COVER SHEET
G0.00
FOR BLUEBEAM LABELING OCR:

TOMBALL ISD

MULTI-PROGRAM ACTIVITY CENTERS

TOMBALL HIGH SCHOOL

1118 BAKER DR ,
TOMBALL, TX 77375

PBK PROJECT # 25046901

ISSUED FOR PROPOSAL

10/30/2026

TDLR #:T.B.D



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ARCHITECT
PBK SPORTS
11 GREENWAY PLAZA, 22ND FLOOR
HOUSTON, TX 77046
T 713-965-0608

STRUCTURAL
KUBALA ENGINEERS
11 Greenway Plaza, Suite 1510
Houston, TX 77046
T 1-800-248-3674

CIVIL ENGINEER
DIG ENGINEERS
11 GREENWAY PLAZA, 22ND FLOOR
HOUSTON, TX 77046
T 713-965-0608

MEPT
LEAF ENGINEERS
11 Greenway Plaza, 22nd Floor
Houston, Texas 77046
Houston, TX 77046
T 713-965-0608

ENVELOPE CONSULTANT
BEAM PROFESSIONALS
11 Greenway Plaza, 22nd Floor
Houston, Texas 77046
T 713-965-0608

ARCHITECT PBK
PBK.com
HOUSTON
11 GREENWAY PLAZA, 22ND FLOOR
HOUSTON, TX 77046
T 713.965.0608
F 713.961.4571
TX Firm: BR 1608

CIVIL
DIG
12001 N CENTRAL EXPRESSWAY, SUITE 300
DALLAS, TX 75013
T (214) 739 - 8100

STRUCTURAL
KUBALA ENGINEERS
11 Greenway Plaza, Suite 1510
Houston, TX 77046
T 1-800-248-3674

MEPT
LEAF ENGINEERS
11 Greenway Plaza, 22nd Floor
Houston, Texas 77046
Houston, TX 77046
T 713-965-0608

TOMBALL HIGH SCHOOL
MULTI-PROGRAM ACTIVITY CENTER
TOMBALL ISD
ISSUED FOR PROPOSAL

TOMBALL ISD
DESTINATION EXCELLENCE

CLIENT
TOMBALL ISD

PBK	PROJECT NUMBER	CLIENT
	25046901	01

DATE 10/30/2026

DRAWING HISTORY

ISSUED FOR PROPOSAL

COVER SHEET

G0.00

File Path: Autodesk Docs://Tomball ISD_25046901_MPAC/46901-Tomball ISD-Multi-Program Activity Centers-Building.rvt

10/30/2026 2:54:23 PM

G0.01 - SHEET INDEX

DRAWING LEGEND

△	ISSUED FOR INFORMATION / REVIEW / COORDINATION - NFC
▲	90% DD
●	50% CD
■	75% CD
□	ISSUED FOR PERMIT
◆	ISSUED FOR BID
–	REMOVED FROM CONTRACT DOCUMENTS

* INDICATES RENAMING OF SHEET FROM PREVIOUS ISSUES

SHEET NUMBER	SHEET NAME	A 06/12/2026	B 90% DD	C 07/30/2026	D 50%CD	10/01/2026	75%CD	E 10/22/2026	ISSUED FOR PERMIT	F 10/29/2026	BID SET
GENERAL											
G0.00	COVER SHEET	△		●		■		□		◆	
G0.01	SHEET INDEX	△		●		■		□		◆	
G0.02	GENERAL PROJECT INFORMATION			●		■		□		◆	
G0.10	PROJECT DATA, CODE REVIEW, LEVEL 1 EGRESS			●		■		□		◆	
G0.15	ACCESSIBILITY STANDARD GUIDELINES			●		■		□		◆	
G0.16	ACCESSIBILITY MOUNTING HEIGHTS GUIDELINES			●		■		□		◆	
G0.51	SIGNAGE GRAPHIC STANDARDS			●		■		□		◆	
G0.17	RESTROOM ACCESSORIES AND TYPES			●		■		□		◆	
CIVIL											
C001	NOTES, INDEX AND LEGEND					■		□		◆	
C002.1	SURVEY (FOR INFORMATION ONLY)					■		□		◆	
C002.2	SURVEY (FOR INFORMATION ONLY)					■		□		◆	
C002.3	SURVEY (FOR INFORMATION ONLY)					■		□		◆	
C002.4	SURVEY (FOR INFORMATION ONLY)					■		□		◆	
C002.5	SURVEY (FOR INFORMATION ONLY)					■		□		◆	
C002.6	SURVEY (FOR INFORMATION ONLY)					■		□		◆	
C002.7	SURVEY (FOR INFORMATION ONLY)					■		□		◆	
C003	DEMOLITION PLAN					■		□		◆	
C100	OVERALL SITE PLAN					■		□		◆	
C101	SITE PLAN					■		□		◆	
C102	DIMENSIONAL CONTROL PLAN					■		□		◆	
C103	FIRE APPARATUS PLAN					■		□		◆	
C201	UTILITY PLAN					■		□		◆	
C301	DRAINAGE PLAN					■		□		◆	
C302	DETENTION PLAN									◆	
C401	GRADING AND PAVING PLAN					■		□		◆	
C402	GRADING AND PAVING PLAN					■		□		◆	
C501	EROSION CONTROL PLAN					■		□		◆	
C502	EROSION CONTROL DETAILS									◆	
C601	DETAILS					■		□		◆	
C602	DETAILS					■		□		◆	
C603	DETAILS					■		□		◆	
CA 101	ATHLETIC SITE PLAN					■		□		◆	
CA 102	ATHLETIC DRAINAGE PLAN					■		□		◆	
CA 103	ATHLETIC SUBGRADE GRADING PLAN					■		□		◆	
CA 104	ATHLETIC STONE GRADING PLAN					■		□		◆	
CA 105	ATHLETIC DETAILS					■		□		◆	
AC 002.1	SURVEY (FOR INFORMATION ONLY)				●						
AC 002.2	SURVEY (FOR INFORMATION ONLY)				●						
AC 002.3	SURVEY (FOR INFORMATION ONLY)				●						
AC 002.4	SURVEY (FOR INFORMATION ONLY)				●						
AC 002.5	SURVEY (FOR INFORMATION ONLY)				●						
AC 002.6	SURVEY (FOR INFORMATION ONLY)				●						
AC 002.7	SURVEY (FOR INFORMATION ONLY)				●						
AC 003	DEMOLITION PLAN				●						
AC 100	OVERALL SITE PLAN				●						
AC 101	THS CIVIL SITE PLAN	△	▲		●						
AC 102	DOMENSIONAL CONTROL PANEL				●						
AC 103	FIRE APPARATUS PLAN				●						
AC 201	UTILITY PLAN		▲		●						
AC 301	DRAINAGE PLAN				●						
AC 401	GRADING AND PAVING PLAN				●						
AC 402	GRADING AND PAVING PLAN				●						
AC 501	EROSION CONTROL PLAN				●						
AC 601	DETAILS				●						
AC 602	DETAILS				●						
AC 603	DETAILS				●						
AC A101	ATHLETIC SITE PLAN				●						
AC A102	ATHLETIC DRAINAGE PLAN				●						
AC A103	ATHLETIC DETAILS				●						
BC 001	NOTES, INDEX AND LEGEND				●						
BC 002	SURVEY (FOR INFORMATION ONLY)				●						
BC 003	SURVEY (FOR INFORMATION ONLY)				●						
BC 101	CIVIL SITE PLAN	△	▲		●						
BC 102	DIMENSIONAL CONTROL PLAN				●						
BC 103	FIRE APPARATUS PLAN				●						
BC 201	UTILITY PLAN		▲		●						
BC 202	UTILITY PLAN				●						
BC 301	DRAINAGE PLAN				●						
BC 401	GRADING AND PAVING PLAN				●						
BC 501	EROSION CONTROL PLAN				●						
BC 601	DETAILS				●						
BC 602	DETAILS				●						
BC 603	DETAILS				●						
BC A101	ATHLETIC SITE PLAN				●						
BC A102	ATHLETIC DRAINAGE PLAN				●						
BC A103	ATHLETIC DETAILS				●						
C-201	CIVIL ATHLETIC DETAILS	△	▲								
CC 001	NOTES, INDEX AND LEGEND				●						
CC 002	SURVEY (FOR INFORMATION ONLY)				●						
CC 003	DEMOLITION PLAN				●						
CC 101	SITE PLAN	△	▲		●						
CC 102	DIMENSIONAL CONTROL PLAN				●						
CC 103	FIRE APPARATUS PLAN				●						
CC 201	UTILITY PLAN		▲		●						
CC 202	UTILITY PLAN				●						
CC 301	DRAINAGE PLAN				●						
CC 401	GRADING AND PAVING PLAN				●						
CC 501	EROSION CONTROL PLAN				●						
CC 601	DETAILS				●						
CC 602	DETAILS				●						
CC 603	DETAILS				●						
CC A101	ATHLETIC DETAILS				●						
CC A102	ATHLETIC DRAINAGE PLAN				●						
CC A103	ATHLETIC DETAILS				●						
STRUCTURAL											
S-000	3D VIEW & SHEET LIST	△	▲	●		■		□		◆	
S-010	GENERAL NOTES	△	▲	●		■		□		◆	
S-011	GENERAL NOTES	△	▲	●		■		□		◆	
S-012	GENERAL NOTES	△	▲	●		■		□		◆	
S-013	GENERAL SUBGRADE NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-101	COMPOSITE FOUNDATION PLAN	△	▲	●		■		□		◆	
S-101A	FOUNDATION PLAN - AREA A	△	▲	●		■		□		◆	
S-101B1	FOUNDATION PLAN - AREA B1	△	▲	●		■		□		◆	
S-101B2	FOUNDATION PLAN - AREA B2	△	▲	●		■		□		◆	
S-102	COMPOSITE SECOND FLOOR AND LOW ROOF FRAMING PLAN	△	▲	●		■		□		◆	
S-102A	SECOND FLOOR AND LOW ROOF FRAMING PLAN - AREA A	△	▲	●		■		□		◆	
S-102B1	LOW ROOF FRAMING PLAN - AREA B2	△	▲	●		■		□		◆	
S-102B2	LOW ROOF FRAMING PLAN - AREA B2	△	▲	●		■		□		◆	
S-103	INTERMEDIATE ROOF FRAMING PLAN - AREA A	△	▲	●		■		□		◆	
S-103A	MID ROOF FRAMING PLAN - AREA A	△	▲	●		■		□		◆	
S-103B2	MECANICAL ROOF FRAMMING PLAN - AREA B2	△	▲	●		■		□		◆	
S-104	COMPOSITE ROOF FRAMING PLAN	△	▲	●		■		□		◆	
S-104B1	HIGH ROOF FRAMING PLAN - AREA B1	△	▲	●		■		□		◆	
S-104B2	HIGH ROOF FRAMING PLAN - AREA B2	△	▲	●		■		□		◆	
S-300	GENERAL CONCRETE AND STL REINF NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-301	GENERAL SLAB ON GRADE NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-302	GENERAL GRADE BEAM NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-303	GENERAL FOUNDATION NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-304	GENERAL FOUNDATION NOTES AND TYP DETAILS					■		□		◆	
S-304 ACIP	GENERAL FOUNDATION NOTES AND TYP DETAILS	△	▲	●							
S-305	GENERAL FOUNDATION NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-306	GENERAL FOUNDATION NOTES AND TYP DETAILS				●	■		□		◆	
S-307	AUGER CAST PILE DETAILS					■		□		◆	
S-307 ACIP	AUGER CAST PILE DETAILS				●						
S-308 ACIP	AUGER CAST PILE DETAILS				●						
S-310	FOUNDATION DETAILS	△	▲	●		■		□		◆	
S-311	FOUNDATION DETAILS	△	▲	●		■		□		◆	
S-312	FOUNDATION DETAILS (CMU)	△	▲	●		■		□		◆	

SHEET NUMBER	SHEET NAME	A 06/12/2026	B 90% DD	C 07/30/2026	D 50%CD	10/01/2026	75%CD	E 10/22/2026	ISSUED FOR PERMIT	F 10/29/2026	BID SET
S-313	FOUNDATION DETAILS (CMU)	△	▲	●		■		□		◆	
S-320	SITE ITEMS FOUNDATION SECTIONS AND DETAILS	△	▲	●		■		□		◆	
S-400	GENERAL CMU NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-401	GENERAL CMU NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-402	MISC CMU DETAILS	△	▲	●		■		□		◆	
S-403	MISC CMU DETAILS	△	▲	●		■		□		◆	
S-500	GENERAL STEEL NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-500MB	PEMS NOTES & DETAILS	△	▲	●		■		□		◆	
S-501	GENERAL STEEL NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-502	GENERAL STEEL CONNECTION NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-503	GENERAL COMPOSITE STEEL NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-504	GENERAL COMPOSITE STEEL NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-505	GENERAL COMPOSITE STEEL NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-506	GENERAL STEEL NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-507	GENERAL STEEL NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-508	GENERAL STEEL NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-509	GENERAL STEEL NOTES AND TYP DETAILS	△	▲	●		■		□		◆	
S-510	COMPOSITE FRAMING DETAILS		▲	●		■		□		◆	
S-511	COMPOSITE FRAMING DETAILS		▲	●		■		□		◆	
S-512	COMPOSITE FRAMING DETAILS (CMU)		▲	●		■		□		◆	
S-520	ROOF FRAMING DETAILS	△	▲	●		■		□		◆	
S-521	ROOF FRAMING DETAILS	△	▲	●		■		□		◆	
S-522	ROOF FRAMING DETAILS	△	▲	●		■		□		◆	
S-523	ROOF FRAMING DETAILS	△	▲	●		■		□		◆	
S-524	ROOF FRAMING DETAILS	△									
S-525	ROOF FRAMING DETAILS	△	▲	●		■		□		◆	
S-530	BUILDING SECTIONS	△	▲			■		□		◆	
S-531	BUIDING SECTIONS					■		□		◆	
S-600	TYPICAL WIND BRACING ELEVATIONS	△	▲	●		■		□		◆	
S-610	TYPICAL WIND BRACING ELEVATIONS	△	▲	●		■		□		◆	
S-700	TYPICAL LADDER DETAILS	△	▲	●		■		□		◆	
S-800	OPTIONAL WIDE FLANGE ALTERNATE SCHEDULE AND SUPPLEMENTAL NOTES									◆	
ARCHITECTURAL											
A-AS101	COMPOSITE - ARCHITECTURAL SITE PLAN					●		■		□	◆
A-AS102	ARCHITECTURAL SITE PLAN TOMBALL HIGH SCHOOL			▲		●		■		□	◆
AS711	ARCHITECTURAL SITE DETAILS					●					
B-AS101	COMPOSITE - ARCHITECTURAL SITE PLAN			▲		●					
B-AS102	ARCHITECTURAL SITE PLAN			▲		●					
C-AS101	COMPOSITE - ARCHITECTURAL SITE PLAN			▲		●					
C-AS102	ARCHITECTURAL SITE PLAN			▲		●					
A100	GRID GEOMETRY PLAN - OVERALL	△				●		■		□	◆
A101	LEVEL 1 SLAB PLAN - OVERALL	△	▲			●		■		□	◆
A101A	LEVEL 1 SLAB PLAN - AREA A	△	▲			●		■		□	◆
A101B	LEVEL 1 SLAB PLAN - AREA B	△	▲			●		■		□	◆
A110	LEVEL 1 FLOOR PLAN - OVERALL	△	▲			●		■		□	◆
A110A	LEVEL 1 FLOOR PLAN - AREA A	△	▲			●		■		□	◆
A110B	LEVEL 1 FLOOR PLAN - AREA B	△	▲			●		■		□	◆
A120	MEZZANINE FLOOR PLAN	△	▲			●		■		□	◆
A201	LEVEL 1 REFLECTED CEILING PLAN - OVERALL	△	▲			●		■		□	◆
A201B	INDOOR PRACTICE FIELD REFLECTED CEILING PLAN - SECTOR B							■		□	◆
A202B	INDOOR PRACTICE FIELD REFLECTED CEILING PLAN MEZZ. LEVEL- SECTOR B							■		□	◆
A301	ROOF PLAN - OVERALL	△	▲			●		■		□	◆
A301A	ENLARGED ROOF PLAN - AREA A							■		□	◆
A301A.1	ENLARGED ROOF PLAN - AREA A-ENTRY CANOPY							■		□	◆
A301B	ENLARGED ROOF PLAN - AREA B							■		□	◆
A301B1	ENLARGED ROOF PLAN - AREA B1	△	▲			●		■		□	◆
A322	ROOF DETAILS					●		■		□	◆
A323	EXPANSION JOINT DETAILS										◆
A401	ENLARGED FLOOR PLANS	△	▲			●		■		□	◆
A402	ENLARGED FLOOR PLANS	△	▲			●		■			
A500	EXTERIOR ELEVATION - OVERALL	△	▲			●				□	◆
A520	INTERIOR ELEVATIONS	△	▲			●		■		□	◆
A521	INTERIOR ELEVATIONS	△	▲			●		■		□	◆
A522	INTERIOR ELEVATIONS	△	▲			●		■		□	◆
A524	LEVEL 1 INTERIOR ELEVATIONS-AREA A&B	△	▲			●		■		□	◆
A525	LEVEL 1 INTERIOR ELEVATIONS AREA B	△	▲			●		■		□	◆
A526	LEVEL 1 INTERIOR ELEVATIONS AREA A&B	△	▲			●		■		□	◆
A527	LEVEL 1 INTERIOR ELEVATIONS AREA A	△	▲			●		■		□	◆
A601	BUILDING SECTIONS	△	▲			●		■		□	◆
A610	WALL SECTIONS - AREA A					●		■		□	◆
A611	WALL SECTIONS - AREA A					●		■		□	◆
A612	WALL SECTIONS - AREA A	△	▲			●		■		□	◆
A620	WALL SECTIONS - AREA B					●		■		□	◆
A633	STAIR PLAN AND DETAILS	△	▲			●		■		□	◆
A701	PLAN DETAILS	△	▲			●		■		□	◆
A702	PLAN DETAILS	△	▲			●		■		□	◆
A711	WALL SECTION DETAILS	△	▲			●		■		□	◆
A712	WALL SECTION DETAILS					●		■		□	◆
A801	PARTITION TYPES	△	▲			●		■		□	◆
A802	LEVEL 1 FINISH FLOOR PLAN - OVERALL	△	▲			●		■		□	◆
A802.1	TURF LAYOUT-TOMBALL HIGH SCHOOL	△	▲			●		■		□	◆
A802.2	TURF LAYOUT-TOMBALL MEMORIAL HIGH SCHOOL	△	▲			●					
A802.3	TURF LAYOUT-TOMBALL WEST HIGH SCHOOL	△	▲			●					
A812	DOORS SCHEDULES & FRAME TYPES	△	▲			●		■		□	◆
A813	DOOR & GLAZING DETAILS	△	▲			●		■		□	◆
A816	CURTAINWALL/STOREFRONT ELEVATONS	△	▲			●		■		□	◆
A818	LOUVER DETAILS									□	◆
A819	CEILING DETAILS	△	▲			●		■		□	◆
A841	ROOM FINISH SCHEDULE & TRANSITION DETAILS	△	▲			●		■		□	◆
A863	EXTERIOR SIGNAGE		▲			●		■		□	◆
MECHANICAL											
M-001	MECHANICAL GENERAL NOTES AND LEGENDS	△	▲			●		■		□	◆
M-101A	1ST FLOOR MECHANICAL PLAN- AREA A	△	▲			●		■		□	◆
M-101B	1ST FLOOR MECHANICAL PLAN - AREA B	△	▲			●		■		□	◆
M-201A	2ND FLOOR MECHANICAL PLAN-AREA A	△	▲			●		■		□	◆
M-201B	2ND FLOOR MECHANICAL PLAN-AREA B	△	▲			●		■		□	◆
M-301	ROOF PLAN - MECHANICAL	△	▲								
M-301 A	MECHANICAL ROOF PLAN -AREA A					●		■		□	◆
M-301 B	MECANICAL ROOF FRAMMING PLAN - AREA B							■		□	◆
M-401	1ST LEVEL AREA B MECHANICAL FLOOR PLAN	△	▲			●		■		□	◆
M-402	MECHANICAL PIPING DIAGRAM		▲			●		■		□	◆
M-403	MECHANICAL PIPING DIAGRAM		▲			●					
M-404	MECHANICAL PIPING DIAGRAM		▲			●					
M-501	MECHANICAL SECTION VIEW	△	▲			●				□	◆
M-502	MECHANICAL SECTION VIEW	△	▲			●				□	◆
M-503	MECHANICAL SECTION VIEW									□	◆
M-601	MECHANICAL SCHEDULES	△	▲			●		■		□	◆
M-602	MECHANICAL SCHEDULES	△	▲			●		■		□	◆
M-701	MECHANICAL DETAILS		▲			●		■		□	◆
M-702	MECHANICAL DETAILS		▲			●		■		□	◆
M-703	MECHANICAL DETAILS					●		■		□	◆
M-704	MECHANICAL DETAILS									□	◆
ELECTRICAL											
E-000	ELECTRICAL SYMBOL LEGEND AND CONTACTOR SCHEDULE	△	▲		●			□		◆	
A-ES-101	ELECTRICAL SITE PLAN -TOMBALL HS				●						
B-ES-102	ELECTRICAL SITE PLAN -TOMBALL MEMORIAL HS				●						
C-ES-103	ELECTRICAL SITE PLAN -TOMBALL WEST HS				●						
ES-101	ELECTRICAL SITE PLAN	△				■		□		◆	
E-101A	1ST LEVEL POWER PLAN - AREA A	△	▲	●		■		□		◆	
E-101B	1ST LEVEL POWER PLAN - AREA B	△	▲	●		■		□		◆	
E-120 B	2ND LEVEL POWER PLAN - AREA B	△	▲	●		■		□		◆	
E-201A	1ST FLOOR LIGHTING PLAN - AREA A	△	▲	●		■		□		◆	
E-201B	1ST FLOOR LIGHTING PLAN - AREA B	△	▲	●		■		□		◆	
E-220B	2ND LEVEL LIGHTING PLAN - COMPOSITE	△	▲	●		■		□		◆	
E-301	ELECTRICAL ROOF PLAN	△	▲			■		□		◆	
E-301A	ELECTRICAL ROOF PLAN -AREA A			●		■		□		◆	

SHEET NUMBER	SHEET NAME	A 06/12/2026	B 90% DD	C 07/30/2026	D 50%CD	10/01/2026	75%CD	E 10/22/2026	ISSUED FOR PERMIT	F 10/29/2026	BID SET
E-501	ELECTRICAL ONE-LINE DIAGRAM	△	▲	●		■		□		◆	
E-502	ELECTRICAL RISER DIAGRAM	△	▲	●		■		□		◆	
E-601	ELECTRICAL SYMBOL LEGEND AND CONTACTOR SCHEDULE	△	▲	●		■		□		◆	
E-602	ELECTRICAL DETAILS	△	▲	●		■		□		◆	
E-701	ELECTRICAL PANEL SCHEDULES	△	▲	●		■		□		◆	
E-702	ELECTRICAL PANEL SCHEDULES	△	▲	●		■		□		◆	
FIRE PROTECTION											
PF-000	FIRE PROTECTION COVER SHEET	△	▲	●		■		□		◆	
PF-101	1ST FLOOR FIRE PROTECTION PLAN-COMPOSITE	△	▲	●		■		□		◆	
PF-701	FIRE PROTECTION RISER DIAGRAMS		▲	●							
PLUMBING											
P-000	PLUMBING COVER SHEET	△	▲	●		■		□		◆	
A-PS-101	PLUMBING SITE PLAN - TOMBALL HS			●							
B-PS-101	PLUMBING SITE PLAN - TOMBALL MEMORIAL HS			●							
C-PS-101	PLUMBING SITE PLAN - TOMBALL WEST HS			●							
PS-101	PLUMBING SITE PLAN	△	▲	●		■		□		◆	
PU-101A	1ST LEVEL PLUMBING UNDERGROUND PLAN - AREA A	△	▲	●		■		□		◆	
PU-101B	1ST LEVEL PLUMBING UNDERGROUND PLAN - AREA B	△	▲	●		■		□		◆	
P-101A	1ST LEVEL PLUMBING PLAN - AREA A	△	▲	●		■		□		◆	
P-101B	1ST LEVEL PLUMBING PLAN - AREA B	△	▲	●		■		□		◆	
P-120B	MEZZANINE PLUMBING- AREA B	△	▲	●		■		□		◆	
P-301	PLUMBING ROOF PLAN	△	▲	●		■		□		◆	
P-401	PLUMBING ENLARGED PLAN	△	▲	●		■		□		◆	
P-501	PLUMBING SCHEDULES	△	▲	●		■		□		◆	
P-601	PLUMBING DETAILS	△	▲	●		■		□		◆	
P-602	PLUMBING DETAILS	△	▲	●		■		□		◆	
TECHNOLOGY											
T-000	TECHNOLOGY SYSTEM NOTES AND LEGENDS	△	▲	●		■		□		◆	
TS-101	TECHNOLOGY SITE PLAN - TOMBALL HS			●		■		□		◆	
T-101	1ST FLOOR CABLE ROUTING PLAN		▲	●		■		□		◆	
T-102	TECHNOLOGY CONDUIT ROUTING (NORTH-ELEVATION)			●		■		□		◆	
T-103	TECHNOLOGY CONDUIT ROUTING (SOUTH-ELEVATION)			●		■		□		◆	
TF-101	1ST LEVEL FIRE ALARM PLAN - COMPOSITE	△	▲	●		■		□		◆	
TS-201	TECHNOLOGY SITE PLAN - TOMBALL MEMORIAL HS			●							
TS-301	TECHNOLOGY SITE PLAN - TOMBALL WEST HS			●							
TN-101	1ST LEVEL TECHNOLOGY PLAN - COMPOSITE	△	▲	●		■		□		◆	
TN-501	MDF/IDF ENLARGED PLANS		▲	●		■		□		◆	
TN-601	MDF/IDF ENLARGED DETAILS					■		□		◆	
TN-701	TECHNOLOGY DETAILS	△	▲	●		■		□		◆	
AUDIO VISUAL											
EAV0.01	LEGENDS, NOTES, DATA COORDINATION				●	■		□		◆	
EAV0.02	POWER COORDINATION				●	■		□		◆	
EAV0.03	CONDUIT RISER				●	■		□		◆	
EAV1.01	OVERALL FLOOR PLAN				●	■		□		◆	
EAV1.02	ENLARGED PLAN - IDF				●	■		□		◆	
EAV2.01	OVERALL RCP				●	■		□		◆	
EAV4.01	BUILDING SECTIONS- INDOOR MAC FIELD				●	■		□		◆	
EAV4.02	BUILDING SECTIONS - 3D RENDERS				●	■		□		◆	
EAV4.04	BUILDING SECTIONS-TOUCH STATIONS				●	■		□		◆	
EAV4.05	BUILDING SECTIONS - AUDIO COVERAGE PATTERN				●	■		□		◆	
EAV7.01	RACK ELEVATIONS				●	■		□		◆	
EAV8.01	ONELINE DIAGRAMS				●	■		□		◆	
EAV9.01	MOUNTING DETAILS				●	■		□		◆	

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HOUSTON, TX
713-960-8686

Tomball ISD-Multi-Program Activity Center- Tomball High School

1118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

B | A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDWARD K. PENNY
84378
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: PBK SPORTS

DRAWN BY: MDM

SHEET INDEX

G0.01

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10/30/2026 2:54:23 PM

PROJECT GRAPHIC REFERENCES

PROJECT SYMBOLS

PLAN NORTH
NORTH ARROW

TRUE NORTH
NORTH ARROW

WORKING POINT
LEVEL POINT
DATUM POINT
SPOT ELEVATION
TOP OF FRAMING / STEEL

COLUMN GRID LINE
REFERENCE

EXISTING / NEW
COLUMN GRID LINE
REFERENCE

CENTER LINE & SYMBOL

ABOVE LINE

BEYOND LINE

BREAK LINE

SHEET NUMBERING SCHEME

SHEET
NUMBER

A2.01

LEVEL REFERENCE
SHEET SERIES TYPE

DISCIPLINE

G	GENERAL
C	CIVIL
CA	SPORTS CIVIL
SA	SPORTS ARCH
S	STRUCTURAL
L	LANDSCAPE
D	DEMOLITION
A	ARCHITECTURAL
M	MECHANICAL
E	ELECTRICAL
P	PLUMBING
T	TECHNOLOGY
FS	FOOD SERVICE
AV	ACOUSTICAL
TH	THEATRICAL

SUBDISCIPLINE

S	ARCH SITE
D	DEMO
I	INTERIOR
L	LIFE SAFETY
S	SITE
F	FURNITURE
Q	EQUIPMENT

0	GENERAL
1	PLANS: (Site, Floor, Finish, Graphics)
2	CEILING
3	ROOF
4	ENLARGED PLANS
5	ELEVATIONS (Exterior & Interior)
6	SECTIONS: (Bldg & Wall)
7	BLDG DETAILS
8	DIAGRAMS/COMPILED SCHEDULES: (Partition Types, Casework/Millwork, Door & Panel/Frame Types, Window Types)
9	MISCELLANEOUS

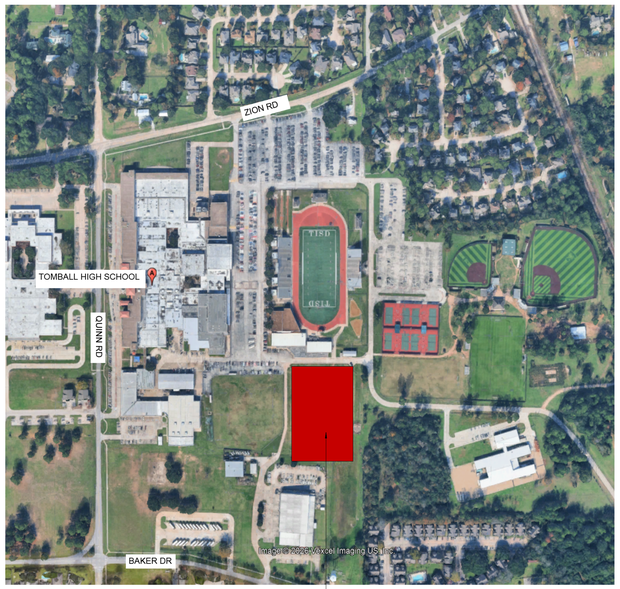
MATERIAL INDICATIONS

CONCRETE
BRICK
CONC. MASONRY UNIT (CMU)
RIGID INSULATION
BATT INSULATION
ACOUSTICAL TILE / FABRIC TILE
GYPSUM BOARD
PLASTER ON METAL LATH

FINISH WOOD
PLYWOOD
STEEL
ALUMINUM
EARTH
UNCOMPACTED EARTH
GRAVEL

STONE
CAST STONE / SAND / MORTAR
CONTINUOUS WOOD
BLOCKING / SHIM
SEALANT
ROD STOCK & SEALANT

VICINITY MAP TOMBALL HIGH SCHOOL



PROJECT LOCATION

ABBREVIATIONS AND LEGEND KEYS

REFER TO SCHEDULES AND LEGENDS FOR ADDITIONAL ABBREVIATIONS
REFER TO OTHER DISCIPLINES FOR ADDITIONAL ABBREVIATIONS

A	
ABV	above
ACOUS	acoustical
ACT	acoustical ceiling tile
AD	area drain
ADJ	adjustable
AFF	above finish floor
ALT	alternate
ALUM	aluminum
APPROX	approximate
ARCH	architect
B	
B.O.	bottom of
BALC	balcony
BD	board
BET	between
BLDG	building
BLKG	blocking
BLW	below
BM	beam
BOT	bottom
BRKT	bracket
BULKHD	bulkhead
BUR	built up roof
C	
C.G.	corner guard
CAB	cabinet
CAULK	caulking
CER	ceramic
CJ	control joint
CLG	ceiling
CLOS	closet
CLR	clear
CO	cased opening
COL	column
CONC	concrete
CONT	continuous
CPT	carpet
CT	ceramic tile
CTR	center
D	
DBL	double
DET	detail
DIA	diameter
DIM	dimension
DN	down
DR	door
DS	down spout
DW	dishwasher
DWG	drawing
E	
E	east
EA	each
EIFS	exterior insulation & finish system
EJ	expansion joint
ELEC	electric(al)
ELEV	elevation
EMER	emergency
ENCL	enclosure
EOS	edge of slab
EQ	equal
EQUIP	equipment
ETR	existing to remain
EW	each way
EXIST	existing

F	
F.O.	face of
FA	fire alarm
FAP	fire annunciator panel
FD	floor drain
FE	fire extinguisher
FEC	fire extinguisher cabinet
FG	finish group
FH	fire hydrant
FHC	hire hose cabinet
FIN	finish
FLR	floor
FLUOR	fluorescent
FT	foor or feet
FUR	furring
G	
GAL	gallon
GALV	galvanized
GB	grab bar
GC	general contractor
GL	glass
GND	ground
GWB	gypsum board
GYP	gypsum
H	
H.W.H.	hot water heater
HC	handicapped
HDWD	hardwood
HDWR	hardware
HM	hollow metal
HORIZ	horizontal
HR	hour
HT	height
I	
ID	inner diameter
INCAN	incandescent
INSUL	insulation
INT	interior
J	
JAN	janitor
JST	joist
JT	joint
L	
LAM	laminate
LAV	lavatory
LB(S)	pounds
LDG	landing
LT	light
M	
MAX	maximum
MECH	mechanical
MEMB	membrane
MFR	manufacturer
MIN	minimum
MISC	miscellaneous
MO	masonry opening
MTD	mounted
MTL	metal
N	
N	north
NIC	not in contract
NO	number

O	
O.P.	overflow pipe
OA	overall
OC	on center
OD	outside diameter
OFF	office
OH	opposite hand
OPG	opening
OPP	opposite
P	
PART	partition
PERM	perimeter
PG	paint grade
PLAM	plastic laminate
PLAS	plaster
PLYWD	plywood
PNT	paint
PR	pair
PTD	painted
R	
R	riser
RAD	radius
RCP	reflected ceiling plan
RD	roof drain
RE	refer
REF	refrigerator
REINF	reinforced
REQD	required
RESIL	resilient
RM	room
RO	rough opening
RTU	roof top unit (mechanical)
S	
S	south
SAFB	sound attenuation fiber batt
SC	scupper
SCHED	schedule
SEAL	sealant
SECT	section
SF	square foot
SHT	sheet
SIM	similar
SPEC	specification
SQ	square
SS	stainless steel
STD	standard
STL	steel
STOR	storage
STRUCT	structural
SUSP	suspended
SYM	symmetrical
T	
T	tread
T&G	tongue & groove
TEL	telephone
TER	terrazzo
THK	thick
THR	threshold
TO	top of
TYP	typical
U	
UC	undercut
UNFIN	unfinished
UNO	unless noted otherwise
UON	unless otherwise noted
UTIL	utility

V	
VCT	vinyl composition tile
VERT	vertical
VIF	verify in field
VTR	vent termination pipe
VWC	vinyl wall covering
W	
W	west
W/	with
W/O	without
WC	watercloset
WIN	window
WP	waterproof
WS	webstack
WSCT	wainscot
WT	weight

GENERAL NOTES

A. THE CONTRACT DOCUMENTS ARE TO INCLUDE AIA DOCUMENT A201 "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION". CLIENT SHALL BE DESIGNATED AS "THE OWNER". PBK ARCHITECTS, INC. SHALL BE DESIGNATED AS "THE ARCHITECT". FACILITY SHALL BE DESIGNATED AS "THE LANDLORD". THE CONTRACT DOCUMENT SHALL ALSO INCLUDE THE AGREEMENT, PERFORMANCE AND PAYMENT BONDS, GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, THE SPECIFICATIONS, CONTRACT DRAWINGS ADDENDA, AND CONTRACT MODIFICATIONS, BUILDING RULES AND REGULATIONS & ANY OTHER DOCUMENTS REQUIRED BY THE OWNER.

B. THE WORK SHALL BE DONE IN ACCORDANCE WITH THE RULES AND REGULATIONS OF ALL APPLICABLE SAFETY AND BUILDING CODES, AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION. CONTRACTOR IS RESPONSIBLE FOR SECURING AND PAYING FOR ALL PERMITS REQUIRED FOR THE WORK AND FOR THE SCHEDULING OF ALL REQUIRED INSPECTIONS DURING THE COURSE OF THE WORK.

C. CONTRACTOR SHALL REVIEW AND VERIFY EXISTING CONDITIONS AS PROVIDED IN THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ALL DISCREPANCIES, ERRORS, INCONSISTENCIES OR AMBIGUITIES PRIOR TO PROCEEDING WITH THE WORK.

D. CONTRACTOR SHALL BE RESPONSIBLE FOR, AND PROVIDE PROTECTION OF, ANY EXISTING FINISHES, MATERIALS, AND EQUIPMENT TO REMAIN. CONTRACTOR SHALL REPAIR OR REPLACE ANY DAMAGED FINISHES, MATERIALS, AND EQUIPMENT AS A RESULT OF THE WORK. ALL EXISTING FINISHES TO REMAIN SHALL BE CLEANED AT THE COMPLETION OF CONSTRUCTION. CONTRACTOR SHALL PHOTOGRAPH AND DOCUMENT ALL EXISTING DAMAGES, AND PROVIDE TO THE ARCHITECT, PRIOR TO PROCEEDING WITH THE WORK.

E. ALL MATERIALS AND SYSTEMS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL CONSTRUCTION SHALL BE OF INDUSTRY STANDARD OR BETTER. THE ARCHITECT SHALL BE FINAL JUDGE OF QUALITY.

F. ONLY NEW MATERIALS AND EQUIPMENT OF RECENT MANUFACTURE, OF STANDARD QUALITY, AND FREE FROM DEFECTS, WILL BE PERMITTED IN THE WORK, UNLESS OTHERWISE NOTED. REJECTED MATERIALS AND EQUIPMENT SHALL BE REMOVED IMMEDIATELY FROM THE WORK AND REPLACED WITH MATERIALS AND EQUIPMENT OF THE QUALITY SPECIFIED. FAILURE TO REMOVE REJECTED MATERIALS AND EQUIPMENT SHALL NOT RELIEVE CONTRACTOR FROM THE RESPONSIBILITY FOR QUALITY OF MATERIAL AND EQUIPMENT USED NOR FROM ANY OTHER OBLIGATION IMPOSED BY THE CONTRACT.

G. DO NOT SCALE DRAWINGS. STATED & WRITTEN DIMENSIONS GOVERN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD AND SHALL BE RESPONSIBLE FOR THEIR ACCURACY. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED BECAUSE OF DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THOSE INDICATED ON THE DRAWINGS, UNLESS THEY CONTRIBUTE TO A CHANGE IN THE SCOPE OF THE WORK. ANY DIFFERENCE FOUND SHALL BE SUBMITTED TO THE ARCHITECT FOR COORDINATION PRIOR TO ORDERING, MANUFACTURING, OR PROCEEDING WITH THE WORK. HORIZONTAL DIMENSIONS INDICATED ARE TO/FROM FACE OF CORE, UNLESS NOTED OTHERWISE. VERTICAL DIMENSIONS ARE FROM TOP OF FLOOR SLAB EXCEPT WHERE NOTED TO BE ABOVE FINISHED FLOOR (AFF). DIMENSIONS ARE NOT ADJUSTABLE WITHOUT APPROVAL OF ARCHITECT UNLESS NOTED +/-.

H. CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST BETWEEN THE LOCATIONS OF EXISTING AND PROPOSED NEW MECHANICAL, ELECTRICAL, PLUMBING, DATA, AND SPRINKLER EQUIPMENT (INCLUDING BUT NOT LIMITED TO STRUCTURAL MEMBERS, PIPING, DUCT WORK, CONDUIT AND SPRINKLERS) AND THAT CLEARANCES FOR INSTALLATION AND MAINTENANCE OF EQUIPMENT ARE PROVIDED. ELEMENTS IN CONFLICT SHALL BE DOCUMENTED AND PROVIDED TO THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

J. CONTRACTOR SHALL PROVIDE THE ARCHITECT WITH SHOP DRAWINGS FOR REVIEW AND APPROVAL, FOR ALL, BUT NOT LIMITED TO, THE FOLLOWING: SHOP-FABRICATED MILLWORK, CARPET LAYOUT, FLOORING, LIGHT FIXTURES, DOORS, MISC. STEEL, METAL FABRICATION, GLASS/GLAZING, SPRINKLER LAYOUTS, HARDWARE. SHOP DRAWINGS SHALL BE SUBMITTED IN THE FORM OF 3 SETS OF PRINTS. SHOP DRAWINGS SHALL NOT BE REPRODUCTIONS OF CONTRACT DOCUMENTS. MATERIAL SUBMITTALS (3 SAMPLES) SHALL BE PROVIDED FOR WOOD, FASTENERS, ACRYLIC, CARPET, TILE, BASE, PAINT, LAMINATE AND ANY OTHER MATERIALS INDICATED IN THE SHOP DRAWING.

K. CONTRACTOR SHALL PROVIDE THE ARCHITECT WITH MANUFACTURER'S CUT SHEETS AND SPECIFICATIONS FOR ALL EQUIPMENT INCLUDING BUT NOT LIMITED TO: LIGHT FIXTURES, PLUMBING EQUIPMENT, ELECTRICAL EQUIPMENT, FANS, SUPPLEMENTARY HEATING AND COOLING ELEMENTS, ALL HARDWARE AND SECURITY EQUIPMENT.

L. CONTRACTOR SHALL NOT PROCEED WITH WORK FOR WHICH ADDITIONAL COMPENSATION BEYOND THE CONTRACT AMOUNT IS EXPECTED WITHOUT WRITTEN AUTHORIZATION FROM THE ARCHITECT AND OWNER. FAILURE TO OBTAIN SUCH AUTHORIZATION SHALL INVALIDATE A CLAIM FOR EXTRA COMPENSATION. CONTRACTOR SHALL NOT PROCEED WITH WORK WHICH, IF COMPLETED IN STRICT CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS, WILL RESULT IN ADDITIONAL WORK BEYOND THE SCOPE OF THE CONTRACT WITHOUT WRITTEN AUTHORIZATION FROM THE ARCHITECT AND OWNER. ANY FIELD CONDITIONS THAT SIGNIFICANTLY VARY FROM THE CONTRACT DOCUMENTS OR WILL RESULT IN ADDITIONAL WORK, SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO PROCEEDING WITH WORK.

M. CONTRACTOR SHALL REVIEW AND COORDINATE THE SIZE AND LOCATION OF ALL SLAB OPENINGS WITH ALL RELATED DISCIPLINES. CONTRACTOR SHALL SUBMIT PROPOSED LOCATIONS OF CORE DRILLING AND SLAB OPENINGS TO ARCHITECT AND STRUCTURAL ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING WITH THE WORK.

N. PATCH, REPAIR, AND INSTALL ALL FIREPROOFING AS REQUIRED BY CODE. FIREPROOF ALL NEW PENETRATIONS AS REQUIRED FOR APPROVAL BY THE AUTHORITY HAVING JURISDICTION.

P. WHERE BUILDING THERMAL EXPANSION JOINTS ARE LOCATED, CONTRACTOR SHALL COMPLY WITH APPLICABLE CODE AND INDUSTRY BEST PRACTICES FOR ROUTING OF ALL PIPING, DUCTS, CONDUITS AND OTHER CONTINUOUS RUNS.

Q. CONTRACTOR SHALL CONTINUOUSLY CHECK ARCHITECTURAL AND STRUCTURAL CLEARANCES FOR ACCESSIBILITY OF EQUIPMENT AND MECHANICAL AND ELECTRICAL SYSTEMS. NO ALLOWANCES OF ANY KIND WILL BE MADE FOR THE GENERAL CONTRACTOR'S NEGLIGENCE TO FORESEE MEANS OF INSTALLING EQUIPMENT INTO POSITION.

R. FINISHED WORK SHALL BE FIRM, WELL-ANCHORED, IN TRUE ALIGNMENT, PLUMB, LEVEL, WITH SMOOTH, CLEAN, UNIFORM, APPEARANCE WITHOUT WAVES, DISTORTIONS, HOLES, MARKS, CRACKS, STAINS, OR DISCOLORATION. JOINTING SHALL BE CLOSE FITTING, NEAT AND WELL SCRIBED. FINISHED WORK SHALL HAVE NO EXPOSED UNSIGHTLY ANCHORS OR FASTENERS AND SHALL NOT PRESENT HAZARDOUS, UNSAFE CORNERS. ALL WORK SHALL HAVE THE PROVISION FOR EXPANSION, CONTRACTION AND SHRINKAGE AS NECESSARY TO PREVENT CRACKS, BUCKLING, AND WARPING DUE TO TEMPERATURE AND HUMIDITY CONDITIONS.

S. ATTACHMENTS, CONNECTIONS OR FASTENERS OF ANY NATURE ARE TO PROPERLY AND PERMANENTLY BE SECURED IN CONFORMANCE WITH INDUSTRY BEST PRACTICES. THE DRAWINGS HIGHLIGHT SPECIAL CONDITIONS ONLY AND BY NO MEANS ILLUSTRATE EVERY CONNECTION. THE CONTRACTOR IS RESPONSIBLE FOR IMPROVING CONNECTION ACCORDINGLY.

T. CONTRACTOR SHALL WAIVE "COMMON PRACTICE" AND "COMMON USAGE" AS CONSTRUCTION CRITERIA WHEREVER DETAILS AND CONTRACT DOCUMENTS OR GOVERNING CODES, ORDINANCES, ETC. REQUIRE QUANTITY OR BETTER QUALITY THAN COMMON PRACTICE OR COMMON USAGE WOULD REQUIRE.

U. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND SUBMITTALS AND SHALL ORDER AND SCHEDULE DELIVERY OF MATERIALS TO AVOID DELAYS IN CONSTRUCTION. IF AN ITEM IS FOUND TO BE UNAVAILABLE OR TO HAVE A LONG LEAD TIME, THE GENERAL CONTRACTOR SHALL NOTIFY ARCHITECT IMMEDIATELY WITH A PROPOSED ALTERNATIVE.

V. CONTRACTOR SHALL NOTIFY THE OWNER, THE LANDLORD, AND THE ARCHITECT IN WRITING OF ANY DEFICIENCIES IN BASE BUILDING WORK PRIOR TO THE COMMENCEMENT OF THE WORK. ANY UNREPORTED DEFICIENCIES WILL BECOME THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO CORRECT.

W. CONTRACTOR SHALL EXERCISE INDUSTRY BEST PRACTICES FOR CARE AND CAUTION DURING THE CONSTRUCTION OF THE WORK, AND SHALL SCHEDULE WORK TO MINIMIZE DISTURBANCES TO OCCUPANTS, ADJACENT SPACES AND/OR STRUCTURES, PROPERTY, PUBLIC THOROUGHFARES, ETC. THE GENERAL CONTRACTOR SHALL TAKE PRECAUTIONS AND BE RESPONSIBLE FOR THE SAFETY OF ALL BUILDING OCCUPANTS DURING CONSTRUCTION PROCEDURES. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COSTS INCURRED.

X. ALL DEBRIS SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS, OR AS DIRECTED BY THE AUTHORITY HAVING JURISDICTION. UPON COMPLETION OF THE WORK, REMOVE ALL DEBRIS FROM THE WORK PROVIDED UNDER THIS CONTRACT AND LEAVE ALL AREAS CLEAN. TRASH IS NOT PERMITTED TO BE BURNED ON SITE.

Y. ALL ABANDONED AND MISCELLANEOUS NAILS, HANGERS, STAPLES, WIRES, CONDUITS AND DEBRIS SHALL BE REMOVED FROM EXPOSED AREAS OF THE FLOORS, WALLS, AND CEILINGS. REMOVE ALL ABANDONED PIPE SLEEVES IN FLOOR SLABS. PATCH EXISTING SLAB AS REQUIRED TO MAINTAIN UL FIRE RATING OF FLOOR SLAB WHERE PIPES AND CONDUITS HAVE BEEN REMOVED.

Z. SLAB PENETRATIONS SHALL BE SEALED AS REQUIRED TO MAINTAIN FIRE RATING, USING MATERIALS AND METHODS APPROVED BY THE AUTHORITY HAVING JURISDICTION. EXPANSION MATERIAL SHALL BE APPROVED BY THE ARCHITECT.

ZA. CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY ACCESS PANELS WHICH MAY BE REQUIRED PRIOR TO PROCEEDING WITH THE WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL TRADES. REQUIRED ACCESS PANELS SHALL BE INCLUDED IN THE CONTRACTOR'S SCOPE OF WORK.

ZB. CONTRACTOR SHALL PROVIDE THE TEAM WITH A CONSTRUCTION SCHEDULE SHOWING THE PROPOSED PHASING. LONG LEAD ITEMS THAT WILL AFFECT THE SUBSTANTIAL COMPLETION DATE SHALL BE BROUGHT TO THE ARCHITECT'S ATTENTION IMMEDIATELY.

ZC. CONTRACTOR SHALL COORDINATE AV/TECHNOLOGY EQUIPMENT SIZES, INCLUDING AND NOT LIMITED TO TVS AND INTERACTIVE DISPLAYS, WITH CASEWORK TO ENSURE PROPER FIT. CONTRACTOR MUST VERIFY DIMENSIONS WITH AV/TECHNOLOGY CONSULTANT DRAWINGS, PROVIDERS, AND OWNER. ALL AV EQUIPMENT MUST FIT PROPERLY BETWEEN CASEWORK

ZD. REFER TO TECHNOLOGY DRAWINGS. FOR TV & MOUNTING HARDWARE SPECS & DETAILS. (TYP)

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Tomball ISD-Multi-Program Activity Center- Tomball High School

1118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND X. RAMIREZ 14374 STATE OF TEXAS

CLIENT	TOMBALL ISD
DATE	10/30/2026
PROJECT NUMBER	25046901

DRAWING HISTORY

No.	Description	Date
1		

CHECKED BY: Checker
DRAWN BY: Author

GENERAL PROJECT INFORMATION

G0.02

Plot Stamp:
10/30/2026 2:54:24 PM

- Texas Administrative Code:
  - TAC 9, Section 754, Elevators, Escalators and Related Equipment
  - TAC 9, Section 755, Boiler Law
  - TAC 16, Section 65, Boiler Law
  - TAC 16, Section 74, Elevators, Escalators and Related Equipment
  - Texas Commission on Environmental Quality:

§ SWPPP Requirements
- Texas Department of Licensing and Regulations:
  - Article 9102, Elimination of Architectural Barriers Act
  - 2012 Texas Accessibility Standards

Chapter 3: Use and Occupancy
Occupancy Classification:
- A-3 – Indoor Practice, Weight Room, Meeting Room (2021 IBC 303.4)
- B – Offices, Locker Rooms, Training Rooms, Kitchen, Meeting Rooms, etc. (2021 IBC 304.1)
- S-1 – Storage, Custodial, etc. (2021 IBC 311.2) (Accessory Use Group)

Chapter 4: Special Detailed Requirements Based on Occupancy and Use
Section 403 – High-Rise Buildings
- Not applicable.

Section 404 – Atrium
- Not applicable.

Section 405 – Underground Buildings
- Not applicable.

Section 410 – Stages, Platforms and Technical Production Areas
- Not applicable.
- Not applicable.

Section 414 – Hazardous Materials
- Not applicable.

Section 419 – Artificial Decorative Vegetation
- Not applicable.

Section 423 – Storm Shelters
- Not applicable.

Section 424 – Play Structures
- Not applicable.
- Not applicable.

Chapter 5: General Heights and Areas
Section 501 – General
- Building Address: Shall be provided with address identification visible from the street / road fronting the property. Minimum Size (4" min.) and location per the AHJ.

- 504.1.1 Unlimited area buildings. The height of unlimited area buildings shall be designed in accordance with Section 507.
- 504.2 Mixed occupancy. In a building containing mixed occupancies in accordance with Section 508, no individual occupancy shall exceed the height and number of story
  limits specified in this section for the applicable occupancies.
- 504.3 Height in feet. The maximum height, in feet, of a building shall not exceed the limits specified in Table 504.3
  Building Height:
  - A, B, and S (Accessory Use Group): Allowable Building Height – 75 feet above grade plane (sprinklered) (2021 IBC Table 504.3)
  Number of Stories:
  - A, B, and S (Accessory Use Group): Number of Stories – 3 (sprinklered) (2021 IBC Table 504.4)

Section 505 – Mezzanines and Equipment Platforms
- The Indoor MAC design does include a mezzanines or equipment platform. Section 506 – Building Area
  Building Area:

- A3 Building Area – Unlimited SF (single story fully sprinklered) (2021 IBC Table 506.2)
- B Building Area – Unlimited SF (single story sprinklered) (2021 IBC Table 506.2)
- S1 Building Area – Unlimited SF (single story sprinklered) (2021 IBC Table 506.2) Section 507 – Unlimited Area Buildings
  - 507.1.1 – Accessory occupancies shall be permitted in accordance with Section 508.2.
  - 507.2.1 – Public ways or yards shall be 60 feet.

Section 508 – Mixed Use and Occupancy
- 508.2.3 – Aggregate accessory occupancies shall not occupy more than 10 percent of the floor area of the story in which they are located. The accessory occupancy
  shall not exceed values for non-sprinklered buildings in Table 506.2 for each accessory. See below:
  - Mezzanines limited to one-half the room or space floor area (2021 IBC 505.2.1, Except. 2)
  - A-3 and A-4 Building Area – Unlimited SF (non-sprinklered) (2021 IBC Table 506.2)
  - B Building Area – Unlimited SF (non-sprinklered) (2021 IBC Table 506.2)
  - S Building Area – Unlimited SF (non-sprinklered) (2021 IBC Table 506.2)

The Indoor MAC does not require occupancy separations in accordance with IBC Section 508.3 (non- separated use provisions) and IBC Table 509; however, several reference
standards applicable to this building do require fire-resistance rated separations for specific use areas within the building. These required separations are provided below:

NFPA 70 – Transformer Rooms (over 112.5 kVA)	1-hr with automatic sprinklers
NFPA 20 – Fire Pump Room / Riser Room (Non-Highrise)	1-hr with automatic sprinklers
Telecommunications Rooms (only where stacked)	2-hr with automatic sprinklers
Substation Separation (currently not within the project)	3-hr with automatic sprinklers
Furnace Room – Equipment over 400,00 Btu/hour	1-hr or automatic sprinklers
Water Heater Room – Equipment is over 15 psi and 10 horsepower	1-hr or automatic sprinklers
Laundry Rooms	1-hr or automatic sprinklers

Chapter 6: Type of Construction Section 601 – General *Construction Type:*
- The Indoor MAC is designed to be of Type IIB noncombustible materials.

Section 603 – Combustible Material in Types I and II Construction
- Combustible materials as allowed by Section 603.

Chapter 7: Fire and Smoke Protection Features
Section 704 – Fire Resistance Rating of Structural Members.
- Not Applicable.

Section 705 – Exterior Walls
- 705.2.1 – Projections from walls of Type I and II construction shall be of noncombustible materials.

Section 706 – Fire Walls
- Not Applicable.

Section 707 – Fire Barriers
- Not Applicable.

Section 708 – Fire Partitions
- Rated fire partitions are not required at corridors due to automatic sprinkler coverage (2021 IBC Table 1020.2, Occupancy A, B, and S).

Section 709 – Smoke Barriers
- Not Applicable.

Section 713 – Shaft Enclosures
- Shaft enclosures less than four (4) stories, shaft enclosures shall be rated 1-hour, but not less than the floor assembly penetrated.
- Shaft enclosure openings shall be protected in accordance with Section 716.
- Shaft enclosure penetrations shall be protected in accordance with Section 714.
- Shaft enclosure joints shall be protected in accordance with Section 715.
- Shaft enclosure penetrations for ducts and air transfer openings shall be protected in accordance with Section 717.
- Elevator enclosures shall be constructed in accordance with Sections 712, 713 and Chapter 30.

Chapter 8 – Interior Finishes
Section 803 – Wall and Ceiling Finishes
- 803.11 – Laminated products with a wood substrate shall have a product classification based on the requirements of Table 803.13.
- 803.12 – Facings and wood veneers with a wood substrate shall have a product classification based on the requirements of Table 803.13.

Section 804 – Interior Floor Finish
- Class II materials (0.22 watts/cm2) are permitted in all areas where Class I materials are required due to automatic sprinkler system (2021 IBC 804.4.2, Exception).

Section 805 – Combustible Materials in Types I and II Construction
- Floor sleepers, bucks and nailing blocks shall not be constructed of combustible materials, unless the space between the fire-resistance-rated floor assembly and the flooring is either solidly filled with noncombustible materials or fire blocked in accordance with Section 718 and shall not extend under or through permanent partitions.

Section 806 – Decorative Materials and Trim
- Curtains, draperies, hanging fabrics and similar decorative materials suspended shall not exceed 10 percent (10%) of the specific wall or ceiling area attached to (2021 IBC 806.2).
- Fixed or movable walls, paneling, pads applied structurally for decoration, acoustical correction, insulation, etc. shall be considered interior finish, complying with 2021 IBC Section 803, and not considered decorative (2021 IBC 806.2).
- Imitation leather of other material consisting of or coated with a pyroxylin or similarly hazardous base shall not be used in Group A occupancies (2021 IBC 806.6).
- Interior trim material, other than foam plastic, shall have a minimum Class C flame spread and smoke-developed index (2021 IBC 806.7).
- Interior floor-wall base, six inches (6") or less in height shall be not less than Class II. Class I not required at Class I floor finish (2021 IBC 804.4.2, Exception).
- Lockers constructed entirely of wood and noncombustible materials shall be permitted to be used wherever interior finish materials are required to meet a Class C classification in accordance with Section 803.1.2 (2021 IBC 806.9)

Section 807 – Insulation
- Thermal and acoustical insulation shall comply with 2021 IBC 720.

Chapter 9: Fire Protection Systems
The Indoor MAC design may include a fire pump. The flow test results shall be provided by A.H.J. and used in the fire pump design, if applicable.
Section 902 – Fire Pump and Riser Room Size
- The Indoor MAC may need to be provided with a Fire Pump Room with exterior ready access. The Fire Pump Room is adequately sized to accommodate the required equipment and clearance, circulation, and working room (2021 IBC 902.1).
- The Fire Pump Room or Fire Riser Room door is provided with a keyed lock and "Knox" box and the door is labeled appropriately with a contrasting color (2021 IBC 902.1.1 and 902.1.2).
- The Fire Pump Room or Riser Room is climate controlled to maintain a minimum temperature of 40 degrees F (2021 IBC 902.1.3).

Section 903 – Automatic Sprinkler Systems
- The Indoor MAC is equipped throughout with an NFPA 13 automatic sprinkler system as required (2021 IBC 507, 903.2.1.4, Table 903.2.11.6).

Section 904 – Alternative Automatic Fire-Extinguishing Systems
- The Indoor MAC design does not utilize an automatic fire-extinguishing system that is an alternative to those described in Section 903.

Section 905 – Standpipe Systems
- The design of the Indoor MAC includes Class I, automatic wet standpipes (2021 IBC 905.3.1, Exception 1).
- Class I standpipes are provided at each interior exit stairway, at each intermediate floor landing (2021 IBC 905.4.1).

Section 906 – Portable Fire Extinguishers
- The design of the Indoor MAC includes portable fire extinguishers to be located conspicuously based on area and travel distance.
- Extinguishers will be designed for Ordinary Hazard Occupancy as 4-A:80-B:C for general purpose and Class-K for commercial cooking at kitchen and concessions. Maximum area per extinguisher shall be 6,000 sf with a travel distance of seventy-five feet (75').
- Extinguishers in public areas will be within unlocked cabinets (2021 IBC 906.8) and on hangers or brackets in back-of-house areas (2021 IBC 906.7).
- Extinguishers shall be installed such that the highest point of the extinguisher / cabinet will be forty-eight inches (48"), within the ADA / TAS reach range.

Section 907 – Fire Alarm and Detection Systems
- The design of the Indoor MAC includes an approved fire alarm system in accordance with the IBC, IFC and NFPA 72.
- Manual fire alarm pull boxes are not provided within the Indoor MAC due to installation of automatic sprinkler system (2021 IBC 907.2.1, Exception; 2021 IBC 907.2.2, Exception).
- While closed captioning of audible public announcements is not required (2021 IBC 907.5.2.2.4)
- Emergency voice/alarm communication systems with manual override shall be provided (2021 IBC 907.5.2.2).
- Visible alarm notification appliances shall be provided in public use, common use, and employee work areas (2021 IBC 907.5.2.3).

Section 909 - Smoke Control Systems
- Not Applicable.

Section 910 – Smoke and Heat Removal
- Not Applicable.

Section 911 – Fire Command Center
- Fire Command Center is not required by the code. Section 915 – Carbon Monoxide Detection
- The Indoor MAC design does not include carbon monoxide detection. Section 916 – Gas Detection Systems
- The Indoor MAC design does not include gas detection systems. Section 918 – Emergency Responder Communication Coverage
- Upon completion of the construction of the Indoor MAC the two-way emergency responder communication coverage within the structure will be compared to the level of coverage that existed prior to construction. Should the level of coverage be less, an approved in-building system will be provided as a part of the Administration Building & Recreation Facility.

Chapter 10: Means of Egress
The Indoor MAC is subjected to the general egress requirements of the 2021 IBC. Section 1002 – Maintenance Plans
- Fire safety and evacuation plans shall be provided per 2015 IFC Section 403.2, 403.3, 403.8, (2021 IBC 1002.2).

Section 1004 - Occupant Load
- The occupant load for each space within the Indoor MAC is determined using the occupant load factors listed in IBC Table 1004.1.2
- The nature of the Indoor MAC is that of a sport's recreational facility with administration offices and support spaces. As such, the possibility of multiple functions with differing occupant load factors. The designed occupant load examines each of the anticipated function independently, and the worst-case occupant load is used to establish the means of egress (2021 IBC 1004.2)
  Section 1007 – Exit and Exit Access Doorway Configuration
- Arrangement of Means of Egress:
  Where two (2) exits or exit access doors are required from a space, they must be placed not less than one-third the overall diagonal distance of the space, measured in a straight line between the exit doors or exit access doors (IBC Section 1007.1.1 Exception 2).
  Where there are three or more exits or exit access doors, at least two of the exits or exit access doors are required to meet the remoteness as defined above. The additional exits shall be located as remotely as possible (IBC Section 1007.1.2).

Section 1009 - Accessible Means of Egress
- The Indoor MAC is required to be designed to conform to the requirements of the 2010 ADA Accessibility Guidelines for Buildings and Facilities (ADAAG) and Texas Accessibility Standards (2012 Edition).
- Area of Refuge
  Ramps, Stairs and Elevators within the building may serve as part of the required accessible means of egress from each floor of the building. In order to be considered part of the required accessible means of egress, the IBC requires stairs and elevators to be accessed from either a horizontal exit or an area of refuge complying with Section 1009.6, unless the building is fully sprinklered. Since the building will be a fully sprinklered building, any stairs and elevators serving as part of the accessible means of egress are not required to be provided with areas of refuge (IBC Section 1009.3.3 Exception 2 and IBC Section 1009.4.2 Exception 2). The Stairs comply with the width requirements of IBC Section 1009.3.

Section 1010 – Doors, Gates, and Turnstiles
- Exit Access Doorways and Openings
  Doors are not permitted to project more than 50 percent of the required clear width in an exit or exit access at any point during the swing when opening. In addition, doors, when fully open, are not permitted to project more than seven inches (7") into the required exit clear width.
- Egress through Intervening Spaces
  Exit access from a room or space is not permitted to open into an adjacent room or space, except where such adjoining rooms or areas and the area served are accessory to one or the other. Exit access is not permitted to pass through kitchens, storerooms, restrooms, closets or other similar spaces. In addition, exit access is not permitted to pass through rooms subject to locking (IBC Section 1016.2).
- A-3 and A-4 Dead end corridor length – 20 feet (20') max (2021 IBC 1020.5)
- B, M, S-1, S-2 and U equipment with automatic sprinkler system, Dead end corridor length – 50 feet (50') max (2021 IBC 1020.5, Exception 2)

Section 1023 – Interior Exit Stairways and Ramps
- The design of the interior exit stairways of the Indoor MAC are such that they do not connect more than two (2) stories or levels within each stair. Therefore, signage at each landing as well as top and bottom terminus are not provided (2021 IBC Section 1023.9).

Section 1025 – Luminous Egress Path Markings
- The Indoor MAC is not a high-rise building. Therefore, luminous egress path markings are not provided (2021 IBC Section 1025.1).

Section 1030 – Assembly
- Bleachers, grandstands, and folding and telescopic seating that are building elements shall comply with ICC 300 (2021 IBC 1030.1.1). This is a Use Group A3. These bleachers are intended for participants and not spectators.

Section 1030.2 – Assembly Main Exit
- The Indoor MAC is not required to be designed with a main exit.

Section 1030.3 – Assembly other exits
- The Indoor MAC is designed with multiple exits, through various entry lobbies, with exits distributed around the perimeter of the building with a total capacity of not less than 100 percent of the required capacity.

Chapter 11: Accessibility
The Indoor MAC is designed to comply with the Americans with Disabilities Act, Texas Accessibility Standards.
Section 1101.1 – Scoping Requirements
- Buildings meeting the Texas Accessibility Standards shall be considered to comply with 2021 IBC Chapter 11
- Spaces frequented only by service personnel for maintenance, repair or occasional monitoring of equipment are considered exempt and not required to comply with Texas Accessibility Standards.

Chapter 13: Energy Efficiency
- Requirements noted below are from the 2018 International Energy Conservation Code.
  - State of Texas minimum SECO 2018 IECC for Commercial Construction

PROJECT GENERAL INFORMATION

NAME OF PROJECT:	INDOOR MULTIPURPOSE ACTIVITY CENTERS
BUILDING / FACILITY NAME:	TOMBALL MPAC
LOCATION (ADDRESS):	TOMBALL HS -118 BAKER DR.
STATE, ZIP CODE:	TOMBALL, TX 77375
DESCRIPTION OF PROJECT:	THIS PROJECT CONSIST OF A FREE STANDING INDOOR GENERAL PURPOSE PRACTIVE FOR ATHLETICS, CHEERLEADING, BAND AND OTHER STUDENTS EVENTS REQUIRING LARGE GATHERING AREAS. THIS FACILITY WILL CONSIST OF A 72,000 SQ.FT. STRUCTURE WITH 35' EAVE HEIGHT THAT WILL HOUSE AN 80 YD. ATHLETICS PRACTICE FIELD, RESTROOMS AND GENERAL STORAG SPACES.
AUTHORITY HAVING JURISDICTION:	CITY OF TOMBALL
APPLICABLE BUILDING CODE:	2021 INTERNATIONAL BUILDING CODE (2021 IBC) AND AMMENDMENTS 2021 INTERNATIONAL FIRE CODE (2015 IFC) 2021 INTERNATIONAL MECHANICAL CODE (2021 IMC) 2021 INTERNATIONAL PLUMBING CODE (2021 IPC) 2023 NATIONAL ELECTRIC CODE (2023 NEC)
APPLICABLE ENERGY CODE:	2021 INTERNATIONAL ENERGY CONSERVATION CODE (2015 IECC)
ACCESSIBILITY:	2012 TEXAS ACCESSIBILITY STANDARDS (TAS) 2010 AMERICANS WITH DISABILITIES ACT (ADA)
CONSTRUCTION TYPE:	II-B
CONSTRUCTION TYPE MIX:	A-3,S-1
OCCUPANCY CLASSIFICATION:	A-3
OVERALL USE OF BUILDING:	INDOOR MULTI-ACTIVITY CENTER IS CLASSIFIED AS A MIXED-USE OCCUPANCY WITH THE PRIMARY OCCUPANCIES BEING USE GROUP ASSEMBLY A-3 AND ACCESSORY OCCUPANCIES OF USE GROUP B AND USE GROUP S-1
HIGH RISE BUILDING:	NO
AUTOMATIC FIRE SPRINKLER SYSTEM:	YES
STANDPIPE SYSTEM:	YES
MINIMUM CORRIDOR WIDTH (RE. IBC):	44"
GROSS BUILDING SQ FT:	70,237 SQ FT.

ALLOWABLE HEIGHTS AND AREAS - MIXED OCCUPANCY

	1st Occupancy Info	2nd Occupancy Info	3rd Occupancy Info	Most Stringent Req.	Provided
Occupancy Classification	A	B	S	-	-
Allowable Height in Feet	75'	75'	75'	75'	53'
Allowable Height Stories	3	3	3	3	1
Non-Sprinklered Allowable Area (SF) TABLE 506.2	9500	23,000	15,500	-	-
Tabular Allowable Area (SF) TABLE 506.2	UNLIMITED	UNLIMITED	UNLIMITED	UNLIMITED	UNLIMITED
Frontage Increase (.XX)	7125	17250	11625	-	-
Total Allowable Area per Story (SF)					
Maximum Common Path (With or Without Sprinkler)	75'-0"	100'-0"	100'-0"	75'-0"	72'-0"
Maximum Exit Access Travel Distance (With or Without Sprinkler)	250'-0"	300'-0"	250'-0"	250'-0"	248'-0"
Corridor Fire Resistance Rating	0hr.	0hr.	0hr.	0hr.	0hr.

REFER TO SECTION 507.6 GROUP A-3 BUILDING OF TYPE II CONSTRUCTION. UNLIMITED AREA
REFER TO SECTION 507.5 GROUP B,S BUILDING OF TYPE II CONSTRUCTION. UNLIMITED AREA

OCCUPANCY AND EGRESS

	Number of Occupants	Exits Single Exit Maximum Occupant Load: 49		Egress Door Width (in.) Means of Egress Capacity Factor: 0.15 in.		Egress Stair Width (in.) Stairway Means of Egress Capacity Factor: 0.2in.	
		Required	Provided	Required	Provided	Required	Provided
LEVEL 1	1224	4	4	184"	350"	245"	0"
MEZZANINE LEVEL	22	1	2	4"	36"	5"	48"

PLUMBING / FIXTURE COUNTS

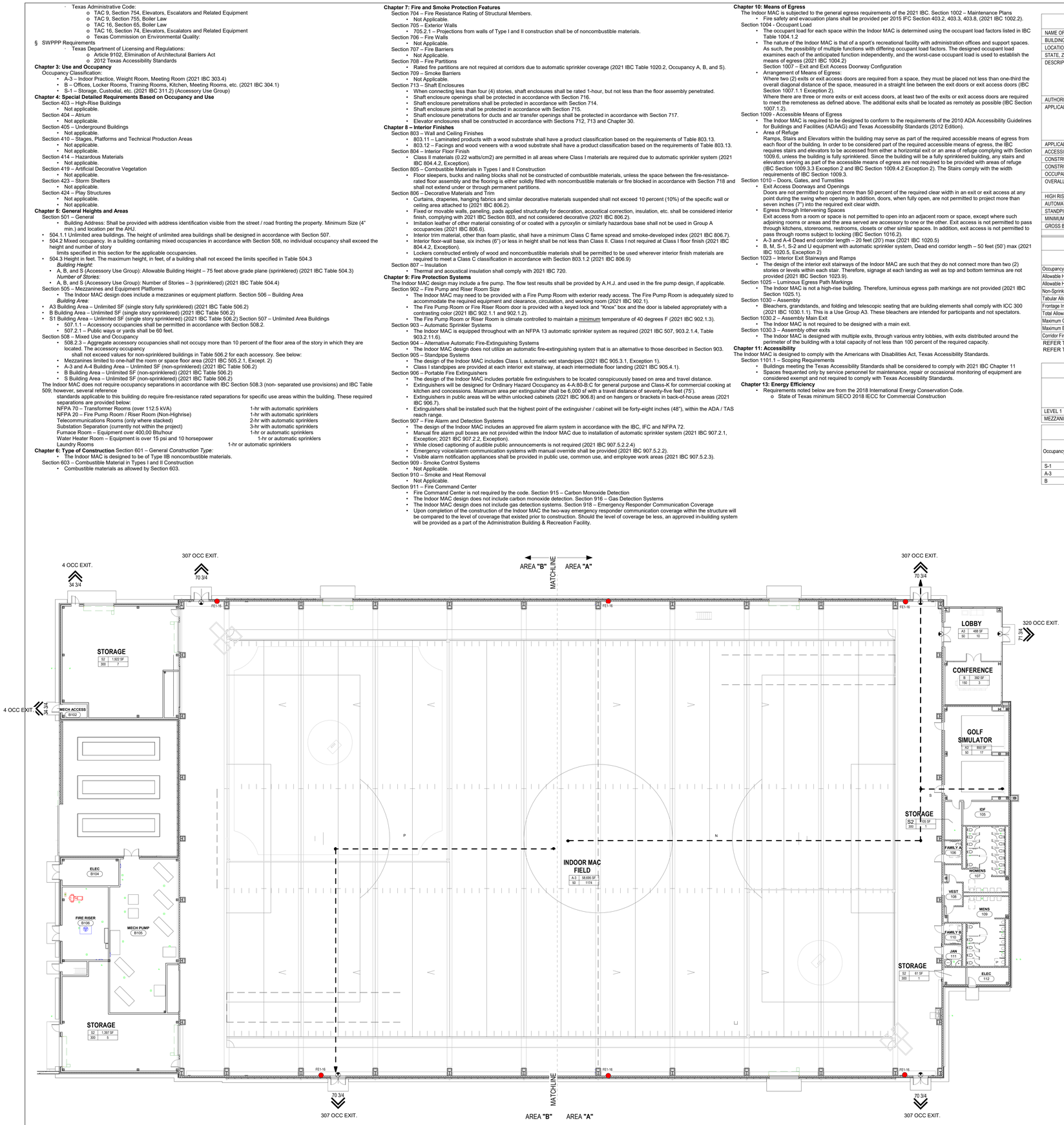
Occupancy	Occupant Load	Male:Water Closet/Urinals		Female Water Closet		Unisex		Male Lavatories		Female Lavatories		Unisex		Drinking Fountains		Bathtubs/ Showers		Service Sinks	
		Required	Provided	Required	Provided	Required	Provided	Required	Provided	Required	Provided	Required	Provided	Required	Provided	Required	Provided	Required	Provided	Required	Provided
S-1	14																		
A-3	1,396	7	12	13	12	-	2	4	5	4	5	-	2	1	1	-	-	1	1
B	180																		

PATH OF TRAVEL SCHEDULE

ID	PATH OF TRAVEL TYPE	TRAVEL DISTANCE ACTUAL	TRAVEL DISTANCE MAX
N	TRAVEL DISTANCE TO AN EXIT	248'-0"	250'-0"
P	TRAVEL DISTANCE TO AN EXIT	240'-0"	250'-0"
S	TRAVEL DISTANCE TO AN EXIT	116'-0"	250'-0"

CODE COMPLIANCE SYMBOLS

1-HOUR FIRE RATING
2-HOUR FIRE RATING
3-HOUR FIRE RATING
EGRESS TRAVEL PATH
EGRESS COMMON TRAVEL PATH
TRAVEL DISTANCE NAME
TRAVEL DISTANCE LENGTH
EXIT SIGN
35" EXIT WITH CLEAR EXIT WIDTH
35" EXIT DISCHARGE WITH CLEAR EXIT WIDTH
FIRE EXTINGUISHER CABINET



1 LEVEL 1 LIFE SAFETY PLAN
1/16" = 1'-0"

Plot Stamp:
10/30/2026 2:54:27 PM

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ISSUED FOR PRICING PROPOSAL

B A

KEY PLAN

REGISTERED ARCHITECT EDMUND X. RAMIREZ 14374 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date
1		

CHECKED BY: Checker
DRAWN BY: Author

PROJECT DATA, CODE REVIEW, LEVEL 1 EGRESS

G0.10

2012 ADA Standards for Accessible Design
for Public Accommodations and Commercial Facilities: Title III

CHAPTER 3: BUILDING BLOCKS

301 General

301.1 Scope. The provisions of Chapter 3 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

302 Floor or Ground Surfaces

Floor and ground surfaces shall be stable, firm, and slip resistant and shall comply with 302.
EXCEPTIONS:
1. Within animal containment areas, floor and ground surfaces shall not be required to be stable, firm, and slip resistant.
2. Areas of sport activity shall not be required to comply with 302.

302.2 Carpet. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. Pile height shall be 1/2 inch (13 mm) maximum. Exposed edges of carpet shall be fastened to floor surfaces and shall have trim on the entire length of the exposed edge. Carpet edge trim shall comply with 303.

302.3 Openings. Openings in floor or ground surfaces shall not allow passage of a sphere more than 1/2 inch (13 mm) diameter except as allowed in 407.4.3, 409.4.3, 410.4, 810.5.3 and 810.10. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

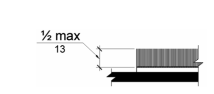


FIGURE 302.2 CARPET PILE HEIGHT

303 Changes in Level

303.1 General. Where changes in level are permitted in floor or ground surfaces, they shall comply with 303.
EXCEPTIONS:
1. Animal containment areas shall not be required to comply with 303.
2. Areas of sport activity shall not be required to comply with 303.

303.2 Vertical. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be vertical.

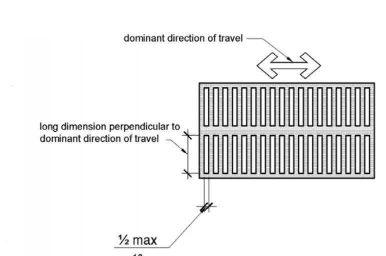


FIGURE 302.3 ELONGATED OPENINGS IN FLOOR OR GROUND SURFACES

303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and 1/2 inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

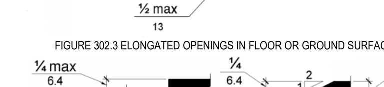


FIGURE 303.2 VERTICAL CHANGE IN LEVEL
FIGURE 303.3 BEVELED CHANGE IN LEVEL

303.4 Ramps. Changes in level greater than 1/2 inch (13 mm) high shall be ramped, and shall comply with 405 or 406.

304 Turning Space

304.1 General. Turning space shall comply with 304.

304.2 Floor or Ground Surfaces. Floor or ground surfaces of a turning space shall comply with 302. Changes in level are not permitted.
EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

304.3 Size. Turning space shall comply with 304.3.1 or 304.3.2.

304.3.1 Circular Space. The turning space shall be a space of 60 inches (1525 mm) diameter minimum. The space shall be permitted to include knee and toe clearance complying with 306.

304.3.2 T-Shaped Space. The turning space shall be a T-shaped space within a 60 inch (1525 mm) square minimum with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. The space shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.

304.4 Door Swing. Doors shall be permitted to swing into turning spaces.

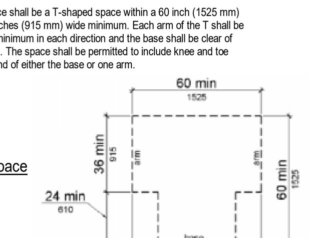


FIGURE 304.3.2 T-SHAPED TURNING SPACE

305 Clear Floor or Ground Space

305.1 General. Clear floor or ground space shall comply with 305.

305.2 Floor or Ground Surfaces. Floor or ground surfaces of a clear floor or ground space shall comply with 302. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

305.3 Size. The clear floor or ground space shall be 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum.

305.4 Knee and Toe Clearance. Unless otherwise specified, clear floor or ground space shall be permitted to include knee and toe clearance complying with 306.

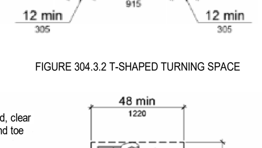


FIGURE 305.3 CLEAR FLOOR OR GROUND SPACE

305.5 Position. Unless otherwise specified, clear floor or ground space shall be positioned for either forward or parallel approach to an element.

305.6 Approach. One full unobstructed side of the clear floor or ground space shall adjoin an accessible route or adjoin another clear floor or ground space.

305.7 Maneuvering Clearance. Where a clear floor or ground space is located in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearance shall be provided in accordance with 305.7.1 and 305.7.2.

305.7.1 Forward Approach. Alcoves shall be 36 inches (915 mm)wide minimum where the depth exceeds 24 inches (610 mm).

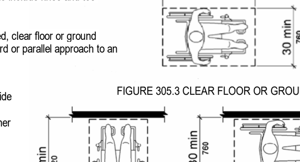


FIGURE 305.5 POSITION OF CLEAR FLOOR OR GROUND SPACE

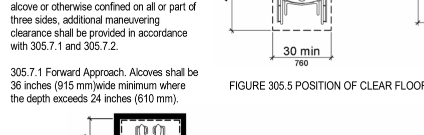


FIGURE 305.7.1 MANEUVERING CLEARANCE IN AN ALCOVE, FORWARD APPROACH

FIGURE 305.7.2 MANEUVERING CLEARANCE IN AN ALCOVE, PARALLEL APPROACH

305.7.2 Parallel Approach. Alcoves shall be 60 inches (1525 mm) wide minimum where the depth exceeds 15 inches (380 mm).

306 Knee and Toe Clearance

306.1 General. Where space beneath an element is included as part of clear floor or ground space or turning space, the space shall comply with 306. Additional space shall not be prohibited beneath an element but shall not be considered as part of the clear floor or ground space or turning space.

306.2 Toe Clearance
306.2.1 General. Space under an element between the finish floor or ground and 9 inches (230 mm) above the finish floor or ground shall be considered toe clearance and shall comply with 306.2.

306.2.2 Maximum Depth. Toe clearance shall extend 25 inches (635 mm) maximum under an element.

306.2.3 Minimum Required Depth. Where toe clearance is required at an element as part of a clear floor space, the toe clearance shall extend 17 inches (430 mm) minimum under the element.

306.2.4 Additional Clearance. Space extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the finish floor or ground shall not be considered toe clearance.

306.2.5 Width. Toe clearance shall be 30 inches (760 mm) wide minimum.

306.3 Knee Clearance.
306.3.1 General. Space under an element between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.

306.3.2 Maximum Depth. Knee clearance shall extend 25 inches (635 mm) maximum under an element at 9 inches (230 mm) above the finish floor or ground.

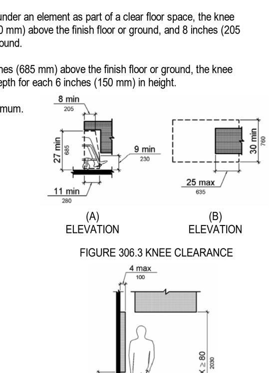


FIGURE 306.2 TOE CLEARANCE

306.3.3 Minimum Required Depth. Where knee clearance is required under an element as part of a clear floor space, the knee clearance shall be 11 inches (280 mm) deep minimum at 9 inches (230 mm) above the finish floor or ground, and 8 inches (205 mm) deep minimum at 27 inches (685 mm) above the finish floor or ground.

306.3.4 Clearance Reduction. Between 9 inches (230 mm) and 27 inches (685 mm) above the finish floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) in depth for each 6 inches (150 mm) in height.

306.3.5 Width. Knee clearance shall be 30 inches (760 mm) wide minimum.

FIGURE 306.3 KNEE CLEARANCE

307 Protruding Objects

307.1 General. Protruding objects shall comply with 307.

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.

EXCEPTION: Handrails shall be permitted to protrude 4 1/2 inches (115 mm) maximum.

307.3 Post-Mounted Objects. Free-standing objects mounted on posts or pylons shall overhang circulation paths 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the finish floor or ground. Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such sign or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030 mm) minimum above the finish floor or ground.

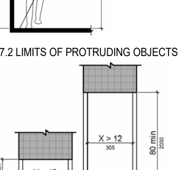


FIGURE 307.2 LIMITS OF PROTRUDING OBJECTS

EXCEPTION: The sloping portions of handrails serving stairs and ramps shall not be required to comply with 307.3.

307.4 Vertical Clearance. Vertical clearance shall be 80 inches (2030 mm) high minimum. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the finish floor or ground.

EXCEPTION: Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

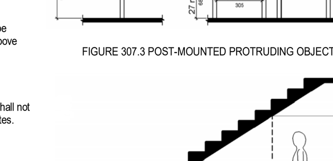


FIGURE 307.3 POST-MOUNTED PROTRUDING OBJECTS

307.5 Required Clear Width. Protruding objects shall not reduce the clear width required for accessible routes.

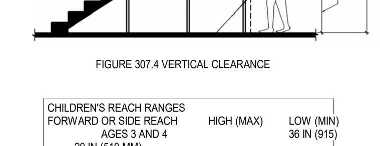


FIGURE 307.4 VERTICAL CLEARANCE

308 Reach Ranges

308.1 General. Reach ranges shall comply with 308.

308.2 Forward Reach.

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

CHILDREN'S REACH RANGES FORWARD OR SIDE REACH	HIGH (MAX)	LOW (MIN)
AGES 3 AND 4	20 IN (510 MM)	36 IN (915)
AGES 5 AND 8	18 IN (455 MM)	40 IN (1015)
AGES 9 AND 12	16 IN (405 MM)	44 IN (1120)

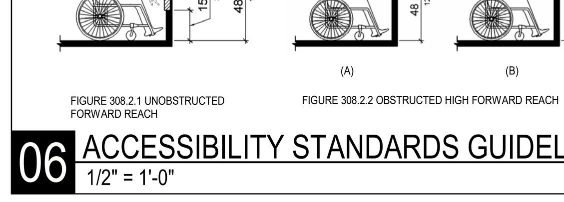


FIGURE 308.2.1 UNOBSTRUCTED FORWARD REACH

FIGURE 308.2.2 OBSTRUCTED HIGH FORWARD REACH

308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

EXCEPTIONS:
1. An obstruction shall be permitted between the clear floor or ground space and the element where the depth of the obstruction is 10 inches (255 mm) maximum.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

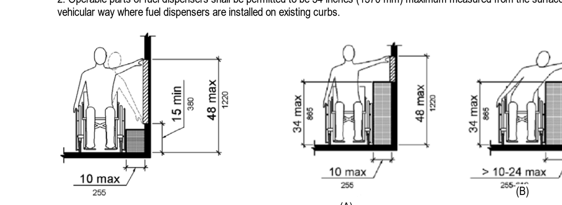


Figure 308.3.1 Unobstructed Side Reach
Figure 308.3.2 Obstructed High Side Reach

308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

EXCEPTIONS:
1. The top of washing machines and clothes dryers shall be permitted to be 36 inches (915 mm) maximum above the finish floor.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

309 Operable Parts

309.1 General. Operable parts shall comply with 309.

309.2 Clear Floor Space. A clear floor or ground space complying with 305 shall be provided.

309.3 Height. Operable parts shall be placed within one or more of the reach ranges specified in 308.

309.4 Operation. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds (22.2 N) maximum.

EXCEPTION: Gas pump nozzles shall not be required to provide operable parts that have an activating force of 5 pounds (22.2 N) maximum.

CHAPTER 4: ACCESSIBLE ROUTES

401 General

401.1 Scope. The provisions of Chapter 4 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

402 Accessible Routes

402.1 General. Accessible routes shall comply with 402.

402.2 Components. Accessible routes shall consist of one or more of the following components: walking surfaces with a running slope not steeper than 1:20, doorways, ramps, curb ramps excluding the flared sides, elevators, and platform lifts. All components of an accessible route shall comply with the applicable requirements of Chapter 4.

403 Walking Surfaces

403.1 General. Walking surfaces that are a part of an accessible route shall comply with 403.

403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302.

403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.

403.4 Changes in Level. Changes in level shall comply with 303.

403.5 Clearances. Walking surfaces shall provide clearances complying with 403.5.

EXCEPTION: Within employee work areas, clearances on common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

403.5.1 Clear Width. Except as provided in 403.5.2 and 403.5.3, the clear width of walking surfaces shall be 36 inches (915 mm) minimum.

EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum.

403.5.2 Clear Width at Turn. Where the accessible route makes a 180 degree turn around an element which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn and 42 inches (1065 mm) minimum leaving the turn.

EXCEPTION: Where the clear width at the turn is 60 inches (1525 mm) minimum compliance with 403.5.2 shall not be required.

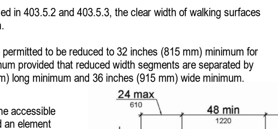


FIGURE 403.5.1 CLEAR WIDTH OF AN ACCESSIBLE ROUTE

403.5.3 Passing Spaces. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum. Passing spaces shall be either: a space 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum; or, an intersection of two walking surfaces providing a T-shaped space complying with 304.3.2 where the base and arms of the T-shaped space extend 48 inches (1220 mm) minimum beyond the intersection.

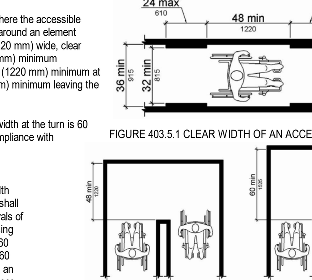


FIGURE 403.5.2 CLEAR WIDTH AT TURN

403.6 Handrails. Where handrails are provided along walking surfaces with running slopes not steeper than 1:20 they shall comply with 505.

404 Doors, Doorways, and Gates

404.1 General. Doors, doorways, and gates that are part of an accessible route shall comply with 404.

EXCEPTION: Doors, doorways, and gates designed to be operated only by security personnel shall not be required to comply with 404.2.7, 404.2.8, 404.2.9, 404.3.2 and 404.3.4 through 404.3.7.

404.2 Manual Doors, Doorways, and Manual Gates. Manual doors and doorways and manual gates intended for user passage shall comply with 404.2.

404.2.1 Revolving Doors, Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

404.2.2 Double-Leaf Doors and Gates. At least one of the active leaves of doorways with two leaves shall comply with 404.2.3 and 404.2.4.

404.2.3 Clear Width. Door openings shall provide a clear width of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening width between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (100 mm).

EXCEPTIONS:
1. In alterations, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.
2. Door closers and door stops shall be permitted to be 78 inches (1980 mm) minimum above the finish floor or ground.

404.2.4 Maneuvering Clearances. Minimum maneuvering clearances at doors and gates shall comply with 404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance.

EXCEPTION: Entry doors to hospital patient rooms shall not be required to provide the clearance beyond the latch side of the door.

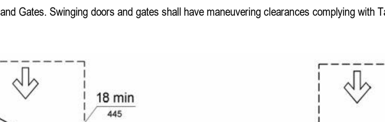
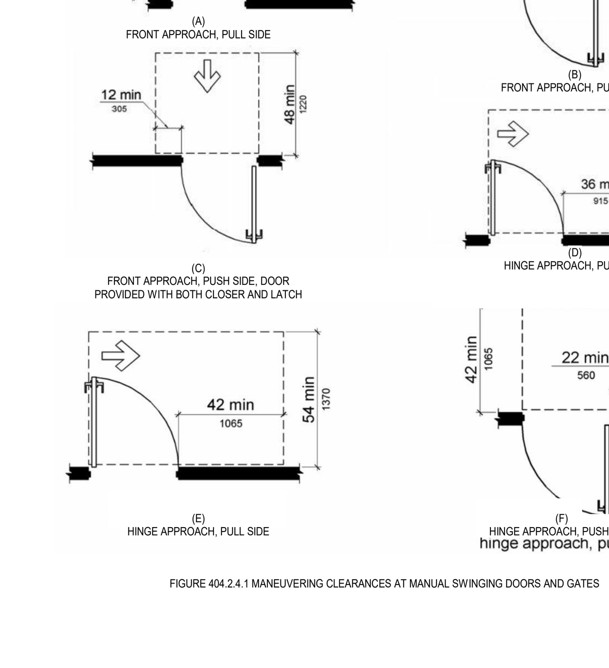


FIGURE 404.2.3 CLEAR WIDTH OF DOORWAYS

404.2.4.1 Swinging Doors and Gates. Swinging doors and gates shall have maneuvering clearances complying with Table 404.2.4.1.



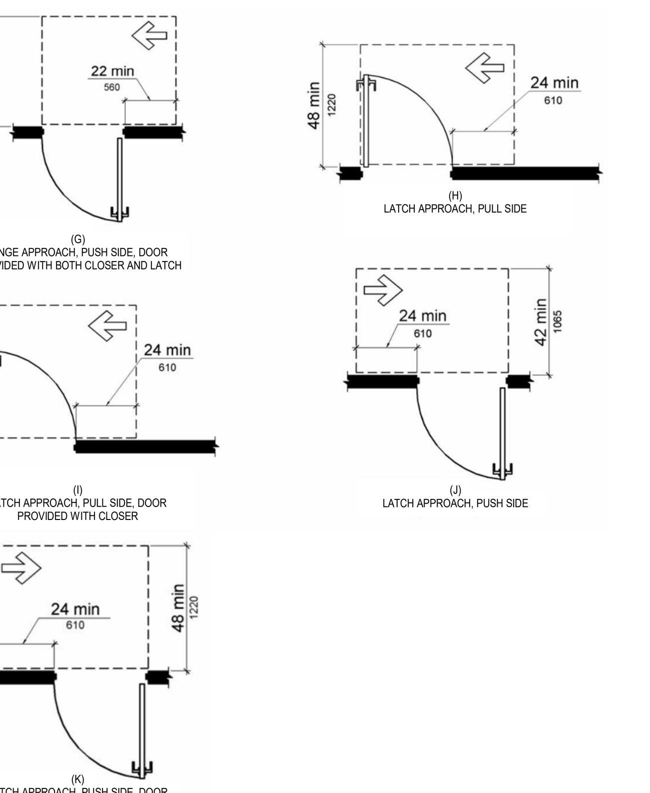


FIGURE 404.2.4.1 MANEUVERING CLEARANCES AT MANUAL SWINGING DOORS AND GATES

404.2.4.2 Doorways without Doors or Gates, Sliding Doors, and Folding Doors. Doorways less than 36 inches (915 mm) wide without doors or gates, sliding doors, or folding doors shall have maneuvering clearances complying with Table 404.2.4.2.

404.2.4.3 Recessed Doors and Gates. Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches (455 mm) of the latch side of a doorway projects more than 8 inches (205 mm) beyond the face of the door, measured perpendicular to the face of the door or gate.

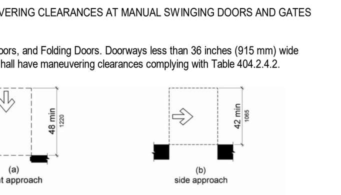


FIGURE 404.2.4.2 MANEUVERING CLEARANCES AT DOORWAYS WITHOUT DOORS, SLIDING DOORS, GATES, AND FOLDING DOORS

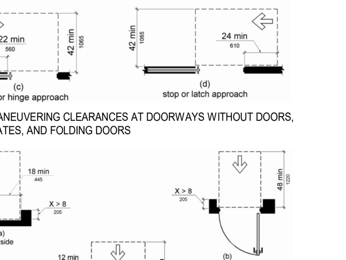


FIGURE 404.2.4.3 MANEUVERING CLEARANCES AT RECESSED DOORS AND GATES

404.2.4.4 Floor or Ground Surface. Floor or ground surface within required maneuvering clearances shall comply with 302. Changes in level are not permitted.

EXCEPTIONS:
1. Slopes not steeper than 1:48 shall be permitted.
2. Changes in level at thresholds complying with 404.2.5 shall be permitted.

404.2.5 Thresholds. Thresholds, if provided at doorways, shall be 1/2 inch (13 mm) high maximum. Raised thresholds and changes in level at doorways shall comply with 302 and 303.

EXCEPTION: Existing or altered thresholds 3/4 inch (19 mm) high maximum that have a beveled edge on each side with a slope not steeper than 1:2 shall not be required to comply with 404.2.5.

404.2.6 Doors in Series and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1220 mm) minimum plus the width of doors or gates swinging into the space.

404.2.7 Door and Gate Hardware. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 309.4. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.

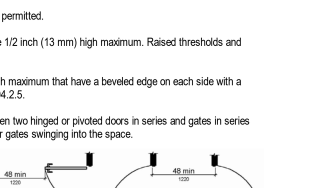


FIGURE 404.2.6 DOORS IN SERIES AND GATES IN SERIES

EXCEPTIONS:
1. Existing locks shall be permitted in any location at existing glazed doors without stiles, existing overhead rolling doors or grilles, and similar existing doors or grilles that are designed with locks that are activated only at the top or bottom rail.
2. Access gates in barrier walls and fences protecting pools, spas, and hot tubs shall be permitted to have operable parts of the release of latch on self-latching devices at 54 inches (1370 mm) maximum above the finish floor or ground provided the self-latching devices are not also self-locking devices and operated by means of a key, electronic opener, or integral combination lock.

404.2.8 Closing Speed. Door and gate closing speed shall comply with 404.2.8.

404.2.8.1 Door Closers and Gate Closers. Door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum.

404.2.8.2 Spring Hinges. Door and gate spring hinges shall be adjusted so that from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum.

404.2.9 Door and Gate Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open a door or gate other than fire doors shall be as follows:
1. Interior hinged doors and gates: 5 pounds (22.2 N) maximum.
2. Sliding or folding doors: 5 pounds (22.2 N) maximum.

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

404.2.10 Door and Gate Surfaces. Swinging door and gate surfaces within 10 inches (255 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Parts creating horizontal or vertical joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other. Cavities created by added kick plates shall be capped.

EXCEPTIONS:
1. Sliding doors shall not be required to comply with 404.2.10.
2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal shall not be required to meet the 10 inch (255 mm) bottom smooth surface height requirement.
3. Doors and gates that do not extend to within 10 inches (255 mm) of the finish floor or ground shall not be required to comply with 404.2.10.
4. Existing doors and gates without smooth surfaces within 10 inches (255 mm) of the finish floor or ground shall not be required to provide smooth surfaces complying with 404.2.10 provided that if added kick plates are installed, cavities created by such kick plates are capped.

404.2.11 Vision Lights. Doors, gates, and side lights adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the finish floor.

EXCEPTION: Vision lights with the lowest part more than 66 inches (1675 mm) from the finish floor or ground shall not be required to comply with 404.2.11.
404.3 Automatic and Power-Assisted Doors and Gates. Automatic doors and automatic gates shall comply with 404.3. Full-powered automatic doors shall comply with ANSI/BHMA A156.10 (incorporated by reference, see "Referenced Standards" in Chapter 1). Low-energy and power-assisted doors shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

404.3.1 Clear Width. Doorways shall provide a clear opening of 32 inches (815 mm) minimum in power-on and power-off mode. The minimum clear width for automatic door systems in a doorway shall be based on the clear opening provided by all leaves in the open position.

404.3.2 Maneuvering Clearance. Clearances at power-assisted doors and gates shall comply with 404.2.4. Clearances at automatic doors and gates without standby power and serving an accessible means of egress shall comply with 404.2.4.

EXCEPTION: Where automatic doors and gates remain open in the power-off condition, compliance with 404.2.4 shall not be required.

404.3.3 Thresholds. Thresholds and changes in level at doorways shall comply with 404.2.5.

404.3.4 Doors in Series and Gates in Series. Doors in series and gates in series shall comply with 404.2.6.

404.3.5 Controls. Manually operated controls shall comply with 309. The clear floor space adjacent to the control shall be located beyond the arc of the door swing.

404.3.6 Break Out Opening. Where doors and gates without standby power are a part of a means of egress, the clear break out opening at swinging or sliding doors and gates shall be 32 inches (815 mm) minimum when operated in emergency mode.

EXCEPTION: Where manual swinging doors and gates comply with 404.2 and serve the same means of egress compliance with 404.3.6 shall not be required.

404.3.7 Revolving Doors, Revolving Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

405 Ramps

405.1 General. Ramps on accessible routes shall comply with 405.

EXCEPTION: In assembly areas, aisle ramps adjacent to seating and not serving elements required to be on an accessible route shall not be required to comply with 405.

405.2 Slope. Ramp runs shall have a running slope not steeper than 1:12.

EXCEPTION: In existing sites, buildings, and facilities, ramps shall be permitted to have running slopes steeper than 1:12 complying with Table 405.2 where such slopes are necessary due to space limitations.

TABLE 405.2 MAXIMUM RAMP SLOPE AND RISE FOR EXISTING SITES, BUILDINGS, AND FACILITIES	
SLOPE (A SLOPE STEEPER THAN 1:8 IS PROHIBITED.)	MAXIMUM RISE
STEEPER THAN 1:10 BUT NOT STEEPER THAN 1:8	3 INCHES (75 MM)
4(STEEPER THAN 1:12 BUT NOT STEEPER THAN 1:10steeper than 1:48.	6 INCHES (150 MM)

405.4 Floor or Ground Surfaces. Floor or ground surfaces of ramp runs shall comply with 302. Changes in level other than the running slope and cross slope are not permitted on ramp runs.

405.5 Clear Width. The clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches (915 mm) minimum.

EXCEPTION: Within employee work areas, the required clear width of ramps that are a part of common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

405.6 Rise. The rise for any ramp run shall be 30 inches (760 mm) maximum.

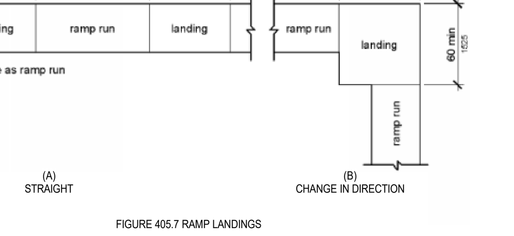


FIGURE 405.7 RAMP LANDINGS

405.7 Landings. Ramps shall have landings at the top and the bottom of each ramp run. Landings shall comply with 405.7.
405.7.1 Slope. Landings shall comply with 302. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

405.7.2 Width. The landing clear width shall be at least as wide as the widest ramp run leading to the landing.

405.7.3 Length. The landing clear length shall be 60 inches (1525 mm) long minimum.

405.7.4 Change in Direction. Ramps that change direction between runs at landings shall have a clear landing 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum.

405.7.5 Doorways. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by 404.2.4 and 404.3.2 shall be permitted to overlap the required landing area.
405.8 Handrails. Ramp runs with a rise greater than 6 inches (150 mm) shall have handrails complying with 505.

EXCEPTION: Within employee work areas, handrails shall not be required where ramps that are part of common use circulation paths are designed to permit the installation of handrails complying with 505. Ramps not subject to the exception to 405.5 shall be designed to maintain a 36 inch (915 mm) minimum clear width when handrails are installed.

405.9 Edge Protection. Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

EXCEPTIONS:
1. Edge protection shall not be required on ramps that are not required to have handrails and have sides complying with 406.3.
2. Edge protection shall not be required on the sides of ramp landings serving an adjoining ramp run or stairway.
3. Edge protection shall not be required on the sides of ramp landings having a vertical drop-off of 1/2 inch (13 mm) maximum within 10 inches (255 mm) horizontally of the minimum landing area specified in 405.7.

405.9.1 Extended Floor or Ground Surface. The floor or ground surface of the ramp run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with 505.

405.9.2 Curb or Barrier. A curb or barrier shall be provided that prevents the passage of a 4 inch (100 mm) diameter sphere, where any portion of the sphere is within 4 inches (100 mm) of the finish floor or ground surface.

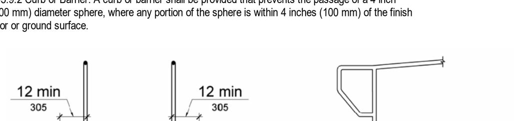


FIGURE 405.9.1 EXTENDED FLOOR OR GROUND SURFACE EDGE PROTECTION

FIGURE 405.9.2 CURB OR BARRIER EDGE PROTECTION

405.10 Wet Conditions. Landings subject to wet conditions shall be designed to prevent the accumulation of water.

406 Curb Ramps

406.1 General. Curb ramps on accessible routes shall comply with 406, 405.2 through 405.5, and 405.10.

406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.

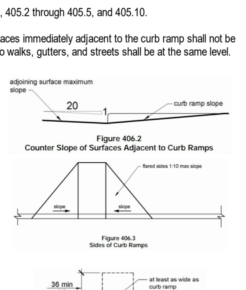


Figure 406.2
Counter Slope of Surfaces Adjacent to Curb Ramps

406.3 Sides of Curb Ramps. Where provided, curb ramp flares shall not be steeper than 1:10.

Figure 406.3
Sides of Curb Ramps

406.4 Landings. Landings shall be provided at the tops of curb ramps. The landing clear length shall be 36 inches (915 mm) minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.

EXCEPTION: In alterations, where there is no landing at the top of curb ramps, curb ramp flares shall be provided and shall not be steeper than 1:12.

406.5 Location. Curb ramps and the flared sides of curb ramps shall be located so that they do not project into vehicular traffic lanes, parking spaces, or parking access aisles. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

Figure 406.4
Landings at the Top of Curb Ramps

406.6 Diagonal Curb Ramps. Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space 48 inches (1220 mm) minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1220 mm) minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the curb ramp and within the marked crossing.

406.7 Islands. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area shall be oriented so that the 48 inch (1220 mm) minimum length is in the direction of the running slope of the curb ramp it serves. The 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum areas and the accessible route shall be permitted to overlap.

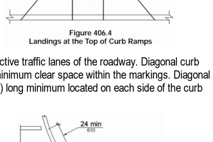


Figure 406.6
Diagonal or Corner Type Curb Ramps

407 Elevators

407.1 General. Elevators shall comply with 407 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

407.2 Elevator Landing Requirements. Elevator landings shall comply with 407.2.

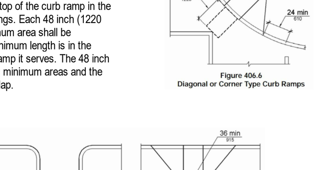


Figure 406.7
Islands in Crossings

407.2.1 Call Controls. Where elevator call buttons or keypads are provided, they shall comply with 407.2.1 and 309.4. Call buttons shall be raised or flush.

EXCEPTION: Existing elevators shall be permitted to have recessed call buttons.

407.2.1.1 Height. Call buttons and keypads shall be located within one of the reach ranges specified in 308, measured to the centerline of the highest operable part.

EXCEPTION: Existing call buttons and existing keypads shall be permitted to be located at 54 inches (1370 mm) maximum above the finish floor, measured to the centerline of the highest operable part.

407.2.1.2 Size. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension.

EXCEPTION: Existing elevator call buttons shall not be required to comply with 407.2.1.2.

407.2.1.3 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided at call controls.

407.2.1.4 Location. The call button that designates the up direction shall be located above the call button that designates the down direction.

EXCEPTION: Destination-oriented elevators shall not be required to comply with 407.2.1.4.

407.2.1.5 Signals. Call buttons shall have visible signals to indicate when each call is registered and when each call is answered.

EXCEPTIONS:
1. Destination-oriented elevators shall not be required to comply with 407.2.1.5 provided that visible and audible signals complying with 407.2.2 indicating which elevator car to enter are provided.
2. Existing elevators shall not be required to comply with 407.2.1.5.

407.2.1.6 Keypads. Where keypads are provided, keypads shall be in a standard telephone keypad arrangement and shall comply with 407.4.7.2.

407.2.2 Hall Signals. Hall signals, including in-car signals, shall comply with 407.2.2.

407.2.2.1 Visible and Audible Signals. A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call and the car's direction of travel. Where in-car signals are provided, they shall be visible from the floor area adjacent to the hall call buttons.

EXCEPTIONS:
1. Visible and audible signals shall not be required at each destination-oriented elevator where a visible and audible signal complying with 407.2.2 is provided indicating the elevator car designation information.
2. In existing elevators, a signal indicating the direction of car travel shall not be required.

407.2.2.2 Visible Signals. Visible signal fixtures shall be centered at 72 inches (1830 mm) minimum above the finish floor or ground. The visible signal elements shall be 2 1/2 inches (64 mm) minimum measured along the vertical centerline of the element. Signals shall be visible from the floor area adjacent to the hall call button.

EXCEPTIONS:
1. Destination-oriented elevators shall be permitted to have signals visible from the floor area adjacent to the hoistway entrance.
2. Existing elevators shall not be required to comply with 407.2.2.2.

407.2.2.3 Audible Signals. Audible signals shall sound once for the up direction and twice for the down direction, or shall have verbal annunciators that indicate the direction of elevator car travel. Audible signals shall have a frequency of 1500 Hz maximum. Verbal annunciators shall have a frequency of 300 Hz minimum and 3000 Hz maximum. The audible signal and verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the hall call button.

EXCEPTIONS:
1. Destination-oriented elevators shall not be required to comply with 407.2.2.3 provided that the audible tone and verbal announcement is the same as those given at the call button or call button keypad.
2. Existing elevators shall not be required to comply with the requirements for frequency and dB range of audible signals.

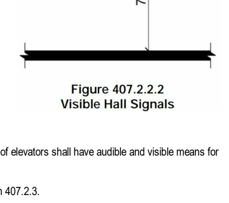


Figure 407.2.2.2
Visible Hall Signals

407.2.2.4 Differentiation. Each destination-oriented elevator in a bank of elevators shall have audible and visible means for differentiation.

407.2.3 Hoistway Signs. Signs at elevator hoistways shall comply with 407.2.3.

407.2.3.1 Floor Designation. Floor designations complying with 703.2 and 703.4.1 shall be provided on both jambs of elevator hoistway entrances. Floor designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum. A tactile star shall be provided on both jambs at the main entry level.

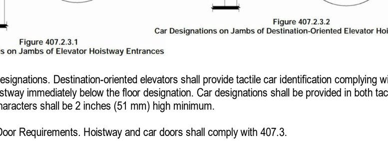


Figure 407.2.3.1
Floor Designations on Jambs of Elevator Hoistway Entrances

Figure 407.2.3.2
Car Designations on Jambs of Destination-Oriented Elevator Hoistway Entrances

407.2.3.2 Car Designations. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jambs of the hoistway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.

407.3 Elevator Door Requirements. Hoistway and car doors shall comply with 407.3.

407.3.1 Type. Elevator doors shall be the horizontal sliding type. Car gates shall be prohibited.

407.3.2 Operation. Elevator hoistway and car doors shall open and close automatically.

EXCEPTION: Existing manually operated hoistway swing doors shall be permitted provided that they comply with 404.2.3 and 404.2.9. Car door closing shall not be initiated until the hoistway door is closed.

407.3.3 Reopening Device. Elevator doors shall be provided with a reopening device complying with 407.3.3 that shall stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person.

EXCEPTION: Existing elevators with manually operated doors shall not be required to comply with 407.3.3.

407.3.3.1 Height. The device shall be activated by sensing an obstruction passing through the opening at 5 inches (125 mm) nominal and 29 inches (735 mm) nominal above the finish floor.

407.3.3.2 Contact. The device shall not require physical contact to be activated, although contact is permitted to occur before the door reverses.

407.3.3.3 Duration. Door reopening devices shall remain effective for 20 seconds minimum.

407.3.4 Door and Signal Timing. The minimum acceptable time from notification that a car is answering a call or notification of the car assigned at the means for the entry of destination information until the doors of that car start to close shall be calculated from the following equation: T = D/(1.5 ft/s) or T = D/(455 mm/s) = 5 seconds minimum where T equals the total time in seconds and D equals the distance (in feet or millimeters) from the point in the lobby or corridor 60 inches (1525 mm) directly in front of the farthest call button controlling that car to the centerline of its hoistway door.

EXCEPTIONS:
1. For cars with in-car lanterns, T shall be permitted to begin when the signal is visible from the point 60 inches (1525 mm) directly in front of the farthest hall call button and the audible signal is sounded.
2. Destination-oriented elevators shall not be required to comply with 407.3.4.

407.3.5 Door Delay. Elevator doors shall remain fully open in response to a car call for 3 seconds minimum.

407.3.6 Width. The width of elevator doors shall comply with Table 407.4.1.

EXCEPTION: In existing elevators, a power-operated car door complying with 404.2.3 shall be permitted.

407.4 Elevator Car Requirements. Elevator cars shall comply with 407.4.

407.4.1 Car Dimensions. Inside dimensions of elevator cars and clear width of elevator doors shall comply with Table 407.4.1.

EXCEPTION: Existing elevator car configurations that provide a clear floor area of 16 square feet (1.5 m2) minimum and also provide an inside clear depth 54 inches (1370 mm) minimum and a clear width 36 inches (915 mm) minimum shall be permitted.

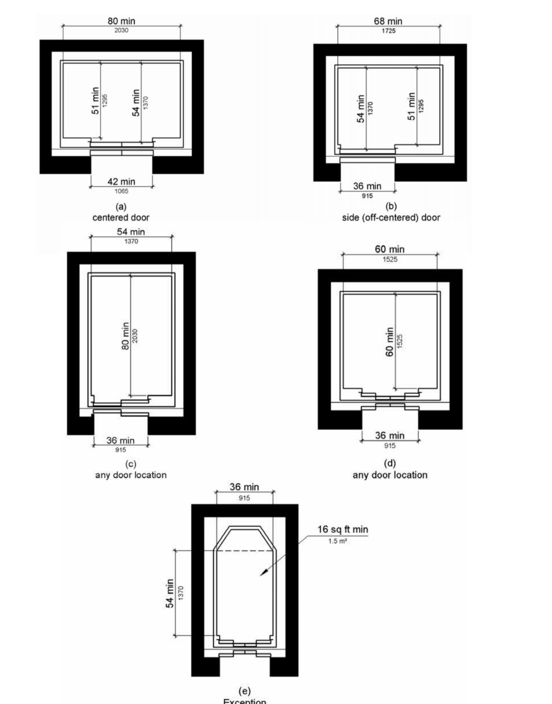


Figure 407.4.1
Elevator Car Dimensions

407.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

407.4.3 Platform to Hoistway Clearance. The clearance between the car platform sill and the edge of any hoistway landing shall be 1 1/4 inch (32 mm) maximum.

407.4.4 Leveling. Each car shall be equipped with a self-leveling feature that will automatically bring and maintain the car at floor landings within a tolerance of 1/2 inch (13 mm) under rated loading to zero loading conditions.

407.4.5 Illumination. The level of illumination at the car controls, platform, car threshold and car landing sill shall be 5 foot candles (54 lux) minimum.

407.4.6 Elevator Car Controls. Where provided, elevator car controls shall comply with 407.4.6 and 309.4.

EXCEPTION: In existing elevators, where a new car operating panel complying with 407.4.6 is provided, existing car operating panels shall not be required to comply with 407.4.6.

407.4.6.1 Location. Controls shall be located within one of the reach ranges specified in 308.

EXCEPTIONS:
1. Where the elevator panel serves more than 16 openings and a parallel approach is provided, buttons with floor designations shall be permitted to be 54 inches (1370 mm) maximum above the finish floor.
2. In existing elevators, car control buttons with floor designations shall be permitted to be located 54 inches (1370 mm) maximum above the finish floor where a parallel approach is provided.

407.4.6.2 Buttons. Car control buttons with floor designations shall comply with 407.4.6.2 and shall be raised or flush.

EXCEPTION: In existing elevators, buttons shall be permitted to be recessed.

407.4.6.2.1 Size. Buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension.

407.4.6.2.2 Arrangement. Buttons shall be arranged with numbers in ascending order. When two or more columns of buttons are provided they shall read from left to right.

407.4.6.3 Keypads. Car control keypads shall be in a standard telephone keypad arrangement and shall comply with 407.4.7.2.

407.4.6.4 Emergency Controls. Emergency controls shall comply with 407.4.6.4.

407.4.6.4.1 Height. Emergency control buttons shall have their centerlines 35 inches (890 mm) minimum above the finish floor.

407.4.6.4.2 Location. Emergency controls, including the emergency alarm, shall be grouped at the bottom of the panel.

407.4.7 Designations and Indicators of Car Controls. Designations and indicators of car controls shall comply with 407.4.7.

EXCEPTION: In existing elevators, where a new car operating panel complying with 407.4.7 is provided, existing car operating panels shall not be required to comply with 407.4.7.

407.4.7.1 Buttons. Car control buttons shall comply with 407.4.7.1.

407.4.7.1.1 Type. Control buttons shall be identified by tactile characters complying with 703.2.

407.4.7.1.2 Location. Raised character and braille designations shall be placed immediately to the left of the control button to which the designations apply.

EXCEPTION: Where space on an existing car operating panel precludes tactile markings to the left of the controls, markings shall be placed as near to the control as possible.

407.4.7.1.3 Symbols. The control button for the emergency stop, alarm, door open, door close, main entry floor, and phone, shall be identified with tactile symbols as shown in Table 407.4.7.1.3.

407.4.7.1.4 Visible Indicators. Buttons with floor designations shall be provided with visible indicators to show that a call has been registered. The visible indication shall extinguish when the car arrives at the designated floor.

407.4.7.2 Keypads. Keypads shall be identified by characters complying with 703.5 and shall be centered on the corresponding keypad button. The number five key shall have a single raised dot. The dot shall be 0.118 inch (3 mm) to 0.120 inch (3.05 mm) base diameter and in other aspects comply with Table 703.3.1.

407.4.8 Car Position Indicators. Audible and visible car position indicators shall be provided in elevator cars.

407.4.8.1 Visible Indicators. Visible indicators shall comply with 407.4.8.1.

407.4.8.1.1 Size. Characters shall be 1/2 inch (13 mm) high minimum.

407.4.8.1.2 Location. Indicators shall be located above the car control panel or above the door.

407.4.8.1.3 Floor Arrival. As the car passes a floor and when a car stops at a floor served by the elevator, the corresponding character shall illuminate.

EXCEPTION: Destination-oriented elevators shall not be required to comply with 407.4.8.1.3 provided that the visible indicators extinguish when the call has been answered.

407.4.8.1.4 Destination Indicator. In destination-oriented elevators, a display shall be provided in the car with visible indicators to show car destinations.

407.4.8.2 Audible Indicators. Audible indicators shall comply with 407.4.8.2.

407.4.8.2.1 Signal Type. The signal shall be an automatic verbal annunciator which announces the floor at which the car is about to stop.

EXCEPTION: For elevators other than destination-oriented elevators that have a rated speed of 200 feet per minute (1 m/s) or less, a non-verbal audible signal with a frequency of 1500 Hz maximum which sounds as the car passes or is about to stop at a floor served by the elevator shall be permitted.

407.4.8.2.2 Signal Level. The verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 80 dB, measured at the annunciator.

407.4.8.2.3 Frequency. The verbal annunciator shall have a frequency of 300 Hz minimum to 3000 Hz maximum.

407.4.9 Emergency Communication. Emergency two-way communication systems shall comply with 308. Tactile symbols and characters shall be provided adjacent to the device and shall comply with 703.2.

408 Limited-Use / Limited-Application Elevators

408.1 General. Limited-use/limited-application elevators shall comply with 408 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

408.2 Elevator Landings. Landings serving limited-use/limited-application elevators shall comply with 408.2.

408.2.1 Call Buttons. Elevator call buttons and keypads shall comply with 407.2.1.

408.2.2 Hall Signals. Hall signals shall comply with 407.2.2.

408.2.3 Hoistway Signs. Signs at elevator hoistways shall comply with 407.2.3.1.

408.3 Elevator Doors. Elevator hoistway doors shall comply with 408.3.

408.3.1 Sliding Doors. Sliding hoistway and car doors shall comply with 407.3.1 through 407.3.3 and 408.4.1.

408.3.2 Swinging Doors. Swinging hoistway doors shall open and close automatically and shall comply with 404, 407.3.2 and 408.3.2.

408.3.2.1 Power Operation. Swinging doors shall be power-operated and shall comply with ANSI/BHMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

408.3.2.2 Duration. Power-operated swinging doors shall remain open for 20 seconds minimum when activated.

408.4 Elevator Cars. Elevator cars shall comply with 408.4.

408.4.1 Car Dimensions and Doors. Elevator cars shall provide a clear width 42 inches (1065 mm) minimum and a clear depth 54 inches (1370 mm) minimum. Car doors shall be positioned at the narrow ends of cars and shall provide 32 inches (815 mm) minimum clear width.

EXCEPTIONS:
1. Cars that provide a clear width 51 inches (1295 mm) minimum shall be permitted to provide a clear depth 51 inches (1295 mm) minimum provided that car doors provide a clear opening 36 inches (915 mm) wide minimum.
2. Existing elevator cars shall be permitted to provide a clear width 36 inches (915 mm) minimum, clear depth 54 inches (1370 mm) minimum, and a net clear platform area 15 square feet (1.4 m²) minimum.

408.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

408.4.3 Platform to Hoistway Clearance. The platform to hoistway clearance shall comply with 407.4.3.

408.4.4 Leveling. Elevator car leveling shall comply with 407.4.4.

408.4.5 Illumination. Elevator car illumination shall comply with 407.4.5.

408.4.6 Car Controls. Elevator car controls shall comply with 407.4.6. Control panels shall be centered on a side wall.

408.4.7 Designations and Indicators of Car Controls. Designations and indicators of car controls shall comply with 407.4.7.

408.4.8 Emergency Communications. Car emergency signaling devices complying with 407.4.9 shall be provided.

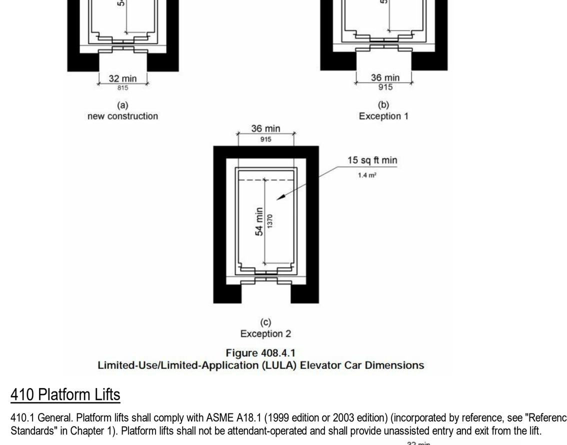


Figure 408.4.1
Limited-Use/Limited-Application (LULA) Elevator Car Dimensions

410 Platform Lifts

410.1 General. Platform lifts shall comply with ASME A18.1 (1999 edition or 2003 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1). Platform lifts shall not be attendant-operated and shall provide unassisted entry and exit from the lift.

410.2 Floor Surfaces. Floor surfaces in platform lifts shall comply with 302 and 303.

410.3 Clear Floor Space. Clear floor space in platform lifts shall comply with 305.

410.4 Platform to Runway Clearance. The clearance between the platform sill and the edge of any runway landing shall be 1 inch (32 mm) maximum.

410.5 Operable Parts. Controls for platform lifts shall comply with 309.

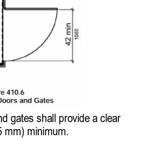


Figure 410.6
Platform Lift Doors and Gates

410.6 Doors and Gates. Platform lifts shall have low-energy power-operated doors or gates complying with 404.3. Doors shall remain open for 20 seconds minimum. End doors and gates shall provide a clear width 32 inches (815 mm) minimum. Side doors and gates shall provide a clear width 42 inches (1065 mm) minimum.

EXCEPTION: Platform lifts serving two landings maximum and having doors or gates on opposite sides shall be permitted to have self-closing manual doors or gates.

501 General

501.1 Scope. The provisions of Chapter 5 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

502 Parking Spaces

502.1 General. Car and van parking spaces shall comply with 502. Where parking spaces are marked with lines, width measurements of parking spaces and access aisles shall be made from the centerline of the markings.

EXCEPTION: Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.

502.2 Vehicle Spaces. Car parking spaces shall be 96 inches (2440 mm) wide minimum and van parking spaces shall be 132 inches (3350 mm) wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with 502.3.

EXCEPTION: Van parking spaces shall be permitted to be 96 inches (2440 mm) wide minimum where the access aisle is 96 inches (2440 mm) wide minimum.

502.3 Access Aisle. Access aisles serving parking spaces shall comply with 502.3. Access aisles shall adjoin an accessible route. Two parking spaces shall be permitted to share a common access aisle.

502.3.1 Width. Access aisles serving car and van parking spaces shall be 60 inches (1525 mm) wide minimum.

502.3.2 Length. Access aisles shall extend the full length of the parking spaces they serve.

502.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

502.3.4 Location. Access aisles shall not overlap the vehicular way. Access aisles shall be permitted to be placed on either side of the parking space except for angled van parking spaces which shall have access aisles located on the passenger side of the parking spaces.

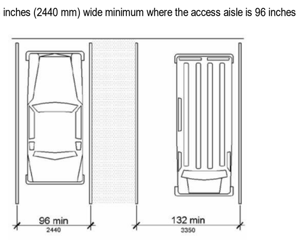


Figure 502.2
Vehicle Parking Spaces

502.4 Floor or Ground Surfaces. Parking spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the parking spaces they serve. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

502.5 Vertical Clearance. Parking spaces for vans and access aisles and vehicular routes serving them shall provide a vertical clearance of 98 inches (2490 mm) minimum.

502.6 Identification. Parking space identification signs shall include the International Symbol of Accessibility complying with 703.7.2.1. Signs identifying van parking spaces shall contain the designation "van accessible." Signs shall be 60 inches (1525 mm) minimum above the finish floor or ground surface measured to the bottom of the sign.

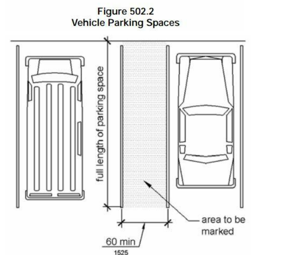


Figure 502.3
Parking Space Access Aisle

502.7 Relationship to Accessible Routes. Parking spaces and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.

503 Passenger Loading Zones

503.1 General. Passenger loading zones shall comply with 503.

503.2 Vehicle Pull-Up Space. Passenger loading zones shall provide a vehicular pull-up space 96 inches (2440 mm) wide minimum and 20 feet (6100 mm) long minimum.

503.3 Access Aisle. Passenger loading zones shall provide access aisles complying with 503 adjacent to the vehicle pull-up space. Access aisles shall adjoin an accessible route and shall not overlap the vehicular way.

