plan H-C300 Grading and Erosion Control Plan	02.0 - Civil N-C100 Site and Dimension Plan N-C200 Demolition and Erosion Control Plan	W-G200 Fire Rated Assemblies W-G201 Fire Rated Assemblies		SUPPLEMENTARY CONDITIONS ARE ESSENTIAL PARTS OF THE CONTRACT. IN THE EVENT OF ANY	Lee's Summit, MO 64063
H-C350 Retaining Wall Plan and Profile H-C500 Utility Plan	N-C300 Grading and Erosion Control Plan N-C310 Site and Grading Plan Alternate	02.0 - Civil W-C100 Site & Dimension Plan		DISCREPANCY BETWEEN A DRAWING AND FIGURES WRITTEN THEREON, THE FIGURES, UNLESS OBVIOUSLY INCORRECT, ARE TO GOVERN OVER	Lee's Summit R-7 School District 301 NE Tudor Road Lee's Summit, MO 64086
H-C600 Storm Sewer Plan and Profile H-C690 Storm Details	N-C500 Utility Plan N-C900 Detail Sheet	W-C200 Demolition and Erosion Control Plan W-C300 Grading and Erosion Control Plan		SCALED DIMENSIONS. IN THE CASE OF ANY DISCREPANCY BETWEEN THE DRAWINGS AND THE	Lee 3 Summit, NO 04000
03.1 Architectural Site	N-C910 Detail Sheet	W-C500 Utility Plan W-C900 Site Details		SPECIFICATIONS, THE SPECIFICATIONS ARE TO GOVERN. IF THERE IS A DISCREPANCY BETWEEN LARGE AND SMALL SCALE DETAILS, THE LARGER	architect: Gould Evans 4200 Pennsylvania Avenue
H-AS002 Architectural Site Plan H-AS201 Fencing and Hardscape Plans	03.1 Architectural Site N-AS001 Architectural Site Plan	W-C910 Utility Details W-C920 Utility Details		SCALE DETAILS ARE TO GOVERN. SUPPLEMENTARY CONDITIONS SHALL GOVERN OVER SPECIFICATIONS,	Kansas City, MO 64111 816.931.6655 voice M www.gouldevans.com
04.0 Structural	N-AS101 Bleacher Plans N-AS201 Fencing and Hardscape Plans	03.1 Architectural Site		DRAWINGS AND GENERAL CONDITIONS. THE CONTRACTOR SHALL ADVISE THE ARCHITECT OF ANY DISCREPANCIES OR CONFLICTS BETWEEN CONTRACT	structural engineer: Bob D. Campbell & Company, Inc.
H-S001 General Notes H-S002 CMU Details	04.0 Structural	W-AS001 Architectural Site Plan W-AS101 Bleacher Plans		DOCUMENTS AS SOON AS THEY ARE DISCOVERED. 4. NOTWITHSTANDING THE ABOVE, IN THE CASE OF	4338 Belleview Avenue Kansas City, MO 64111 816.531.4144
H-S111 Home Press Box Plans H-S121 Home Gateway Plans	N-S001 General Notes N-S002 CMU Details	W-AS201 Fencing & Hardscape Plan		INCONSISTENCY BETWEEN DRAWINGS AND SPECIFICATIONS, OR WITHIN EITHER DOCUMENT NOT CLARIFIED BY ADDENDUM OR BY ARCHITECT'S	civil engineer:
H-S131 Visitor Ticket Booth Plans H-S200 Foundation Sections	N-S111 Press Box Plans N-S121 North Ticket Booth Plans	04.0 Structural W-S001 General Notes & Site Foundation Plans		SUPPLEMENTAL INSTRUCTION, THE BETTER QUALITY OR GREATER QUANTITY SHALL BE PROVIDED.	Kaw Valley Engineering 14700 West 114th Terrace Lenexa, KS 66215
H-S201 Foundation Sections H-S300 Framing Sections	N-S131 South Ticket Booth Plans N-S141 Vistior Restroom Plans	W-S002 CMU Details W-S111 Home Press Box Plans		5. DRAWINGS SHALL NOT BE SCALED TO DETERMINE DIMENSIONS. IF DIMENSIONS APPEAR TO BE	913.485.0318 <u>L</u>
H-S301 Framing Sections H-S302 Framing Sections	N-S200 Foundation Sections N-S300 Framing Sections	W-S121 Visitor Restrooms/Concession Plans W-S131 North Ticket Booth Plans		INSUFFICIENT OR INCORRECT, THE CONTRACTOR SHALL REQUEST CLARIFICATION FROM THE ARCHITECT.	mechanical/electrical engineer: Henderson Engineers 8345 Lenexa Drive Suite 300
H-S303 Framing Sections H-S304 Framing Sections	N-S301 Framing Sections N-S302 Framing Sections	W-S141 South Ticket Booth Plans W-S300 Framing Sections		6. WHENEVER CONTRACT DOCUMENTS REASONABLY IMPLY MATERIALS OR INSTALLATION AS NECESSARY	Lenexa, KS 66214 816.742.5000
H-S400 Framing Elevations	N-S400 Framing Elevations	W-S301 Framing Sections W-S400 Framing Elevations		TO PRODUCE THE INTENDED RESULTS, BUT DO NOT FULLY DETAIL OR SPECIFY SUCH MATERIALS, THE CONTRACTOR SHALL PROVIDE THE MATERIALS AND	
05.0 Architectural Demolition H-AD100 Overall (Site) Demolition Plans	05.0 Architectural Demolition N-AD100 Overall (Site) Demolition Plans	05.0 Architectural Demolition		LABOR REQUIRED FOR INSTALLATION NONETHELESS. 7. PROVIDE ALL WORK INDICATED UNLESS	
05.1 Architectural	N-AD111 Home Press Box Demolition Plans N-AD112 Restroom and Concessions Demolition Plans	W-AD100 Demolition Plan - Overall Site W-AD101 Demolition Plan - Press Box		SPECIFICALLY INDICATED AS "NOT IN CONTRACT" (NIC), "FURNISHED BY OTHERS" (FBO) OR "EXISTING".	K
H-A001 Graphic Symbols, Abbreviations, and General Information H-A002 Accessibility Standards & Mounting Heights	05.1 Architectural	05.1 Architectural		8. CONTRACT DOCUMENTS ARE INTENDED TO CONVEY DESIGN INTENT ONLY. PROVIDE PRODUCTS COMPLETE WITH ACCESSORIES, TRIM, FINISH,	
H-A020 Exterior Enclosure Types & Interior Partition Types H-A080 Door & Window Types & Details	N-A001 Graphic Symbols, Abbreviations, and General Information N-A002 Accessibility Standards N-A000 February Types & Johnson Bertitian Types	W-A001 Graphic Symbols, Abbreviations, and General Information W-A002 Accessibility Standards		FASTENERS, AND OTHER ITEMS NEEDED FOR A COMPLETE INSTALLATION AND INDICATED USE AND	
H-A101 Overall Floor Plan H-A111 Home Press Box - Floor/Roof Plans H-A112 Home Press Box - Reflected Ceiling Plans	N-A020 Exterior Enclosure Types & Interior Partition Types N-A080 Door & Window Types, Schedule, & Details N-A101 Overall Floor Plan	W-A020 Exterior Enclosures & Railing W-A080 Door & Window Schedule, Types, & Details		EFFECT. 9. THESE NOTES ARE NOT INTENDED TO LIMIT THE RESPONSIBILITIES OF THE CONTRACTOR AS DEFINED	
H-A113 Home Press Box - Exterior Elevations H-A114 Home Press Box - Building Sections	N-A111 Press Box - Floor/Roof Plans N-A112 Press Box - Reflected Ceiling Plans	W-A090 Interior Partition Types W-A101 Overall Floor Plan W-A111 Press Box - Floor/Roof Plans		ELSEWHERE IN THE CONTRACT DOCUMENTS	
H-A115 Home Press Box - Wall Sections H-A116 Home Press Box - Wall Sections	N-A112 Press Box - Reflected Celling Flatis N-A113 Press Box - Exterior Elevations N-A114 Press Box - Building Sections	W-A112 Press Box - Reflected Ceiling Plans W-A113 Press Box - Elevations			
H-A117 Home Press Box - Interior Elevations H-A118 Home Press Box - Vertical Circulation	N-A115 Press Box - Wall Sections N-A116 Press Box - Wall Sections	W-A114 Press Box - Building Sections W-A115 Press Box - Wall Sections			
H-A121 Home Gateway - Floor/Roof/Plans H-A122 Home Gateway - Reflected Ceiling Plans	N-A117 Press Box - Interior Elevations N-A121 Ticket Booths - Plans, Elevations, & Building Sections	W-A116 Press Box - Wall Sections W-A117 Press Box - Vertical Circulation Drawings			
H-A123 Home Gateway - Exterior Elevations H-A124 Home Gateway - Building Sections	N-A125 Ticket Booths - Wall Sections N-A127 Ticket Booths - Interior Elevations	W-A121 Visitor Concessions - Floor/Roof/Reflected Ceiling Plans W-A123 Visitor Concessions - Elevations & Building Sections			
H-A125 Home Gateway - Wall Sections & Details H-A126 Home Gateway - Interior Elevations	N-A141 Restrooms & Concessions - Plans & Elevations N-A145 Restrooms & Concessions - Wall Sections	W-A125 Visitor Concessions - Wall Sections W-A128 Visitor Restrooms - Plan & Elevations			<u>н</u>
H-A127 Home Gateway - Enlarged Plans H-A131 Visitor Ticket Booth - Plans, Exterior Elevations, & Sections	N-A300 Section Details - Foundation N-A310 Section Details - Intermediate	W-A131 North Ticket Booth - Plans, Exterior Elevations, & Sections W-A135 North Ticket Booth - Wall Sections			
H-A141 Visitor Press Box - Plans, Exterior Elevations, & Sections H-A142 Visitor Press Box - Exterior Elevations	N-A320 Section Details - Roof N-A321 Section Details - Roof	W-A141 (BID ALT #W-1) South Ticket Booth - Plans, Elevations, & Sections W-A145 (BID ALT #W-1) South Ticket Booth - Wall Sections			
H-A143 Visitor Press Box - Building Sections H-A300 Exterior Section Details - Foundation	N-A330 Exterior Plan Details N-A600 Casework Standards	W-A300 Exterior Section Details W-A320 Exterior Section Details - Roof			
H-A310 Exterior Section Details - Intermediate H-A320 Exterior Section Details - Roof	05.2 Architectural Finishes	W-A321 Exterior Section Details - Roof W-A322 Exterior Section Details - Roof			
H-A321 Exterior Section Details - Roof H-A330 Exterior Plan Details	N-AF001 Finish Legend & Details ————————————————————————————————————	W-A330 Exterior Plan Details W-A600 Casework Standards		-	<u>G</u>
H-A600 Casework Standards	N-AF003 Signage Types, Schedule & Details	05.2 Architectural Finishes ADD02			
05.2 Architectural Finishes H-AF001 Finish Legend, Schedule & Details	06.0 - Plumbing N-P000 PLUMBING LEGEND AND NOTES	W-AF001 Finish Legend & Details			
H-AF002 Signage Types, Schedule & Details H-AF003 Signage Types, Schedule & Details	N-P111 PRESS BOX - PLUMBING PLANS N-P141 VISITOR RESTROOMS - PLUMBING PLAN N-P500 PLUMBING DETAILS	W-AF003 Signage Types, Schedule & Details			UNLESS A PROFESSIONAL SEAL WITH SIGNATURE A AFFIXED, THIS DOCUMENT IS PRELIMINARY AND IS NO CONSTRUCTION, RECORDING PURPOSES OR IMPLE
06.0 - Plumbing H-P000 PLUMBING GENERAL NOTES AND LEGEND	N-P500 PLUMBING DETAILS N-P600 PLUMBING SCHEDULES N-P700 PLUMBING RISERS	06.0 - Plumbing W-P000 PLUMBING LEGEND AND NOTES W-P111 HOME PRESS BOX - PLUMBING PLANS			F JAY JAY
H-P111 HOME PRESS BOX - PLUMBING PLANS H-P121 HOME GATEWAY - PLUMBING PLAN	07.0 - Mechanical	W-P121 VISITOR RESTROOMS & CONCESSIONS - PLUMBING PLAN W-P500 PLUMBING DETAILS			DARREN BROWNING
H-P500 PLUMBING DETAILS H-P600 PLUMBING SCHEDULES	N-M000 MECHANICAL LEGEND AND NOTES N-M111 PRESS BOX - HVAC PLANS	W-P600 PLUMBING SCHEDULES W-P700 PLUMBING RISERS			NUMBER A-2009027279
H-P700 PLUMBING RISERS	N-M121 TICKET BOOTH - HVAC PLANS N-M141 VISITOR RESTROOMS - HVAC PLANS	07.0 - Mechanical			PRCHITECT
07.0 - Mechanical H-M000 MECHANICAL GENERAL NOTES AND LEGEND	N-M500 MECHANICAL DETAILS N-M600 MECHANICAL SCHEDULES & CONTROLS	W-M000 MECHANICAL LEGEND AND NOTES W-M111 HOME PRESS BOX - HVAC PLAN			Architectural Corporation Missouri License No. 2018022991
H-M111 HOME PRESS BOX - HVAC PLANS H-M121 HOME GATEWAY - HVAC PLANS	08.0 - Electrical	W-M121 VISITOR RESTROOMS & CONCESSIONS - HVAC PLANS W-M131 TICKET BOOTH - HVAC PLANS			Jay Browning Date Architect License No. A
H-M131 VISITOR TICKET BOOTH - HVAC PLANS H-M500 MECHANICAL DETAILS	N-E000 ELECTRICAL LEGEND AND NOTES N-E001 ELECTRICAL SITE PLAN	W-M500 MECHANICAL DETAILS W-M600 MECHANICAL SCHEDULES & CONTROLS			REVISIONS Number DESCRIPTION
H-M600 MECHANICAL SCHEDULES & CONTROLS	N-E111 PRESS BOX - LIGHTING RCPS N-E112 PRESS BOX - POWER PLANS	08.0 - Electrical			ADD02 Addendum 02
08.0 - Electrical H-E000 ELECTRICAL GENERAL NOTES AND LEGEND	N-E121 TICKET BOOTH - ELECTRICAL PLANS N-E141 VISITOR RESTROOMS AND CONCESSIONS - ELECTRICAL PLANS	W-E000 ELECTRICAL LEGEND AND NOTES W-E001 ELECTRICAL SITE PLAN			
H-E001 ELECTRICAL SITE PLAN - DEMO H-E002 ELECTRICAL SITE PLAN - NEW	N-E500 ELECTRICAL DETAILS N-E600 ELECTRICAL SCHEDULES	W-E111 HOME PRESS BOX - LIGHTING RCPS W-E112 HOME PRESS BOX - POWER PLANS			
H-E111 HOME PRESS BOX - LIGHTING RCPS H-E112 HOME PRESS BOX - POWER PLANS	N-E601 ELECTRICAL SCHEDULES N-E700 LIGHTING SCHEDULES	W-E121 VISITOR RESTROOMS & CONCESSIONS - ELECTRICAL PLANS W-E131 TICKET BOOTH - ELECTRICAL PLANS		-	D
H-E113 HOME PRESS BOX - EQUIPMENT CONNECTION PLANS H-E121 HOME GATEWAY - LIGHTING RCP	N-E800 ELECTRICAL ONE-LINE DIAGRAM	W-E500 ELECTRICAL DETAILS W-E600 ELECTRICAL SCHEDULES			RELEASE FOR CONSTRUCTION
H-E122 HOME GATEWAY - ELECTRICAL PLANS H-E131 VISITOR TICKET BOOTH - ELECTRICAL PLANS	10.0 - Technology N-TN000 TECHNOLOGY LEGEND AND NOTES	W-E700 LIGHTING SCHEDULES W-E800 ELECTRICAL ONE-LINE DIAGRAM			AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI
H-E500 ELECTRICAL DETAILS H-E600 ELECTRICAL SCHEDULES	N-TN111 PRESS BOX - TECHNOLOGY PLANS N-TN121 TICKET BOOTH - TECHNOLOGY PLANS	10.0 - Technology			12/29/2020
H-E601 ELECTRICAL SCHEDULES H-E700 LIGHTING SCHEDULES	N-TN141 VISITOR RESTROOMS - TECHNOLOGY PLAN N-TN500 TECHNOLOGY DETAILS	W-TN000 TECHNOLOGY LEGEND AND NOTES W-TN111 HOME PRESS BOX - TECHNOLOGY PLANS			С
H-E800 ELECTRICAL ONE-LINE DIAGRAM H-E801 ELECTRICAL ONE-LINE DIAGRAM	99.0 Not Used	W-TN121 VISITOR RESTROOMS & CONCESSIONS - TECHNOLOGY PLAN W-TN131 TICKET BOOTH - TECHNOLOGY PLANS			PROJECT NO: 01
10.0 - Technology	NF-01 Food Establishment Plan	W-TN500 TECHNOLOGY DETAILS			DATE: September
H-TN000 TECHNOLOGY GENERAL NOTES AND LEGEND H-TN111 HOME PRESS BOX - TECHNOLOGY PLANS		x_Unused WF-01 Food Establishment Plan			
H-TN121 TECHNOLOGY HOME GATEWAY - PLAN H-TN131 TECHNOLOGY VISITOR TICKET BOOTH - PLAN					
H-TN500 TECHNOLOGY DETAILS					в Index of Drawi
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Lee's Summit R7 District

Lee's Summit High School 400 SE Blue Parkway

Lee's Summit R-7 School District

4200 Pennsylvania Avenue Bob D. Campbell & Company, Inc

14700 West 114th Terrace

mechanical/electrical engineer

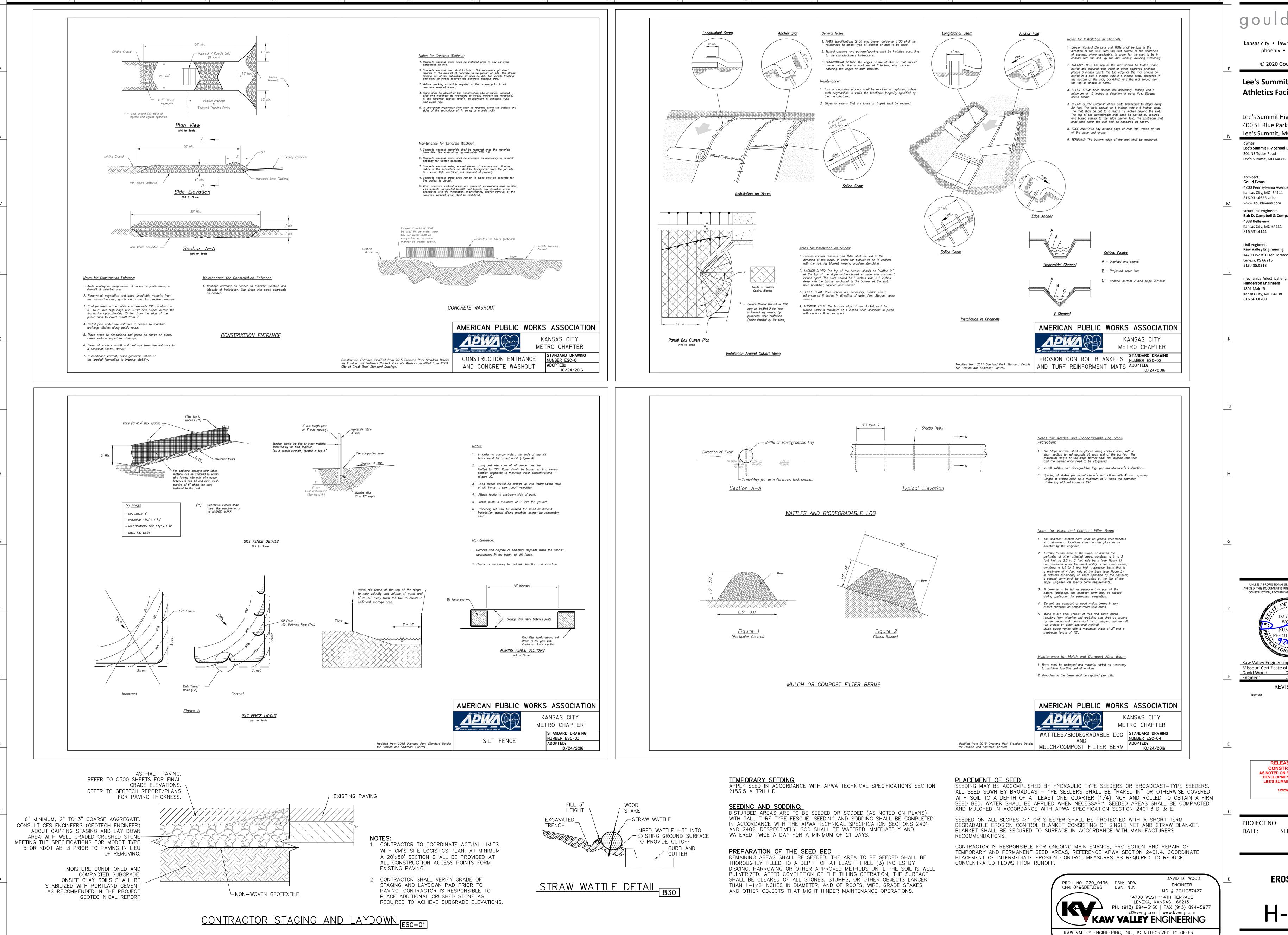
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Missouri Certificate of Authority: 000842 David Wood Date: 09/28/2020 License No. PE-201 REVISIONS

> RELEASE FOR CONSTRUCTION **AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES** LEE'S SUMMIT, MISSOURI

0119-0100 SEPTEMBER 28, 2020

SITE DETAILS



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Lee's Summit R7 District **Athletics Facilities**

Lee's Summit High School 400 SE Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District 301 NE Tudor Road

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civil engineer: **Kaw Valley Engineering** 14700 West 114th Terrace Lenexa, KS 66215 913.485.0318

mechanical/electrical engineer: Henderson Engineers 1801 Main St Kansas City, MO 64108 816.663.8700

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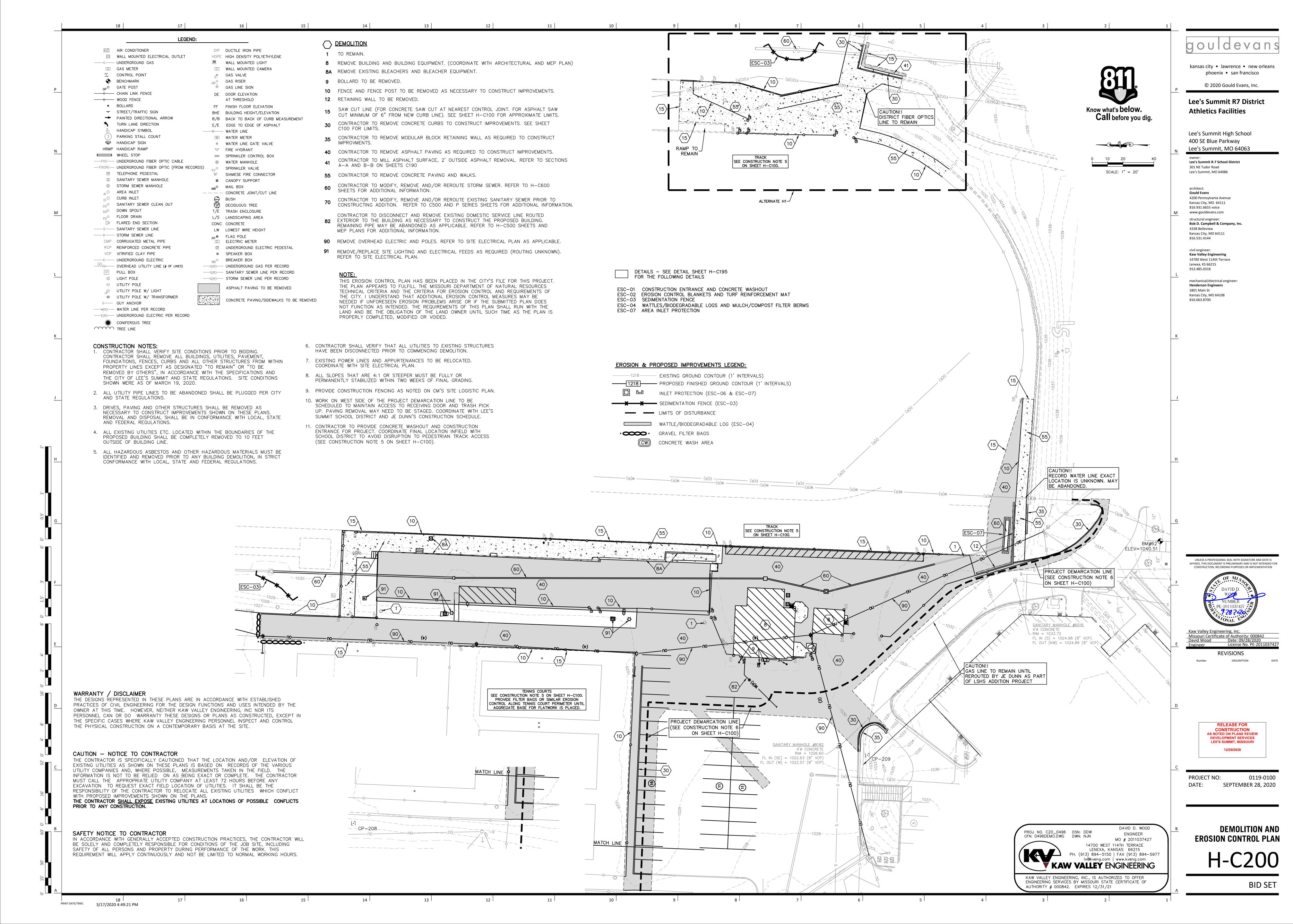
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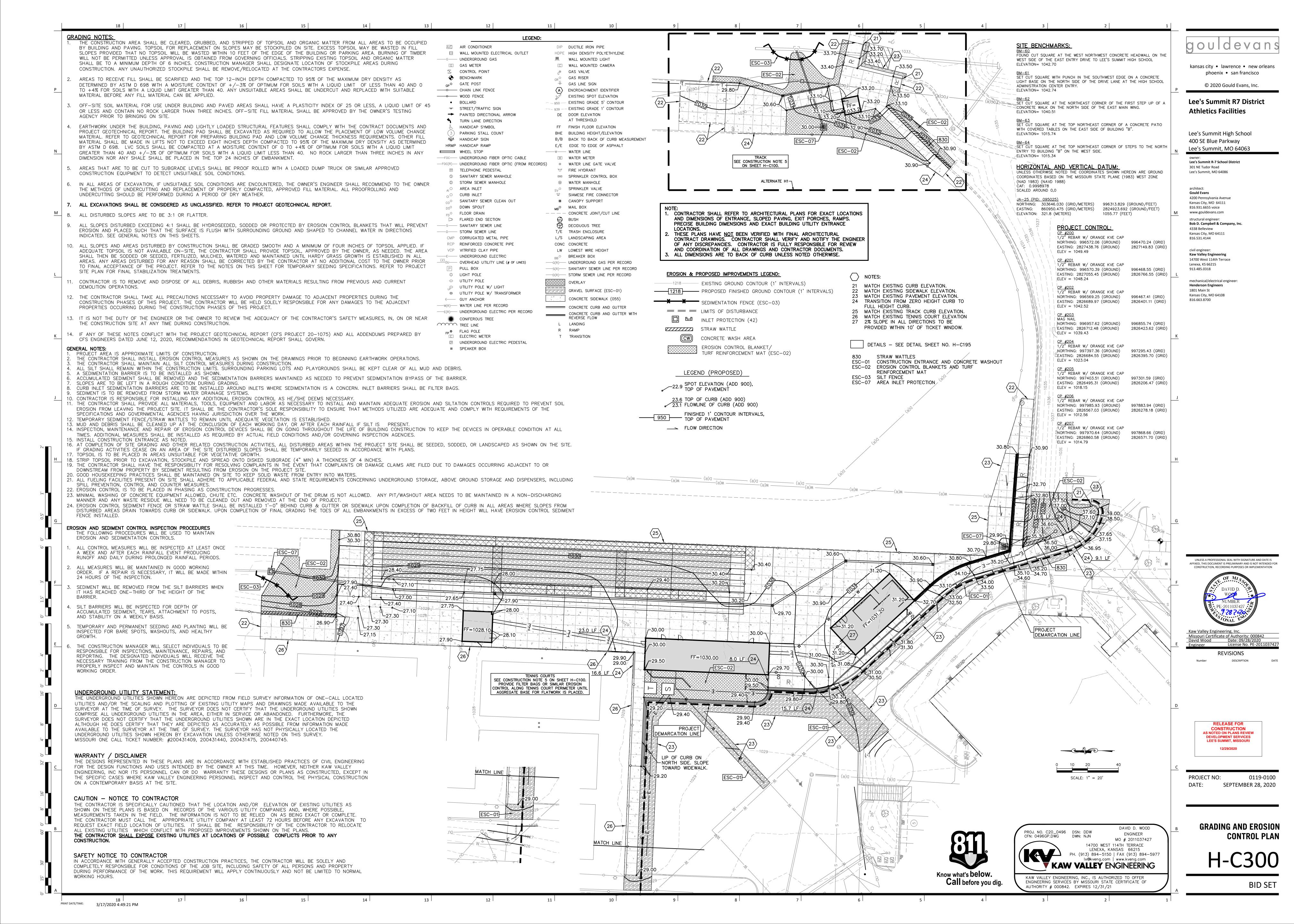
> **EROSION CONTROL DETAILS**

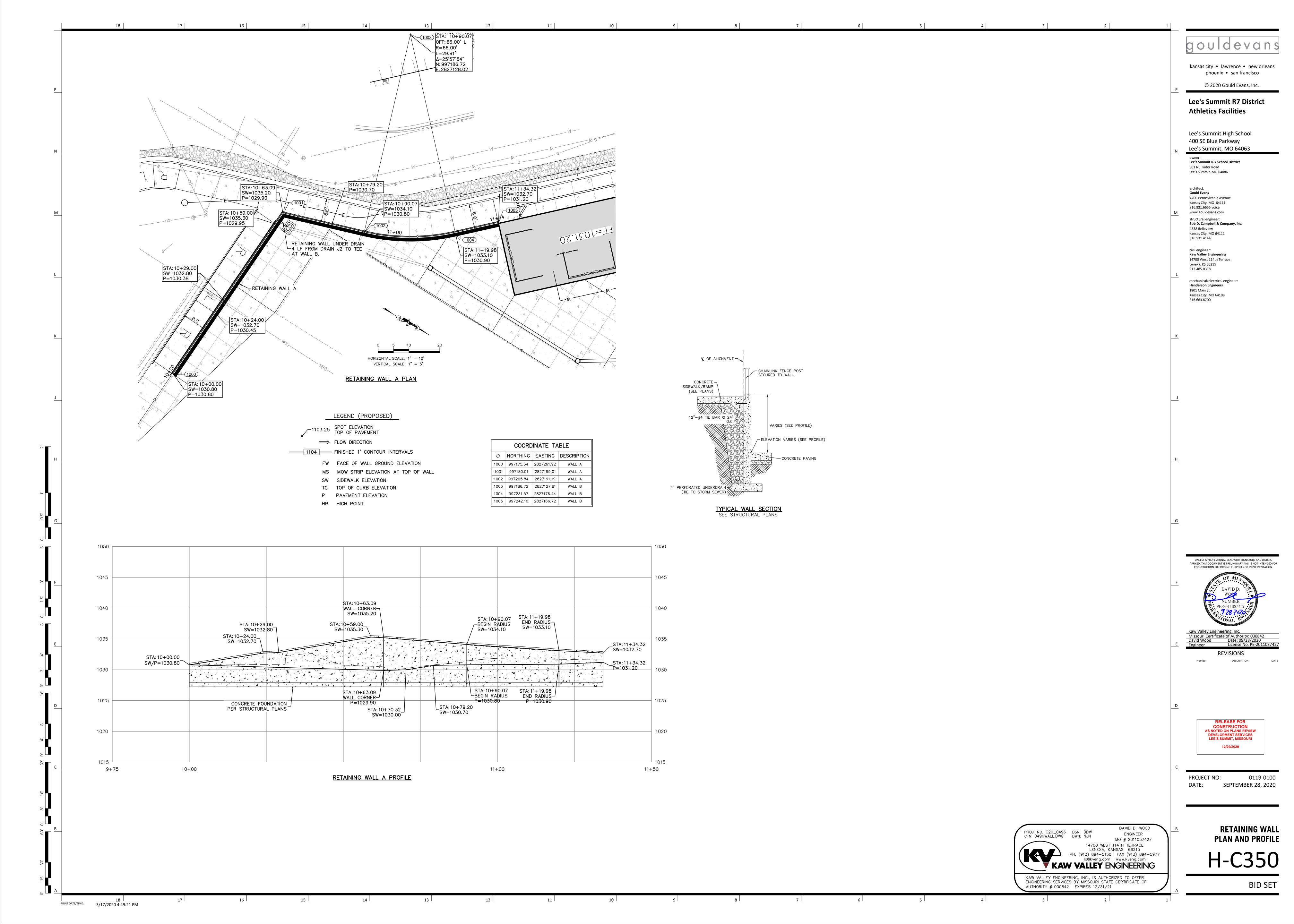
> > **BID SET**

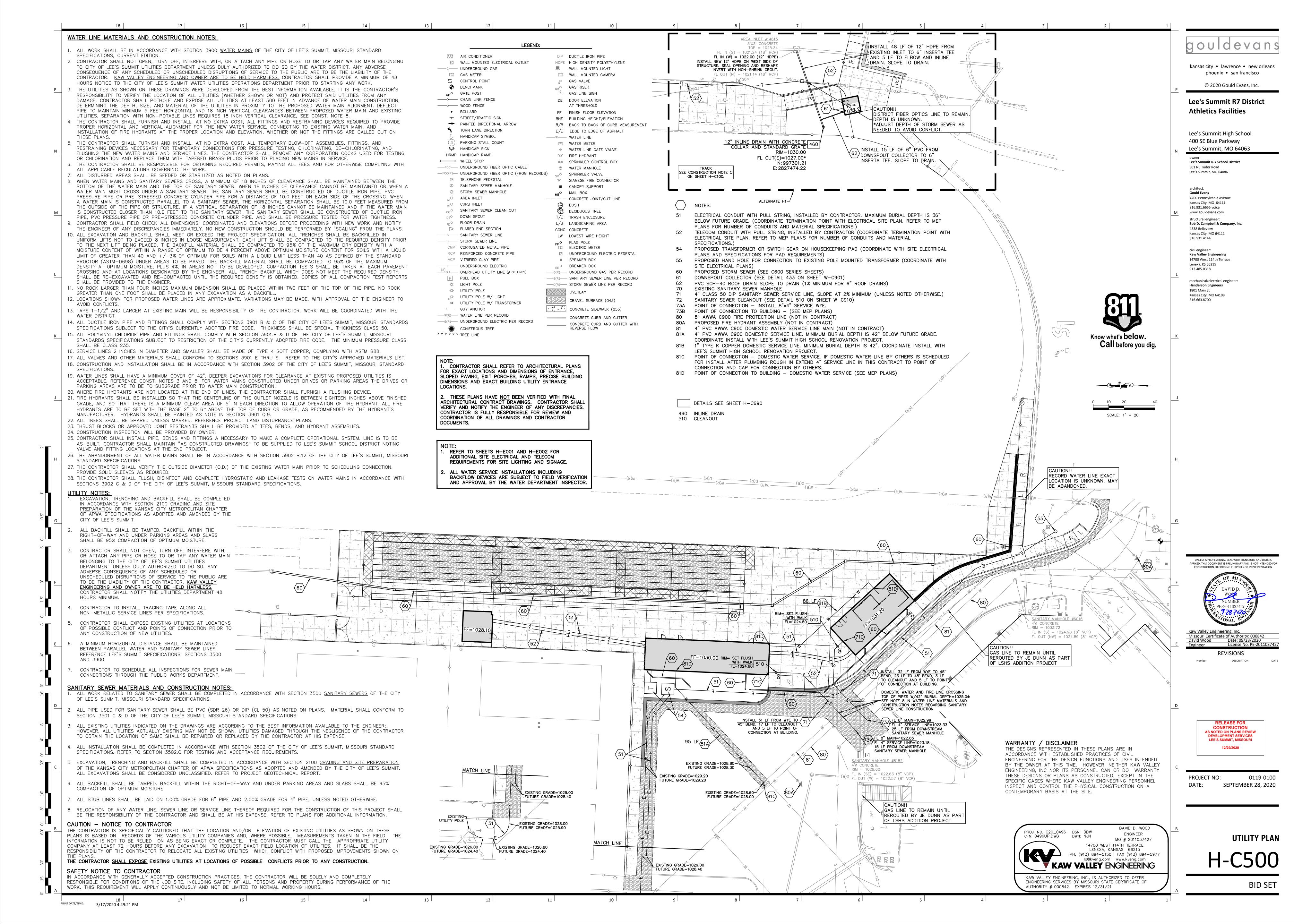
ENGINEERING SERVICES BY MISSOURI STATE CERTIFICATE OF

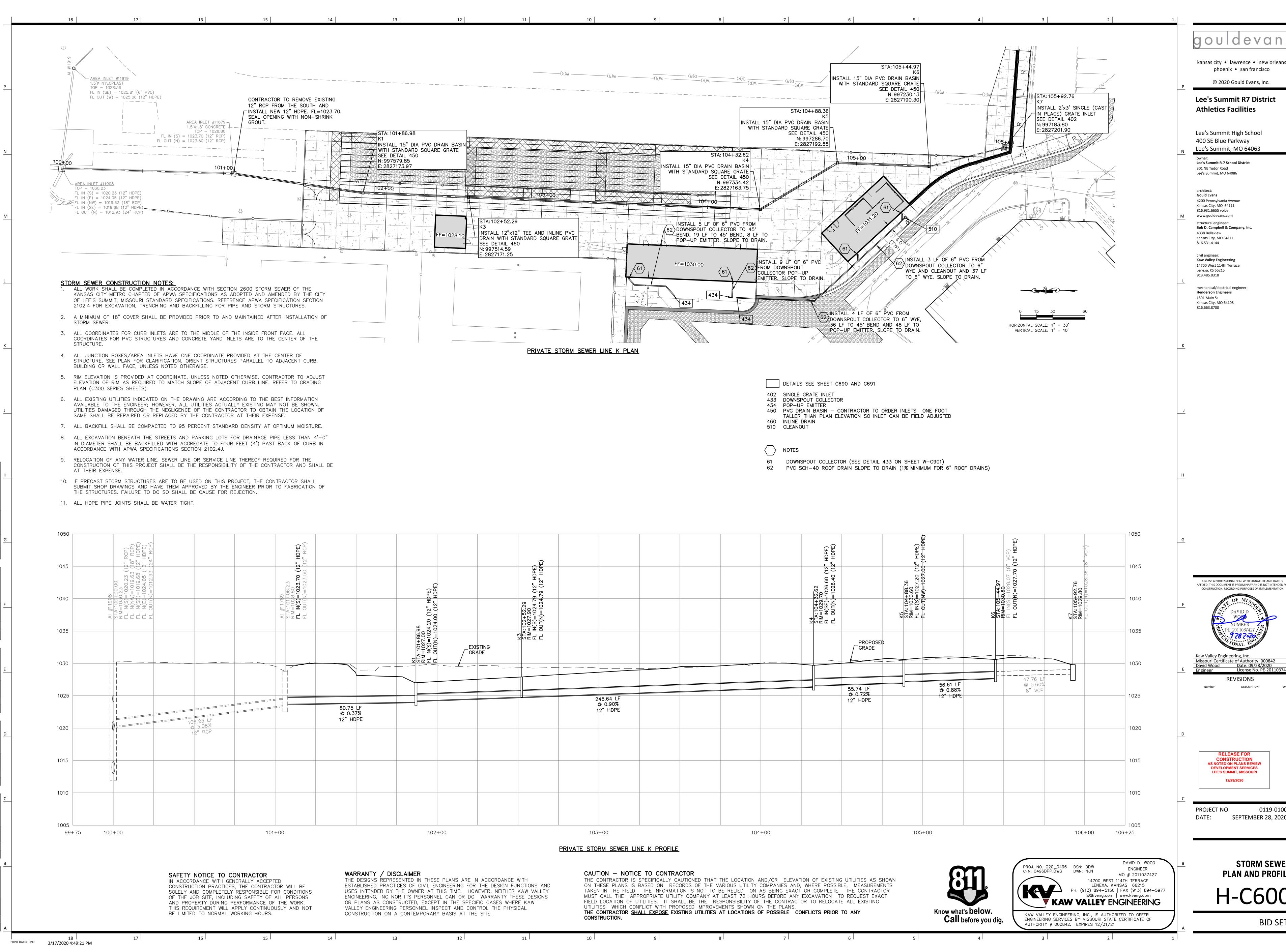
AUTHORITY # 000842. EXPIRES 12/31/21











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Lee's Summit R7 District **Athletics Facilities**

Lee's Summit High School 400 SE Blue Parkway

Lee's Summit R-7 School District 301 NE Tudor Road

4200 Pennsylvania Avenue

Kansas City, MO 64111 816.931.6655 voice www.gouldevans.com structural engineer: Bob D. Campbell & Company, Inc

> **Kaw Valley Engineering** 14700 West 114th Terrace

mechanical/electrical engineer **Henderson Engineers**

CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION

Kaw Valley Engineering, Inc. Missouri Certificate of Authority: 000842 David Wood Date: 09/28/2020
Engineer License No. PE-201103742 **REVISIONS**

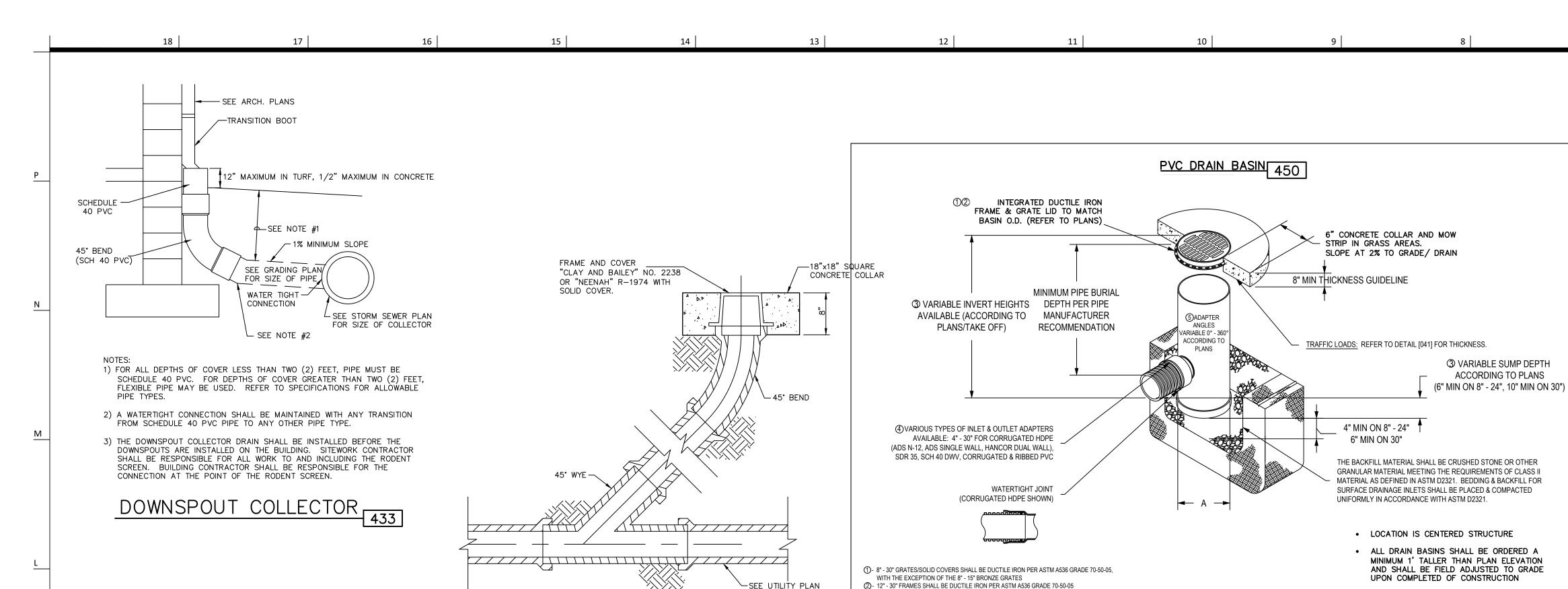
DESCRIPTION

RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW **DEVELOPMENT SERVICES** LEE'S SUMMIT, MISSOURI

12/29/2020

0119-0100 SEPTEMBER 28, 2020

> **STORM SEWER** PLAN AND PROFILE



FOR SIZE OF MAIN

③- DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS

④- DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR

⑤- ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE

BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012, 7001-110-013, & 7001-110-014.

B - ALL BRONZE GRATES, DROP IN GRATES, & 8" & 10" PED/STD GRATES & SOLID COVERS ARE

- GRATES SHALL MEET H-20 LOAD RATING FOR 30" PED & 12" - 30" STD & SOLID

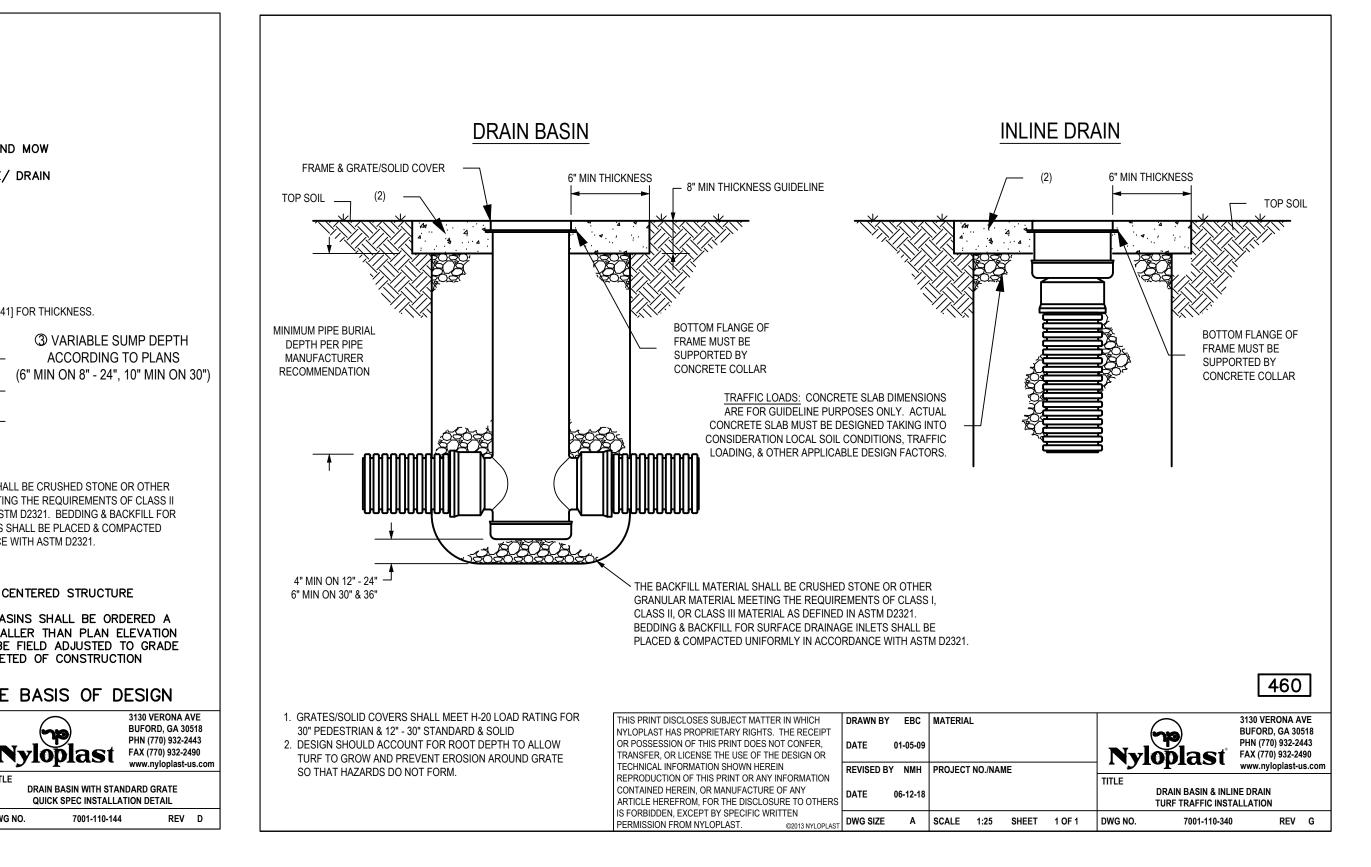
ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS.

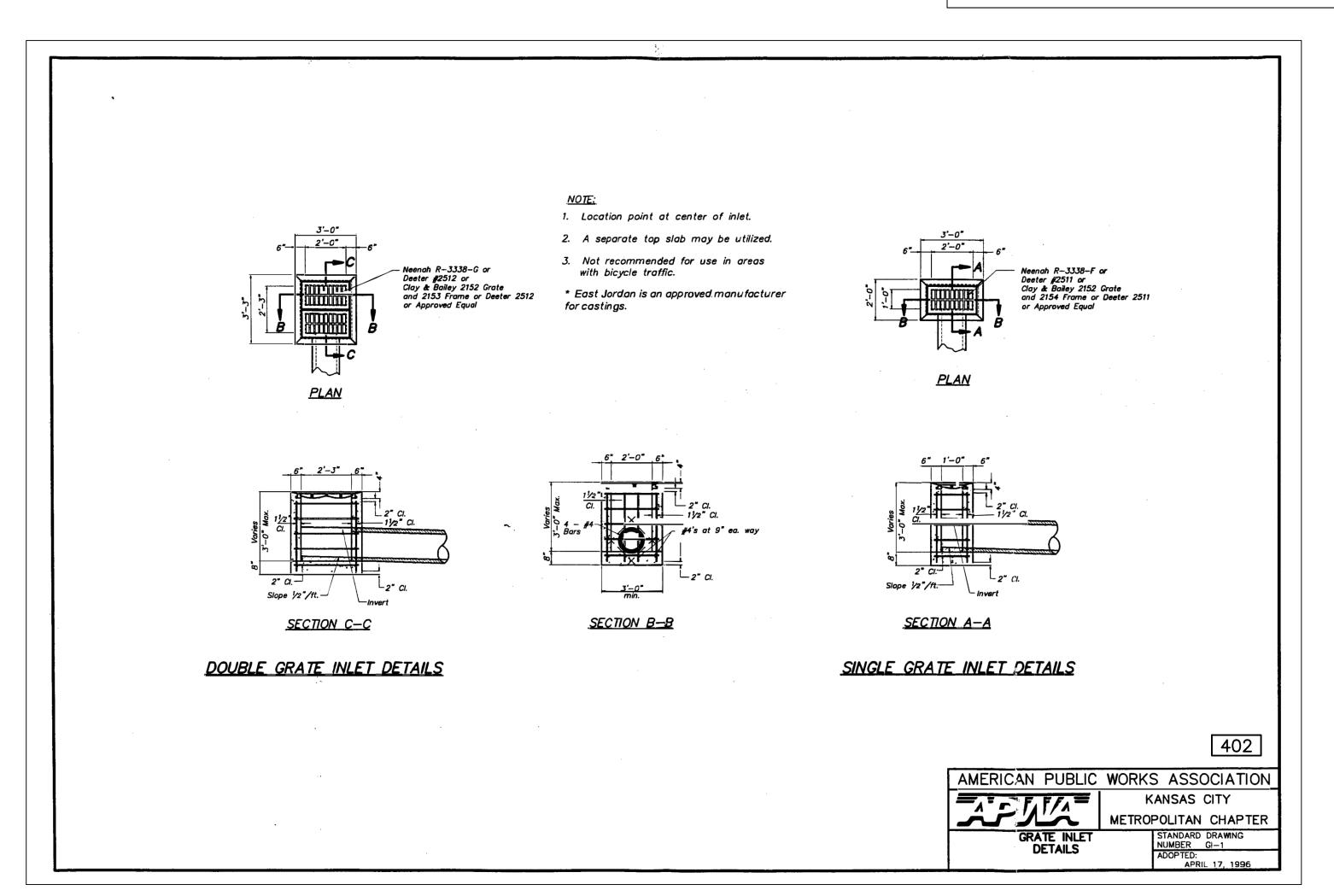
CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC

- GRATES SHALL MEET H-10 LOAD RATING FOR 12" - 24" PED

RATED FOR LIGHT DUTY APPLICATIONS ONLY

9 - DOME GRATES HAVE NO LOAD RATING







SPECIFICATIONS.

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PRINT DATE/TIME:

INLET NOTES 1. ALL STORM SEWER STRUCTURES SHALL BE POURED IN PLACE.

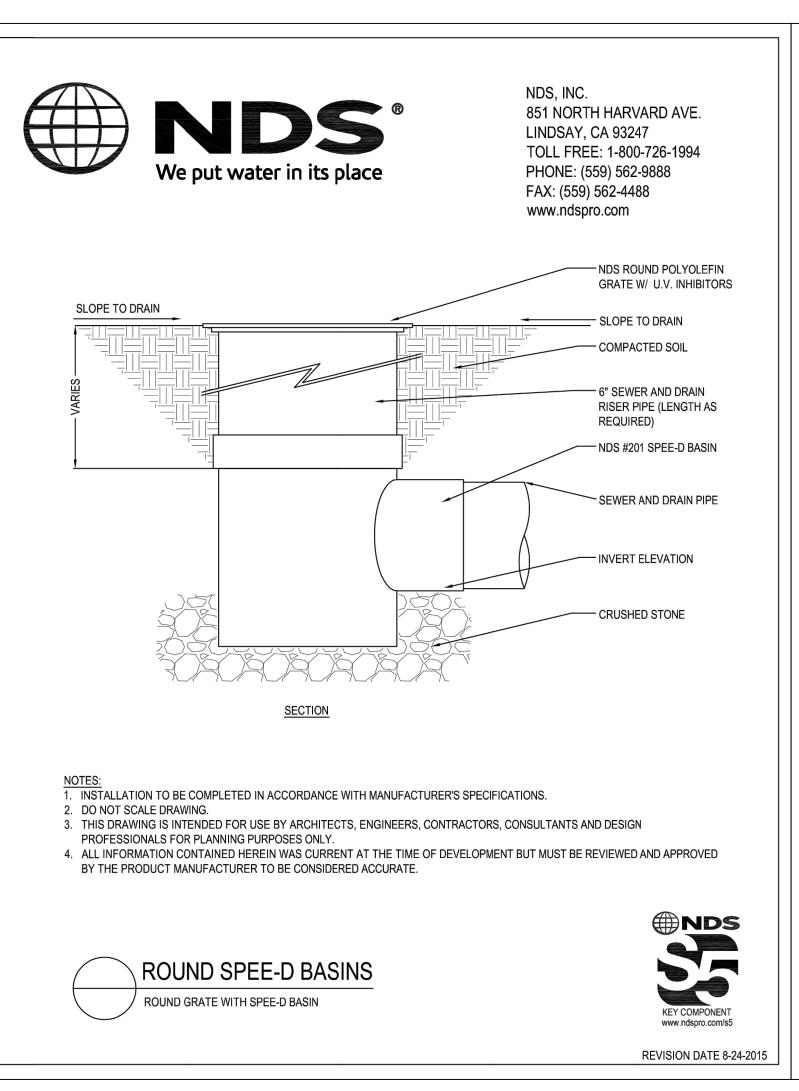
2. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION. 3. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION. THE CONCRETE THICKNESS AND REINFORCEMENT SHOWN IS FOR BOXES WITH ("L"+"H") AND ("W"+"H") LESS THEN OR EQUAL TO 20. FOR BOXES WITH EITHER OF THESE CALCULATIONS GREATER THAN 20, A SPECIAL DESIGN IS REQUIRED. PRECASTER SHALL PROVIDE DESIGN CALCULATIONS FOR DEEP STRUCTURES TO ENGINEER PRIOR TO CONSTRUCTING BOX.

4. CONCRETE USED IN THIS WORK SHALL BE CLASS "A" CONCRETE (AE) THROUGHOUT, AND SHALL MEET THE REQUIREMENTS OF THE KANSAS CITY METROPOLITAN CHAPTER OF THE APWA TECHNICAL

- 5. CONCRETE CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF STANDARD SPECIFICATIONS FOR MCIB, LATEST EDITION, EXCEPT AS MODIFIED IN THE APWA TECHNICAL SPECIFICATIONS.
- 6. INLET FLOORS SHALL BE SHAPED WITH NON-REINFORCED CONCRETE INVERTS TO PROVIDE SMOOTH FLOW.
- 7. BEVEL ALL EXPOSED EDGES WITH $\frac{3}{4}$ " TRIANGULAR MOLDING.
- 8. 8" SOLID CONCRETE BLOCK OR BRICK MAY BE USED IN WALLS IN LIEU OF POURED CONCRETE WHERE NEITHER "H"+"L" NOR "H"+"W" (IN FEET) EXCEED FOURTEEN. BLOCK OR BRICK MAY BE USED IN
- 9. ALL CRUSHED STONE USED AS AGGREGATE FOR CONCRETE CONSTRUCTION SHALL BE OBTAINED FROM QUARRIES AND BEDS DESIGNATED BY THE MISSOURI DEPARTMENT OF TRANSPORTATION AS MEETING DURABILITY REQUIREMENTS OF KANSAS CITY METROPOLITAN CHAPTER OF THE APWA TECHNICAL SPECIFICATIONS.

10. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 60 AS PER ASTM A615, AND SHALL BE BENT COLD.

- 11. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF +/- 1/8" SHALL BE
- 12. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
- 13. ALL REINFORCING STEEL SHALL BE SUPPORTED ON FABRICATED STEEL BAR SUPPORTS @ 3'-0" MAXIMUM SPACING.
- 14. ALL DOWELS SHALL BE ACCURATELY PLACED AND SECURELY TIED IN PLACE PRIOR TO PLACEMENT OF BOTTOM SLAB CONCRETE. STICKING OF DOWELS INTO FRESH OR PARTIALLY HARDENED CONCRETE WILL NOT BE ACCEPTABLE.
- CONSTRUCTION 15. THE BOTTOM SLAB SHALL BE AT LEAST 24 HOURS OLD BEFORE PLACING SIDEWALL CONCRETE. ALL SIDEWALL FORMS SHALL REMAIN IN PLACE A MINIMUM OF 24 HOURS AFTER SIDEWALLS ARE POURED BEFORE REMOVAL, AND AFTER REMOVAL SHALL BE IMMEDIATELY TREATED WITH MEMBRANE CURING COMPOUND. 16. MATERIAL SELECTION AND COMPACTION REQUIREMENTS FOR BACKFILL AROUND STRUCTURES SHALL BE AS SPECIFIED IN THE KANSAS CITY METROPOLITAN CHAPTER OF THE APWA TECHNICAL

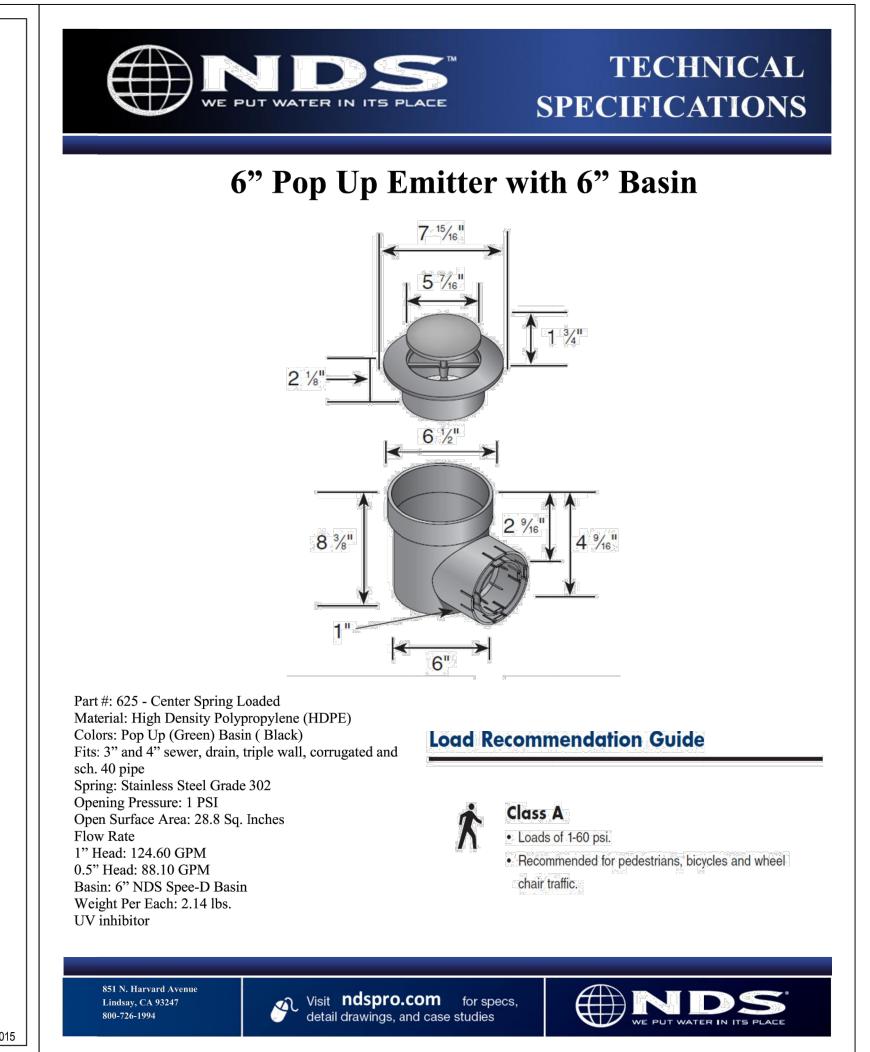


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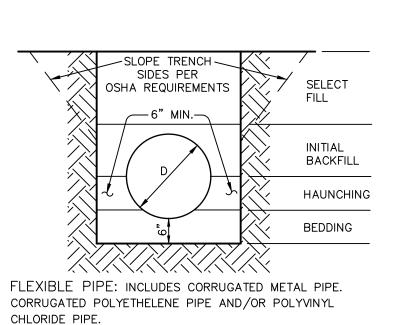
NYLOPLAST BASIN IS THE BASIS OF DESIGN

DRAWN BY EBC MATERIAL

DWG SIZE A SCALE 1:40 SHEET 1 OF 1 DWG NO.



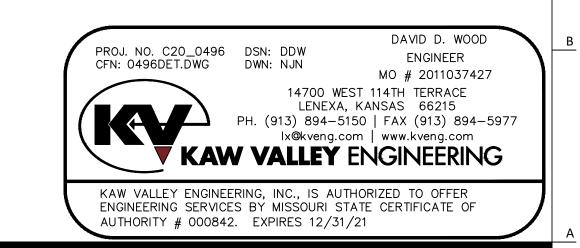
POP-UP EMITTER 434



1. BEDDING SHALL BE COMPACTED CRUSHED STONE AND SHALL BE SHAPED TO THE BOTTOM OF THE PIPE.

2. HAUNCHING AND INITIAL BACKFILL MATERIAL SHALL BE CLASS I OR II (REF. ASTM D2321) GRANULAR MATERIAL AND SHALL BE COMPACTED TO 95% STANDARD PROCTOR.

TRENCH AND BEDDING DETAILS REFER TO KANSAS CITY METROPOLITAN CHAPTER OF APWA SPECIFICATIONS SECTION



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Lee's Summit R7 District

Athletics Facilities

Lee's Summit High School 400 SE Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District 301 NE Tudor Road Lee's Summit, MO 64086

Gould Evans 4200 Pennsylvania Avenue Kansas City, MO 64111 816.931.6655 voice www.gouldevans.com

structural engineer: Bob D. Campbell & Company, Inc. 4338 Belleview Kansas City, MO 64111 816.531.4144

> civil engineer: **Kaw Valley Engineering** 14700 West 114th Terrace Lenexa, KS 66215 913.485.0318

mechanical/electrical engineer Henderson Engineers 1801 Main St Kansas City, MO 64108 816.663.8700

Missouri Certificate of Authority: 000842 David Wood Date: 09/28/2020 License No. PE-201 REVISIONS

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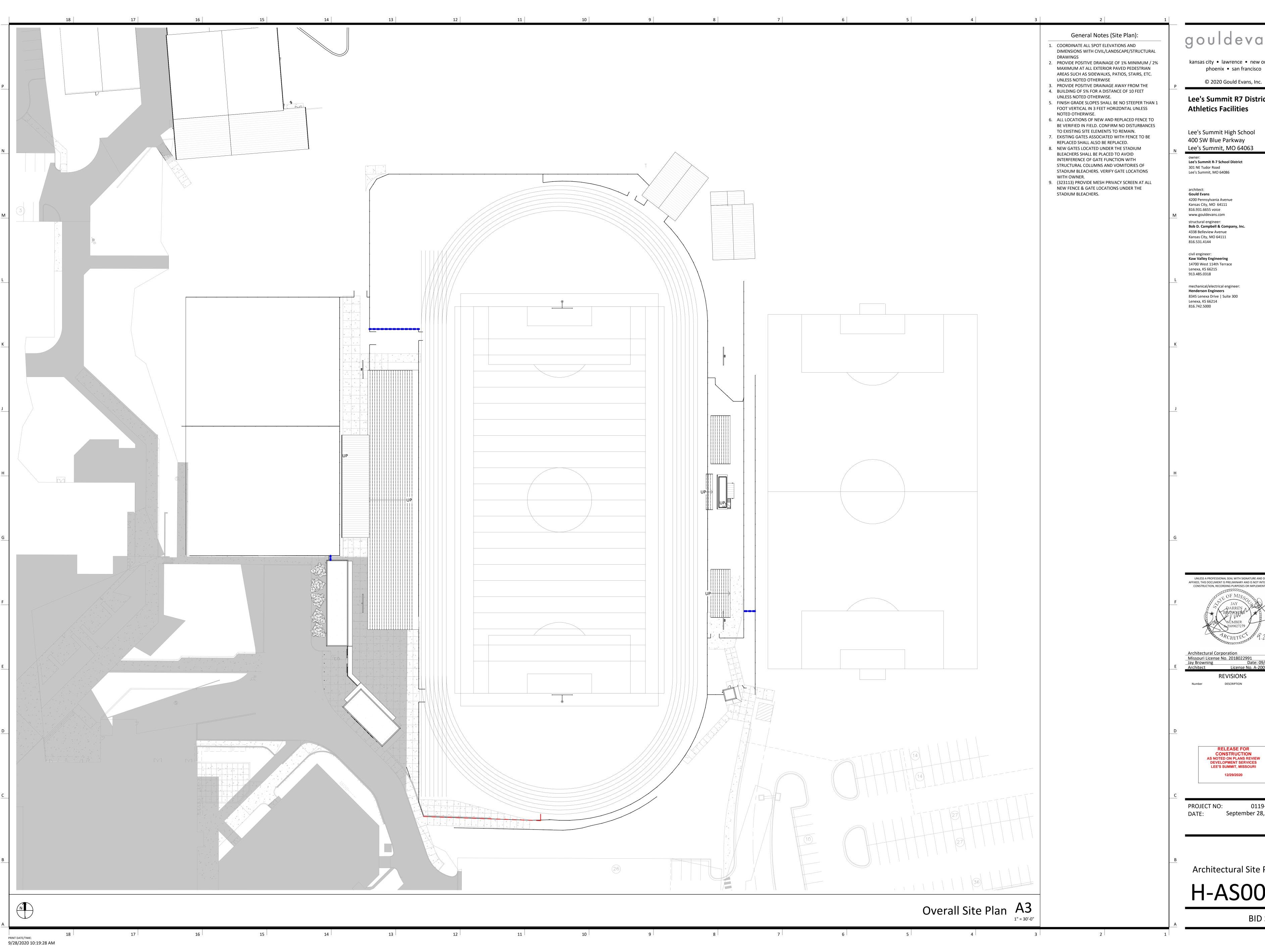
CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION

CONSTRUCTION AS NOTED ON PLANS REVIEW **DEVELOPMENT SERVICES** LEE'S SUMMIT, MISSOURI

PROJECT NO:

0119-0100 SEPTEMBER 28, 2020

STORM DETAILS



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Lee's Summit R7 District **Athletics Facilities**

Lee's Summit High School 400 SW Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District 301 NE Tudor Road

Gould Evans 4200 Pennsylvania Avenue

Kansas City, MO 64111 816.931.6655 voice www.gouldevans.com structural engineer: Bob D. Campbell & Company, Inc. 4338 Belleview Avenue

civil engineer: Kaw Valley Engineering 14700 West 114th Terrace Lenexa, KS 66215 913.485.0318

mechanical/electrical engineer: **Henderson Engineers** 8345 Lenexa Drive | Suite 300 Lenexa, KS 66214

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Architectural Corporation

Missouri License No. 2018022991

Jay Browning Date: 09/28/2020

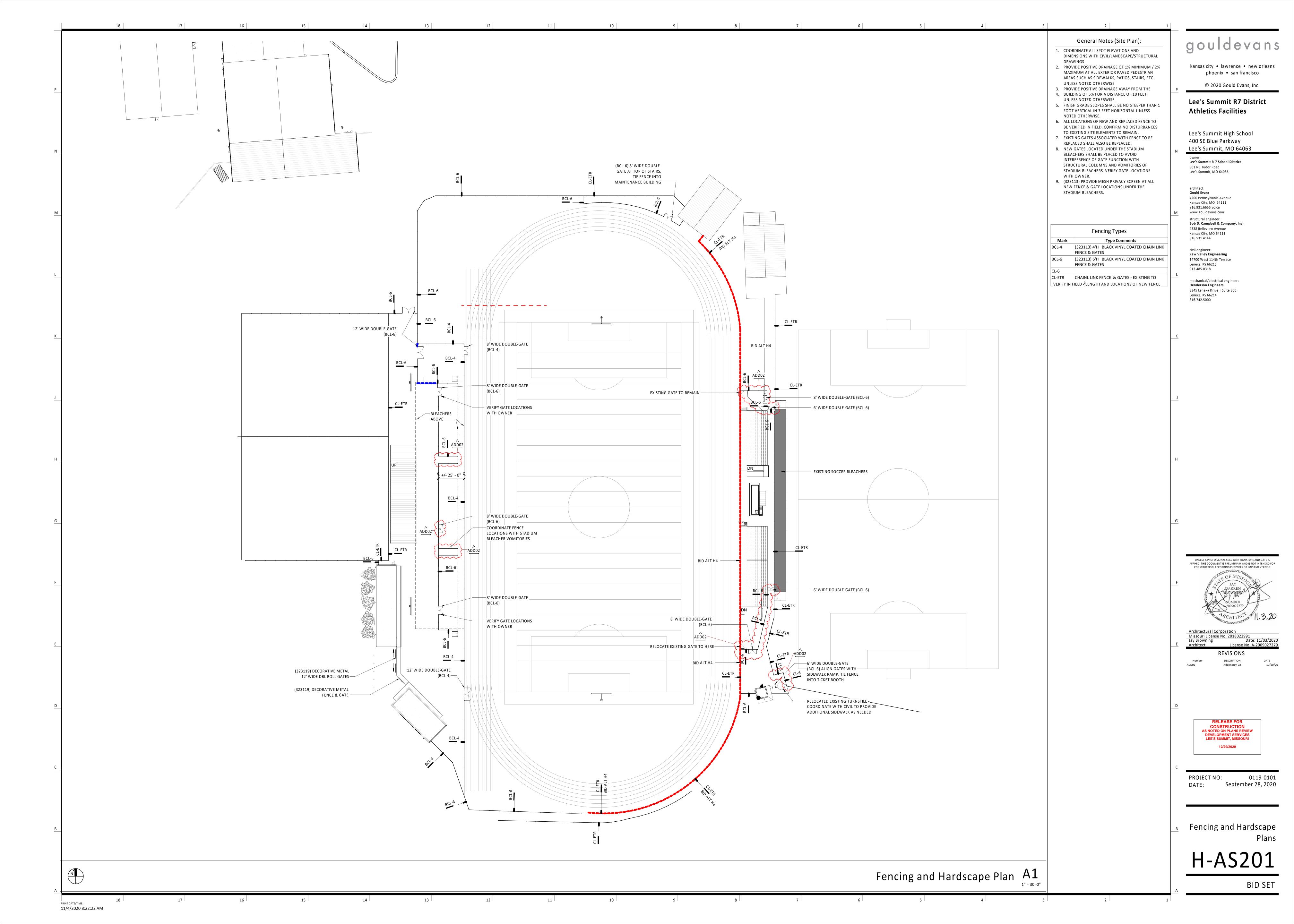
Architect License No. A-2009027279 REVISIONS

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

PROJECT NO:

September 28, 2020

Architectural Site Plan



1. General Information

- A. The contractor shall verify dimensions and conditions before construction and notify the engineer of any discrepancies, inconsistencies, or difficulties affecting the work
- before proceeding. B. The contractor shall coordinate all disciplines, verifying size and location of all openings, whether shown on structural drawings or not, as called for on architectural. mechanical, or electrical drawings. In the case of work in an existing building the contractor shall scan existing structure to locate all rebar in the area of the new core/opening using ground penetrating radar and notify the engineer of record for review prior to coring/cutting. Conflicts, inconsistencies, or other difficulties affecting structural work shall be called to the architect or engineer's attention for direction
- before proceeding. All design and construction work for this project shall conform to the requirements of the following governing design codes: 1.) International Building Code (IBC 2018) as amended by the city of
- Lee's Summit, MO 2.) Minimum Design Loads for Buildings and Other Structures (ASCE7-16) 3.) Specification for Structural Steel Buildings (AISC 360-16)
- Member Design Basis is Allowable Stress Design (ASD)
- Connection Design Basis is Allowable Stress Design (ASD) 4.) Structural Welding Code (AWS D1.4-2017) 5.) Building Code Requirements for Structural Concrete (ACI 318-14)
- 6.) Building Code Requirements for Masonry Structures (ACI 530-13/TMS 402-16) 7.) North American Specification for the Design of Cold-Formed Steel Structural Members (AISI S100-16) 8.) National Design Specification (NDS) for Wood Constriction with 2018
- Supplements (ANSI/AWC NDS-2018) 9.) Special Design Provisions for Wind and Seismic (AWC SDPWS-2015) D. These drawings are for this specific project and no other use is authorized.

2. Structural Load Design Criteria

- A. Floor Live = 100 psf
- B. Roof Live = 20 psf Snow: Pg = **20**psf, Pf =14psf, Is = 1.0, Ce = 1.0, Ct = 1.0, Drift per ASCE/SEI 7
- D. Lateral Loads: 1.) Wind: V = 109 mph, Exposure B Occupancy [Risk] Category II, Iw=1.0 GCpi=+/-0.18 Design wind pressures to be used for the design of exterior component and cladding materials on the designated zones of wall and roof surfaces shall
- be per section 30.7 and Table 30.7-2 of ASCE/SEI 7. Tabulated pressures shall be multiplied by effective area reduction factors, exposure adjustment factors, and topographic factors where applicable 2.) Seismic: Ss = 0.114, S1 = 0.067
- Occupancy [Risk] Category II, le=1.0, Site Classification D; Sds = 0.121; Sd1 = 0.107 Seismic Design Category B
- Basic Seismic Force-resisting System: Bearing Wall Systems - Ordinary reinforced masonry shear walls Equivalent Lateral Force Procedure
- R = 2; V = 0.0605W; Omega = $2\frac{1}{2}$; Cd= $1\frac{3}{4}$ This project is designed to resist the most critical effects resulting from the load combinations of section 1605.3 of the International Building Code.

3. Concrete

- A. All concrete for foundations (walls, grade beams, footings and piers) shall develop minimum ultimate compressive design strength of 3500 psi in 28 days, but not less than 500 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 6 gallons of water per 100 pounds of
- cement and not over 4 inches of slump. All concrete for interior flatwork (without floor covering) shall develop minimul ultimate compressive design strength of 4000 psi in 28 days, but not less than 525 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 5.75 gallons of water per 100 pounds of cement and not over 4 inches of slump. Concrete mix shop drawing shall contain testing data proving concrete design mix shrinkage is less than 0.034% at 28 days when tested according to ASTM C157 (air drying method only).
- All concrete for interior flatwork (with floor covering) shall develop minimum ultimate compressive design strength of 4000 psi in 28 days, but not less than 540 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 5.40 gallons of water per 100 pounds of cement and not over 4 inches of slump. Concrete mix shop drawing shall contain testing data proving concrete design mix shrinkage is less than 0.034% at 28 days when tested according to ASTM C157 (air drying method only).
- D. All concrete for exterior flatwork shall have a minimum design compressive strength of 4500 psi in 28 days, with not less than 560 pounds of cement per cubic yard of concrete, not over 5 gallons of water per 100 pounds of cement, with 6% +/- 1% air entrainment, and a maximum of 4 inches of slump. The preceding minimum mix requirements may have water-reducing admixtures conforming to ASTM C494 added to the mix at manufacturer's dosage rates for improved workability.
- G. The preceding minimum mix requirements may have up to 15% maximum of the cement content replaced with an approved ASTM C618 Class C fly ash, provided the total minimum cementitious content is not reduced.
- H. Combined aggregate (coarse plus fine) for all concrete shall be well graded from coarsest to finest with no more than 18 percent and not less than 8 percent retained on an individual sieve, except that less than 8 percent may be retained on coarsest sieve and on No. 50 and finer sieves. Submit this gradation report with the concrete mix design shop drawings. All interior concrete slabs on grade shall be placed over 15 mil, Class A Vapor Barrier per ASTM E1745 with less than 0.01 perms, tested after mandatory conditioning. All joints shall be lapped and sealed per manufacturer's recommendations. All penetrations, as well as damaged vapor barrier material shall also be sealed per manufacturer's recommendation prior to concrete placement. Install barrier per manufacturer recommended details at all discontinuous edges (at interior columns, exterior edge of slab, etc.) to ensure
- terms of warranty are followed. The vapor barrier shall be placed over freedraining granular material as prescribed by the project soils report. All concrete is reinforced concrete unless specifically called out as unreinforced. Reinforce all concrete not otherwise shown with same steel as in similar sections
- or areas. Any details not shown shall be detailed per ACI 315 and meet requirements of ACI 318, current editions. K. Control joints in dirt formed slab to be as shown on plans. Where not shown, limit controlled areas to not more than 144 square feet, or 12 feet on any side.
- Slab panel side ratio shall not exceed 1 1/2 to 1. L. Contractor shall verify that all concrete inserts, reinforcing and embedded items are correctly located and rigidly secured prior to concrete placement. M. Construction joints in beams, slabs, and grade beams shall occur at midspan
- (middle third) unless noted otherwise. Provide 2 x 4 horizontal keys at construction joints for shear transfer.

N. No aluminum items shall be embedded in any concrete

4. Reinforcing Steel

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- A. All reinforcing steel shall conform to the requirements of ASTM A615 or A706
- grade 60 steel. Welded plain wire fabric shall be supplied in sheets and conform to the requirements of ASTM A185. B. Clear minimum coverage of concrete over reinforcing steel shall be as follows:
- 1.) Concrete placed against earth: 3 2.) Formed concrete against earth: 2'
- 3.) Slabs: 4.) Beams or Columns:
- 1-1/2" 5.) Other
- All coverage shall be nominal bar diameter minimum. C. All dowels shall be the same size and spacing as adjoining main bars (splice lap 48 bar diameters or 24" minimum unless noted otherwise). D. At corners of all walls, beams, and grade beams supply corner bars (minimum 2'-0" in each direction or 48 bar diameters) in outside face of wall, matching size

and spacing of horizontal bars. Where there are no vertical bars in outside face

- of wall, supply 3 #4 vertical support bars for corner bars. E. Bars marked continuous and all vertical steel shall be lapped 48 bar diameters (2'-0" minimum) at splices and embedments, unless shown otherwise. Splice
- top bars near midspan and splice bottom bars over supports, unless noted F. At all holes in concrete walls and slabs, add 2 - #5 bars (opening dimension plus
- 96 diameters long) at each of four sides and add 2 #5 x 5'-0" diagonally at each of four corners of hole. Openings in 8" thick walls are reinforced similar, but with 1 - #5 instead of 2 - #5, respectively. G. Unless otherwise covered on architectural plans or specifications, vertical control joints in concrete wall shall be spaced at a maximum of 20'-0" on center and coordinated with the architect. Every other horizontal wall reinforcing bar shall be discontinuous at control joints except heavy top and bottom bars unless noted
- otherwise. Provide base seal waterstop style number 772 (by Greenstreak Inc. or approved equal) on dirt face side of wall at all walls below grade. H. Accessories shall be as specified in latest edition of the ACI Detailing Handbook and the concrete Reinforcing Steel Institute Design Handbook. Maximum accessory spacing shall be 4'-0" on center, and all accessories on exposed surfaces are to have plastic coated feet. I. All slabs and stairs not shown otherwise shall be 6" thick with #4 bars at 12" on center each way. All exterior porches and stoops not otherwise detailed may be constructed in any standard manner, solid or hollow, but must be reinforced with #4 bars at 12" on center each way minimum. Porches shall be doweled to adjacent walls or grade beams with #4 bars at 12" on center, hooked or embedded 48 diameters into both members. Slope porches 1/8" per foot for
- drainage unless noted otherwise. Allow ½ ton of reinforcing bars #4 or larger to be used as directed in the field for special conditions by the engineer of record (labor for placing same to

5. Structural Steel

- A. All structural steel beams and columns shall be ASTM A992, grade 50 steel and all miscellaneous steel shall be ASTM A36 grade steel (except at moment connections where plates shall be ASTM A572, grade 50). Hollow Structural Sections (HSS) shall be ASTM A500, grade B. Fabrication and erection shall be in accordance with AISC 303-05 "Code of Standard Practice for Steel Buildings and Bridges" in the 13th Edition of the AISC Steel Construction Manual.
- All welding shall conform to the recommendations of the AWS. All exterior steel and connections, and brick relief angles shall be hot-dip galvanized. All bolts not otherwise specified shall be 3/4" diameter high strength (ASTM A325-N). All bolts shall be fully pretensioned. All beam connections shall be designed per the AISC Manual of Steel Construction "Framed Beam Connections" for the indicated reactions shown in the beam shear connection table on sheet H-S300; and, shall account for eccentricity when the bolt line is more than 2" from the center of the
- All connections must be two bolt minimum. Additional connection elements may not be specifically shown in the conceptual details in this set but may be required by the final connection design, such as stiffener plates, doubler plates, supplement/reinforcing plates or other connection material. Connection design and shop drawing preparation shall be completed under the direct supervision of a professional engineer licensed in the state the project is located and shop drawings and connection calculations shall
- bear his/her seal. All anchor bolts shall be 3/4" diameter, ASTM F1554, Grade 36 unless noted otherwise. Washers of minimum size and thickness for the given anchor diameter in Table 14-2 of the AISC Steel Construction Manual shall be provided at every column anchor bolt. Washers shall have a standard size hole for the anchor bolt. At braced frames washers
- shall be welded all around to the column base plate with 3/16" fillet weld. F. Design, fabrication and erection of all open-web bar joists shall comply with the recommendations of the Steel Joist Institute (SJI). Joists shall be designed to support loads given in the standard load tables of SJI Specs and Tables plus an additional point

load of 200 lbs. on the top or bottom chord at any location without additional web

- G. All K-series joists shall bear 2-1/2" minimum on structural steel beams and be welded to the beams with 1 1/2" of 1/8" fillet weld each side (minimum). H. All K-series joists bearing on masonry walls shall have 6" x 3/8" x 6" bearing plates set in bond beams. Bearing plates shall be located not more than 1/2" from the face of the wall on the bearing side. Joists shall bear 4" minimum on bearing plates and be welded to beams or bearing plates with 1-1/2" of 1/8" fillet weld each side (minimum). I. All steel joists shall have horizontal bar or angle bridging per Steel Joist Institute Specifications. Provide rigid x-bridging in addition to and matching horizontal bridging where joists are discontinuous unless horizontal bridging is anchored to wall top and bottom. Joist sweep allowance shall comply with AISC Standard Practice.
- J. Steel joists shall be designed for uplift per Components & Cladding Roof Uplift Pressures Table on this sheet. K. All openings in steel joist roof to have 3x3x1/4 angle frame set between joists. Support mechanical equipment with 4x4x5/16 angles laid between joists framed to 4x4x5/16 angles (length equals mechanical unit dimension plus distance each end to next panel point) laid parallel to and welded to top and/or bottom cord of joists to distribute load to joist panel points.
- L. All steel joists shall have a midspan camber approximately equal to that recommended by the Steel Joist Institute Specifications. M. Design and installation of steel decking shall comply with the recommendations of the Steel Deck Institute (SDI). All decking shall be galvanized unless noted otherwise.
- N. Allow 1.0 tons structural steel to be used as directed in field for special conditions by the engineer of record. Cost for shop drawings, fabrication, delivery, detailing, and erection to be included. 50% of structural steel allowance shall be bid as miscellaneous galvanized angle and plate.

Post Installed Anchors

- A. Post-installed anchors shall be used only where specified on the drawings unless spacing and embedment. Performance values of the anchors shall be obtained for specified products using appropriate design procedures and/or standards as required by the governing building code. Anchors installed in concrete shall have an ICC-ES Evaluation Service Report. Special inspection is required for all post installed anchors. The contractor shall coordinate an on-site meeting with the post installed anchor manufacturer field representative to educate the construction
- team on the anchor installation guidelines and requirements. Mechanical anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ACI 355.2 and ICC-ES AC193. All anchors shall be installed per the anchor manufacturer's written instructions. Adhesive anchors used in cracked and uncracked concrete shall have been tested
- and qualified for use in accordance with ICC-ES AC308. All anchors shall be installed per the anchor manufacturer's written instructions. Mechanical anchors used in solid grouted masonry shall have been tested and gualified for use in accordance with ICC-ES AC01. All anchors shall be installed
- per the anchor manufacturer's written instructions. E. Adhesive anchors used in solid grouted masonry shall have been tested and qualified for use in accordance with ICC-ES AC58. All anchors shall be installed per the anchor manufacturer's written instructions. Anchors used in hollow concrete masonry shall have been tested and qualified in accordance with ICC-ES AC106 or ICC-ES AC58 as appropriate. All anchors

shall be installed per the anchor manufacturer's written instructions with

\cdots 7. Foundations

appropriate screen tubes used for adhesives.

- The soil investigation was prepared by CFS Engineers, the report number is 20-1229, and the telephone number is 913-627-9040. B. Spread footings, grade beams, and retaining walls are designed to bear on
- engineered fill or undisturbed soil capable of safely sustaining 2500psf. C. Retaining walls are designed for an active lateral load of 55pcf equivalent fluid pressure. D. Contractor shall provide for dewatering at excavations from either surface water or
- All foundation excavations shall be inspected by a qualified soil engineer, approved by the architect and/or structural engineer, prior to placement of steel or concrete. This inspection shall be at the owner's expense. All concrete in the structural portion retaining the backfill shall have attained its
- design strength prior to being backfilled. Moisture content in soils beneath building locations should not be allowed to change after footing excavations and after grading for slabs on grade are completed. If subgrade materials become desiccated or softened by water or other conditions, recompact materials to the density and water content specified for engineered fill. Do not place concrete on frozen ground.

8. Concrete Masonry Units

of ASTM C90 and have a minimum net compressive strength of 2650 psi and laid up using type N mortar such that f'm equals 2000 psi. Mortar shall be volume proportion based cement lime mortar. Proportioning shall be completed by box measure. Any block in contact with earth shall be normal weight units, laid using type "S" mortar and grouted solid.

A. Concrete block used in exterior walls or load bearing walls shall meet the requirements

- B. The contractor shall provide adequate temporary bracing for all masonry walls during construction.
- All concrete block shall have 9 gage (or larger) horizontal joint reinforcing (ladder or truss) per architectural drawings and specifications (16" maximum vertical spacing). D. Cavity wall construction shall be reinforced as designed for specific concrete block used. The horizontal joint reinforcing shall be of the ladder or truss style per specification and continuous between brick and block, as prescribed by the architectural drawings.
- Concrete block shall be reinforced as indicated on Sheet H-S002 Grout, where noted above, shall have a minimum design ultimate compressive strength of 2500 psi at 28 day test and 3/8" maximum aggregate size. Non-load bearing concrete block walls shall be isolated from adjacent structural elements with vertical 3/8" control joints and at the top of the wall with 1" air space or compressible material and support per architectural detail. H. Unless otherwise covered on architectural plans or specifications, vertical control joints in masonry construction shall be 3/8" wide, full height of wall. Joints shall be spaced at a maximum of 24'-0" on center and coordinated with the architect. All horizontal joint reinforcing shall be discontinuous at control joints in masonry. All bond beam horizontal reinforcing shall be continuous through control joints. I. Lintels over all openings up to 8'-0" wide in new and existing masonry walls not otherwise covered shall be one 6x3 1/2x5/16 angle for each 4" width of masonry. All exterior lintels to be galvanized.

J. Walls shall be anchored top and bottom by dowels matching wall vertical reinforcing(unless noted otherwise) from floor slab bottom and bracing angles at the top, per details on the drawings.

9. Light Gage Metal Structural Framing

- A. All load bearing, light gage structural studs, track, and bridging shall be of the type, size, gage, and spacing as shown on the plans, minimum.
- All materials shall be 33,000 psi minimum yield, except studs of 16 gage or heavier shall have a minimum yield of 50,000 psi.
- C. All properties, fabrication, and erection shall be in accordance with latest editions of the AISI "Specifications for the Design of Cold-Formed Structural Members." D. All framing components shall be cut squarely or at an angle to fit squarely against abutting members. Splicing of axially loaded members is not permitted. Members shall be held firmly in place until properly fastened. Attachments of
- tying of components is not permitted. E. Tracks shall be securely anchored to floor and overhead members. Special anchorage requirements required for wind bracing shall be as shown on the plans. F. Prior to fabrication and/or erection, the contractor shall submit shop drawings complete with detail of erection, fabrication, attachments, anchorages, lintels, etc., for review by the architect/engineer.

similar components shall be by welding, screw attachment, or bolting. Wire

10. Shop Drawing Review

- A. Bob D. Campbell and Company, Inc. will review the General Contractor's (GC) shop drawings and related submittals (as indicated below) with respect to the ability of the detailed work, when complete, to be a properly functioning integral element of the overall structural system designed by
- Bob D. Campbell and Company, Inc. Prior to submittal of a shop drawing or any related material to
- Bob D. Campbell and Company, Inc., the GC shall: 1.) Review each submission for conformance with the means, methods, techniques, sequences and operations of construction and safety precautions and programs incidental thereto, all of which are the sole responsibility of the GC.
- 2.) Review and approve each submission. 3.) Stamp each submission as approved. C. Bob D. Campbell and Company, Inc. shall assume that no submission comprises a variation unless the GC advises Bob D. Campbell and Company, Inc. with written documentation.
- Bob D. Campbell and Company, Inc. shall review shop drawings and related materials with comments provided that each submission has met the above requirements. Bob D. Campbell and Company, Inc. shall return without comment unrequired material or submissions without GC approval stamp. E. Shop drawings and related material (if any) required are indicated below. Should Bob D. Campbell and Company, Inc. require more than ten (10) working days to perform the review, Bob D. Campbell and Company, Inc. shall so notify
- 1.) Concrete mix designs and material certificates including admixtures and
- compounds applied to the concrete after placement. 2.) Reinforcing steel shop drawings including erection drawings and
- bending details. Bar list will not be reviewed for correct quantities. 3.) Elevations of all reinforced concrete masonry walls at a scale no smaller
- than 3/8" = 1'-0" showing all required reinforcing.
- 4.) Grout mix designs (for CMU). 5.) Construction and control joint plans and/or elevations. 6.) Structural steel shop drawings including erection drawings and piece
- details. Include joist, decking and connector submittals. Include miscellaneous framing specified on the structural drawings, but do not submit framing specified on non-structural drawings for Bob D.
- Campbell and Company, Inc. review. 7.) Structural steel connection design calculations submitted concurrently
- with structural steel shop drawings. 8.) Miscellaneous anchors shown on the structural drawings. 9.) Standard details and bridging information for light gage metal framing. Erection plans and details for light gage metal joists and lintels spanning more than 6'-0" shall be submitted. Standard wall framing

11. Statement of Structural Special Inspections

need not be submitted.

- A. The structural design for this project is based on completion of special inspections during construction in accordance with section 1704 of the
- International Building Code. The owner shall employ one or more qualified special inspectors to provide the required special inspections.
- B. The special inspector shall furnish inspection reports to the building official, owner, architect and structural engineer, and any other designated person. C. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority, building
- official and structural engineer. D. The special inspector shall submit a final signed report stating that the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable workmanship provisions of the building code. E. The following inspections and tests are required with the frequency (continuous or periodic) as defined within the referenced section or standard listed below. The General Contractor shall provide notification to the inspector when items
- requiring inspection are ready to be inspected and provide access for those inspections. 1. Shop Fabrication – structural steel and steel bar joist per Section 1704.2.5 unless AISC certified shop
- Shop Fabrication pre-engineered wood trusses per Section 1704.2.5 unless TPI certified shop 3. Steel Construction per Section 1705.2 and the quality assurance requirements of
- AISC 341 Chapter J (as referenced by AISC 360) 4. Cold-Formed Steel Deck per Section 1705.2.2 and the quality assurance
- requirements of SDI QA/QC.
- 5. Concrete Construction per Section 1705.3 and Table 1705.3 a. Reinforcing Steel Placement
 - b. Reinforcing Steel Welding c. Cast in Place Anchors
 - d. Post Installed Anchors e. Design Mix Verification
- f. Concrete Sampling and Testing g. Concrete Placement h. Concrete Curing
- Masonry Construction per Section 1705.4 and the quality assurance requirements of TMS 402/ACI530/ASCE5 and TMS602/A530.1/ASCE6 [Level B]

12. Copyright and Disclaimer

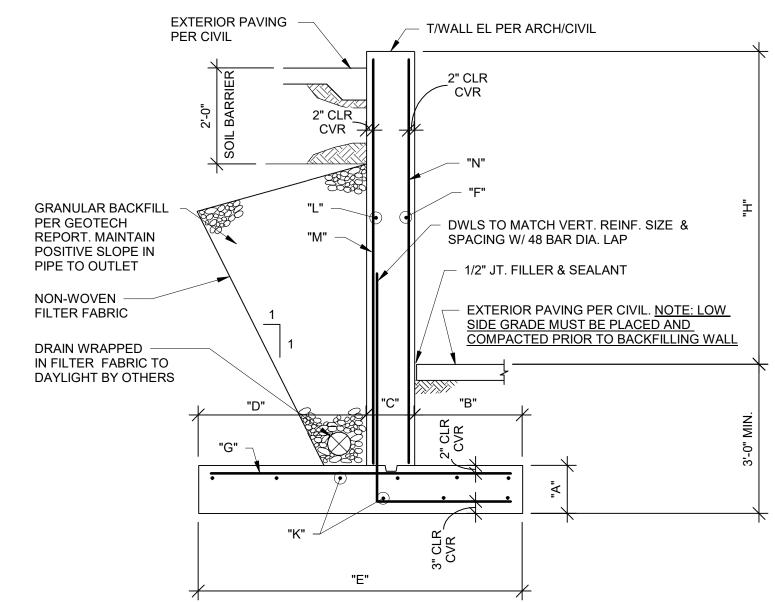
document package.

- A. All drawings in the structural set (S-series drawings) are the copyrighted work of Bob D. Campbell and company, Inc. These drawings may not be photographed, traced, or copies in any manner without the written permission of Bob D. Campbell and Company, Inc. Exception: Original drawings may be printed for distribution to the owner, architect, and general contractor for
- coordination, bidding, and construction. Subcontractors may not reproduce these drawings for any purpose or in any manner. B. I, Richard C. Crabtree, P.E., registered engineer and a representative of Bob D. Campbell and Company, Inc., do hereby accept professional responsibility as required by the professional registration laws of this state for the structural design drawings consisting of S-series drawings. I hereby disclaim responsibility for all other drawings in the construction document package, they being the responsibility of other design professionals whose

seals and signed statements may appear elsewhere in the construction

COMPONENTS & CLADDING ROOF UPLIFT PRESSURES ULTIMATE UPLIFT PRESSURE DIMENSION **BUILDING / ROOF TYPE** BUILDING ZONE 1 ZONE 2 ZONE 3 LOCATION [psf] [psf] [ft] [psf] 53.0 105.0 Press Box Roof Open Building, Monosloped Roof 4 ft 81.0 3 ft 37.0 57.0 78.0 Other Structures Enclosed Building, Flat Roof

REFER TO GENERAL NOTE 2.D. FOR WIND LOAD DESIGN CRITERIA WIND PRESSURES SHOWN ARE ULTIMATE (LRFD). FOR ASD WIND PRESSURES, MULTIPLY VALUES BY 0.6 WIND PRESSURES SHOWN ARE BASE ON AN EFFECTIVE WIND AREA OF 50 SQUARE FEET



ALLOWABLE SOIL BEARING PRESSURE= 2,500 PSF EQUIVALENT FLUID PRESSURE = 50 PCF COEFFICIENT OF FRICTION= 0.30 SURCHARGE= 100PSF MAX

CONCDETE DIMENSIONS

CONCRETED	IMENSIO	N2			
"H"	"A"	"B"	"C"	"D"	"E"
0'-0" TO 3'-0"	1'-0"	1'-4"	8"	2'-8"	4'-8"
3'-1" TO 6'-0"	1'-0"	1'-8"	8"	4'-0"	6'-4"

REINFORCEMENT							
"H"	"M"	"L"	"N"	"F"	"G"	"K"	
0'-0" TO 3'-0"	#4@12"oc	#4@16"oc	-	-	#4@12"oc	#4@12"oc	
3'-1" TO 6'-0"	#6@10"oc	#4@16"oc	-	-	#5@10"oc	#4@12"oc	

 \sim 1 TYPICAL RETAINING WALL

1. REFER TO CIVIL DRAWINGS FOR WALL LOCATIONS AND ELEVATIONS

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Lee's Summit R7 District **Athletics Facilities**

Lee's Summit High School 400 SE Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District 301 NE Tudor Road Lee's Summit, MO 64086

architect: Gould Evans 4200 Pennsylvania Avenue Kansas City, MO 64111 816.931.6655 voice www.gouldevans.com structural engineer: Bob D. Campbell & Company, Inc 4338 Belleview Avenue

civil engineer: **Kaw Valley Engineering** 14700 West 114th Terrace Lenexa, KS 66215 913.485.0318

Kansas City, MO 64111

816.531.4144

mechanical/electrical engineer: Henderson Engineers 8345 Lenexa Drive | Suite 300 Lenexa, KS 66214 816.742.5000

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REVISIONS

DESCRIPTION

ADD02

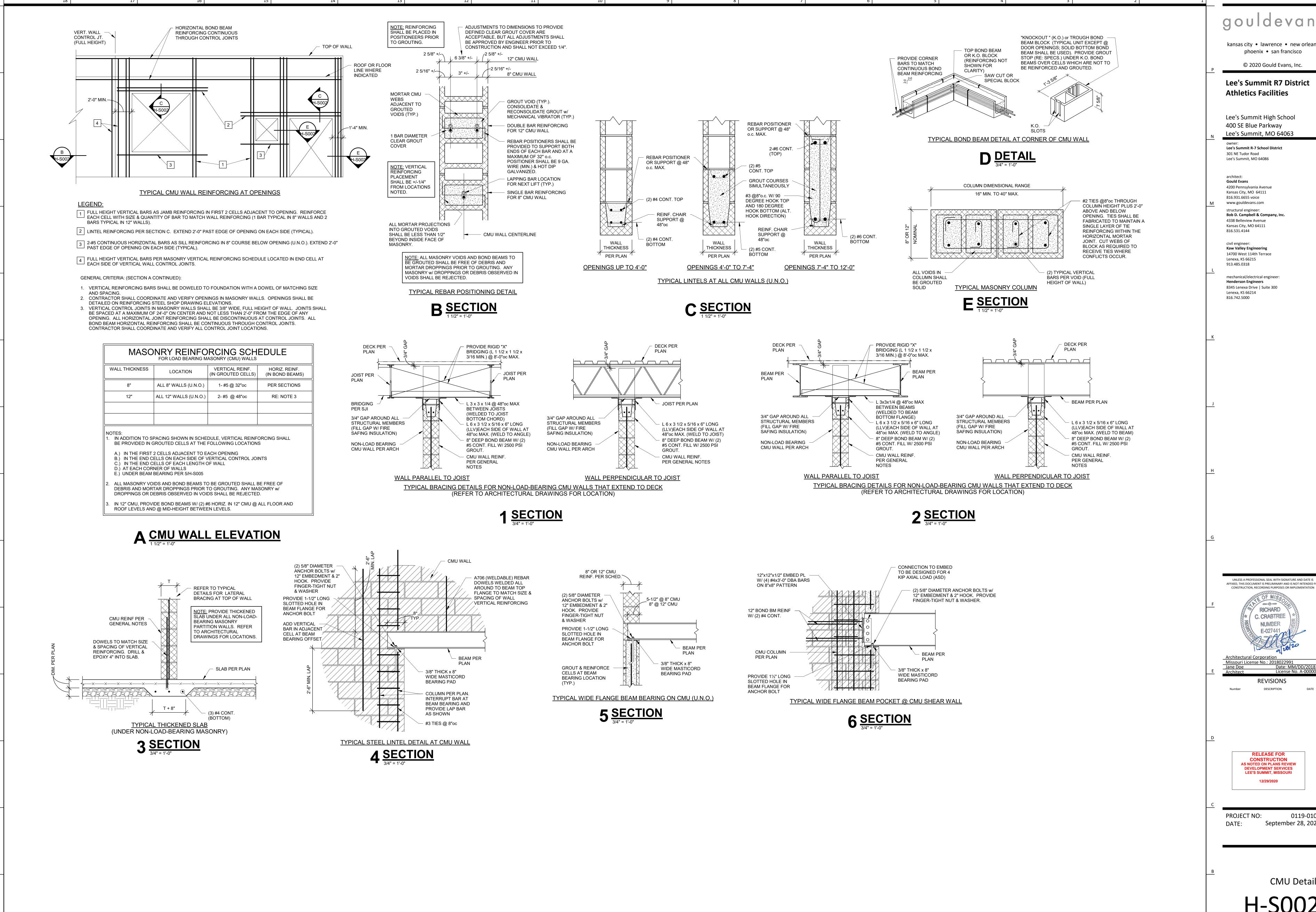
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CONSTRUCTION AS NOTED ON PLANS REVIEW **DEVELOPMENT SERVICES** LEE'S SUMMIT, MISSOURI 12/29/2020

PROJECT NO:

September 28, 2020

General Notes



9/29/2020 3:11:55 PM

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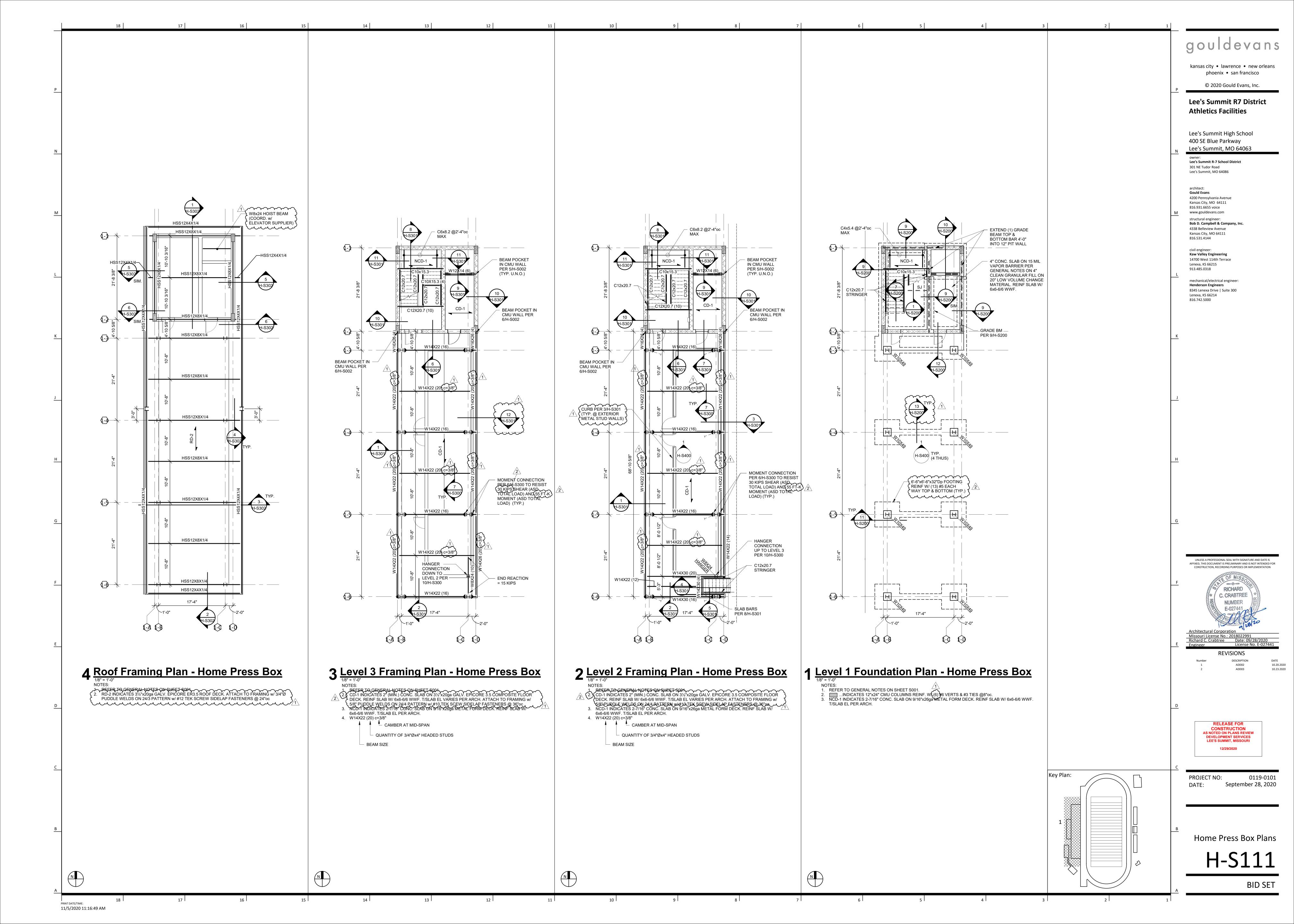
mechanical/electrical engineer Henderson Engineers 8345 Lenexa Drive | Suite 300 Lenexa, KS 66214

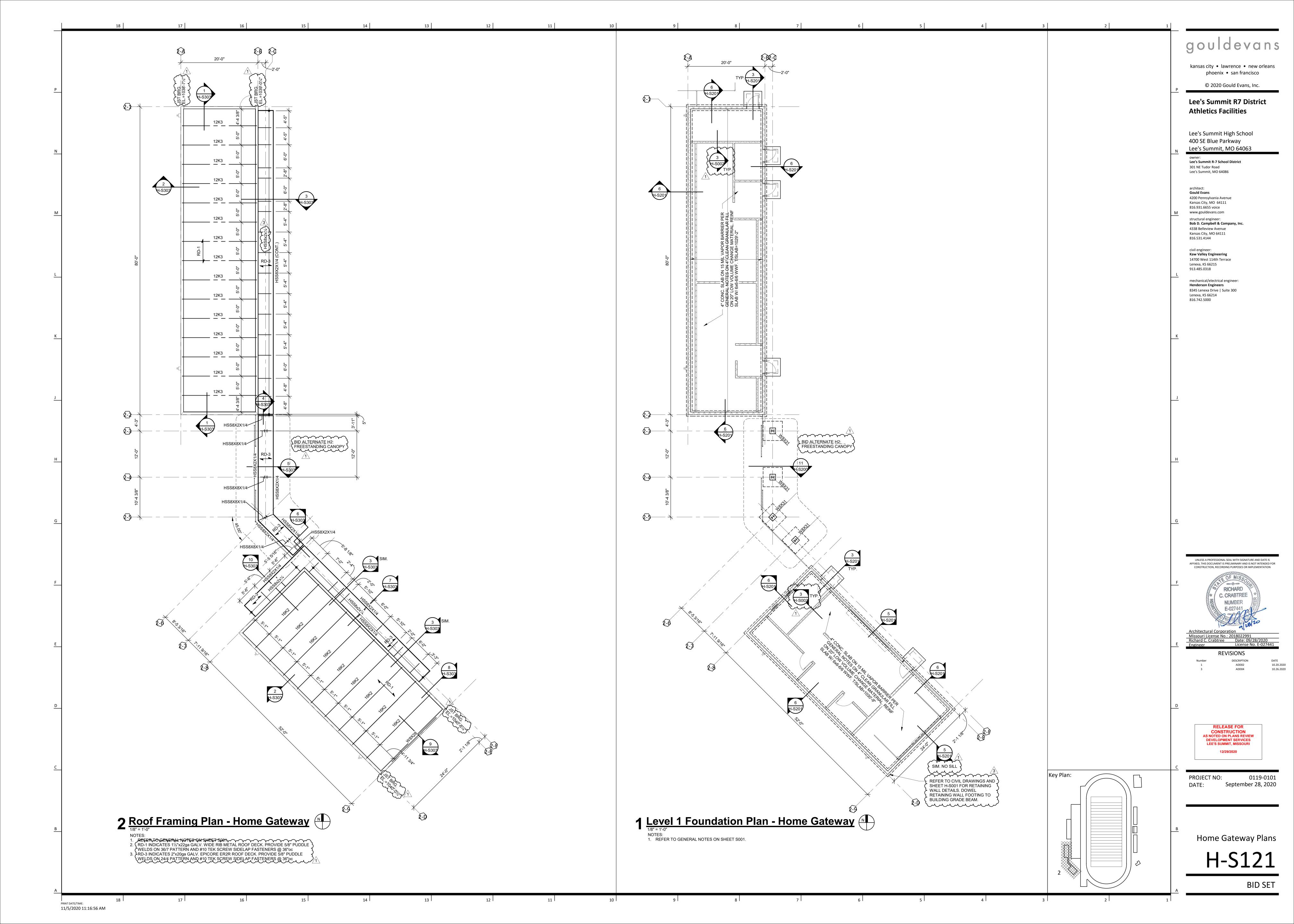
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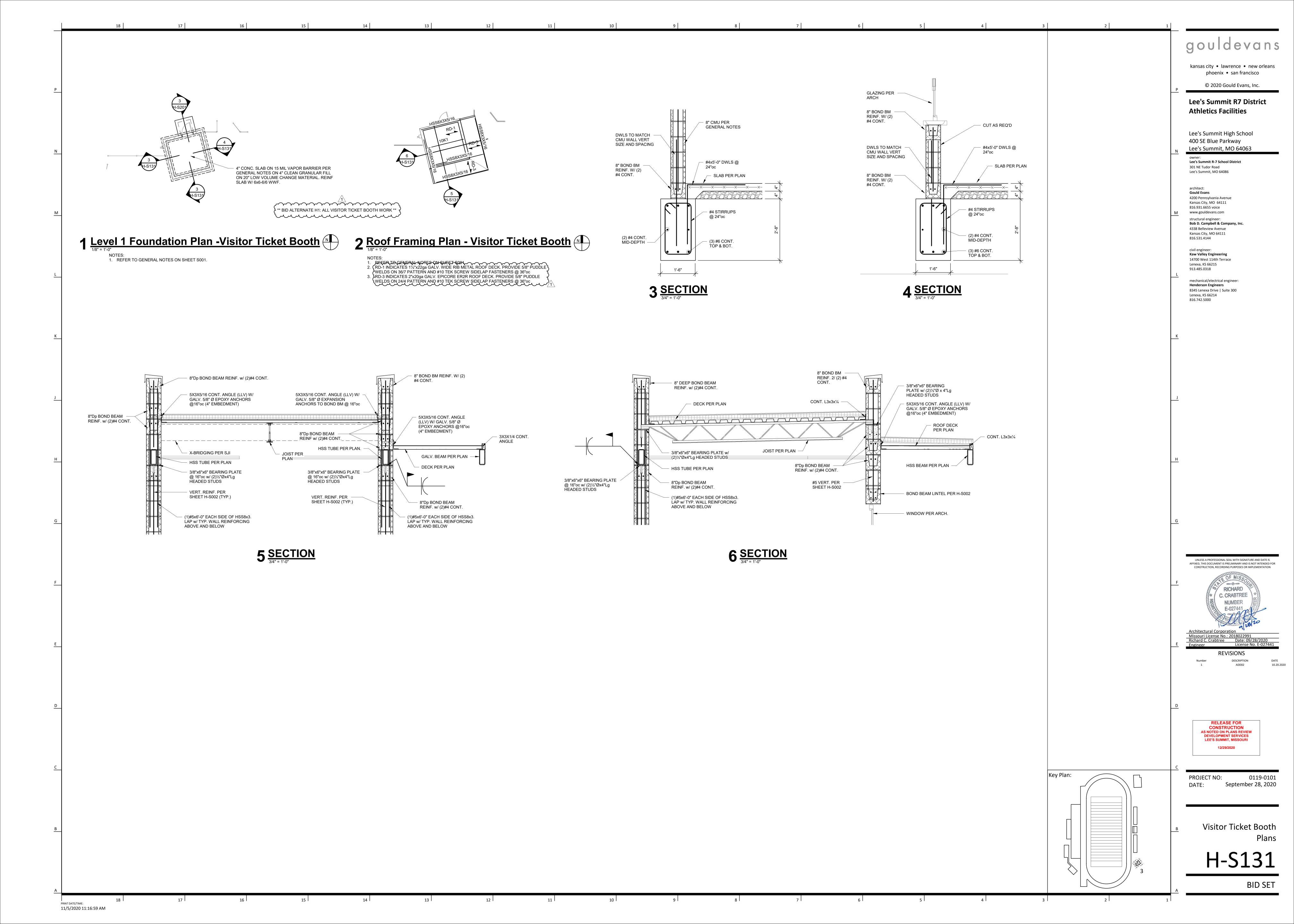
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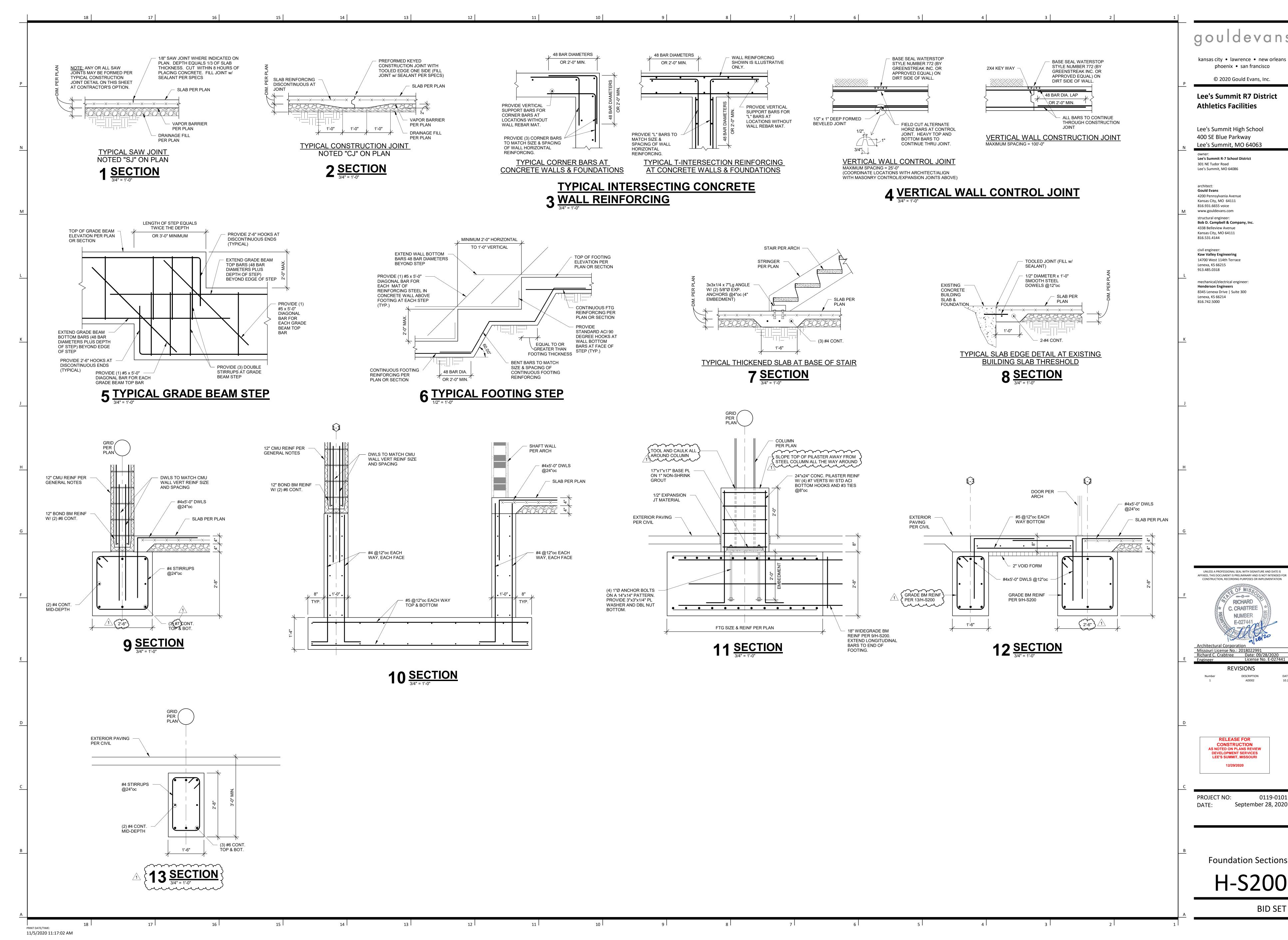
> > September 28, 2020

CMU Details









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Lee's Summit R7 District

Lee's Summit High School 400 SE Blue Parkway

Lee's Summit R-7 School District

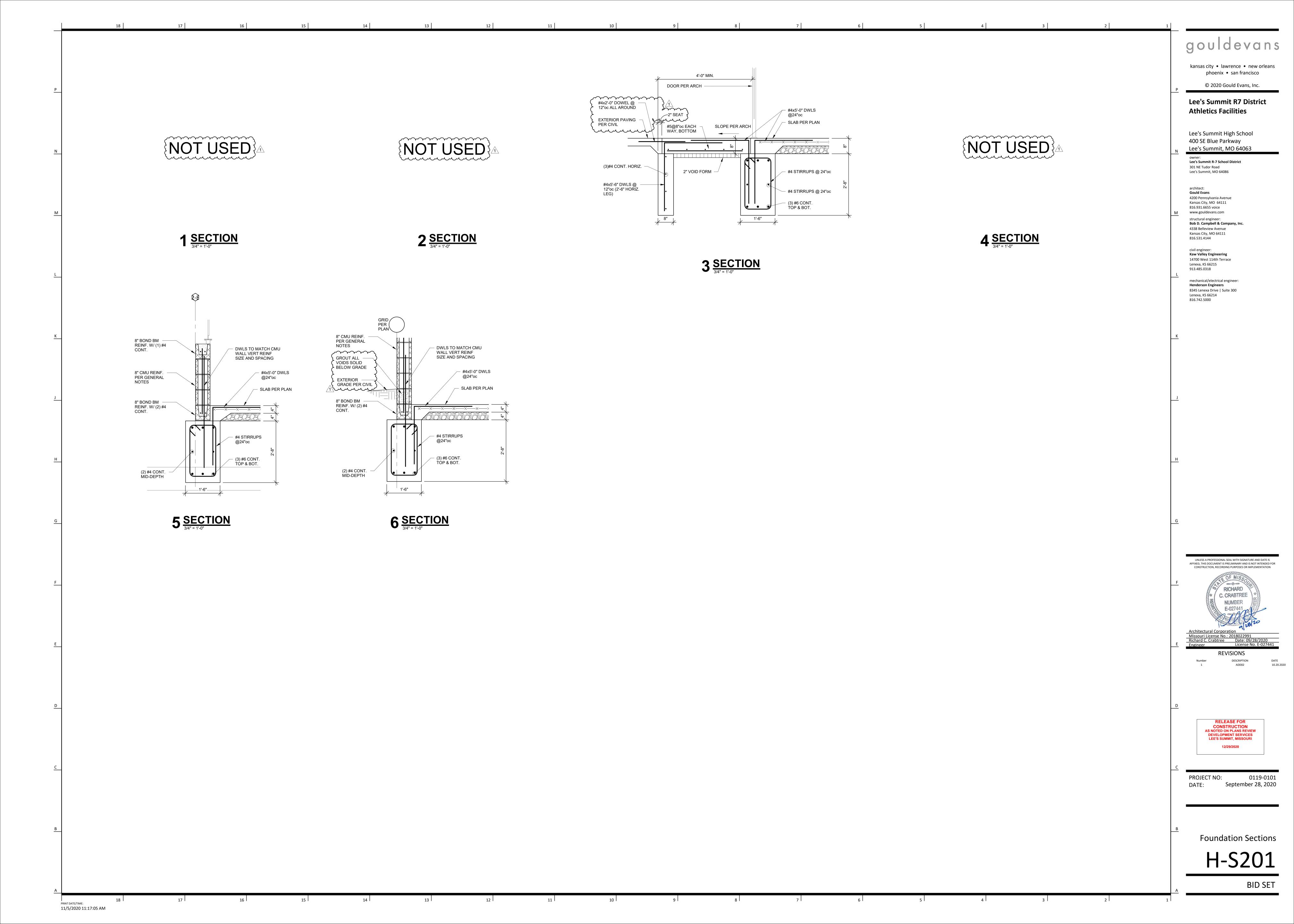
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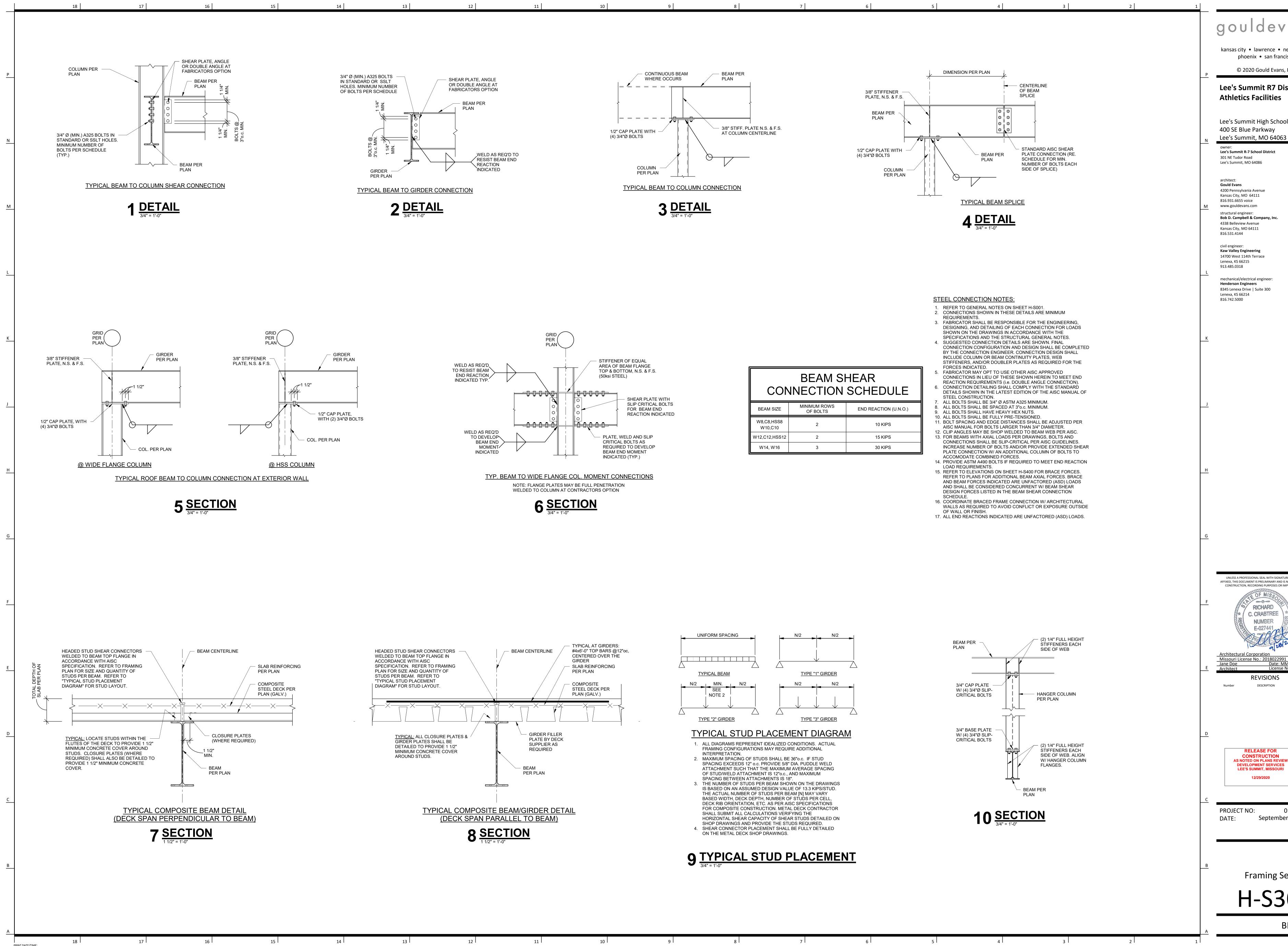
> mechanical/electrical engineer: 8345 Lenexa Drive | Suite 300

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AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

September 28, 2020





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Lee's Summit R7 District **Athletics Facilities**

Lee's Summit High School

Lee's Summit R-7 School District

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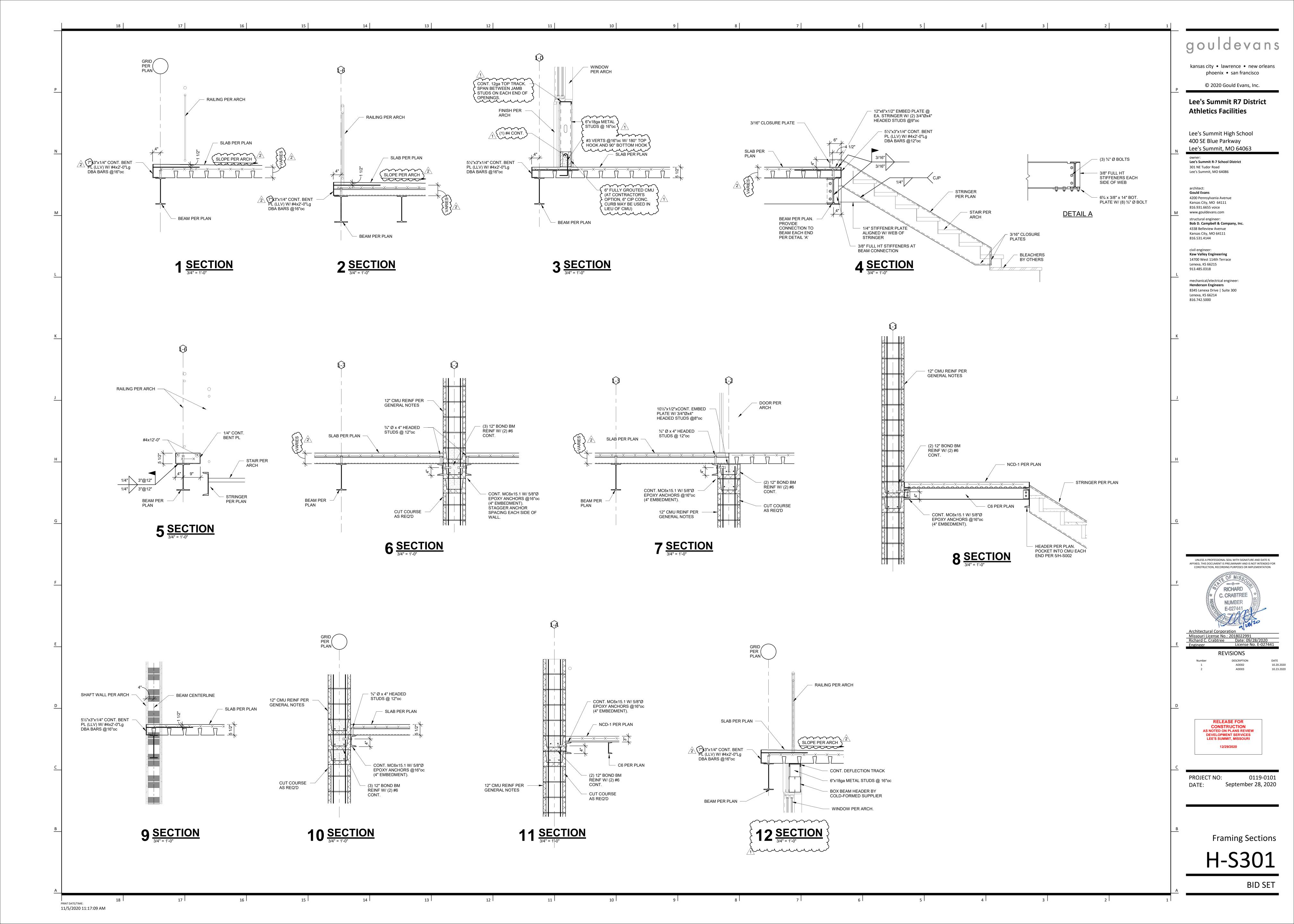
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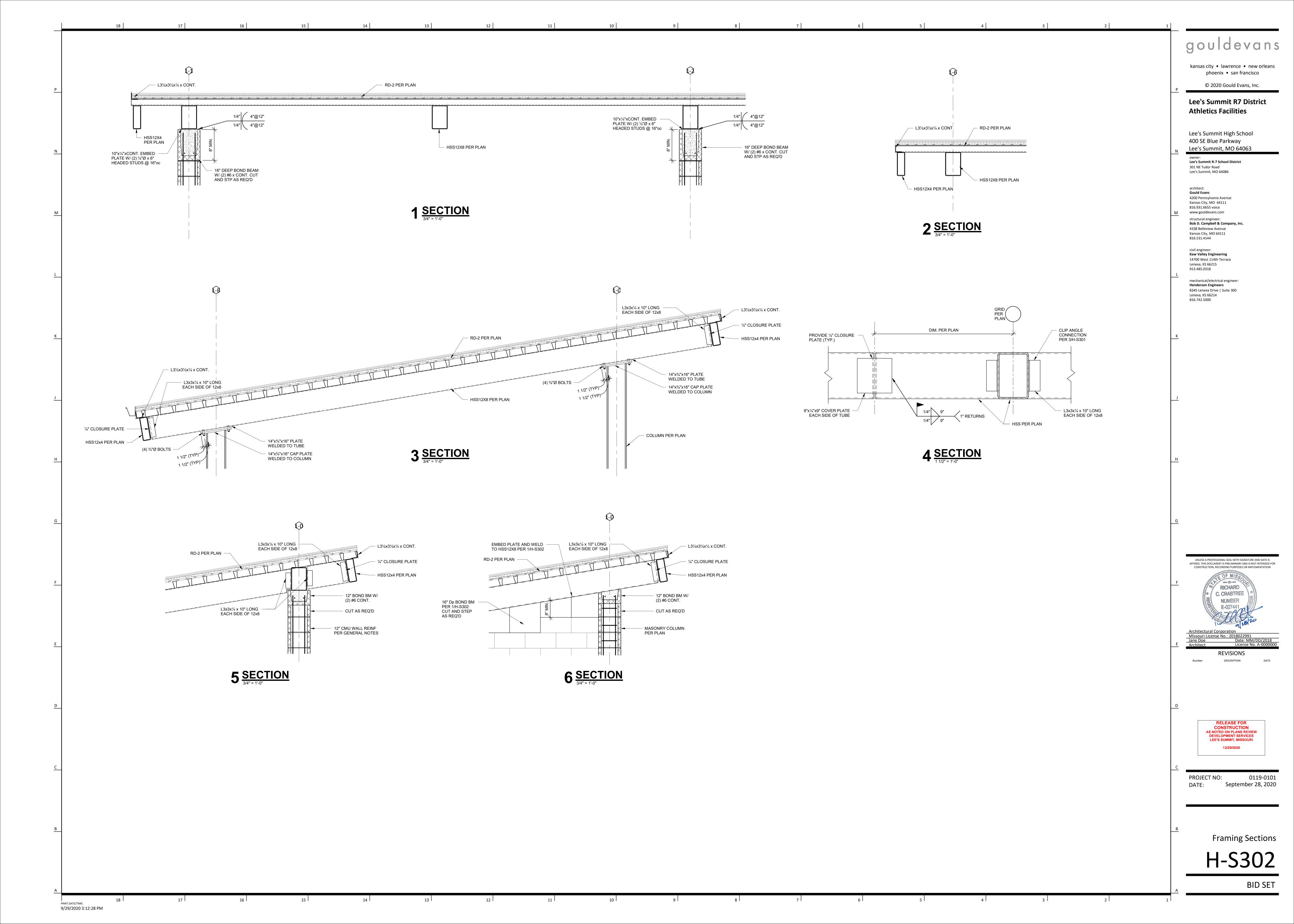
REVISIONS