503.3.1 Width. Access aisles serving vehicle pull-up spaces shall be 60 inches (1525 mm) wide minimum.

503.3.2 Length. Access aisles shall extend the full length of the vehicle pull-up spaces they serve.

503.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

503.4 Floor and Ground Surfaces. Vehicle pull-up spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the vehicle pull-up space they serve.
Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

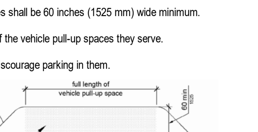


Figure 503.3
Passenger Loading Zone Access Aisle

503.5 Vertical Clearance. Vehicle pull-up spaces, access aisles serving them, and a vehicular route from an entrance to the passenger loading zone, and from the passenger loading zone to a vehicular exit shall provide a vertical clearance of 114 inches (2895 mm) minimum.

504 Stairways

504.1 General. Stairs shall comply with 504.

504.2 Treads and Risers. All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (100 mm) high minimum and 7 inches (180 mm) high maximum. Treads shall be 11 inches (280 mm) deep minimum.

504.3 Open Risers. Open risers are not permitted.

504.4 Tread Surface. Stair treads shall comply with 302. Changes in level are not permitted.

EXCEPTION: Treads shall be permitted to have a slope not steeper than 1:48.

504.5 Nosings. The radius of curvature at the leading edge of the tread shall be 1/2 inch (13 mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to slope under the tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1 1/2 inches (38 mm) maximum over the tread below.

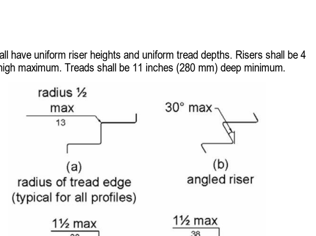


Figure 504.5
Stair Nosings

504.6 Handrails. Stairs shall have handrails complying with 505.

504.7 Wet Conditions. Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.

505 Handrails

505.1 General. Handrails provided along walking surfaces complying with 403, required at ramps complying with 405, and required at stairs complying with 504 shall comply with 505.

505.2 Where Required. Handrails shall be provided on both sides of stairs and ramps.

EXCEPTION: In assembly areas, handrails shall not be required on both sides of aisle ramps where a handrail is provided at either side or within the aisle width.

505.3 Continuity. Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs and ramps shall be continuous between flights or runs.

EXCEPTION: In assembly areas, handrails on ramps shall not be required to be continuous in aisles serving seating.

505.4 Height. Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm) maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and ramp surfaces.

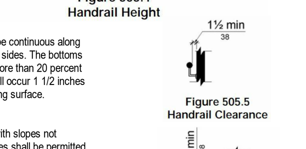


Figure 505.4
Handrail Height

505.5 Clearance. Clearance between handrail gripping surfaces and adjacent surfaces shall be 1 1/2 inches (38 mm) minimum.

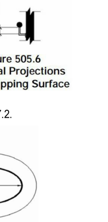


Figure 505.5
Handrail Clearance

505.6 Gripping Surface. Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides. The bottoms of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1 1/2 inches (38 mm) minimum below the bottom of the handrail gripping surface.

EXCEPTIONS:
1. Where handrails are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of handrail gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper guards.
2. The distance between horizontal projections and the bottom of the gripping surface shall be permitted to be reduced by 1/8 inch (3.2 mm) for each 1/2 inch (13 mm) of additional handrail perimeter dimension that exceeds 4 inches (100 mm).

Figure 505.6
Horizontal Projections
Below Gripping Surface

505.7 Cross Section. Handrail gripping surfaces shall have a cross section complying with 505.7.1 or 505.7.2.

505.7.1 Circular Cross Section. Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum.

505.7.2 Non-Circular Cross Sections. Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches (100 mm) minimum and 6 1/4 inches (160 mm) maximum, and a cross-section dimension of 2 1/4 inches (57 mm) maximum.

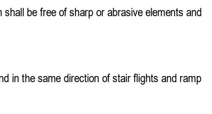


Figure 505.7.2
Handrail Non-Circular Cross Section

505.8 Surfaces. Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements and shall have rounded edges.

505.9 Fittings. Handrails shall not rotate within their fittings.

505.10 Handrail Extensions. Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with 505.10.

EXCEPTIONS:
1. Extensions shall not be required for continuous handrails at the inside turn of switchback or dogleg stairs and ramps.
2. In assembly areas, extensions shall not be required for ramp handrails in aisles serving seating where the handrails are discontinuous to provide access to seating and to permit crossovers within aisles.
3. In alterations, full extensions of handrails shall not be required where such extensions would be hazardous due to plan configuration.

505.10.1 Top and Bottom Extension at Ramps. Ramp handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run.

505.10.2 Top Extension at Stairs. At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first riser nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

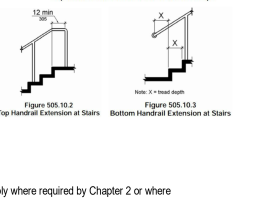


Figure 505.10.1
Top and Bottom Handrail Extension at Ramps

505.10.3 Bottom Extension at Stairs. At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance at least equal to one tread depth beyond the last riser nosing. Extension shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

Figure 505.10.2
Top Handrail Extension at Stairs
Figure 505.10.3
Bottom Handrail Extension at Stairs

601 General

601.1 Scope. The provisions of Chapter 6 shall apply where required by Chapter 2 or where referenced by a requirement in this document.

602 Drinking Fountains

602.1 General. Drinking fountains shall comply with 307 and 602.

602.2 Clear Floor Space. Units shall have a clear floor or ground space complying with 305 positioned for a forward approach and centered on the unit. Knee and toe clearance complying with 306 shall be provided.

EXCEPTION: A parallel approach complying with 305 shall be permitted at units for children's use where the spout is 30 inches (760 mm) maximum above the finish floor or ground and is 3 1/2 inches (90 mm) maximum from the front edge of the unit, including bumpers.

602.3 Operable Parts. Operable parts shall comply with 309.

602.4 Spout Height. Spout outlets shall be 36 inches (915 mm) maximum above the finish floor or ground.

602.5 Spout Location. The spout shall be located 15 inches (380 mm) minimum from the vertical support and 5 inches (125 mm) maximum from the front edge of the unit, including bumpers.

602.6 Water Flow. The spout shall provide a flow of water 4 inches (100 mm) high minimum and shall be located 5 inches (125 mm) maximum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches (75 mm) of the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches (75 mm) and 5 inches (125 mm) maximum from the front of the unit, the angle of the water stream shall be 15 degrees maximum.

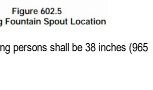


Figure 602.5
Drinking Fountain Spout Location

602.7 Drinking Fountains for Standing Persons. Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 43 inches (1090 mm) maximum above the finish floor or ground.

603 Toilet and Bathing Rooms

603.1 General. Toilet and bathing rooms shall comply with 603.

603.2 Clearances. Clearances shall comply with 603.2.

603.2.1 Turning Space. Turning space complying with 304 shall be provided within the room.

06 ACCESSIBILITY STANDARDS GUIDELINES
1/2" = 1'-0"

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND X. RAMIREZ
14374
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

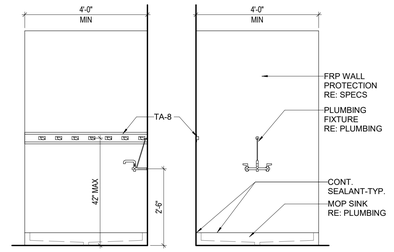
No.	Description	Date

CHECKED BY: Checker
DRAWN BY: Author

ACCESSIBILITY STANDARD GUIDELINES

G0.15

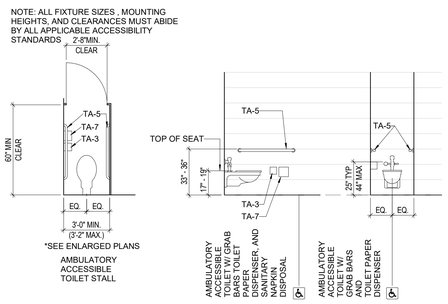
G0.16 - ACCESSIBILITY MOUNTING HEIGHTS GUIDELINES

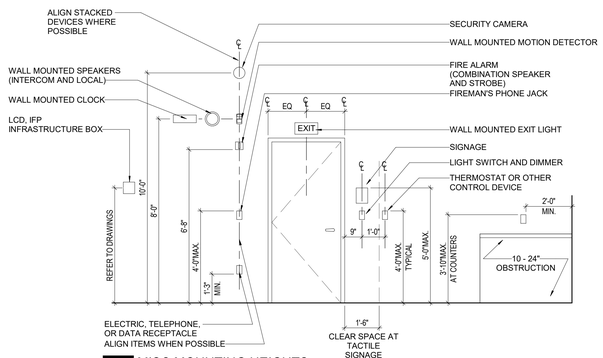


6 TYP CUSTODIAL CLOSET
1/2" = 1'-0"

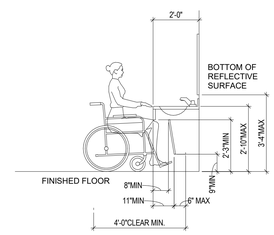
DESCRIPTION	Ages: 13 - Adult (Grades 8 and Above)
WATER CLOSET: To Top of Seat	17" - 19"
Grab Bar Height	33" - 36"
Flush Control Height	25" TYP 44" MAX
URINAL: Max. To Rim of Basin	17"
Flush Control Height (Max)	44"
LAVATORIES: Front Approach	
Knee Clearance (Min)	27"
To Top (Max)	34"
To Faucet (Max)	25"
FIXED OR BUILT-IN:	
Height of Tables or Counter:	28" - 34"
Knee Clearance (Min)	27"
SHELVES, DISPENSERS: Max. Height to Control Device	
Frontal Approach (Max)	48"
Side Approach (Max)	48"
DRINKING FOUNTAINS:	
To Spout (Max)	36"
Knee Clearance (Min)	27"
SWITCHES AND CONTROLS	
Frontal Approach (Max)	48"
Side Approach (Max)	48"
MIRRORS: Max. Height to Bottom of Reflective Surface	
At Lavatories and Counter Tops	40"
Full Length	35"
MIRRORS: Min. Height to Top of Reflective Surface	
Full Length	74"
TOILET PAPER DISPENSER: Height to Center of Roll (Max)	19"
PAPER TOWEL DISPENSER: Height to Operating Mechanism	48"
SHOWER	
Top of Seat	17" - 19"
Grab Bar	33" - 36"
To Hand Shower Head Mounting (Max)	48"

2 ACCESSIBILE MOUNTING HEIGHTS
1/4" = 1'-0"

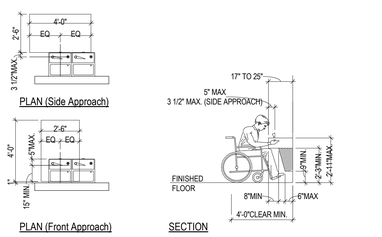




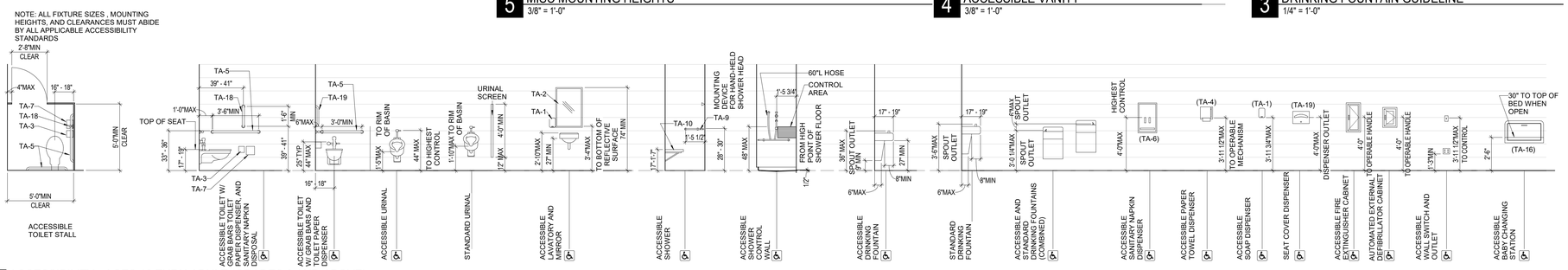
5 MISC MOUNTING HEIGHTS
3/8" = 1'-0"



4 ACCESSIBLE VANITY
3/8" = 1'-0"



3 DRINKING FOUNTAIN GUIDELINE
1/4" = 1'-0"



1 ACCESSIBILITY - AGES 13 THRU ADULT (GRADES 8 AND ABOVE)
1/4" = 1'-0"

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CLIENT
TOMBALL ISD

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

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ACCESSIBILITY MOUNTING HEIGHTS GUIDELINES

G0.16

TOILET ACCESSORIES

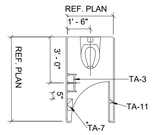
LABEL	DESCRIPTION	REMARKS
TA-1	SOAP DISPENSER	
TA-2	MIRROR	
TA-3	TOILET PAPER DISPENSER	
TA-4	PAPER TOWEL DISPENSER	
TA-5	GRAB BARS (AT TYPICAL ACCESSIBLE TOILETS)	
TA-6	SANITARY NAPKIN DISPENSER	
TA-7	SANITARY NAPKIN DISPOSAL	
TA-8	MOP AND BROOM HOLDER	
TA-9	GRAB BARS (AT ACCESSIBLE SHOWERS)	
TA-10	FOLDING SHOWER BENCH	
TA-11	CLOTHES HOOK	NOTE 5
TA-12	SHOWER CURTAIN, ROD AND HOOKS	
TA-13	ELECTRIC HAND DRYER	
TA-14	PAPER TOWEL DISPENSER AND TRASH RECEPTACLE	
TA-15	GRAB BARS (AT AMBULATORY ACCESSIBLE TOILETS)	
TA-16	DIAPER CHANGING STATION	
TA-17	TRASH RECEPTACLE	N.I.C
TA-18	VERT GRAB BAR (AT ACCESSIBLE ICC A117.1 TOILETS)	
TA-19	TOILET COVER DISPENSER	
TA-20	STATIONARY DRESSING BENCH	

NOTE: ALL TOILET ACCESSORIES SHALL BE CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED U.N.O.

1. COORDINATE FINAL LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION
2. CONTRACTOR IS TO VERIFY ALL HEIGHTS OF ACCESSORIES TO COMPLY WITH ALL APPLICABLE ACCESSIBILITY REQUIREMENTS
3. REFER TO ALL FINISHES AND COLORS IN FINISH SCHEDULE, VERIFY ALL PATTERNS WITH ARCHITECT
4. ALIGN MIRROR ON CENTER OF LAVATORY
5. ONE (1) HOOK SHALL BE INSTALLED INSIDE DOOR AT EACH TOILET PARTITION. ONE HOOK INSIDE DOOR AT SINGLE TOILET ROOMS AND ONE HOOK AT EACH SHOWER
6. REFER TO SPECIFICATION SECTION 01 60 16 FOR ADDITIONAL TOILET ACCESSORIES INFORMATION
7. REFERENCE PLUMBING ENGINEER'S DRAWINGS FOR ALL PLUMBING FIXTURE AND DEVICE SPECIFICATIONS.

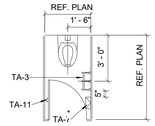


1)(U2H STANDARD URINAL (U1)(U2HC)
1/4" = 1'-0"



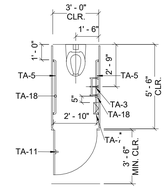
*TA-7 AT WOMENS RESTROOMS ONLY

S4O.H. STANDARD STALL (S4) O.H.
1/4" = 1'-0"



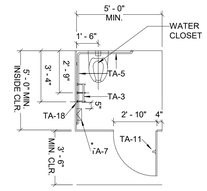
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S4 STANDARD STALL (S4)
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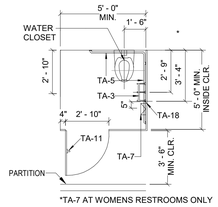
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S3 AMBULATORY ACCESSIBLE STALL (S3)
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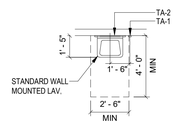
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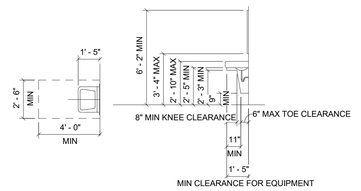


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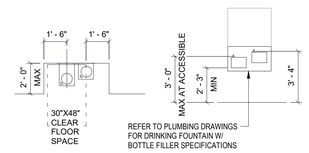
S1 ACCESSIBLE STALL (S1)
1/4" = 1'-0"



L3 ACCESSIBLE LAVATORY (L3)
1/4" = 1'-0"



L2 ACCESSIBLE LAVATORY (L2)
1/4" = 1'-0"



EWC FOUNTAIN/COOLER HI-LOW (EWC)
1/4" = 1'-0"

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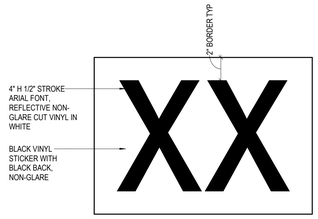
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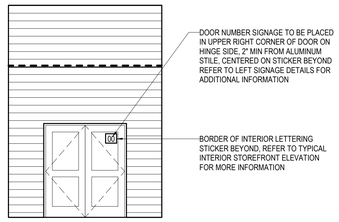
RESTROOM ACCESSORIES AND TYPES

G0.17

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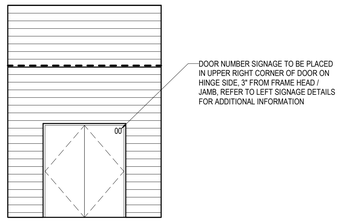


DOOR NUMBER SIGNAGE ON INTERIOR GLASS



TYPICAL EXTERIOR STOREFRONT

***ALL EXTERIOR MOUNTED STICKERS TO BE EXTERIOR GRADE**

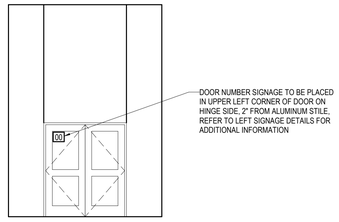


TYPICAL EXTERIOR METAL DOOR

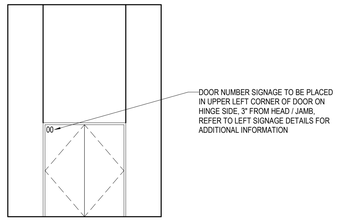
***ALL EXTERIOR MOUNTED STICKERS TO BE EXTERIOR GRADE**



DOOR NUMBER SIGNAGE ON HOLLOW METAL OR EXTERIOR GLASS

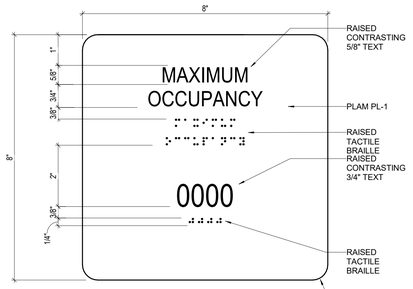


TYPICAL INTERIOR STOREFRONT



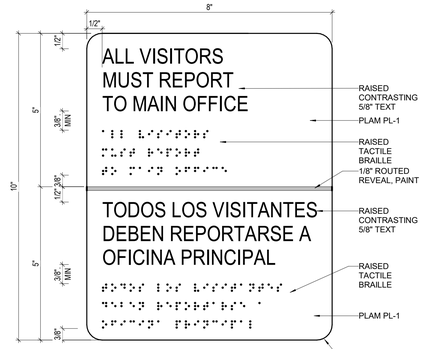
TYPICAL INTERIOR METAL DOOR

02 SIGNAGE - DOOR NUMBER GRAPHICS
6" = 1'-0"

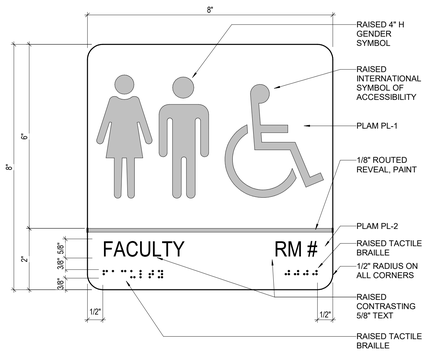


NOTE: VERIFY AND CONFIRM ALL OCCUPANCY SIGNAGE REQUIREMENTS PRIOR TO FABRICATION INCLUDING BUT NOT LIMITED TO SIGN LOCATIONS, SIGN SIZE, TEXT CONTENT, FONT SIZE, COLORS, GRAPHICAL CONTENT, FORMAT

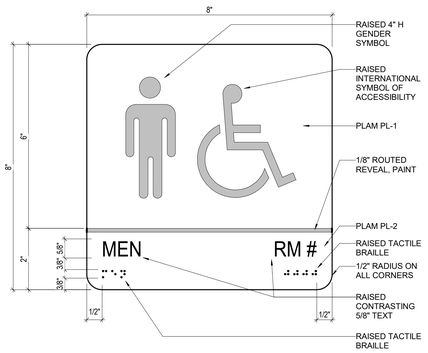
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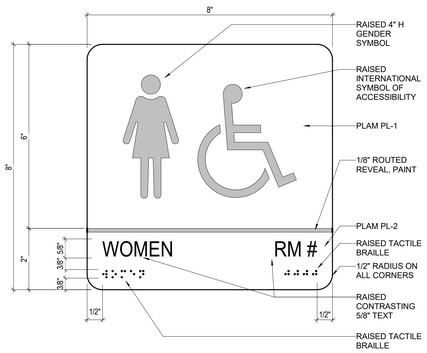
F ADMINISTRATIVE



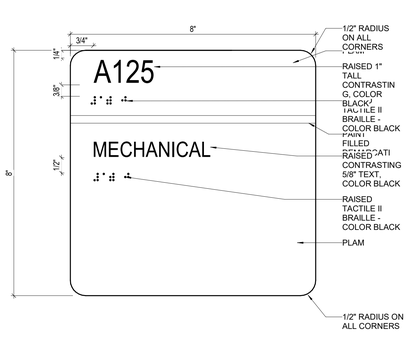
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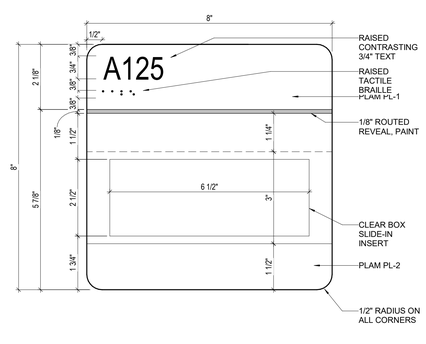
D MEN / BOYS



C WOMEN / GIRLS



B MECHANICAL



A ADMINISTRATIVE

01 SIGNAGE - GRAPHICS
6" = 1'-0"

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KEY PLAN

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REGISTERED ARCHITECT EDMUND A. RAMIREZ JR. 14378 STATE OF TEXAS

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TOMBALL ISD

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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DRAWN BY: Author

SIGNAGE GRAPHIC STANDARDS

G0.51

GENERAL NOTES

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH THE JOBSITE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFEGUARDING AND PROTECTING ALL MATERIAL AND EQUIPMENT STORED ON THE JOBSITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STORAGE OF MATERIALS IN A SAFE AND WORKMANLIKE MANNER TO PREVENT INJURIES AND AFTER WORKING HOURS, UNTIL PROJECT COMPLETION.
4. WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALE DIMENSIONS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATION FROM THE DIMENSIONS AND CONDITIONS SHOWN BY THESE DRAWINGS. DIMENSIONS SHOWN ARE TO THE BACK OF CURB UNLESS NOTED OTHERWISE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND CONSTRUCTION INSPECTIONS WITH THE PROPER REGULATORY AGENCIES, PRIOR TO BEGINNING CONSTRUCTION. COPIES OF ALL PERMITS SHALL BE SENT TO THE ENGINEER.
6. CONTRACTOR TO OBTAIN ALL PERMITS REQUIRED PRIOR TO STARTING CONSTRUCTION OF UTILITIES AND/OR CULVERTS WITHIN RIGHT-OF-WAYS.
7. TOPOGRAPHIC SURVEY BY: KCI TECHNOLOGIES, INC.
3 RIVERWAY DR., SUITE 1500
HOUSTON, TX 77056
832-975-1565
8. BENCHMARK: SEE SURVEY
9. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTACTING THE SURVEYOR AND VERIFYING THE BENCHMARK AND ON SITE TBM'S IN THE FIELD.
10. THE DRAWINGS SHOW AS MUCH INFORMATION AS CAN BE REASONABLY OBTAINED FROM ON THE GROUND OBSERVATION AND EXISTING CONSTRUCTION DRAWINGS REGARDING THE ENTIRE TOPOGRAPHY, CONTOURS, SUB-SURFACE SOILS, AS WELL AS THE LOCATION AND NATURE OF PIPELINES, STORM SEWERS, WATERLINES, NATURAL GAS LINES, UNDERGROUND CABLES, ECT. HOWEVER, THE ACCURACY OF OR COMPLETENESS OF SUCH INFORMATION IS NOT GUARANTEED.
11. THE EXISTING UTILITIES SHOWN WERE PROVIDED BY THE SURVEYOR. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, SIZES, AND DEPTHS OF ALL UTILITIES. THE CONTRACTOR SHALL CONTACT THE CIVIL ENGINEER IF UTILITIES SHOWN ARE NOT AS SPECIFIED.
12. CONTRACTOR SHALL COMPLY WITH ALL OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.) REGULATIONS.
13. ALL WORK IS TO BE DONE IN ACCORDANCE WITH APPLICABLE NATIONAL, STATE, MUNICIPAL, AND LOCAL CODES.
14. IT IS THE CONTRACTORS RESPONSIBILITY TO SUPERVISE AND COORDINATE ALL WORK TO ENSURE THE PROPER EXECUTION. ALL WORK IS TO BE ACCOMPLISHED IN A NEAT, WORKMAN LIKE MANNER, AND ALL EXCESS MATERIALS, TRASH, DEBRIS, ECT., SHALL BE REMOVED FROM THE JOB BY THE CONTRACTOR, AT HIS EXPENSE.
15. THE CONTRACTOR SHALL INCLUDE IN HIS BID AS AN INCIDENTAL ITEM FOR THE REMOVAL OF ANY EXISTING SIGNAGE THAT IS IN THE WAY OF THE PROPOSED NEW CONSTRUCTION. IF REMOVAL OF SIGNAGE IS NECESSARY, THE CONTRACTOR SHALL REPLACE SAID SIGNAGE.
16. THE CONTRACTOR SHALL KEEP ALL STREETS FREE OF DIRT, MUD,ETC. DURING THE COURSE OF CONSTRUCTION.
17. THE CONTRACTOR SHALL NOT LEAVE ANY TRENCHES OR PITS OPEN OVER NIGHT. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR KEEPING THE SCHOOL CHILDREN OUT OF WORK AREA.
18. CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN THE AREA PRIOR TO COMMENCING WORK IN ANY RIGHT-OF-WAY OR EXISTING EASEMENT. A VERIFICATION NUMBER FROM THE ONE-CALL UTILITY COORDINATING COMMITTEE WILL BE REQUIRED. (800) 344-8377.
19. CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY COMPANIES TO RELOCATE EXISTING POWER POLE(S) AND/OR UTILITY BOX(ES) OR ANY OTHER UTILITIES DEEMED NECESSARY BY THE ENGINEER. CONTRACTOR SHALL COORDINATE THE RELOCATION AND PAY ANY FEES.
20. STRIPING AND CROSS-HATCHING SHALL BE "TRAFFIC YELLOW" PAINTED LINES, FOUR (4) INCHES WIDE UNLESS OTHERWISE NOTED.
21. ALL PAVEMENT MARKINGS (OTHER THAN STRIPING & CROSS-HATCHING) SHALL BE THERMOPLASTIC.
22. REFER TO ARCHITECTURAL SHEETS FOR HANDICAP SIGNAGE.
23. EXISTING PAVEMENTS, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY STANDARDS.
24. CONDITION OF THE ROAD AND/OR RIGHT-OF-WAY, UPON COMPLETION OF JOB, SHALL BE AS GOOD AS OR BETTER THAN THE CONDITION PRIOR TO STARTING WORK.
25. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY.
26. WHEEL CHAIR RAMPS SHALL BE INSTALLED IN ACCORDANCE WITH CITY STANDARDS AT ALL INTERSECTIONS WHERE SIDEWALKS EXIST AND THE EXISTING CURB OR SIDEWALK IS DAMAGED OR REMOVED DURING CONSTRUCTION.
27. THIS PROPERTY IS LOCATED IN ZONE "X" UNSHADED, AREAS DETERMINED TO BE OUTSIDE OF THE 500-YEAR FLOODPLAIN AS SHOWN ON THE FLOOD INSURANCE RATE MAP BY (FEMA), 48201C0210L PANEL 210 OF 1150, DATED JUNE 18, 2007. THIS STATEMENT IS BASED ON SCALING THE LOCATION OF THIS SURVEY ON THE ABOVE REFERENCED MAP.

UTILITY NOTES

28. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR FOR EXCAVATION, INSTALLATION, BACKFILLING OF WATER AND/OR SEWER MAINS AND RELATED APPURTENANCES AS SHOWN ON THE PLANS AND/OR DESCRIBED IN THE SPECIFICATIONS.
29. THE CONTRACTOR SHALL COMPLY WITH O.S.H.A. REGULATIONS AND STATE OF TEXAS LAW CONCERNING EXCAVATION. CONTRACTOR SHALL PROVIDE SHEETING, SHORING AND BRACING AS NECESSARY TO PROTECT WORKMEN AND EXISTING UTILITIES DURING ALL PHASES OF CONSTRUCTION.
30. CONTRACTOR SHALL INCLUDE IN BASE PROPOSAL ALL COSTS ASSOCIATED WITH DE-WATERING WELL POINTING, STABILIZING, ETC. THAT MAY BE REQUIRED TO INSTALL ANY AND ALL UNDERGROUND UTILITIES.
31. BEDDING AND BACKFILL SHALL BE SUBSIDIARY TO THE PAY ITEMS FOR PIPE AND SHALL NOT BE PAID FOR DIRECTLY. REFER TO DETAILS. IF WET SAND CONDITIONS ARE ENCOUNTERED, THE CONTRACTOR SHALL CONTACT THE OWNER AND ENGINEER IMMEDIATELY.
32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHIPPING AND STORING OF ALL WATER AND SEWER MATERIALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE SUCH MATERIALS AT THE POINT OF DELIVERY AND TO REJECT ALL DEFECTIVE MATERIAL. THE CONTRACTOR SHALL REPLACE THE DEFECTIVE MATERIAL WITH SOUND MATERIAL AT HIS OWN EXPENSE.
33. THE LOADING AND UNLOADING OF ALL PIPE, VALVES, HYDRANTS, MANHOLES AND OTHER ACCESSORIES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PRACTICES AND SHALL AT ALL TIMES BE PERFORMED WITH CARE TO AVOID ANY DAMAGE TO THE MATERIAL. THE CONTRACTOR SHALL LOCATE AND PROVIDE THE NECESSARY STORAGE AREAS FOR MATERIALS AND EQUIPMENT.
34. ALL STORM SEWER TO BE HIGH DENSITY POLYETHYLENE CORRUGATED EXTERIOR / SMOOTH INTERIOR PIPE WITH WATER TIGHT JOINTS PER ASTM D 3212 UNLESS OTHERWISE OR SPECIFICALLY NOTED.
35. HIGH DENSITY POLYETHYLENE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION OR THE PLANS / SPECIFICATIONS; WHICHEVER IS MORE RESTRICTIVE.
36. ALL WATER MAINS TO HAVE A MINIMUM OF 4' (FOUR FEET) OF COVER FROM PROPOSED TOP OF CURB WHEN CONSTRUCTED IN STREET RIGHT-OF-WAY AND 4' (FOUR FEET) OF COVER FROM FINISHED GRADE WHEN CONSTRUCTED WITHIN EASEMENTS. WATER LINES 4" AND LARGER SHALL CONFORM TO ALL REQUIREMENTS OF AWWA C900 - DR 18, CLASS 150. 2", 2-1/2" AND 3" WATER LINES SHALL CONFORM TO ALL REQUIREMENTS OF ASTM D2241 FOR PVC PIPE AND SHALL BE PRESSURE RATED AT 200 P.S.I. WITH A STANDARD DIMENSION RATION (SDR) OF 21 FOR CLASS 200 FOR BOTH BARREL AND BELL DIMENSIONS. WATER LINES SMALLER THAN 2" SHALL CONFORM TO ALL REQUIREMENTS OF SCHEDULE 40.
37. PIPE SLEEVES ARE TO BE 6" PVC, SCHEDULE 40 PIPE CAPPED AT EACH END. THE TOP OF THE PIPE SLEEVE SHALL BE 12" TO 18" BELOW THE BOTTOM OF CONCRETE PAVEMENT OR WALK. EACH END SHALL EXTEND A MINIMUM OF TWO (2) FEET BEYOND THE EDGE OF CONCRETE PAVEMENT OR WALK. LOCATION OF EACH END TO BE MARKED IN CURB OR PAVEMENT WITH BRASS BOLTS.
38. ROOF DRAIN AND DOWNSPOUT COLLECTOR LINES SHALL BE PVC, SDR-26 PIPE (ASTM D2241) OR SCHEDULE 40 PIPE, LAID AT A MINIMUM GRADE OF 0.50% UNLESS NOTED OTHERWISE. COLLECTOR LINES SHALL BE SIZE ON SIZE AND 6" MINIMUM FOR DOWNSPOUTS. ONCE TWO OR MORE ROOF DRAINS / DOWNSPOUTS ARE CONNECTED THE COLLECTOR LINE (RD AND/OR DS) SHALL BE 12" UNLESS NOTED OTHERWISE. NO 90° BENDS SHALL BE USED. ALL BENDS IN LINES SHALL BE MADE WITH EITHER "WYES" OR DOUBLE 45° BENDS. REFER TO THE ARCHITECTURAL SHEETS FOR EXACT LOCATIONS OF GUTTER DOWNSPOUTS AND/OR MEP SHEETS FOR EXACT LOCATION/ SIZES OF ROOF DRAINS. WHERE DOWNSPOUT COLLECTORS ARE LOCATED IN PAVED AREAS, PROVIDE A 24"X24" BLOCK OUT AROUND PIPE. REFER TO DETAILS.
39. CONTRACTOR SHALL PROVIDE A MINIMUM OF 6" (SIX INCHES) VERTICAL CLEARANCE AT STORM SEWER AND WATER LINE CROSSINGS AND AT STORM SEWER AND SANITARY SEWER CROSSINGS, AND A MINIMUM OF 12" (TWELVE INCHES) VERTICAL CLEARANCE AT WATER LINE AND SANITARY SEWER CROSSINGS.
40. MARK LOCATIONS OF ALL CABLE AND TELEPHONE LINES EXTENDING BENEATH PAVING BY SETTING A 60D GALVANIZED NAIL FLUSH WITH TOP OF CURB (OR TOP OF PAVEMENT WHERE THERE IS NO CURB).
41. CONNECTION TO EXISTING MANHOLES / INLETS SHALL BE MADE IN A NEAT AND WORKMANLIKE MANNER. NON-SHRINK GROUT SHALL BE USED TO SEAL THE CONNECTION ON BOTH THE INSIDE AND OUTSIDE OF EXISTING MANHOLES / INLETS. ANY DAMAGE TO EXISTING STRUCTURES SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
42. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE TO EXISTING PUBLIC OR PRIVATE UTILITY LINES, INCLUDING BUT NOT LIMITED TO WATER LINES, WASTEWATER COLLECTION SYSTEMS AND STORM SEWERS, DURING CONSTRUCTION. ALL DAMAGES SHALL BE REPAIRED AT HIS EXPENSE AND IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION AND/OR AS DIRECTED BY THE ENGINEER.

UTILITY NOTES

43. EXISTING UTILITIES SHALL REMAIN IN SERVICE DURING THE CONSTRUCTION PERIOD UNTIL SUCH TIME THAT NEW UTILITIES CAN BE MADE OPERATIONAL.
44. REFER TO THE M.E.P. SHEETS FOR EXACT LOCATIONS OF WATER, FIRE, GAS AND SANITARY SEWER CONNECTIONS AT THE BUILDING.
45. REFERENCE M.E.P. SHEETS FOR REMOVAL AND/OR REROUTING OF ANY ELECTRICAL SERVICES OR ANY UTILITY LINE (ROOF DRAIN, SANITARY SEWER, ETC.) THAT LIES UNDER A PROPOSED STRUCTURE.
46. UTILITY CONTRACTOR SHALL PROVIDE TEMPORARY SILT BARRIER FENCE ON ALL NON-CURB INLETS WHICH WILL REMAIN IN PLACE AFTER UNDERGROUND CONTRACT IS COMPLETE.
47. CONTRACTOR SHALL PROVIDE SILT BARRIER FENCE ON ALL STAGE 1 CURB INLETS.
48. THE CONTRACTOR SHALL INCLUDE IN THE PROPOSAL AN INCIDENTAL AMOUNT FOR THE SAW CUTTING, REMOVAL AND REPLACEMENT OF PAVEMENT AT ALL LOCATIONS WHERE PROPOSED UTILITIES CROSS EXISTING PAVEMENT, WHETHER SHOWN ON THE DRAWINGS OR NOT. THE CONTRACTOR SHALL MATCH THE EXISTING PAVEMENT TYPE, THICKNESS AND GRADES.
49. WHEN CONNECTING TO EXISTING SANITARY SEWERS OR STORM DRAINAGE SYSTEMS, THE CONTRACTOR SHALL START AT THE DOWNSTREAM END AND WORK UPSTREAM. THE CONTRACTOR SHALL ALSO VERIFY THE ELEVATIONS OF THE UPSTREAM AND DOWNSTREAM CONNECTIONS PRIOR TO STARTING WORK. IF ELEVATIONS ARE NOT AS SHOWN ON THE DRAWINGS, CONTACT THE ENGINEER. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR START UPSTREAM AND WORK DOWNSTREAM. PIPE SHALL BE INSTALLED WITH THE BELLS AT THE UPSTREAM END.
50. TELEPHONE COMPANY FACILITIES MAY EXIST ON THE PROPERTY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ALL DAMAGES WHICH MIGHT BE OCCASIONED BY A FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES. THE CONTRACTOR SHALL CALL (800) 344-8377 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF TELEPHONE FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING THE CONTRACTOR SHALL EXPOSE THE TELEPHONE FACILITIES. WHEN TELEPHONE FACILITIES ARE EXPOSED, THE CONTRACTOR SHOULD PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT
51. CAUTION: UNDERGROUND GAS FACILITIES
GAS LINES (TO INCLUDE UNIT GAS TRANSMISSION AND/OR INDUSTRIAL GAS SUPPLY CORPORATION WHERE APPLICABLE) MAY EXIST ON THE PROPERTY. SERVICE LINES ARE USUALLY NOT SHOWN. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 811 OR (800) 669-8344 A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICES LINES FIELD LOCATED

    * WHEN GAS LINE MARKINGS ARE NOT VISIBLE CALL (713) 967-8037 (7:00 AM-4:30 PM) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
    * WHEN EXCAVATING WITHIN 18" OF THE INDICATED LOCATION OF GAS FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
    * WHEN GAS FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING

    THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.
52. WARNING: OVERHEAD ELECTRICAL FACILITIES
OVERHEAD LINES MAY EXIST ON THE PROPERTY. THESE LINES ARE CLEARLY VISIBLE, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE, FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN 6' OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL POWER COMPANY AT (713) 207-2222 (CENTERPOINT).

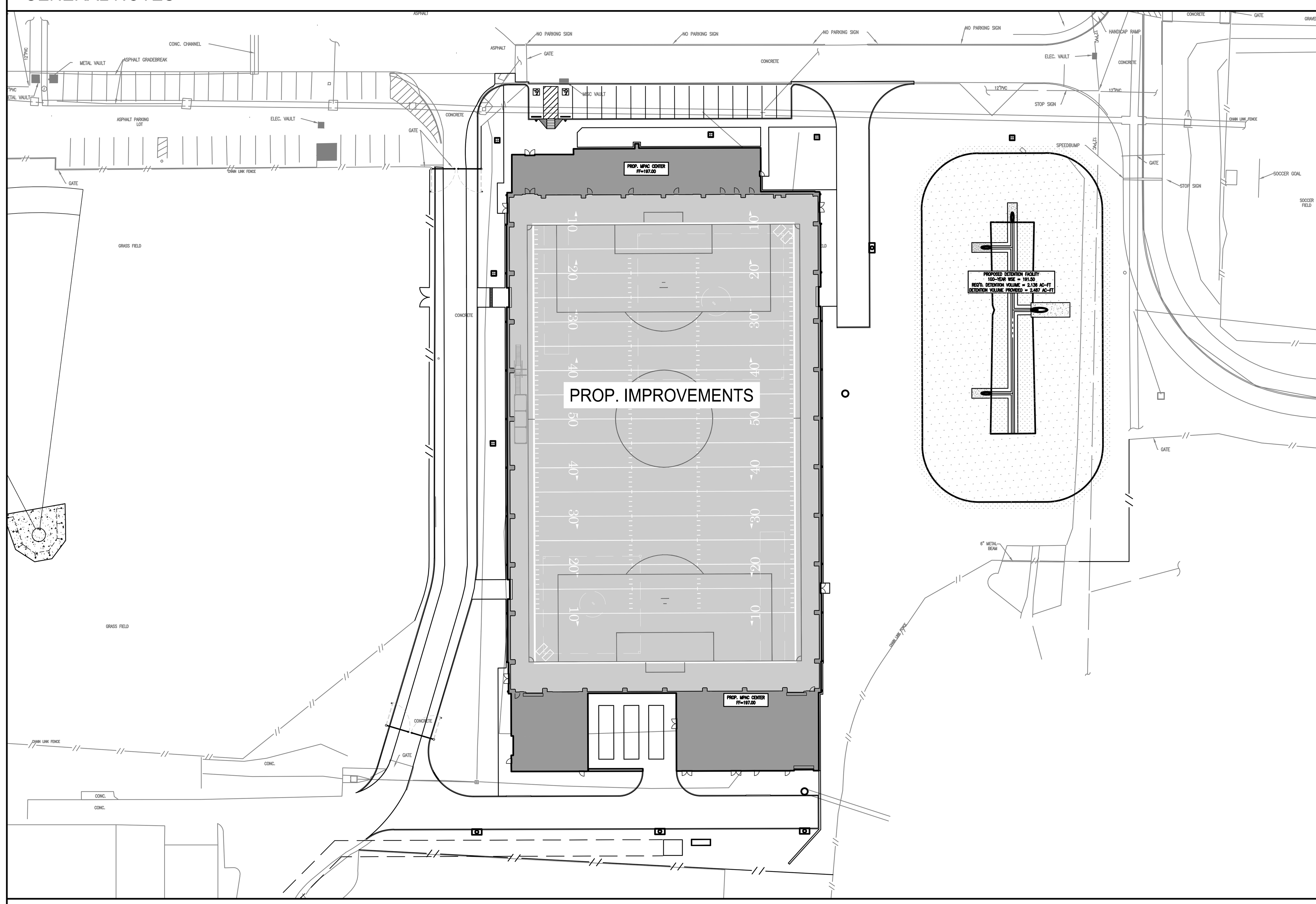
    WARNING: UNDERGROUND ELECTRICAL FACILITIES
UNDERGROUND ELECTRICAL FACILITIES MAY EXIST ON THE PROPERTY. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, CALL THE UCC AT 811, OR TOLL FREE AT (800) 669-8344, TO VERIFY THAT NO UNDERGROUND FACILITIES EXIST.
53. ALL UNDERGROUND PIPE SHALL HAVE A 12 GAUGE METALLIC TRACER WIRE RUNNING THE FULL LENGTH OF THE PIPE. TRACER WIRE SHALL BE TAPED TO THE PIPE AT INTERVALS NOT TO EXCEED 15 FEET USING DUCT TAPE.

PAVING AND GRADING NOTES

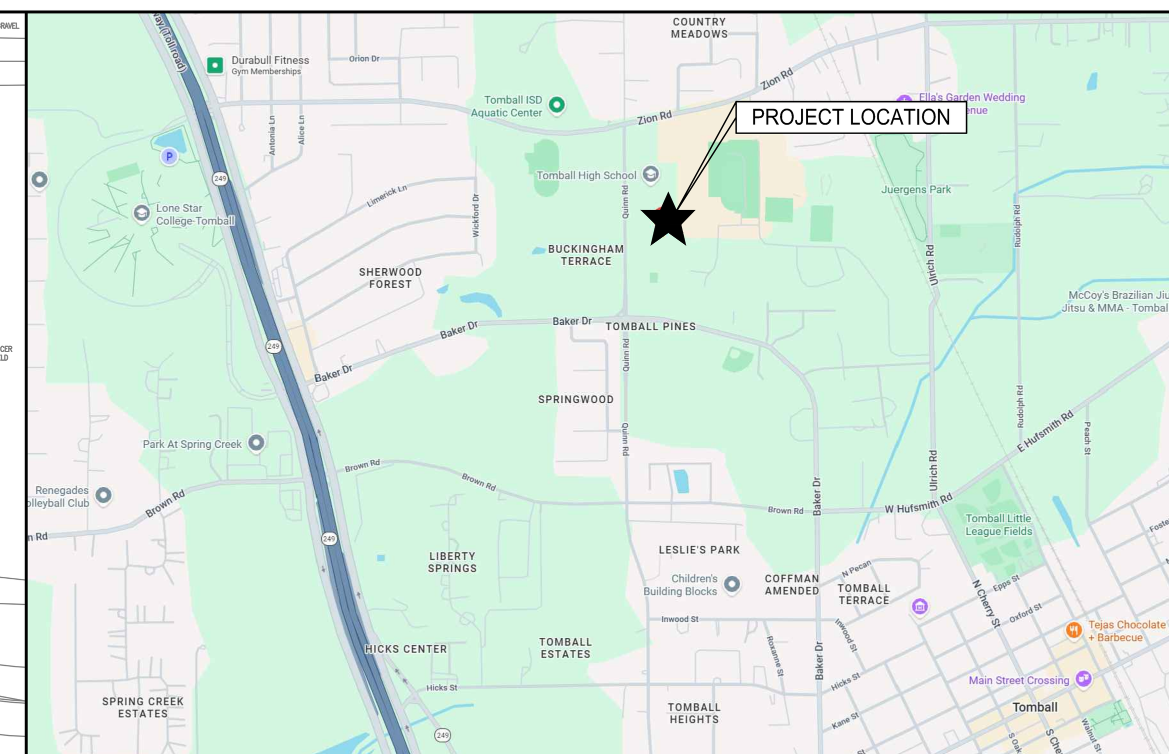
54. REFERENCE THE ARCHITECTURAL SITE PLAN FOR SIDEWALK JOINT PATTERN. SIDEWALK JOINTS SHALL ALIGN WITH PAVING JOINTS WHEN SIDEWALK IS ADJACENT TO PAVING.
55. THE INLETS/MANHOLES SHALL BE COORDINATED WITH THE LOCATION OF PAVEMENT JOINT PATTERN WITHIN PAVEMENT AREAS.
56. EXPANSION JOINT MATERIAL SHALL BE PLACED BETWEEN THE BUILDING AND PERIMETER CONCRETE PAVING. SEAL JOINT AS REQUIRED FOR PAVING JOINTS.
57. UNLESS OTHERWISE SPECIFIED, ALL PAVEMENT JOINT SEALANT SHALL BE SELF-LEVELING SILICONE JOINT SEALANT. (DOWSIL / DOW CORNING 888 SILICONE JOINT SEALANT, DAP® SILICONE PLUS™ PREMIUM SILICONE RUBBER CONCRETE SEALANT, GE SILICONE II MASONRY & CONCRETE SEALANT - 5020, SIKASIL - 728 SL, OR PRE-APPROVED EQUIVALENT.)
58. REFER TO STRUCTURAL FOR ANY DOWELS REQUIRED TYING THE BUILDING FOUNDATION AND ADJACENT CONCRETE PAVING TOGETHER.
59. SAWED JOINTS & TRANSVERSE JOINTS ARE TO BE EQUALLY SPACED BETWEEN EXPANSION JOINTS.
60. SAWING OF JOINTS MUST BEGIN AS SOON AS THE CONCRETE HAS HARDENED SUFFICIENTLY TO AVOID EXCESSIVE RAVELING. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
61. THE CONTRACTOR SHALL REPLACE ANY DAMAGED AND/OR REMOVED CONCRETE PAVEMENT, CURB AND/OR WALK TO EQUAL OR BETTER THAN EXISTING CONDITION. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO INCLUDE ANY CONCRETE PAVEMENT, CURB OR WALK REMOVAL AND REPLACEMENT IN HIS BID AS AN INCIDENTAL TO THE COST OF CONSTRUCTION.
62. THE CONTRACTOR SHALL GRADE THE SITE AS INDICATED BY THE CONTOUR LINES, DIRECTIONAL ARROWS AND ELEVATIONS SHOWN ON DRAWINGS. ALL GRADING SHALL VARY UNIFORMLY BETWEEN ELEVATIONS SHOWN.
63. AT ALL DOORWAYS, THE LANDING SHALL SLOPE AT A MAXIMUM OF 2% AWAY FROM DOORWAY FOR A MINIMUM OF 5 FEET. MATCH FINISH FLOOR ELEVATION AT FACE OF DOORWAYS.
64. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTING SILT FENCE OR PLACING SQUARE HAY BALES AT ALL POINTS WHERE STORMWATER RUNOFF EXITS THE SCHOOL PROPERTY, AND AT ALL STORM SEWER INLETS AND MANHOLES, TO PREVENT SEDIMENT CONTAMINATION OF THE EXISTING DRAINAGE ARTERIES AND NEW STORM SEWERS DURING CONSTRUCTION OF OF THIS PROJECT. REFERENCE "STORM WATER POLLUTION PREVENTION PLAN".
65. SITE TO BE CLEARED OF VEGETATION AND DEBRIS AS NECESSARY TO COMPLETE PROJECT OR AS DIRECTED BY ENGINEER. STRIPPINGS, IF CLEAN, ARE TO BE STOCKPILED AND USED AS DRESSING FOR GRADING, OTHERWISE THE STRIPPINGS SHALL BE DISPOSED OF BY THE CONTRACTOR.
66. ALL EXCESS DEBRIS, TREES, AND/OR WASTE MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY. ALL ASSOCIATED COST SHALL BE AT THE EXPENSE OF THE CONTRACTOR.
67. BACKFILL TO TOP OF NEW PAVEMENT OR CURBS WITH CLEAN SOIL FREE OF CLODS. ALL DISTURBED AREAS AND AREAS REQUIRING GRADING SHALL BE FINE GRADED. REMOVE ALL TRASH/DEBRIS AND PROVIDE A SMOOTH SURFACE FOR PROPER TURF MANAGEMENT. HYDROMULCH DISTURBED AREAS NOT NOTED TO BE SOLID SOD OR AS DIRECTED BY THE ENGINEER.
68. WHERE NEW CONCRETE PAVING MEETS EXISTING CONCRETE PAVING, INSTALL 3/4" SMOOTH DOWELS, (18" LONG AND 18" C-C), BY DRILLING 8" INTO THE CENTER OF THE EXISTING SLAB AND EMBEDDING WITH EPOXY. WHEN PAVING UP TO BUILDING FOUNDATIONS, ALSO INSTALL IMPREGNATED FIBER BOARD EXPANSION MATERIAL WITH TOP PULL STRIP FOR CAULKING.
69. PAVEMENT GRADES SHALL VARY UNIFORMLY BETWEEN ELEVATIONS SHOWN.
70. SECURE PRECAST CONCRETE WHEEL STOPS BY DRILLING AND SETTING #4 DOWELS INTO PAVEMENT.
71. FILL AREAS NOTED ON PLANS SHALL BE FILLED IN LAYERS NOT EXCEEDING 8" IN DEPTH AND EACH LAYER COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY. FILL AREA SHALL BE SEEDED AND FERTILIZED WITHIN 10 WORKING DAYS.
72. CONTRACTOR SHALL INSTALL A GRASS SOLID SOD ADJACENT TO ALL PROPOSED CURBS, DRIVES AND /OR WALKS.
73. MATCH ALL ELEVATIONS WHERE PROPOSED PAVEMENT ADJOINS EXISTING PAVEMENT.
74. PRIOR TO ANY CHEMICAL STABILIZATION OF SOIL WITH LIME, FLY ASH OR ANY OTHER MATERIAL AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER, CONTRACTOR SHALL HAVE A THIRD PARTY TESTING LAB PERFORM A SOIL ANALYSIS, INCLUDING BUT NOT LIMITED TO A LIME SERIES TEST, TO CONFIRM THE REQUIRED APPLICATION RATE OF THE CHEMICAL USED FOR STABILIZATION.
75. TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL SANDY LOAM SURFACE SOIL WITH A MINIMUM OF 4 PERCENT ORGANIC MATERIAL CONTENT FREE OF STONES 1 INCH OR LARGER IN ANY DIMENSION AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH. COMPLY WITH ASTM D 5268.
76. HYDROMULCH ALL DISTURBED AREAS, UNLESS OTHERWISE NOTED. HYDROMULCH TO BE INSTALLED 90 DAYS PRIOR TO SUBSTANTIAL COMPLETION OR AS SOON AS POSSIBLE IN ORDER TO ESTABLISH GROW-IN PER SPEC. ALTERNATIVELY, GENERAL CONTRACTOR TO PROVIDE SOLID SOD IN LIEU OF HYDROMULCH.

CIVIL LEGEND

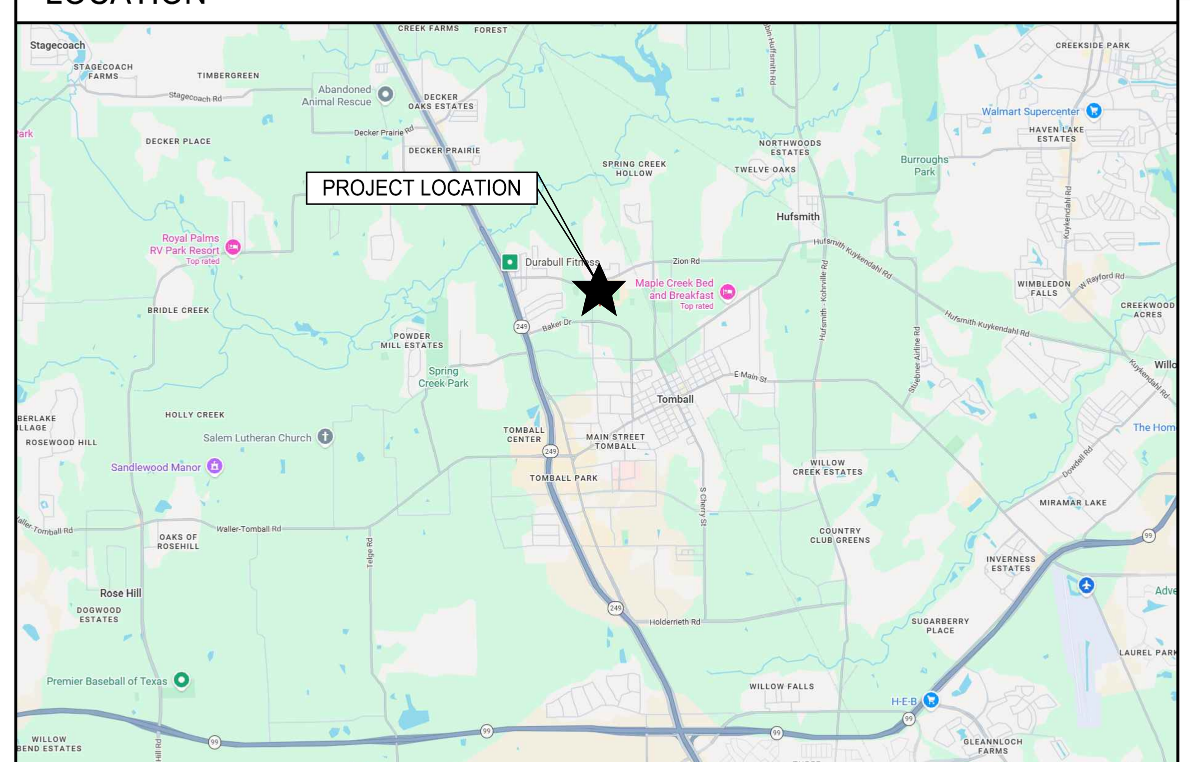
201	PROPOSED CONTOUR
	PROPOSED CATCH BASIN (C-1)
	PROPOSED "A" INLET (A-1)
	PROPOSED "E" INLET (E-1)
	PROPOSED STORM MANHOLE W/ GRATE TOP
	PROPOSED MANHOLE
	PROPOSED H-2 OR JUNCTION BOX INLET
	GATE VALVE & BOX
	PIPE SLEEVES
	PROP. 45° EL
	TAPPING SLEEVE & VALVE
TC	TOP OF CURB ELEVATION
TP	TOP OF PAVEMENT ELEVATION
TG	TOP OF GRATE ELEVATION
TR	TOP OF RIM (MANHOLE)
FG	FINISH GRADE ELEVATION
MEG	MATCH EXISTING GRADE
FL	FLOWLINE ELEVATION
	SWALE
TFL	THROAT FLOWLINE ELEVATION ("E" INLET)
FH	FIRE HYDRANT
MH	MANHOLE
CO	CLEAN OUT
DCO	DOUBLE CLEAN OUT
DS	DOWNSPOUT COLLECTOR
NIC	NOT IN CONTRACT
RD	ROOF DRAIN COLLECTOR
GV	GATE VALVE
STM	STORM SEWER
SAN	SANITARY SEWER
RCP	REINFORCED CONCRETE PIPE
HDPE	HIGH DENSITY POLYETHYLENE
FFF	FILTER FABRIC FENCE
RFB	REINFORCED FABRIC BARRIER
IPB	INLET PROTECTION BARRIER
X	EXPANSION JOINT
L	LONGITUDINAL CONSTRUCTION JOINT
LT	LONGITUDINAL-TIED CONSTRUCTION JOINT
T	TRANSVERSE CONTRACTION JOINT
S	SAWED PAVEMENT JOINT
UE	UTILITY EASEMENT
SSE	SANITARY SEWER EASEMENT
EP	EDGE OF PAVEMENT
HB	HIGH BANK OF DITCH
CL	CENTERLINE OF DITCH
PP	POWER POLE
GW	GUY WIRE
GM	GAS METER
PB	PHONE BOX
FC	FENCE CORNER
CB	CABLE BOX
NG	NATURAL GROUND
× XX.XX	EXISTING ELEVATION
+ TP XX.XX	PROPOSED ELEVATION
	ATHLETIC LIGHTPOLE
	ELECTRICAL PEDISTAL
	HOSE BIB



SITE PLAN



LOCATION



VICINITY

PROJECT NAME:
TOMBALL ISD - MULTI-PROGRAM ACTIVITY CENTER - TOMBALL HIGH SCHOOL

LEGAL DESCRIPTION:
TRS 14A & 14B (RES PER PLAT) TOMBALL ISD SR HIGH SCHOOL&BECKENDORF SCH ABST 34 J HOUSE

PHYSICAL ADDRESS:
30330 QUINN RD
TOMBALL, TX 77375

ACREAGE OF PROPOSED SITE:
X.XX ACRES

TOTAL ACREAGE OF EXISTING LOT:
1.01 ACRES

PERMITTING INFORMATION

SHEET	DESCRIPTION
C 001	INDEX, NOTES, AND LEGENDS
C 002.1	SURVEY (FOR INFORMATION ONLY)
C 002.2	SURVEY (FOR INFORMATION ONLY)
C 002.3	SURVEY (FOR INFORMATION ONLY)
C 002.4	SURVEY (FOR INFORMATION ONLY)
C 002.5	SURVEY (FOR INFORMATION ONLY)
C 002.6	SURVEY (FOR INFORMATION ONLY)
C 002.7	SURVEY (FOR INFORMATION ONLY)
C 003	DEMOLITION PLAN
C 100	OVERALL SITE PLAN
C 101	SITE PLAN
C 102	DIMENSIONAL CONTROL PLAN
C 103	FIRE APPARATUS PLAN
C 201	UTILITY PLAN
C 301	DRAINAGE PLAN
C 302	DETENTION PLAN
C 401	GRADING & PAVING PLAN
C 402	GRADING & PAVING PLAN
C 501	EROSION CONTROL PLAN
C 601	DETAILS
C 602	DETAILS
C 603	DETAILS
CA 101	ATHLETIC SITE PLAN
CA 102	ATHLETIC DRAINAGE PLAN
CA 103	ATHLETIC SUBGRADE GRADING PLAN
CA 104	ATHLETIC STONE GRADING PLAN
CA 105	ATHLETIC DETAILS

INDEX OF DRAWINGS

PBK
www.pbk.com
TX FIRM: BR 1608
HOUSTON, TX
713-965-0608

Tomball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

STATE OF TEXAS
TRACE C. CRYER
143668
LICENSED
PROFESSIONAL ENGINEER
10/30/2026

DIG ENGINEERS
F-18326

CLIENT	
TOMBALL ISD	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY:
DRAWN BY:

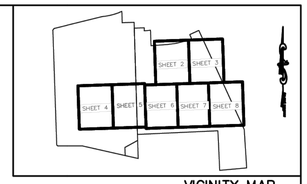
NOTES, INDEX, & LEGEND

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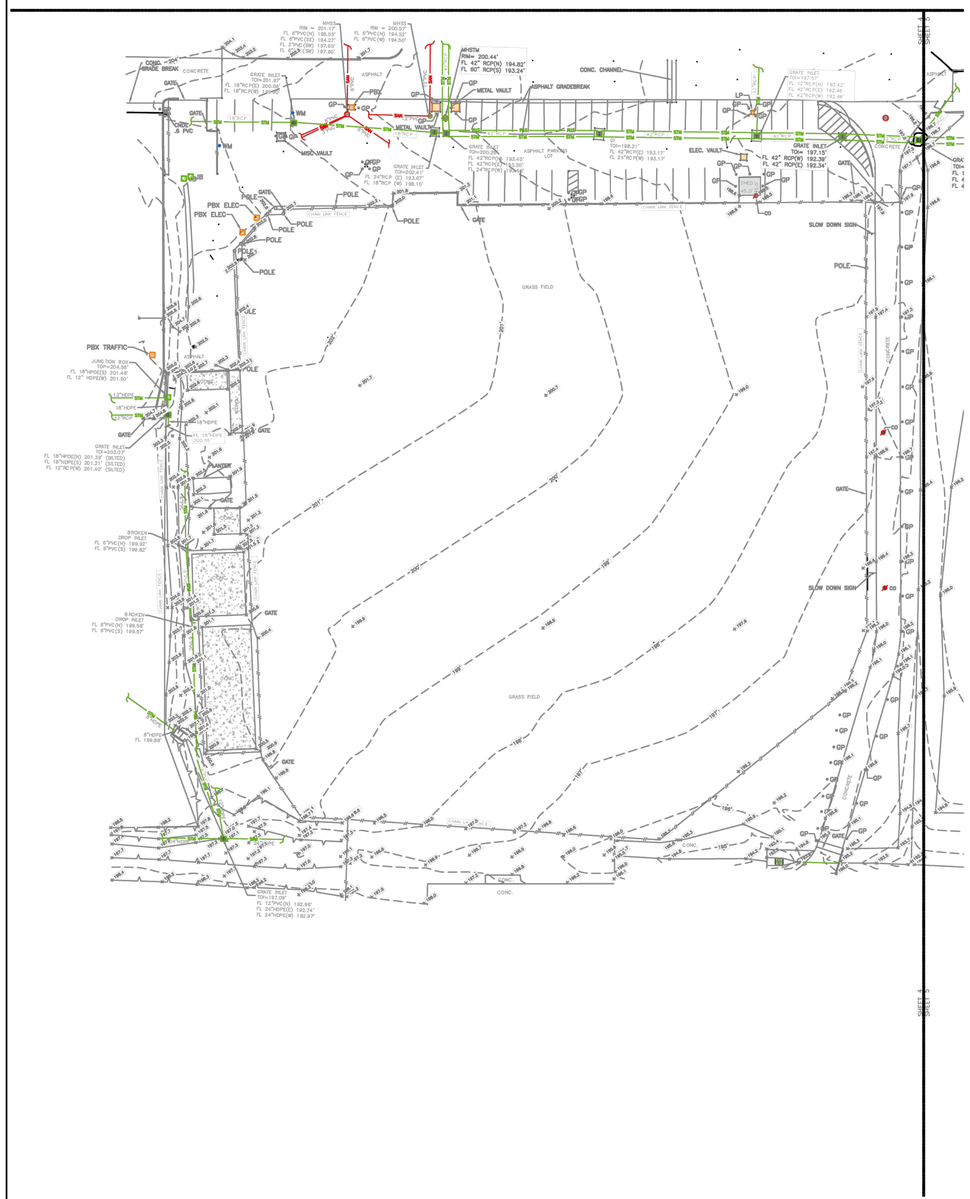
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ABBREVIATIONS:

BO	BOLLARD	GM	GAS METER
MHSTM	MANHOLE STORM	PP	POWER POLE
LP	LIGHT POLE	WM	WATER METER
P	PINE	FH	FIRE HYDRANT
O	OAK	FOCP	FIBER OPTIC CABLE MAKER
SG	SWEET GUM	TPED	TELEPHONE PEDSTAL
H.C.M.R.	HARRIS COUNTY MAP RECORDS	GUT	GUTTER
O.P.R.H.C.T.	OFFICIAL PUBLIC REOCORDS HARRIS COUNTY, TEXAS	FL	FLOWLINE
R.C.P	REINFORCED CONCRETE PIPE	N	NORTH
P.V.C.	POLYCINYL CHLORIDE PIPE	E	EAST
H.D.P.E.	HIGH DENSITY POLYETHYLENE PIPE	S	SOUTH
TEL HH	TELEPHONE HAND HOLE	W	WEST
TEL MRK	TELEPHONE MARKER	PL	PROPERTY LINE
CBL MRK	CABLE MARKER	FNC.	FENCE
C.F.	CLERKS FILE		
T.O.I.	TOP OF INLET		
PBX ELEC	ELECTRIC PULLBOX		
WV	WATER VALVE		



VICINITY MAP
(NOT TO SCALE)



GENERAL NOTES:

1) ALL EASEMENTS AND BUILDING LINES SHOWN HEREON ARE PER RECORD PLAT OF THE SUBJECT PROPERTY AND SURVEYOR RESEARCH. SURVEY WAS PREFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT. ADDITIONAL ENCUMBRANCES MAY EXIST THAT COULD BE DISCLOSED IN A CURRENT TITLE REPORT

2) BEARING, DISTANCES AND COORDINATES SHOWN HEREON ARE BASED OFF NORTH AMERICAN DATUM 1983 TEXAS STATE PLANSE COORDINATE SYSTEM, ZONE SOUTH CENTRAL (4204) 2011. COORDINATES AND DISTANCES MAY BE BROUGHT TO SURFACE VALUE BY APPLYING THE SURFACE ADJUSTMENT FACTOR OF 1.000130.

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6) UNDERGROUND UTILITY INFORMATION DENOTED WITH ** IS DERIVED FROM CITY OF TOMBALL UTILITY MAPPING AS DOES NOT REPRESENT ANY LEVEL SUE DESIGNATION.

FLOOD INFORMATION:

SUBJECT PROPERTY LOCATED IN ZONE X, AREA OF MINIMAL FLOOD HAZARD, PER FIRM 48201C0210L EFFECTIVE DATE JUNE 18, 2007.

This survey substantially complies with the current Texas Society of Professional Surveyors Manual of Practice requirements for a Category 6, Condition 1, Topographic Survey.

STATE OF TEXAS — LEWIS DANCE HARRISON — 6758 — REGISTERED — LAND SURVEYOR

Lewis Harrison 3/19/2026

RPLS NAME
TEXAS REGISTRATION NUMBER

SERIES: 2
SURVEY # 4000-00-00
DATE: 10/30/2026
DRAWN: JW
CHECKED: LH
Drawing: JW
Check: LH

CATEGORY 6, CONDITION 1 TOPOGRAPHIC SURVEY

TOMBALL HIGHSCHOOL

1100 BAKER DRIVE, TOMBALL, TX 77375

30 0 30 60
SCALE - PLAN: 1-30'

KCI TECHNOLOGIES, INC.
ENGINEERS • PLANNERS • SURVEYORS
3 RIVERWAY DRIVE - SUITE 1500 - HOUSTON, TEXAS 77056
PHONE: (832) 975-1565 MOBILE: (346) 545-3365 EMAIL: houston@kci.com

OWNER/DEVELOPER:

DATE | REVISION

PBK
www.pbk.com
TX FIRM: BR 1608
HOUSTON, TX
713-865-0008

Tomball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

CLIENT	
TOMBALL ISD	
DATE: 10/30/2026	PROJECT NUMBER: 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY:
DRAWN BY:

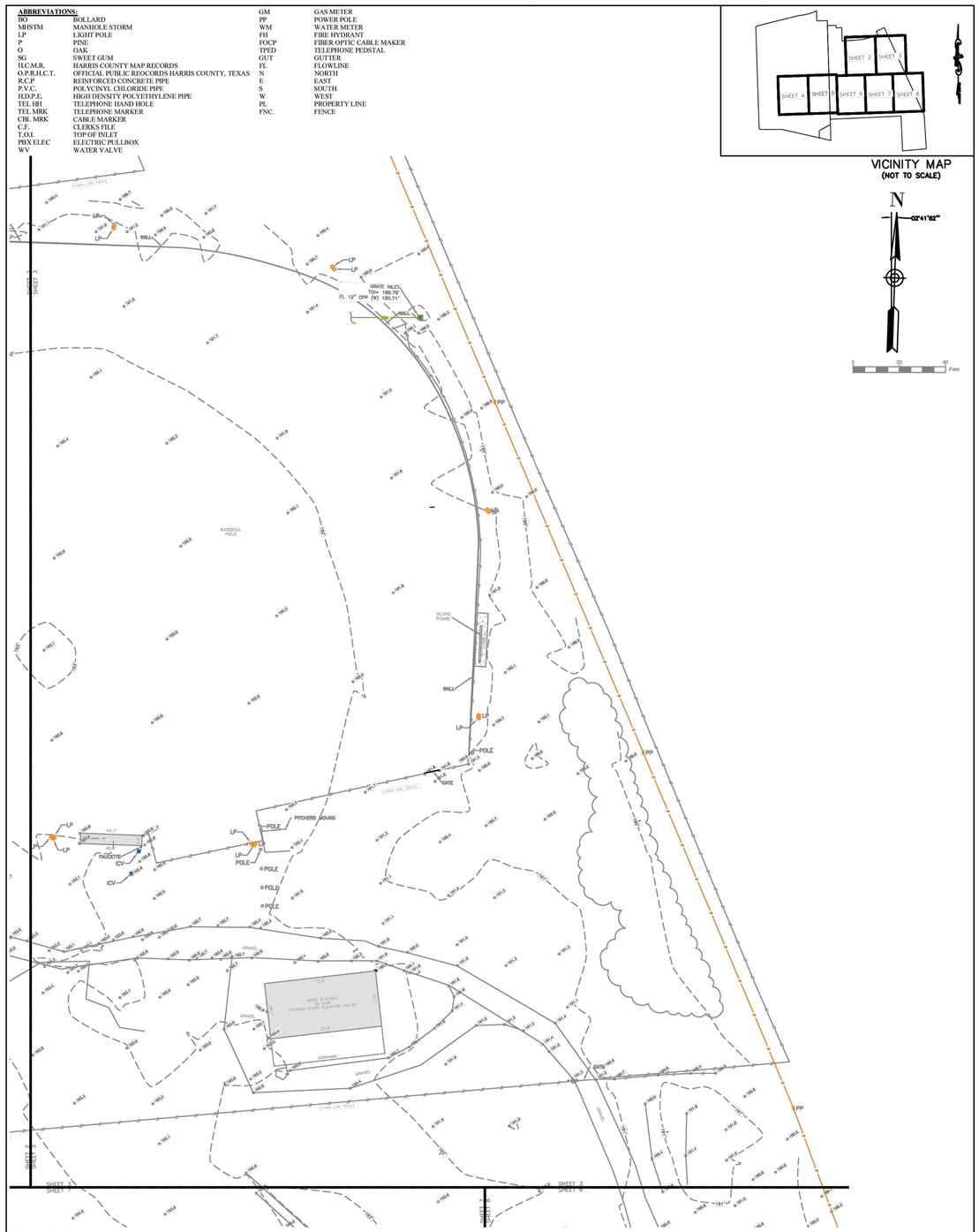
SURVEY (FOR INFORMATION ONLY)

C 002.1

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ABBREVIATIONS:

BO	BOLLARD	GM	GAS METER
MHSTM	MANHOLE STORM	PP	POWER POLE
LP	LIGHT POLE	WM	WATER METER
P	PINE	FH	FIRE HYDRANT
O	OAK	FOCP	FIBER OPTIC CABLE MAKER
SG	SWEET GUM	TPED	TELEPHONE PEDSTAL
H.C.M.R.	HARRIS COUNTY MAP RECORDS	GUT	GUTTER
O.P.R.H.C.T.	OFFICIAL PUBLIC RECORDS HARRIS COUNTY, TEXAS	FL	FLOWLINE
R.C.P	REINFORCED CONCRETE PIPE	N	NORTH
P.V.C.	POLYCINYL CHLORIDE PIPE	E	EAST
H.D.P.E.	HIGH DENSITY POLYETHYLENE PIPE	S	SOUTH
TEL HH	TELEPHONE HAND HOLE	W	WEST
TEL MRK	TELEPHONE MARKER	PL	PROPERTY LINE
CBL MRK	CABLE MARKER	FNC.	FENCE
C.F.	CLERKS FILE		
T.O.I.	TOP OF INLET		
PBX ELEC	ELECTRIC PULLBOX		
WV	WATER VALVE		



GENERAL NOTES:

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This survey substantially complies with the current Texas Society of Professional Surveyors Manual of Practice requirements for a Category 6, Condition 1, Topographic Survey.

STATE OF TEXAS
LEWIS DANIS HARRISON
6788
REGISTERED
LAND SURVEYOR

Lewis Harrison 7/19/2026

RPLS NAME
TEXAS REGISTRATION NUMBER

SHEET 3

DR	4/21/2026	#	ADD ETJ
DR	10/30/2025		INITIAL
			DATE
			Drawn
			Check
			Check
			QA/QC

CATEGORY 6, CONDITION 1 TOPOGRAPHIC SURVEY

TOMBALL HIGHSCHOOL

1100 BAKER DRIVE, TOMBALL, TX 77375

30 0 30 60
SCALE - PLAN: 1-30'

KCI TECHNOLOGIES, INC.
ENGINEERS • PLANNERS • SURVEYORS
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PHONE: (832) 975-1565 MOBILE: (346) 543-3565 EMAIL: houston@kci.com

OWNER/DEVELOPER:

DATE	REVISION

PBK
www.pbk.com
TX FIRM: BR 1608
HOUSTON, TX
713-865-0008

Tomball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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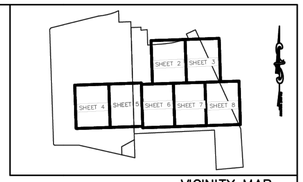
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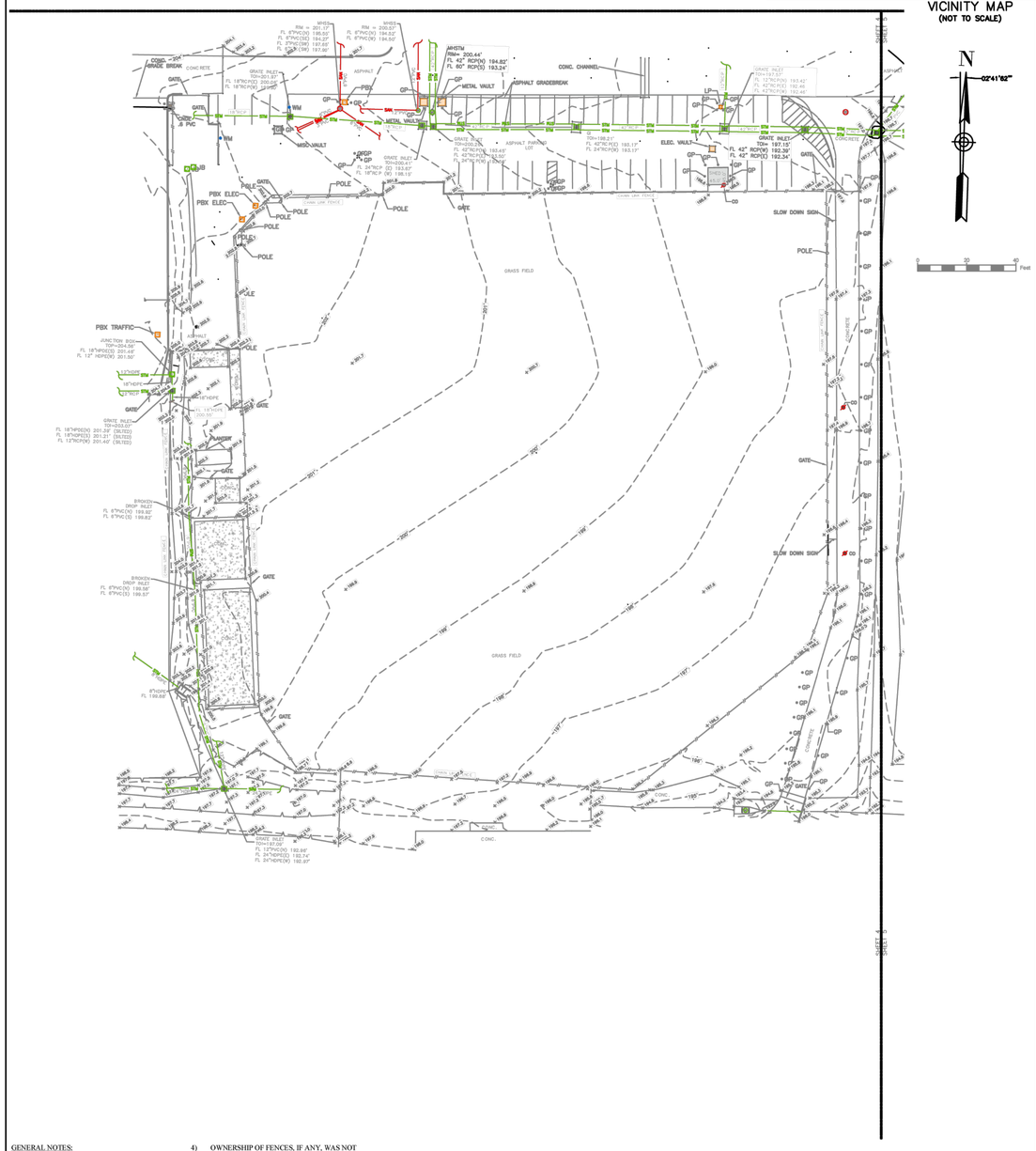
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ABBREVIATIONS:

BO	BOLLARD	GM	GAS METER
MHSTM	MANHOLE STORM	PP	POWER POLE
LP	LIGHT POLE	WM	WATER METER
P	PINE	FH	FIRE HYDRANT
O	OAK	FOCP	FIBER OPTIC CABLE MAKER
SG	SWEET GUM	TPED	TELEPHONE PEDSTAL
H.C.M.R.	HARRIS COUNTY MAP RECORDS	GUT	GUTTER
O.P.R.H.C.T.	OFFICIAL PUBLIC REOCORDS HARRIS COUNTY, TEXAS	FL	FLOWLINE
R.C.P	REINFORCED CONCRETE PIPE	N	NORTH
P.V.C.	POLYCINYL CHLORIDE PIPE	E	EAST
H.D.P.E.	HIGH DENSITY POLYETHYLENE PIPE	S	SOUTH
TEL HH	TELEPHONE HAND HOLE	W	WEST
TEL MRK	TELEPHONE MARKER	PL	PROPERTY LINE
CBL MRK	CABLE MARKER	FNC.	FENCE
C.F.	CLERKS FILE		
T.O.I.	TOP OF INLET		
PBX ELEC	ELECTRIC PULLBOX		
WV	WATER VALVE		



VICINITY MAP
(NOT TO SCALE)



GENERAL NOTES:

1) ALL EASEMENTS AND BUILDING LINES SHOWN HEREON ARE PER RECORD PLAT OF THE SUBJECT PROPERTY AND SURVEYOR RESEARCH. SURVEY WAS PREFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT ADDITIONAL ENCUMBRANCES MAY EXIST THAT COULD BE DISCLOSED IN A CURRENT TITLE REPORT

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FLOOD INFORMATION:

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STATE OF TEXAS
LEWIS BANKS HARRISON
6788
REGISTERED PROFESSIONAL LAND SURVEYOR

Lewis Harrison 3/19/2026

RPLS NAME
TEXAS REGISTRATION NUMBER

SHEET 4

CATEGORY 6, CONDITION 1 TOPOGRAPHIC SURVEY

TOMBALL HIGHSCHOOL

1100 BAKER DRIVE, TOMBALL, TX 77375

10 0 30 60
SCALE - PLAN 1-30

KCI TECHNOLOGIES, INC.

ENGINEERS • PLANNERS • SURVEYORS
3 RIVERWAY DRIVE - SUITE 1500 - HOUSTON, TEXAS 77056
PHONE: (832) 975-1565 MOBILE: (346) 545-5565 EMAIL: houston@kci.com

OWNER/DEVELOPER:

DATE	REVISION

PBK

www.pbk.com
TX FIRM: BR 1608
HOUSTON, TX
713-865-0008

Tomball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

CLIENT	
TOMBALL ISD	
DATE: 10/30/2026	PROJECT NUMBER: 25046901

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No.	Description	Date

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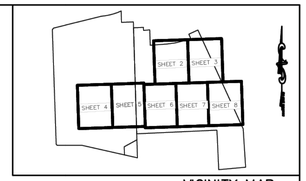
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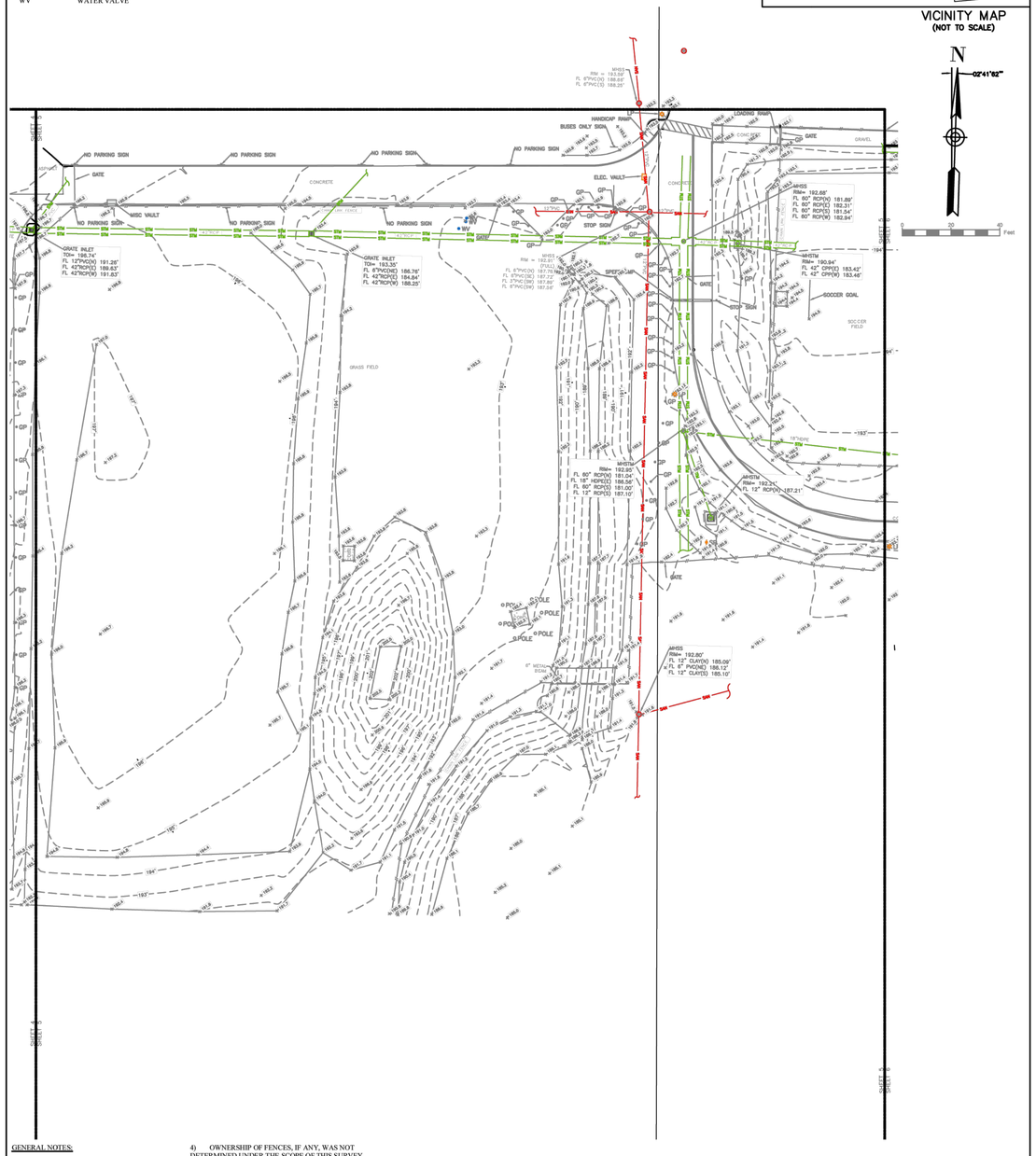
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ABBREVIATIONS:

BO	BOLLARD	GM	GAS METER
MHSTM	MANHOLE STORM	PP	POWER POLE
LP	LIGHT POLE	WM	WATER METER
P	PINE	FH	FIRE HYDRANT
O	OAK	FOCP	FIBER OPTIC CABLE MAKER
SG	SWEET GUM	TPED	TELEPHONE PEDSTAL
H.C.M.R.	HARRIS COUNTY MAP RECORDS	GUT	GUTTER
O.P.R.H.C.T.	OFFICIAL PUBLIC REOCORDS HARRIS COUNTY, TEXAS	FL	FLOWLINE
R.C.P	REINFORCED CONCRETE PIPE	N	NORTH
P.V.C.	POLYCINYL CHLORIDE PIPE	E	EAST
H.D.P.E.	HIGH DENSITY POLYETHYLENE PIPE	S	SOUTH
TEL HH	TELEPHONE HAND HOLE	W	WEST
TEL MRK	TELEPHONE MARKER	PL	PROPERTY LINE
CBL MRK	CABLE MARKER	FNC.	FENCE
C.F.	CLERKS FILE		
T.O.I.	TOP OF INLET		
PBX ELEC	ELECTRIC PULLBOX		
WV	WATER VALVE		



VICINITY MAP
(NOT TO SCALE)



GENERAL NOTES:

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FLOOD INFORMATION:

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STATE OF TEXAS
LEWIS DARCE HARRISON
6795
REGISTERED
LAND SURVEYOR

Lewis Harrison 3/19/2026

RPLS NAME
TEXAS REGISTRATION NUMBER

SHEET LEGEND	DATE	DESCRIPTION	BY
	03/19/2026	ISSUED FOR PERMIT	EXS
	12/05/2025	ISSUED FOR PERMIT	EXS

Design: JB
Drawn: EXS
Check: MT

CATEGORY 6, CONDITION 1 TOPOGRAPHIC SURVEY
TOMBALL HIGHSCHOOL
1100 BAKER DRIVE, TOMBALL, TX 77375

SCALE - PLAN: 1-30'

KCI TECHNOLOGIES, INC.
ENGINEERS - PLANNERS - SURVEYORS
3 RIVERWAY DRIVE - SUITE 1500 - HOUSTON, TEXAS 77056
PHONE: (832) 975-1565 MOBILE: (346) 545-3565 EMAIL: houston@kci.com

OWNER/DEVELOPER:

DATE	REVISION

PBK
www.pbk.com
TX FIRM: BR 1608
HOUSTON, TX
713-865-0008

Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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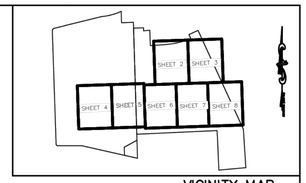
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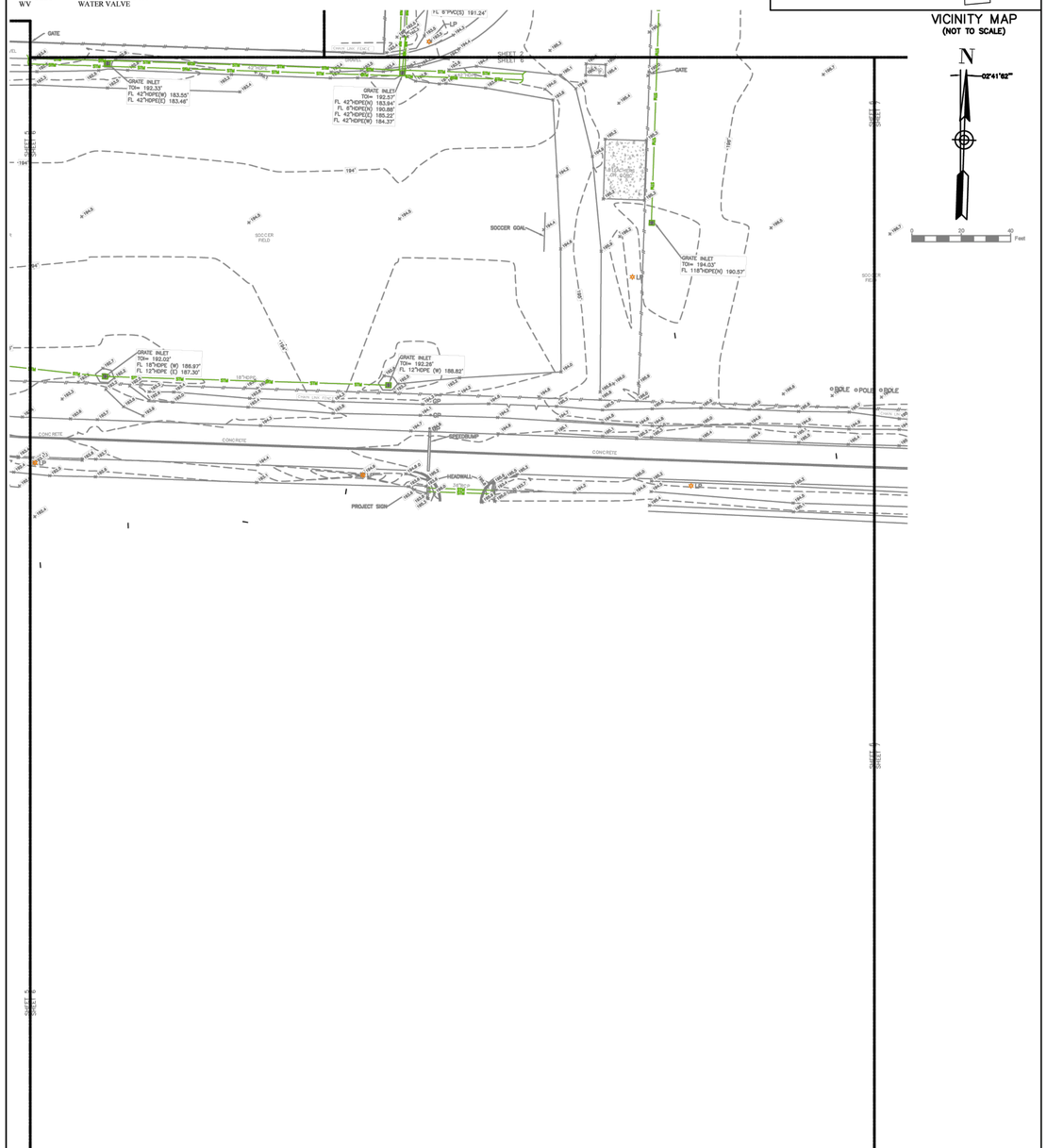
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ABBREVIATIONS:

BO	BOLLARD	GM	GAS METER
MHSTM	MANHOLE STORM	PP	POWER POLE
LP	LIGHT POLE	WM	WATER METER
P	PINE	FH	FIRE HYDRANT
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H.C.M.R.	HARRIS COUNTY MAP RECORDS	GUT	GUTTER
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R.C.P	REINFORCED CONCRETE PIPE	N	NORTH
P.V.C.	POLYCINYL CHLORIDE PIPE	E	EAST
H.D.P.E.	HIGH DENSITY POLYETHYLENE PIPE	S	SOUTH
TEL HH	TELEPHONE HAND HOLE	W	WEST
TEL MRK	TELEPHONE MARKER	PL	PROPERTY LINE
CBL MRK	CABLE MARKER	FNC.	FENCE
C.F.	CLERKS FILE		
T.O.I.	TOP OF INLET		
PBX ELEC	ELECTRIC PULLBOX		
WV	WATER VALVE		



VICINITY MAP
(NOT TO SCALE)



GENERAL NOTES:

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STATE OF TEXAS
LEWIS DARCY HARRISON
6788
REGISTERED PROFESSIONAL
LAND SURVEYOR

Lewis Harrison 3/19/2026

RPLS NAME
TEXAS REGISTRATION NUMBER

SHEET 9

DRAWN	CHECK	SCALE	FIELD BOOK # AND PG	DATE SURVEYED
JW	TLH	1"=30'		10/30/2025

CATEGORY 6, CONDITION 1 TOPOGRAPHIC SURVEY

TOMBALL HIGHSCHOOL

1100 BAKER DRIVE, TOMBALL, TX 77375

30 0 30 60
SCALE - PLAN: 1-30'

KCI TECHNOLOGIES, INC.
ENGINEERS • PLANNERS • SURVEYORS
3 RIVERWAY DRIVE - SUITE 1500 - HOUSTON, TEXAS 77056
PHONE: (832) 975-1565 MOBILE: (346) 545-3565 EMAIL: houston@kci.com

OWNER/DEVELOPER:

DATE	REVISION

PBK
HOUSTON, TX
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TX FIRM: BR 1608
www.pbk.com

Tomball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY:

DRAWN BY:

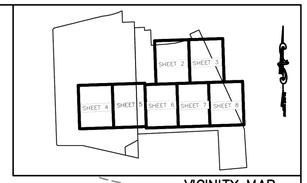
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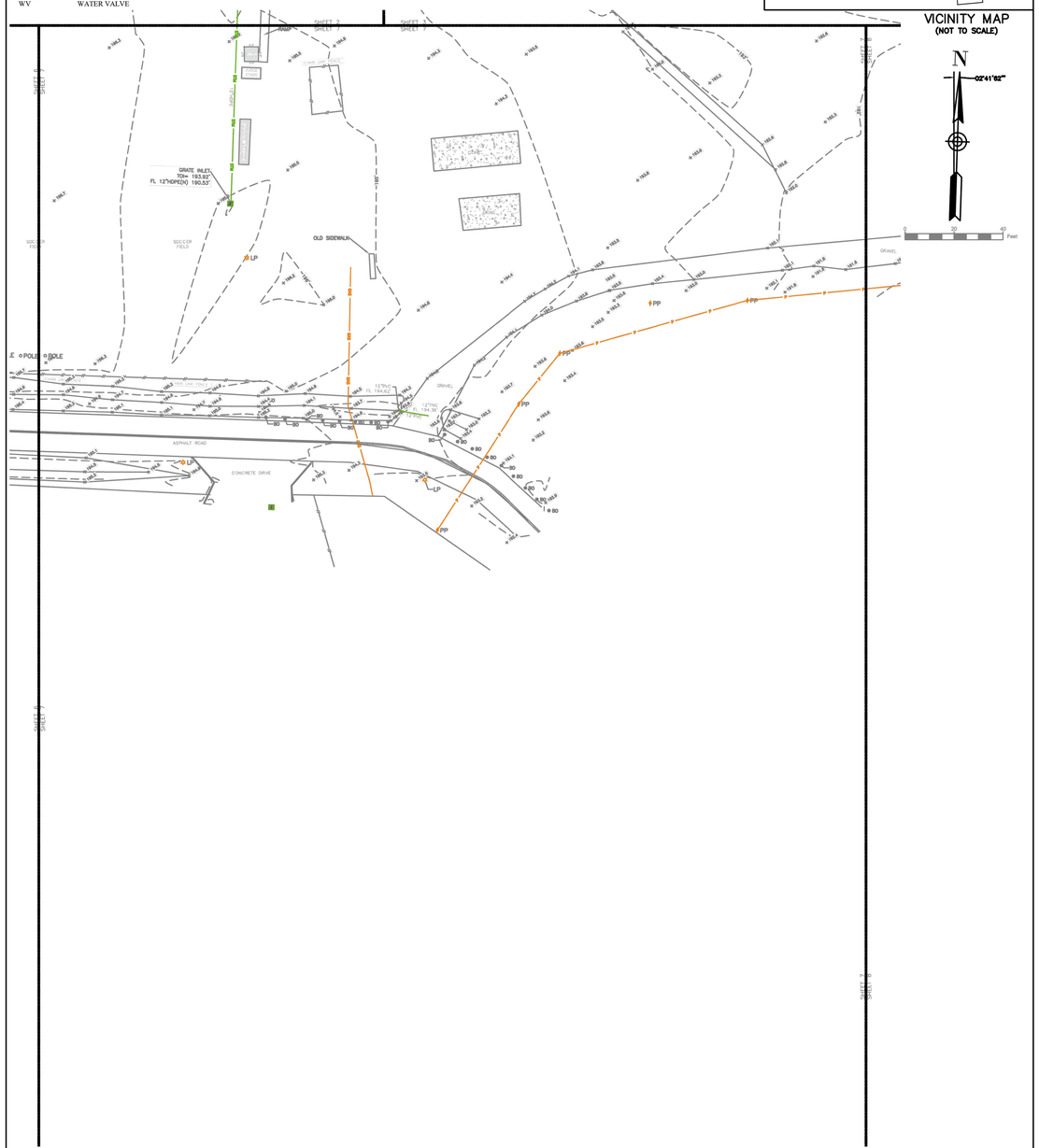
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ABBREVIATIONS:

BO	BOLLARD	GM	GAS METER
MHSTM	MANHOLE STORM	PP	POWER POLE
LP	LIGHT POLE	WM	WATER METER
P	PINE	FH	FIRE HYDRANT
O	OAK	FOCP	FIBER OPTIC CABLE MAKER
SG	SWEET GUM	TPED	TELEPHONE PEDSTAL
H.C.M.R.	HARRIS COUNTY MAP RECORDS	GUT	GUTTER
O.P.R.H.C.T.	OFFICIAL PUBLIC REOCORDS HARRIS COUNTY, TEXAS	FL	FLOWLINE
R.C.P	REINFORCED CONCRETE PIPE	N	NORTH
P.V.C.	POLYCINYL CHLORIDE PIPE	E	EAST
H.D.P.E.	HIGH DENSITY POLYETHYLENE PIPE	S	SOUTH
TEL HH	TELEPHONE HAND HOLE	W	WEST
TEL MRK	TELEPHONE MARKER	PL	PROPERTY LINE
CBL MRK	CABLE MARKER	FNC.	FENCE
C.F.	CLERKS FILE		
T.O.I.	TOP OF INLET		
PBX ELEC	ELECTRIC PULLBOX		
WV	WATER VALVE		





VICINITY MAP
(NOT TO SCALE)

GENERAL NOTES:

1) ALL EASEMENTS AND BUILDING LINES SHOWN HEREON ARE PER RECORD PLAT OF THE SUBJECT PROPERTY AND SURVEYOR RESEARCH. SURVEY WAS PREFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT ADDITIONAL ENCUMBRANCES MAY EXIST THAT COULD BE DISCLOSED IN A CURRENT TITLE REPORT

2) BEARING, DISTANCES AND COORDINATES SHOWN HEREON ARE BASED OFF NORTH AMERICAN DATUM 1983 TEXAS STATE PLANSE COORDINATE SYSTEM, ZONE SOUTH CENTRAL (4204) 2011. COORDINATES AND DISTANCES MAY BE BROUGHT TO SUFEACE VALUE BY APPLYING THE SURFACE ADJUSTMENT FACTOR OF 1.000130.

3) ELEVATION SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 2001 ADJ.. ESTABLISHED FROM REDUNDANT RTK GNSS OBSERVATIONS ADJUSTED TO HARRIS COUNTY FLOOD CONTROL REFRENCE MARK NO. 100360.

4) OWNERSHIP OF FENCES, IF ANY, WAS NOT DETERMINED UNDER THE SCOPE OF THIS SURVEY.

5) CALCULATED SQUARE FOOTAGE OF THE BUILDING DOES NOT ACCOUNT FOR THE THICKNESS OF WALLS AND INTERIOR FRAMING AND IS NOT TO BE USED FOR THE INTERIOR SQUARE FOOTAGE CALCULATION.

6) UNDERGROUND UTILITY INFORMATION DENOTED WITH ** IS DERIVED FROM CITY OF TOMBALL UTILITY MAPPING AS DOES NOT REPRESENT ANY LEVEL SUE DESIGNATION.

FLOOD INFORMATION:

SUBJECT PROPERTY LOCATED IN ZONE X, AREA OF MINIMAL FLOOD HAZARD, PER FIRM 48201C0210L EFFECTIVE DATE JUNE 18, 2007.

This survey substantially complies with the current Texas Society of Professional Surveyors Manual of Practice requirements for a Category 6, Condition 1, Topographic Survey.

STATE OF TEXAS REGISTERED LEWIS BANKS HARRISON 6755 PROFESSIONAL LAND SURVEYOR

Lewis Harrison 3/19/2026

RPLS NAME
TEXAS REGISTRATION NUMBER

SHEET 7

CATEGORY 6, CONDITION 1 TOPOGRAPHIC SURVEY

TOMBALL HIGHSCHOOL

1100 BAKER DRIVE, TOMBALL, TX 77375

SCALE - PLAN: 1-30'

KCI TECHNOLOGIES, INC.

ENGINEERS • PLANNERS • SURVEYORS
3 RIVERWAY DRIVE - SUITE 1500 - HOUSTON, TEXAS 77056
PHONE: (832) 975-1565 MOBILE: (346) 545-1565 EMAIL: houston@kci.com

OWNER/DEVELOPER:

DATE	REVISION

PBK

www.pbk.com

TX FIRM: BR 1608

HOUSTON, TX
713-865-0600

Tomball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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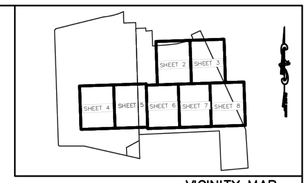
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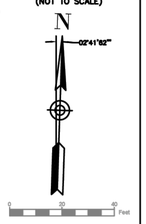
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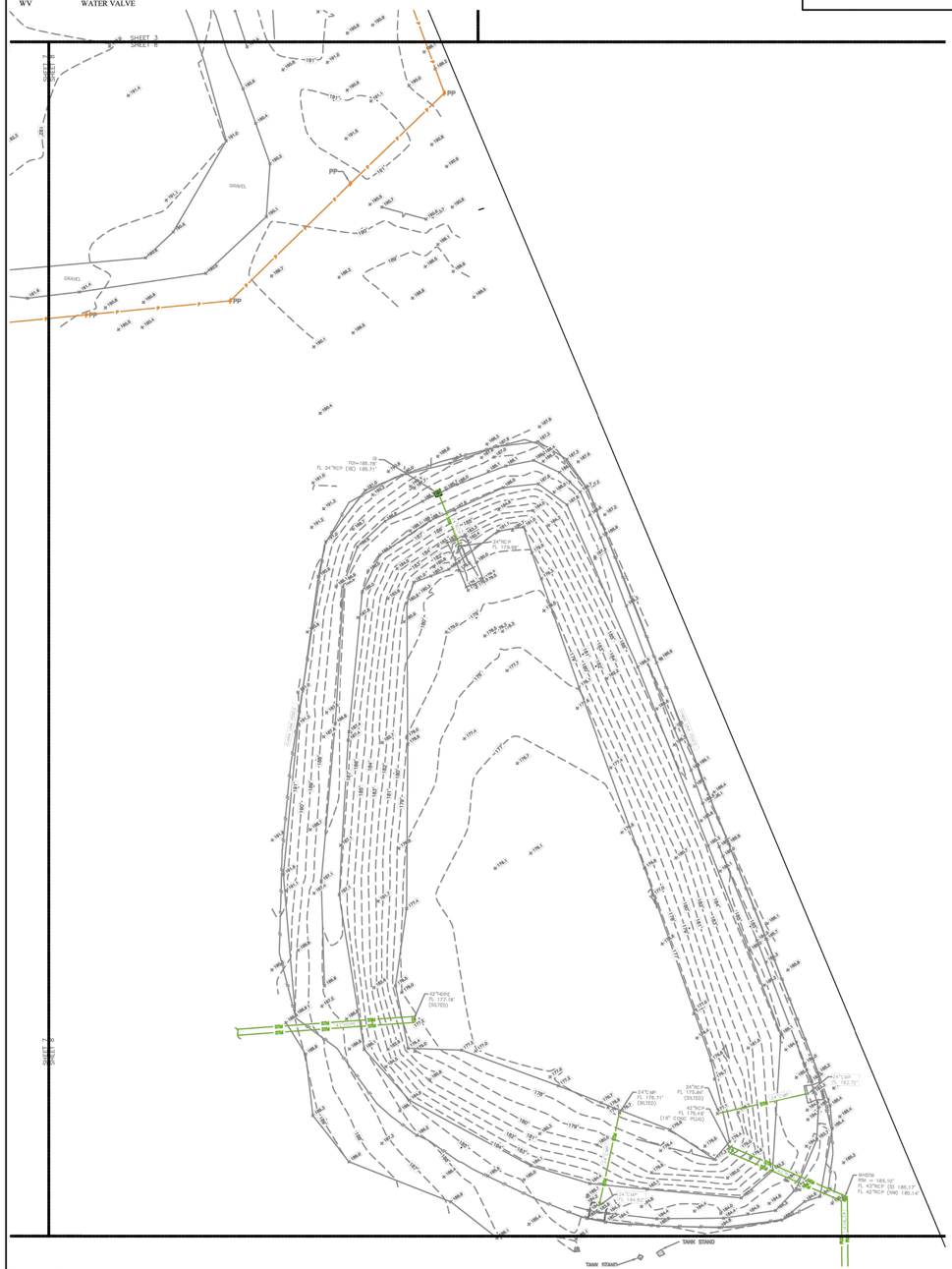
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O.P.R.H.C.T.	OFFICIAL PUBLIC REOCORDS HARRIS COUNTY, TEXAS	FL	FLOWLINE
R.C.P	REINFORCED CONCRETE PIPE	N	NORTH
P.V.C.	POLYCINYL CHLORIDE PIPE	E	EAST
H.D.P.E.	HIGH DENSITY POLYETHYLENE PIPE	S	SOUTH
TEL HH	TELEPHONE HAND HOLE	W	WEST
TEL MRK	TELEPHONE MARKER	PL	PROPERTY LINE
CBL MRK	CABLE MARKER	FNC.	FENCE
C.F.	CLERKS FILE		
T.O.I.	TOP OF INLET		
PBX ELEC	ELECTRIC PULLBOX		
WV	WATER VALVE		



VICINITY MAP
(NOT TO SCALE)





GENERAL NOTES:

1) ALL EASEMENTS AND BUILDING LINES SHOWN HEREON ARE PER RECORD PLAT OF THE SUBJECT PROPERTY AND SURVEYOR RESEARCH. SURVEY WAS PREFORMED WITHOUT THE BENEFIT OF A TITLE COMMITMENT ADDITIONAL ENCUMBRANCES MAY EXIST THAT COULD BE DISCLOSED IN A CURRENT TITLE REPORT

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Lewis Harrison
RPLS NAME
TEXAS REGISTRATION NUMBER

3/19/2026

STATE OF TEXAS
LEWIS BANKS HARRISON
4788
REGISTERED
LAND SURVEYOR

SHEET 8 OF 8

CATEGORY 6, CONDITION 1 TOPOGRAPHIC SURVEY

TOMBALL HIGHSCHOOL

1100 BAKER DRIVE, TOMBALL, TX 77375

SCALE - PLAN: 1-30'

KCI TECHNOLOGIES, INC.

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OWNER/DEVELOPER:

DATE	REVISION

PBK

www.pbk.com

TX FIRM: BR 1608

HOUSTON, TX
713-865-0008

Tomball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

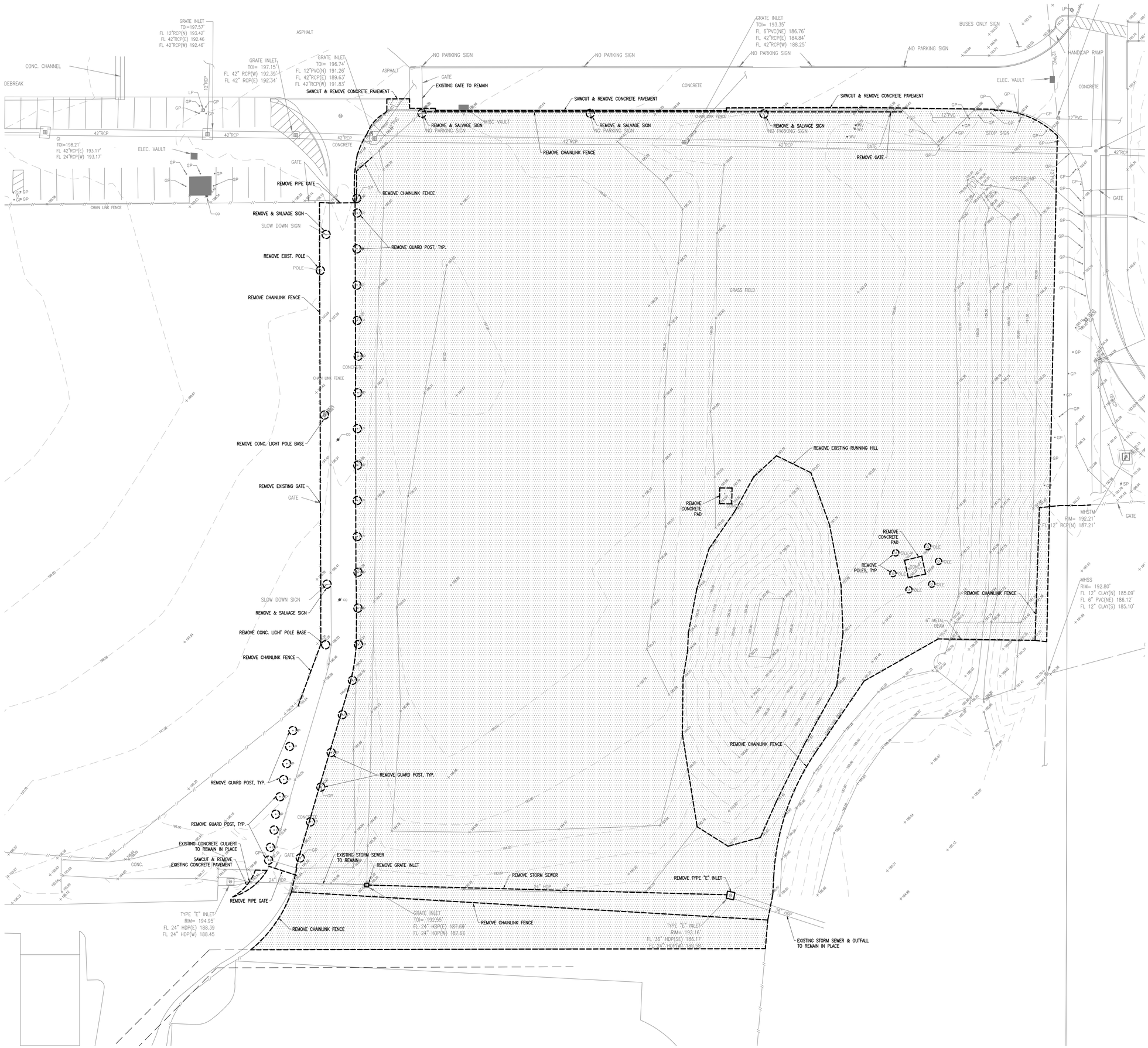
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SURVEY (FOR INFORMATION ONLY)

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Tuesday, September 29, 2026 11:25:26 AM



NOTES TO SHEET

1. CONTRACTOR SHALL TAKE EXTREME PRECAUTION TO PROTECT EXISTING FACILITIES AND INFRASTRUCTURE DURING CONSTRUCTION.

LEGEND

REMOVE EXISTING SOD, ROOT ZONE MATERIAL, AND IRRIGATION SYSTEM WITHIN THE PROPOSED PROJECT EXTENTS TO THE PROPOSED ELEVATION, CAP IRRIGATION AT MAIN OUTSIDE OF PROJECT AREA.

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TX FIRM: BR 1608

HOUSTON, TX
713-862-0008

Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

TRACE C. CRYER
143668
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

10/30/2026

DG ENGINEERS
F-18326

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

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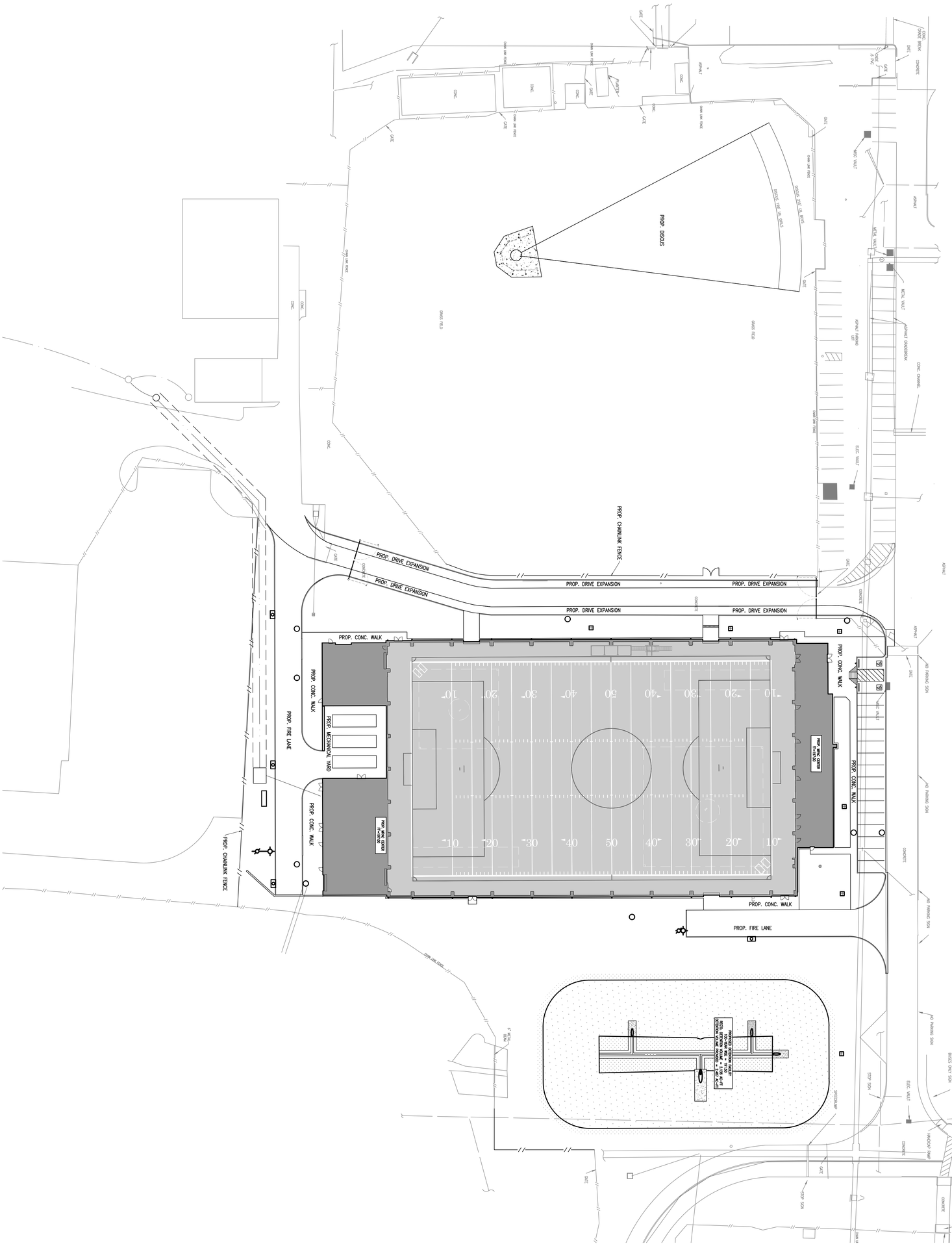
DEMOLITION PLAN

C 003

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C 100

OVERALL SITE PLAN

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No.	Description	Date
DRAWING HISTORY		

CLIENT	TOMBALL ISD
PROJECT NUMBER	25046901
DATE	10/30/2026

TBG ENGINEERS F-18326

TRACE C. CRYER 143668 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

10/30/2026

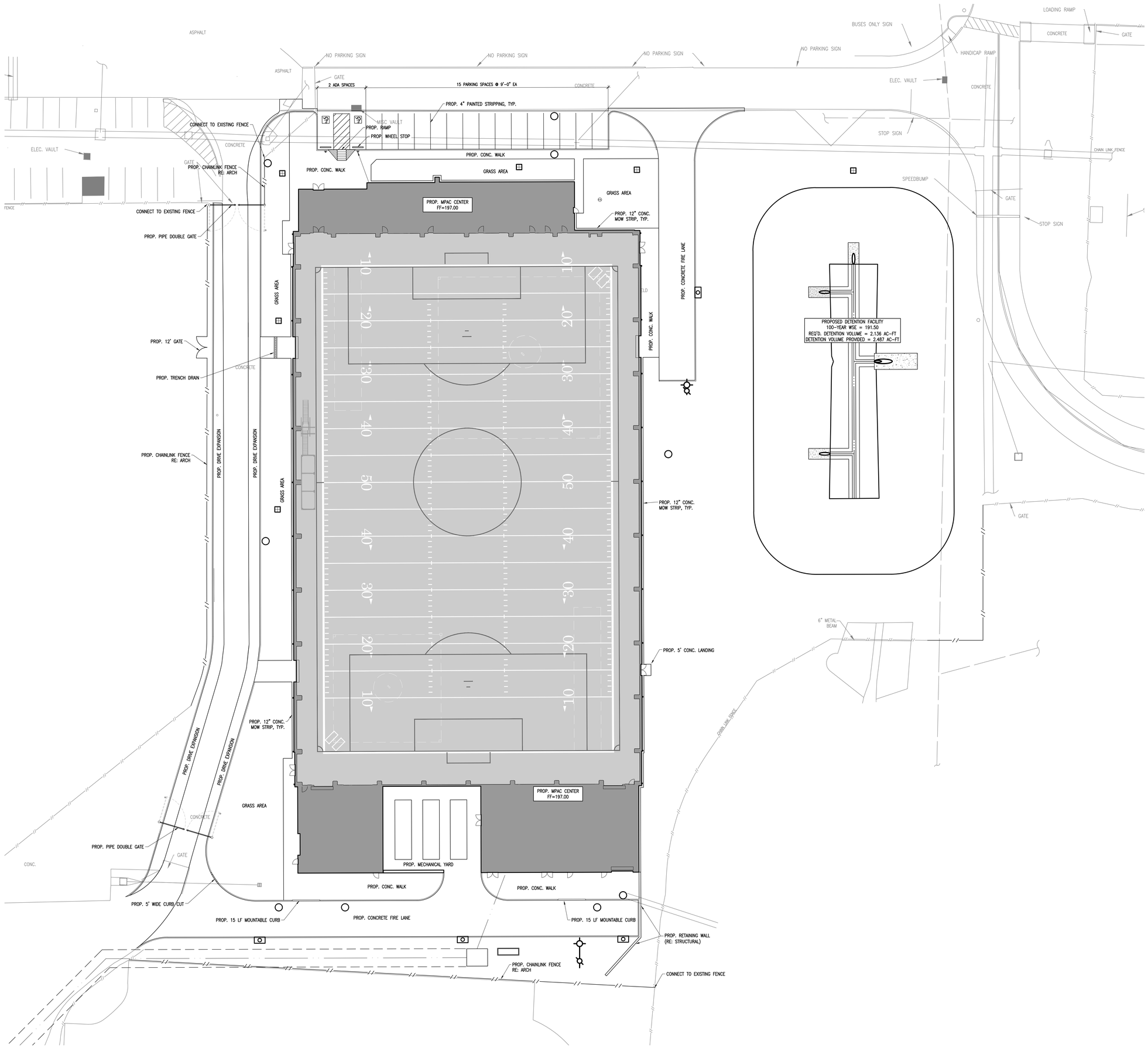
Tomball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

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HOUSTON, TX 713-965-0608 | TX FIRM: BR 1608 | www.pbk.com



NORTH

10 0 20 40

NOTES TO SHEET

1. ALL PROPOSED CHAIN LINK FENCING IS TO CONNECT TO EXISTING CHAIN LINK FENCING WHERE APPLICABLE.

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Tomball ISD-Multi-Program Activity Center- Tomball High School

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ISSUED FOR PROPOSAL

TRACE C. CRYER
143668
LICENSED
PROFESSIONAL ENGINEER
10/30/2026
DG ENGINEERS
F-18326

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

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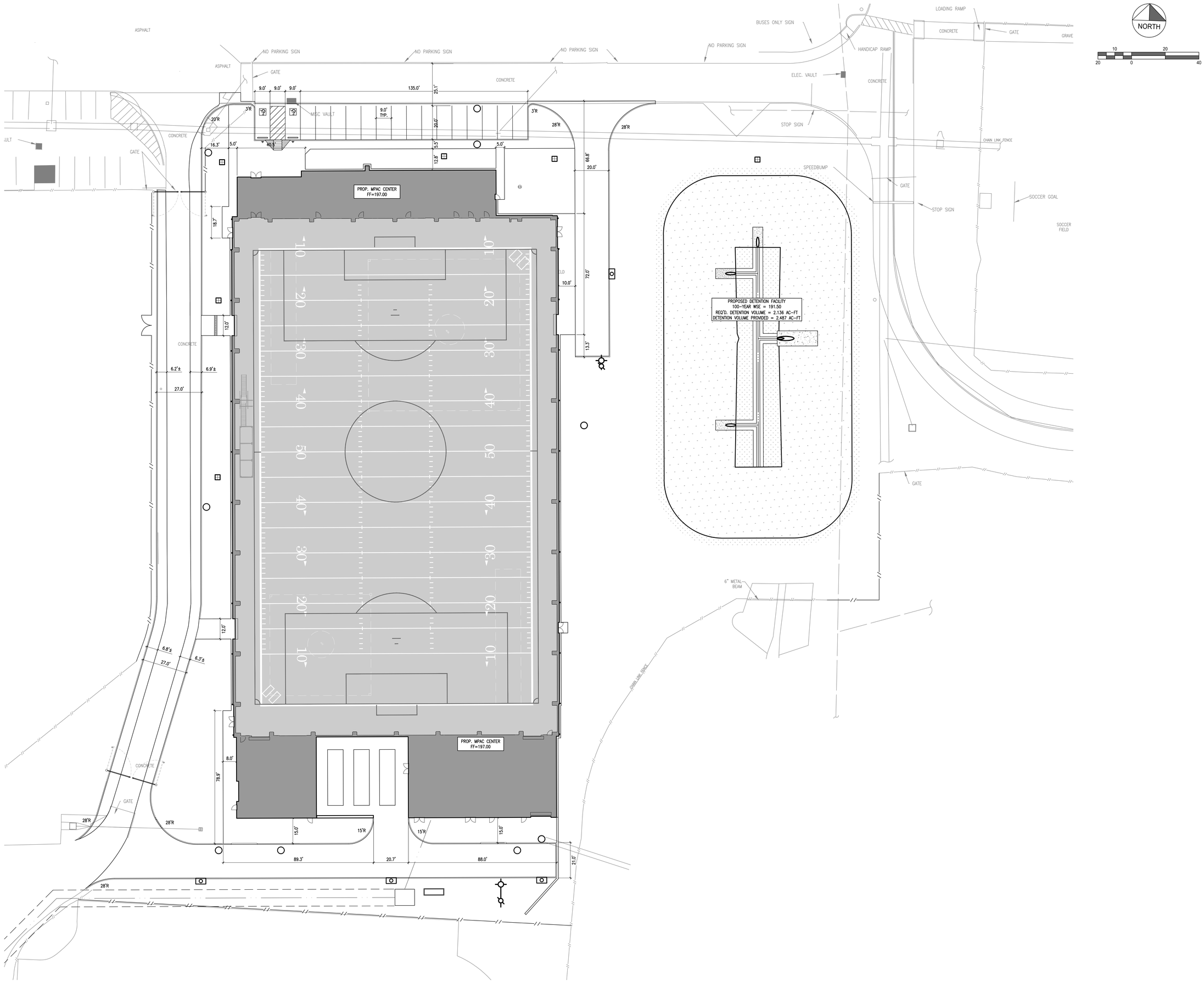
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SITE PLAN

C 101



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ISSUED FOR PROPOSAL

TRACE C. CRYER
143668
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS
10/30/2026

DJG ENGINEERS
F-18326

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

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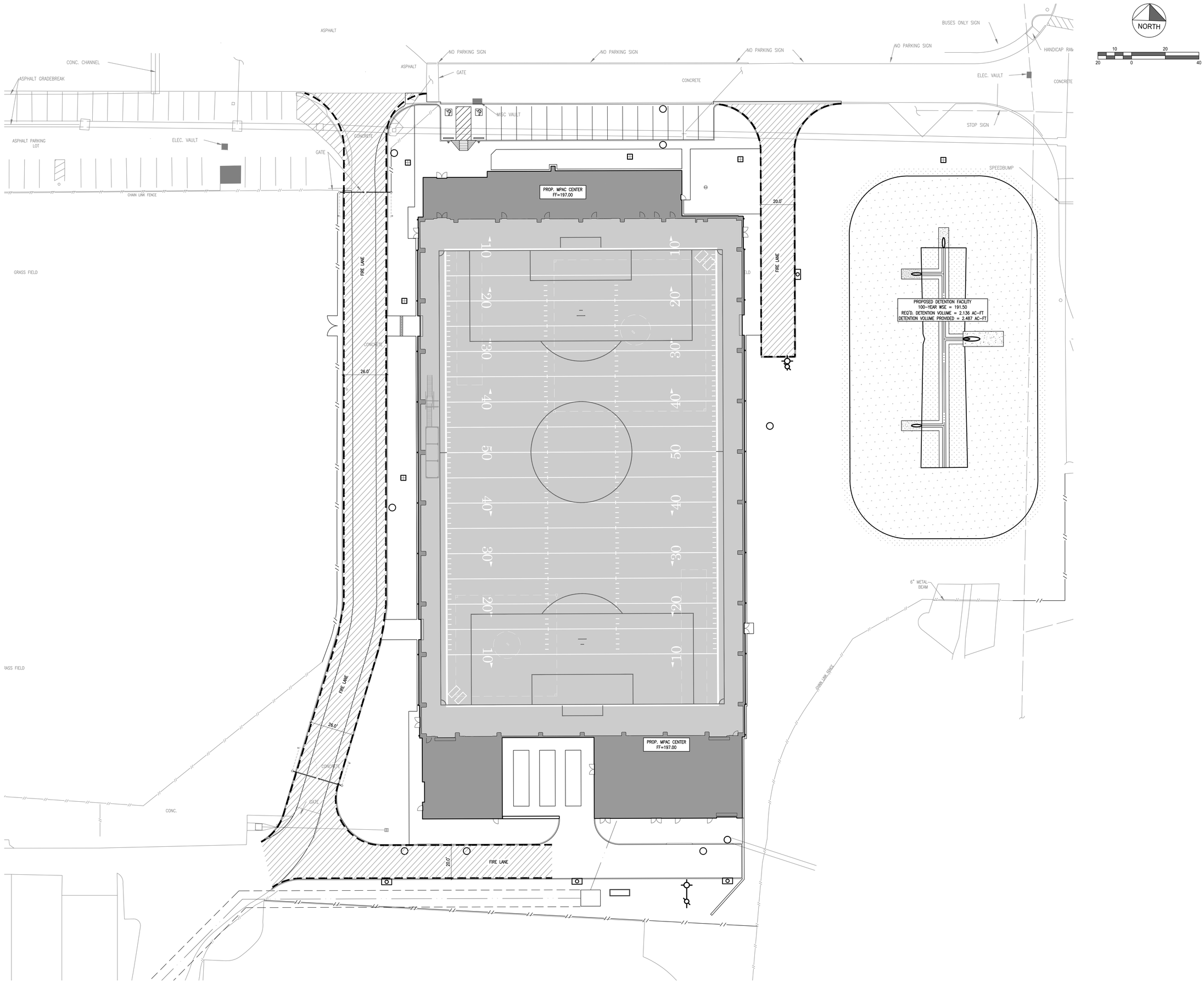
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DIMENSIONAL CONTROL PLAN

C 102



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Tomball ISD-Multi-Program Activity Center- Tomball High School

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ISSUED FOR PROPOSAL

TRACE C. CRYER
143668
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

DG ENGINEERS
F-18326

10/30/2026

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

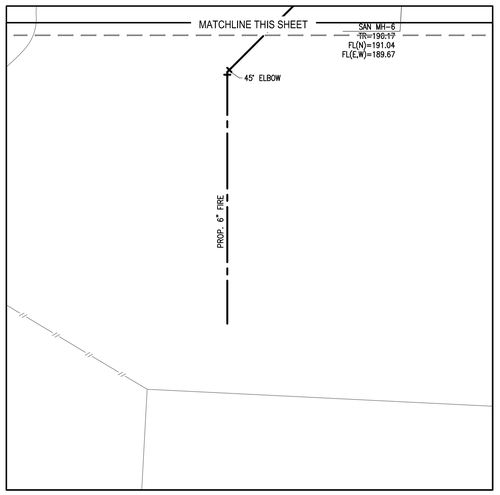
No.	Description	Date

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FIRE APPARATUS PLAN

C 103



NORTH

10 0 20 20 0 40

LEGEND

FL	FLOW LINE
TR	TOP OF RIM
MH-X	MANHOLE
GV	GATE VALVE
DOM	DOMESTIC

NOTES TO SHEET

1. CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS FOR ALL PIPE CONNECTIONS.
2. CONTRACTOR SHALL ENSURE THAT UTILITY FLOWLINES AT BUILDING CONNECTIONS MEET THE REQUIRED ELEVATIONS SHOWN ON THESE DRAWINGS. REFER TO THE M.E.P. SHEETS FOR EXACT LOCATIONS OF CONNECTIONS AT THE BUILDING..
3. PLACE 1 FULL SECTION (MIN. 18') OF 3" PLUS O.D. OF PROPOSED DUCTILE IRON WATER LINE CENTERED AT EACH SANITARY PIPE CROSSING. PROVIDE RESTRAINED MECHANICAL JOINTS ON THE WATER LINE, SPACED AT LEAST 9' HORIZONTALLY FROM CENTERLINE OF SANITARY.
4. DUCTILE IRON PIPE SHALL BE DESIGNED IN ACCORDANCE WITH ANSI STANDARD A21.50 (AWWA C-151), OR THE LATEST REVISION THEREOF. DUCTILE IRON PIPE SHALL BE PRESSURE RATED FOR 200 PSI MINIMUM.
5. PLACE 1 FULL SECTION (MIN. 18') OF 3" PLUS O.D.OF PROPOSED C-900 PVC SANITARY PIPE CENTERED AT EACH WATER LINE CROSSING. PROVIDE RESTRAINED MECHANICAL JOINTS ON THE PRESSURE-RATED SANITARY PIPE, SPACED AT LEAST 9' HORIZONTALLY FROM CENTERLINE OF WATER LINE.
6. PRESSURE-RATED SANITARY PIPE SHALL CONFORM TO ALL REQUIREMENTS OF ASTM C900 - DR 18, CLASS 150 PIPE. ALL FITTINGS SHALL BE CAST IRON OR DUCTILE IRON AND SHALL CONFORM TO THE LATEST EDITION OF AWWA SPECIFICATIONS. SEE ADDITIONAL FITTING REQUIREMENTS IN SPECIFICATION SECTION 33 11 00.
7. SANITARY-WATER CROSSINGS SHALL FULLY COMPLY WITH LATEST TCEQ AND TEXAS ADMINISTRATIVE CODE STANDARDS AND REQUIREMENTS.
8. CONTRACTOR SHALL PROVIDE A MINIMUM OF 6" (SIX INCHES) VERTICAL CLEARANCE AT STORM SEWER AND WATER LINE CROSSINGS AND AT STORM SEWER AND SANITARY SEWER CROSSINGS
9. CONTRACTOR SHALL PROVIDE A MINIMUM OF 24" (TWENTY-FOUR INCHES) VERTICAL CLEARANCE AND 9' HORIZONTAL CLEARANCE WHEN RUNNING PARALLEL AT WATER LINE AND SANITARY SEWER CROSSINGS.
10. ALL NEWLY INSTALLED WATER LINES AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARD 61 AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.
11. PLASTIC PIPE FOR WATER LINES 4" AND LARGER SHALL CONFORM TO ALL REQUIREMENTS OF AWWA C900 - DR 18, CLASS 150. 2", 2-1/2" AND 3" WATER LINES SHALL CONFORM TO ALL REQUIREMENTS OF ASTM D-2241 FOR PVC PIPE AND BE PRESSURE RATED AT 200 P.S.I. WITH A STANDARD DIMENSION RATIO (SDR) OF 21 FOR BOTH BARREL AND BELL DIMENSIONS. WATER LINES SMALLER THAN 2" SHALL CONFORM TO ALL REQUIREMENTS OF SCHEDULE 40.
12. ALL WATER MAINS TO HAVE A MINIMUM OF 4' (FOUR FEET) OF COVER FROM PROPOSED TOP OF CURB WHEN CONSTRUCTED IN STREET RIGHT-OF- WAY AND 4' (FOUR FEET) OF COVER FROM FINISHED GRADE WHEN CONSTRUCTED WITHIN EASEMENTS.
13. WHERE WATER LINES AND NEW SANITARY SEWER LINES ARE INSTALLED WITH A SEPARATION DISTANCE CLOSER THAN NINE FEET THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC §217.53(D) OR 30 TAC §290.44(E). THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 6" (SIX INCHES) VERTICAL CLEARANCE AT STORM SEWER AND WATER LINE CROSSINGS AND A MINIMUM OF 24" (TWENTY-FOUR INCHES) VERTICAL CLEARANCE AT WATER LINE AND SANITARY SEWER CROSSINGS.
14. THE CONTRACTOR SHALL THOROUGHLY DISINFECT ALL WATER LINES AFTER INSTALLATION IN ACCORDANCE WITH AWWA C-651 AND THEN FLUSH AND SAMPLE THE LINES BEFORE PLACING THEM INTO SERVICE. THE CONTRACTOR WILL COLLECT A MINIMUM OF 1 (ONE) SAMPLE FOR EVERY 1,000 (ONE THOUSAND) FEET OF WATER LINE AND PROVIDE THE SAMPLE TO AN APPROVED TESTING LAB FOR MICROBIOLOGICAL ANALYSIS. THIS PROCESS SHALL BE REPEATED UNTIL THE SAMPLES MEET THE REQUIREMENTS OF THE TEXAS STATE DEPARTMENT OF HEALTH AND MUD/CITY REQUIREMENTS.
15. THE CONTRACTOR SHALL HYDROSTATICALLY TEST ALL WATER LINES AT 125 (ONE HUNDRED-TWENTY FIVE) PSI FOR A PERIOD OF 8 (EIGHT) HOURS.
16. ALL FIRE HYDRANT LEADS ARE TO BE 6" (SIX INCHES) PER DETAILS UNLESS OTHER WISE NOTED.