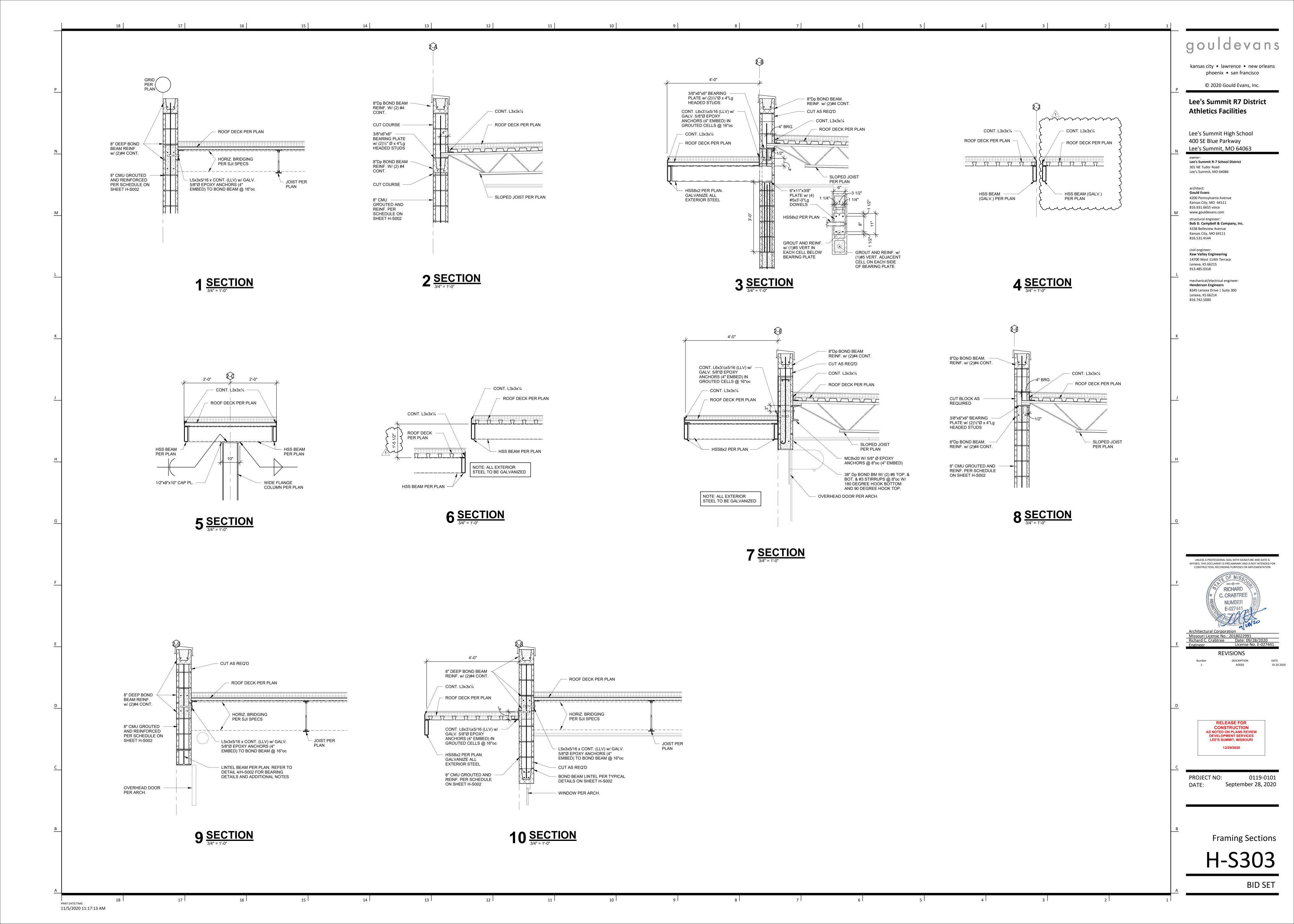
CONSTRUCTION **AS NOTED ON PLANS REVIEW** DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

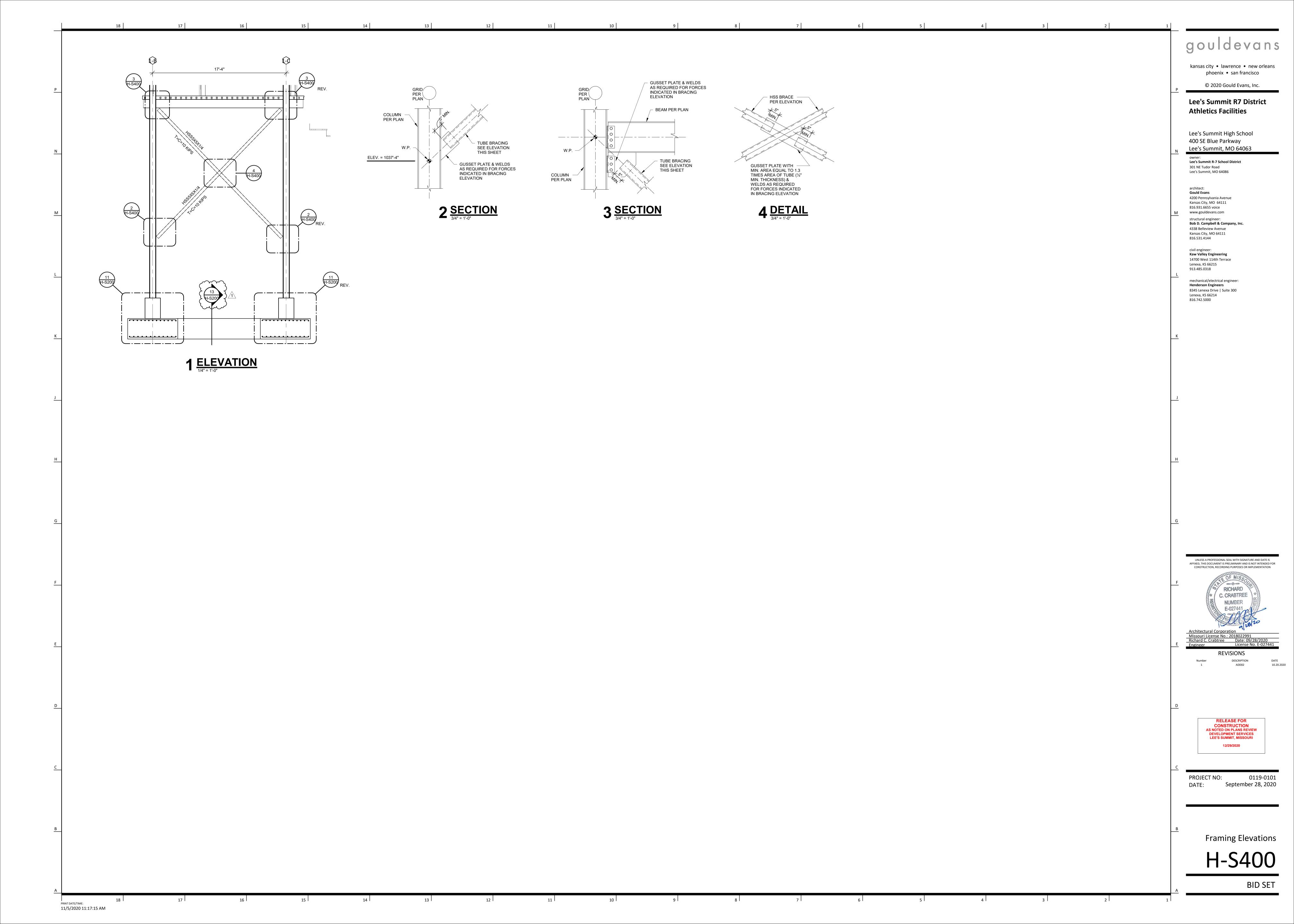
PROJECT NO: September 28, 2020

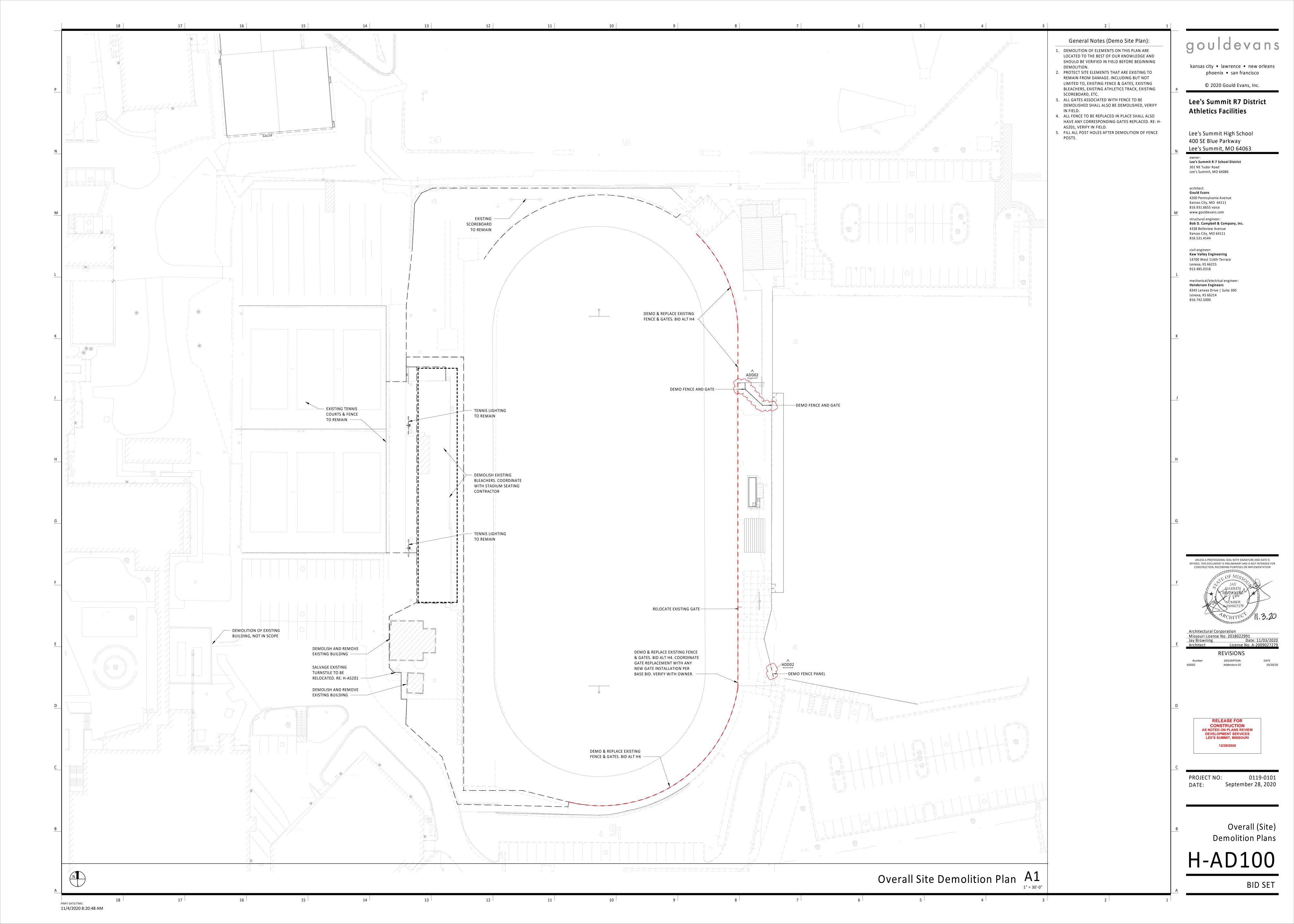
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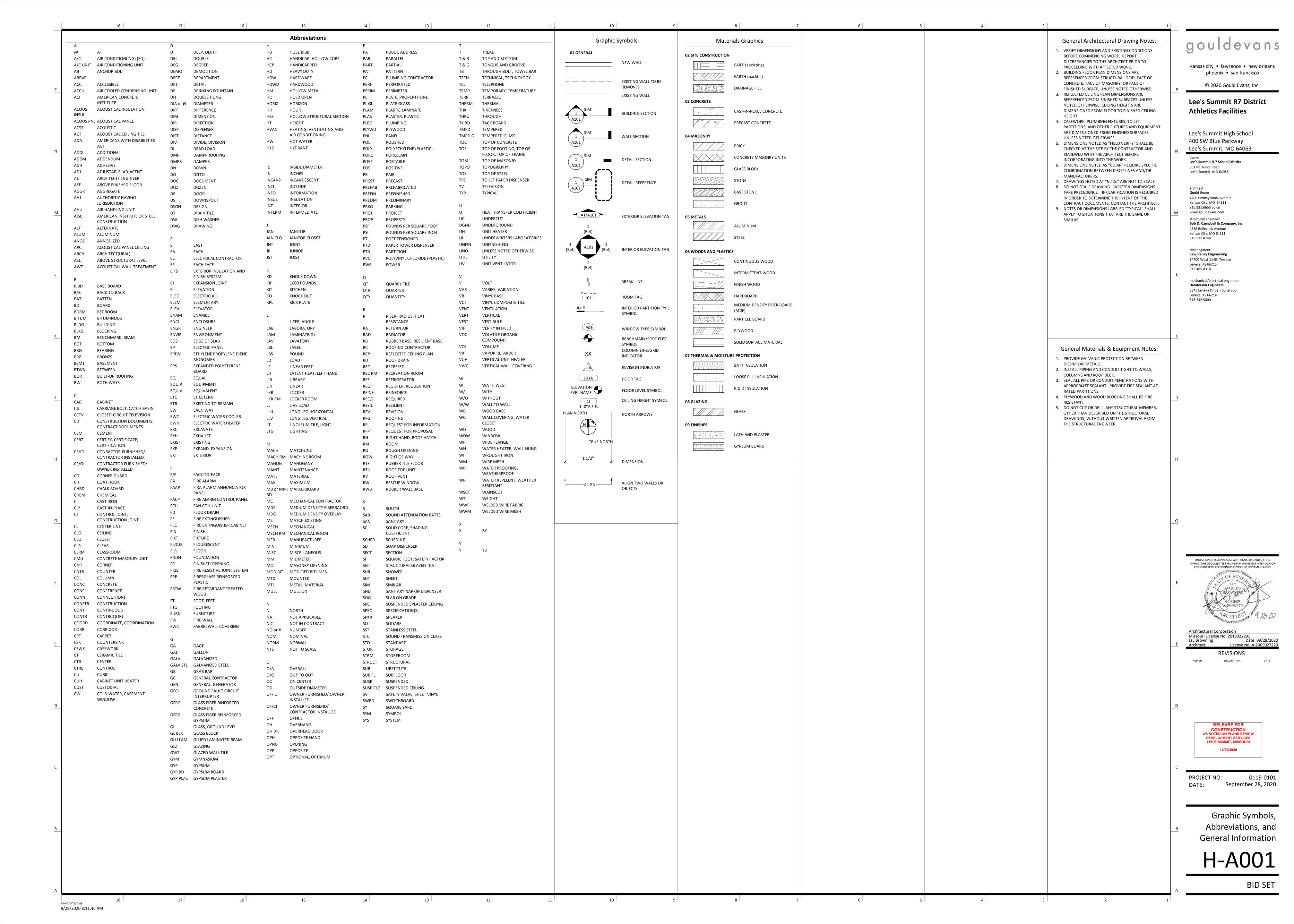


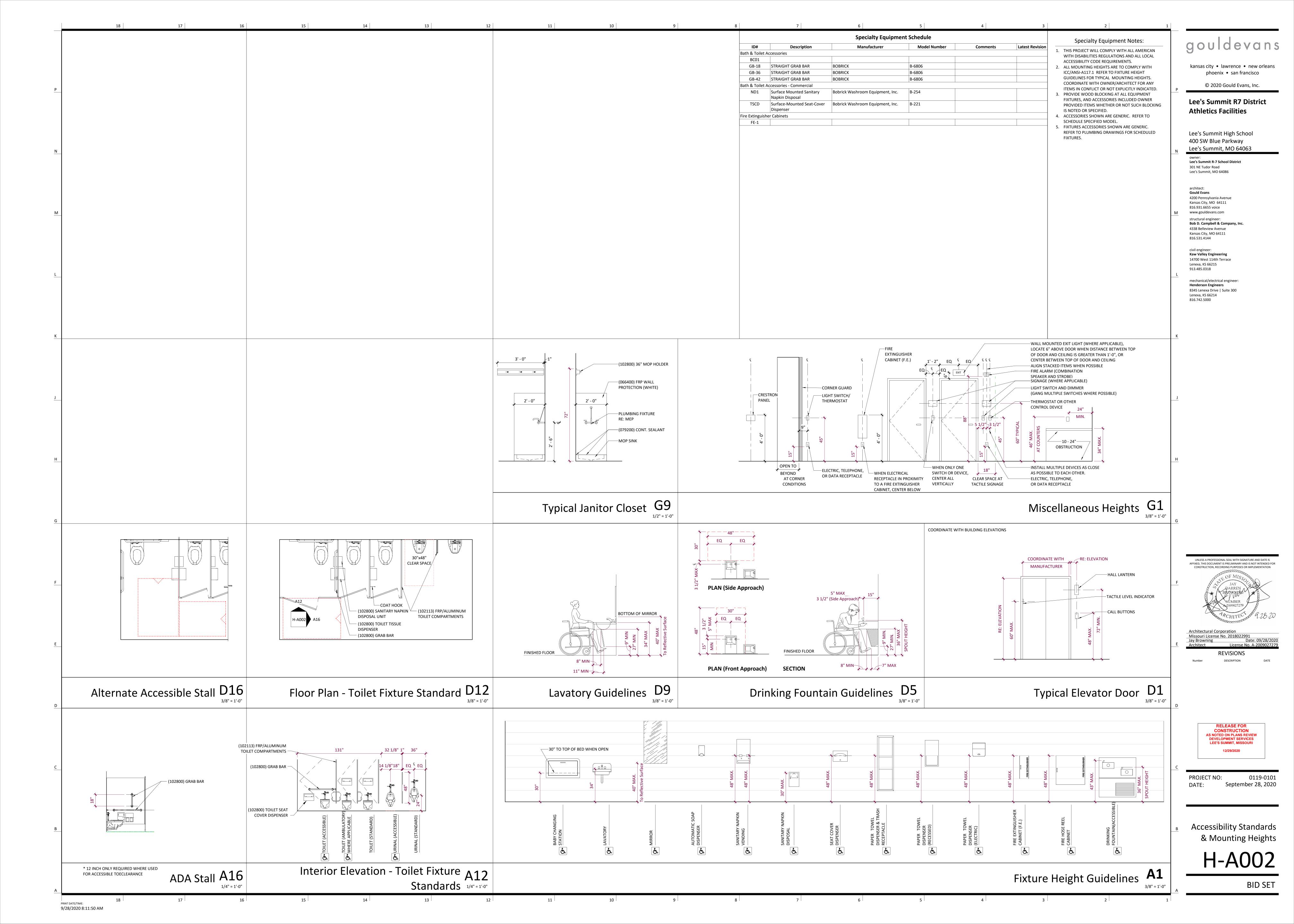


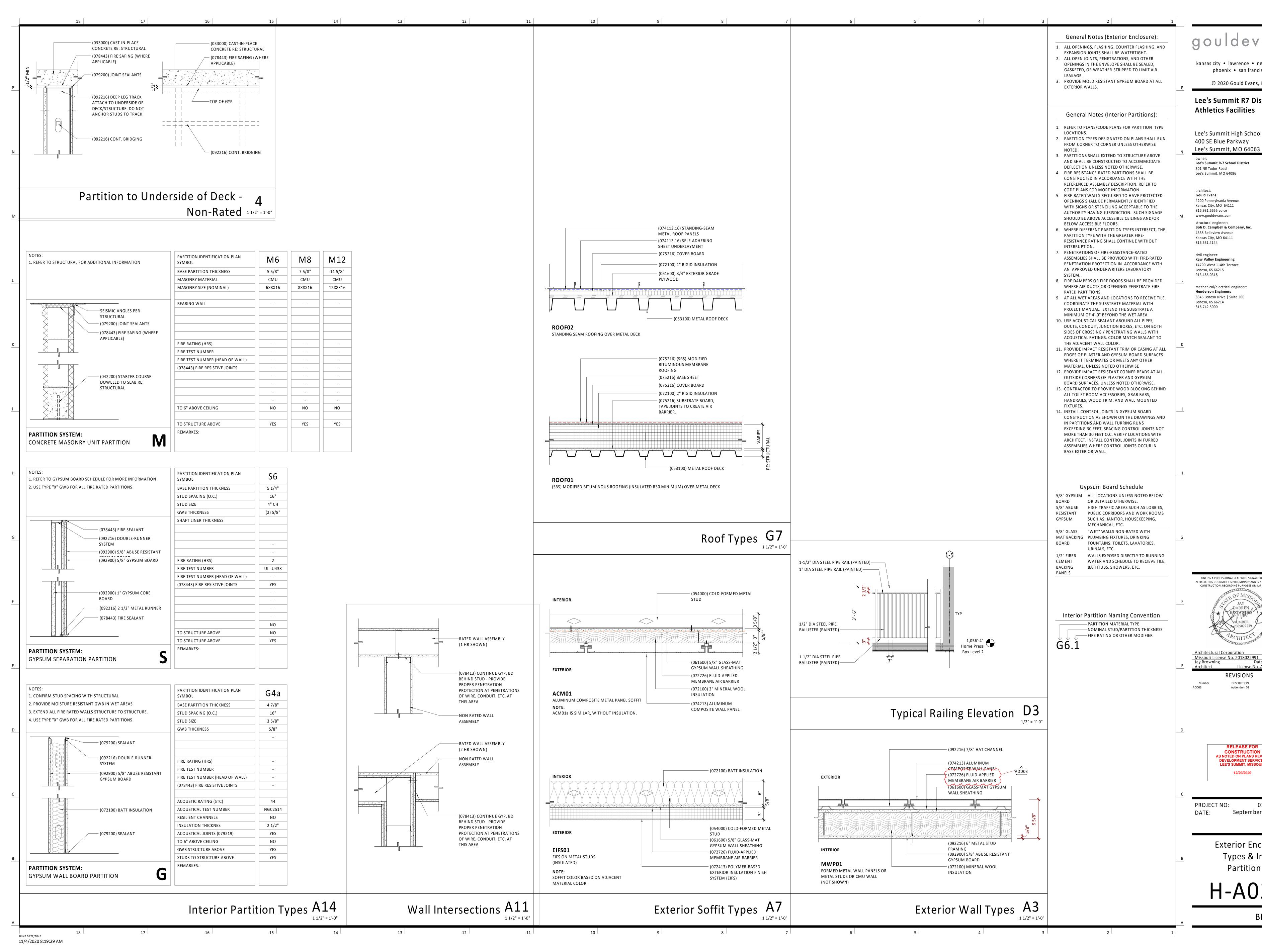












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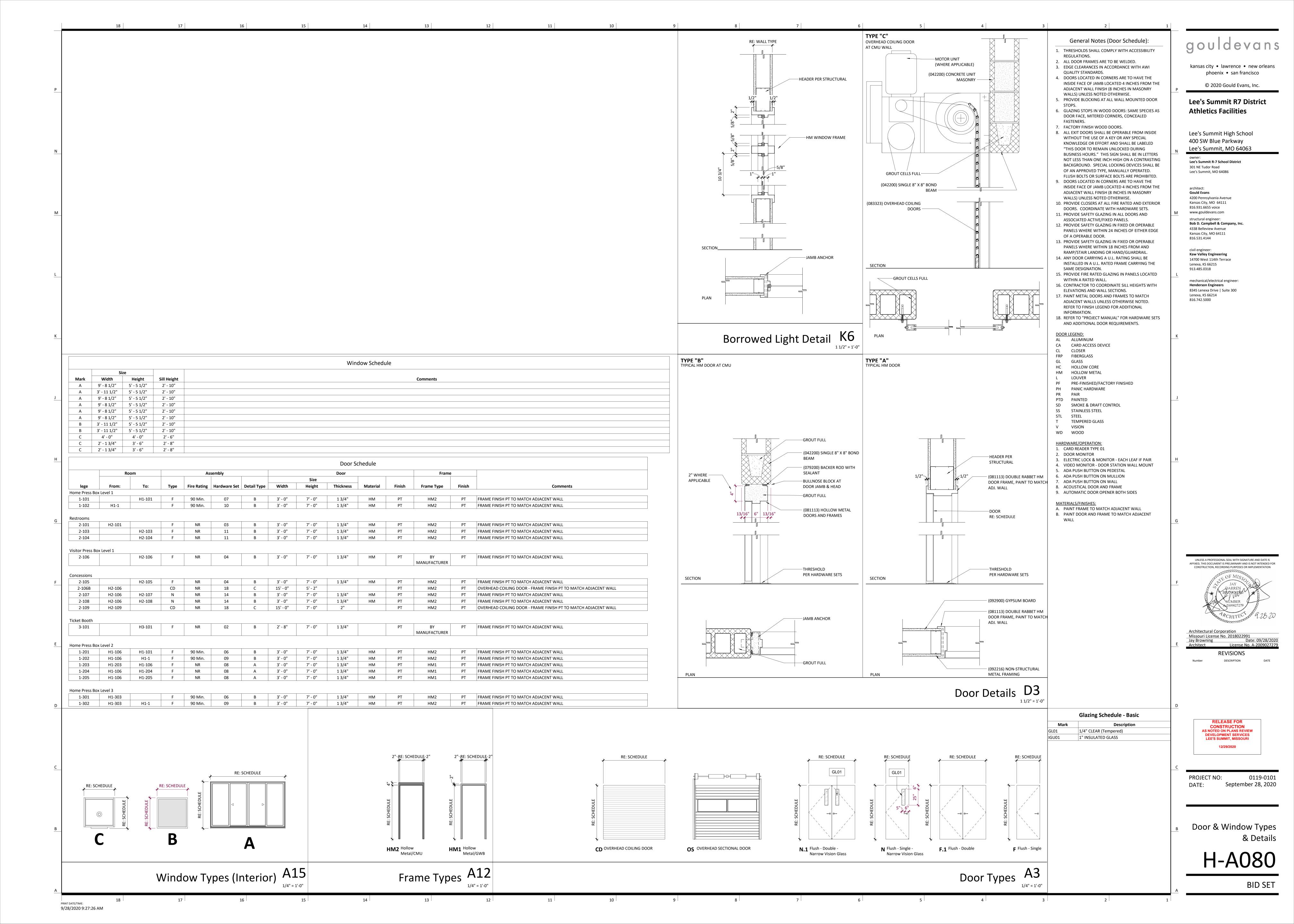
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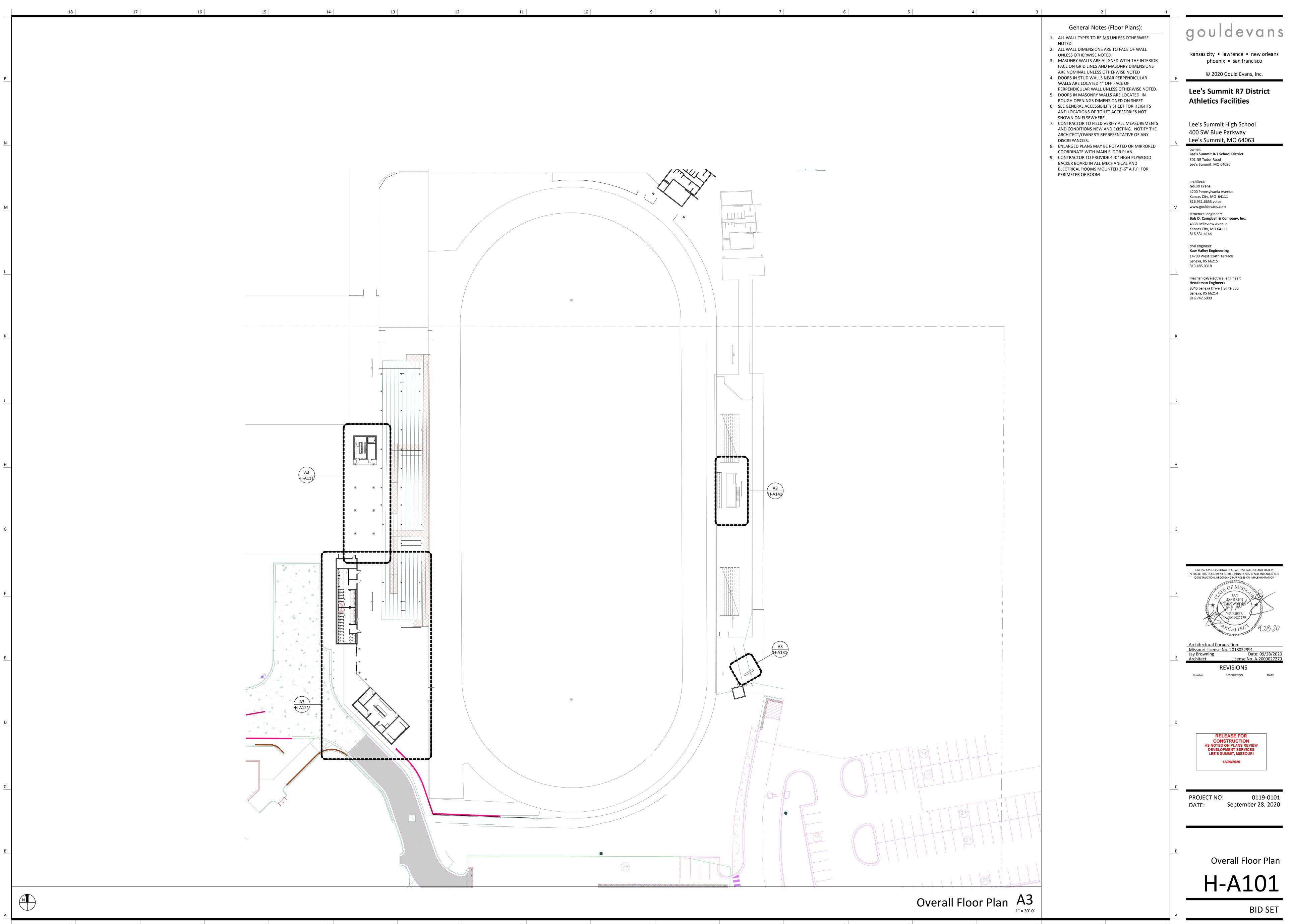
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CONSTRUCTION AS NOTED ON PLANS REVIEW **DEVELOPMENT SERVICES** LEE'S SUMMIT, MISSOURI

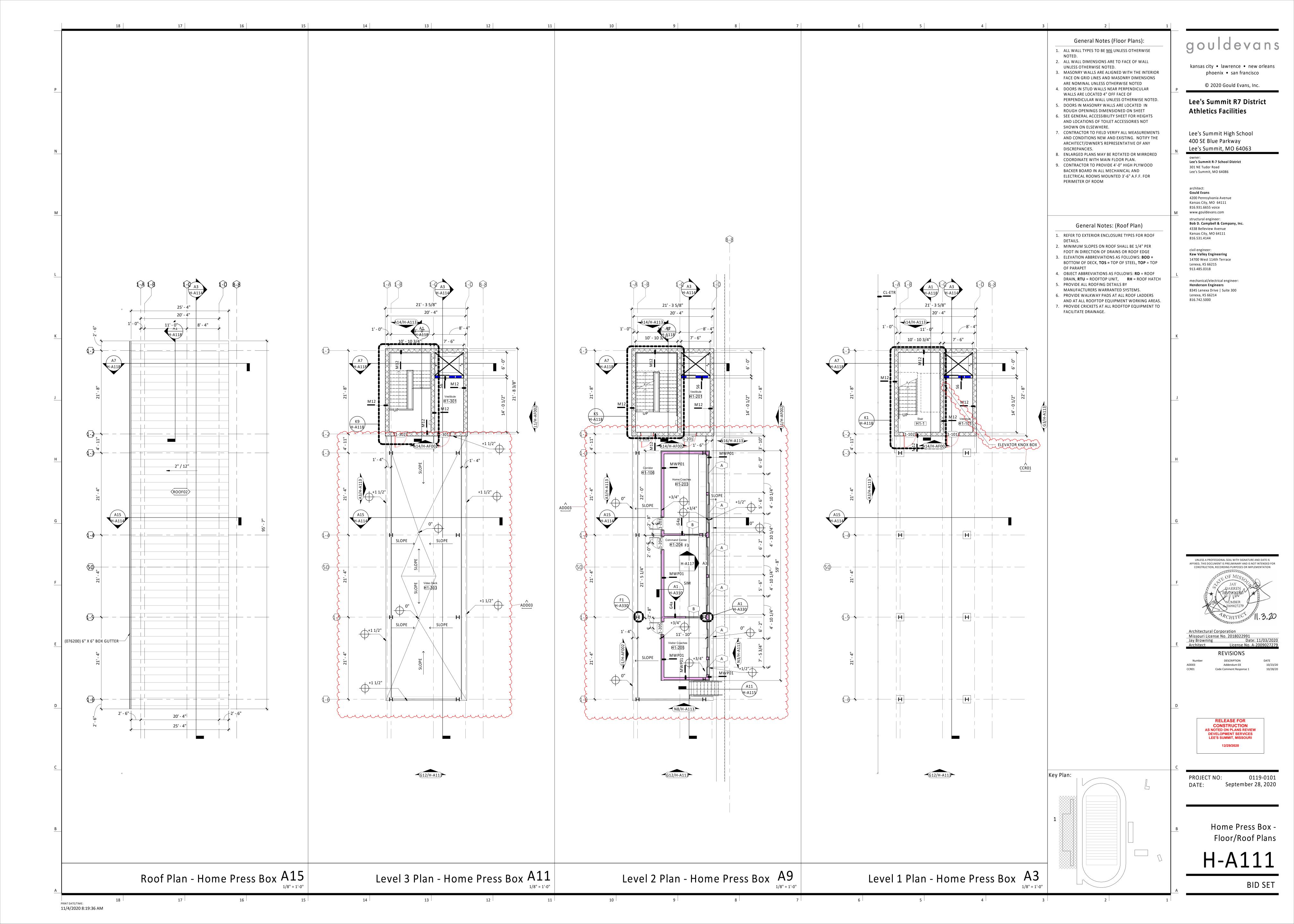
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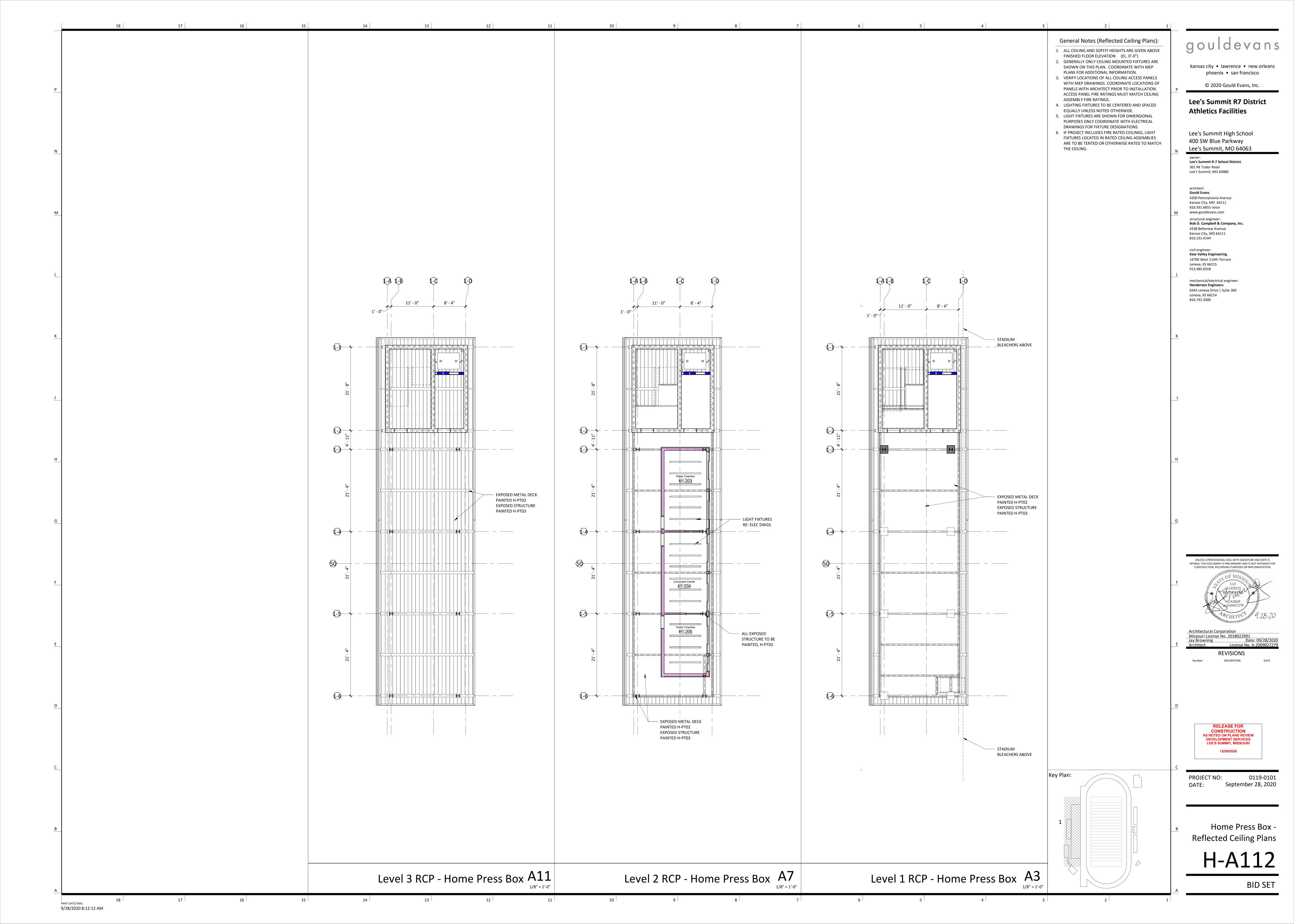
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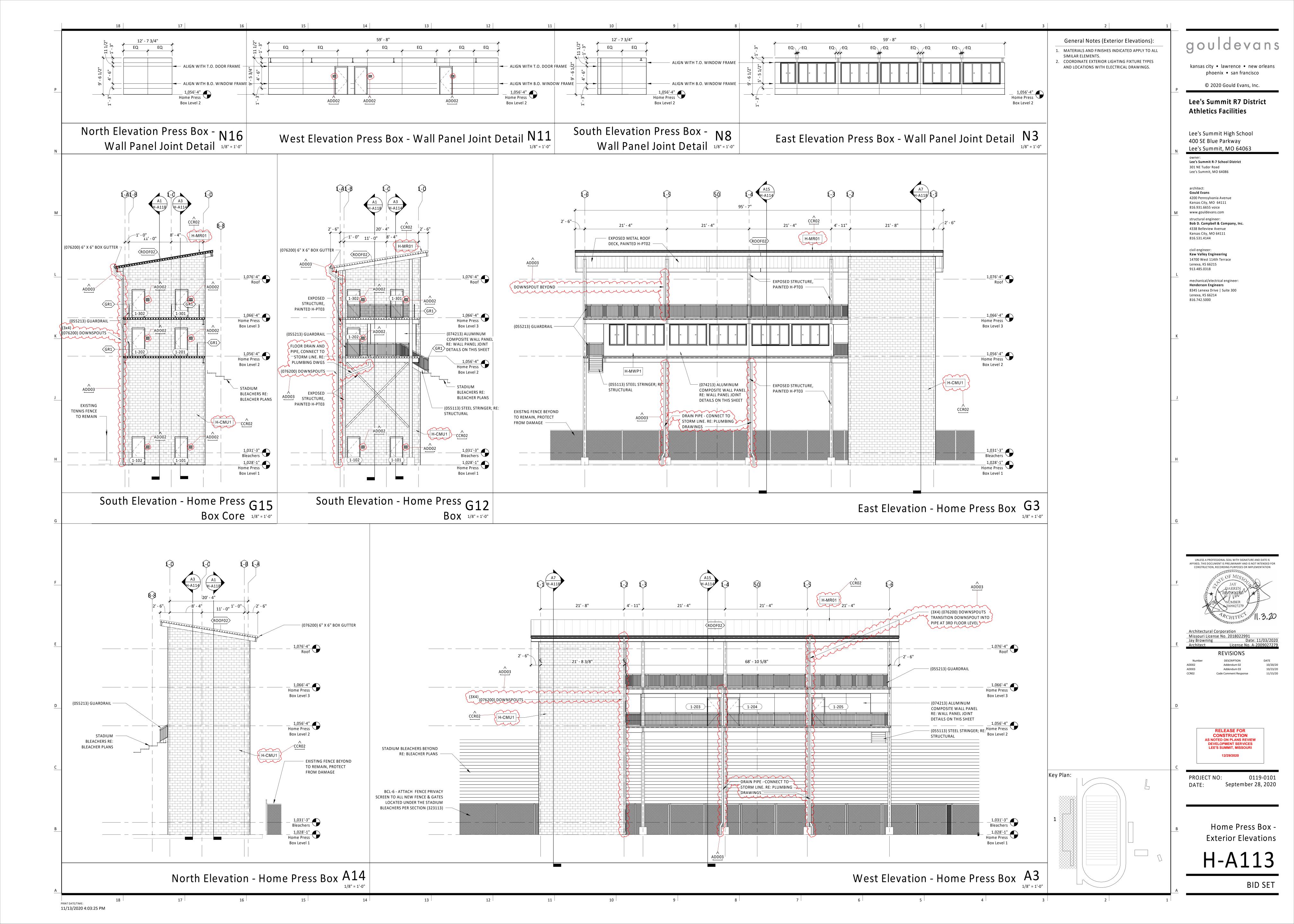


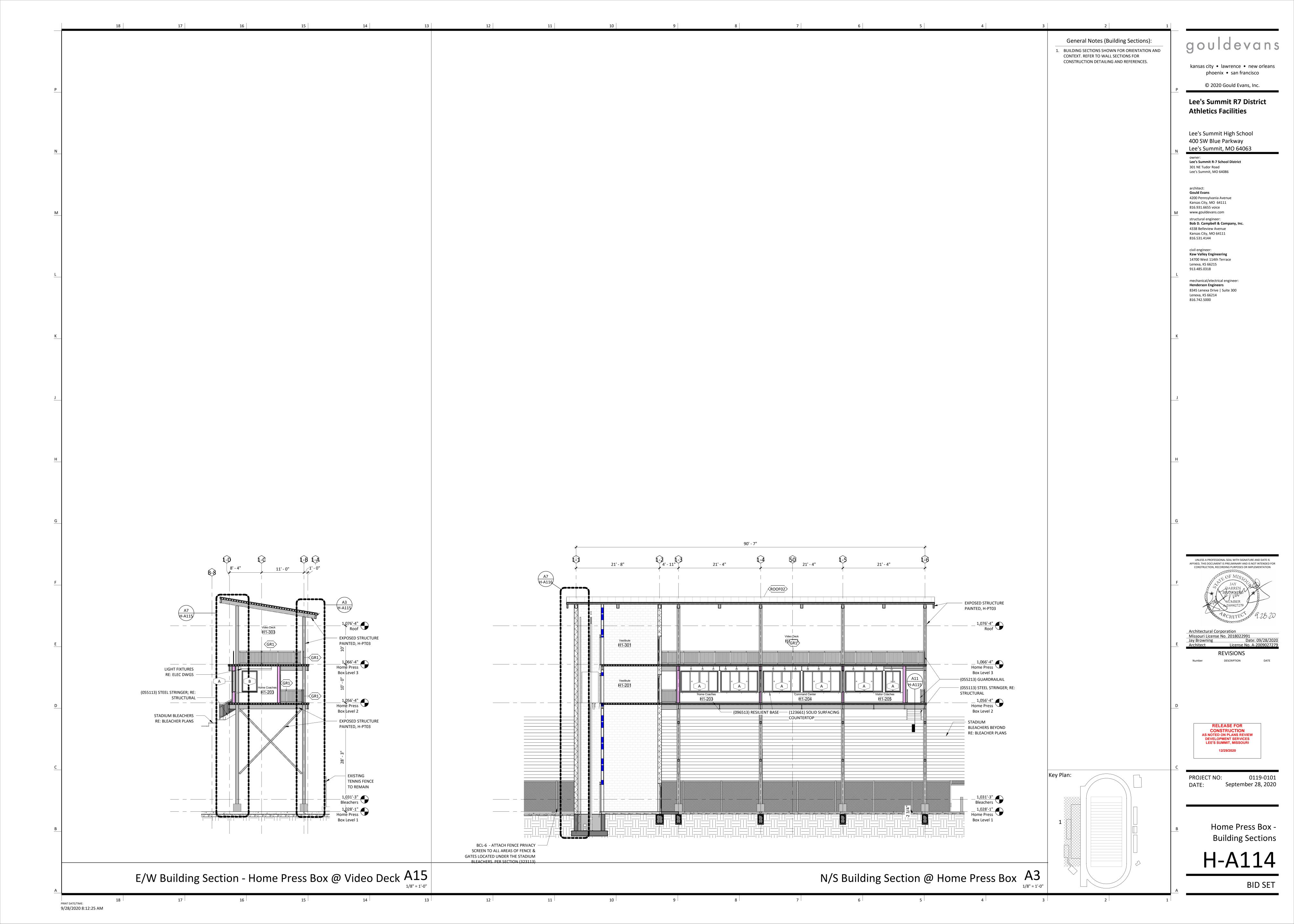


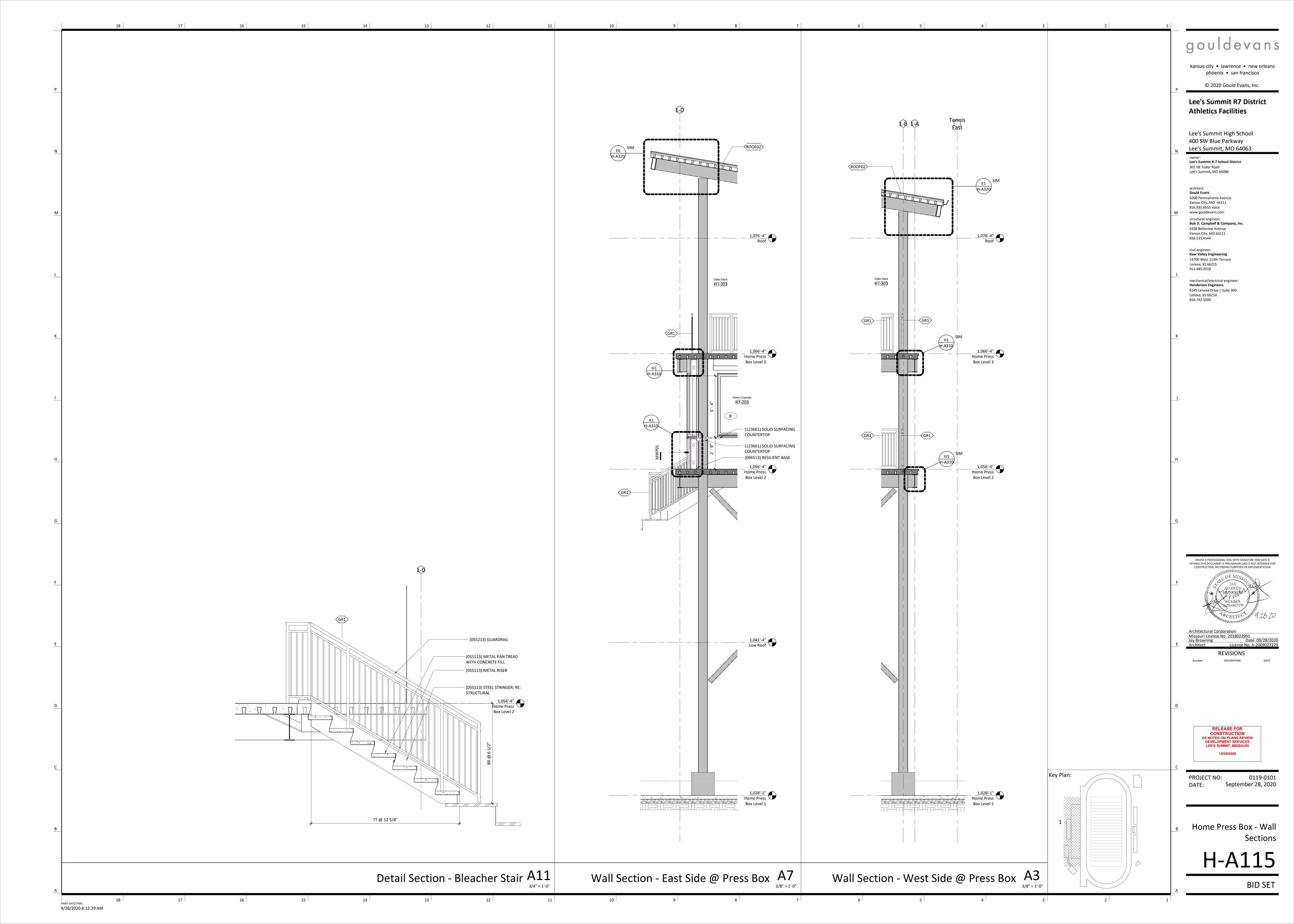
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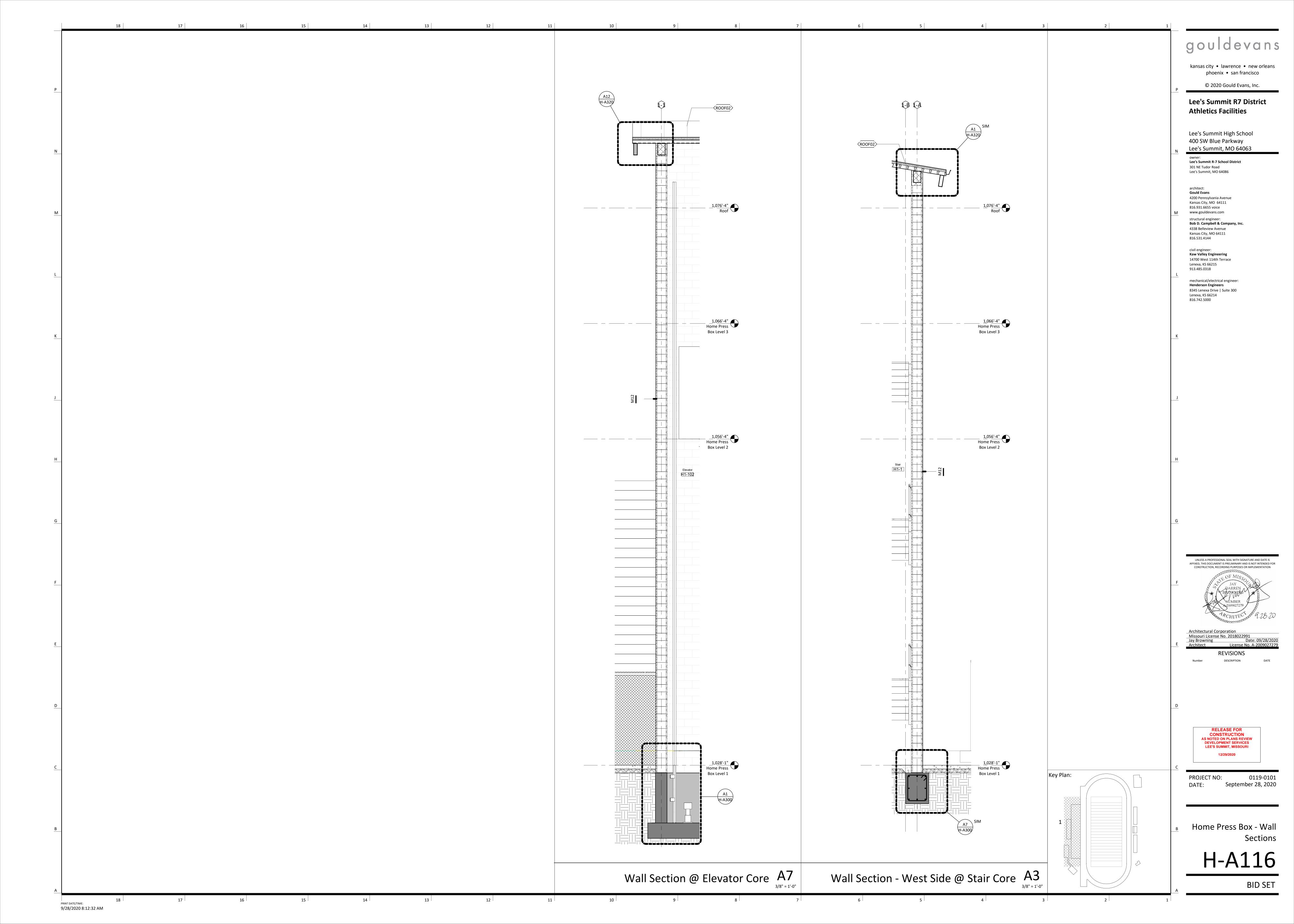