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TX FIRM: BR 1608

HOUSTON, TX
713-865-0008

Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL





ENGINEERS F-18326

10/30/2026

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

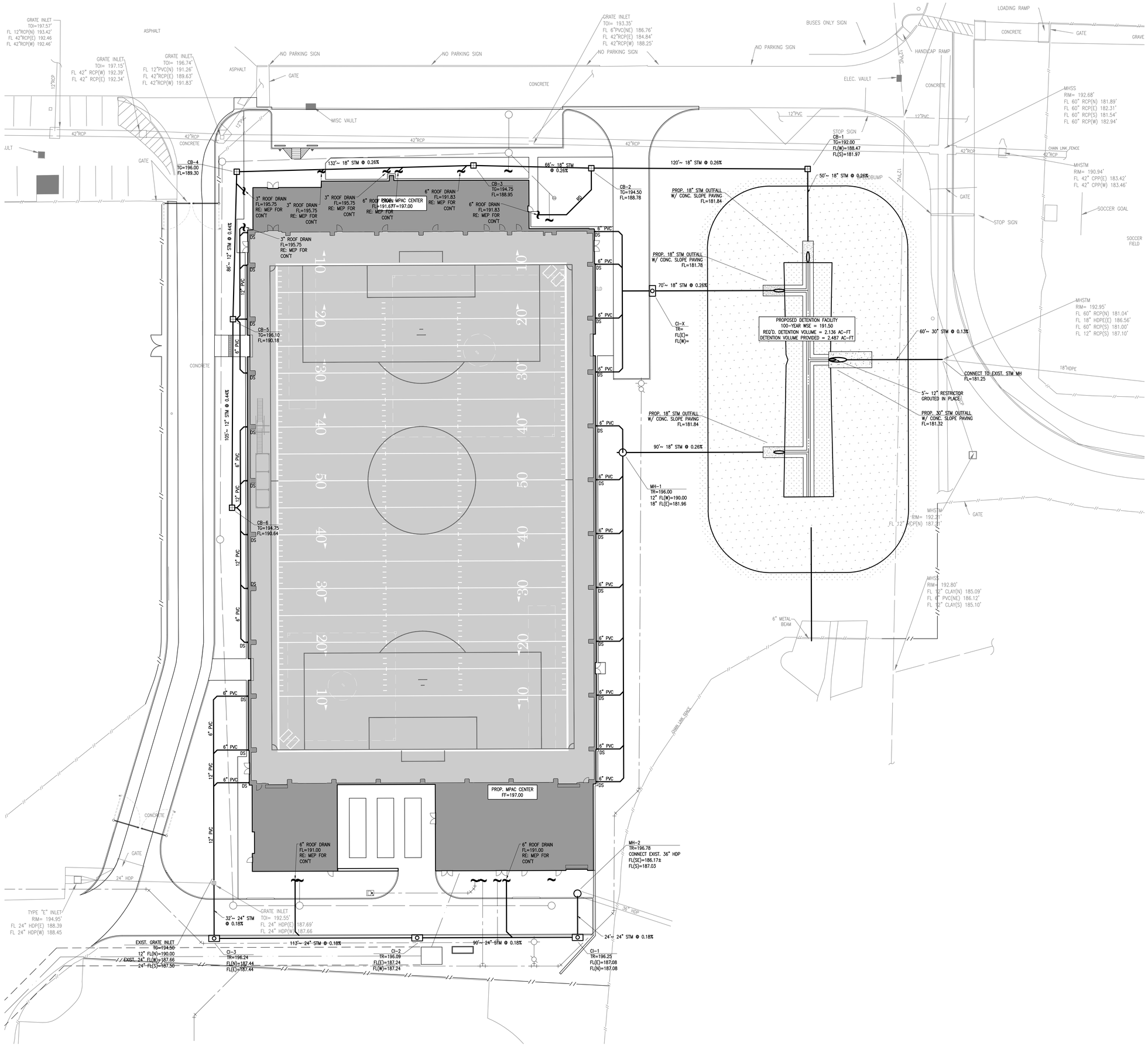
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UTILITY PLAN

C 201

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HOUSTON, TX
713-865-0008

Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

STATE OF TEXAS
TRACE C. CRYER
143668
LICENSED PROFESSIONAL ENGINEER
10/30/2026

DG ENGINEERS
F-18326

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
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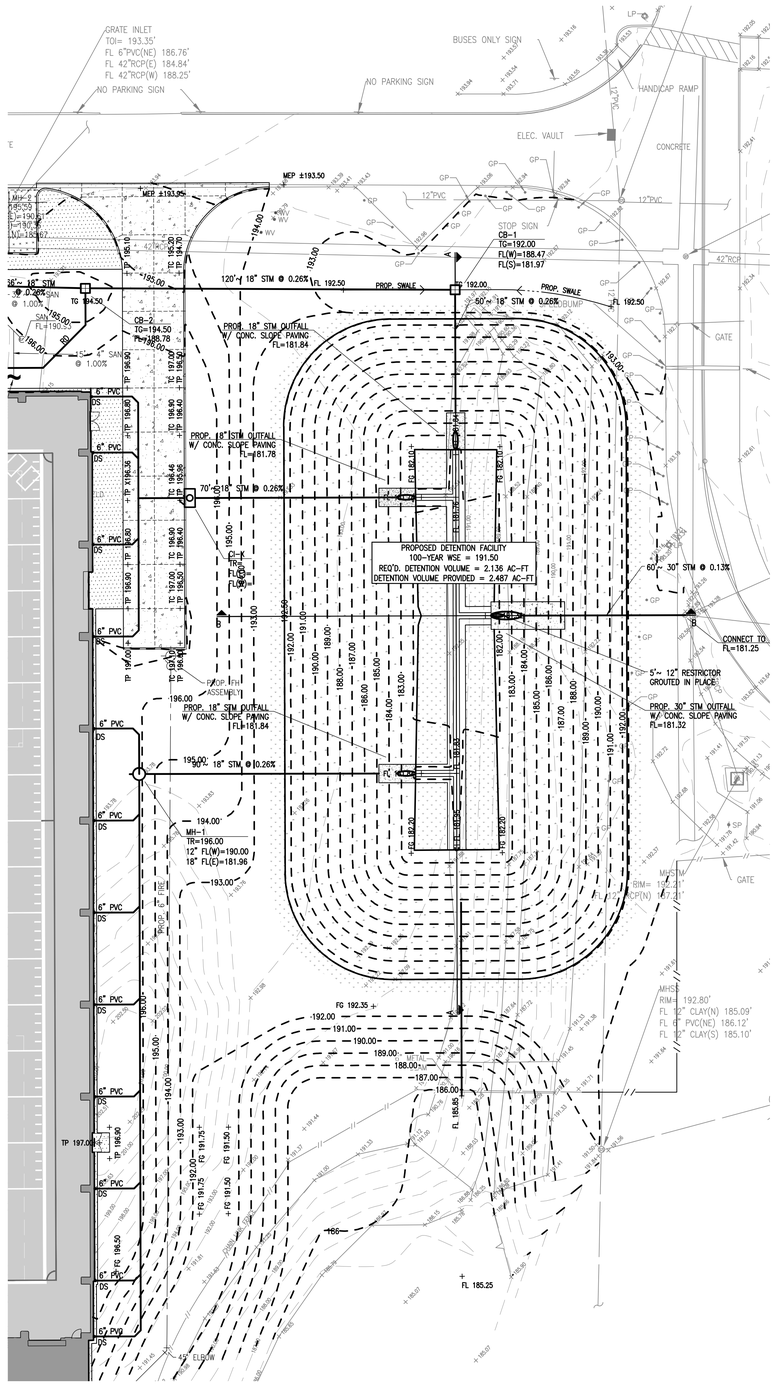
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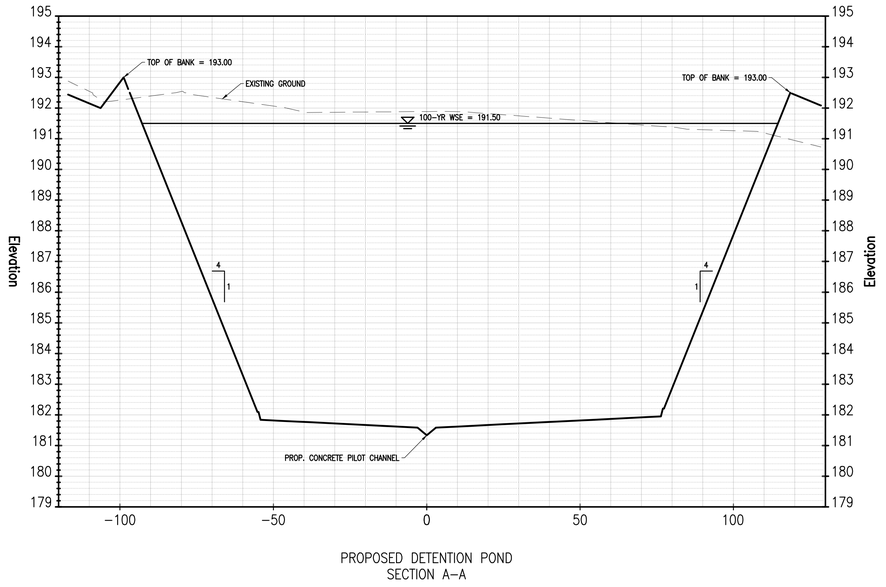
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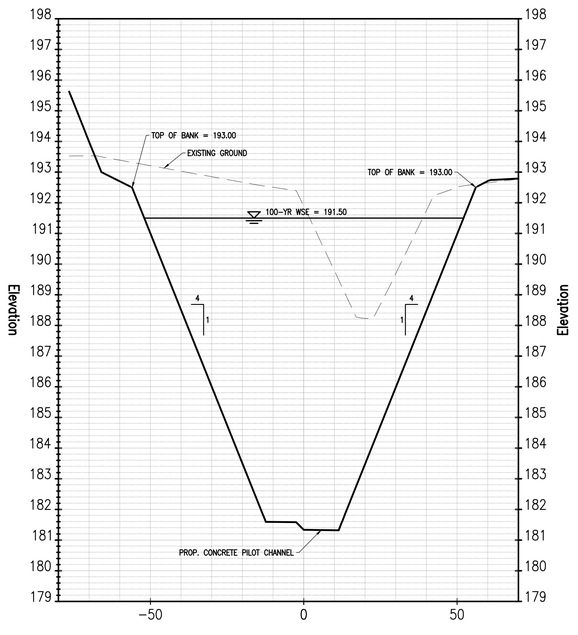
DRAINAGE PLAN

C 301





PROPOSED DETENTION POND
SECTION A–A



PROPOSED DETENTION POND
SECTION B–B

NORTH

10 0 20
20 0 40

NOTES TO SHEET

1. PROPOSED STORMWATER DETENTION HAS BEEN DESIGNED IN ACCORDANCE TO THE CITY OF TOMBALL DRAINAGE DESIGN MANUAL (MARCH 2025), CHAPTER III, SECTION H.
2. CONTRACTOR SHALL MAINTAIN POND THROUGHOUT DURATION OF PROJECT CONSTRUCTION. POND MUST BE CLEANED AND FREE OF EROSION/DEBRIS/TRASH BEFORE FINAL APPROVAL AND ACCEPTANCE.
3. CONTRACTOR SHALL INSTALL MINIMUM 4' WIDE SOD STRIP AND HYDROMULCH DISTURBED AREAS AS REQUIRED PER PLANS TO PROTECT AGAINST EROSION.
4. CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY OF POND, SIGNED & SEALED BY A REGISTERED LAND SURVEYOR FOR DETENTION VOLUME VERIFICATION UPON COMPLETION.

LEGEND

TC	TOP OF CURB
FL	FLOW LINE
TP	TOP OF PAVEMENT
TR	TOP OF RIM
TG	TOP OF GRATE
A - X	AREA INLET
ID - X	INLINE DRAIN
CB - X	CATCH BASIN

FLEXTERRA HYDROMULCH OVER TOPSOIL

SOLID SODDED WITH BIG ROLL SOD (COMMON BERMUDA)

	Total Area	Pervious Area	Impervious Area	% Impervious
Existing	4.00 acre	3.83 acre	0.17 acre	4.36%
Proposed	4.00 acre	1.08 acre	2.92 acre	73.04%
		Increase in Impervious :	2.75 acre	68.68%

Peak Discharges			
	2-yr (50%)	10-yr (10%)	100-yr (1%)
Existing	Q_P = 5.09 cfs	Q_P = 7.96 cfs	Q_P = 12.83 cfs
Proposed	Q_P = 9.91 cfs	Q_P = 15.50 cfs	Q_P = 25.83 cfs

STAGE STORAGE TABLE

WATER SURFACE ELEV.	WATER DEPTH (ft)	AREA (sq. ft.)	CONIC INC. VOL. (cu. ft.)	CONIC TOTAL VOL. (cu. ft.)	CONIC TOTAL VOL. (AC-FT.)
181.50	0.00	29.12	0.00	0.00	0.00
181.75	0.25	238.10	29.21	29.21	0.00
182.00	0.50	2,358.08	278.79	308.00	0.01
182.25	0.75	4,012.98	787.27	1,095.27	0.03
182.50	1.00	4,342.75	1,044.20	2,139.46	0.05
182.75	1.25	4,679.29	1,127.49	3,266.96	0.07
183.00	1.50	5,022.59	1,212.48	4,479.44	0.10
183.25	1.75	5,372.66	1,299.16	5,778.60	0.13
183.50	2.00	5,729.49	1,387.53	7,166.13	0.16
183.75	2.25	6,093.09	1,477.59	8,643.72	0.20
184.00	2.50	6,463.45	1,569.34	10,213.06	0.23
184.25	2.75	6,840.58	1,662.78	11,875.84	0.27
184.50	3.00	7,224.48	1,757.91	13,633.75	0.31
184.75	3.25	7,615.14	1,854.74	15,488.49	0.36
185.00	3.50	8,012.57	1,953.25	17,441.74	0.40
185.25	3.75	8,416.76	2,053.46	19,495.20	0.45
185.50	4.00	8,827.72	2,155.36	21,650.56	0.50
185.75	4.25	9,245.44	2,258.94	23,909.50	0.55
186.00	4.50	9,669.94	2,364.22	26,273.73	0.60
186.25	4.75	10,101.21	2,471.20	28,744.93	0.66
186.50	5.00	10,539.23	2,579.86	31,324.79	0.72
186.75	5.25	10,984.02	2,690.21	34,015.00	0.78
187.00	5.50	11,435.57	2,802.26	36,817.26	0.85
187.25	5.75	11,893.89	2,915.99	39,733.26	0.91
187.50	6.00	12,358.97	3,031.42	42,764.68	0.98
187.75	6.25	12,830.82	3,148.54	45,913.22	1.05
188.00	6.50	13,309.46	3,267.35	49,180.57	1.13
188.25	6.75	13,794.84	3,387.86	52,568.43	1.21
188.50	7.00	14,286.99	3,510.05	56,078.47	1.29
188.75	7.25	14,785.92	3,633.94	59,712.41	1.37
189.00	7.50	15,291.60	3,759.51	63,471.92	1.46
189.25	7.75	15,804.05	3,886.78	67,358.70	1.55
189.50	8.00	16,323.26	4,015.74	71,374.44	1.64
189.75	8.25	16,849.24	4,146.39	75,520.83	1.73
190.00	8.50	17,381.99	4,278.73	79,799.56	1.83
190.25	8.75	17,921.50	4,412.76	84,212.33	1.93
190.50	9.00	18,467.77	4,548.49	88,760.81	2.04
190.75	9.25	19,020.84	4,685.91	93,446.72	2.15
191.00	9.50	19,580.65	4,825.02	98,271.74	2.26
191.25	9.75	20,147.23	4,965.82	103,237.55	2.37
191.50	10.00	20,720.57	5,108.31	108,345.86	2.49
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		TOTAL DETENTION VOLUME PROVIDED =	108345.86 CFT		2.4873 AC-FT

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713-865-0008

Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

TRACE C. CRYER
143668
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

10/30/2026

DIG ENGINEERS
F-18326

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY:

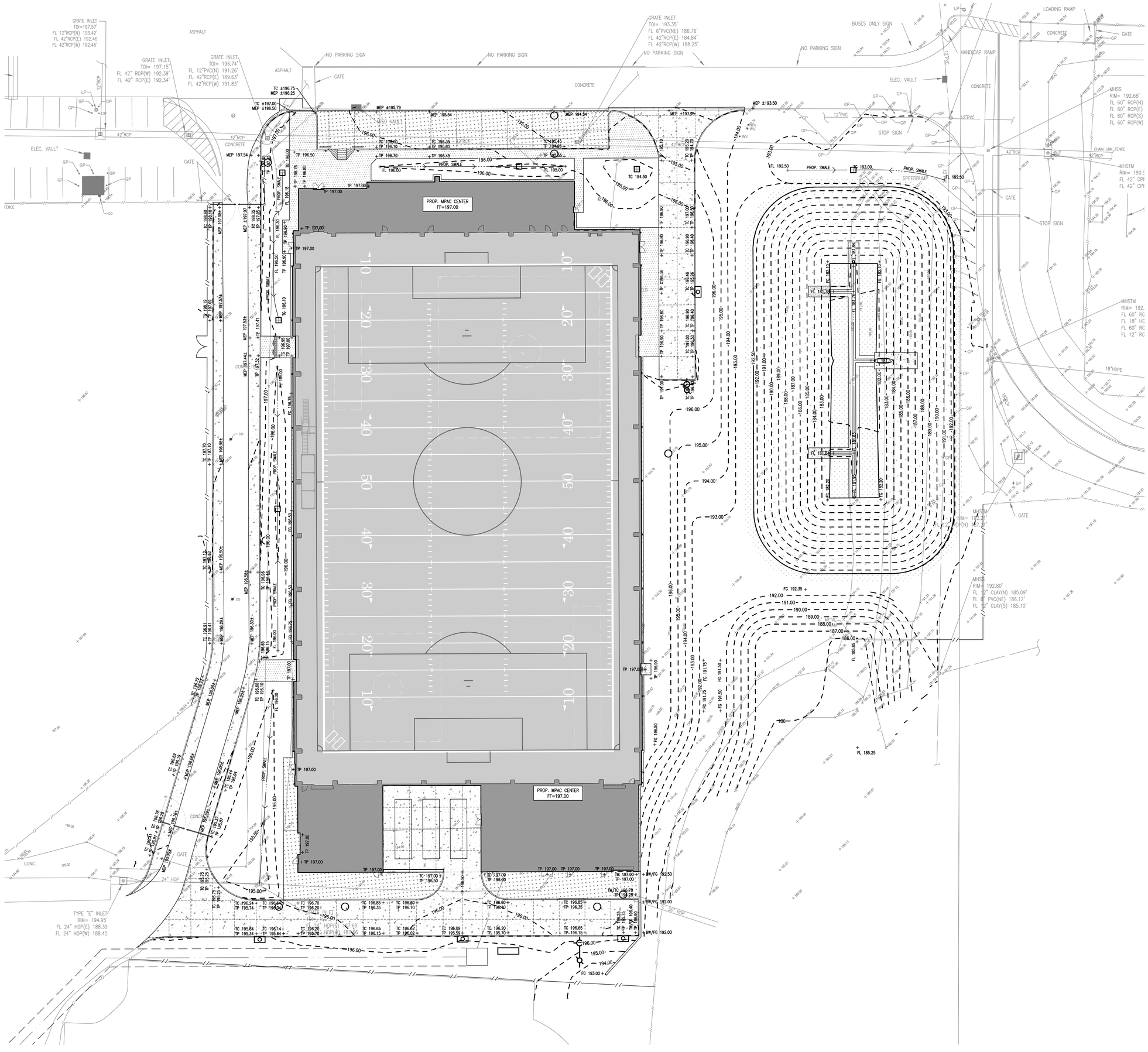
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DETENTION PLAN

C 302

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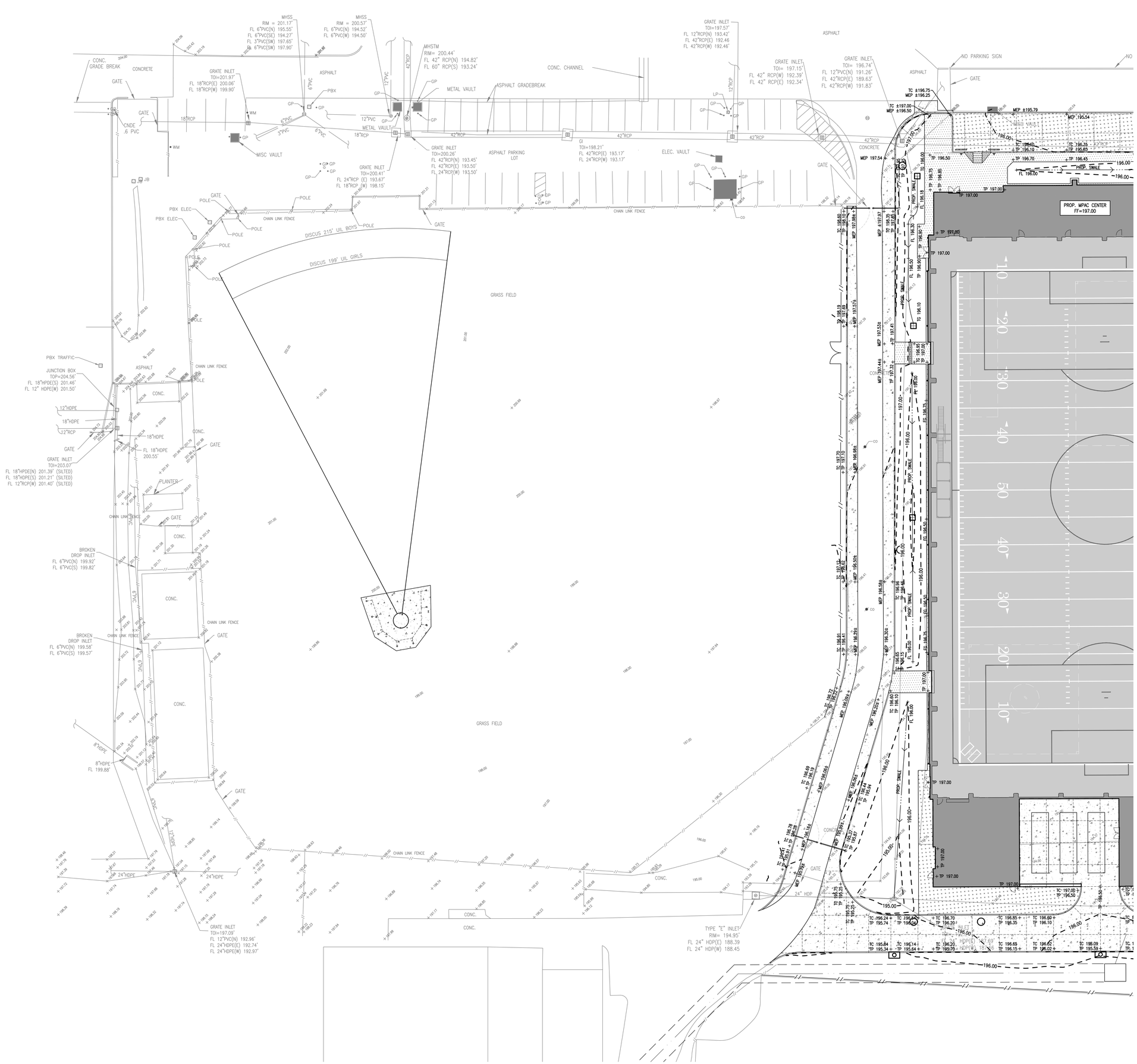
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GRADING & PAVING PLAN

C 401

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TRACE C. CRYER 143668 LICENSED PROFESSIONAL ENGINEER

DIG ENGINEERS F-18326

10/30/2026

CLIENT	
TOMBALL ISD	
DATE 10/30/2026	PROJECT NUMBER 25046901

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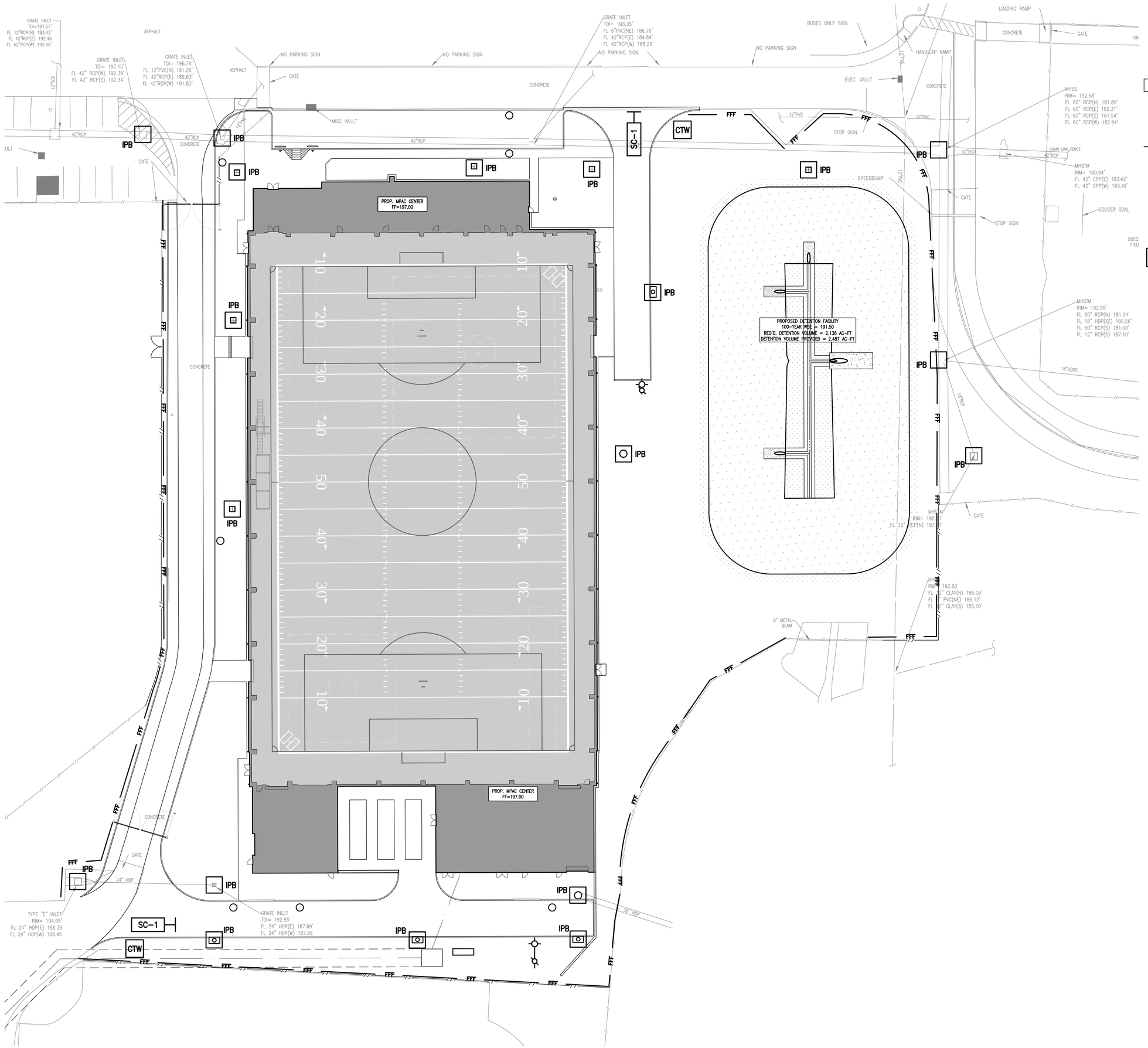
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GRADING & PAVING PLAN

C 402



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143668
LICENSED PROFESSIONAL ENGINEER
10/30/2026
DIG ENGINEERS
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DATE	PROJECT NUMBER
10/30/2026	25046901

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EROSION CONTROL PLAN

C 501

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13 NOT USED

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11 NOT USED

10 NOT USED

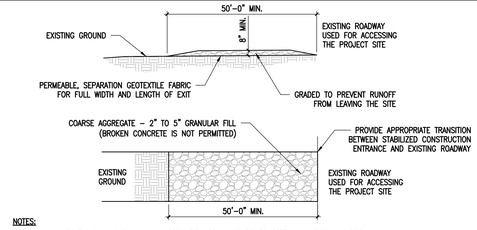
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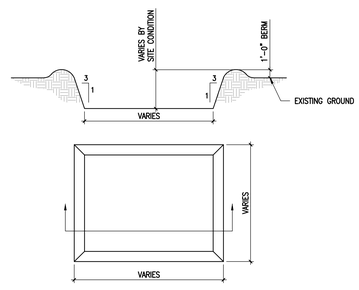
5 NOT USED



NOTES:

1. MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS OR 50 FEET, WHICHEVER IS MORE.
2. CONSTRUCT AND MAINTAIN CONSTRUCTION EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
3. UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, STABILIZATION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT.
4. WHEN REQUIRED, WIDEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK WASHING AREA. PROVIDE OUTLET SEDIMENT TRAP FOR THE TRUCK WASHING AREA.
5. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
6. PERIODICALLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
7. ALTERNATIVE METHODS OF CONSTRUCTION INCLUDE:
   CEMENT STABILIZED SOIL: COMPACTED CEMENT STABILIZED SOIL, LIMESTONE AGGREGATE, OR OTHER FILL MATERIAL IN AN APPLICATION OF THICKNESS OF 8 INCHES.
   WOOD MATS: OAK OR OTHER HARDWOOD TIMBERS PLACED EDGE TO EDGE AND ACROSS SUPPORT WOODEN BEAMS WHICH ARE PLACED ON TOP OF EXISTING SOIL IN AN APPLICATION THICKNESS OF 6 INCHES.
   STEEL MATS: PERFORATED MATS PLACED ACROSS PERPENDICULAR SUPPORT MEMBERS.
8. MINIMUM 14' WIDTH FOR ONE WAY TRAFFIC AND 20' WIDTH FOR TWO WAY TRAFFIC.

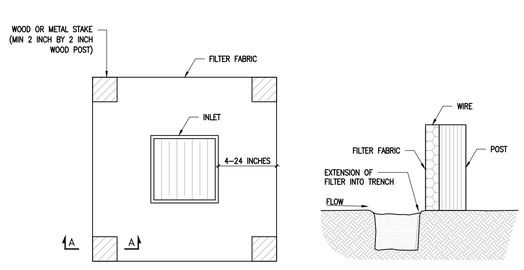
4 STABILIZED CONSTRUCTION ENTRANCE



NOTES:

1. POST A SIGN READING "CONCRETE WASH OUT PIT" NEXT TO THE PIT.
2. VERBALLY INSTRUCT THE CONCRETE TRUCK DRIVERS WHERE THE PIT IS AND TO WASH OUT THEIR TRUCKS IN THE PIT AND NO WHERE ELSE.
3. UPON THE CONCRETE SETTING UP (CURING, DRYING OUT), THE CONCRETE WASTE SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR. AFTER REMOVAL OF THE CONCRETE WASTE, THE WASH OUT PIT SHALL BE FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO IN-SITU CONDITIONS, OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
4. CONCRETE WASH OUT PITS SHALL NOT BE LOCATED DIRECTLY ADJACENT TO, NOR AT ANY TIME DRAIN INTO THE STORM SEWER SYSTEM OR ANY OTHER SWALE, DITCH, OR WATERWAY.
5. CONSTRUCT ENTRY ROAD AND BOTTOM OF WASHOUT AREA TO SUPPORT EXPECTED LOADINGS FROM TRUCKS EQUIPMENT.

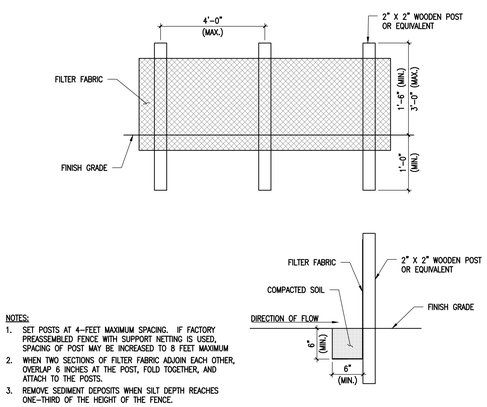
3 CONCRETE TRUCK WASHOUT AREA



CONSTRUCTION NOTES

1. SET 2 INCH BY 2 INCH WOODEN STAKES SPACED A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
4. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
5. MINIMUM HEIGHT OF FILTER SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
6. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.

2 SILT FENCE INLET PROTECTION BARRIER (IPB)



NOTES:

1. SET POSTS AT 4–FEET MAXIMUM SPACING. IF FACTORY PREASSEMBLED FENCE WITH SUPPORT NETTING IS USED, SPACING OF POST MAY BE INCREASED TO 8 FEET MAXIMUM
2. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT THE POST, FOLD TOGETHER, AND ATTACH TO THE POSTS.
3. REMOVE SEDIMENT DEPOSITS WHEN SILT DEPTH REACHES ONE–THIRD OF THE HEIGHT OF THE FENCE.

1 FILTER FABRIC FENCE (FFF)

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10/30/2026

DIG ENGINEERS
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DATE	PROJECT NUMBER
10/30/2026	25046901

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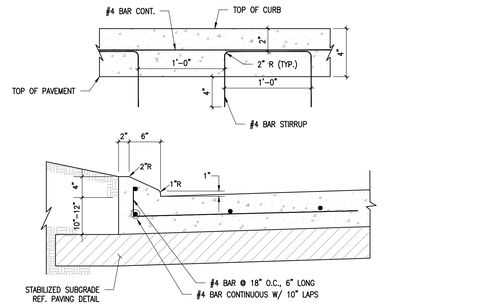
EROSION CONTROL DETAILS

C 502

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16 | NOT USED

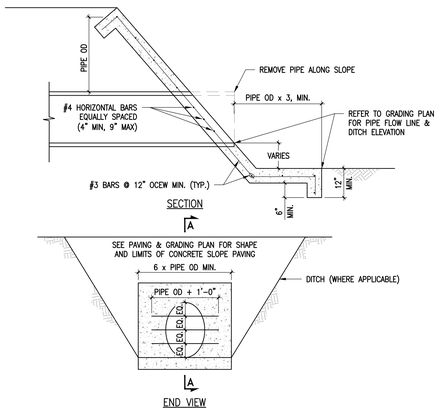
15 | MOUNTABLE CURB



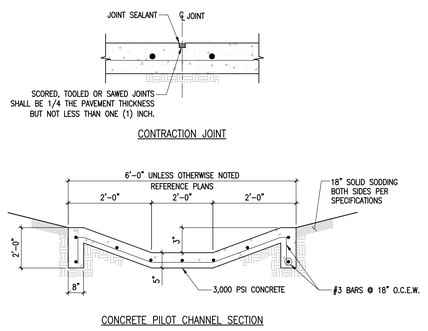
NOTES:

1. WHEN THE CURB IS NOT PLACED BY MACHINE, THE CURB SHALL BE PLACED BY HAND OF THE SAME DIMENSIONS SHOWN (UNLESS OTHERWISE APPROVED BY THE ENGINEER), BY FLOATING, STEEL TROWELING AND FINISHING BY HAND BRUSHING.

14 | CONCRETE SLOPE PAVEMEMT



13 | CONCRETE PILOT CHANNEL

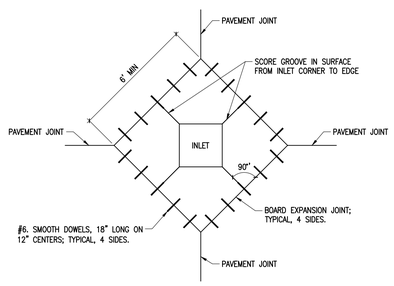


CONCRETE PILOT CHANNEL SECTION

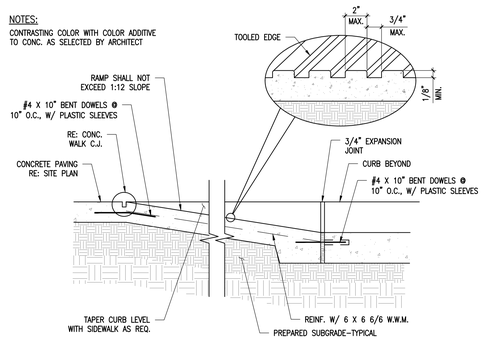
NOTES:

1. FLOAT EDGES 1/4" MAXIMUM AT CONTROL JOINTS.
2. CONTROL JOINT SPACING NOT TO EXCEED TWELVE (12) FEET. SCORED, TOOLED OR SAWN JOINTS SHALL BE 1/4 THE PAVEMENT THICKNESS BUT NOT LESS THAN ONE (1) INCH.

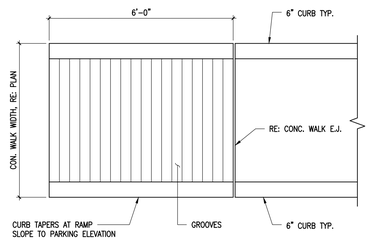
12 | INLET BLOCK OUT



11 | ACCESSIBLE RAMP PROFILE



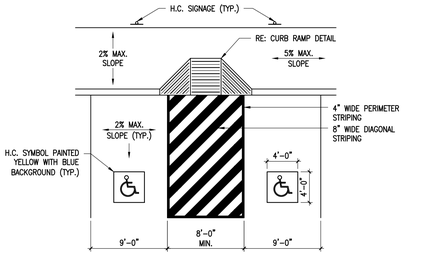
10 | ACCESSIBLE RAMP PLAN



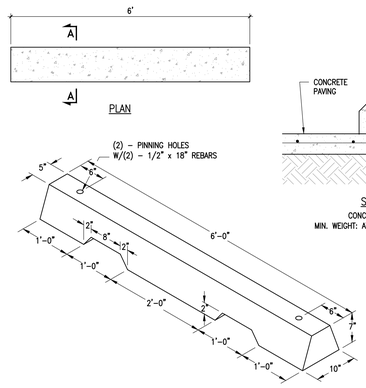
NOTES:

6'-0" RUN BASED ON 6" HIGH CURB AND WALK-LENGTH SHALL BE ADJUSTED ACCORDING TO CURB HEIGHT AND MAXIMUM RISE OF 1:12.

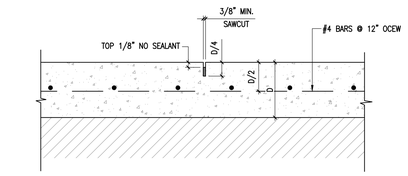
9 | ACCESSIBLE PARKING



8 | CONCRETE WHEEL STOP



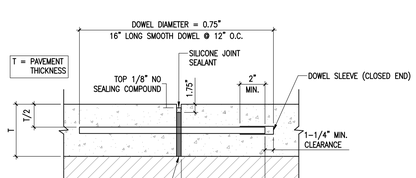
7 | SAWCUT JOINT (S)



NOTE:

1. SAWCUTS 1/4" WIDE ARE TO BE SEALED WITH SILICONE JOINT SEALING COMPOUND UP TO 1/8" BELOW TOP OF PAVEMENT. SEE SPECIFICATIONS FOR REQUIRED JOINT SEALANT.
2. COMPLETE SAWCUT JOINTS WITHIN 12 HOURS OF CONCRETE PLACEMENT.

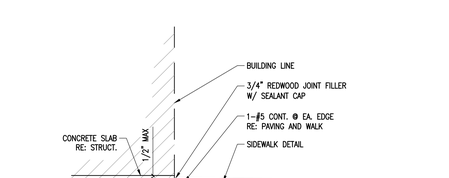
6 | EXPANSION JOINT (X)



NOTE:

1. DOWELS SHALL BE SUPPORTED BY AN APPROVED DEVICE.

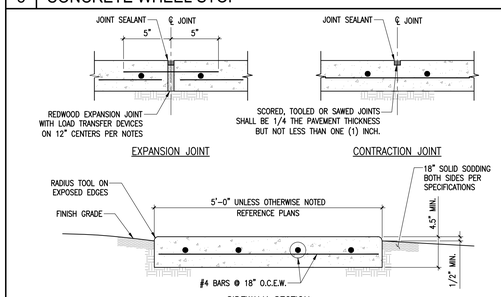
5 | CONCRETE SIDEWALK AT BUILDING



NOTE:

APPLICABLE AT DOOR CONDITIONS ONLY.

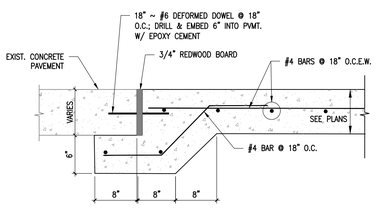
4 | CONCRETE SIDEWALK



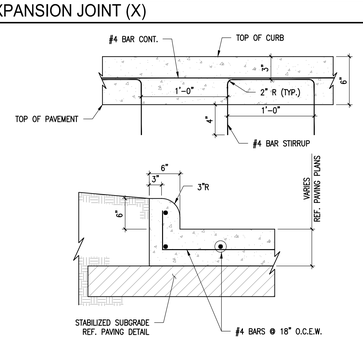
NOTES:

1. SLOPE TRANSVERSE SURFACE 2% (1:50) IN DIRECTION OF GENERAL SITE AREA DRAINAGE.
2. RUNNING SLOPE IN THE DIRECTION OF TRAVEL SHALL NOT EXCEED 5% (1:20).
3. FLOAT EDGES 1/4" MAXIMUM AT CONTROL JOINTS.
4. USE REDWOOD BOARD EXPANSION JOINT w/ #4 SMOOTH BAR w/ LOAD KEY (10" LONG).
5. REDWOOD BOARD EXPANSION JOINTS ON 15 FOOT CENTERS MAXIMUM.
6. CONTROL JOINT SPACING NOT TO EXCEED FIVE (5) FEET. SCORED, TOOLED OR SAWN JOINTS SHALL BE 1/4 THE PAVEMENT THICKNESS BUT NOT LESS THAN ONE (1) INCH.
7. SIDEWALK JOINTS SHALL ALIGN WITH PAVING JOINTS WHEN SIDEWALK IS ADJACENT TO PAVING.

3 | EXIST. TO PROP. CONCRETE PAVEMENT



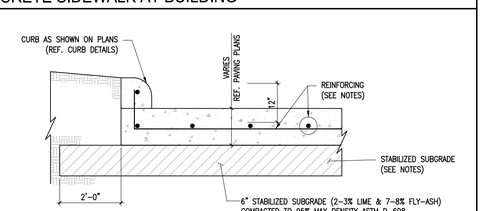
2 | CONCRETE CURB



NOTES:

1. FOR NEW PAVEMENT STIRRUPS SHALL BE SET IN FRESH CONCRETE AND SECURED.
2. FOR NEW CURB ON EXISTING PAVEMENT STIRRUPS SHALL BE DRILLED AND EPOXIED INTO THE EXISTING PAVEMENT.
3. MIN COVER ON ALL REINFORCING STEEL SHALL BE 2".
4. PLACE 3/4" INCH PREFORMED EXPANSION JOINTS THROUGH CURB AND GUTTERS AT LOCATIONS OF EXPANSION JOINTS IN PAVEMENT, AT END OF RADIUS RETURNS AT STREET INTERSECTIONS AND DRIVEWAYS, AND AT CURB INLETS. MAXIMUM SPACING SHALL BE 60' CENTERS.
5. PLACE 1/4" TOOLED JOINTS THROUGH CURB AND GUTTERS AT LOCATIONS OF SAWED JOINTS IN PAVEMENT.

1 | CONCRETE PAVEMENT



NOTES:

1. AREAS TO RECEIVE PAVING SHALL BE STRIPPED OF THE ORGANIC TOPSOIL TO A DEPTH OF AT LEAST 6-INCHES AND TO A DEPTH AS NECESSARY TO OBTAIN THE DESIRED FINISH GRADE. AFTER REMOVAL OF THE TOPSOIL THE EXPOSED SUBGRADE SHALL BE PROOFROLLED WITH A 15-TON ROLLER TO DETECT ANY WET, SOFT, OR UNSTABLE SOILS. WET, SOFT OR UNSTABLE SOILS SHALL BE TREATED WITH SUITABLE DRYING OR STABILIZING AGENTS OR REMOVED AND REPLACE WITH PROPERLY COMPACTED FILL AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
2. IF IT IS NECESSARY TO PLACE FILL IN ORDER TO BRING THE PAVEMENT SUBGRADE TO THE REQUIRED ELEVATION, SUITABLE EARTH FILL OR SELECT FILL SHALL BE UTILIZED. SUITABLE EARTH FILL AND SELECT FILL SHALL BE FREE OF ORGANICS, DELETERIOUS SUBSTANCES AND BE A CLAYEY SAND OR INACTIVE LEAN CLAY WITH A MAXIMUM LIQUID LIMIT OF 35 AND PLASTICITY INDEX RANGE OF 8 TO 20. FILL MATERIAL SHALL BE PLACED IN 8-INCH THICK LOOSE LIFTS AND COMPACTED TO AN IN-PLACE DENSITY EQUAL TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN +/-2% OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698.
3. REFERENCE PAVING PLANS FOR SUBGRADE STABILIZATION REQUIREMENTS.
4. CONCRETE PAVEMENT SHALL CONSIST OF NOT LESS THAN 5.5 SACKS OF CONCRETE PER CUBIC YARD AND OBTAIN A 28-DAY COMPRESSIVE STRENGTH OF AT LEAST 3,500 PSI. REFERENCE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. REINFORCING SHALL CONSIST OF THE THE FOLLOWING
   - 5-INCH THICK PAVING - #4 BARS AT 18" O.C.E.W.
   - 6-INCH THICK PAVING - #4 BARS AT 12" O.C.E.W. OR #5 BARS AT 18" O.C.E.W.
   - 7-INCH AND 8-INCH THICK PAVING - #5 BARS AT 18" O.C.E.W.

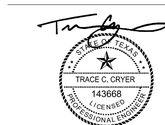
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Tomball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

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10/30/2026

DG ENGINEERS
F-18326

CLIENT
TOMBALL ISD

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

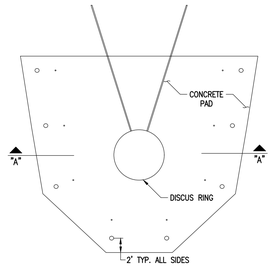
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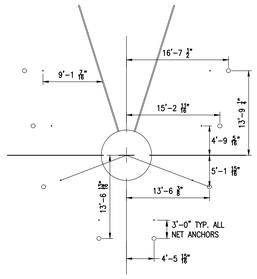
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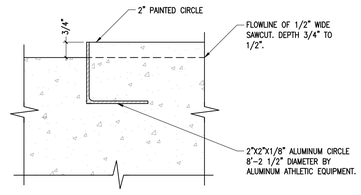
DETAILS

C 601

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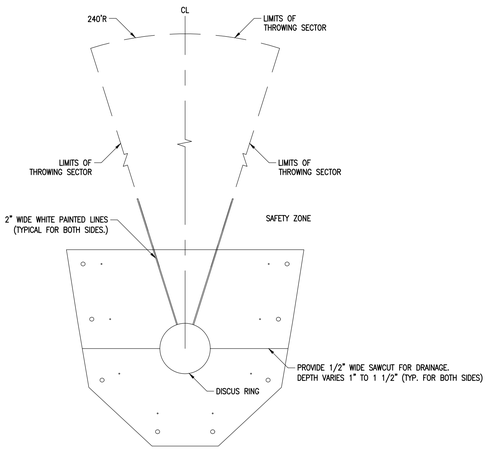


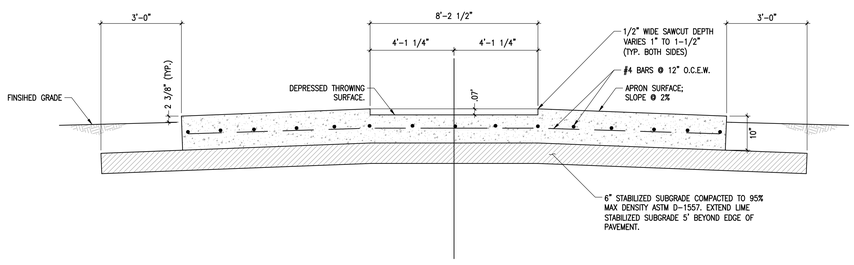


ENLARGED SECTION A–A

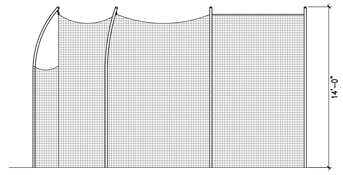
1. Stake out and mark with string the sector center line crossing the circle center. Stake out a second line perpendicular to the sector center line at the circle center. Measure and mark the sleeve centers for each post as shown below.
2. Dig eight 40" deep holes at marked locations. The minimum recommended diameter of these holes is 18". Soil conditions at your sight may require larger diameter concrete bases for each pole.
3. Place approximately 4" of rock in the bottom of each hole. The rock should support the sleeve at the proper height and allow water in the sleeve to drain away.
4. Mark the hole centers with crossed strings. Set each ground sleeve in place so the top edge is 1/2" above the surrounding ground level. Position the sleeves so the poles will face in the directions indicated by the arrows as shown. Note the detail showing the orientation of the sleeve pin to the pole axis arrow. As the sleeves must remain vertical, secure them in place with wire and short sections of rebar.
5. Carefully pour cement around the ground sleeves. Check with a level to ensure sleeves have remained vertical. The concrete should slope away from the top edges of the sleeves to ground level to help keep water and debris out of the sleeves.

NOTICE: All installations should be conducted by experienced contractors and in accord with all applicable codes, laws and regulations. Suggested instructions herein are illustrative only and should be adapted to suit local requirements. Gill Athletics is not responsible for the manner in which these products are installed.

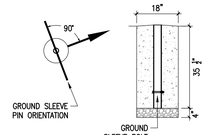




DISCUS PAD SECTION

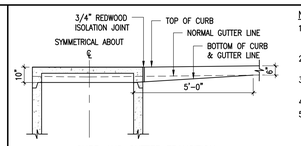


CAGE ELEVATION



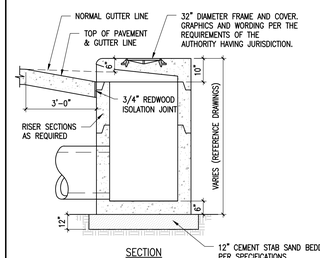
GROUND SLEEVE

9 | DISCUS

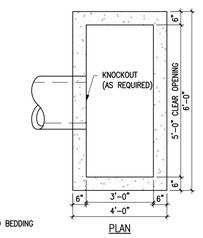


CURB AND GUTTER TRANSITION

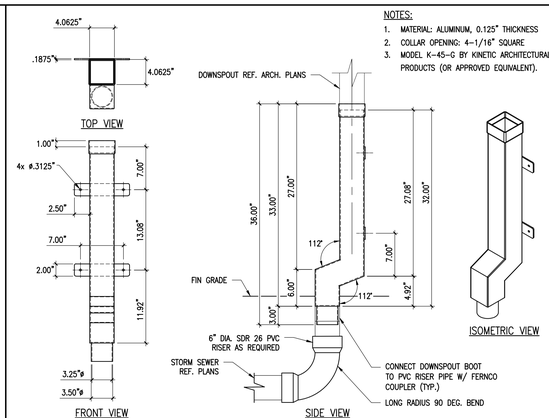
NOTES:
1. PRECAST CONCRETE MANHOLES SHALL BE MADE OF CLASS II CONCRETE WITH A DESIGN STRENGTH OF 4,500 PSI AT 28 DAYS AND RATED FOR H-20 LOADING.
2. STRUCTURAL REINFORCEMENT SHALL BE GRADE 60 NO. 4 BARS CONFORMING TO ASTM A-615.
3. DEPTH OF INLET SHALL DETERMINE THE NUMBER OF RISER SECTIONS AND ADJUSTMENT RINGS REQUIRED. BRICKS SHALL NOT BE USED.
4. GROUT INSIDE AND OUTSIDE OF EXTENSION RING(S) AND ALL PIPES.
5. ALL PIPES SHALL BE CUT FLUSH WITH THE INLET.



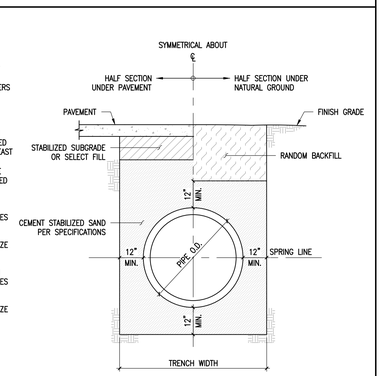
SECTION



PLAN



NOTES:
1. MATERIAL: ALUMINUM, 0.125" THICKNESS
2. COLLAR OPENING: 4-1/16" SQUARE
3. MODEL K-45-G BY KINETIC ARCHITECTURAL PRODUCTS (OR APPROVED EQUIVALENT).



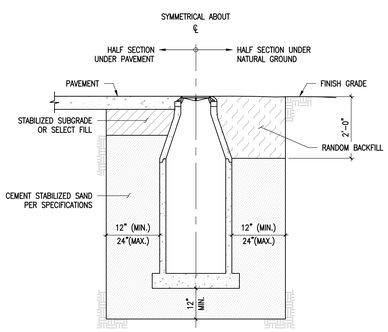
NOTES:
1. THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS. WHERE WET SAND CONDITIONS ARE ENCOUNTERED SEWERS SHALL BE BACKFILLED PER THE REQUIREMENTS OF THE WET CONDITION BEDDING AND BACKFILLING DETAIL.
2. ALL BACKFILL SHALL SHALL BE PLACED IN 8-INCH THICK LOOSE LIFTS AND COMPACTED TO AN IN-PLACE DENSITY EQUAL TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN +/-2% OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698.
3. FOR R.C.P. STORM SEWERS MIN. TRENCH WIDTH SHALL BE PIPE O.D. PLUS 24-INCHES FOR PIPES WITH A NOMINAL SIZE OF 30-INCHES OR LESS AND O.D. PLUS 36-INCHES FOR PIPES WITH A NOMINAL SIZE GREATER THAN 30-INCHES.
4. FOR H.D.P.E. STORM SEWERS MIN. TRENCH WIDTH SHALL BE PIPE O.D. PLUS 24-INCHES FOR PIPES WITH A NOMINAL SIZE OF 24-INCHES OR LESS AND O.D. PLUS 36-INCHES FOR PIPES WITH A NOMINAL SIZE GREATER THAN 24-INCHES.

8 | NOT USED

7 | TYPE "C" STORM SEWER INLET

6 | DOWNSPOUT BOOT

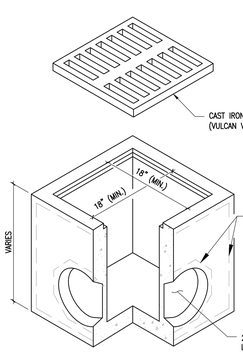
5 | STORM SEWER BEDDING AND BACKFILL



NOTES:
1. THIS DETAIL MAY BE USED ONLY FOR BEDDING AND BACKFILLING OF MANHOLES, INLETS AND OTHER STRUCTURES IN DRY STABLE TRENCH CONDITIONS. WHERE WET SAND CONDITIONS ARE ENCOUNTERED STRUCTURES SHALL BE BACKFILLED PER THE REQUIREMENTS OF THE WET CONDITION BEDDING AND BACKFILLING DETAIL.
2. ALL BACKFILL SHALL SHALL BE PLACED IN 8-INCH THICK LOOSE LIFTS AND COMPACTED TO AN IN-PLACE DENSITY EQUAL TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN +/-2% OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698.

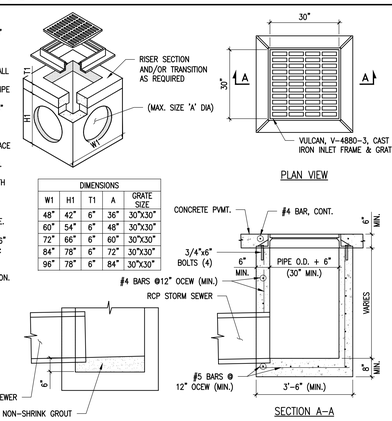
4 | STORM SEWER STRUCTURE BEDDING AND BACKFILL

NOTES:
1. WALLS & BOTTOM SHALL BE CONSTRUCTED OF 6" REINFORCED, CLASS "A" (4000 psi) CONCRETE.
2. PRECAST CONCRETE INLET BASINS SHALL BE PROVIDED WITH PRE-FORMED KNOCKOUTS ONLY IN WALLS WHERE PIPE CONNECTIONS ARE TO BE MADE. KNOCKOUTS SHALL BE PIPE O.D. + 4" MAX. AND CIRCULAR SHAPED.
3. IN GRASS AREAS, FOLLOWING FINAL GRADING, THE CONTRACTOR SHALL PLACE SOLID SOD A MINIMUM OF 5 FEET AROUND PERIMETER OF TOP OF INLET.
4. IF THE BASE SECTION IS PRECAST WITH A BOTTOM, A 12" THICK CEMENT STABILIZED SAND BASE SHALL BE REQUIRED BENEATH THE STRUCTURE, EXTENDING 12" PAST THE OUTER FACE.
5. WHEN HDPE PIPE IS USED, PROVIDE 6" CLEARANCE BETWEEN INLET BOTTOM & FLOWLINE OF PIPE. GROUT ENTIRE BOTTOM OF INLET. EXTEND PIPE INTO INLET AT LEAST ONE FULL CORRUGATION. NO JOINT WITHIN 6 FEET OF INLET.
6. INSTALL FILTER FABRIC OVER INLET GRATE TO PREVENT SILTS FROM ENTERING INLET.



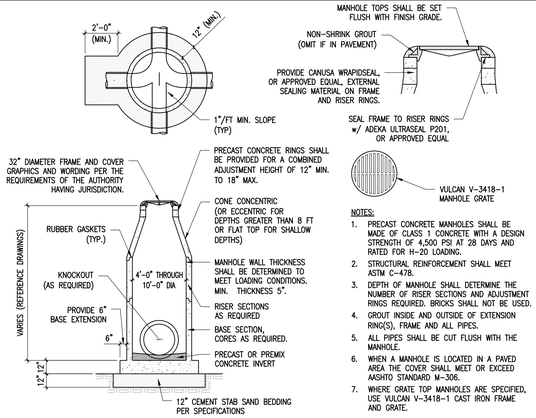
3 | CATCH BASIN

NOTES:
1. WALLS SHALL BE CONSTRUCTED OF 6" REINFORCED, CLASS "A" (4000 psi) CONCRETE.
2. PRECAST CONCRETE INLET BASINS SHALL BE PROVIDED WITH PRE-FORMED KNOCKOUTS ONLY IN WALLS WHERE PIPE CONNECTIONS ARE TO BE MADE. KNOCKOUTS SHALL BE PIPE O.D. + 4" MAX. AND CIRCULAR SHAPED.
3. IN GRASS AREAS, FOLLOWING FINAL GRADING, THE CONTRACTOR SHALL PLACE SOLID SOD A MINIMUM OF 5 FEET AROUND PERIMETER OF TOP OF INLET.
4. IF THE BASE SECTION IS PRECAST WITH A BOTTOM, A 12" THICK CEMENT STABILIZED SAND BASE SHALL BE REQUIRED BENEATH THE STRUCTURE, EXTENDING 12" PAST THE OUTER FACE.
5. WHEN HDPE PIPE IS USED, PROVIDE 6" CLEARANCE BETWEEN INLET BOTTOM & FLOWLINE OF PIPE. GROUT ENTIRE BOTTOM OF INLET. EXTEND PIPE INTO INLET AT LEAST ONE FULL CORRUGATION. NO JOINT WITHIN 6 FEET OF INLET.
6. INSTALL FILTER FABRIC OVER INLET GRATE TO PREVENT SILTS FROM ENTERING INLET.
7. IF BOTTOM SECTION INSIDE DIM. IS LARGER THAN 30"x30", PROVIDE TRANSITION SECTION TO ACCEPT A 30"x30" FRAME & GRATE.



DIMENSIONS				
W1	H1	T1	A	GRATE SIZE
48"	42"	6"	36"	30"X30"
60"	54"	6"	48"	30"X30"
72"	66"	6"	60"	30"X30"
84"	78"	6"	72"	30"X30"
96"	78"	6"	84"	30"X30"

2 | AREA INLET



NOTES:
1. PRECAST CONCRETE MANHOLES SHALL BE MADE OF CLASS I CONCRETE WITH A DESIGN STRENGTH OF 4,500 PSI AT 28 DAYS AND RATED FOR H-20 LOADING.
2. STRUCTURAL REINFORCEMENT SHALL MEET ASTM C-478.
3. DEPTH OF MANHOLE SHALL DETERMINE THE NUMBER OF RISER SECTIONS AND ADJUSTMENT RINGS REQUIRED. BRICKS SHALL NOT BE USED.
4. GROUT INSIDE AND OUTSIDE OF EXTENSION RING(S), FRAME AND ALL PIPES.
5. ALL PIPES SHALL BE CUT FLUSH WITH THE MANHOLE.
6. WHEN A MANHOLE IS LOCATED IN A PAVED AREA THE COVER SHALL MEET OR EXCEED AASHTO STANDARD M-306.
7. WHERE GRATE TOP MANHOLES ARE SPECIFIED, USE VULCAN V-3418-1 CAST IRON FRAME AND GRATE.

1 | TYPE "C" STORM SEWER MANHOLE

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Tomball ISD-Multi-Program Activity Center-Tomball High School

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ISSUED FOR PROPOSAL





10/30/2026

DG ENGINEERS
F-18326

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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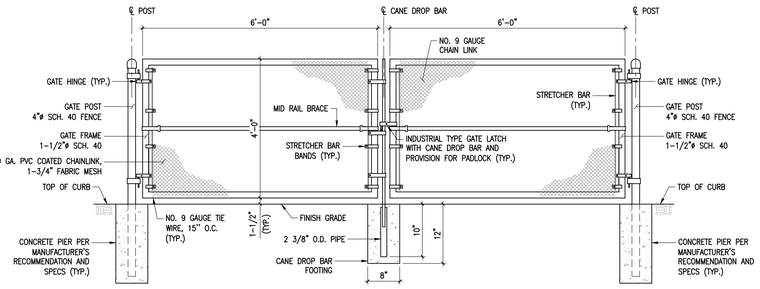
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NOMINAL PIPE SIZE SCHEDULE 40	WEIGHT LBS/FT
1-1/4"	2.27
1-1/2"	2.72
2"	3.65
2-1/2"	5.79
3	7.58
3-1/2"	9.12
4	10.80
6	18.99
8	28.58

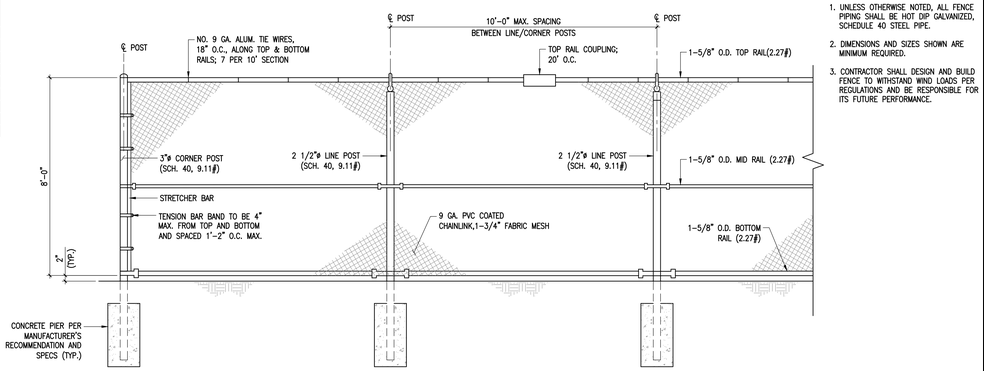


NOTES:

1. UNLESS OTHERWISE NOTED, ALL FENCE PIPING SHALL BE HOT DIP GALVANIZED, SCHEDULE 40 STEEL PIPE.
2. DIMENSIONS AND SIZES SHOWN ARE MINIMUM REQUIRED.
3. CONTRACTOR SHALL DESIGN AND BUILD FENCE TO WITHSTAND WIND LOADS PER REGULATIONS AND BE RESPONSIBLE FOR ITS FUTURE PERFORMANCE.

13 | 12' CHAINLINK SWING GATE (PVC COATED)

NOMINAL PIPE SIZE SCHEDULE 40	WEIGHT LBS/FT
1-1/4"	2.27
1-1/2"	2.72
2"	3.65
2-1/2"	5.79
3	7.58
3-1/2"	9.12
4	10.80
6	18.99
8	28.58

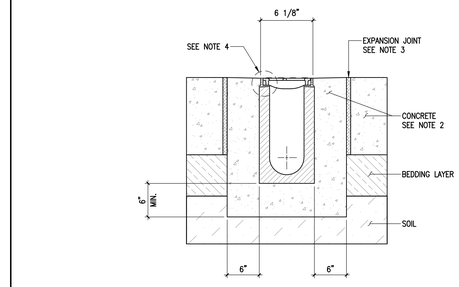


NOTES:

1. UNLESS OTHERWISE NOTED, ALL FENCE PIPING SHALL BE HOT DIP GALVANIZED, SCHEDULE 40 STEEL PIPE.
2. DIMENSIONS AND SIZES SHOWN ARE MINIMUM REQUIRED.
3. CONTRACTOR SHALL DESIGN AND BUILD FENCE TO WITHSTAND WIND LOADS PER REGULATIONS AND BE RESPONSIBLE FOR ITS FUTURE PERFORMANCE.

12 | 8' CHAINLINK FENCE (PVC COATED)

11 | NOT USED



NOTES:

1. IT IS NECESSARY TO ENSURE THE MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR THE EXISTING GROUND CONDITIONS. COORDINATE WITH ENGINEER IF ISSUES ARISE DURING CONSTRUCTION.
2. CONCRETE SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI. THE CONCRETE SHOULD BE VIBRATED TO ELIMINATE AIR POCKETS.
3. EXPANSION AND CRACK CONTROL JOINTS ARE RECOMMENDED TO PROTECT THE CHANNEL AND THE CONCRETE SURROUND.
4. THE FINISHED LEVEL OF THE CONCRETE SURROUNDING SHALL BE APPROX. 1/8" ABOVE THE TOP OF THE CHANNEL EDGE.
5. REFER TO ACO'S LATEST INSTALLATION INSTRUCTIONS FOR COMPLETE DETAILS.

THE SURFACE DRAINAGE SYSTEM SHALL BE POLYMER CONCRETE S100K CHANNEL SYSTEM WITH DUCTILE IRON RAIL AND GRATE AS MANUFACTURED BY: ACO POLYMER PRODUCTS, INC., CHARDON, OH.

CHANNELS WILL BE MANUFACTURED FROM POLYESTER RESIN POLYMER CONCRETE WITH AN INTEGRALLY CAST IN DUCTILE IRON RAIL AND SUPPLIED WITH ACO IRON INTERCEPT HEELSAFE GRATES.

THE SYSTEM SHALL BE 4 INCHES (100MM) NOMINAL INSIDE WIDTH WITH A 6.3 IN. (160MM) OVERALL WIDTH AND A BUILT-IN SLOPE OF 0.6%. ALL CHANNELS SHALL BE INTERLOCKING WITH A MALE/FEMALE JOINT. EACH CHANNEL SHALL HAVE A 4.5 IN. (114MM) SCHEDULE 40 ROUND AND 6 IN. (150MM) OVAL DRILL-OUT ON THE BOTTOM FOR VERTICAL CONNECTION WITH UNDERGROUND PIPING.

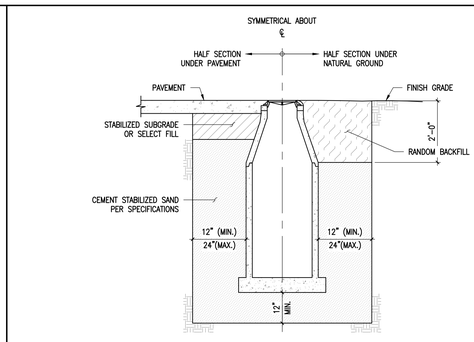
THE COMPLETE DRAINAGE SYSTEM SHALL BE BY ACO POLYMER PRODUCTS, INC. ANY DEVIATION OR PARTIAL SYSTEM DESIGN AND/OR IMPROPER INSTALLATION WILL VOID ANY AND ALL WARRANTIES PROVIDED BY ACO POLYMER PRODUCTS, INC.

THE CHANNEL SYTEM SHALL BE INDEPENDANTLY CERTIFIED TO WITHSTAND LOADINGS TO LOAD CLASS F (DIN19580). GRATES SHALL BE SECURED USING "POWERLOK" BOLTLESS LOCKING SYSTEM. GRATE AND LOCKING SYSTEM SHALL BE FULLY REMOVABLE FROM CHANNEL.

POLYMER CONCRETE SHALL HAVE MATERIAL PROPERTIES OF: COMPRESSIVE STRENGTH RANGE BETWEEN 14,000-14,500 PSI; FLEXURAL STRENGTH BETWEEN 3600-4500 PSI; TENSILE STRENGTH OF 1500 PSI. THE MATERIAL WATER ABSORPTION RATE SHALL NOT EXCEED 0.1% BY WEIGHT AND SHALL BE RESISTANT TO PROLONGED SALT EXPOSURE, REPETITIVE FROST CYCLES AND CHEMICALLY RESISTANT TO DILUTE ACIDS AND ALKALIS.

THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

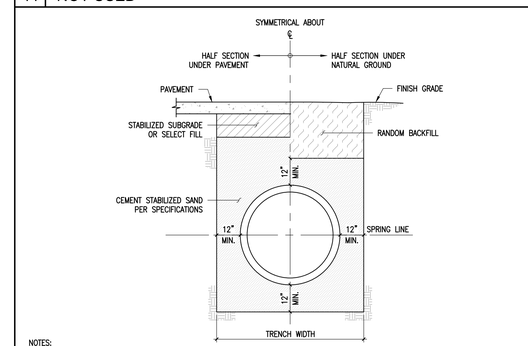
10 | ACO 4 IN S100K TRENCH DRAIN



NOTES:

1. THIS DETAIL MAY BE USED ONLY FOR BEDDING AND BACKFILLING OF MANHOLES, CLEAN-OUTS AND OTHER STRUCTURES IN DRY STABLE TRENCH CONDITIONS. WHERE WET SAND CONDITIONS ARE ENCOUNTERED STRUCTURES SHALL BE BACKFILLED PER THE REQUIREMENTS OF THE WET CONDITION BEDDING AND BACKFILLING DETAIL.
2. ALL BACKFILL SHALL SHALL BE PLACED IN 8-INCH THICK LOOSE LIFTS AND COMPACTED TO AN IN-PLACE DENSITY EQUAL TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN +/-2% OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698.

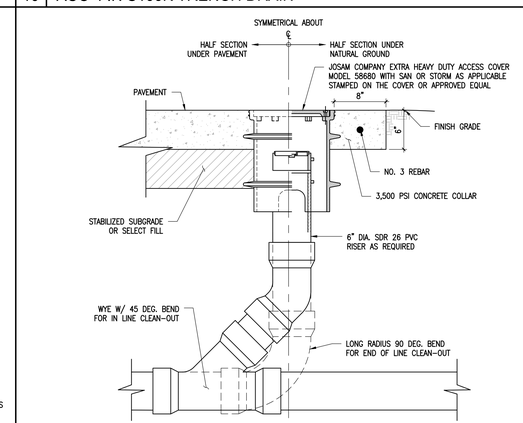
9 | SANITARY SEWER STRUCTURE BEDDING AND BACKFILL



NOTES:

1. THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS. WHERE WET SAND CONDITIONS ARE ENCOUNTERED SEWERS SHALL BE BACKFILLED PER THE REQUIREMENTS OF THE WET CONDITION BEDDING AND BACKFILLING DETAIL.
2. ALL BACKFILL SHALL SHALL BE PLACED IN 8-INCH THICK LOOSE LIFTS AND COMPACTED TO AN IN-PLACE DENSITY EQUAL TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN +/-2% OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698.
3. MIN. TRENCH WIDTH SHALL BE PIPE O.D. PLUS 24-INCHES FOR PIPES WITH A NOMINAL SIZE OF 30-INCHES OR LESS AND O.D. PLUS 36-INCHES FOR PIPES WITH A NOMINAL SIZE GREATER THAN 30-INCHES.

8 | SANITARY SEWER BEDDING AND BACKFILL



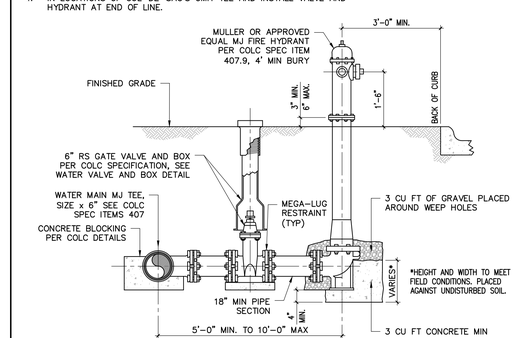
NOTES:

1. PROVIDE OPERATING NUT EXTENSION, AS NEEDED, TO APPROXIMATELY THREE (3) FEET BELOW FINISHED GRADE.
2. VALVE BOX SHALL NOT TRANSMIT ANY LOAD DIRECTLY TO THE VALVE OR PIPE.
3. GATE VALVES SHALL BE COUNTER-CLOCKWISE OPEN.
4. SECURE TRACER WIRE INSIDE OF VALVE BOX.

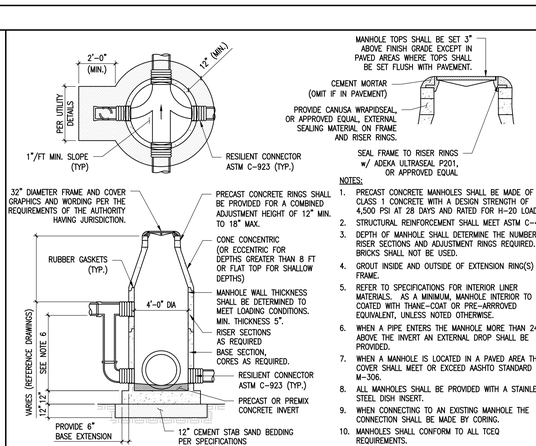
4 | GATE VALVE

NOTES:

1. OIL SHALL BE PLACED IN HYDRANT AT THE TIME OF INSTALLATION.
2. 4 1/2" NST PUMPER NOZZLE SHALL FACE ROADWAY.
3. VALVE BONNET TO BE ASSEMBLED WITH STAINLESS STEEL BOLTS.
4. IN LOCATIONS OF CUL-DE-SAC'S OMIT TEE AND INSTALL VALVE AND HYDRANT AT END OF LINE.



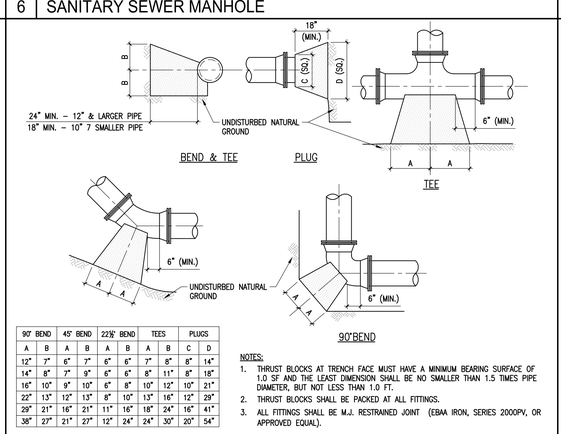
3 | FIRE HYDRANT ASSEMBLY



NOTES:

1. PRECAST CONCRETE MANHOLES SHALL BE MADE OF CLASS 1 CONCRETE WITH A DESIGN STRENGTH OF 4,500 PSI AT 28 DAYS AND RATED FOR H-20 LOADING.
2. STRUCTURAL REINFORCEMENT SHALL MEET ASTM C-478.
3. DEPTH OF MANHOLE SHALL DETERMINE THE NUMBER OF RISER SECTIONS AND ADJUSTMENT RINGS REQUIRED. BRICKS SHALL NOT BE USED.
4. GROUT INSIDE AND OUTSIDE OF EXTENSION RING(S) AND FRAME.
5. REFER TO SPECIFICATIONS FOR INTERIOR LINER MATERIALS. AS A MINIMUM, MANHOLE INTERIOR TO BE COATED WITH THANE-COAT OR PRE-ARRROVED EQUIVALENT, UNLESS NOTED OTHERWISE.
6. WHEN A PIPE ENTERS THE MANHOLE MORE THAN 24" ABOVE THE INVERT AN EXTERNAL DROP SHALL BE PROVIDED.
7. WHEN A MANHOLE IS LOCATED IN A PAVED AREA THE COVER SHALL MEET OR EXCEED AASHTO STANDARD M-306.
8. ALL MANHOLES SHALL BE PROVIDED WITH A STAINLESS STEEL DISH INSERT.
9. WHEN CONNECTING TO AN EXISTING MANHOLE THE CONNECTION SHALL BE MADE BY CORING.
10. MANHOLES SHALL CONFORM TO ALL TCEQ REQUIREMENTS.

6 | SANITARY SEWER MANHOLE

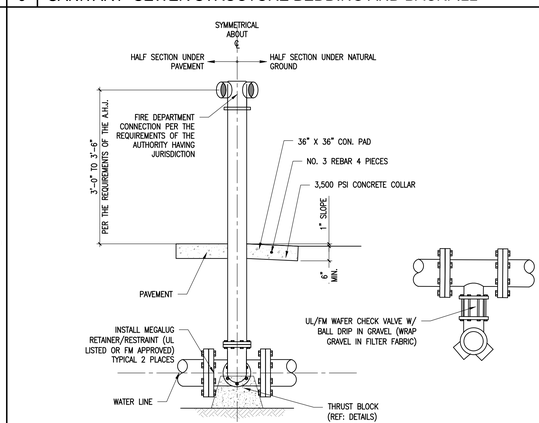


90° BEND		45° BEND		22½° BEND		TEES			PLUGS	
A	B	A	B	A	B	A	B	C	D	
12"	7"	6"	7"	6"	6"	7"	8"	8"	14"	
14"	8"	7"	9"	6"	6"	8"	11"	8"	18"	
16"	10"	9"	10"	6"	8"	10"	12"	10"	21"	
22"	13"	12"	13"	8"	10"	13"	16"	12"	29"	
29"	21"	16"	21"	11"	16"	18"	24"	16"	41"	
38"	27"	21"	27"	12"	24"	24"	30"	20"	54"	

NOTES:

1. THRUST BLOCKS AT TRENCH FACE MUST HAVE A MINIMUM BEARING SURFACE OF 1.0 SF AND THE LEAST DIMENSION SHALL BE NO SMALLER THAN 1.5 TIMES PIPE DIAMETER, BUT NOT LESS THAN 1.0 FT.
2. THRUST BLOCKS SHALL BE PACKED AT ALL FITTINGS.
3. ALL FITTINGS SHALL BE M.J. RESTRAINED JOINT (EBAA IRON, SERIES 2000PV, OR APPROVED EQUAL).

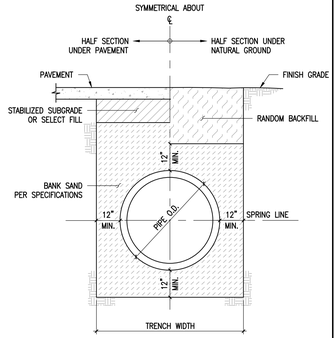
2 | THRUST BLOCKING



5 | FREE STANDING FDC

NOTES:

1. THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS. WHERE WET SAND CONDITIONS ARE ENCOUNTERED SEWERS SHALL BE BACKFILLED PER THE REQUIREMENTS OF THE WET CONDITION BEDDING AND BACKFILLING DETAIL.
2. ALL BACKFILL SHALL SHALL BE PLACED IN 8-INCH THICK LOOSE LIFTS AND COMPACTED TO AN IN-PLACE DENSITY EQUAL TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN +/-2% OF THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D698.
3. MIN. TRENCH WIDTH SHALL BE PIPE O.D. PLUS 24-INCHES FOR PIPES WITH A NOMINAL SIZE OF 30-INCHES OR LESS AND O.D. PLUS 36-INCHES FOR PIPES WITH A NOMINAL SIZE GREATER THAN 30-INCHES.



1 | WATER LINE BEDDING & BACKFILL

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HOUSTON, TX
713-862-3008

Tomball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

TRACE C. CRYER
143668
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS
10/30/2026
DG ENGINEERS
F-18326

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

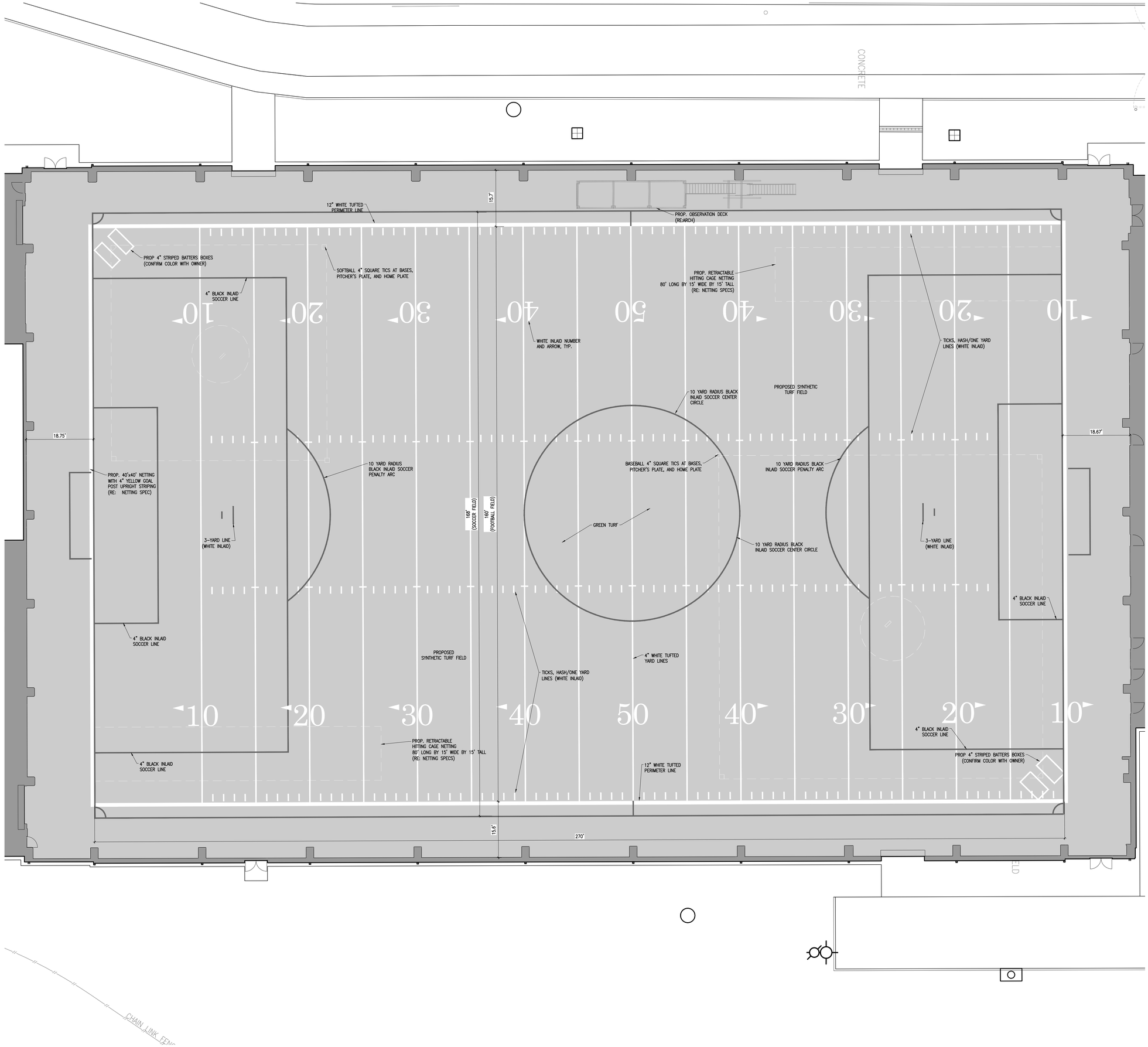
CHECKED BY:

DRAWN BY:

DETAILS

C 603

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Thursday, October 29, 2026 8:40:59 PM



NORTH

5 10
10 0 20

NOTES TO SHEET

1. REFER TO SPECIFICATION SECTION 32 18 23.29 FOR ADDITIONAL INFORMATION ON SYNTHETIC TURF.
2. REFER TO THE COLOR RENDERINGS IN THE SPECIFICATIONS FOR TURF COLOR AND DETAIL.

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TOMBALL ISD	
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10/30/2026	25046901

DRAWING HISTORY

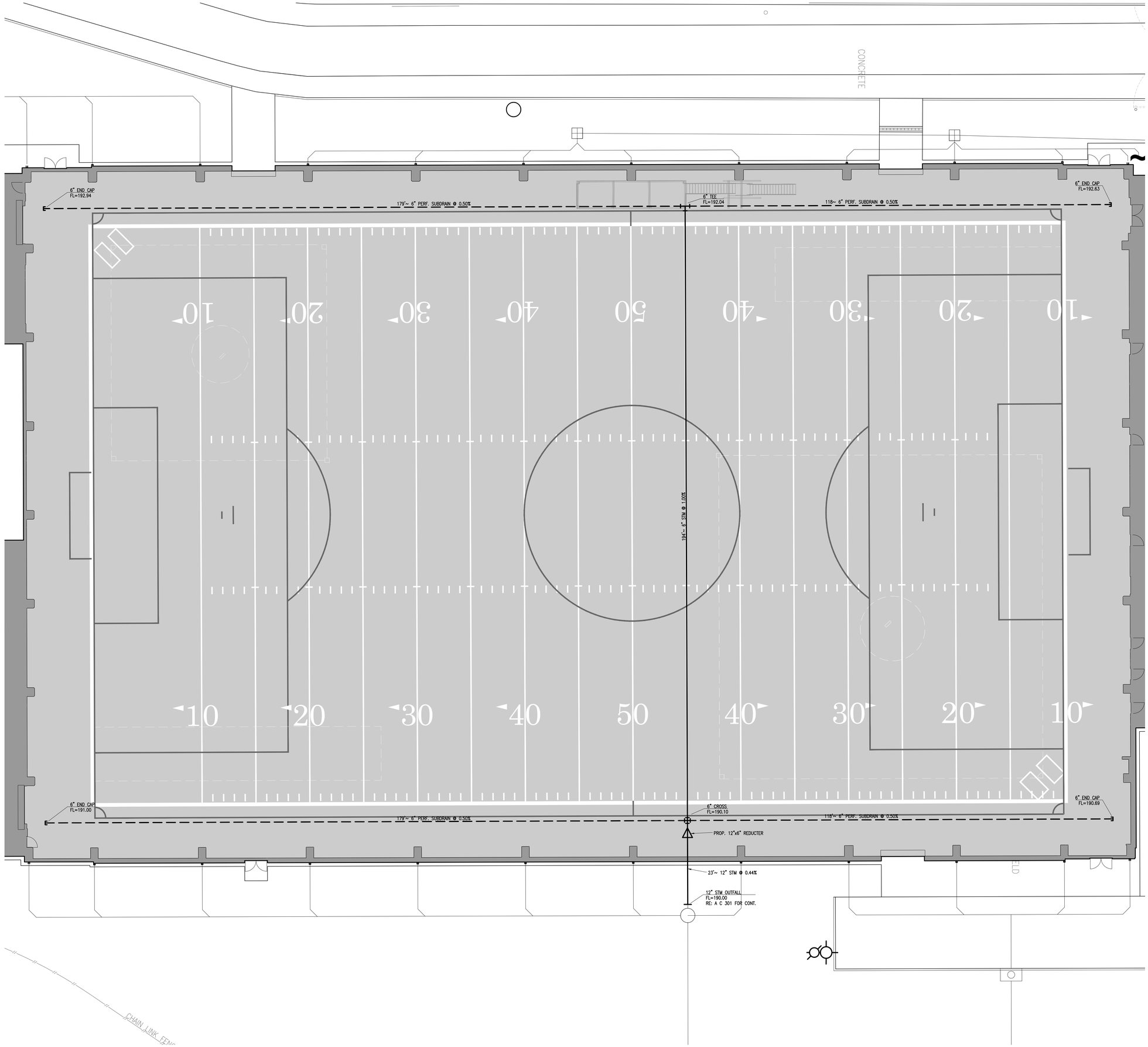
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DRAWN BY:

ATHLETIC SITE PLAN

CA 101

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B:\25\25046901\FOC\DIGITomball HS\03 DWGS\CA 102 ATHLETIC DRAINAGE PLAN.dwg Last Saved: MLE
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LICENSED
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TOMBALL ISD	
DATE	PROJECT NUMBER
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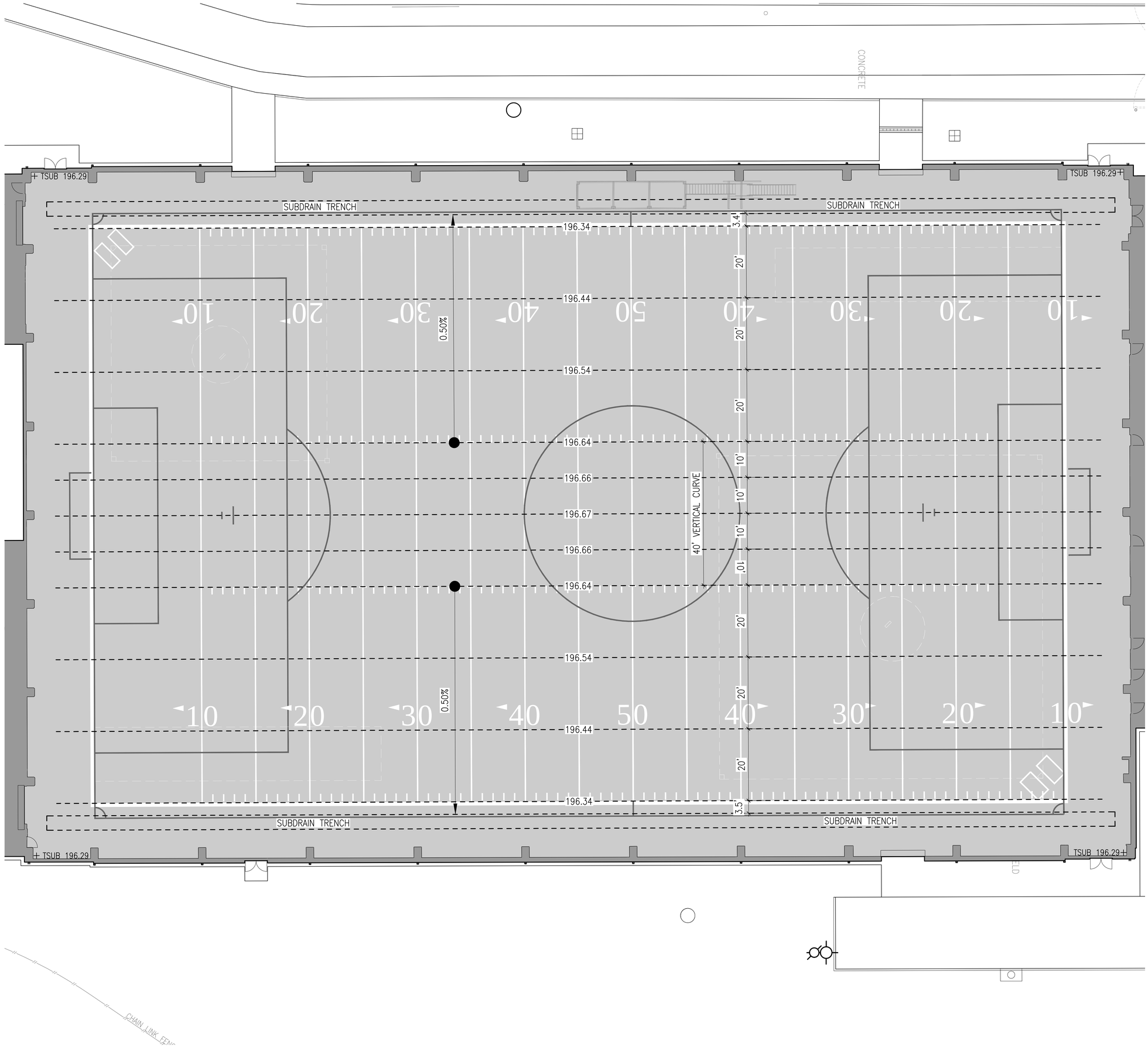
DRAWING HISTORY

No.	Description	Date

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DRAWN BY:

ATHLETIC DRAINAGE PLAN

CA 102



NORTH

5 0 10 20

LEGEND

TC	TOP OF CURB
FL	FLOW LINE
TP	TOP OF PAVEMENT
TSub	TOP OF SUBGRADE
TR	TOP OF RIM
TG	TOP OF GRATE
TN	TOP OF NAILER
A - X	AREA INLET
ID - X	INLINE DRAIN
CB - X	CATCH BASIN

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713-865-0608

Tomball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

TRACE C. CRYER
143668
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

DJG ENGINEERS
F-16326

10/30/2026

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
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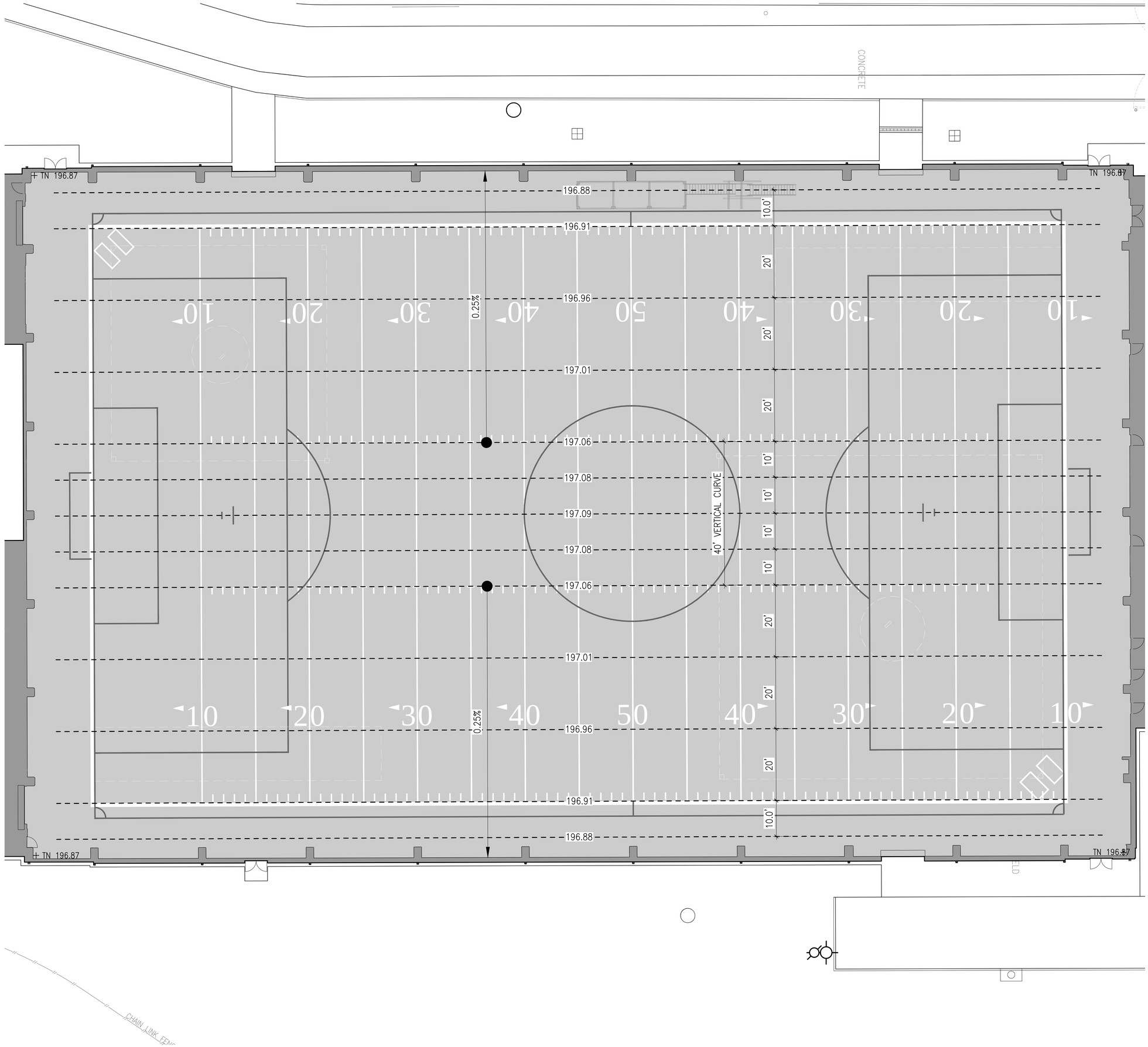
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ATHLETIC SUBGRADE GRADING PLAN

CA 103

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Thursday, October 29, 2026 1:09:56 PM



NORTH

5 10
10 0 20

LEGEND

TC	TOP OF CURB
FL	FLOW LINE
TP	TOP OF PAVEMENT
TSub	TOP OF SUBGRADE
TR	TOP OF RIM
TG	TOP OF GRATE
TN	TOP OF NAILER
A - X	AREA INLET
ID - X	INLINE DRAIN
CB - X	CATCH BASIN

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143668
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

DJG ENGINEERS
F-16326

10/30/2026

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TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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DRAWN BY:	

ATHLETIC STONE GRADING PLAN

CA 104

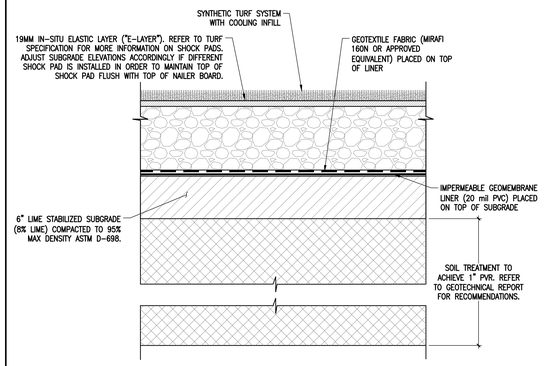
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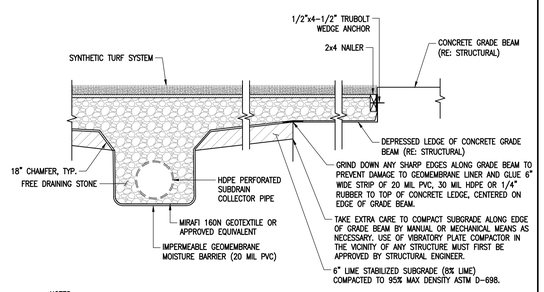
12 | NOT USED

11 | NOT USED

10 | NOT USED

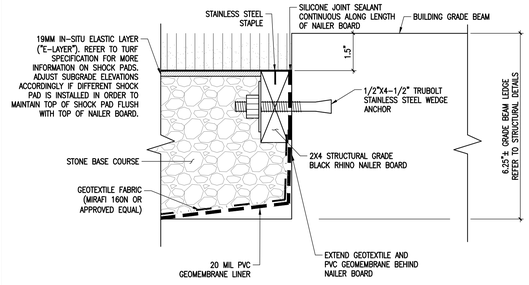
9 | NOT USED





NOTES:

1. SYNTHETIC TURF TO BE SECURED TO NAILER BOARD WITH STAINLESS STEEL STAPLES.
2. STONE BASE COURSE TO BE FLUSH WITH TOP OF NAILER BOARD UNLESS SHOCK PAD IS INSTALLED, IN WHICH CASE STONE BASE COURSE SHOULD BE DEPRESSED TO ALLOW THE SHOCK PAD TO BE FLUSH WITH TOP OF NAILER.
3. WEDGE ANCHORS TO BE INSTALLED 3" FROM END OF 2X4 NAILER AND SPACED A MAXIMUM OF 18" ON CENTER.
4. SEAL TOP OF NAILER BOARD ALONG CURB WITH SILICONE JOINT SEALANT.
5. IMPERVIOUS GEOMEMBRANE SHALL EXTEND TO TOP OF NAILER BOARD BETWEEN NAILER BOARD AND CURB.
6. STONE DEPTH TO BE MINIMUM 4" DEPTH OVER PERIMETER GRADE BEAM LEDGE.



NOTES:

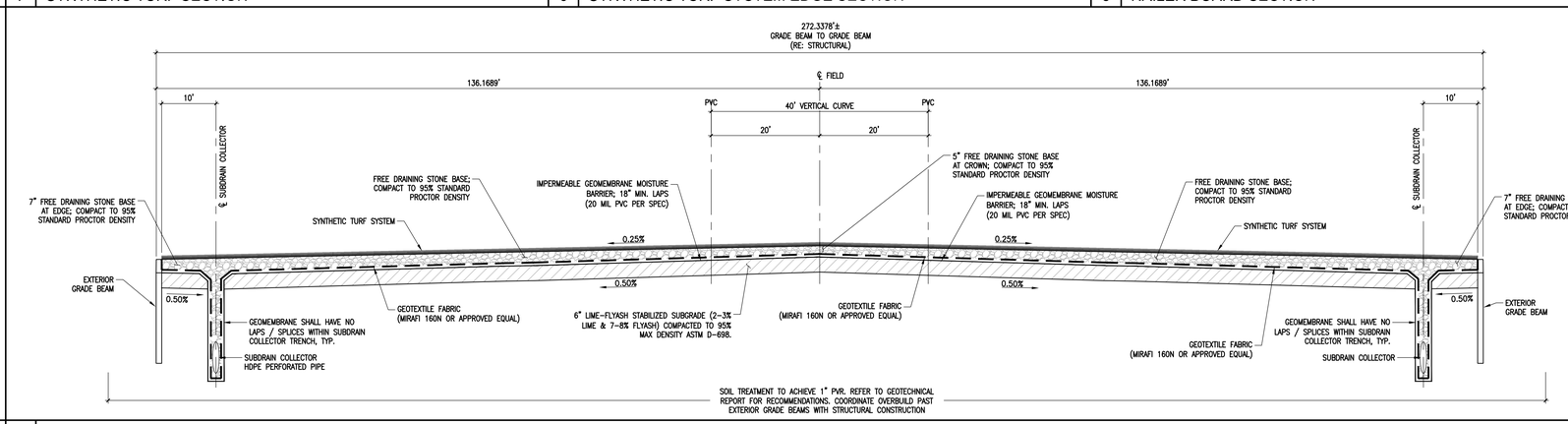
1. SYNTHETIC TURF TO BE SECURED TO NAILER BOARD WITH STAINLESS STEEL STAPLES.
2. STONE BASE COURSE TO BE FLUSH WITH TOP OF NAILER BOARD UNLESS SHOCK PAD IS INSTALLED, IN WHICH CASE STONE BASE COURSE SHOULD BE DEPRESSED TO ALLOW THE SHOCK PAD TO BE FLUSH WITH TOP OF NAILER.
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6. STONE DEPTH TO BE MINIMUM 4" DEPTH OVER PERIMETER GRADE BEAM LEDGE.

8 | NOT USED

7 | SYNTHETIC TURF SECTION

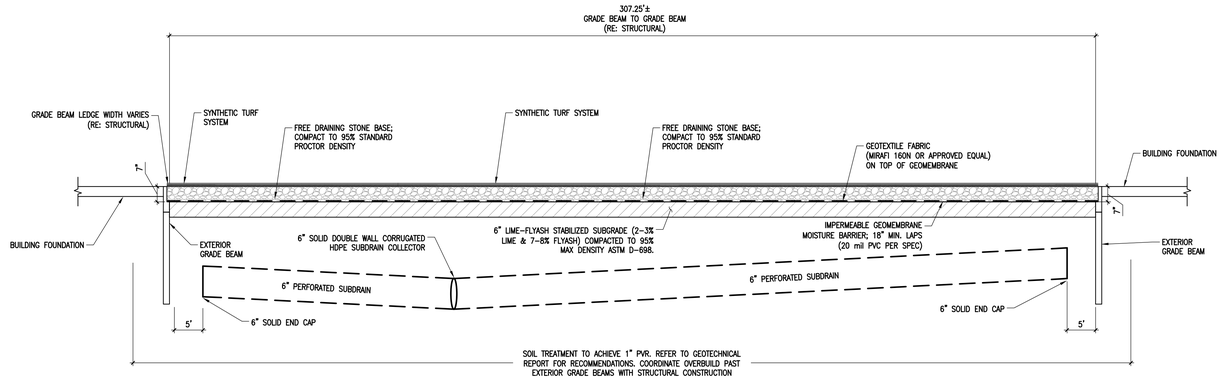
6 | SYNTHETIC TURF SYSTEM EDGE SECTION

5 | NAILER BOARD SECTION



4 | NOT USED

3 | SECTION 'B-B'



2 | NOT USED

1 | SECTION 'A-A'

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TRACE C. CRYER
143668
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

DJG ENGINEERS
F-16326

10/30/2026

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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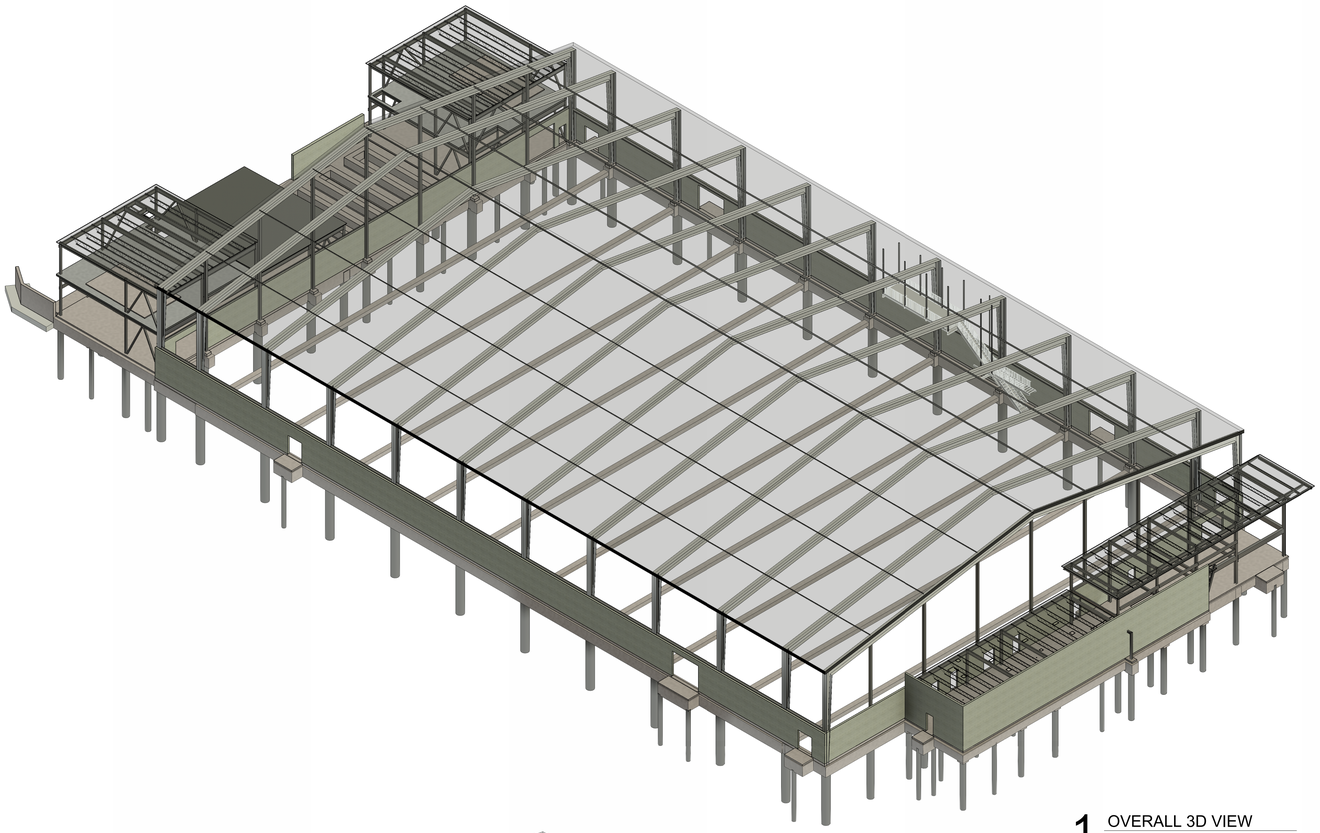
ATHLETIC DETAILS

CA 105

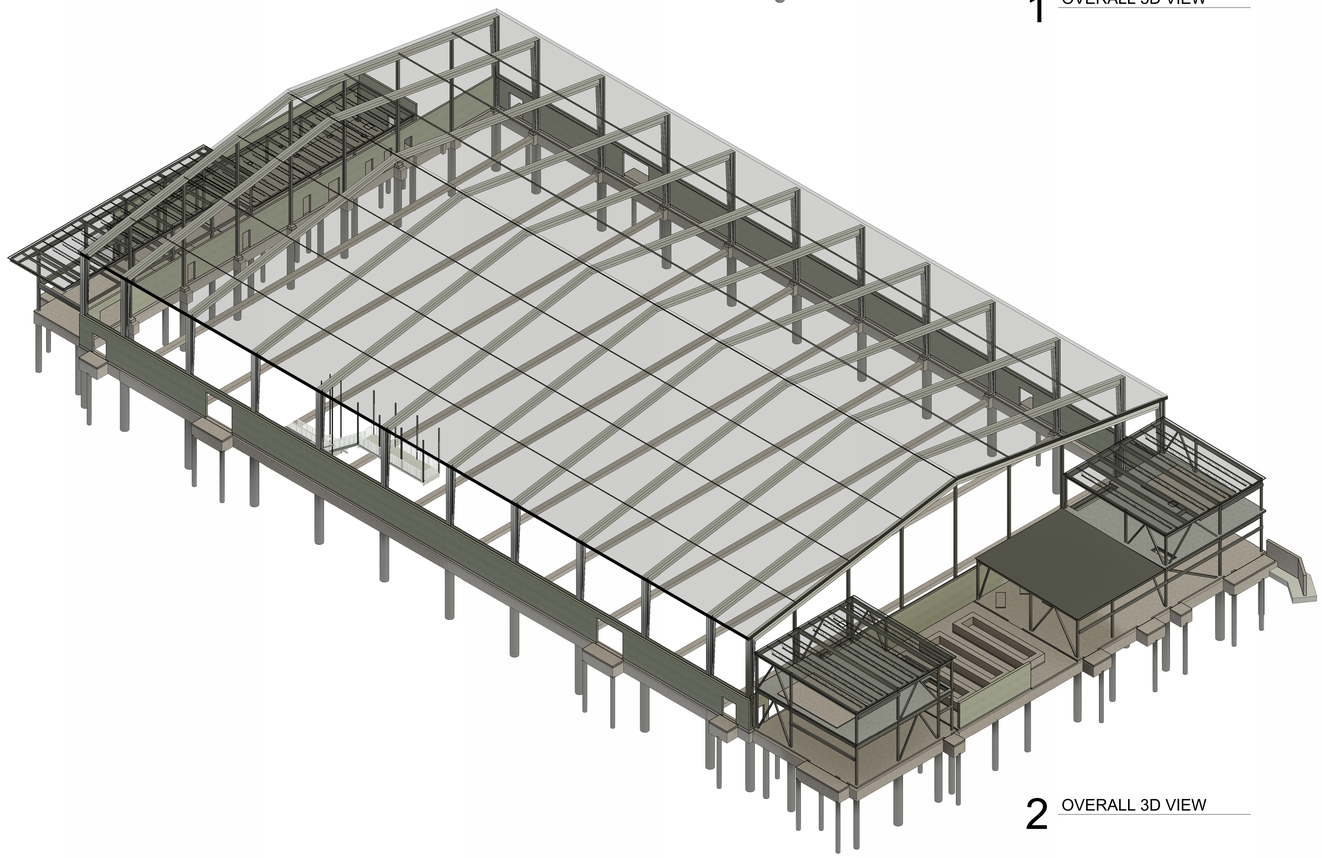
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Thursday, October 29, 2026 7:31:45 PM

STRUCTURAL SHEET LIST

SHEET NUMBER	SHEET NAME
S-000	3D VIEW & SHEET LIST
S-010	GENERAL NOTES
S-011	GENERAL NOTES
S-012	GENERAL NOTES
S-013	GENERAL SUBGRADE NOTES AND TYP DETAILS
S-101	COMPOSITE FOUNDATION PLAN
S-101A	FOUNDATION PLAN - AREA A
S-101B1	FOUNDATION PLAN - AREA B1
S-101B2	FOUNDATION PLAN - AREA B2
S-102	COMPOSITE LOW ROOF FRAMING PLAN
S-102A	LOW ROOF FRAMING PLAN - AREA A
S-102B1	LOW ROOF FRAMING PLAN - AREA B1
S-102B2	MEZZANINE FRAMING PLAN - AREA B2
S-103	COMPOSITE MID ROOF FRAMING PLAN
S-103A	MID ROOF FRAMING PLAN - AREA A
S-103B2	MECHANICAL ROOF FRAMING PLAN - AREA B2
S-104	COMPOSITE HIGH ROOF FRAMING PLAN
S-104B1	HIGH ROOF FRAMING PLAN - AREA B1
S-104B2	HIGH ROOF FRAMING PLAN - AREA B2
S-300	GENERAL CONCRETE AND STL REINF NOTES AND TYP DETAILS
S-301	GENERAL SLAB-ON-GRADE NOTES AND TYP DETAILS
S-302	GENERAL GRADE BEAM NOTES AND TYP DETAILS
S-303	GENERAL GRADE BEAM NOTES AND TYP DETAILS
S-304	GENERAL FOUNDATION NOTES AND TYP DETAILS
S-305	GENERAL FOUNDATION NOTES AND TYP DETAILS
S-306	AUGER CAST PILE DETAILS
S-310	FOUNDATION DETAILS
S-311	FOUNDATION DETAILS
S-312	FOUNDATION DETAILS (CMU)
S-313	FOUNDATION DETAILS (CMU)
S-320	SITE ITEMS FOUNDATION SECTIONS AND DETAILS
S-400	GENERAL CMU NOTES AND TYP DETAILS
S-401	GENERAL CMU NOTES AND TYP DETAILS
S-402	MISC CMU DETAILS
S-403	MISC CMU DETAILS
S-500	GENERAL STEEL NOTES AND TYP DETAILS
S-500MB	PEMB NOTES & DETAILS
S-501	GENERAL STEEL NOTES AND TYP DETAILS
S-502	GENERAL STEEL NOTES AND TYP DETAILS
S-503	GENERAL STEEL CONNECTION NOTES AND TYP DETAILS
S-504	GENERAL COMPOSITE STEEL NOTES AND TYP DETAILS
S-505	GENERAL COMPOSITE STEEL NOTES AND TYP DETAILS
S-506	TYPICAL STEEL DECK DETAILS
S-507	GENERAL STEEL NOTES AND TYP DETAILS
S-508	GENERAL STEEL NOTES AND TYP DETAILS
S-509	GENERAL STEEL NOTES AND TYP DETAILS
S-510	COMPOSITE FRAMING DETAILS
S-511	COMPOSITE FRAMING DETAILS
S-512	COMPOSITE FRAMING DETAILS (CMU)
S-520	ROOF FRAMING DETAILS
S-521	ROOF FRAMING DETAILS
S-522	ROOF FRAMING DETAILS
S-523	ROOF FRAMING DETAILS
S-525	ROOF FRAMING DETAILS
S-530	BUILDING SECTIONS
S-531	BUILDING SECTIONS
S-600	TYPICAL WIND BRACING ELEVATIONS
S-610	TYPICAL WIND BRACING DETAILS
S-700	TYPICAL LADDER DETAILS
S-800	OPTIONAL WIDE FLANGE ALTERNATE SCHEDULE AND SUPPLEMENTAL NOTES



1 OVERALL 3D VIEW



2 OVERALL 3D VIEW

NOTE:
3D IMAGES PRESENTED FOR INFORMATIONAL PURPOSES ONLY AND DO NOT SUPERCEDE INFORMATION SHOWN IN 2D PLANS AND DETAILS. PERSPECTIVE VIEWS ARE PROVIDED FOR A GENERAL UNDERSTANDING OF THE OVERALL STRUCTURAL FRAME. NOT ALL STRUCTURAL ELEMENTS ARE NECESSARILY SHOWN. THESE VIEWS SHOULD NOT BE USED FOR BIDDING, DETAILING OR ERECTION.

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Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

DRAWN BY: JJ

3D VIEW & SHEET LIST

S-000

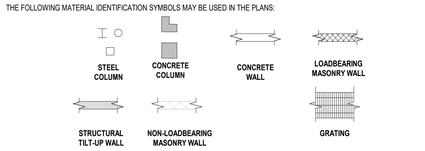
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MATERIAL IDENTIFICATION SYMBOLS

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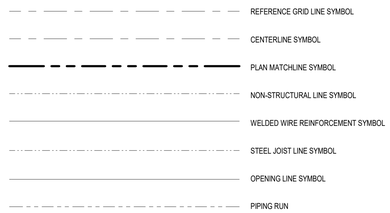


THE FOLLOWING MATERIAL IDENTIFICATION SYMBOLS MAY BE USED IN THE PLANS:



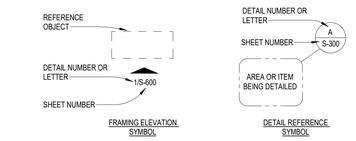
SYMBOLIC LINEWORK

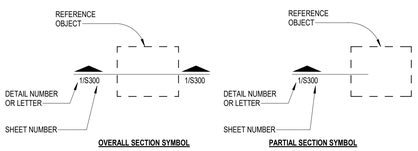
THE FOLLOWING SYMBOLIC LINEWORK MAY BE USED THROUGHOUT THE DRAWINGS:



VIEW REFERENCE SYMBOLS

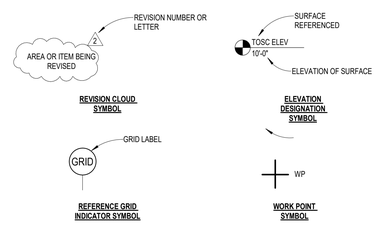
THESE FOLLOWING SYMBOLS MAY BE USED THROUGHOUT THE DRAWINGS TO REFER TO OTHER VIEWS:





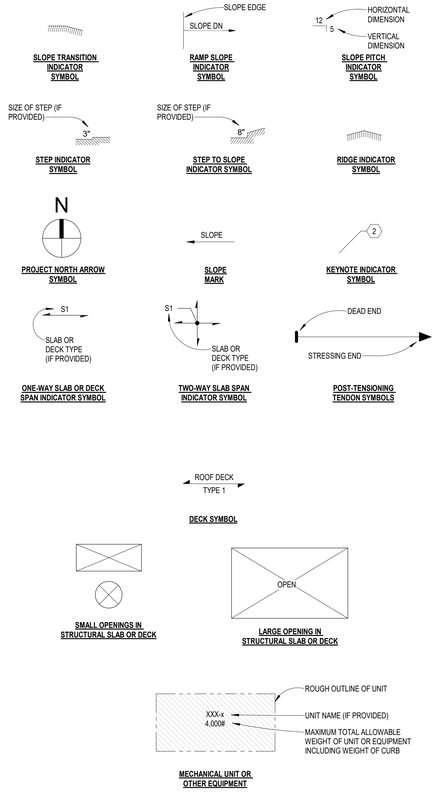
UNIVERSAL SYMBOLS

THESE FOLLOWING SYMBOLS MAY BE USED THROUGHOUT THE DRAWINGS:



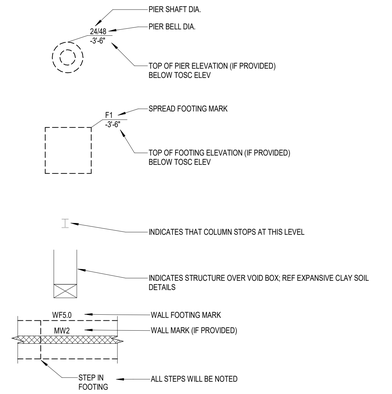
PLAN SYMBOLS

THE FOLLOWING SYMBOLS MAY BE USED THROUGHOUT THE PLANS:



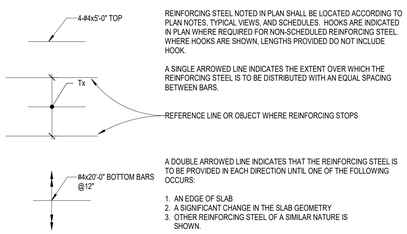
FOUNDATION ANNOTATION STYLES

THE FOLLOWING STRUCTURAL ANNOTATIONS MAY APPEAR ON THE FOUNDATION PLANS:

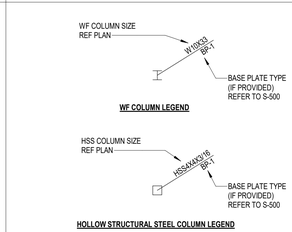


CONCRETE ANNOTATION STYLES

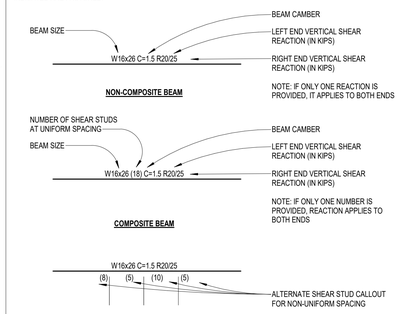
THE FOLLOWING STRUCTURAL ANNOTATIONS MAY APPEAR ON THE CONCRETE FRAMING PLANS:

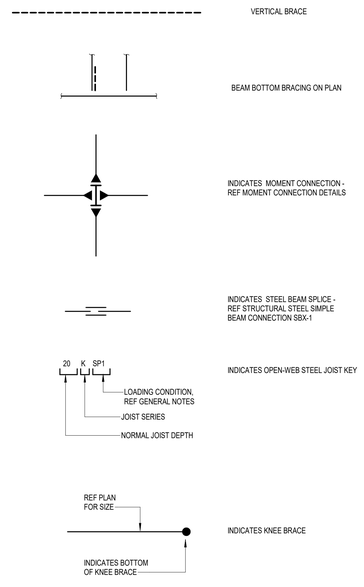


STEEL ANNOTATION STYLES



THE FOLLOWING STRUCTURAL ANNOTATIONS MAY APPEAR ON THE STEEL FRAMING PLANS. ALL LOADS INDICATED ARE FACTORED:





TYPICAL STRUCTURAL ABBREVIATIONS

A

AB	ANCHOR BOLT
AFF	ABOVE FINISH FLOOR
ACI	AMERICAN CONCRETE INSTITUTE
ADD'L	ADDITIONAL
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AFS	ARCH FINISH SURFACE
AGGR	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ALT	ALTERNATE
ARCH	ARCHITECTURAL
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY

B

BF	BACK FACE
BFB	BOTTOM FLANGE BRACE
BFF	BELOW FINISH FLOOR
BL	
BLE	BRICK LEDGE ELEVATION
BLK	BLOCK
BLKG	BLOCKING
BM	
BO	BOTTOM OF
BOA	BACK OF ANGLE
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BP	BASE PLATE
BBP	BRACE BASE PLATE
BRG	BEARING
BRKT	BRACKET
BLE	BRICK LEDGE ELEVATION
BTWN	BETWEEN

C

C	CHANNEL
COMP	COMPRESSION
CANT	CANTILEVER
CGS	CENTROID OF TENDONS
CIP	CAST IN PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CJP	COMPLETE JOINT PENETRATION
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPRESSION
CONN	CONNECTION
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COR	CORNER
CRSI	CONCRETE REINFORCING STEEL INSTITUTE

D

DBA	DOWEL BAR ANCHOR
DBL	DOUBLE
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM(S)	DIMENSION(S)
DL	DEAD LOADS
DT	DOUBLE TEE
DS	DOWNSPOUT
DWG(S)	DRAWING(S)
DWL(S)	DOWEL(S)

E

EA	EACH
EAO	EDGE ANGLE OFFSET
EDC	ELECTRICAL DISTRIBUTION CENTER
EF	EACH FACE
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ENGR	ENGINEER
EOD	EDGE OF ROOF DECK
EOS	EDGE OF FLOOR SLAB
EQ	EQUAL
EQUIV	EQUIVALENT
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
EX-STR	EXTRA STRONG

F

FABR	FABRICATOR
FBP	FIXED BASE PATE
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISHED FLOOR
FL	FLOOR
FLG	FLANGE
FM	FACTORY MUTUAL
FRP	FIBER REINFORCED PLASTIC
FS	FAR SIDE
FTG	FOOTING
FP	FIREPROOF(ING)
FV	FIELD VERIFY

G

GA	GAUGE
GB	GRADE BEAM
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GR	GRADE
GYP BD	GYPSUM BOARD

H

H	HEIGHT
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR

I

IBC	INTERNATIONAL BUILDING CODE
INFO	INFORMATION
INT	INTERIOR
INTERM	INTERMEDIATE
ISO	ISOLATION
IT	INVERTED TEE

J

JBE	JOIST BEARING ELEVATION
JST	JOIST
JT	JOINT

K

KIP	1000 POUNDS
KLF	KIP PER LINEAR FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH

L

L	ANGLE OR LENGTH
LB	POUNDS
Ld	TENSION DEVELOPMENT LENGTH AS SHOWN IN REINFORCING LAP SCHEDULE
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LONG	LONGITUDINAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
LWC	LIGHT WEIGHT CONCRETE

M

MAX	MAXIMUM
MC	MOMENT CONNECTION
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MTL	METAL
MTR	MATERIAL

N

NIC	NOT IN CONTRACT
NO OR #	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE (150 PCF)

O

OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG(S)	OPENING(S)

P

PAF	POWDER ACTUATED FASTENER
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PCI	PRECAST AND PRESTRESSED CONCRETE INSTITUTE
PT	POST-TENSIONING INSTITUTE
PE	PROFESSIONAL ENGINEER
PEMB	PRE-ENGINEERED METAL BUILDING
PENTR	PENETRATION
PL	PLATE
PLAM	PLASTIC LAMINATE
PLF	POUNDS PER LINEAR FOOT
PP	PARTIAL PENETRATION
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POST-TENSIONING

Q

QTY	QUANTITY

R

R	RADIUS
RAF	RAISED ACCESS FLOOR
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
REF	REFER TO
REINF	REINFORCING
REQD	REQUIRED
REV	REVERSE
RND	ROUND
RO	ROUGH OPENING
RTU	ROOF TOP UNIT

S

SCHED	SCHEDULE(D)
SECT	SECTION
SF	SQUARE FOOT (FEET)
SHT	SHEET
SIM	SIMILAR
SPA	SPACE
SPECS	SPECIFICATIONS
SPEC'D	SPECIFIED
STIFF	STIFFNER
STIR	STIRRUPS
STL	STEEL
SUBCONTR	SUB-CONTRACTOR
SW	SIDEWALK
SYM	SYMMETRICAL

T

TEMP	TEMERATURE
T	TENSION
TERR	TERRAZO
THK	THICK
T&B	TOP AND BOTTOM
TOB	TOP OF BEAM
TOF	TOP OF FOOTING
TOP	TOP OF PIER ELEVATION
TOS	TOP OF STEEL
TOSC	TOP OF STRUCTURAL CONCRETE
TOW	TOP OF WALL
TYP	TYPICAL

U

UNO	UNLESS NOTED OTHERWISE

V

V	SHEAR
VERT	VERTICAL

W

WS	WATERSTOP
WPFG	WATERPROOFING
WWF	WELDED WIRE FABRIC
WB	WIND BRACE
WL	WIND LOAD
W/	WITH
W/O	WITHOUT
WP	WORKING POINT
WD	WOOD

Kubala ENGINEERS
Ph: (800)248-3674
www.kubalaengineers.com
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Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

DRAWN BY: JJ

GENERAL NOTES

S-010

Plot Stamp:
10/29/2026 5:57:48 PM

GENERAL:

CODES, DRAWINGS AND SPECIFICATIONS:

1. THE CONSTRUCTION DOCUMENTS ARE BASED ON THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE IBC 2021. ALL CODES AND SPECIFICATIONS LISTED ABOVE SHALL INCLUDE ALL AMENDMENTS AND ADDENDA IN FORCE AT THE DATE OF THE CONTRACT DOCUMENTS.

TYPICAL DETAILS:

1. TYPICAL DETAILS SHOWN ON THE DRAWINGS SHALL APPLY TO ALL SIMILAR LIKE CONDITIONS OCCURRING ON THE PROJECT WHETHER OR NOT THEY ARE KEYED IN AT EACH PARTICULAR LOCATION.

MISCELLANEOUS:

1. WHERE CONFLICTS EXIST BETWEEN THE VARIOUS PUBLICATIONS AS SPECIFIED HEREIN, THE STRICTER REQUIREMENTS SHALL GOVERN UNLESS NOTED OTHERWISE. WHERE CONFLICTS EXIST BETWEEN THE VARIOUS PARTS OF THE STRUCTURAL CONTRACT DOCUMENTS (STRUCTURAL DOCUMENTS, SPECIFICATIONS) AS SPECIFIED HEREIN, THE STRICTER REQUIREMENTS SHALL GOVERN.
2. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN ALL CONTRACT DOCUMENTS AND LATEST ADDENDA AND TO SUBMIT SUCH DOCUMENTS TO ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO THE SUBMITTAL OF SHOP DRAWINGS, FABRICATION OF ANY STRUCTURAL MEMBERS, AND ERECTION IN THE FIELD.
3. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCE.
4. SLEEVES AND BLOCKOUTS REQUIRED FOR PASSAGE OF DUCTWORK, PIPING, DRAINS, CONDUIT, ETC., AND ANCHORS REQUIRED FOR ANCHORING EQUIPMENT AND PIPING ARE NOT GENERALLY INDICATED ON THE STRUCTURAL DRAWINGS. THE CONTRACTOR SHALL DETERMINE SUCH REQUIREMENTS FROM OTHER SERIES DRAWINGS, SUBCONTRACTORS, AND SUPPLIERS AND SHALL COORDINATE THE LOCATIONS AND DETAILS FOR THESE ITEMS PRIOR TO FABRICATION OR CONSTRUCTION OF THE STRUCTURE. ANY CONFLICTS BETWEEN THESE ITEMS AND THE BUILDING STRUCTURE SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR RESOLUTION.
5. VERIFY, OR ESTABLISH, LOCATIONS AND DIMENSIONS OF ALL FRAMED OPENINGS RELATED TO EQUIPMENT OR DUCTWORK, INCLUDING INSULATION, IF ANY. WHERE SUBSTANTIAL RELOCATION OR RECONFIGURATION IS REQUIRED, SUBMIT A DRAWING TO THE ARCHITECT FOR REVIEW.
6. MATERIALS OR PRODUCTS SUBMITTED FOR APPROVAL WHICH ARE NOT AS SPECIFIED IN THE DOCUMENTS SHALL BE ACCOMPANIED BY A CURRENT ES REPORT (BY ICC EVALUATION SERVICE, INC.) OR ICBO REPORT (BY INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS). MATERIALS OR PRODUCTS THAT DO NOT HAVE AN ES OR ICBO REPORT INDICATING THE SUBSTITUTED MATERIAL OR PRODUCT TO BE EQUAL TO THAT SPECIFIED, WILL NOT BE CONSIDERED.
7. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR SPECIFIED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS SHOWN OR SPECIFIED IN SIMILAR CONDITIONS.
8. THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCY BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
9. ALL HEAVILY LOADED VEHICLES, CONCRETE TRUCKS AND CRANES SHALL NOT BE DRIVEN ACROSS GRADE BEAMS OR BUILDING SLABS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO THE SLAB INDUCED FROM THIS TYPE OF EQUIPMENT.
10. ERECTION OF STRUCTURAL STEEL MAY NOT BEGIN UNTIL CONCRETE FOUNDATION HAS CURED FOR A MINIMUM OF THREE DAYS. STRUCTURAL STEEL OR OTHER HEAVY LOADS SHALL NOT BE STOCKPILED ON ANY SLAB UNTIL IT HAS CURED FOR A MINIMUM OF SEVEN DAYS.
11. NOTE THAT THE GROUND FLOOR SLAB IS A GROUND SUPPORTED SLAB AT GRADE AS PER THE DESIGN RECOMMENDED IN THE SOIL REPORT. IT IS NOT A STRUCTURAL SLAB AND AS SUCH IT IS NOT DESIGNED FOR ANY EXTERNAL UPWARD OR DOWNWARD LOADS, IT IS INTENDED TO BE ENTIRELY SUPPORTED BY THE PREPARED GROUND UNDER THE SLAB. THE CONTRACTOR SHOULD NOTE THAT THE PERFORMANCE OF THE SLAB AS DESIGNED AND INTENDED BY THE SOIL ENGINEER IS HIGHLY DEPENDENT ON HOW WELL THE CONTRACTOR FOLLOWS THE SITE PREPARATION INSTRUCTION IN THE SOIL REPORT.
12. ALL STRUCTURAL ELEMENTS OF THE PROJECT HAVE BEEN DESIGNED BY THE STRUCTURAL ENGINEER TO RESIST THE REQUIRED CODE VERTICAL AND LATERAL FORCES THAT COULD OCCUR IN THE FINAL COMPLETED STRUCTURE ONLY. THE ABILITY OF THE STRUCTURAL FRAME TO RESIST THE REQUIRED CODE FORCES DERIVES FROM THE COMPLETE INSTALLATION OF THE LATERAL FORCE RESISTING SYSTEMS AND DIAPHRAGMS DESCRIBED BELOW. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL REQUIRED BRACING DURING CONSTRUCTION TO MAINTAIN THE STABILITY AND SAFETY OF ALL STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PROCESS UNTIL THE LATERAL-LOAD RESISTING OR STABILITY-PROVIDING SYSTEM IS COMPLETELY INSTALLED AND ALL DESIGNATED CONCRETE ELEMENTS (IF ANY) HAVE REACHED A MINIMUM OF 75% OF THEIR DESIGN STRENGTH.
13. THE STRUCTURE HAS BEEN DESIGNED FOR THE LOADS IDENTIFIED WITHIN THESE STRUCTURAL DRAWINGS THAT ARE ANTICIPATED TO BE APPLIED TO THE FINAL STRUCTURE ONCE COMPLETED AND OCCUPIED. THE CONTRACTOR SHALL NOT OVERLOAD THE STRUCTURE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE ADEQUACY OF THE STRUCTURE TO SUPPORT ANY APPLIED CONSTRUCTION LOADS, INCLUDING THOSE DUE TO CONSTRUCTION VEHICLES OR EQUIPMENT, MATERIAL HANDLING OR STORAGE, SHORING OR RESHORING, OR ANY OTHER CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL SUBMIT CALCULATIONS SIGNED AND SEALED BY AN ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED VERIFYING THE ADEQUACY OF THE STRUCTURE FOR ANY PROPOSED CONSTRUCTION LOADS THAT ARE IN EXCESS OF THE STATED DESIGN LOADS. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE TO DESIGN OR CHECK THE STRUCTURE FOR LOADS APPLIED TO THE STRUCTURE FOR ANY CONSTRUCTION ACTIVITY.

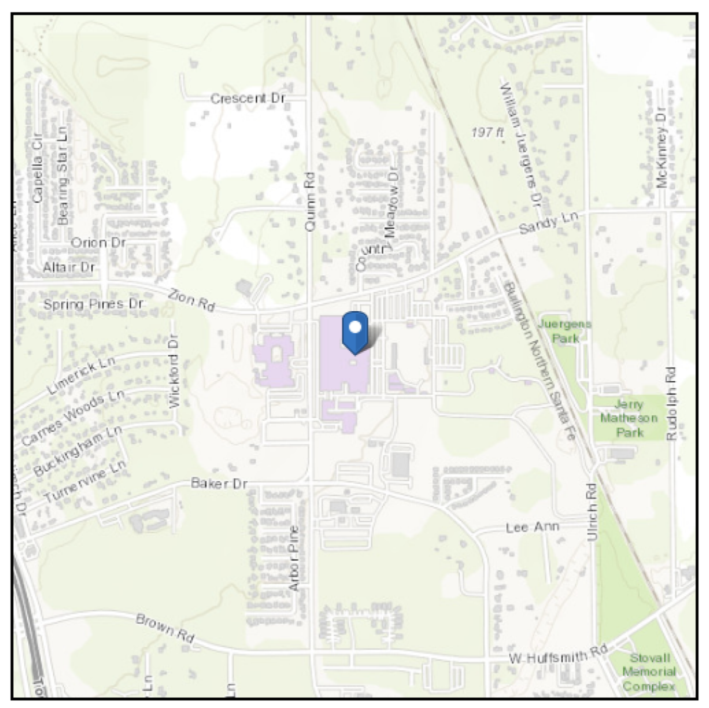
ASCE WIND HAZARD SPREADSHEET: TOMBALL HS

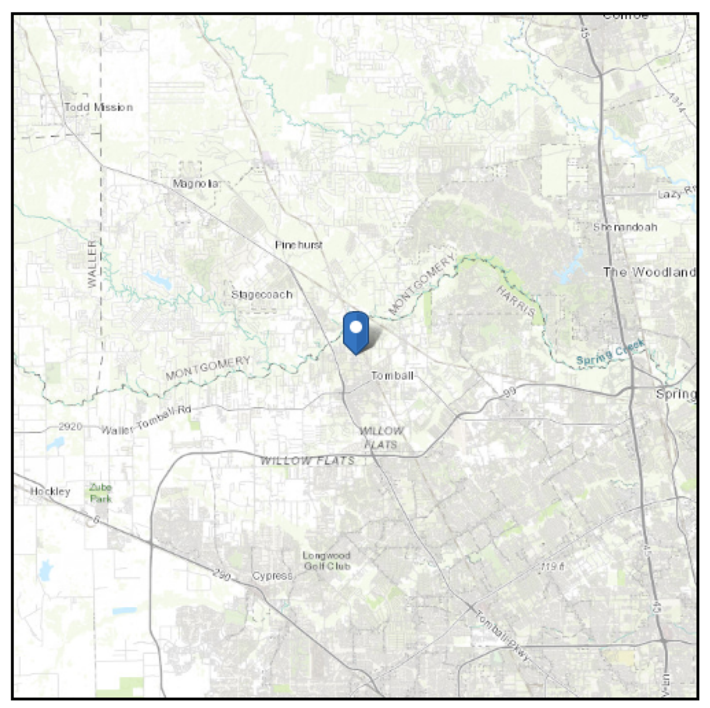
ASCE Hazards Report

Address:
30330 Quinn Rd
Tomball, Texas
77375

Standard: ASCE/SEI 7-16
Risk Category: III
Soil Class: D - Stiff Soil

Latitude: 30.111658
Longitude: -95.627575
Elevation: 209.88187185073411 ft (NAVD 88)





Wind

Results:

Wind Speed	135 Vmph
10-year MRI	75 Vmph
25-year MRI	86 Vmph
50-year MRI	96 Vmph
100-year MRI	104 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1C and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Wed Jul 22 2026

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 3% probability of exceedance in 50 years (annual exceedance probability = 0.000588, MRI = 1,700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

DESIGN CRITERIA:

DEAD LOADS:

1. DEAD LOADS INCLUDE THE WEIGHT OF THE STRUCTURAL COMPONENTS AND ALLOWANCES FOR PERMANENT PARTITIONS, PERMANENT FIXTURES, FINISHES, ROOFING, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION MATERIALS SHOWN OR SPECIFIED.
2. LOADINGS FOR MECHANICAL ROOMS ARE BASED ON THE WEIGHTS OF ASSUMED EQUIPMENT,AS INDICATED ON THE MECHANICAL DRAWINGS (INCLUDING THE WEIGHT OF CONCRETE PADS, WHERE INDICATED). ANY CHANGES IN TYPE, SIZE, LOCATION OR NUMBER OF PIECES OF EQUIPMENT SHOULD BE REPORTED TO THE ARCHITECT FOR VERIFICATION OF THE ADEQUACY OF SUPPORTING MEMBERS PRIOR TO THE PLACEMENT OF SUCH EQUIPMENT.
3. DESIGN DEAD LOADING IS AS FOLLOWS:

ROOF (RIGID INSULATION BOARD)	SELF WEIGHT + 25 PSF COLLATERAL
ROOF (LIGHTWEIGHT INSULATION FILL)	SELF WEIGHT + 35 PSF COLLATERAL
FLOOR	SELF WEIGHT + 25 PSF COLLATERAL

LIVE LOADS:

1. DESIGN LIVE LOADING IS AS FOLLOWS:

ROOF	20 PSF, 300# CONCENTRATED LOAD (REDUCIBLE)
TYPICAL FLOORS	100 PSF , 1000# CONCENTRATED LOAD (REDUCIBLE)
ALL SLABS-ON-GRADE	100 PSF
MECHANICAL/ELECTRICAL ROOM (MIN.)	150 PSF (UNREDUCIBLE)
ELEVATOR MACHINE ROOM	150 PSF (UNREDUCIBLE)
HANDRAILS AND GUARDRAILS	50 PLF OR 200# APPLIED AT TOP RAIL IN ANY DIRECTION
LIBRARY (MEDIUM STACK)	100 PSF (UNREDUCIBLE)
LIBRARY (HEAVY STACK)	150 PSF (UNREDUCIBLE)
LIGHT STORAGE	125 PSF (UNREDUCIBLE)
STAGE	125 PSF (UNREDUCIBLE)
STAIRWAYS AND EXITS	100 PSF + 300# CONCENTRATED LOAD AT TREAD MIDSPAN
CATWALKS	40 PSF

SNOW LOADS:

1. DESIGN SNOW LOADING IS AS FOLLOWS:

GROUND SNOW LOAD, Pg	5.0 PSF
SNOW LOAD IMPORTANCE FACTOR	1.1
SNOW RISK CATEGORY	III
SNOW THERMAL FACTOR, Ct	1.0
SNOW EXPOSURE FACTOR, Ce	0.9
FLAT SNOW LOAD, Pf	3.5 PSF
ROOF SLOPE FACTOR, Cs	1.0
SLOPED (BALANCED) SNOW LOAD, Ps	3.5 PSF

WIND LOADS:

1. WIND PRESSURES ARE BASED ON THE PROVISIONS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE 7-16, CITY OF TOMBALL AMENDMENTS, AND THE FOLLOWING CRITERIA:

A. WIND DESIGN DATA (USED FOR PRESSURE DETERMINATION FOR THE DESIGN OF BUILDING)

1. BASIC WIND SPEED, V	135 MPH (3-SECOND GUST) (ULTIMATE)
2. WIND OCCUPANCY CATEGORY	III
3. WIND IMPORTANCE FACTOR, I	1.0
4. WIND EXPOSURE CATEGORY	C
5. INTERNAL PRESSURE COEFFICIENT, Gcpi	+/-0.18
6. WIDTH OF END ZONE, 2a	36.6 FT

B. WIND-BORNE DEBRIS DATA*** (USED TO DETERMINE IF BUILDING IS LOCATED WITHIN A WIND-BORNE DEBRIS REGION)

1. WIND-BORNE DEBRIS BASIC WIND SPEED TRIGGER, V	140 MPH (3-SECOND GUST) (ULTIMATE)
2. BASIC WIND SPEED, V	125 MPH
3. WIND OCCUPANCY CATEGORY	II
4. WIND-BORNE DEBRIS PROTECTION REQUIRED?	NO

*** - THE INFORMATION SHOWN IN WIND LOADS SECTION 1.B IS ONLY PROVIDED TO INDICATE IF THE BUILDING IS WITHIN A WIND-BORNE DEBRIS AREA. THIS SECTION DOES NOT APPLY TO ANY COMPONENTS THAT ARE LISTED AS DELEGATED DESIGN. ALL DELEGATED DESIGN COMPONENTS SHALL BE DESIGN FOR THE WIND DESIGN DATA AND DESIGN WIND PRESSURES PROVIDED IN SECTION 1.A AND 1.C.

C. DESIGN WIND PRESSURES

1. MAIN WIND-FORCE RESISTING SYSTEM (MWFRS)

I. WALLS (WW+LW)

0'-15'	41.0 PSF
15'-20'	42.4 PSF
20'-25'	43.6 PSF
25'-30'	44.6 PSF
30'-40'	46.2 PSF
40'-45'	47.0 PSF
45'-56'	48.2 PSF

II. PARAPETS (WP+LP) 89.4 PSF

2. COMPONENTS AND CLADDING

I. WALLS (AREA = 75 SF)

INTERIOR ZONE	47.9 PSF
END ZONE	54.1 PSF

II. PARAPETS (AREA = 10 SF)

INTERIOR ZONE	137.4 PSF
CORNER ZONE	158.0 PSF

III. ROOF UPLIFT (GROSS) - ROOF ATTACHMENTS (AREA = 10 SF)

NEGATIVE ZONE 1 & 2e	92.8 PSF
NEGATIVE ZONE 2n, 2r & 3e	135.4 PSF
NEGATIVE ZONE 3r	160.9 PSF
OVERHANG ZONE* 1 & 2e	98.8 PSF
OVERHANG ZONE* 2n & 2r	141.3 PSF
OVERHANG ZONE* 3r	200.1 PSF
OVERHANG ZONE* 3e	174.5 PSF

IV. ROOF UPLIFT (GROSS) - JOISTS (AREA = 100 SF)

NEGATIVE ZONE 1 & 2e	28.9 PSF
NEGATIVE ZONE 2n, 2r & 3e	74.5 PSF
NEGATIVE ZONE 3r	84.3 PSF
OVERHANG ZONE* 1 & 2e	56.2 PSF
OVERHANG ZONE* 2n & 2r	81.9 PSF
OVERHANG ZONE* 3r	97.9 PSF
OVERHANG ZONE* 3e	71.5 PSF

V. ROOF UPLIFT (GROSS) - GIRDERS (AREA > 700 SF)

0' TO h	40.2 PSF
h TO 2h	25.8 PSF
>2h	18.5 PSF
WINDWARD ROOF OVERHANGS (ADD TO WINDWARD ROOF PRESSURE)	28.9 PSF (UPWARD)

VI. ROOF POSITIVE WIND PRESSURE (GROSS) - ALL ZONES

C&C AREA = 10 SF	16.0 PSF
C&C AREA = 100 SF	16.0 PSF
C&C AREA > 700 SF	16.0 PSF

* - OVERHANG PRESSURES IN THE TABLE ABOVE ASSUME AN INTERNAL PRESSURE COEFFICIENT (Gcpi) OF 0.0 AND OVERHANG SOFFIT PRESSURES EQUALS ADJACENT WALL PRESSURE (WHICH INCLUDES INTERNAL PRESSURE OF 7.7 PSF)

SEISMIC LOADS:

1. THE STRUCTURE AND COMPONENTS OF THE BUILDING HAVE BEEN DESIGNED IN ACCORDANCE WITH AFOREMENTIONED BUILDING CODE WITH THE FOLLOWING CRITERIA:

RISK CATEGORY	III
IMPORTANCE FACTOR	1.25
MAPPED SPECTRAL RESPONSE COEFFICIENT:	Ss = 0.XXXg S1 = 0.XXXg
SITE CLASS	D
DESIGN SPECTRAL RESPONSE COEFFICIENTS:	Sds = 0.XXXg Sd1 = 0.XXXg
SEISMIC DESIGN CATEGORY	A
LATERAL SYSTEM	STRUCTURAL STEEL SYSTEM NOT SPECIFICALLY DESIGNED FOR SEISMIC RESISTANCE
BASE SHEAR	V = XXK
SEISMIC RESPONSE COEFFICIENT	CS = 0.XX
RESPONSE MODIFICATION FACTOR	R = X.X
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE PROCEDURE

ALLOWANCE NOTES:

TO ACCOUNT FOR ANY POTENTIALLY UNREALIZED CONDITIONS THE GENERAL CONTRACTOR SHALL PROVIDE THE FOLLOWING ALLOWANCES:

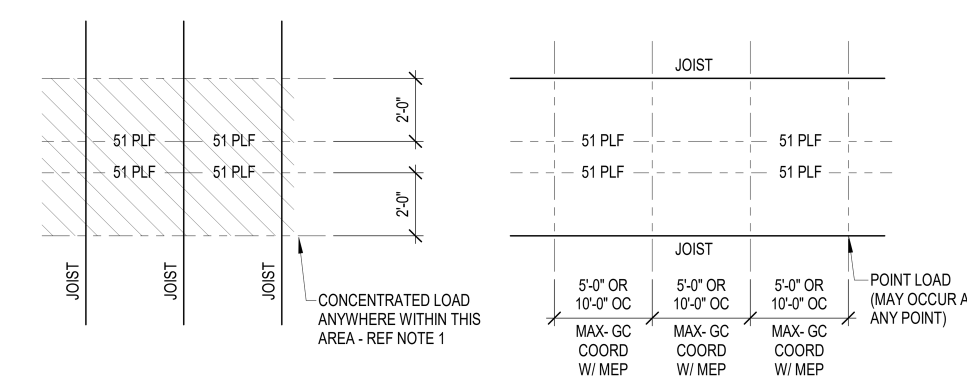
1. PROVIDE AN ALLOWANCE FOR AN ADDITIONAL 8 TONS OF MISCELLANEOUS STEEL. SIZES OF MEMBERS AND USE OF MEMBERS SHALL BE AS DIRECTED BY THE ARCHITECT IN THE FIELD. ALLOWANCE SHALL INCLUDE/ACCOUNT FOR ALL COSTS FOR MATERIAL, FABRICATION, DELIVERY, ERECTION, ETC. ANY UNUSED PORTION OF THE 8 TONS OF STEEL SHALL BE CREDITED BACK TO THE OWNER AT $4,800.00 / TON.
2. PROVIDE AN ALLOWANCE FOR AN ADDITIONAL 85 CUBIC YARDS OF CONCRETE. SIZE OF MEMBERS AND USE OF MEMBERS SHALL BE AS DIRECTED BY THE ARCHITECT IN THE FIELD. ALLOWANCE SHALL INCLUDE/ACCOUNT FOR ALL COSTS FOR MATERIAL, FABRICATION, DELIVERY, LABOR FOR INSTALLATION/ PLACEMENT, FORMWORK, ETC. REINFORCEMENT FOR CONCRETE SHALL ALSO BE INCLUDED AS PART OF THIS ALLOWANCE AND SHALL BE ASSUMED TO BE 2% MINIMUM BY VOLUME. ANY UNUSED PORTION OF THE 85 CUBIC YARDS SHALL BE CREDITED BACK TO THE OWNER AT $190.00 / CUBIC YARD.
3. CONTRACTOR SHALL PROVIDE IN HIS BID A UNIT PRICE ADD AND UNIT PRICE DEDUCT FOR EACH PIER SIZE UTILIZED ON THE PROJECT.
4. THE PRICE FOR CASING OF PIERS SHALL BE INCLUDED WITHIN THE BASE BID FOR ALL DRILLED (BELLED) PIERS ON THE PROJECT. CONTRACTOR SHALL PROVIDE AN ALLOWANCE FOR 100% CASING OF DRILLED PIERS. CONTRACTOR SHALL ALSO PROVIDE UNIT PRICE FOR EACH SIZE OF CASING UTILIZED ON THE PROJECT. PAYMENT FOR CASING SHALL BE BASED UPON NET LENGTH OF CASING UTILIZED MULTIPLIED BY THE UNIT PRICE.
5. THE DRAWINGS AND SPECIFICATIONS MAY NOT INDICATE OR DESCRIBE ALL OF THE WORK REQUIRED FOR THE PERFORMANCE AND COMPLETION OF THE PROJECT. REFER TO IMPORTANT FOUNDATION / CONCRETE, MASONRY / CMU, AND STEEL NOTES TO PROPOSERS FOLLOWING THIS SECTION.

MISCELLANEOUS LOADS:

1. ALL JOISTS ALONG PIPE RUN SHALL BE DESIGNED FOR SUSPENDED PIPE WEIGHT. IT'S THE GENERAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE HOW OFTEN PIPES WILL BE HUNG (5'-0" OC OR 10'-0" OC) SO THAT PROPER LOADING MAY BE ACCOUNTED FOR. IT IS RECOMMENDED TO HANG FROM EACH JOIST (GC MUST COORDINATE WITH MEP CONTRACTOR TO ENSURE SAME HANGING PATTERN IS FOLLOWED):

ADDITIONAL JOIST DEAD-LOAD FOR MECHANICAL PIPE LOADS WITH WATER

PIPE SIZE (DIAMETER)	PERPENDICULAR CONDITION	PARALLEL CONDITION
3"	110 LBS AT 10'-0"	11 PLF
4"	170 LBS AT 10'-0"	17 PLF
5"	240 LBS AT 10'-0"	24 PLF
6"	320 LBS AT 10'-0"	32 PLF
8"	510 LBS AT 10'-0"	51 PLF
10"	750 LBS AT 10'-0"	75 PLF



PIPE RUN JOIST LOADING

NOTE:
WHERE PIPES RUN PERPENDICULAR TO JOISTS, JOISTS THAT ARE SUPPORTING PIPES SHALL BE DESIGNED FOR ADDITIONAL CONCENTRATED DEAD LOAD AT ANY POINT ALONG JOIST SPAN WITHIN THE HATCHED AREA.

2. ARCHITECTURAL BARRIER ACT STANDARD:

ITEM	REQUIRED CAPACITY
GRAB BAR	250 POUNDS ANY DIRECTION
TUB OR SHOWER SEAT	250 POUNDS ANY DIRECTION
FASTENERS & MOUNTING DEVICES	250 POUNDS ANY DIRECTION

BUILDING MOVEMENT AND DEFLECTION:

	DEFLECTION LIMIT
A. ROOF MEMBERS	
1. LIVE LOAD MAXIMUM ALLOWABLE DEFLECTION	SPAN/360
2. TOTAL LOAD MAXIMUM ALLOWABLE DEFLECTION	SPAN/240
B. FLOOR MEMBERS	
1. LIVE LOAD MAXIMUM ALLOWABLE DEFLECTION	SPAN/360
2. TOTAL LOAD MAXIMUM ALLOWABLE DEFLECTION	SPAN/240
C. MEMBERS SUPPORTING MASONRY	
1. LIVE LOAD MAXIMUM ALLOWABLE DEFLECTION	SPAN/600 OR 3/8"
D. BUILDING FRAME	
1. MAXIMUM ALLOWABLE STORY DRIFT	HEIGHT/500 (TOTAL BUILDING HEIGHT)

IMPORTANT NOTES TO CONTRACTORS & PROPOSERS:

FOUNDATION / CONCRETE:

1. THESE DRAWINGS AND SPECIFICATIONS DO NOT NECESSARILY INDICATE ALL OF THE WORK REQUIRED FOR THE COMPLETION OF THE PROJECT. THESE DRAWINGS DO NOT NECESSARILY INDICATE ALL FOUNDATION / CONCRETE WORK WHICH MAY BE REQUIRED BASED ON THE ARCHITECTURAL DRAWINGS.

2. WHERE FOUNDATION / CONCRETE ITEMS ARE IMPLIED OR INDICATED ON THE STRUCTURAL OR ARCHITECTURAL DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FABRICATION AND INSTALLATION OF THESE ITEMS. THIS INCLUDES ANY FOUNDATION / CONCRETE ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS AND NOT SHOWN ON THE STRUCTURAL DRAWINGS AND ANY ITEMS SHOWN ON THE STRUCTURAL DRAWINGS AND NOT NOTED. PROPOSERS SHALL ASSUME FOR PROPOSAL PURPOSES ONLY THE SIZE OF THESE ITEMS ARE AS FOLLOWS:

A. GRADE BEAMS: GB2 (REFER TO GRADE BEAM SCHEDULE)
B. PILASTER OR PLINTH: PILASTER MATCHING SIZE AND REINF. PER TYPICAL PILASTER DETAILS.
C. SLAB-ON-GRADE: 5" THICK CONCRETE SLAB ON GRADE REINFORCED WITH EITHER:
- #3 BARS AT 10" OC EACH WAY ON 2 3/4" CHAIRS SPACED AT 36" OC EACH WAY, OR,
- #4 BARS AT 16" OC EACH WAY ON 2 1/2" CHAIRS SPACED AT 36" OC EACH WAY.
PLACE THE SLAB ON A 15 MIL WATER VAPOR BARRIER OVER COMPACTED SELECT FILL, REFER TO SOIL REPORT.
FOR SLAB JOINT DETAILS, REFER TO 1/S-301 AND 2/S-301.
D. STEM WALLS: 10" THICK WITH (2) LAYERS OF #5 BARS AT 12" OC EACH WAY, ONE LAYER ON EACH FACE WITH 3" CLEAR COVER.

THE CONTRACTOR SHALL SUBMIT AN RFI AND THE ENGINEER SHALL APPROVE THE SIZE OF THE MEMBER BEFORE CONSTRUCTION OR FABRICATION

3. THERE ARE NUMEROUS AREAS OF "EXTERIOR CONCRETE" THAT IS SHOWN BY STRUCTURAL. IN ALL CASES THIS CONCRETE IS INTENDED TO BE SUSPENDED WHETHER ADJACENT TO SLAB-ON-GRADE OR SUSPENDED SLAB AREAS. THE FINISH OF THIS CONCRETE SHALL FOLLOW DIRECTION FROM ARCH/CIVIL. THE SLOPE OF THESE AREAS SHALL FOLLOW ARCH/CIVIL. STRUCTURAL CANNOT DICTATE THE DIRECTION OF SLOPE OR FINISH OF THESE CONCRETE AREAS, IT IS THE GC'S SOLE RESPONSIBILITY TO COORDINATE WITH THE ARCH AND CIVIL DRAWINGS AND PROVIDE APPROPRIATE SLOPE DIRECTION, SLOPE AMOUNT, AND SURFACE FINISH TO MEET ALL REQUIREMENTS SET FOR IN ARCH AND CIVIL DRAWINGS, TYPICAL. GC SHALL ENSURE ALL STOREFRONTS, DOORS AND/OR OTHER OPENING INFILL ELEMENTS HAVE AN APPROVED WATERSTOP BELOW BETWEEN THE INFILL COMPONENT AND THE SLAB. THIS IS REQUIRED AT ALL AREAS BUT EXCEPTIONALLY CRITICAL AT THE AREAS WITH EXTERIOR STRUCTURAL SLAB.

4. UNLESS SPECIFICALLY DIRECTED OTHERWISE WITHIN THE STRUCTURAL CD'S OR SPECIFICATIONS, AT ALL SAW-CUT AND CONSTRUCTION JOINTS WITHIN CONCRETE SLABS-ON-GRADE THE GENERAL CONTRACTOR SHALL PROVIDE A SEMI-RIGID JOINT FILLER, EITHER MM80 OR EUCO 700 WITHIN EACH JOINT. THE JOINT FILLER MUST BE INSTALLED SOON AFTER CONCRETE SLAB INSTALLATION TO PREVENT SPALL AND BREAK-DOWN OF THE HARD CONCRETE EDGES OF THE SAW-CUTS AND CONSTRUCTION JOINTS UNDER THE CONSTRUCTION EQUIPMENT. FOLLOW ALL MANUFACTURERS RECOMMENDATIONS FOR PROPER CLEANING AND PREP PRIOR TO INSTALL. THE FILLER MUST FILL THE FULL LENGTH AND FULL DEPTH OF THE JOINT. ONCE INSTALLED THE JOINT FILLER SHALL BE PROTECTED UNTIL THE BUILDING IS APPROVED FOR OCCUPANCY. IF THE CONTRACTOR DESIRES TO PROVIDE AN APPROVED EQUAL TO THE PRODUCTS SPECIFIED ABOVE OR WITHIN THE CONSTRUCTION DOCUMENTS THE GENERAL CONTRACTOR MUST RECEIVE WRITTEN APPROVAL FROM THE STRUCTURAL EOR PRIOR TO ASSUMING COST WITHIN BID. UNTIL SUCH APPROVAL CAN BE PROVIDED THE GENERAL CONTRACTOR SHALL ACCOUNT FOR THE COST OF THE APPROVED PRODUCTS WITHIN THE CD'S AND / OR AS NOTED ABOVE.

MASONRY / CMU:

1. THESE DRAWINGS AND SPECIFICATIONS DO NOT NECESSARILY INDICATE ALL OF THE WORK REQUIRED FOR THE COMPLETION OF THE PROJECT. THESE DRAWINGS DO NOT NECESSARILY INDICATE ALL MASONRY / CMU WORK WHICH MAY BE REQUIRED BASED ON THE ARCHITECTURAL DRAWINGS.

2. IF A CMU WALL IS INDICATED ON THE ARCHITECTURAL DRAWINGS AND NO SUPPORT MEMBERS OR NOTES HAVE BEEN INDICATED WHERE SUPPORT AND NOTES HAVE BEEN PROVIDED FOR OTHER SIMILAR CONDITIONS THE GC SHALL ASSUME A LIKE FOR LIKE SUPPORT SYSTEM FOR SIMILAR HEIGHTS OF CMU. FOR EXAMPLE: IF A FULL HEIGHT WALL IS SHOWN ON ARCHITECTURAL IT SHALL BE ASSUMED THAT THE SAME STRUCTURAL SUPPORT WILL BE PROVIDED BELOW THIS WALL AS IS SHOWN FOR ALL FULL HEIGHT WALLS, THIS WOULD INCLUDE THE SAME TYPICAL GRADE BEAM, TYPICAL PIER, AND TYPICAL CMU REINFORCEMENT.

3. U.N.O. GC SHALL ASSUME ALL INTERIOR CMU WALLS, NOT BEING USED AS STRUCTURAL SHEARWALLS, WILL BE BRACED TO THE ABOVE STRUCTURE, ROOF OR FLOOR, PER 5/S-400 AND THAT WALLS ARE REINFORCED PER 2/S-401. U.N.O. GC SHALL ASSUME ALL EXTERIOR CMU WALLS AND ALL INTERIOR CMU WALLS BEING USED AS SHEARWALLS TO BE STRUCTURALLY CLIPPED TO THE FLOOR OR ROOF ABOVE PER 8/S-402 AND THAT ALL WALLS ARE REINFORCED PER 5/S-401.

STEEL:

1. THESE DRAWINGS AND SPECIFICATIONS DO NOT NECESSARILY INDICATE ALL OF THE WORK REQUIRED FOR THE COMPLETION OF THE PROJECT. THESE DRAWINGS DO NOT NECESSARILY INDICATE ALL SECONDARY FRAMING WHICH MAY BE REQUIRED BASED ON THE ARCHITECTURAL DRAWINGS.

2. WHERE MISCELLANEOUS METAL ITEMS ARE IMPLIED OR INDICATED ON THE STRUCTURAL OR ARCHITECTURAL DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FABRICATION AND INSTALLATION OF THESE ITEMS. THIS INCLUDES ANY MISCELLANEOUS METAL ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS AND NOT SHOWN ON THE STRUCTURAL DRAWINGS AND ANY ITEMS SHOWN ON THE STRUCTURAL DRAWINGS AND NOT NOTED. PROPOSERS SHALL ASSUME FOR PROPOSAL PURPOSES ONLY THE SIZE OF THESE ITEMS ARE AS FOLLOWS:

A. ANGLES: L6X6X3/8
B. CHANNELS: C12X20.7
C. PLATES: 1/2" THICK
D. ANCHOR RODS: 1 1/2" DIAMETER X 18" LONG
E. EPOXY ANCHORS: 3/4" DIAMETER AT 48" OC MAX SPACING
F. WIDE FLANGE BEAMS: W24X55
G. WIDE FLANGE COLUMNS: W12X79
H. HSS COLUMNS: HSS8X8X1/2
I. HSS BEAMS: HSS18X6X5/8
J. VERT. BRACE: HSS8X8X3/8

THE CONTRACTOR SHALL SUBMIT AN RFI AND THE ENGINEER SHALL APPROVE THE SIZE OF THE MEMBER BEFORE CONSTRUCTION OR FABRICATION

3. PROVIDE SUPPORT FOR EDGES OF ROOF AND FLOOR DECK WHETHER SHOWN ON THE DRAWINGS OR NOT. PROVIDE CONTINUOUS SCREED ANGLE OR BENT PLATE FOR SLAB EDGES.

4. PROVIDE SHEAR STUDS AT ALL FLOOR BEAMS. BEAMS WITHOUT STUDS NOTED SHALL HAVE 3/4" DIAMETER STUDS SPACED AT 12" OC.

5. THE GENERAL CONTRACTOR AND THE ELEVATOR SUPPLIER SHALL REVIEW THE STRUCTURAL DRAWINGS FOR FLOOR TO FLOOR AND FLOOR TO ROOF HEIGHTS FOR THE REQUIRED DISTANCE BETWEEN BRACE POINTS, FOR THEIR RAIL DESIGN. PROVIDE A W18x50 MINIMUM HOIST BEAM SIZE, IF NO OTHER SIZE IS PROVIDED ON THE PLANS. BRACING REQUIREMENTS FOR THE TOP OF THE RAIL, OR INTERMEDIATE RAIL BRACE POINTS, SHALL BE COORDINATED WITH THE STRUCTURAL DRAWINGS. IF BRACING IS REQUIRED BUT NOT SHOWN, PROVIDE A MINIMUM OF HSS6x6X3/8 VERTICAL POST ATTACHED TO THE STRUCTURE WITH W6x24 BEAMS OR C6x13 CHANNELS SPANNING BETWEEN THE FRAMING MEMBERS. ALL MISCELLANEOUS STEEL MEMBERS REQUIRED TO ATTACH RAILS AT THE RAIL BRACE POINTS SHALL BE SUPPLIED BY THE ELEVATOR SUPPLIER. ELEVATOR MACHINE BEAM OR SHIVE BEAM LOADS SHALL BE COORDINATED WITH THE STRUCTURAL DRAWINGS. LOADS AND LOAD LOCATIONS VARYING FROM THE LOADS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE VERIFIED WITH THE STRUCTURAL ENGINEER OF RECORD.

THE FRAMING AND INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS IS BASED ON:
ELEVATOR MODEL NO. PER SPEC. - REF ARCH/MEP SPECS/ DRAWINGS
MANUFACTURED BY PER SPEC. - REF ARCH/MEP SPECS/ DRAWINGS

IF THE ELEVATOR MANUFACTURER AND/OR MODEL NUMBER CHANGES, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL REVISIONS TO THE FOUNDATIONS AND THE FLOOR AND ROOF FRAMING AS REQUIRED DUE TO THE CHANGE IN THE ELEVATOR TYPE.

BIDDING PROCESS:

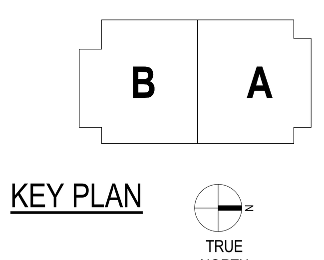
1. AFTER BIDDING AND PRIOR TO CONTRACT AWARD IT IS COMMON FOR THE GENERAL CONTRACTOR TO SUBMIT THEIR "QUALIFICATIONS AND ASSUMPTIONS", A WRITTEN STATEMENT OF QUALIFICATIONS, EXCEPTIONS, AND ASSUMPTIONS SPECIFIC TO THEIR BID AND THEIR RECOMMENDED SUBCONTRACTORS. THE QUALIFICATIONS AND ASSUMPTIONS RELATED TO THE STRUCTURAL ENGINEERING SCOPE OF WORK MUST BE SUBMITTED TO THE DESIGN TEAM AND THE STRUCTURAL EOR FOR REVIEW AND APPROVAL PRIOR TO RECOMMENDATION OF AWARD. THIS DOCUMENT SHALL BE PROVIDED TO THE STRUCTURAL ENGINEER-OF-RECORD FOR REVIEW A MINIMUM OF FIVE (5) BUSINESS DAYS IN ADVANCE OF THE REQUIRED RECOMMENDATION / AWARD DATE TO ALLOW THE DESIGN TEAM / EOR TO SUBMIT COMMENTS BACK TO THE OWNER. ANY QUALIFICATIONS AND/OR ASSUMPTIONS WHICH CONFLICT WITH THE INFORMATION PROVIDED IN THE STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS ARE NOT ACCEPTED UNLESS EXPLICITLY APPROVED BY THE STRUCTURAL ENGINEER-OF-RECORD DURING THIS PROCESS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COST IMPLICATIONS RESULTING FROM UNAPPROVED QUALIFICATIONS AND ASSUMPTIONS NOT ENDORSED BY THE STRUCTURAL EOR.

Kubala ENGINEERS
Ph: (800)248-3674
www.kubalaengineers.com
TX. REG. NO. F-23612

PBK
TX FIRM: BR 1608
www.pbk.com
HOUSTON, TX
713-965-0608

Tomball ISD-Multi-Program Activity Center-Tomball High School
118 Baker Dr, Tomball, Tx 77375

ISSUE FOR PROPOSAL



KEY PLAN

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI
DRAWN BY: JJ

GENERAL NOTES

S-011

Plot Stamp:
10/29/2026 5:57:48 PM

STRUCTURAL SUBMITTALS (NO LEEDS)

SPECIFICATION SECTION	ITEM	SUBMITTAL
03 10 00	FORMWORK SHOP DRAWINGS	FOR INFORMATION ONLY/SIGNED AND SEALED
03 10 00	MANUFACTURER'S PRODUCT DATA FOR APPROVAL	FOR APPROVAL
03 10 00	CONSTRUCTION JOINT LAYOUT	FOR INFORMATION ONLY
03 11 31	VOID FORM PRODUCT DATA	FOR APPROVAL
03 20 00	STEEL REINFORCING SHOP DRAWINGS	FOR APPROVAL
03 20 00	EMBEDDED METAL ASSEMBLY SHOP DRAWINGS	FOR APPROVAL
03 20 00	MANUFACTURER'S PRODUCT INFORMATION FOR BAR SUPPORTS	FOR APPROVAL
03 20 00	MILL TEST CERTIFICATE OF STEEL REINFORCING	FOR INFORMATION ONLY
03 20 00	QUALIFICATION DATA	FOR INFORMATION ONLY
03 20 00	WELDING CERTIFICATES	FOR INFORMATION ONLY
03 30 00	CONCRETE MIX DESIGN	FOR APPROVAL
03 30 00	SLAB ON GRADE AND COMPOSITE SLAB CONSTRUCTION JOINT LAYOUT AND POUR SEQUENCE	FOR APPROVAL
03 30 00	MATERIAL CERTIFICATES FOR CONCRETE RELATED PRODUCTS	FOR APPROVAL
03 30 00	PRODUCT DATA	FOR INFORMATION ONLY
03 30 00	QUALIFICATION DATA	FOR INFORMATION ONLY
03 30 00	MATERIAL TEST REPORTS	FOR INFORMATION ONLY
03 30 00	FLOOR SURFACE FLATNESS	FOR INFORMATION ONLY
03 30 00	FIELD QUALITY CONTROL REPORTS	FOR INFORMATION ONLY
03 30 00	MINUTES OF PREINSTALLATION CONFERENCE	FOR INFORMATION ONLY
03 52 16	LIGHTWEIGHT INSULATING CONCRETE SHOP DRAWINGS	FOR APPROVAL
03 52 16	MANUFACTURER'S PRODUCT DATA	FOR APPROVAL
03 52 16	LIGHTWEIGHT CONCRETE MIX DESIGN	FOR APPROVAL
03 52 16	PRODUCT CERTIFICATES	FOR INFORMATION ONLY
03 52 16	MATERIAL TEST REPORTS	FOR INFORMATION ONLY
03 52 16	RESEARCH EVALUATION REPORT	FOR INFORMATION ONLY
03 52 16	FIELD QUALITY CONTROL TEST	FOR INFORMATION ONLY
04 22 00	CMU WALL SHOP DRAWINGS	FOR APPROVAL
04 22 00	MIX DESIGN (MORTAR AND GROUT)	FOR APPROVAL
04 22 00	MASONRY COMPRESSIVE STRENGTH	FOR APPROVAL
04 22 00	SAMPLES FOR SELECTION AND VERIFICATION	FOR APPROVAL
04 22 00	MATERIAL CERTIFICATES	FOR INFORMATION ONLY
04 22 00	COLD/HOT WEATHER PROCEDURES	FOR INFORMATION ONLY
04 22 00	QUALIFICATION DATA	FOR INFORMATION ONLY
05 12 00	STRUCTURAL STEEL FRAMING SHOP DRAWINGS	FOR APPROVAL
05 12 00	STEEL CONNECTION CALCULATIONS	FOR INFORMATION ONLY/ SIGNED AND SEALED
05 12 00	WELDING PROCEDURE SPECIFICATION	FOR INFORMATION ONLY
05 12 00	WELDING CERTIFICATES	FOR INFORMATION ONLY
05 12 00	MILL TEST CERTIFICATE OF STRUCTURAL STEEL	FOR INFORMATION ONLY
05 12 00	PAINT COMPATIBILITY CERTIFICATE	FOR INFORMATION ONLY
05 12 00	QUALIFICATION DATA	FOR INFORMATION ONLY
05 21 00	STEEL JOIST FRAMING SHOP DRAWINGS	FOR APPROVAL
05 21 00	WELDING CERTIFICATES	FOR INFORMATION ONLY
05 21 00	MILL CERTIFICATES	FOR INFORMATION ONLY
05 21 00	ENGINEERING ANALYSIS OF SPECIAL JOISTS	FOR INFORMATION ONLY/ SIGNED AND SEALED
05 21 00	ENGINEERING ANALYSIS OF COMPOSITE JOISTS	FOR APPROVAL/ SIGNED AND SEALED
05 21 00	PRODUCT DATA	FOR INFORMATION ONLY
05 31 13	STEEL FLOOR DECK SHOP DRAWINGS	FOR APPROVAL
05 31 13	PRODUCT CERTIFICATE	FOR INFORMATION ONLY
05 31 13	PRODUCT TEST REPORT	FOR INFORMATION ONLY
05 31 23	STEEL ROOF DECK SHOP DRAWINGS	FOR APPROVAL
05 31 23	PRODUCT CERTIFICATE	FOR INFORMATION ONLY
05 31 23	PRODUCT TEST REPORT	FOR INFORMATION ONLY
05 40 00	COLD FORMED METAL STUD SHOP DRAWINGS	FOR APPROVAL
05 40 00	COLD FORMED METAL STUD CALCULATIONS	FOR INFORMATION ONLY/ SIGNED AND SEALED
05 40 00	PRODUCT TEST REPORT	FOR INFORMATION ONLY
05 40 00	RESEARCH REPORT	FOR INFORMATION ONLY
05 40 00	WELDING CERTIFICATE	FOR INFORMATION ONLY
05 50 00	METAL FABRICATION-LADDERS	FOR APPROVAL/ SIGNED AND SEALED
05 50 00	METAL FABRICATION-TOILET PARTITION SUPPORT	FOR APPROVAL/ SIGNED AND SEALED
05 50 00	METAL FABRICATION-MEDICAL EQUIPMENT SUPPORT	FOR APPROVAL/ SIGNED AND SEALED
06 10 00	PRODUCT DATA	FOR INFORMATION ONLY
06 10 00	FASTENER PATTERNS	FOR APPROVAL
06 10 00	MATERIAL CERTIFICATES	FOR INFORMATION ONLY
06 10 00	EVALUATION REPORTS	FOR INFORMATION ONLY
13 34 19	PRE-ENGINEERED METAL BUILDING SHOP DRAWINGS	FOR APPROVAL/ SIGNED AND SEALED
13 34 19	PRE-ENGINEERED METAL BUILDING CALCULATIONS	SIGNED AND SEALED
13 34 19	METAL BUILDING SYSTEM CERTIFICATE	FOR INFORMATION ONLY
13 34 19	ERECTOR CERTIFICATE	FOR INFORMATION ONLY
13 34 19	MANUFACTURER CERTIFICATE	FOR INFORMATION ONLY
13 34 19	MATERIAL TEST REPORTS	FOR INFORMATION ONLY
13 34 19	PRODUCT TEST REPORTS	FOR INFORMATION ONLY
31 63 29	PIER REINFORCEMENT SHOP DRAWINGS	FOR APPROVAL
31 63 29	PIER CONCRETE MIX DESIGN	FOR APPROVAL
31 63 29	PIER DRILLING LOG	FOR INFORMATION ONLY

DELEGATED STRUCTURAL DESIGN OF COMPONENTS:

1. A STRUCTURAL COMPONENT IS AN INDIVIDUAL STRUCTURAL MEMBER DESIGNED TO BE PART OF A STRUCTURAL SYSTEM. A LIST OF STRUCTURAL COMPONENTS THAT ARE TO BE DESIGNED BY THE COMPONENT SUPPLIERS ENGINEERS IS PROVIDED IN THESE PLANS AND SPECIFICATIONS.
2. A COMPONENT'S DELEGATED ENGINEER AND RESPONSIBLE CHARGE, SHALL BE A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.
3. ALL DRAWINGS AND CALCULATIONS FOR COMPONENTS IN QUESTION, OR THEIR ASSEMBLY INTO STRUCTURAL SYSTEMS SHALL REQUIRE THE SEAL AND SIGNATURE OF THE DELEGATED ENGINEER WHO PREPARED THEM.
4. THE DESIGN OF PRE-ENGINEERED SYSTEMS SPECIFIED IN THE CONTRACT DOCUMENTS WHICH ARE DESIGNED/ENGINEERED BY THE SYSTEM SUPPLIER IS THE SOLE RESPONSIBILITY OF THE SUPPLIER AND ITS DESIGN ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. SUBMITTALS OF SUCH SYSTEMS TO THE STRUCTURAL ENGINEER OF RECORD SHALL BE REVIEWED FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS WITH REGARD TO THE ARRANGEMENT AND/OR SIZES OF MEMBERS SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS AND THE SUPPLIERS INTERPRETATION OF THE DESIGN INFORMATION INCLUDED IN THE CONTRACT DOCUMENTS. SUCH REVIEW BY THE STRUCTURAL ENGINEER OF RECORD SHALL NOT IMPLY ANY RESPONSIBILITY FOR THE ACTUAL DESIGN OF SUCH SYSTEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DIMENSIONAL ACCURACY AND CONFORMANCE WITH THE INFORMATION CONTAINED IN CONTRACT DOCUMENTS.
5. SEE APPLICABLE SECTIONS OF GENERAL NOTES AND SPECIFICATIONS FOR THE APPROPRIATE DESIGN RESPONSIBILITIES OF THE SUPPLIER AND ITS LICENSED ENGINEER.

SPECIAL INSPECTIONS:

SPECIAL INSPECTION WORK AND THE FINAL LETTER OF COMPLIANCE HAVE NOT BEEN INCLUDED IN THE STRUCTURAL ENGINEERS SCOPE OF SERVICES. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING THE SERVICES OF THE SPECIAL INSPECTOR AND THE TESTING LABORATORY. SPECIAL INSPECTIONS CAN BE PROVIDED BY AN INDEPENDENT SPECIAL INSPECTOR WHO IS APPROVED BY THE BUILDING AUTHORITY OR THE ENGINEER OF RECORD. THE SPECIAL INSPECTION WORK DOES NOT INCLUDE THE TESTING LABORATORY SERVICES AS CALLED FOR ON THE DRAWINGS. ARRANGEMENTS FOR SPECIAL INSPECTIONS SHOULD BE MADE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE OWNER IF SPECIAL INSPECTIONS ARE REQUIRED ON THE APPROVED PERMIT DRAWINGS AND FOR NOTIFYING THE TESTING LABORATORY AND SPECIAL INSPECTOR IN A TIMELY MANNER BEFORE CONSTRUCTION OPERATIONS CONTINUE. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK REQUIRING INSPECTIONS WITHOUT THE TESTING LABORATORY'S OR SPECIAL INSPECTOR'S PRESENCE. THE STRUCTURAL ENGINEER WILL NOT PROVIDE A FINAL LETTER OF COMPLIANCE AFTER THE WORK IS COMPLETE UNLESS HE HAS REVIEWED ALL SPECIAL INSPECTIONS/TESTING LABORATORY TEST RESULTS.

CHAPTER 17 OF THE 2018 INTEPNATIONAL BUILDING CODE, INCLUDING ANY LOCAL AMENDMENTS, REQUIRES SPECIAL INSPECTION ON THE FOLLOWING ITEMS:

SOILS (SECTION 1705.6)

CONCRETE CONSTRUCTION (SECTION 1705.3)

STEEL (SECTION 1705.2)

MASONRY (SECTION 1705.4)

WOOD (SECTION 1705.5)

DRIVEN DEEP FOUNDATIONS (SECTION 1705.7)

CAST-IN-PLACE DEEP FOUNDATIONS (SECTION1705.8)

HELICAL PILE FOUNDATIONS (SECTION 1705.9)

FABRICATED ITEMS (SECTION 1705.10)

SPECIAL INSPECTIONS FOR WIND RESISTANCE (SECTION 1705.11)

SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE (SECTION 1705.12)

TESTING FOR SEISMIC RESISTANCE (SECTION 1705.13)

SPECIAL INSPECTIONS FOR WINDSTORM CERTIFICATION PER TDI

SHOP DRAWINGS:

1. SHOP DRAWINGS ARE AN AID FOR FIELD PLACEMENT AND ARE SUPERSEDED BY THE STRUCTURAL DRAWINGS. THE STRUCTURAL DRAWINGS ARE NOT TO BE VIEWED AS DETAILED SHOP OR ERECTION DRAWINGS. VARIOUS DIMENSIONS REQUIRED FOR PROPER FIT-UP OF THE COMPONENTS OF THE STRUCTURE SHALL BE DETERMINED FROM THE INFORMATION THAT IS PROVIDED ELSEWHERE IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL ESTABLISH, CALCULATE AND VERIFY THESE DIMENSIONS AS REQUIRED TO ACHIEVE PROPER FIT-UP OF MATERIALS AND TO ACHIEVE COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL MAKE CERTAIN THAT ALL CONSTRUCTION IS IN FULL AGREEMENT WITH THE LATEST STRUCTURAL DRAWINGS.
2. THE CONTRACTOR SHALL REVIEW ALL SUBMITTALS FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS AND SHALL CERTIFY THE REVIEW BY A STAMP NOTING THAT THE SUBMITTAL HAS BEEN "APPROVED" AND WHICH BEARS THE SIGNATURE OF AN AUTHORIZED REPRESENTATIVE OF THE CONTRACTOR AND THE DATE. SUBMITTALS WHICH DO NOT REFLECT THE CONTRACTOR'S APPROVAL, SIGNATURE AND DATE; OR DO NOT APPEAR TO HAVE BEEN REVIEWED BY THE CONTRACTOR, WILL BE RETURNED WITHOUT REVIEW.
3. THE REVIEW OF SUBMITTALS BY THE ENGINEER IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND THE INFORMATION GIVEN IN THE STRUCTURAL CONTRACT DOCUMENTS. CORRECTIONS OR COMMENTS MADE ON SUBMITTALS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE PLANS, GENERAL NOTES OR SPECIFICATIONS. APPROVAL OF A SPECIFIC ITEM SHALL NOT INCLUDE APPROVAL OF AN ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND CORRELATED AT THE JOBSITE; INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESSES OR TO THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION; COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER.
4. SIGNED AND SEALED CALCULATIONS FOR A PARTICULAR SYSTEM SUBMITTED AS PART OF A SHOP DRAWING ARE REVIEWED FOR LOAD CRITERIA AND GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. CALCULATION REVIEW AND COMMENTS DO NOT INFER A DETAILED CHECK OF THE CALCULATIONS, NOR DO THEY RELIEVE THE SYSTEM ENGINEER OR THE CONTRACTOR OF RESPONSIBILITY.
5. THE USE OF REPRODUCTIONS OR ELECTRONIC FILES OF THE STRUCTURAL DRAWINGS FOR THE PREPARATION OF SHOP DRAWINGS IS NOT ACCEPTABLE WITHOUT PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER OF RECORD. ALTERATION OF A SEALED DOCUMENTS WITHOUT PROPER NOTIFICATION OF THE RESPONSIBLE ENGINEER IS AN OFFENSE OF THE ENGINEERING PRACTICE ACT.

   a. IF SUCH AUTHORIZATION IS OBTAINED, DO NOT SUBMIT SHOP DRAWINGS WITH THE CONTRACT DOCUMENT TITLE BLOCK AND/OR THE SEAL OF THE REGISTERED ENGINEER OF RECORD AFFIXED.

   b. COSTS FOR PREPARATION OF STRUCTURAL SHOP DRAWINGS SHALL BE INCLUDED IN THE BID PRICE ASSUMING THAT REPRODUCTIONS OR ELECTRONIC FILES OF THE STRUCTURAL DRAWINGS WILL NOT BE AVAILABLE.
6. OMISSION FROM THE SHOP DRAWINGS OF ANY REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF COMPLYING WITH THE OMITTED REQUIREMENTS, EVEN IF THE SHOP DRAWINGS HAVE BEEN REVIEWED AND RETURNED.
7. THE ARCHITECT/ENGINEER SHALL NOT BE RESPONSIBLE FOR DELAYS CAUSED BY REJECTION OF INADEQUATE OR INCORRECT SHOP DRAWINGS, AND THIS RESPONSIBILITY SHALL LIE SOLELY WITH THE CONTRACTOR.
8. SHOP DRAWINGS THAT ARE NOT SPECIFICALLY REQUIRED BY THE GENERAL NOTES OR SPECIFICATIONS WILL NOT BE REVIEWED OR RETURNED.
9. COMPLY WITH THE SUBMITTAL PROCEDURES ESTABLISHED IN OTHER PARTS OF THE CONTRACT DOCUMENTS. AS A MINIMUM, PREPARE AND SUBMIT A STRUCTURAL SUBMITTAL SCHEDULE IN CHRONOLOGICAL ORDER OF SUBMITTALS PRIOR TO THE BEGINNING OF THE STRUCTURAL SUBMITTAL PROCESS.

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118 Baker Dr, Tomball, Tx 77375

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
Kubala Engineers
F-23612
10/30/2026

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

DRAWN BY: JJ

GENERAL NOTES

S-012

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S-013 - GENERAL SUBGRADE NOTES AND TYP DETAILS

GENERAL FOUNDATION NOTES: TOMBALL HS

1. THE FOUNDATION DESIGN AND SUBSURFACE INFORMATION IS BASED ON THE GEOTECHNICAL INVESTIGATION REPORT AS FOLLOWS:
   GEOTECHNICAL CONSULTANT: TERRACON CONSULTANTS, INC.
   GEOTECHNICAL REPORT NUMBER: 92265050
   GEOTECHNICAL REPORT LOCATION: 30330 QUINN RD, TOMBALL, TX 77375
   DATE OF REPORT: JULY 28, 2026
2. ALL RECOMMENDATIONS THEREIN THAT RELATE TO THE WORK SHOWN ON THESE DRAWINGS SHALL BE USED. FOR ANY CONFLICTS BETWEEN THE GEOTECHNICAL REPORT AND THESE DRAWINGS, THE GC SHALL ISSUE A REQUEST FOR INFORMATION/CLARIFICATION.
3. GEOTECHNICAL REPORT IS AVAILABLE TO THE GENERAL CONTRACTOR UPON REQUEST TO THE OWNER. THE INFORMATION INCLUDED THEREIN MAY BE USED BY THE GENERAL CONTRACTOR FOR HIS GENERAL INFORMATION ONLY. THE ARCHITECT AND ENGINEER WILL NOT BE RESPONSIBLE FOR THE ACCURACY OR APPLICABILITY OF SUCH DATA THEREIN.
4. PREPARED GRADE AREA UNDER ALL BUILDING SLABS AND GRADE BEAMS SHALL BE COVERED WITH A 15 MIL WATER VAPOR BARRIER MEETING THE REQUIREMENTS OF ASTM E 1745 (LATEST EDITION), CLASS A OR BETTER WITH MAXIMUM WATER PERMEANCE OF 0.01 PERMS WHEN TESTED IN ACCORDANCE WITH ASTM E96. THE BARRIER/BARRIER/MEMBRANE SHALL BE INSTALLED AND LAPPED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM E1643 (LATEST EDITION). PENETRATIONS SHALL BE SEALED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.
5. WHERE VOID FORMS ARE REQUIRED, THESE FORMS SHALL BE CAPABLE OF SUPPORTING THE WEIGHT OF THE WET CONCRETE AND REINFORCEMENT. AFTER PLACEMENT ON THE SUBGRADE, THE FORMS SHALL BE TAPED AT ALL JOINTS. 1/8" THICK HARDBOARD SHALL BE LAID OVER THE TOP OF THE VOID FORMS PRIOR TO PLACEMENT OF THE REINFORCEMENT, AT LARGE AREAS AS REQUIRED. VOID FORMS SHALL BE SECURED TO THE SUBGRADE PER MANUFACTURER'S RECOMMENDATIONS. VOID FORMS SHALL BE WAX COATED FOR MOISTURE PROTECTION, RECTANGULAR IN PROFILE, AND EQUAL TO THE WIDTH OF THE ADJACENT GRADE BEAM. SOIL RETAINERS ARE REQUIRED, GRADE BEAMS TO BE FORMED EACH SIDE.

EARTHWORK STRUCTURAL TESTING AND INSPECTIONS:

1. UNLESS NOTED OTHERWISE BY THE OWNER OR ARCHITECT, THE GENERAL CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER OR OTHER AUTHORIZED INSPECTOR DURING EARTHWORK OPERATIONS, AND KEEP A COMPETENT TRAINED TECHNICIAN ASSIGNED TO THE PROJECT ON SITE DURING OPERATIONS. SERVICES PROVIDED SHALL INCLUDE:
   A. OBSERVE STRIPPING OPERATIONS AND EVALUATE THE REQUIRED STRIPPING DEPTH DURING THESE OPERATIONS.
   B. OBSERVE PROOFROLLING OPERATIONS AFTER SITE STRIPPING AND DETERMINE IF ANY SOFT SPOTS NEED TO BE UNDERCUT TO FIRM SOILS, REPLACED WITH SELECT FILL AND RECOMPACTED.
   C. VERIFY THAT THE SUBGRADE IS SCARIFIED, MOISTURE CONDITIONED, AND LIME STABILIZED (IF REQUIRED) PER SUBGRADE PREPARATION.
   D. THE SELECT FILL PAD MATERIAL SHALL BE TESTED FOR ACCEPTABILITY AND A MOISTURE DENSITY CURVE SHALL BE ESTABLISHED. SELECT FILL MATERIAL SHALL BE AS INDICATED ON SUBGRADE PREPARATION.
   E. VERIFY THAT THE SELECT FILL IS PLACED IN EIGHT INCH LOOSE LIFTS AND COMPACTED PER SUBGRADE PREPARATION.
   F. SELECT FILL MATERIAL SHALL BE TESTED DURING PLACEMENT OF EACH LIFT FOR THE ATTERBERG LIMITS IN ACCORDANCE WITH ASTM D4318-98 METHOD B "STANDARD TEST METHOD FOR LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX OF SOILS" TO VERIFY THAT THE SELECT FILL MATERIAL IS IN ACCORDANCE WITH THE ORIGINALLY APPROVED SELECT FILL MATERIAL. PROVIDE TESTS PER SUBGRADE PREPARATION.
   G. PROVIDE FIELD MOISTURE TESTS FOR THE FULL DEPTH OF THE PAD PER SUBGRADE PREPARATION.
   H. OBSERVE THE EXCAVATION DAILY AND ENSURE THAT THE CONTRACTOR MAINTAINS A CLEAN EXCAVATION THAT IS FREE OF WATER 100% OF THE TIME. CONTRACTOR SHALL PROVIDE PUMPS AS REQUIRED TO REMOVE WATER AT ALL TIMES.
   J. OBSERVE GRADING OPERATIONS TO ENSURE THAT PROPER DRAINAGE AWAY FROM THE BUILDING PAD IS PROVIDED.

SUBGRADE PREPARATION:

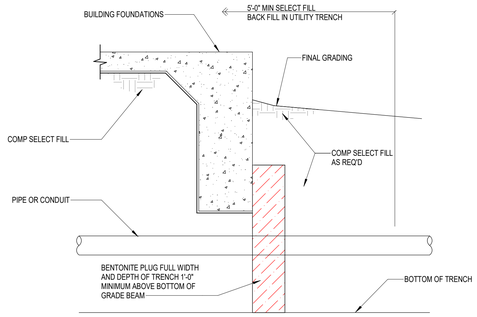
1. THE CONTRACTOR SHALL READ THE GEOTECHNICAL REPORT AND BE THOROUGHLY FAMILIAR WITH SITE AND SUBGRADE INFORMATION GIVEN THEREIN. ALL SUBGRADE PREPARATION, FILL, FILL PLACEMENT, AND FOUNDATION CONSTRUCTION SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE STRUCTURAL DOCUMENTS AND THE GEOTECHNICAL REPORT, AND SHALL BE OBSERVED, TESTED, AND APPROVED BY THE PROJECT'S GEOTECHNICAL-ENGINEER-OF-RECORD (GER) PRIOR TO PROCEEDING WITH FOUNDATION CONSTRUCTION.
2. SITE PREPARATION FOR THE BUILDING PAD SHALL CONSIST OF THE REMOVAL OF EXISTING PAVEMENT, TOPSOIL, VEGETATION, ORGANIC MATTER, AND OTHER DEBRIS/UNSUITABLE SURFACE MATERIAL AS NECESSARY TO PROVIDE THE REQUIRED AMOUNT OF FILL UNDER THE BUILDING AND EXTENDING OUT BEYOND THE PERIMETER OF THE BUILDING AS SHOWN IN THE SITE PREPARATION DETAIL. PROPER SITE DRAINAGE SHOULD BE MAINTAINED DURING CONSTRUCTION SO THAT PONDING OF SURFACE RUNOFF DOES NOT OCCUR AND CAUSE CONSTRUCTION DELAYS AND/OR INHIBIT SITE ACCESS.
3. THE SUBGRADE SHALL BE PROOFROLLED WITH A HEAVY, RUBBER-TIRED VEHICLE (STATIC WEIGHT OF AT LEAST 20 TONS AND WITH TIRE PRESSURES OF AT LEAST 90 PSI). THE CONTRACTOR SHALL MAKE AT LEAST TWO COMPLETE PASSES OVER THE AREA WITH THE SECOND PASS PERPENDICULAR TO THE FIRST PASS. AREAS OF THE SUBGRADE THAT ARE OBSERVED TO BE SOFT OR WEAK SHALL BE OVEREXCAVATED AND REPLACED WITH PROPERLY COMPACTED SOILS EXHIBITING SIMILAR CLASSIFICATION, MOISTURE CONTENT, AND DENSITY AS THE ADJACENT IN-SITU SOILS. PROOFROLLING SHOULD BE PERFORMED UNDER THE DIRECT OBSERVATION OF THE GEOTECHNICAL ENGINEER OR HIS/HER REPRESENTATIVE.
4. PREPARE THE BUILDING SUBGRADE SOILS IN DIRECT ACCORDANCE WITH THE RECOMMENDATIONS LISTED IN THE "EARTHWORK" AND "FLOOR SLABS" SECTIONS OF THE GEOTECHNICAL REPORT. SUBGRADE SHALL BE SCARIFIED AND MOISTURE CONDITIONED TO A DEPTH OF SIX (6) INCHES AND THEN RECOMPACTED TO BETWEEN 95 AND 100 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST (ASTM D698). THE MOISTURE CONTENT SHALL BE BETWEEN OPTIMUM AND +4 PERCENT OF THE OPTIMUM MOISTURE CONTENT. PROVIDE A MINIMUM OF FOUR (4) FIELD DENSITY TESTS PER LIFT OR ONE (1) FOR EVERY 2,500 SQUARE FEET WHICHEVER IS GREATER. IF WET WEATHER CONDITIONS ARE ENCOUNTERED AND WILL NOT ALLOW FOR ADEQUATE SUBGRADE COMPACTION EFFORTS, THEN THE SUBGRADE SHALL BE LIME STABILIZED WITH 6 TO 8 PERCENT BY VOLUME HYDRATED LIME IN ACCORDANCE WITH THE LIME ASSOCIATION RECOMMENDATIONS. THE OPTIMUM LIME CONTENT SHALL BE DETERMINED AT THE TIME OF CONSTRUCTION BY A LIME SERIES TEST TO DETERMINE THE REQUIRED OPTIMUM LIME CONTENT NECESSARY TO ACHIEVE A pH OF 12.4 WHILE ACHIEVING A PLASTICITY INDEX OF LESS THAN 20. PRIOR TO PROCEEDING WITH THE SELECT FILL PLACEMENT, THE LIME STABILIZED SUBGRADE SHALL BE TESTED AND APPROVED BY THE TESTING LABORATORY.
5. THE FINAL BUILDING PAD SHALL BE TESTED AND APPROVED BY THE PROJECT'S GER PRIOR TO INSTALLATION OF ANY FOUNDATION AND/OR SLAB-ON-GRADE RELATED CONSTRUCTION. IF THE BUILDING PAD HAS BEEN INSTALLED MORE THAN TWO MONTHS PRIOR TO THE PLACEMENT OF THE VAPOR BARRIER, PROVIDE FIELD MOISTURE TESTS FOR THE FULL DEPTH OF THE PAD 96 HOURS PRIOR TO PLACEMENT OF THE WATER VAPOR BARRIER TO ENSURE THAT THE FILL MOISTURE CONTENT HAS BEEN MAINTAINED PRIOR TO CONCRETE PLACEMENT. MOISTURE CONTENTS SHALL BE TAKEN AT 12 INCH VERTICAL INTERVALS WITH A MINIMUM OF TWO TESTS PER BORING AT A RATE OF ONE (1) BORING FOR EVERY 2,500 SQUARE FEET OF PAD WITH A MAXIMUM OF TEN (10). IF THE PAD TESTS SHOW MOISTURE CONTENT OUT OF THE SPECIFIED RANGES, THE TOP SIX (6) INCHES TO ONE FOOT OF MATERIAL SHALL BE REWORKED, MOISTURE CONDITIONED AND RECOMPACTED TO BETWEEN 95 AND 100 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR DENSITY TEST (ASTM D698). THE MOISTURE CONTENT SHALL BE BETWEEN OPTIMUM AND +2 PERCENT OF THE OPTIMUM MOISTURE CONTENT FOR SELECT FILL.
6. CONTRACTOR SHALL MAINTAIN A CLEAN EXCAVATION THAT IS FREE OF WATER 100% OF THE TIME. CONTRACTOR SHALL PROVIDE PUMPS AS REQUIRED TO REMOVE ANY WATER AT ALL TIMES.
7. BACKFILL AGAINST THE OUTSIDE FACE OF THE GRADE BEAMS SHOULD CONSIST OF SELECT FILL USED TO PREPARE THE BUILDING PAD. THE SELECT FILL SHOULD BE UNIFORMLY COMPACTED TO AT LEAST 95 PERCENT OF THE STANDARD EFFORT (ASTM D 698) MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN 2 PERCENT OF OPTIMUM MOISTURE CONTENT.
8. A MINIMUM OF 6'-0" OF SELECT FILL MATERIAL IS REQUIRED UNDER THE FLOOR SLAB, AND SHALL EXTEND A MINIMUM OF 10'-0" BEYOND THE BUILDING PERIMETER. THE FINAL EXTERIOR GRADE ADJACENT TO THE STRUCTURE SHOULD BE SLOPED TO PROMOTE EFFECTIVE DRAINAGE AWAY FROM THE STRUCTURE.
9. EXERCISE CARE IN PLACEMENT AND COMPACTION OF FILL IN ALL LEAVE-OUTS. ALL FILL SHALL BE PLACED IN LOOSE LIFTS AND COMPACTED AT ELEVATED MOISTURE CONTENT AS DETAILED IN THE PROJECT'S GEOTECHNICAL REPORT. ANY REINFORCING SHALL BE APPROPRIATELY MANIPULATED TO ENSURE PROPER COMPACTION. VAPOR BARRIER SHALL BE SUITABLY PLACED AND LAPPED.
10. AS INDICATED IN THE GEOTECHNICAL SOIL REPORT, THE UPPER 2 TO 4 FT OF THE SOILS ENCOUNTERED IN THE BORINGS WERE VISUALLY CLASSIFIED AS FILL MATERIAL. IT IS WORTH NOTING THAT EXISTING FILL MAY ALSO BE PRESENT, POTENTIALLY AT GREATER DEPTHS, IN OTHER PARTS OF THE SITE. IT IS NOT KNOWN IF THIS FILL WAS PLACED UNDER ENGINEERING SUPERVISION WITH COMPACTION RECORDS. UNCONTROLLED FILLS FREQUENTLY CONTAIN TRASH, DEBRIS, CONCRETE RUBBLE, CONSTRUCTION DEBRIS, BOULDERS, AND OTHER UNSUITABLE MATERIALS. EXCAVATION AND GRADING CONTRACTS SHOULD INCLUDE PROVISION FOR REMOVAL OF UNSUITABLE MATERIALS FROM THE PROJECT SITE. IF COMPACTION RECORDS FOR THIS FILL CANNOT BE OBTAINED, THE EXISTING FILL SHOULD BE CONSIDERED AS UNCONTROLLED FILL. UNCONTROLLED FILL IS GENERALLY NOT CONSIDERED SUITABLE FOR SUPPORT OF FOUNDATIONS OR FLOOR SLABS DUE TO THE RISK OF UNDER-COMPACTED ZONES RESULTING IN FAILURES OF WEAK SOIL AND/OR INDETERMINATE LEVELS OF SETTLEMENT. ANY EXISTING UNCONTROLLED FILL SHOULD BE REMOVED FROM THE BUILDING PAD AREAS/FOUNDATION AREAS, AND ANY AREAS SENSITIVE TO SETTLEMENT, AND REPLACED WITH ENGINEERED FILL AS RECOMMENDED IN SOIL REPORT. THE EXCAVATED MATERIALS MAY BE SUITABLE FOR REUSE AS ENGINEERED FILL PROVIDED THEY ARE FREE OF ORGANICS, BOULDERS, RUBBLE, AND OTHER DEBRIS. THE LATERAL EXTENT, DEPTH AND NATURE OF THE EXISTING FILL ARE NOT KNOWN. TEST PITS COULD BE PERFORMED PRIOR TO CONSTRUCTION TO VERIFY THE PRESENCE, LATERAL EXTENT, DEPTH, AND NATURE OF THE EXISTING FILL MATERIALS.
11. GEOTECHNICAL SOIL REPORT INDICATED SILTY SOIL IN MULTIPLE AREAS, GC TO CHECK THE SOIL REPORT AND PREPARE AN ALLOWANCE IN CASE ANY CONSTRUCTIBILITY ISSUES OCCURRED THAT NEED ADDITIONAL EXCAVATION AND/ OR SELECT FILL REPLACEMENT.

SITE DRAINAGE:

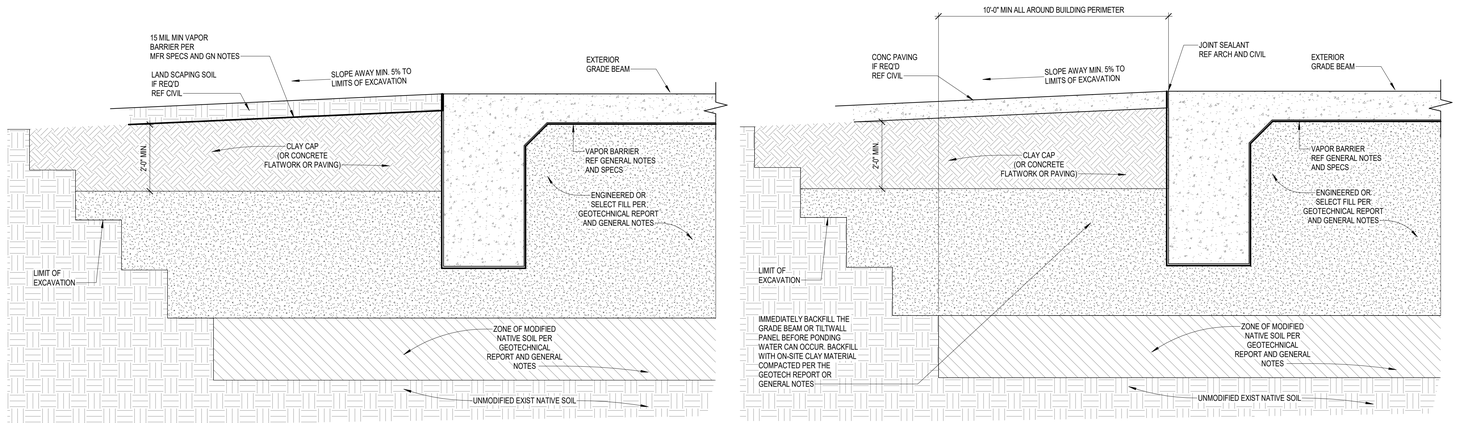
1. THE SITE SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND SLABS. WATER SHALL NOT BE ALLOWED TO POND ADJACENT TO THE FOUNDATION.
2. WATER FROM ROOF DRAINS AND DOWNSPOUTS SHALL BE COLLECTED AND PIPED AWAY FROM THE BUILDING.
3. TREES AND VEGETATION SHALL NOT BE ALLOWED WITHIN A DISTANCE EQUAL TO THREE QUARTERS THEIR ULTIMATE HEIGHT AWAY FROM THE BUILDING.

NOTES:

1. PIPES OR CONDUITS SHALL BE PLACED IN THE SELECT FILL MATERIAL. ALL PENETRATIONS TO THE VAPOR BARRIER SHALL BE SEALED PER THE MANUFACTURER'S RECOMMENDATIONS
2. BACKFILL DIRECTLY AROUND PIPE SHALL BE CEMENT STABILIZED SAND (1-SACK MIX). THE REMAINDER OF THE TRENCH INFILL MAY BE SELECT FILL ONLY IF IT CAN BE COMPACTED AND TESTED BY THE TESTING LAB; OTHERWISE, THE GC SHALL USE CEMENT STABILIZED SAND



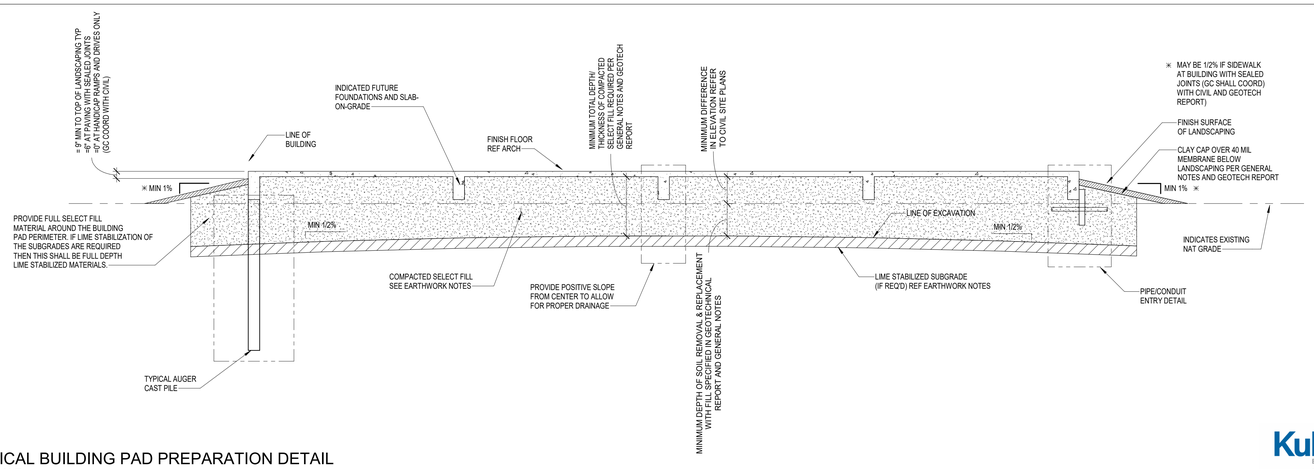
1 PIPE/CONDUIT ENTRY DETAIL
NO SCALE



3 TYPICAL EXTERIOR GB BACKFILL DETAIL
NO SCALE

SITE NOTES:

1. ROOF RUNOFF AND SURFACE DRAINAGE SHALL BE COLLECTED AND DISCHARGED AWAY FROM THE STRUCTURES TO PREVENT WETTING OF THE FOUNDATION SOILS. ROOF GUTTERS SHALL BE INSTALLED AND CONNECTED TO DOWNSPOUTS AND PIPES DIRECTING ROOF RUNOFF AT LEAST 10 FEET AWAY FROM THE BUILDINGS, OR DISCHARGED ON TO POSITIVELY SLOPED IMPERVIOUS FLATWORK SUCH AS SIDEWALKS AND /OR PAVING AREAS.
2. SPRINKLER MAINS AND SPRAY HEADS SHALL BE LOCATED AT LEAST 5 FEET AWAY FROM THE BUILDING SUCH THAT THEY CANNOT BECOME A POTENTIAL POINT SOURCE OF WATER DIRECTLY ADJACENT TO THE BUILDING. WATERING OF VEGETATION SHALL BE PERFORMED IN A TIMELY AND CONTROLLED MANNER AND PROLONGED WATERING SHALL BE AVOIDED. LANDSCAPED IRRIGATION ADJACENT TO THE FOUNDATION STRUCTURE SHALL BE MINIMIZED OR ELIMINATED. SPECIAL CARE SHALL BE TAKEN SUCH THAT UNDERGROUND UTILITIES DO NOT DEVELOP LEAKS WITH TIME.



4 TYPICAL BUILDING PAD PREPARATION DETAIL
NO SCALE

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STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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GENERAL SUBGRADE NOTES AND TYP DETAILS

S-013

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S-101 - COMPOSITE FOUNDATION PLAN

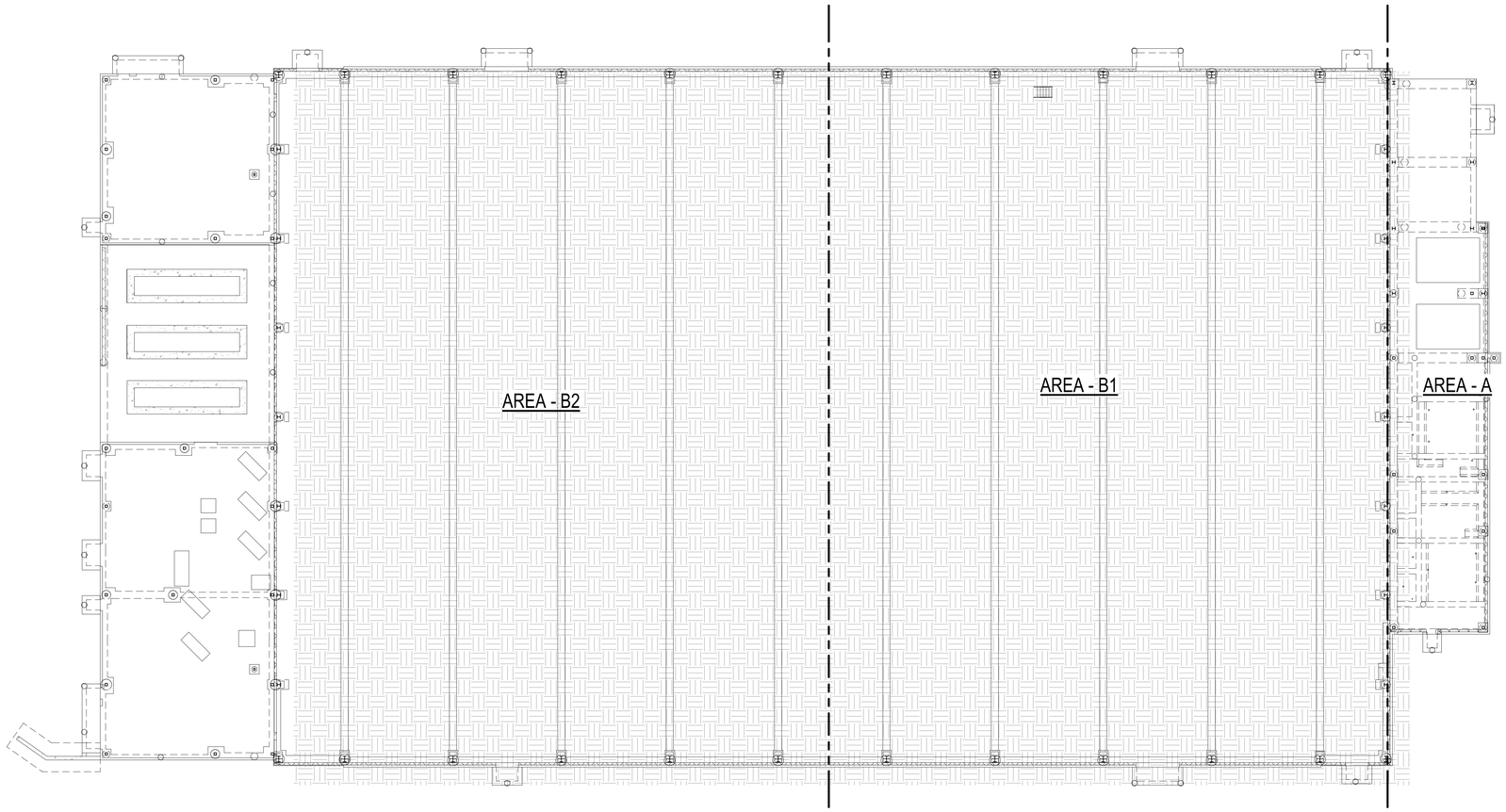
COMPOSITE PLAN NOTE:

REFER TO INDIVIDUAL AREA PLANS FOR ALL GRIDS NOT SHOWN.

SLAB-ON-GRADE LEGEND

NOTE: GC SHALL COORDINATE THE TOP OF ALL SLAB-ON-GRADE ELEVATIONS (TOSC EL) WITH ARCH DWGS. THE TOSC EL OF (0'-0") IS A DATUM ELEVATION; REF CIVIL DWGS FOR THE TRUE ELEVATION.

- INDICATES, TOP OF SLAB-ON-GRADE ELEVATION (TOSC EL = -0'- 8 1/2").
- INDICATES, TOP OF SLAB-ON-GRADE ELEVATION (TOSC EL = 0'- 0").
- INDICATES, TOP OF SLAB-ON-GRADE ELEVATION (TOSC EL = 1'- 9").
- INDICATES, TOP OF SLAB-ON-GRADE ELEVATION (TOSC EL = 1'- 11 1/2").
- INDICATES, TOP OF SLAB-ON-GRADE ELEVATION (TOSC EL = 2'- 0").
- INDICATES, TOP OF SLAB-ON-GRADE ELEVATION (TOSC EL = 3'- 0").
- INDICATES, TOP OF SLAB-ON-GRADE ELEVATION (TOSC EL = 5'- 1 3/4").
- INDICATES, TOP OF SLAB-ON-GRADE ELEVATION (TOSC EL = 5'- 4").



1 COMPOSITE FOUNDATION PLAN
1/16" = 1'-0"

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

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No.	Description	Date

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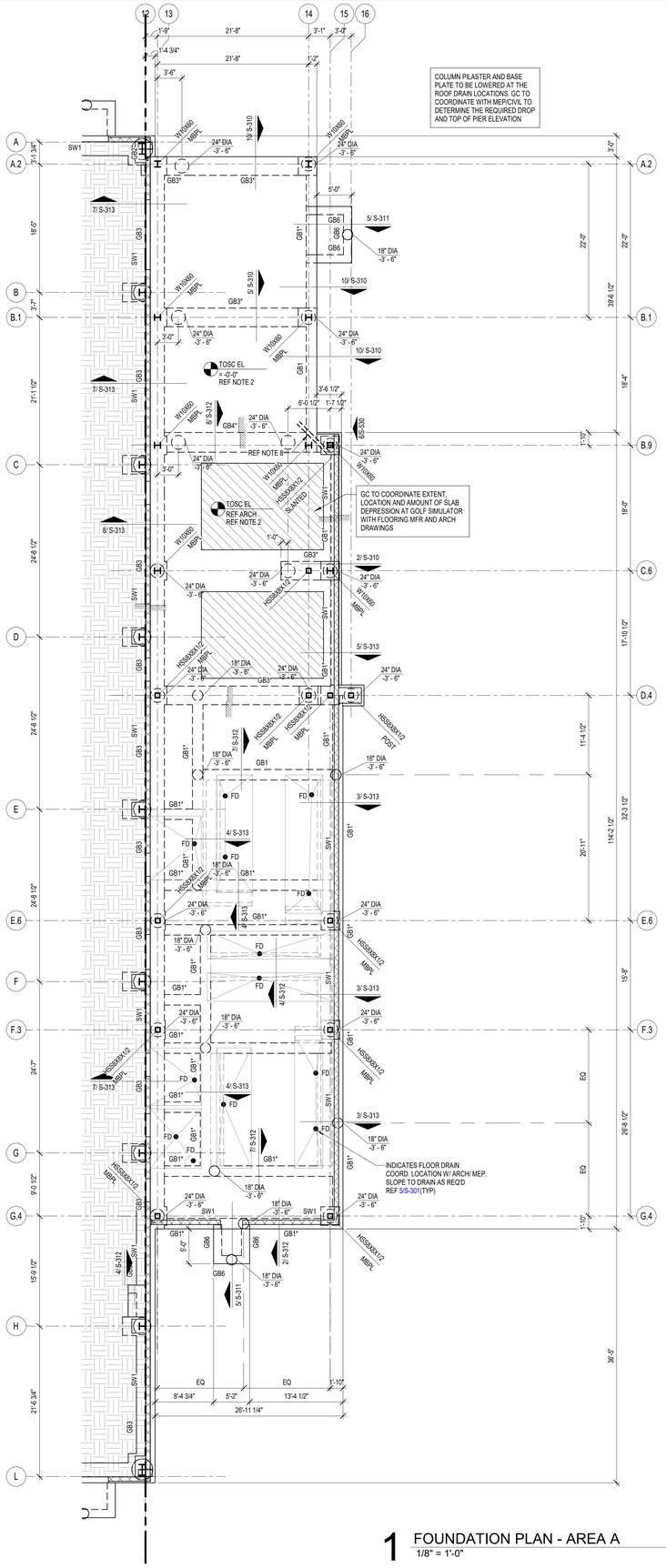
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COMPOSITE FOUNDATION PLAN

S-101

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1 FOUNDATION PLAN - AREA A
1/8" = 1'-0"

FOUNDATION PLAN NOTES

1. REFER TO PLAN FOR TOP OF STRUCTURAL CONCRETE ELEVATIONS (TOSC EL). ALL ELEVATIONS SHOWN ON THE PLAN ARE BASED ON A LEVEL ONE REFERENCE ELEVATION = 0'-0". THIS REFERENCE ELEVATION IS EQUIVALENT TO THE LEVEL ONE MEAN SEA LEVEL ELEVATION = REF CIVIL SHOWN IN THE CIVIL AND ARCHITECTURAL DRAWINGS AND IS NOT INTENDED TO ESTABLISH THE ACTUAL SEA LEVEL ELEVATION OF ANY PORTION OF THE STRUCTURE.
2. 5" THICK CONCRETE SLAB-ON-GRADE REINFORCED WITH: #4 AT 18" OC EACH WAY, ON 2 1/2" CHAIRS SPACED AT 32" OC EACH WAY. PLACE THE SLAB ON A 15 MIL WATER VAPOR BARRIER OVER COMPACTED SELECT FILL. REFER TO THE SOIL REPORT.
   FOR SLAB JOINT DETAILS, REFER TO 1/S-301 AND 2/S-301.

3.1 TOP OF INTERIOR GRADE BEAM ELEVATION SHALL BE = -1'-0" UON.
TOP OF PERIMETER GRADE BEAM ELEVATION SHALL BE = -1'-0" UON.

3.2 TOP OF INTERIOR/ EXTERIOR PLINTH ELEVATION SHALL BE = -1'-0" UON.
TOP OF INTERIOR PIER ELEVATION WITHOUT PLINTH SHALL BE = -1'-0" UON.
TOP OF INTERIOR PIER ELEVATION WITH PLINTH SHALL BE = -3'-6" UON.
TOP OF INTERIOR PIER ELEVATION WITH GRADE BEAM SHALL BE = -3'-6" UON.
TOP OF EXTERIOR PIER ELEVATION SHALL BE = -3'-6" UON.

4. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENTS AND DIMENSIONS OF RAISED OR DEPRESSED SLAB AREAS, SLOPES, CURBS, AND DRAINS. REFER TO TYPICAL DETAILS FOR REINFORCEMENT REQUIREMENTS.
5. GC COORDINATE ALL PENETRATIONS AND UNDERGROUND UTILITIES WITH MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. REFER TO TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT REQUIREMENTS.
6. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT AND STRUCTURAL ENGINEER OF ANY DISCREPANCIES.
7. GC COORDINATE ALL SLAB EDGE DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
8. PROVIDE (2) - #5 x 5'-0" LONG BAR IN SLAB AT RE-ENTRANT CORNERS, TYPICAL. INCLUDING RE-ENTRANT CORNERS AROUND THE PERIMETER OF THE BUILDINGS, FLOOR RECESSES AND OPENINGS.
9. GC COORDINATE ALL THE SIZE AND EXTENT OF ALL BRICK LEDGES SHOWN ON PLAN OR DETAILS WITH ARCHITECTURAL DRAWINGS.
10. REF S0.xx SERIES DRAWINGS FOR GENERAL NOTES AND TYP DETAILS
11. REF S3.xx SERIES DRAWINGS FOR FOUNDATION AND SLAB-ON-GRADE DETAILS.
12. REF S4.xx SERIES DRAWINGS FOR CMU DETAILS.
13. REF S5.xx SERIES DRAWINGS FOR STEEL DETAILS.
14. REF S6.xx SERIES DRAWINGS FOR STEEL BRACE ELEVATIONS AND DETAILS.
15. REFER TO ARCH AND PLUMBING DWGS FOR THE SIZE, NUMBER AND LOCATION OF ALL THE TRENCHES, AND FLOOR DRAINS. REF 10/S-301 FOR TRENCH DETAIL AND REF 4/S-301FOR FLOOR DRAIN DETAIL.
16. AT INTERIOR CMU WALL LOCATIONS, WHERE THE GRADE BEAM IS NOT SHOWN, PROVIDE SLAB TURNDOWN PER DETAIL 4/S-312TYPICAL AT INTERIOR GLAZING LOCATIONS, WHERE THE GRADE BEAM IS NOT SHOWN, PROVIDE TURNDOWN SIMILAR TO DETAIL 4/S-312; TYPICAL.
17. PIERS/FOOTINGS WITHOUT CENTERLINES SHOWN ON PLANS, SECTIONS AND/OR DETAILS SHALL BE LOCATED AS FOLLOWS:
    A. COLUMNS AND PILASTERS: CENTERLINE OF THE COLUMN.
    B. GRADE BEAMS AND WALLS: CENTERLINE OF THE GRADE BEAM OR WALL.
    C. ALONG THE LENGTH OF GRADE BEAMS AND WALLS: INTERMEDIATE PIERS/FOOTINGS SHALL BE SPACED EQUALLY BETWEEN PIERS/FOOTINGS THAT ARE DIMENSIONALLY SET ON PLAN OR AS NOTED ABOVE.
    D. PIERS SUPPORTING SLABS ON CARTON FORMS: UNLESS NOTED OTHERWISE, PIERS NOT DIMENSIONED SHALL BE SPACED EQUALLY BETWEEN PIERS THAT ARE DIMENSIONALLY SET ON PLAN.
18. GC TO COORDINATE THE LOCATION OF ALL CONC CURBS WITH ARCH DWGS. REF 7/S-301 FOR DETAIL TYP
19. GC COORDINATE THE LOCATION OF ALL CANOPY COLUMNS WITH ARCH DRAWINGS.
20. INDICATES STRUCTURAL CMU THAT ARE PART OF THE STRUCTURAL LATERAL FORCE RESISTING SYSTEM AND SUPPORTS GRAVITY LOADS. REFER TO ARCH DWGS FOR THE LOCATION OF ALL NON-STRUCTURAL CMU. A 3/8" VERT CONTROL JOINT SHALL BE PROVIDED WHEREVER STRUCTURAL AND NON-STRUCTURAL CMU ABUT.
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23. PROVIDE STRUCTURAL GEO-FOAM WITH 4" CONCRETE TOPPING SLAB WITH W/WF OVER SLAB ON GRADE FOR HATCHED AREAS. GEO-FOAM AND TOPPING SLAB BY MANUFACTURER - REF ARCH AND GENERAL NOTES.
    GC NOTE: ORIGINAL BASE/ FLAT SLAB EXTENDS CONTINUOUS BELOW PLATFORM AND STAIRS. PROVIDE GEO-FOAM FILL BELOW PLATFORM WITH 4" CONCRETE TOPPING SLAB WITH 6x6x2 9x2.9 W.W.M. AT MID-HEIGHT OF SLAB.
    ADDITIONALLY PROVIDE 4" CONCRETE WALLS WITH #4 BARS AT 12" OC EACH WAY - DRILL AND EPOXY 4" INTO BASE/ FLAT SLAB WITH HILTI HY-200 V3 ADHESIVE.
24. REFER TO S-300 FOR CONCRETE FINISHES NOTES.

GC NOTES:

1. THE PORTAL FRAME LOCATIONS SHOWN ON PLAN ARE FOR REFERENCE ONLY; GC SHALL COORDINATE THE ACTUAL LOCATION WITH ARCHITECTURE AND PRE-ENGINEERED METAL BUILDING DRAWINGS; TYPICAL FOR ALL BUILDINGS
2. CMU WALLS AT THE PEMB ARE INTENDED TO BE SHEAR WALL. THE PEMB FULL DESIGN TO BE PROVIDED BY THE PEMB MFR

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

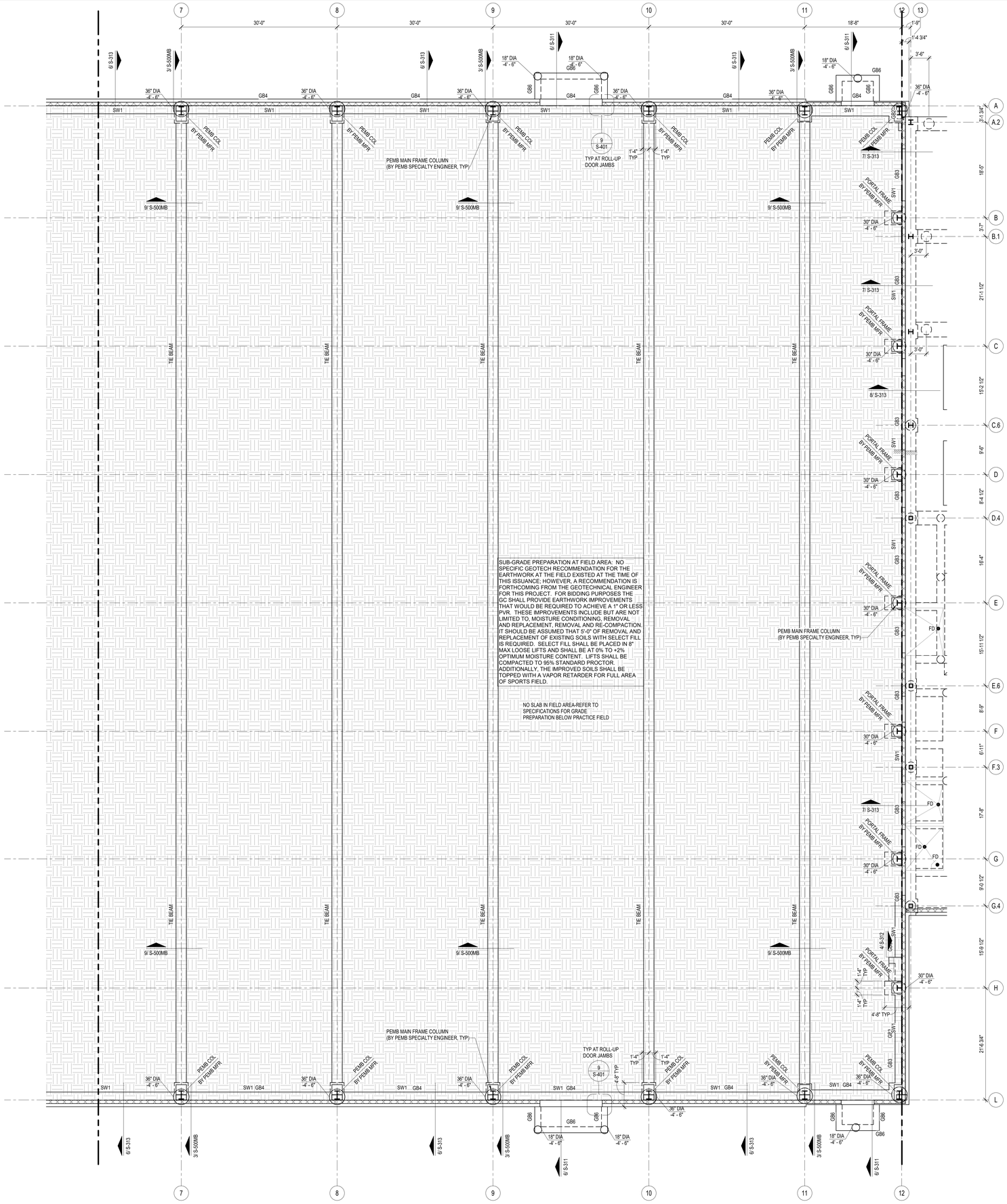
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DRAWN BY: JJ

FOUNDATION PLAN - AREA A

S-101A

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10/29/2026 5:57:51 PM

S:\101B1 - FOUNDATION PLAN - AREA B1



FOUNDATION PLAN NOTES

1. REFER TO PLAN FOR TOP OF STRUCTURAL CONCRETE ELEVATIONS (TOSC EL). ALL ELEVATIONS SHOWN ON THE PLAN ARE BASED ON A LEVEL ONE REFERENCE ELEVATION = 0'-0". THIS REFERENCE ELEVATION IS EQUIVALENT TO THE LEVEL ONE MEAN SEA LEVEL ELEVATION = REF CIVIL SHOWN IN THE CIVIL AND ARCHITECTURAL DRAWINGS AND IS NOT INTENDED TO ESTABLISH THE ACTUAL SEA LEVEL ELEVATION OF ANY PORTION OF THE STRUCTURE.
2. 5" THICK CONCRETE SLAB-ON-GRADE REINFORCED WITH: #4 AT 16" OC EACH WAY, ON 2 1/2" CHAIRS SPACED AT 32" OC EACH WAY. PLACE THE SLAB ON A 15 MIL WATER VAPOR BARRIER OVER COMPACTED SELECT FILL. REFER TO THE SOIL REPORT. FOR SLAB JOINT DETAILS, REFER TO 1/S-301 AND 2/S-301.

3.1 TOP OF INTERIOR GRADE BEAM ELEVATION SHALL BE = -1'-0" UON. TOP OF PERIMETER GRADE BEAM ELEVATION SHALL BE = -1'-0" UON.

3.2 TOP OF INTERIOR/ EXTERIOR PLINTH ELEVATION SHALL BE = -1'-0" UON. TOP OF INTERIOR PIER ELEVATION WITHOUT PLINTH SHALL BE = -1'-0" UON. TOP OF INTERIOR PIER ELEVATION WITH PLINTH SHALL BE = -3'-6" UON. TOP OF INTERIOR PIER ELEVATION WITH GRADE BEAM SHALL BE = -3'-6" UON. TOP OF EXTERIOR PIER ELEVATION SHALL BE = -3'-6" UON.

4. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENTS AND DIMENSIONS OF RAISED OR DEPRESSED SLAB AREAS, SLOPES, CURBS, AND DRAINS. REFER TO TYPICAL DETAILS FOR REINFORCEMENT REQUIREMENTS.
5. GC COORDINATE ALL PENETRATIONS AND UNDERGROUND UTILITIES WITH MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. REFER TO TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT REQUIREMENTS.
6. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT AND STRUCTURAL ENGINEER OF ANY DISCREPANCIES.
7. GC COORDINATE ALL SLAB EDGE DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
8. PROVIDE (2) - #5 x 5'-0" LONG BAR IN SLAB AT RE-ENTRANT CORNERS, TYPICAL. INCLUDING RE-ENTRANT CORNERS AROUND THE PERIMETER OF THE BUILDINGS, FLOOR RECESSES AND OPENINGS.
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24. REFER TO S-300 FOR CONCRETE FINISHES NOTES.

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1 FOUNDATION PLAN - AREA B1
1/8" = 1'-0"

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

DRAWN BY: JJ

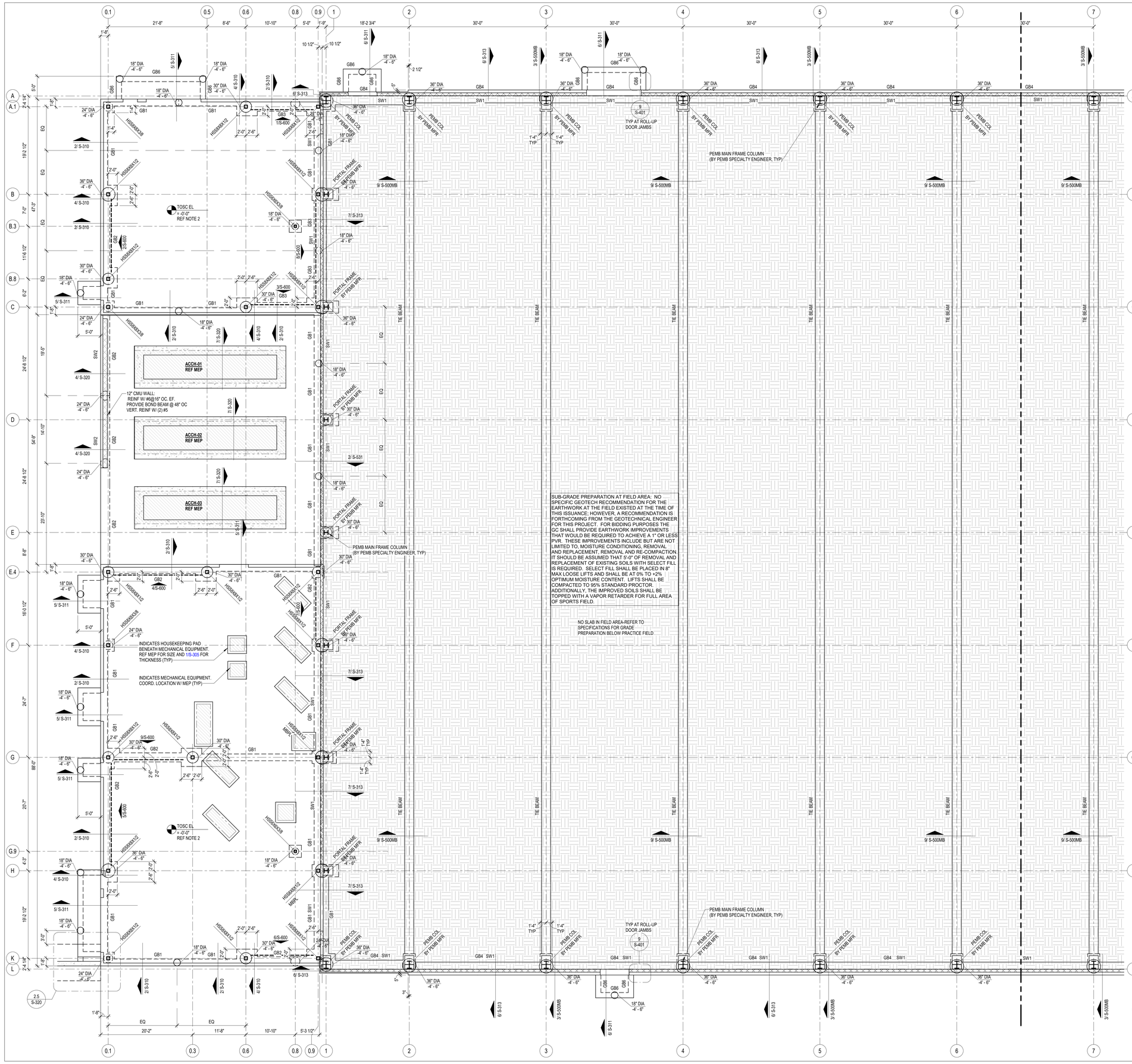
FOUNDATION PLAN - AREA B1

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S-101B2 - FOUNDATION PLAN - AREA B2



FOUNDATION PLAN NOTES

1. REFER TO PLAN FOR TOP OF STRUCTURAL CONCRETE ELEVATIONS (TOSC EL). ALL ELEVATIONS SHOWN ON THE PLAN ARE BASED ON A LEVEL ONE REFERENCE ELEVATION = 0'-0". THIS REFERENCE ELEVATION IS EQUIVALENT TO THE LEVEL ONE MEAN SEA LEVEL ELEVATION = REF CIVIL SHOWN IN THE CIVIL AND ARCHITECTURAL DRAWINGS AND IS NOT INTENDED TO ESTABLISH THE ACTUAL SEA LEVEL ELEVATION OF ANY PORTION OF THE STRUCTURE.
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1 FOUNDATION PLAN - AREA B2
1/8" = 1'-0"

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KEY PLAN

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STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

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No.	Description	Date

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DRAWN BY: JJ

FOUNDATION PLAN - AREA B2

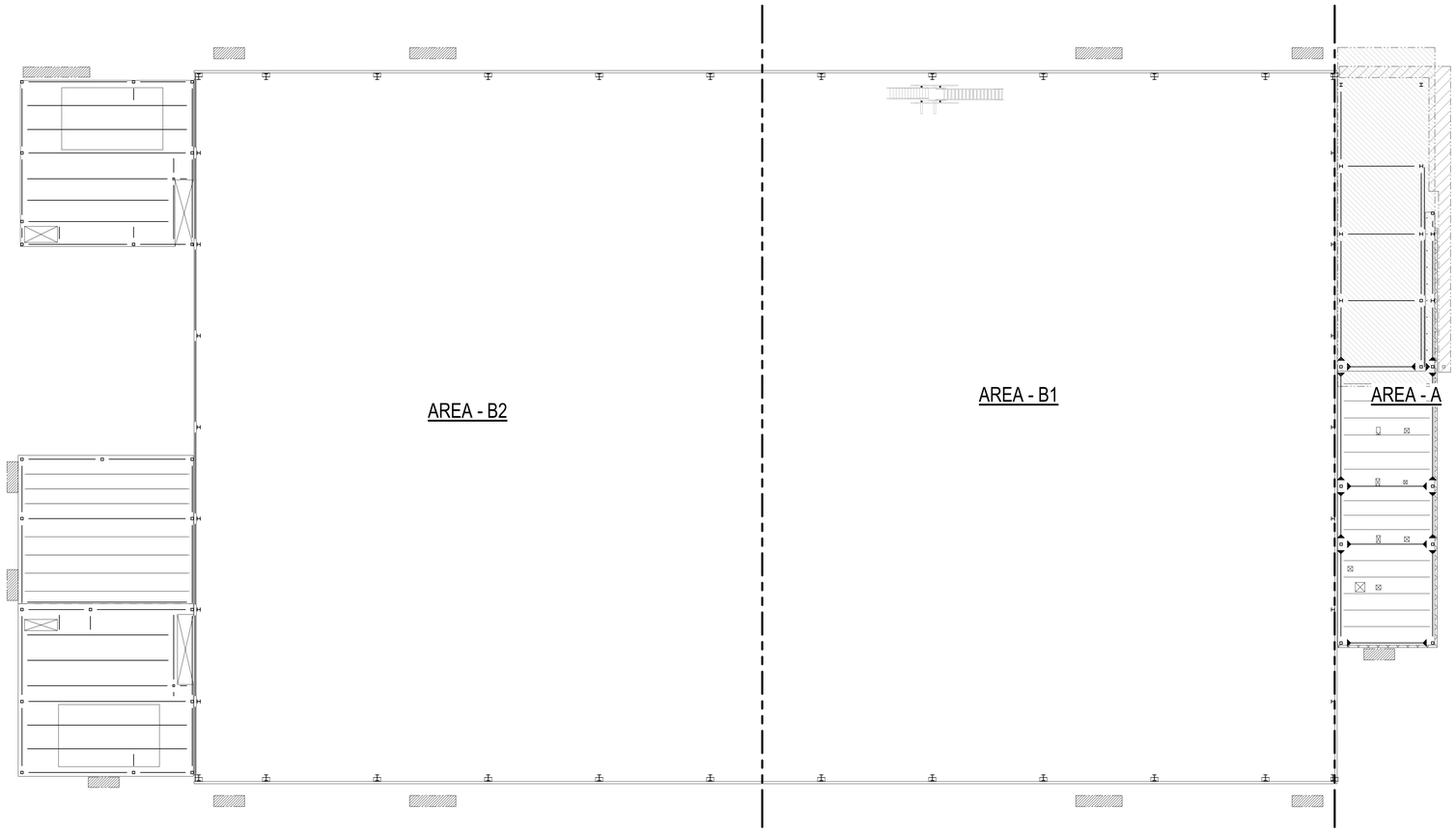
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S-102 - COMPOSITE LOW ROOF FRAMING PLAN

COMPOSITE PLAN NOTE:

REFER TO INDIVIDUAL AREA PLANS FOR ALL GRIDS NOT SHOWN.