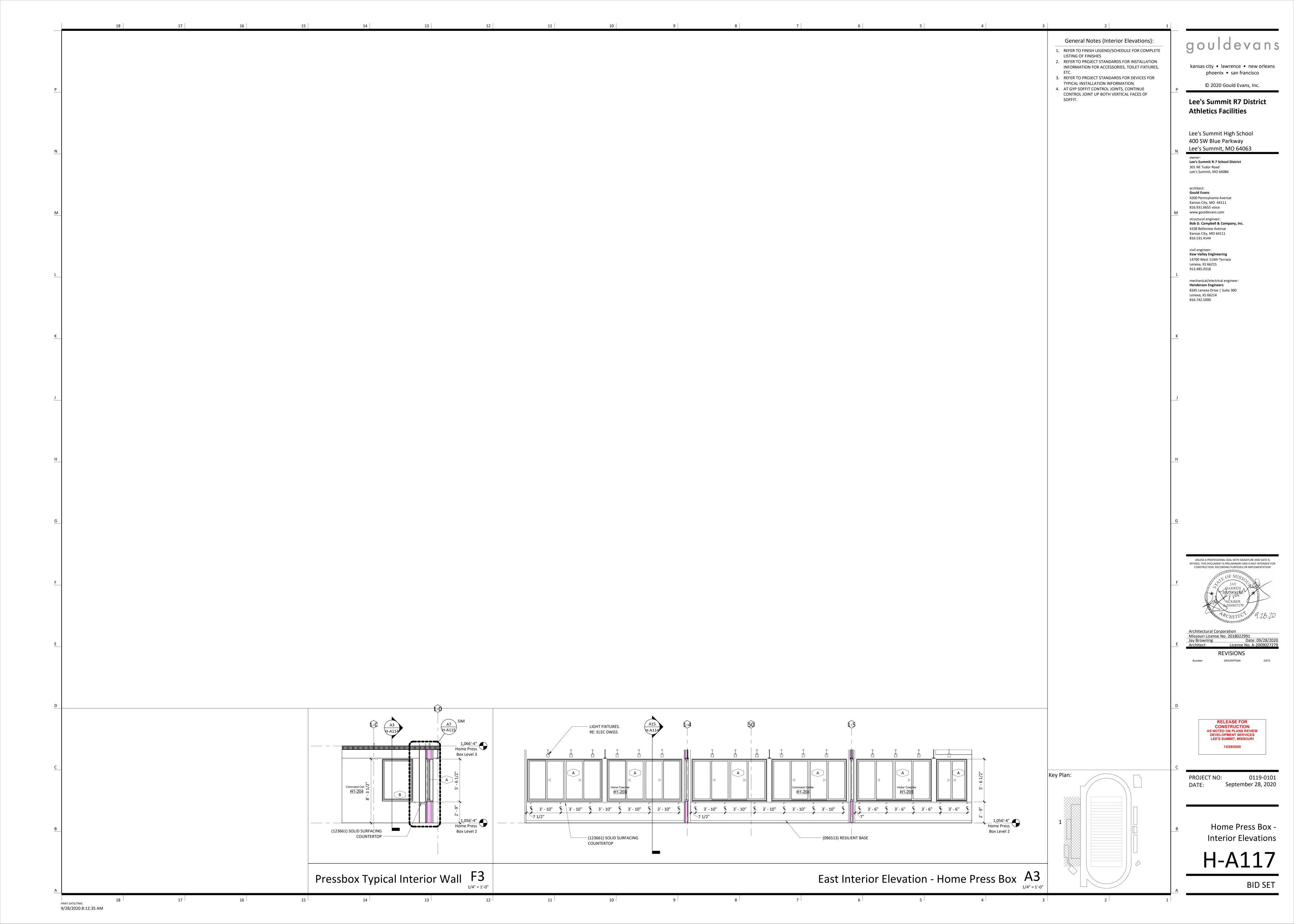


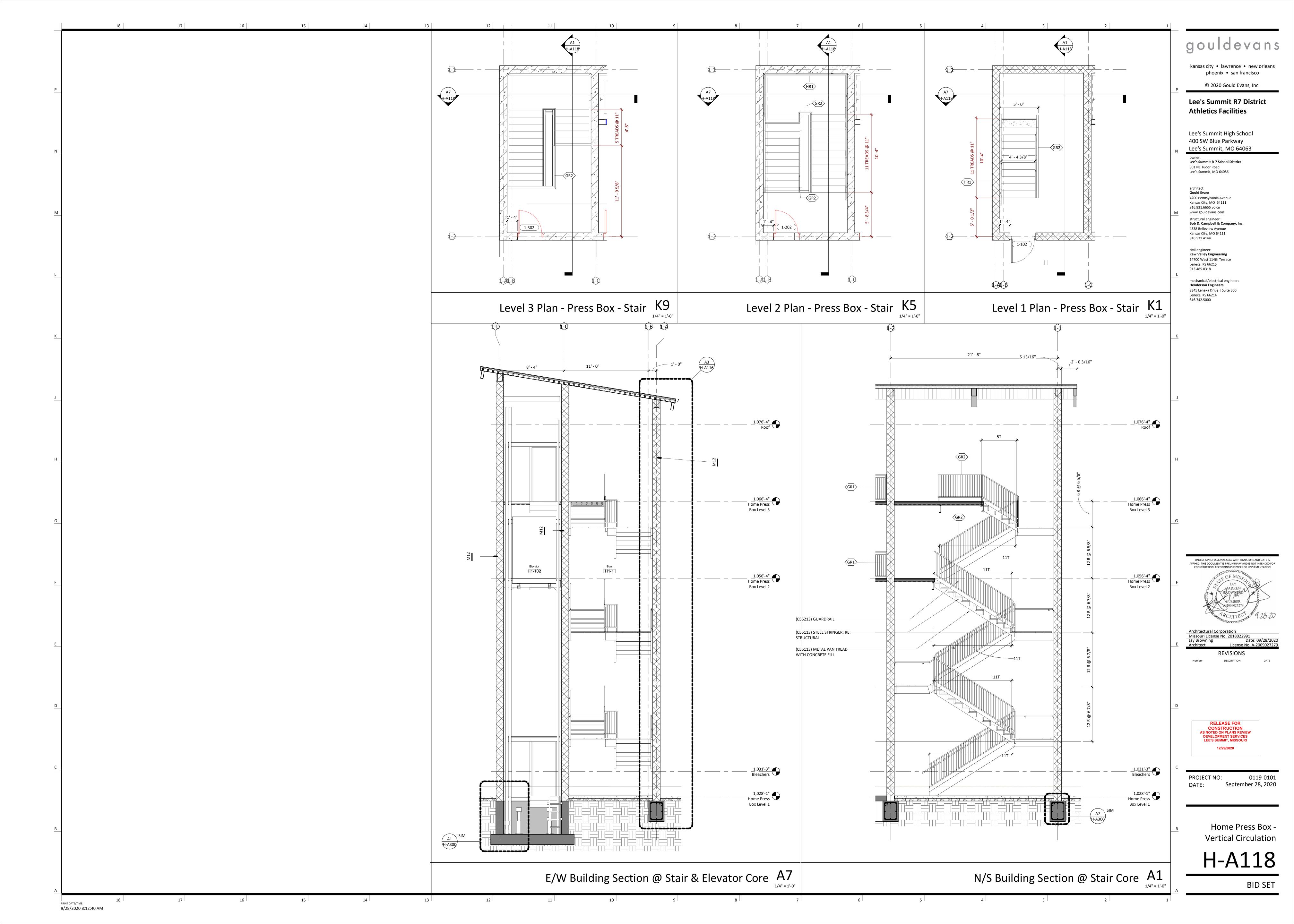


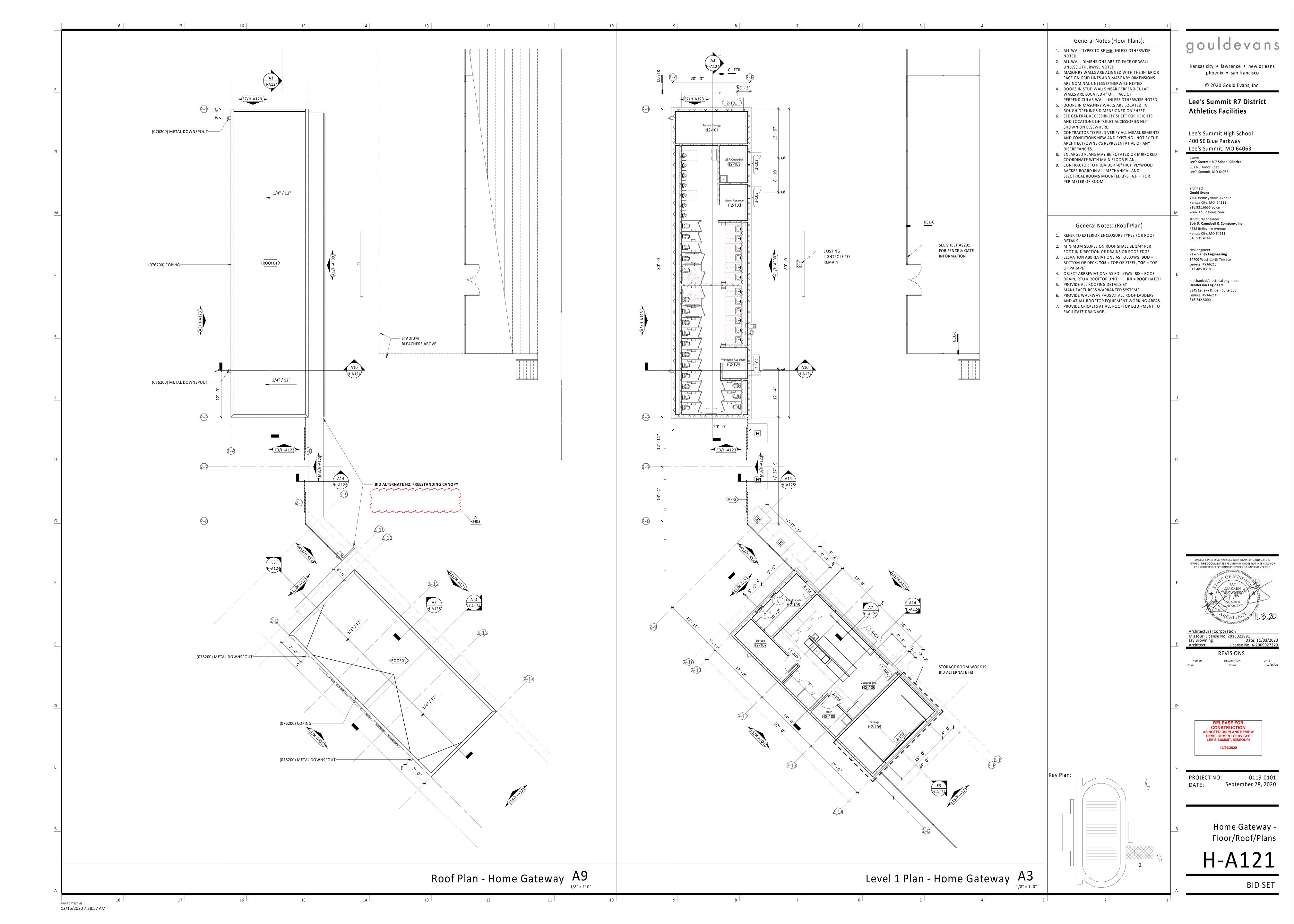


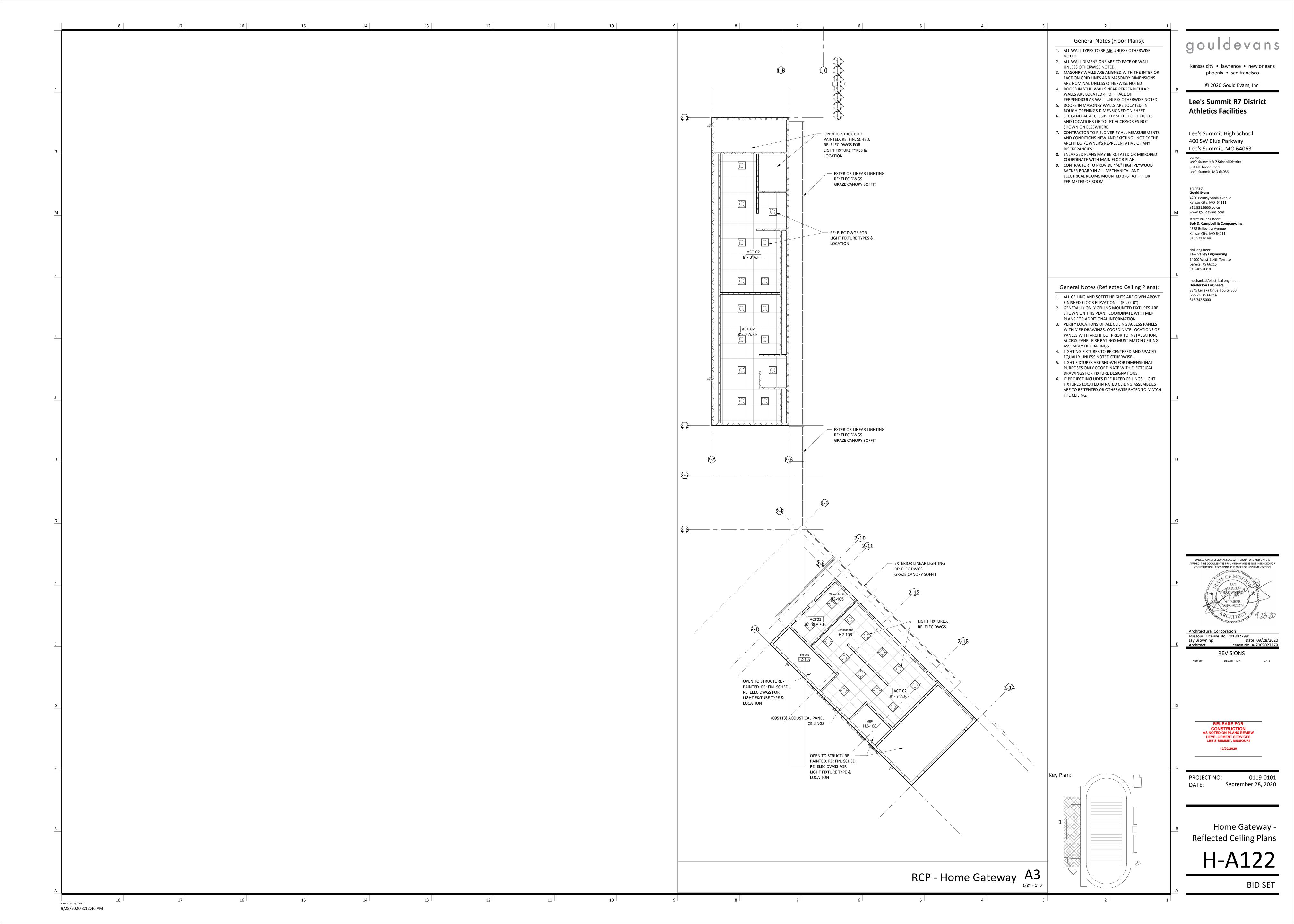


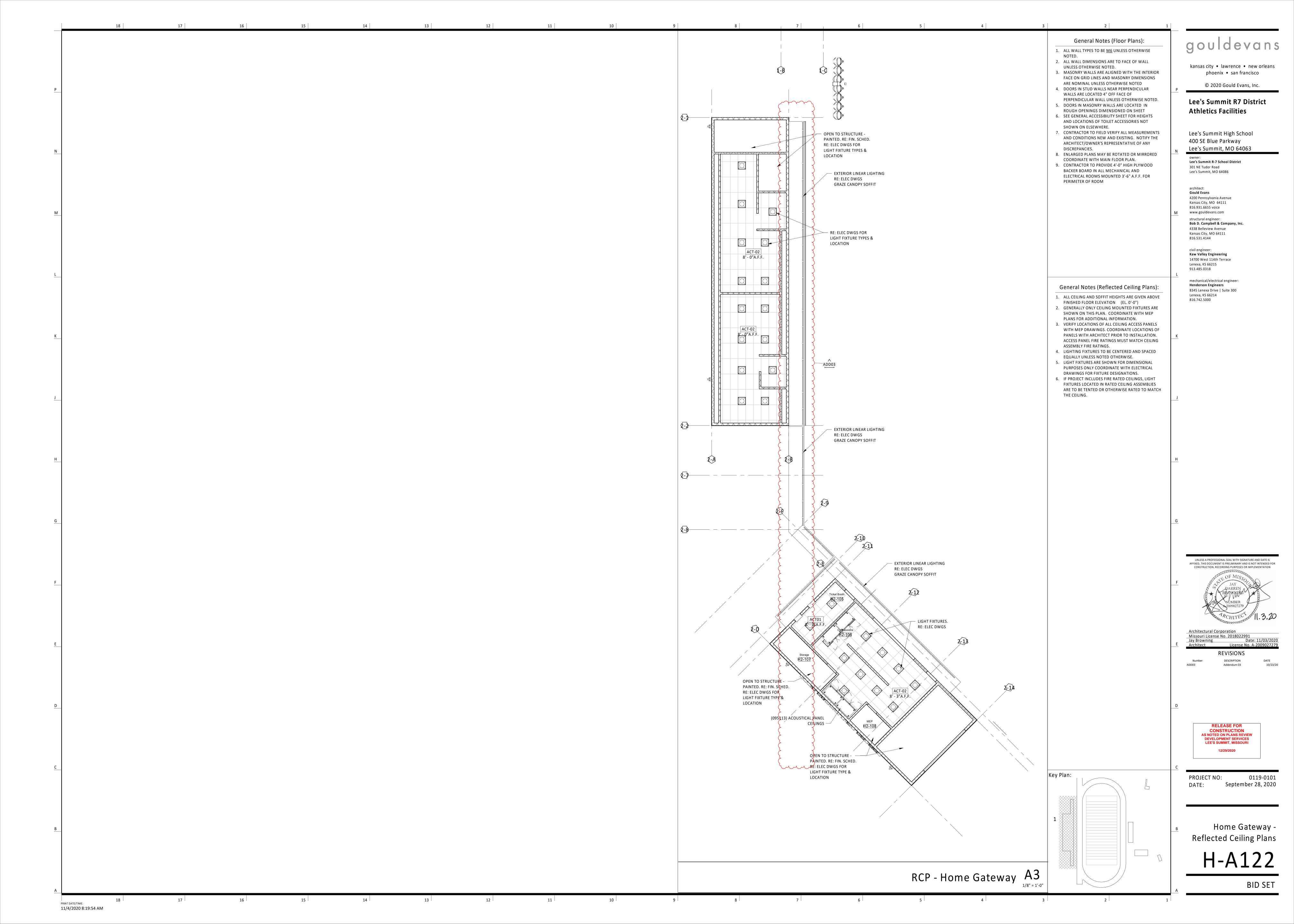


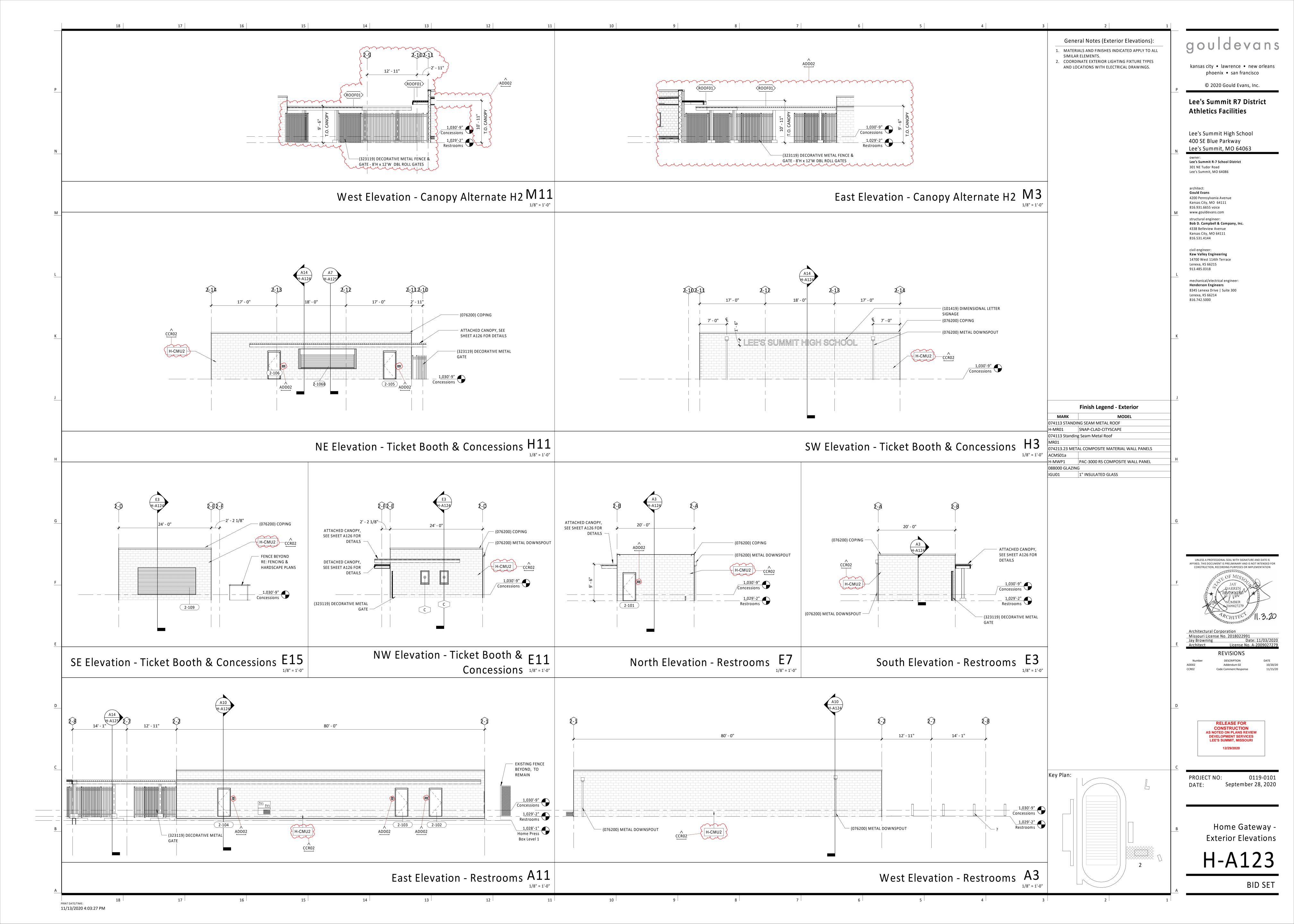


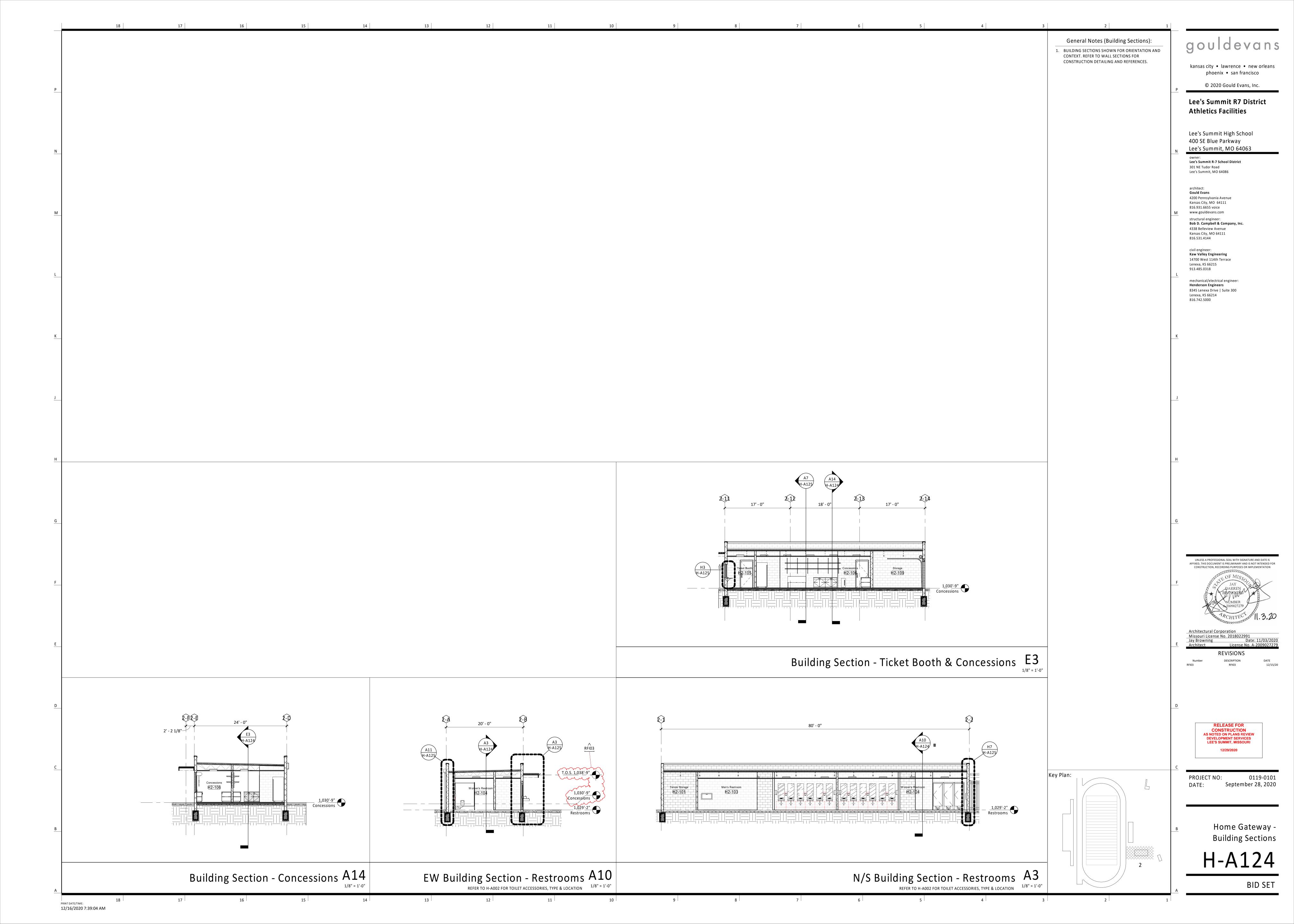


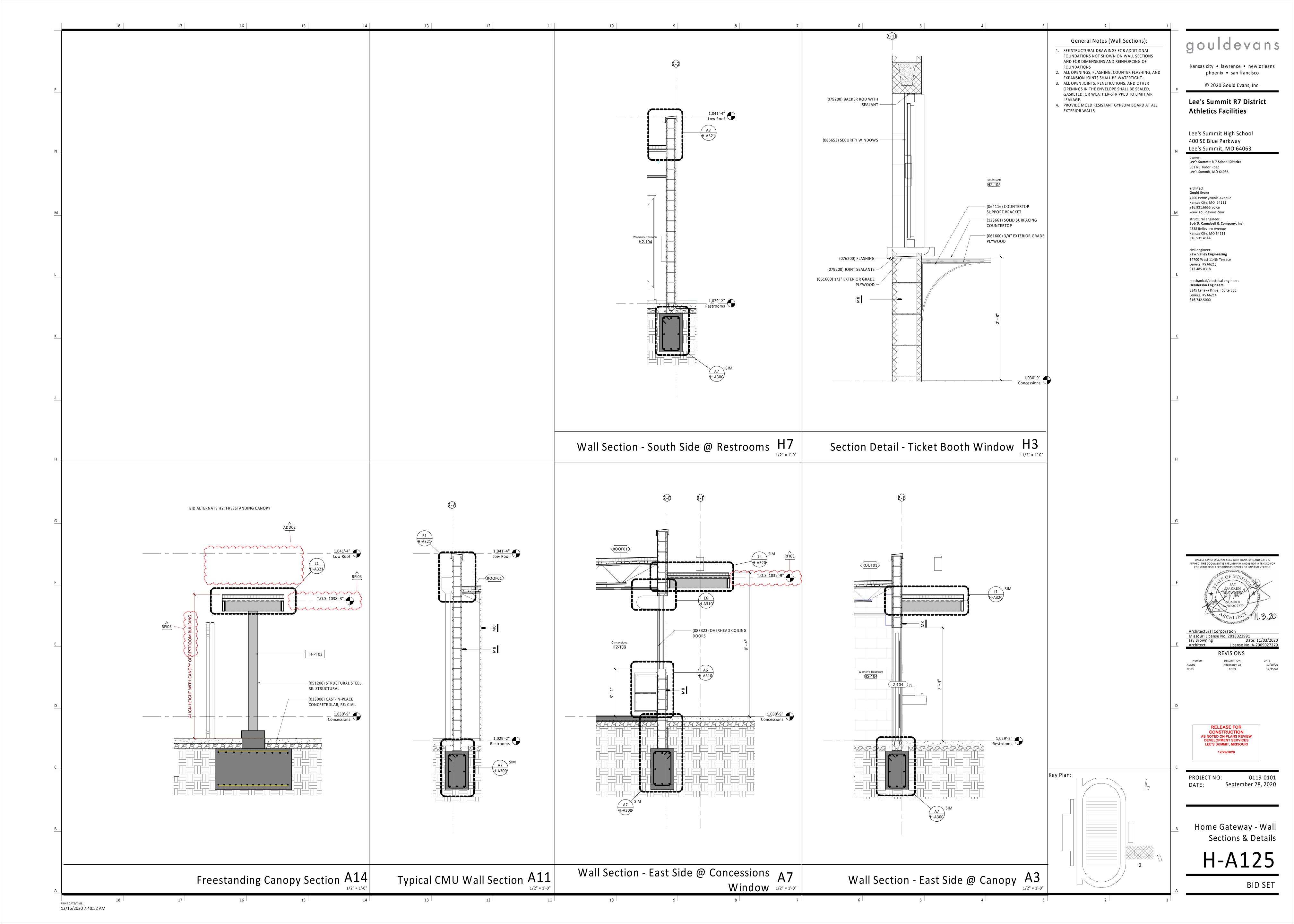


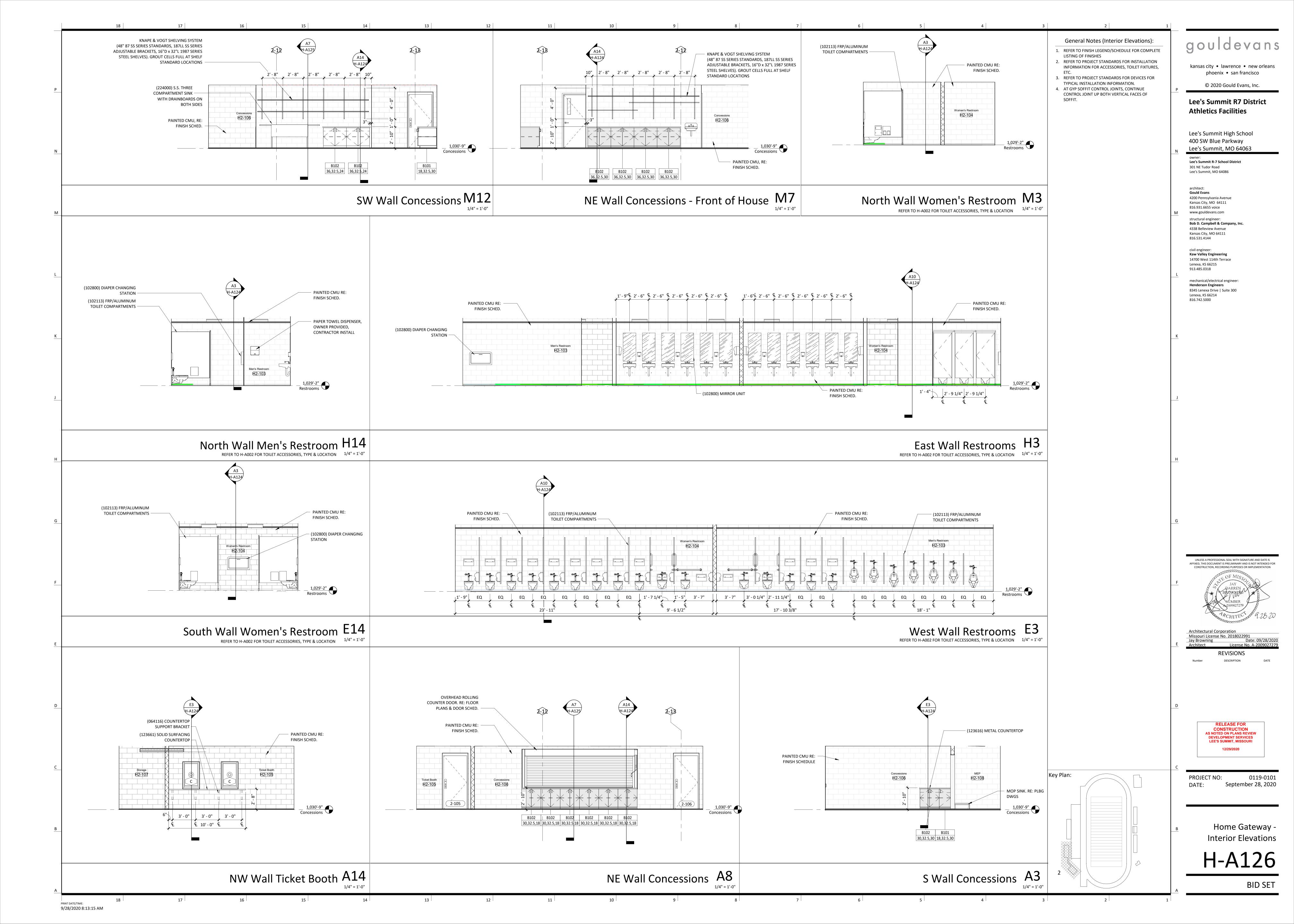


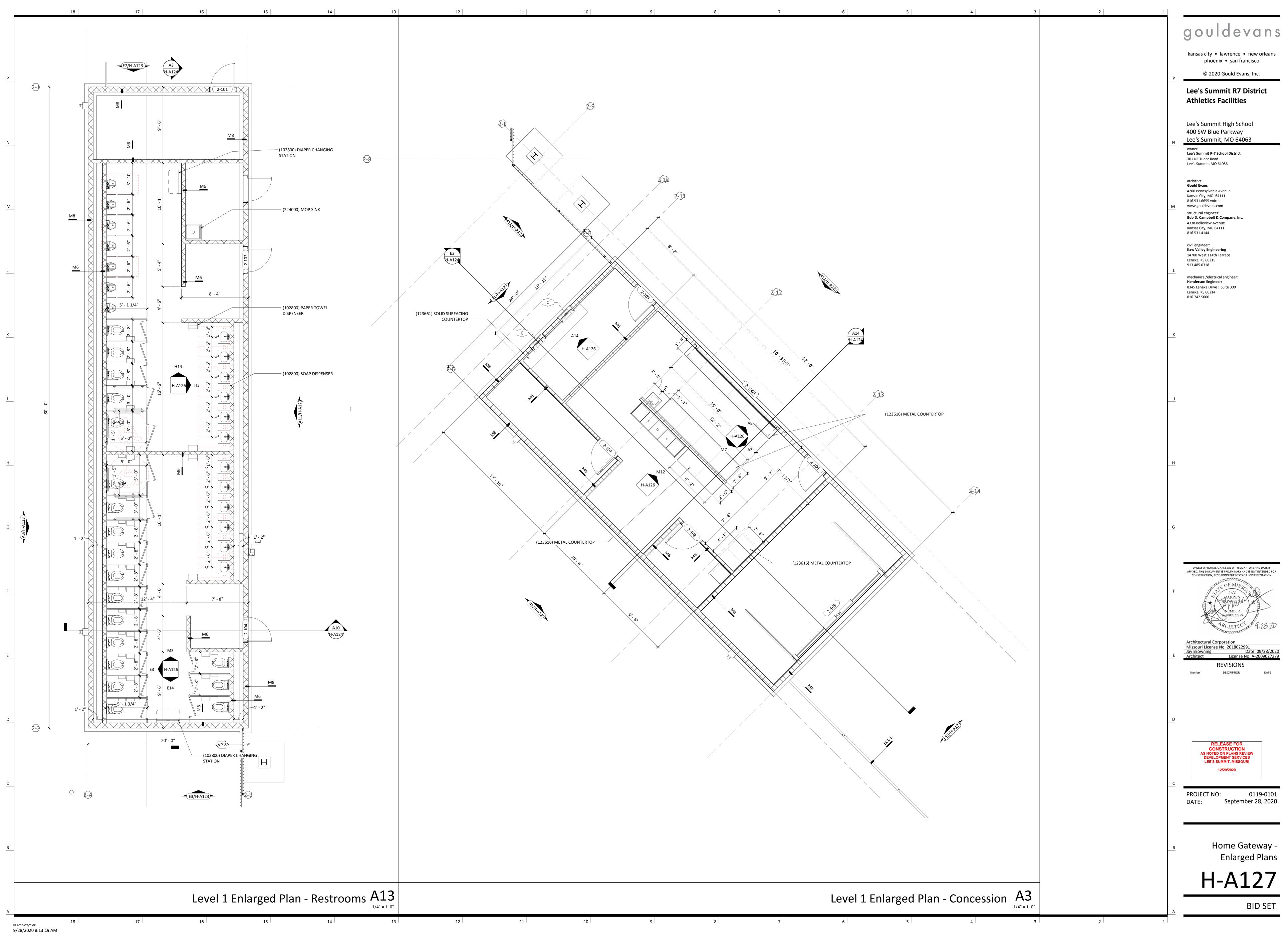












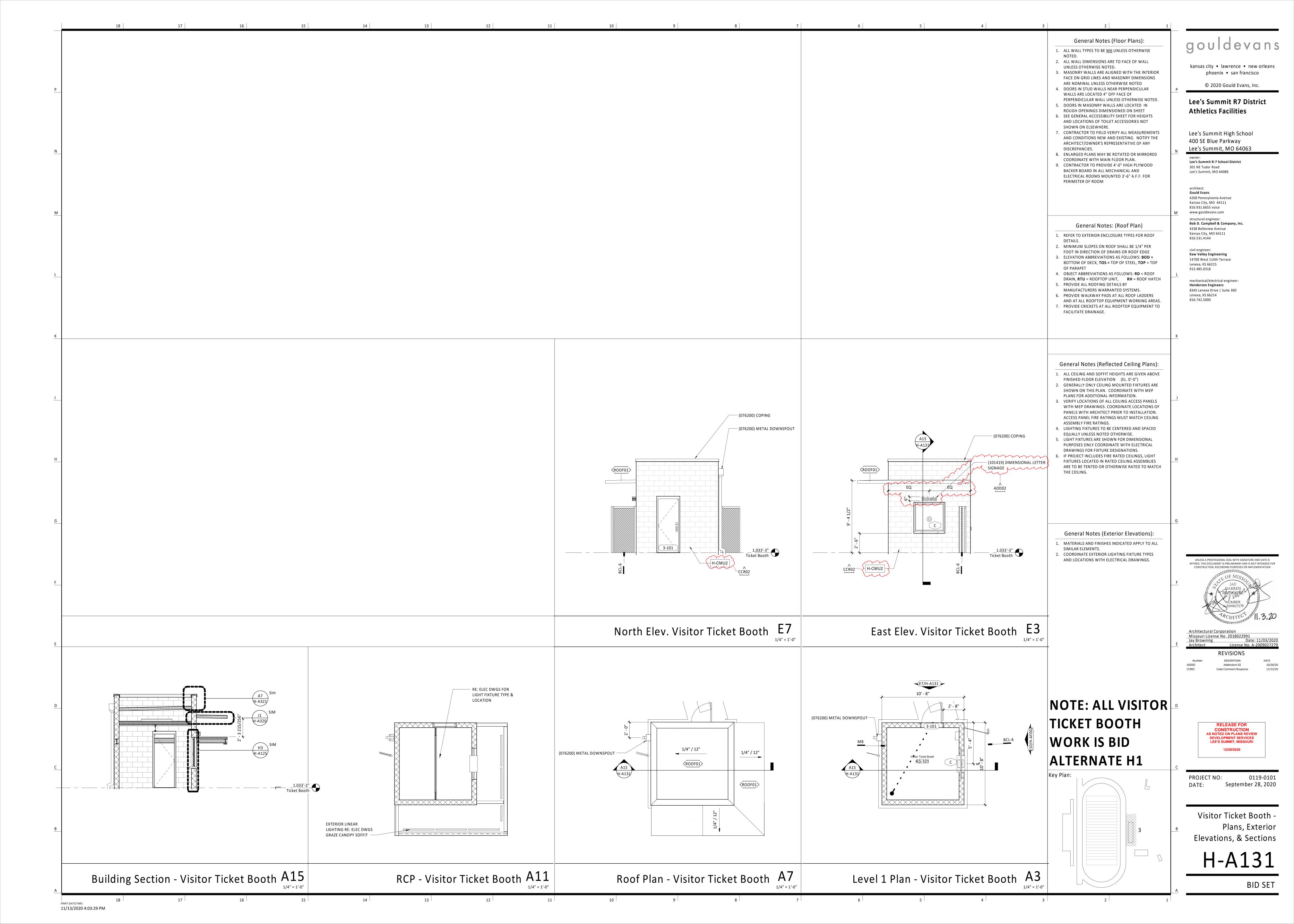
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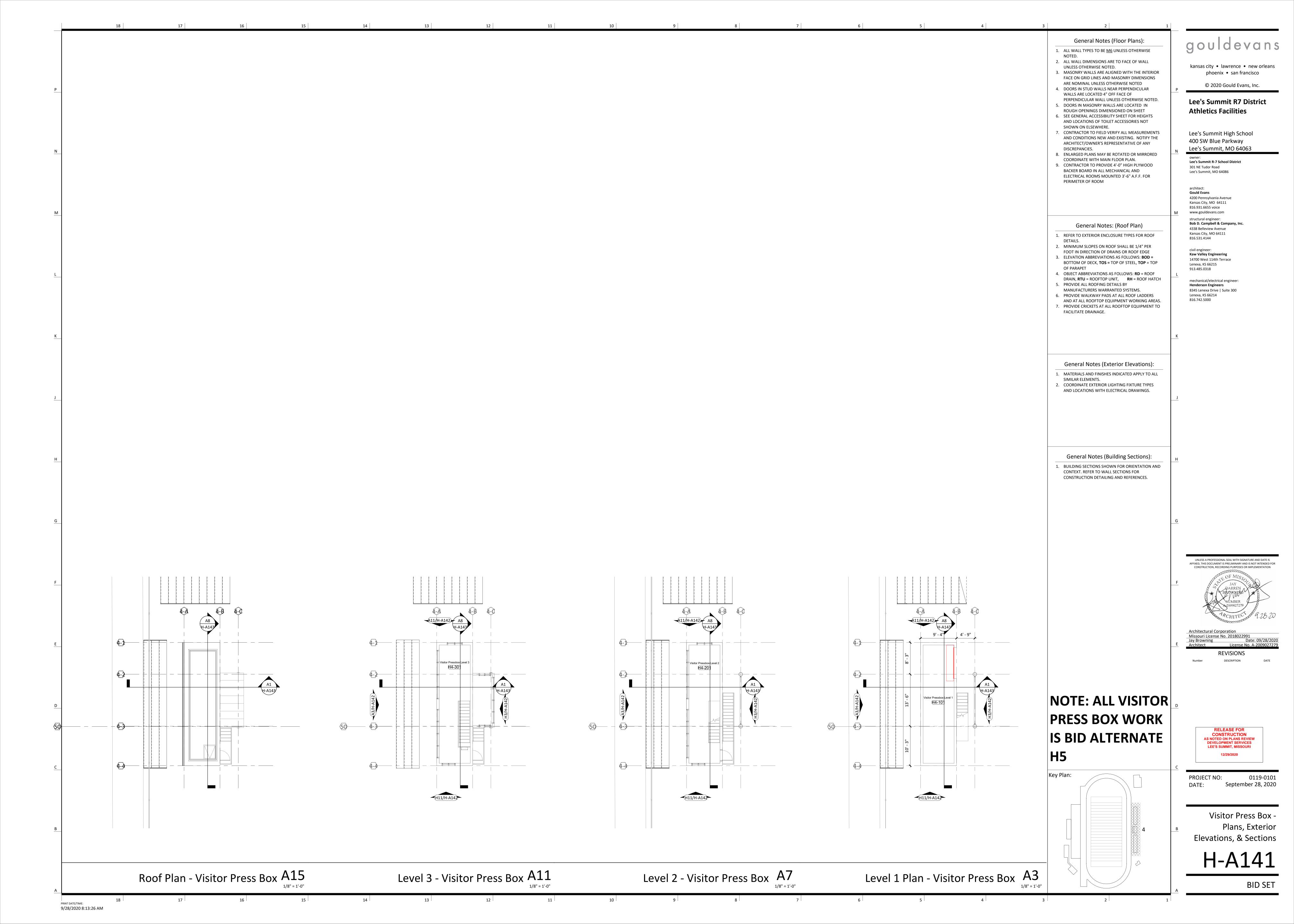
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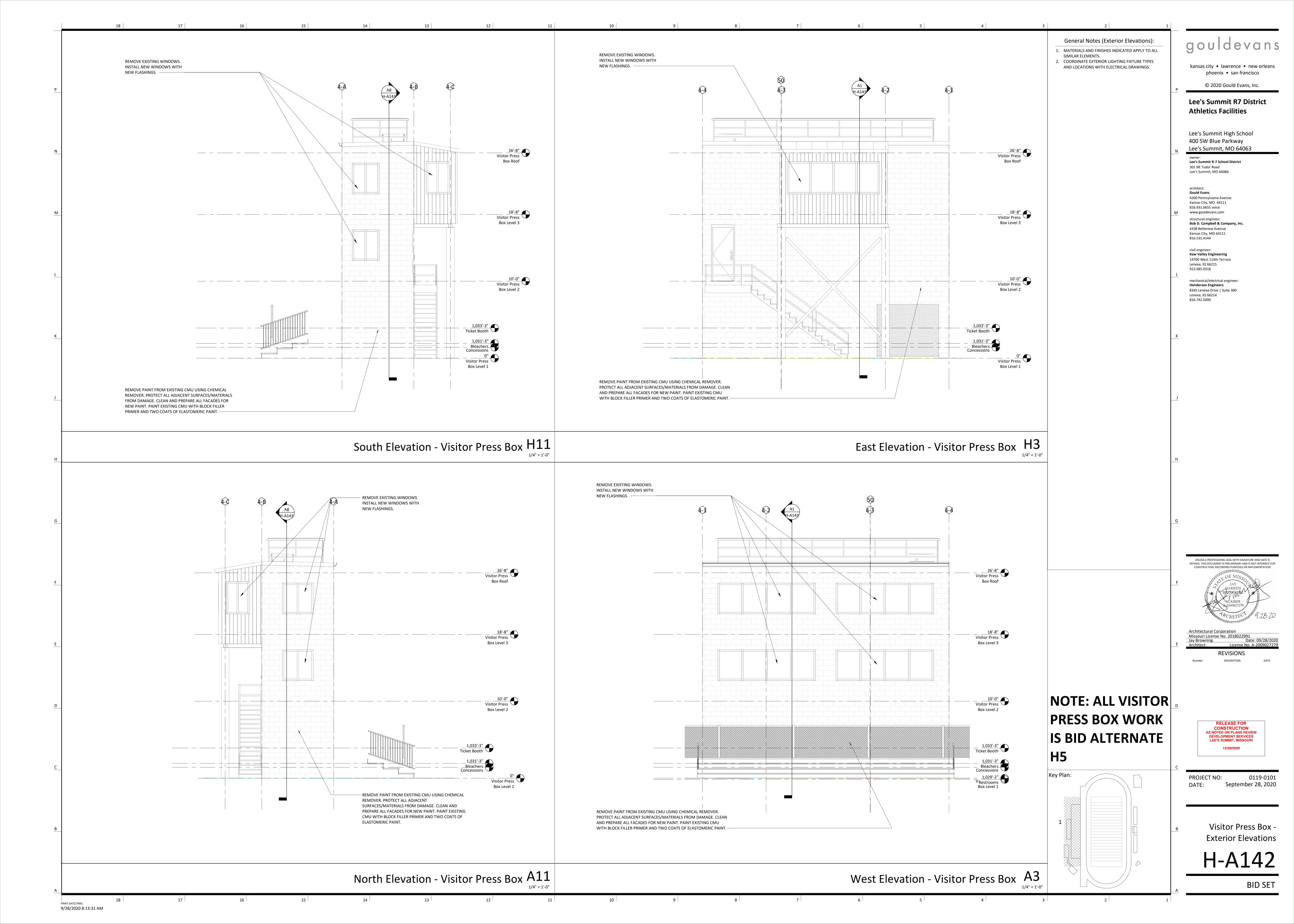
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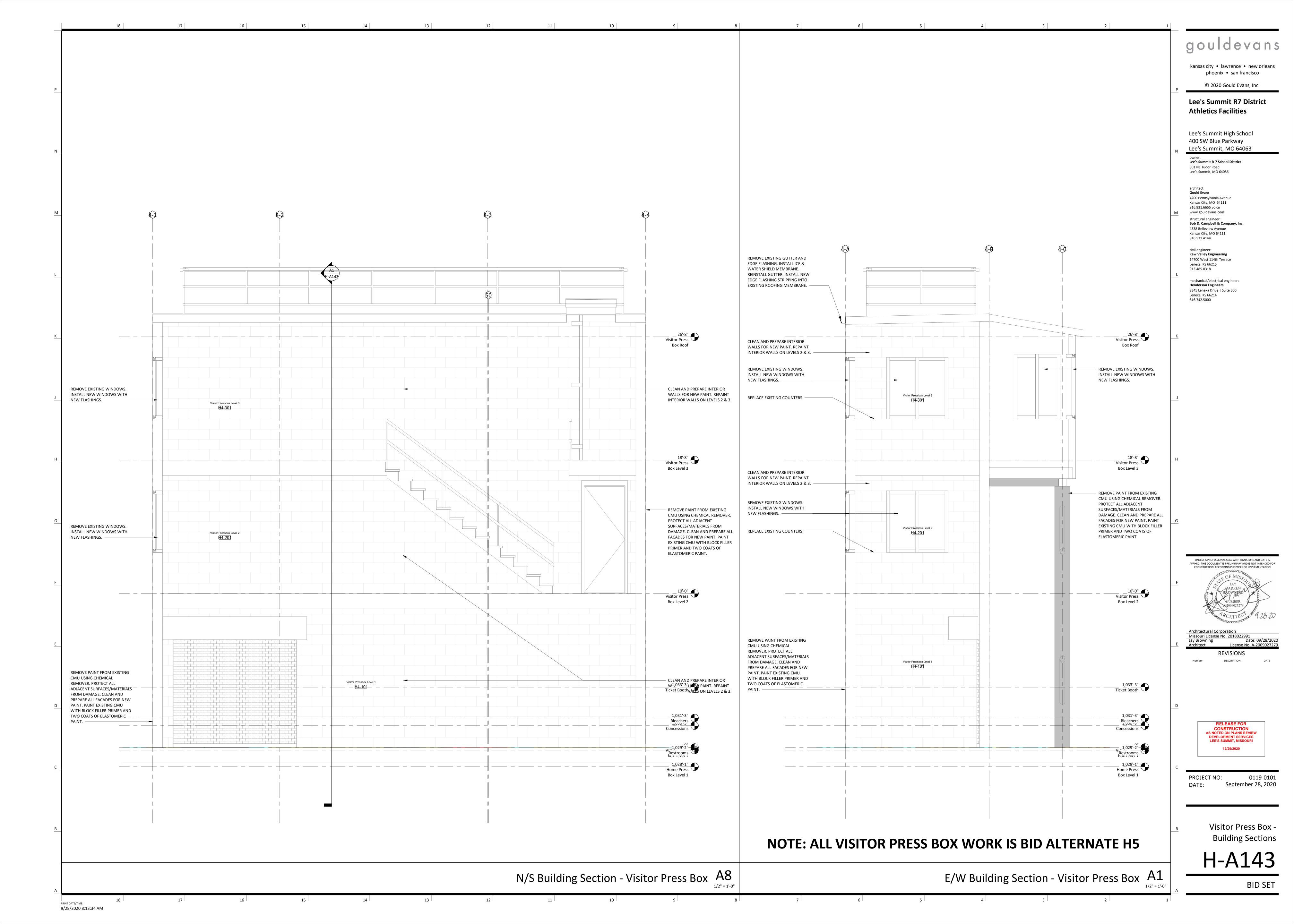
September 28, 2020

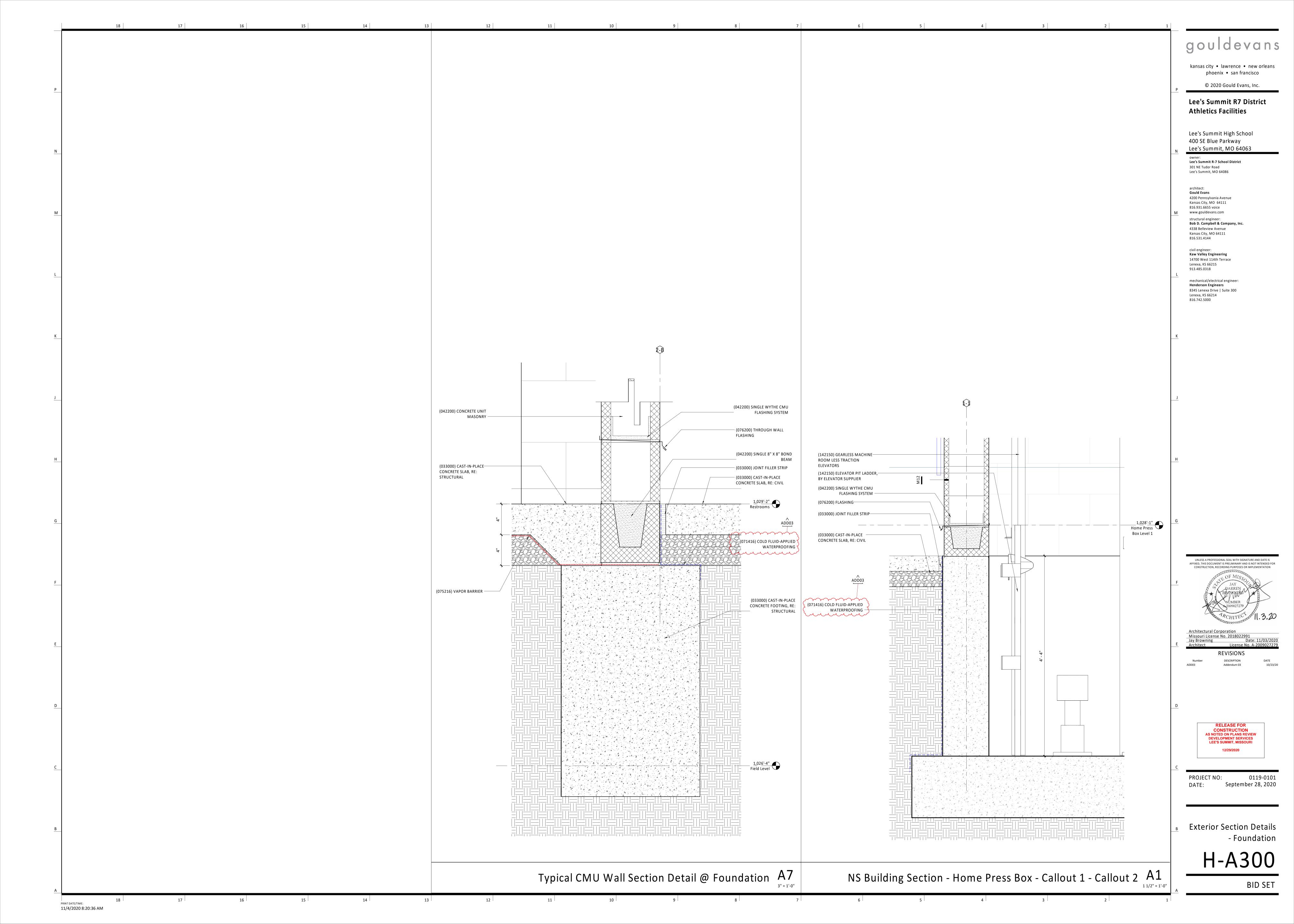
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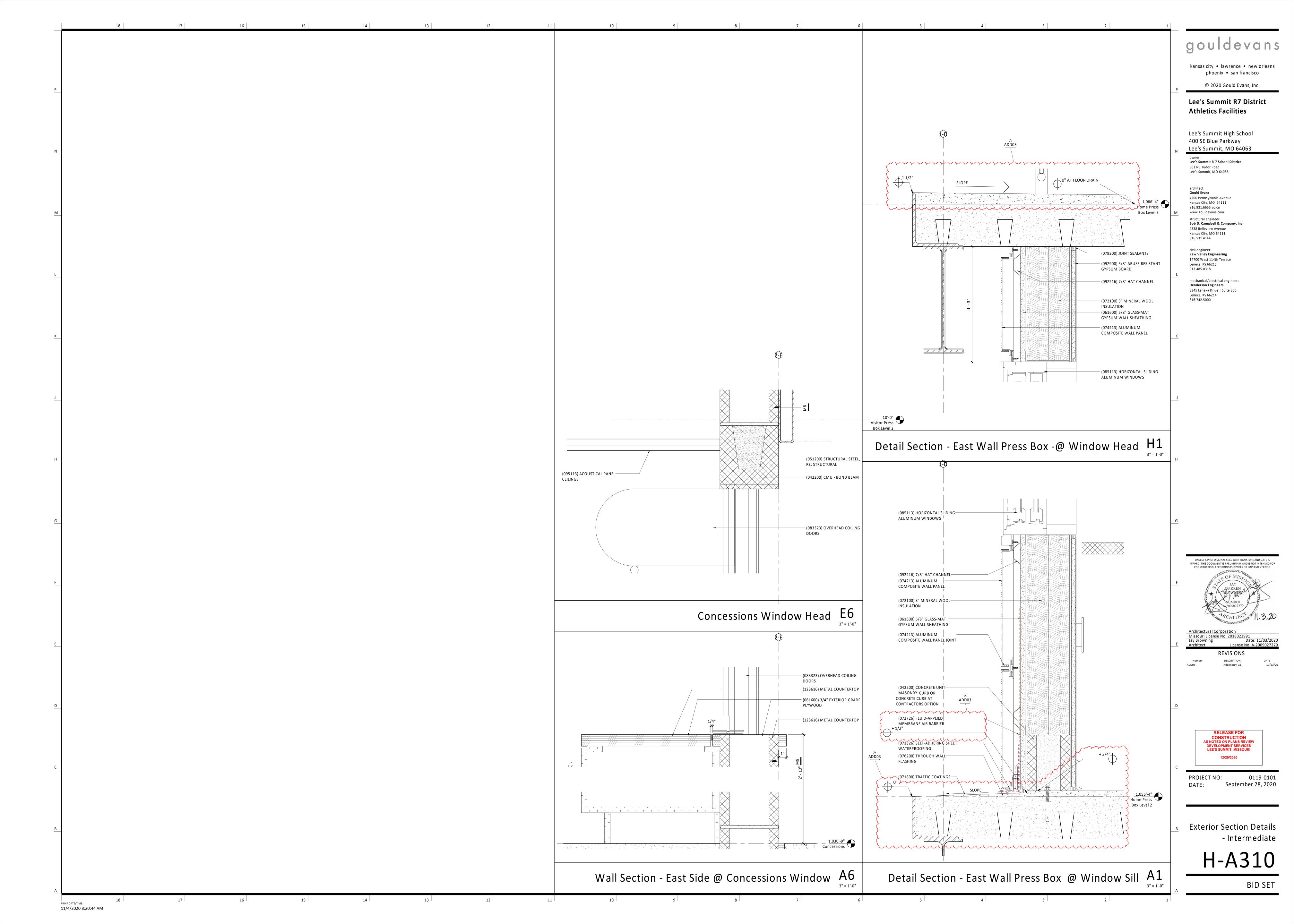


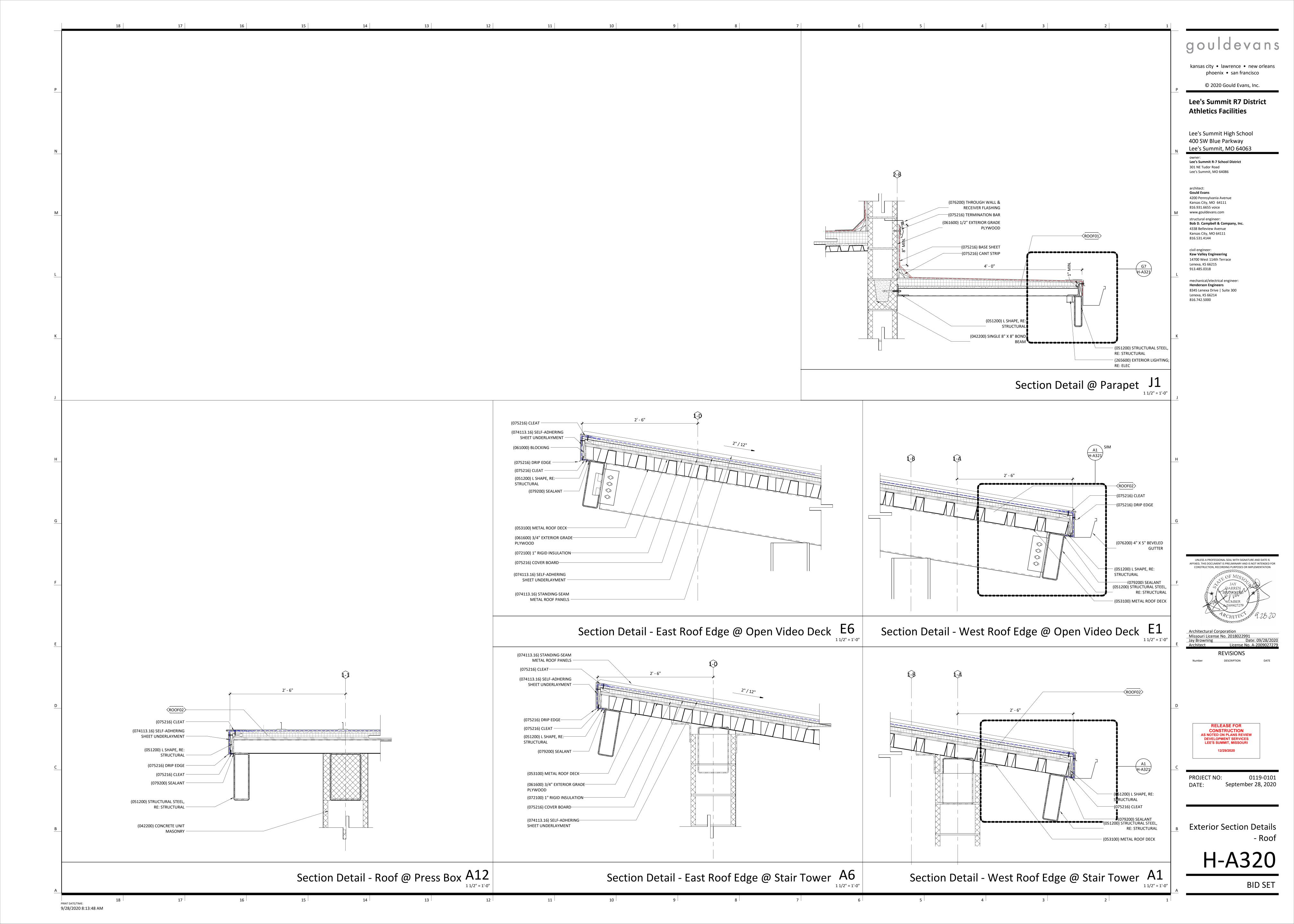


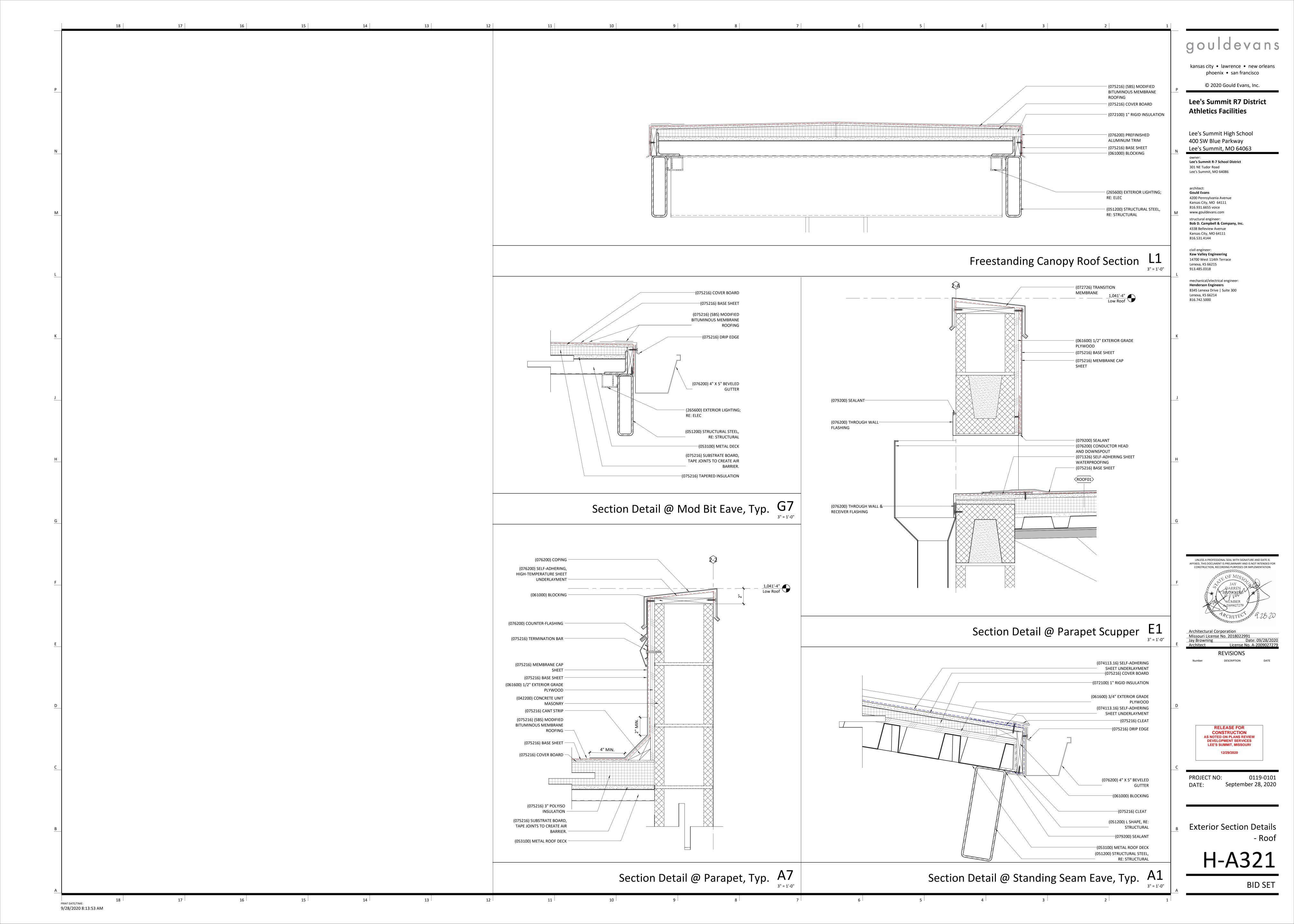


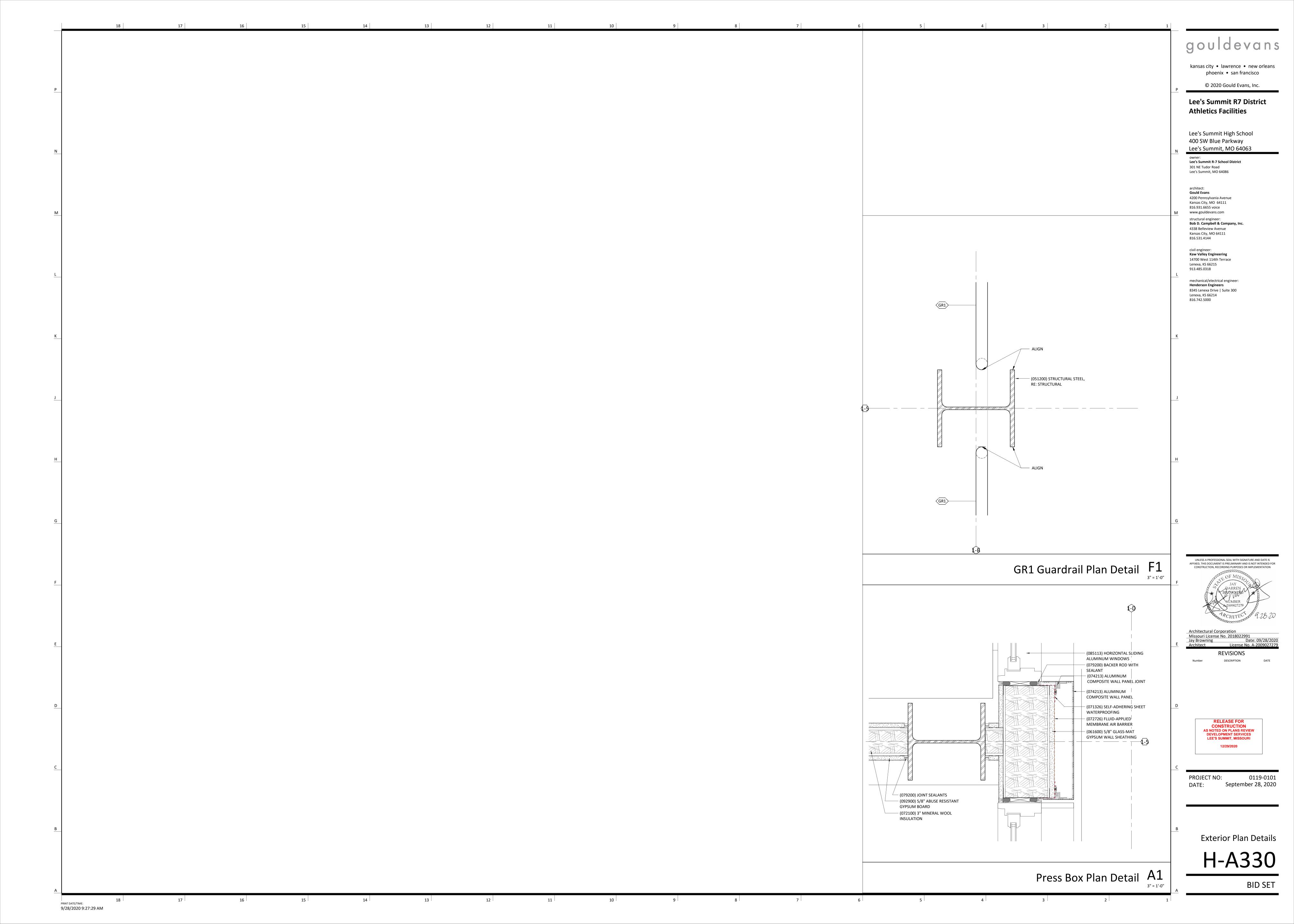


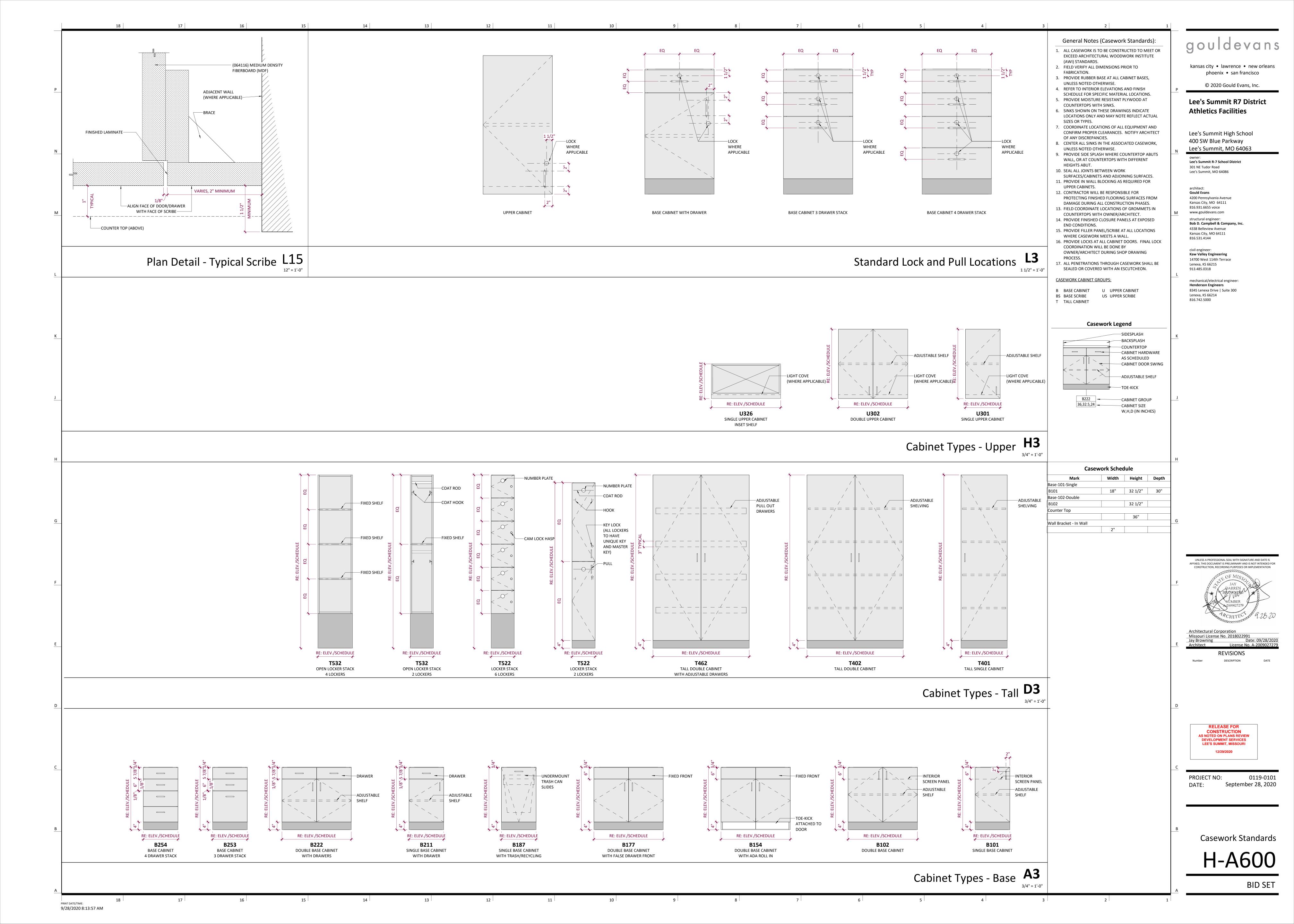


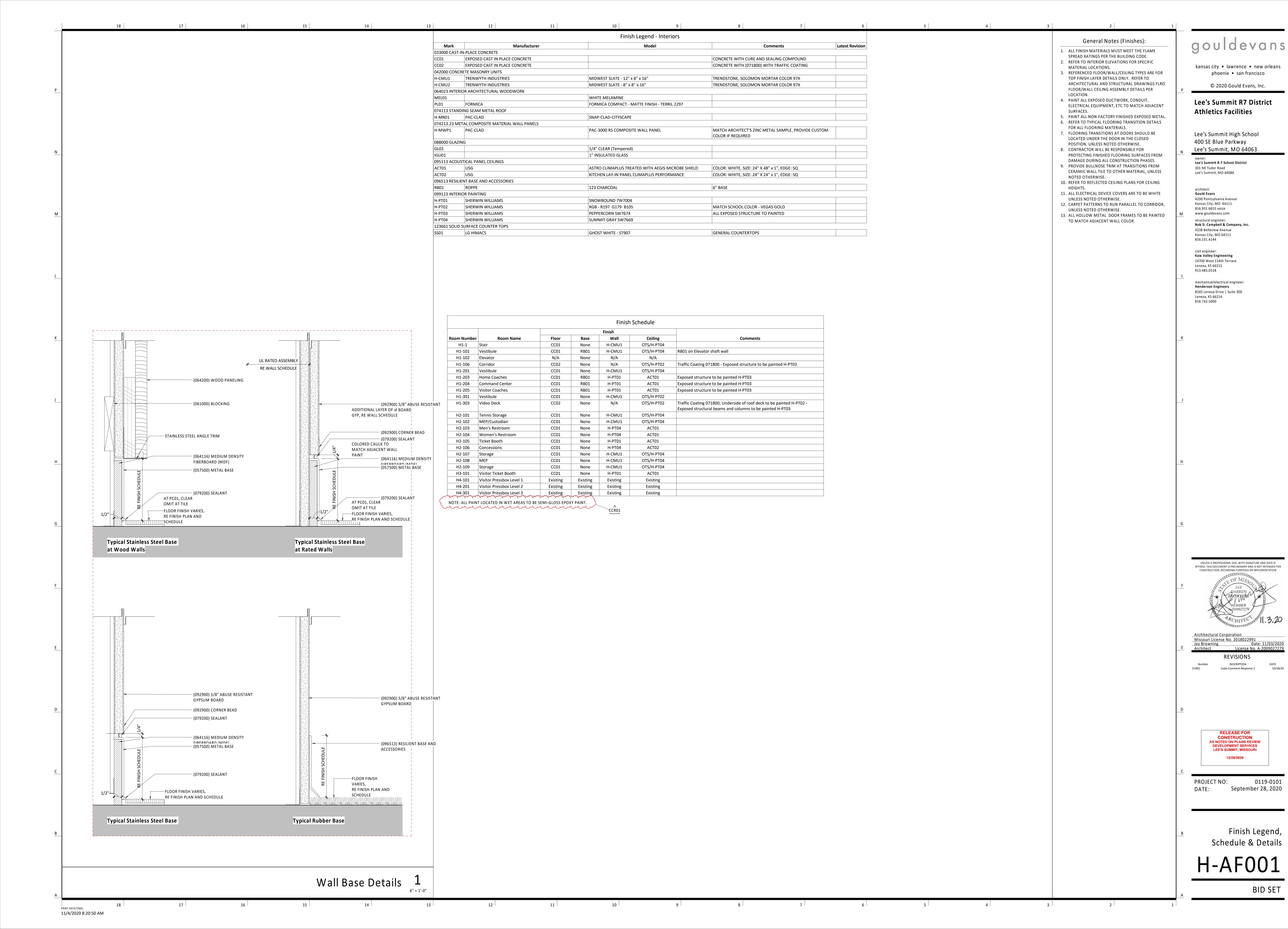


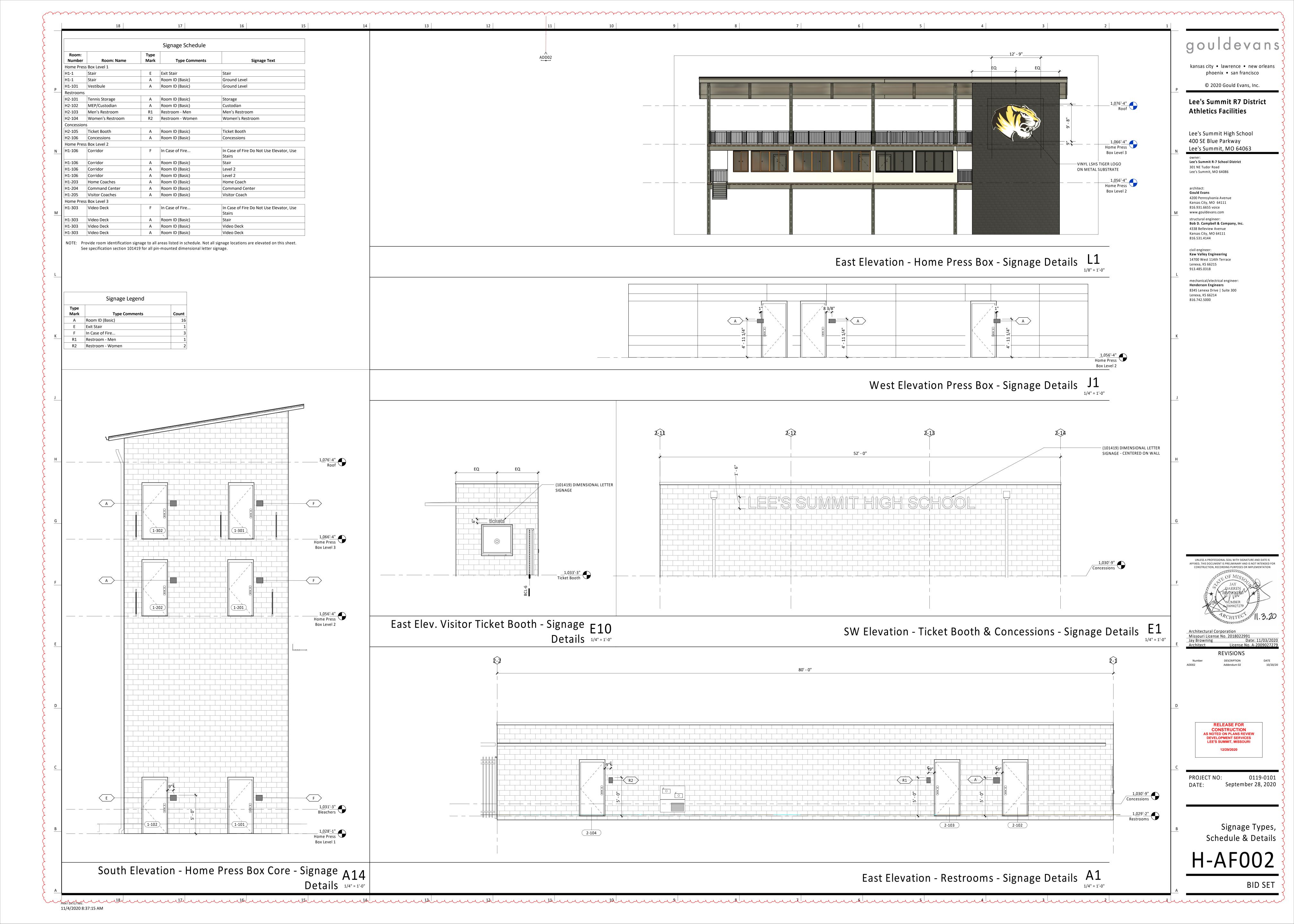


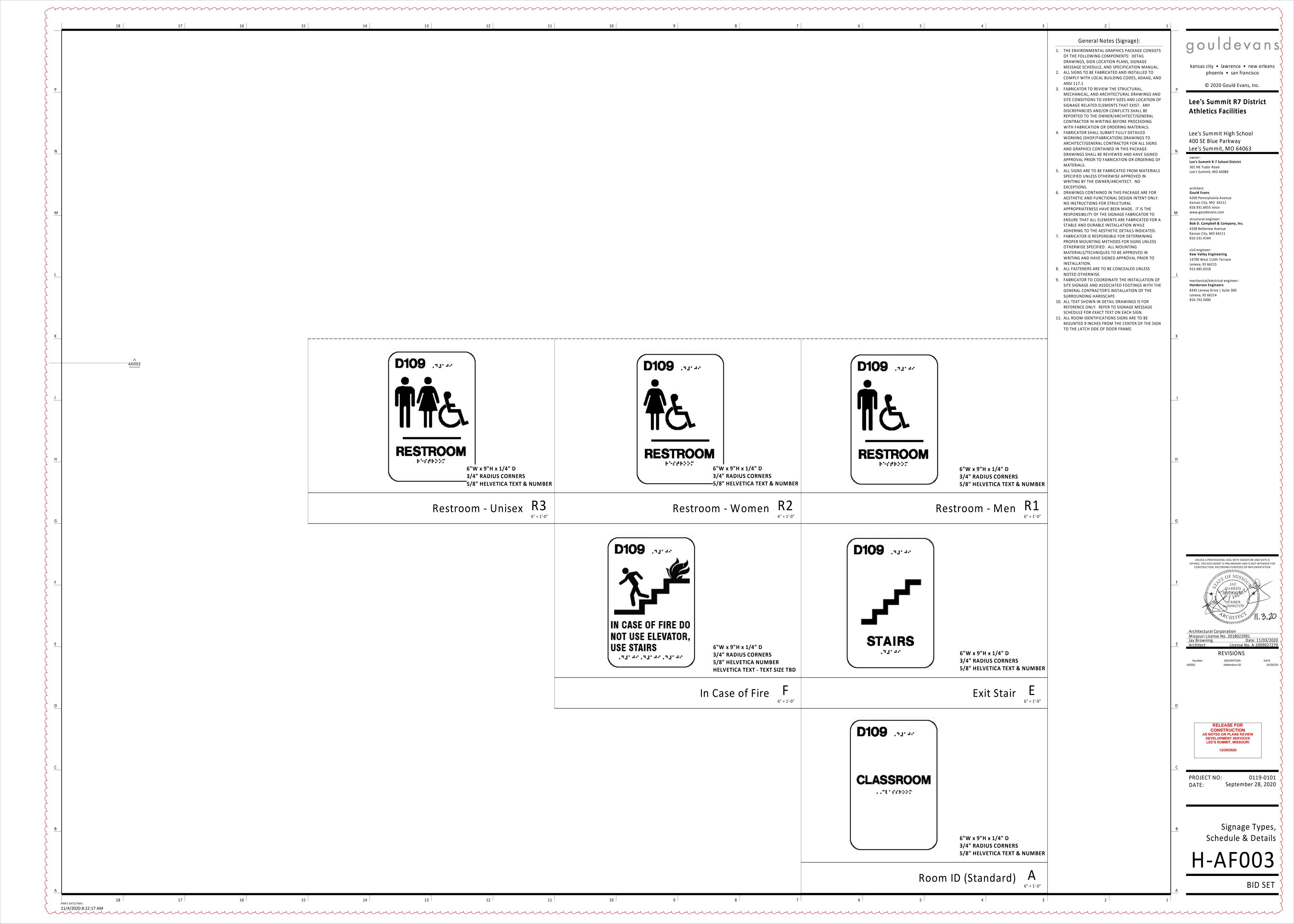












PLUMBING SYMBOLS THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V2.02 STANDARD MOUNTING HEIGHTS PIPING SYMBOLS PIPING LINETYPES OXYGEN OUTLET ----- CLINIC SERVICE SINKS (RIM) NITROUS OXIDE OUTLET -----SCW----- SOFTENED COLD WATER (SCW) HOSE BIBB (CENTERLINE) MEDICAL AIR OUTLET ICE MAKER OUTLET BOX (CENTER OF BOX) ——----HWR—---- DOMESTIC HOT WATER RECIRC. (HWR) NITROGEN OUTLET JANITOR'S SINK FAUCET FITTINGS (CENTERLINE) 42" MEDICAL VACUUM INLET ____ LAVATORY OR SINK STANDARD HEIGHT (RIM) FLOOR SINK (FS), SIZE & TYPE TRAP PRIMER LINE (T) ADA ACCESSIBLE (RIM) CHILD HEIGHT (RIM) FLOOR DRAIN (FD), SIZE & TYPE SOIL PIPING - ABOVE FLOOR (S) NON FREEZE WALL HYDRANT (AFG TO CENTERLINE) 18" ROOF DRAIN (RD), SIZE & TYPE SHOWER HEAD BALL VALVE WASTE PIPING - ABOVE FLOOR (W) MEN (CENTERLINE) WOMEN (CENTERLINE) — CONTROL VALVE SHOWER VALVE → SHUTOFF VALVE GREASE WASTE - ABOVE FLOOR (GW) STANDARD HEIGHT - MEN (CENTERLINE) STANDARD HEIGHT - WOMEN (CENTERLINE) — GW — GREASE WASTE - BELOW FLOOR (GW) — CHECK VALVE ADA ACCESSIBLE (CENTERLINE) 38" TO 48" ■ BALANCING VALVE WITH PRESSURE PORTS CGWV——CGWV——COMBINATION GREASE WASTE AND VENT (CGWV) SURGEON'S SCRUB-UP SINK (FRONT RIM) WATER METER TUB VALVE STANDARD HEIGHT (CENTERLINE) STRAINER STORM DRAIN - ABOVE FLOOR (ST) ADA ACCESSIBLE CENTER BETWEEN GRAB BAR AND TUB RIM STRAINER WITH BLOWOFF — ·ST· — STORM DRAIN - BELOW FLOOR (ST) STANDARD HEIGHT (RIM) RELIEF/SAFETY VALVE OST—OST—OVERFLOW STORM DRAIN - ABOVE FLOOR (OST) ADA ACCESSIBLE (RIM) CHILD HEIGHT (RIM) SOLENOID VALVE ── VBG ── VENT BELOW GRADE (VBG) WASHING MACHINE OUTLET BOX (RIM) 42" PRESSURE REDUCING VALVE ── VBF ── VENT BELOW FLOOR (VBF) WATER CLOSET GAS PRESSURE REGULATOR ID——— INDIRECT DRAIN (ID) STANDARD HEIGHT (RIM) ADA ACCESSIBLE (TOP OF SEAT) 17" TO 19" THERMOSTATIC MIXING VALVE CDH——— CONDENSATE DRAIN - HIGH EFFICIENCY RTU (CDH) CHILD HEIGHT (RIM) PIPE ANCHOR CD——— CONDENSATE DRAIN (CD) WATER COOLER OR DRINKING FOUNTAIN STANDARD HEIGHT (SPOUT) 41" EXPANSION JOINT ACD——— AUXILIARY CONDENSATE DRAIN (ACD) ADA ACCESSIBLE (SPOUT) CHILD HEIGHT (SPOUT) BACKFLOW PREVENTER SPD———SPD——— SUMP OR SEWAGE PUMP DISCHARGE (SPD) PRESSURE GAUGE ————G——— NATURAL GAS (G) THERMOMETER — — -G- — NATURAL GAS ON ROOF (G) INSTALL PLUMBING FIXTURES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE ARCHITECTURAL DRAWINGS OR ELSEWHERE IN THE ─────── UNION ———MPG——— MEDIUM PRESSURE NATURAL GAS (MPG) CONSTRUCTION DOCUMENTS. FINAL APPROVAL OF LOCATIONS BY ARCHITECT. MOUNTING HEIGHTS LISTED ABOVE, OR ELSEWHERE IN THE — — MPG — — MEDIUM PRESSURE NATURAL GAS ON ROOF (MPG) FLANGE CONNECTION CONSTRUCTION DOCUMENTS, ARE AFF, UNO. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL NPW—NON-POTABLE WATER (NPW) HOSE BIBB (HB) REQUIREMENTS. NON-FREEZING WALL HYDRANT (NW) LIQUEFIED PETROLEUM GAS (LPG) ANNOTATION MANUAL / AUTOMATIC AIR VENT OR VACUUM RELIEF -----WS------ WATER SERVICE (WS) 1 PLUMBING PLAN NOTE CALLOUT FP———FIRE PROTECTION (FP) PRESSURE / VACUUM SWITCH ———PD——— CONDENSATE PUMP DISCHARGE (PD) PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR CLEANOUT FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE VENT PIPING (V) OR EQUIPMENT SCHEDULES ACID WASTE - ABOVE FLOOR (AW) WALL CLEANOUT (WCO) EQUIPMENT DESIGNATION (OWNER FURNISHED, — AW — — ACID WASTE - BELOW FLOOR (AW) CONTRACTOR INSTALLED) FLOOR CLEANOUT (FCO) ACID VENT (AV) EXTERIOR CLEANOUT (ECO) MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR ——GWS——— GRAY WATER (GWS) FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE) ELBOW UP COMPRESSED AIR (CA) ELBOW DOWN CONNECTION POINT OF NEW WORK TO EXISTING -----MA------ MEDICAL AIR (MA) ───── TEE UP ———MV——— MEDICAL VACUUM (VE) DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL TEE DOWN NUMBER LOWER NUMBER INDICATES SHEET NUMBER HELIUM (HE) ELBOW UP WITH SHUT-OFF VALVE (SOV) INSTRUMENT AIR (IA) SECTION CUT DESIGNATION ELBOW DOWN WITH SHUT-OFF VALVE (SOV) INSTRUMENT VACUUM (IV) ABBREVIATIONS TEE UP WITH SHUT-OFF VALVE (SOV) N2—N2—NITROGEN (N2) TEE DOWN WITH SHUT OFF VALVE (SOV) ADA AMERICANS WITH MINIMUM N2O NITROUS OXIDE (N20) DISABILITIES ACT NORMALLY CLOSED WATER HAMMER ARRESTER (WHA) WITH PDI SIZES, NORMALLY OPEN ABOVE FINISHED FLOOR N/O (A, B, C, D, & E) O2—O2—OXYGEN (O2) NIC NOT IN CONTRACT ABOVE FINISHED GRADE OVERFLOW ROOF DRAIN AIR HANDLING UNIT ORD RECIRCULATION PUMP EVAC/WAGD (EV) PDI PLUMBING DRAINAGE ACCESS PANEL BAS INSTITUTE BUILDING AUTOMATION ——**∞** P-TRAP CO2——— CARBON DIOXIDE (CO2) PH/Ø PHASE SYSTEM PRV PRESSURE REDUCING BELOW FINISHED FLOOR ———— GAS COCK BELOW FINISHED GRADE PVC POLYVINYL CHLORIDE BOP BOTTOM OF PIPE TRAP PRIMER WEDICAL VACUUM EXHAUST (VE) BOTTOM OF STRUCTURE BOS RCP REINFORCED CONCRETE BRITISH THERMAL UNIT TRAP PRIMER WITH DISTRIBUTION UNIT ———DA——— DENTAL AIR (DA) RD ROOF DRAIN CONDENSATE PUMP CPVC CHLORINATED POLYVINYL RPM REVOLUTIONS PER ——DV—— DENTAL VACUUM (DV) CHLORIDE RTU ROOFTOP UNIT CU COPPER FILTERED WATER (FW1) DUCTILE IRON SF SQUARE FEET SUMP DOWN FW2—FW2—FILTERED WATER W/ SCALE INHIBITOR (FW2) SS STAINLESS STEEL DRAINAGE FIXTURE UNIT DFU DOWNSPOUT SANITARY SEWER, SOIL ——DA—— REVERSE OSMOSIS (RO) EXISTING TDH EMS ENERGY MANAGEMENT TOTAL DYNAMIC HEAD ROR—ROR—REVERSE OSMOSIS REMINERALIZATION (ROR) TO FLOOR ABOVE SYSTEM TFB TO FLOOR BELOW EXISTING TO REMAIN LINETYPE LEGEND ELECTRIC WATER COOLER TYP TYPICAL EWC FLOOR DRAIN UNDERWRITERS UL THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN LABORATORIES, INC. FROM FLOOR ABOVE COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS FFB FROM FLOOR BELOW UNLESS NOTED FINISHED FLOOR OTHERWISE EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK UPS UNINTERRUPTIBLE AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. FLOW LINE THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE POWER SUPPLY FULL LOAD AMPS VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT VITRIFIED CLAY PIPE FLR FLOOR INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, GPM GALLONS PER MINUTE VFD VARIABLE FREQUENCY WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR HEAD, HUB DRAIN VS VENT STACK RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION HERTZ VTR VENT THROUGH ROOF DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD INVERT ELEVATION ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING WITH IN WC INCHES OF WATER COLUMN W/ W/O WITHOUT LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, JUNCTION BOX J-BOX JUNCTION BOX WC WATER COLUMN KILOWATT WS WASTE STACK MAKE-UP AIR UNIT WSFU WATER SUPPLY FIXTURE MAX EXISTING -NEW MAXIMUM WVS WASTE VENT STACK MBH 1000 BTU PER HOUR DEMOLISH — — — — FUTURE MANHOLE

GENERAL NOTES:

- 1. PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE ARCHITECT REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS, REFER TO SPECIFICATIONS.
- 2. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY THE ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- 3. PROVIDE TO THE ARCHITECT A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS, REFER TO SPECIFICATIONS.
- 4. INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND ALSO MEET ALL REQUIREMENTS OF THE LANDLORD. OBTAIN A COPY OF THE LANDLORD'S REQUIREMENTS AND REVIEW PRIOR TO SUBMITTING BID.
- 5. PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
- 6. VERIFY LOCATION AND DEPTH OF UTILITIES AT POINTS OF CONNECTION BEFORE START OF PIPING INSTALLATION.
- 7. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
- 8. DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.
- 9. INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE.
- 10. VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED. 11. INSTALL EXPOSED PIPING, WHERE NECESSARY, IN FINISHED AREAS TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS

PERPENDICULAR TO WALLS.

CONTRACTORS.

12. INSTALL VALVES AND APPURTENANCES A MAXIMUM OF 24" ABOVE CEILING IN ACCESSIBLE LOCATION WITHIN 24" OF ACCESS DOORS OR ACCESSIBLE CEILING TILES. PROVIDE PIPE AND FITTINGS TO INSTALL VALVES AND APPURTENANCES AT REQUIRED HEIGHT AND WITHIN 24" OF ACCESS DOORS OR ACCESSIBLE CEILING TILES.

HIGH AS POSSIBLE. INSTALL PIPING PARALLEL AND / OR

- 13. INSTALL NO PLASTIC PIPE OF ANY KIND ABOVE SLAB INSIDE OR UNDER THE BUILDING. INSTALL NO PLASTIC PIPE IN THE CEILING RETURN AIR PLENUM.
- 14. COORDINATE ALL WORK WITH OTHER TRADES AND
- 15. COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTING, ETC. WHERE REQUIRED AND AS NOTED ON PLANS. COORDINATE SLEEVE INSTALLATIONS WITH THE ARCHITECT, STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR AND GENERAL
- 16. CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.

CONTRACTOR BEFORE CONCRETE IS INSTALLED.

- 17. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
- 18. PAINT ALL EXPOSED WATER PIPING USING RUST INHIBITOR PAINT. PAINT AND COLOR SHALL BE COORDINATED WITH THE ARCHITECT AND / OR OWNER.
- 19. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 10' MINIMUM CLEARANCE FROM ALL AIR INTAKES.
- MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT. 20. INSULATE PIPING ROUTED IN EXTERIOR BUILDING WALLS WITH

MINIMUM 2" BATT INSULATION TO PREVENT FREEZING.

- 21. PROVIDE "HEAVY-DUTY" NO-HUB COUPLINGS ON SANITARY PIPING 3" AND LARGER. SEE DIVISION 22 SPECIFICATION SECTION "SANITARY DRAINAGE AND VENT AND PIPING SPECIALTIES" FOR MORE INFORMATION.
- 22. PROVIDE TRANSITION ADAPTER COUPLINGS FOR CONNECTION OF PVC DWV TO CAST IRON SANITARY, WASTE AND VENT PIPE AT SLAB ON GRADE. SEE DIVISION 22 SPECIFICATION SECTION "SANITARY DRAINAGE AND VENT PIPING AND SPECIALTIES" FOR MORE INFORMATION.
- 23. FLOW CONTROL VALVES SHALL BE SIZE 1/2" AND SET AT 0.5 GPM UNLESS NOTED OTHERWISE.
- 24. WATER HAMMER ARRESTORS SHALL BE SIZE "A" UNLESS NOTED OTHERWISE.
- 25. PROVIDE VERTICAL LIFT SPRING LOADED CHECK VALVES IN HOT AND COLD WATER SUPPLIES FOR MOP SINK FAUCETS DOWNSTREAM OF SHUTOFF VALVES.
- 26. PROVIDE WALL PIPES AT PIPING PENETRATIONS OF ELEVATED WATERPROOF FLOOR SLABS, REFER TO SPECIFICATIONS.
- 27. PROVIDE SIZE AND LENGTH OF HOT WATER FIXTURE SUPPLY PIPE FROM CIRCULATED HOT WATER BRANCH OR MAIN TO TERMINATION OF HOT WATER FIXTURE SUPPLY PIPE AT EACH FIXTURE PER 2015 INTERNATIONAL ENERGY CONSERVATION CODE, TABLE C404.3.1. FOR 1/2" HOT WATER FIXTURE SUPPLY PIPE SIZE TO INDIVIDUAL LAVATORIES, PROVIDE MAXIMUM LENGTH OF TWO FEET. FOR 1/2" HOT WATER FIXTURE SUPPLY PIPE SIZE TO INDIVIDUAL SINKS, PROVIDE MAXIMUM LENGTH OF 43 FEET. FOR 3/4" HOT WATER FIXTURE SUPPLY PIPE SIZE TO INDIVIDUAL SINKS, PROVIDE MAXIMUM LENGTH OF 21 FEET

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Lee's Summit R7 District Athletics Facilities

Lee's Summit High School 400 SW Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District 301 NE Tudor Road Lee's Summit, MO 64086

Gould Evans 4200 Pennsylvania Avenue Kansas City, MO 64111 816.931.6655 voice www.gouldevans.com structural engineer: Bob D. Campbell & Company, Inc. 4338 Belleview Avenue Kansas City, MO 64111 816.531.4144

architect:

civil engineer: Kaw Valley Engineering 14700 West 114th Terrace Lenexa, KS 66215 913.485.0318

mechanical/electrical engineer: Henderson Engineers 8345 Lenexa Drive | Suite 300 Lenexa, KS 66214 816.742.5000

> **HENDERSON L** ENGINEERS 8345 LENEXA DRIVE, SUITE 300 LENEXA, KS 66214 TEL 913.742.5000 FAX 913.742.5001 WWW.HENDERSONENGINEERS.COM



MO. CORPORATE NO: E-556D

EXPIRES 12/31/2020

REVISIONS DESCRIPTION

RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

PROJECT NO:

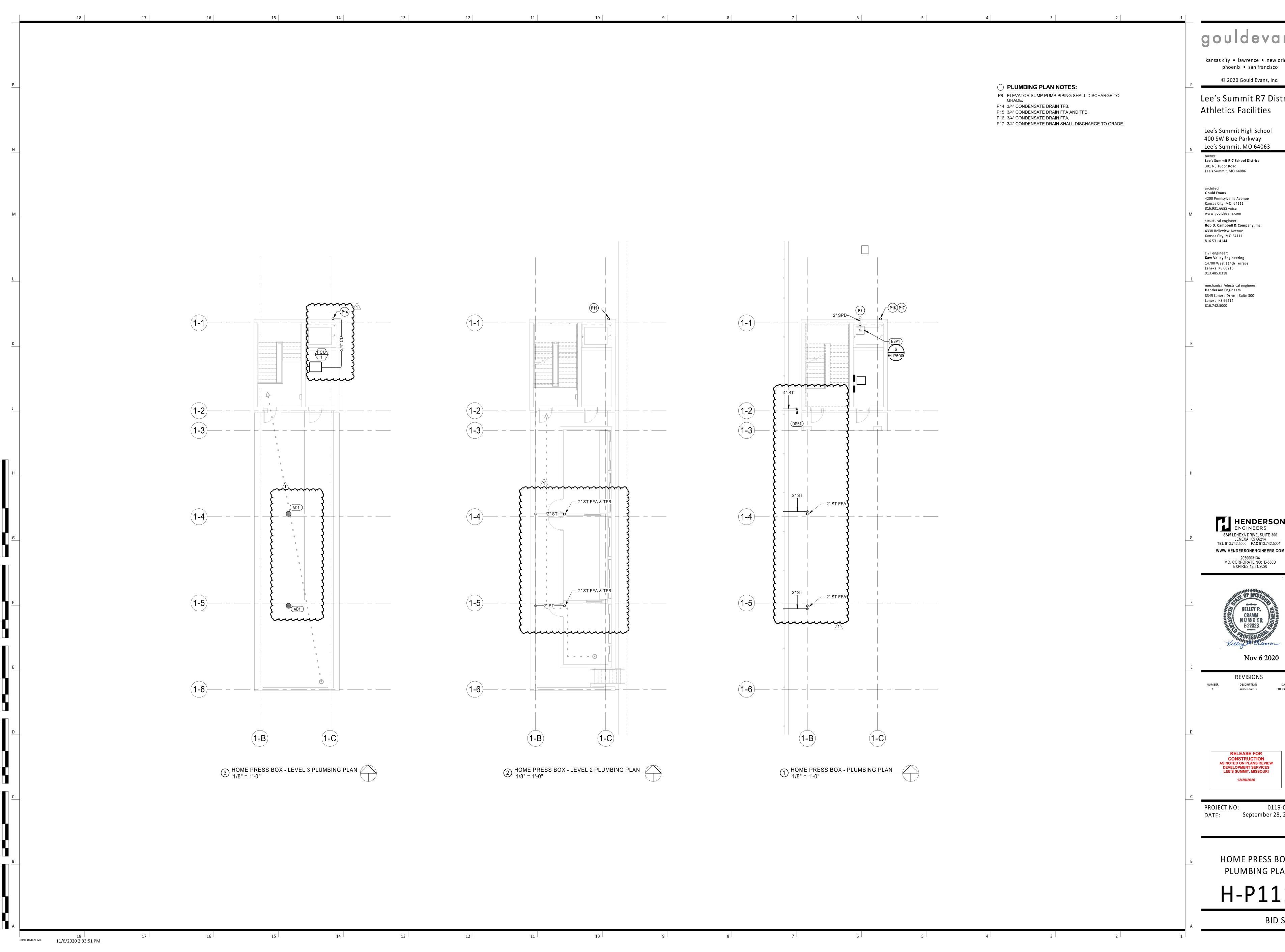
0119-0101 September 28, 2020

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NOTES AND LEGEND



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Lee's Summit R7 District **Athletics Facilities**

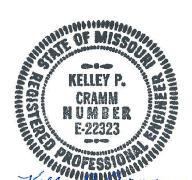
Lee's Summit High School 400 SW Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District

4200 Pennsylvania Avenue Bob D. Campbell & Company, Inc.

mechanical/electrical engineer: 8345 Lenexa Drive | Suite 300

8345 LENEXA DRIVE, SUITE 300 LENEXA, KS 66214 TEL 913.742.5000 FAX 913.742.5001

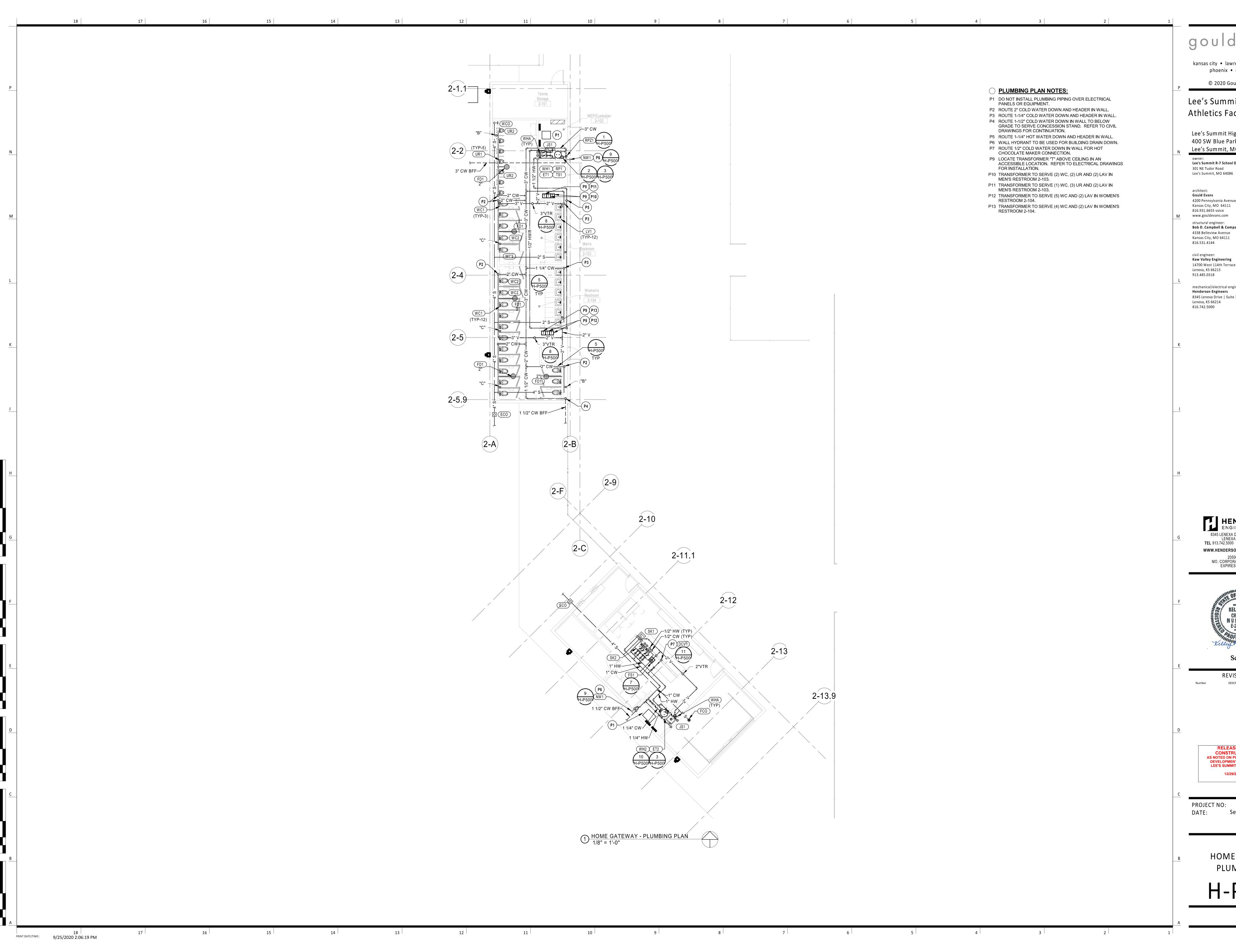


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Lee's Summit High School 400 SW Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District

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816.931.6655 voice www.gouldevans.com structural engineer: Bob D. Campbell & Company, Inc.

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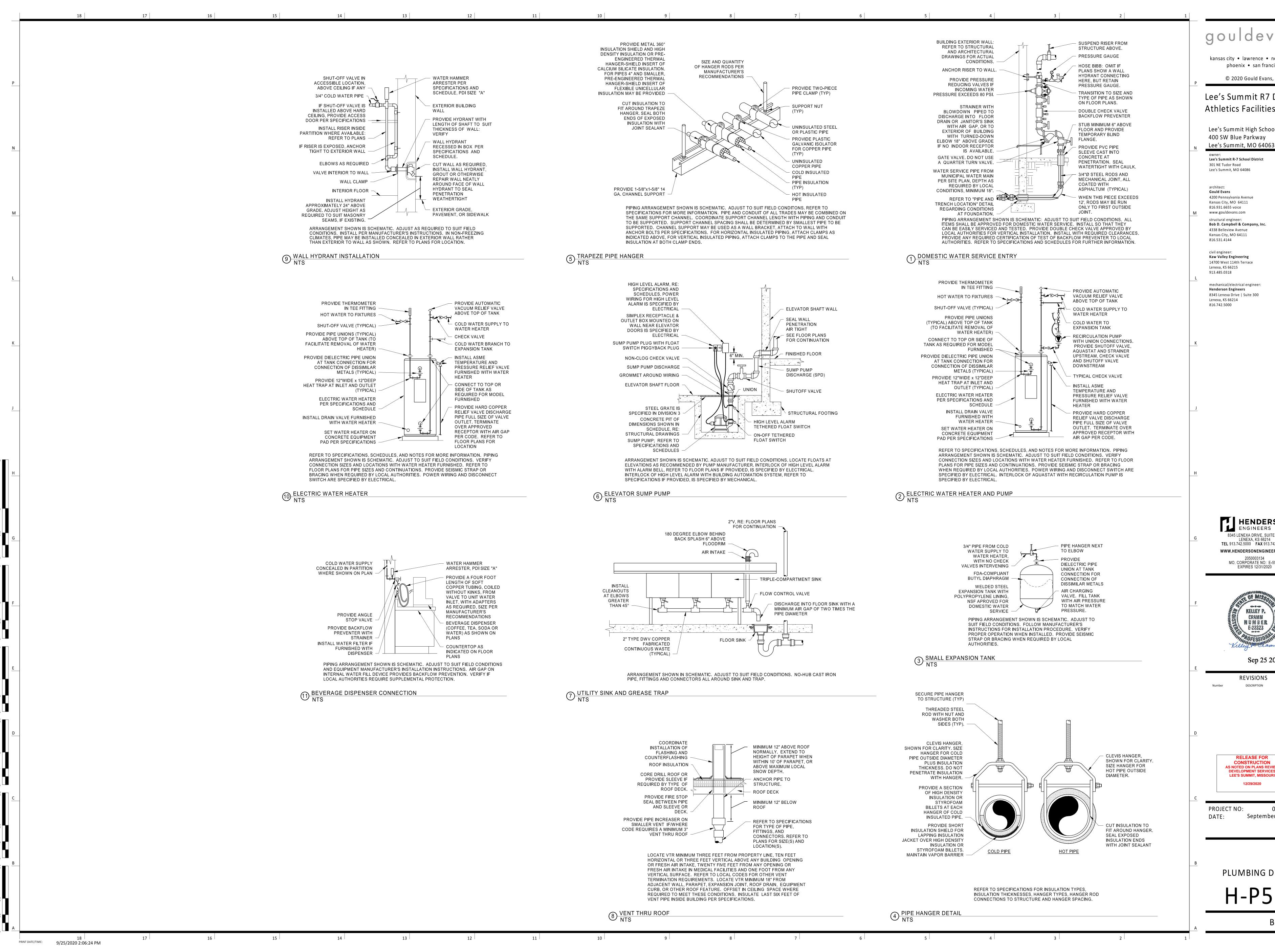


REVISIONS

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

0119-0101 September 28, 2020

HOME GATEWAY -PLUMBING PLAN



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Lee's Summit R7 District **Athletics Facilities**

Lee's Summit High School 400 SW Blue Parkway

Lee's Summit R-7 School District 301 NE Tudor Road

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MO. CORPORATE NO: E-556D

EXPIRES 12/31/2020



REVISIONS DESCRIPTION

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PROJECT NO:

0119-0101 September 28, 2020

PLUMBING DETAILS

ELECTRIC STORAGE WATER HEATER SCHEDULE ELECTRICAL DATA RECOVERY (GALLONS) VOLTS PHASE KW (GPH) WEIGHT (LBS) NOTES MANUFACTURER | MODEL# 480 3 15 66 480 3 18 74 A.O. SMITH #DRE-52 RESTROOM BUILDING 50 A.O. SMITH #DRE-52 CONCESSION BUILDING NOTES: A. 100°F TEMPERATURE RISE WITH 140°F OPERATING TEMPERATURE B. DUAL ELEMENT WIRED FOR SIMULTANEOUS OPERATION WITH UNBALANCED THREE PHASE CIRCUIT ELEVATOR SUMP PUMP SCHEDULE (3/4 HP AND SMALLER) MANUFACTURER MODEL LOCATION GPM HEAD (FT.) SIZE (IN.) ESP1 1411-538 ELEVATOR PIT A. PROVIDE WEIL #8245 FLOAT SWITCH WITH POWER CORD AND PIGGYBACK PLUG. B. PROVIDE WITH WEIL #8341K1015 HIGH LEVEL ALARM WITH AUXILIARY CONTACT, REFER TO SPECIFICATIONS. . PROVIDE 2" DISCHARGE PIPING, SHUTOFF VALVE AND ZOELLER #30-0030 FLAPPER NON-CLOG CHECK VALVE. . REFER TO DETAIL FOR MORE INSTALLATION INFORMATION. E. INSTALL IN 24"SQUARE x 24" DEEP SUMP PIT LOCATED IN ELEVATOR PIT, SEE ARCHITECTURAL DRAWINGS. PLUMBING EXPANSION TANK SCHEDULE ACCEPTANCE TANK SIZE VOLUME MANUFACTURER MODEL (GALLONS) (GALLONS) SERVICE WEIGHT (LBS) NOTES AMTROL ST-5 0.9 WH1 ET2 AMTROL ST-5 0.9 A. CHARGE TANK WITH AIR TO IDENTICAL PRESSURE AS STATIC DOMESTIC WATER PRESSURE. RECIRCULATION PUMP SCHEDULE MANUFACTURERMODELLOCATIONGPM(FT.)SIZEVOLTSPHHPNOTESBELL & GOSSETTNBF-9UMEP/CUSTODIAL173/4"12011/18A, B, C, D A. ALL LEAD FREE CAST BRONZE BOOSTER. B. PROVIDE WITH STRAINER UPSTREAM OF PUMP. . PROVIDE ADJUSTABLE, SURFACE MOUNTED AQUASTAT - HONEYWELL L6006C. D. SET AQUASTAT TO SHUT OFF RECIRCULATION PUMP AT WATER HEATER SET POINT AND ON AT 10°F BELOW SET POINT. FIXTURE BRANCH CONNECTION SCHEDULE COLD WATER HOT WATER WASTE FLOOR DRAIN JANITOR'S SINK LAVATORY/HAND SINK WATER CLOSET (FLUSH VALVE) 1 1/4" NOTE: PIPE SIZES SHOWN ARE MINIMUM.

12

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PLUMBING FIXTURE SCHEDULE

FIXTURES IN THIS SCHEDULE OR THEIR APPROVED EQUIVALENT ARE PROVIDED BY THE PLUMBING CONTRACTOR. SUBMIT SHOP DRAWINGS ON EACH OF THESE ITEMS. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION AND INSTALLATION REQUIREMENTS. VERIFY ROUGH-IN REQUIREMENTS WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE PLUMBING FIXTURE MOUNTING HEIGHTS.

PLUMBING FIXTURE SCHEDULE

AD1

AREA DRAIN: JAY R. SMITH # 2120L (-M), CAST IRON BODY, HEAVY-DUTY, 8"
DIAMETER, DUCTILE IRON GRATE, SEEPAGE PAN, AND MEMBRANE FLASHING
CLAMP. USE PUSH-ON JOINT OR CAULK OUTLET OF SIZE AS SHOWN ON PLANS.

BUAL CHECK VALVE WITH ATMOSPHERIC PORT: WAYTS # SD-3, MEETING ASSE
1022 AND NSF 18, 316 STAINLESS STEEL BODY, 3/8" INLET AND OUTLET,
ATMOSPHERIC PORT, AND WYE PATTERN STRAINER. PROVIDE 3/4" INDIRECT
DRAIN FROM ATMOSPHERIC RORT AND DISCHARGE TO BRAIN WITH AIR GAR

DSB1

DOWNSPOUT BOOT: JAY R. SMITH # 1785-24, 24" LONG CAST IRON BODY WITH
CAST IRON SECURING STRAPS, 4" x 3" RECTANGULAR INLET, 2" CLEANOUT

CAST IRON SECURING STRAPS, 4" x 3" RECTANGULAR INLET, 2" CLEANOUT PLUG, AND 4" DIAMETER OUTLET.

EXTERIOR CLEANOUT: JAY R. SMITH # 426 IL SERIES DUCO CAST IRON DOUBLE FLANGED HOUSING WITH HEAVY DUTY SECURED SCORIATED CAST IRON COVER WITH LIFTING DEVICE AND CLEANOUT BODY WITH ABS PLASTIC PLUG WITH GASKET SEAL AND PUSH-ON JOINT. REFER TO SPECIFICATIONS FOR INSTALLATION.

FLOOR CLEANOUT: JAY R. SMITH, CAST IRON BODY, FLASHING FLANGE WITH CLAMPING COLLAR, ABS PLUG, AND ADJUSTABLE, ROUND, SECURED, NICKEL BRONZE, TOP. # 4031L (-F-C), SCORIATED TOP FOR EXPOSED, FLUSH WITH FINISHED FLOOR, APPLICATION(S), # 4031L (-F-C-Y), STAINLESS STEEL MARKER FOR INSTALLATION IN CARPETED FLOOR AREA(S), # 4151 (-F-C), 1/8" RECESS FOR INSTALLATION IN TILED FLOOR AREA(S), # 4191 (-F-C), 1/2" RECESS FOR INSTALLATION IN TERRAZZO AND SIMILAR POURED FLOOR AREA(S). REFER TO SPECIFICATIONS FOR INSTALLATION.

FLOOR DRAIN: JAY R .SMITH # 2005L (-A), CAST IRON BODY AND CLAMPING

CLAMP COLLAR, WHITE ABS SEDIMENT BUCKET, AND 8-1/2" SQUARE NICKEL

THREE FOOT LONG REINFORCED HOSE WITH 3/4" CHROME COUPLING AND WALL

SET TEMPERATURE TO 110F FOR DUAL TEMPERATURE LAVATORIES AND HAND

SINKS, 100F FOR SINGLE TEMPERATURE LAVATORIES AND HAND SINKS AND

HOOK, # V-70 EXTRUDED VINYL BUMPER GUARD, AND # T-40 24" STAINLESS

COLLAR, ADJUSTABLE 6" ROUND NICKEL BRONZE STRAINER. USE PUSH-ON JOINT OF OUTLET SIZE AS SHOWN ON PLANS.

TRAP SEAL: PROVIDE TRAP SEAL PER SPECIFICATIONS FOR ACTUAL FLOOR DRAIN MODEL AND SIZE.

FS1

FLOOR SINK: JAY R. SMITH # 3101L (-12), 6" DEEP CAST IRON BODY WITH ACID RESISTING ENAMELED INTERIOR, ANCHOR FLANGE WITH SEEPAGE HOLES,

BRONZE RIM AND HALF GRATE. USE PUSH-ON JOINT OF OUTLET SIZE AS SHOWN ON PLANS.

JANITOR'S SINK: STERN-WILLIAMS # MTB-2424, 24" x 24" x 10" HIGH TERRAZZO BASIN WITH INTEGRAL STAINLESS STEEL DRAIN BODY.
FAUCET: CHICAGO FAUCET # 897-CP FAUCET WITH WALL BRACE, INTEGRAL VACUUM BREAKER, PAIL HOOK, AND 3/4" MALE HOSE THREADED OUTLET. SECURE FAUCET IN WALL WITH BACKBOARD.
TRIM: # BP TYPE 304, 20 GAUGE, STAINLESS STEEL WALL SURROUNDS, # T-35

UV1

WALL-MOUNTED LAVATORY: AMERICAN STANDARD # 0355.012 "LUCERNE" 20-1/2" X 18-1/4" RECTANGULAR WALL MOUNTED WHITE VITREOUS CHINA FIXTURE WITH FAUCET LEDGE AND FRONT OVERFLOW.

FAUCET: SLOAN "OPTIMA" # EBF-187-0.5 CENTERSET, VANDAL RESISTANT, 4" TRIM PLATE, BATTERY POWERED SENSOR OPERATED FAUCET WITH 0.5 GPM AERATOR.

TRIM: McGUIRE # 155A GRID DRAIN WITH TAILPIECE, McGUIRE # 2165CCLK LOOSE KEY COMPRESSION ANGLE STOP VALVES WITH RISERS AND ESCUTCHEONS, McGUIRE # B8872CF 1-1/4" 17 GAUGE CAST CHROME PLATED BRASS ADJUSTABLE P-TRAP AND WASTE ARM WITH CLEANOUT PLUG AND ESCUTCHEON, CONCEALED ARM CARRIER WITH STANCHIONS TO FLOOR. THERMOSTATIC MIXING VALVE: POWERS # LFG480, SOLID LEAD FREE BRASS OR BRONZE BODY, THERMOSTATIC WAX ELEMENT, CORROSION RESISTANT INTERNAL PARTS, AND INTEGRAL CHECKS, ASSE 1070 COMPLIANT, CAPABLE OF 1.6 GPM WITH A 20 PSI DIFFERENTIAL AND A MINIMUM FLOW RATE OF 0.25 GPM.

120F FOR SINKS. MOUNT BELOW THE PLUMBING FIXTURE.

NW1

NON-FREEZE WALL HYDRANT: PRIER PRODUCTS # C-634NBX1, SATIN NICKEL PLATED BRASS 1" MALE INLET BY 3/4" FEMALE INLET, 3/4" THREADED HOSE CONNECTION, LOOSE KEY HANDLE, HYDRANT LENGTH AS REQUIRED FOR INSTALLED WALL THICKNESS, ADJUSTABLE WALL CLAMP, BRASS BOX WITH SATIN NICKEL PLATED FINISH AND INTEGRAL ASSE 1052 DOUBLE CHECK VACUUM BREAKER.

RPZ1

REDUCED PRESSURE ZONE BACKFLOW PREVENTER: WATTS # 957-NRS,
MEETING ASSE 1013, 304 STAINLESS STEEL BODY AND SLEEVE, QUARTER TURN
TEST COCKS, RESILIENT SEATED NON-RISING STEM GATE VALVES AND WATTS
#77F-DI-FDA EPOXY COATED CAST IRON STRAINER AND # 957AG AIR GAP

HAND SINK (ADA ACCESSIBLE): HAND SINK ADA ACCESSIBLE): ELKAY # #CHS-1716, 16-3/4"" X 15-1/2" RÉCTANGULAR, WALL MOUNTED, 18 GAUGE TYPE 304 STAINLESS STEEL, BACKSPLASH AND SIDE BRACKETS AND WALL MOUNTING FAUCET: CHICAGO FAUCET # 631-218017AB 8" BACK MOUNT FAUCET WITH 7 1/4" -8 3/4" ADJUSTABLE "G" SUPPLY ARMS, VANDAL RESISTANT #317 WRISTBLADE HANDLES, GN2A GOOSENECK SPOUT, # E61VP, 5 GPM VANDAL RESISTANT LAMINAR FLOW AERATOR. QUARTER TURN CERAMIC CARTRIDGES. TRIM: McGUIRE # "PRODRAIN2" GRID DRAIN WITH 1-1/2" 17 GUAGE TAILPIECE, McGUIRE # LF2165CCLK LEAD FREE BRASS LOOSE KEY COMPRESSION ANGLE STOP VALVES WITH RISERS AND ESCUTCHEONS, McGUIRE # B8912CF 1-1/2" 17 GAUGE CAST CHROME PLATED BRASS ADJUSTABLE P-TRAP AND WASTE ARM WITH CLEANOUT PLUG AND ESCUTCHEON, WALL BRACKET, PROVIDE BACKBOARD AND SECURE FIXTURE TO IT, AND PLUMBEREX "PRO-EXTREME"# X-4222 INSULATION KIT FOR WATER AND WASTE PIPES. THERMOSTATIC MIXING VALVE: POWERS # LFG480, SOLID LEAD FREE BRASS OR BRONZE BODY, THERMOSTATIC WAX ELEMENT, CORROSION RESISTANT INTERNAL PARTS, AND INTEGRAL CHECKS, ASSE 1070 COMPLIANT, CAPABLE OF 1.6 GPM WITH A 20 PSI DIFFERENTIAL AND A MINIMUM FLOW RATE OF 0.25 GPM. SET TEMPERATURE TO 110F FOR DUAL TEMPERATURE LAVATORIES AND HAND SINKS, 100F FOR SINGLE TEMPERATURE LAVATORIES AND HAND SINKS AND

SINK: ELKAY # WNSF-8345-LR, THREE 15" x 24" x 14" DEEP COMPARTMENTS, LEFT AND RIGHT DRAINBOARDS, 8" HIGH BACKSPLASH, 14 GAUGE TYPE 304 STAINLESS STEEL, AND 16 GAUGE STAINLESS STEEL ADJUSTABLE LEGS. FAUCET: CHICAGO FAUCET #445-206578AB 3 3/8" BACK MOUNT FAUCET WITH 3" — 3 3/8" ADJUSTABLE "R" ARMS WITH INTEGRAL SHUT OFF, VANDAL RESISTANT # 369 LEVER HANDLES, L9 SWING SPOUT, # E1 FULL FLOW OUTLET, QUARTER TURN CERAMIC CARTRIDGES.
TRIM: (3) ELKAY # LK24RT GRID STRAINERS WITH LEVER HANDLE AND 1-1/2" TAILPIECE, AND 1-1/2" HARD COPPER TYPE "DWV" FABRICATED INDIRECT WASTE

T-1

TRANSFORMER: SLOAN # EL-154 120 VAC / 24 VAC, 50 VA. REFER TO ELECTRICAL DRAWINGS FOR WIRING OF TRANSFORMER.

TS1

TIME SWITCH: INTERMATIC #ET1705CSPST, 7 DAY, ONE CIRCUIT-SINGLE POLE SINGLE THROW, ELECTRONIC TIME SWITCH OR EQUAL BY TORK. TIME SWITCH SHALL BE MOTOR RATED (1 H.P. @ 120 VOLT, SINGLE PHASE), MINIMUM OF 20 SET POINTS (14 ON/OFF CYCLES) AND BATTERY BACK UP. COORDINATE WITH DIVISION 16 FOR INSTALLATION AND INTERLOCK OF TIME SWITCH IN SERIES

WITH THE AQUASTAT AND RECIRCULATION PUMP.

LINE ROUTED TO FLOOR SINK.

120F FOR SINKS. MOUNT BELOW THE PLUMBING FIXTURE.

URINAL: AMERICAN STANDARD # 6561.017 "TRIMBROOK" WHITE VITREOUS CHINA FIXTURE WITH FLUSHING RIM, 3/4" TOP SPUD, AND SIPHON FLUSH ACTION.

VALVE- SLOAN "OPTIMA – SLOAN MODEL" # 186 ES-S TMO 1.0 GALLON PER FLUSH, EXPOSED, CHROME-PLATED, HARD WIRED, WALL MOUNTED SENSOR OPERATED, DIAPHRAGM TYPE, FLUSH VALVE LESS TRANSFORMER WITH CHLORAMINE RESISTANT DIAPHRAGM AND PROTECTED ORIFICE, MECHANICAL OVERRIDE BUTTON, ESCUTCHEON, INTEGRAL SCREWDRIVER STOP, VACUUM BREAKER, 3/4" FLUSH TUBE, AND SWEAT ADAPTER KIT.

TRIM: SUITABLE CARRIER WITH STANCHIONS TO FLOOR.

UR1

UR1NAL (ADA ACCESSIBLE): AMERICAN STANDARD # 6561.017 "TRIMBROOK"
WHITE VITREOUS CHINA FIXTURE WITH FLUSHING RIM, 3/4" TOP SPUD, AND SIPHON FLUSH ACTION.

VALVE- SLOAN "OPTIMA – SLOAN MODEL" # 186 ES-S TMO 1.0 GALLON PER FLUSH, EXPOSED, CHROME-PLATED, HARD WIRED, WALL MOUNTED SENSOR OPERATED, DIAPHRAGM TYPE, FLUSH VALVE LESS TRANSFORMER WITH CHLORAMINE RESISTANT DIAPHRAGM AND PROTECTED ORIFICE, MECHANICAL OVERRIDE BUTTON, ESCUTCHEON, INTEGRAL SCREWDRIVER STOP, VACUUM BREAKER, 3/4" FLUSH TUBE, AND SWEAT ADAPTER KIT.

TRIM: SUITABLE CARRIER WITH STANCHIONS TO FLOOR.

C1 WALL-MOUNTED WATER CLOSET: AMERICAN STANDARD # 3351.101 "AFWALL MILLENNIUM FLOWISE" WHITE VITREOUS CHINA FIXTURE WITH ELONGATED UNIVERSAL BOWL AND DIRECT-FED SIPHON JET ACTION.

VALVE- SLOAN "OPTIMA – SLOAN MODEL" # 111-1.6 ES-S TMO 1.6 GALLON PER FLUSH, EXPOSED, CHROME-PLATED, HARD WIRED, SENSOR OPERATED, DIAPHRAGM TYPE, FLUSH VALVE LESS TRANSFORMER WITH CHLORAMINE RESISTANT DIAPHRAGM AND PROTECTED ORIFICE, MANUAL OVERRIDE, ESCUTCHEON, INTEGRAL SCREWDRIVER STOP, VACUUM BREAKER, AND SWEAT ADAPTER KIT.

TRIM- CHURCH # 9500SSCT WHITE OPEN-FRONT CONTOURED, SOLID PLASTIC, HEAVY DUTY, SEAT LESS COVER WITH SELF-SUSTAINING CHECK HINGES AND STAINLESS STEEL BOLTS. PROVIDE SUITABLE FIXTURE CARRIER.

WALL-MOUNTED WATER CLOSET (ADA ACCESSIBLE): AMERICAN STANDARD #
3351.101 "AFWALL MILLENNIUM FLOWISE WHITE VITREOUS CHINA FIXTURE WITH
ELONGATED UNIVERSAL BOWL AND DIRECT-FED SIPHON JET ACTION.
VALVE- SLOAN "OPTIMA – SLOAN MODEL" # 111-1.6 ES-S TMO 1.6 GALLON PER
FLUSH, EXPOSED, CHROME-PLATED, HARD WIRED, SENSOR OPERATED,
DIAPHRAGM TYPE, FLUSH VALVE LESS TRANSFORMER WITH CHLORAMINE
RESISTANT DIAPHRAGM AND PROTECTED ORIFICE, MANUAL OVERRIDE,
ESCUTCHEON, INTEGRAL SCREWDRIVER STOP, VACUUM BREAKER, AND SWEAT
ADAPTER KIT. INSTALL FLUSH VALVE HANDLE ON THE WIDE SIDE OF THE STALL.
TRIM- CHURCH # 9500SSCT WHITE OPEN-FRONT CONTOURED, SOLID PLASTIC,
HEAVY DUTY, SEAT LESS COVER WITH SELF-SUSTAINING CHECK HINGES AND
STAINLESS STEEL BOLTS. PROVIDE SUITABLE FIXTURE CARRIER.

CO WALL CLEANOUT: SIOUX CHIEF #873 SERIES, BRASS COUNTERSUNK PLUG, 20 GAUGE STAINLESS STEEL COVER AND SCREW. CLEANOUT TEE TO BE PROVIDED SEPARATELY. REFER TO SPECIFICATIONS FOR INSTALLATION.

HA WATER HAMMER ARRESTER: PRECISION PLUMBING PRODUCTS, HARD DRAWN COPPER BODY WITH WROUGHT COPPER FITTINGS, PISTON TYPE WITH LUBRICATED EPDM "O" RING SEALS, MEETING ASSE 1010 OR PDI WH-201. PROVIDE PDI SIZES "A" THROUGH "F" AS SHOWN ON PLANS. PROVIDE SIZE "A"

UNLESS SHOWN OTHERWISE ON THE PLANS.

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EXPIRES 12/31/2020

Nov 6 2020

REVISIONS

DESCRIPTION

DESCRIPTION DATE
Addendum 3 10.23.20

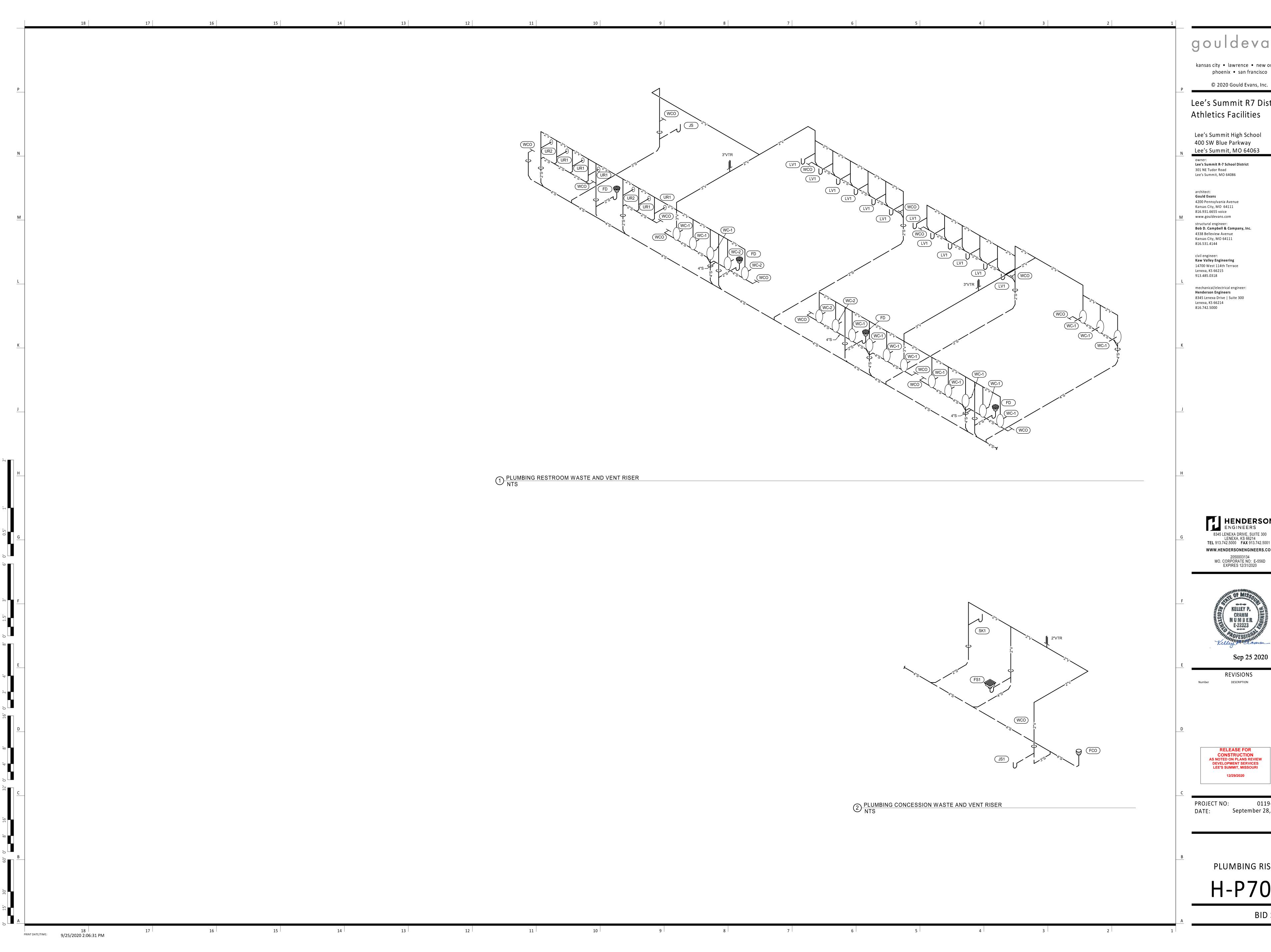
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CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/29/2020

PROJECT NO:

September 28, 2020

PLUMBING SCHEDULES

H-P600



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REVISIONS

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

September 28, 2020

PLUMBING RISERS

MECHANICAL SYMBOLS THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V2.06 STANDARD MOUNTING HEIGHT HVAC DUCTWORK AND ACCESSORIES PIPING SYMBOLS PIPING LINETYPES _____ DIRECTION OF FLOW THERMOSTATS (USER ADJUSTABLE)(TOP OF DEVICE) ——CD—— CONDENSATE DRAIN (CD) LINEAR SLOT DIFFUSER CONTROLS (TOP OF DEVICE) CONTROL VALVE ——ACD—— AUXILIARY CONDENSATE DRAIN (ACD) ______ THREE-WAY CONTROL VALVE INSULATED FLEXIBLE DUCT (MAX. 5'-0" LONG) ——NPW——— NON-POTABLE WATER (NPW) INSTALL DEVICES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE ——— SHUTOFF VALVE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE OR ———G——— NATURAL GAS (G) BRANCH DUCT WITH 45° RECTANGLE-ROUND ELSEWHERE IN THE CONSTRUCTION DOCUMENTS ARE AFF OR AFG TO _____ CHECK VALVE BRANCH FITTING AND MANUAL VOLUME DAMPER BOTTOM OF DEVICE UNO. ALL DEVICES SHALL BE INSTALLED IN — G— MATURAL GAS ON ROOF (G) COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS. BALANCING VALVE WITH PRESSURE PORTS ——MPG—— MEDIUM PRESSURE NATURAL GAS (MPG) **ELBOW WITH TURNING VANES** ANNOTATION TRIPLE DUTY VALVE WITH PRESSURE PORTS — — MPG— — MEDIUM PRESSURE NATURAL GAS ON ROOF (MGP) MECHANICAL PLAN NOTE CALLOUT STRAINER BRANCH DUCT WITH BELL-MOUTH FITTING & ——FOS—— FUEL OIL SUPPLY (FOS) MANUAL VOLUME CONTROL DAMPER STRAINER WITH BLOWDOWN VALVE MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR ——FOR— FUEL OIL RETURN (FOR) FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE) RETURN, EXHAUST, OR OUTSIDE AIR DUCT UP RELIEF / SAFETY VALVE FOV—FOV—FUEL OIL VENT (FOV) SOLENOID VALVE CONNECTION POINT OF NEW WORK TO EXISTING ——LPG—— LIQUEFIED PETROLEUM GAS (LPG) RETURN, EXHAUST, OR OUTSIDE AIR DUCT DOWN PRESSURE REDUCING VALVE BFW—BOILER FEED WATER (BFW) DETAIL REFERENCE, UPPER NUMBER INDICATES DETAIL SUPPLY AIR DUCT UP GAS PRESSURE REGULATOR ——HPS——— HIGH PRESSURE STEAM SUPPLY (HPS) NUMBER LOWER NUMBER INDICATES SHEET NUMBER THERMOSTATIC MIXING VALVE — —HPC— — HIGH PRESSURE STEAM CONDENSATE (HPC) SUPPLY AIR DUCT DOWN SECTION CUT DESIGNATION PIPE ANCHOR ——LPS—— LOW PRESSURE STEAM SUPPLY (LPS) EJ EXPANSION JOINT EQUIPMENT WITH FLEXIBLE DUCT CONNECTION ABBREVIATIONS — —LPC— — LOW PRESSURE STEAM CONDENSATE (LPC) PIPE GUIDE HWP HEATING WATER PUMP AIR CONDITIONING PD——PD—— CONDENSATE PUMP DISCHARGE (PD) 10" (NECK SIZE) AIR COOLED CHILLER IN WC INCHES OF WATER CSD-1 (TYPE) PIPING SUPPORT ——HWS——— HEATING HOT WATER SUPPLY (HWS) ACCU AIR COOLED CONDENSING 300 CFM (CFM OF SUPPLY DIFFUSER OR REGISTER) LOUVER F&TTRAP AFC ABOVE FINISHED CEILING LEAVING AIR ——HWR—— HEATING HOT WATER RETURN (HWR) ABOVE FINISHED FLOOR TEMPERATURE BUCKET TRAP 24x24 (NECK SIZE) LEAVING DRY BULB ——CHWS—— CHILLED WATER SUPPLY (CHWS) ABOVE FINISHED GRADE CEG-1 (TYPE) AUTHORITY HAVING LOW PRESSURE 800 CFM (CFM OF EXHAUST GRILLE) THERMOSTATIC TRAP JURISDICTION LEAVING WET BULB ——CHWR—— CHILLED WATER RETURN (CHR) LEAVING WATER AHU AIR HANDLING UNIT ____ BACKFLOW PREVENTER **TEMPERATURE** ANALOG INPUT ——HCS—— HOT / CHILLED WATER SUPPLY (HCS) MANUAL VOLUME DAMPER MAU MAKE-UP AIR UNIT ANALOG OUTPUT PRESSURE GAUGE — —HCR— — HOT / CHILLED WATER SUPPLY (HCR) **ACCESS PANEL** MAXIMUM AIR PRESSURE DROP MBH 1000 BTU PER HOUR SQUARE TO ROUND TRANSITION THERMOMETER AMERICAN WIRE GAUGE MD MOTORIZED DAMPER AWG ——CWS—— CONDENSER WATER SUPPLY (CWS) MANUFACTURER PRESSURE AND TEMPERATURE TEST PLUG MIN ——CWR——— CONDENSER WATER RETURN (CWR) BAS BUILDING AUTOMATION MINIMUM DUCT MOUNTED SMOKE DETECTOR NOT APPLICABLE SYSTEM (SD=SUPPLY/RD=RETURN) BACKBONE NORMALLY CLOSED ——HPWS—— HEAT PUMP WATER SUPPLY (HPWS) NORMALLY OPEN BACKDRAFT DAMPER N/O ROUND DUCT TAG INDICATING DIAMETER XX" Ø FLANGE CONNECTION BLOWDOWN NOM NOMINAL ——HPWR—— HEAT PUMP WATER RETURN (HPWR) BELOW FINISHED CEILING NOISE CRITERIA RECTANGULAR DUCT TAG INDICATING INTERNAL VACUUM RELIEF VALVE BELOW FINISHED FLOOR NON-FUSED REFRIGERANT LIQUID (RL) DUCT DIMENSIONS. NOT IN CONTRACT BELOW FINISHED GRADE BFG AUTOMATIC AIR VENT REFRIGERANT DISCHARGE (HOT GAS) (RD) BFP BOILER FEED PUMP OUTSIDE AIR FLAT OVAL DUCT TAG INDICATING INTERNAL DUCT PICV XX' / XX" PRESSURE INDEP. BRAKE HORSEPOWER DIMENSIONS __**...**MV_____ MANUAL AIR VENT CONTROL VALVE BINARY INPUT PROVIDE FURNISH AND INSTALL BINARY OUTPUT PRESSURE / VACUUM SWITCH **BOTTOM OF DUCT** QTY QUANTITY RDB—RDB—REFRIGERANT DISCHARGE BYPASS (RDB) RISER DESIGNATION BOTTOM OF STRUCTURE RETURN AIR CLEANOUT RC ROOM CRITERIA BRITISH THERMAL UNIT REFRIGERANT VENT (RV) BTU CUBIC FEET PER MINUTE RETURN DUCT CFM FIRE DAMPER CHILLER RELIEF AIR RETURN FAN CLG COOLING ELBOW UP CONDENSATE PUMP RFR REFRIGERANT ——ю FIRE SMOKE DAMPER RELATIVE HUMIDITY CPT CONTROL POWER **ELBOW DOWN** ROOF HOOD TRANSFORMER CRAC COMPUTER ROOM AIR RPM REVOLUTIONS PER MINUTE SMOKE DAMPER TEE UP CONDITIONING UNIT RTU ROOFTOP UNIT CRU COMPUTER ROOM UNIT SUPPLY AIR TEE DOWN COOLING TOWER SCP STEAM CONDENSATE PUMP **VOLUME DAMPER** SMOKE DUCT DETECTOR CONTROL VALVE ELBOW UP WITH SHUT-OFF VALVE (SOV) SUPPLY DUCT CONDENSER SUPPLY FAN WATER PUMP MOTORIZED DAMPER ELBOW DOWN WITH SHUT-OFF VALVE (SOV) SENSIBLE HEAT CAPACITY CONDENSING UNIT CHILLED WATER PUMP sow SCOPE OF WORK TEE UP WITH SHUT-OFF VALVE (SOV) STATIC PRESSURE DECIBELS BACKDRAFT DAMPER DECIBEL AVERAGE STEAM TRAP TEE DOWN WITH SHUT-OFF VALVE (SOV) DDC DIRECT DIGITAL CONTROL STM STEAM TO BE DETERMINED DIGITAL INPUT REDUCER ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS. TEMPERATURE CONTROLS DISC DISCONNECT REFER TO DUCTWORK SPECIFICATIONS FOR DUCTWORK INSULATION AND CONTRACTOR DOWN RECIRCULATION PUMP LINER INFORMATION. DUCT SILENCER TEMPERATURE CONTROL DS DIRECT EXPANSION PANEL P-TRAP HVAC CONTROL DEVICES TRANSFER FAN EXISTING TO FLOOR ABOVE EXHAUST AIR GAS COCK HUMIDISTAT TFB EAT ENTERING TO FLOOR BELOW AIR TEMPERATURE TOTAL HEAT CAPACITY **(T)** THERMOSTAT TOP BEAM CLAMP **EXHAUST DUCT** TOTAL STATIC PRESSURE EDB ENTERING DRY BULB TEMPERATURE STATIC PRESSURE SENSOR TRAPEZE HANGER EXHAUST FAN TRANSMITTAL LINETYPE LEGEND TYP EFFICIENCY TYPICAL TEMPERATURE SENSOR ______ FLEXIBLE CONNECTION U/F UNDERFLOOR ENERGY MANAGEMENT EMS UNDERGROUND THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN SYSTEM CARBON MONOXIDE SENSOR ESP COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXTERNAL STATIC UNDERSLAB UNIT HEATER EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK PRESSURE CARBON DIOXIDE SENSOR EXISTING TO REMAIN UNLESS NOTED OTHERWISE AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. VARIABLE AIR VOLUME THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE ENTERING WET BULB VAV DIFFERENTIAL PRESSURE SENSOR EWT ENTERING WATER VEL VELOCITY VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT **TEMPERATURE** VFD VARIABLE FREQUENCY INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, FLOW SWITCH FCU WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR FAN COIL UNIT VRF VARIABLE REFRIGERANT RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION FROM FLOOR ABOVE **HUMIDITY SENSOR** FROM FLOOR BELOW FLOW DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING VRV VARIABLE REFRIGERANT FINISHED FLOOR PULL STATION LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, FINS PER INCH VOLUME WITH FPM FEET PER MINUTE REMOTE TESTING STATION WITH INDICATING LIGHT GENERAL CONTRACTOR W/O WITHOUT GALLONS PER MINUTE WB WET BULB GPM STATIC PRESSURE HOA HAND-OFF-AUTOMATIC WC WATER COLUMN **EXISTING** NEW WATER PRESSURE DROP HORSEPOWER TEMPERATURE SENSOR HTG EXPLOSION PROOF HEATING DEMOLISH — — — — FUTURE

GENERAL NEW NOTES:

- 1. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
- 2. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS, COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- 3. COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
- 4. WHERE SHUTDOWN OF EXISTING SYSTEMS IS REQUIRED DURING NEW WORK, COORDINATE SHUTDOWN TIME AND DURATION WITH THE OWNER TO MINIMIZE DOWNTIME. NOTIFY OWNER SEVEN (7) DAYS PRIOR TO INTERRUPTION OF SERVICE.
- 5. DURING INSTALLATION OF NEW WORK, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. REPAIR DAMAGE CAUSED DURING CONSTRUCTION AT NO EXTRA COST TO THE OWNER.
- 6. PROVIDE TEMPORARY BARRIERS TO CONTAIN DUST AND DEBRIS RESULTING FROM THE PERFORMANCE OF THE WORK TO THE AREA WHERE WORK IS BEING PERFORMED.
- 7. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY DIVISION 23 UNLESS OTHERWISE NOTED.
- 8. NEW MECHANICAL EQUIPMENT, DUCTWORK AND PIPING ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK AND PIPING LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK AND PIPING WITHIN THE AVAILABLE SPACE VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
- 9. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
- 10. INDOOR AIR QUALITY MEASURES: PROTECT INSIDE OF (INSTALLED AND DELIVERED) DUCTWORK AND HVAC UNITS FROM EXPOSURE TO DUST, DIRT, PAINT AND MOISTURE. REPLACE INSULATION THAT HAS BECOME WET AT ANY TIME DURING CONSTRUCTION, DRYING THE INSULATION IS NOT ACCEPTABLE. SEAL ANY TEARS OR JOINTS OF INTERNAL FIBERGLASS INSULATION. REMOVE DEBRIS FROM CEILING/RETURN AIR PLENUM INCLUDING DUST. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL VACUUM CLEAN ANY DUCTWORK CONNECTED TO HVAC UNITS THAT WERE OPERATED DURING THE CONSTRUCTION PERIOD AFTER NEW FILTERS ARE INSTALLED AND PRIOR TO TURNING SYSTEM OVER TO THE OWNER. THE INTERNAL SURFACES AND ASSOCIATED COILS OF ANY HVAC UNITS THAT WERE OPERATED SHALL ALSO BE CLEANED.
- 11. INSTALL DUCTWORK AND PIPING PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
- 12. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK AND PIPING SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
- 13. COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
- 14. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
- 15. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
- 16. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
- 17. PAINT PORTIONS OF DUCTWORK AND INSULATION THAT ARE EXPOSED TO VIEW BY THE INSTALLATION OF DIFFUSERS, REGISTERS, AND GRILLES IN CEILINGS OR WALLS FLAT BLACK. PORTIONS INCLUDE BOTH THE INTERIOR OF UNLINED DUCTWORK AND THE EXTERIOR OF DUCTWORK AND INSULATION.
- 18. DUCTWORK CROSSING FIRE RATED WALLS OR OTHER FIRE RATED ASSEMBLIES SHALL BE MINIMUM 26 GAUGE SHEET
- 19. LOCATE AND SET THERMOSTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL DEVICES WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. PROVIDE INSULATED BACKING FOR THERMOSTATS MOUNTED ON EXTERIOR BUILDING WALLS. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 26. AT A MINIMUM, PROVIDE CONDUIT IN THE WALL FROM THE JUNCTION BOX TO 6" ABOVE THE CEILING.
- 20. COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH PRESENTATION BOARDS, DISPLAY CABINETS. SHELVES OR OTHER COMPONENTS SHOWN ON THE ARCHITECTURAL DRAWINGS THAT ARE TO BE INSTALLED UNDER OTHER DIVISIONS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.
- 21. PROVIDE A MANUAL BALANCING DAMPER IN EACH DUCT TAKEOFF FROM SUPPLY, RETURN, OUTDOOR AND EXHAUST

AIR DUCTS.