1 COMPOSITE LOW ROOF FRAMING PLAN
1/16" = 1'-0"

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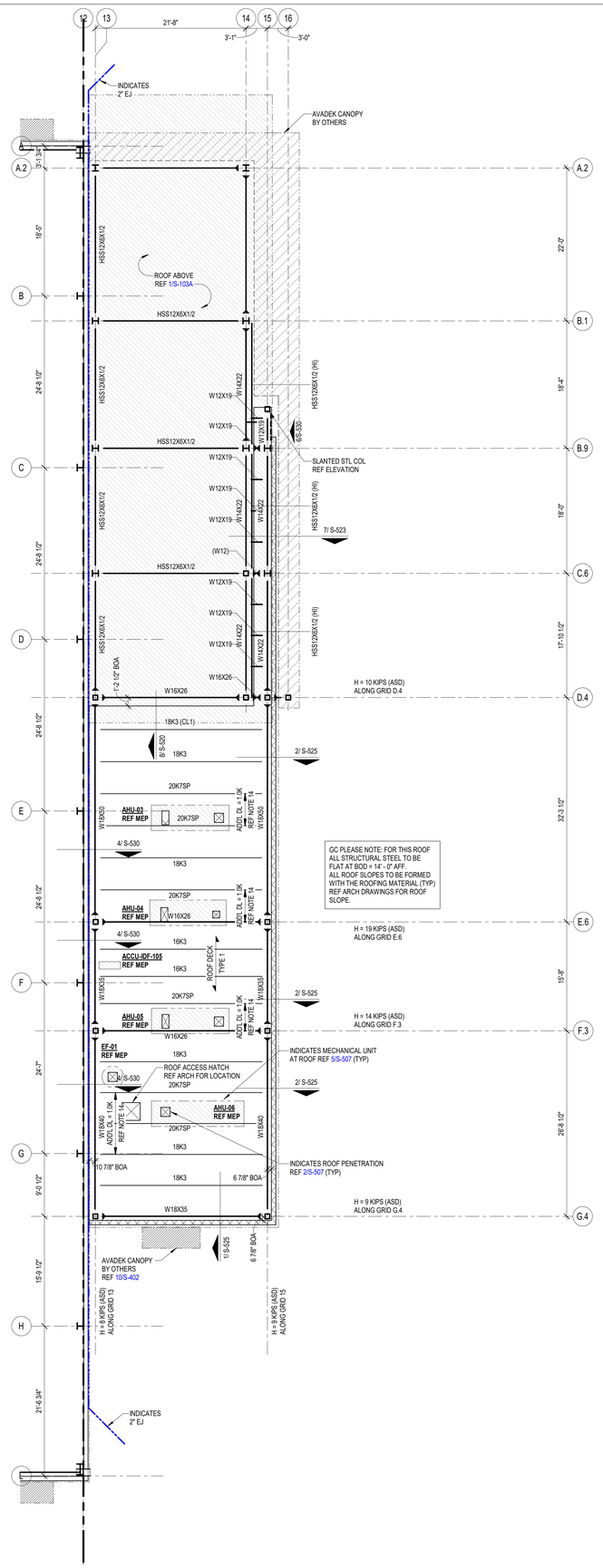
COMPOSITE LOW ROOF FRAMING PLAN

S-102

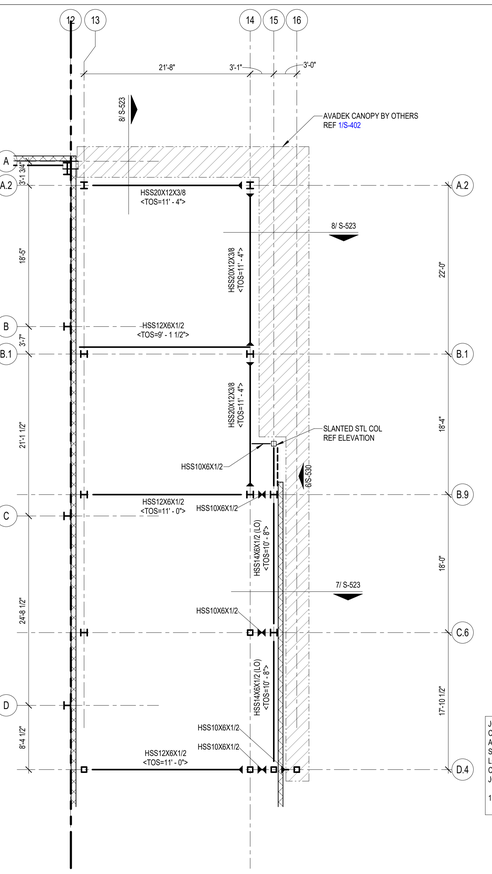
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S-102A - LOW ROOF FRAMING PLAN - AREA A



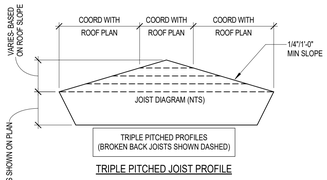
1 LOW ROOF FRAMING PLAN - AREA A
1/8" = 1'-0"



2 LOW CANOPY FRAMING PLAN
1/8" = 1'-0"

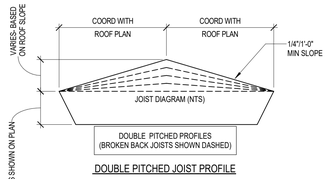
GC PLEASE NOTE:

WHERE HORIZONTAL H WIND FORCES ARE INDICATED ON THE STRUCTURAL PLANS AS "H=XX.X K (ASD)," IN CONJUNCTION WITH BRACE FRAMES, THE GENERAL CONTRACTOR IS REQUIRED TO ASSUME AN H LOAD OF 80 KIPS (ASD) ALONG THE ENTIRE GRID LINE OF BRACE FRAMES AT THE SECOND FLOORS, THIRD FLOORS, AND MEZZANINES. ADDITIONALLY, FOR HORIZONTAL H WIND FORCES INDICATED AS "H=XX K (ASD)" IN CONJUNCTION WITH BRACE FRAMES AT THE ROOFS, THE GENERAL CONTRACTOR SHOULD ASSUME AN H LOAD OF 65 KIPS (ASD) ALONG THE ENTIRE GRID LINE. THE GC HOLDS THE RESPONSIBILITY FOR DESIGNING CONNECTIONS THAT CAN ACCOMMODATE THESE SPECIFIED LOAD ASSUMPTIONS. FOR FURTHER GUIDANCE ON CONNECTION DESIGN, PLEASE REFER TO CONNECTION GENERAL NOTE SHEET S-500. TYP ALL AREAS



TRIPLE PITCHED JOIST PROFILE

MINIMUM JOIST LOADING SHALL MEET THE SJI LOAD TABLE CAPACITY OF THE JOIST SIZE PROVIDED IN THE STRUCTURAL DRAWINGS BASED ON JOIST SPAN, TYPICAL UNO. JOIST DESIGNER DESIGN FOR ANY AND ALL ADDITIONAL LOADS NOTED IN STRUCTURAL DRAWINGS.



DOUBLE PITCHED JOIST PROFILE

MINIMUM JOIST LOADING SHALL MEET THE SJI LOAD TABLE CAPACITY OF THE JOIST SIZE PROVIDED IN THE STRUCTURAL DRAWINGS BASED ON JOIST SPAN, TYPICAL UNO. JOIST DESIGNER DESIGN FOR ANY AND ALL ADDITIONAL LOADS NOTED IN STRUCTURAL DRAWINGS.

JOIST DESIGNATIONS, SHOWN ON THE FRAMING PLANS, FOLLOWED BY THE DESIGNATION "CL" SUPPORT A CONCENTRATED DEAD LOAD. THE JOIST SIZES DESIGNATED ON THE FRAMING PLANS DO NOT TAKE INTO ACCOUNT THIS CONCENTRATED DEAD LOAD. THE JOIST MANUFACTURER SHALL DESIGN SPECIAL JOISTS TO SUPPORT THIS CONCENTRATED DEAD LOAD IN ADDITION TO THE TOTAL LOAD CAPACITY PROVIDED IN THE SJI LOAD TABLES FOR THE JOISTS SPECIFIED ON THE FRAMING PLANS. JOISTS SUPPORTING THESE CONCENTRATED DEAD LOADS SHALL BE FABRICATED SYMMETRICALLY ABOUT THEIR CENTERLINE. DESIGN JOISTS FOR THE FOLLOWING "CL" DESIGNATIONS WHERE SHOWN ON THE FRAMING PLANS:

1. CL1 - 230lb/ft LOCATED 1'-6" FROM THE CENTERLINE OF THE SUPPORTING STEEL BEAM.

ROOF PLAN NOTES

1. REF PLAN FOR TOP OF SLAB ELEVATION.
2. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0".
3. TOP OF ROOF STRUCTURE IS SLOPED FOR DRAINAGE. REF ELEVATIONS NOTED ON PLAN. SLOPES SHALL BE UNIFORM BETWEEN COLUMN CENTERLINES UNLESS SHOWN OTHERWISE.
4. JOIST MFR NOTE:
   BRIDGING NOT SHOWN ON PLAN. MANUFACTURER SHALL PROVIDE STANDARD BRIDGING COMPLYING WITH SJI SPECIFICATIONS OF LATEST ADOPTION, TYPICAL FOR GRAVITY AND UPLIFT LOADS SUPERIMPOSED ON ALL JOISTS. DIAGONAL BRIDGING SHALL BE PROVIDED BETWEEN ADJACENT JOISTS WHENEVER BOTTOM CHORD HORIZONTAL BRIDGING IS CONTINUOUS.
5. REFER TO THE ROOF DIAPHRAGM CONNECTION SCHEDULE FOR DECK ATTACHMENT TO ROOF FRAMING MEMBERS AND DECK FASTENER TYPE, SIZE AND SPACING.
6. REF ARCH FOR TOP OF WALL ELEVATIONS.
7. DETAILING OF ALL MEMBER CONNECTIONS TO THE SUPPORTS SHALL BE PERFORMED TO SATISFY LATEST OSHA ERECTION REQUIREMENTS.
8. TOS EL = BOTTOM OF DECK.
9. UNLESS SHOWN OTHERWISE, STEEL BEAMS OR JOISTS ARE CENTERED ON AND EQUALLY SPACED BETWEEN COLUMN CENTERLINES.
10. ALL STRUCTURAL STEEL THAT IS PERMANENTLY EXPOSED TO THE EXTERIOR OR IS PERMANENTLY IN UNCONDITIONED SPACE SHALL BE HOT-DIPPED GALVANIZED.
11. GC COORDINATE ALL PENETRATIONS AND UNDERGROUND UTILITIES WITH MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. REFER TO TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT REQUIREMENTS.
12. CONTRACTOR TO VERIFY ALL SLAB EDGE DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
13. INDICATES WIND BRACE BEAM BOTTOM FLANGE BRACING PER 4/S-508 . PROVIDE BFB ALONG THE ENTIRE GRID LINE WHERE A BRACE IS PRESENT IN AT LEAST ONE BAY. THIS INCLUDES THE BRACED FRAME BAY AS WELL AS ALL OTHER BAYS ALONG THAT GRID LINE WHERE A BRACE IS LOCATED. NOT ALL DASHED LINES ARE SHOWN ON THE PLAN FOR CLARITY. AT LOCATIONS WHERE BEAM SPACING EXCEEDS 4'-0" OC REF 1/S-505 .
14. REF DETAIL 5/S-507 WHERE ROOF TOP EQUIPMENT REQUIRES A STRUCTURAL CURB. JOISTS THAT ARE SUPPORTING ROOF TOP EQUIPMENT SHALL BE DESIGNED FOR AN ADDITIONAL CONCENTRATED DEAD LOAD (AS SHOWN ON PLAN AT ANY POINT ALONG JOIST SPAN). GC SHALL COORDINATE WITH MEP, ARCHITECTURE AND EQUIPMENT CUTSHEETS FOR FINAL WEIGHT, DIMENSIONS, LOCATION, ETC.
15. - INDICATES PIPING RUN. REF MEP DRAWINGS; GC SHALL COORDINATE GIVEN LOAD WITH JOIST MANUFACTURER. REF SHEET S-011.
16. REF S0.XX SERIES DRAWINGS FOR GENERAL NOTES AND TYP DETAILS
17. REF S4.XX SERIES DRAWINGS FOR CMU DETAILS.
18. REF S5.XX SERIES DRAWINGS FOR STEEL FRAMING DETAILS.
19. REF S6.XX SERIES DRAWINGS FOR STEEL BRACE ELEVATIONS AND DETAILS.
20. - INDICATES COLUMN BRACING PER 5/S-502. TYPICAL AT COLUMNS UNBRACED BY FRAMING MEMBER ABOUT THEIR LOCAL AXIS. NOT ALL SHOWN ON PLAN FOR MORE CLARITY.
21. INDICATES PLAN DIAGONAL STRUT WTX15. COPE WEB AT BEAMS AND OVERLAP FLANGE 4". WELD TO TOP FLANGE AND COLUMNS WITH 5/16" FILLET WELD 3-SIDES (TYP.)
22. UPLIFT X-BRIDGING NOT SHOWN ON PLANS FOR CLARITY. GC SHALL PROVIDE X-BRIDGING BETWEEN ADJACENT WF BEAMS AT ROOF PER DETAIL 3/S-507 .
23. GC SHALL COORDINATE LOCATION OF FOLDING PARTITIONS WITH ARCH DRAWINGS. JOISTS ABOVE FOLDING PARTITION SHALL BE DESIGNED FOR ADD'L DL= 2.0 K (PERP.) OR DL= 0.5 KLF (PARALLEL) (DEF. FROM DL SHALL NOT EXCEED 3/8"). END JOISTS ABOVE FOLDING PARTITION SHALL BE DESIGNED FOR STACKED END LOAD EQUAL TO 9000 POUNDS FOR BOTH ENDS (DEF. FROM DL SHALL NOT EXCEED 3/8"). REF DETAIL 1/S-509.
24. PROVIDE MISC. STEEL PER 12/S-501 ABOVE AND BELOW ANY WINDOW THAT DOES NOT ALIGN WITH THE BACK-UP, UNO, TYP. LOOSE LINTELS REQUIRED BELOW WINDOW SHALL BE INVERTED (DOG LEG DOWN), TYP.
25. ALL JOISTS LOCATED BENEATH ROOFTOP UNITS AND THE ADJACENT JOISTS ON EACH SIDE THAT ARE NOT ENTIRELY POSITIONED UNDER THE ROOFTOP UNIT MUST BE DESIGNED TO SUPPORT A DEAD LOAD OF 2.0 KIPS,UNO ON PLANS. GC MUST COORD LOCATION OF RTUS WITH MEP DRAWINGS.

GC PLEASE NOTE:

1. FOR THE BASE BID OF THIS PROJECT, THE GC SHALL ACCOUNT FOR 100% OF THE BEAMS, GIRDERS, AND PURLINS, CROSSING A HIP, VALLEY, AND RIDGE ROOF LINES TO BE BENT AND HAVE FULL CAPACITY MOMENT CONNECTIONS AT EACH LOCATION. CHANGES IN ROOF DECK SLOPE LOCATIONS ARE DEFINED AS WHEN A GIRDER BEAM OR PURLIN BEAM PASSES THROUGH A RIDGE LINE, HIP LINE, OR VALLEY LINE. THE BEND LOCATIONS VARY BASED ON WHERE THE ROOF DECK SLOPE CHANGE INTERSECTS WITH A PURLIN OR MAIN GIRDER BEAM. THE GC MUST COORDINATE WITH ROOF FRAMING PLANS AND ACCOUNT FOR THE FULL NUMBER OF ADDED MOMENT CONNECTIONS REQUIRED TO CREATE THE ROOF DECK SLOPES NEEDED FOR PROPER DRAINAGE.
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3. GC TO PROVIDE CONT 4X4X1/4 THICK BENT PLATE ALONG THE RIDGE, HIP, AND VALLEY LINES TO SUPPORT DECKING AT WRAP (TYP).
4. THE GENERAL CONTRACTOR IS REQUIRED TO PROVIDE A BRICK RELIEF ANGLE AT ANY POINT WHERE THE BRICK EXTENDS BEYOND THE ELEVATION OF 30'-0" AND IS SUPPORTED BY A CONCRETE MASONRY UNIT (CMU) BACKUP. PLEASE REFER TO DETAIL 7/S-402. THE BRICK RELIEF ANGLE SHOULD BE INSTALLED AT THE SECOND AND THIRD FLOORS WITHIN THE CLASSROOM AREAS AND ROTUNDA AS INDICATED IN COMPOSITE DETAILS AND SECTION CUTS ON PLANS.

COMPOSITE FLOOR DECK AND METAL ROOF DECK LEGEND

COMPOSITE FLOOR DECK TYPES

FLOOR DECK TYPE 1:
4 1/2" NWC ON 3.0 VLI 20 GA (GALV) (G90) COMPOSITE STEEL DECK (7 1/2" TOTAL SLAB THICKNESS). COMPOSITE SLAB SHALL BE REINFORCED WITH WWR 6x6-W2.9xW2.9, U.N.O.

METAL ROOF DECK TYPES

ROOF DECK TYPE 1:
1.5B 20 GA (GALV.) (G90) MTL DECK.

NOTES:

1. STEEL DECK SHALL BE PLACED WITH TWO-SPAN CONDITION MINIMUM. NO SINGLE SPANS ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER-OF-RECORD.
2. REF SLABS FORM DECK (AT FLOORS) GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-504 FOR MORE INFORMATION REGARDING FLOOR DECK REQUIREMENTS.
3. REF METAL ROOF DECKING GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-507 FOR MORE INFORMATION REGARDING ROOF DECK REQUIREMENTS.

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Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

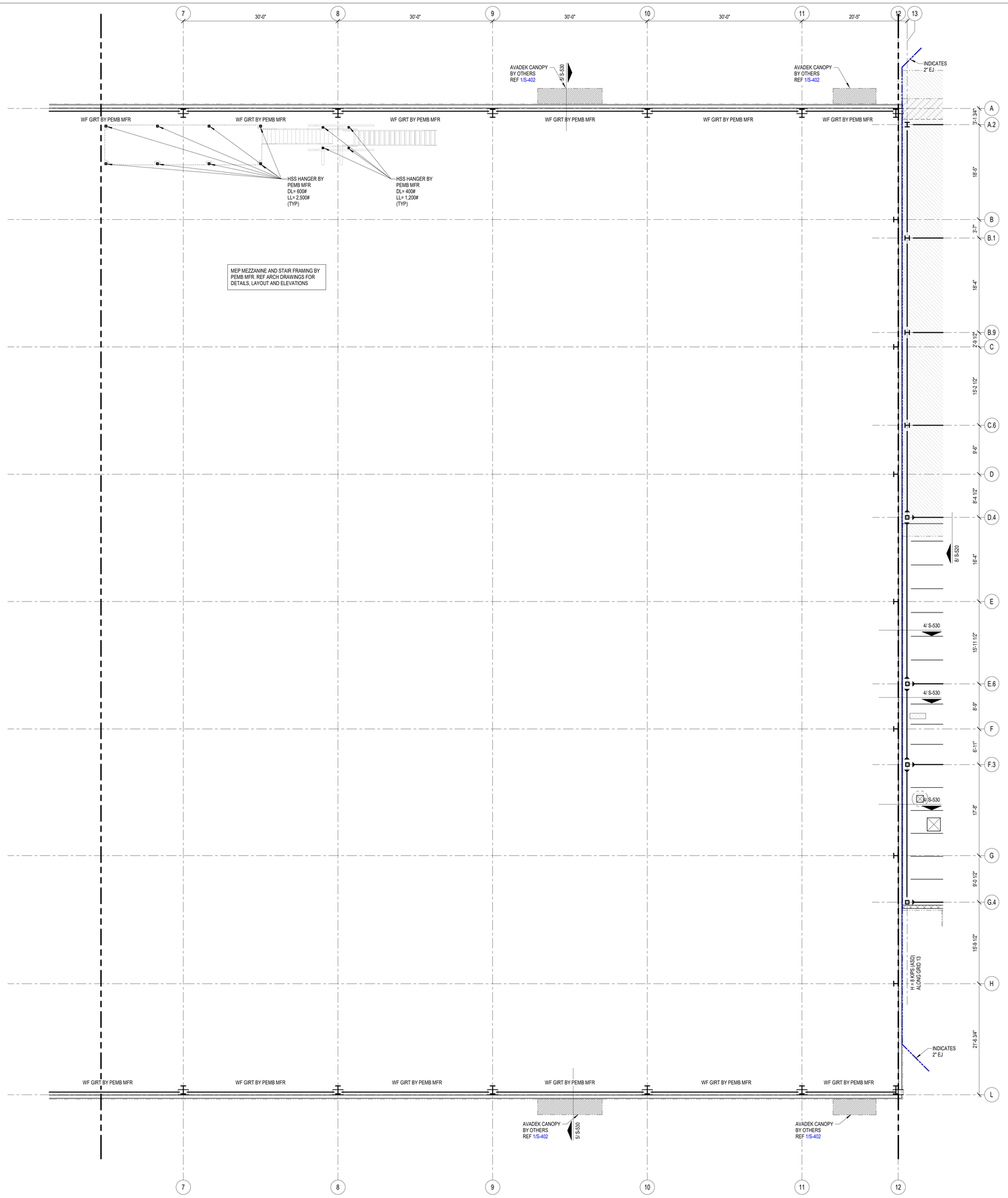
DRAWN BY: JJ

LOW ROOF FRAMING PLAN - AREA A

S-102A

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TX. REG. NO. F-23612

Plot Stamp:
10/29/2026 5:57:55 PM



ROOF PLAN NOTES

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COMPOSITE FLOOR DECK AND METAL ROOF DECK LEGEND

COMPOSITE FLOOR DECK TYPES

FLOOR DECK TYPE 1:
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METAL ROOF DECK TYPES

ROOF DECK TYPE 1:
1.5B 20 GA (GALV.) (G90) MTL DECK.

NOTES:

1. STEEL DECK SHALL BE PLACED WITH TWO-SPAN CONDITION MINIMUM. NO SINGLE SPANS ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER-OF-RECORD.
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1 LOW ROOF FRAMING PLAN - AREA B1
1/8" = 1'-0"

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Tomball ISD-Multi-Program Activity Center-Tomball High School

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ISSUE FOR PROPOSAL

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

DRAWN BY: JJ

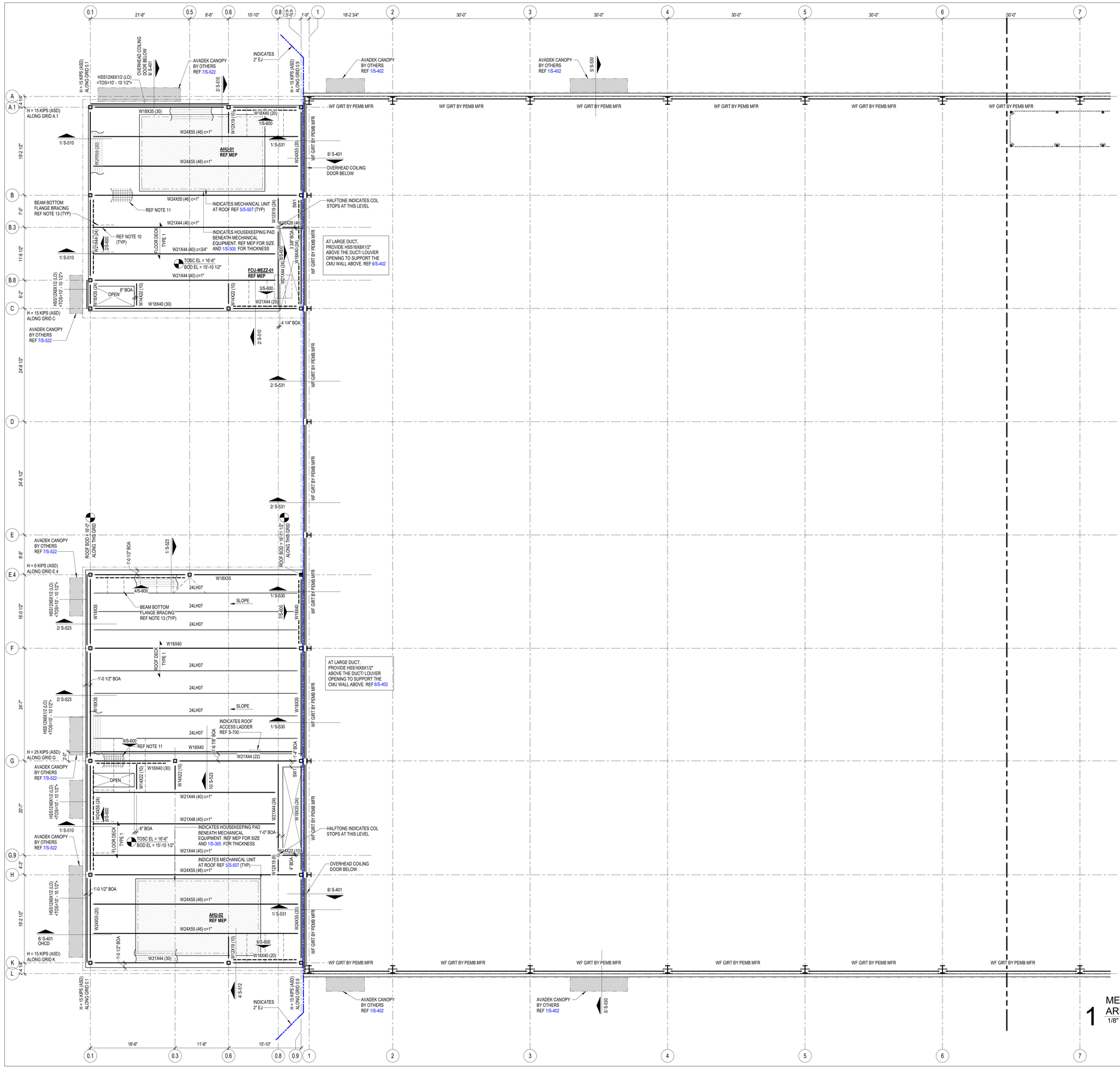
LOW ROOF FRAMING PLAN - AREA B1

S-102B1

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10/29/2026 5:57:56 PM

S-102B2 - MEZZANINE FRAMING PLAN - AREA B2



ROOF PLAN NOTES

1. REF PLAN FOR TOP OF SLAB ELEVATION.
2. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0".
3. TOP OF ROOF STRUCTURE IS SLOPED FOR DRAINAGE. REF ELEVATIONS NOTED ON PLAN. SLOPES SHALL BE UNIFORM BETWEEN COLUMN CENTERLINES UNLESS SHOWN OTHERWISE.
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NOTES:

1. STEEL DECK SHALL BE PLACED WITH TWO-SPAN CONDITION MINIMUM. NO SINGLE SPANS ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER-OF-RECORD.
2. REF SLABS FORM DECK (AT FLOORS) GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-504 FOR MORE INFORMATION REGARDING FLOOR DECK REQUIREMENTS.
3. REF METAL ROOF DECKING GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-507 FOR MORE INFORMATION REGARDING ROOF DECK REQUIREMENTS.

REFER TO S-102A FOR ROOF JOIST DIAGRAMS AND NOTES.

1 MECHANICAL MEZZANINE FRAMING PLAN AREA B2

1/8" = 1'-0"

Kubala ENGINEERS
Ph: (800)246-3674
www.kubalaengineers.com
TX. REG. NO. F-23612

PBK
TX.FIRM.BR.1608
www.pbk.com
HOUSTON, TX
713-960-8686

Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH



CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

DRAWN BY: JJ

MEZZANINE FRAMING PLAN - AREA B2

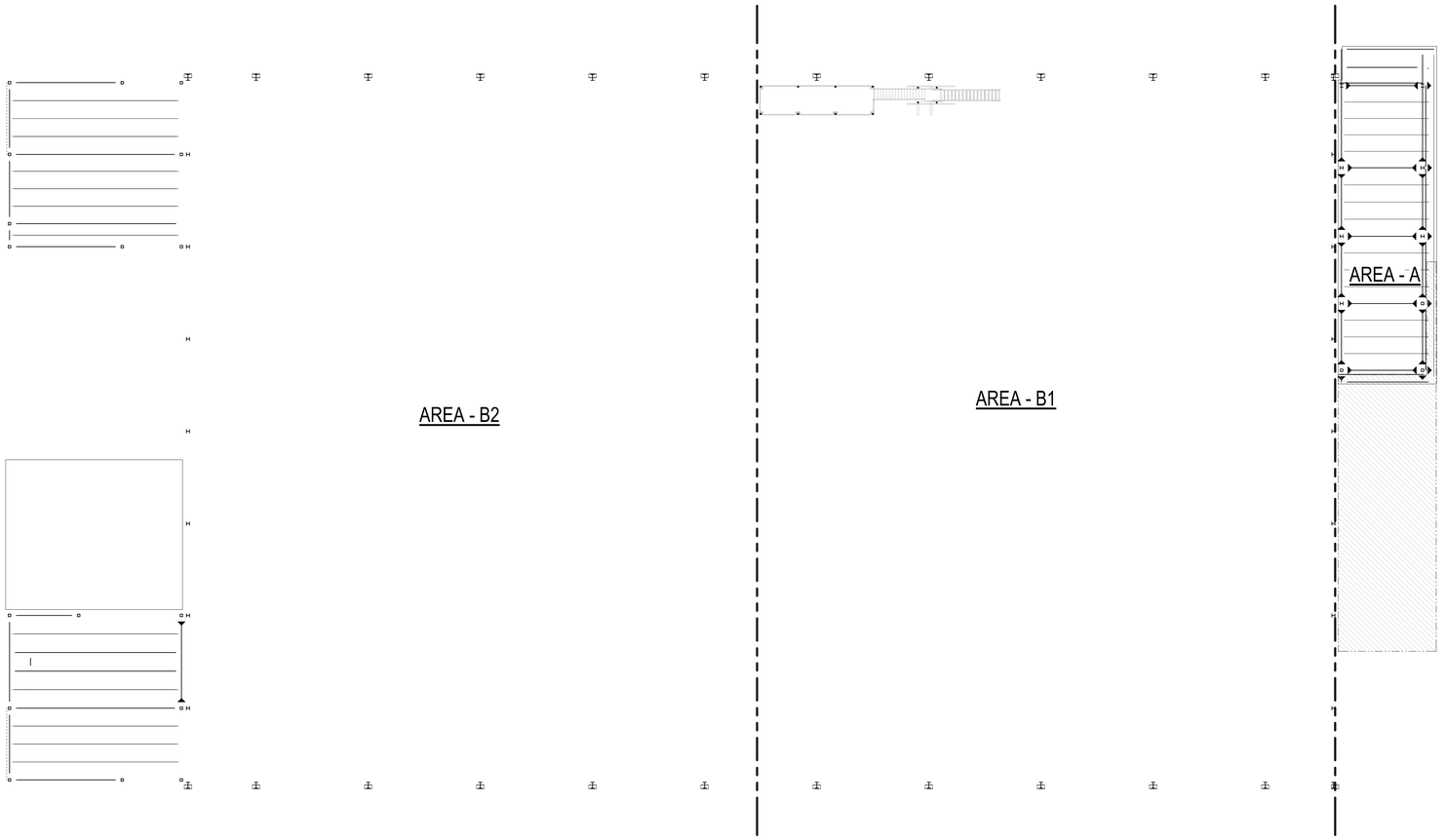
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S-103 - COMPOSITE MID ROOF FRAMING PLAN

COMPOSITE PLAN NOTE:

REFER TO INDIVIDUAL AREA PLANS FOR ALL GRIDS NOT SHOWN.



1 MID ROOF FRAMING PLAN - AREA A
1/16" = 1'-0"

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ISSUE FOR PROPOSAL

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

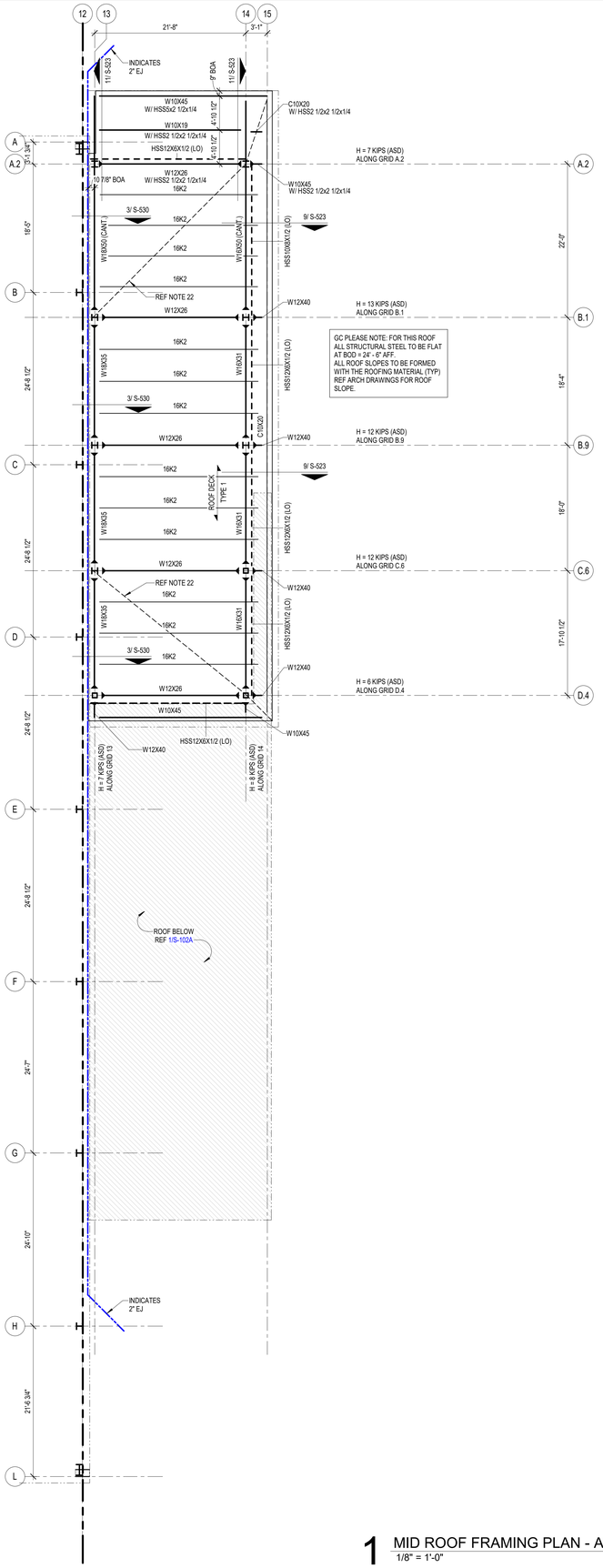
DRAWN BY: JJ

COMPOSITE MID ROOF FRAMING PLAN

S-103

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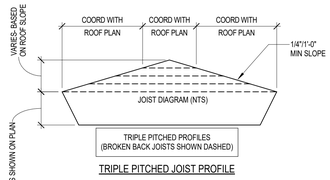


GC PLEASE NOTE: FOR THIS ROOF ALL STRUCTURAL STEEL TO BE FLAT AT BOD = 24' - 6" AFF. ALL ROOF SLOPES TO BE FORMED WITH THE ROOFING MATERIAL (TYP.) REF ARCH DRAWINGS FOR ROOF SLOPE.

1 MID ROOF FRAMING PLAN - AREA A
1/8" = 1'-0"

GC PLEASE NOTE:

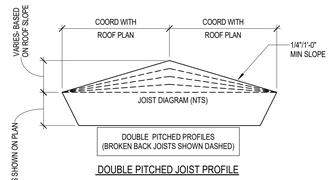
WHERE HORIZONTAL H WIND FORCES ARE INDICATED ON THE STRUCTURAL PLANS AS "H=XX.X K (ASD)," IN CONJUNCTION WITH BRACE FRAMES, THE GENERAL CONTRACTOR IS REQUIRED TO ASSUME AN H LOAD OF 80 KIPS (ASD) ALONG THE ENTIRE GRID LINE OF BRACE FRAMES AT THE SECOND FLOORS, THIRD FLOORS, AND MEZZANINES. ADDITIONALLY, FOR HORIZONTAL H WIND FORCES INDICATED AS "H=XX K (ASD)" IN CONJUNCTION WITH BRACE FRAMES AT THE ROOFS, THE GENERAL CONTRACTOR SHOULD ASSUME AN H LOAD OF 65 KIPS (ASD) ALONG THE ENTIRE GRID LINE. THE GC HOLDS THE RESPONSIBILITY FOR DESIGNING CONNECTIONS THAT CAN ACCOMMODATE THESE SPECIFIED LOAD ASSUMPTIONS. FOR FURTHER GUIDANCE ON CONNECTION DESIGN, PLEASE REFER TO CONNECTION GENERAL NOTE SHEET S-500. TYP ALL AREAS



TRIPLE PITCHED PROFILES (BROKEN BACK JOISTS SHOWN DASHED)

TRIPLE PITCHED JOIST PROFILE

MINIMUM JOIST LOADING SHALL MEET THE SJI LOAD TABLE CAPACITY OF THE JOIST SIZE PROVIDED IN THE STRUCTURAL DRAWINGS BASED ON JOIST SPAN, TYPICAL UNO. JOIST DESIGNER DESIGN FOR ANY AND ALL ADDITIONAL LOADS NOTED IN STRUCTURAL DRAWINGS.



DOUBLE PITCHED PROFILES (BROKEN BACK JOISTS SHOWN DASHED)

DOUBLE PITCHED JOIST PROFILE

MINIMUM JOIST LOADING SHALL MEET THE SJI LOAD TABLE CAPACITY OF THE JOIST SIZE PROVIDED IN THE STRUCTURAL DRAWINGS BASED ON JOIST SPAN, TYPICAL UNO. JOIST DESIGNER DESIGN FOR ANY AND ALL ADDITIONAL LOADS NOTED IN STRUCTURAL DRAWINGS.

JOIST DESIGNATIONS, SHOWN ON THE FRAMING PLANS, FOLLOWED BY THE DESIGNATION "CL" SUPPORT A CONCENTRATED DEAD LOAD. THE JOIST SIZES DESIGNATED ON THE FRAMING PLANS DO NOT TAKE INTO ACCOUNT THIS CONCENTRATED DEAD LOAD. THE JOIST MANUFACTURER SHALL DESIGN SPECIAL JOISTS TO SUPPORT THIS CONCENTRATED DEAD LOAD IN ADDITION TO THE TOTAL LOAD CAPACITY PROVIDED IN THE SJI LOAD TABLES FOR THE JOISTS SPECIFIED ON THE FRAMING PLANS. JOISTS SUPPORTING THESE CONCENTRATED DEAD LOADS SHALL BE FABRICATED SYMMETRICALLY ABOUT THEIR CENTERLINE. DESIGN JOISTS FOR THE FOLLOWING "CL" DESIGNATIONS WHERE SHOWN ON THE FRAMING PLANS:

1. CL1 - 230lb/ft LOCATED 1'-6" FROM THE CENTERLINE OF THE SUPPORTING STEEL BEAM.

ROOF PLAN NOTES

1. REF PLAN FOR TOP OF SLAB ELEVATION.
2. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0".
3. TOP OF ROOF STRUCTURE IS SLOPED FOR DRAINAGE. REF ELEVATIONS NOTED ON PLAN. SLOPES SHALL BE UNIFORM BETWEEN COLUMN CENTERLINES UNLESS SHOWN OTHERWISE.
4. JOIST MFR NOTE:
   BRIDGING NOT SHOWN ON PLAN. MANUFACTURER SHALL PROVIDE STANDARD BRIDGING COMPLYING WITH SJI SPECIFICATIONS OF LATEST ADOPTION, TYPICAL FOR GRAVITY AND UPLIFT LOADS SUPERIMPOSED ON ALL JOISTS. DIAGONAL BRIDGING SHALL BE PROVIDED BETWEEN ADJACENT JOISTS WHENEVER BOTTOM CHORD HORIZONTAL BRIDGING IS CONTINUOUS.
5. REFER TO THE ROOF DIAPHRAGM CONNECTION SCHEDULE FOR DECK ATTACHMENT TO ROOF FRAMING MEMBERS AND DECK FASTENER TYPE, SIZE AND SPACING.
6. REF ARCH FOR TOP OF WALL ELEVATIONS.
7. DETAILING OF ALL MEMBER CONNECTIONS TO THE SUPPORTS SHALL BE PERFORMED TO SATISFY LATEST OSHA ERECTION REQUIREMENTS.
8. TOS EL = BOTTOM OF DECK.
9. UNLESS SHOWN OTHERWISE, STEEL BEAMS OR JOISTS ARE CENTERED ON AND EQUALLY SPACED BETWEEN COLUMN CENTERLINES.
10. ALL STRUCTURAL STEEL THAT IS PERMANENTLY EXPOSED TO THE EXTERIOR OR IS PERMANENTLY IN UNCONDITIONED SPACE SHALL BE HOT-DIPPED GALVANIZED.
11. GC COORDINATE ALL PENETRATIONS AND UNDERGROUND UTILITIES WITH MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. REFER TO TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT REQUIREMENTS.
12. CONTRACTOR TO VERIFY ALL SLAB EDGE DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
13. INDICATES WIND BRACE BEAM BOTTOM FLANGE BRACING PER 4/S-508 . PROVIDE BFB ALONG THE ENTIRE GRID LINE WHERE A BRACE IS PRESENT IN AT LEAST ONE BAY. THIS INCLUDES THE BRACED FRAME BAY AS WELL AS ALL OTHER BAYS ALONG THAT GRID LINE WHERE A BRACE IS LOCATED. NOT ALL DASHED LINES ARE SHOWN ON THE PLAN FOR CLARITY. AT LOCATIONS WHERE BEAM SPACING EXCEEDS 4'-0" OC REF 1/S-505 .
14. REF DETAIL 5/S-507 WHERE ROOF TOP EQUIPMENT REQUIRES A STRUCTURAL CURB. JOISTS THAT ARE SUPPORTING ROOF TOP EQUIPMENT SHALL BE DESIGNED FOR AN ADDITIONAL CONCENTRATED DEAD LOAD (AS SHOWN ON PLAN AT ANY POINT ALONG JOIST SPAN). GC SHALL COORDINATE WITH MEP, ARCHITECTURE AND EQUIPMENT CUTSHEETS FOR FINAL WEIGHT, DIMENSIONS, LOCATION, ETC.
15. ——— INDICATES PIPING RUN. REF MEP DRAWINGS; GC SHALL COORDINATE GIVEN LOAD WITH JOIST MANUFACTURER. REF SHEET S-011.
16. REF S0.XX SERIES DRAWINGS FOR GENERAL NOTES AND TYP DETAILS
17. REF S4.XX SERIES DRAWINGS FOR CMU DETAILS.
18. REF S5.XX SERIES DRAWINGS FOR STEEL FRAMING DETAILS.
19. REF S6.XX SERIES DRAWINGS FOR STEEL BRACE ELEVATIONS AND DETAILS.
20. \ / - INDICATES COLUMN BRACING PER 5/S-502 . TYPICAL AT COLUMNS UNBRACED BY FRAMING MEMBER ABOUT THEIR LOCAL AXIS. NOT ALL SHOWN ON PLAN FOR MORE CLARITY.
21. INDICATES PLAN DIAGONAL STRUT WT5X15. COPE WEB AT BEAMS AND OVERLAP FLANGE 4". WELD TO TOP FLANGE AND COLUMNS WITH 5/16" FILLET WELD 3-SIDES (TYP.)
22. UPLIFT X-BRIDGING NOT SHOWN ON PLANS FOR CLARITY. GC SHALL PROVIDE X-BRIDGING BETWEEN ADJACENT WF BEAMS AT ROOF PER DETAIL 3/S-507 .
23. GC SHALL COORDINATE LOCATION OF FOLDING PARTITIONS WITH ARCH DRAWINGS. JOISTS ABOVE FOLDING PARTITION SHALL BE DESIGNED FOR ADD'L DL= 2.0 K (PERP.) OR DL= 0.5 KLF (PARALLEL) (DEF. FROM DL SHALL NOT EXCEED 3/8"). END JOISTS ABOVE FOLDING PARTITION SHALL BE DESIGNED FOR STACKED END LOAD EQUAL TO 3000 POUNDS FOR BOTH ENDS (DEF. FROM DL SHALL NOT EXCEED 3/8"). REF DETAIL 1/S-509 .
24. PROVIDE MISC. STEEL PER 12/S-501 ABOVE AND BELOW ANY WINDOW THAT DOES NOT ALIGN WITH THE BACK-UP, UNO, TYP. LOOSE LINTELS REQUIRED BELOW WINDOW SHALL BE INVERTED (DOG LEG DOWN), TYP.
25. ALL JOISTS LOCATED BENEATH ROOFTOP UNITS AND THE ADJACENT JOISTS ON EACH SIDE THAT ARE NOT ENTIRELY POSITIONED UNDER THE ROOFTOP UNIT MUST BE DESIGNED TO SUPPORT A DEAD LOAD OF 2.0 KIPS,UNO ON PLANS. GC MUST COORD LOCATION OF RTUS WITH MEP DRAWINGS.

GC PLEASE NOTE:

1. FOR THE BASE BID OF THIS PROJECT, THE GC SHALL ACCOUNT FOR 100% OF THE BEAMS, GIRDERS, AND PURLINS, CROSSING A HIP, VALLEY, AND RIDGE ROOF LINES TO BE BENT AND HAVE FULL CAPACITY MOMENT CONNECTIONS AT EACH LOCATION. CHANGES IN ROOF DECK SLOPE LOCATIONS ARE DEFINED AS WHEN A GIRDER BEAM OR PURLIN BEAM PASSES THROUGH A RIDGE LINE, HIP LINE, OR VALLEY LINE. THE BEND LOCATIONS VARY BASED ON WHERE THE ROOF DECK SLOPE CHANGE INTERSECTS WITH A PURLIN OR MAIN GIRDER BEAM. THE GC MUST COORDINATE WITH ROOF FRAMING PLANS AND ACCOUNT FOR THE FULL NUMBER OF ADDED MOMENT CONNECTIONS REQUIRED TO CREATE THE ROOF DECK SLOPES NEEDED FOR PROPER DRAINAGE.
2. FOR THE BASE BID OF THIS PROJECT, THE GC SHALL ACCOUNT FOR 100% OF THE JOISTS, CROSSING A HIP, VALLEY, AND RIDGE ROOF LINES TO BE DOUBLE OR TRIPLE PITCHED AS NEEDED AT EACH LOCATION. CHANGES IN ROOF DECK SLOPE LOCATIONS ARE DEFINED AS WHEN A JOIST PASSES THROUGH A RIDGE LINE, HIP LINE, OR VALLEY LINE. THE BEND LOCATIONS VARY BASED ON WHERE THE ROOF DECK SLOPE CHANGE INTERSECTS WITH JOIST. THE GC MUST COORDINATE WITH ROOF FRAMING PLANS AND ARCHITECTURAL DRAWINGS.
3. GC TO PROVIDE CONT 4X4X1/4 THICK BENT PLATE ALONG THE RIDGE, HIP, AND VALLEY LINES TO SUPPORT DECKING AT WRAP (TYP).
4. THE GENERAL CONTRACTOR IS REQUIRED TO PROVIDE A BRICK RELIEF ANGLE AT ANY POINT WHERE THE BRICK EXTENDS BEYOND THE ELEVATION OF 30'-0" AND IS SUPPORTED BY A CONCRETE MASONRY UNIT (CMU) BACKUP. PLEASE REFER TO DETAIL 7/S-402. THE BRICK RELIEF ANGLE SHOULD BE INSTALLED AT THE SECOND AND THIRD FLOORS WITHIN THE CLASSROOM AREAS AND ROTUNDA AS INDICATED IN COMPOSITE DETAILS AND SECTION CUTS ON PLANS.

COMPOSITE FLOOR DECK AND METAL ROOF DECK LEGEND

COMPOSITE FLOOR DECK TYPES

FLOOR DECK TYPE 1:
4 1/2" NWC ON 3.0 VLI 20 GA (GALV) (G90) COMPOSITE STEEL DECK (7 1/2" TOTAL SLAB THICKNESS). COMPOSITE SLAB SHALL BE REINFORCED WITH WWR 6x6-W2.9xW2.9, U.N.O.

METAL ROOF DECK TYPES

ROOF DECK TYPE 1:
1.5B 20 GA (GALV.) (G90) MTL DECK.

NOTES:

1. STEEL DECK SHALL BE PLACED WITH TWO-SPAN CONDITION MINIMUM. NO SINGLE SPANS ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER-OF-RECORD.
2. REF SLABS FORM DECK (AT FLOORS) GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-504 FOR MORE INFORMATION REGARDING FLOOR DECK REQUIREMENTS.
3. REF METAL ROOF DECKING GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-507 FOR MORE INFORMATION REGARDING ROOF DECK REQUIREMENTS.

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KEY PLAN

TRUE NORTH



10/30/2026

Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

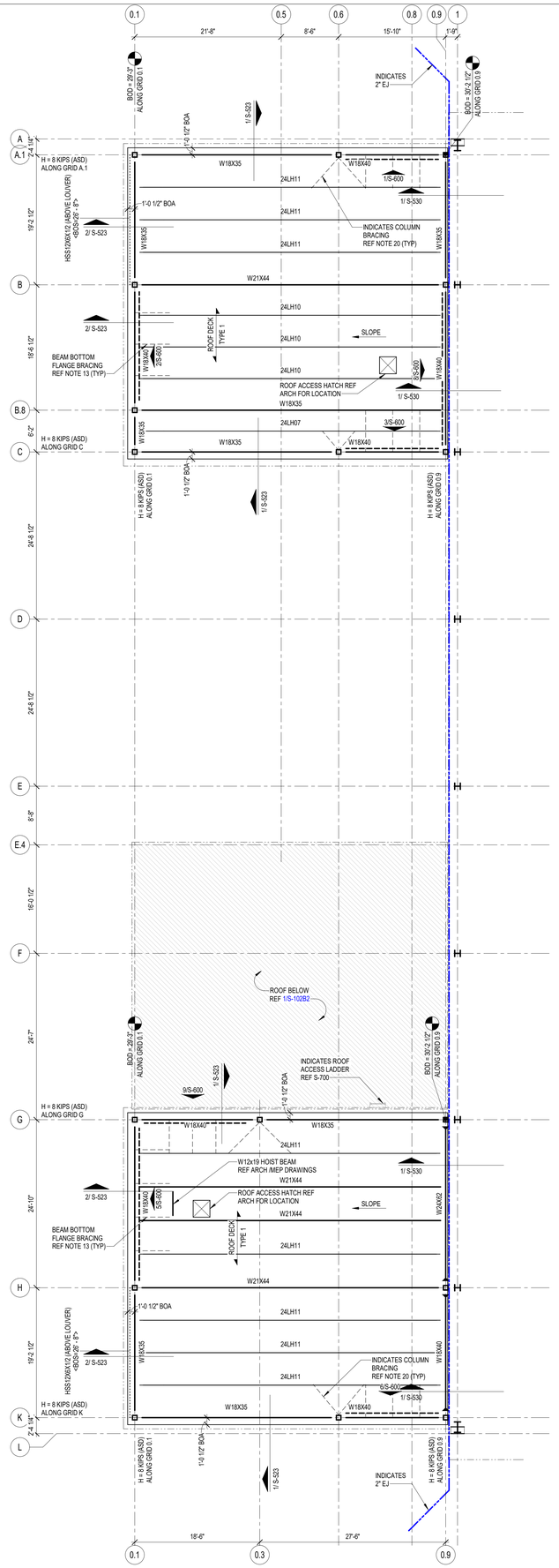
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MID ROOF FRAMING PLAN - AREA A

S-103A

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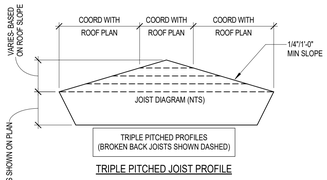
S-103B2 - MECHANICAL ROOF FRAMING PLAN - AREA B2



1 MECHANICAL ROOF FRAMING PLAN - AREA B2
1/8" = 1'-0"

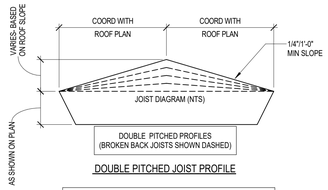
GC PLEASE NOTE:

WHERE HORIZONTAL H WIND FORCES ARE INDICATED ON THE STRUCTURAL PLANS AS "H=XX.X (ASD)," IN CONJUNCTION WITH BRACE FRAMES, THE GENERAL CONTRACTOR IS REQUIRED TO ASSUME AN H LOAD OF 80 KIPS (ASD) ALONG THE ENTIRE GRID LINE OF BRACE FRAMES AT THE SECOND FLOORS, THIRD FLOORS, AND MEZZANINES. ADDITIONALLY, FOR HORIZONTAL H WIND FORCES INDICATED AS "H=XX K (ASD)" IN CONJUNCTION WITH BRACE FRAMES AT THE ROOFS, THE GENERAL CONTRACTOR SHOULD ASSUME AN H LOAD OF 65 KIPS (ASD) ALONG THE ENTIRE GRID LINE. THE GC HOLDS THE RESPONSIBILITY FOR DESIGNING CONNECTIONS THAT CAN ACCOMMODATE THESE SPECIFIED LOAD ASSUMPTIONS. FOR FURTHER GUIDANCE ON CONNECTION DESIGN, PLEASE REFER TO CONNECTION GENERAL NOTE SHEET S-500. TYP ALL AREAS



TRIPLE PITCHED JOIST PROFILE

MINIMUM JOIST LOADING SHALL MEET THE SJI LOAD TABLE CAPACITY OF THE JOIST SIZE PROVIDED IN THE STRUCTURAL DRAWINGS BASED ON JOIST SPAN, TYPICAL UNO. JOIST DESIGNER DESIGN FOR ANY AND ALL ADDITIONAL LOADS NOTED IN STRUCTURAL DRAWINGS.



DOUBLE PITCHED JOIST PROFILE

MINIMUM JOIST LOADING SHALL MEET THE SJI LOAD TABLE CAPACITY OF THE JOIST SIZE PROVIDED IN THE STRUCTURAL DRAWINGS BASED ON JOIST SPAN, TYPICAL UNO. JOIST DESIGNER DESIGN FOR ANY AND ALL ADDITIONAL LOADS NOTED IN STRUCTURAL DRAWINGS.

JOIST DESIGNATIONS, SHOWN ON THE FRAMING PLANS, FOLLOWED BY THE DESIGNATION "CL" SUPPORT A CONCENTRATED DEAD LOAD. THE JOIST SIZES DESIGNATED ON THE FRAMING PLANS DO NOT TAKE INTO ACCOUNT THIS CONCENTRATED DEAD LOAD. THE JOIST MANUFACTURER SHALL DESIGN SPECIAL JOISTS TO SUPPORT THIS CONCENTRATED DEAD LOAD IN ADDITION TO THE TOTAL LOAD CAPACITY PROVIDED IN THE SJI LOAD TABLES FOR THE JOISTS SPECIFIED ON THE FRAMING PLANS. JOISTS SUPPORTING THESE CONCENTRATED DEAD LOADS SHALL BE FABRICATED SYMMETRICALLY ABOUT THEIR CENTERLINE. DESIGN JOISTS FOR THE FOLLOWING "CL" DESIGNATIONS WHERE SHOWN ON THE FRAMING PLANS:

1. CL1 - 230lb/ft LOCATED 1'-6" FROM THE CENTERLINE OF THE SUPPORTING STEEL BEAM.

ROOF PLAN NOTES

1. REF PLAN FOR TOP OF SLAB ELEVATION.
2. ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0".
3. TOP OF ROOF STRUCTURE IS SLOPED FOR DRAINAGE. REF ELEVATIONS NOTED ON PLAN. SLOPES SHALL BE UNIFORM BETWEEN COLUMN CENTERLINES UNLESS SHOWN OTHERWISE.
4. JOIST MFR NOTE:
   BRIDGING NOT SHOWN ON PLAN. MANUFACTURER SHALL PROVIDE STANDARD BRIDGING COMPLYING WITH SJI SPECIFICATIONS OF LATEST ADOPTION, TYPICAL FOR GRAVITY AND UPLIFT LOADS SUPERIMPOSED ON ALL JOISTS. DIAGONAL BRIDGING SHALL BE PROVIDED BETWEEN ADJACENT JOISTS WHENEVER BOTTOM CHORD HORIZONTAL BRIDGING IS CONTINUOUS.
5. REFER TO THE ROOF DIAPHRAGM CONNECTION SCHEDULE FOR DECK ATTACHMENT TO ROOF FRAMING MEMBERS AND DECK FASTENER TYPE, SIZE AND SPACING.
6. REF ARCH FOR TOP OF WALL ELEVATIONS.
7. DETAILING OF ALL MEMBER CONNECTIONS TO THE SUPPORTS SHALL BE PERFORMED TO SATISFY LATEST OSHA ERECTION REQUIREMENTS.
8. TOS EL = BOTTOM OF DECK.
9. UNLESS SHOWN OTHERWISE, STEEL BEAMS OR JOISTS ARE CENTERED ON AND EQUALLY SPACED BETWEEN COLUMN CENTERLINES.
10. ALL STRUCTURAL STEEL THAT IS PERMANENTLY EXPOSED TO THE EXTERIOR OR IS PERMANENTLY IN UNCONDITIONED SPACE SHALL BE HOT-DIPPED GALVANIZED.
11. GC COORDINATE ALL PENETRATIONS AND UNDERGROUND UTILITIES WITH MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. REFER TO TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT REQUIREMENTS.
12. CONTRACTOR TO VERIFY ALL SLAB EDGE DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
13. INDICATES WIND BRACE BEAM BOTTOM FLANGE BRACING PER 4/S-508 . PROVIDE BFB ALONG THE ENTIRE GRID LINE WHERE A BRACE IS PRESENT IN AT LEAST ONE BAY. THIS INCLUDES THE BRACED FRAME BAY AS WELL AS ALL OTHER BAYS ALONG THAT GRID LINE WHERE A BRACE IS LOCATED. NOT ALL DASHED LINES ARE SHOWN ON THE PLAN FOR CLARITY. AT LOCATIONS WHERE BEAM SPACING EXCEEDS 4'-0" OC REF 1/S-505 .
14. REF DETAIL 5/S-507 WHERE ROOF TOP EQUIPMENT REQUIRES A STRUCTURAL CURB. JOISTS THAT ARE SUPPORTING ROOF TOP EQUIPMENT SHALL BE DESIGNED FOR AN ADDITIONAL CONCENTRATED DEAD LOAD (AS SHOWN ON PLAN AT ANY POINT ALONG JOIST SPAN). GC SHALL COORDINATE WITH MEP, ARCHITECTURE AND EQUIPMENT CUTSHEETS FOR FINAL WEIGHT, DIMENSIONS, LOCATION, ETC.
15. ——— INDICATES PIPING RUN. REF MEP DRAWINGS; GC SHALL COORDINATE GIVEN LOAD WITH JOIST MANUFACTURER. REF SHEET S-011.
16. REF 50.XX SERIES DRAWINGS FOR GENERAL NOTES AND TYP DETAILS
17. REF S4.XX SERIES DRAWINGS FOR CMU DETAILS.
18. REF S5.XX SERIES DRAWINGS FOR STEEL FRAMING DETAILS.
19. REF S6.XX SERIES DRAWINGS FOR STEEL BRACE ELEVATIONS AND DETAILS.
20. - INDICATES COLUMN BRACING PER 5/S-502. TYPICAL AT COLUMNS UNBRACED BY FRAMING MEMBER ABOUT THEIR LOCAL AXIS. NOT ALL SHOWN ON PLAN FOR MORE CLARITY.
21. INDICATES PLAN DIAGONAL STRUT WT5X15. COPE WEB AT BEAMS AND OVERLAP FLANGE 4". WELD TO TOP FLANGE AND COLUMNS WITH 5/16" FILLET WELD 3-SIDES (TYP.)
22. UPLIFT X-BRIDGING NOT SHOWN ON PLANS FOR CLARITY. GC SHALL PROVIDE X-BRIDGING BETWEEN ADJACENT WF BEAMS AT ROOF PER DETAIL 3/S-507 .
23. GC SHALL COORDINATE LOCATION OF FOLDING PARTITIONS WITH ARCH DRAWINGS. JOISTS ABOVE FOLDING PARTITION SHALL BE DESIGNED FOR ADD'L DL= 2.0 K (PERP.) OR DL= 0.5 KLF (PARALLEL) (DEF. FROM DL SHALL NOT EXCEED 3/8"). END JOISTS ABOVE FOLDING PARTITION SHALL BE DESIGNED FOR STACKED END LOAD EQUAL TO 9000 POUNDS FOR BOTH ENDS (DEF. FROM DL SHALL NOT EXCEED 3/8"). REF DETAIL 1/S-509.
24. PROVIDE MISC. STEEL PER 12/S-501 ABOVE AND BELOW ANY WINDOW THAT DOES NOT ALIGN WITH THE BACK-UP, UNO, TYP. LOOSE LINTELS REQUIRED BELOW WINDOW SHALL BE INVERTED (DOG LEG DOWN), TYP.
25. ALL JOISTS LOCATED BENEATH ROOFTOP UNITS AND THE ADJACENT JOISTS ON EACH SIDE THAT ARE NOT ENTIRELY POSITIONED UNDER THE ROOFTOP UNIT MUST BE DESIGNED TO SUPPORT A DEAD LOAD OF 2.0 KIPS,UNO ON PLANS. GC MUST COORD LOCATION OF RTUS WITH MEP DRAWINGS.

GC PLEASE NOTE:

1. FOR THE BASE BID OF THIS PROJECT, THE GC SHALL ACCOUNT FOR 100% OF THE BEAMS, GIRDERS, AND PURLINS, CROSSING A HIP, VALLEY, AND RIDGE ROOF LINES TO BE BENT AND HAVE FULL CAPACITY MOMENT CONNECTIONS AT EACH LOCATION. CHANGES IN ROOF DECK SLOPE LOCATIONS ARE DEFINED AS WHEN A GIRDER BEAM OR PURLIN BEAM PASSES THROUGH A RIDGE LINE, HIP LINE, OR VALLEY LINE. THE BEND LOCATIONS VARY BASED ON WHERE THE ROOF DECK SLOPE CHANGE INTERSECTS WITH A PURLIN OR MAIN GIRDER BEAM. THE GC MUST COORDINATE WITH ROOF FRAMING PLANS AND ACCOUNT FOR THE FULL NUMBER OF ADDED MOMENT CONNECTIONS REQUIRED TO CREATE THE ROOF DECK SLOPES NEEDED FOR PROPER DRAINAGE.
2. FOR THE BASE BID OF THIS PROJECT, THE GC SHALL ACCOUNT FOR 100% OF THE JOISTS, CROSSING A HIP, VALLEY, AND RIDGE ROOF LINES TO BE DOUBLE OR TRIPLE PITCHED AS NEEDED AT EACH LOCATION. CHANGES IN ROOF DECK SLOPE LOCATIONS ARE DEFINED AS WHEN A JOIST PASSES THROUGH A RIDGE LINE, HIP LINE, OR VALLEY LINE. THE BEND LOCATIONS VARY BASED ON WHERE THE ROOF DECK SLOPE CHANGE INTERSECTS WITH JOIST. THE GC MUST COORDINATE WITH ROOF FRAMING PLANS AND ARCHITECTURAL DRAWINGS.
3. GC TO PROVIDE CONT 4X4X1/4 THICK BENT PLATE ALONG THE RIDGE, HIP, AND VALLEY LINES TO SUPPORT DECKING AT WRAP (TYP).
4. THE GENERAL CONTRACTOR IS REQUIRED TO PROVIDE A BRICK RELIEF ANGLE AT ANY POINT WHERE THE BRICK EXTENDS BEYOND THE ELEVATION OF 30'-0" AND IS SUPPORTED BY A CONCRETE MASONRY UNIT (CMU) BACKUP. PLEASE REFER TO DETAIL 7/S-402. THE BRICK RELIEF ANGLE SHOULD BE INSTALLED AT THE SECOND AND THIRD FLOORS WITHIN THE CLASSROOM AREAS AND ROTUNDA AS INDICATED IN COMPOSITE DETAILS AND SECTION CUTS ON PLANS.

COMPOSITE FLOOR DECK AND METAL ROOF DECK LEGEND

COMPOSITE FLOOR DECK TYPES

FLOOR DECK TYPE 1:
4 1/2" NWC ON 3.0 VLI 20 GA (GALV) (G90) COMPOSITE STEEL DECK (7 1/2" TOTAL SLAB THICKNESS). COMPOSITE SLAB SHALL BE REINFORCED WITH WWR 6x6-W2.9xW2.9, U.N.O.

METAL ROOF DECK TYPES

ROOF DECK TYPE 1:
1.5B 20 GA (GALV.) (G90) MTL DECK.

NOTES:

1. STEEL DECK SHALL BE PLACED WITH TWO-SPAN CONDITION MINIMUM. NO SINGLE SPANS ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER-OF-RECORD.
2. REF SLABS FORM DECK (AT FLOORS) GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-504 FOR MORE INFORMATION REGARDING FLOOR DECK REQUIREMENTS.
3. REF METAL ROOF DECKING GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-507 FOR MORE INFORMATION REGARDING ROOF DECK REQUIREMENTS.

Kubala ENGINEERS
Ph: (800)248-3674
www.kubalaengineers.com
TX. REG. NO. F-23612

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Tomball ISD-Multi-Program Activity Center-Tomball High School

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CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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DRAWN BY: JJ

MECHANICAL ROOF FRAMING PLAN - AREA B2

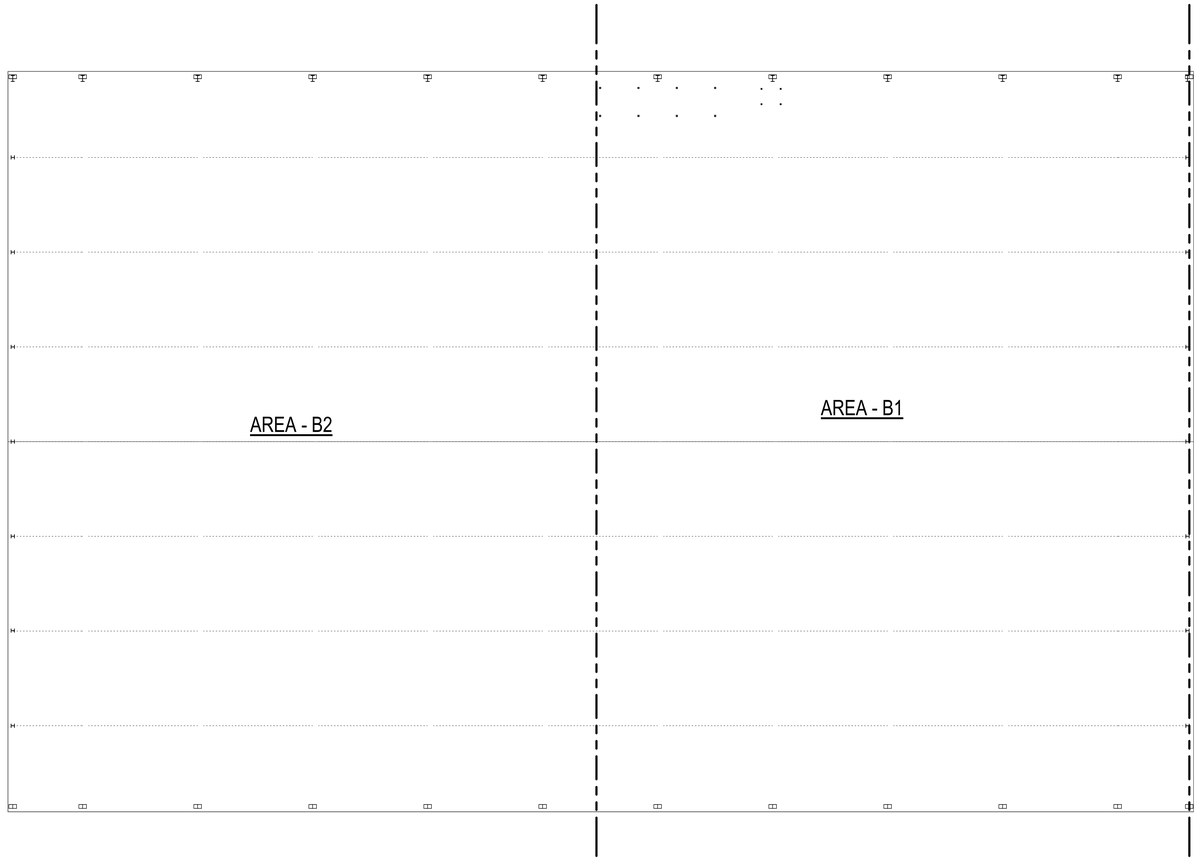
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S-104 - COMPOSITE HIGH ROOF FRAMING PLAN

COMPOSITE PLAN NOTE:

REFER TO INDIVIDUAL AREA PLANS FOR ALL GRIDS NOT SHOWN.



1 COMPOSITE HIGH ROOF FRAMING PLAN
1/16" = 1'-0"

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STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

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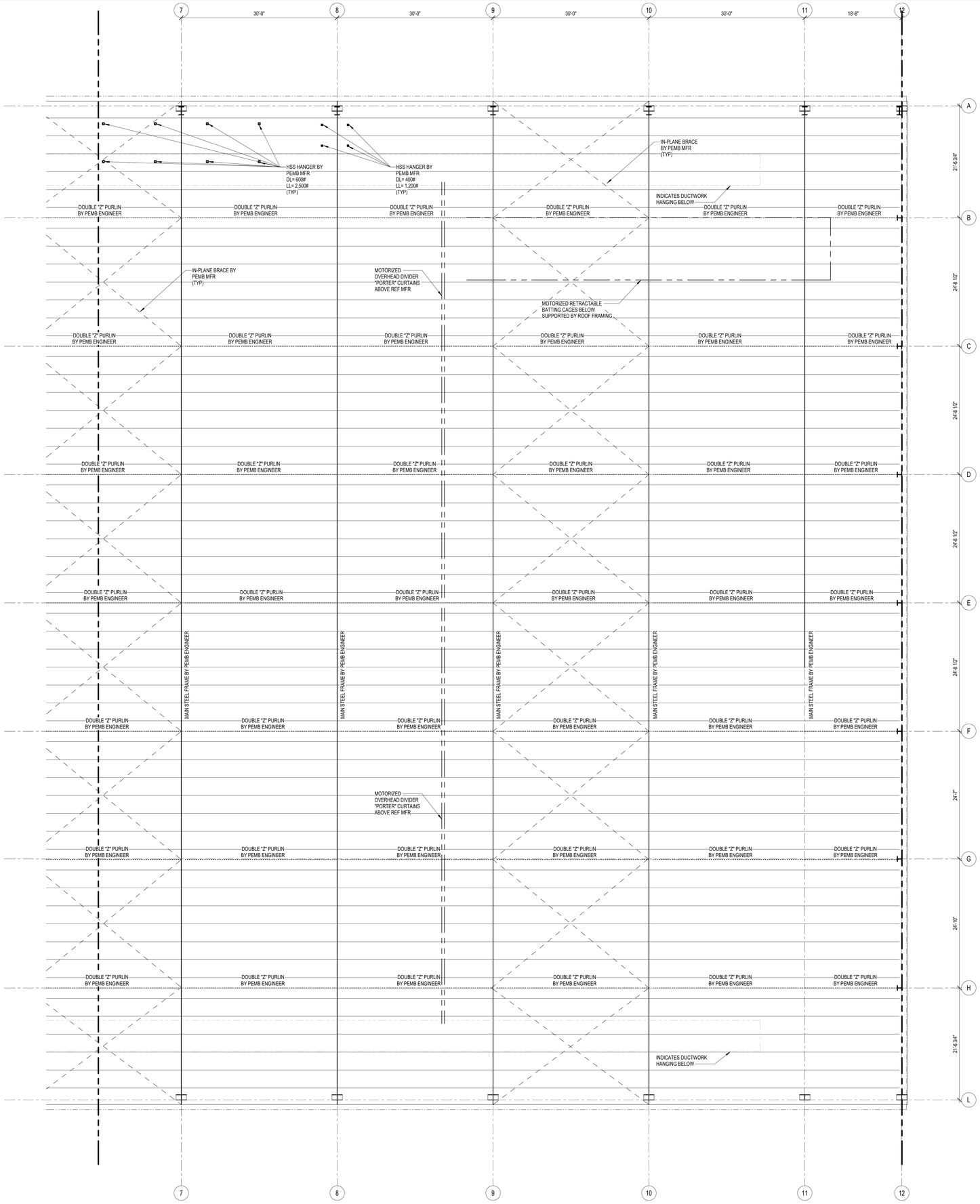
COMPOSITE HIGH ROOF FRAMING PLAN

S-104

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S-104B1 - HIGH ROOF FRAMING PLAN - AREA B1



1 HIGH ROOF FRAMING PLAN - AREA B1
1/8" = 1'-0"

*****GC AND PEMB MAUF. NOTE*****

1. GC AND PEMB MANUF SHALL COORDINATE THE LOCATION OF MECH PENETRATIONS AND FRAMING AROUND THEM W/MEP AND ARCH DRAWINGS.
2. PEMB MNUF. PROVIDE THE ROOF FRAMING AND SIZES
3. PEMB MANUFACTURER SHALL COORDINATE WITH ARCH AND OTHER CONSULTANT DRAWINGS FOR THE REQUIRED MISCELLANEOUS STEELS AND DESIGN THEM ACCORDINGLY.
4. GC AND PEMB MANUF SHALL COORDINATE THE BEAM SIZES AND MIN. REQUIRED CLEAR SPACE BETWEEN SECOND FLOOR AND ROOF FRAMING ABOVE THE SECOND FLOOR WITH MEP AND ARCH DWGS TO AVOID ANY CONFLICTS.
5. ALL PEMB FRAMINGS AND PURLINS ALONG HYDRONIC PIPES RUN SHALL BE DESIGNED FOR SUSPENDED PIPE WEIGHT. IT'S THE GENERAL CONTRACTORS RESPONSIBILITY TO COORDINATE THE LOCATION, SIZES AND HOW OFTEN PIPES WILL BE HUNG (5'-0" OC OR 10'-0" OC) SO THAT PROPER LOADING MAY BE ACCOUNTED FOR. IT IS RECOMMENDED TO HANG FROM EACH JOIST (GC MUST COORDINATE WITH MEP CONTRACTOR TO ENSURE SAME HANGING PATTERN IS FOLLOWED)

*****GC AND PEMB MANUF NOTE*****

KUBALA ENGINEERS HAS MADE SIGNIFICANT EFFORTS TO SHOW AS MUCH OF THE REQUIRED MISCELLANEOUS STEEL AS POSSIBLE TO AID THE PEMB MANUFACTURER IN DETERMINING THEIR SCOPE OF WORK; HOWEVER, NOT ALL MISCELLANEOUS ITEMS ARE SHOWN, AND THE GENERAL CONTRACTOR AND THEIR SELECTED PRE-ENGINEERED METAL BUILDING MANUFACTURER ARE HEREBY INFORMED THAT THEY ARE SOLELY RESPONSIBLE FOR COMPLETELY REVIEWING ALL DRAWINGS AND SPECIFICATIONS FROM ALL DISCIPLINES AND ENSURING THAT PROPER SUPPORT FOR ALL ITEMS HAVE ADEQUATE SUPPORT, THIS INCLUDES BUT IS NOT LIMITED TO: CEILINGS AND CEILING ASSEMBLIES, WALLS AND WALL ASSEMBLIES, STOREFRONTS AND STOREFRONT ASSEMBLIES, WINDOWS, DOORS, FOLDING PARTITIONS, MEP EQUIPMENT, AND VARIOUS STORM PIPING AND HYDRONIC PIPING RUNS, SUSPENDED ELECTRICAL COMPONENTS, SUSPENDED KITCHEN EQUIPMENT AND VENT HOODS, ARCHITECTURAL FINISHES/CLADDINGS, FURR-DOWNS, ROOF TOP EQUIPMENT, ROOF TOP SCREEN-WALLS, ROOF HATCHES.

PEMB MANUF NOTE:

1. TAPER AT COLUMNS TO START ABOVE THE CMU WALL HEIGHT. REF ARCH FOR MORE INFO.
2. PEMB MANUF TO COORDINATE WITH THE ARCH DRAWINGS TO LOCATE THE NETTING AND HOIST CURTAIN LOCATIONS AND ITS LOAD.
3. GC/PEMB MANUF TO COORDINATE WITH ARCH/MEP DRAWINGS TO DETERMINE ADDITIONAL LOADING FOR THE PIPES AND ANY REQUIRED SUSPENDED FEATURES.

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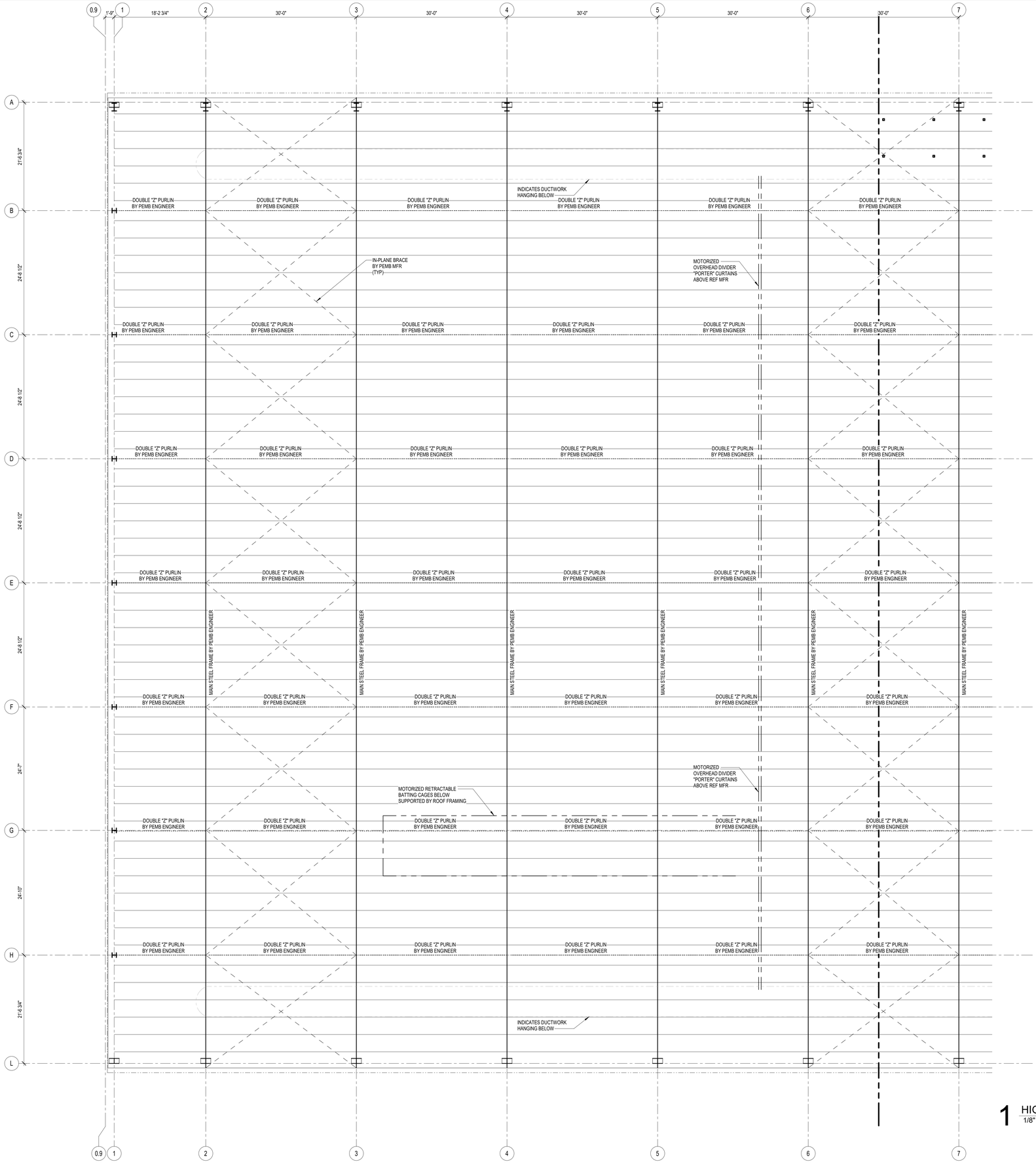
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HIGH ROOF FRAMING PLAN - AREA B1

S-104B1

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S-104B2 - HIGH ROOF FRAMING PLAN - AREA B2



1 HIGH ROOF FRAMING PLAN - AREA B2
1/8" = 1'-0"

*****GC AND PEMB MAUF. NOTE*****

1. GC AND PEMB MANUF SHALL COORDINATE THE LOCATION OF MECH PENETRATIONS AND FRAMING AROUND THEM W/MEP AND ARCH DRAWINGS.
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HIGH ROOF FRAMING PLAN - AREA B2

S-104B2

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CONCRETE MIX:

1. CONCRETE SPECIFICATIONS SHALL BE AS FOLLOWS:

USAGE	CONCRETE MIX DESIGN SCHEDULE										
	28 DAY STRENGTH (PSI)				MAX AGGREGATE SIZE (IN)	SLUMP (IN)	MAX W/C RATIO	MAX CURE DENSITY (PCF)	CEMENT TYPE	MAX ALLOWABLE % FLY ASH (REF CM5)	% AIR ENTRAINMENT
	3000	3500	4000	5000							
1. PIERS			•		3/4	6-8	0.55	150	I / II	20	-
2. FOOTINGS			•		1	3-5	0.50	150	I / II	20	5
3. SLAB-ON-GRADE **			•		1	3-5	0.50	150	I / II	20	-
4. GRADE BEAMS AND PLINTHS **			•		1	3-5	0.50	150	I / II	20	-
6. BEAMS			•		1	3-5	0.50	150	I / II	20	-
7. NORMAL WEIGHT SLAB ON COMPOSITE METAL DECK			•			3-5	0.45	150	I / II	20	-
8. SLAB-ON-VOID FORMS **			•		1	3-5	0.50	150	I / II	20	-
9. SLAB FOR EQUIPMENT PADS			•		1	3-5	0.45	150	I / II	20	5- 7 IF EXPOSED TO WEATHER
10. NON-COMPOSITE TOPPING SLAB		•			1	5-7	0.45	150	I / II	-	-

**** - SPECIAL GC NOTE FOR CONCRETE WHICH IS PART OF A DEPRESSED AREA. SEE CONCRETE MIX NOTE 10.**

2. PORTLAND CEMENT SHALL CONFORM TO ASTM C150, OF TYPES NOTED IN SCHEDULE. NORMAL WEIGHT AGGREGATE SHALL CONFORM TO ASTM C33. LIGHT WEIGHT AGGREGATE SHALL CONFORM TO ASTM C330. ALL AGGREGATE SHALL BE FROM A SINGLE SOURCE.

3. FLY ASH WILL NOT BE PERMITTED IN ARCHITECTURALLY EXPOSED CONCRETE. FLY ASH MAY BE USED ELSEWHERE, WITHIN THE SPECIFIED PROPORTION LIMITS, BUT THE CONTRACTOR SHALL FIRST VERIFY COMPATIBILITY WITH CURING COMPOUNDS, SEALERS, BOND BREAKER, FLOORING ADHESIVES AND OTHER MATERIALS PROPOSED TO BE IN CONTACT WITH THE CONCRETE.

4. CONCRETE MIX DESIGNS SHALL BE SUBMITTED FOR REVIEW A MINIMUM OF 7 DAYS PRIOR TO THE START OF THE WORK FOR ENGINEER AND OWNERS TESTING LABORATORY APPROVAL, PRIOR TO THE PLACEMENT OF CONCRETE. MIX DESIGNS MUST INDICATE CONFORMANCE WITH ACI 301 SPECIFICATION, SECTION 4.2.3.

5. AT THE POINT OF DISCHARGE SLUMP TESTS, CONFORMING TO ASTM C143, SHALL BE TAKEN. SEE CONCRETE NOTE NO. 5 BELOW FOR RATE OF TESTS.

6. AIR CONTENT TESTS CONFORMING TO ASTM C173 (VOLUMETRIC METHOD FOR LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE; ASTM C231 PRESSURE METHOD FOR NORMAL WEIGHT CONCRETE) SHALL BE TAKEN FOR EACH DAY'S POUR FOR ALL TYPES OF AIR-ENTRAINED CONCRETE BEING USED.

7. CONCRETE TEMPERATURE SHALL BE TESTED HOURLY WHEN THE AIR TEMPERATURE IS 40 DEG F AND BELOW, 80 DEG F AND ABOVE AND EACH TIME A SET OF COMPRESSION TEST SPECIMENS ARE MADE.

8. ONE SET OF FOUR COMPRESSION TEST SPECIMENS CONFORMING TO ASTM C31 SHALL BE MOLDED AND STORED FOR LABORATORY-CURED SPECIMENS. COMPRESSIVE STRENGTH TESTS SHALL CONFORM TO ASTM C39 AND SHALL CONSIST OF ONE SET FOR EACH DAY'S POUR EXCEEDING 5 CU. YDS. PLUS ADDITIONAL SETS FOR EACH 50 CU. YDS. MORE THAN THE FIRST 25 CU. YDS OF EACH CONCRETE CLASS PLACED IN ANY ONE DAY. ONE SPECIMEN SHALL BE TESTED AT 7 DAYS, TWO SPECIMENS SHALL BE TESTED AT 28 DAYS, AND ONE SPECIMEN SHALL BE RETAINED FOR LATER TESTING AS REQUIRED.

9. VERIFY THAT POST INSTALLED ANCHORS ARE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.

10. **SPECIAL GC NOTE FOR CONCRETE WHICH IS PART OF A DEPRESSED AREA.**

   A. AT ALL DEPRESSIONS GREATER THAN OR EQUAL TO MINUS 6 INCHES FROM THE MAIN FINISH FLOOR THE GC SHALL PROVIDE XYPEX C-500 ADMIXTURE (AT AN ASSUMED MINIMUM RATE OF 15 LBS/CU YD) INTO ALL OF THE CONCRETE. THE ADMIXTURE SHALL BE PLACED INTO THE MIX AT THE TIME OF BATCHING AT THE PLANT, DO NOT ADD DRY BAG MIX TO THE WET CONCRETE TRUCK ON-SITE. THE GC SHALL STRICTLY FOLLOW ALL MANUFACTURER'S INSTRUCTIONS FOR ADDITION, USE, HANDLING, ETC. THE ADD MIXTURE SHALL BE ADDED TO ALL OF THE CONCRETE WHICH MAKES UP ANY DEPRESSION GREATER THAN OR EQUAL TO MINUS 6 INCHES FROM THE MAIN FINISH FLOOR, THIS INCLUDES BUT IS NOT LIMITED TO: DEPRESSED SLABS (FULL THICKNESS), ALL VERTICAL STEM WALLS (FULL THICKNESS) AND/OR ANY GRADE BEAMS (FULL DEPTH AND THICKNESS) WHICH FORM ANY PORTION OF THE VERTICAL DROP AND ALL HORIZONTAL SLAB FOR THE DEPRESSED AREA. THIS DOES NOT REDUCE OR REVISE ANY WATERPROOFING TREATMENTS, LAYERS OR SUBSTRATES THAT ARE CURRENTLY REQUIRED BY THE STRUCTURAL, ARCHITECTURAL, AND/OR OTHER CONSULTANT DRAWINGS. THIS IS IN ADDITION TO THOSE CURRENT MEASURES. THE COST FOR THIS ADMIXTURE SHALL BE ACCOUNTED FOR WITHIN THE BASE BID AND SHALL INCLUDE, BUT IS NOT LIMITED TO ALL AREAS ARCHITECTURALLY LABELED AS FOLLOWS: ORCHESTRA PIT, ALL ELEVATOR PITS, AND THE BELOW GRADE FLY-LOFT RIGGING PIT. PLEASE NOTE: XYPEX C-500 HAS BEEN CHOSEN AS A NEUTRAL MIX ADDITIVE THAT IS NOT INTENDED TO CHANGE THE CURRENTLY PLANNED CONCRETE SET TIME. IF FOR SOME REASON THE SET TIME IS DESIRED TO BE INCREASED OR DECREASED XYPEX DOES HAVE ALTERNATIVE FORMULATIONS WHICH MAY BE USED; HOWEVER, THE GC MUST GET WRITTEN APPROVAL FROM THE EOR PRIOR TO ANY CHANGE IN THE XYPEX C-500 FORMULATION. THE XYPEX C-500 IS AN ADDITIONAL MOISTURE INTRUSION MITIGATION MEASURE THAT IS REQUIRED IN ADDITION TO THE SPECIFIED WATERSTOPS NOTED IN THE OTHER GENERAL NOTES AND DETAILS RELATED TO CONCRETE COLD-JOISTS AND OTHER CONCRETE TRANSITIONS OF PLANE.

CAST-IN-PLACE CONCRETE:

1. CONCRETE SUPPLIER SHALL BE AWARE OF CEMENTS THAT CAN CAUSE LATE ETTRINGITE FORMATION IN THE CEMENT PASTE AND BE PREPARED TO SHOW THAT THE CEMENTS USED WILL NOT CAUSE THIS PROBLEM.

2. ALL MIXING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE; ACI 301 AND ACI 318, LATEST EDITIONS.

3. NO HORIZONTAL JOINTS WILL BE PERMITTED IN CONCRETE EXCEPT WHERE THEY NORMALLY OCCUR OR WHERE SHOWN ON THE DETAILS. VERTICAL JOINTS SHALL OCCUR AT CENTER SPANS OR AT LOCATIONS APPROVED BY THE STRUCTURAL ENGINEER.

4. ALL MIXING, TRANSPORTING, PLACING AND CURING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN CONCRETE INSTITUTE; ACI 301 AND ACI 318, LATEST EDITIONS.

5. ALL BASE PLATES AND ANCHOR BOLTS SHALL BE PROTECTED WITH 3" (MIN.) OF CONCRETE. ANCHOR BOLTS SHALL BE FABRICATED FROM FULL BODIED ASTM F1554, GRADE 36 LOW CARBON STEEL RODS HAVING THE SAME DIAMETER AS THE BOLT DIAMETER AND USING CUT THREADS. ROLLED THREADS ARE NOT ACCEPTABLE. BOLTS SHALL BE SET USING RIGID TEMPLATES.

6. AT HORIZONTAL CONCRETE FRAMING, FORMS SHALL NOT BE REMOVED UNTIL THE CONCRETE HAS REACHED 70 PERCENT OF THE 28-DAY COMPRESSIVE STRENGTH INDICATED. FLOOR SLABS AND BEAMS SHALL REMAIN SHORED UNTIL THE UPPER MOST LEVEL OF CONCRETE HAS REACHED 70 PERCENT OF THE 28-DAY COMPRESSIVE STRENGTH. FOR BUILDINGS WITH MORE THAN THREE STORIES IN HEIGHT, SHORING SHALL BE MAINTAINED FOR THREE LEVELS BELOW, UNTIL THE UPPER MOST LEVEL HAS REACHED 70 PERCENT OF THE SPECIFIED 28-DAY COMPRESSIVE STRENGTH.

7. ALL CONDUITS AND PIPES EMBEDDED IN CONCRETE SHALL COMPLY WITH ALL PROVISIONS SPECIFIED IN ACI 318,SECTION 26.8, WITH THE FOLLOWING SPECIFIC REQUIREMENTS:

   A. THE MAXIMUM OUTSIDE DIAMETER OF THE CONDUITS AND PIPES SHALL BE 1 1/2". NONE PERMITTED IN SLABS THINNER THAN 4 1/2".
   B. THE MINIMUM CLEAR DISTANCE BETWEEN CONDUITS AND PIPES SHALL BE 6".
   C. NONE PERMITTED IN SLABS-ON-GRADE WHICH WILL BE PERMANENTLY EXPOSED OR SCHEDULED TO RECEIVE THIN SET TILE. PLACE ALL PIPES AND CONDUITS IN THE FILL BENEATH THE VAPOR BARRIER. RE-COMPACT AS SPECIFIED.
   D. IN NON-EXPOSED SLABS-ON-GRADE, LIMIT SIZE TO 1" O.D. IN 5" SLAB SPACE 12" APART AND TIE TO UNDERSIDE OF REINFORCING MAT. WHERE LINES CONVERGE AT SOURCE, DOUBLE UP THE SLAB REINFORCING IN THE CONVERGENCE ZONE AND 3'-0" BEYOND. PLACE ALL LARGER LINES IN THE FILL BENEATH THE VAPOR BARRIER.
   E. NONE PERMITTED IN COLUMNS WITHOUT PRIOR APPROVAL.
   F. DO NOT DISPLACE REINFORCING STEEL FROM ITS PROPER POSITION.

8. PROVIDE SHEAR KEYS IN ALL CONSTRUCTION JOINTS IN BEAMS AND WALLS, IN ACCORDANCE WITH THE TYPICAL CONCRETE DETAILS.

9. PLACE WATERSTOPS IN ALL EXTERIOR CONSTRUCTION JOINTS BELOW GRADE AND ELSEWHERE AS CALLED FOR.

10. FLOORS ARE NOT DESIGNED TO SUPPORT FORMWORK AND WET CONCRETE WEIGHT OF NEXT LEVEL. CONTRACTOR SHALL DESIGN AND PROVIDE RE-SHORING TO PREVENT OVERSTRESSING THE STRUCTURE.

11. SET FORMS TO FOLLOW SLOPES AND GRADES DEFINED ON PLAN, KEEPING MEMBER DEPTHS CONSTANT AT DEPTHS DETAILED OR SCHEDULED, UNLESS NOTED OTHERWISE. SLOPE UNIFORMLY BETWEEN ELEVATIONS GIVEN. BUILD IN CAMBER WHERE SPECIFIED.

12. CONSTRUCTION JOINTS PERMITTED ONLY WHERE INDICATED ON DRAWINGS. WHERE NOT SPECIFICALLY INDICATED ON DRAWINGS, LOCATE THE JOINTS AS FOLLOWS:

   A. LOCATE JOINTS NOT INDICATED TO LEAST IMPAIR STRENGTH AND APPEARANCE OF STRUCTURE. LOCATE VERTICAL JOINTS IN MIDDLE THIRD OF SPANS OF NON-POST-TENSIONED SLABS, BEAMS OR GIRDERS, UNLESS A BEAM INTERSECTS A GIRDER AT MIDDLE LOCATION, IN WHICH CASE OFFSET JOINTS IN GIRDERS TWICE WIDTH OF BEAM. LOCATE VERTICAL JOINTS WITHIN THE END THIRD OF SPANS OF POST TENSIONED CONTINUOUS SLABS, BEAMS OR GIRDERS WHERE TENDON PROFILE IS AT OR NEAR THE CENTROID OF THE CONCRETE CROSS SECTION.
   B. LOCATE HORIZONTAL JOINTS IN WALLS AND COLUMNS AT UNDERSIDE OF SUPPORTED ELEMENTS AT THE TOP OF THE WALL OR COLUMN AND AT THE TOP OF FOOTINGS OR FLOOR SLABS AT THE BOTTOM OF THE WALL OR COLUMN. ROUGHEN SURFACE OF HORIZONTAL OR NEARLY HORIZONTAL CONSTRUCTION JOINTS SO THAT AGGREGATE SHALL BE EXPOSED UNIFORMLY, LEAVING NO LAITANCE, LOOSENED PARTICLES OR DAMAGED CONCRETE.
   C. REFER TO PLANS FOR JOINTS IN GRADE SUPPORTED SLABS.
   D. JOINTS ARE NOT ALLOWED BETWEEN PILASTERS AND BEAM/WALL THAT ARE MONOLITHIC.
   E. SUBMIT CONSTRUCTION JOINT LAYOUT PLANS FOR APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION.

13. *****GC NOTE*****

   A. AT ALL CONCRETE COLD JOINTS OR TRANSITIONS BETWEEN PLANES: VERTICAL TO VERTICAL POURS, HORIZONTAL TO HORIZONTAL POURS, HORIZONTAL TO VERTICAL POURS, AND VERTICAL TO HORIZONTAL POURS, THE GC SHALL PROVIDE A CONTINUOUS WATER STOP WITHIN EACH JOINT. WATERSTOP MANUFACTURERS AND TYPES SHALL BE AS APPROVED IN THE SPECS AND THE GENERAL NOTES. ALL WATER STOPS MUST BE APPROPRIATE FOR THE CONDITION BASED ON THE MANUFACTURER'S DATA. THE GC SHALL BE IN STRICT COMPLIANCE WITH ALL MANUFACTURERS' USE, HANDLING, AND INSTALLATION INSTRUCTIONS. AT A MINIMUM, THE GC SHALL ASSUME A DUMBBELL-TYPE WATER STOP WITH WINGS THAT EXTEND TO EACH SIDE OF THE CONCRETE FOR EACH JOINT UNLESS OTHERWISE NOTED WITHIN THE CD'S TO BE AN ALTERNATE ACCEPTABLE WATER STOP TYPE.

   B. ADDITIONALLY, CONCRETE USED AT A SLAB DEPRESSION WITH A DEPTH GREATER THAN 6 INCHES, THE CONCRETE ADDITIVE XYPEX C-500 SHALL BE INCLUDED IN THE CONCRETE MIX. REFER TO CONCRETE MIX SCHEDULE FOR CONCRETE MIXES WHICH MAY REQUIRE XYPEX C-500 AND CONCRETE MIX NOTE 10 FOR ADDITIONAL INFORMATION.

CONCRETE REINFORCEMENT:

1. REINFORCING STEEL SHALL CONFORM TO ASTMA615. BARS SHALL BE NEW OR RECYCLED DOMESTIC BILLET STEEL OF A DOMESTIC MANUFACTURE. REINFORCING BARS SIZE #3 THROUGH #10 SHALL BE GRADE 60. REINFORCING BARS SIZE #11 THROUGH #18 SHALL BE GRADE 75.

2. DEFORMED BAR ANCHORS SHALL CONFORM TO ASTM A496, GRADE 70.

3. ALL WELDED WIRE FABRIC SHALL BE SMOOTH WIRE FABRIC CONFORMING TO ASTM A185, AND SHALL BE FURNISHED IN FLAT SHEETS.

4. CONCRETE COVERAGE AROUND REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ACI 318 SECTION 20.6, LATEST EDITION, AND MEET REQUIREMENTS BELOW. THE REINFORCING STEEL DETAILER SHALL ADJUST REINFORCING STEEL CAGE SIZES AT INTERSECTING REINFORCING MEMBERS AS REQUIRED TO ALLOW CLEARANCE FOR INTERSECTING BARS. SLAB ON GRADE REINFORCEMENT SHALL BE \ SUPPORTED AT EVERY THIRD BAR, NOT TO EXCEED 48-INCH INTERVALS.

FOOTINGS/PIERS	3 IN
GRADE BEAMS	3 IN BOT, 2 IN SIDES (3" IF CAST AGAINST SOIL), 2 IN TOP
SLAB ON GRADE	1 1/2 IN TOP
SLAB BOTTOMS OVER VOID FORM	
COLUMNS NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND (TYP INTERIOR CONDITIONS)	1 5/8"

5. DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL CONFORM TO ACI 315, LATEST EDITION. ALL HOOKED BARS SHOWN SHALL HAVE STANDARD HOOKS, U.N.O.

6. REINFORCING SHALL NOT BE WELDED WITHOUT APPROVAL FROM THE STRUCTURAL ENGINEER.

7. BOTTOM REINFORCING BARS SHALL BE SPLICED AT SUPPORTS AND CONTINUOUS TOP BARS SHALL BE SPLICED AT MID-SPAN PER 8/S-302.

8. WHERE BAR TYPES FROM THE BAR BENDING DIAGRAM ARE SPECIFIED, PROVIDE BARS ACCORDINGLY. OTHERWISE, DETAIL BARS IN BEAMS, COLUMNS, SLABS, AND WALLS PER 8/S-302.

9. PLACE BARS NOTED AS "2ND LAYER" BELOW THE PRIMARY TOP BARS (OR ABOVE THE PRIMARY BOTTOM BARS) AND PROVIDE #11 SPACER BARS PLACED AT INTERVALS OF 4'-0" BETWEEN THE TWO LAYERS OF BARS.

10. PROVIDE CORNER BARS FOR EACH HORIZONTAL BAR AT THE INSIDE AND OUTSIDE FACES OF INTERSECTING BEAMS OR WALLS. REFER TO TYPICAL CORNER BAR DETAIL ON 5/S-302.

CONCRETE FINISHES:

GC NOTE FOR EXPOSED CONCRETE FINISH

1. ALL SLAB AREAS WITH EXPOSED CONCRETE (INCLUDING STAINED OR SEALED CONCRETE, EPOXY COATING FINISH, POLISHED CONCRETE, ETC) FINISH SHALL HAVE THE ADDITIONAL PERFORMANCE CRITERIA AS NOTED BELOW.

   • SLAB FLATNESS SHALL BE 40
   • SLAB LEVELNESS SHALL BE 35
   • THE SLAB SHALL RECEIVE SIKAFLOOR 956 LD AS A CONCRETE SURFACE DENSIFIER TO INCREASE DURABILITY OF THE SLAB SURFACE FROM IMPACTS AND SIMILAR HEAVY USE.
   • THE SLAB SHALL RECEIVE SIKAFLOOR 958 PG AS A CONCRETE SURFACE SEALER. IF SLAB FINISH IS INTENDED TO BE GROUND / POLISHED THIS WOULD BE INSTALLED AFTER POUR AND BEFORE GRINDING.

2. FOR AREAS WHERE THE FINAL ARCHITECTURAL FINISH IS STAINED OR SEALED CONCRETE, THE GC IS RESPONSIBLE FOR PLANNING OUT THE CONTRACTION JOINT / SAW-CUT JOINT LOCATIONS IN ADVANCE OF THE POUR AND PROVIDE DISCONTINUOUS BARS AT EVERY OTHER BAR ON CENTER ALONG THE JOINT. THE GC SHALL ENSURE THE JOINT FORMS A STRAIGHT LINE FOLLOWING THE PLANNED SAW-CUT, AND THE GC SHALL ONLY HOLD BACK THE REINFORCEMENT 1" FROM EACH SIDE OF THE JOINT. THIS PROCEDURE MUST BE FOLLOWED FOR ALL JOINTS IN BOTH DIRECTIONS FOR THE SLABS THAT WILL BE STAINED OR SEALED CONCRETE AS THE FINAL FINISH. THE GC SHALL FOLLOW IN STRICT COMPLIANCE WITH ALL MANUFACTURER'S INSTALLATION PROCEDURES. BOTH FOR PREP AND INSTALLATION FOR ANY PRODUCT THAT IS USED.

3. FOR AREAS WHERE THE FINAL ARCHITECTURAL FINISH IS EPOXY COATING DIRECTLY APPLIED ON TOP OF THE CONCRETE, THE GC MUST PLAN TO ROUTE OUT AND INFILL ALL CRACK LOCATIONS WITH A FULLY RIGID FILLER MANUFACTURED FOR THE PURPOSE OF FILLING TYPICAL SHRINKAGE CRACKS IN CONCRETE. IT MUST BE AT THE CONTRACTOR'S DISCRETION WHETHER TO PROVIDE 1/2 THE SLAB BARS AS DISCONTINUOUS AT THESE EPOXY CONDITIONS OR TO RUN ALL BARS THROUGH AND THEN ROUTE AND FILL SHRINKAGE CRACKS. THE GC SHALL FOLLOW IN STRICT COMPLIANCE WITH ALL MANUFACTURER'S INSTALLATION PROCEDURES, BOTH FOR PREP AND INSTALLATION FOR ANY PRODUCT THAT IS USED.

4. FOR AREAS WITH A POLISHED CONCRETE FINISH, THE FOLLOWING CRITERIA MUST BE ADHERED TO: (TYP ALL AREAS)

4.1 RUN HALF OF THE REINFORCEMENT BARS DISCONTINUOUS AT CONTROL JOINTS IN THE SLAB-ON-GRADE TO HELP CONTROL CRACKING. ENSURE THAT SMOOTH DOWEL BARS ARE PROPERLY PLACED AT THESE JOINTS TO ALLOW FOR LOAD TRANSFER WHILE PERMITTING CONTROLLED MOVEMENT. SAW CUTS SHOULD BE MADE AT THE APPROPRIATE DEPTH (MINIMUM 1/4 OF SLAB THICKNESS) AND SPACING SHOULD NOT EXCEED 8'-0" TO MINIMIZE UNCONTROLLED CRACKING.

4.2 GC SHALL COORDINATE THE LOCATION OF THE EXPOSED CONCRETE FINISH WITH ARCH DRAWINGS.

4.3 GC PROVIDE 1 3/8" CONCRETE COVER AT TOP OF SLAB ON GRADE INSTEAD OF 2" CLEAR CONCRETE.

4.4. FINISHING PROCESS:
   • INITIAL SCREEDING AND BULL FLOATING TO MAINTAIN UNIFORMITY
   • AVOID EXCESSIVE TROWELLING-MACHINE FINISH BEFORE SLAB BEGINS SETTING.
   • NO HARD TROWELLING, WHICH CAN SEAL THE SURFACE AND AFFECT POLISHING.

4.5 CURING PROCESS METHOD FOR POLISHED CONCRETE AREAS:

PREFERRED OPTION: CURING COMPOUND & DENSIFIER COMBO
   • APPLY A LITHIUM SILICATE CURING COMPOUND IMMEDIATELY AFTER FINISHING TO HELP WITH MOISTURE RETENTION.
   • DENSIFIER (LITHIUM SILICATE OR SODIUM SILICATE) SHOULD BE APPLIED AFTER THE SLAB CURES FOR 14-28 DAYS. THIS HELPS HARDEN THE SURFACE BEFORE POLISHING.

ALTERNATIVE: WET CURING
   • 7 DAYS OF WET CURING VIA FLOODING WITH WATERPROOF FORMS, A MINIMUM OF 3" ABOVE THE SLAB
   • AVOID UNEVEN WATER EXPOSURE TO PREVENT DISCOLORATION IN POLISHED AREAS.

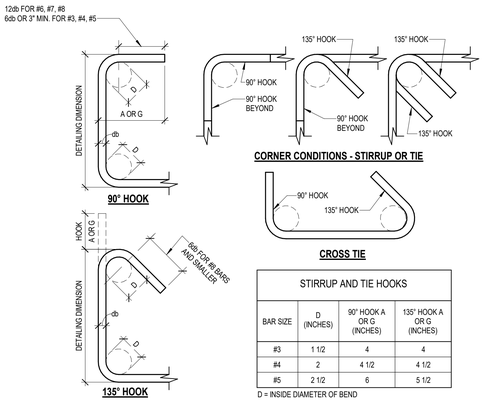
AVOID THESE METHODS:
   • TRADITIONAL CURING COMPOUNDS THAT LEAVE A THICK FILM, AS THEY INTERFERE WITH POLISHING.

4.6 COLUMN BLOCK-OUTS
USING ROUND BLOCKOUTS INSTEAD OF DIAMOND IS RECOMMENDED, AS IT REDUCES STRESS CONCENTRATION AND MINIMIZES CRACKING. DO NOT PROVIDE KEYWAY AND DO NOT DOWEL BETWEEN SLAB ON GRADE AND CONCRETE BLOCKOUT. REF DETAIL 4/—303.

4.7 MAXIMUM ALLOWABLE GRIND DEPTH: 1/4"

4.8 AGGREGATE SIZE: A UNIFORM AGGREGATE SIZE OF 3/8" TO 1/2" IS RECOMMENDED. THIS SIZE ENSURES A CONSISTENT AND AESTHETICALLY PLEASING EXPOSURE WHILE MAINTAINING DURABILITY. GC COORD WITH ARCH. IF THE PROJECT REQUIRES A FULL AGGREGATE EXPOSURE, LARGER AGGREGATES (UP TO 3/4") CAN BE USED, BUT THEY REQUIRE DEEPER GRINDING. FOR SALT-AND-PEPPER EXPOSURE, SMALLER AGGREGATES (AROUND 3/8") ARE PREFERABLE. GC COORDINATE WITH ARCH REGARDING DESIRED AGGREGATE SIZE. ADDITIONALLY, WELL-GRADED AGGREGATES (PER ASTM C33) RECOMMENDED TO MINIMIZE SHRINKAGE AND CRACKING.

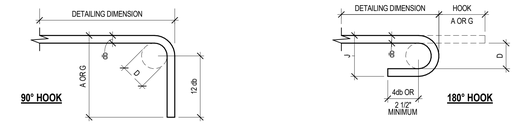
4.9 FINAL POLISH: PROGRESSIVELY FINER GRITS (E.G., 200, 400, 800, 1500, 3000) PER ARCHITECT'S SPECIFICATION.



STIRRUP AND TIE HOOKS			
BAR SIZE	D (INCHES)	90° HOOK A OR G (INCHES)	135° HOOK A OR G (INCHES)
#3	1 1/2	4	4
#4	2	4 1/2	4 1/2
#5	2 1/2	6	5 1/2

D = INSIDE DIAMETER OF BEND

1 TYPICAL STIRRUP AND TIE HOOK TYPES
NO SCALE



END HOOK DIMENSIONS				
BAR SIZE	FINISHED BEND DIAMETER D, (INCHES)	180° HOOKS		90° HOOK
		A OR G, (INCHES)	J, (INCHES)	A OR G, (INCHES)
#3	2 1/4	5	3	6
#4	3	6	4	8
#5	3 3/4	7	5	10
#6	4 1/2	8	6	12
#7	5 1/4	10	7	14
#8	6	11	8	16
#9	9 1/2	15	11 3/4	19
#10	10 3/4	17	13 1/4	22
#11	12	19	14 3/4	24
#14	18 1/4	27	21 3/4	31
#18	24	36	28 1/2	41

D = INSIDE DIAMETER OF BEND

2 TYPICAL END HOOK TYPE
NO SCALE

DEVELOPMENT LENGTHS OF STANDARD HOOKS IN TENSION GRADE 60 REINFORCEMENT, NORMALWEIGHT CONCRETE							
BAR SIZE	f'c=3000 PSI		f'c=4000 PSI		f'c=5000 PSI		BAR SIZE
	Ldh	0.7 Ldh	Ldh	0.7 Ldh	Ldh	0.7 Ldh	
#3	9	7	8	6	7	6	#3
#4	11	8	10	7	9	7	#4
#5	14	10	12	9	11	8	#5
#6	17	12	15	11	13	10	#6
#7	20	14	17	12	15	11	#7
#8	22	16	19	14	17	12	#8
#9	25	18	22	16	20	14	#9
#10	28	20	25	18	22	16	#10
#11	31	22	27	19	24	17	#11
#14	38	-	33	-	29	-	#14
#18	50	-	43	-	39	-	#18



NOTES:

1. Ldh = DEVELOPMENT LENGTH OF STANDARD HOOKS IN TENSION (INCHES).
2. Ldh = Lhb UNLESS CONDITIONS OF NOTE 3 ARE SATISFIED.
3. Ldh = 0.7Lhb FOR #11 BARS AND SMALLER WHEN SIDE COVER (NORMAL TO PLANE OF HOOK) IS NOT LESS THAN 2 1/2 INCHES AND FOR 90° HOOKS COVER ON BAR EXTENSION BEYOND HOOK IS NOT LESS THAN 2 INCHES.
4. HOOKS ARE NOT CONSIDERED EFFECTIVE FOR DEVELOPING BARS IN COMPRESSION.
5. Ldh SHALL BE MULTIPLIED BY 1.2 FOR EPOXY-COATED HOOKED REINFORCING BARS.

3 TYPICAL DEVELOPMENT LENGTHS OF STANDARD HOOKS IN TENSION
NO SCALE

TENSION DEVELOPMENT AND LAP SPLICE LENGTHS (CLASS B) GRADE 60 REINFORCEMENT NORMAL WEIGHT CONCRETE						
BAR SIZE	f'c=3000 PSI		f'c=4000 PSI		f'c=5000 PSI	
	TYP. BARS	OTHER BARS	TYP. BARS	OTHER BARS	TYP. BARS	OTHER BARS
#3	28"	22"	24"	19"	22"	17"
#4	37"	29"	32"	25"	29"	22"
#5	47"	36"	40"	31"	36"	28"
#6	56"	43"	48"	37"	43"	33"
#7	81"	63"	70"	54"	63"	49"
#8	93"	72"	80"	62"	72"	55"
#9	105"	81"	91"	70"	81"	63"
#10	118"	91"	102"	79"	91"	70"
#11	131"	101"	113"	87"	101"	78"

NOTES:

1. THE CLASS B TENSION LAP SPLICE SCHEDULE SHOWN IS FOR NORMAL WEIGHT CONCRETE AND GRADE 60 NON-EPOXY-COATED REINFORCING.
2. TYPICAL BARS ARE FOR BEAM TOP AND INTERMEDIATE BARS, WALL TOP AND HORIZONTAL BARS, AND SLAB/FOOTING TOP BARS FOR SLAB/FOOTING THICKNESS GREATER THAN 13". OTHER BARS ARE FOR ANY BAR THAT DOES NOT HAVE MORE THAN 12" OF FRESH CONCRETE BELOW THE BAR. ALL TYPICAL BARS SHALL HAVE MORE THAN 12" OF FRESH CONCRETE BELOW THE BAR.
3. FOR EPOXY-COATED BARS, MULTIPLY THE TABULATED SPLICE LENGTHS OF TYPICAL BARS BY 1.3 AND THE TABULATED SPLICE LENGTHS OF OTHER BARS BY 1.5.
4. FOR LIGHTWEIGHT CONCRETE, MULTIPLY THE TABULATED SPLICE LENGTHS BY 1.33.
5. FOR GRADE 75 BARS, MULTIPLY THE TABULATED SPLICE LENGTHS BY 1.25.
6. FOR #7 TO #11 SLAB OR WALL REINFORCING WITH CLEAR COVER LESS THAN 1 BAR DIAMETER, MULTIPLY THE TABULATED SPLICE LENGTHS BY 1.5.
7. SPLICE LENGTH FOR BARS OF DIFFERENT SIZE SHALL BE THE GREATER OF SPLICE LENGTH/1.3 OF THE LARGER BAR AND SPLICE LENGTH OF THE SMALLER BAR.
8. FOR CONCRETE STRENGTH IN BETWEEN THOSE SHOWN IN THE SCHEDULE, USE SPLICE LENGTHS OF THE LOWER CONCRETE STRENGTH.
9. THE SCHEDULED LAP SPLICE LENGTH WITH THE APPLICABLE MODIFICATION FACTORS SHALL NOT BE LESS THAN 12".

4 TYPICAL DEVELOPMENT AND LAP SPLICE LENGTHS
NO SCALE

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118 Baker Dr, Tomball, Tx 77375

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

DRAWN BY: JJ

GENERAL CONCRETE AND STL REINF NOTES AND TYP DETAILS

S-300

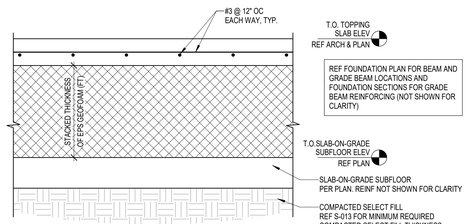
S-301 - GENERAL SLAB-ON-GRADE NOTES AND TYP DETAILS

SLAB-ON-GRADE:

1. INSTALL VAPOR BARRIER IN ACCORDANCE WITH SPECIFICATIONS AND MANUFACTURER'S RECOMMENDATIONS IMMEDIATELY BELOW SLAB. PROPERLY TAPE ALL SEAMS PER MANUFACTURER'S RECOMMENDATIONS AND REMOVE ANY REMOVE STANDING WATER ON THE SURFACE OF VAPOR BARRIER PRIOR TO CONCRETE PLACEMENT.
2. PROVIDE (2) #5 x 5'-0" LONG BAR IN SLAB AT RE-ENTRANT CORNERS, TYPICAL. INCLUDING RE-ENTRANT CORNERS AROUND THE PERIMETER OF THE BUILDINGS, FLOOR RECESSES AND OPENINGS.
3. PROVIDE CONTROL JOINTS ALONG COLUMN LINES AND AT 15'-0" ON CENTER, EACH WAY, MAXIMUM, UNLESS NOTED OTHERWISE. ALSO, PROVIDE ADDITIONAL CONTROL JOINTS AT RE-ENTRANT CORNERS. SEE TYPICAL DETAILS.
4. JOINT FILLER SHALL BE USED ON ALL JOINTS THAT DO NOT GET COVERED BY AN ARCHITECTURAL FLOOR COVERING. ACCEPTABLE PRODUCTS INCLUDE EDGE PRO 90. STRICTLY FOLLOW MANUFACTURER-WRITTEN RECOMMENDATIONS FOR INSTALLATION. DELAY JOINT FILLING AS LONG AS PRACTICAL TO ALLOW FOR MAXIMUM CONCRETE SHRINKAGE.
5. DO NOT PLACE HEAVY EQUIPMENT OR CONSTRUCTION STORAGE LOADS ON THE SLAB UNLESS CALCULATIONS PREPARED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE STATE IN WHICH THE PROJECT IS LOCATED HAVE BEEN SUBMITTED, VERIFYING THE ADEQUACY OF THE SLAB.
6. TESTING LAB WILL TEST ALL PLACEMENTS IN ACCORDANCE WITH ASTM E 1155 TO CONFIRM F-NUMBERS AND ADEQUACY OF FINISHING PROCEDURES.
7. THE PERFORMANCE OF THE SLAB IS HIGHLY DEPENDENT ON HOW WELL THE CONTRACTOR FOLLOWS THE BUILDING PAD PREPARATION RECOMMENDATIONS AS SPECIFIED IN THE GEOTECHNICAL REPORT AND EARTHWORK SECTION OF THE GENERAL NOTES. THE CONTRACTOR AND OWNER SHOULD CONSULT WITH THE GEOTECHNICAL ENGINEER IF THERE ARE ANY QUESTIONS CONCERNING DESIGN, CONSTRUCTION METHODS, PERFORMANCE AND RISKS INVOLVED IN THE CONSTRUCTION OF A GRADE SUPPORTED SLAB.
8. SLAB REINFORCEMENT SHALL BE CHAIRED BY SOIL SUPPORTED SLAB BOLSTERS.

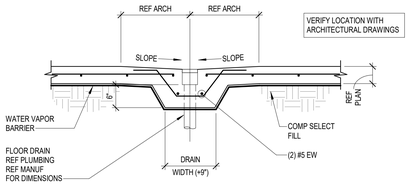
GEO-FOAM WITH CONCRETE TOPPING:

1. ALL EPS GEO-FOAM SHALL BE PER ASTM D6817 AND TYPE EPS 19 (MIN DENSITY - 1 PCF) OR BETTER.REFER TO EPS GEOFOAM SCHEDULE FOR EPS GEO-FOAM GRADE BASED STACKED THICKNESS.
2. U.N.O. ON PLANS/DETAILS ALL GEO-FOAM SHALL BE FINISHED WITH 4" THICK CONCRETE TOPPING SLAB WITH #3 AT 12" O.C. EACH WAY CENTERED IN THE SLAB.
3. CONSTRUCTION JOINTS SHALL BE FOLLOWED PER PLANS. ADJACENT POURS SHOULD BE SCHEDULED MINIMUM 4 DAYS APART.
4. ALL GEO-FOAM SHALL BE ADHERED TO THE BASE SLAB AND TO EACH OTHER WITH A NON-SOLVENT ADHESIVE WITH A MINIMUM SHEAR STRENGTH OF 5 PSF.

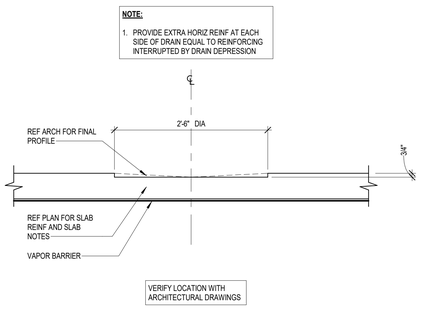


EPS GEOFOAM SCHEDULE

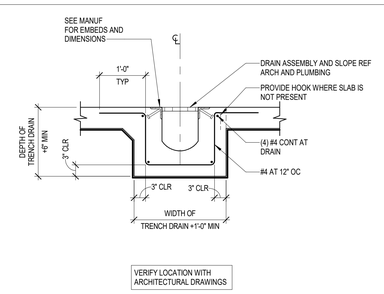
STACKED THICKNESS OF EPS GEOFOAM (FT)	MIN EPS GEOFOAM DENSITY (PCF)	1% COMPRESSIVE RESISTANCE, MIN (PSI)	EQUIVALENT EPS TYPE	TRANSVERSEMAX EXPECTED TOTAL AMOUNT OF CONSOLIDATION (W/ 4" NWC TOPPING SLAB) BOT REINF.
UP TO 2'-6"	1.15	5.8	EPS19	1/4"
>2'-6" TO 3'-3"	1.35	7.3	EPS22	1/4"
>3'-3" TO 4'-10"	1.8	10.9	EPS29	1/4"
>4'-10" TO 6'-6"	2.4	15.0	EPS39	1/4"
>6'-6" TO 8'-0"	2.85	18.6	EPS46	1/4"



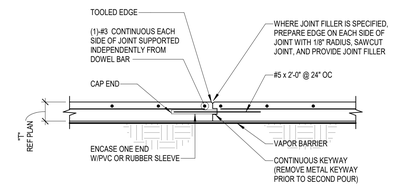
4 FLOOR DRAIN DETAIL
NO SCALE



5 TYPICAL SLAB RECESS AT RESTROOM DRAIN
NO SCALE

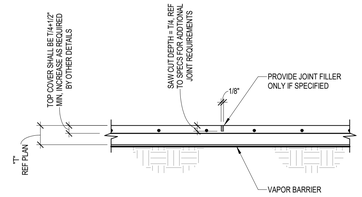


10 TYPICAL TRENCH DRAIN AT SLAB-ON-GRADE
NO SCALE



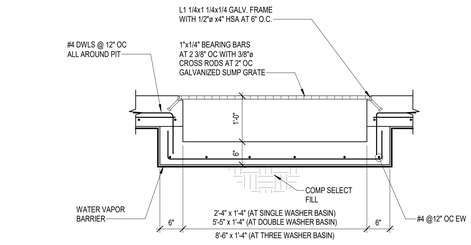
NOTES:
1. AT CONTRACTOR'S OPTION, CONTRACTION JOINT MAY BE USED IN PLACE OF CONSTRUCTION JOINT. LOCATIONS SHALL BE PROPOSED BY THE CONTRACTOR AND APPROVED BY THE ARCHITECT.
2. CONTRACTION JOINT MAYBE BE SAW CUT TO 1/4 OF THE SLAB DEPTH WITHIN 6 HOURS AFTER SLAB PLACEMENT.

1 SLAB CONSTRUCTION JOINT
NO SCALE



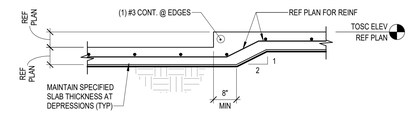
NOTES:
1. PROVIDE JOINT AT EVERY COLUMN LINE AND IN BETWEEN THE COLUMN LINES AT A MAXIMUM SPACING OF 36 TIMES THE SLAB THICKNESS (NOT TO EXCEED 16 FEET); UNO.
2. GC SHALL SUBMIT JOINT LAYOUT TO THE ARCHITECT FOR APPROVAL.
3. AT ALL EXPOSED CONCRETE AREAS, RUN HALF OF THE REINFORCEMENT BARS DISCONTINUOUS AT CONTROL JOINTS IN THE SLAB-ON-GRADE TO HELP CONTROL CRACKING. ENSURE THAT SMOOTH DOWEL BARS ARE PROPERLY PLACED AT THESE JOINTS TO ALLOW FOR LOAD TRANSFER WHILE PERMITTING CONTROLLED MOVEMENT.
4. AT POLISHED CONCRETE AREAS, SAW CUTS SPACING SHOULD NOT EXCEED 8'-0" TO MINIMIZE UNCONTROLLED CRACKING.

2 CONTRACTION (CONTROL) JOINT
NO SCALE

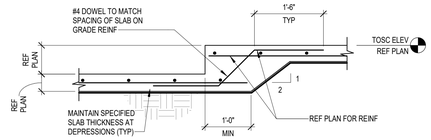


3 DRAIN TROUGH DETAIL
NO SCALE

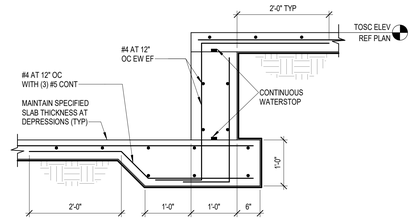
NOTE:
1. GC SHALL COORDINATE DEPTH AND LOCATION OF ALL FLOOR DEPRESSIONS WITH THE ARCHITECTURAL DRAWINGS.



SLAB RECESS LESS THAN 3" DEEP



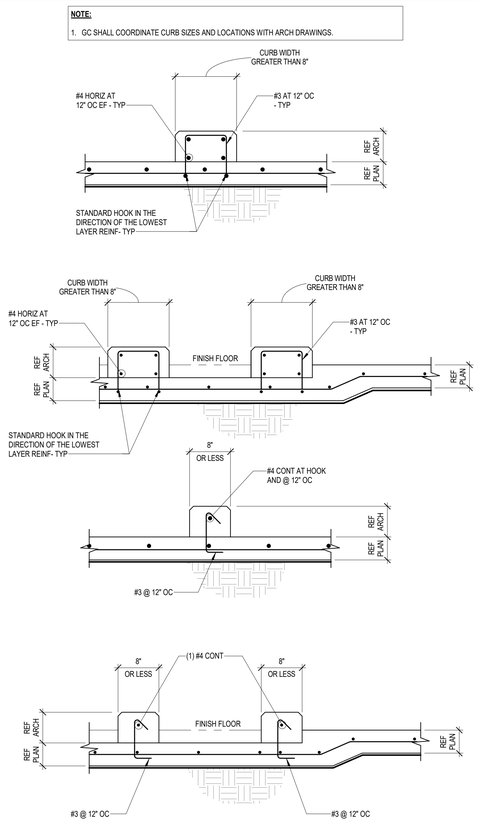
SLAB RECESS 3" TO 10" DEEP



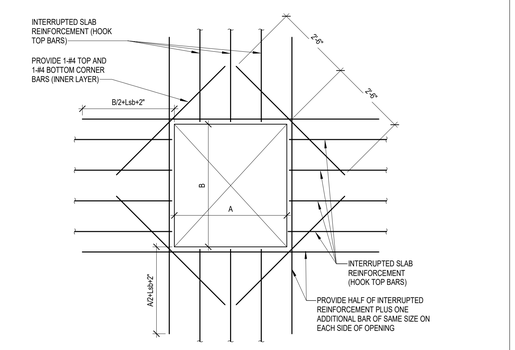
SLAB RECESS 10" TO 36" DEEP

6 TYPICAL SLAB DEPRESSION DETAILS
NO SCALE

NOTE:
1. GC SHALL COORDINATE CURB SIZES AND LOCATIONS WITH ARCH DRAWINGS.



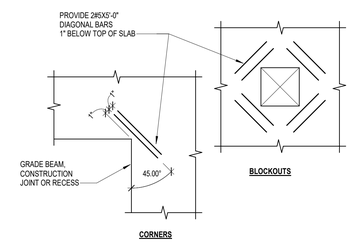
7 TYPICAL CURB DETAILS
NO SCALE



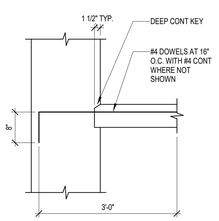
NOTES:
1. Lsb EQUALS BAR "CLASS B" TENSION LAP SPLICE LENGTH, UNLESS NOTED OTHERWISE.
2. SLAB OPENINGS ARE ONLY PERMITTED WHERE INDICATED ON THE STRUCTURAL PLANS OR AS APPROVED BY THE STRUCTURAL ENGINEER.

8 TYPICAL SLAB OPENING REINFORCEMENT
NO SCALE

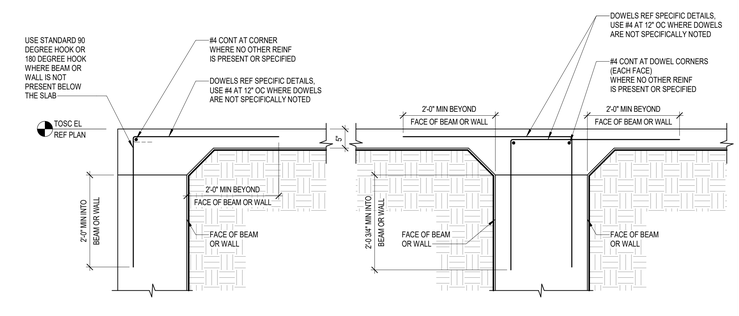
NOTE:
1. FABRICATOR TO LOCATE THESE BARS ON THE SHOP DRAWINGS.



9 TYPICAL RE-ENTRANT CORNER BARS DETAIL
NO SCALE



12 TYPICAL WALL TO SLAB CONSTRUCTION JOINT
NO SCALE



13 TYPICAL SLAB DOWEL
NO SCALE

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STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI
DRAWN BY: JJ

GENERAL SLAB-ON-GRADE NOTES AND TYP DETAILS

S-301

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S-302 - GENERAL GRADE BEAM NOTES AND TYP DETAILS

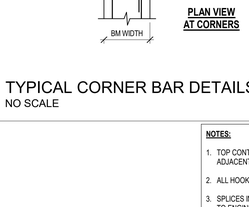
GRADE BEAM:

1. GRADE BEAM DIMENSIONS AND/OR LOCATIONS SHALL NOT BE ALTERED WITHOUT APPROVAL OF THE ENGINEER OF RECORD. SIDES OF GRADE BEAMS SHALL BE FORMED. EARTH FORMING OF GRADE BEAMS IS NOT ALLOWED UNLESS GRADE BEAMS MAY BE EARTH FORMED SO LONG AS THE SIDES ARE PLUMB AND SOUND AND ANY PURTION OF THE BEAMS/SLAB THAT EXTENDS ABOVE GRADE/ EXPOSED IS BOARD FORMED. THE WALLS MUST NOT SLOUGH OFF MORE THAN 3/4" OUT OF PLANE OF THE PLUMB LINE. WHERE THIS OCCURS A BOARD FORM MAY BE LAID IN THE EARTH TO SMOOTH THE SIDE LOCALLY AT THE IMPERFECTION TO MAINTAIN WALL FLATNESS TOLERANCE.
2. GRADE BEAMS SHALL BE POURED MONOLITHICALLY AROUND CORNERS AND AT INTERSECTIONS. SEE TYPICAL GRADE BEAM CONSTRUCTION JOINT DETAIL FOR ACCEPTABLE CONSTRUCTION JOINT LOCATIONS.
3. GENERAL CONTRACTOR SHALL COORDINATE LOCATION, SIZE, AND ELEVATION AND INCLUDE IN HIS CONTRACT PRICE ALL REQUIRED HORIZONTAL PENETRATIONS THROUGH CONCRETE BEAMS WHETHER SHOWN ON STRUCTURAL DRAWINGS OR NOT. WHERE BEAM PENETRATIONS ARE REQUIRED BUT ARE NOT SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS, CONTRACTOR SHALL SUBMIT DRAWINGS SHOWING DIMENSIONS AND LOCATIONS OF ALL REQUIRED PENETRATIONS FOR REVIEW AND APPROVAL.

GRADE BEAM SCHEDULE

MARK	SIZE		REINFORCING			TIES		REMARKS
	WIDTH	DEPTH	TOP	BOTTOM	MIDDLE	SIZE	SPACING*	
GB1	1'-6"	4'-0"	3#9	3#9	-	#4 S1	1@2", R@10"; 1@2", R @ 6" @ CANTI	1 @3", R@6" AT SERVICE YARD
GB1*	1'-6"	3'-0"	3#9	3#9	-	#4 S1	1@2", R@10"; 1@2", R @ 6" @ CANTI	
GB2	2'-0"	4'-0"	4#9	4#9	-	#4 S1	1@2", R@10"; 1@2", R @ 6" @ CANTI	-
GB3	2'-0"	4'-0"	5#9	5#9	-	#4 S1	1@2", R@10"; 1@2", R @ 6" @ CANTI	-
GB3*	2'-0"	3'-0"	5#9	5#9	-	#4 S1	1@2", R@10"; 1@2", R @ 6" @ CANTI	-
GB4	2'-10"	4'-0"	6#9	6#9	-	#4 D1	1@2", R@10"; 1@2", R @ 6" @ CANTI	-
GB4*	2'-10"	3'-0"	6#9	6#9	-	#4 D1	1@2", R@10"; 1@2", R @ 6" @ CANTI	-
GB5	3'-0"	4'-0"	6#9	6#9	-	#4 D1	1@2", R@10"; 1@2", R @ 6" @ CANTI	-
GB6	1'-2"	3'-0"	3#7	3#7	-	#4 S1	1@2", R@10"; 1@2", R @ 6" @ CANTI	-

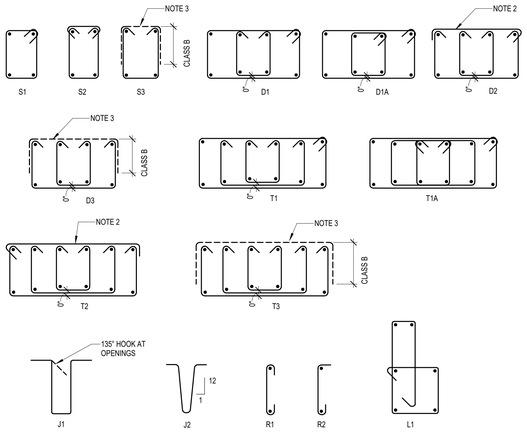
* - REF DETAIL 4/S-303 FOR TIE SPACING AT GRADE BEAM TO GRADE BEAM CONNECTION WHERE PIER/ FOOTING IS NOT PRESENT AT INTERSECTION. REF DETAIL 6/S-3034 FOR TIES SPACING BELOW COLUMN WHERE PIER/ FOOTING IS NOT PRESENT BELOW COLUMN.



INTERMEDIATE BAR SCHEDULE

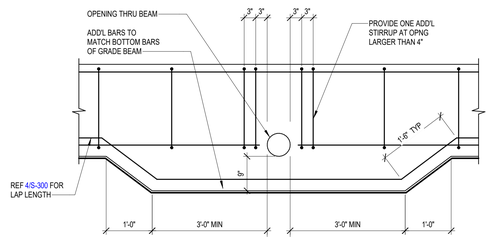
BEAM DEPTH	NUMBER OF BARS EA FACE	SIZE OF BAR
> 36" - 48"	5	#3
49" - 54"	5	#4
55" - 60"	5	#5
61" - 66"	6	#5
67" - 78"	7	#5
79" AND ABOVE	AT 9" OC	#5

1 GRADE BEAM SCHEDULE
NO SCALE



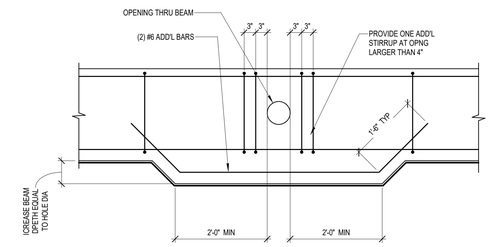
NOTES:
1. ALL HOOKS SHALL BE FABRICATED AS REQUIRED BY ACI. REFER TO "TYPICAL STIRRUP AND TIE HOOK TYPES."
2. THE TOP CAP FOR CLOSED STIRRUPS S15, S19, S24, AND S27 SHALL BE PLACED SUCH THAT THE 135° HOOK END IS NOT ON THE SIDE CONFINED BY THE SLAB.
3. PROVIDE TOP CAP FOR OPEN STIRRUPS S3, S21, S22, AND S29 TO MATCH SCHEDULED STIRRUP SIZE AT 48".

2 TYPICAL GRADE BEAM STIRRUP TYPES
3/4" = 1'-0"



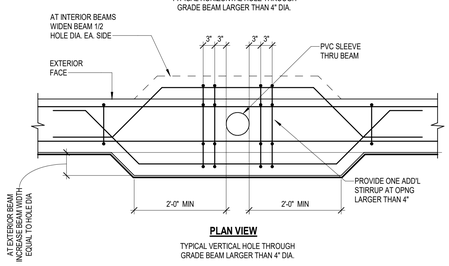
SECTION VIEW

TO BE USED WHERE OPENING CONFLICTS WITH BOTTOM BAR REINFORCEMENT



SECTION VIEW

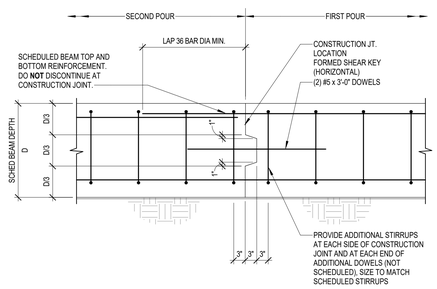
TYPICAL HORIZONTAL HOLE THROUGH GRADE BEAM LARGER THAN 4" DIA.



PLAN VIEW

TYPICAL VERTICAL HOLE THROUGH GRADE BEAM LARGER THAN 4" DIA.

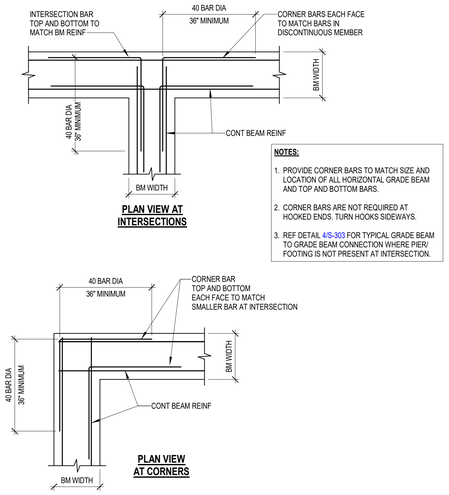
4 TYPICAL GRADE BEAM PENETRATION DETAILS
NO SCALE



ELEVATION VIEW

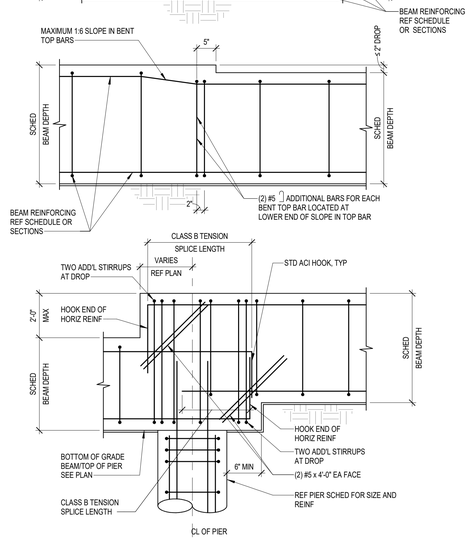
NOTES:
1. LOCATE JOINTS IN MIDDLE THIRD OF BEAM SPAN BETWEEN SUPPORTS.
2. ACCEPTABLE JOINT LOCATIONS ARE AS FOLLOWS:
   a. FOR BEAMS NOT SUPPORTING INTERSECTING BEAMS, PLACE JOINT WITHIN MIDDLE THIRD OF SPAN.
   b. FOR BEAMS SUPPORTING INTERSECTING BEAMS, CHECK WITH STRUCTURAL ENGINEER FOR JOINT LOCATIONS AND DOWEL REQUIREMENTS.
3. FOR JOINT LOCATIONS OTHER THAN WITHIN MIDDLE THIRD OF SPAN, CONTRACTOR SHALL COORDINATE REQUIRED ADDITIONAL REINFORCEMENT WITH THE ENGINEER ON THE SHOP DRAWINGS.
4. JOINTS MAY NOT OCCUR IN THE FIRST SPAN OF A BEAM LINE OR IN ANY SPAN WHICH IS LESS THAN 8 FEET.
5. GENERAL CONTRACTOR SHALL SUBMIT DESIRED CONSTRUCTION JOINT LAYOUT AS A SHOP DRAWING FOR APPROVAL A MINIMUM OF TWO WEEKS PRIOR TO POUR.

7 TYPICAL GRADE BEAM CONSTRUCTION JOINT
NO SCALE



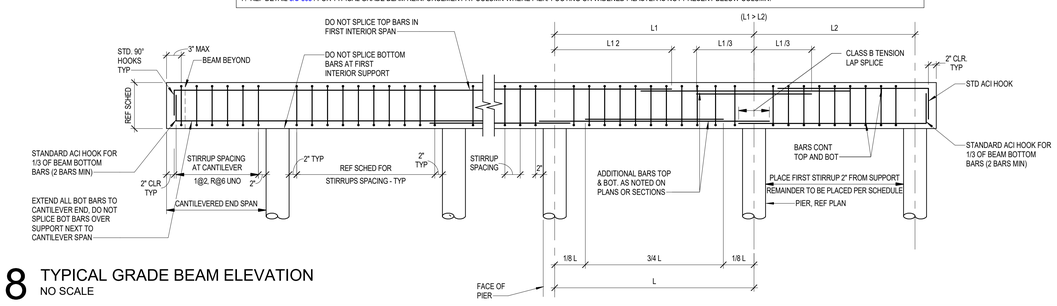
NOTES:
1. PROVIDE CORNER BARS TO MATCH SIZE AND LOCATION OF ALL HORIZONTAL GRADE BEAM AND TOP AND BOTTOM BARS.
2. CORNER BARS ARE NOT REQUIRED AT HOOKED ENDS. TURN HOOKS SIDEWAYS.
3. REF DETAIL 4/S-303 FOR TYPICAL GRADE BEAM TO GRADE BEAM CONNECTION WHERE PIER/ FOOTING IS NOT PRESENT AT INTERSECTION.

5 TYPICAL CORNER BAR DETAILS
NO SCALE



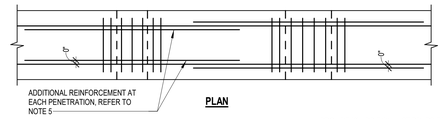
6 TYPICAL GRADE BEAM STEPDOWN DETAIL
NO SCALE

NOTES:
1. TOP CONT BARS MAY BE SPLICED AT MID-SPAN OF BEAM ONLY. EXCEPT AT CANTILEVER SPANS, SPANS ADJACENT TO CANTILEVER SPANS AND SPANS WITH LENGTH NOT GREATER THAN ONE HALF OF THE ADJACENT SPAN LENGTH.
2. ALL HOOKS SHOWN ARE STANDARD HOOKS (90° OR 180°).
3. SPLICES IN SCHEDULED BARS LESS THAN 60'-0" LENGTH ARE ONLY PERMITTED AT THE SPECIFIED LOCATIONS SHOWN. SPLICES IN SCHEDULED BARS MORE THAN 60'-0" LENGTH SHALL BE REFERRED TO ENGINEER FOR APPROVAL.
4. BEAMS WITH DEPTH OF 36" OR LESS, DO NOT NEED INTERMEDIATE BARS UNLESS REQUIRED BY BEAM SCHEDULE. REF 1/S-302
5. REF TO DETAIL 6/S-302 FOR DROP IN TOP OR BOTTOM OF GRADE BEAM.
6. REF DETAIL 4/S-303 FOR TYPICAL GRADE BEAM TO GRADE BEAM CONNECTION WHERE PIER/ FOOTING IS NOT PRESENT AT INTERSECTION.
7. REF DETAIL 6/S-3034 FOR TYPICAL GRADE BEAM REINFORCEMENT AT COLUMN WHERE PIER/ FOOTING OR WIDENED PILASTER IS NOT PRESENT BELOW COLUMN.

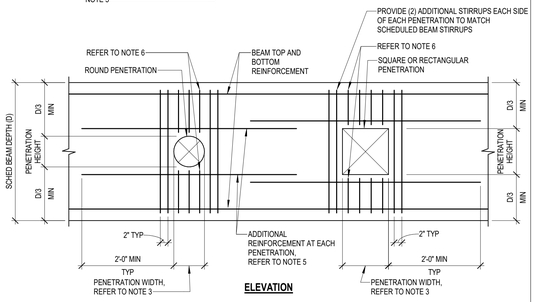


8 TYPICAL GRADE BEAM ELEVATION
NO SCALE

NOTES:
1. CLEAR SPACING BETWEEN PENETRATIONS SHALL BE 24" MINIMUM UNLESS NOTED OTHERWISE BY THE STRUCTURAL ENGINEER.
2. PENETRATIONS SHALL BE LOCATED ACCORDING TO THE FOLLOWING CRITERIA:
   a. FOR BEAMS NOT SUPPORTING INTERSECTING BEAMS LOCATE PENETRATIONS WITHIN TWO FEET EITHER SIDE OF BEAM MIDSPAN.
   b. FOR BEAMS SUPPORTING INTERSECTING BEAMS CHECK WITH STRUCTURAL ENGINEER.
3. PENETRATION WIDTH MUST NOT EXCEED PENETRATION HEIGHT, UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS.
4. FOR LOCATIONS AND/OR SIZES OF PENETRATIONS NOT CONFORMING TO THE ABOVE CRITERIA AND NOT OTHERWISE DETAILED ON THE STRUCTURAL DRAWINGS, CONTRACTOR SHALL COORDINATE REQUIRED ADDITIONAL REINFORCEMENT WITH THE STRUCTURAL ENGINEER.
5. PROVIDE THE FOLLOWING REINFORCEMENT AT EACH SLEEVE, UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS:
   1-#5 TOP AND BOTTOM AT BEAMS WITH WIDTHS LESS THAN 9".
   2-#5 TOP AND BOTTOM AT BEAMS WITH 2-LEG STIRRUPS.
   4-#5 TOP AND BOTTOM AT BEAMS WITH 4-LEG STIRRUPS.
   "N"-#5 TOP AND BOTTOM AT BEAMS WITH "N"-LEG STIRRUPS.
6. PROVIDE ADDITIONAL STIRRUPS ABOVE AND BELOW PENETRATIONS AT SPACING NOT TO EXCEED ONE THIRD OF THE SCHEDULED STIRRUP SPACING, UNLESS DETAILED OTHERWISE ON THE STRUCTURAL DRAWINGS.
7. SCHEDULED BEAM STIRRUPS NOT SHOWN FOR CLARITY.



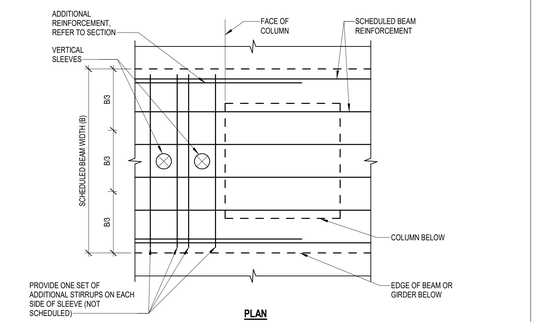
PLAN



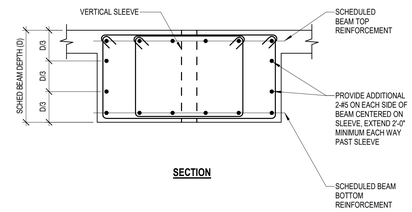
ELEVATION

3 TYPICAL HORIZONTAL PENETRATION IN CONCRETE BEAM
NO SCALE

NOTES:
1. GENERAL CONTRACTOR SHALL COORDINATE REQUIRED BEAM SLEEVES WITH MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS. REQUIRED SLEEVES MAY OR MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS. GENERAL CONTRACTOR SHALL SUBMIT PLAN SHOWING LAYOUT OF ALL SLEEVES WITH FORMWORK SHOP DRAWING SUBMITTAL.
2. SLEEVES SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF THE SCHEDULED BEAM WIDTH.
3. CONTINUOUS BEAM REINFORCEMENT MAY BE SLIGHTLY DISPLACED (3" MAXIMUM) OR ADJACENT BARS BUNDLED (2 BAR BUNDLES MAXIMUM) TO FACILITATE SLEEVE INSTALLATION. DO NOT CUT, OFFSET, OR BEND REINFORCEMENT.
4. SLEEVES OCCURRING ON OPPOSITE SIDES OF A COLUMN MUST BE IN LINE.
5. THE OUTSIDE DIAMETER OF A SLEEVE MAY NOT EXCEED 15% OF THE SCHEDULED WIDTH OF THE BEAM THROUGH WHICH IT MUST PASS.
6. THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD WHEN A SLEEVE SIZE OR LOCATION DOES NOT MEET THE ABOVE CONDITIONS.
7. SCHEDULED BEAM STIRRUPS NOT SHOWN FOR CLARITY.



PLAN



SECTION

9 TYPICAL VERTICAL PENETRATION IN CONCRETE BEAM
NO SCALE

Kubala ENGINEERS
Ph: (800)248-3674
www.kubalaengineers.com
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www.pbk.com
HOUSTON, TX
713-960-0666

Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

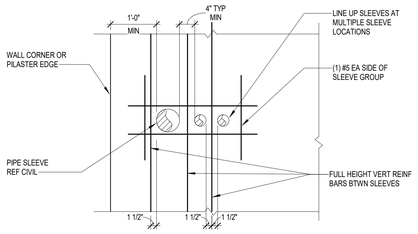
CHECKED BY: SI

DRAWN BY: JJ

GENERAL GRADE BEAM NOTES AND TYP DETAILS

S-302

Plot Stamp:
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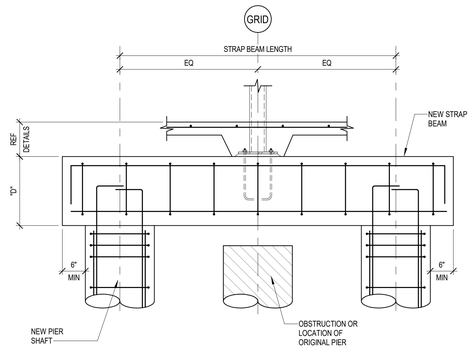
1 TYPICAL WALL PENETRATION DETAIL
NO SCALE

NOTE:

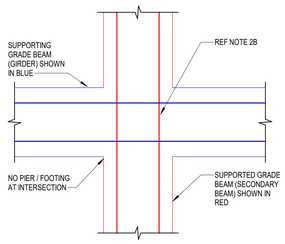
1. THIS DETAIL SHALL BE USED AT BUILDING SITES WHERE EXISTING UTILITIES, FOUNDATIONS OR OBSTRUCTIONS ARE ENCOUNTERED DURING THE PIER INSTALLATIONS. THE ORIGINAL SINGLE PIER SHALL BE REPLACED WITH TWO NEW PIERS AND A NEW STRAP BEAM SHALL BE ADDED AS SHOWN. ANY UTILITY LINES THAT ARE ENCOUNTERED SHALL BE COVERED WITH CONCRETE.

STRAP BEAM SCHEDULE

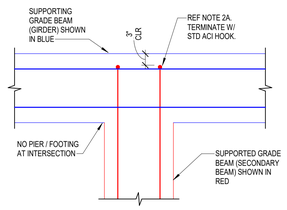
ORIGINAL BELL DIAM (IN)	DBL PIER BELL SIZE (IN)	DBL PIER SHAFT SIZE (IN)	STRAP BEAM LENGTH	STRAP BEAM (W X D)	STRAP BEAM REINFORCING
24, 36	30	16	5'-0"	14"x24"	(2)-#7 T&B #3 @ 10"
42, 48	36	18	6'-0"	14"x24"	(3)-#6 T&B #3 @ 10"
54, 60	48	24	8'-0"	16"x24"	(2)-#6 TOP (4)-#7 BOTT #3 @ 10"
66, 72	54	28	9'-0"	20"x24"	(3)-#7 TOP (5)-#8 BOTT #3 @ 9"
78, 84	60	30	10'-0"	24"x24"	(3)-#7 TOP (6)-#9 BOTT #4 @ 9"



2 STRAP BEAM DETAIL AT CONSTRUCTION
NO SCALE



PLAN VIEW AT INTERSECTIONS



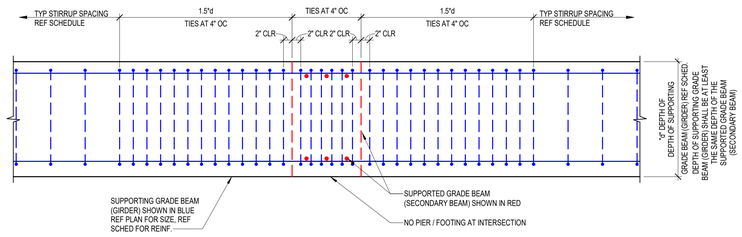
PLAN VIEW AT T-INTERSECTIONS

NOTES:

1. CONCRETE FOR SUPPORTING GRADE BEAM (GIRDER) AND SUPPORTED GRADE BEAM (SECONDARY BEAM) SHALL BE PLACED MONOLITHICALLY.

2. SUPPORTED GRADE BEAM (SECONDARY BEAM) LONGITUDINAL REINFORCEMENT INTO SUPPORTING GRADE BEAM (GIRDER):
   A. AT LEAST 1/3 OF BOTTOM BARS, BUT NOT LESS THAN TWO BARS, TO EXTEND INTO SUPPORTING BEAM (GIRDER) AND TERMINATE WITH STD ACI 90 DEGREE HOOK. ALL TOP BARS TO EXTEND AT LEAST Ldh INTO SUPPORTING BEAM (GIRDER) AND TERMINATE WITH STD HOOK IN TENSION. REF 3/S-300.
   B. LONGITUDINAL LAP SPLICES SHALL FOLLOW 8/S-302 ASSUMING SUPPORTING GRADE BEAM (GIRDER) IS THE PIER SUPPORT SHOWN IN 8/S-302.

3. REF 8/S-302 FOR INFORMATION NOT SHOWN OR ANNOTATED HERE. REF 5/S-302 FOR CORNER BARS. CORNER BARS, NOT SHOWN FOR CLARITY.



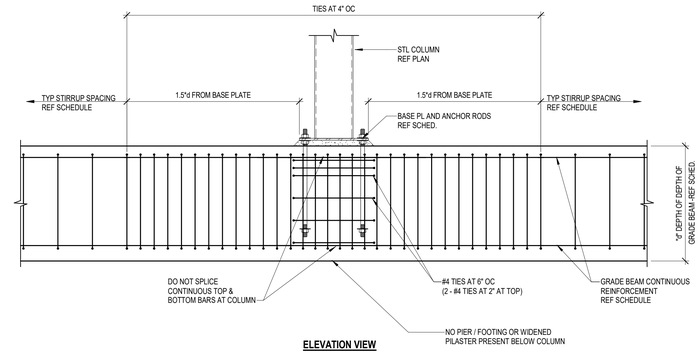
ELEVATION VIEW OF SUPPORTING GRADE BEAM (GIRDER)

4 TYPICAL GRADE BEAM TO GRADE BEAM CONNECTION DETAIL
NO SCALE

NOTES:

1. PROVIDE WIDENED PILASTER AS SHOWN IN -/---303 WHERE GRADE BEAM WIDTH DOES NOT MEET PILASTER WIDTH REQUIREMENTS AT GRAVITY COLUMNS, UNO.

2. PROVIDE WIDENED PILASTER AS SHOWN IN 2/S-610 WHERE GRADE BEAM WIDTH DOES NOT MEET PILASTER WIDTH REQUIREMENTS AT BRACE FRAME COLUMNS AND FIXED BASE PLATES PER BASE PLATE SCHEDULE AND 2/S-610, UNO.



ELEVATION VIEW

6 TYPICAL GRADE BEAM REINF. AT COLUMN WITHOUT PIER BELOW
NO SCALE

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713-960-8686

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ISSUE FOR PROPOSAL

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
Kubala Engineers
F-23612
10/30/2026

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

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DRAWN BY: JJ

GENERAL GRADE BEAM NOTES AND TYP DETAILS

S-303

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Ph: (800)245-3674
www.kubalaengineers.com
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AUGER CAST PILES: TOMBALL HS

1. AUGER CAST PILE (ACIP) DESIGNS ARE BASED UPON THE INFORMATION LISTED BELOW. REFER TO TYPICAL ACIP DETAIL FOR PILE SCHEDULE AND REINFORCING. DISTRIBUTION OF ACIP TYPES IS INDICATED ON PLANS.
   - MINIMUM ACIP CLEAR SPACING: 2 PILE DIAMETERS
   - MINIMUM ACIP TOTAL DEPTH "AS BUILT TOP OF GROUND": 46.0 FEET
   - MINIMUM GROUT STRENGTH: 8,000 PSI

ALLOWABLE DESIGN COMPRESSION AND TENSION CAPACITY

BELOW FINAL GRADE (FEET)	ALLOWABLE UNIT SKIN FRICTION RESISTANCE (PSF)	ALLOWABLE END BEARING PRESSURE (PSF)
+7'-0" TO 0'-0"	DISREGARD	DISREGARD
0'-0" TO 18'-0"	175	DISREGARD
18'-0" TO 30'-0"	525	10,000
30'-0" TO 50'-0"	800	12,000

2. ACIP CONSTRUCTION AND GROUTING SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND AS PER THE CURRENT VERSION OF ACI 336, ACI 543, TxDOT SPECIFICATION ITEM 416, AND TxDOT SPECIFICATION ITEM 421.
3. ACIP NOT SPECIFICALLY LOCATED ON THE DRAWINGS SHALL BE LOCATED ON CENTERLINE OF THE COLUMN OR PILE CAP ABOVE. WHERE NO COLUMN OR PILE CAP OCCURS, LOCATE ACIP ON CENTERLINE OF WALL OR BEAM.
4. PROVIDE DOWELS FROM ACIP INTO CONCRETE PILE CAP OR COLUMN ABOVE PER THE TYPICAL ACIP DETAIL.
5. ELEVATION OF TOP OF ACIP IS NOTED ON DRAWINGS.
6. REFERENCE PLANS AND ACIP SCHEDULE FOR ACIP SIZE, REINFORCING, AND PENETRATION INTO BEARING STRATUM.
7. VERIFY DEPTHS OF ACIP BEFORE ACIP STEEL IS CUT. ACIP STEEL MAY BE DELIVERED TO THE JOBSITE IN STANDARD LENGTHS AND CUT AS REQUIRED. SPLICE REINFORCING PER LAP SPLICE SCHEDULE UNLESS LENGTHS ARE INDICATED IN THE PILE SCHEDULE NOTES.
8. ALL ACIP SHALL BE INSPECTED BY A REPRESENTATIVE OF THE PROJECT'S GER IN ORDER TO ENSURE THAT THE PROPER BEARING MATERIAL OR DEPTH HAS BEEN REACHED IN ACCORDANCE WITH THE RECOMMENDATIONS GIVEN IN THE GEOTECHNICAL REPORT.
9. USE TEMPLATES TO SET DOWELS AND ANCHOR BOLTS IN ACIP OR PILE CAPS. PROVIDE DETAILS OF THE TEMPLATES IN THE ACIP SHOP DRAWINGS. REMOVE THE TEMPLATE COMPLETELY FROM THE TOP OF THE ACIP PRIOR TO SUPERSTRUCTURE CONSTRUCTION.
10. WHERE THE CLEAR DISTANCE BETWEEN TWO ACIP IS LESS THAN THE ACIP DIAMETER OF THE LARGER ACIP, WAIT AT LEAST 48 HOURS AFTER CASTING THE FIRST ACIP BEFORE DRILLING THE SECOND ACIP.
11. THE ACIP LENGTH AND CAPACITY SHALL BE VALIDATED BY LOAD TESTS AS SPECIFIED IN THE GEOTECHNICAL REPORT AND VERIFIED BY THE PROJECT'S GER IN THE FIELD.
12. UNLESS NOTED OTHERWISE BY THE OWNER OR ARCHITECT, THE GENERAL CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER OR OTHER AUTHORIZED INSPECTOR DURING EARTHWORK OPERATIONS, AND KEEP A COMPETENT TRAINED TECHNICIAN ASSIGNED TO THE PROJECT ON SITE DURING OPERATIONS.

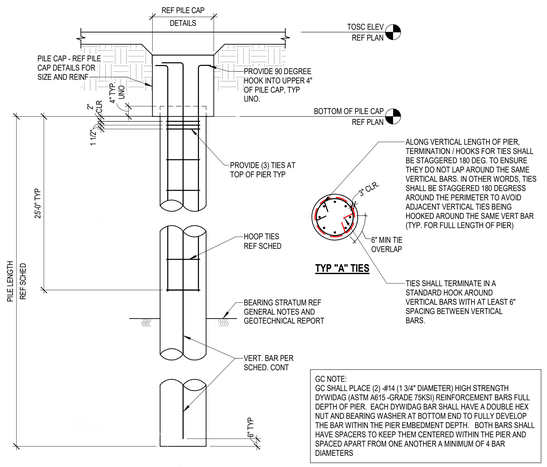
    SERVICES PROVIDED SHALL INCLUDE:

    A. OBSERVING THE BOTTOM OF SHAFT FOR CLEANLINESS.

    B. PROPER BEARING MATERIAL SHALL BE VERIFIED BEFORE CONCRETE POURING OCCURS. THE TOP ELEVATION OF PIERS IS SHOWN ON THE DRAWINGS. THE ACTUAL BEARING ELEVATION MAY VARY AS REQUIRED TO PROVIDE PROPER CAPACITY AS DETERMINED BY THE GEOTECHNICAL ENGINEER OF RECORD.

    C. CHECKING SHAFT FOR CONFORMANCE TO REQUIRED TOLERANCES. FOOTINGS SHALL BE WITHIN 3" OF THEIR REQUIRED LOCATIONS AND SHAFTS SHALL NOT BE OUT OF PLUMB BY MORE THAN 2 PERCENT OF THE SHAFT LENGTH. CHECK THAT THE BELL IS CONCENTRIC WITH THE SHAFT.

13. ENSURE THAT ALL SPOILS FROM THE DRILLED PIER EXCAVATIONS ARE REMOVED FROM THE BUILDING PAD AND THAT THE PAD IS MOISTURE CONDITIONED AND RECOMPACTED AS SPECIFIED.
14. ESTABLISH TOP OF PILES AT ELEVATIONS SHOWN ON PLANS. IF FIELD CONDITIONS REQUIRE CHANGES TO REACH THE DESIRED STRATUM, ADJUSTMENTS TO CONTRACT ARE TO BE MADE ON A UNIT PRICE BASIS. CONTRACTOR SHALL PROVIDE UNIT PRICE ADD AND DEDUCT FOR EACH PIER SIZE ON THE PROJECT.
15. PIER CONSTRUCTION AND CONCRETING SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND AS PER THE LATEST VERSION OF ACI 336 AND TxDOT SPECIFICATION ITEM 416. DRILLED HOLES ARE TO BE EXCAVATED, CLEANED, REINFORCED, AND FILLED WITH CONCRETE DURING THE SAME DAY. NO HOLE IS TO BE LEFT OPEN OVERNIGHT. PUMP ANY ACCUMULATED WATER FROM THE PIER HOLES PRIOR TO CONCRETE PLACEMENT. REFER TO THE GEOTECHNICAL REPORT FOR CASING REQUIREMENTS.
16. REINFORCING CAGE SHALL BE HELD SECURELY AWAY FROM EARTH AT SIDES AND BOTTOM BY SETS OF 3 OR MORE SPACERS AT A MAXIMUM SPACING OF 5 FEET ALONG THE LENGTH OF THE CAGE AND 1 FOOT FROM THE BOTTOM.
17. THE CONTRACTOR SHALL VERIFY DEPTHS OF PIERS BEFORE PIER STEEL IS CUT. PIER STEEL MAY BE DELIVERED TO THE JOBSITE IN STANDARD LENGTHS OF 40 OR 60 FEET AND CUT AS REQUIRED. PROVIDE CLASS B TENSION LAP SPLICE OR MECHANICAL COUPLERS FOR #10 REBAR OR SMALLER. MECHANICAL COUPLERS SHALL BE USED FOR #11 REBAR AND LARGER.
18. WHERE THE CLEAR DISTANCE BETWEEN TWO PIERS IS LESS THAN THE PIER DIAMETER OF THE LARGER PIER, WAIT AT LEAST 48 HOURS AFTER CASTING THE FIRST PIER BEFORE DRILLING THE SECOND PIER.
19. CONTRACTOR SHALL PROVIDE IN HIS BID A UNIT PRICE ADD AND UNIT PRICE DEDUCT FOR EACH PIER SIZE UTILIZED ON THE PROJECT.



GC NOTE:
GC SHALL PLACE (2) -#14 (1 3/4" DIAMETER) HIGH STRENGTH DYWIDAG (ASTM A615 -GRADE 75KSI) REINFORCEMENT BARS FULL DEPTH OF PIER. EACH DYWIDAG BAR SHALL HAVE A DOUBLE HEX NUT AND BEARING WASHER AT BOTTOM END TO FULLY DEVELOP THE BAR WITHIN THE PIER EMBEDMENT DEPTH. BOTH BARS SHALL HAVE SPACERS TO KEEP THEM CENTERED WITHIN THE PIER AND SPACED APART FROM ONE ANOTHER A MINIMUM OF 4 BAR DIAMETERS

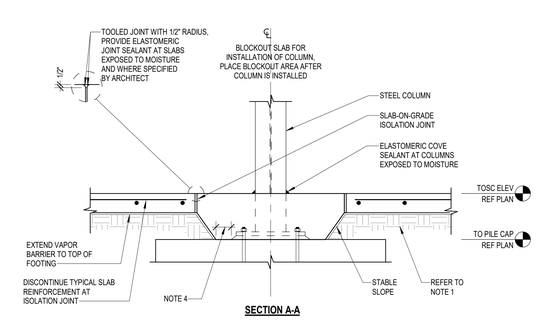
AUGER CAST IN PLACE PILE SCHEDULE

PILE/ PILE GROUP MARK	NUMBER OF PILES	PILE DIA. (D)	PILE LENGTH	PILE CAGE VERT. REINF.	PILE CENTER BAR	PILE TIES	ALLOWABLE PILE CAPACITY (COMPRESSION) (KIPS)	ALLOWABLE PILE CAPACITY (TENSION) (KIPS)
PC1	1	18"	46'-0"	(6)-#6	(2)-#14	#4 AT 12" OC	122	113
PC2	2	24"	46'-0"	(8)-#7	(2)-#14	#4 AT 12" OC	173	157
PC3	3	30"	46'-0"	(8)-#8	(2)-#14	#4 AT 12" OC	228	203
PC4	4	36"	46'-0"	(10)-#9	(2)-#14	#4 AT 12" OC	287	251

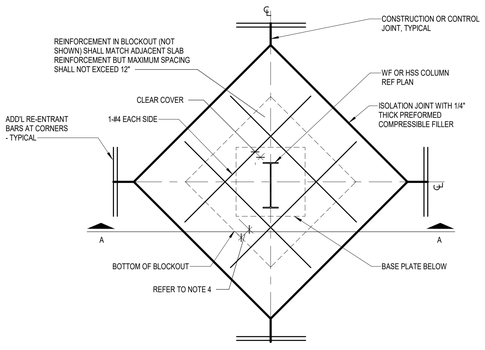
NOTES:

1. SPLICE VERTICAL REINFORCING IN GRAVITY PILES WITH CLASS B TENSION LAP SPLICE OR MECHANICAL COUPLERS FOR #10 REBAR OR SMALLER. MECHANICAL COUPLERS SHALL BE USED FOR #11 REBAR AND LARGER. ADDITIONALLY, MECHANICAL COUPLERS SHALL BE USED FOR PILES AT BRACES OR MOMENT FRAMES. NO MORE THAN 50% OF THE BARS SHALL BE LAP SPLICED AT ONE LOCATION.
2. AUGER CAST PILES SHALL BE INSTALLED BY A SPECIALTY CONTRACTOR EXPERIENCED IN THIS FOUNDATION TYPE. ALL EQUIPMENT MUST BE IN EXCELLENT WORKING CONDITIONS. STRUCTURAL ENGINEER TO PRE APPROVE GROUT MIX AND PUMP (SEE SPECIFICATIONS FOR GROUT MIX INFORMATION).
3. MAINTAIN A PRESSURE HEAD ON GROUT OF 10 FEET ABOVE THE WATER LEVEL OR INJECTION POINT, WHICHEVER IS HIGHER. RATE OF AUGER WITHDRAWAL SHALL BE 10 FEET PER MINUTE OR LESS. THE TOTAL VOLUME OF INSTALLED GROUT AT EACH PILE SHALL BE ATLEAST 115% OF THE THEORETICAL CALCULATED PILE VOLUME. IF GROUTING IS INTERRUPTED, REDRILL 5 FEET BELOW THE INTERRUPTION POINT AND RE-GROUT CONTINUOUS TO THE CUT OFF POINT. IF LESS THAN 115% OF THE THEORETICAL CALCULATED PILE VOLUMNE GROUT IS PLACED IN ANY 5 FOOT INCREMENT, REDRILL THE PILE TO 10 FEET AND RE-GROUT THE PILE UP TO THE CUT OFF POINT. ADJACENT PILES WITHIN 6 FEET SHALL BE INSTALLED A MINIMUM OF 24 HOURS AFTER PREVIOUS PILE INSTALLATION.
4. ALL PILE INSTALLATIONS CHALL BE LOGGED AND MONITORED BY A QUALIFIED INSPECTOR OF THE OWNER'S GEOTECHNICAL ENGINEER, INCLUDING THE FOLLOWING:
   A. TYPE OF MATERIAL AUGURED AND PILE DEPTH.
   B. PRESSURE AND GROUT VOLUME (YIELD).
   C. GROUT SAMPLES FOR TESTING.
   D. AUGER WITHDRAWAL RATE.
   E. REINFORCING STEEL PLACEMENT MONITORING.

1 TYPICAL AUGER CAST PILE DETAIL
NO SCALE



SECTION A-A

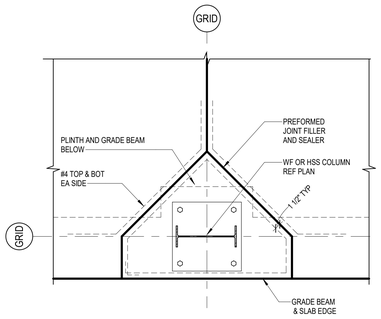


PLAN

NOTES:

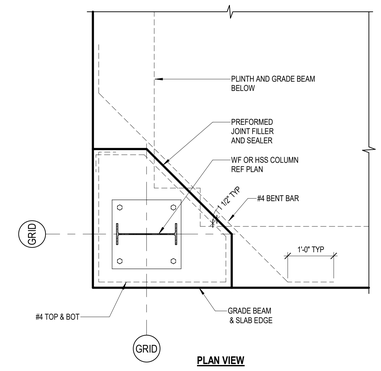
1. REFER TO "TYPICAL SLAB-ON-GRADE SUBGRADE PREPARATION" FOR SUBGRADE PREPARATION REQUIREMENTS INCLUDING LOCATION OF VAPOR BARRIER RELATIVE TO SLAB AND GRANULAR BASE AND WHETHER FINE-GRADE GRANULAR MATERIAL IS REQUIRED.
2. REFER TO "TYPICAL CONSTRUCTION AND CONTROL JOINTS - SLAB-ON-GRADE" FOR CONSTRUCTION AND CONTROL JOINT REQUIREMENTS.
3. CONTRACTOR TO COORDINATE REQUIRED SIZE OF BLOCKOUT FOR STRUCTURAL STEEL COLUMNS WITH STEEL ERECTOR. SUBMIT THE DESIRED BLOCKOUT SIZE TO ARCHITECT FOR APPROVAL.
4. BLOCKOUT SHALL BE SIZED TO PROVIDE 3" MINIMUM CONCRETE COVER ALL AROUND COLUMN AND BASE PLATE.
5. THE BLOCKOUT SHALL BE KEYWAYED WITH RE-ENTRANT BARS.

2 TYPICAL SLAB-ON-GRADE INTERIOR BLOCKOUT DETAIL
NO SCALE



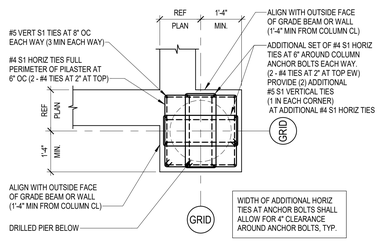
PLAN VIEW

3 TYPICAL SLAB-ON-GRADE PERIMETER BLOCKOUT DETAIL
NO SCALE

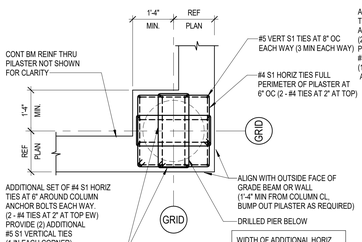


PLAN VIEW

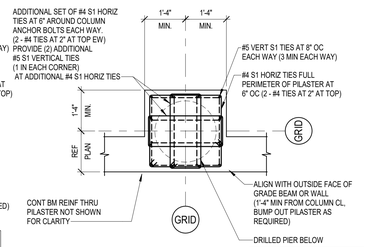
4 TYPICAL SLAB-ON-GRADE CORNER BLOCKOUT DETAIL
NO SCALE



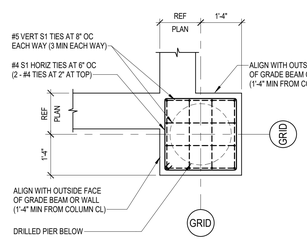
>4'-6" WIDE PLAN VIEW



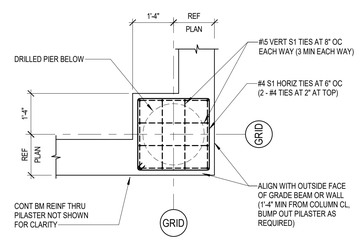
>4'-6" WIDE PLAN VIEW



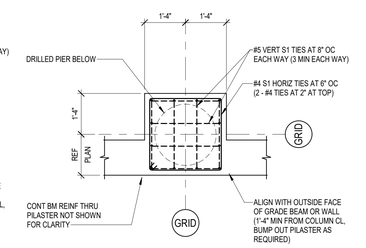
>4'-6" WIDE PLAN VIEW



INSIDE CORNER PILASTER



OUTSIDE CORNER PILASTER



INTERIOR PILASTER

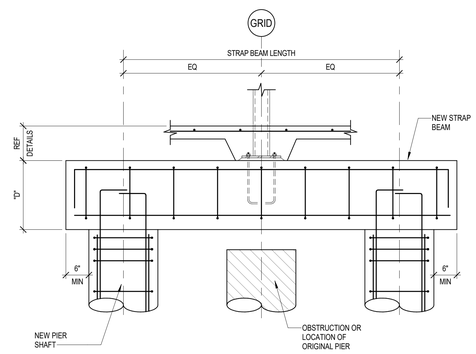
5 TYPICAL PILASTER DETAILS AT PIERS
NO SCALE

NOTE:

1. THIS DETAIL SHALL BE USED AT BUILDING SITES WHERE EXISTING UTILITIES, FOUNDATIONS OR OBSTRUCTIONS ARE ENCOUNTERED DURING THE PIER INSTALLATIONS. THE ORIGINAL SINGLE PIER SHALL BE REPLACED WITH TWO NEW PIERS AND A NEW STRAP BEAM SHALL BE ADDED AS SHOWN. ANY UTILITY LINES THAT ARE ENCOUNTERED SHALL BE COVERED WITH CONCRETE.

STRAP BEAM SCHEDULE

ORIGINAL BELL DIAM (IN)	DBL PIER BELL SIZE (IN)	DBL PIER SHAFT SIZE (IN)	STRAP BEAM LENGTH	STRAP BEAM (W X D)	STRAP BEAM REINFORCING
24, 36	30	16	5'-0"	14"x24"	(2)-#7 T&B #3 @ 10"
42, 48	36	18	6'-0"	14"x24"	(3)-#6 T&B #3 @ 10"
54, 60	48	24	8'-0"	16"x24"	(2)-#6 TOP (4)-#7 BOTT #3 @ 10"
66, 72	54	28	9'-0"	20"x24"	(3)-#7 TOP (5)-#8 BOTT #3 @ 9"
78, 84	60	30	10'-0"	24"x24"	(3)-#7 TOP (6)-#9 BOTT #4 @ 9"



6 STRAP BEAM DETAIL AT CONSTRUCTION
NO SCALE

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ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: Checker

DRAWN BY: Author

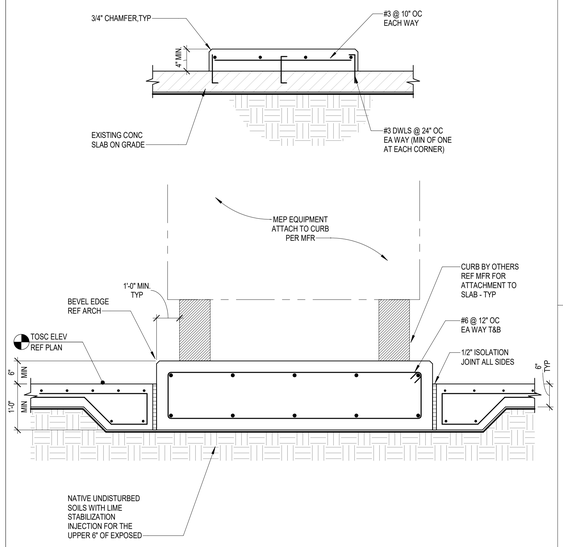
GENERAL FOUNDATION NOTES AND TYP DETAILS

S-304

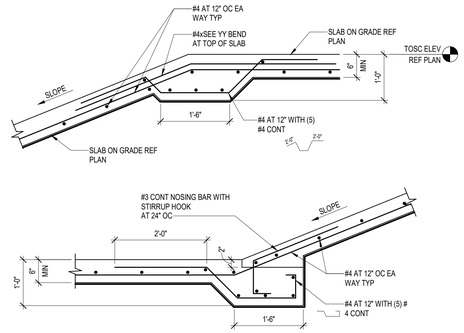
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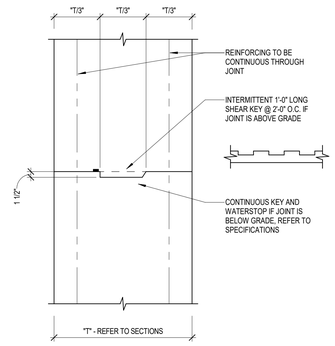
1. GENERAL CONTRACTOR TO COORDINATE WITH THE MECHANICAL DRAWINGS AND SPECIFICATIONS TO DETERMINE LOCATIONS OF HOUSEKEEPING PADS, AND TO PROVIDE WHERE REQUIRED, IF NONE ARE SHOWN ON THE STRUCTURAL DRAWINGS.
2. COORDINATE ALL PAD DIMENSIONS, AND VERIFY ADEQUACY WITH THE MECHANICAL ENGINEER AND THE EQUIPMENT REQUIREMENTS.
3. EQUIPMENT SKIDS/ATTACHMENT TO FOUNDATION SHALL BE DEFERRED SUBMITTAL SIGNED BY REGISTERED P.E. RESPONSIBLE FOR THEIR DESIGN.



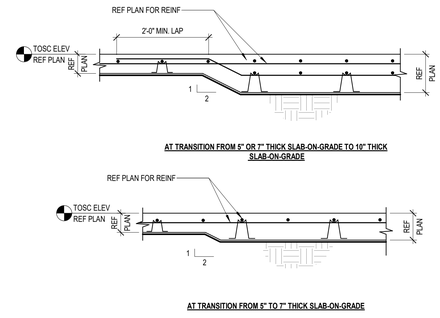
1 TYPICAL CONCRETE HOUSEKEEPING PAD DETAIL
NO SCALE



2 SLAB-ON-GRADE SLOPE REINF
NO SCALE



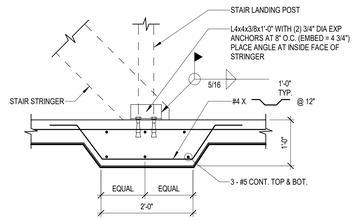
3 TYP HORIZONTAL CONSTRUCTION JOINT IN BEAMS AND WALLS OR VERTICAL CONSTRUCTION JOINT IN WALLS
NO SCALE



4 TYPICAL CHANGE IN SLAB THICKNESS
NO SCALE

NOTE:

1. CONTRACTOR TO COORDINATE LOCATIONS OF STIFFENER BEAMS TO ALIGN WITH LOCATIONS OF STAIR STRINGERS & LANDING POSTS. COORDINATE WITH STAIR MANUFACTURER AS REQUIRED.



5 TYPICAL SLAB STIFFENER UNDER STAIR STRINGER
NO SCALE

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
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106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

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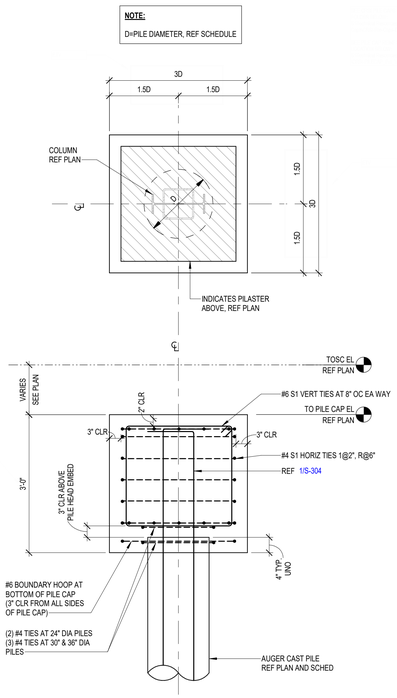
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GENERAL FOUNDATION NOTES AND TYP DETAILS

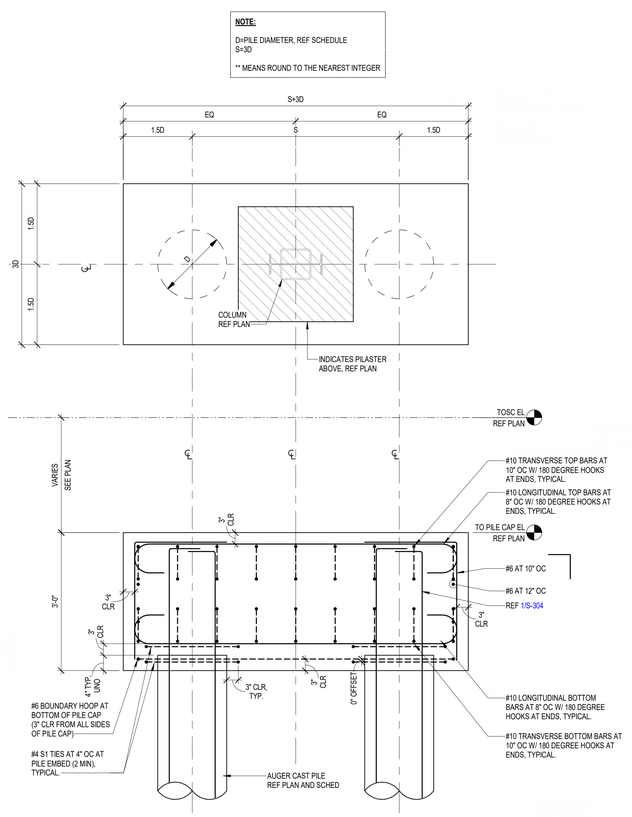
S-305

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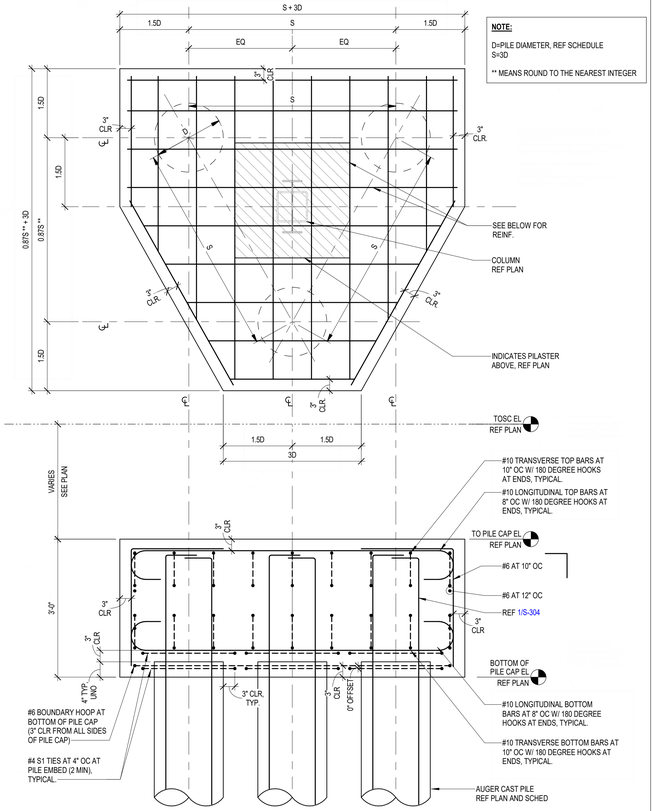
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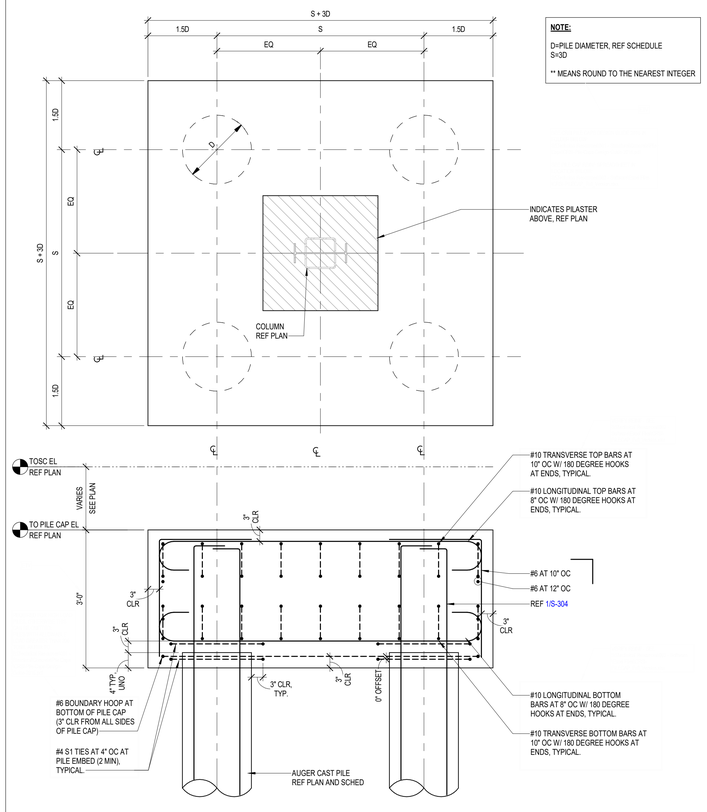
1 SINGLE PILE CAP DETAIL (PC1)
NO SCALE



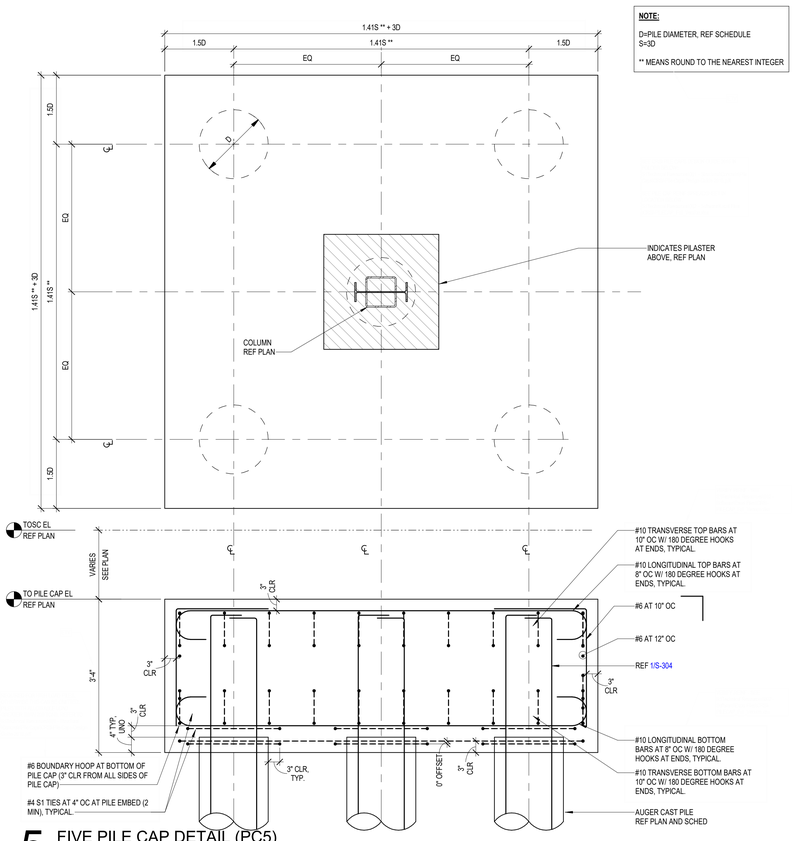
2 DOUBLE PILE CAP DETAIL (PC2)
NO SCALE



3 TRIPLE PILE CAP DETAIL (PC3)
NO SCALE



4 FOUR PILE CAP DETAIL (PC4)
NO SCALE



5 FIVE PILE CAP DETAIL (PC5)
NO SCALE

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KEY PLAN

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STATE OF TEXAS
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106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

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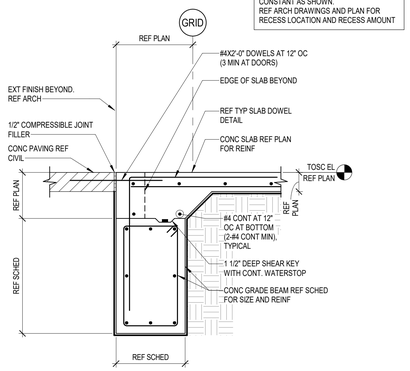
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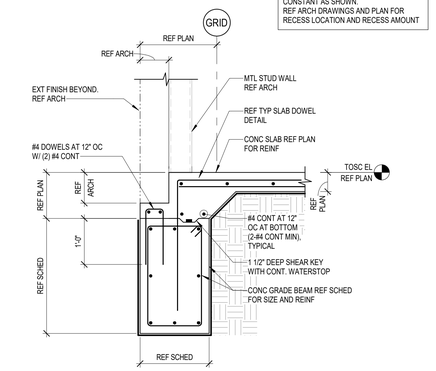
AUGER CAST PILE DETAILS

S-306

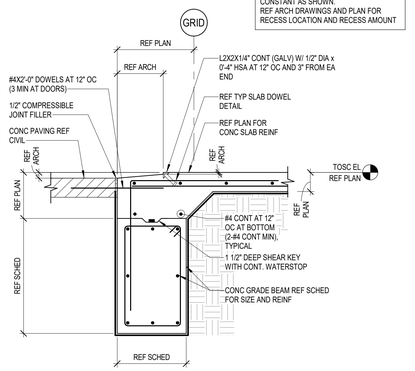
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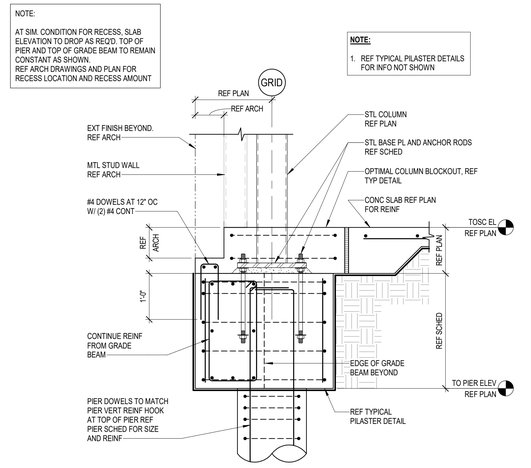
1 EXTERIOR GRADE BEAM AT DOOR
3/4" = 1'-0"



2 EXTERIOR GRADE BEAM AT LEDGE
3/4" = 1'-0"



3 EXTERIOR GRADE BEAM AT OVERHEAD DOOR
3/4" = 1'-0"



4 EXTERIOR PILASTER AT COLUMN
3/4" = 1'-0"

5 INTERIOR GRADE BEAM AT GLAZING
3/4" = 1'-0"

6 INTERIOR GRADE BEAM AT PIER
3/4" = 1'-0"

7 INTERIOR COLUMN AT PILASTER
3/4" = 1'-0"

8 INTERIOR COLUMN AT PILASTER
3/4" = 1'-0"

9 EXTERIOR GRADE BEAM
3/4" = 1'-0"

10 EXTERIOR GRADE BEAM AT GLAZING
3/4" = 1'-0"

11 EXTERIOR PILASTER AT COLUMN
3/4" = 1'-0"

12 EXTERIOR COLUMN AT PILASTER W/GLAZING
3/4" = 1'-0"

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KEY PLAN

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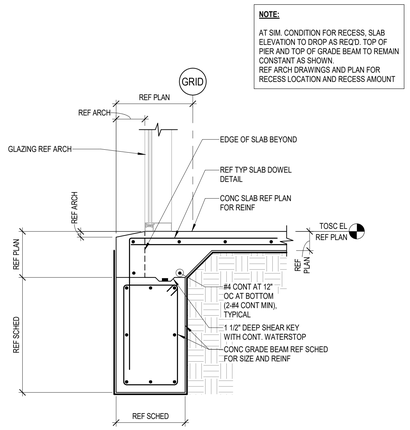
CHECKED BY: SI

DRAWN BY: JJ

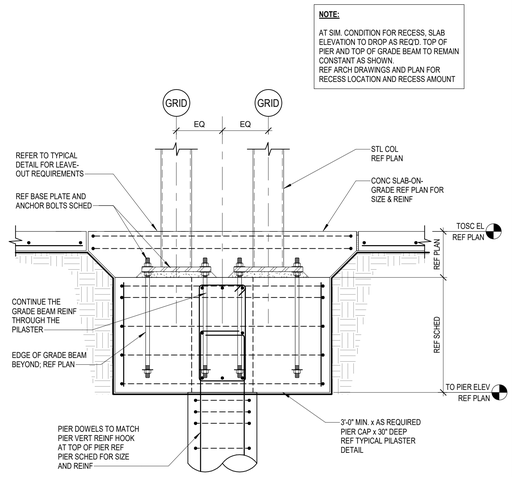
FOUNDATION DETAILS

S-310

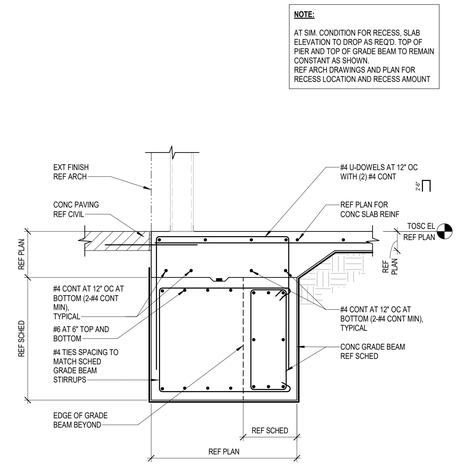
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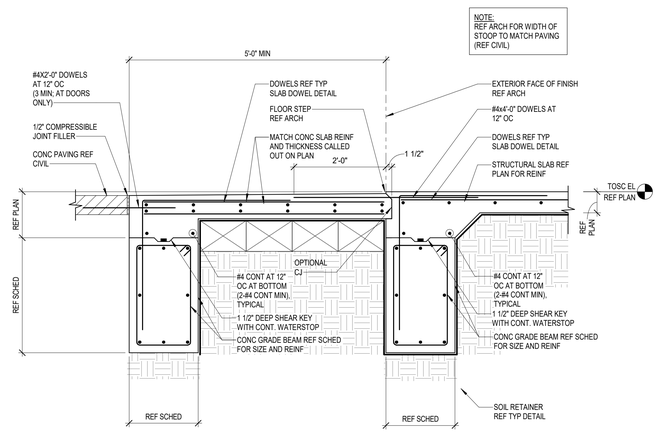
1 EXTERIOR GRADE BEAM AT STOREFRONT
3/4" = 1'-0"



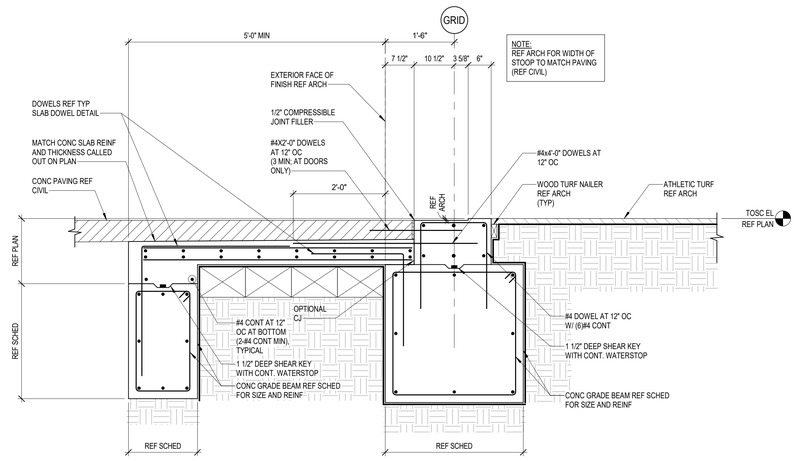
2 DOUBLE COLUMNS W/ONE PIER
3/4" = 1'-0"



3 EXTERIOR WIDENED GRADE BEAM
3/4" = 1'-0"



5 TYPICAL CONC SLAB-ON-GRADE STOOP AT EXTERIOR DOORS
3/4" = 1'-0"



6 TYPICAL CONC SLAB-ON-GRADE STOOP AT EXTERIOR DOORS
3/4" = 1'-0"

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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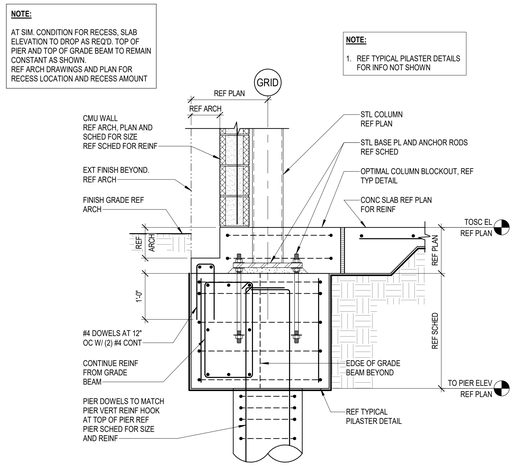
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FOUNDATION DETAILS

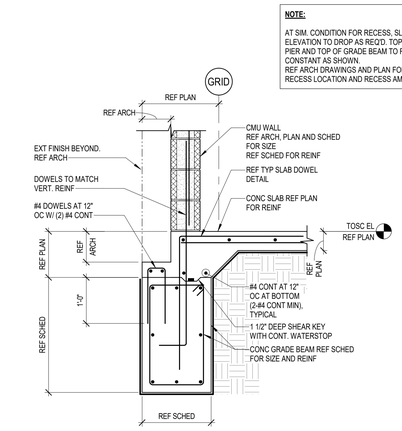
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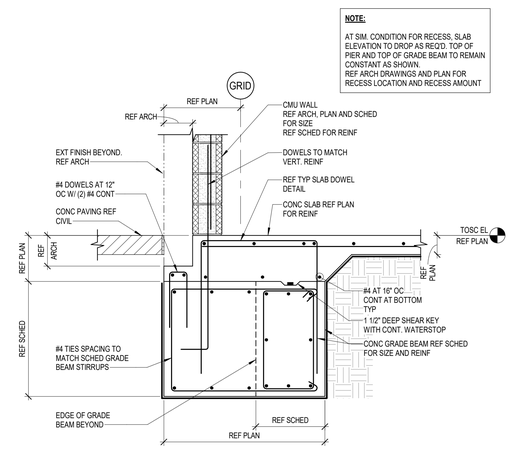
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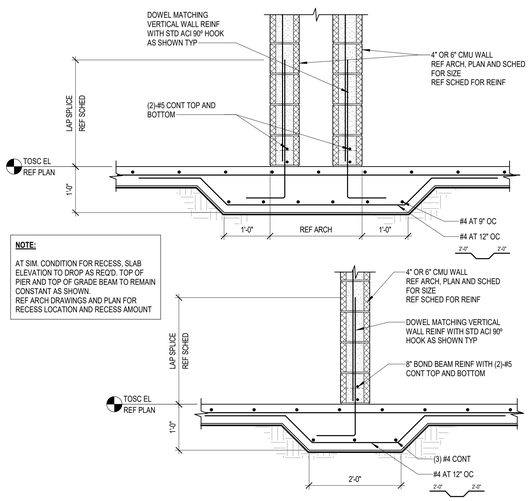
1 EXTERIOR PILASTER AT COLUMN
3/4" = 1'-0"



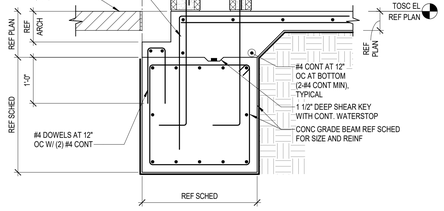
2 EXTERIOR GRADE BEAM AT CMU WALL
3/4" = 1'-0"



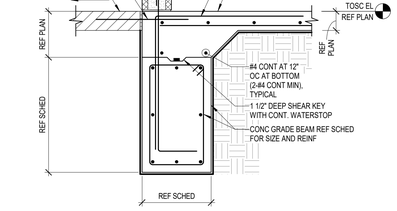
3 EXTERIOR WIDENED GRADE BEAM
3/4" = 1'-0"



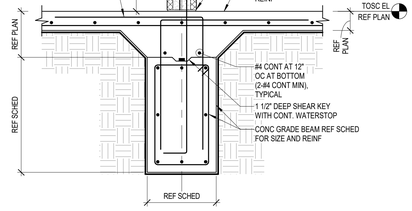
4 TYPICAL INTERIOR CMU ON SLAB-ON-GRADE
3/4" = 1'-0"



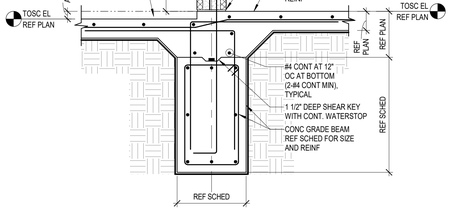
5 EXTERIOR GRADE BEAM AT DOUBLE CMU WALLS
3/4" = 1'-0"



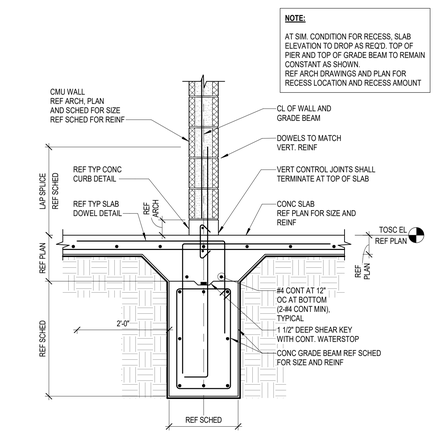
6 EXTERIOR GRADE BEAM
3/4" = 1'-0"



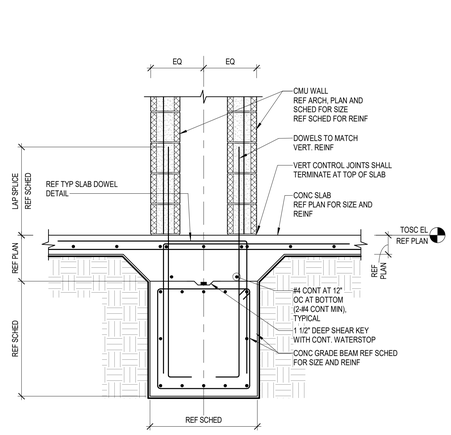
7 INTERIOR CMU WALL AT INTERIOR GRADE BEAM
3/4" = 1'-0"



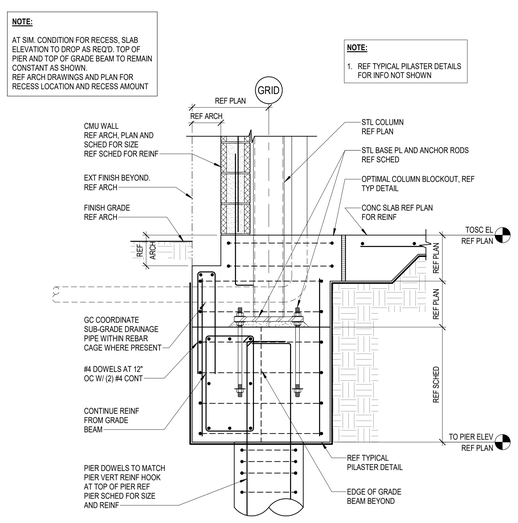
8 INTERIOR CMU WALL AT INTERIOR GRADE BEAM W/RECESS
3/4" = 1'-0"



9 INTERIOR CMU WALL AT INTERIOR GRADE BEAM W/CONC CURB
3/4" = 1'-0"



10 INTERIOR GRADE BEAM AT DOUBLE CMU WALLS
3/4" = 1'-0"



11 EXTERIOR DROPPED PILASTER AT COLUMN FOR ROOF DRAIN
3/4" = 1'-0"

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

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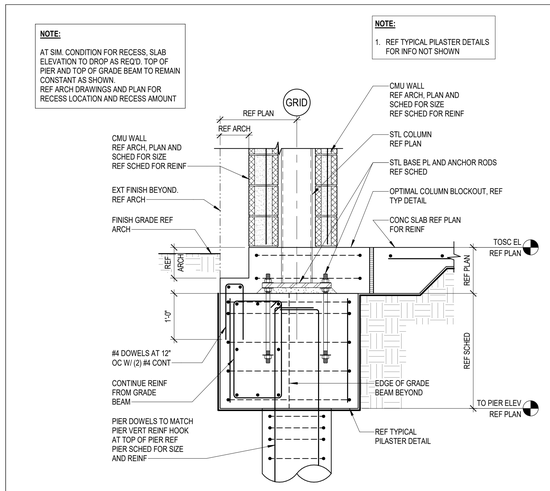
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DRAWN BY: JJ

FOUNDATION DETAILS (CMU)

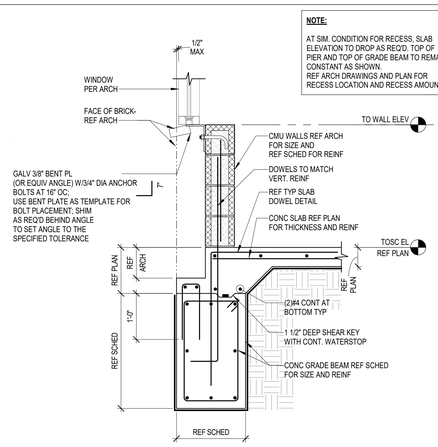
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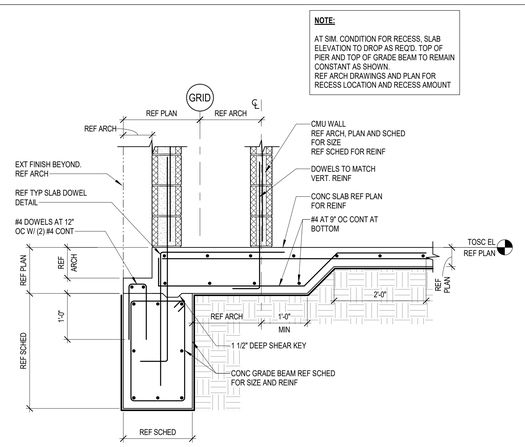
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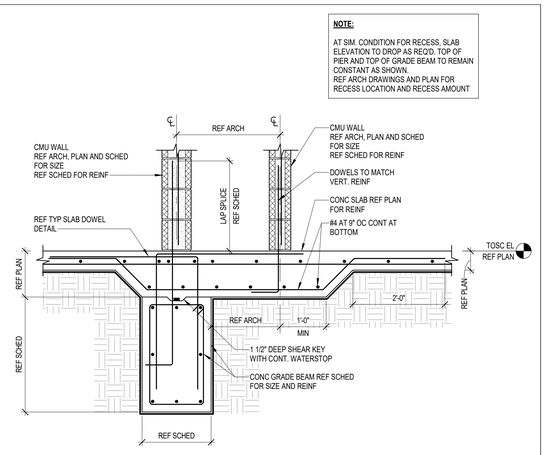
1 EXTERIOR COLUMN AT PILASTER
3/4" = 1'-0"



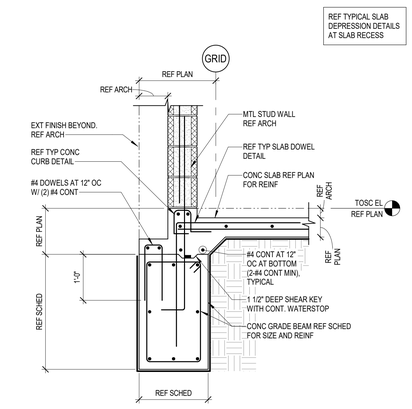
2 CMU AT WINDOW
3/4" = 1'-0"



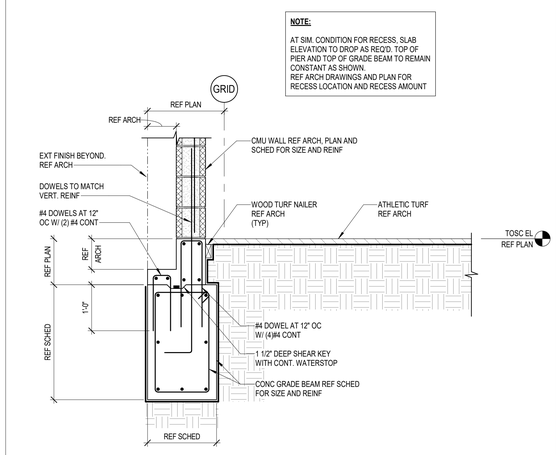
3 EXTERIOR GRADE BEAM AND THICKENED SLAB AT DOUBLE CMU WALLS
3/4" = 1'-0"



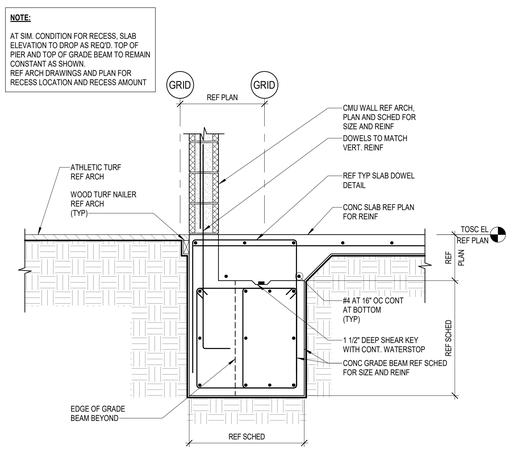
4 INTERIOR GRADE BEAM AND THICKENED SLAB AT DOUBLE CMU WALLS
3/4" = 1'-0"



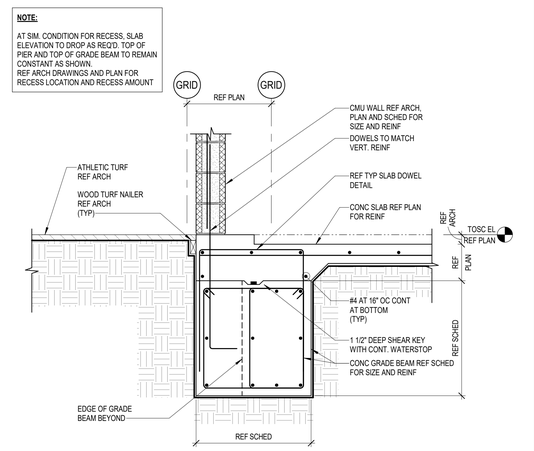
5 EXTERIOR GRADE BEAM AT SLAB DEPRESSION
3/4" = 1'-0"



6 EXTERIOR GRADE BEAM AT CMU WALL (PEMB)
3/4" = 1'-0"



7 FOUNDATION DETAIL AT MAC AND FIELDHOUSE
3/4" = 1'-0"



8 FOUNDATION DETAIL AT MAC AND FIELDHOUSE
3/4" = 1'-0"

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106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
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F-23612

CLIENT	
DATE: 10/30/2026	PROJECT NUMBER: 25046901

DRAWING HISTORY

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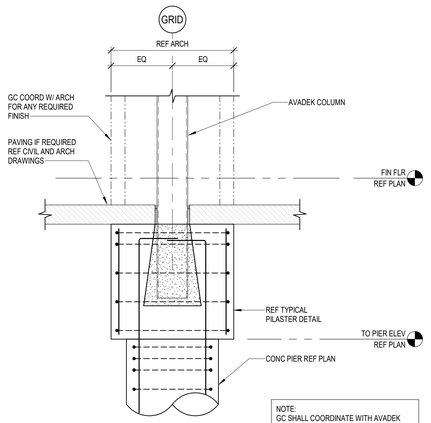
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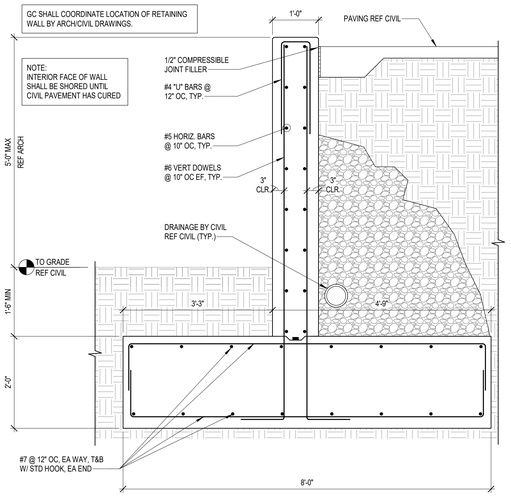
FOUNDATION DETAILS (CMU)

S-313

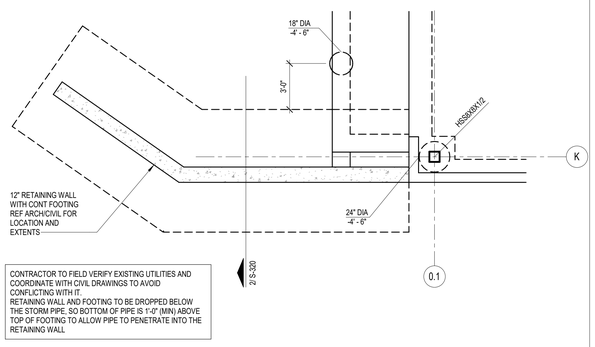
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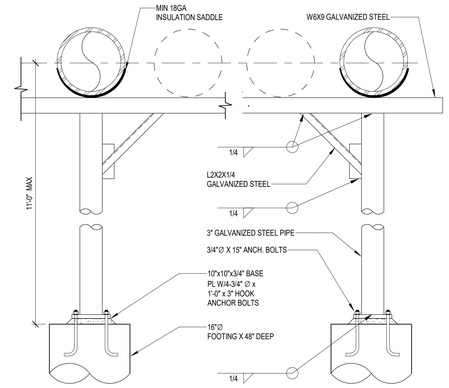
1 TYP AVADEK CANOPY COLUMN DETAIL
3/4" = 1'-0"



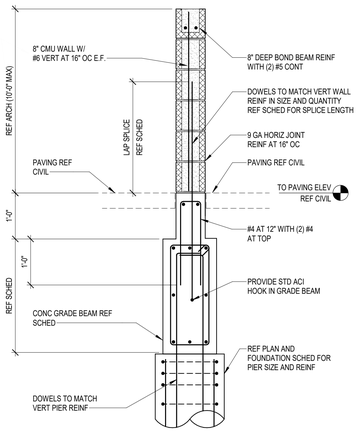
2 RETAINING WALL SECTION
3/4" = 1'-0"



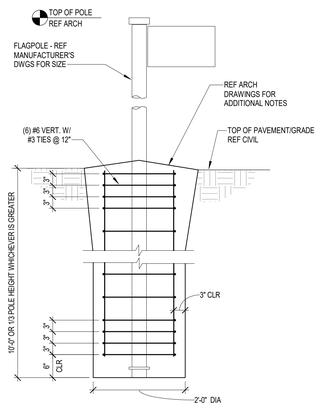
2.5 RETAINING WALL - AREA B2
1/4" = 1'-0"



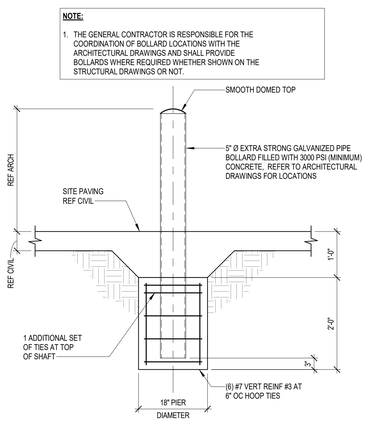
3 DOUBLE PIPE STANCHION PIPE SUPPORT DETAIL
NO SCALE



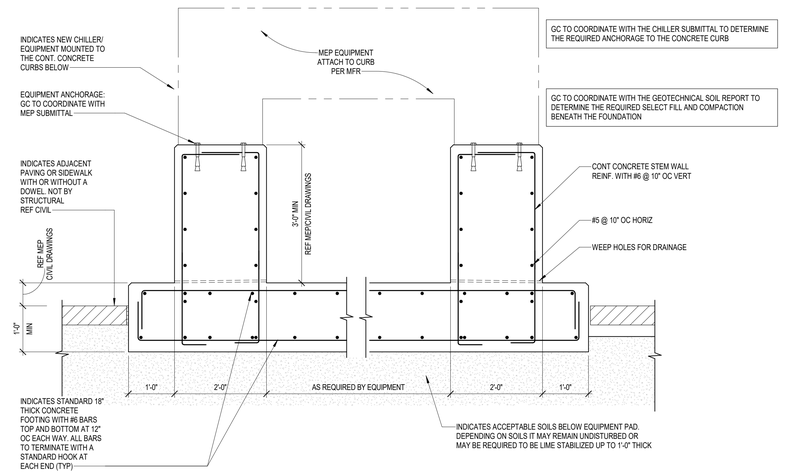
4 SCREEN WALL AT MECH YARD
3/4" = 1'-0"



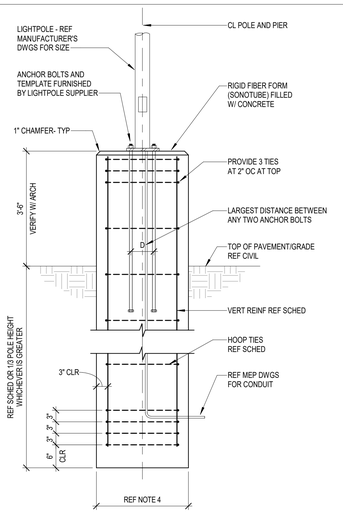
5 FLAGPOLE FOOTING DETAIL
NO SCALE



6 BOLLARD DETAIL
NO SCALE



7 CHILLER SUPPORT
3/4" = 1'-0"



8 LIGHTPOLE FOOTING DETAIL
NO SCALE

LIGHT POLE BASE SCHEDULE

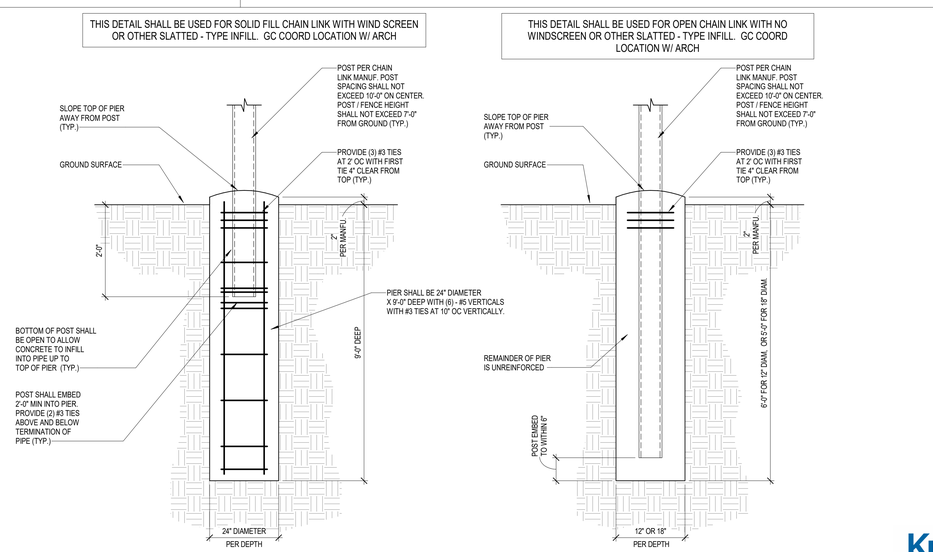
MAX POLE HT	MIN PIER DIAMETER	MIN DEPTH	VERT REINF	HOOP TIES	NOTES
18'-0" TO 24'-0"	18"	12'-0"	(6) #6	#3 AT 12" OC	1,2
25'-0" TO 30'-0"	24"	12'-0"	(6) #6	#3 AT 12" OC	1,2

NOTE(S):

1. CONTRACTOR SHALL PROVIDE AN ALLOWANCE FOR PIER CASINGS ON A PER LINEAR FOOT BASIS AS PER DIVISION 1 OF THE PROJECT SPECIFICATIONS. ALSO REFER TO THE GEOTECHNICAL REPORT FOR PIER CASING REQUIREMENTS.
2. SPLICE VERTICAL REINFORCING IN PIERS WITH CLASS B TENSION LAP SPLICE.
3. OPTIONAL CONSTRUCTION JOINT IS ACCEPTABLE. DO NOT SPLICE VERTICAL REINFORCING ABOVE JOINT.
4. FOUNDATION DETAIL IS BASED ON A MAXIMUM FIXTURE EPA OF 1.2

NOTES:

1. ANCHOR BOLTS TO BE A307 GALVANIZED BOLTS WITH GALVANIZED NUTS. CONCRETE TO HAVE A 28 DAY STRENGTH OF 3000 PSI.
2. CONTRACTOR SHALL PROVIDE AN ALLOWANCE FOR PIER CASINGS ON A PER LINEAR FOOT BASIS AS PER DIVISION 1 OF THE PROJECT SPECIFICATIONS. ALSO REFER TO THE GEOTECHNICAL REPORT FOR PIER CASING REQUIREMENTS.
3. REF MEP DRAWINGS FOR EMBEDDED CONDUIT, WIRES, ETC.
4. MIN PIER DIAMETER SHALL BE THE GREATER OF D PLUS 9" OR THE MIN PIER DIAMETER IN THE SCHEDULE.



9 CHAIN LINK FENCE POST DETAIL
NO SCALE

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DRAWING HISTORY

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CHECKED BY: SI

DRAWN BY: JJ

SITE ITEMS FOUNDATION SECTIONS AND DETAILS

S-320

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MASONRY:

1. MASONRY TESTING SHALL CONSIST OF A QUALIFIED TESTING LABORATORY PROVIDING THE FOLLOWING SERVICES:

   A. OBSERVE THE INSTALLATION OF MASONRY UNITS.

   B. VERIFY THE QUANTITY, SIZE AND THE SPACING OF THE REQUIRED REINFORCING THAT IS SHOWN ON THE DRAWINGS.

   C. INSPECT THE GROUT SPACE PRIOR TO THE CLOSING OF CLEANOUTS AND ALL GROUTING OPERATIONS. VERIFY THAT THE SPECIFIED CELLS ARE FULLY GROUTED AS NOTED.

   D. MONITOR THE PROPORTIONING, MIXING AND CONSISTENCY OF MORTAR AND GROUT. PROVIDE 28 DAY COMPRESSIVE STRENGTH TESTS ON EACH GROUT MIX IN ACCORDANCE WITH ASTM C1019. PROVIDE COMPRESSION TESTS ON MASONRY PRISMS FOR EACH TYPE OF WALL CONSTRUCTION, IN ACCORDANCE WITH ASTM C1314. CONTRACTOR SHALL PREPARE ONE SET FOR TESTING AT 28 DAYS. TESTS ARE TO BE CONDUCTED FOR EACH 2000 SQUARE FEET OF WALL INSTALLED, BUT NOT LESS THAN TWO TESTS.

MASONRY NOTES:

MATERIALS:

1. ALL CONCRETE MASONRY UNITS (CMU) SHALL SHALL CONFORM TO ASTM C90, TYPE 1, GRADE N, AND THE QUALITY CONTROL STANDARDS OF THE NATIONAL CONCRETE MASONRY ASSOCIATION.
2. ALL CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT (105 TO LESS THAN 125 PCF, OVEN DRY UNIT DENSITY).
3. ALL MASONRY UNITS SHALL HAVE A MAXIMUM LINEAR SHRINKAGE OF .06 OF 1% FROM THE SATURATED TO THE OVEN DRY CONDITION, WHEN TESTED WITH THE METHODS SET FORTH IN THE QUALITY CONTROL STANDARDS OF THE NATIONAL CONCRETE MASONRY ASSOCIATION.
4. MASONRY UNITS SHALL HAVE CURED FOR NOT LESS THAN 28 DAYS WHEN PLACED IN THE STRUCTURE.

COMPRESSIVE STRENGTHS:

1. THE MINIMUM COMPRESSIVE STRENGTH OF MASONRY (f'm) SHALL BE 2000 PSI AS DETERMINED BY THE UNIT STRENGTH METHOD OR BY THE PRISM TEST METHOD.
2. ALL MASONRY UNITS SHALL HAVE A MINIMUM NET COMPRESSIVE STRENGTH OF 2500 PSI AND A MINIMUM NET TENSILE STRENGTH OF 125 PSI, WHEN TESTED IN ACCORDANCE WITH THE METHODS SET FORTH IN THE QUALITY CONTROL STANDARDS OF THE NATIONAL CONCRETE MASONRY ASSOCIATION.

MORTAR:

1. UNLESS NOTED OTHERWISE, MORTAR SHALL CONFORM TO ASTM C270, TYPE 'S'. MORTAR SHALL BE FRESHLY PREPARED AND UNIFORMLY MIXED IN THE RATIO OF 1 PART PORTLAND CEMENT, 1/4 PART MINIMUM TO 1/2 PART MAXIMUM LIME PUTTY OR HYDRATED LIME, DAMP LOOSE SAND NOT LESS THAN 2-1/4 AND NOT MORE THAN 3 TIMES THE SUM OF THE VOLUMES OF THE CEMENT AND LIME USED.

GROUT:

1. GROUT FOR POURING SHALL BE OF FLUID CONSISTENCY AND MIXED IN THE RATIO BY VOLUMES, 1 PART PORTLAND CEMENT, 2 1/4 PARTS MINIMUM TO 3 PARTS MAXIMUM DAMP LOOSE SAND, 1 PART MINIMUM TO 2 PARTS MAXIMUM PEA GRAVEL, AND 0 TO 1/10 PART MAXIMUM HYDRATED LIME. GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI, WHEN TESTED IN ACCORDANCE WITH ASTM C476.
2. GROUT FOR PUMPING SHALL BE OF FLUID CONSISTENCY AND SHALL HAVE NO LESS THAN 7 SACKS OF CEMENT IN EACH CUBIC YARD OF GROUT. SUBMIT THE MIX FOR APPROVAL.
3. ALL CELLS WITH REINFORCING BARS SHALL BE GROUTED SOLID.
4. ALL CELLS THAT WILL HAVE DRILLED EXPANSION ANCHORS, EMBEDDED HEADED STUDS OR OTHER EMBEDDED ANCHORS MUST BE GROUTED SOLID.

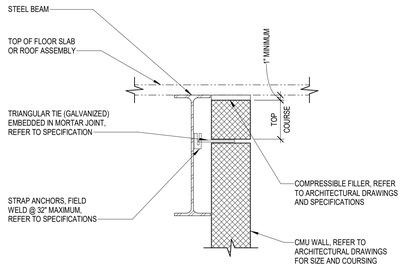
REINFORCEMENT:

1. PROVIDE HORIZONTAL JOINT REINFORCING (TRUSS OR LADDER TYPE, 9 GAGE) AT 16" OC VERTICALLY AT ALL CMU WALLS. PROVIDE PRE-FAB WIRE TIES AT ALL CORNERS AND INTERSECTIONS AT 16" O.C. REINFORCEMENT SHALL CONFORM TO ASTM A82 WITH A MINIMUM YIELD STRENGTH OF 60,000 PSI, AND SHALL BE HOT DIPPED GALVANIZED.
2. OPENINGS IN MASONRY WALLS SHALL HAVE EITHER MASONRY OR STEEL LINTELS AS SHOWN ON THE DRAWINGS. ALL HORIZONTAL REINFORCING IN BOND BEAMS AND LINTEL BLOCKSSHALL BE CONTINUOUS, AND GROUTED SOLID. WHEN NO LINTEL IS DETAILED, A MINIMUM OF (2) #4 BARS IN A LINTEL BLOCK SHALL BE INSTALLED. THE BARS SHALL EXTEND A MINIMUM OF EIGHT INCHES BEYOND THE EDGE OF THE OPENING, AND EACH JAMB SHALL BE GROUTED SOLID FOR A DISTANCE OF EIGHT INCHES WITH (2) #5 VERTICAL MINIMUM. STEEL LINTELS SHALL BEAR 8" MINIMUM AT EACH END. PROVIDE VERTICAL CONTROL JOINTS AT THE ENDS OF ANY STEEL LINTEL, UNLESS 15# FELT OR FLASHING IS PROVIDED AT THE TOP AND BOTTOM OF THE LINTEL ANGLE WHERE THE ANGLE BEARS ON BRICK.
3. LINTEL BLOCKS SHALL BE "U" SHAPED UNITS WITH SOLID BOTTOMS AND ARE TO BE USED OVER WINDOW AND DOOR OPENINGS. BOND BEAM BLOCKS SHALL BE OPEN BOTTOM UNITS AND ARE TO BE USED AT THE TOPS OF WALLS AND AT THE MID-HEIGHT, UNLESS THE WALL HEIGHT EXCEEDS 16 FEET, IN WHICH BOND BEAMS SHALL BE PROVIDED 8'-0" ON CENTER VERTICALLY MAXIMUM, UNLESS SHOWN OTHERWISE ON THE DRAWINGS. PROVIDE (2) #4 BARS IN A SOLID GROUTED BOND BEAM UNLESS NOTED OTHERWISE. LINTEL BLOCKS SHALL NOT BE USED IN PLACE OF BOND BEAM BLOCKS.
4. ALL MASONRY TIES TO BACKUP STRUCTURE SHALL BE HOT DIP GALVANIZED. UNLESS OTHERWISE NOTED ON THE DRAWINGS, PROVIDE HECKMANN NO. 315 ANCHOR WITH NO. 316 TRIANGULAR TIE ON COLUMNS AT 16" ON CENTER VERTICALLY AND A HECKMANN NO. 357 ANCHOR ON ALL BEAMS AT 16" ON CENTER HORIZONTALLY. MASONRY TIES TO WALL STUDS SHALL BE HECKMANN NO. 316 TRIANGULAR TIE WITH HECKMANN NO. 315-C SCREW ON ANCHOR STRAP SPACED 16" ON CENTER HORIZONTALLY VERTICALLY. AT WALL CORNERS, INTERSECTIONS AND OPENINGS, PROVIDE TWO VERTICAL ROWS OF ANCHORS SPACED 16" APART AND 16" ON CENTER VERTICALLY. TRIANGULAR TIES SHALL EXTEND 3/4" FROM FACE OF MASONRY. ANCHOR STRAPS SHALL BE ATTACHED TO METAL STUDS WITH TWO (2) #10-16x1 1/2" CADMIUM PLATED SHEET METAL SCREWS.
5. AT FREE VERTICAL EDGES OF WALLS, AND AT THE FIRST CELL EACH SIDE OF CONTROL JOINTS, PROVIDE (1) VERTICAL IN GROUT FILLED END CORES. THE VERTICAL REINFORCING SHALL MATCH TYPICAL VERTICAL WALL REINFORCING UNLESS NOTED OTHERWISE, AND SHALL EXTEND TO THE TOP OF THE WALL.
6. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, PROVIDE A MINIMUM OF #4 VERTICAL BARS AND DOWELS IN FULLY GROUTED CELLS AT 48" O.C.
7. ALL BAR REINFORCING SHALL BE LAPPED AS FOLLOWS:

   #3 LAP SPLICE LENGTH = 19 INCHES
   #4 LAP SPLICE LENGTH = 34 INCHES
   #5 LAP SPLICE LENGTH = 45 INCHES
   #6 LAP SPLICE LENGTH = 54 INCHES
   #7 LAP SPLICE LENGTH = 63 INCHES
   #8 LAP SPLICE LENGTH = 72 INCHES
   #9 LAP SPLICE LENGTH = 82 INCHES
   INCREASE LAP SPLICE LENGTHS BY 50% FOR EPOXY COATED REINFORCING

MISCELLANEOUS:

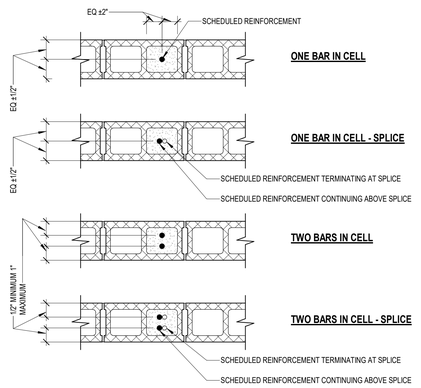
1. ALL MASONRY DESIGN IS BASED ON CHAPTER 21 OF INTERNATIONAL BUILDING CODE, LATEST EDITION AND ACI 530, LATEST EDITION.
2. SEE TYPICAL DETAILS FOR INTERIOR WALL BRACING, AND REINFORCING REQUIREMENTS.
3. UNLESS NOTED OTHERWISE PER PLANS, SPECS OR DETAILS, MASONRY WALLS SHALL HAVE VERTICAL CONTROL JOINTS PER NCMA GUIDELINES TEK 10-2C AS FOLLOWS:
   - AT APPROXIMATELY SIXTEEN FEET ON CENTER
   - CORNERS-AT A MAXIMUM DISTANCE NOT TO EXCEED ONE-HALF THE REQUIRED MAXIMUM DISTANCE
   - BETWEEN MAIN AND INTERSECTING WALLS
   - CHANGES IN WALL HEIGHTS
   - ADJACENT TO LINTELS AND THROUGH OPENINGS IF NOT CROSSING VERTICAL REINFORCEMENT
   - AT PILASTERS AND CHANGES IN WALL THICKNESS
   - ALL JOINT LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECT.
4. UNLESS NOTED OTHERWISE PER PLANS, SPECS OR DETAILS, BRICK VENEER CONTROL JOINTS SHALL BE PER BIA GUIDELINES-TECHNICAL NOTE 18A.
   - WITHOUT OPENINGS, SPACE NO MORE THAN 25 FT
   - WITH MULTIPLE OPENINGS, SPACE NO MORE THAN 20 FT
   - AT OR NEAR CORNERS
   - AT OFFSETS AND SETBACKS
   - AT WALL INTERSECTIONS
   - AT CHANGES IN WALL HEIGHTS
   - AT WALL BACKING SYSTEM CHANGES (CMU TO DRYWALL)
   - AT SUPPORT CHANGES (CONCRETE TO STEEL)
   - AT WALL FUNCTION OR CLIMATIC EXPOSURE CHANGES (INTERIOR TO EXTERIOR)
5. GROUT LIFT LIMITS
   - GROUT POURS SHALL NOT EXCEED 5 FEET PER LIFT WHEN GROUTING THE CELLS OF REINFORCED CMU, UNLESS CLEANOUTS ARE PROVIDED IN THE BOTTOM COURSE OF EACH 5 FOOT SECTION.
   - GROUT POURS SHALL NOT EXCEED 24 FEET WHEN GROUTING THE CELLS OF HOLLOW CMU. WHEN GROUTING THE SPACE BETWEEN MULTI-WYTHE WALLS, THE TOTAL POUR SHALL NOT EXCEED 24 FEET FOR 3" SPACES, 12 FEET FOR 2 1/2" SPACES, AND 5 FEET FOR 2" SPACES.
   - MECHANICALLY VIBRATE ALL LIFTS IN EXCESS OF 1 FOOT.
   - ALL GROUT MUST BE PLACED WITHIN 1 1/2 HOURS FROM INTRODUCING WATER INTO THE MIXTURE.
   - GROUT LIFTS SHALL NOT BE STOPPED WITHIN 1 1/2" OF BED JOINT.
   - ALL CMU WALLS LOCATED ADJACENT TO EARTH FILL MUST BE FULLY GROUTED DIRECTLY ADJACENT TO, AND AT EAST 8" ABOVE, ALL SOIL IN CONTACT WITH THE WALL.



NOTE:

1. THIS DETAIL IS TO BE USED ONLY IF INTERSECTING SUPPORT WALLS EXCEED A SPACING OF 36 TIMES THE NOMINAL WALL THICKNESS. USE OF THIS DETAIL IS LIMITED TO WALL HEIGHTS UP TO 36 TIMES THE NOMINAL WALL THICKNESS.

1 TYPICAL INTERIOR NON-BEARING CMU WALL SIDE CONNECTION
NO SCALE



NOTES:

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

2 TYPICAL CMU VERTICAL BAR PLACEMENT
NO SCALE

BRACE FRAMING (3 5/8" STUDS)				
STUD TYPE	STUD PROPERTIES	SPACING	MAX LENGTH	MISCELLANEOUS
SJ 20 (40 KSI)	Ix = 0.541 IN^4 rx = 1.429 IN A = 0.2136 IN^2 Sx = 0.273 IN^3	4'-0" OC	14'-0"	BRACE @ MID-PT FOR LENGTHS OVER 14'-0"

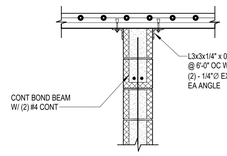
VERTICAL FRAMING (3 5/8" STUDS)				
STUD TYPE	STUD PROPERTIES	SPACING	MAX LENGTH	MISCELLANEOUS
ST 25 (33 KSI)	Ix = 0.239 IN^4 rx = 1.415 IN A = 0.123 IN^2 Sx = 0.113 IN^3	1'-4" OC	16'-9"	ONE LAYER SHEATHING (MIN) *
ST 20 (33 KSI)	Ix = 0.414 IN^4 rx = 1.407 IN A = 0.210 IN^2 Sx = 0.213 IN^3	1'-4" OC	22'-6"	ONE LAYER SHEATHING (MIN) *

*OR PROVIDE 1 1/2x1 1/2x16 GA HORIZONTAL CHANNEL FASTENED TO STUDS WITH 1 1/2x1 1/2x14 GA CLIP AT 4'-0" OC VERTICALLY

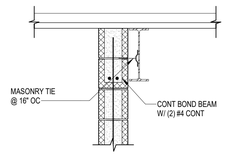
BRACE FRAMING (6" STUDS)				
STUD TYPE	STUD PROPERTIES	SPACING	MAX LENGTH	MISCELLANEOUS
SJ 20 (40 KSI)	Ix = 1.787 IN^4 rx = 2.253 IN A = 0.2148 IN^2 Sx = 0.539 IN^3	4'-0" OC	20'-0"	BRACE @ MID-PT FOR LENGTHS OVER 20'-0"

VERTICAL FRAMING (6" STUDS)				
STUD TYPE	STUD PROPERTIES	SPACING	MAX LENGTH	MISCELLANEOUS
ST 25 (33 KSI)	Ix = 0.773 IN^4 rx = 2.209 IN A = 0.167 IN^2 Sx = 0.184 IN^3	1'-4" OC	20'-0"	ONE LAYER SHEATHING (MIN) *
ST 20 (33 KSI)	Ix = 1.385 IN^4 rx = 2.199 IN A = 0.288 IN^2 Sx = 0.437 IN^3	1'-4" OC	32'-9"	ONE LAYER SHEATHING (MIN) *

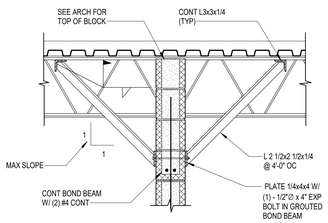
*OR PROVIDE 1 1/2x1 1/2x16 GA HORIZONTAL CHANNEL FASTENED TO STUDS WITH 1 1/2x1 1/2x14 GA CLIP AT 4'-0" OC VERTICALLY



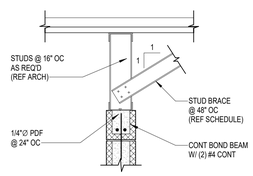
TYPE A (FLOOR)



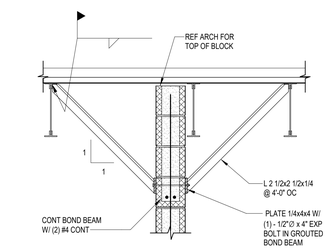
TYPE D (FLOOR / ROOF)



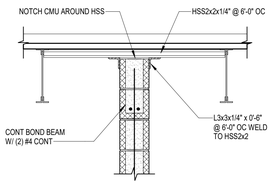
TYPE B (FLOOR / ROOF)



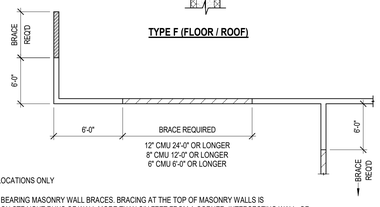
TYPE E (FLOOR / ROOF)



TYPE C (FLOOR / ROOF)



TYPE F (FLOOR / ROOF)



INTERIOR LOCATIONS ONLY

NON-LOAD BEARING MASONRY WALL BRACES. BRACING AT THE TOP OF MASONRY WALLS IS REQUIRED ON STRAIGHT RUNS OF WALL MORE THAN SIX FEET FROM A CORNER, INTERSECTING WALL, OR AS NOTED ABOVE.

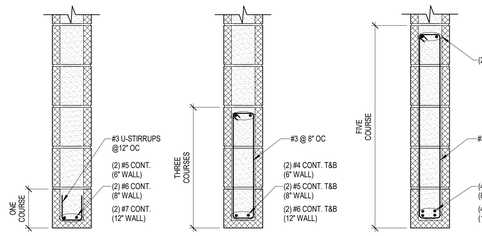
WHEN THE MASONRY WALL TERMINATES AT THE BOTTOM OF THE DECK, A TYPE 'A' ATTACHMENT AT THE FLOOR DECK OR A TYPE 'B', 'C', 'D' OR 'F' ATTACHMENT AT EITHER THE FLOOR OR ROOF MAY BE USED. WHEN WALLS TERMINATE ABOVE THE CEILING A TYPE 'B', 'C' OR 'E' ATTACHMENT SHOULD BE USED.

TYPICAL CMU WALL BRACING LOCATION PLAN

5 TYPICAL NON-STRUCTURAL CMU WALL BRACE CONNECTIONS
NO SCALE

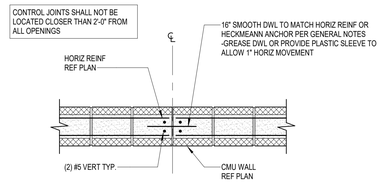
NOTES:

1. SEE ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATIONS OF OPENINGS. PROVIDE BLOCK LINTELS FOR ALL OPENINGS AT INTERIOR AND EXTERIOR WALLS FOR WHICH A STEEL LINTEL IS NOT SCHEDULED.
2. PROVIDE 1" OF BEARING @ EACH JAMB FOR EACH FOOT OF CLEAR SPAN BUT NOT LESS THAN 8". REINFORCING SHALL EXTEND A MINIMUM OF 6" ONTO THE BEARING.
3. FOR REINFORCED CMU WALLS AT OPENINGS, PROVIDE EXTRA REINFORCED GROUTED FULL HEIGHT CONSECUTIVE CELLS EACH SIDE OF THE OPENING EQUAL TO ONE HALF OF THE TOTAL NUMBER OF CELLS INTERRUPTED BY THE OPENING. REINFORCE EACH CELL WITH THE SAME SIZE AND NUMBER OF BARS AS SPECIFIED FOR THE INTERRUPTED CELLS. PROVIDE A MINIMUM OF (2) REINFORCED GROUTED CELLS EACH SIDE OF OPENING. REFER TO TYPICAL CMU WALL OPENING DIAGRAM AND SCHEDULE FOR ADDITIONAL INFORMATION.
4. AS AN ALTERNATIVE TO USING A FILLED CMU BLOCK LINTEL (PER THE SCHEDULE ABOVE) FOR OPENINGS 5'-0" AND LESS, CONTRACTOR MAY USE CAST CRETE LINTEL (6U8).



OPENINGS LESS THAN 5'-0" | **OPENINGS LESS THAN 8'-0"** | **OPENINGS LESS THAN 15'-0"**

3 MASONRY LINTEL SCHEDULE
NO SCALE



4 TYPICAL CONTROL JOINT DETAIL
NO SCALE

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ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

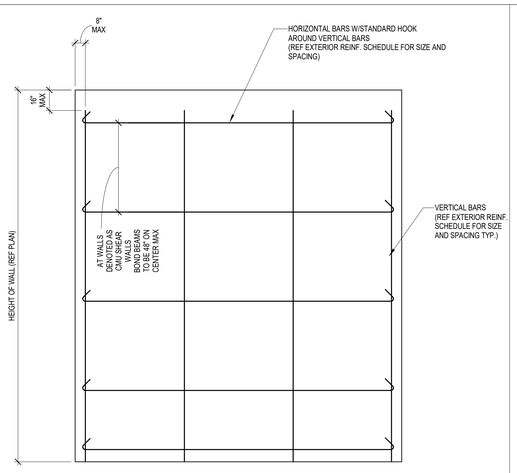
DRAWN BY: JJ

Kubala ENGINEERS
Ph: (800)246-3674
www.kubalaengineers.com
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GENERAL CMU NOTES AND TYP DETAILS

S-400

Plot Stamp:
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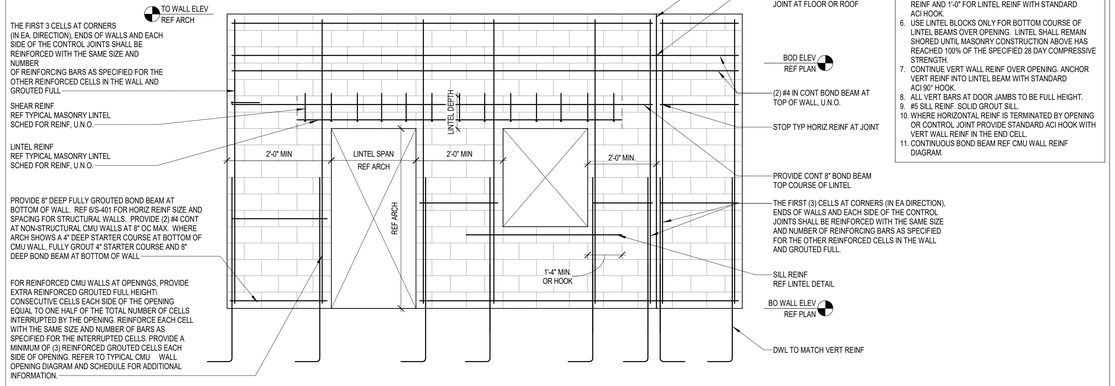
1 EXTERIOR MASONRY WALL REINF. ELEVATION
NO SCALE

	CMU (SIZE)	MEAN ROOF HEIGHT (SIMPLE SPAN, NON-LOAD BEARING)	VERT REINF (IN FULLY GROUTED CELLS)	DOWELS (4'-0" LONG MIN OR AS NEEDED FOR REQ'D LAP/EMBED)
EXTERIOR WALL	8"	16'-0"	#6 @ 24" OC	#6 @ 24" OC
	8"	>16'-0" ..... 28'-0"	#6 @ 16" OC EF	#6 @ 16" OC EF
	12"	16'-0"	#6 @ 24" OC	#6 @ 24" OC
	12"	>16'-0" ..... 28'-0"	#6 @ 16" OC EF	#6 @ 16" OC EF
INTERIOR WALL	6"	15'-0"	#5 @ 48" OC	#5 @ 48" OC
	8"	16'-0"	#6 @ 48" OC	#6 @ 48" OC
	8"	>16'-0" ..... 28'-0"	#6 @ 40" OC	#6 @ 40" OC

NOTES:

1. FOR ANY WALLS THAT DON'T MEET THE REQUIREMENTS OF THE SCHEDULE, GC TO CONTACT ENGINEER OF RECORD FOR PROPER REINFORCEMENT REQUIREMENTS.
2. THE FIRST (3) CELLS AT CORNERS (IN EA DIRECTION), ENDS OF WALLS AND EACH SIDE OF THE CONTROL JOINTS SHALL BE REINFORCED WITH THE SAME SIZE AND NUMBER OF REINFORCING BARS AS SPECIFIED FOR THE OTHER REINFORCED CELLS IN THE WALL AND GROUTED FULL.
3. AT OPENINGS, PROVIDE EXTRA REINFORCED GROUTED FULL HEIGHT CONSECUTIVE CELLS EACH SIDE OF THE OPENING EQUAL TO ONE HALF THE TOTAL NUMBER OF THE CELLS INTERRUPTED BY THE OPENING. REINFORCE EACH CELL WITH THE SAME SIZE AND NUMBER OF BARS AS SPECIFIED FOR THE INTERRUPTED CELLS. PROVIDE A MINIMUM OF (2) REINFORCED GROUTED CELLS EACH SIDE OF OPENING WITH (1) #5, (1) #6 OR (2) # 6, 8" or 12" UNREINFORCED CMU WALL IN EACH GROUTED CELL RESPECTFULLY.
4. REFER TO "TYPICAL CMU WALL OPENING DIAGRAM AND SCHEDULE FOR ADDITIONAL INFORMATION.
5. HOLD VERTICAL REINFORCING IN POSITION AT TOP AND BOTTOM AND AT 8'-0" OC MAXIMUM.
6. REFER TO GENERAL NOTES, SPECIFICATIONS AND SECTIONS/DETAILS FOR INFORMATION NOT SHOWN.
7. VERTICAL BARS MAY BE SPLICED IN 8'-0" (+ or -) LENGTHS. SPLICES LOCATED IN ADJACENT CELLS SHALL BE STAGGERED SUCH THAT NOT MORE THAN 50 PERCENT OF THE BARS ARE SPLICED AT THE SAME LOCATION.
8. PROVIDE VERTICAL CONTROL JOINTS AT 5'-0" TO 8'-0" OC FROM CORNERS AND AT 15'-0" MAX IN BETWEEN. REF MISCELLANEOUS NOTE 3 ON S-400 FOR MORE INFORMATION.
9. IF AN INTERIOR NON-STRUCTURAL CMU WALL IS TALLER THAN THE OPTIONS PROVIDED IN THIS CHART THE GC SHALL INFORM THE EOR TO REVIEW AND PROVIDE ANY ADJUSTMENTS TO CMU WALL THICKNESS OR REINFORCING THAT MAY BE NEEDED. FOR BIDDING PURPOSES, FOR ANY WALLS WHICH ARE INTERIOR NON-STRUCTURAL AND ARE TALLER THAN PROVIDED BY THIS CHART THE GC SHALL ASSUME #6 BARS AT 24"OC.