- 22. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
- 23. REFER TO SPECIFICATIONS FOR DUCTWORK AND PIPING INSULATION REQUIREMENTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS, INCREASE SHEET METAL SIZES ACCORDINGLY TO ACCOUNT FOR THICKNESS OF DUCT LINER.
- 24. RIGIDLY SUSPEND UNIT HEATER FROM STRUCTURE WITH SUPPORTING ANGLES AND ALL-THREAD HANGING RODS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 25. PROVIDE WALL MOUNTED LOUVERS AND DAMPERS WITH SUITABLE MOUNTING FRAME TO MATCH WALL CONSTRUCTION. COORDINATE WITH ARCHITECTURAL DRAWINGS.
- 26. PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING, ADJUSTING AND BALANCING AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.

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Lee's Summit R7 District **Athletics Facilities**

Lee's Summit High School 400 SW Blue Parkway

Lee's Summit, MO 64063

Lee's Summit R-7 School District 301 NE Tudor Road Lee's Summit, MO 64086

architect: Gould Evans 4200 Pennsylvania Avenue Kansas City, MO 64111 816.931.6655 voice www.gouldevans.com structural engineer: Bob D. Campbell & Company, Inc 4338 Belleview Avenue Kansas City, MO 64111

civil engineer: Kaw Valley Engineering 14700 West 114th Terrace Lenexa, KS 66215 913.485.0318

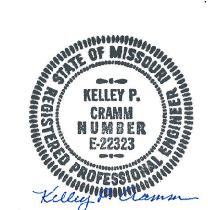
816.531.4144

mechanical/electrical engineer: Henderson Engineers 8345 Lenexa Drive | Suite 300 Lenexa, KS 66214 816.742.5000

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> > MO. CORPORATE NO: E-556D

EXPIRES 12/31/2020



REVISIONS DESCRIPTION

RELEASE FOR CONSTRUCTION **AS NOTED ON PLANS REVIEW** DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

PROJECT NO:

September 28, 2020

MECHANICAL GENERAL NOTES AND LEGEND

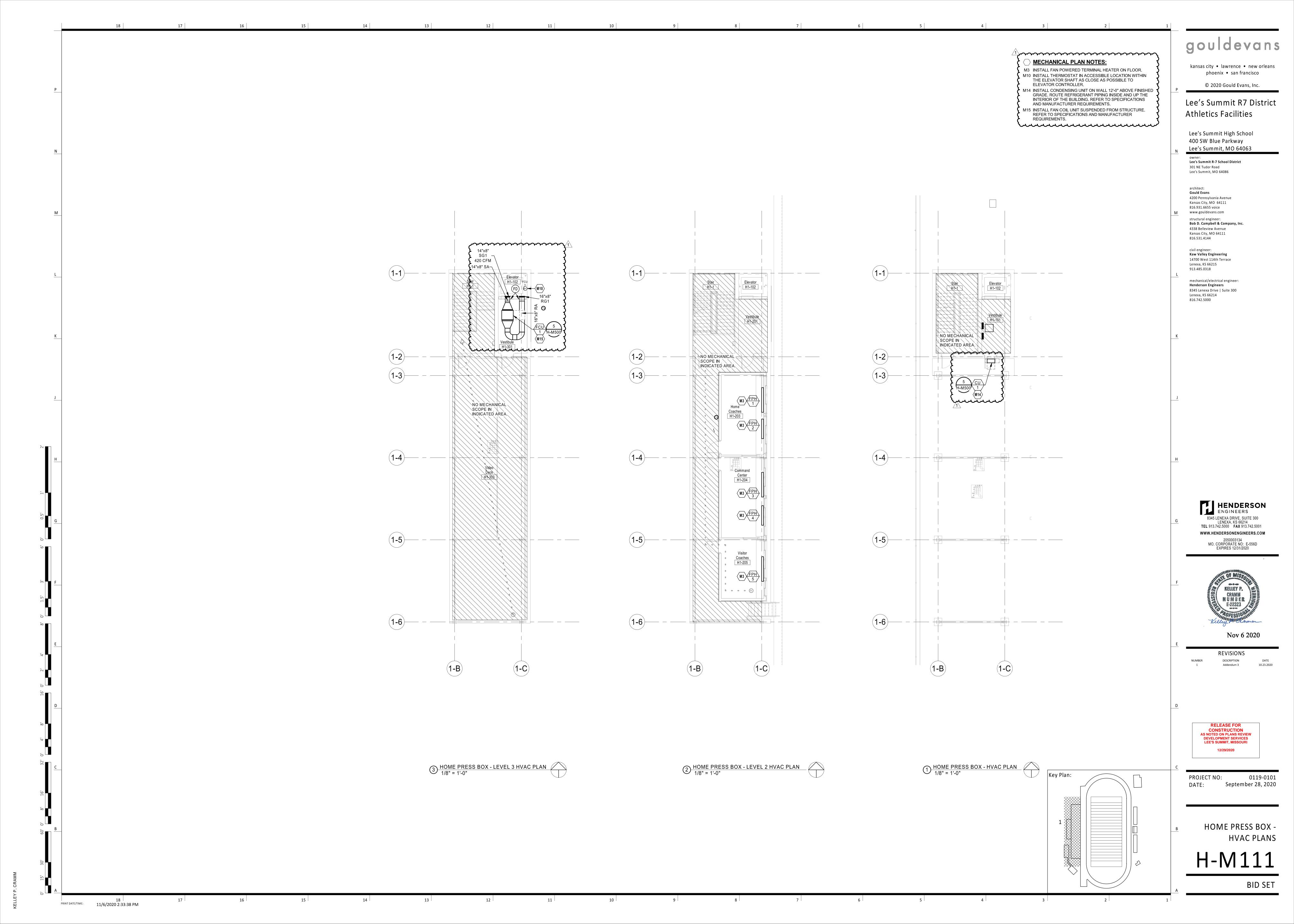
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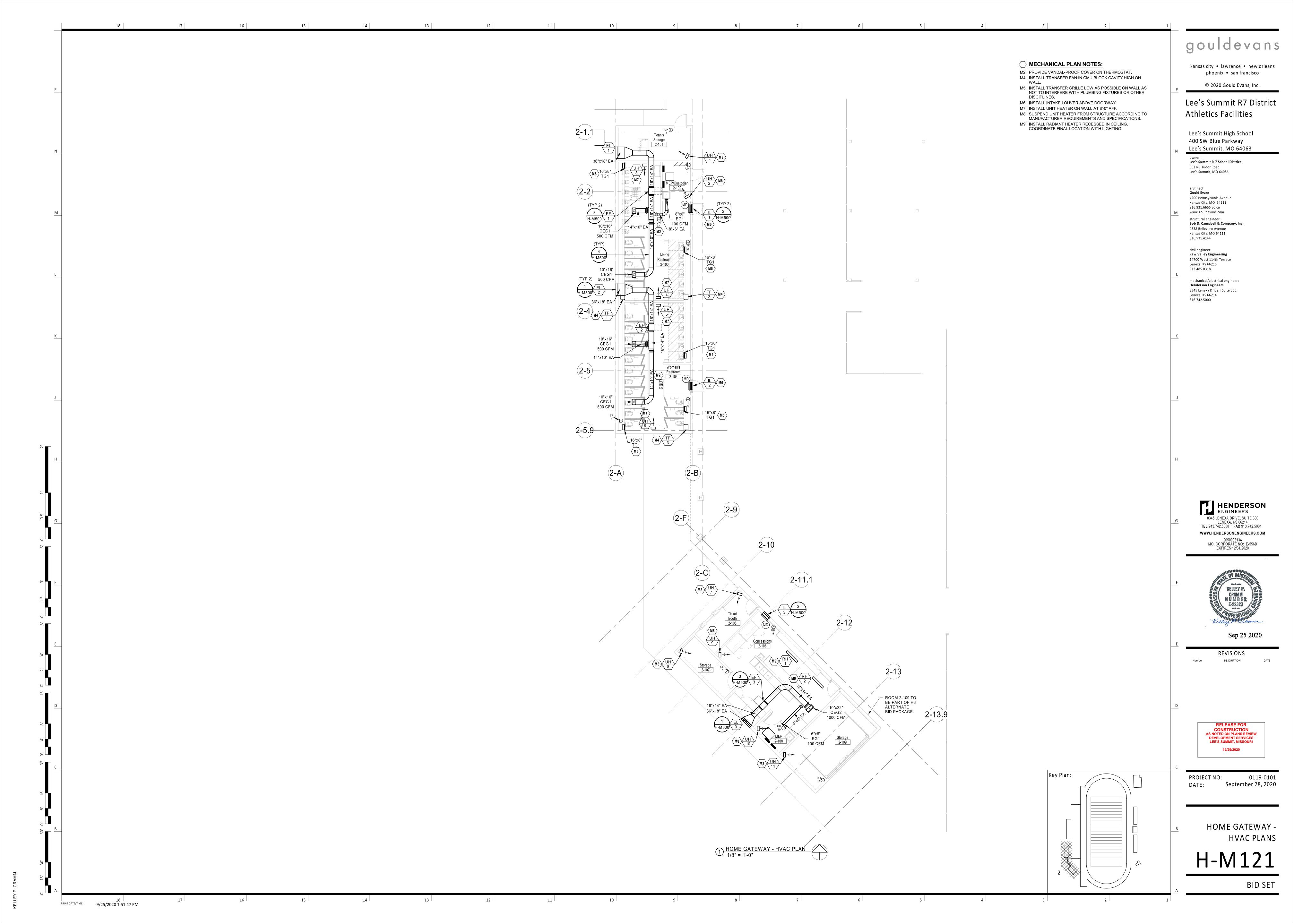
MECHANICAL GENERAL NOTES AND LEGEND

Sheet List - Mechanical

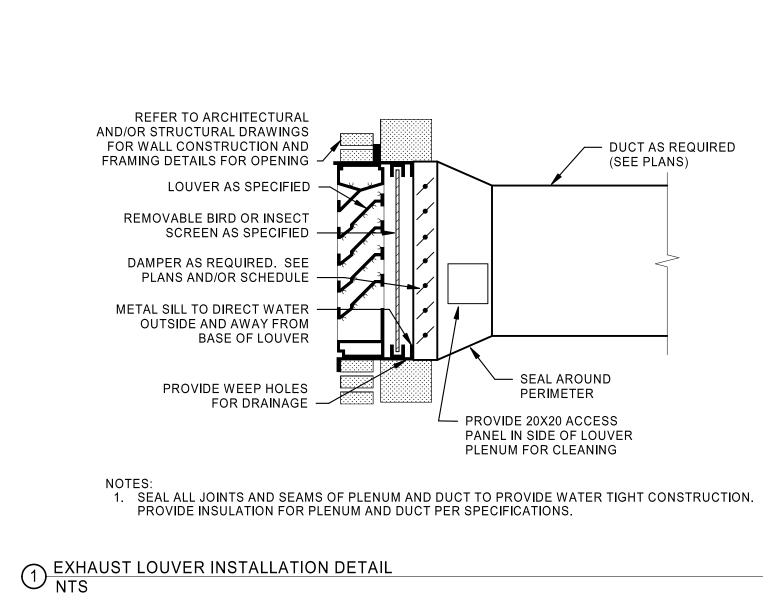
H-M000 HOME PRESS BOX - HVAC PLANS HOME GATEWAY - HVAC PLANS VISITOR TICKET BOOTH - HVAC PLANS H-M131 MECHANICAL DETAILS MECHANICAL SCHEDULES & CONTROLS

Grand total: 6









CONDENSING UNIT (WALL MOUNTED)

INSTALL RISER AT INDOOR COIL WITH TOP A MINIMUM OF

FILTER-DRIER. OMIT IF THE CONDENSING UNIT IS

CONFIGURATION IS WITHIN

PARAMETERS PRESCRIBED BY THE MANUFACTURER FOR

ITS USE. IF A FILTER-DRIER IS

EVAPORATOR, THEN REMOVE

MANUFACTURER.

SPLIT SYSTEM PIPING DETAIL

NTS

ANY OTHER FILTER-DRIER

LINE AND THE PIPING

INSTALLED NEAR THE

THAT MAY EXIST. -

OVER INFORMATION PRESENTED IN THIS DETAIL.

RECOMMENDED PIPE SIZES AND PIPING CONFIGURATION.

POINT.

1 FOOT ABOVE THE LOWEST

EQUIPPED WITH AN INTEGRAL FILTER-DRIER IN THE LIQUID SHUTOFF VALVES. OMIT IF THE CONDENSING

REFRIGERANT GAS LINE (SUCTION)

REFRIGERANT LIQUID LINE

EXTERNAL

NOTE 6. -

EQUALIZER LINE

1. INSTALL REFRIGERANT PIPING AND COMPONENTS IN STRICT CONFORMANCE WITH ALL

2. ALL COMPONENTS INSTALLED SHALL BE THE EXACT MODEL RECOMMENDED BY THE

MANUFACTURER REGARDING THE NEED FOR INTERMEDIATE TRAPS BASED ON THE

PITCH REFRIGERANT GAS LINE AWAY FROM INDOOR COIL AT 1 INCH PER 10 FEET.

MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS, WHICH SHALL TAKE PRECEDENT

3. CONSULT THE MANUFACTURER REGARDING THE NEED TO INSTALL A SOLENOID VALVE IN THE LIQUID LINE BETWEEN THE FILTER-DRIER AND SITE GLASS.

4. INSTALL REFRIGERATION PIPE SIZES RECOMMENDED BY THE MANUFACTURER AND CONSULT THE

5. INSTALL THERMAL EXPANSION VALVE WITH BALANCED PORT CONSTRUCTION AND EXTERNAL

EQUALIZER LINES FOR ALL EVAPORATOR COILS EQUIPPED WITH A REFRIGERANT DISTRIBUTOR.

7. FILTER- DRIER MAY BE OMITTED IF NOT REQUIRED BY MANUFACTURER.
8. SIGHT GLASS MAY BE OMITTED IF NOT REQUIRED BY MANUFACTURER AND SYSTEM IS LESS THAN

UNIT IS EQUIPPED WITH INTEGRAL SHUTOFF VALVES

SIGHT GLASS

VALVE (TXV)

PITCH REFRIGERANT GAS LINE TOWARDS THE INDOOR COIL AT 1 INCH PER 10 FEET.

- THERMAL EXPANSION

EVAPORATOR COIL

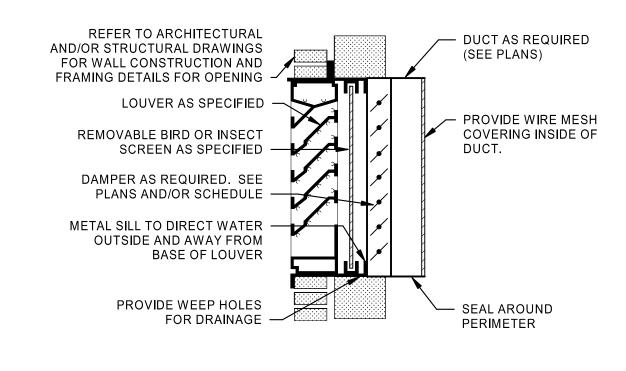
- LOCATE TXV SENSING BULB ON

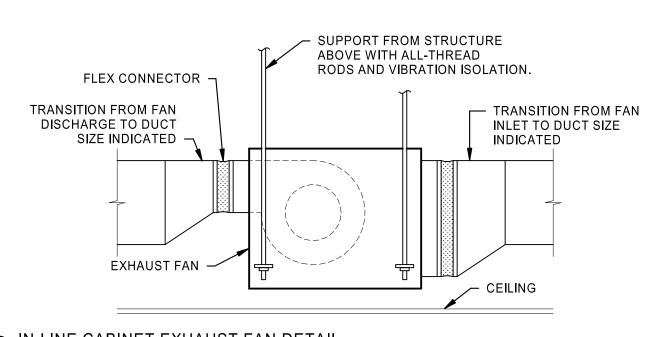
TOP OF PIPE FOR PIPE 7/8" AND

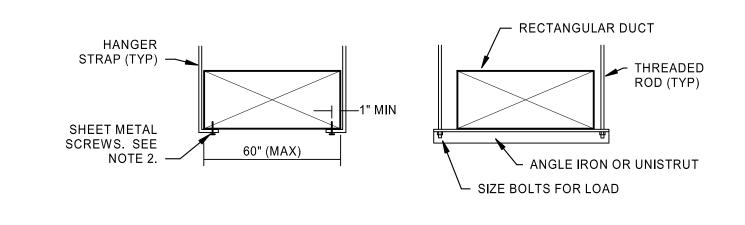
CENTERLINE OF PIPE FOR PIPE

SMALLER, 45° BELOW

GREATER THAN 7/8".







1. USE THREADED ROD FOR RECTANGULAR DUCTS LARGER THAN 60" WIDE. 2. OMIT SHEET METAL SCREWS IF HANGER STRAP IS CONTINUOUS AND LOOPS UNDER ENTIRE RECTANGULAR DUCT. 3. HANGERS MUST NOT DEFORM DUCT SHAPE

4 DUCT HANGER LOWER ATTACHMENT DETAILS
NTS

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Lee's Summit R7 District

Athletics Facilities

Lee's Summit High School 400 SW Blue Parkway

Lee's Summit, MO 64063

Lee's Summit R-7 School District

301 NE Tudor Road

architect:

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4338 Belleview Avenue

Kansas City, MO 64111

14700 West 114th Terrace

mechanical/electrical engineer:

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Henderson Engineers

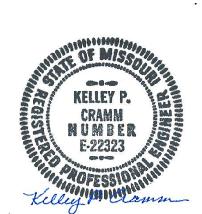
816.531.4144

civil engineer: Kaw Valley Engineering

Lenexa, KS 66215

Lenexa, KS 66214 816.742.5000

913.485.0318



Nov 6 2020

REVISIONS DESCRIPTION NUMBER Addendum 3

> RELEASE FOR CONSTRUCTION

DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI 12/29/2020

AS NOTED ON PLANS REVIEW

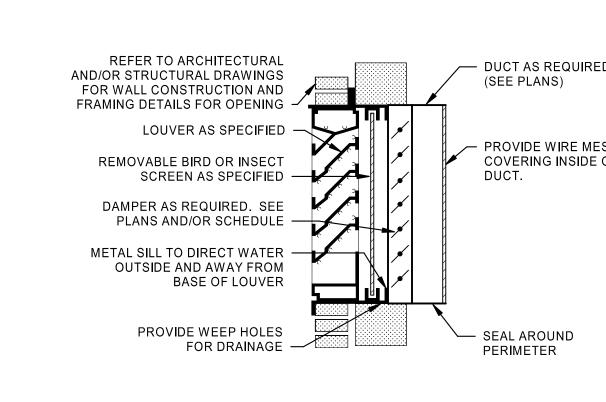
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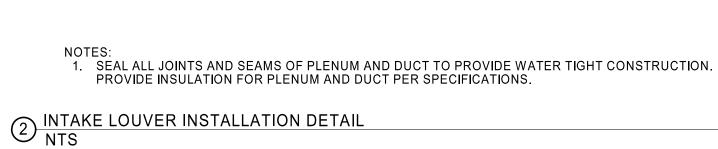
September 28, 2020

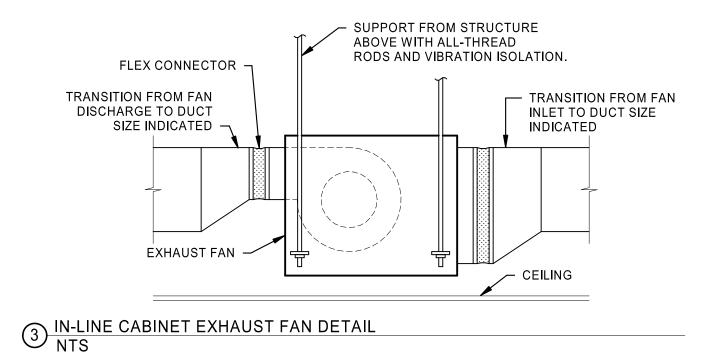
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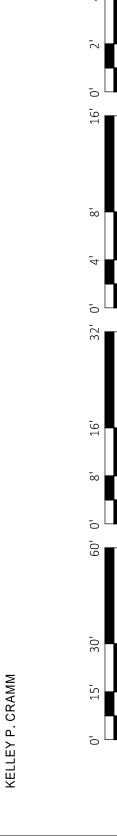
MECHANICAL DETAILS

BID SET









	FAN-POWERED TERMINAL HEATER SCHEDULE (ELECTRIC)													
				LENGTH	INPUT				MOUNTING					
MARK	LOCATION	MANUFACTURER	MODEL	(IN)	(KW)	CFM	INTAKE	OUTLET	TYPE	VOLTS	PH	ИСА	DISC TYPE	NOTES
FPH 1	HOME COACHES	SOHO	SoHo-e-06-077	77"	2.0	250 CFM	TOP	TOP	FLOOR	277	1	9.0	NON-FUSED	A,D,E,F,G,H
FPH 2	HOME COACHES	SOHO	SoHo-e-06-061	61"	1.5	185 CFM	TOP	TOP	FLOOR	277	1	6.8	NON-FUSED	A,D,E,F,G,H
FPH 3	COMMAND CENTER	SOHO	SoHo-e-06-077	77"	2.0	250 CFM	TOP	TOP	FLOOR	277	1	9.0	NON-FUSED	A,D,E,F,G,H
FPH 4	COMMAND CENTER	SOHO	SoHo-e-06-061	61"	1.5	185 CFM	TOP	TOP	FLOOR	277	1	6.8	NON-FUSED	A,D,E,F,G,H
FPH 5	VISITOR COACHES	SOHO	SoHo-e-06-077	77"	2.0	250 CFM	TOP	TOP	FLOOR	277	1	9.0	NON-FUSED	A,B,C,F,G,H

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

A. PROVIDE WITH SINGLE POINT POWER CONNECTION. B. DIVISION 26 TO PROVIDE TIMER SWITCH.

C. DIVISION 26 TO PROVIDE LINE VOLTAGE THROUGH TIMER SWITCH TO UNIT.

D. DIVISION 26 TO PROVIDE SINGLE TIMER SWITCH FOR ROOMS WITH MULTIPLE UNITS. .. DIVISION 26 TO PROVIDE LINE VOLTAGE THROUGH SINGLE TIMER SWITCH IN ROOMS WITH MULTIPLE UNITS. F. PROVIDE WITH INTEGRATED THERMOSTAT.

G. PROVIDE NECESSARY MOUNTING BRACKET AND ACCESSORIES FOR EXPOSED FLOOR MOUNTING. H. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH INSTALLED ON SERVICE SIDE OF UNIT.

}	GRILLE, REGISTER AND DIFFUSER SCHEDULE												
<u>ک</u> [MARK	MANUFACTURER	SERVICE	MODEL	CONSTRUCTION TYPE	FACE TYPE	MOUNTING LOCATION	BORDER TYPE	FACE SIZE (IN)	MAX NC	MAX PRESS DROP (IN W.C.)	NOTES	
ζ[CEG1	PRICE	EXHAUST	630	ALUMINIUM	LOUVERED	CEILING	SURFACE	16"x10"	30	0.08	A,B,C,D	
ζ[CEG2	PRICE	EXHAUST	630	ALUMINIUM	LOUVERED	CEILING	SURFACE	24"x12"	30	0.08	A,B,C,D	
ζ[EG1	PRICE	EXHAUST	630	ALUMINIUM	LOUVERED	WALL	SURFACE	REFER TO PLANS	30	0.08	A,B,C,D	
ζ[RG1	PRICE	RETURN	630	ALUMINIUM	LOUVERED	WALL	SURFACE	REFER TO PLANS	30	0.05	A,C,D	
ζ[SG1	PRICE	SUPPLY	630	ALUMINIUM	LOUVERED	WALL	SURFACE	REFER TO PLANS	30	0.08	A,C,D	
ζ[TG1	PRICE	TRANSFER	630	ALUMINIUM	LOUVERED	WALL	SURFACE	REFER TO PLANS	30	0.08	A,B,C,D	

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. NECK SIZE SHOWN ON DRAWINGS. PROVIDE BRANCH DUCT TO MATCH NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.

B. BAKED ENAMEL FINISH, WHITE TO MATCH CEILING COLOR.

C. FRONT BLADES PARALLEL TO LONG DIMENSION. D. FRAME TYPE TO MATCH CEILING/WALL CONSTRUCTION, COORDINATE WITH ARCHITECTURAL REFLECTED CEILING/WALL PLAN.

E. FRONT BLADES PARALLEL TO SHORT DIMENSION.

	LOUVER SCHEDULE											
MARK	AREA SERVED	SERVICE	MANUFACTURER	MODEL	WIDTH (IN)	LENGTH (IN)	CFM	MIN FREE AREA (SF)	MAX VEL (FPM)	MAX APD (IN W.C.)	NOTES	
EL 1	RESTROOMS	EXHAUST	GREENHECK	ESD-635	36"	18"	1100 CFM	1.58	700 FPM	0.05 in-wg	A,B,C,D	
EL 2	RESTROOMS	EXHAUST	GREENHECK	ESD-635	36"	18"	1000 CFM	1.43	700 FPM	0.05 in-wg	A,B,C,D	
EL 3	CONCESSION	EXHAUST	GREENHECK	ESD-635	36"	18"	1100 CFM	1.58	700 FPM	0.05 in-wg	A,B,C,D	
IL 1	MENS RESTROOM	INTAKE	GREENHECK	ESD-635	24"	24"	1000 CFM	1.77	560 FPM	0.01 in-wg	A,B,C,E,F	
IL 2	WOMENS RESTROOM	INTAKE	GREENHECK	ESD-635	24"	24"	1000 CFM	1.77	560 FPM	0.01 in-wg	A,B,C,E,F	
IL 3	CONCESSION	INTAKE	GREENHECK	ESD-635	24"	24"	1000 CFM	1.77	560 FPM	0.01 in-wg	A,B,C,E,F	

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY.

REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. PROVIDE 1/2" MESH ALUMINUM BIRD SCREEN.

B. PROVIDE ANNODIZED FINISH WITH COLOR SELECTED BY ARCHIETCT.

C. FRAME TYPE SHALL MATCH WALL CONSTRUCTION, COORDINATE WITH ARCHITECT. D. PROVIDE WITH INTEGRAL BACKDRAFT DAMPER.

E. PROVIDE WITH INTEGRAL 24 V MOTOR OPERATED DAMPER. F. INTERLOCK MOTOR-OPERATED DAMPER WITH EXHAUST FAN.

	UNIT HEATER SCHEDULE (ELECTRIC)											
				MIN OUT	NOM	MIN NO OF		MOTOR	THROW	'		
MARK	AREA SERVED	MANUFACTURER	MODEL	(MBH)	(KW)	STAGES	CFM	HP	(FT)	V/PH	DISC TYPE	NOTES
UH 1	TENNIS STORAGE	QMARK	MUH03-71	10.2	3.0	1	350	0.01	12	277/1	NON-FUSED	A,B,E,F
UH 2	MEP/CUSTODIAL	QMARK	MUH03-71	10.2	3.0	1	350	0.01	12	277/1	NON-FUSED	A,B,E,F
UH 3	MENS RESTROOM	QMARK	MUH-07-4	25.6	7.5	2	650	0.04	18	480/3	NON-FUSED	A,E,F,G
UH 4	MENS RESTROOM	QMARK	MUH05-41	17.0	5.0	2	350	0.01	12	480/3	NON-FUSED	A,E,F,G
UH 5	WOMENS RESTROOM	QMARK	MUH05-41	17.0	5.0	2	350	0.01	12	480/3	NON-FUSED	A,E,F,G
UH 6	WOMENS RESTROOM	QMARK	MUH-07-4	25.6	7.5	2	650	0.04	18	480/3	NON-FUSED	A,E,F,G
UH 7	TICKET BOOTH	QMARK	MUH03-81	10.2	3.0	1	350	0.01	12	277/1	NON-FUSED	A,C,D,E,F,H
UH 8	STORAGE	QMARK	MUH03-71	10.2	3.0	1	350	0.01	12	277/1	NON-FUSED	A,B,E,F
UH 9	CONCESSION	QMARK	MUH-07-4	25.6	7.5	2	650	0.04	18	480/3	NON-FUSED	A,B,E,F
UH 10	MEP	QMARK	MUH03-71	10.2	3.0	1	350	0.01	12	277/1	NON-FUSED	A,B,E,F
UH 11	BAND STORAGE	QMARK	MUH03-71	10.2	3.0	1	350	0.01	12	277/1	NON-FUSED	A,B,E,F
UH 12	VISITOR TICKET BOOTH	QMARK	MUH03-81	10.2	3.0	1	350	0.01	12	208/1	NON-FUSED	A,C,D,E,F,H

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED.

THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

A. MOUNT 8 FEET ABOVE FINISHED FLOOR WITHOUT OBSTRUCTING AIRFLOW.

B. PROVIDE WITH WALL MOUNTED THERMOSTAT. C. DIVISION 26 TO PROVIDE TIMER SWITCH.

D. DIVISION 26 TO PROVIDE LINE VOLTAGE THROUGH TIMER SWITCH TO UNIT. E. PROVIDE NECESSARY MOUNTING BRACKET AND ACCESSORIES FOR HORIZONTAL DISCHARGE MOUNTING.

F. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH INSTALLED ON SERVICE SIDE OF UNIT. G. PROVIDE WITH SINGLE WALL MOUNTED THERMOSTAT TO CONTROL 2 UNIT HEATERS. H. PROVIDE WITH FACTORY MOUNTED THERMOSTAT.

SP	SUPPLY FAI	N	COOLIN	G COIL	HEA ⁻	T PUMP HEA	TING CO	IL		E	LECTRICAL			
IARK MANUFACTURER MODEL	CFM (IN)		SH (MBH) (°F DI	3) (°F WB)	REFR MIN OUT TYPE (MBH)	(DB)	(°F DB)				DISC TYPE	STARTER TYPE	(LBS)	NOTES
CU 1 MITSUBISHI PEAD-A12/PUZ-A12	420 0.20	0.01 12.0	10.0 80.0	67.0 R	R-410A 10.5	5 °F	55 °F	85 °F	208/1	11 28	NON-FUSED	INTEGRAL	58	A-L
NOTES: A. EQUIPMENT COMPONENTS SHALL BE BY THE SAME MANUFACTURER. B. FOR COOLING, EQUIPMENT SIZED FOR 100° F AMBIENT TEMPERATURE. C. HEAT PUMP HEATING CAPACITY BASED ON AMBIENT TEMPERATURE LISTED. D. PROVIDE 2" PLEATED THROWAWAY AIR FILTERS. E. PROVIDE FACTORY MOUNTED STARTER AND DISCONNECT SWITCH. F. PROVIDE WITH 7-DAY PROGRAMMABLE THERMOSTAT WITH STAGED HEATING AND COOLING CAPABILITY AS REQUIRED FOR OPERATION OF HEATING, COOLING CONTROLS. G. SUSPEND FAN COIL UNIT FROM STRUCTURE IN HORIZONTAL POSITION WITH ALL -THREAD ROD AND SPRING VIBRATION (2" MINIMUM DEFLECTION).														

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	F	RADIAN	T HEA	TER S	CHED	ULE (E	ELECT	RIC)	
MARK	LOCATION	MANUFACTURER	MODEL	MOUNTING TYPE	SIZE (L" x W")	INPUT (W)	VOLTS	PHASE	NOTES
RH 1	CONCESSION	QMARK	HRK42027	RECESSED	5.5"x46"	2000.0 W	277 V	1	A,B
RH 2	CONCESSION	QMARK	HRK42027	RECESSED	5.5"x46"	2000.0 W	277 V	1	A,B

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES

TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

A. DIVISION 26 TO PROVIDE SINGLE TIMER SWITCH TO CONTROL 2 RADIANT HEATERS. B. DIVISION 26 TO PROVIDE LINE VOLTAGE THROUGH TIMER SWITCH TO UNITS.

FAN SCHEDULE														
		SERVICE					ESP	NOM	FAN	DRIVE	ELEC	TRICAL		
MARK	LOCATION	DESCRIPTION	MANUFACTURER	MOUNTING	MODEL	CFM	(IN)	HP	RPM	(BELT/DIRECT)	V/PH	DISC TYPE	WEIGHT (LBS)	NOTES
EF 1	MENS RESTROOM	EXHAUST	GREENHECK	INLINE	SQ-100-VG	1100	0.25	0.25	1456	DIRECT	115/1	NON-FUSED	45	A,B,C,D
EF 2	WOMENS RESTROOM	EXHAUST	GREENHECK	INLINE	SQ-100-VG	1000	0.25	0.25	1352	DIRECT	115/1	NON-FUSED	45	A,B,C,D
EF 3	CONCESSION	EXHAUST	GREENHECK	INLINE	SQ-100-VG	1100	0.25	0.25	1456	DIRECT	115/1	NON-FUSED	45	A,B,C,D
TF 1	RESTROOMS	TRANSFER	GREENHECK	WALL	CBF	500	0.20	0.05	1050	DIRECT	115/1	NON-FUSED	17	B,C,E
TF 2	RESTROOMS	TRANSFER	GREENHECK	WALL	CBF	500	0.20	0.05	1050	DIRECT	115/1	NON-FUSED	17	B,C,E
TF 3	RESTROOMS	TRANSFER	GREENHECK	WALL	CBF	500	0.20	0.05	1050	DIRECT	115/1	NON-FUSED	17	B,C,E

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

A. PROVIDE RUBBER IN SHEAR ISOLATION AND ALL-THREAD HANGING RODS.

B. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH. . PROVIDE WITH MANUFACTURER'S FAN SPEED CONTROLLER FOR BALANCING PURPOSES.

D. PROVIDE WITH MANUFACTURER'S ELECTRONICALLY COMMUTATED (EC) MOTOR. E. PROVIDE WITH WALL MOUNTED TEMPERATURE SENSOR.

> **SEQUENCE OF OPERATIONS** MISCELLANEOUS EQUIPMENT

EXHAUST FAN (EF-1,2,3) **OPERATING MODES**

OCCUPIED MODE: The units shall be in occupied mode when the room light switch is turned on.

The units shall be in unoccupied mode for all periods when the room light switch is turned off.

COMPONENT CONTROL LOOPS: The units shall be controlled by the room lighting controls system. A 2 position motorized damper at the intake louver shall be linked with the exhaust fan.

When in occupied mode: The unit shall run continuously.

2 position motorized damper at intake louver shall be open. When in unoccupied mode:

The unit shall be off.

2 position motorized damper at intake louver shall be closed.

TRANSFER FAN (TF-1,2,3) **OPERATING MODES**

The units shall be in standby mode when the zone temperature (Z-T) is above space temperature setpoint of 50 F. The units shall be in transfer mode when the zone temperature (Z-T) falls below space temperature setpoint of 50 F. **COMPONENT CONTROL LOOPS:** The units shall operate as an independent system. Each unit shall be controlled by a wall mounted thermostat located

When in Standby Mode: The unit shall remain off. When in Transfer Mode:

> The unit shall be on. The unit shall remain on until space temperature as sensed by the wall mounted thermostat is above space temperature setpoint of 50 F.

ELECTRIC UNIT HEATER (UH-1,2,3,4,5,6,8,9,10,11)

within the respective plumbing chase.

OPERATING MODES STANDBY MODE:

The units shall be in standby mode when the zone temperature (Z-T) is above space temperature setpoint. <u>HEATING MODE:</u>

units shall be in heating mode when the zone temperature (Z-T) falls below space temperature setpoint. COMPONENT CONTROL LOOPS The units shall operate as an independent system. The units shall be controlled by a wall mounted thermostat located within each respective space.

When in Standby Mode: The unit shall remain off. When in Heating Mode:

> The unit shall be on. The unit shall stage/cycle heater as required to maintain space temperature setpoint of 68 F as sensed by the wall mounted thermostat.

ELECTRIC UNIT HEATER (UH-7,12)

OPERATING MODES STANDBY MODE:

The unit shall be in standby mode when the timer switch is off. **HEATING MODE:**

The unit shall be in heating mode when the timer switch is on. **COMPONENT CONTROL LOOPS**

The units shall operate as an independent system. The units shall be controlled by a timer switch located within each respective room.

When in Standby Mode: The unit shall remain off. When in Heating Mode:

The unit shall be on. The unit shall stage/cycle heater as required to maintain temperature setpoint of 68 F as sensed by the integral

FAN-POWERED TERMINAL HEATER (FPH-1,2,3,4,5) OPERATING MODES STANDBY MODE:

The unit shall be in standby mode when the timer switch is off. **HEATING MODE:**

The unit shall be in heating mode when the timer switch is on..

COMPONENT CONTROL LOOPS The units shall operate as an indpendent system. The units shall be controlled by a timer switch located within each respective space.

When in Standby Mode: The unit shall remain off.

When in Heating Mode:

The unit shall be on. The unit shall stage/cycle heater as required to maintain space temperature setpoint of 68 F as sensed by the

᠋ᡔᢇᠬᡥᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇᢇ SPLIT SYSTEM FAN COIL UNIT (FCU-1) OPERATING MODES

STANDBY MODE: The unit shall be in standby mode when the zone temperature (Z-T) does not call for heating or cooling.

The unit shall be in cooling mode when the zone temperature (Z-T) falls below space temperature setpoint. **HEATING MODE:** The unit shall be in heating mode when the zone temperature (Z-T) is above space temperature setpoint. COMPONENT CONTROL LOOPS

When in Standby Mode:

The unit shall remain off. When in Cooling Mode:

The unit shall be on.

The unit shall stage/cycle cooling as required to maintain space temperature setpoint of 80 F as sensed by the wall mounted thermostat. When in Heating Mode:

The unit shall operate as an independent system. The unit shall be controlled by a wall mounted thermostat located

The unit shall stage/cycle heating as required to maintain space temperature setpoint of 68 F as sensed by the wall mounted thermostat.

RADIANT PANEL (RH-1,2) **OPERATING MODES** STANDBY MODE:

The units shall be in standby mode when the timer switch is off. <u>HEATING MODE:</u>

The units shall be in heating mode when the timer switch is on. COMPONENT CONTROL LOOPS

The units shall operate as an independent system. The units shall be controlled by a single timer switch located within the room. When in Standby Mode:

The unit shall remain off. When in Heating Mode:

The unit shall be on.

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Lee's Summit R7 District **Athletics Facilities**

Lee's Summit High School 400 SW Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District 301 NE Tudor Road Lee's Summit, MO 64086

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> > MO. CORPORATE NO: E-556D

EXPIRES 12/31/2020



REVISIONS DESCRIPTION Addendum 3

RELEASE FOR CONSTRUCTION **AS NOTED ON PLANS REVIEW** DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI 12/29/2020

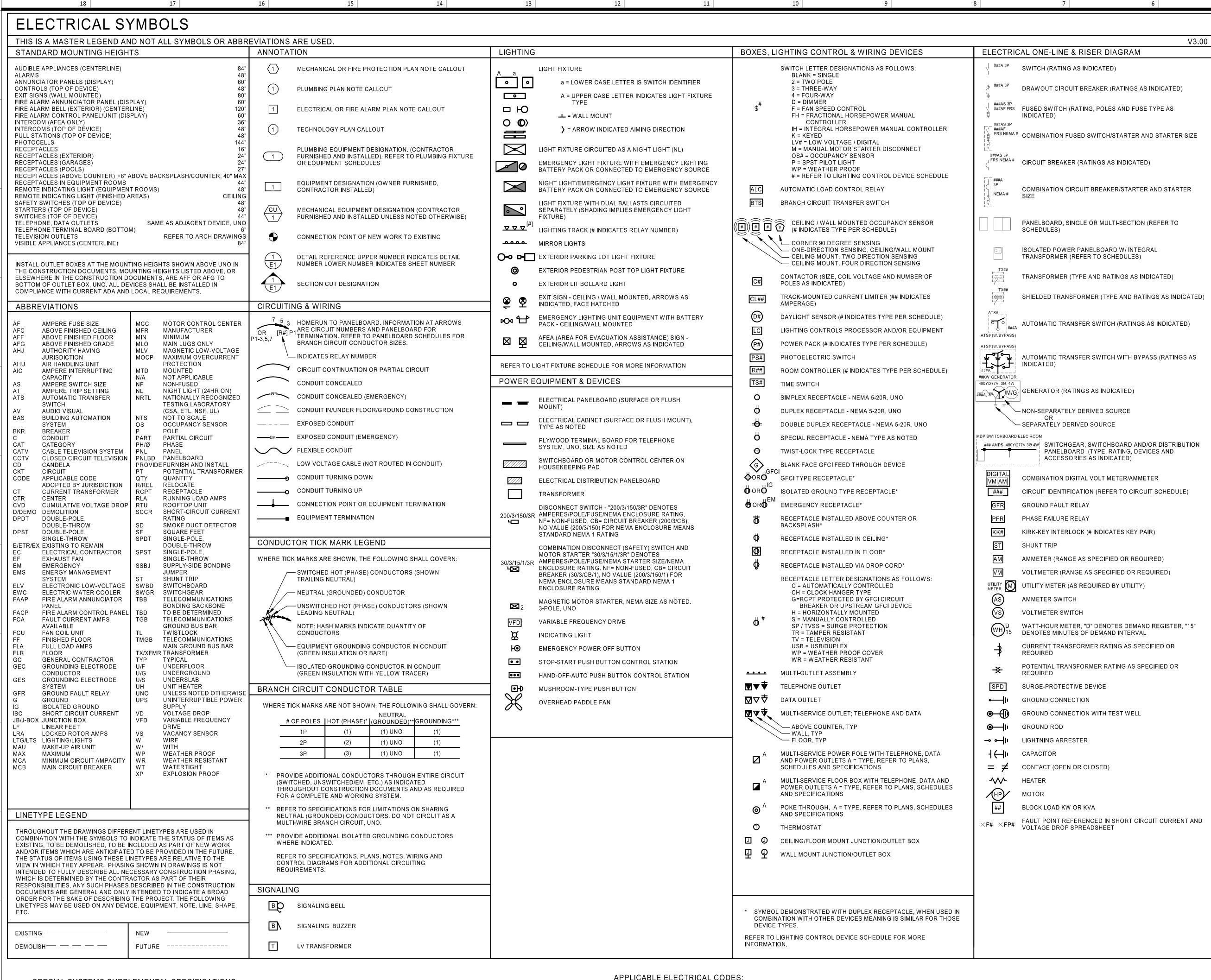
PROJECT NO:

September 28, 2020

MECHANICAL SCHEDULES & CONTROLS

BID SET

11/6/2020 2:33:46 PM



SPECIAL SYSTEMS SUPPLEMENTAL SPECIFICATIONS:

CONTRACTOR AND OWNER PRIOR TO ROUGH-IN.

9/25/2020 1:58:29 PM

- . PROVIDE NECESSARY BOXES, CONDUIT AND MAKE FINAL CONNECTIONS TO TEMPERATURE CONTROL DEVICES PER MANUFACTURER'S RECOMMENDATIONS. THIS INCLUDES BUT IS NOT LIMITED TO: MAIN CONTROL PANELS, THERMOSTATS, HUMIDISTATS, AC SOLENOIDS, HEAT RECLAIM WIRING, AHU CONTROL WIRING, DUCT FURNACE CONTROL WIRING, TIMERS, AND SIMILAR CONTROLS. PROVIDE CONDUIT FOR ALL WIRING WITHIN WALLS. PROVIDE CONTROL AND INTERLOCK WIRING WHEN NOT PROVIDED BY OTHER TRADES. COORDINATE REQUIREMENTS WITH EQUIPMENT
- SUPPLIERS AND OTHER TRADES PRIOR TO ROUGH-IN. PROVIDE LINE VOLTAGE WIRING AND MAKE FINAL CONNECTIONS TO ALL DUCT-MOUNTED SMOKE DETECTORS, FIRE/SMOKE AND SMOKE DAMPERS WHERE APPLICABLE. COORDINATE REQUIREMENTS WITH OTHER TRADES PRIOR TO
- 3. DEVICES MOUNTED ON ACOUSTICAL TILE CEILINGS SHALL BE CENTERED ON THE
- 4. PROVIDE BOX AND [3/4"] CONDUIT FROM EACH THERMOSTAT LOCATION TO MECHANICAL EQUIPMENT. (FLUSH MOUNT BOX WHEREVER PRACTICABLE). COORDINATE LOCATION OF ALL THERMOSTAT BOXES WITH MECHANICAL/CONTROLS
- PROVIDE BOXES AND CONDUITS FOR THE FIRE PROTECTION SYSTEM LOW VOLTAGE WIRING AS REQUIRED. THIS INCLUDES EXPOSED WIRING LESS THAN 96" AFF. AT A MINIMUM, PROVIDE [3/4"] CONDUIT, UNLESS NOTED OTHERWISE. COORDINATE REQUIREMENTS AND LOCATIONS WITH SYSTEM INSTALLER AND FIRE ALARM SPECIFICATIONS.
- 6. AT A MINIMUM, PROVIDE EXTRA DEEP, DOUBLE GANG COMMUNICATION OUTLET BOXES, (FLUSH MOUNTED WHEREVER PRACTICABLE), WITH SINGLE-GANG PLASTER RING AND [1"] CONDUIT STUBBED-UP CONCEALED TO ACCESSIBLE CEILING SPACE, UNLESS NOTED OTHERWISE. PROVIDE SURFACE MOUNTED DATA BOXES WITHIN CABINETRY, AND SELECT OTHER LOCATIONS AS INDICATED ON THE DRAWINGS. COORDINATE TELEPHONE/DATA BOX AND CONDUIT LOCATIONS AND SIZES WITH OWNER AND OTHER TRADES PRIOR TO ROUGH-IN.
- . PROVIDE NYLON BUSHINGS FOR ALL COMMUNICATIONS AND LOW VOLTAGE WIRING CONDUITS AND SLEEVES, UNLESS NOTED OTHERWISE.

- 8. ALL COMMUNICATIONS AND LOW VOLTAGE WIRING CONDUIT SHALL BE INSTALLED WITH AN ACCESSIBLE PULLBOX BETWEEN EVERY 180 DEGREE CHANGE IN DIRECTION AND AT 100' INTERVALS OF CONTINUOUS RUNS.
- 9. MINIMUM BEND RADIUS FOR COMMUNICATIONS CONDUIT IS 6 TIMES THE INSIDE DIAMETER FOR CONDUITS 2" IN DIAMETER AND SMALLER AND 10 TIMES THE INSIDE DIAMETER FOR CONDUITS GREATER THAN 2" IN DIAMETER, UNLESS NOTED OTHERWISE.
- 10. LOW VOLTAGE COMMUNICATION, ENERGY MANAGEMENT, SOUND SYSTEM, SECURITY AND RELATED WIRING IS TO BE PERFORMED BY OTHERS UNDER A SEPARATE CONTRACT, UNLESS NOTED OTHERWISE. PROVIDE BOXES AND CONDUIT IN FINISHED AND RATED FLOORS/WALLS/CEILINGS TO ACCESSIBLE LOCATIONS FOR ALL LOW VOLTAGE WIRING. PROVIDE ALL LINE VOLTAGE CIRCUITRY (120V AND HIGHER) TO OWNER FURNISHED EQUIPMENT AND LOW VOLTAGE STEP-DOWN TRANSFORMERS AS REQUIRED. COORDINATE ELECTRICAL REQUIREMENTS AND LOCATIONS WITH SYSTEM INSTALLER AND OWNER.
- 11. ALL LOW VOLTAGE CLASS 2 OR 3 WIRING NOT IN CONDUIT SHALL BE PLENUM RATED WHERE APPLICABLE.
- 12. LOW VOLTAGE CABLE SHEATH LABELS AND RELATED MANUFACTURER INFO SHALL REMAIN APPARENT IN ALL EXPOSED APPLICATIONS. PROTECT ALL EXPOSED CABLING FROM PAINTING AND OVERSPRAY (INCLUDES CABLE NOT ROUTED IN CONDUIT AND THAT IS IN CABLE TRAY).
- 13. CABLES SHALL BE ROUTED THROUGH THE BUILDING CABLE TRAY/RACEWAY SYSTEM, UNLESS NOTED OTHERWISE. EXPOSED CABLING SHALL NOT BE ROUTED IN AREAS EXPOSED TO STRUCTURE UNLESS SPECIFICALLY PERMITTED BY THE OWNER. IN AREAS WHERE EXPOSED CABLES ARE ALLOWED, IT SHALL BE INSTALLED IN A NEAT AND WORKMAN LIKE MANNER IN ACCORDANCE WITH THE OWNER'S REQUIREMENTS. WHERE REQUIRED, PROVIDE CONDUIT TO ROUTE LOW VOLTAGE CABLING TO THE CABLE TRAY OR NEAREST ACCESSIBLE CEILING SPACE.
- 14. CONDUITS FOR COMMUNICATIONS OUTLETS SERVING ELEVATOR EQUIPMENT ROOMS. FACP, AND SIMILAR CRITICAL EQUIPMENT AS DESIGNATED BY THE OWNER SHALL BE CONTINUOUS ("HOMERUN") FROM OUTLET TO SERVING COMMUNICATIONS ROOM.

APPLICABLE ELECTRICAL CODES:

12

NOTE: PROJECT IS DESIGNED IN COMPLIANCE WITH THE FOLLOWING CODES. THIS IS NOT AN EXHAUSTIVE LIST. PROJECT SHALL COMPLY WITH ALL APPLICABLE CODES, STANDARDS AND LOCAL REQUIREMENTS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE, (NFPA 70) BUILDING CODE: 2015 INTERNATIONAL BUILDING CODE ENERGY CODE: **NOT ADOPTED**

COMMISSIONING / FUNCTIONAL TESTING:

RELATED TO THE CODE REQUIRED BUILDING SYSTEMS COMMISSIONING INCLUDING A COMMISSIONING PLAN, FUNCTIONAL TESTING, AND RELATED DOCUMENTATION, REPORTS AND OWNER TRAINING. THIS INCLUDES RETAINING THE SERVICES OF A 3RD PARTY REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY. REFER TO THE LATEST ADOPTED EDITION OF THE APPLICABLE ENERGY CODE FOR MORE INFORMATION. CONTRACTOR SHALL COMPLETE ALL RELATED COMMISSIONING REQUIREMENTS PRIOR TO FINAL INSPECTIONS IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, CODE AND MANUFACTURER'S INSTRUCTIONS.

ELECTRICAL GENERAL NOTES:

- EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT ACTUAL "AS-BUILT" CONDITIONS. VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BID. COORDINATE NEW AND DEMOLITION WORK WITH ALL OTHER TRADES AND EXISTING CONDITIONS.
- NOTIFY ARCHITECT, ENGINEER AND OWNER, AS APPLICABLE, IF ANY DANGEROUS CONDITIONS EXIST ON JOB SITE BEFORE ANY DEMOLITION OR REMODEL WORK BEGINS.
 - COORDINATE ANY NECESSARY POWER OUTAGES WITH THE OWNER AND MAKE EVERY ATTEMPT TO SCHEDULE DURING NON-SCHOOL OR OFF-PEAK SCHOOL HOURS TO MINIMIZE DISRUPTION TO SCHOOL OPERATIONS. REQUESTS FOR ELECTRICAL SHUTDOWNS OF THE OWNERS EQUIPMENT SHALL BE BROUGHT IN WRITING TO THE ATTENTION OF THE
- OWNER AT LEAST 7 DAYS IN ADVANCE. SHUTDOWNS SHALL NOT BE PERFORMED WITHOUT WRITTEN APPROVAL FROM ALL ROOF PENETRATIONS, FLOOR CHASING OR CORE DRILLING SHALL REQUIRE THE SPECIFIC APPROVAL OF THE OWNER. ALL WORK IN COMMON AREAS, SHAFTS OR OTHER OWNER SPACES MUST BE SPECIFICALLY REVIEWED AND
- FOR AREAS AND EQUIPMENT WITHIN THE SCOPE OF THIS REMODEL: EXISTING ELECTRICAL EQUIPMENT AND CIRCUITRY MAY BE REUSED IF IN GOOD CONDITION AND NEW DESIGN REQUIREMENTS CAN BE MET; OTHERWISE REPLACE

APPROVED BY THE OWNER PRIOR TO ANY WORK BEING PERFORMED.

- FOR AREAS AND EQUIPMENT WITHIN THE SCOPE OF THIS REMODEL: REPAIR OR REPLACE ANY EXISTING DAMAGED OR RECALLED ELECTRICAL EQUIPMENT, LIGHT FIXTURES, WIRING DEVICES AND RELATED CIRCUITRY AND RESTORE ALL ELECTRICAL SYSTEMS TO PROPER WORKING ORDER. THE FINAL ELECTRICAL INSTALLATION SHALL BE FREE FROM ELECTRICAL DEFECTS TO THE SATISFACTION OF THE AHJ, OWNER, ARCHITECT AND ENGINEER.
- FOR AREAS AND EQUIPMENT WITHIN THE SCOPE OF THIS REMODEL: VERIFY CONDITION AND AGE OF EXISTING REUSED ELECTRICAL EQUIPMENT, LIGHT FIXTURES, CIRCUIT BREAKERS, FUSES, CONDUIT, SWITCHES AND RELATED WIRING. NOTIFY OWNER OF ANY ELECTRICAL EQUIPMENT, LIGHT FIXTURES AND WIRING AGED BEYOND ITS USEFUL LIFE AND REPLACE AS DIRECTED. THE MAXIMUM EXPECTED USEFUL LIFE SHALL NOT EXCEED THE FOLLOWING, (AS DATED FROM THE POINT OF MANUFACTURE), UNLESS APPROVED BY THE ENGINEER, MANUFACTURER AND OWNER: 20 YEARS FOR CIRCUIT BREAKERS, GENERATOR/UPS SYSTEMS AND LIGHT FIXTURES, 30 YEARS FOR TRANSFORMERS AND PANELBOARDS, 40 YEARS FOR SWITCHBOARDS AND OTHER ELECTRICAL EQUIPMENT.
- FOR AREAS AND EQUIPMENT WITHIN THE SCOPE OF THIS REMODEL: ELECTRICAL EQUIPMENT SHALL BE LOCATED SO THAT THE CODE REQUIRED MINIMUM WORKING CLEARANCE AND DEDICATED ELECTRICAL SPACE ARE MAINTAINED. EXISTING EQUIPMENT NOT MEETING CURRENT CODE CLEARANCE REQUIREMENTS MAY REMAIN IF ALLOWED TO REMAIN BY THE AHJ, ENGINEER AND OWNER.
- FOR FURNISHED EQUIPMENT AND APPLIANCES: CONFIRM THE ELECTRICAL REQUIREMENTS WITH MANUFACTURER INFORMATION AND OTHER TRADES PRIOR TO ROUGH-IN AND ADJUST ELECTRICAL PROVISIONS AS NECESSARY. THIS INCLUDES BUT IS NOT LIMITED TO: RACEWAY, CONDUCTOR(S), DISCONNECT, CIRCUIT BREAKER, FUSE, WIRING DEVICE AND TERMINATION. WHERE APPLICABLE, REFER TO VENDOR INFORMATION, SUCH AS FOOD SERVICE AND REFRIGERATION DRAWINGS, FOR DEVICE TYPE AND LOCATION.

ELECTRICAL SUPPLEMENTAL SPECIFICATIONS:

- PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS. AS APPLICABLE, REVIEW THE OWNER CRITERIA, GENERAL NOTES, OTHER TRADE DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMITTING BID.
- ALL WORK SHALL CONFORM TO ALL LOCAL CODES AND ORDINANCES AS WELL AS APPLICABLE INDUSTRY STANDARDS. AL EQUIPMENT SHALL BEAR LABELS FOR THE USE INTENDED BY AN AHJ ACCEPTED NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL), SUCH AS UL OR ETL. THE FINAL ELECTRICAL INSTALLATION OF THE FACILITY OCCUPIED BY OWNER SHALL BE FREE FROM ELECTRICAL DEFECTS TO THE SATISFACTION OF THE AHJ, OWNER, ARCHITECT AND ENGINEER.

COORDINATE FINAL LOCATION AND INSTALLATION REQUIREMENTS OF ALL LIGHT FIXTURES, ELECTRICAL EQUIPMENT AND

ELECTRICAL DEVICES WITH ARCHITECTURAL DRAWINGS, EXISTING CONDITIONS AND OTHER TRADES PRIOR TO ROUGH-IN.

- PROVIDE ALL NECESSARY DEVICES, CORDS, PLUGS, DISCONNECTS AND FINAL CONNECTIONS TO ELECTRICAL EQUIPMENT FOR PROPER OPERATION IN ACCORDANCE WITH CODE, OWNER AND MANUFACTURER REQUIREMENTS. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC/SCHEMATIC IN NATURE AND REPRESENT THE GENERAL SCOPE OF WORK. IT IS NOT WITHIN THE SCOPE OF THE ELECTRICAL DRAWINGS TO SHOW ALL NECESSARY RACEWAY ROUTING, BENDS, OFFSETS, PULL BOXES AND OBSTRUCTIONS. CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF EQUIPMENT AND
- WIRING DEVICES WITH OTHER TRADES PRIOR TO INSTALLATION AND INSTALL ALL WORK TO CONFORM TO THE OWNER ALL CONDUCTOR AND CONDUIT LENGTHS SHOWN IN THESE DESIGN DOCUMENTS ARE INTENDED SOLELY FOR USE IN THE DESIGN CALCULATIONS BY THE DESIGN PROFESSIONAL. UNLESS NOTED OTHERWISE, LENGTHS SHOWN SHALL NOT BE
- USED TO ASSIST IN THE BIDDING TAKEOFF PROCESS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MATERIAL QUANTITIES REQUIRED TO BID AND CONSTRUCT THE COMPLETE PROJECT.
- PROVIDE PROPER FIRE PROOFING AND SEALANT FOR PENETRATIONS THROUGH FIRE RATED ASSEMBLIES. THE FIRE STOPPING METHOD, MATERIAL AND ITS APPLICATION SHALL BE NRTL LISTED, CODE COMPLIANT AND APPROVED BY AHJ. FOR CAST-IN-PLACE CONCRETE, TILT-UP WALLS, PRECAST OR SIMILAR PRE-ENGINEERED WALL SYSTEMS: COORDINATE

THE FINAL LOCATION OF ALL ELECTRICAL DEVICES, RACEWAYS, LIGHT FIXTURES AND PENETRATIONS WITH ARCHITECT,

- WALL SUPPLIER AND OTHER TRADES PRIOR TO WALL CONSTRUCTION. CONDUIT/RACEWAY IMBEDDED IN CONCRETE WALLS SHALL BE SCHEDULE 80 PVC OR LFMC; OTHER TYPES MAY BE ALLOWED IF APPROVED BY WALL SYSTEM MANUFACTURER AND ENGINEER. WHEN CONCRETE TRENCHING/CORING IS REQUIRED, THE METHODS, DEPTHS, AND LOCATIONS SHALL BE PRE-APPROVED BY OWNER, ARCHITECT, AND STRUCTURAL ENGINEER PRIOR TO THE START OF WORK. X-RAY SLAB AS NECESSARY TO AVOID DAMAGING ANY UNDER-SLAB UTILITIES OR STRUCTURE. SLAB REPLACEMENT SHALL BE INSTALLED WITH
- DOWELLING AND REINFORCED CONCRETE AS DIRECTED BY THE STRUCTURAL ENGINEER. WHERE SLAB ON GRADE IS SAW-CUT AND REMOVED FOR TRENCHING THE CONTRACTOR SHALL INSTALL MOISTURE BARRIER PER OWNER'S REQUIREMENTS. PROVIDE 3/4" MINIMUM CONDUITS ROUTED THROUGH SLAB AND STUBBED UP INTO DEVICES. FOR SLAB ON 🖰 '' DECK, THE FLOOR SHALL BE SLEEVED AND EQUIPPED WITH THE APPROPRIATE LISTED ASSEMBLY. PROVIDE 3/4" MINIMUM CONDUITS ROUTED BELOW SLAB, TIGHT TO STRUCTURE, AND STUBBED UP INTO DEVICES.
- ALL APPLICABLE SWITCHES, RECEPTACLES, OUTLETS, AND CONTROLS SHALL BE PLACED AT HEIGHTS THAT ARE IN ACCORDANCE WITH ADA ACCESSIBILITY GUIDELINES.
- 10. COORDINATE FLOOR MOUNTED BOX, RECEPTACLE, AND COVER PLATE TYPES WITH ARCHITECT AND OWNER PRIOR TO
- 1. WIRING DEVICES ADJACENT TO EACH OTHER SHALL BE INSTALLED UNDER A SINGLE COVER PLATE, UNO.
- 12. WIRING DEVICES SHOWN BACK-TO-BACK ON A COMMON WALL SHALL BE OFFSET A MINIMUM OF 12" HORIZONTALLY TO REDUCE SOUND TRANSMISSION BETWEEN ROOMS, UNO.
- 3. ALL WP OUTLET BOX HOODS SHALL BE "EXTRA-DUTY" AND "WHILE-IN-USE COVER" TYPE. OUTLET BOX HOODS SHALL BE LOW PROFILE WHEREVER PRACTICABLE, UNLESS NOTED OTHERWISE. THE USE OF LARGE BUBBLE COVERS SHALL BE AVOIDED ON THE EXTERIOR OF THE BUILDING OR BEHIND EQUIPMENT IN ORDER TO PREVENT DAMAGE TO THE COVER AND TO ALLOW THE EQUIPMENT TO BE LOCATED CLOSE TO THE WALL.
- 14. ALL 120V RECEPTACLES 50A OR LESS, 208V AND 240V RECEPTACLES 100A OR LESS, SHALL BE GFCI PROTECTED IN LOCATIONS REQUIRED BY CODE; THIS INCLUDES BATHROOMS, KITCHENS/FOOD PREP AREAS, EXTERIOR LOCATIONS AND RECEPTACLES WITHIN 6 FEET OF A SINK. GFCI RECEPTACLES SHALL BE READILY ACCESSIBLE AND SHALL NOT BE LOCATED BEHIND STATIONARY EQUIPMENT. GFCI PROTECTION MAY BE VIA A GFCI CIRCUIT BREAKER OR GFCI RECEPTACLE, UNLESS NOTED OTHERWISE. WHERE NECESSARY, GFCI PROTECTION MAY BE ACHIEVED VIA A BLANK FACE GFCI DEVICE LOCATED IN A READILY ACCESSIBLE LOCATION NEAR RECEPTACLE BEING PROTECTED. FOR DOWNSTREAM WIRING DEVICES LOCATED ON THE SAME BRANCH CIRCUIT, THE GFCI PROTECTION MAY BE PROVIDED FOR BY A SINGLE UPSTREAM DEVICE IF ALL PROTECTED DEVICES ARE LABELED PER CODE.
- 5. PROVIDE TAMPER-RESISTANT (TR) TYPE RECEPTACLES AT ALL CODE REQUIRED LOCATIONS AND AT LOCATIONS WHERE RECEPTACLES ARE MOUNTED LESS THAN 5'-6" AFF AND ARE EASILY ACCESSIBLE BY CHILDREN, UNLESS NOTED
- 16. FLEXIBLE CONDUIT IS ONLY PERMITTED WHERE SPECIFICALLY ALLOWED IN THE CONSTRUCTION DOCUMENTS, WHERE CONCEALED FROM VIEW OR EXPOSED FINAL CONNECTIONS TO LIGHT FIXTURES AND EQUIPMENT IN LENGTHS OF 6'-0" OR
- 7. ALL EMPTY CONDUIT/RACEWAY SHALL BE INSTALLED WITH PULL STRINGS. TERMINATE CONDUIT STUB-UP WITH A NYLON
- 18. EXPOSED CONDUIT/RACEWAY SHALL BE PAINTED TO MATCH ADJACENT SURFACE, UNLESS NOTED OTHERWISE. COORDINATE REQUIREMENTS WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION.
- 19. CONDUITS/RACEWAYS SHALL BE CONCEALED FROM VIEW WHEREVER PRACTICABLE, UNLESS NOTED OTHERWISE. ROUTE CONDUITS SERVING ROOFTOP EQUIPMENT CONCEALED INSIDE EQUIPMENT CURB AND MINIMIZE ROOF PENETRATIONS AND EXTERIOR CONDUIT RUNS WHERE PRACTICABLE, SUPPORT RACEWAY FROM STRUCTURE, NOT ROOF DECK, MAINTAIN 2" MIN SPACING FROM BOTTOM OF ROOF DECK TO PREVENT ROOFING SCREWS FROM PENETRATING RACEWAY. DO NOT ROUTE CONDUITS ACROSS SKYLIGHTS, ACCESS PANELS, HATCHED TILES, HVAC DIFFUSERS, OR EQUIPMENT WORKING CLEARANCE SPACE. ROUTE ALL EXPOSED NON-FLEXIBLE CONDUITS TIGHT TO STRUCTURE, PARALLEL TO BUILDING LINES AND IN STRUT OR CABLE/PIPE TRAY WHERE PRACTICABLE. INSTALL CONDUITS PLUMB/ LEVEL WHERE EXPOSED TO VIEW. COORDINATE RACEWAY ROUTING AND INSTALLATION WITH OTHER TRADES PRIOR TO ROUGH-IN.
- 20. WHERE PRACTICABLE, ALL UNDER-FLOOR/UNDER-GROUND CONDUITS/RACEWAY SHALL BE INSTALLED A MINIMUM OF **24"** BELOW BOTTOM OF SLAB/PAVING/GRADE, UNLESS NOTED OTHERWISE. NOTE: THE DESIGN INTENT FOR INSTALLING ELECTRICAL CIRCUITRY AT THIS DEPTH IS TO PROTECT THE ELECTRICAL CIRCUITRY FROM DAMAGE DUE TO FUTURE
- 21. PROVIDE LABEL AT EACH RECEPTACLE COVER PLATE WITH THE RESPECTIVE "PNLBD-CKT#" DESIGNATION. COORDINATE LABEL REQUIREMENTS WITH THE OWNER PRIOR TO INSTALLATION. REFER TO THE SPECIFICATIONS FOR MORE
- 22. MULTIWIRE BRANCH CIRCUITS ARE NOT ALLOWED, UNLESS NOTED OTHERWISE.
- 23. PROVIDE INSULATED EQUIPMENT GROUNDING CONDUCTOR FOR ALL CIRCUITS, UNLESS NOTED OTHERWISE.