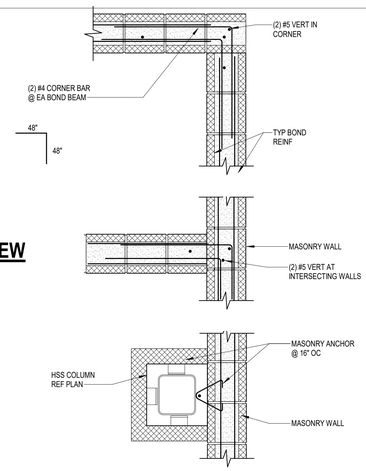
2 TYPICAL NON-STRUCTURAL MASONRY WALL REINF. SCHEDULE
NO SCALE



NOTES:

1. REFER TO ARCH AND MECH DRAWINGS FOR SIZE AND LOCATION OF OPENINGS.
2. REFER TO SCHEDULES FOR LINTEL AND JAMB REINFORCING UNLESS DETAILED OTHERWISE.
3. SPLICES IN VERT REINF REF CMU WALL REINF DIAGRAM.
4. CMU WALL STARTS ABOVE FLOOR.
5. EXTEND GROUTED LINTEL A MINIMUM OF 2'-0" BEYOND FACE OF OPENING EACH SIDE FOR STRAIGHT LINTEL REINF AND 1'-0" FOR LINTEL REINF WITH STANDARD ACI HOOK.
6. USE LINTEL BLOCKS ONLY FOR BOTTOM COURSE OF LINTEL BEAMS OVER OPENING. LINTEL SHALL REMAIN SHORED UNTIL MASONRY CONSTRUCTION ABOVE HAS REACHED 100% OF THE SPECIFIED 28 DAY COMPRESSIVE STRENGTH.
7. CONTINUE VERT WALL REINF OVER OPENING. ANCHOR VERT REINF INTO LINTEL BEAM WITH STANDARD ACI 90° HOOK.
8. ALL VERT BARS AT DOOR JAMBS TO BE FULL HEIGHT.
9. #5 SILL REINF. SOLID GROUT SILL.
10. WHERE HORIZONTAL REINF IS TERMINATED BY OPENING OR CONTROL JOINT PROVIDE STANDARD ACI HOOK WITH VERT WALL REINF IN THE END CELL.
11. CONTINUOUS BOND BEAM REF CMU WALL REINF DIAGRAM.

3 TYPICAL MASONRY WALL ELEVATION
NO SCALE



PLAN VIEW

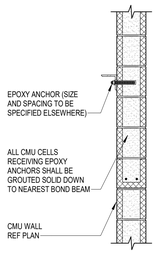
4 MASONRY WALL BRACING/REINF. DETAIL
NO SCALE

	SW TAG	CMU (SIZE)	MEAN ROOF HEIGHT (SIMPLE SPAN)	VERT REINF (IN FULLY GROUTED CELLS)	HORIZ REINF (IN FULLY GROUTED CELLS)	JAMB / JOINT REINF (IN FULLY GROUTED CELLS)
EXTERIOR WALL	SW1	8"	16'-0"	#6 @ 24" OC EF	#5 @ 48" OC	(2) #5 PER CELL IN FIRST 2 CELLS
			>16'-0" ..... 28'-0"	#6 @ 16" OC EF	#5 @ 32" OC	(2) #6 PER CELL IN FIRST 3 CELLS
	SW2	12"	16'-0"	#6 @ 40" OC EF	#5 @ 32" OC	(2) #6 PER CELL IN FIRST 3 CELLS
			>16'-0" ..... 28'-0"	#6 @ 16" OC EF	#5 @ 32" OC EF	(2) #6 PER CELL IN FIRST 3 CELLS
INTERIOR WALL	SW1	8"	16'-0"	#6 @ 32" OC	#5 @ 32" OC	(2) #6 PER CELL IN FIRST 3 CELLS
			>16'-0" ..... 28'-0"	#6 @ 16" OC EF	#5 @ 32" OC	(2) #6 PER CELL IN FIRST 3 CELLS

NOTES:

1. UNLESS NOTED OTHERWISE, REFER TO THE SCHEDULE ABOVE FOR VERTICAL WALL REINFORCING REQUIREMENTS AT ALL STRUCTURAL CMU WALLS.
2. THE STRUCTURAL MASONRY SHOWN ON THE PLANS IS PART OF THE LATERAL LOAD RESISTING SYSTEM OF THE BUILDING. THE STRUCTURAL DETAILS, INCLUDING CLIP ANGLES, DOWELS AND ADDITIONAL SECONDARY FRAMING MEMBERS, ETC., SHOWN ARE CRITICAL TO THE LATERAL PERFORMANCE OF THE BUILDING. THE TEMPORARY STEEL FRAME BRACING PROVIDED DURING CONSTRUCTION SHALL NOT BE REMOVED UNTIL ALL STRUCTURAL LATERAL BRACING SYSTEMS (INCLUDING STRUCTURAL MASONRY WALLS) HAVE BEEN INSTALLED AND CONNECTED TO THE STEEL FRAMING.
3. THE FIRST (3) CELLS AT CORNERS (IN EA DIRECTION), ENDS OF WALLS AND EACH SIDE OF THE CONTROL JOINTS SHALL BE REINFORCED WITH THE SAME SIZE AND NUMBER OF REINFORCING BARS AS SPECIFIED FOR THE OTHER REINFORCED CELLS IN THE WALL AND GROUTED FULL.
4. AT OPENINGS, PROVIDE EXTRA REINFORCED GROUTED FULL HEIGHT CONSECUTIVE CELLS EACH SIDE OF THE OPENING EQUAL TO ONE HALF THE TOTAL NUMBER OF THE CELLS INTERRUPTED BY THE OPENING. REINFORCE EACH CELL WITH THE SAME SIZE AND NUMBER OF BARS AS SPECIFIED FOR THE INTERRUPTED CELLS. PROVIDE A MINIMUM OF (2) REINFORCED GROUTED CELLS EACH SIDE OF OPENING. REFER TO "TYPICAL CMU WALL OPENING DIAGRAM AND SCHEDULE FOR ADDITIONAL INFORMATION.
5. HOLD VERTICAL REINFORCING IN POSITION AT TOP AND BOTTOM AND AT 8'-0" OC MAXIMUM.
6. REFER TO GENERAL NOTES, SPECIFICATIONS AND SECTIONS/DETAILS FOR INFORMATION NOT SHOWN.
7. VERTICAL BARS MAY BE SPLICED IN 8'-0" (+ or -) LENGTHS. SPLICES LOCATED IN ADJACENT CELLS SHALL BE STAGGERED SUCH THAT NOT MORE THAN 50 PERCENT OF THE BARS ARE SPLICED AT THE SAME LOCATION.

5 TYPICAL STRUCTURAL MASONRY SHEAR WALL REINF. SCHEDULE
NO SCALE

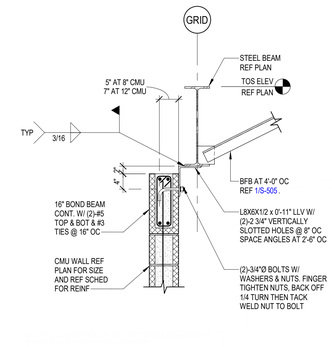


EPOXY ANCHOR SCHEDULE	
SPECIFIED DIAMETER	EMBEDMENT DEPTH
1/2"	4 1/2"
5/8"	5 5/8"
3/4"	6 3/4"

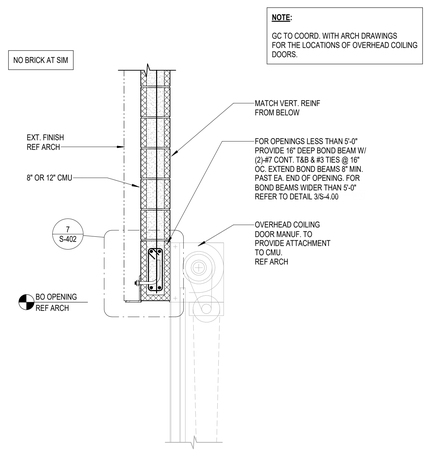
NOTES:

1. THIS DETAIL SHALL APPLY AT ALL LOCATIONS WHERE EPOXY OR ADHESIVE ANCHORS ARE SPECIFIED WITHIN THE DRAWINGS.
2. ALL THREADED RODS FOR EPOXY ANCHORS SHALL BE MADE FROM EITHER A307 OR A36 STEEL.
3. IF GREATER EMBEDMENT DEPTHS ARE SPECIFIED IN THE DRAWINGS, THOSE EMBEDMENT DEPTHS SHALL GOVERN.
4. EPOXY ANCHORS IN CMU AND CONCRETE SHALL BE LOCATED AT LEAST 4" AWAY FROM ALL EDGES. THE CENTER TO CENTER SPACING OF EPOXY ANCHORS SHALL NOT BE LESS THAN 8". WHERE EPOXY ANCHORS ARE LOCATED IN CMU, THERE SHALL BE A MAXIMUM OF ONE ANCHOR PER CELL.
5. ALL EPOXY ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS (INCLUDING HOLE DIAMETERS, HOLE CLEANING PROCEDURES, TORQUE SPECIFICATIONS, AND SPECIAL INSPECTIONS).
6. HILTI HY-200 V3 ADHESIVE ANCHORING SYSTEM SHALL BE USED AT ALL ADHESIVE ANCHORS IN CMU.

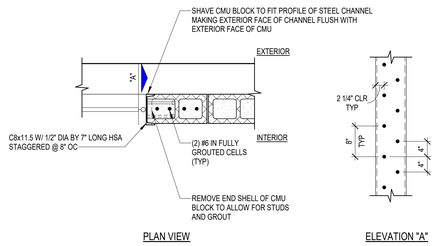
6 TYPICAL EPOXY ANCHOR DETAIL
NO SCALE



7 TYPICAL WALL BRACING AT STEEL BEAM
3/4" = 1'-0"



8 OVERHEAD COILING DOOR AT CMU
3/4" = 1'-0"



9 ROLL-UP DOOR JAMB AT PEMB
3/4" = 1'-0"

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

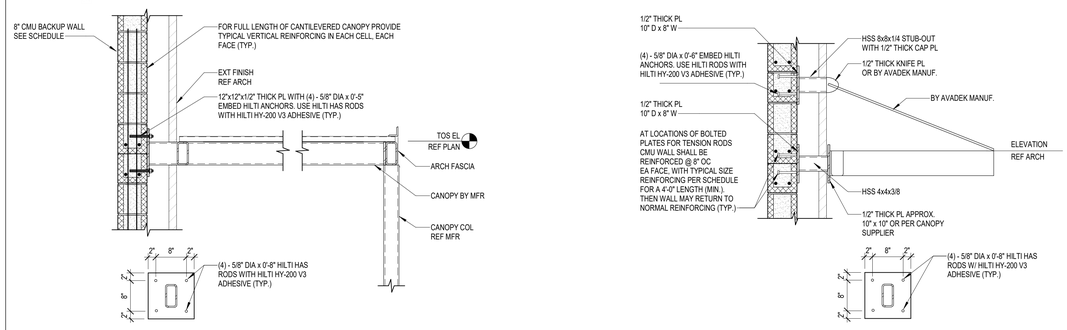
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GENERAL CMU NOTES AND TYP DETAILS

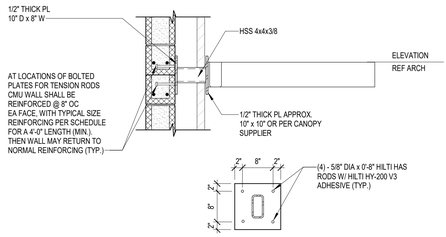
S-401

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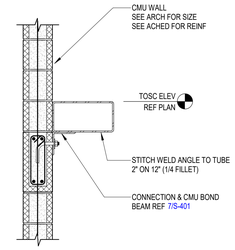
NOTES:
1. EXTEND BOND BEAM CONTINUOUSLY BETWEEN PILASTERS FOR EACH CANOPY LEVEL.
2. GALVANIZE ALL PARTS THAT EXTEND THROUGH ARCHL WALL MATERIALS.
3. CONNECTION APPLIES FOR CANOPY ROOF FRAMING BEAMS AND HANGERS.
4. SEE 7/S-402 FOR TYPICAL LINTEL WITH SHELF ANGLE



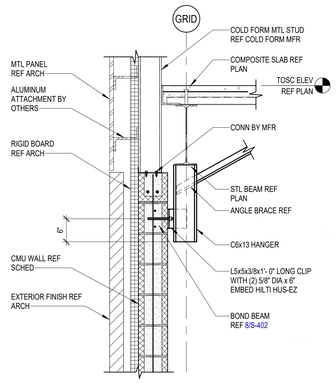
1 AVADEK CANOPY CONNECTION DETAIL
3/4" = 1'-0"

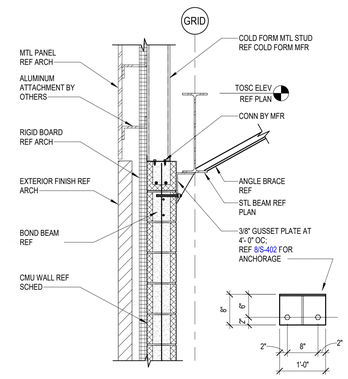


PROVIDE STUB-OUT CONNECTIONS PER 7/S-501 OR 8/S-501 AT EACH END OF TUBE

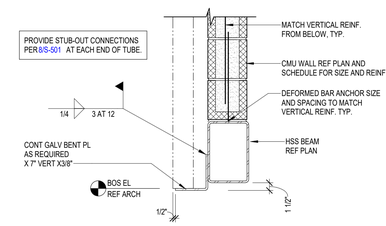


4 CMU WALL SUPPORT DETAIL
NO SCALE



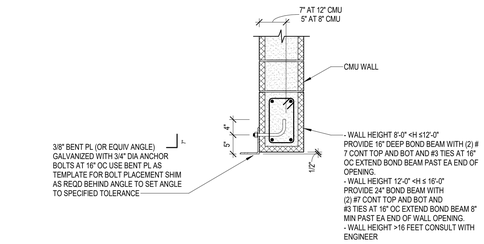


5 TYPICAL CMU TO STUD TRANSITION
NO SCALE

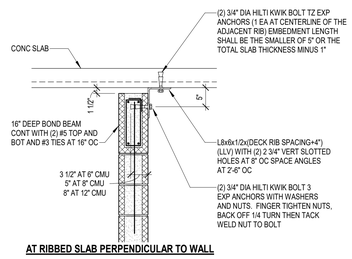


6 TYP LOW TUBE AT BRICK SUPPORT
1" = 1'-0"

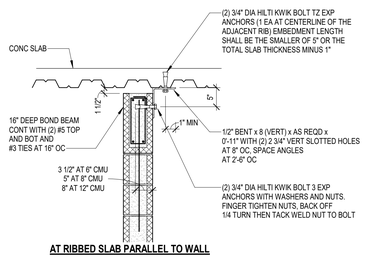
NOTE: HORIZONTAL LEG OF ANGLE OR BENT PL TO EQUAL DISTANCE FROM FACE OF BRICK TO FACE OF CMU LESS MINUS 1/2"



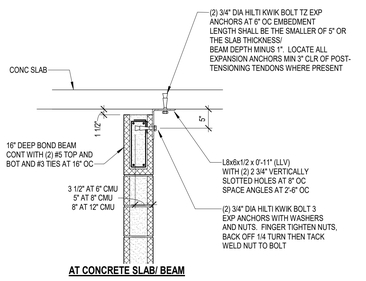
7 TYPICAL LINTEL WITH SHELF ANGLE
3/4" = 1'-0"



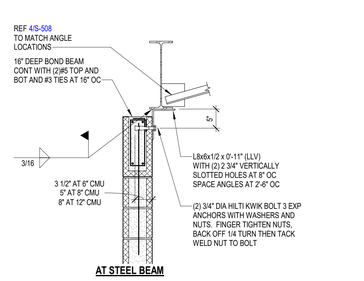
AT RIBBED SLAB PERPENDICULAR TO WALL



AT RIBBED SLAB PARALLEL TO WALL



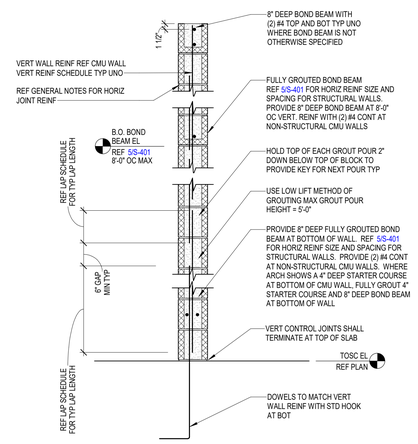
AT CONCRETE SLAB/ BEAM



AT STEEL BEAM

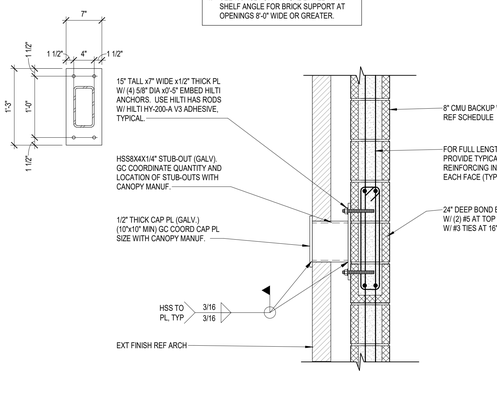
8 TYPICAL BRACING AT TOP OF STRUCTURAL CMU SHEAR WALLS AND NON STRUCTURAL EXTERIOR CMU WALLS
3/4" = 1'-0"

NOTE: REF SHEET S-400, AND DETAILS 2/S-401, 5/S-401 FOR INFO NOT SHOWN HERE



9 TYPICAL CMU WALL AT ELEVATED LEVELS
NO SCALE

NOTES:
1. EXTEND BOND BEAM CONTINUOUSLY BETWEEN PILASTERS FOR EACH CANOPY LEVEL.
2. GALVANIZE ALL PARTS THAT EXTEND THROUGH ARCHL WALL MATERIALS.
3. CONNECTION APPLIES FOR CANOPY ROOF FRAMING BEAMS AND HANGERS.
4. SEE 7/S-402 FOR TYPICAL LINTEL WITH SHELF ANGLE FOR BRICK SUPPORT AT OPENINGS 8'-0" WIDE OR GREATER.



10 ALUMINUM CANOPY ATTACHMENT AT CMU
1" = 1'-0"

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

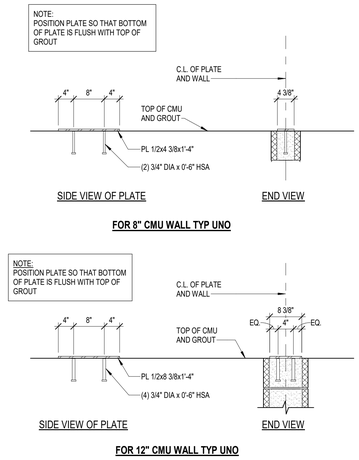
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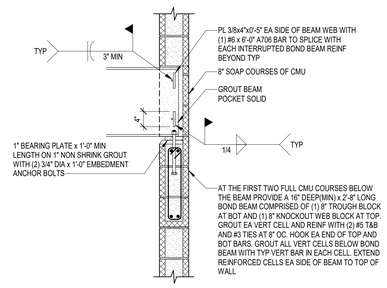
MISC CMU DETAILS

S-402

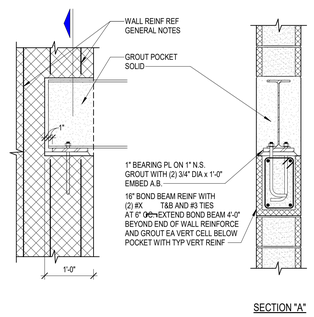
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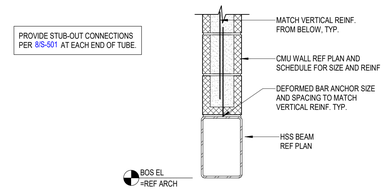
1 EMBED AT JOIST OR DECK SUPPORT ELEMENT
3/4" = 1'-0"



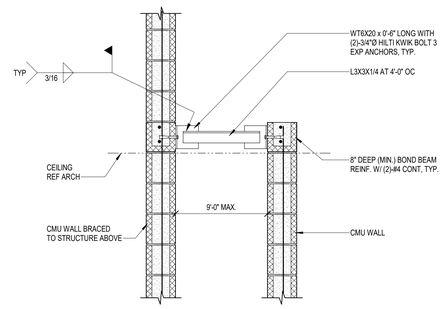
2 STEEL BEAM BEARING ON MASONRY WALL
3/4" = 1'-0"



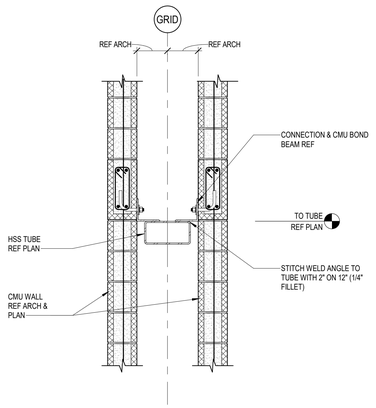
3 STEEL BEAM BEARING AT END OF MASONRY WALL
3/4" = 1'-0"



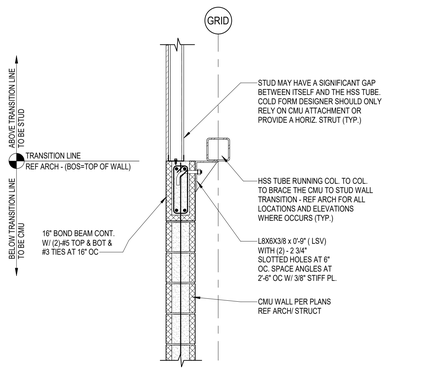
4 TYP LOW TUBE AT CMU SUPPORT
1" = 1'-0"



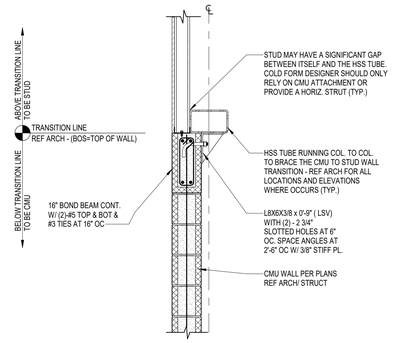
5 BRACE DETAIL AT DOUBLE WYTHE CMU WALLS
3/4" = 1'-0"



6 BRACE DETAIL AT DOUBLE WYTHE CMU WALLS
3/4" = 1'-0"



A - TYP. TUBE AT CMU TO STUD WALL TRANSITION IN PLANE W/ CENTERLINE OF COLUMN



B - TYP. OFFSET TUBE AT CMU TO STUD WALL TRANSITION

7 TYPICAL CMU TO STUD TRANSITION
NO SCALE

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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DRAWN BY: JJ

MISC CMU DETAILS

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STRUCTURAL STEEL:

MATERIAL:

1. STRUCTURAL STEEL IS TO CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS, AND IS TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC SPECIFICATIONS:
   - A. STEEL WIDE FLANGE AND WT SECTIONS.....ASTM A992 OR ASTM A572 - GRADE 50
   - B. MISCELLANEOUS STEEL SECTIONS (ANGLES, CHANNELS AND BARS).....ASTM A36
   - C. HOLLOW STEEL SECTIONS.....ASTM A500, GRADE B OR C, (46 KSI MIN)
   - D. STEEL PIPE SECTIONS.....ASTM A53, GRADE B
   - E. BOLTS AND NUTS (HEAVY-HEX).....ASTM A325
   - F. SHEAR-STUD CONNECTORS.....ASTM A108
   - G. ANCHOR RODS.....ASTM F1554, GRADE 36, GRADE 55 OR GRADE 105
   - H. PLATES.....ASTM A36 OR A572 GRADE 50
   - K. WASHERS.....ASTM F436
2. ALL STEEL SHALL BE DOMESTICALLY (INCLUDING CANADA) MILLED AND FABRICATED. FOREIGN STEEL SHALL NOT BE UTILIZED WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER. THE APPROVAL PROCESS SHALL TAKE PLACE DURING BIDDING TIME. ANY REQUEST TO UTILIZE FOREIGN STEEL MADE AFTER BIDDING SHALL BE REJECTED.
3. STRUCTURAL STEEL, MISCELLANEOUS METAL, AND EMBEDS EXPOSED TO THE EXTERIOR ARE TO BE HOT DIP GALVANIZED AFTER FABRICATION, EXCEPT AS NOTED ON THE DRAWINGS. TUBE SHAPE MEMBERS EXPOSED TO THE EXTERIOR SHALL HAVE CAP PLATES SEAL WELDED, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
4. STRUCTURAL STEEL IS TO BE PREPARED AND PRIMED ACCORDING TO THE PROJECT SPECIFICATIONS. STRUCTURAL STEEL LOCATED IN CRAWL SPACES OR OTHERWISE INACCESSIBLE AREAS IS TO RECEIVE 2 COATS OF PRIMER.
5. CONTINUITY PLATES (FULL DEPTH COLUMN STIFFENERS ALIGNED WITH BEAM FLANGES, OR FULL DEPTH BEAM STIFFENERS ALIGNED WITH COLUMN FLANGES) SHALL MATCH THE STEEL GRADE OF THE BASE MEMBER.
6. IN ADDITION TO THE STEEL INDICATED ON THE DRAWINGS, THE CONTRACTOR SHALL INCLUDE THREE (3) PERCENT OF TOTAL TONNAGE OF FABRICATED STEEL (LABOR FOR ERECTION SHALL BE INCLUDED) DURING THE PROCESS OF WORK AS MAY BE DIRECTED BY THE ARCHITECT/ENGINEER OF RECORD. IF STEEL IS NOT USED DURING THE COURSE OF THE PROJECT, OWNER IS TO RECEIVE A CREDIT FOR THE PORTION NOT USED.

CONNECTIONS:

1. THE DESIGN OF THE STRUCTURAL STEEL CONNECTIONS, WHICH ARE NOT FULLY DETAILED IN THE CONTRACT DOCUMENTS, IS THE RESPONSIBILITY OF THE CONTRACTOR AND THE STEEL FABRICATOR. THE DESIGN OF THE CONNECTIONS SHALL BE PERFORMED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE STATE IN WHICH THE PROJECT IS LOCATED, WORKING FOR THE FABRICATOR, IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE AISC 303-CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.
2. THE FABRICATOR'S LICENSED STRUCTURAL ENGINEER IN RESPONSIBLE CHARGE OF THE CONNECTION DESIGN SHALL REVIEW AND CONFIRM IN WRITING THAT THE SHOP AND ERECTION DRAWINGS PROPERLY INCORPORATE THE CONNECTION DESIGNS PRIOR TO SUBMITTING THE CONNECTION CALCULATIONS AND SHOP DRAWINGS TO THE ENGINEER-OF-RECORD FOR REVIEW.
3. THE FABRICATOR SHALL PROVIDE A MEANS BY WHICH THE CONNECTION INFORMATION PREPARED BY THE FABRICATOR'S LICENSED PROFESSIONAL ENGINEER IN RESPONSIBLE CHARGE OF THE CONNECTION DESIGN IS REFERENCED TO THE RELATED CONNECTIONS ON THE SHOP AND ERECTION DRAWINGS FOR THE PURPOSE OF REVIEW.
4. THE FABRICATOR SHALL PROVIDE BEAM SHEAR CONNECTIONS USING THE VERTICAL REACTIONS PROVIDED ON THE PLANS, WHICH ARE PROVIDED AS KIPS (SERVICE-LOAD LEVEL). ALLOWABLE STRESS DESIGN (ASD) SHALL BE USED IN THE SELECTION, COMPLETION AND DESIGN OF CONNECTION DETAILS. **IN INSTANCES WHERE REACTIONS ARE NOT SPECIFIED ON THE PLANS, THE CONNECTION DESIGNER SHALL PROVIDE CONNECTIONS BASED ON THE WORST-CASE SHEAR REACTION (HIGHEST SHEAR CAPACITY) FROM THE OPTIONS LISTED BELOW:**
   - **4.1 OPTION 1 (BASED ON BEAMS' ALLOWABLE UNIFORM LOAD):** SHEAR CONNECTION CAPACITIES FOR BEAMS SHALL BE ONE-HALF (50 PERCENT) THE TOTAL ALLOWABLE UNIFORM LOAD GIVEN IN TABLE 3-6 THROUGH 3-9 OF THE AISC MANUAL OF STEEL CONSTRUCTION. CONNECTIONS FOR COMPOSITE BEAMS AND CAMBERED ROOF BEAMS SHALL HAVE THE STANDARD AISC CAPACITY INCREASED BY 35 PERCENT.
   - **4.2 OPTION 2 (MINIMUM SERVICE-LOAD / ASD) SHEAR REACTIONS:** ALL BEAM CONNECTIONS SHALL HAVE A MINIMUM SERVICE LOAD (ASD) SHEAR CAPACITY GIVEN IN TABLE 4.2. REFER TO TYPICAL DOUBLE-ANGLE CONNECTION SCHEDULE (1/S-503) AND TYPICAL SHEAR TAB BOLTED CONNECTION SCHEDULE (2/S-503) FOR SHEAR CONNECTIONS THAT MEET THE MINIMUM SERVICE-LOAD (ASD) SHEAR CONNECTION CAPACITIES LISTED IN TABLE 4.2. ALTERNATE CONNECTION DETAILS ARE ACCEPTABLE PROVIDED SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS ARE SUBMITTED, AND ALL CONNECTION DESIGNS ARE PERFORMED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

TABLE 4.2 - MINIMUM SERVICE-LOAD (ASD) SHEAR CONNECTION CAPACITIES

BEAM SIZE	MINIMUM REACTION (KIPS) (SERVICE-LOAD LEVEL)	BEAM SIZE	MINIMUM REACTION (KIPS) (SERVICE-LOAD LEVEL)
W8	9	W24	83
W10	14	W27	113
W12	23	W30	119
W14	28	W33	142
W16	40	W36	160
W18	48	W40	193
W21	64	W44	195

5. SHEAR CONNECTIONS MAY BE SELECTED FROM THE TABLES IN PART 10 OF THE LATEST EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION IF THE CONNECTION MEETS THE SHEAR CAPACITY REQUIREMENTS OF CONNECTION NOTE 4 ABOVE. TABLE 10-1 SHALL BE USED FOR BOLTED DOUBLE ANGLE CONNECTIONS, TABLE 10-2 SHALL BE USED FOR WELDED/BOLTED DOUBLE ANGLE CONNECTIONS, AND TABLE 10-3 SHALL BE USED FOR WELDED DOUBLE ANGLE CONNECTIONS.
6. DOUBLE CONNECTIONS AT COLUMNS AND/OR AT BEAM WEBS OVER A COLUMN. WHEN TWO STRUCTURAL MEMBERS ON OPPOSITE SIDES OF A COLUMN WEB, OR A BEAM WEB OVER A COLUMN, ARE CONNECTED SHARING COMMON CONNECTION HOLES, AT LEAST ONE BOLT WITH ITS WRENCH-TIGHT NUT SHALL REMAIN CONNECTED TO THE FIRST MEMBER UNLESS A SHOP-ATTACHED OR FIELD-ATTACHED SEAT OR EQUIVALENT CONNECTION DEVICE IS SUPPLIED WITH THE MEMBER TO SECURE THE FIRST MEMBER AND PREVENT THE COLUMN FROM BEING DISPLACED.
7. THE DRAWINGS INDICATE VARIOUS NON-PRIMARY STRUCTURAL FRAME ELEMENTS SUCH AS SHELF ANGLES, LINTELS, SUPPORT MEMBERS FOR CURTAIN WALLS OR MASONRY, AND EDGE ANGLES FOR OPENINGS AND PERIMETER CONDITIONS WHICH ARE INTENDED TO SUPPORT OR BE COORDINATED WITH MATERIALS FURNISHED BY OTHER TRADES. THE CONTRACTOR IS RESPONSIBLE FOR PROPER FIT-UP OF THE VARIOUS COMPONENTS OF THE FRAMING AND FOR MEETING THE TOLERANCES REQUIRED BY OTHER TRADES, WHICH MAY BE MORE STRINGENT THAN A.I.S.C. TOLERANCES FOR STRUCTURAL STEEL. WHERE THESE NON-PRIMARY STRUCTURAL FRAME ELEMENTS ARE INDICATED TO BE WELDED (INDICATED EITHER FIELD OR SHOP WELDED) IN THE DRAWINGS, THE CONTRACTOR SHALL HAVE THE FINAL RESPONSIBILITY FOR DETERMINING IF THE WELDS SHOULD BE MADE IN THE SHOP OR FIELD IN ORDER TO ACHIEVE PROPER FIT-UP OF THE VARIOUS COMPONENTS OF THE FRAMING AND FOR MEETING THE TOLERANCES REQUIRED BY OTHER TRADES.
8. SPLICING OF STRUCTURAL STEEL MEMBERS MUST BE APPROVED BY THE STRUCTURAL ENGINEER, IF NOT ALREADY SHOWN ON THE DRAWINGS.
9. SHOP BOLTED CONNECTIONS ARE PERMISSIBLE IF SUFFICIENT BOLT CLEARANCE IS AVAILABLE FOR TIGHTENING OF HIGH STRENGTH BOLTS. CLEARANCES SHALL BE IN ACCORDANCE WITH TABLE 7-16 AND 7-17 OF THE LATEST EDITION OF THE MANUAL OF STEEL CONSTRUCTION OF THE AISC. ALL STEEL MEMBERS AND ASSEMBLIES SHALL BE SHOP FABRICATED TO THE GREATEST EXTENT POSSIBLE. TRUSSES SHALL BE FULLY SHOP ASSEMBLED. FIELD SPLICES FOR SHIPPING PURPOSES SHALL ONLY BE AS APPROVED BY THE ENGINEER OF RECORD. THE STEEL FABRICATOR AND THE STEEL ERECTOR SHALL COORDINATE THE SHOP FABRICATION, SHIPPING AND ERECTION OF ALL STRUCTURAL MEMBERS AND ASSEMBLIES.
10. ALL CONNECTION BOLTS FOR STRUCTURAL STEEL MEMBERS MUST CONFORM TO ASTM A325-N HIGH-STRENGTH BOLTS UNLESS NOTED OTHERWISE. MINIMUM SIZE SHALL BE 3/4 INCH DIAMETER. STRUCTURAL STEEL CONNECTIONS SHALL BE DESIGNED BY THE CONTRACTOR IN ACCORDANCE WITH THE MINIMUM REQUIREMENTS SPECIFIED ON S-503. BOLTS SHALL BE DIRECT TENSION INDICATING BOLTS CONFORMING TO ASTM F1852 WITH HARDENED WASHERS UNDER THE NUT AND SACRIFICIAL SPLINES. HEX NUTS MUST CONFORM TO ASTM A563 AND WASHERS MUST CONFORM TO ASTM F436.
11. ALL MOMENT CONNECTIONS SHALL BE FULL WELDED CONNECTIONS DESIGNED TO DEVELOP THE FULL CROSS-SECTION OF THE MEMBER. STIFFENER PLATES, WHERE SHOWN, ARE MANDATORY AND MAY NOT BE OMITTED. MOMENT CONNECTIONS ARE INDICATED ON THE PLANS BY A TRIANGULAR BULB ON THE END OF THE BEAM, OR BY THE LETTERS "MC". CANTILEVER BEAMS MOMENT CONNECTED TO THE FRAME SHALL BE THE SAME SIZE AS THE BACK-UP SPAN IF NO SIZE IS GIVEN.
12. WHERE HORIZONTAL FORCES ARE INDICATED ON PLAN AS "HF_K", THE LICENSED PROFESSIONAL ENGINEER WORKING FOR THE FABRICATOR SHALL SIZE THE CONNECTION TO TRANSFER THE HORIZONTAL FORCE IN ADDITION TO THE REQUIRED VERTICAL REACTION. SLOTTED HOLES ARE NOT PERMITTED AT CONNECTIONS WITH HORIZONTAL FORCES.
13. EMBED PLATES TO BE INSTALLED IN THE FOUNDATION AND/OR SLAB SHALL BE SUBMITTED FOR REVIEW WITH THE ANCHOR BOLTS.
14. BOLTS SHALL BE TIGHTENED BY THE AISC "SNUG TIGHT" METHOD UNLESS NOTED OTHERWISE.
15. CANTILEVER BEAMS MOMENT CONNECTED TO THE FRAME SHALL BE THE SAME SIZE AS THE BACK-UP SPAN IF NO SIZE IS GIVEN.
16. SHELF ANGLES SHOWN AS CONTINUOUS IN THE SECTIONS SHALL BE INSTALLED IN 20'-0" MAXIMUM LENGTHS, LEAVING A 1/4" GAP BETWEEN ENDS AND AT CORNERS. LOCATE GAPS TO MATCH MASONRY CONTROL JOINTS. AT BUILDING EXPANSION JOINT, LEAVE A GAP TO MATCH EXPANSION JOINT WIDTH.
17. CONNECT MISCELLANEOUS STEEL MEMBERS USING FILLET WELDS SUFFICIENT TO DEVELOP THE TENSILE STRENGTH OF THE SMALLER MEMBER AT THE JOINT UNLESS SHOWN OTHERWISE.
18. STEEL MEMBERS SHOWN TO BE CURVED SHALL BE ROLLED IN A MANNER THAT WILL NOT CAUSE DISTORTION OR BUCKLING. SHOULD ALTERATIONS TO THE MEMBER SIZE, SUCH AS A THICKER FLANGE OR WEB, BE REQUIRED TO ENSURE THIS OUTCOME, THE ADDITIONAL STEEL SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE CONTRACT.
19. WHERE STIFFENER PLATES ARE INDICATED ON DRAWINGS, THEY ARE REQUIRED AND SHALL BE PROVIDED AS INDICATED.
20. PROVIDE WELDED IN SPACER PLATES AT THREE FEET ON CENTER AT ALL BACK-TO-BACK CHANNELS OR DOUBLE ANGLES.
21. BEAMS WITH LATERAL BRACING ATTACHED AND WEB CONNECTIONS OF MOMENT-CONNECTED BEAMS SHALL UTILIZE SLIP CRITICAL BOLTS OR WELDED CONNECTIONS.
22. ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS), IF NOTED ON STRUCTURAL PLANS OR BY THE ARCHITECT, SHALL CONFORM TO AISC 303 SECTION 10.
23. INSTALL LEDGER ANGLES FOR FASCIA BRICK SUPPORT SUCH THAT THE SWEEP OR CAMBER DOES NOT EXCEED 1/8 INCH DEVIATION FROM STRAIGHT LINE.
24. TEMPORARY SUPPORTS, BRACES, FALSE WORK, SHORES, CRIBBING OR OTHER SUPPORTS REQUIRED DURING ERECTION TO KEEP STRUCTURAL STEEL SECURE, SUPPORTED, PLUMB, AND IN ALIGNMENT SHALL BE DESIGNED, FURNISHED AND INSTALLED BY THE CONTRACTOR AND STEEL ERECTOR. THESE TEMPORARY SUPPORTS SHALL SECURE THE STRUCTURAL STEEL FRAMING, OR ANY PARTLY ASSEMBLED STEEL FRAMING, AGAINST ALL LATERAL AND VERTICAL LOADS, INCLUDING BUT NOT LIMITED TO THOSE RESULTING FROM WIND, SEISMIC, ERECTION OPERATIONS AND THE WEIGHT OF THE STRUCTURE AND SUPPORTED ELEMENTS. ALL TEMPORARY SUPPORTS SHALL REMAIN IN PLACE DURING CONSTRUCTION UNTIL THE PERMANENT STRUCTURAL STEEL, CONNECTIONS, FLOOR DECKS AND BRACING ELEMENTS INDICATED IN THE CONTRACT DOCUMENTS ARE COMPLETE.

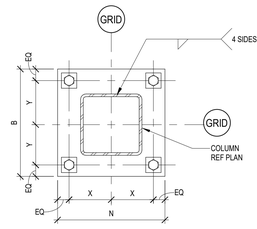
WELDING:

1. ALL WELDING MUST CONFORM TO THE AMERICAN WELDING SOCIETY ANSI/AWS D1.1 STANDARDS, AND SHALL CONFORM TO THE STANDARDS OF THE LATEST EDITION OF THE MANUAL OF STEEL CONSTRUCTION. ALL WELDERS MUST BE CERTIFIED IN ACCORDANCE WITH AWS D1.1. WELDING OF REINFORCING BARS SHALL COMPLY TO THE AMERICAN WELDING SOCIETY AWS D1.4. SHORT CIRCUIT TRANSFER FOR THE GAS METAL ARC WELDING PROCESS IS NOT PERMITTED.
2. ELECTRODES FOR ALL FIELD AND SHOP WELDING SHALL BE CLASS E70XX. ELECTRODES FOR MOMENT CONNECTIONS SHALL BE CLASS E7018 WITH A CHARPY TOUGHNESS OF AT LEAST 20 FT-LBS AT -20 DEGREES FAHRENHEIT.
3. ALL MISCELLANEOUS WELDS SHALL BE MINIMUM SIZE FILLET ALL AROUND AND MUST BE IN ACCORDANCE WITH AISC. WELDING OF CONTINUOUS MEMBERS SHALL BE A MINIMUM OF 2 INCHES OF 3/16 INCH FILLET STITCH WELDS AT 12 INCHES O.C., STAGGERED EACH SIDE, UNLESS SHOWN OTHERWISE ON THE DRAWINGS. COLUMN BASE PLATES, STIFFENER PLATES AND CAP PLATES SHALL BE WELDED ALL AROUND.
4. HEADED STUDS SHALL BE WELDED TO EMBED PLATES BY A METHOD IN WHICH THE CONNECTION CAN DEVELOP THE FULL TENSION AND SHEAR CAPACITY OF THE STUD.

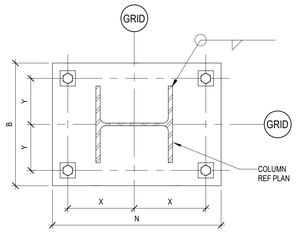
BASE PLATE NOTES:

1. ALL ANCHOR RODS SHALL BE F1554 GRADE 55 UNLESS NOTED OTHERWISE.
2. SIZE WELDS PER AISC MINIMUM FILLET REQUIREMENTS, 5/16" MINIMUM.
3. UNLESS NOTED OTHERWISE, ALL ANCHOR ROD NUTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC AFTER THE CONCRETE IS AT LEAST 14 DAYS OLD.
4. USE OVERSIZED HOLES FOR ANCHOR RODS ACCORDING TO AMERICAN INSTITUTE OF STEEL CONSTRUCTION. PLATE WASHERS WITH STANDARD HOLES SHALL BE INSTALLED OVER OVERSIZED HOLES.
5. CONTRACTOR SHALL PROVIDE TEMPLATE FOR ANCHOR ROD INSTALLATION.
6. NON-SHRINK GROUT FOR BASE PLATES AND BEARING PLATES:

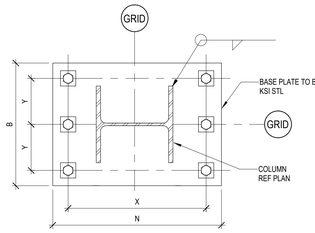
   ALL GROUT USED UNDER STEEL COLUMN BASE PLATES OR BEARING PLATES SHALL BE A NON-METALLIC, SHRINKAGE RESISTANT COMPOUND CONFORMING TO ASTM C1090 AND THE CORPS OF ENGINEERS SPECIFICATION CRD-C-621. THE GROUT SHALL HAVE A MINIMUM STRENGTH OF 6,000 PSI WHEN BEARING ON 3,000 PSI CONCRETE OR LESS, A STRENGTH OF 8,000 PSI WHEN BEARING ON CONCRETE BETWEEN 3,000 AND 4,000 PSI, AND, UNLESS NOTED OTHERWISE ON THE DRAWINGS, A STRENGTH OF 8,000 PSI WHEN BEARING ON CONCRETE GREATER THAN 4,000 PSI. 100 PERCENT OF VOID UNDER ALL BASE PLATES IS TO BE GROUTED. ALL BASE PLATES WITH A DIMENSION GREATER THAN 24" SHALL HAVE TWO 1" DIAMETER GROUT HOLES. IF THE SPACE UNDER A COLUMN BASE PLATE IS LESS THAN 1/4", A PRESSURE INJECTION SYSTEM SHALL BE USED.



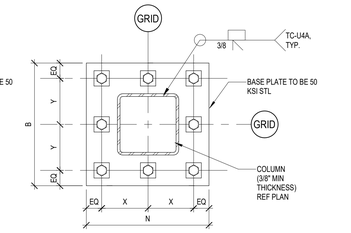
TYPE 1 HSS BASE PLATE
NTS



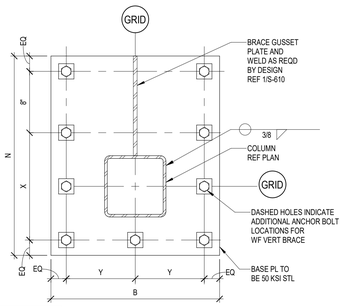
TYPE 2 WIDE FLANGE BASE PLATE
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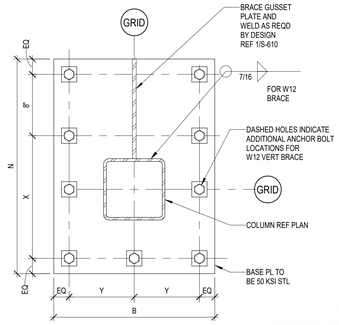
TYPE 3 WIDE FLANGE MOMENT BASE PLATE
NTS



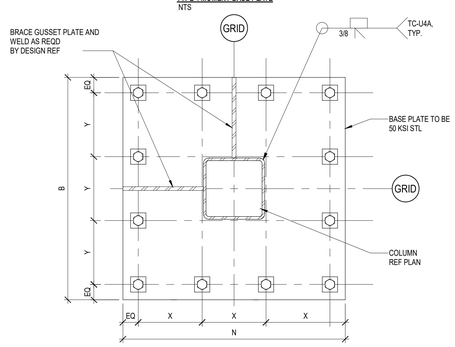
TYPE 4 MOMENT BASE PLATE
NTS



TYPE 5 BRACE BASE PLATE
NTS



TYPE 6 BRACE BASE PLATE
NTS



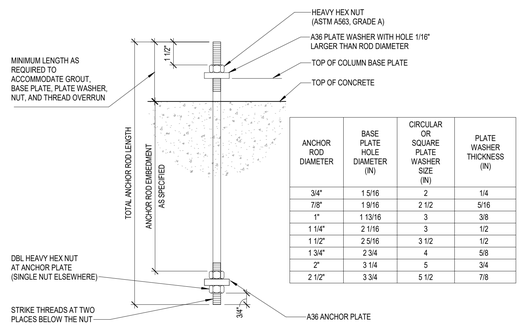
TYPE 8 VERTICAL BRACE BASE PLATE
NTS

BASE PLATE SCHEDULE

MARK	COLUMN SIZE	BASE PLATE TYPE	BASE PLATE DIMENSIONS					ANCHOR RODS				NOTES
			N LENGTH (IN)	B WIDTH (IN)	T THICKNESS (IN)	X (IN)	Y (IN)	NUMBER	DIA (IN)	EMBED LENGTH (IN)	ANCHOR ROD GRADE	
-	HSS6X6	1	14	14	1	5	5	4	3/4	18	36	-
-	HSS8X8	1	16	16	1	6	6	4	1	18	36	-
-	HSS8X8 BRACE	5 OR 6	26	20	1 1/2	13	7 1/2	7	1 1/4	18	36	BASEPLATE TO BE 50 KSI STEEL
-	HSS8X8 BRACE 2-DIRECTIONS	8	26	26	1 1/2	7	7	12	1 1/4	18	105	BASEPLATE TO BE 50 KSI STEEL
	HSS8X8 MBPL	1	16	16	1 1/4	6	6	4	1 1/4	18	36	BASEPLATE TO BE 50 KSI STEEL
-	W10X60 MBPL	3	20	18	1 1/2	15	6 1/2	6	1 1/4	18	36	BASEPLATE TO BE 50 KSI STEELCOMPLETE JOINT PENETRATION

NOTES:

1. USE OVERSIZED HOLES FOR ANCHOR RODS ACCORDING TO AMERICAN INSTITUTE OF STEEL CONSTRUCTION.
2. PLATE WASHERS WITH STANDARD HOLES SHALL BE INSTALLED OVER OVERSIZED HOLES.
3. CONTRACTOR SHALL PROVIDE TEMPLATE FOR ANCHOR ROD INSTALLATION.
4. MINIMUM GROUT THICKNESS PER GROUT THICKNESS SCHEDULE.
5. SIZE WELDS PER AISC MINIMUM FILLET REQUIREMENTS, 5/16" MINIMUM.



ANCHOR ROD DIAMETER	BASE PLATE HOLE DIAMETER (IN)	CIRCULAR OR SQUARE PLATE WASHER SIZE (IN)	PLATE WASHER THICKNESS (IN)
3/4"	1 5/16	2	1/4
7/8"	1 9/16	2 1/2	5/16
1"	1 13/16	3	3/8
1 1/4"	2 1/16	3	1/2
1 1/2"	2 5/16	3 1/2	1/2
1 3/4"	2 3/4	4	5/8
2"	3 1/4	5	3/4
2 1/2"	3 3/4	5 1/2	7/8

GROUT THICKNESS SCHEDULE	
ANCHOR BOLT SIZE (DIA.)	MINIMUM GROUT THICKNESS
LESS THAN OR EQUAL TO 1 1/4"Ø	2"
GREATER THAN 1 1/4"Ø	3"

NOTES:

1. REFER TO SPECIFICATIONS AND GENERAL NOTES FOR GROUT REQUIREMENTS.
2. GROUT MAY BE BEVELED OR FORMED BUT SHALL EXTEND A MIN OF 1 1/2" BEYOND FACE OF BASE PLATE.

1 COLUMN BASE PLATE AND ANCHOR ROD SCHEDULE
NO SCALE

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ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

DRAWN BY: JJ

GENERAL STEEL NOTES AND TYP DETAILS

S-500

Plot Stamp:
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S-500MB - PEMB NOTES & DETAILS

PRE-ENGINEERED METAL BUILDING:

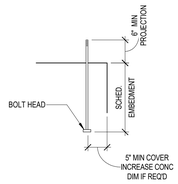
1. DESIGN OF STEEL SUPERSTRUCTURE TO BE PROVIDED BY THE PRE-ENGINEERED METAL BUILDING SUPPLIER. COMPLY WITH METAL BUILDING MANUFACTURER'S ASSOCIATION "DESIGN PRACTICES MANUAL", AISI, AND AISC. METAL BUILDING SUPPLIER'S ENGINEER IS THE DELEGATED ENGINEER RESPONSIBLE FOR THE SUPERSTRUCTURE DESIGN AND FOR THE ACCURACY OF THE BUILDING FRAME REACTIONS SUPPLIED TO THE STRUCTURAL ENGINEER OF RECORD.
2. THE STEEL SUPERSTRUCTURE SHALL BE DESIGNED PER THE INTERNATIONAL BUILDING CODE (EDITION PER THE STRUCTURAL NOTES) UTILIZING DESIGN LOADS LISTED IN THE STRUCTURAL GENERAL NOTES. THE METAL BUILDING SUPPLIER'S ENGINEER SHALL REVIEW STRUCTURAL, ARCHITECTURAL, AND MECHANICAL / ELECTRICAL DRAWINGS AND COORDINATE WITH THESE DRAWINGS REGARDING DETAILS AND LOADS TO BE SUPPORTED.
3. COLLATERAL ROOF LOAD IS IN ADDITION TO DEAD LOAD OF PRE-ENGINEERED BUILDING FRAME, METAL DECK, AND INSULATION.
4. NO FABRICATION OF THE PRE-ENGINEERED METAL BUILDING SHALL BEGIN UNTIL SHOP DRAWINGS ARE APPROVED BY THE STRUCTURAL ENGINEER AND ARCHITECT. FINAL METAL BUILDING DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF THE LICENSED PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT IS LOCATED.
5. PROVIDE ADDITIONAL GIRTS OR OTHER MEMBERS, AS SPECIFIED IN THE PLANS, TO SUPPORT BUILDING ELEMENTS THAT ARE NOT PART OF THE PRE-ENGINEERED BUILDING.
6. BOTTOM FLANGE STRAPPING SHALL BE INSTALLED AS REQUIRED TO ROOF PURLINS TO PREVENT BUCKLING OF BOTTOM FLANGE DURING WIND UPLIFT.
7. PRE-ENGINEERED METAL BUILDING SHALL BE DESIGNED WITHIN THE FOLLOWING DEFLECTION CRITERIA:

   LATERAL DRIFT OF MAIN FRAME: H/400
   LATERAL DEFLECTION OF WALL PURLINS: L/240
   VERTICAL DEFLECTION OF ROOF PURLINS: L/240
   LATERAL DEFLECTION OF END WALL COLUMNS: L/240
   VERTICAL DEFLECTION OF MEMBERS CARRYING BRICK: L/600
   LATERAL DEFLECTION OF WIND GIRTS SUPPORTING BRICK: L/600

8. ROOF LIVE LOAD SHALL NOT BE REDUCED.

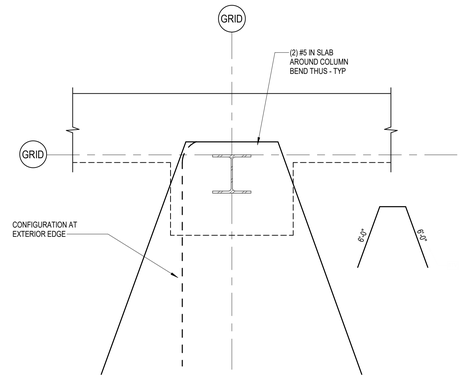
METAL BUILDING ANCHOR BOLTS SCHEDULE	
BOLT DIAMETER (1)	MINIMUM EMBEDMENT (2) INTO CONCRETE FOUNDATION
1/2" DIA	18" EMBED
5/8" DIA	18" EMBED
3/4" DIA	18" EMBED
7/8" DIA	22" EMBED
1" DIA	22" EMBED
1 1/2" DIA	22" EMBED

NOTE
1. SIZE OF BOLT TO BE DESIGNED BY METAL BUILDING DESIGNER & SUBMITTED FOR REVIEW.
2. IF DETAILED FOOTING OR FOOTING CAP DEPTH DOES NOT ALLOW FOR MINIMUM EMBEDMENT, A GREATER NUMBER OF SMALLER BOLTS SHALL BE USED OR STRUCTURAL ENGINEER SHALL BE NOTIFIED FOR REDESIGN OF FOUNDATION PRIOR TO CONSTRUCTION.

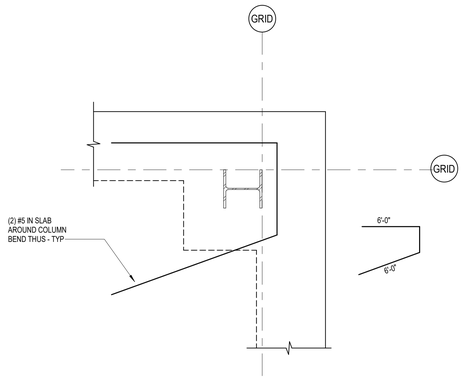


TYPICAL DETAIL

1 METAL BUILDING ANCHOR SCHEDULE
3/4" = 1'-0"



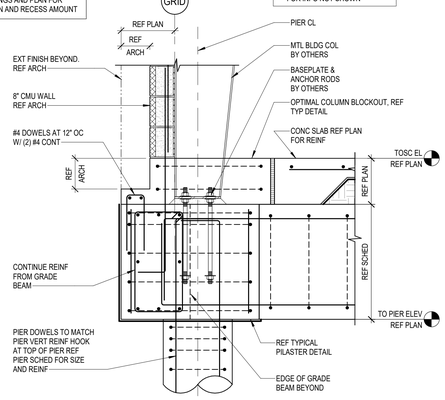
2 TYPICAL HAIRPIN PLAN DETAIL
3/4" = 1'-0"



AT CORNER

NOTE:
AT SIM. CONDITION FOR RECESS, SLAB ELEVATION TO DROP AS REQ'D. TOP OF PIER AND TOP OF GRADE BEAM TO REMAIN CONSTANT AS SHOWN.
REF ARCH DRAWINGS AND PLAN FOR RECESS LOCATION AND RECESS AMOUNT

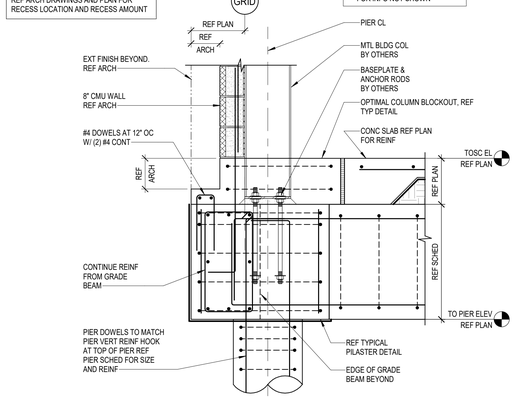
NOTE:
1. REF TYPICAL PILASTER DETAILS FOR INFO NOT SHOWN



3 EXTERIOR PILASTER AT PEMB COLUMN
3/4" = 1'-0"

NOTE:
AT SIM. CONDITION FOR RECESS, SLAB ELEVATION TO DROP AS REQ'D. TOP OF PIER AND TOP OF GRADE BEAM TO REMAIN CONSTANT AS SHOWN.
REF ARCH DRAWINGS AND PLAN FOR RECESS LOCATION AND RECESS AMOUNT

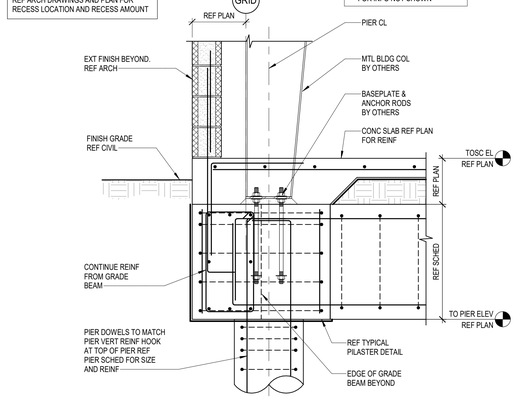
NOTE:
1. REF TYPICAL PILASTER DETAILS FOR INFO NOT SHOWN



4 EXTERIOR PILASTER AT PEMB COLUMN
3/4" = 1'-0"

NOTE:
AT SIM. CONDITION FOR RECESS, SLAB ELEVATION TO DROP AS REQ'D. TOP OF PIER AND TOP OF GRADE BEAM TO REMAIN CONSTANT AS SHOWN.
REF ARCH DRAWINGS AND PLAN FOR RECESS LOCATION AND RECESS AMOUNT

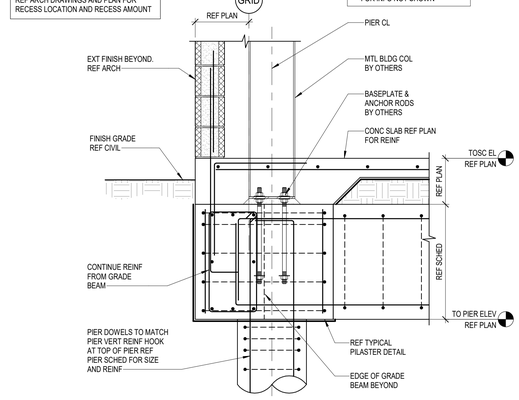
NOTE:
1. REF TYPICAL PILASTER DETAILS FOR INFO NOT SHOWN



5 EXTERIOR PILASTER AT PEMB COLUMN
3/4" = 1'-0"

NOTE:
AT SIM. CONDITION FOR RECESS, SLAB ELEVATION TO DROP AS REQ'D. TOP OF PIER AND TOP OF GRADE BEAM TO REMAIN CONSTANT AS SHOWN.
REF ARCH DRAWINGS AND PLAN FOR RECESS LOCATION AND RECESS AMOUNT

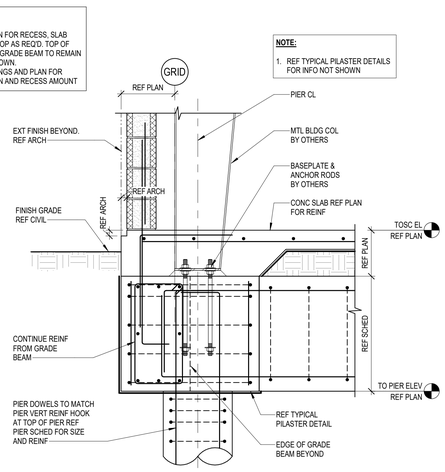
NOTE:
1. REF TYPICAL PILASTER DETAILS FOR INFO NOT SHOWN



6 EXTERIOR PILASTER AT PEMB COLUMN
3/4" = 1'-0"

NOTE:
AT SIM. CONDITION FOR RECESS, SLAB ELEVATION TO DROP AS REQ'D. TOP OF PIER AND TOP OF GRADE BEAM TO REMAIN CONSTANT AS SHOWN.
REF ARCH DRAWINGS AND PLAN FOR RECESS LOCATION AND RECESS AMOUNT

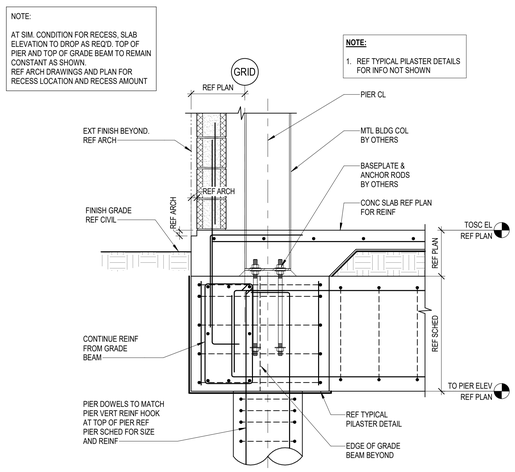
NOTE:
1. REF TYPICAL PILASTER DETAILS FOR INFO NOT SHOWN



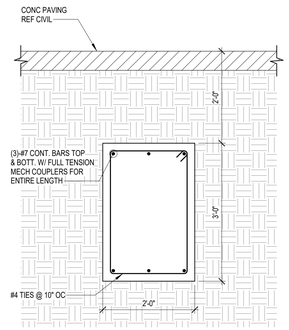
7 EXTERIOR PILASTER AT PEMB COLUMN
3/4" = 1'-0"

NOTE:
AT SIM. CONDITION FOR RECESS, SLAB ELEVATION TO DROP AS REQ'D. TOP OF PIER AND TOP OF GRADE BEAM TO REMAIN CONSTANT AS SHOWN.
REF ARCH DRAWINGS AND PLAN FOR RECESS LOCATION AND RECESS AMOUNT

NOTE:
1. REF TYPICAL PILASTER DETAILS FOR INFO NOT SHOWN



8 EXTERIOR PILASTER AT PEMB COLUMN
3/4" = 1'-0"



9 TIE BEAM DETAIL
3/4" = 1'-0"

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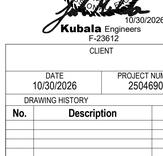
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KEY PLAN

TRUE NORTH



10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI
DRAWN BY: JJ

PEMB NOTES & DETAILS

S-500MB

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GENERAL INFO.:

1. FOR ANY STEEL BEAM OR COLUMN THAT DOES NOT MEET THE MINIMUM SIZE REQUIRED DUE TO THE U.L. DESIGN NUMBER (SELECTED BY THE ARCHITECT), THE THICKNESS OF THE SPRAYED FIRE PROTECTION MATERIAL MUST BE INCREASED AS REQUIRED BY THE FORMULA SHOWN IN THE U.L. FIRE RESISTANCE DIRECTORY (LATEST EDITION).

2. AT BRICK SUPPORT ANGLES, DURING CONSTRUCTION, THE BRICK SHALL BE INSTALLED WITHOUT SHORING THE SUPPORT ANGLE. SHORING THE BRICK DURING CONSTRUCTION CAN CAUSE HORIZONTAL BED JOINT CRACKING WHEN THE SHORES ARE REMOVED.

3. HEADED ANCHORS/STUDS SHALL BE MANUFACTURED FROM COLD DRAWN MATERIALS PER ASTM A108. ANCHORS/STUDS SHALL BE OF GRADE 50 WITH SOLID FLUX FILLED HEADS. ANCHORS/STUDS STUDS SHALL BE AUTOMATICALLY END WELDED WITH IN ACCORDANCE WITH AWS D1.1. ANCHORS/STUDS FOR EMBEDDED PLATES AND OTHER ANCHORS SHALL BE SHOP WELDED. STUDS FOR COMPOSITE BEAMS MUST BE FIELD WELDED.

4. AT BUILDINGS, WHERE SPLICED COLUMNS ARE REQUIRED, THE STEEL COLUMNS MUST BE SPLICED AT A MINIMUM OF 4'-0" ABOVE THE FINISH FLOOR. COLUMNS SHALL BE SPLICED AT EVERY OTHER LEVEL. AT WIDE FLANGE COLUMNS, PROVIDE HOLES IN THE WEBS FOR 3/4" DIAMETER SAFETY CABLES. AT TUBE OR PIPE COLUMNS, PROVIDE PLATES WITH HOLES WELDED TO THE COLUMNS FOR SAFETY CABLE CONNECTIONS. A L3x3x1/4 DECK SUPPORT ANGLE SHALL BE PROVIDED ON ALL SIDES OF THE COLUMN.

5. ALL STRUCTURAL STEEL OUTSIDE OF THE BUILDING ENVELOPE SHALL BE HOT DIPPED GALVANIZED. WITH A MINIMUM ZINC COATING CLASS OF G90, MEETING THE REQUIREMENTS OF ASTM 123, AND SHALL BE APPLIED AFTER FABRICATION. ALL FIELD WELDS SHALL REQUIRED SHALL BE GROUND SMOOTH AND TOUCHED UP WITH A ZINC RICH PAINT.

6. THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS SHALL COMPLY TO OSHA 29 CFR 1926 SUBPART R, SAFETY STANDARDS FOR STEEL ERECTION.

7. THE DRAWINGS AND SPECIFICATIONS MAY NOT INDICATE OR DESCRIBE ALL OF THE WORK REQUIRED FOR THE PERFORMANCE AND COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FABRICATION AND INSTALLATION OF ALL MISCELLANEOUS METAL ITEMS INDICATED, DESCRIBED, OR IMPLIED ON THE STRUCTURAL AND/OR THE ARCHITECTURAL DRAWINGS. MISCELLANEOUS STEEL ITEMS, WITHIN AN ASSEMBLY AND NOT ATTACHED TO THE STRUCTURE, ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS, WHETHER OR NOT THEY ARE SHOWN ON THE ARCHITECTURAL OR STRUCTURAL DRAWINGS. SUCH ASSEMBLIES INCLUDE, BUT ARE NOT LIMITED TO, EXTERIOR AND INTERIOR WALL ASSEMBLIES, CEILING ASSEMBLIES, PARTITION ASSEMBLIES, SHELF AND CABINET ASSEMBLIES AND ALL OTHER SIMILAR ASSEMBLIES. ANY MISCELLANEOUS METAL ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS AND NOT SHOWN ON STRUCTURAL DRAWINGS SHALL BE A MINIMUM OF L4x4x1/2", C7x9.8, 3/8" PLATE OR HSS4x4x3/8" UNLESS OTHERWISE APPROVED BY THE STRUCTURAL ENGINEER.

8. THE GENERAL CONTRACTOR AND THE ELEVATOR SUPPLIER SHALL REVIEW THE STRUCTURAL DRAWINGS FOR FLOOR TO FLOOR AND FLOOR TO ROOF HEIGHTS FOR THE REQUIRED DISTANCE BETWEEN BRACE POINTS, FOR THEIR RAIL DESIGN. PROVIDE A W18x50 MINIMUM HOIST BEAM SIZE, IF NO OTHER SIZE IS PROVIDED ON THE PLANS. BRACING REQUIREMENTS FOR THE TOP OF THE RAIL, OR INTERMEDIATE RAIL BRACE POINTS, SHALL BE COORDINATED WITH THE STRUCTURAL DRAWINGS. IF BRACING IS REQUIRED BUT NOT SHOWN, PROVIDE A MINIMUM OF TS6x6X1/4 VERTICAL POST OR HANGER ATTACHED TO THE STRUCTURE WITH W8x12 BEAMS OR C7x9.8 CHANNELS SPANNING BETWEEN THE FRAMING MEMBERS. ALL MISCELLANEOUS STEEL MEMBERS REQUIRED TO ATTACH RAILS AT THE RAIL BRACE POINTS SHALL BE SUPPLIED BY THE ELEVATOR SUPPLIER. ELEVATOR MACHINE BEAM OR SHIVE BEAM LOADS SHALL BE COORDINATED WITH THE STRUCTURAL DRAWINGS. LOADS AND LOAD LOCATIONS VARYING FROM THE LOADS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE VERIFIED WITH THE STRUCTURAL ENGINEER OF RECORD. THE FRAMING AND INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS IS BASED ON:

- ELEVATOR MODEL NO. PER SPEC.
- MANUFACTURED BY PER SPEC.

IF THE ELEVATOR MANUFACTURER AND/OR MODEL NUMBER CHANGES, THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL REVISIONS TO THE FOUNDATIONS AND THE FLOOR AND ROOF FRAMING AS REQUIRED DUE TO THE CHANGE IN THE ELEVATOR TYPE.

IMPORTANT NOTE TO PROPOSERS:

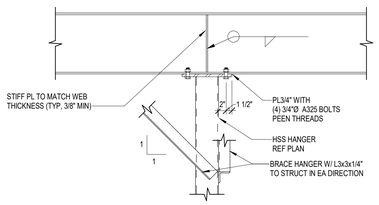
1. THESE DRAWINGS AND SPECIFICATIONS DO NOT NECESSARILY INDICATE ALL OF THE WORK REQUIRED FOR THE COMPLETION OF THE PROJECT. THESE DRAWINGS DO NOT NECESSARILY INDICATE ALL SECONDARY FRAMING WHICH MAY BE REQUIRED BASED ON THE ARCHITECTURAL DRAWINGS.

2. WHERE MISCELLANEOUS METAL ITEMS ARE IMPLIED OR INDICATED ON THE STRUCTURAL OR ARCHITECTURAL DRAWINGS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FABRICATION AND INSTALLATION OF THESE ITEMS. THIS INCLUDES ANY MISCELLANEOUS METAL ITEMS INDICATED ON THE ARCHITECTURAL DRAWINGS AND NOT SHOWN ON THE STRUCTURAL DRAWINGS AND ANY ITEMS SHOWN ON THE STRUCTURAL DRAWINGS AND NOT NOTED. PROPOSERS SHALL ASSUME FOR PROPOSAL PURPOSES ONLY THE SIZE OF THESE ITEMS ARE AS FOLLOWS:

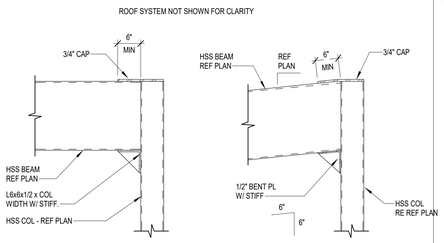
   A. ANGLES: L6X6X3/8
   B. CHANNELS: C12X20.7
   C. PLATES: 1/2" THICK
   D. ANCHOR RODS: 1 1/2" DIAMETER X 18"LONG
   E. EPOXY ANCHORS: 3/4" DIAMETER AT 48"OC MAX SPACING
   F. WIDE FLANGE BEAMS: W24X55
   G. WIDE FLANGE COLUMNS: W12X79
   H. HSS COLUMNS AND BEAMS: HSS8X8X1/2
   J. HSS BEAMS: HSS18X6X5/8
   K. VERT BRACE: HSS8X8X3/8

   THE CONTRACTOR SHALL SUBMIT AN RFI AND THE ENGINEER SHALL APPROVE THE SIZE OF THE MEMBER BEFORE CONSTRUCTION OR FABRICATION.

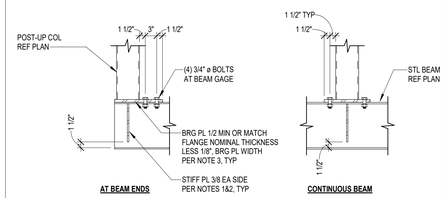
3. PROVIDE SUPPORT FOR EDGES OF ROOF AND FLOOR DECK WHETHER SHOWN ON THE DRAWINGS OR NOT. PROVIDE CONTINUOUS SCREED ANGLE OR BENT PLATE FOR SLAB EDGES.



1 TYPICAL HANGER DETAIL
NO SCALE



2 TYPICAL OUTRIGGER DETAIL
NO SCALE



POST UP

NOTES:

1. CHAMFER CORNERS OF STIFF PL ATE AS REQUIRED AT BEAM "K" REGION.

2. AT INTERSECTING BEAMS, EXTEND SHEAR TAB PER TYPICAL CONNECTION DETAIL FULL DEPTH.

3. BEARING PLATE WIDTH = BEAM FLANGE WIDTH. IF COLUMN IS WIDER THAN BEAM FLANGE, BEARING PLATE WIDTH = COLUMN WIDTH + 1".

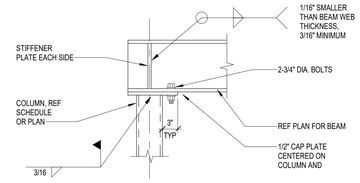
3 TYPICAL POST-UP DETAIL
NO SCALE

NOTES:

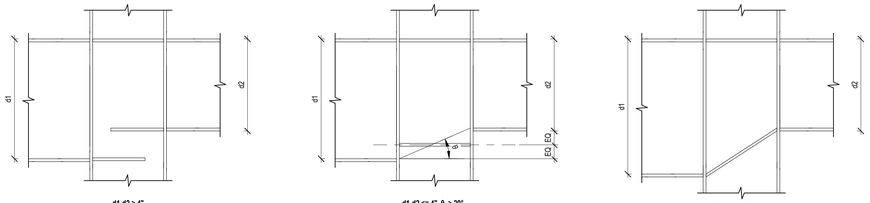
1. REF ROOF PLAN FOR ROOF SLOPE. SLOPE CAP PLATES ACCORDINGLY.

2. STIFFENER PLATE SHALL BE EQUAL IN THICKNESS TO THE COLUMN WALL THICKNESS OR BEAM WEB THICKNESS, WHICHEVER IS GREATER.

3. CONNECT INTERSECTING BEAMS TO STIFFENER PLATES USING BOLTS IN SINGLE SHEAR DESIGNED FOR ECCENTRIC BEAM REACTION.



4 TYPICAL CAP PLATE - BOLTED CONNECTION DETAIL
NO SCALE

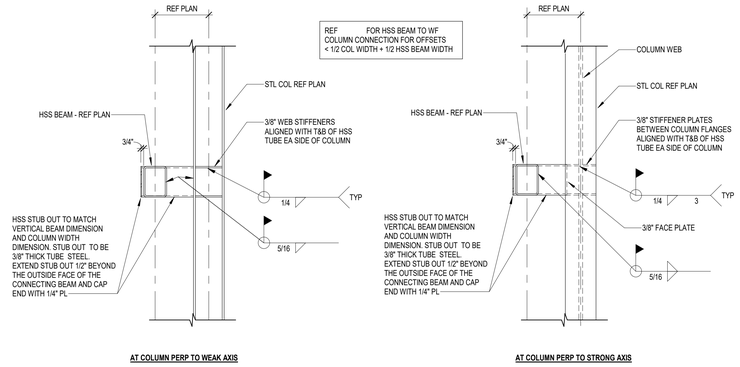


NOTES:
1. REFER TO SPECIFICATIONS FOR CONNECTION DESIGN CRITERIA.

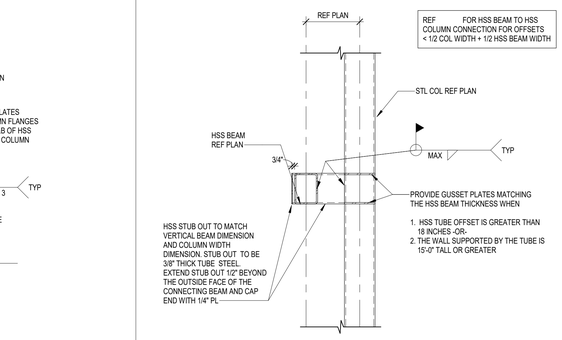
2. PROVIDE PREDESIGNED CONNECTIONS AS SHOWN IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL WHERE APPLICABLE.

3. WHEN BEAM FRAMES ON ONLY ONE SIDE OF COLUMN OR WHEN BEAM REACTIONS ARE SIGNIFICANTLY DIFFERENT, STIFFEN COLUMN WEB AS REQUIRED.

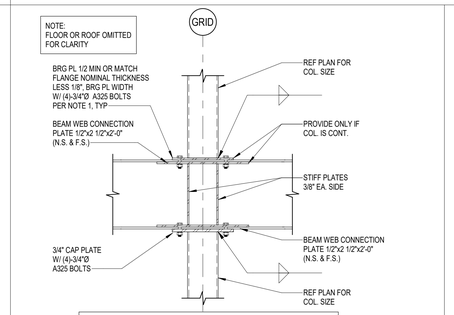
5 TYPICAL COLUMN STIFFENER ARRANGEMENT FOR OPPOSING BEAMS OF DIFFERENT DEPTHS
1 1/2" = 1'-0"



7 TYPICAL HSS BEAM TO WF COLUMN CONNECTION FOR OFFSETS > 1/2 COL WIDTH + 1/2 HSS BEAM WIDTH
NO SCALE



8 TYPICAL HSS BEAM TO HSS COLUMN CONNECTION FOR OFFSETS > 1/2 COL WIDTH + 1/2 HSS BEAM WIDTH
3/4" = 1'-0"

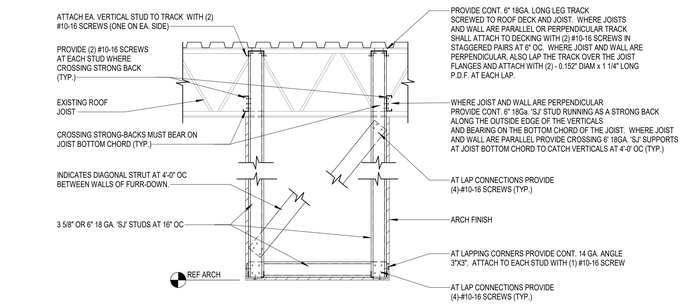


NOTES:

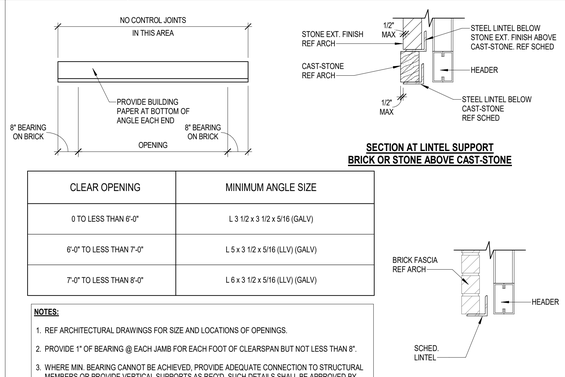
1. BEARING PLATE WIDTH = BEAM FLANGE WIDTH. IF COLUMN IS WIDER THAN BEAM FLANGE, BEARING PLATE WIDTH = COLUMN WIDTH + 1".

2. REF 3/S-501 AND 4/S-501 FOR INFO NOT SHOWN HERE

9 TYPICAL CANTILEVERED BEAM OVER COLUMN CONNECTION
3/4" = 1'-0"



11 FUR-DOWN DETAIL
3/4" = 1'-0"



SECTION AT LINTEL SUPPORT BRICK OR STONE ABOVE CAST-STONE

CLEAR OPENING	MINIMUM ANGLE SIZE
0 TO LESS THAN 6'-0"	L 3 1/2 x 3 1/2 x 5/16 (GALV)
6'-0" TO LESS THAN 7'-0"	L 5 x 3 1/2 x 5/16 (LLV) (GALV)
7'-0" TO LESS THAN 8'-0"	L 6 x 3 1/2 x 5/16 (LLV) (GALV)

NOTES:

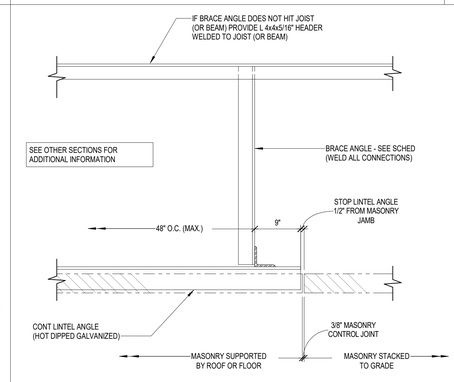
1. REF ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATIONS OF OPENINGS.

2. PROVIDE 1" OF BEARING @ EACH JAMB FOR EACH FOOT OF CLEARSPAN BUT NOT LESS THAN 8".

3. WHERE MIN. BEARING CANNOT BE ACHIEVED, PROVIDE ADEQUATE CONNECTION TO STRUCTURAL MEMBERS OR PROVIDE VERTICAL SUPPORTS AS REQ'D. SUCH DETAILS SHALL BE APPROVED BY THE ENGINEER OF RECORD.

SECTION AT LINTEL

12 TYPICAL STEEL LOOSE LINTEL SCHEDULE
NO SCALE



PLAN VIEW

13 HANGER BRACE SCHEDULE
NO SCALE

NOTE:

1. WHERE MASONRY IS SUPPORTED BY STEEL TUBES WITHOUT HANGERS AND BRACES, THE NOTES PERTAINING TO LINTEL ANGLES SHALL STILL APPLY.

BRACE ANGLE SCHEDULE

BRACE ANGLE SIZE	HEADER ANGLE SIZE	MAX LENGTH
L 3x3x1/4"	L 4x4x5/16"	9'-6"
L 4x4x1/4"	L 5x5x5/16"	13'-3"
L 5x5x5/16"	L 6x6x3/8"	16'-6"
L 6X6x5/16"	L 6x6x3/8"	20'-0"
CONSULT ENGINEER	CONSULT ENGINEER	OVER 20'-0"

SIZE OF ALL BRACE ANGLES IN COMPRESSION SHALL BE DETERMINED BY STEEL FABRICATOR BASED ON THEIR UNBRACED LENGTHS AS SCHEDULED

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713-960-8686

Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE 10/30/2026
PROJECT NUMBER 25046901

DRAWING HISTORY

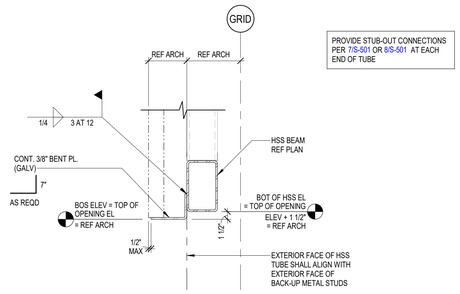
No.	Description	Date

CHECKED BY: SI
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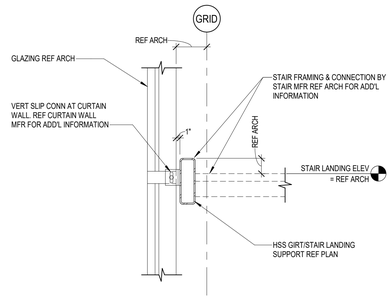
GENERAL STEEL NOTES AND TYP DETAILS

S-501

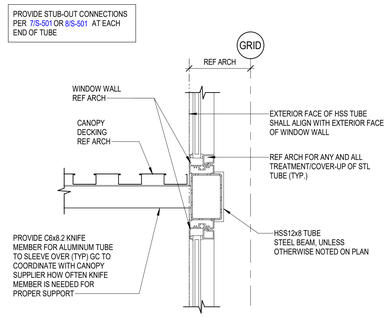
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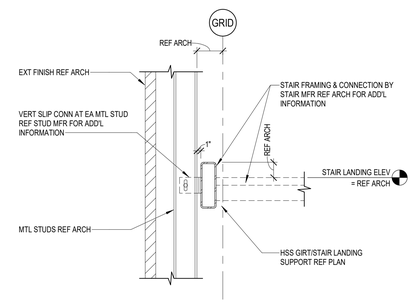
1 TYP LOW TUBE AT BRICK SUPPORT
1" = 1'-0"



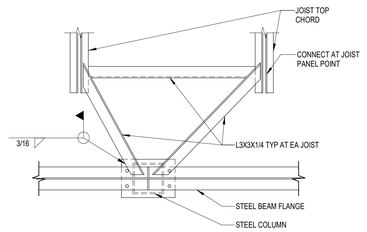
2 TYPICAL GIRT/STAIR LANDING SUPPORT
NO SCALE



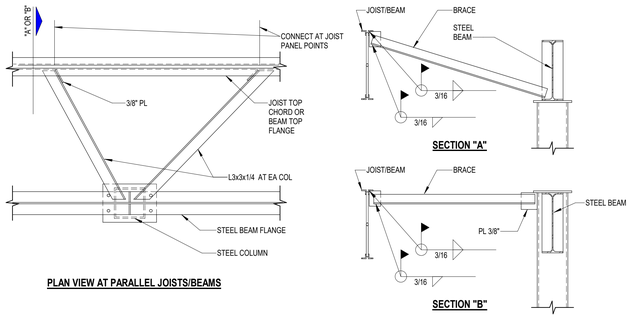
3 TYPICAL INTERMEDIATE WINDOW WALL SUPPORT DETAIL
NO SCALE



4 TYPICAL GIRT/STAIR LANDING SUPPORT
NO SCALE

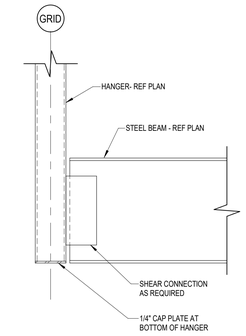


PLAN VIEW AT PERPENDICULAR JOISTS/BEAMS



PLAN VIEW AT PARALLEL JOISTS/BEAMS

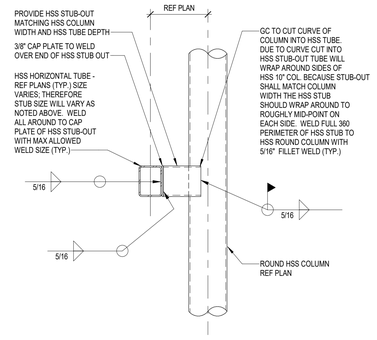
5 TYPICAL COLUMN BRACE AT JOISTS/BEAMS
NO SCALE



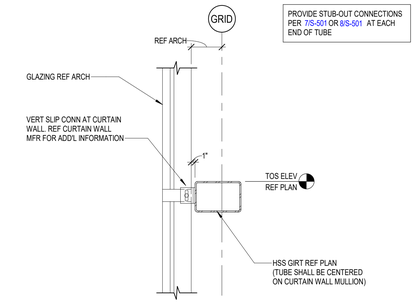
NOTE:

1. DECK NOT SHOWN FOR CLARITY.

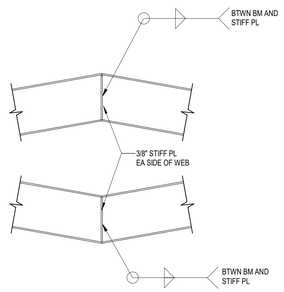
6 TYPICAL BEAM TO HANGER CONNECTION
NO SCALE



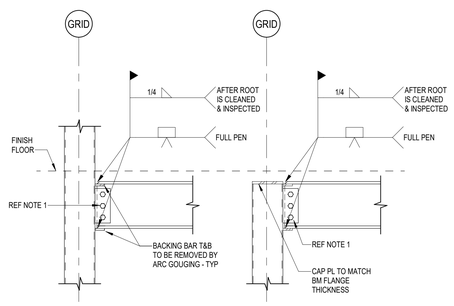
7 TYPICAL OFFSET HSS BEAM TO HSS COLUMN CONNECTION
3/4" = 1'-0"



8 TYPICAL HSS GIRT AT GLAZING
NO SCALE



9 TYPICAL BENT BEAM DETAIL
NO SCALE

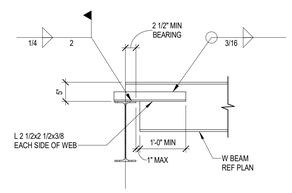


AT FLOOR **AT ROOF**

NOTES:

1. REF CONNECTION SCHEDULE
2. REF PLANS FOR LOCATIONS AND BEAM COLUMN SIZES.
3. PROVIDE COMPLETE PENETRATION GROOVE WELDS UNLESS OTHERWISE SHOWN.
4. AT TOP LEVELS PROVIDE COLUMN CAP PLATE.

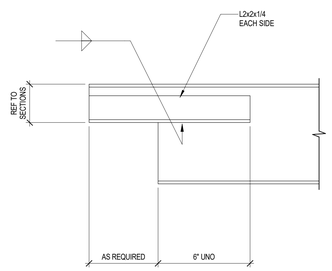
12 TYPICAL MOMENT CONNECTION DETAIL AT HSS COLUMN
NO SCALE



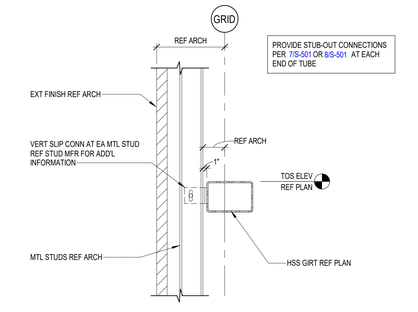
NOTES:

1. CUT BEAM TO MAINTAIN 5" DEPTH ON WEB.
2. MAXIMUM CAPACITY 10k.

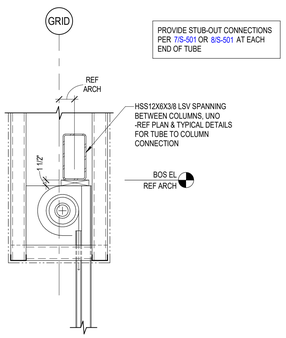
13 TYPICAL DEATIL FOR 5" SEAT CONNECTION FOR STEEL BEAM
NO SCALE



14 TYPICAL COPED CHANNEL OR BEAM
NO SCALE



11 TYPICAL HSS GIRT AT EXTERIOR METAL STUD
NO SCALE



15 OVERHEAD COILING DOOR SUPPORT
3/4" = 1'-0"

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Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

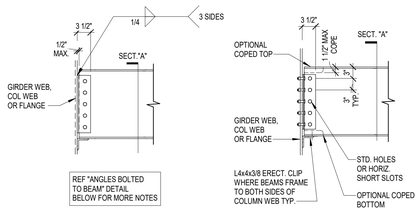
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DRAWN BY: JJ

GENERAL STEEL NOTES AND TYP DETAILS

S-502

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THIS CONNECTION SHALL BE USED ONLY WHEN CONNECTING BEAMS TO COLUMNS OR WHEN CONNECTING BEAMS TO GIRDERS WHERE GIRDER HAS BEAM CONNECTION ON ONE SIDE ONLY IF USED AT LOCATIONS WHERE A BEAM CONNECTION IS OPPOSED BY A BEAM CONNECTION ON THE OTHER SIDE OF THE SUPPORTING MEMBER, AN OSHA-APPROVED METHOD MUST BE USED FOR TEMPORARY ERECTION SUPPORT OF BOTH MEMBERS.

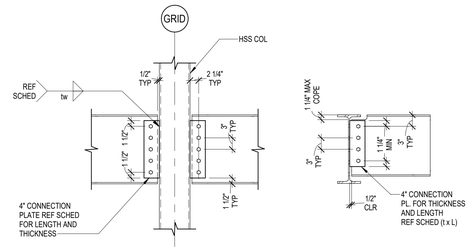
DOUBLE-ANGLE CONNECTION SCHEDULE

BEAM SIZE	NO. OF BOLTS PER VERT. ROW	ANGLE LENGTH (IN)	MAX CAPACITY (KIPS) (ASD)
W8	2	5 1/2	9
W10	2	5 1/2	14
W12	3	8 1/2	23
W14	3	8 1/2	28
W16	4	11 1/2	40
W18	4	11 1/2	48
W21	5	14 1/2	64
W24	6	17 1/2	83
W27	6	17 1/2	113
W30	7	20 1/2	119
W33	8	23 1/2	142
W36	9	26 1/2	160
W40	10	29 1/2	193
W44	10	29 1/2	195

NOTES:

1. ALLOWABLE CAPACITIES ARE IN KIPS (SERVICE LEVEL - UNFACTORED).
2. CAPACITIES BASED ON GRADE 50 BEAMS, A325-N BOLTS, AND A36 ANGLES.
3. HOLES SHALL BE STANDARD (STD) OR SHORT-SLOPPED (SSLT).
4. ALL INFORMATION SHOWN IN THE SCHEDULE ABOVE IS TO BE USED AS A MINIMUM REQUIREMENT FOR ALL CONNECTIONS.
5. ALTERNATE CONNECTION DETAILS ARE ACCEPTABLE PROVIDED SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS ARE SUBMITTED, AND ALL CONNECTION DESIGNS ARE PERFORMED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

1 TYPICAL DOUBLE ANGLE CONNECTION
NO SCALE



BEAM TO HSS COLUMN AT SINGLE PLATE

BEAM TO BEAM AT SINGLE PLATE

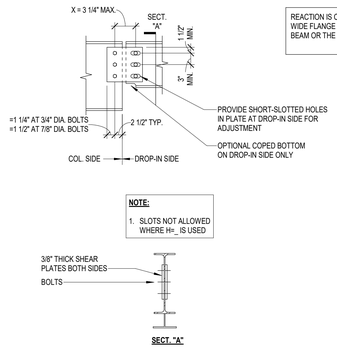
SINGLE PLATE CONNECTION SCHEDULE

BEAM SIZE	SHEAR PLATE (t x L)	WELD SIZE (tw)	A325-N BOLT DIAMETER	NO. OF BOLTS PER VERT. ROW	MAX CAPACITY (KIPS) (ASD)
W8	3/8" x 5 1/2	3/16"	3/4"	2	9
W10	3/8" x 5 1/2	1/4"	7/8"	2	14
W12	3/8" x 8 1/2	1/4"	7/8"	3	23
W14	3/8" x 8 1/2	1/4"	7/8"	3	28
W16	3/8" x 11 1/2	1/4"	7/8"	4	40
W18	1/2" x 11 1/2	1/4"	7/8"	4	48
W21	1/2" x 14 1/2	1/4"	1"	5	64
W24	1/2" x 17 1/2	1/4"	1"	6	83
W27	5/8" x 20 1/2	1/4"	1"	7	113
W30	5/8" x 20 1/2	1/4"	1"	7	119
W33	5/8" x 23 1/2	5/16"	1"	8	142
W36	5/8" x 26 1/2	5/16"	1"	9	160

NOTES:

1. ALLOWABLE CAPACITIES ARE IN KIPS (SERVICE LEVEL - UNFACTORED).
2. CAPACITIES BASED ON GRADE 50 BEAMS, A325N BOLTS, AND A36 PLATES.
3. HOLES SHALL BE STANDARD (STD) OR SHORT-SLOPPED (SSLT).
4. ALL INFORMATION SHOWN IN THE SCHEDULE ABOVE IS TO BE USED AS A MINIMUM REQUIREMENT FOR ALL CONNECTIONS.
5. ALTERNATE CONNECTION DETAILS ARE ACCEPTABLE PROVIDED SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS ARE SUBMITTED, AND ALL CONNECTION DESIGNS ARE PERFORMED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.
6. WELD SIZES SHOWN IN THE ABOVE SCHEDULE ASSUME THAT THE SUPPORTING COLUMN / GIRDER MEETS THE REQUIRED THICKNESS OF THE WELD. IF THE SUPPORTING COLUMN / GIRDER DOES NOT MEET THE REQUIRED THICKNESS FOR THE SCHEDULED WELD SIZE, THE CONNECTION DESIGNER SHALL PROVIDE A SHEAR CONNECTION WHICH MEETS THE CAPACITIES PROVIDED IN THE SCHEDULE ABOVE.

2 TYPICAL SHEAR TAB BOLTED CONNECTION SCHEDULE
NO SCALE



REACTION IS CALCULATED FROM THE DROP-IN SPAN. WIDE FLANGE SIZE IS THE SMALLER OF THE DROP-IN BEAM OR THE SUPPORTING BEAM.

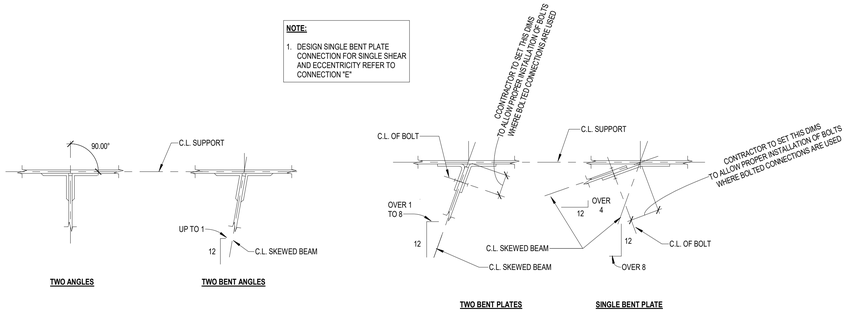
NOTE:

1. SLOTS NOT ALLOWED WHERE H= IS USED

CONNECTION LOAD CAPACITY

WIDE FLANGE BEAM SIZE	# BOLTS PER VERT ROW	MINIMUM BEAM WEB THICKNESS (IN)	MAX REACTION (KIPS) (ASD)	
			3/4" DIA. BOLT X= 3 1/4" BOLTS	7/8" DIA. BOLT X= 3 3/4" BOLTS
W8x10	2	.170	15	14
W10x12	2	.190	18	24
W12x14	3	.200	30	29
W12x16	3	.220	33	32
W8 TO W12	2	.230	18	20
W12 TO W18	3	.235	36	34
W16 TO W24	4	.250	53	51
W18 TO W30	5	.300	70	67
W21 TO W44	6	.350	97	92
W24 TO W44	7	.395	126	119
W30 TO W44	8	.470	150	187
W33 TO W44	9	.550	173	234
W36 TO W44	10	.600	195	261
W40 TO W44	11	.630	217	287
W44	12	.710	238	313

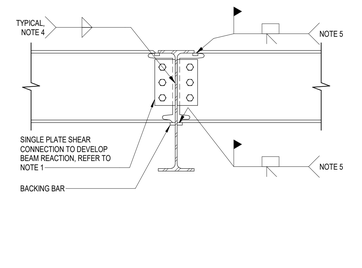
3 TYPICAL SHEAR SPLICE CONNECTION
NO SCALE



NOTE:

1. DESIGN SINGLE BENT PLATE CONNECTION FOR SINGLE SHEAR AND ECCENTRICITY REFER TO CONNECTION "E"

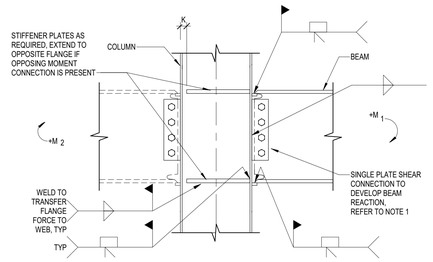
4 TYPICAL SKEWED SIMPLE FRAMING CONNECTION - BEAM TO BEAM
NO SCALE



NOTES:

1. BOLTS IN WEB CONNECTION MAY BE SNUG-TIGHTENED OR PRETENSIONED A325 OR A490 BOLTS WITH HORIZONTAL SHORT-SLOTTED HOLES IN PLATE. IF BOLTS ARE TO BE PRETENSIONED, SNUG-TIGHTEN BOLTS PRIOR TO WELDING FLANGES AND PRETENSION AFTER WELDING FLANGES.
2. REFER TO SPECIFICATIONS FOR CONNECTION DESIGN CRITERIA.
3. PROVIDE PREDESIGNED SHEAR CONNECTIONS AS SHOWN IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION LRFD MANUAL WHERE APPLICABLE.
4. MINIMUM FILLET WELD SIZE FOR SINGLE PLATE SHEAR CONNECTIONS SHALL BE 5/8 TIMES THE PLATE THICKNESS.
5. IF MOMENT IS SHOWN ON DRAWINGS, PARTIAL PENETRATION WELD TO DEVELOP MOMENT CAN BE USED IN LIEU OF COMPLETE JOINT PENETRATION WELD. FOR THIS CASE, WELD SHALL BE REQUIRED TO DEVELOP THE BEAM FLANGE FORCE COMPUTED AS FOLLOWS: Pu = (Mu)/(0.95D), WHERE:
   Mu = DESIGN MOMENT (KIP-FEET).
   D = BEAM DEPTH (INCHES).
   Pu = BEAM FLANGE FORCE (KIPS).

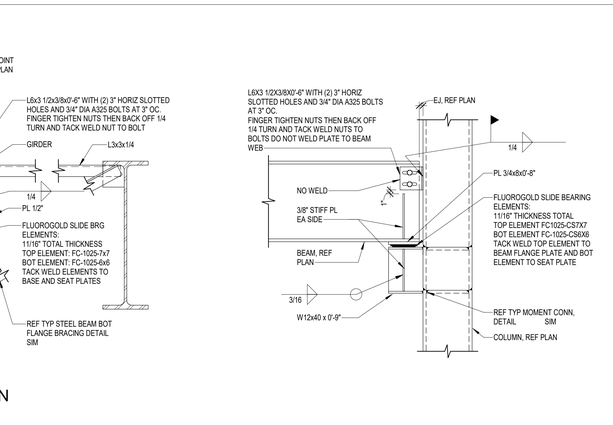
5 TYPICAL BEAM-TO-BEAM MOMENT CONNECTION DETAIL
NO SCALE



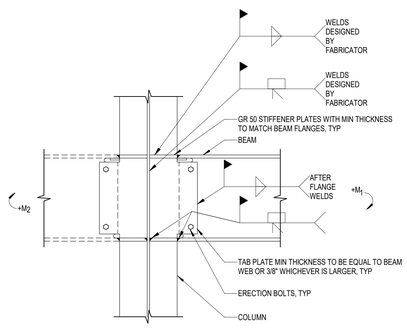
NOTES:

1. BOLTS IN WEB CONNECTION MAY BE SNUG-TIGHTENED OR PRETENSIONED A325 OR A490 BOLTS WITH HORIZONTAL SHORT-SLOTTED HOLES IN PLATE. IF BOLTS ARE TO BE PRETENSIONED, SNUG-TIGHTEN BOLTS PRIOR TO WELDING FLANGES AND PRETENSION AFTER WELDING FLANGES.
2. REFER TO SPECIFICATIONS FOR CONNECTION DESIGN CRITERIA.
3. PROVIDE PREDESIGNED SHEAR CONNECTIONS AS SHOWN IN AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL WHERE APPLICABLE.
4. MINIMUM FILLET WELD SIZE FOR SINGLE PLATE SHEAR CONNECTIONS SHALL BE 5/8 TIMES THE PLATE THICKNESS.
5. WHEN BEAM FRAMES ON ONLY ONE SIDE OF COLUMN OR WHEN BEAM MOMENTS ARE SIGNIFICANTLY UNBALANCED (I M + M I >>0), STRENGTHEN COLUMN WEB AS REQUIRED.
6. ALL CJP WELDS: CVN = 20FT-LBS AT 40°F.

6 TYPICAL MOMENT CONNECTION AT COLUMN FLANGE
NO SCALE



7 TYPICAL SLIDE BEARING CONNECTION
3/4" = 1'-0"



NOTES:

1. REFER TO SPECIFICATIONS FOR CONNECTION DESIGN CRITERIA.
2. WHEN BEAM FRAMES ON ONLY ONE SIDE OF COLUMN OR WHEN BEAM MOMENTS ARE SIGNIFICANTLY UNBALANCED (I M + M I >>0), STRENGTHEN COLUMN WEB AS REQUIRED.
3. ALL CJP WELDS: CVN = 20FT-LBS AT 40°F.

8 TYPICAL MOMENT CONNECTION AT COLUMN WEB
3/4" = 1'-0"

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Ph: (800)249-3674
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KEY PLAN

TRUE NORTH



CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

DRAWN BY: JJ

GENERAL STEEL CONNECTION NOTES AND TYP DETAILS

S-503

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SLABS FORM DECK (AT FLOORS):

1. FLOOR DECK SHALL BE CONTINUOUS OVER FOUR OR MORE SUPPORTS. AT LOCATIONS WHERE SINGLE OR DOUBLE SPAN CONDITIONS OCCUR, THE CONTRACTOR SHALL EITHER SHORE THE DECK, OR ADJUST THE GAGE THICKNESS OF THE DECK IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DECK SHALL BE DESIGNED TO PROVIDE EQUIVALENT OR GREATER LOAD CAPACITY AS THE SPECIFIED DECK SUPPORT OVER FOUR SUPPORTS.

2. DESIGN OF COMPOSITE STEEL BEAMS AND DETAILS FOR CONSTRUCTION ARE BASED ON THE FOLLOWING DECK SYSTEM:

METAL DECK SCHEDULE

DECK DESIGNATION	DECK GAUGE	SDI DECK TYPE	DECK DEPTH (IN)	Ie+ (IN4)	Ie- (IN4)	Se+ (IN3)	Se- (IN3)	Fy (KSI)	METAL DECK CONNECTION SCHEDULE: FASTEN DECK TO SUPPORT MEMBERS – ATTACHMENT PATTERN (W/N)	FASTEN DECK TO SUPPORT MEMBERS – SUPPORT FASTENERS	SIDELAP FASTENERS
3.0 VLI	20	COMPOSITE	3.0	0.919	0.921	0.512	0.539	50	36/4	5/8" PUDDLE WELD	1-1/2" TOP ARC SEAM WELDS @ 12" OC
2.0 VLI	20	COMPOSITE	2.0	0.409	0.407	0.326	0.337	50	36/4	5/8" PUDDLE WELD	1-1/2" TOP ARC SEAM WELDS @ 12" OC

Ie+: POSITIVE EFFECTIVE MOMENT OF INERTIA
Ie-: NEGATIVE EFFECTIVE MOMENT OF INERTIA
Se+: POSITIVE EFFECTIVE SECTION MODULUS
Se-: NEGATIVE EFFECTIVE SECTION MODULUS
FY:YIELD STRENGTH
W/N: SHEET WIDTH / NUMBER OF CONNECTIONS EACH SHEET

3. COMPOSITE STEEL BEAMS DO NOT REQUIRE SHORING TO SUPPORT THE WET WEIGHT OF CONCRETE. BEAMS WILL BE HIGHLY STRESSED AS CONCRETE IS PLACED AND MUST BE POSITIVELY BRACED BY THE METAL DECK CONNECTIONS. DO NOT EXCEED CONCRETE THICKNESSES SHOWN.

4. WARNING: IN NON-SHORED CONSTRUCTION, EXCESSIVE CONCRETE WEIGHT DURING CASTING CAN CAUSE SUPPORTING BEAMS TO COLLAPSE. DO NOT, UNDER ANY CIRCUMSTANCES, EXCEED THE DESIGN SLAB THICKNESS BY MORE THAN 3/4 INCH. CAREFULLY CHECK BEAM CAMBERS AND RETURN ANY FOUND TO BE OUT OF TOLERANCE TO THE SHOP FOR CORRECTION.

5. PRIOR TO ERECTING THE FIRST COMPOSITE BEAMS, THE CONTRACTOR SHALL CALL A SPECIAL PRE-CONSTRUCTION MEETING WITH APPLICABLE SUBCONTRACTORS, TESTING LABORATORY, ARCHITECT AND STRUCTURAL ENGINEER TO REVIEW ALL REQUIREMENTS AND ESTABLISH A QUALITY CONTROL PROCEDURE.

6. THE FINISHED COMPOSITE FLOOR SHALL NOT BE LOADED WITH CONSTRUCTION MATERIALS BEFORE THE CONCRETE HAS ATTAINED 75 PERCENT OF ITS SPECIFIED STRENGTH.

7. ALL SHEAR STUDS SHALL BE FIELD APPLIED, UNLESS OTHERWISE NOTED. SIZE SHALL BE SELECTED FROM THE FOLLOWING TABLE DEPENDING ON DECK AND SLAB DIMENSIONS:

DECK THICKNESS	TOTAL SLAB THICKNESS	SHEAR STUDS
3"	5.5"	3/4" DIA. X 5"
3"	6.5"	3/4" DIA. X 5"
3"	7.5"	3/4" DIA. X 5"
2"	5.5"	3/4" DIA. X 5"
2"	6.5"	3/4" DIA. X 5"

8. PLACE THE INDICATED NUMBER OF SHEAR STUDS ALONG THE LENGTH OF THE BEAM OR BEAM SEGMENT AS SHOWN IN THE SHEAR STUD PLACEMENT DIAGRAMS. STUDS SHALL BE EQUALLY SPACED IN A SINGLE ROW WHERE POSSIBLE, ALLOWING A SINGLE STUD IN THE DECK FLUTES, WHERE APPLICABLE. WHERE ADDITIONAL STUDS ARE REQUIRED TO OBTAIN THE SPECIFIED NUMBER OF STUDS IN A LENGTH OF BEAM, PLACE STUDS IN TANDEM PAIRS PER THE SHEAR STUD PLACEMENT DIAGRAM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING PROPER STUD LAYOUT FOR EACH BEAM PRIOR TO INSTALLATION OF STUDS IN THE FIELD. REFER TO TYPICAL DETAILS FOR PLACEMENT OF SHEAR STUDS ON BEAMS.

9. WHERE MULTIPLE NUMBERS OF STUDS ARE SHOWN FOR A BEAM, PLACE EACH QUANTITY OF STUDS IN THE CORRESPONDING BEAM SEGMENT WHERE THE NUMBER IS SHOWN.

10. PROVIDE CAMBER IN MEMBERS WHERE INDICATED. SPECIFIED CAMBER APPLIES AT JOBSITE, JUST PRIOR TO ERECTION, LYING DOWN FLAT SO THAT MEMBER WEIGHT HAS NO EFFECT. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT OR COMPENSATE FOR CAMBER LOSS DURING SHIPMENT. MEASURED CAMBER IN MEMBERS UP TO 50'-0" LONG SHALL BE WITHIN A TOLERANCE OF -0" TO +1/2" FROM AMOUNT SPECIFIED. FOR MEMBERS GREATER THAN 50'-0" LONG, BOTH POSITIVE AND NEGATIVE TOLERANCE MAY INCREASE 1/8" FOR EVERY 10'-0" OF LENGTH IN EXCESS OF 50'-0". MEMBERS WITH A FIELD MEASURED CAMBER OUTSIDE OF SPECIFIED TOLERANCE SHALL BE RETURNED TO SHOP.

11. SUPPORT CAMBERED MEMBERS DURING SHIPMENT AND HANDLING IN A MANNER WHICH WILL NOT RESULT IN LOSS OF CAMBER.

12. THE CONTRACTOR SHALL MEASURE AND RECORD CAMBER OF ALL BEAMS UPON ARRIVAL AND BEFORE ERECTION FOR COMPLIANCE WITH THE SPECIFIED CAMBER. MEASURE LYING FLAT WITH WEB HORIZONTAL. MEMBERS OUTSIDE THE CAMBER TOLERANCE SHALL BE RETURNED TO THE SHOP FOR CORRECTION. CAMBERS MEASURED BY THE CONTRACTOR ARE TO BE VERIFIED BY THE OWNER'S TESTING LABORATORY.

13. PLACE AN EXTRA LAYER OF WIRE MESH 6'-0" WIDE IN THE TOP OF THE SLAB ABOVE ALL INTERIOR GIRDERS WHICH RUN PARALLEL TO THE DECK SPAN.

14. PLACE SUPPORTS FOR WIRE MESH ON METAL DECK, SO THAT THE MESH IS MAINTAINED IN POSITION 3/4" BELOW THE TOP OF SLAB.

15. METAL DECK SHALL, IN GENERAL, BE FASTENED TO STEEL FRAMEWORK BY WELDING SHEAR STUDS THROUGH THE DECK. IF FIELD WELDED SHEAR STUDS THROUGH METAL DECK ARE NOT CALLED FOR IN SCHEDULE OR ON DRAWINGS,DECK SHALL BE WELDED TO STEEL FRAMEWORK BY PUDDLE WELDS NOT LESS THAN 3/4" DIAMETER, SPACED NOT MORE THAN 1'-0". WHERE SHEAR STUD SPACING EXCEEDS SPECIFIED MAXIMUM DECK WELD SPACING, USE ADDITIONAL PUDDLE WELDS AT 1'-0" BETWEEN STUDS. WHERE 2 UNITS ABUT, EITHER END-TO-END OR SIDE-TO-SIDE, EACH SHALL BE SO FASTENED TO STEEL FRAMING.

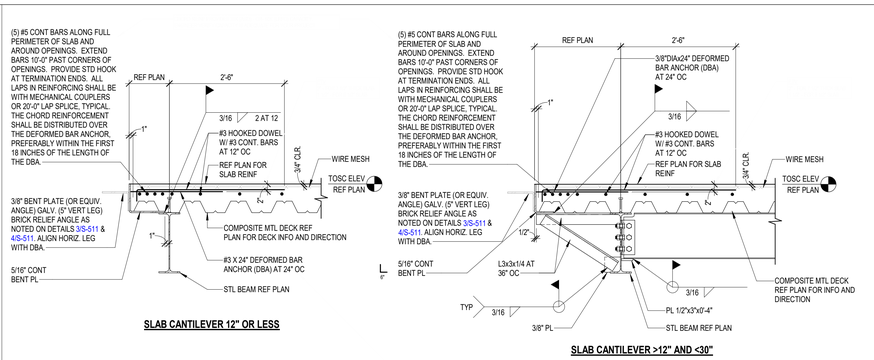
16. WELD GIRDER FILLERS TO STEEL BEAM WITH 2" LONG FILLET WELDS AT A MAXIMUM SPACING OF 12 INCHES. CONNECT SIDES OF ADJACENT UNITS WITH 1 1/2" LONG WELDS AT 3'-0" OC MAX.

17. DEFLECTION OF DECK AND/OR STEEL WILL TAKE PLACE WHEN CONCRETE IS POURED. THE SPECIFIED CONCRETE SLAB THICKNESS SHALL BE MAINTAINED AT COLUMN LOCATIONS. SLAB THICKNESS AWAY FROM THE COLUMNS WILL VARY DUE TO BEAM AND DECK DEFLECTIONS. MINIMUM THICKNESS OF CONCRETE REQUIRED MUST BE PROVIDED, AND TOP SURFACES OF SLABS MUST BE CONSTRUCTED WITHIN SPECIFIED TOLERANCES. WHERE THERE IS RESIDUAL CAMBER IN STEEL BEAMS, FINISHED CONCRETE SURFACE SHALL FOLLOW CAMBER OF BEAMS, BUT FINISHED SURFACE SHALL NOT VARY BY MORE THAN 1/4" FROM ONE BEAM TO ANOTHER ADJACENT BEAM, NOR 1/2" TOTAL FOR LENGTH OF FLOOR. CAMBERED BEAMS ARE INTENDED TO DEFLECT TO APPROXIMATELY A STRAIGHT LINE UNDER FULL WEIGHT OF CONCRETE SLAB, IF ALL TOP OF STEEL ELEVATIONS AND CAMBERS ARE AS SPECIFIED IN THE DRAWINGS. THE CONTRACTOR SHALL BE FAMILIAR WITH THE CONDITIONS OF THE PROJECT AND FURNISH THE MATERIALS REQUIRED TO CREATE THE SPECIFIED FLOOR ELEVATION. NO ADJUSTMENT WILL BE MADE TO CONTRACT PRICE FOR ADDITIONAL CONCRETE REQUIRED BECAUSE OF DEFLECTION OF DECK OR STEEL OR DUE TO DIFFERENTAL CAMBER.

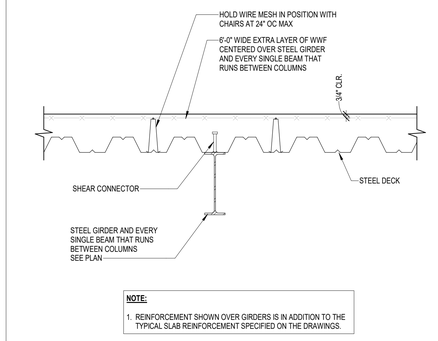
18. NO CONDUITS ALLOWED IN SLABS WITHOUT PRIOR APPROVAL FROM ENGINEER OF RECORD.

19. DO NOT HANG CONCENTRATED LOAD EXCEEDING 100LB FROM COMPOSITE METAL DECKING. ALL MEP APPURTENANCES EXCEEDING 100LB SHALL BE SUPPORTED BY STEEL BEAMS OR JOISTS.

20. ALL METAL FLOOR DECKING SHALL BE GALVANIZED WITH [G90] COATING CONFORMING TO ASTM A924.



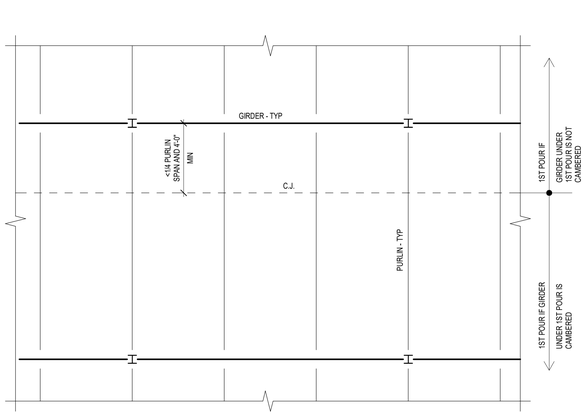
1 TYPICAL COMPOSITE SLAB EDGE DETAIL
NO SCALE

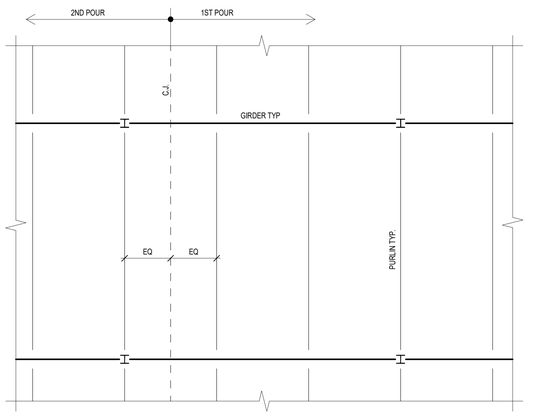


NOTE:

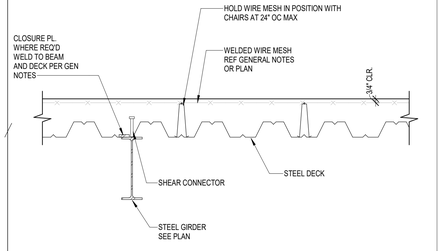
1. REINFORCEMENT SHOWN OVER GIRDERS IS IN ADDITION TO THE TYPICAL SLAB REINFORCEMENT SPECIFIED ON THE DRAWINGS.

2 TYPICAL DETAIL FOR ADD'L REINF IN COMPOSITE SLAB AT INTERIOR GIRDERS
NO SCALE

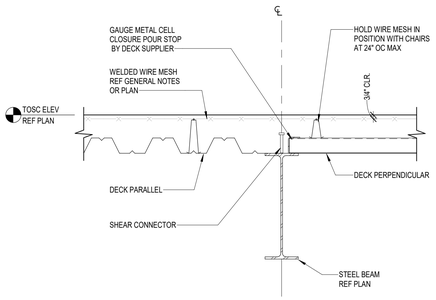




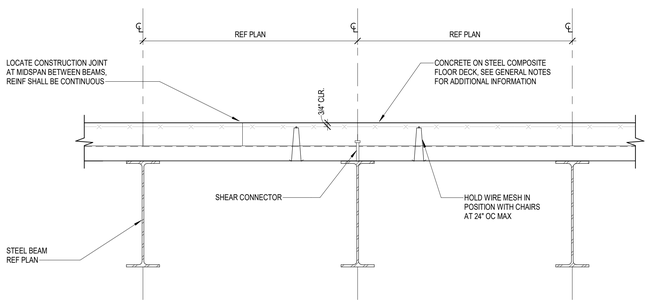
5 TYPICAL DETAIL FOR COMPOSITE SLAB CONSTRUCTION JOINTS
NO SCALE



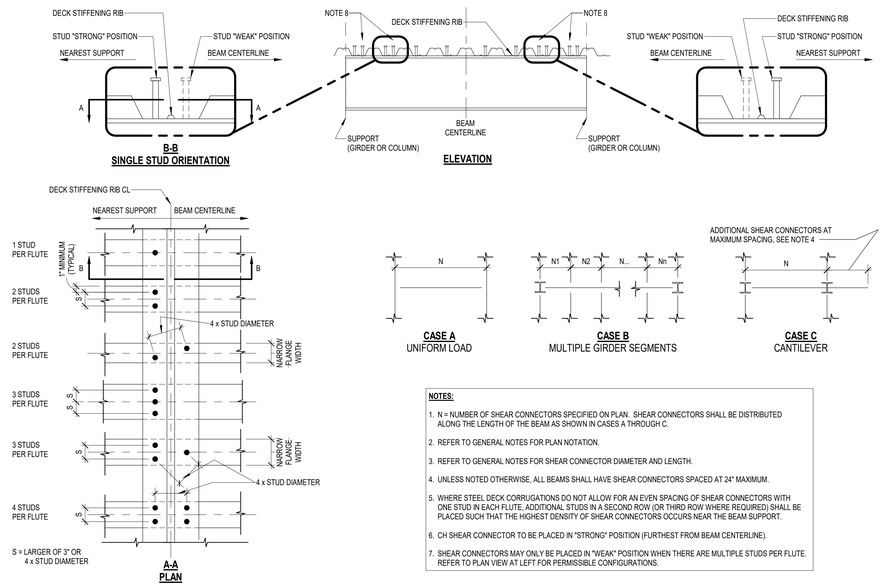
3 TYPICAL DECK PARALLEL TO BEAM
NO SCALE



4 TYPICAL DECKING DIRECTION CHANGE
NO SCALE



6 TYPICAL DECK PERPENDICULAR TO BEAM
NO SCALE



NOTES:

1. N = NUMBER OF SHEAR CONNECTORS SPECIFIED ON PLAN. SHEAR CONNECTORS SHALL BE DISTRIBUTED ALONG THE LENGTH OF THE BEAM AS SHOWN IN CASES A THROUGH C.
2. REFER TO GENERAL NOTES FOR PLAN NOTATION.
3. REFER TO GENERAL NOTES FOR SHEAR CONNECTOR DIAMETER AND LENGTH.
4. UNLESS NOTED OTHERWISE, ALL BEAMS SHALL HAVE SHEAR CONNECTORS SPACED AT 24" MAXIMUM.
5. WHERE STEEL DECK CORRUGATIONS DO NOT ALLOW FOR AN EVEN SPACING OF SHEAR CONNECTORS WITH ONE STUD IN EACH FLUTE, ADDITIONAL STUDS IN A SECOND ROW (OR THIRD ROW WHERE REQUIRED) SHALL BE PLACED SUCH THAT THE HIGHEST DENSITY OF SHEAR CONNECTORS OCCURS NEAR THE BEAM SUPPORT.
6. CH SHEAR CONNECTOR TO BE PLACED IN "STRONG" POSITION (FURTHEST FROM BEAM CENTERLINE).
7. SHEAR CONNECTORS MAY ONLY BE PLACED IN "WEAK" POSITION WHEN THERE ARE MULTIPLE STUDS PER FLUTE. REFER TO PLAN VIEW AT LEFT FOR PERMISSIBLE CONFIGURATIONS.

SHEAR CONNECTORS HAVE HIGHEST CAPACITIES WHEN PLACED AS SHOWN. IF STUDS ARE NOT PLACED PER THIS DETAIL, 25% MORE STUDS MUST BE INSTALLED. EQUALLY SPACE ADDITIONAL STUDS ALONG THE BEAM.