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Lee's Summit R7 District **Athletics Facilities**

Lee's Summit High School 400 SW Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District 301 NE Tudor Road Lee's Summit, MO 64086

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Kansas City, MO 64111

Kaw Valley Engineering 14700 West 114th Terrace Lenexa, KS 66215 913.485.0318

816.531.4144

mechanical/electrical enginee Henderson Engineers 8345 Lenexa Drive | Suite 300 Lenexa, KS 66214 816.742.5000

8345 LENEXA DRIVE, SUITE 300 LENEXA, KS 66214 **TEL** 913.742.5000 **FAX** 913.742.5001 WWW.HENDERSONENGINEERS.COM



MO. CORPORATE NO: E-556D

EXPIRES 12/31/2020

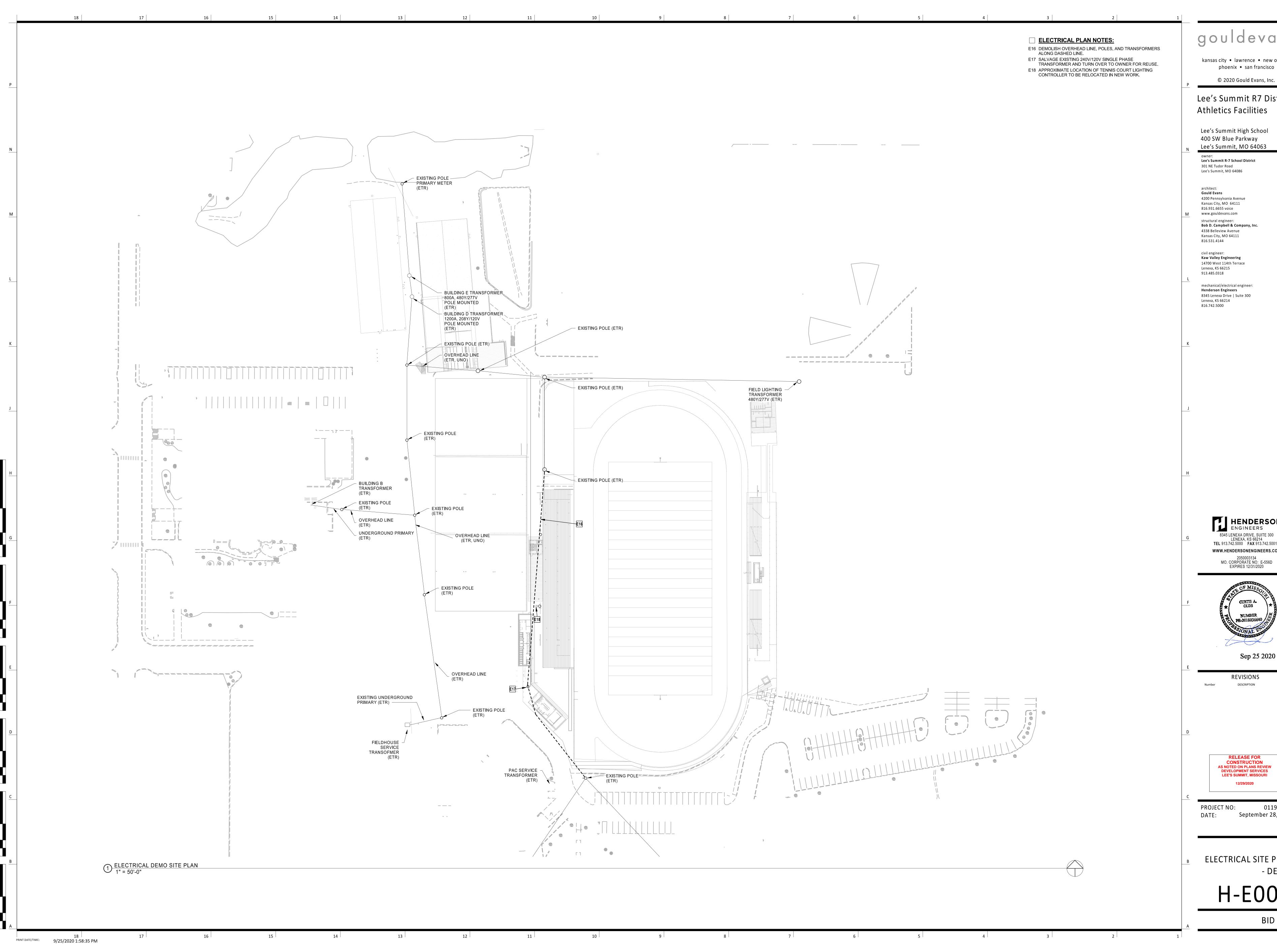
REVISIONS DESCRIPTION

RELEASE FOR CONSTRUCTION

AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

PROJECT NO: September 28, 2020

ELECTRICAL GENERAL NOTES AND LEGEND



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Lee's Summit R7 District

Lee's Summit High School 400 SW Blue Parkway

Lee's Summit R-7 School District

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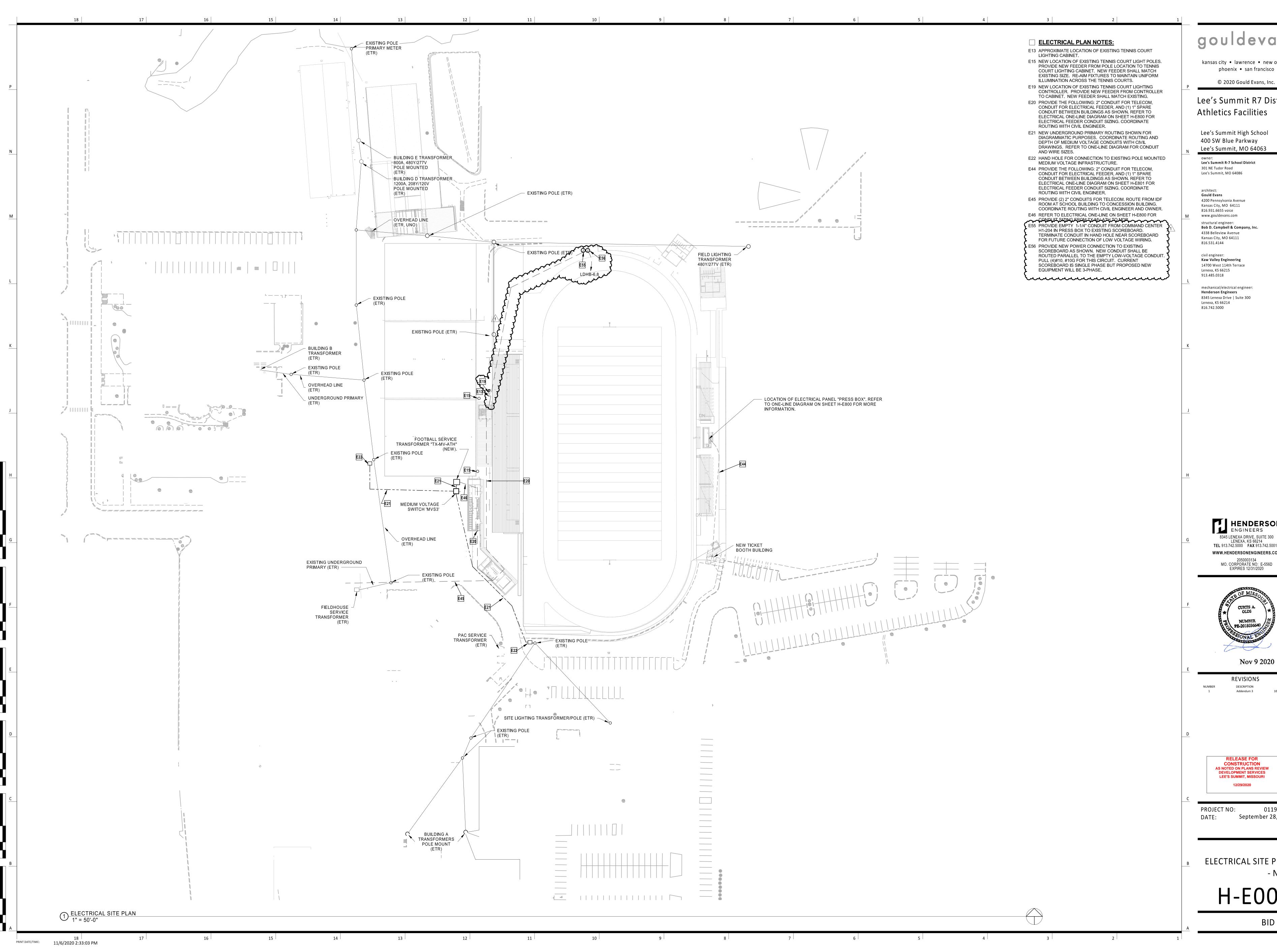


REVISIONS



0119-0101 September 28, 2020

ELECTRICAL SITE PLAN - DEMO



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Lee's Summit R7 District

Lee's Summit High School 400 SW Blue Parkway

Lee's Summit R-7 School District

4200 Pennsylvania Avenue Kansas City, MO 64111 www.gouldevans.com Bob D. Campbell & Company, Inc. 4338 Belleview Avenue

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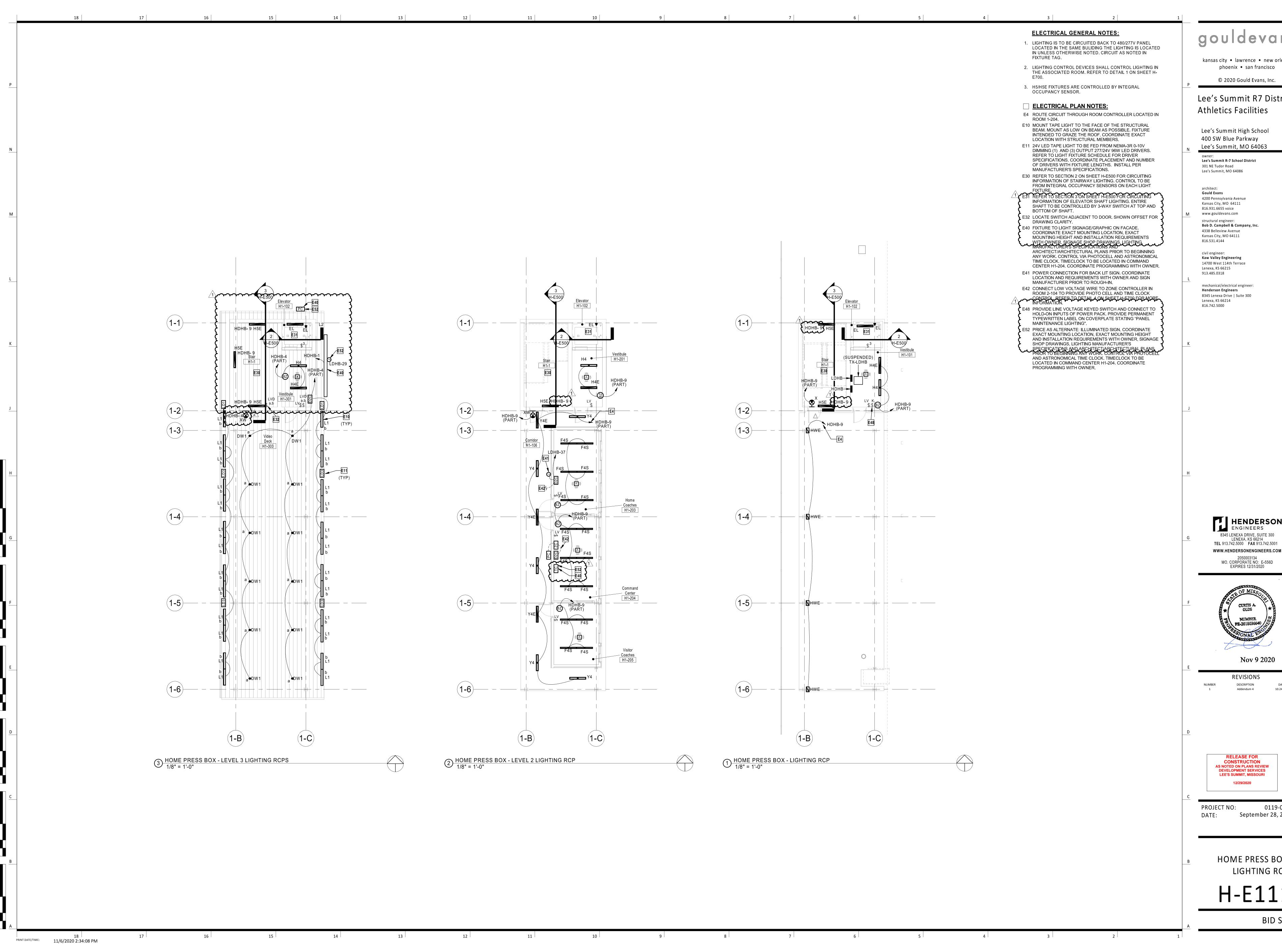


REVISIONS DESCRIPTION

CONSTRUCTION **AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES** LEE'S SUMMIT, MISSOURI

September 28, 2020

ELECTRICAL SITE PLAN - NEW



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Lee's Summit R7 District Athletics Facilities

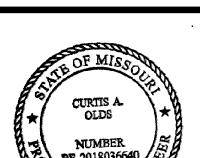
Lee's Summit High School 400 SW Blue Parkway

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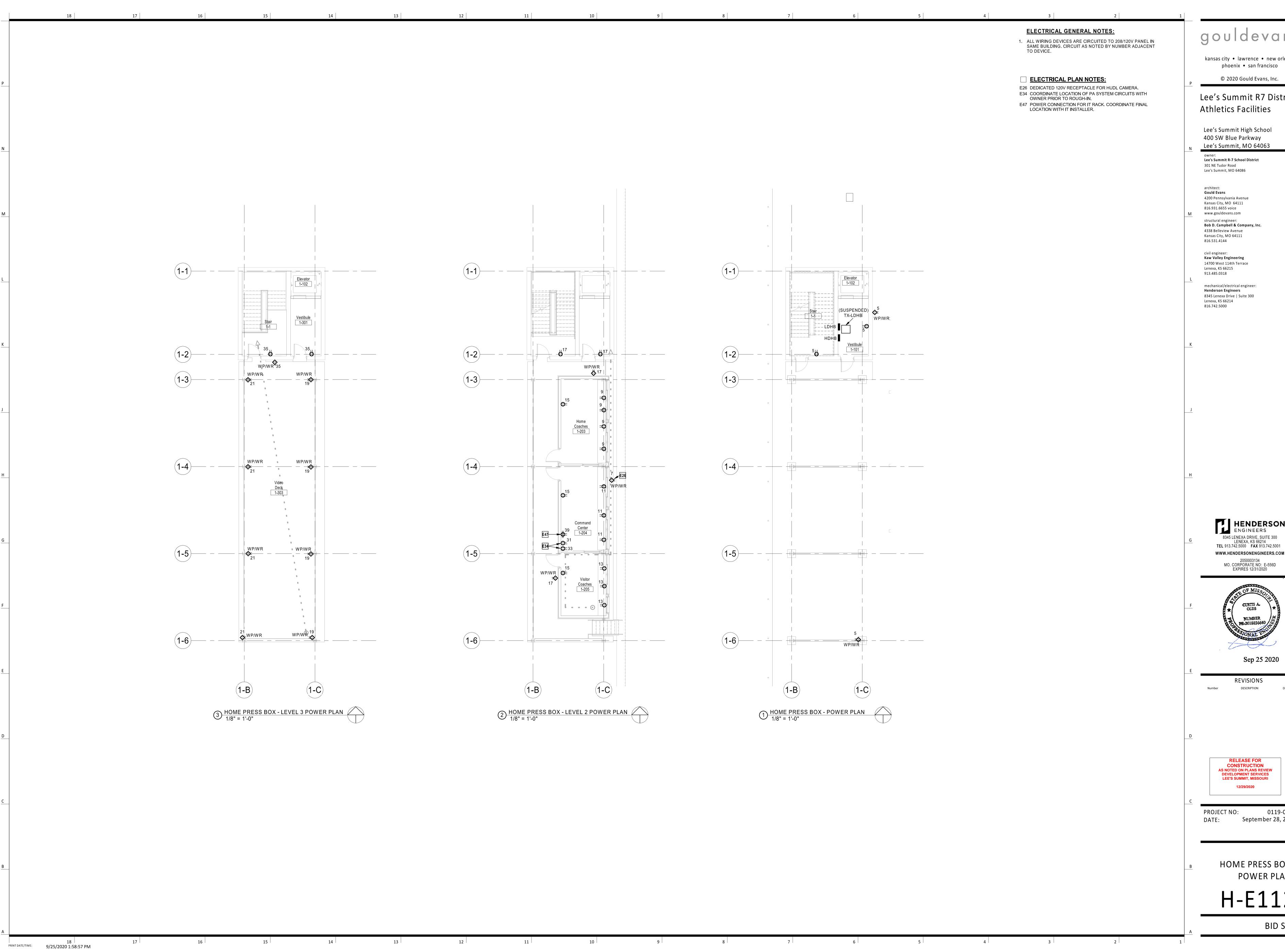


REVISIONS DESCRIPTION

CONSTRUCTION **AS NOTED ON PLANS REVIEW** DEVELOPMENT SERVICES LEE'S SUMMIT, MISSOURI

> 0119-0101 September 28, 2020

HOME PRESS BOX -LIGHTING RCPS



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Lee's Summit R7 District Athletics Facilities

Lee's Summit High School 400 SW Blue Parkway

Lee's Summit R-7 School District

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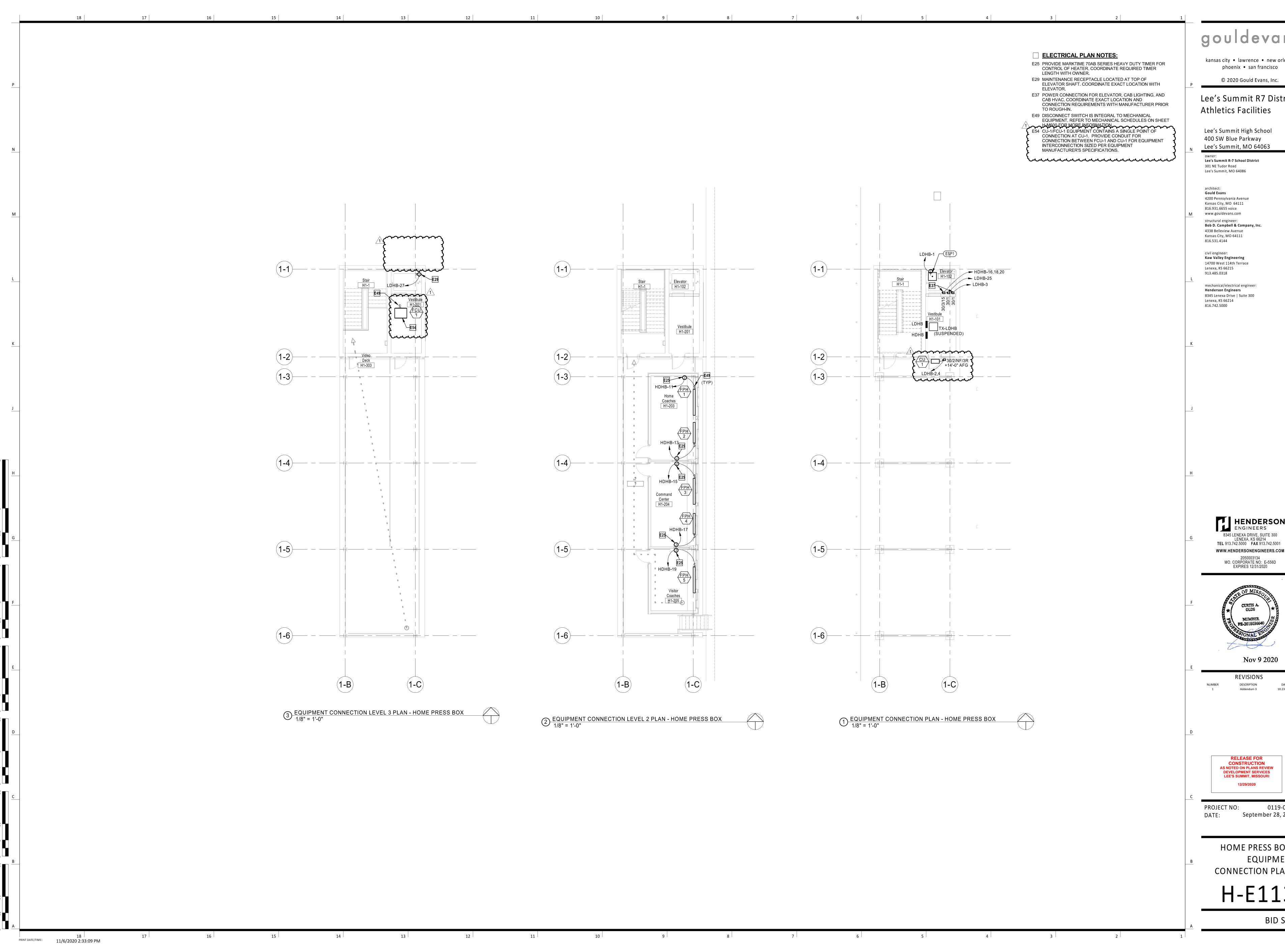


REVISIONS

CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

0119-0101 September 28, 2020

HOME PRESS BOX -POWER PLANS



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Lee's Summit R7 District

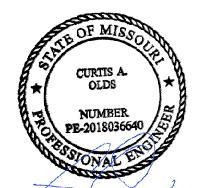
Lee's Summit High School 400 SW Blue Parkway

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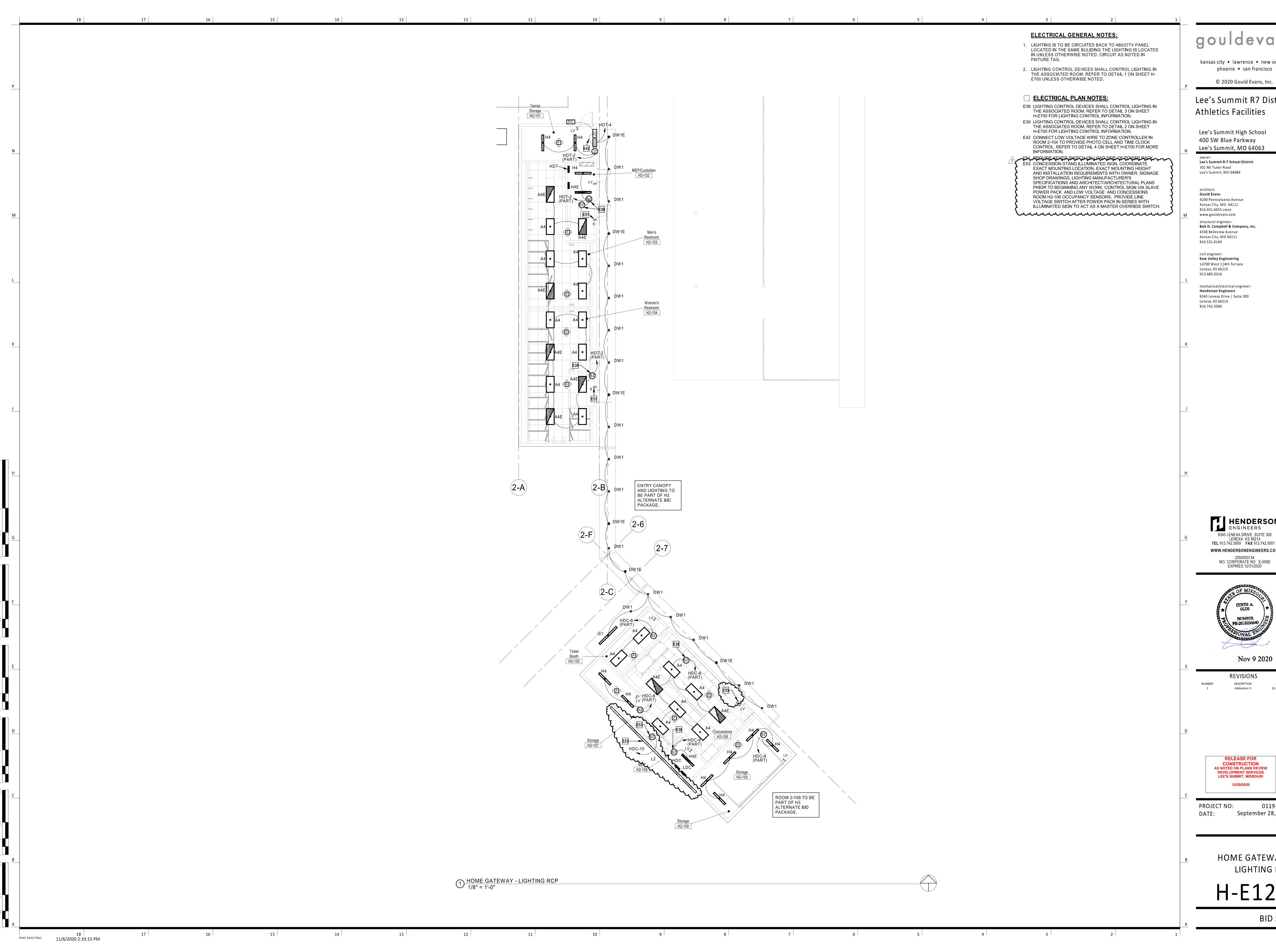


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RELEASE FOR
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AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

0119-0101 September 28, 2020

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Lee's Summit R7 District

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Lee's Summit R-7 School District

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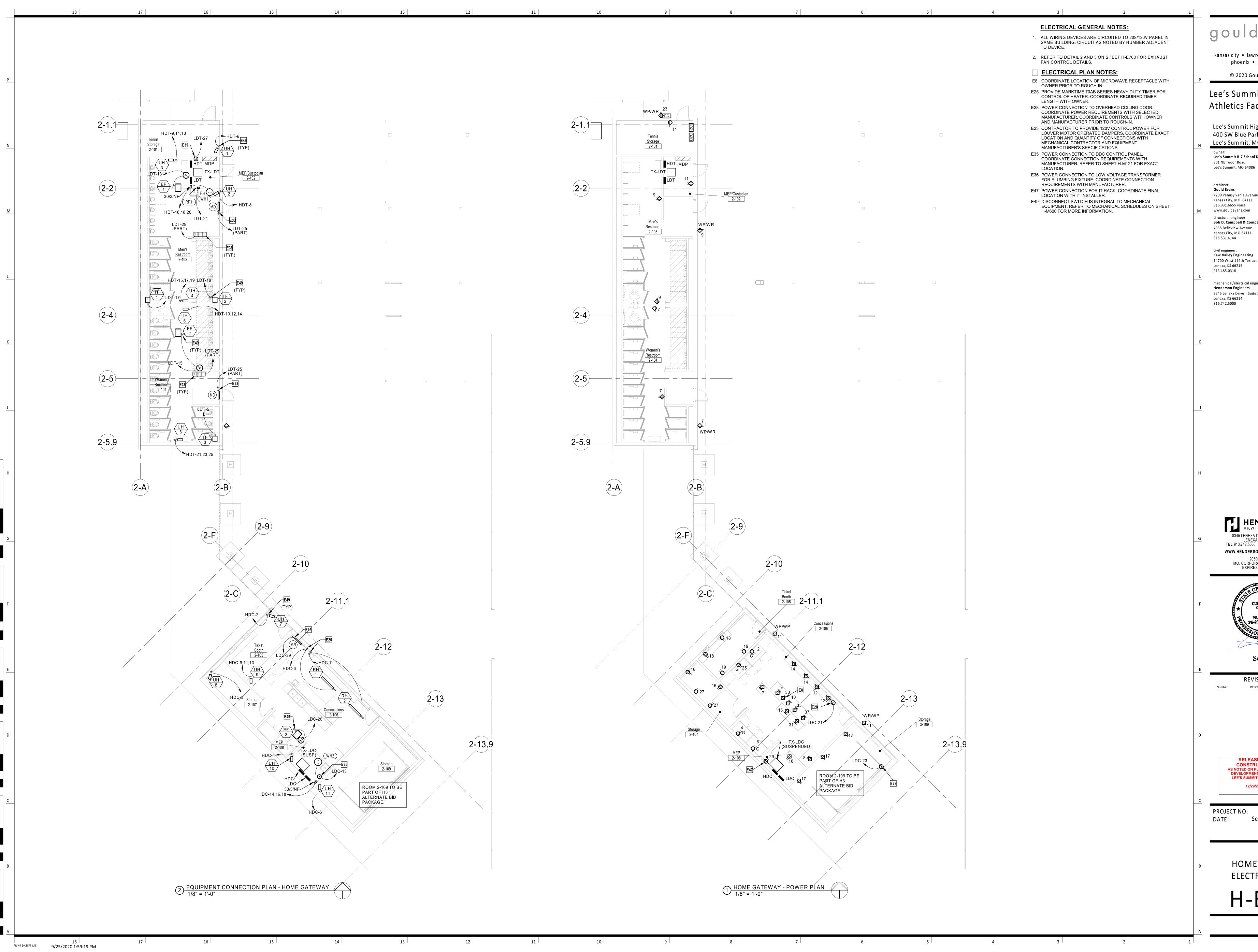
REVISIONS

DESCRIPTION

CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

September 28, 2020

HOME GATEWAY -LIGHTING RCP



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Lee's Summit R7 District **Athletics Facilities**

Lee's Summit High School 400 SW Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District 301 NE Tudor Road

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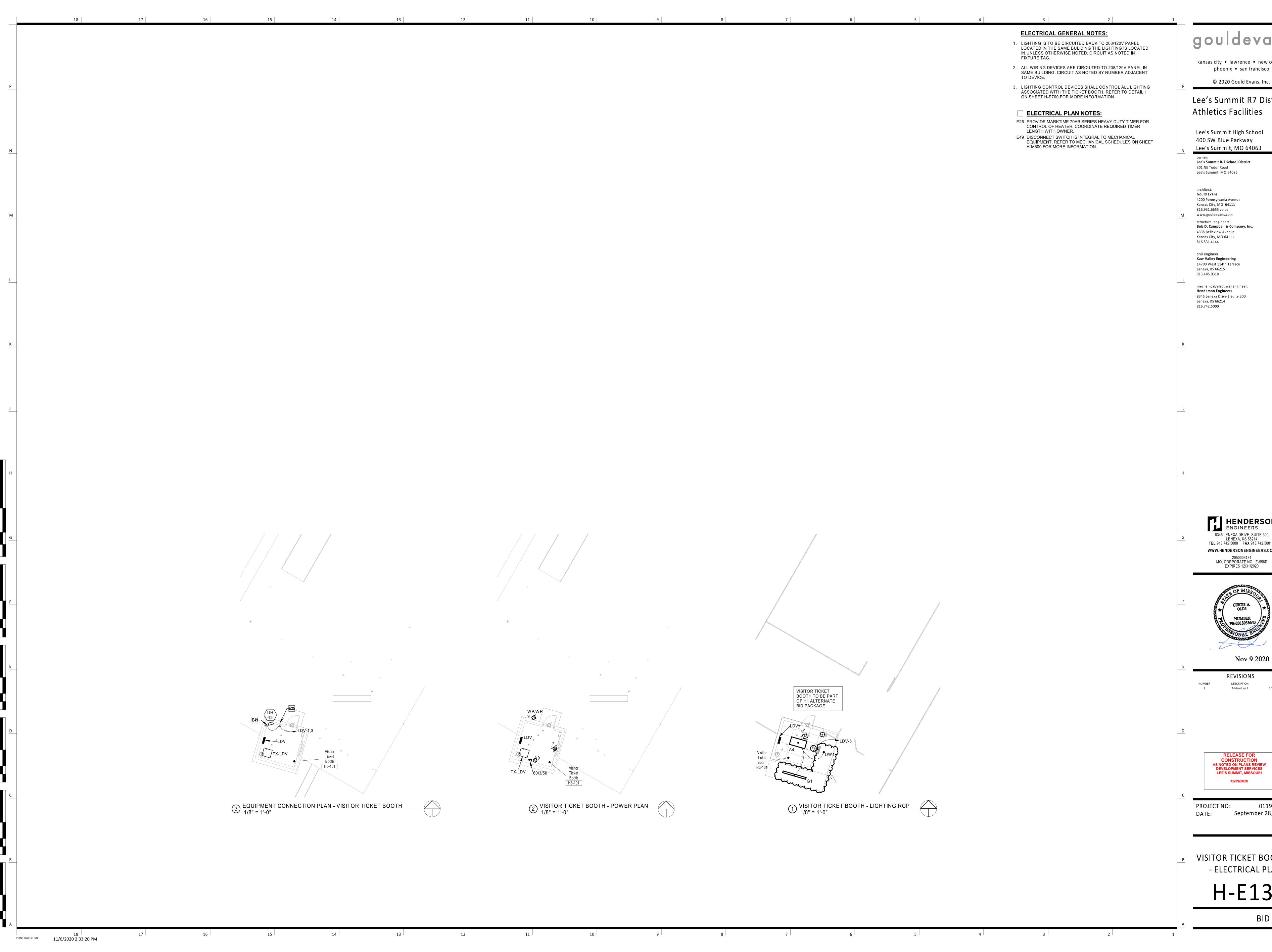
RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

PROJECT NO:

September 28, 2020

HOME GATEWAY -ELECTRICAL PLANS

H-E122



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Lee's Summit R7 District

Lee's Summit High School 400 SW Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District

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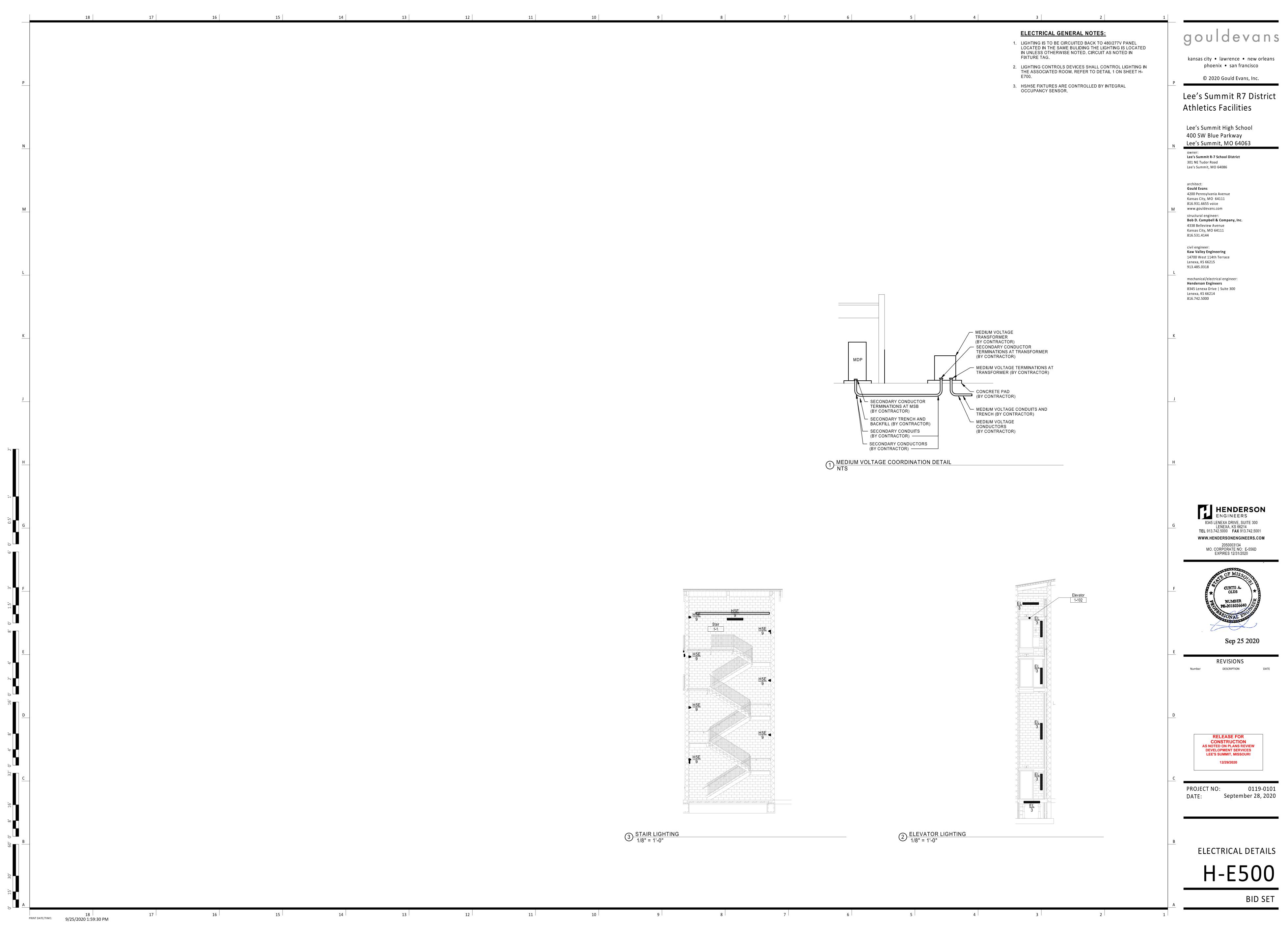
REVISIONS DESCRIPTION

CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

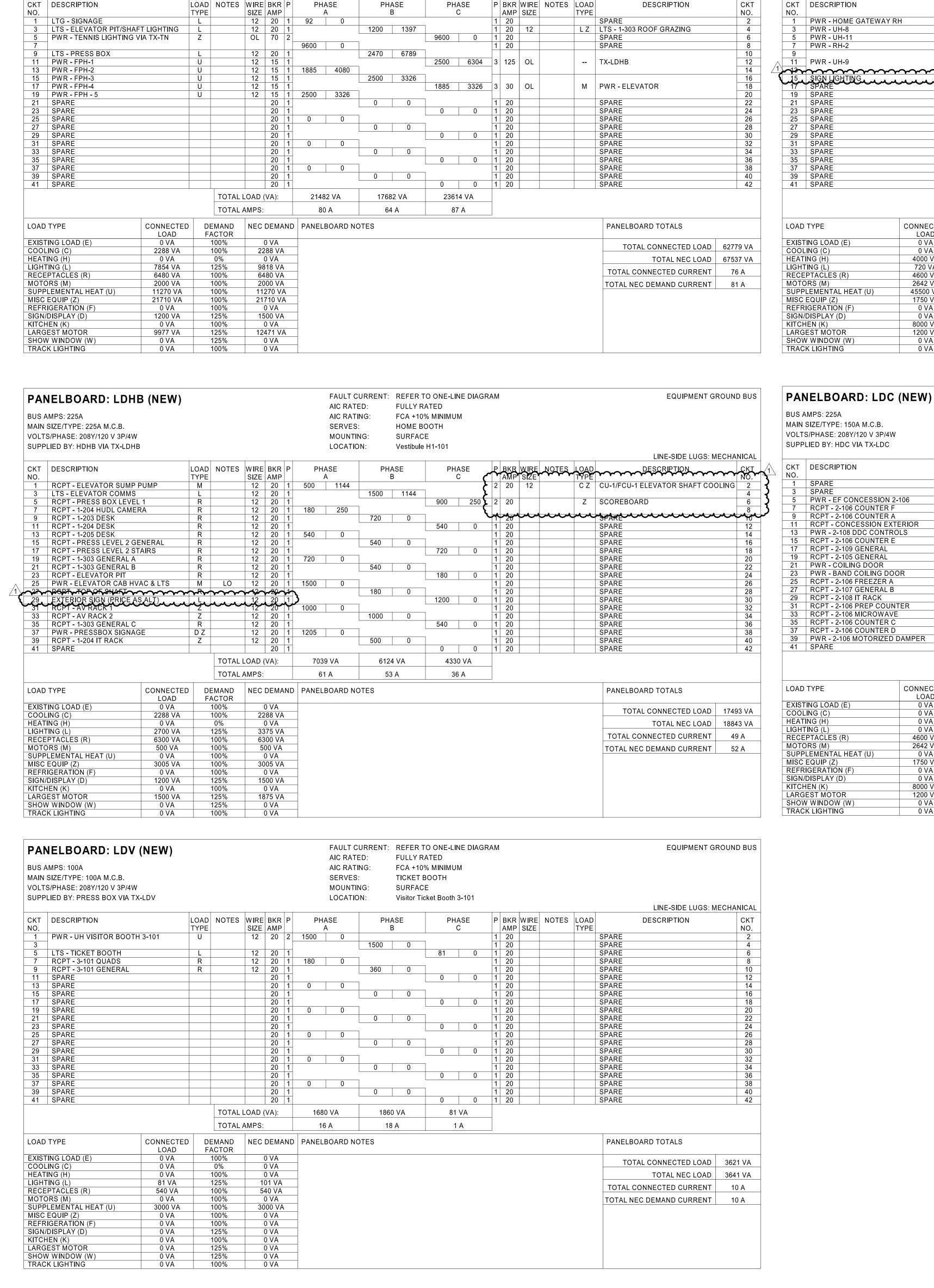
September 28, 2020

VISITOR TICKET BOOTH - ELECTRICAL PLANS

H-E131







12

11

13

14

PRINT DATE/TIME: 11/6/2020 2:33:28 PM

FAULT CURRENT: REFER TO ONE-LINE DIAGRAM

FULLY RATED

HOME BOOTH

Vestibule H1-101

SURFACE

FCA +10% MINIMUM

AIC RATED:

AIC RATING:

MOUNTING:

LOCATION:

PHASE

SERVES:

PANELBOARD: HDHB (NEW)

BUS AMPS: 250A

SUPPLIED BY: MDP

MAIN SIZE/TYPE: 200A M.C.B.

VOLTS/PHASE: 480Y/277 V 3P/4W

EQUIPMENT GROUND BUS

LINE-SIDE LUGS: MECHANICAL

DESCRIPTION

BUS AM MAIN SI VOLTS/	ELBOARD: HDOMPS: 250A IZE/TYPE: 200A M.C.B. /PHASE: 480Y/277 V 3P/4 IED BY: MDP	, ,				FAULT C AIC RATE AIC RATI SERVES: MOUNTII LOCATIC	ED: NG: : NG:	REFER T FULLY R FCA +10' CONCES SURFAC MEP H2-	ATED % MINIMUI SSIONS E		AM				EQUIPMENT G	ROUND BUS
															LINE-SIDE LUGS: N	MECHANICAL
CKT I	DESCRIPTION		LOAD NO	OTES WIRE BKR	Р	PHASE A		ASE B	PH/			BKR N		NOTES LOAD		CKT NO.
	PWR - HOME GATEWAY	RH	Н	12 20	1 4	1000 3000							12	U	PWR - UH-7	2
3	PWR - UH-8		U	12 20	1		3000	3000]		1	20	12	U	PWR - UH-10	4
	PWR - UH-11		U	12 20	1				3000	4000		20	12	U	PWR - RH-1	6
	PWR - RH-2		U	12 20	1 4	1000 540			,			20	12	L	LTS - CONCESSION LIGHTING	8
9					_		2500	0				20			SPARE	10
	PWR - UH-9		U	'- -	3		1		2500	0	1	20			SPARE	12
مكيك	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	$\gamma \gamma $	محند	ستستسب		2500 6000	400	0000	1			00	4.0		14/10	14
بليكيار	SIGN LIGHTING SPARE	www	nutur	بدويم المثالم المستعد	المر		180	6000	0	0000	3	30	10	U	WH2	16
	SPARE			20 20	1	0 0]		0	6000	1	20			SPARE	18 20
	SPARE			20	1	0 0	0	0	1			20			SPARE	22
	SPARE			20	1		0	0	0	0		20			SPARE	24
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	SPARE			20	1	<u> </u>	0	0]			20			SPARE	28
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	SPARE			20	1	0 0					1				SPARE	32
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	SPARE				1				0	0	1	20			SPARE	36
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	SPARE			20	1		0	5830			3	70	OL		TX-LDC	40
41	SPARE			20	1				0	6016						42
			Т	OTAL LOAD (VA):		26386 VA	205	10 VA	2151	6 VA						
			Т	OTAL AMPS:		96 A	7.	4 A	78	Α						
_OAD T	TYPE	CONNECTED	DEM/ FACT		ND F	PANELBOARD NO	DTES								PANELBOARD TOTALS	
	NG LOAD (E)	0 VA	100												TOTAL CONNECTED LOAD	68412 VA
COOLIN		0 VA	0%													
HEATIN		4000 VA	100												TOTAL NEC LOAD	66092 VA
LIGHTIN		720 VA	125												TOTAL CONNECTED CURRENT	82 A
MOTOR	PTACLES (R)	4600 VA 2642 VA	100 100													
	EMENTAL HEAT (U)	45500 VA	100												TOTAL NEC DEMAND CURRENT	79 A
	QUIP (Z)	1750 VA	100													
	GERATION (F)	0 VA	100													
	ISPLAY (D)	0 VA	125													
KITCHE		8000 VA	659													
LARGE	ST MOTOR	1200 VA	125	% 1500 VA												
	WINDOW (W)	0 VA	125													
TDACK	LIGHTING	0 VA	100	% 0 VA	1											

MAIN	SIZE/TYPE: 150A M.C.B.						SERVES:	CONCES	SION							
		M														
	S/PHASE: 208Y/120 V 3P/4V	V					MOUNTIN									
SUPF	PLIED BY: HDC VIA TX-LDC						LOCATIO	N: MEP 2-1	8							
															LINE-SIDE LUGS: M	ECHANICA
CKT NO.	DESCRIPTION		OAD TYPE		BKR P	PH <i>A</i>		PHASE B	PHA			WIRE SIZE	NOTES	LOAD TYPE	DESCRIPTION	CKT NO.
1	SPARE			0.22	20 1	0	1000				1 20		GF	R	RCPT - 2-106 FIRDGE B	2
3	SPARE				20 1		1000	0 1000			1 20	12	GF	K	RCPT - 2-106 FRIDGE C	4
5	PWR - EF CONCESSION	2-106	М	12	20 1			0 1000	696	1000	1 20	12	GF	K	RCPT - 2-106 FRIDGE D	6
7	RCPT - 2-106 COUNTER F		K	12	20 1	1000	1000		333	1000	1 20	12	0.	K	RCPT - 2-106 POPCORN	8
9	RCPT - 2-106 COUNTER A		K	12	20 1	1000	1000	1000 1000			1 20	12		K	RCPT - 2-106 COUNTER B	10
11	RCPT - CONCESSION EX		R	12	20 1		ı		360	360	1 20	12		R	RCPT - 2-106 GENERAL F	12
13	PWR - 2-108 DDC CONTR		Z	12	20 1	250	360				1 20	12		R	RCPT - 2-106 GENERAL G	14
15	RCPT - 2-106 COUNTER B		Z	12	20 1			500 540			1 20	12		R	RCPT - 2-107/108 GENERAL	16
17	RCPT - 2-109 GENERAL		R	12	20 1				540	360	1 20	12		R	RCPT - 2-105 DESK	18
19	RCPT - 2-105 GENERAL		R	12	20 1	360	696				1 20	12		М	PWR - EF-3	20
21	PWR - COILING DOOR		М	12	20 1			1200 0			1 20				SPARE	22
23	PWR - BAND COILING DO	OOR	М	12	20 1		l		1200	0	1 20				SPARE	24
25	RCPT - 2-106 FREEZER A		Z	GF 12	20 1	500	0				1 20				SPARE	26
27	RCPT - 2-107 GENERAL E	3	R	12	20 1			360 0			1 20				SPARE	28
29	RCPT - 2-108 IT RACK		Z	12	20 1		'		500	0	1 20				SPARE	30
31	RCPT - 2-106 PREP COU	NTER	R	12	20 1	180	0				1 20				SPARE	32
33	RCPT - 2-106 MICROWAV	Έ	R	12	20 1			180 0			1 20				SPARE	34
35	RCPT - 2-106 COUNTER (C	K	12	20 1		·	•	1000	0	1 20				SPARE	36
37	RCPT - 2-106 COUNTER I)	K	12	20 1	1000	0				1 20				SPARE	38
39	PWR - 2-106 MOTORIZED	DAMPER	М	12	20 1			50 0			1 20				SPARE	40
41	SPARE				20 1				0	0	1 20				SPARE	42
				TOTAL LOAD	(\/Δ\·	6346	3 \/Δ	5830 VA	6016	. \/Δ						
				TOTAL LOAD	(• / • /).			3000 VA								
				TOTAL AMPS:		53	Α	49 A	50	Α						
LOAD) TYPE	CONNECTED		MAND NEC	DEMAND	PANELE	BOARD NC	OTES							PANELBOARD TOTALS	
	TING LOAD (E)	0 VA	1	100%	0 VA										TOTAL CONNECTED LOAD	18192 VA
	LING (C)	0 VA			0 VA	4										
	TING (H)	0 VA 0 VA			0 VA 0 VA	4									TOTAL NEC LOAD	15692 VA
	TING (L) EPTACLES (R)	4600 VA			0 VA 600 VA	+									TOTAL CONNECTED CURRENT	50 A
	ORS (M)	2642 VA			642 VA										TOTAL NEC DEMAND CURRENT	44 A
	PLEMENTAL HEAT (U)	0 VA			0 VA	+									TOTAL NEG DEMIAND GURRENT	44 /\
	EQUIP (Z)	1750 VA			750 VA	-										
	RIGERATION (F)	0 VA			0 VA	1										
	/DISPLAY (D)	0 VA			0 VA	+										
	HEN (K)	8000 VA			200 VA	1										
	SEST MOTOR	1200 VA			500 VA											
	W WINDOW (W)	0 VA			0 VA	1										
	CK LIGHTING	0 VA			0 VA	1										

FAULT CURRENT: REFER TO ONE-LINE DIAGRAM

FULLY RATED

FCA +10% MINIMUM

AIC RATED:

AIC RATING:

AE	BBREVIATIONS V1.
AF	ARC FAULT CIRCUIT INTERRUPTER.
C#	CIRCUIT VIA LIGHTING CONTACTOR #.
	CIRCUIT VIA CURRENT LIMITING DEVICE.
D	DISCONNECT CIRCUITRY FOR REMOVED LOAD, UPDATE CIRCUIT DIRECTORY TO
	SPARE AND TURN OFF.
	M EMERGENCY LIGHTING HANDLE-ON CLAMP.
	EXISTING.
	FUTURE LOAD; NOTE AS SPARE AND TURN OFF.
	RED/HANDLE-ON CLAMP.
	F GROUND-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKER (5 mA). FEP GROUND FAULT EQUIPMENT PROTECTION BREAKER (30 mA).
	PROVIDE HANDLE-TIE FOR MULTI-WIRE BRANCH CIRCUIT PER CODE.
	ISOLATED GROUND CIRCUIT.
	LIGHTING CONTROL SCHEME NUMBER.
	K HANDLE PADLOCKABLE-OFF DEVICE.
LC	HANDLE-ON CLAMP.
Ν	PROVIDE NEW CIRCUIT BREAKER.
OL	REFER TO ELECTRICAL ONE-LINE/RISER DIAGRAM.
	POWER-SWITCHING CIRCUIT BREAKER.
	E EMERGENCY POWER-SWITCHING CIRCUIT BREAKER.
	REUSE EXISTING CIRCUIT BREAKER FOR NEW/REVISED LOAD.
	P CIRCUIT VIA RELAY PANEL. SHUNT TRIP CIRCUIT BREAKER.
	VERIFY EXISTING LOAD AND UPDATE DIRECTORY, IF UNUSED, NOTE AS SPARE A
	TRN OFF.
	BRANCH CIRCUITRY HAS BEEN UPSIZED TO REDUCE VOLTAGE DROP. ADJUST
	GROUND WIRE SIZE PER CODE. PROVIDE LUG ADAPTORS IF REQUIRED.
7	CORRECT/REPAIR EXISTING HAZARD TO MAKE CODE COMPLIANT INSTALLATION.

3 |



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Lee's Summit R7 District **Athletics Facilities**

Lee's Summit High School 400 SW Blue Parkway Lee's Summit, MO 64063

Lee's Summit R-7 School District 301 NE Tudor Road Lee's Summit, MO 64086

architect: Gould Evans 4200 Pennsylvania Avenue Kansas City, MO 64111 816.931.6655 voice www.gouldevans.com structural engineer: Bob D. Campbell & Company, Inc. 4338 Belleview Avenue

civil engineer: Kaw Valley Engineering 14700 West 114th Terrace Lenexa, KS 66215 913.485.0318

EQUIPMENT GROUND BUS

816.531.4144

Kansas City, MO 64111

mechanical/electrical engineer: Henderson Engineers 8345 Lenexa Drive | Suite 300 Lenexa, KS 66214 816.742.5000

> HENDERSON ENGINEERS 8345 LENEXA DRIVE, SUITE 300 LENEXA, KS 66214 TEL 913.742.5000 FAX 913.742.5001 WWW.HENDERSONENGINEERS.COM MO. CORPORATE NO: E-556D EXPIRES 12/31/2020



Nov 9 2020

REVISIONS NUMBER DESCRIPTION Addendum 3

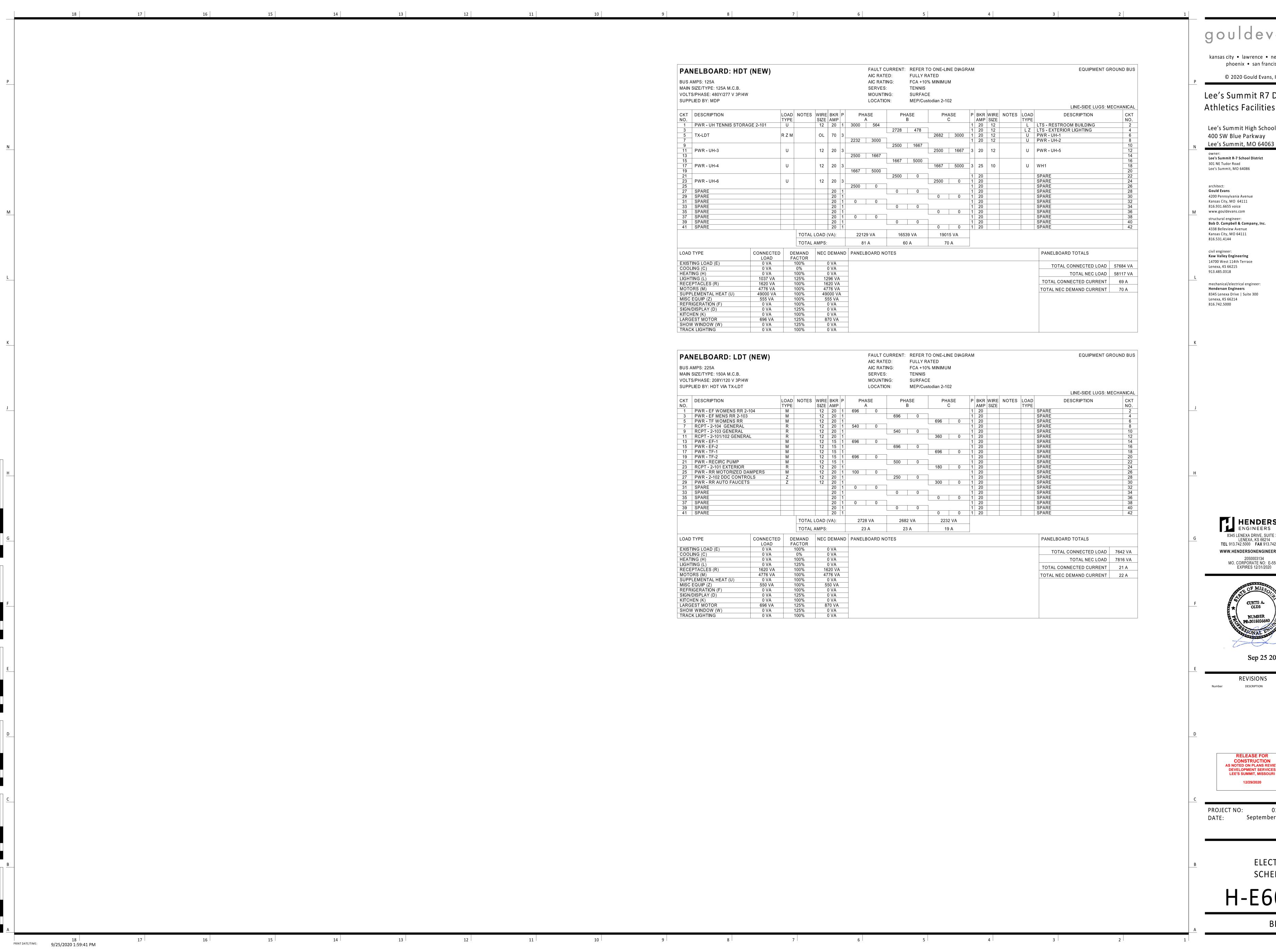


PROJECT NO: DATE:

0119-0101 September 28, 2020

> ELECTRICAL SCHEDULES

H-E600



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Lee's Summit R7 District

Lee's Summit High School 400 SW Blue Parkway

Lee's Summit R-7 School District

Bob D. Campbell & Company, Inc.

14700 West 114th Terrace

mechanical/electrical engineer: 8345 Lenexa Drive | Suite 300

> HENDERSON ENGINEERS 8345 LENEXA DRIVE, SUITE 300 LENEXA, KS 66214 TEL 913.742.5000 FAX 913.742.5001 WWW.HENDERSONENGINEERS.COM 2050003134 MO. CORPORATE NO: E-556D EXPIRES 12/31/2020



REVISIONS DESCRIPTION

RELEASE FOR CONSTRUCTION AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

> 0119-0101 September 28, 2020

> > ELECTRICAL SCHEDULES

			STAND-ALONE LOW-VOLTAGE LIGHTING CONTROL SYSTEMS			
			STAND-ALONE LOW-VOLTAGE OCCUPANCY SENSORS			
SYMBOL	MANUFACTURER	ALTERNATE		COVERAGE		
TAG	MODEL/SERIES	MANUFACTURER	DEVICE DESCRIPTION	(WXD)	VOLTAGE	NOTES
$((\widehat{\underline{\widehat{\mathbb{A}}}}))$	LEGRAND DT-300	ACUITY, COOPER HUBBELL, LEVITON	CEILING MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR. 360 DEGREE COVERAGE. LOW VOLTAGE. ISOLATED RELAY.	PIR MAJOR 36' Ø PIR MINOR 25' Ø ULT 36' x 36'	24	
ÎB	LEGRAND CB-100	ACUITY, COOPER HUBBELL	CEILING/WALL MOUNT PASSIVE INFRARED OCCUPANCY SENSOR. 90 DEGREE COVERAGE. LOW VOLTAGE. GASKETED AND WATERTIGHT. RATED FOR -40 DEGREES FAHRENHEIT.	MAJOR 50' Ø MINOR 25' Ø	24	
			STAND-ALONE LOW-VOLTAGE PHOTOELECTRIC SWITCHES			
SYMBOL	MANUFACTURER	ALTERNATE				
TAG	MODEL/SERIES	MANUFACTURER	DEVICE DESCRIPTION		VOLTAGE	NOTES
	LEGRAND	ACUITY	EXTERIOR LOW-VOLTAGE PHOTOELECTRIC SWITCH. FACE SENSOR NORTH AND O	DRIENT	24	
	EM-24D2	HUBBELL	VERTICALLY. 0-15 FC.			
PC		LEVITON				
			STAND-ALONE LOW-VOLTAGE POWER PACKS			
SYMBOL	MANUFACTURER	ALTERNATE				
TAG	MODEL/SERIES	MANUFACTURER	DEVICE DESCRIPTION		VOLTAGE	NOTE
	LEGRAND	ACUITY, COOPER	POWER PACK FOR LOW VOLTAGE OCCUPANCY SENSORS. 20A LOAD. (1) RELAY.	MANUAL-	120/	
_	BZ-250	HUBBELL, LEVITON	AND AUTO-ON MODES. HOLD-ON AND -OFF INPUTS. LOAD: 16A AT 120V OR 277V.		277	
(BZ)			OUTPUT: 225mA AT 24V. PLENUM RATED.			
	LEGRAND	ACUITY, COOPER	POWER PACK FOR LOW VOLTAGE OCCUPANCY SENSORS. 20A LOAD. (2) RELAYS	MANUAL-	120/	
	C SERIES	HUBBELL, LEVITON	AND AUTO-ON MODES. HOLD-ON AND -OFF INPUTS, LOAD: 16A AT 120V OR 277V.		277	
(B1)			OUTPUT: 225mA AT 24V. PLENUM RATED.			
			CONTRACTOR TO PROVIDE CORRECT VOLTAGE FOR APPLICATION.			
	LEGRAND	ACUITY, COOPER	ROOM CONTROLLER FOR LOW VOLTAGE OCCUPANCY SENSORS. 20A LOAD. (2) R	ELAY.	120/	
	LMRC-212	HUBBELL, LEVITON	MANUAL AND AUTO-ON MODES. HOLD-ON AND -OFF INPUTS. LOAD: 16A AT 120V C	R 277V.	277	
D2C			OUTPUT: 225mA AT 24V. PLENUM RATED.			
			0-10V DIMMING CONTROL.			
CVMDOL	MANUEACTURED	ALTERNATE	STAND-ALONE LOW-VOLTAGE SWITCHES			1
SYMBOL TAG	MANUFACTURER MODEL/SERIES	MANUFACTURER	DEVICE DESCRIPTION		VOLTAGE	NOTE
17.0	LEGRAND	ACUITY, COOPER	MOMENTARY 1-BUTTON DECORATOR SWITCH FOR MANUAL ON/OFF CONTROL OF	STAND-	24	INOTE
	DCC2	HUBBELL, LEVITON	ALONE LOW-VOLTAGE OCCUPANCY SENSORS. INTEGRAL LED ILLUMINATES WHE			
\$ ^{LV}		,	ON.			
Ф	. = 0 = 111	1011171/ 000777				
	LEGRAND	ACUITY, COOPER	4-BUTTON LOW VOLTAGE SWITCH FOR ON/OFF AND DIMMING CONTROL OF 2 REL	AYS.	24	
LVD	LMSW-104	HUBBELL, LEVITON				
\$ ^{LVD}						
1			AUXILIARY NETWORK LIGHTING EQUIPMENT			
SYMBOL	MANUFACTURER	ALTERNATE				
TAG	MODEL/SERIES	MANUFACTURER	DEVICE DESCRIPTION	0/TD	VOLTAGE	NOTE
	LEGRAND	ACUITY, CRESTRON	ZONE CONTROLLER. ASTRONOMIC TIMECLOCK. 99 LIGHTING GROUPS. BACNET M		120/	
ZC	LMCZ-301	ETC, HUBBELL	COMPATIBLE. (2) RJ45 PORTS. SURFACE MOUNTED. PLENUM RATED. PROVIDE DL POWER BOOSTERS AS REQUIRED PER SYSTEM DESIGN.	IVI 24 V	277	

LIGHTING CONTROL SEQUENCE OF OPERATIONS:

CEILING MOUNTED DEVICES). ALSO PROVIDE SCHEMATICS AND SCHEDULES WHEN APPLICABLE.

C. LIGHTING CONTROLS PRICING SHALL BE COMPLETELY SEPARATE OF ANY LIGHT FIXTURE PRICING.

F. PROVIDE COPIES OF OPERATION AND MAINTENANCE INSTRUCTIONS FOR ALL DEVICES TO OWNER.

G. PROVIDE A NEUTRAL CONDUCTOR TO ALL WALL SWITCH LOCATIONS PER NEC REQUIREMENTS.

D. VERIFY COLOR(S) FOR ALL WALL AND CEILING MOUNTED DEVICES WITH THE ARCHITECT.

SEQUENCE OF OPERATIONS AND OWNER PRIOR TO SYSTEM COMMISSIONING.

H. DO NOT SHARE NEUTRAL CONDUCTOR ON LOAD SIDE OF DIMMERS.

GENERAL NOTE: CONFIRM ALL SENSOR TIME DELAYS WITH OWNER PRIOR TO FINAL PROGRAMMING.

A. GENERAL REQUIREMENTS

1. Emergency Lighting: Emergency egress lighting is powered from emergency battery ballasts and drivers integral to fixtures designated as emergency. Upon loss of power, all lights designated as emergency shall turn on at full emergency battery back-up output.

MUST INCLUDE SENSOR LOCATIONS, HEIGHTS, ORIENTATION, AND COVERAGE AREAS. SHOW COORDINATION WITH ALL OTHER CEILING DEVICES

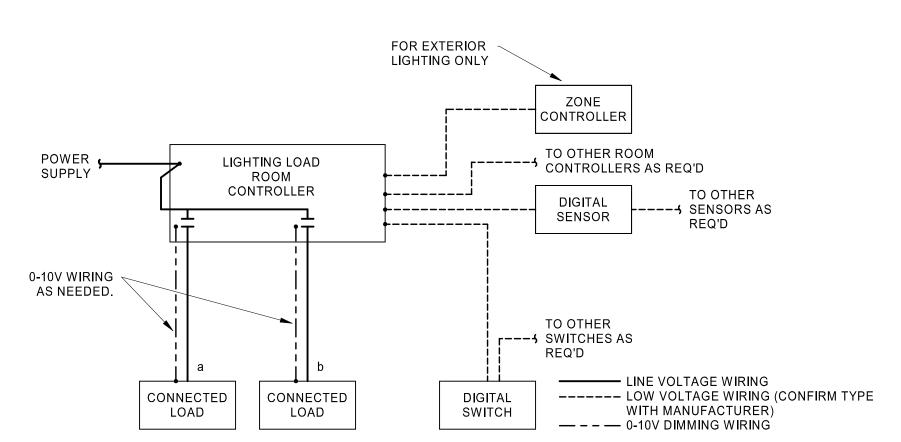
E. ALL WALL SWITCH AND CEILING SENSORS SHALL HAVE AN ADJUSTABLE TIME DELAY RANGE OF 0-30 MIN, UNO. CONFIRM SENSOR SETTINGS WITH

INCLUDING BUT NOT LIMITED TO HVAC SUPPLY AND RETURN GRILLES, SPRINKLERS, LIGHT FIXTURES, AND OTHER OWNER-PROVIDED CEILING MOUNTED

DEVICES SUCH AS SPEAKERS, SECURITY CAMERAS, PROJECTORS, ETC. (SENSORS MAY BE ADVERSELY AFFECTED IF LOCATED TOO CLOSE TO OTHER

- Security Lighting: Night lights, labeled "NL" in building corridor for security purposes: 3. Lighting control type: Occupancy and Vacancy Sensors
- Corridor, Cafeteria and Gymnasium occupancy sensors set to time out after 30 minutes
- Offices and Classrooms sensors set to time out after 20 minutes Back of house room type sensors set to time out after 20 minutes
- 7. All lighting controls in project scope are stand-alone type.
- 2. Occupancy: Occupant must manually turn on lights. 3. Vacancy: After 20 minutes, all controlled loads shall turn off.
- 1. Manual Control: Occupant can manually control lights and exhaust fan together via local switch(es). 2. Occupancy: Occupant must manually turn on lights and exhaust fan.
- 3. Vacancy: After 20 minutes, all controlled loads shall turn off.
- D. ROOM CONTROLLER D2C 1. Manual Control: Occupant can manually control lights and dim via local switch(es). Switches shall dim in separate zones as designated as 'a', 'b' etc on plans. 2. Occupancy: Occupant must manually turn on lights.
- 3. Vacancy: After 20 minutes, all controlled loads shall turn off.
- E. SIGNAGE LIGHTING
- 1. Automatic Control: Fixtures illuminating signs and backlit signage shall be turned on via single photocell and turned off via astronomical timeclock. Route through BAS. Coordinate additional programing requirements with owner.

1. Manual Control: Occupant can manually control lights via local switch(es). At electrical equipment, keyed switch shall override occupancy sensor function and keep lights on during panel board maintenance.

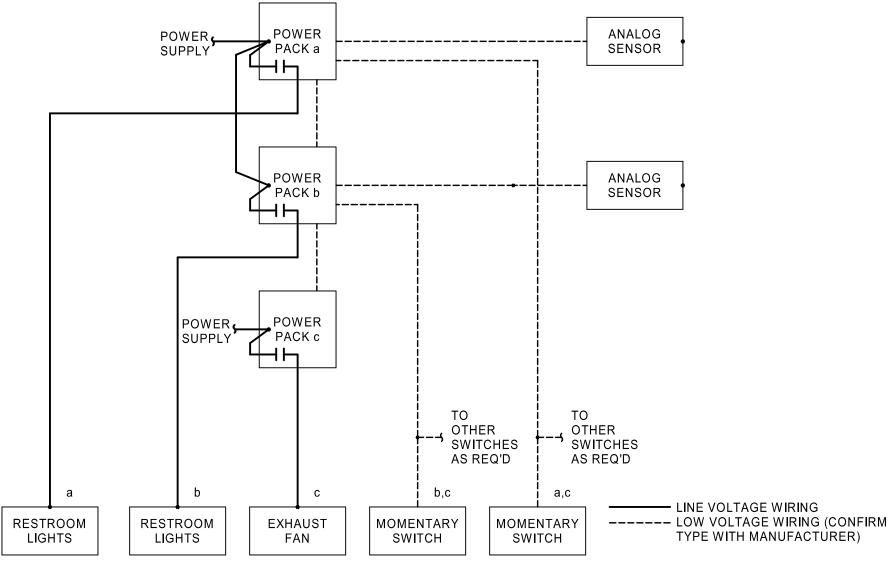


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- 1. REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR DEVICE AND EQUIPMENT SPECIFICATIONS.
- 2. QUANTITY OF RELAYS SHOWN IS GENERIC. REFER TO PLANS, LIGHTING CONTROL DEVICE SCHEDULE, AND SHOP DRAWINGS FOR FINAL QUANTITY PER ROOM CONTROLLER.
- 3. DETAIL IS DIAGRAMMATIC AND IS BASED ON LEGRAND. THIS REPRESENTS THE GENERAL SCOPE OF WORK AND LOCATION OF DEVICES IN RELATION TO EACH OTHER ALONG THE POWER CIRCUIT, DIAGRAMS MAY BE DIFFERENT FOR ALLOWED EQUIVALENT MANUFACTURERS. ELECTRICAL CONTRACTOR SHALL COORDINATE FULL SYSTEM REQUIREMENTS WITH SELECTED MANUFACTURER. PROVIDE ALL PARTS AND PIECES REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. REFER TO FINAL APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WIRING DIAGRAMS FOR INSTALLATION.
- 4. CIRCUITING SHOWN ON THE PLAN CORRESPONDS TO THE LIGHTING CONTROL INTENT. IF CIRCUITING IS CHANGED IN THE FIELD, ENSURE THAT SYSTEM PROGRAMMING WITH REVISED CIRCUITING MEETS THE ORIGINAL LIGHTING CONTROL INTENT. UPDATE LIGHTING
- CONTROL PANEL SCHEDULES IN RECORD DRAWINGS. 5. PROVIDE SYSTEM COMMISSIONING AS REQUIRED PER ENERGY CODE.
- 4 ROOM CONTROLLER DETAIL ON/OFF OR ON/OFF/0-10V DIMMING CONTROL NTS





- 1. REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR DEVICE AND EQUIPMENT SPECIFICATIONS.
- 2. PROVIDE QUANTITY OF POWER PACKS AS REQUIRED BY MANUFACTURER TO SUPPORT QUANTITY OF SENSORS
- 3. DETAIL IS DIAGRAMMATIC AND IS BASED ON WATTSTOPPER. THIS REPRESENTS THE GENERAL SCOPE OF WORK AND LOCATION OF DEVICES IN RELATION TO EACH OTHER ALONG THE POWER CIRCUIT. DIAGRAMS MAY BE DIFFERENT FOR ALLOWED EQUIVALENT MANUFACTURERS. ELECTRICAL CONTRACTOR SHALL COORDINATE FULL SYSTEM REQUIREMENTS WITH SELECTED MANUFACTURER. PROVIDE ALL PARTS AND PIECES REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. REFER TO FINAL APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WIRING
- . CIRCUITING SHOWN ON THE PLAN CORRESPONDS TO THE LIGHTING CONTROL INTENT. IF CIRCUITING IS CHANGED IN THE FIELD, ENSURE THAT SYSTEM PROGRAMMING WITH REVISED CIRCUITING MEETS THE ORIGINAL LIGHTING CONTROL INTENT. UPDATE LIGHTING CONTROL PANEL SCHEDULES IN RECORD DRAWINGS.

SENSORS

AS REQ'D

ANALOG

SENSOR

5. PROVIDE SYSTEM COMMISSIONING AS REQUIRED PER ENERGY CODE.

OCCUPANCY SENSOR DETAIL - MULTIPLE POWER SUPPLIES AND SWITCHES NTS

PACK a

POWER

POWER POWER PACK b

SUPPLY

LIGHTS

NOTES:

LIGHT FIXTURE SCHEDULE GENERAL NOTES:

- 1. ALL LIGHT FIXTURES AND RELATED COMPONENTS SHALL BE PROVIDED BY THE CONTRACTOR, UNLESS NOTED OTHERWISE.
- 2. ALL LIGHT FIXTURES AND RELATED COMPONENTS SHALL BE PROVIDED BY THE CONTRACTOR AS PART OF THE BASE BID, UNLESS NOTED OTHERWISE. CONTRACTOR SHALL PROVIDE AN ALTERNATE BID FOR OWNER FURNISHED LIGHT

FIXTURES.

3. THE PARTY SUPPLYING THE LIGHT FIXTURES IS RESPONSIBLE FOR SUPPLYING THE PROPER QUANTITY OF LIGHT FIXTURES.

POWER

PACK

Ч-1 Б-1

DIAGRAMS FOR INSTALLATION.

SUPPLY

LIGHT FIXTURE SCHEDULE SUPPLEMENTAL **SPECIFICATIONS:**

- 1. ANY PROPRIETARY, SOLE-SOURCED LIGHT FIXTURE LISTED IN THE LIGHT FIXTURE SCHEDULE SHALL BE UNIT PRICED ONLY NO PACKAGING OR LOT PRICING OF THESE LIGHT FIXTURES SHALL BE ALLOWED. UNIT PRICES SHALL BE CLEARLY IDENTIFIED ON THE BID FORM.
- 2. PACKAGING OF LIGHT FIXTURES WILL NOT BE CONSIDERED OR APPROVED. REPRESENTATIVE AGENTS SHALL BE ALLOWED TO OFFER MINI-LOT PRICING (MLP) FOR LIGHT FIXTURES AS

ALLOWED IN ELECTRICAL SPECIFICATIONS.

- 3. LIGHTING CONTROLS PRICING, INCLUDING BUT NOT LIMITED TO THOSE REFERENCED IN ELECTRICAL SPECIFICATIONS, SHALL BE COMPLETELY SEPARATE OF ANY LIGHT FIXTURE PRICING. ANY LIGHTING CONTROLS PRICING THAT IS SUBMITTED WITH LIGHT FIXTURE PRICING (UNIT OR MINI-LOT) WILL BE IMMEDIATELY REJECTED IN ITS ENTIRETY.
- 4. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBERS ONLY. FIRST READ THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS IN CONJUNCTION WITH THE CATALOG NUMBER TO DETERMINE THE MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.
- 5. FOR SUBSTITUTIONS: PROVIDE PHOTOMETRIC CALCULATIONS AND OTHER NECESSARY INFORMATION FOR ENGINEER REVIEW. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
- 6. COORDINATE LIGHT FIXTURE MOUNTING HARDWARE AND TRIMS NEEDED TO SUIT CEILING CONDITIONS. LIGHT FIXTURES NEAR OR IN CONTACT WITH INSULATION SHALL COMPLY WITH CODE. MAINTAIN 3" MINIMUM WORKING CLEARANCE BETWEEN NON-IC RATED LIGHT FIXTURE HOUSINGS AND INSULATION ON ALL ADJACENT DUCTWORK, PIPING, WALLS, AND CEILINGS.
- 7. STRIP LIGHT FIXTURES SUBJECT TO DAMAGE, INCLUDING THOSE MOUNTED ON EQUIPMENT MEZZANINES, STORAGE RECEIVING AND STOCKROOM AREAS, SHALL BE PROVIDED WITH WIRE GUARDS, PROTECT-A-LAMP COVERS OR EQUIVALENT SHIELDED OR SHATTERPROOF LAMPS/LIGHT SOURCES. COORDINATE REQUIREMENTS AND AFFECTED LIGHT FIXTURES WITH OWNER.

SENSORS

AS REQ'D

--- SWITCHES AS

REQ'D

2. PROVIDE QUANTITY OF POWER PACKS AS REQUIRED BY MANUFACTURER TO SUPPORT QUANTITY OF SENSORS

ALLOWED EQUIVALENT MANUFACTURERS. ELECTRICAL CONTRACTOR SHALL COORDINATE FULL SYSTEM

REQUIREMENTS WITH SELECTED MANUFACTURER. PROVIDE ALL PARTS AND PIECES REQUIRED FOR A FULLY

3. DETAIL IS DIAGRAMMATIC AND IS BASED ON WATTSTOPPER. THIS REPRESENTS THE GENERAL SCOPE OF WORK AND

FUNCTIONAL SYSTEM. REFER TO FINAL APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WIRING

4. CIRCUITING SHOWN ON THE PLAN CORRESPONDS TO THE LIGHTING CONTROL INTENT. IF CIRCUITING IS CHANGED IN

THE FIELD, ENSURE THAT SYSTEM PROGRAMMING WITH REVISED CIRCUITING MEETS THE ORIGINAL LIGHTING

CONTROL INTENT. UPDATE LIGHTING CONTROL PANEL SCHEDULES IN RECORD DRAWINGS.

LOCATION OF DEVICES IN RELATION TO EACH OTHER ALONG THE POWER CIRCUIT. DIAGRAMS MAY BE DIFFERENT FOR

ANALOG

SENSOR

---- LOW VOLTAGE WIRING (CONFIRM TYPE

WITH MANUFACTURER)

LINE VOLTAGE WIRING

HENDERSON

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Lee's Summit R7 District

Athletics Facilities

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Lee's Summit, MO 64063

400 SW Blue Parkway

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ENGINEERS 8345 LENEXA DRIVE, SUITE 300 LENEXA, KS 66214 **TEL** 913.742.5000 **FAX** 913.742.5001 WWW.HENDERSONENGINEERS.COM MO. CORPORATE NO: E-556D EXPIRES 12/31/2020



REVISIONS

DESCRIPTION Addendum 3

RELEASE FOR CONSTRUCTION **AS NOTED ON PLANS REVIEW** LEE'S SUMMIT, MISSOURI 12/29/2020

PROJECT NO:

0119-0101 September 28, 2020

LIGHTING SCHEDULES

LINE VOLTAGE WIRING ____ ---- LOW VOLTAGE WIRING (CONFIRM MOMENTARY CONNECTED MOMENTARY EXHAUST FAN TYPE WITH MANUFACTURER) SWITCH SWITCH LOAD NOTES: REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR DEVICE AND EQUIPMENT SPECIFICATIONS. 1. REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR DEVICE AND EQUIPMENT SPECIFICATIONS.

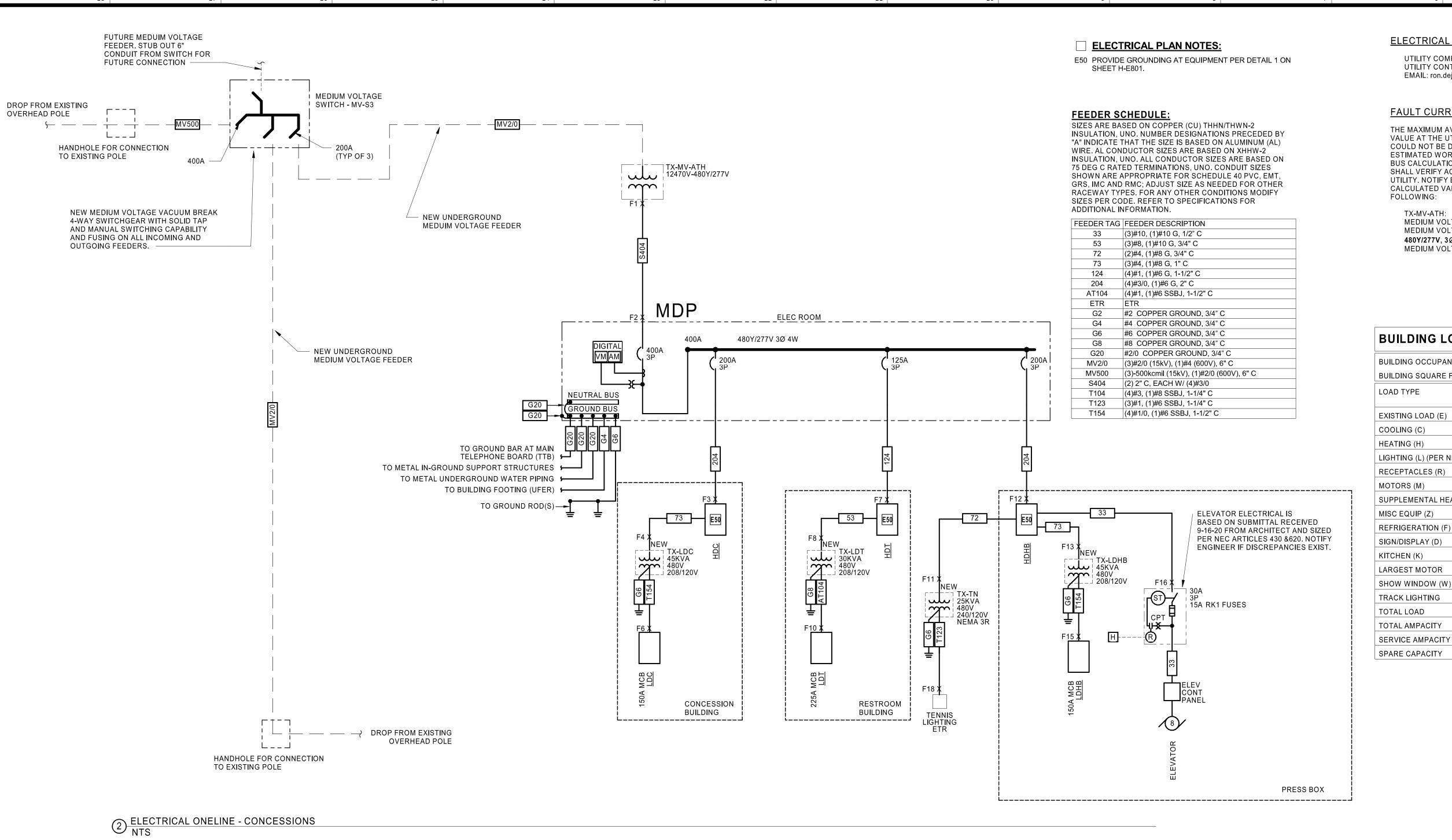
INDICATED ON PLANS. 3. DETAIL IS DIAGRAMMATIC AND IS BASED ON WATTSTOPPER. THIS REPRESENTS THE GENERAL SCOPE OF WORK AND LOCATION OF DEVICES IN RELATION TO EACH OTHER ALONG THE POWER CIRCUIT. DIAGRAMS MAY BE DIFFERENT FOR ALLOWED EQUIVALENT MANUFACTURERS. ELECTRICAL CONTRACTOR SHALL COORDINATE FULL SYSTEM REQUIREMENTS WITH SELECTED MANUFACTURER. PROVIDE ALL PARTS AND PIECES REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. REFER TO FINAL APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WIRING DIAGRAMS FOR INSTALLATION.

2. PROVIDE QUANTITY OF POWER PACKS AS REQUIRED BY MANUFACTURER TO SUPPORT QUANTITY OF SENSORS

- 4. CIRCUITING SHOWN ON THE PLAN CORRESPONDS TO THE LIGHTING CONTROL INTENT. IF CIRCUITING IS CHANGED IN THE FIELD, ENSURE THAT SYSTEM PROGRAMMING WITH REVISED CIRCUITING MEETS THE ORIGINAL LIGHTING CONTROL INTENT. UPDATE LIGHTING CONTROL PANEL SCHEDULES IN RECORD DRAWINGS.
- OCCUPANCY SENSOR DETAIL MULTIPLE POWER SUPPLIES AND SWITCHES NTS

VERSION: 4.0

OCCUPANCY SENSOR DETAIL - SINGLE POWER SUPPY AND SWITCH 12



ELECTRICAL UTILITY CONTACT NOTE:

UTILITY COMPANY: EVERGY UTILITY CONTACT: RON DEJARNETTE EMAIL: ron.dejarnette@evergy.com

FAULT CURRENT GENERAL NOTE (ESTIMATED VALUE):

THE MAXIMUM AVAILABLE 3-PHASE SYMMETRICAL FAULT CURRENT VALUE AT THE UTILITY TRANSFORMER SECONDARY/POINT OF SERVICE COULD NOT BE DETERMINED AT THE TIME OF THIS SUBMITTAL. THE ESTIMATED WORST CASE VALUE OF 18,402 A IS BASED ON AN INFINITE BUS CALCULATION AT THE UTILITY TRANSFORMER. CONTRACTOR SHALL VERIFY ACTUAL AVAILABLE FAULT CURRENT VALUE WITH UTILITY. NOTIFY ENGINEER IF ACTUAL VALUE EXCEEDS ESTIMATED CALCULATED VALUE. ESTIMATED DESIGN VALUE IS BASED ON THE FOLLOWING:

MEDIUM VOLTAGE TRANSFORMER PRIMARY VOLTAGE: 12,470V

MEDIUM VOLTAGE TRANSFORMER SECONDARY VOLTAGE: 480Y/277V, 3Ø, 4W MEDIUM VOLTAGE TRANSFORMER SIZE: 300KVA, Z=2.0%

BUILDING LOAD SUMMARY (MDP)

BUILDING OCCUPANCY TYPE: OF	FICE BUILDING	SERVICE DI	ESCRIPTION:		
BUILDING SQUARE FOOTAGE: 100	000	480Y	/277 V		
LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAN		
EXISTING LOAD (E)	0 VA	100%	0 VA		
COOLING (C)	1061 VA	0%	0 VA		
HEATING (H)	4000 VA	100%	4000 VA		
LIGHTING (L) (PER NEC-220)	35000 VA	125%	43750 VA		
RECEPTACLES (R)	12700 VA	89%	11350 VA		
MOTORS (M)	11314 VA	100%	11314 VA		
SUPPLEMENTAL HEAT (U)	105770 VA	100%	105770 VA		
MISC EQUIP (Z)	24020 VA	100%	24020 VA		
REFRIGERATION (F)	0 VA	100%	0 VA		
SIGN/DISPLAY (D)	1200 VA	125%	1500 VA		
KITCHEN (K)	8000 VA	65%	5200 VA		
LARGEST MOTOR	9977 VA	125%	12471 VA		
SHOW WINDOW (W)	0 VA	125%	0 VA		
TRACK LIGHTING	0 VA	100%	0 VA		
TOTAL LOAD	213042	VA	219375		
TOTAL AMPACITY	256	AMPS	264		

AMPS

400

ONE-LINE DIAGRAM GENERAL NOTES:

- 1. THE INFORMATION SHOWN IN THE SHORT-CIRCUIT AND VOLTAGE DROP CALCULATIONS SCHEDULE IS SHOWN FOR CALCULATION PURPOSES ONLY. CONTRACTOR SHALL NOT USE THE CONDUIT TYPES, CONDUCTOR TYPES, SIZES, QUANTITIES OR LENGTHS FOR TAKEOFFS OR BIDDING PURPOSES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN THIS SCHEDULE AND OTHER PORTIONS OF THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL NOTIFY ENGINEER OF AS-BUILT CONDITIONS THAT CONSTITUTE A CHANGE FROM WHAT IS SHOWN BELOW; THIS INCLUDES CONDUCTOR LENGTHS DIFFERING BY MORE THAN 10%.
- REFER TO THE SHORT-CIRCUIT AND VOLTAGE DROP CALCULATIONS TABLE ON THIS SHEET. AVAILABLE FAULT CURRENT INFORMATION IS LISTED UNDER THE "FAULT CURRENT" COLUMN. VOLTAGE DROP VALUES ARE LISTED UNDER THE "CUMULATIVE VOLTAGE DROP" COLUMN. THE AIC/SCCR RATING OF THE EQUIPMENT SHALL NOT BE LESS THAN THE AVAILABLE 3-PHASE SYMMETRICAL FAULT CURRENT. ALL SERIES RATED EQUIPMENT SHALL BE PROPERLY LISTED AND LABELED PER CODE.
- 3. FEEDER NUMBER DESIGNATIONS PRECEDED BY "V" INDICATE THAT THE CONDUCTORS ARE UP-SIZED DUE TO VOLT-DROP CONSIDERATIONS. PROVIDE LUG ADAPTERS AS NEEDED IN ORDER TO PROPERLY LAND CONDUCTORS AT TERMINATION(S).
- 4. FEEDER SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNLESS NOTED OTHERWISE. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 PVC, EMT, GRS, IMC AND RMC; ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES, NUMBER DESIGNATIONS PRECEDED BY "A" INDICATE THAT THE SIZE IS BASED ON ALUMINUM (AL) WIRE. AL CONDUCTOR SIZES ARE BASED ON XHHW-2 INSULATION. UNLESS NOTED OTHERWISE. AL WIRE MAY BE SUBSTITUTED FOR CU FEEDERS AS ALLOWED BY CODE, SPECIFICATIONS AND OWNER, UNLESS NOTED OTHERWISE. AT CONTRACTOR'S OPTION, CU WIRE MAY BE SUBSTITUTED FOR AL, UNLESS NOTED OTHERWISE. ALL CONDUCTOR SIZES ARE BASED ON 75 DEG C RATED TERMINATIONS, UNLESS NOTED OTHERWISE. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- BRANCH CIRCUIT SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNLESS NOTED OTHERWISE. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 PVC, EMT, GRS, IMC AND RMC; ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. ALL CONDUCTOR SIZES ARE BASED ON 60 DEG C RATED TERMINATIONS, UNLESS NOTED OTHERWISE. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- INSTALL FEEDERS OVERHEAD AS HIGH AS PRACTICABLE AND ORTHOGONALLY ALONG BUILDING STRUCTURE, UNLESS NOTED OTHERWISE. COORDINATE FINAL ROUTING WITH OTHER TRADES.
- CIRCUIT BREAKERS RATED 1200A OR HIGHER SHALL HAVE APPROPRIATE DOCUMENTATION AND METHOD TO REDUCE CLEARING TIME IN ORDER TO REDUCE ARC FLASH ENERGY PER CODE. PROVIDE ELECTRONIC TRIP UNIT WITH INSTANTANEOUS TRIP AND ENERGY-REDUCING MAINTENANCE SWITCH WITH LOCAL STATUS INDICATOR FOR COMPLIANCE. PROVIDE PROVISIONS TO INTERFACE WITH OWNER ALARM/MONITORING SYSTEM TO INDICATE MAINTENANCE SWITCH STATUS.
- PROVIDE A PERMANENT LABEL ON FRONT OF EQUIPMENT ENCLOSURE; REFER TO SPECIFICATIONS FOR LABEL REQUIREMENTS. LABEL SHALL READ AS FOLLOWS (INCLUDE RESPECTIVE NAMES IN BLANKS): SERVICE EQUIPMENT LABEL:
- EXAMPLE: 208Y/120V, 60HZ

LINE 3: LOCATED IN "

LINE 4: TRANSFORMER " LINE 5: PANELBOARD(S) "_____"

- SCCR = 65,000A MAX AVAILABLE FAULT CURRENT = 58,815A CALCULATED: 01/01/2018 PANELBOARD/SWITCHBOARD LABEL:
- LINE 1: PANELBOARD "_____" SUPPLIED BY UPSTREAM
 LINE 2: PANELBOARD/SWITCHBOARD "____" LINE 3: LOCATED IN " LINE 4: PANELBOARD "_____" SUPPLIES DOWNSTREAM LINE 5: PANELBOARD(S) "_____"
- TRANSFORMERS LABEL: LINE 1: TRANSFORMER "_____" SUPPLIED BY UPSTREAM LINE 2: PANELBOARD/SWITCHBOARD "_____"

" SUPPLIES DOWNSTREAM

ONE-LINE DIAGRAM GENERAL NOTES:

- 1. COORDINATE WORK WITH ARCHITECTURAL PHASING DRAWINGS TO PROPERLY STAGE TRANSITION TO PROVIDE POWER TO EXISTING, NEW AND TEMPORARY LOADS. MONITOR LOADS ON DISTRIBUTION SYSTEM TO MAKE SURE SHIFTING OF LOADS DOES NOT OVERLOAD ELECTRICAL EQUIPMENT.
- 2. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXISTING AIC/SCCR RATING OF EACH PANELBOARD/SWITCHBOARD. ALL NEW AND EXISTING OVER-CURRENT PROTECTION DEVICES (CIRCUIT BREAKERS AND FUSES) MUST HAVE AN AIC/SCCR RATING EXCEEDING THE AVAILABLE FAULT CURRENT AT THAT POINT IN THE SYSTEM. NOTIFY THE OWNER AND THE ENGINEER IF THE EXISTING EQUIPMENT DOES NOT COMPLY WITH THIS REQUIREMENT.
- 3. VERIFY THE INTEGRITY OF THE EXISTING GROUNDING ELECTRODE SYSTEM AND THAT THE NEUTRAL AND GROUND ARE PROPERLY BONDED TOGETHER AT THE POINT OF SERVICE ENTRANCE. NOTIFY THE OWNER AND THE ENGINEER OF ANY EXISTING DEFICIENCIES.
- 4. AS APPLICABLE, OBTAIN THE FOLLOWING INFORMATION IN REGARD TO THE EXISTING ELECTRICAL SERVICE AND DISTRIBUTION SYSTEM AND REPORT FINDINGS TO THE ENGINEER FOR ANALYSIS PRIOR TO BEGINNING

CONSTRUCTION:

AND LENGTHS.

- A. AVAILABLE FAULT CURRENT DELIVERED BY THE UTILITY COMPANY AT THE POINT OF SERVICE. INCLUDE THE
- AVAILABLE FAULT CURRENT DELIVERED TO THE TENANT SPACE BY THE OWNER'S DISTRIBUTION SYSTEM. B. PROVIDE A PLAN SKETCH OF THE OWNER'S DISTRIBUTION EQUIPMENT LOCATION RELATIVE TO THE ENTIRE BUILDING. INCLUDE THE LOCATION OF TENANT SPACE UTILITY METER AND SERVICE DISCONNECT, RELEVANT FEEDER ROUTING
- C. PROVIDE A SKETCH OF THE ONE-LINE SHOWING THE PATH FROM THE UTILITY TRANSFORMER TO THE OWNER EQUIPMENT TO THE TENANT SPACE. INCLUDE FEEDER CONDUCTOR MATERIAL, (AL OR CU), NUMBER AND SIZE OF CONDUCTORS, GROUND, LENGTH, CONDUIT SIZE AND CONDUIT TYPE.
- D. TYPE OF SERVICE DISCONNECT OVER-CURRENT PROTECTION DEVICE, (FUSE OR CIRCUIT BREAKER), AMPERE RATING OF THE DEVICE AND AIC/SCCR RATING OF
- THE DEVICE. E. AIC/SCCR RATING AT EACH EXISTING SWITCHBOARD/PANELBOARD.

ONE-LINE DIAGRAM SUPPLEMENTAL SPECIFICATIONS:

1. GROUNDING ELECTRODE SYSTEM SHALL BE PER LOCAL REQUIREMENTS AND SHALL NOT BE LESS STRINGENT THAN THAT

SPECIFIED IN THE CONSTRUCTION DOCUMENTS.

- 2. PROVIDE PROPERLY SIZED LUGS FOR ALL EQUIPMENT, CIRCUIT BREAKERS, AND OTHER ELECTRICAL DEVICES TO ACCOMMODATE INSTALLED CONDUCTORS. A LARGER FRAME, OVERSIZED LUGS OR NON-STANDARD PRODUCT MAY BE REQUIRED IN SOME INSTANCES. UTILIZE PIN ADAPTERS ONLY IF NECESSARY AND ONLY AS ALLOWED BY MANUFACTURER AND AHJ.
- 3. PROVIDE ANY AVAILABLE SPACE IN SWITCHBOARDS/PANELBOARDS WITH BUSSING.
- 4. PROVIDE (4) EMPTY 1" CONDUITS WITH PULL STRINGS FROM EACH RECESSED PANELBOARD UP TO ACCESSIBLE CEILING SPACE. CAP AND LABEL CONDUITS FOR FUTURE USE.
- 5. PROVIDE TYPED FINAL CIRCUIT DIRECTORY FOR ALL PANELBOARDS TO REFLECT ACTUAL AS-BUILT CONDITIONS. COORDINATE FINAL ROOM NAMES, NUMBERS AND DESCRIPTIONS WITH OWNER PRIOR TO COMPLETION. CIRCUIT DESCRIPTIONS SHALL BE PER CODE AND SHALL BE DISTINGUISHABLE FROM ALL OTHERS.

HENDERSON ■ ENGINEERS 8345 LENEXA DRIVE, SUITE 300 LENEXA, KS 66214 **TEL** 913.742.5000 **FAX** 913.742.5001 WWW.HENDERSONENGINEERS.COM

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MO. CORPORATE NO: E-556D

EXPIRES 12/31/2020

REVISIONS DESCRIPTION

RELEASE FOR CONSTRUCTION **AS NOTED ON PLANS REVIEW DEVELOPMENT SERVICES** LEE'S SUMMIT, MISSOURI

PROJECT NO:

September 28, 2020

ELECTRICAL ONE-LINE DIAGRAM

BID SET

			fs nor bidding	, - Contractor	shall notify Engir	ieer of any fier	T GOTTAIN OF THE TOTAL	in a change of 10%	o or greater t)															
	The following calculations are based on the "Point	-by-Point" method where:																VOLTA	GE DROP (3Ø	i):						
	$ISC(2) = ISC(1) \times M(1)$	M= 1/(1+	, (1)		Feeder	r: f (3Ø)) = <u>1.732 x L x lsc</u>		XFMR:	$f(3\emptyset) = IF$	(sca)x Vp x 1.7	3 x %Z	IS(sca)	= Vp x M x IP(sc	<u>:a)</u>					rccos(pf)) + X	x sin (arccos(pf))) x L/# x I	x 1.73) / E			
	ISC (1) = short circuit current at fault point 1					CxE				100,000 x KVA			Vs				VOLTAGE DROP (1Ø): %VD= ((R x cos(arccos(pf)) + X x sin(arccos(pf))) x 2 x L/# x I) / E									
	ISC (2) = short circuit current at fault point 2				Feeder	r: f (1Ø	i)= <u>2 x L x lsc</u> C x E		XFMR:	, , _	(sca)x Vp x %2 00,000 x KVA							%VI	D= ((R x cos(a	rccos(pf)) + X :	x sin(arccos(p	of))) x 2 x L/#	x I) / E			
	IP = Primary short circuit current																									
	Vp = Primary voltage																									
	IS= Secondary short circuit current																			Cumulative Vo		om Fault Poir	nt 1 to Fault	Point #		
	Vs= Secondary voltage																			resistance in o	•					
	L = Length of circuit		to line volts																X=	reactances in	ohms per LF					
	C = "C" Factor from Bussman table wher	; "C" = 1 / impedance pe	linear foot																							
	Feeder Types = NM - Non Magnetic Conduit, M - Magnetic Conduit	., FB - Feeder Busway, P	3 - Plug-in Bu	sway, TX - Tr	ansformer																					Calculations
lt						Feeder					Cinavit			Conductor				Transf	ormer					C!4	System Volta	age: 480 1/27 Cumulativ
nt)	Bus/Feeder Description	Source (Fault Phase Point)	Source Isc (amps)	Conduit Type/ TX		antity of Paralle	el Sets and Bus/ Phase eutral Size	Conductor 'C' E Value	Busway 'C' L Value	L-L Voltage (E)		Power Circuit Lo or (pf) (Amperag			Arccos (pf) (Radians)	Туре	Degree Rise	kVA New Xf	mr Existing Xfmr Z	Secondary Voltage	Tap Setting	f	М	Fault Current (amps)	Voltage Drop (%VD)	M-14 D-
	Utility Service Point		18,402	at the secon	dary of the utility	transformer										1				S	Source Isc + 6	X Motor Con	tribution =	18702		
	Motor Contribution		50	The connect	ed full load moto	r amps (include	es compressors) on th	e system																		
	MDP	1 3	18702	М	CU :	2 Set(s) of	3/0 AWG	12844		480	45	.9 250	0.000079	0.000052	0.451027							0.118	0.89	16725	-0.19%	-0.19%
_	HDC	2 3	16725	М	CU	1 Set(s) of	1 AWG	7293		480		.9 125	0.000160	0.000057	0.451027							1.572	0.39	6502	-1.45%	-1.64%
-	TO TX-LDC	3 3	6502	M	CU	1 Set(s) of	4 AWG	3806		480	10	.9 50	0.000310	0.000060	0.451027							0.062	0.94	6124	-0.06%	-1.69%
	TX-LDC	4 3	6124	TX			<u> </u>			480						DOE	150	45 3.51		208		3.971	0.20	2843		-1.69%
_	LDC	5 3	2843	M	CU	1 Set(s) of	1/0 AWG	8925		208		.9 100	0.000120	0.000055	0.451027							0.027	0.97	2769	-0.11%	-1.80%
	HDT TV LDT	2 3	16725	M		1 Set(s) of	1 AWG	7293		480		.9 80	0.000160	0.000057	0.451027							0.083	0.92	15447	-0.05%	-0.24%
		7 3	15447	M	CU	1 Set(s) of	4 AWG	3806		480	10	.9 50	0.000310	0.000060	0.451027	DOE	450	45 0.54		000			0.87	13473	-0.06%	-0.29%
	TO TX-LDT		13473	TX M	CII	1 Set(s) of	1/0 AWG	9025		480 208	10	.9 100	0.000120	0.000055	0.451027	DOE	150	45 3.51		208		8.737	0.10 0.97	3193	-0.11%	-0.29% -0.40%
	TX-LDT	8 3	. 2102	ı IVI	CU			8925		200	10 1 1	.9 100	0.000120	-	0.317560							0.030	0.97	3101	-0.1176	
	TX-LDT LDT	9 3	3193			. ,		3906				05 50	0.000310	0.000060								0.772		5600	0.469/	
	TX-LDT LDT TO TX-TN	9 3	10088	М	CU	1 Set(s) of	4 AWG	3806		480	70 0	95 50	0.000310	0.000060								0.773	0.56	5690	-0.46%	
	TX-LDT LDT TO TX-TN HDHB	9 3 12 1 2 3	10088 16725	M M	CU	1 Set(s) of 1 Set(s) of		12844		480 480	70 0 140 0	.9 125	0.000079	0.000052	0.451027							0.658	0.56 0.60	10088	-0.59%	-0.78%
	TX-LDT LDT TO TX-TN HDHB TO TX-LDHB	9 3 12 1 2 3 12 3	10088 16725 10088	M M M	CU CU	1 Set(s) of	4 AWG			480 480 480	70 0 140 0					DOE	150	45 3.51		208		0.658 0.096	0.56 0.60 0.91	10088 9208		-0.78% -0.84%
	TX-LDT LDT TO TX-TN HDHB TO TX-LDHB TX-LDHB	9 3 12 1 2 3	10088 16725 10088 9208	M M	CU CU	1 Set(s) of 1 Set(s) of 1 Set(s) of	4 AWG 3/0 AWG 4	12844 3806		480 480 480 480	70 0 140 0 10 0	.9 125 .9 50	0.000079 0.000310	0.000052 0.000060	0.451027 0.451027	DOE	150	45 3.51		208		0.658 0.096 5.971	0.56 0.60 0.91 0.14	10088 9208 3048	-0.59% -0.06%	-0.78% -0.84% -0.84%
	TX-LDT LDT TO TX-TN HDHB TO TX-LDHB TX-LDHB LDHB	9 3 12 1 2 3 12 3 12 3 13 3 14 3	10088 16725 10088 9208 3048	M M M TX	CU CU	1 Set(s) of 1 Set(s) of 1 Set(s) of 1 Set(s) of	4 AWG	12844		480 480 480 480 208	70 CO 140 CO 100	.9 125	0.000079 0.000310 0.000120	0.000052	0.451027	DOE	150	45 3.51		208		0.658 0.096	0.56 0.60 0.91 0.14 0.97	10088 9208 3048 2964	-0.59% -0.06% -0.11%	-1.24% -0.78% -0.84% -0.84% -0.95% -1.05%
	TX-LDT LDT TO TX-TN HDHB TO TX-LDHB TX-LDHB	9 3 12 1 2 3 12 3 13 3	10088 16725 10088 9208	M M M TX M	CU CU	1 Set(s) of 1 Set(s) of 1 Set(s) of	4 AWG 3/0 AWG 4 1/0 AWG	12844 3806 8925		480 480 480 480	70 CO 140 CO 100	.9 125 .9 50 .9 100	0.000079 0.000310	0.000052 0.000060 0.000055	0.451027 0.451027 0.451027	DOE		45 3.51		208		0.658 0.096 5.971 0.028	0.56 0.60 0.91 0.14	10088 9208 3048	-0.59% -0.06%	-0.78% -0.84% -0.84% -0.95%

480 50 0.9

0.9

0.9

0.9

0.9

480 25

480 200

208 10

160 0.000079 0.000052 0.451027

0.000780 0.000065

12

0.000310 0.000060 0.451027

0.000160 0.000057 0.451027

0.000780 0.000065 0.451027

0.451027

11

TP-1 150 25 4

DOE 150 30 2.44

0.097 0.91 6279 -0.27% -0.27%

0.024 0.98 2046 -0.14% -0.59%

3.192 0.24 1643 -1.90% -1.90%

 0.038
 0.96
 1583
 -0.09%
 -1.99%

 1.070
 0.48
 1764
 -1.99%

4.115 0.20 2095

0.172 0.85 5358 -0.18% -0.45% 3

0.031 0.97 1712 -0.18% -2.17% 9

-0.45% 4

-1.99% 8

2 PRESSBOX

3 TO TX-ETR

5 PANEL ETR

7 TO TX-LDV

8 TX-LDV

9 LDV

PRINT DATE/TIME: 9/25/2020 1:59:51 PM

6 DISC-TX-LDV

4 TX-ETR

1 3 6886 M CU 1 Set(s) of 3/0 AWG

5358

6886

7 3 1583 TX

2095 M

8 3 1764 M CU 1 Set(s) of

6279 M CU 1 Set(s) of

CU

12844

3806

7293

1557

1557

14

4 AWG

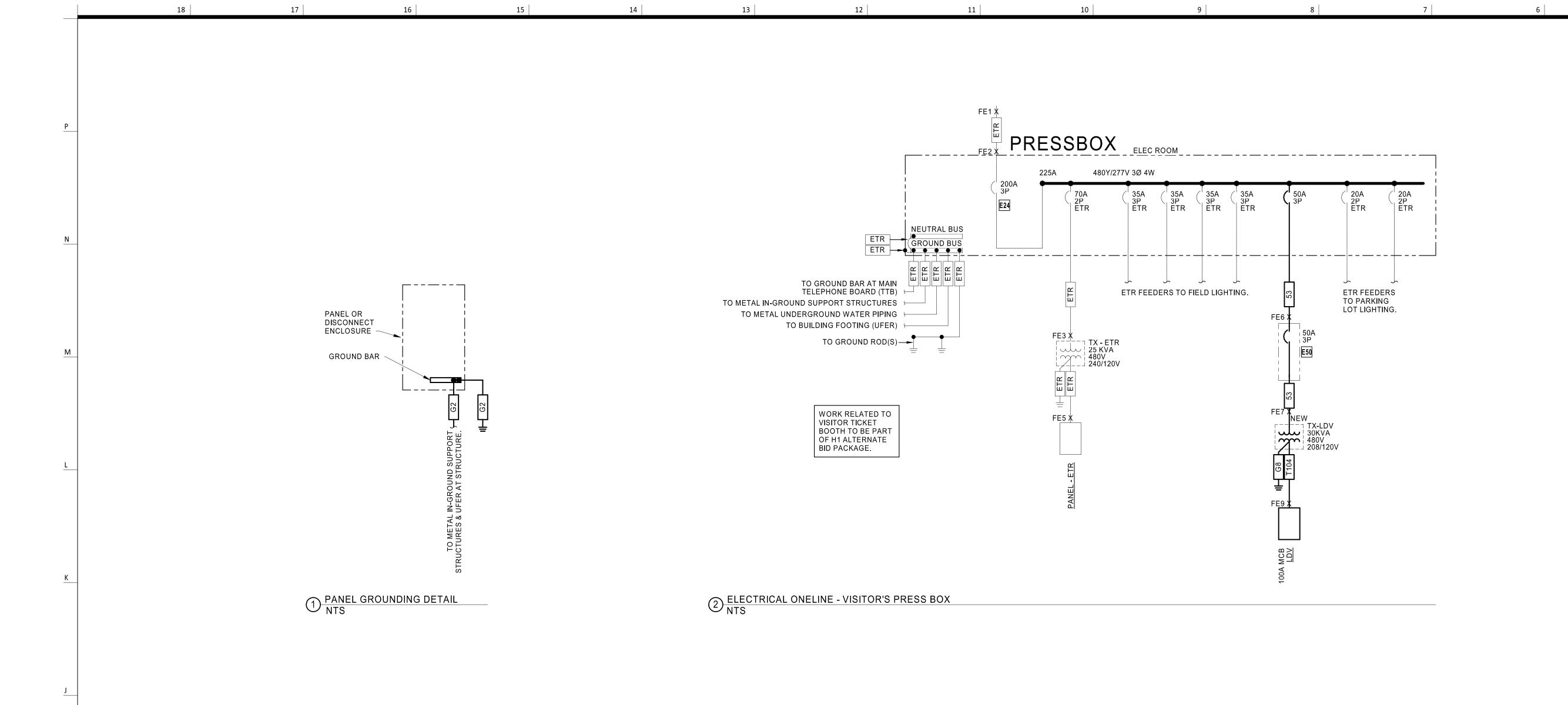
1 AWG

8 AWG

1 Set(s) of

1 Set(s) of

1 Set(s) of



ONE-LINE DIAGRAM GENERAL NOTES:

- 1. REFER TO ONE-LINE DIAGRAM GENERAL NOTES ON SHEET H-E800.
- 2. REFER TO SHORT-CIRCUIT AND VOLTAGE DROP SCHEDULE ON SHEET H-E800 FOR SHORT CIRCUIT AND VOLTAGE DROP INFORMATION.

ELECTRICAL PLAN NOTES:

- E24 CONTRACTOR TO METER EXISTING LOADS FOR A MINIMUM OF 30 DAYS OF NORMAL USE PER NEC 220.87. STOP WORK AND NOTIFY THE ENGINEER IF THE METERED LOAD
- EXCEEDS 113 KW.

 E50 PROVIDE GROUNDING AT EQUIPMENT PER DETAIL 1 ON SHEET H-E801.

BUILDING OCCUPANCY TYPE: OFFICE BUILDING		SERVICE DESCRIPTION:					
BUILDING SQUARE FOOTAGE: 100	480Y/277 V						
LOAD TYPE	CONNECTED LOAD KVA	DEMAND FACTOR	NEC DEMAND				
EXISTING PEAK UTILITY (@ 0.9 pf)	N/A	125%	156.94				
COOLING (C)	0.00	0%	0.00				
HEATING (H)	0.00	100%	0.00				
LIGHTING (L) (PER NEC-220)	0.08	125%	0.10				
RECEPTACLES (R)	0.54	100%	0.54				
MOTORS (M)	0.00	100%	0.00				
SUPPLEMENTAL HEAT (U)	3.00	100%	3.00				
MISC EQUIP (Z)	0.00	100%	0.00				
REFRIGERATION (F)	0.00	100%	0.00				
SIGN/DISPLAY (D)	0.00	125%	0.00				
KITCHEN (K)	0.00	100%	0.00				
LARGEST MOTOR	0.00	125%	0.00				
SHOW WINDOW (W)	0.00	125%	0.00				
TRACK LIGHTING	0.00	100%	0.00				
EXISTING LOAD TO BE DELETED	0.00	100%	0.00				
TOTAL LOAD	3.62	KVA	160.59				
TOTAL AMPACITY	4.36	AMPS	193.16				
SERVICE AMPACITY		AMPS	200.00				
SPARE CAPACITY		AMPS	6.84				
*PER UTILITY COMPANY BILLING PEAK DEMAND OF:		113.00 KW					

FEEDER SCHEDULE:

SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNO. NUMBER DESIGNATIONS PRECEDED BY "A" INDICATE THAT THE SIZE IS BASED ON ALUMINUM (AL) WIRE. AL CONDUCTOR SIZES ARE BASED ON XHHW-2 INSULATION, UNO. ALL CONDUCTOR SIZES ARE BASED ON 75 DEG C RATED TERMINATIONS, UNO. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 PVC, EMT, GRS, IMC AND RMC; ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

EEDER TAG	FEEDER DESCRIPTION
33	(3)#10, (1)#10 G, 1/2" C
53	(3)#8, (1)#10 G, 3/4" C
72	(2)#4, (1)#8 G, 3/4" C
73	(3)#4, (1)#8 G, 1" C
124	(4)#1, (1)#6 G, 1-1/2" C
204	(4)#3/0, (1)#6 G, 2" C
AT104	(4)#1, (1)#6 SSBJ, 1-1/2" C
ETR	ETR
G2	#2 COPPER GROUND, 3/4" C
G4	#4 COPPER GROUND, 3/4" C
G6	#6 COPPER GROUND, 3/4" C
G8	#8 COPPER GROUND, 3/4" C
G20	#2/0 COPPER GROUND, 3/4" C
MV2/0	(3)#2/0 (15kV), (1)#4 (600V), 6" C
MV500	(3)-500kcmil (15kV), (1)#2/0 (600V), 6" C
S404	(2) 2" C, EACH W/ (4)#3/0
T104	(4)#3, (1)#8 SSBJ, 1-1/4" C
T123	(3)#1, (1)#6 SSBJ, 1-1/4" C

T154 (4)#1/0, (1)#6 SSBJ, 1-1/2" C

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Lee's Summit R7 District Athletics Facilities

Lee's Summit High School 400 SW Blue Parkway

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2050003134
MO. CORPORATE NO: E-556D
EXPIRES 12/31/2020



Sep 25 2020

REVISIONS
Der DESCRIPTION DA

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

12/29/2020

PROJECT NO:

0119-0101 September 28, 2020

ELECTRICAL ONE-LINE DIAGRAM

H-E802

IS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBRE ANDARD MOUNTING HEIGHTS	PATHWAYS		TELECO	MMUNICATIONS OUTLETS					GENERAL NEW WORK NOTES
LECOM BACKBOARD (BOTTOM OF BACKBOARD) 4" DDER RACK IN TELECOM ROOMS (BOTTOM OF DEVICE) 90"	W"xH	WIRE MESH CABLE TRAY (W"=WIDTH, "H"=HEIGHT)	CVAPC:	DESCRIPTION	04015/3	DETA"			READ THE SPECIFICATIONS AND REVIEW DRAWINGS OF ALL DIVISION WORK. COORDINATE THIS WORK WITH ALL OTHER DIVISIONS OF WO
BLE TRAY / CONDUIT AFC (BOTTOM OF PATHWAY) 3"(MIN) BHT FIXTURE IN TELECOM ROOMS (BOTTOM OF DEVICE) 108"(MIN)		VERTICAL CABLE TRAY	SYMBOL ELEV	DESCRIPTION ELEVATOR PHONE OUTLET - ANALOG	CABLE(S)	DETAIL 8/H-TN500			AND ALL SUBCONTRACTORS.
LEPHONE WALL OUTLET (CENTERLINE) 48" TA WALL OUTLET SAME AS ADJACENT DEVICE, UNO		UNDERGROUND CONDUIT ("#"=QUANTITY, "D"=CONDUIT DIAMETER)	▼ 1D,TV	DATA WALL OUTLET - DISPLAY	1	2,4,6/H-TN500			2. ALL WORK SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS (DIVISION 26, DIVISION 27, DIVISION 28, ETC.) AND THE CUSTOMER PR
LEVISION OUTLET REFER TO ARCH DRAWINGS IGB/TGB (CENTERLINE) 84"		CONDUIT	▽ 2D	DATA WALL OUTLET	2	2,4,6/H-TN500			ESTABLISHED STRUCTURED CABLING STANDARDS; SHOULD DIFFERENCES EXIST IN THE SPECIFICATIONS RELATING TO TECHNOLOGY.
ALL CLOCK (CENTERLINE) 84" [FERCOM (CENTERLINE) 48"	(#) D"	("#"=QUANTITY, "D"=CONDUIT DIAMETER)	- ()-1D	DATA CEILING OUTLET - WIRELESS ACCESS POINT	1	3,4/H-TN500			AND THE CLIENT'S PRE-ESTABLISHED STANDARDS THE CONTRACTO SHALL CONTACT THE LOW VOLTAGE ENGINEER FOR CLARIFICATION THROUGH THE RFI PROCESS.
E THE DEFAULT MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE NSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ARE ABOVE	#	CABLE SUPPORTS OR J-HOOKS			1	3,4/H-TN500			3. FULLY COORDINATE ALL CABLE TRAY, FIRE STOP CONDUITS / SLEEV
ISHED FLOOR (AFF) OR ABOVE FINISHED GRADE (AFG) TO BOTTOM OF TLET BOX. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH	(#) D"	CONDUIT SLEEVE ("#"=QUANTITY, "D"=CONDUIT DIAMETER)	TELECON	MMUNICATIONS RESPONSIBILIT					AND CONDUIT ROUTING WITH STRUCTURAL ELEMENTS. COORDINAT CABLE TRAY AND CONDUIT INSTALLATIONS WITH ARCHITECT,
RRENT ADA AND LOCAL REQUIREMENTS.	FS	UL FIRESTOP SYSTEM ASSEMBLY				Furnish	Install		STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR, AND GENERAL CONTRACTOR PRIOR TO INSTALLATION. ROUTING IN CONCRETE SLA
BREVIATIONS	PB L"XW"XH"	PULL BOX ("L"=LENGTH, "W"=WIDTH, "H"=HEIGHT)							UNDER SLAB (WHERE CONDUIT WOULD BE ON GRADE) REQUIRES THUSE OF WET LOCATION RATED CABLES.
AMPERES LAN LOCAL AREA NETWORK AMERICANS WITH LCC LIMITED COMBUSTIBLE CABLE	SC	SPLICE		Description	Construc Team	()W/DOF	Construction Team Owner	Comments	4. ALL TELECOMMUNICATIONS CONTINUOUS PATHWAYS SHALL BE BON
DISABILITIES ACT ABOVE FINISHED CEILING ABOVE FINISHED FLOOR LEC LOCAL EXCHANGE CARRIER LED LIGHT-EMITTING DIODE LF LINEAR FEET	RISER DIAGRA								TO THE TELECOMMUNICATIONS BONDING BACKBONE; FOR CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT INSULATION BUSHINGS SHALL BUSH BUSH BUSH BUSH BUSH BUSH BUSH BUSH
ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AUTHORITY HAVING LF LINEAR FEET MAN METROPOLITAN AREA NETWORK		FIBER OPTIC CROSS CONNECT - DETAIL 5/H-TN500	General Co	ommunications					FARTHEST AWAY FROM THE SERVING TR; A BONDING BUSHING SHAI USED AT THE END CLOSEST TO THE SERVING TR. CONTRACTOR TO REFER TO THE ANSI-STD-J 607 STANDARD FOR ADDITIONAL INFORMA
JURISDICTION MATV MASTER ANTENNA I AMERICAN NATIONAL TELEVISION		COPPER UTP CROSS CONNECT	Grounding and	d Bonding	X		X		AS TO THE INSTALLATION OF THE TELECOMMUNICATIONS BONDING BACKBONE.
STANDARDS INSTITUTE MC MAIN CROSS-CONNECT ACCESS POINT MDF MAIN DISTRIBUTION FRAME			Hangers and S Conduits and I	Backboxes	X		X		5. ALL FIRE RATED WALL / FLOOR ASSEMBLIES PENETRATED FOR
AUDIO-VIDEO MFR MANUFACTURER AMERICAN WIRE GAUGE MH MAINTENANCE HOLE	P	110-TYPE PROTECTOR BLOCK		pathways for utility entrance and floor boxes nduit Sleeves, and Sleeve Seals	X		X		TELECOMMUNICATIONS CABLING PATHWAYS SHALL BE FIRE STOPPE WITH THE APPROVED FIRE STOP SYSTEMS (F/S). ALL FIRESTOP SYS
BUILDING AUTOMATION MM MULTIMODE SYSTEM MPOE MAIN POINT OF ENTRANCE	PATCH PANEL	PATCH PANEL - DETAIL 7/H-TN500	Structured		V		Y		SHALL BE INSTALLED AS DIRECTED BY THE MANUFACTURER AND AS SPECIFIED IN DIVISION 07 07 84 00 - "FIRESTOPPING". FIRE STOP
BUILDING DISTRIBUTOR MPOP MAIN POINT OF PRESENCE MTD MOUNTED		TELECOM GROUND BAR (TGB) - DETAIL 9/H-TN500	Telecom Roon	m Buildout (ex. backboard and ladder rack)	X		X		ASSEMBLY LOCATIONS ARE TO BE COORDINATED WITH CABLE TRAY PATHWAY TO TELECOMMUNICATIONS ROOM.
FRAME N/A NOT APPLICABLE BELOW FINISHED CEILING NEC NATIONAL ELECTRICAL CODE	TGB	ILLLOOM ONOUND DAN (IGD) - DETAIL 9/M-INSUU	Copper Backb	Backbone Cable and Connectivity cone Cable and Connectivity	X		X		6. BACK BOXES AND CONDUIT LOCATIONS IN PRECAST CONCRETE WA
CONDUIT NFPA NATIONAL FIRE PROTECTION CATEGORY ASSOCATION	TMGB	TELECOM MAIN GROUND BAR (TMGB)	• • •	ontal Cable and Connectivity nunications	X		X		SHALL BE COORDINATED WITH ARCHITECT, STRUCTURAL ENGINEER GC PRIOR TO ORDERING THE PRECAST WALLS.
V COMMUNITY ANTENNA NIC NOT IN CONTRACT TELEVISION NANOMETER		TELECOMMUNICATIONS BACKBONE CABLING	Router / Fireward Core Switch /	vall		X	X		7. ROUTING OF CABLES SHALL BE CONCEALED. CABLES SHALL BE ROUTING CONDUIT IN EXPOSED AREAS, MINIMAZE AMOUNT OF EXPOSED
V CLOSED CIRCUIT NRTL NATIONALLY RECOGNIZED TELEVISION TESTING LAB CAMPUS DISTRIBUTOR OC ON CENTER		(REFER TO RISER DIAGRAM FOR MORE INFORMATION)	Wireless Acce	ess Points		X	X		IN CONDUIT IN EXPOSED AREAS. MINIMIZE AMOUNT OF EXPOSED CONDUIT BY EMBEDDING CONDUIT IN SLAB WHEN POSSIBLE. EMBEI
CAMPUS DISTRIBUTOR OC ON CENTER COMMUNICATIONS PLENUM OSHA OCCUPATIONAL SAFETY AND JACKET HEALTH ADMINISTRATION	IELECOMMUN	ICATIONS ROOM LADDER RACK	Laptops / Desl	rage and Backup sktops / Copiers / Printers / Scanners		X X	X		CONDUITS AND PENETRATIONS OF STRUCTURE SHALL FOLLOW DET IN STRUCTURAL DRAWINGS. WHEN CONDUITS CAN ONLY BE INSTAL EXPOSED, NOTIFY ARCHITECT PRIOR TO START OF INSTALLATION O
R COMMUNICATIONS RISER OSP OUTSIDE PLANT JACKET PBX PRIVATE BRANCH EXCHANGE			Software Voice Com	nmunications		X	X		CONDUITS. CABLES SHALL BE ROUTED IN CONDUIT WHEN ABOVE HAT CEILINGS. CONDUITS FOR ELEVATOR PHONES AND FIRE ALARM CON
DISTRIBUTED ANTENNA POE POWER OVER ETHERNET SYSTEM PON PASSIVE OPTICAL NETWORK	TMGB	TELECOM MAIN GROUND BAR (TMGB) - WALL ELEVATION VIEW	VoIP Gateway	y / Analog handsets wall mount kit		X	X		PANEL SHALL BE CONTINUOUS (HOMERUN) FROM THE TELECOMMUNICATIONS ROOM TO THE APPLICABLE BOX / CABINET.
DECIBELS POTS PLAIN OLD TELEPHONE SERVICE			VoIP handsets	S		X	X		CONTRACTOR SHALL SIZE AND PROVIDE CONDUITS TO MEET TIA-569
EXISTING PSTN PUBLIC SWITCHED TELEPHONE NETWORK	TGB	TELECOM GROUND BAR (TGB) - WALL ELEVATION VIEW	VoIP Network	incensing		X	X		8. TELECOMMUNICATIONS ROOMS SHALL BE DEDICATED FOR INFORMATECHNOLOGY USE (I.E. NO SHARED SPACE WITH A JANITOR, FIRE AL
A ELECTRONIC COMPONENTS QTY QUANTITY INDUSTRY ASSOCIATION RCDD REGISTERED	———	TMGB/TGB - PLAN VIEW							SYSTEM, ETC.) NO SERVICES SHALL PASS THROUGH THE SPACE UN DEDICATED TO THE SPACE (NO PLUMBING, MECHANICAL, ELECTRICAL)
ELECTROMAGNETIC COMMUNICATIONS INTERFERENCE DISTRIBUTION DESIGNER ENERGY MANAGEMENT DISTRIBUTION DESIGNER		TELECOM BACKBOARD							FIRE, ETC.)
S ENERGY MANAGEMENT RMC RIGID METAL CONDUIT SYSTEM RU RACK UNIT SCS STRUCTURED CABLING		ILLLOUN DAGROUARD							
TUBING SYSTEM EQUIPMENT ROOM SF SQUARE FEET	0 0	TWO-POST EQUIPMENT RACK							
EXISTING TO REMAIN EXISTING TO REMAIN P FIRE ALARM ANNUNCIATOR SPECS SPECIFICATIONS									
PANEL TBB TELECOMMUNICATIONS P FIRE ALARM CONTROL BONDING BACKBONE		FOUR-POST EQUIPMENT RACK							
PANEL TBD TO BE DETERMINED TIA TELECOMMUNICATIONS		EQUIPMENT CABINET (REFER TO PLAN NOTES ON							
FLEXIBLE METAL CONDUIT INDUSTRY ASSOCIATION FIRE STOP SYSTEM TGB TELECOMMUNICATIONS		ENLARGED PLANS FOR MORE INFORMATION)							
FLOOR GROUND BUS BAR THE SCREEN TWISTED PAIR THIS THE SCREEN THE STATE OF THE ST									
(SHIELDED) GROUND BUS BAR GENERAL CONTRACTOR TR TELECOMMUNICATIONS ROOM CROUNDING FOUND 175B									
GROUNDING EQUALIZER TYP TYPICAL UNO UNLESS NOTED OTHERWISE HORIZONTAL CROSS- CONNECT UL UNDERWRITER									
HORIZONTAL CROSS- CONNECT UL UNDERWRITER M HORIZONTAL CABLE LABORATORIES, INC. MANAGER UPS UNINTERRUPTIBLE POWER									
HAND HOLE SUPPLY HERTZ U/UTP UNSHIELDED TWISTED PAIR									
INTERMEDIATE METAL V VOLT(S) CONDUIT VCM VERTICAL CABLE MANAGER									
INTERNET PROTOCOL W WIRE INTERNET SERVICE PROVIDER WAN WIDE AREA NETWORK									
INSIDE PLANT CABLE WAO WORK AREA OUTLET JUNCTION BOX WAP WIRELESS ACCESS POINT									
OX JUNCTION BOX WP WEATHER PROOF WR WEATHER RESISTANT									
WT WATERTIGHT XP EXPLOSION-PROOF									
NOTATION									
1 TECHNOLOGY PLAN CALLOUT									
EQUIPMENT DESIGATION (OWNER FURNISHED,									
CONTRACTOR INSTALLED)									
CONNECTION POINT OF NEW WORK TO EXISTING									
DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER. LOWER NUMBER INDICATES SHEET NUMBER									
1									
SECTION CUT DESIGNATION									
ETYPE LEGEND									
ROUGHOUT THE DRAWINGS DIFFERENT LINE-TYPES ARE USED IN MBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS									
STING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF THE NEW WORK D/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE.									
E STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS									
TERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. Y SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE									
NERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON									
Y DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.									
STING ————————————————————————————————————									
MOLISH — — — — FUTURE									
I									

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Lee's Summit R7 District **Athletics Facilities**

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REVISIONS

RELEASE FOR
CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

PROJECT NO: 0119-0101 DATE: September 28, 2020

TECHNOLOGY GENERAL NOTES AND LEGEND