7 TYPICAL SHEAR CONNECTOR PLACEMENT DIAGRAM - IN STUDS " STRONG" POSITION
NO SCALE

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
Kubala Engineers
F-23612
10/30/2026

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

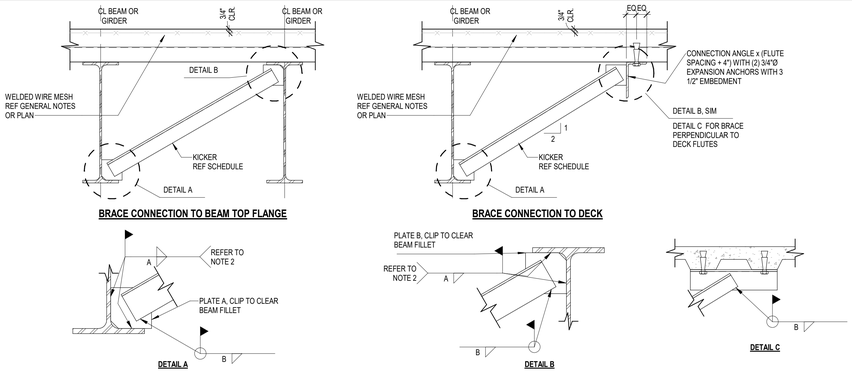
DRAWN BY: JJ

GENERAL COMPOSITE STEEL NOTES AND TYP DETAILS

S-504

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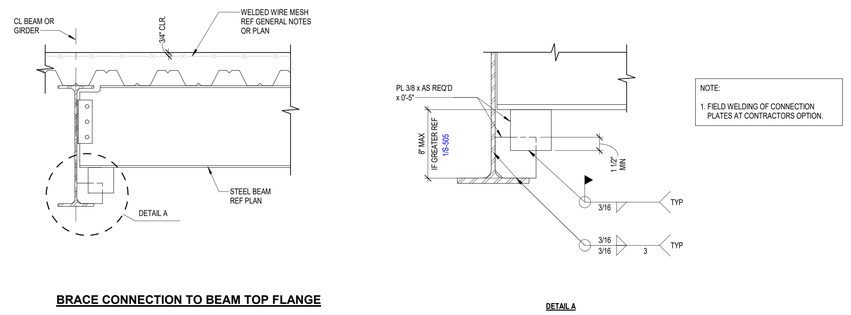


CONNECTION SCHEDULE				
KICKER LENGTH	KICKER SIZE	PLATES A & B	WELDS A & B	CONNECTION ANGLE
UP TO 3'-0"	L2 1/2x2 1/2 x3/16	4x4x3/8	3/16	L3x3x1/4
3'-0" TO 8'-0"	L3x3x1/4	4x4x3/8	3/16	L4x4x1/4
8'-0" TO 12'-0"	L4x4x1/4	5x5x3/8	3/16	N/A
12'-0" TO 16'-0"	L5x5x5/16	6x6x3/8	1/4	N/A

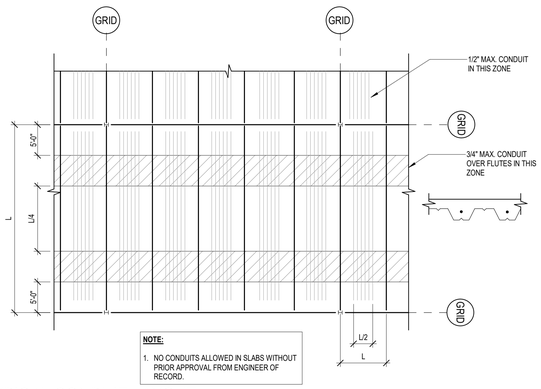
NOTES:

1. REFER TO PLAN AND DETAILS FOR LOCATIONS OF ANGLE BRACES.
2. FIELD WELDING OF CONNECTION PLATES SHALL BE AT FABRICATOR'S OPTION.

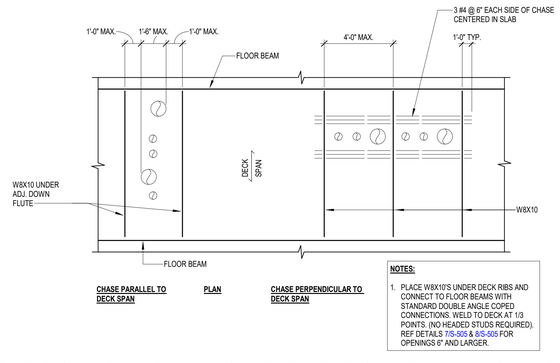
1 TYPICAL BEAM BOTTOM FLANGE BRACE (COMPOSITE CONSTRUCTION)
NO SCALE



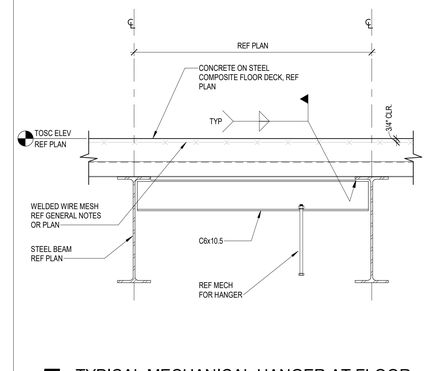
2 TYPICAL BEAM BOTTOM FLANGE BRACE (COMPOSITE CONSTRUCTION)
1" = 1'-0"



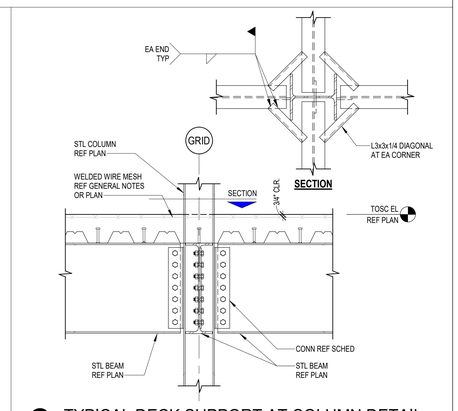
3 TYPICAL CONDUIT LAYOUT
NO SCALE



4 TYPICAL DETAIL FOR FLOOR STRENGTHENING AT PLUMBING CHASE
NO SCALE



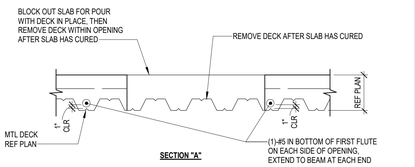
5 TYPICAL MECHANICAL HANGER AT FLOOR
NO SCALE

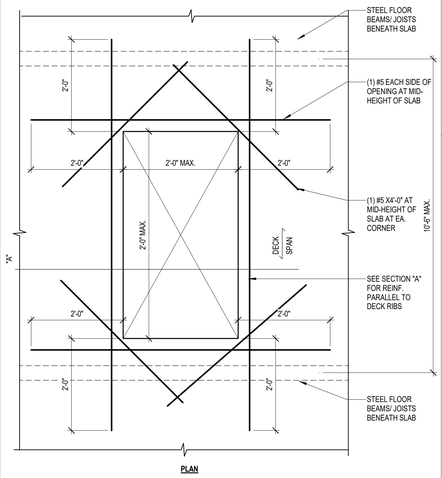


6 TYPICAL DECK SUPPORT AT COLUMN DETAIL
3/4" = 1'-0"

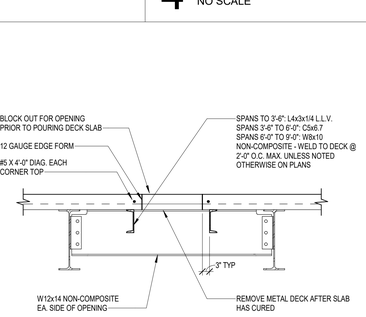
NOTE:

1. REFER TO DETAIL 4/S-505 FOR OPENINGS LESS THAN 6" WIDE UNLESS DETAILED OTHERWISE. FOR OPENINGS LARGER THAN 2'-0" WIDE, PROVIDE BEAM FRAMING PER 8/S-505.

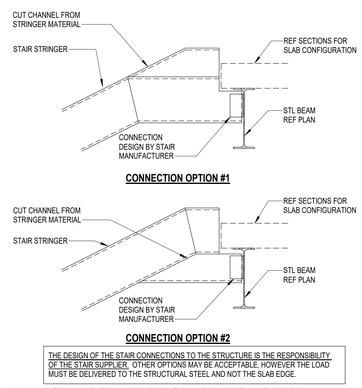




7 TYPICAL DETAIL FOR SMALL MECHANICAL OPENING FROM 6" WIDE TO 24" WIDE IN COMPOSITE SLAB
NO SCALE

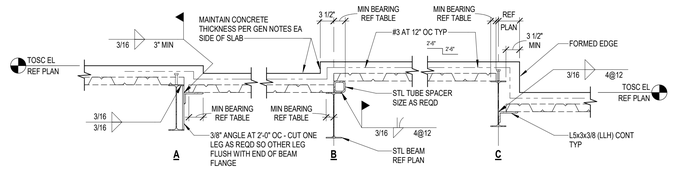


8 TYPICAL DETAIL FOR LARGE MECHANICAL OPENING IN COMPOSITE SLAB OVER 2'-0" PERPENDICULAR TO DECK SPAN
NO SCALE



THE DESIGN OF THE STAIR CONNECTIONS TO THE STRUCTURE IS THE RESPONSIBILITY OF THE STAIR SUPPLIER. OTHER OPTIONS MAY BE ACCEPTABLE, HOWEVER THE LOAD MUST BE DELIVERED TO THE STRUCTURAL STEEL AND NOT THE SLAB EDGE.

9 TYPICAL CONNECTION OPTIONS FOR STAIR STRINGER TO STRUCTURAL STEEL
3/4" = 1'-0"



NORMAL WEIGHT CONCRETE				
MINIMUM BEARING LENGTH REQUIRED				
	SLAB DEPTH ABOVE FLUTES			
DECK TYPE	2 1/2	3	3 1/2	4 1/2
3 VLI 22	2 1/2	2 1/2	2 1/2	2 1/2
3 VLI 20	2 1/2	2 1/2	2 1/2	2 1/2
2 VLI 22	2	2	2	2
2 VLI 20	1 1/2	1 1/2	1 1/2	2
2 VLI 18	1 1/2	1 1/2	1 1/2	2

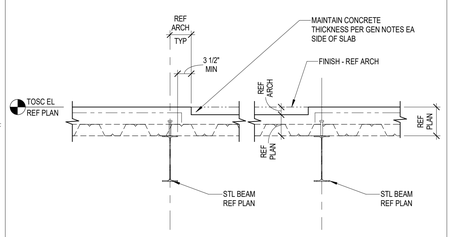
NOTE :
MINIMUM BEARING FOR ALL DECK TYPES AND SLAB THICKNESSES IS 1 1/2" UNLESS LISTED IN THE TABLE ABOVE.

LIGHTWEIGHT CONCRETE				
MINIMUM BEARING LENGTH REQUIRED				
	SLAB DEPTH ABOVE FLUTES			
DECK TYPE	2 1/2	3	3 1/2	4 1/4
3 VLI 22	2 1/2	2 1/2	2 1/2	2 1/2
3 VLI 20	2	2 1/2	2 1/2	2 1/2
2 VLI 22	1 1/2	2	2	2

NOTE :
MINIMUM BEARING FOR ALL DECK TYPES AND SLAB THICKNESSES IS 1 1/2" UNLESS LISTED IN THE TABLE ABOVE.

10 TYPICAL FLOOR DECK SUPPORTS AT SLAB OFFSETS
3/4" = 1'-0"

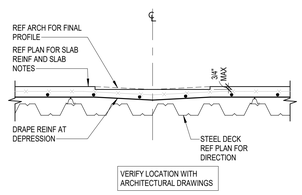
SEE 10/S-505 FOR INFO NOT SHOWN



11 TYPICAL FLOOR DECK SUPPORTS AT SLAB OFFSETS
3/4" = 1'-0"

NOTE:

1. PROVIDE EXTRA HORIZ REINF AT EACH SIDE OF DRAIN EQUAL TO REINFORCING INTERRUPTED BY DRAIN DEPRESSION



VERIFY LOCATION WITH ARCHITECTURAL DRAWINGS

12 TYPICAL SLAB RECESS AT COMPOSITE SLAB
3/4" = 1'-0"

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Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

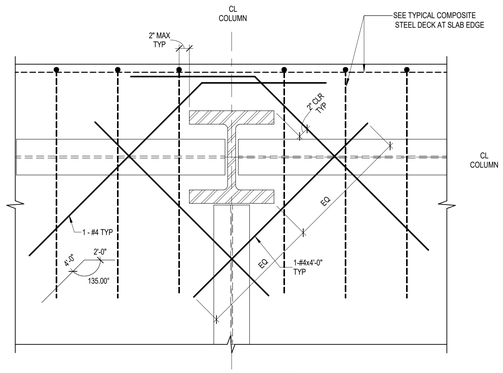
DRAWN BY: JJ

GENERAL COMPOSITE STEEL NOTES AND TYP DETAILS

S-505

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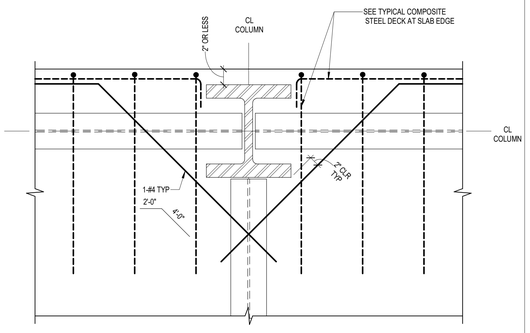


NOTES:

1. SLAB REINFORCEMENT SHOWN TO BE PLACED IMMEDIATELY BELOW THE TYPICAL SLAB TOP BAR REINFORCEMENT

2. SEE TYPICAL DECK SUPPORT AT COLUMN DETAIL

1 TYPICAL SLAB REINFORCEMENT AT EDGE COLUMN, SLAB EDGE EXTENDS 2" OR MORE BEYOND FACE OF COLUMN
1" = 1'-0"

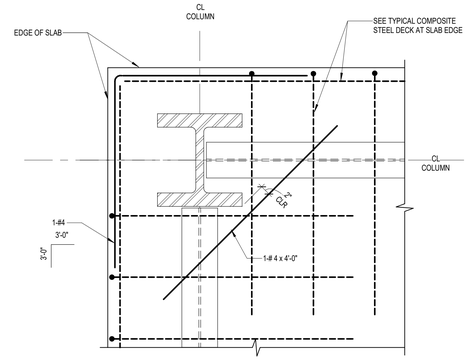


NOTES:

1. SLAB REINFORCEMENT SHOWN TO BE PLACED IMMEDIATELY BELOW THE TYPICAL SLAB TOP BAR REINFORCEMENT

2. SEE TYPICAL DECK SUPPORT AT COLUMN DETAIL

2 TYPICAL SLAB REINFORCEMENT AT EDGE COLUMN, SLAB EDGE EXTENDS LESS THAN 2" BEYOND FACE OF COLUMN
1" = 1'-0"

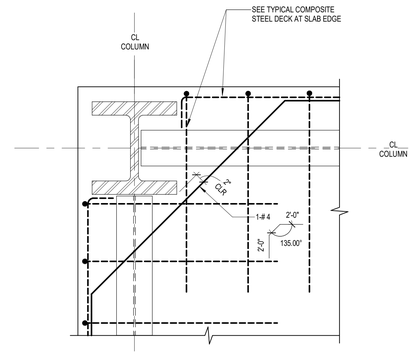


NOTES:

1. SLAB REINFORCEMENT SHOWN TO BE PLACED IMMEDIATELY BELOW THE TYPICAL SLAB TOP BAR REINFORCEMENT

2. SEE TYPICAL DECK SUPPORT AT COLUMN DETAIL

3 TYPICAL SLAB REINFORCEMENT AT CORNER COLUMN, SLAB EDGE EXTENDS 2" OR MORE BEYOND FACE OF COLUMN
1" = 1'-0"

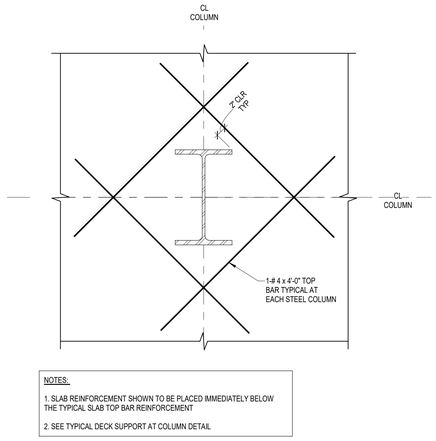


NOTES:

1. SLAB REINFORCEMENT SHOWN TO BE PLACED IMMEDIATELY BELOW THE TYPICAL SLAB TOP BAR REINFORCEMENT

2. SEE TYPICAL DECK SUPPORT AT COLUMN DETAIL

4 TYPICAL SLAB REINFORCEMENT AT EDGE COLUMN, SLAB EDGE EXTENDS LESS THAN 2" BEYOND FACE OF COLUMN
1" = 1'-0"

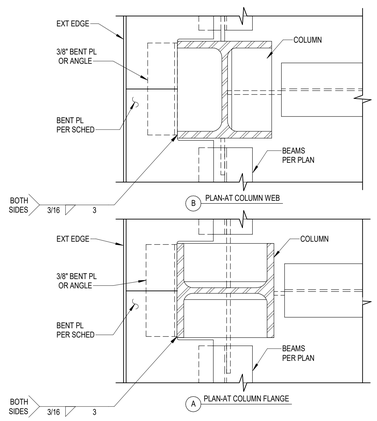


NOTES:

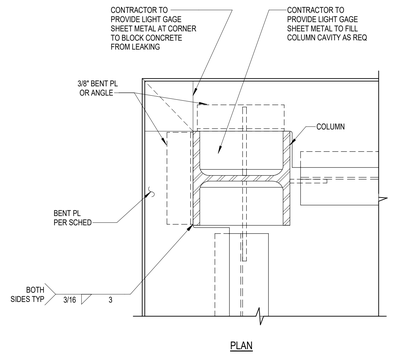
1. SLAB REINFORCEMENT SHOWN TO BE PLACED IMMEDIATELY BELOW THE TYPICAL SLAB TOP BAR REINFORCEMENT

2. SEE TYPICAL DECK SUPPORT AT COLUMN DETAIL

5 TYPICAL SLAB REINFORCEMENT AT INTERIOR COLUMN
1" = 1'-0"

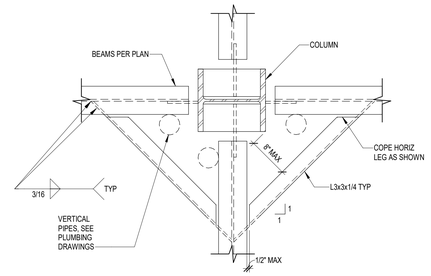


6 EDGE OF DECK AT EXTERIOR COLUMN
1" = 1'-0"



PLAN

7 EDGE OF DECK AT EXTERIOR CORNER COLUMN
1" = 1'-0"



PLAN

8 OPENINGS ADJACENT TO COLUMN
1" = 1'-0"

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Tomball ISD-Multi-Program Activity Center-Tomball High School

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

DRAWN BY: JJ

TYPICAL STEEL DECK DETAILS

S-506

Kubala ENGINEERS
Ph: (800)248-3674
www.kubalaengineers.com
TX. REG. NO. F-23612

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STEEL JOIST FRAMING:

1. OPEN WEB STEEL JOISTS SHALL BE DESIGNED, MANUFACTURED AND ERECTED PER THE LATEST STEEL JOIST INSTITUTE (SJI) SPECIFICATIONS. JOISTS SHALL BE CAMBERED FOR DEAD LOAD. PROVIDE THE STANDARD SJI AMOUNT OF CAMBER UNLESS NOTED OTHERWISE ON THE DRAWINGS. THE JOIST SUPPLIER SHALL ADJUST CAMBERS AT JOISTS ADJACENT TO EACH OTHER THAT HAVE VARYING LENGTHS AND AT JOISTS ADJACENT TO STEEL BEAMS WITH SET ELEVATIONS SO THAT THE ELEVATIONS FOR ADJACENT MEMBERS, PRIOR TO ERECTION OF DECK, DO NOT VARY BY MORE THAN 1".

2. STAGGER JOISTS ENDS AS REQUIRED (AT NARROW BEAMS) IN ORDER TO ACHIEVE 2 1/2 INCH MINIMUM BEARING. HORIZONTAL AND DIAGONAL BRIDGING SHALL BE PROVIDED PER SJI SPECIFICATIONS, AND SHALL BE WELDED TO STEEL BEAMS AND DECK SUPPORT ANGLES AT ENDS.

3. AT JOIST SPANS WHERE REQUIRED BY SJI, BOLTED DIAGONAL BRIDGING NEAREST THE CENTER OF THE SPAN SHALL BE INSTALLED AT EACH JOIST PRIOR TO THE SLACKENING OF HOIST LINES. FOR JOISTS THAT SPAN 40 FEET AND GREATER, THE JOIST SHALL HAVE ALL JOISTS BOLTED TO THE SUPPORT AT EACH END.

4. FOR THE THREE JOISTS NEAREST EACH COLUMN, THE BOTTOM CHORDS SHALL BE EXTENDED. BOTTOM CHORD EXTENSION CONNECTIONS SHALL NOT BE MADE UNTIL AFTER THE FULL DEAD LOAD IS APPLIED. A 6 INCH x 6 INCH STABILIZER PLATE SHALL BE PROVIDED IN ORDER TO RECEIVE THE JOIST BOTTOM CHORDS AT ALL COLUMN LOCATIONS. THE PLATE SHALL EXTEND A MINIMUM OF 3" BELOW THE BOTTOM OF THE BOTTOM CHORDS. PROVIDE A 13/16" DIAMETER HOLE IN THE STABILIZER PLATE FOR GUYING CABLES.

5. JOISTS THAT REQUIRE REPAIRS OR MODIFICATIONS DUE TO FABRICATION ERRORS OR TO DAMAGES CAUSED DURING THE SHIPPING PROCESS, SHALL BE REPLACED WITH NEW JOISTS.

6. ALL STEEL JOISTS AND JOIST GIRDERS SHALL BE DESIGNED UNDER THE DIRECT SUPERVISION OF A STRUCTURAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.

7. PROVIDE STANDARD DEPTH OF BEARING FOR ALL JOISTS AS SHOWN BELOW UNLESS NOTED OTHERWISE ON THE DRAWING OR DICTATED BY JOIST SLOPE:
   A. ALL K SERIES: 2 1/2" DEEP
   B. LH SERIES WITH JOIST SECTION NUMBER LESS THAN 18: 5" DEEP
   C. ALL DLH SERIES JOIST AND LH SERIES JOIST WITH SECTION NUMBER GREATER THAN 18: 7 1/2" DEEP
   D. WHERE JOISTS WITH DIFFERENT SEAT DEPTHS BUT THE SAME TOP OF JOIST ELEVATION BEAR ON THE SAME SUPPORTING ELEMENT, PROVIDE THE DEEPER JOIST SEAT FOR ALL JOIST BEARING ON THAT ELEMENT UNLESS SPECIFICALLY DETAILED OTHERWISE IN THE CONTRACT DOCUMENTS.

8. UNLESS INDICATED OTHERWISE IN THE CONTRACT DOCUMENTS, WELD ALL JOIST SEATS TO THE SUPPORTING STRUCTURAL STEEL OR TO BEARING PLATES IN CONCRETE OR MASONRY AS FOLLOWS:
   A. K-SERIES JOISTS: 2 1/2 INCH LONG FILLET WELDS EACH SIDE OF JOIST SEAT WITH A THICKNESS EQUAL TO THE STEEL THICKNESS OF THE JOIST SEAT. (1/8" FILLET WELD MINIMUM)
   B. LH & DLH-SERIES JOISTS: 2 1/2 INCH LONG FILLET WELDS FOR JOIST SECTIONS NUMBER 02 THROUGH 17 AND 4 INCH LONG FILLET WELDS FOR JOIST SECTIONS NUMBER 18 THROUGH 25 EACH SIDE OF JOIST SEAT WITH A THICKNESS EQUAL TO THE STEEL THICKNESS OF THE JOIST SEAT. (3/16" FILLET WELD MINIMUM FOR JOISTS WITH SECTION NUMBER LESS THAN 07 AND 1/4" FILLET WELD MINIMUM FOR JOISTS WITH SECTION NUMBER 07 THROUGH 25).
   C. IN ADDITION TO THE WELDED CONNECTION FOR ALL JOISTS, PROVIDE AN ADDITIONAL BOLTED CONNECTION AT JOISTS WHERE REQUIRED BY OSHA STANDARDS OR THE STEEL JOIST INSTITUTE'S STANDARD SPECIFICATIONS.

9. WHERE JOISTS BEAR ON ONE SIDE OF A MASONRY WALL, JOIST SEATS SHALL BE OF SUFFICIENT DEPTH THAT WILL ALLOW THE JOIST REACTION TO ALIGN ON THE CENTER OF THE MASONRY WALL.

10. HANGERS SUPPORTING MECHANICAL EQUIPMENT, SPRINKLER LINES, ETC., FROM THE CHORD OF STEEL JOISTS, SHALL BE LOCATED AT THE PANEL POINTS OF THE JOISTS OR THE JOIST CHORD SHALL BE REINFORCED TO SUPPORT THE ADDITIONAL LOAD, EXCEPT AS FOLLOWS. HANGERS SUPPORTING LESS THAN 50 POUNDS FROM THE BOTTOM CHORD OR 150 POUNDS FROM THE TOP CHORD DO NOT HAVE TO BE PLACED AT PANEL POINTS. DO NOT SUSPEND ANYTHING FROM JOIST BRIDGING.

11. PROVIDE JOIST BRIDGING IN COMPLIANCE WITH THE CURRENT EDITION OF THE STEEL JOIST INSTITUTE'S STANDARD SPECIFICATIONS, UNLESS A MORE STRINGENT REQUIREMENT FOR BRIDGING IS REQUIRED BY THE CONTRACT DOCUMENTS.
   A. WHERE THE SPECIFIED WIND UPLIFT LOAD (REF GENERAL NOTES) RESULTS IN COMPRESSION IN THE JOIST BOTTOM CHORD, PROVIDE ADDITIONAL BRIDGING AS REQUIRED TO BRACE THE BOTTOM CHORD.
   B. WHERE JOISTS ARE EXPOSED, CONTRACTOR SHALL COORDINATE BRIDGING WITH REQUIREMENTS OF OTHER TRADES SUCH AS MECHANICAL DUCTS, LIGHTING, ETC. IF NECESSARY FOR COORDINATION WITH OTHER TRADES, PROVIDE ADDITIONAL ROWS OF BRIDGING ABOVE THE MINIMUM REQUIREMENTS OF THE STEEL JOIST INSTITUTE'S STANDARD SPECIFICATIONS.
   C. AT LOCATIONS WHERE BOTTOM CHORD HORIZONTAL BRIDGING IS DISCONTINUED FOR ONE JOIST SPACING FOR ANY REASON, PROVIDE DIAGONAL BRIDGING BETWEEN ADJACENT TWO JOISTS ON EACH SIDE.

12. SEE ROOF PLANS FOR JOIST TOP CHORDS TO BE DESIGNED AS DRAG STRUTS FOR HORIZONTAL FORCES (NOTED H = _____ KIPS) IN COMBINATION WITH GRAVITY LOADS. THIS FORCE MAY BE EITHER COMPRESSION OR TENSION. STRESSES MAY NOT BE INCREASED FOR WIND.

13. IF BEAM FLANGES ARE NOT WIDE ENOUGH TO ACCOMMODATE BEARING SEATS FROM BOTH SIDES, JOISTS MAY BE OFFSET AND SEATS OVERLAPPED. CONTRACTOR TO COORDINATE DECK LAYOUT SO END LAPS ALWAYS OCCUR OVER JOISTS. JOISTS ON COLUMN LINES MUST STILL BRACE COLUMNS WITH EXTENDED BOTTOM CHORDS.

14. WHERE JOIST TOP CHORD EXTENSIONS ARE INDICATED, DESIGN THE EXTENSION FOR A CONCENTRATED DEAD LOAD AT THE END OF 150 POUNDS AND A UNIFORM LOAD EQUAL TO THE TOTAL LOAD CAPACITY PROVIDED IN THE SJI LOAD TABLES FOR THE JOISTS SPECIFIED ON THE FRAMING PLANS WITH THE EXTENSIONS. SIZE EXTENSIONS TO LIMIT DEFLECTION TO THE LESSER OF 3/8" OR L/180 FOR LIVE LOAD OR L/120 FOR TOTAL LOAD, WHERE "L" IS THE LENGTH OF THE EXTENSION.

15. STEEL JOISTS, BRIDGING, AND THEIR CONNECTIONS SHALL BE DESIGNED FOR A NET UPLIFT EQUAL TO THE UPWARD COMPONENT AND CLADDING WIND PRESSURES SHOWN ON THE STRUCTURAL DRAWINGS MINUS 3 PSF OF DEAD LOAD(0.6D). STEEL JOISTS, BRIDGING, AND THEIR CONNECTIONS SHALL ALSO BE DESIGNED FOR AN ADDITIONAL DOWN WIND FORCE RESULTING FROM POSITIVE WIND ROOF COMPONENTS AND CLADDING PRESSURE AS SHOWN ON THE STRUCTURAL DRAWINGS. DOWN FORCE WIND LOADING IN COMBINATION WITH DEAD AND LIVE LOADS MAY CONTROL THE DESIGN OF THESE ELEMENTS.

16. PROVIDE ALL NECESSARY ERECTION BOLTS, STABILIZER PLATES, BOTTOM CHORD CONNECTIONS, ERECTION BRIDGING, ETC., IN COMPLIANCE WITH OSHA REGULATIONS GOVERNING SAFETY IN THE WORKPLACE. CONNECTION DETAILS SHOWN ARE ADEQUATE FOR FINAL IN PLACE CONDITIONS AND DO NOT NECESSARILY PROVIDE FOR CONSTRUCTION SAFETY.

17. ALL STEEL SHALL BE DOMESTICALLY (INCLUDING CANADA) MILLED AND FABRICATED. FOREIGN STEEL SHALL NOT BE UTILIZED WITH OUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER. THE APPROVAL PROCESS SHALL TAKE PLACE DURING BIDDING TIME. ANY REQUEST TO UTILIZE FOREIGN STEEL MADE AFTER BIDDING SHALL BE REJECTED.

18. OPEN WEB STEEL JOIST SUPPLIER IS TO SUBMIT SHOP DRAWINGS PREPARED UNDER THE SUPERVISION OF A LICENSED ENGINEER IN THE STATE IN WHICH THE PROJECT IS BEING PERFORMED TO THE ARCHITECT/ENGINEER FOR REVIEW FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. SEE THE SPECIFICATIONS FOR OTHER SUBMITTAL REQUIREMENTS.

19. FOR OPEN WEB JOISTS, SOME U.L. RATINGS REQUIRE SPECIAL SIZES. THE JOIST MANUFACTURER SHALL VERIFY AND RE-DESIGN ANY/ALL JOISTS AS REQUIRED, TO MEET THE U.L. FIRE RESISTANCE DIRECTORY.

20. GENERAL RTU WEIGHTS AND LOCATIONS ARE PROVIDED IN THE CONTRACT DOCUMENTS. THE JOIST SIZES DESIGNATED ON THE FRAMING PLAN AND THE JOIST GIRDER PANEL POINT LOADS DO NOT TAKE INTO ACCOUNT THE RTU WEIGHTS. THE JOIST MANUFACTURER SHALL DESIGN SPECIAL JOISTS TO SUPPORT THE WEIGHT OF THE RTU'S IN ADDITION TO THE TOTAL LOAD CAPACITY PROVIDED IN THE SJI LOAD TABLES FOR THE JOISTS SPECIFIED ON THE FRAMING PLANS AT THE RTU LOCATIONS. JOISTS SUPPORTING RTU'S SHALL BE FABRICATED SYMMETRICALLY ABOUT THEIR CENTERLINE. THE RTU WEIGHTS SHALL ALSO BE ADDED TO THE JOIST GIRDER PANEL POINT LOADS PROVIDED IN THE DRAWINGS. THE CONTRACTOR SHALL COORDINATE THE FINAL RTU LOCATIONS, WEIGHTS AND SIZES WITH THE JOIST MANUFACTURER AND NOTIFY THE ENGINEER OF ANY CHANGES FROM WHAT IS INDICATED IN THE CONTRACT DOCUMENTS. ROOF MOUNTED MECHANICAL UNIT LOCATIONS ARE SHOWN ON THE ROOF FRAMING PLANS. PROVIDE ADDITIONAL STEEL FRAMING, AS DETAILED, FOR SUPPORT OF RTU CURBS AND PROVIDE DECK SUPPORT ANGLES AT ALL ROOF OPENINGS.

21. UNLESS INDICATED OTHERWISE, THE JOIST SIZES DESIGNATED ON THE FRAMING PLANS AND THE JOIST GIRDER PANEL POINT LOADS DO NOT TAKE INTO ACCOUNT THE WEIGHT OF VARIOUS ITEMS SUCH AS, BUT NOT LIMITED TO, OPERABLE PARTITIONS, BASKETBALL GOALS, SCORE BOARDS, MECHANICAL EQUIPMENT, MECHANICAL EQUIPMENT SUPPLY AND RETURN PIPING, ELECTRICAL EQUIPMENT, ETC. THE MANUFACTURER SHALL DESIGN SPECIAL JOISTS TO SUPPORT THE WEIGHT OF THESE ITEMS IN ADDITION TO THE TOTAL LOAD CAPACITY PROVIDED IN THE SJI LOAD TABLES FOR THE JOISTS SPECIFIED ON THE FRAMING PLANS AT THE LOCATION OF THESE ITEMS. JOISTS SUPPORTING THESE ITEMS SHALL BE FABRICATED SYMMETRICALLY ABOUT THEIR CENTERLINE. THE ITEM WEIGHTS SHALL ALSO BE ADDED TO THE JOIST GIRDER PANEL POINT LOADS PROVIDED IN THE DRAWINGS. THE CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF THESE ITEMS, AND THEIR WEIGHTS AND SIZES WITH THE JOIST MANUFACTURER AND NOTIFY THE ENGINEER OF ANY CHANGES FROM WHAT IS INDICATED ON THE FRAMING PLANS.

22. THE JOIST DESIGNATED ON THE FRAMING PLANS AND THE JOIST GIRDER PANEL POINT LOADS DO NOT TAKE INTO ACCOUNT THE COLUMN LOADS ASSOCIATED WITH THE ROOF SCREENS INDICATED IN THE CONTRACT DOCUMENTS. THE JOIST MANUFACTURER SHALL DESIGN SPECIAL JOISTS AND JOIST GIRDERS TO SUPPORT THE CONCENTRATED LOADS AND MOMENTS INDICATED IN THE ROOF SCREEN DETAILS AT EACH ROOF SCREEN COLUMN IN ADDITION TO THE TOTAL LOAD CAPACITY PROVIDED IN THE SJI LOAD TABLES FOR THE JOISTS SPECIFIED ON THE FRAMING PLANS AT THE ROOF SCREEN COLUMN LOCATIONS. JOISTS SUPPORTING ROOF SCREEN COLUMNS SHALL BE FABRICATED SYMMETRICALLY ABOUT THEIR CENTERLINE. THE ROOF SCREEN COLUMN LOADS SHALL ALSO BE ADDED TO THE JOIST GIRDER PANEL POINT LOADS PROVIDED IN THE DRAWINGS. THE CONTRACTOR SHALL COORDINATE THE FINAL ROOF SCREEN COLUMN LOCATIONS WITH THE JOIST MANUFACTURER AND NOTIFY THE ENGINEER OF ANY CHANGES FROM WHAT IS INDICATED ON THE FRAMING PLANS.

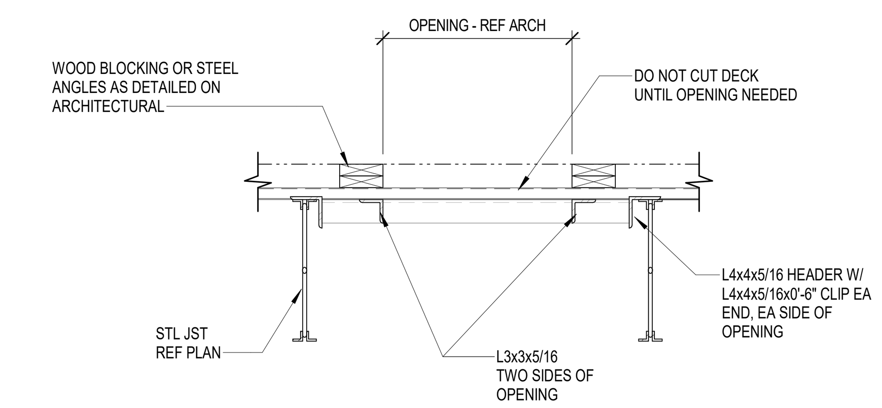
23. IN ADDITION TO AND SIMULTANEOUSLY WITH OTHER SPECIFIED LOADS, DESIGN JOISTS AND JOIST GIRDERS FOR THE FOLLOWING CONCENTRATED LOADS:
   A. DESIGN JOISTS AND JOIST GIRDERS FOR A CONCENTRATED LOAD AND ANY OTHER SPECIFIED LOADS AT ANY ONE TOP OR BOTTOM CHORD PANEL POINT AS FOLLOWS:
      1. FLOOR AND ROOF JOISTS: 300 POUNDS
      2. FLOOR AND ROOF JOIST GIRDERS: 500 POUNDS
   B. DESIGN CHORDS FOR SHEARS AND MOMENTS INDUCED IN THE CHORDS AS A RESULT OF ALL OR A PORTION OF THESE CONCENTRATED LOADS AND ANY OTHER SPECIFIED LOADS BEING LOCATED AT ANY POINT BETWEEN ANY TWO ADJACENT PANEL POINTS AS FOLLOW:
      1. FLOOR AND ROOF JOISTS:
         a. TOP CHORD: 300 POUNDS
         b. BOTTOM CHORD: 50 POUNDS
      2. FLOOR AND ROOF JOIST GIRDERS:
         a. TOP CHORD: 500 POUNDS
         b. BOTTOM CHORD: 500 POUNDS
   C. ALL LOADS HANGING FROM THE JOIST BOTTOM CHORD SHALL BE CENTERED ON THE JOIST CHORD AND ATTACHED TO ALL ELEMENTS OF MULTI-ELEMENT BOTTOM CHORDS. CLAMP TYPE HANGERS ARE NOT ALLOWED UNLESS SPECIFICALLY AUTHORIZED BY THE JOIST MANUFACTURER'S ENGINEER.

24. UNLESS INDICTED OTHERWISE, SPECIAL JOISTS SUPPORTING OPERABLE PARTITIONS SHALL BE DESIGNED FOR A MAXIMUM DEFLECTIONS DUE TO THE LIVE LOAD AND OPERABLE PARTITION WEIGHT OF L/360. HOWEVER, THE CONTRACTOR SHALL COORDINATE WITH THE SELECTED OPERABLE PARTITION MANUFACTURER TO DETERMINE IF A MORE RESTRICTIVE DEFLECTION LIMIT IS REQUIRED BY THE MANUFACTURER FOR INSTALLATION PURPOSES AND TO MAINTAIN PROPER OPERATION OF THE PARTITION.

25. THE FRAMING PLANS AND DETAILS IN THE CONTRACT DRAWINGS MAY SHOW THE JOIST ALIGNED IN ADJACENT SPANS WITH BUTTED SEATS. IF THE SUPPORTING STEEL BEAM OR EMBEDDED BEARING PLATE IN THE CONCRETE/MASONRY WALL IS NOT WIDE ENOUGH TO ALLOW BUTTED SEATS AND MEET THE MINIMUM STEEL JOIST INSTITUTE SPECIFICATIONS FOR MINIMUM BEARING LENGTH, THEN THE SEATS SHALL BE LAPPED. THE CONTRACTOR SHALL COORDINATE THE FINAL JOIST LOCATIONS AND THE METAL DECK SPANS.

26. THE JOIST DEPTH AT THE ENDS OF JOIST DESIGNATED AS DOUBLE OR TRIPLE PITCHED SHALL BE THE DEPTH SPECIFIED ON THE FRAMING PLANS. THE DEPTH AT THE RIDGE OF THESE JOIST SHALL BE THE SPECIFIED DEPTH PLUS THE CHANGE IN TOP OF STEEL ELEVATION BETWEEN THE END OF THE JOIST AND THE RIDGE.

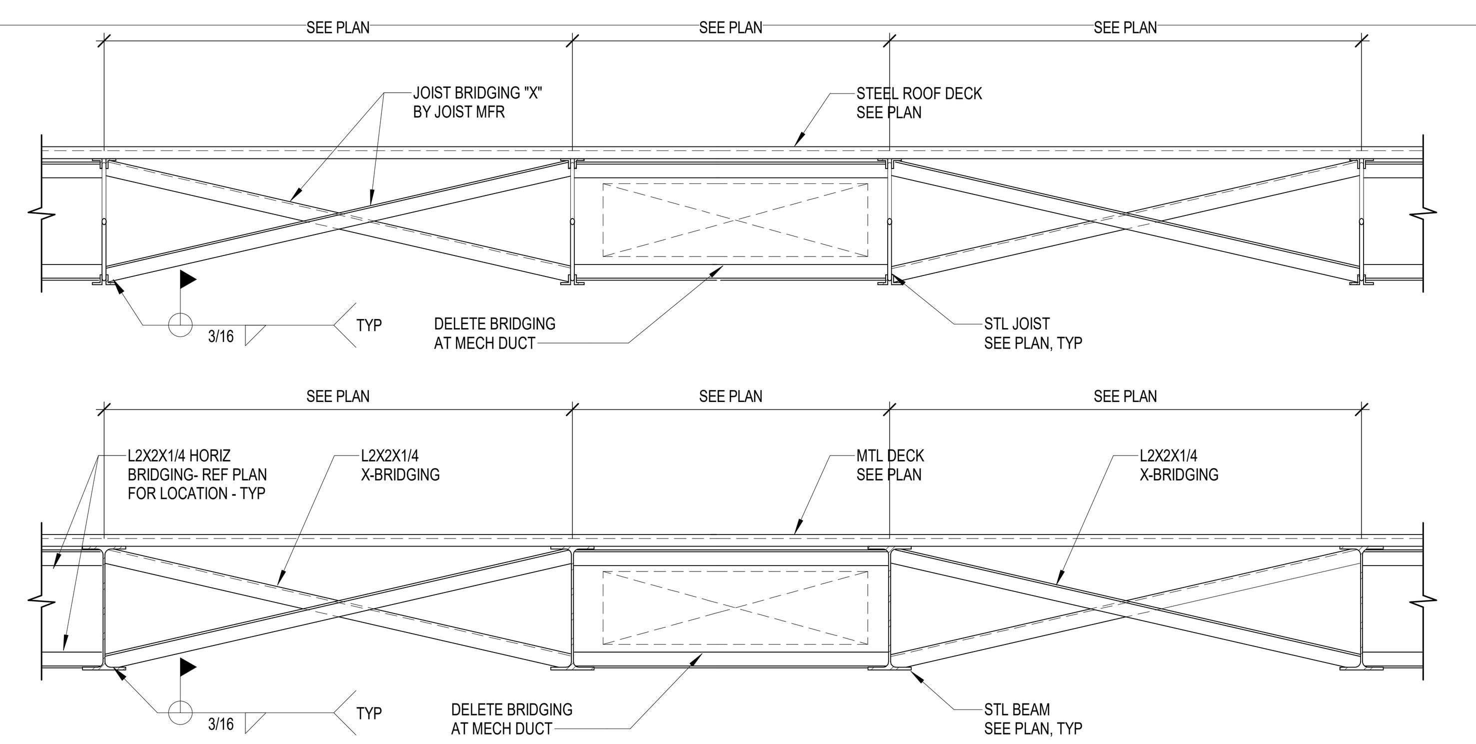
THIS DETAIL APPLIES FOR OPENINGS GREATER THAN 1'-1" IN ANY DIRECTION. FOR OPENINGS GREATER THAN 6" AND LESS THAN 1'-1" IN ANY DIRECTION, USE A 16 GAGE DOUBLER PLATE WITH A PLAN DIMENSION 3 TIMES THE OPENING SIZE. SCREW PLATE TO DECK WITH #12 SCREWS @ 6" OC.



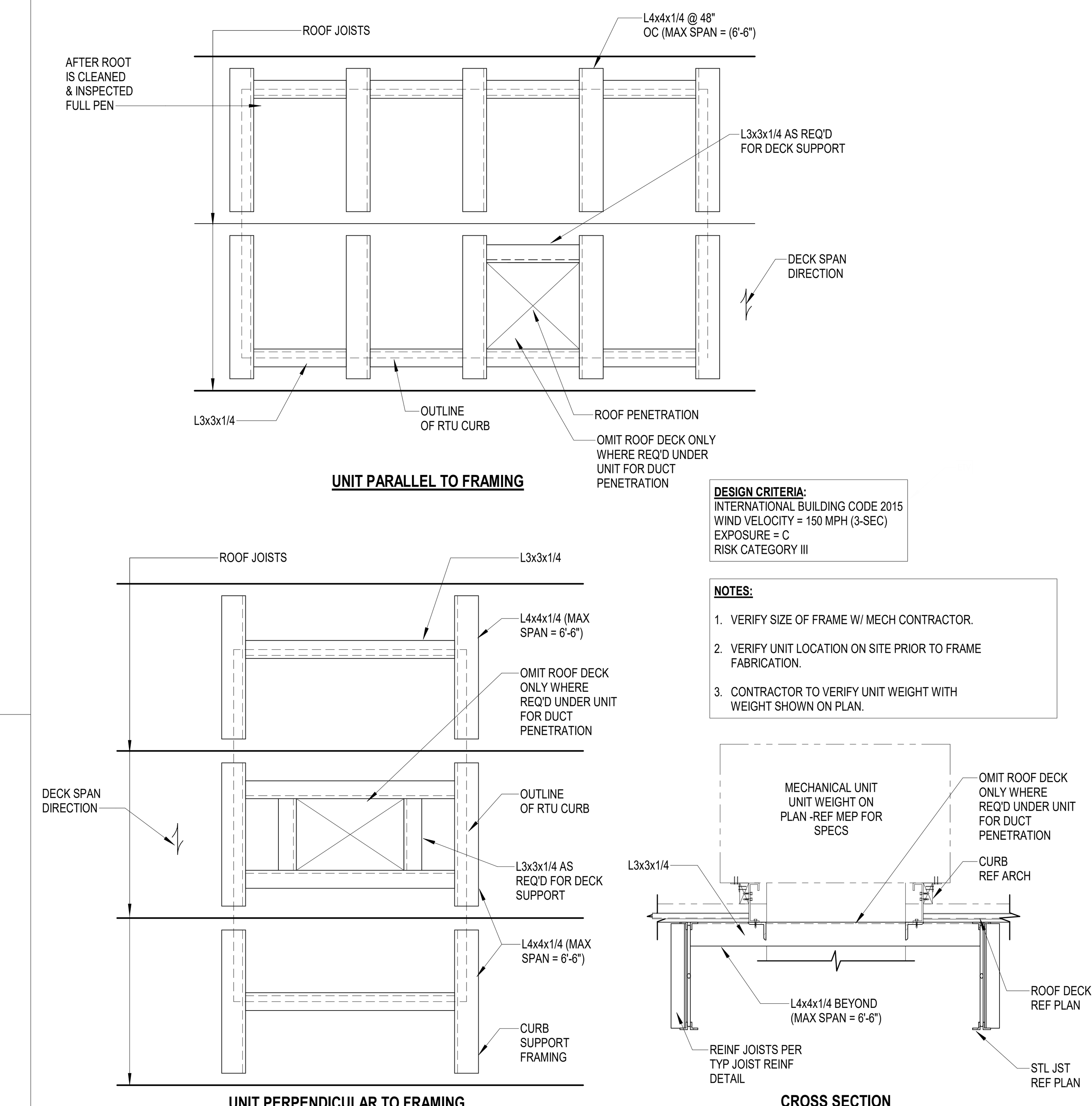
NOTE:

1. PROVIDE L3x3x1/4" FRAME FOR ROOF DRAIN SUPPORT (MIN) UNLESS NOTED OTHERWISE IN ARCHITECTURAL DRAWINGS

2 TYPICL ROOF OPENING DETAIL
NO SCALE



1 TYPICAL BRIDGING
NO SCALE



DESIGN CRITERIA:
INTERNATIONAL BUILDING CODE 2015
WIND VELOCITY = 150 MPH (3-SEC)
EXPOSURE = C
RISK CATEGORY III

NOTES:

1. VERIFY SIZE OF FRAME W/ MECH CONTRACTOR.
2. VERIFY UNIT LOCATION ON SITE PRIOR TO FRAME FABRICATION.
3. CONTRACTOR TO VERIFY UNIT WEIGHT WITH WEIGHT SHOWN ON PLAN.

5 TYPICAL SUPPORT AT MECHANICAL UNIT DETAIL
NO SCALE

METAL ROOF DECKING:

1. METAL ROOF DECK OF SIZE NOTED ON PLANS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:

METAL DECK SCHEDULE									METAL DECK CONNECTION SCHEDULE		
									FASTEN DECK TO SUPPORT MEMBERS		
DECK DESIGNATION	DECK GAUGE	SDI DECK TYPE	DECK DEPTH (IN)	Ie+ (IN4)	Ie- (IN4)	Se+ (IN3)	Se- (IN3)	Fy (KSI)	ATTACHMENT PATTERN (W/N)	SUPPORT FASTENERS	SIDELAP FASTENERS
1.0 CSV	20	CONFORM	0.9375	0.088	0.088	0.167	0.165	60	36/6	5/8" PUDDLE WELD	6#12 TEK SCREWS
1.5 B	20	WIDE RIB	1.5	0.201	0.201	0.234	0.247	50	36/7	5/8" PUDDLE WELD	6#12 TEK SCREWS

Ie+: POSITIVE EFFECTIVE MOMENT OF INERTIA
Ie-: NEGATIVE EFFECTIVE MOMENT OF INERTIA
Se+: POSITIVE EFFECTIVE SECTION MODULUS
Se-: NEGATIVE EFFECTIVE SECTION MODULUS
FY:YIELD STRENGTH
W/N: SHEET WIDTH / NUMBER OF CONNECTIONS EACH SHEET

2. SEE ROOF FRAMING PLAN FOR ROOF DECK SIZES.

3. THE METAL ROOF DECK ON THIS PROJECT IS REQUIRED TO PERFORM AS A STRUCTURAL DIAPHRAGM, ALL WELDS AND SCREWS ARE CRITICAL TO THE SUCCESSFUL PERFORMANCE OF THE DIAPHRAGM.

4. STEEL ROOF DECK (WITH RIGID INSULATION BOARD):
   4.1. ROOF DECK SHALL BE 1 1/2" DEEP, 22 GAGE, WIDE RIB, TYPE B DECK CONFORMING TO ASTM A611 OR A653-99 WITH Fy=33 KSI. DECK SHALL BE GALVANIZED, CONFORMING TO ASTM A924, WITH A MINIMUM ZINC COATING CLASS OF G90 PER ASTM A653-99. DECK SHALL HAVE A MINIMUM MOMENT OF INERTIA OF 0.155 INCH TO THE FOURTH PER FOOT OF WIDTH. FASTEN SIDELAPS WITH #10 TEK SCREWS; ONE AT MIDSPAN OR 3'-0" ON CENTER MAX. WELD DECK THROUGH 5/8" DIAMETER PUDDLE WELDS TO EACH STRUCTURAL SUPPORTING MEMBER AT 1'-0" ON CENTER AT END LAPS AND AT INTERMEDIATE SUPPORTS. AT SPANDREL BEAMS AND DECK SUPPORT ANGLES, AND FOR A 10'-0" SQUARE AREA AT ROOF CORNERS, THE DECK SHALL BE WELDED TO ALL SUPPORTS AT 6" ON CENTER.

4. STEEL ROOF DECK (WITH LIGHTWEIGHT INSULATION FILL):
   4.1. LIGHTWEIGHT INSULATION CONCRETE FILL USED OVER ROOF DECKING SHALL HAVE A MIX RATIO OF ONE SACK PORTLAND CEMENT TO SIX CUBIC FEET OF LIGHTWEIGHT CONCRETE AGGREGATE. PERLITE OR VERMICULITE AGGREGATE MUST CONFORM TO ASTM C332. PERLITE SHALL HAVE A MAXIMUM WET DENSITY OF 42 POUNDS PER CUBIC FOOT (PCF), AND VERMICULITE SHALL HAVE A MAXIMUM WET DENSITY OF 60 PCF AT THE POINT OF DISCHARGE. BOTH SHALL HAVE A MAX DRY DENSITY OF 32 PCF, AND MUST HAVE A COMPRESSIVE STRENGTH (f'c) OF 300 PSI IN 28 DAYS.
   4.2. ROOF DECK SHALL BE CORRUGATED DECK CONFORMING TO ASTM A611 OR A653-99 WITH Fy=60 KSI. DECK SHALL BE GALVANIZED, CONFORMING TO ASTM A924, WITH A MINIMUM ZINC COATING CLASS OF G90 PER ASTM A653-99. DECK SHALL BE 22 GAGE METAL FORMS, 1" DEEP WITH VENTING SLOTS IN VALLEY OF EACH CORRUGATION. DECK SHALL HAVE A MINIMUM SECTION MODULUS OF 0.130 INCHES CUBED PER FOOT OF WIDTH. FASTEN SIDELAPS WITH #10 TEK SCREWS. WELD DECK TO EACH STRUCTURAL SUPPORTING MEMBER AT EVERY OTHER CORRUGATION AT END LAPS AND AT INTERMEDIATE SUPPORTS. AT SPANDREL BEAMS AND DECK SUPPORT ANGLES, AND FOR A 20'-0" SQUARE AREA AT ROOF CORNERS, THE DECK SHALL BE WELDED TO ALL SUPPORTS AT EVERY CORRUGATION OR 6" ON CENTER MAXIMUM.
   4.3. THE THICKNESS OF THE LIGHTWEIGHT CONCRETE FILL SHALL BE AS SPECIFIED BY THE ARCHITECT. HOWEVER, THE THICKNESS SHALL NOT EXCEED 2.5 INCHES. ROOF SLOPES THAT ARE NOT REFLECTED IN THE SLOPE OF THE STRUCTURAL FRAMING, SUCH AS AT SMALL AREAS, CRICKET AND THE EDGES OF THE ROOF, SHALL BE IMPLEMENTED BY VARYING THE INSULATION THICKNESS IN LIEU OF VARYING THE THICKNESS OF THE LIGHTWEIGHT CONCRETE FILL. DO NOT EXCEED THE MAXIMUM SPECIFIED THICKNESS OF LIGHTWEIGHT CONCRETE FILL.

5. THE STEEL DECK SHALL ALWAYS BE INSTALLED WITH THE DIRECTION OF FLUTES PERPENDICULAR TO THE FRAMING MEMBERS. THE DECK SHALL BE CUT TO ENSURE A MINIMUM OF THREE SPANS PER DECK WIDTH.

6. IN ADDITION TO THE DECK CONNECTIONS INDICATED IN THE CONNECTION SCHEDULE, THE DECK SHALL BE CONNECTED AT EACH FLUTE AT EACH SUPPORT WITHIN THE FIRST 10 FEET FROM THE BUILDING PERIMETER.

7. ROOF DECK SHALL BE CONTINUOUS OVER FOUR OR MORE SUPPORTS. AT LOCATIONS WHERE SINGLE OR DOUBLE SPAN CONDITIONS OCCUR, THE CONTRACTOR SHALL EITHER SHORE THE DECK, OR ADJUST THE GAGE THICKNESS OF THE DECK IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DECK SHALL BE DESIGNED TO PROVIDE EQUIVALENT OR GREATER LOAD CAPACITY AS THE SPECIFIED DECK SUPPORT OVER FOUR SUPPORTS.

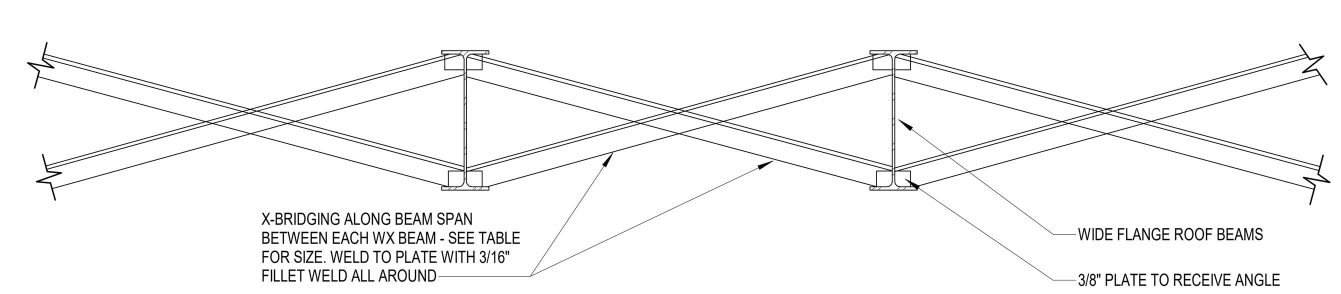
8. COORDINATE METAL DECK LENGTHS WITH THE FINAL JOIST AND BEAM LAYOUT. THE FINAL JOIST AND BEAM LAYOUT CAN BE DIFFERENT THAN THAT SHOWN IN THE CONTRACT DRAWINGS DEPENDING ON WHETHER THE JOIST BEARING SEATS ARE BUTTED OR LAPPED. THE JOIST LOCATIONS SHOWN IN THE CONTRACT DRAWINGS DO NOT ACCOUNT FOR THE SMALL DIFFERENCE IN JOIST LOCATION DUE TO THE VARIOUS JOIST BEARING CONDITIONS THAT COULD EXIST IN THE FIELD.

9. SUSPENDED CEILING, LIGHT FIXTURES, DUCTS OR OTHER UTILITIES SHALL NOT BE SUPPORTED BY THE STEEL DECK.

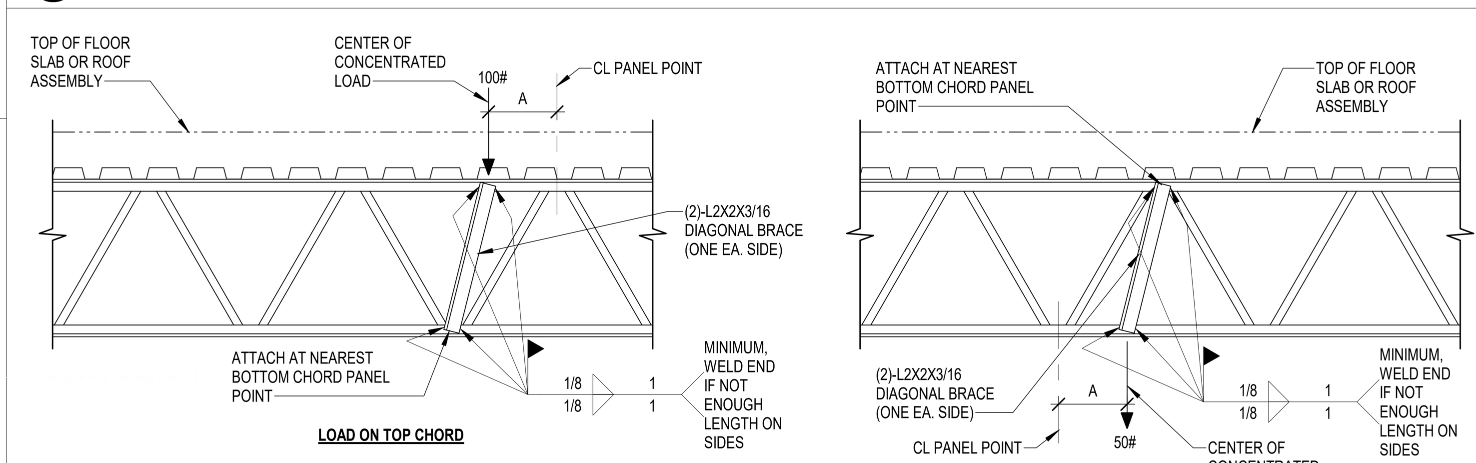
10. ACOUSTICAL "DOVETAIL" METAL ROOF DECK SHALL BE MANUFACTURED BY EPIC METALS CORPORATION (EPICORE) OR CSI METAL DECK GROUP (VERSA DECK). REFER TO THE ROOF FRAMING PLAN FOR DECK TYPE AND LOCATION.

PURLIN SPAN LENGTH (FEET)	# OF ROWS OF BRIDGING	BRIDGING ANGLE SIZE
LESS THAN 10'-0"	- 0 -	L2x2x1/4"
10'-0" - 15'-0"	- 1 -	L2x2x1/4"
15'-0" - 20'-0"	- 1 -	L2x2x1/4"
20'-0" - 25'-0"	- 2 -	L2x2x1/4"
25'-0" - 30'-0"	- 2 -	L2x2x1/4"
30'-0" - 35'-0"	- 2 -	L2x2x1/4"
35'-0" - 40'-0"	- 3 -	L3x3x1/4"
40'-0" - 45'-0"	- 4 -	L3x3x1/4"
45'-0" - 50'-0"	- 4 -	L3x3x1/4"
50'-0" - 55'-0"	- 4 -	L3x3x1/4"
55'-0" - 60'-0"	- 4 -	L3x3x1/4"
60'-0" - 65'-0"	- 4 -	L3x3x1/4"

ROOF DECK NOT SHOWN FOR CLARITY



3 TYPICAL UPLIFT BRIDGING DETAIL
3/4" = 1'-0"

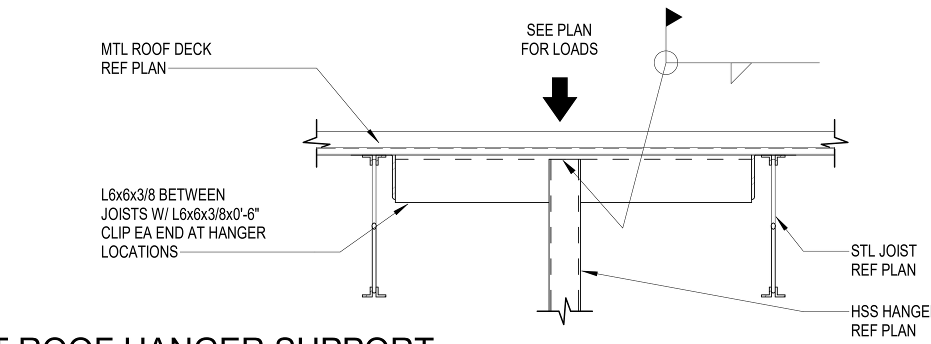


NOTES:

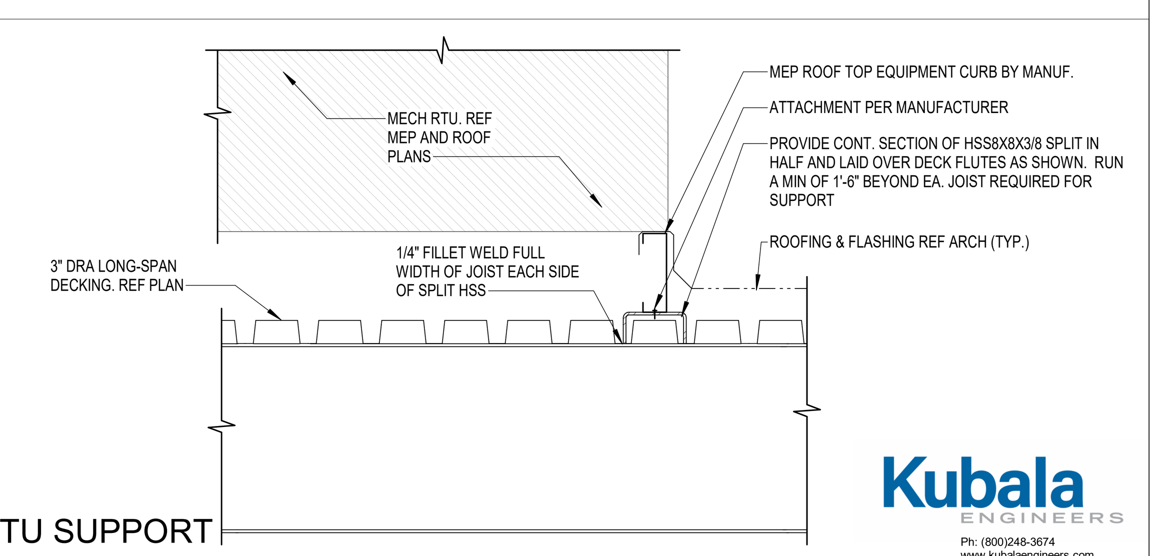
1. THIS DETAIL IS APPLICABLE TO ALL CONCENTRATED LOADS THAT ARE ATTACHED TO JOIST(S) WHETHER INDICATED ON THE STRUCTURAL DRAWINGS OR NOT. EXAMPLES OF THESE LOADS ARE:
   a. HANGING LOAD, PARTITION THAT EXCEEDS 150#
   b. HANGING PLUMBING, MECH STEEL PIPE 4" DIA OR LARGER
   c. HANGING BASKETBALL GOALS
   d. MECHANICAL UNITS
   e. HEAVY LIGHTS
2. ADDITIONAL ANGLES SHALL BE PLACED AT PANEL POINTS.
3. DIAGONAL BRACE IS NOT REQUIRED FOR "A" LESS THAN THREE INCHES.

USE FOR LOADS IN EXCESS OF THOSE SHOWN FOR TOP & BOTTOM CHORDS

4 TYPICAL JOIST STIFFENING DETAIL AT CONCENTRATED LOADS
NO SCALE



6 DETAIL AT ROOF HANGER SUPPORT
NO SCALE



7 TYPICAL RTU SUPPORT
3/4" = 1'-0"

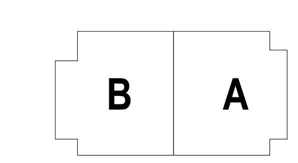
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Tombball ISD-Multi-Program Activity Center- Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUE FOR PROPOSAL



KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

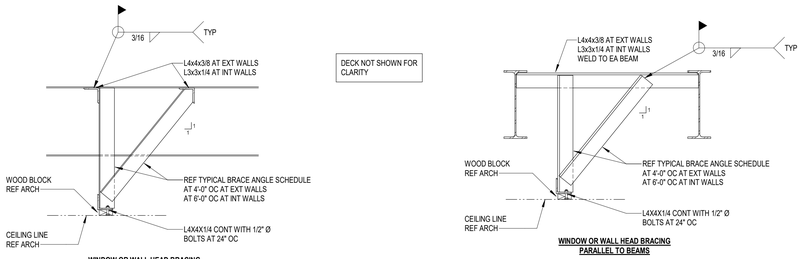
No.	Description	Date

CHECKED BY: SI
DRAWN BY: JJ

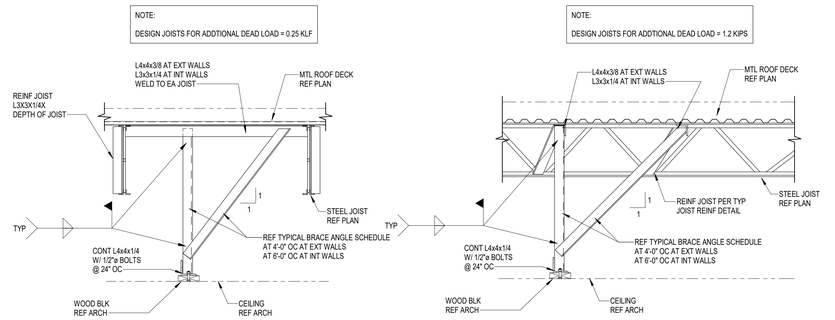
GENERAL STEEL NOTES AND TYP DETAILS

S-507

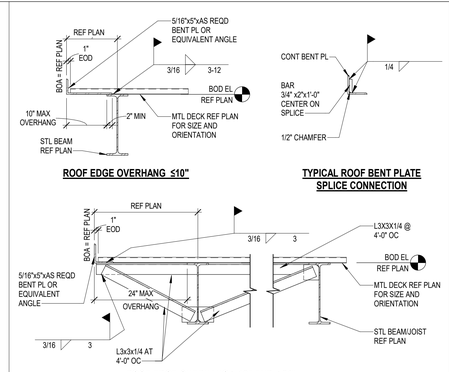
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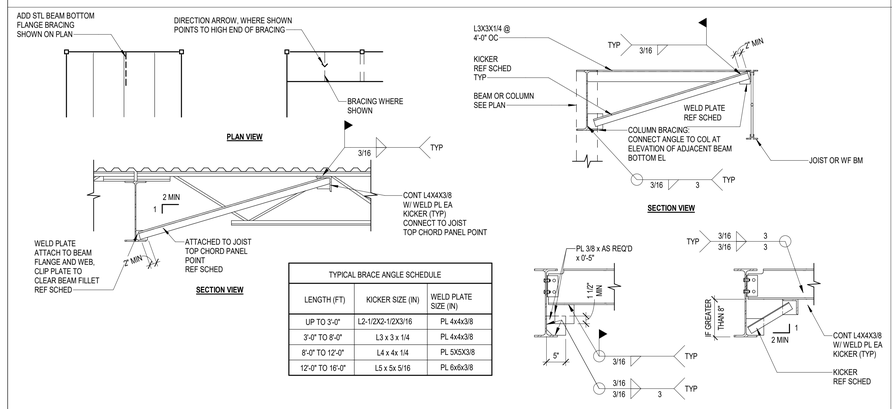
1 TYPICAL WINDOW OR WALL HEAD BRACING AT BEAMS
NO SCALE



2 TYPICAL WINDOW OR WALL HEAD BRACING AT JOISTS
NO SCALE

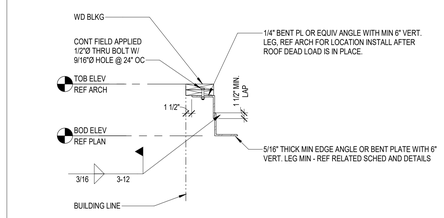


3 TYPICAL ROOF EDGE DETAIL
3/4" = 1'-0"

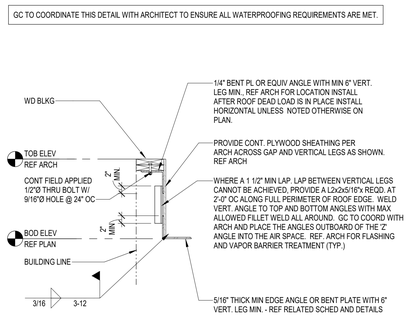


TYPICAL BRACE ANGLE SCHEDULE		
LENGTH (FT)	KICKER SIZE (IN)	WELD PLATE SIZE (IN)
UP TO 3'-0"	L2-1/2X2-1/2X3/16	PL 4x4x3/8
3'-0" TO 8'-0"	L3 x 3 x 1/4	PL 4x4x3/8
8'-0" TO 12'-0"	L4 x 4x 1/4	PL 5X5X3/8
12'-0" TO 16'-0"	L5 x 5x 5/16	PL 6x6x3/8

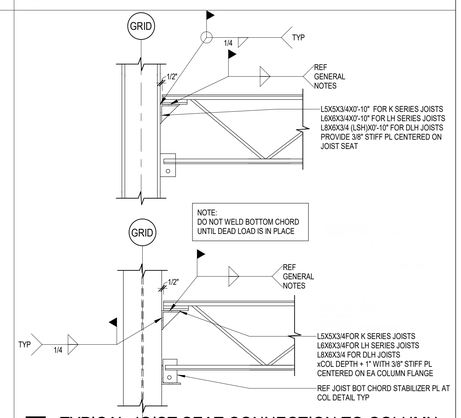
4 TYPICAL BEAM/JOIST BOTTOM FLANGE BRACE
NO SCALE



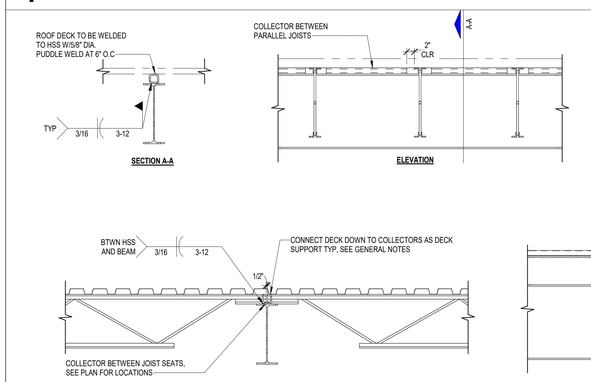
5 TYPICAL ROOF EDGE ANGLE
3/4" = 1'-0"



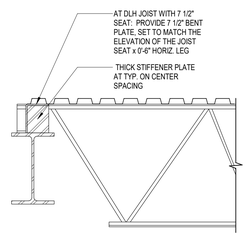
6 TYPICAL ROOF EDGE ANGLE (WHERE TOP OF BLOCKING TO THE BOD DISTANCE EXCEEDS 13 1/2")
3/4" = 1'-0"



7 TYPICAL JOIST SEAT CONNECTION TO COLUMN
3/4" = 1'-0"



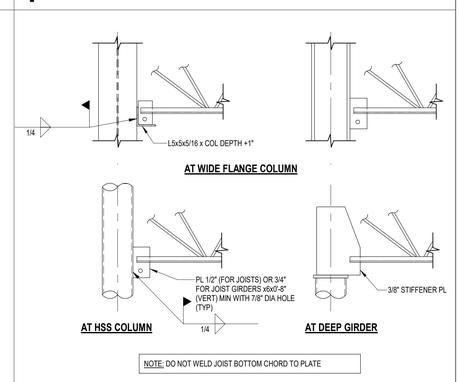
8 TYPICAL DIAPHRAGM SHEAR COLLECTOR AT STEEL BEAM
3/4" = 1'-0"



NOTES:

1. PROVIDE HSS BETWEEN JOIST SEATS AT WIND BRACING BEAMS, MOMENT FRAME BEAMS AND COLLECTOR BEAMS WITH "H" FORCE SPECIFIED AT END OF THE BEAM PLAN.
2. JOISTS SHALL BE STAGGERED WHERE MINIMUM BEARING LENGTHS CANNOT BE MET DUE TO FLANGE WIDTH. MAXIMUM JOIST SPACING SPECIFIED ON PLAN SHALL NOT BE EXCEEDED.
3. IF JOIST SEAT DEPTHS ARE DIFFERENT AT THE BEAM, USE DEEPER JOIST SEAT FOR BOTH JOISTS

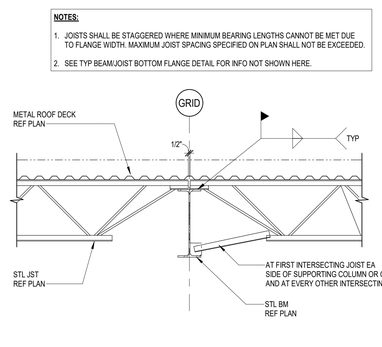
JOIST SEAT DEPTH	COLLECTOR SIZE
2 1/2	HSS 2 1/2 x 2 1/2 x 1/4
3	HSS 3 x 3 x 1/4
3 1/2	HSS 3 1/2 x 2 1/2 x 1/4
4	HSS 4 x 4 x 1/4
5	HSS 5X3X1/4
6	C 6 x 8.2
7 1/2	BPL 7 1/2" VERT LEG, 6" HORIZ LEG X 5/16" THICK W/5/16" STIFF PLATE
8	C 8 x 11.5



9 TYPICAL JOIST/JOIST GIRDER BOTTOM CHORD STABILIZER PLATE AT COLUMN
3/4" = 1'-0"

NOTES:

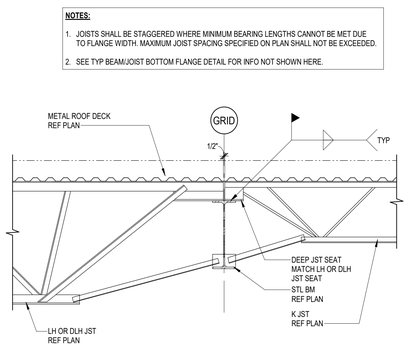
1. JOISTS SHALL BE STAGGERED WHERE MINIMUM BEARING LENGTHS CANNOT BE MET DUE TO FLANGE WIDTH. MAXIMUM JOIST SPACING SPECIFIED ON PLAN SHALL NOT BE EXCEEDED.
2. SEE TYP BEAM/JOIST BOTTOM FLANGE DETAIL FOR INFO NOT SHOWN HERE.



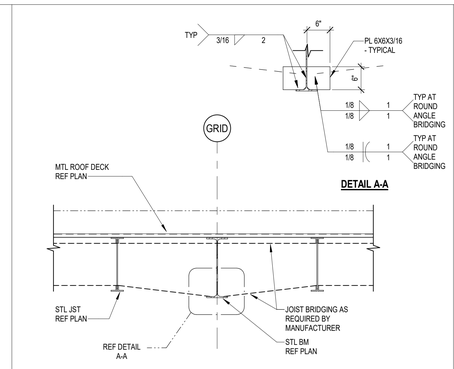
10 TYPICAL INTERIOR DETAIL AT K JOIST BEARING
NO SCALE

NOTES:

1. JOISTS SHALL BE STAGGERED WHERE MINIMUM BEARING LENGTHS CANNOT BE MET DUE TO FLANGE WIDTH. MAXIMUM JOIST SPACING SPECIFIED ON PLAN SHALL NOT BE EXCEEDED.
2. SEE TYP BEAM/JOIST BOTTOM FLANGE DETAIL FOR INFO NOT SHOWN HERE.



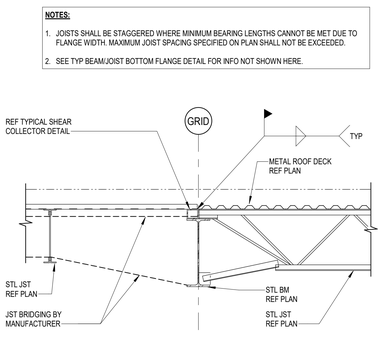
11 TYPICAL INTERIOR DETAIL AT LH AND DLH JOIST BEARING
NO SCALE



12 TYPICAL JOIST BRIDGING CONNECTION TO INTERIOR STEEL BEAM
NO SCALE

NOTES:

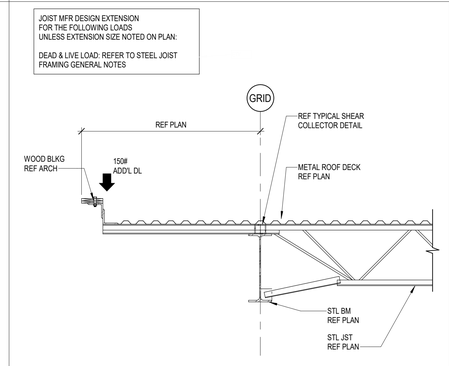
1. JOISTS SHALL BE STAGGERED WHERE MINIMUM BEARING LENGTHS CANNOT BE MET DUE TO FLANGE WIDTH. MAXIMUM JOIST SPACING SPECIFIED ON PLAN SHALL NOT BE EXCEEDED.
2. SEE TYP BEAM/JOIST BOTTOM FLANGE DETAIL FOR INFO NOT SHOWN HERE.



13 TYPICAL CHANGE IN DECK DIRECTION AT STEEL BEAM
NO SCALE

JOIST MFR DESIGN EXTENSION FOR THE FOLLOWING LOADS UNLESS EXTENSION SIZE NOTED ON PLAN:

DEAD & LIVE LOAD: REFER TO STEEL JOIST FRAMING GENERAL NOTES



14 TYPICAL ROOF JOIST EXTENTION
NO SCALE

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
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LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE 10/30/2026 | PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

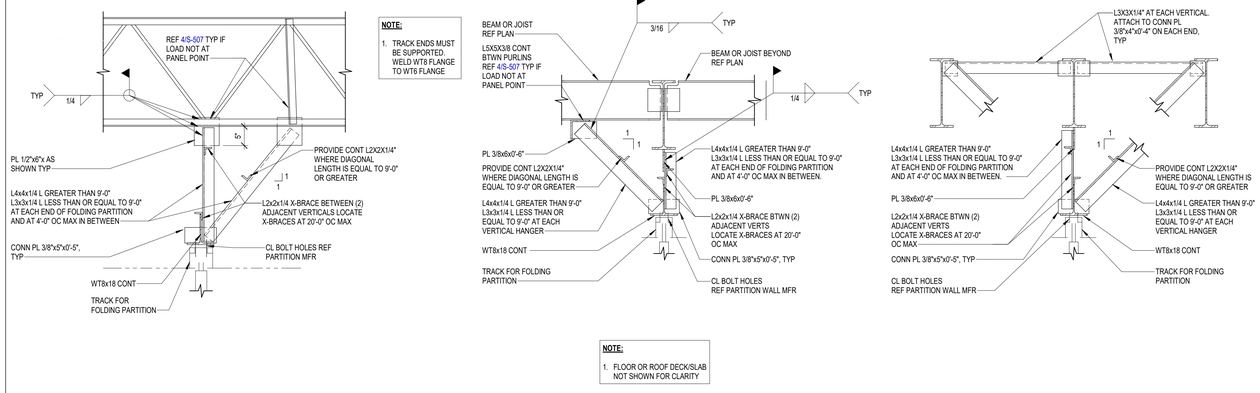
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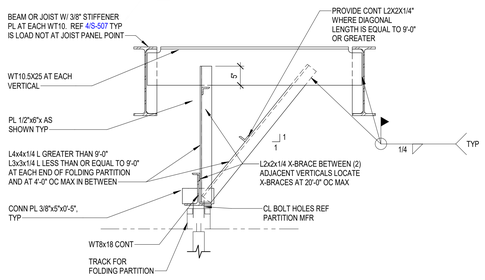
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GENERAL STEEL NOTES AND TYP DETAILS

S-508

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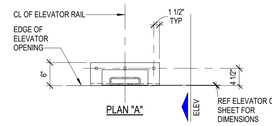




1 FOLDING PARTITION SUPPORT
3/4" = 1'-0"

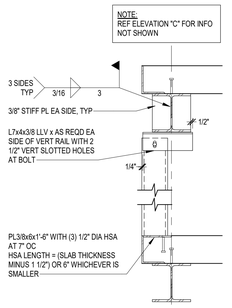
ELEVATOR BEAM / GUIDE RAIL SUPPORT SCHEDULE			
ELEVATORS	FLOORS	DIVIDER BEAM	GUIDE RAIL SUPPORT
TYP	ALL LEVELS	HSS8x4x1/4	HSS10x4x1/2

NOTE TO CONTRACTOR:
CONTRACTOR TO COORDINATE WITH ELEVATOR CUTSHEETS



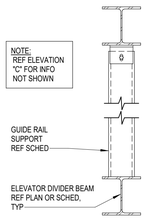
TYPICAL ELEVATOR GUIDE RAIL CONNECTION TO CONCRETE

NOTE:
REF ELEVATION "C" FOR INFO NOT SHOWN



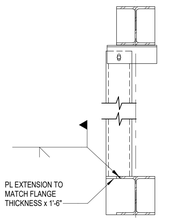
AT STEEL EDGE BEAM WITH SLAB ELEVATION "E"

NOTE:
REF ELEVATION "C" FOR INFO NOT SHOWN

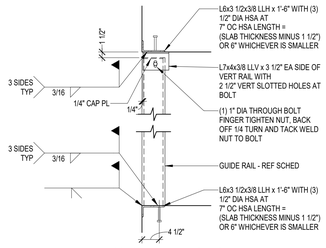


ON DIVIDER BEAM ELEVATION "B"

NOTE:
REF ELEVATION "E" FOR INFO NOT SHOWN

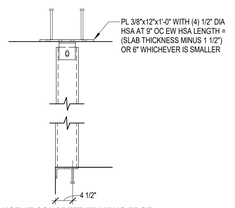


AT STEEL EDGE BEAM WITHOUT SLAB ELEVATION "F"



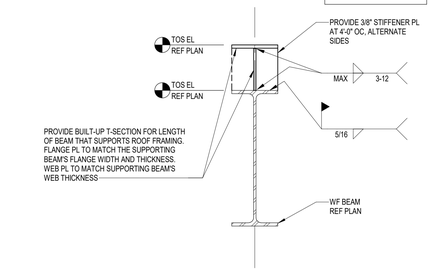
AT CONCRETE FRAMING EDGE ELEVATION "C"

NOTE:
REF ELEVATION "C" FOR INFO NOT SHOWN

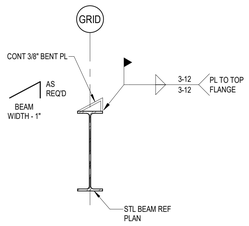


NOT AT CONCRETE FRAMING EDGE ELEVATION "D"

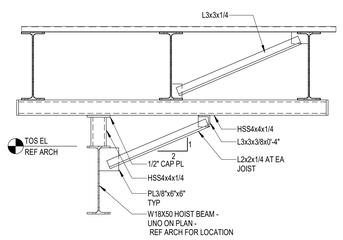
2 TYPICAL ELEVATOR GUIDERAIL SUPPORT DETAILS
3/4" = 1'-0"

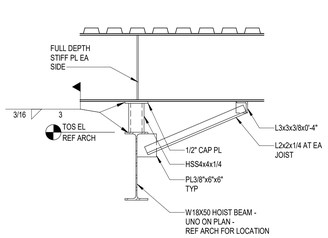


3 BUILT-UP WF BEAM
1 1/2" = 1'-0"

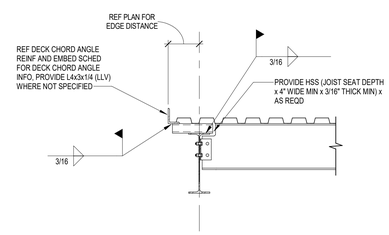


4 SLOPED DECK SUPPORT
3/4" = 1'-0"

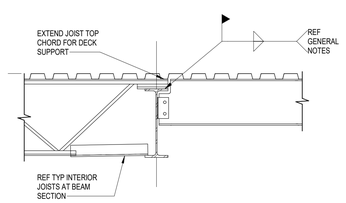




6 TYPICAL HOIST BEAM SUPPORT
3/4" = 1'-0"

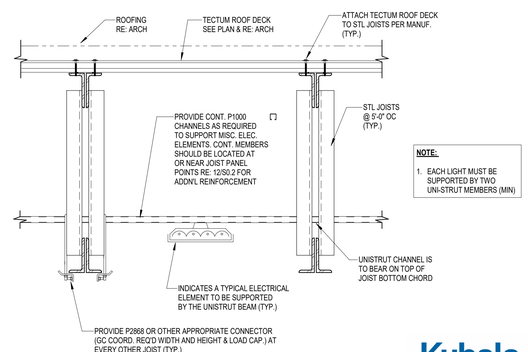


7 TYPICAL DECK SPACER AT STEEL BEAM
3/4" = 1'-0"



EXTENDED JOIST TOP CHORD FOR DECK SUPPORT

8 TYPICAL JOIST/BEAM AT BEAM
3/4" = 1'-0"



9 UNISTRUT DETAIL FOR ELECTRICAL SUPPORT
3/4" = 1'-0"

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10/30/2026
Kubala Engineers
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CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

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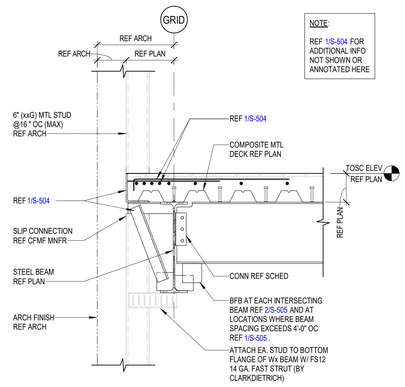
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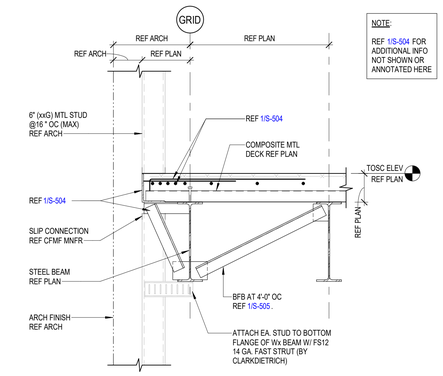
GENERAL STEEL NOTES AND TYP DETAILS

S-509

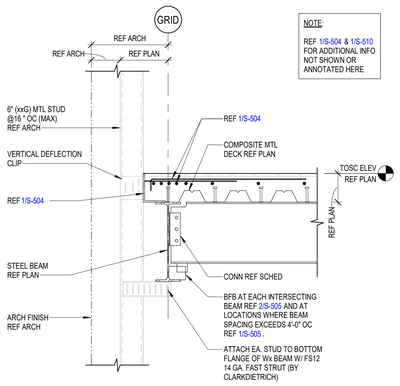
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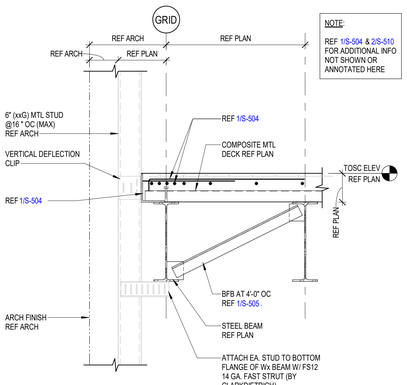
1 EXTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



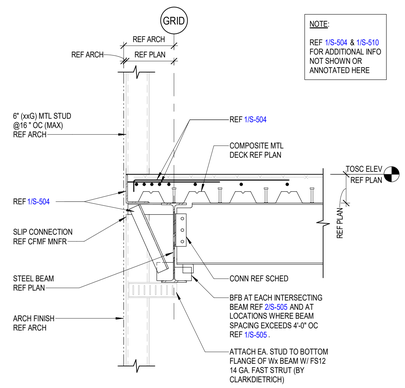
2 EXTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



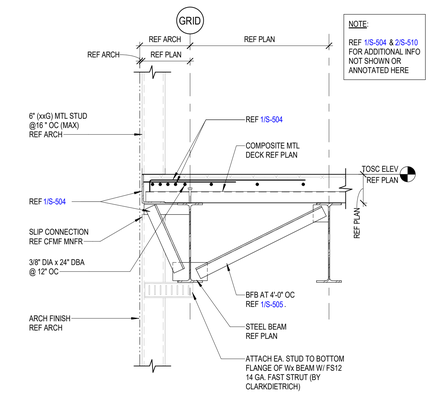
3 EXTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



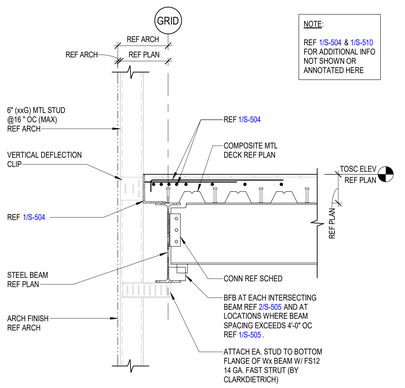
4 EXTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



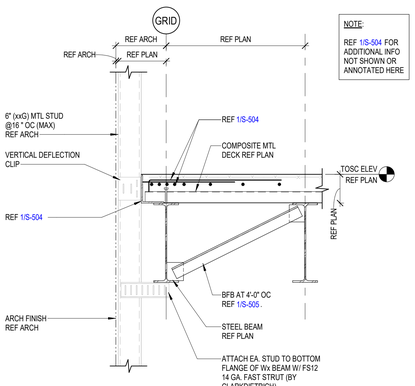
5 INTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



6 INTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



7 INTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



8 INTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"

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LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

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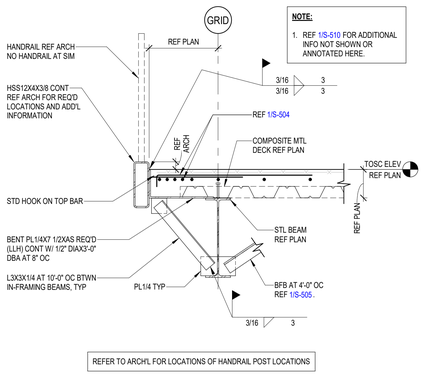
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DRAWN BY: JJ

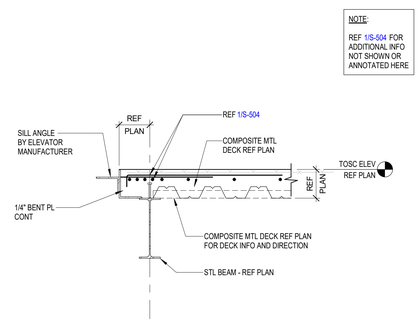
COMPOSITE FRAMING DETAILS

S-510

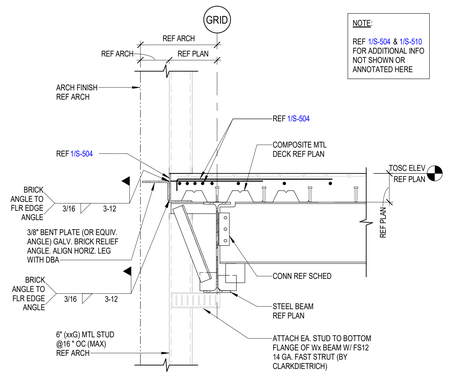
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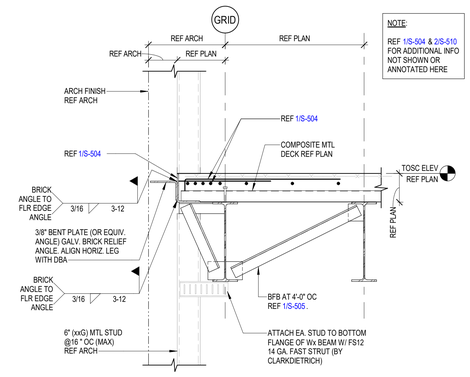
1 TYPICAL SLAB EDGE DETAIL AT GUARDRAILS
3/4" = 1'-0"



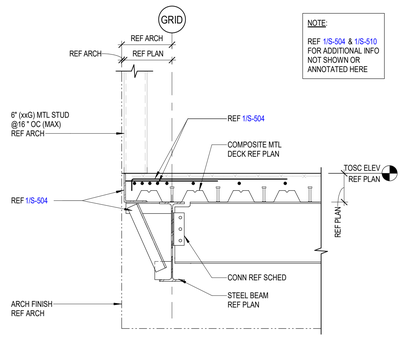
2 TYPICAL SLAB EDGE AT ELEVATOR SILL
3/4" = 1'-0"



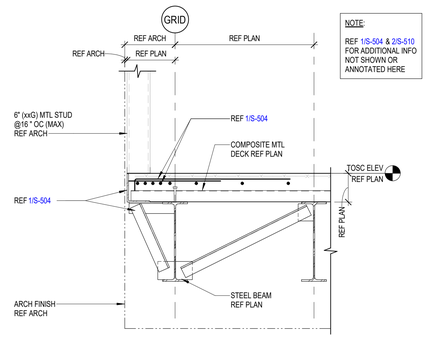
3 EXTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



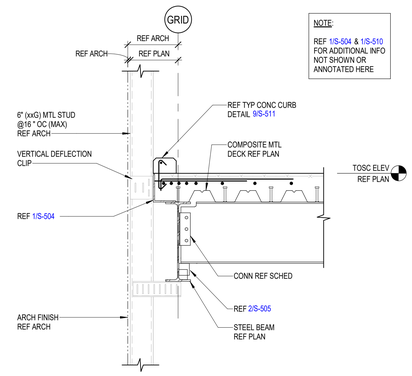
4 EXTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



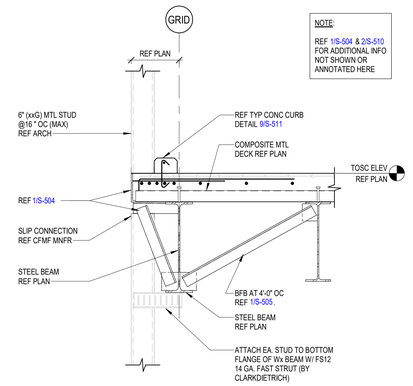
5 INTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



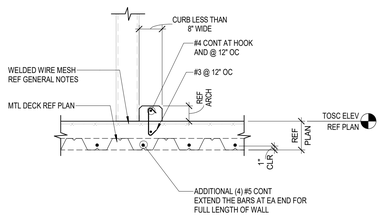
6 INTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



7 INTERIOR FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



8 FLOOR EDGE DETAIL AT STUD
3/4" = 1'-0"



9 TYPICAL CURB AT COMPOSITE FLOOR
3/4" = 1'-0"

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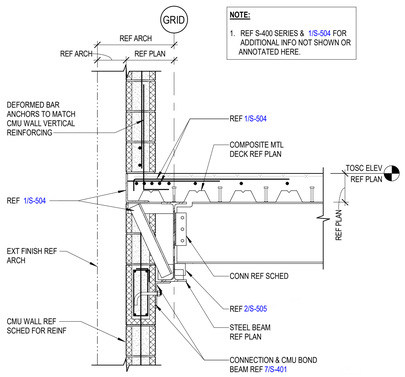
DRAWN BY: JJ

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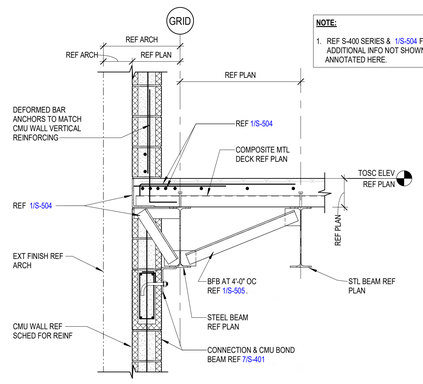
COMPOSITE FRAMING DETAILS

S-511

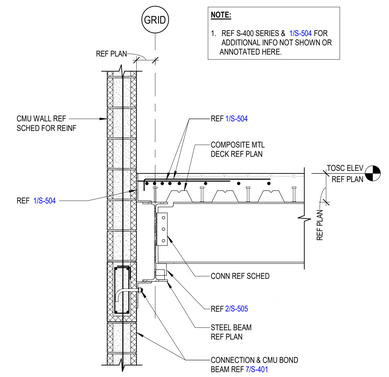
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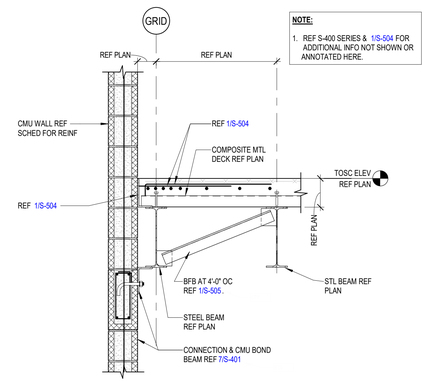
1 EXTERIOR FLOOR EDGE AT CMU WALL
3/4" = 1'-0"



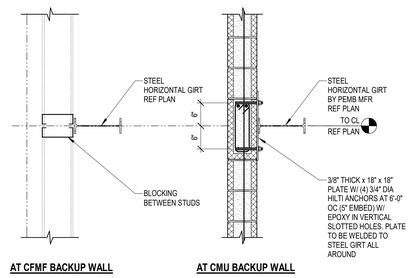
2 EXTERIOR FLOOR EDGE AT CMU WALL
3/4" = 1'-0"



3 INTERIOR FLOOR EDGE AT CMU WALL
3/4" = 1'-0"



4 INTERIOR FLOOR EDGE AT CMU WALL
3/4" = 1'-0"



5 GIRT CONNECTIONS
3/4" = 1'-0"

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CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

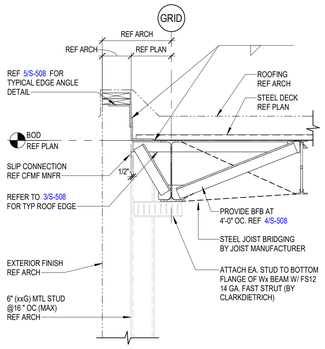
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No.	Description	Date

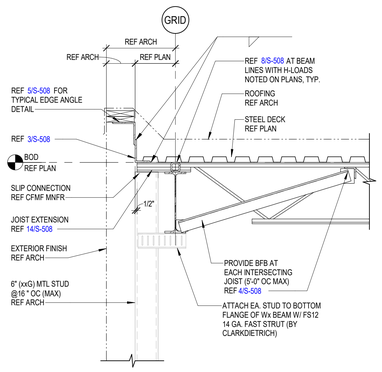
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COMPOSITE FRAMING DETAILS (CMU)

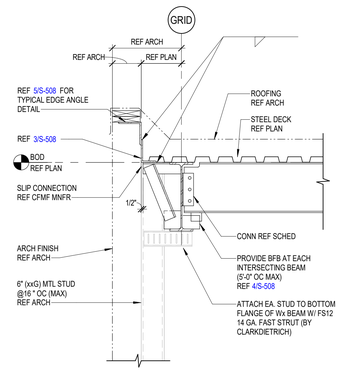
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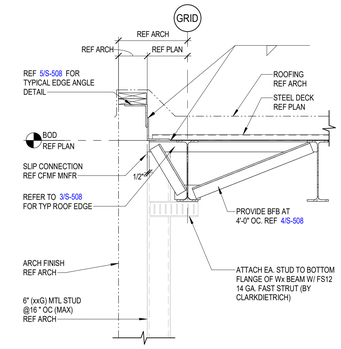
1 TYPICAL ROOF SECTION
3/4" = 1'-0"



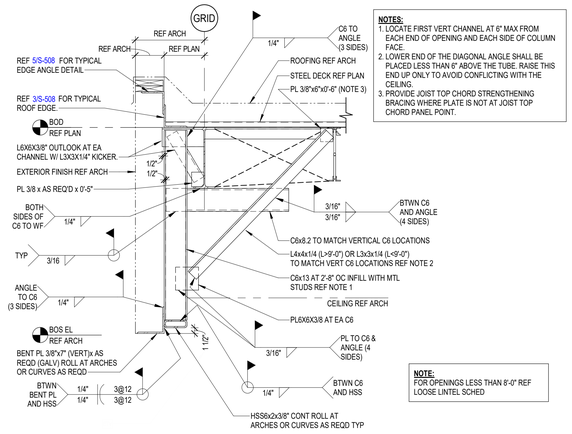
2 TYPICAL ROOF SECTION
3/4" = 1'-0"



3 TYPICAL ROOF SECTION
3/4" = 1'-0"

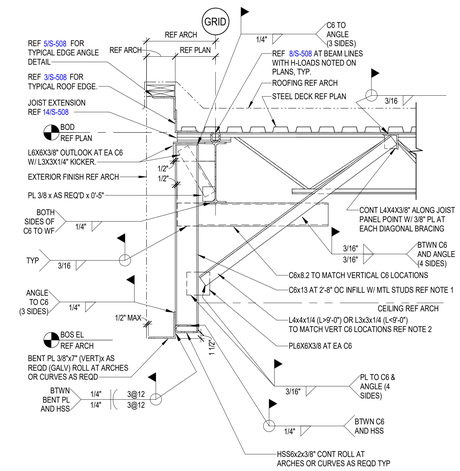


4 TYPICAL ROOF SECTION
3/4" = 1'-0"

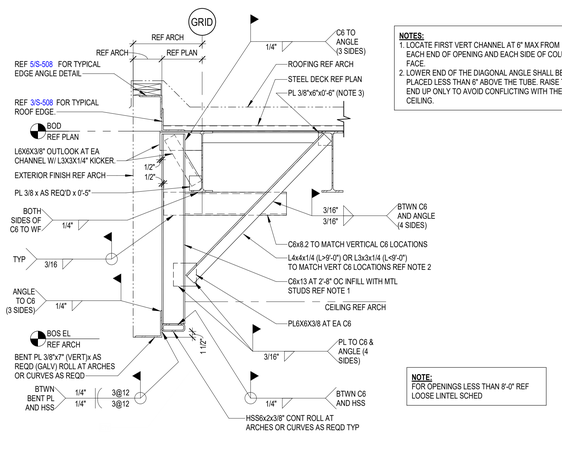


NOTES:
1. LOCATE FIRST VERT CHANNEL AT 6" MAX FROM EACH END OF OPENING AND EACH SIDE OF COLUMN FACE.
2. LOWER END OF THE DIAGONAL ANGLE SHALL BE PLACED LESS THAN 6" ABOVE THE TUBE. RAISE THIS END UP ONLY TO AVOID CONFLICTING WITH THE CEILING.
3. PROVIDE JOIST TOP CHORD STRENGTHENING BRACING WHERE PLATE IS NOT AT JOIST TOP CHORD PANEL POINT.

NOTE:
FOR OPENINGS LESS THAN 8'-0" REF LOOSE LINTEL SCHED

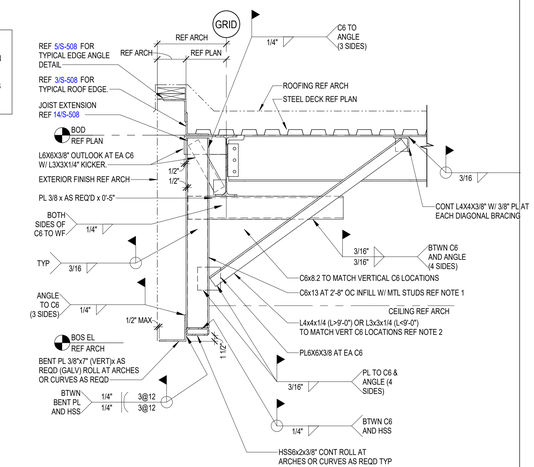


5 TYPICAL MASONRY SUPPORT OVER OPENINGS GREATER THAN 8'-0"
3/4" = 1'-0"

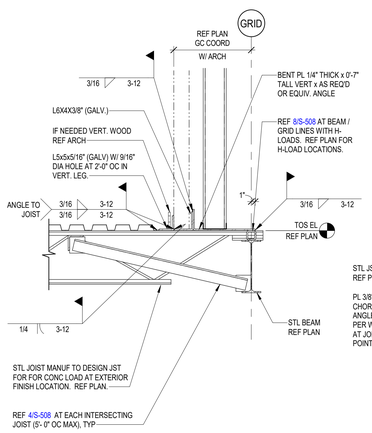


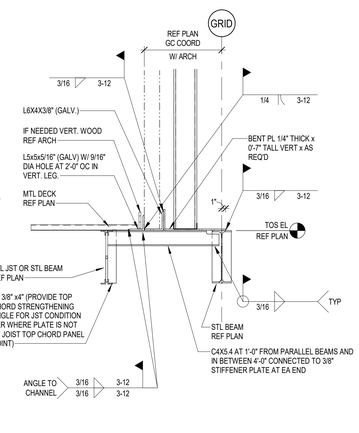
NOTES:
1. LOCATE FIRST VERT CHANNEL AT 6" MAX FROM EACH END OF OPENING AND EACH SIDE OF COLUMN FACE.
2. LOWER END OF THE DIAGONAL ANGLE SHALL BE PLACED LESS THAN 6" ABOVE THE TUBE. RAISE THIS END UP ONLY TO AVOID CONFLICTING WITH THE CEILING.

NOTE:
FOR OPENINGS LESS THAN 8'-0" REF LOOSE LINTEL SCHED



6 TYPICAL MASONRY SUPPORT OVER OPENINGS GREATER THAN 8'-0"
3/4" = 1'-0"

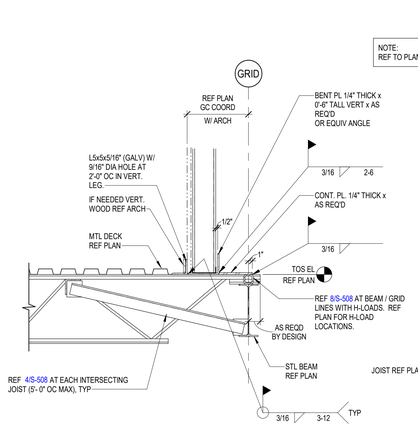


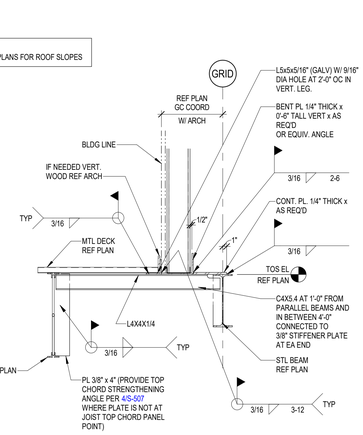


NOTE: JOIST ENGINEER TO DESIGN JOISTS FOR ADDITIONAL DEAD LOAD ASSOCIATED WITH VENEER AND WALL SYSTEM FOR TOTAL HEIGHT OF WALL SUPPORTED ABOVE. ASSUME THE FOLLOWING DEAD LOADS (TYP): MASONRY DEAD LOAD = 40 PSF CFMF WALL SYSTEM = 15 PSF NON-MASONRY VENEER = 5 PSF

7 TYP. EXTERIOR FINISH SUPPORT AT HIGH/LOW ROOF TRANSITIONS
3/4" = 1'-0"

NOTE:
REF TO PLANS FOR ROOF SLOPES





NOTE: JOIST ENGINEER TO DESIGN JOISTS FOR ADDITIONAL DEAD LOAD ASSOCIATED WITH VENEER AND WALL SYSTEM FOR TOTAL HEIGHT OF WALL SUPPORTED ABOVE. ASSUME THE FOLLOWING DEAD LOADS (TYP): MASONRY DEAD LOAD = 40 PSF CFMF WALL SYSTEM = 15 PSF NON-MASONRY VENEER = 5 PSF

8 TYP. METAL PANEL FINISH SUPPORT AT HIGH/LOW ROOF TRANSITIONS
3/4" = 1'-0"

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Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

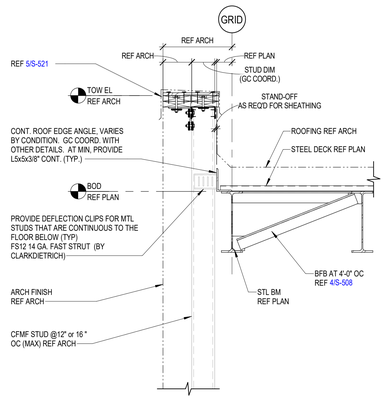
CHECKED BY: SI

DRAWN BY: JJ

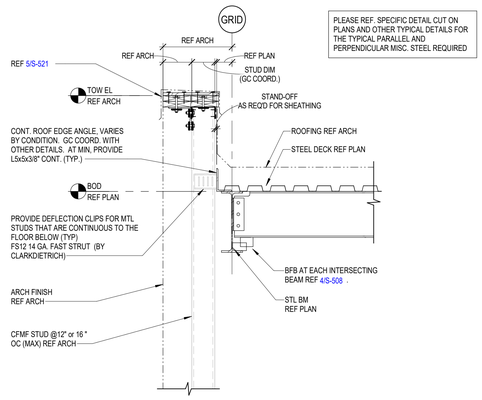
ROOF FRAMING DETAILS

S-520

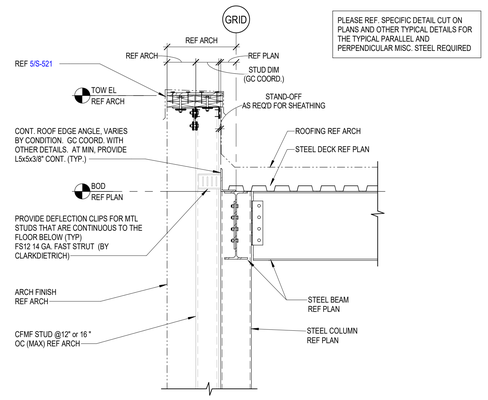
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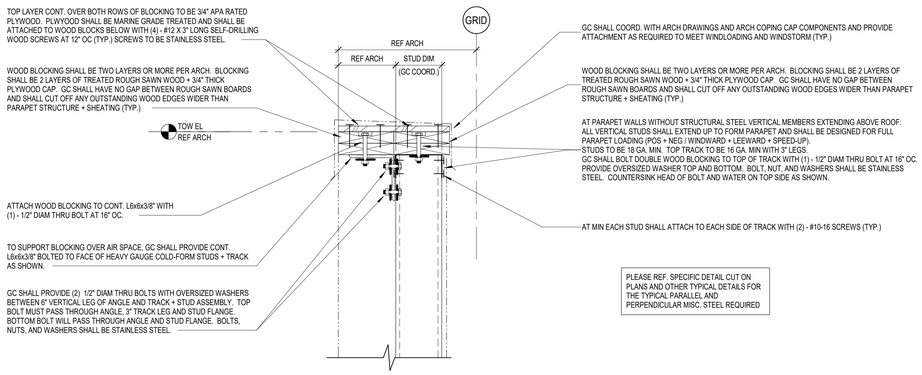
1 TYPICAL ROOF SECTION WITH PARAPET
3/4" = 1'-0"



2 TYPICAL ROOF SECTION WITH PARAPET
3/4" = 1'-0"



3 TYPICAL ROOF SECTION WITH PARAPET AT COLUMN
3/4" = 1'-0"



5 TYPICAL TOP OF PARAPET DETAIL WITH METAL STUD-FRAMING
1 1/2" = 1'-0"

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Tomball ISD-Multi-Program Activity Center-Tomball High School

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ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED
PROFESSIONAL
ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
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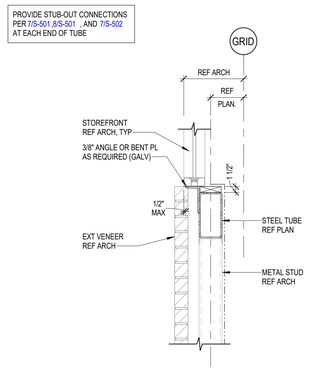
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ROOF FRAMING DETAILS

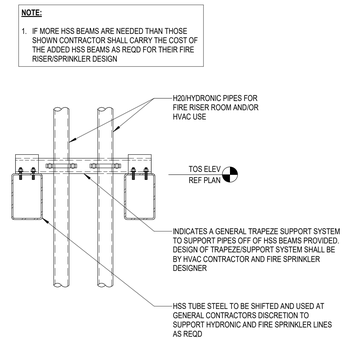
S-521

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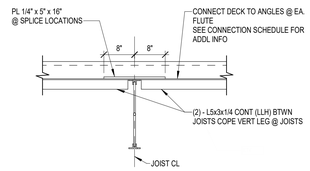
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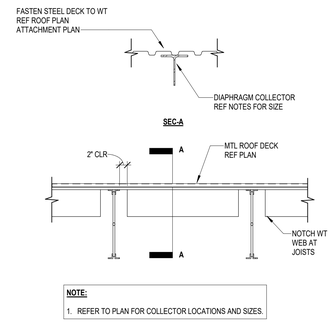
1 HSS HEADER DETAIL
3/4" = 1'-0"



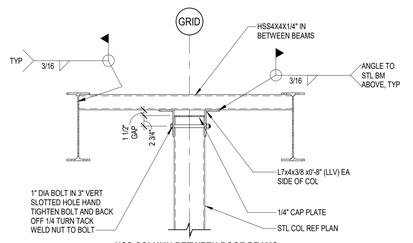
2 FIRE/SPRINKLER SUPPORT
3/4" = 1'-0"

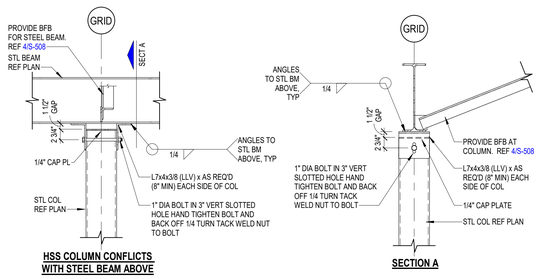


3 TYPICAL DETAIL
3/4" = 1'-0"

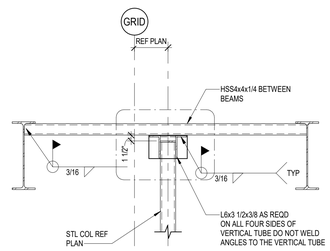


4 DIAPHRAGM COLLECTOR PERP TO JOISTS
3/4" = 1'-0"

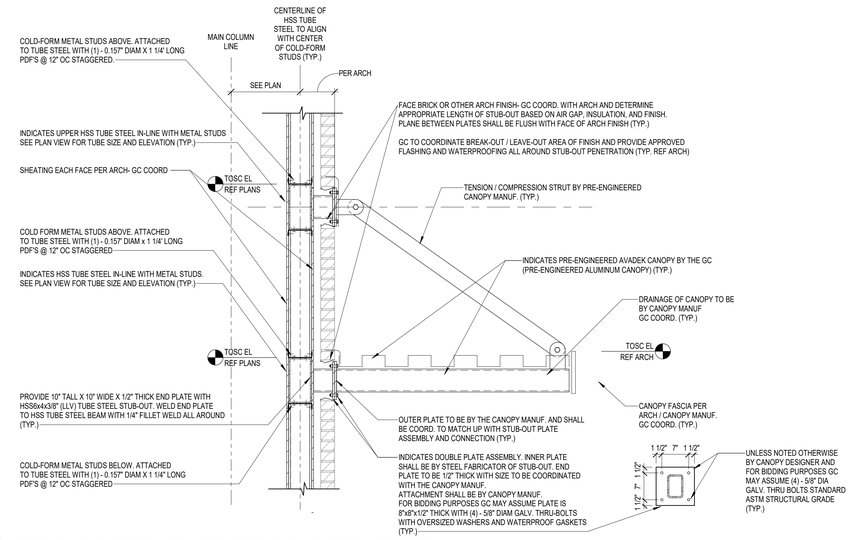




5 FRAMING SECTION
3/4" = 1'-0"



6 FRAMING SECTION
3/4" = 1'-0"



7 PRE-ENGINEERED CANOPY STUB-OUT CONNECTION
3/4" = 1'-0"

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ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

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10/30/2026	25046901

DRAWING HISTORY

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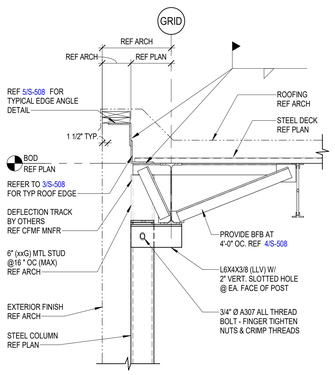
DRAWN BY: JJ

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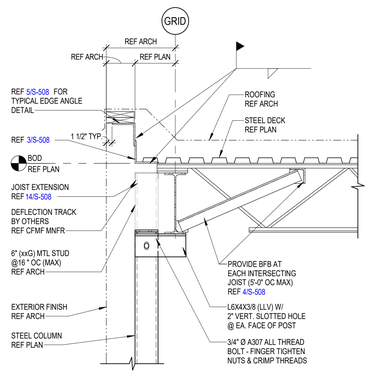
ROOF FRAMING DETAILS

S-522

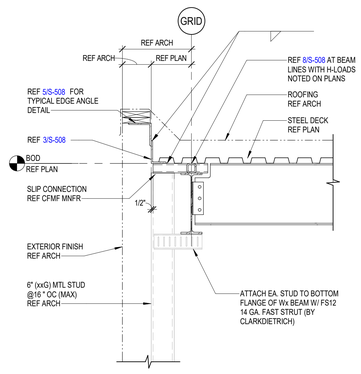
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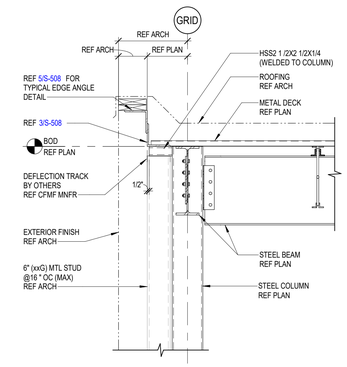
1 ROOF SECTION
3/4" = 1'-0"



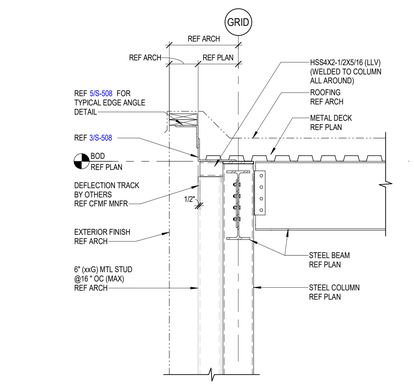
2 ROOF SECTION
3/4" = 1'-0"



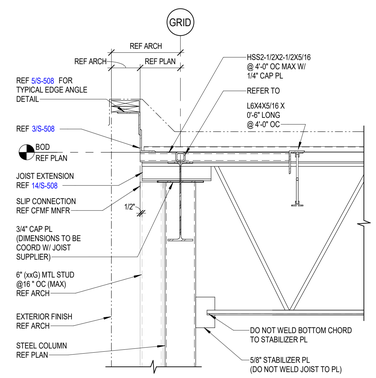
3 TYPICAL ROOF SECTION
3/4" = 1'-0"



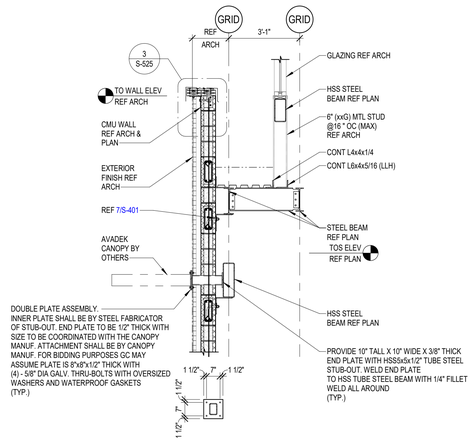
4 TYPICAL ROOF SECTION AT COLUMN
3/4" = 1'-0"



5 TYPICAL ROOF SECTION AT COLUMN
3/4" = 1'-0"



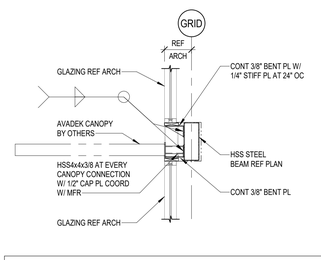
6 ROOF SECTION
3/4" = 1'-0"



GC NOTES:

1- GC COORDINATE THE ELEVATION AND THE LOCATION OF ALL MISC TUBE STEELS WITH ARCH.
2. ALL HSS TUBE STEELS AND BENT PLATES ROLL AT ARCHES OR CURVES AS REQUIRED.
3. REF TO SHEET S-501 FOR CONNECTION OF OFFSET STEEL TUBE TO COLUMN.
4. HORIZONTAL LEG OF ANGLE OR BENT PLATE TO BE EQUAL DISTANCE FROM FACE OF ARCH FINISH TO FACE OF CMU OR STUD MINUS 1/2".

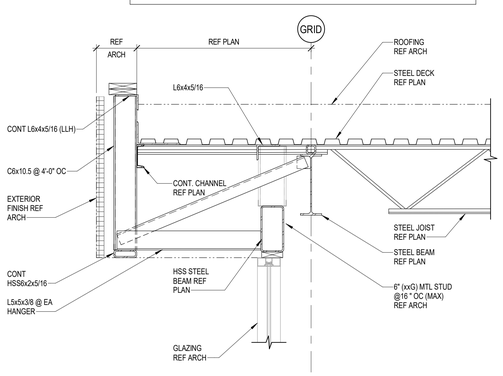
7 FRAMING SECTION
3/8" = 1'-0"



GC NOTES:

1- GC COORDINATE THE ELEVATION AND THE LOCATION OF ALL MISC TUBE STEELS WITH ARCH.
2. ALL HSS TUBE STEELS AND BENT PLATES ROLL AT ARCHES OR CURVES AS REQUIRED.
3. REF TO SHEET S-501 FOR CONNECTION OF OFFSET STEEL TUBE TO COLUMN.
4. HORIZONTAL LEG OF ANGLE OR BENT PLATE TO BE EQUAL DISTANCE FROM FACE OF ARCH FINISH TO FACE OF CMU OR STUD MINUS 1/2".

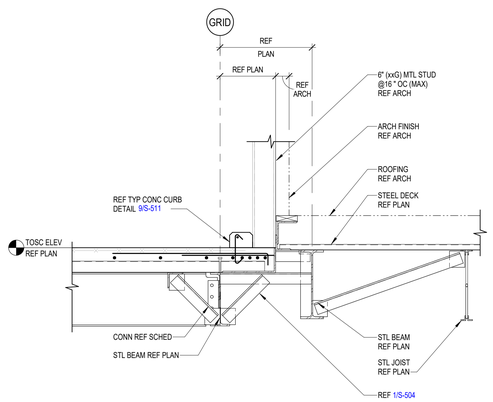
8 FRAMING SECTION
3/8" = 1'-0"



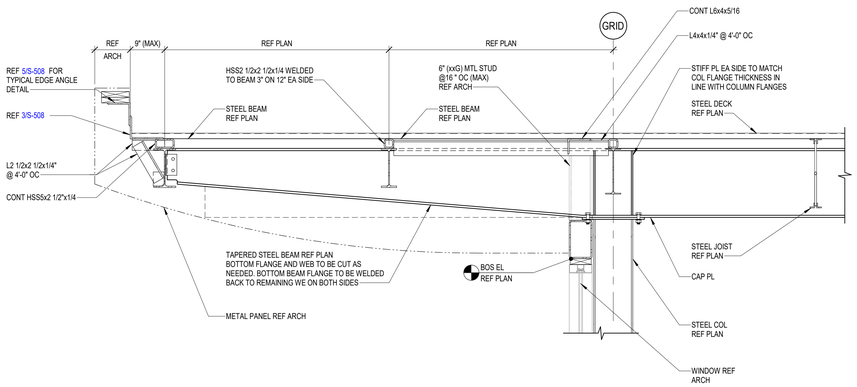
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4. HORIZONTAL LEG OF ANGLE OR BENT PLATE TO BE EQUAL DISTANCE FROM FACE OF ARCH FINISH TO FACE OF CMU OR STUD MINUS 1/2".

9 FRAMING SECTION
3/4" = 1'-0"



10 FLOOR TO ROOF FRAMING SECTION
3/4" = 1'-0"



11 ROOF SECTION
3/4" = 1'-0"

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118 Baker Dr., Tomball, Tx 77375

ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

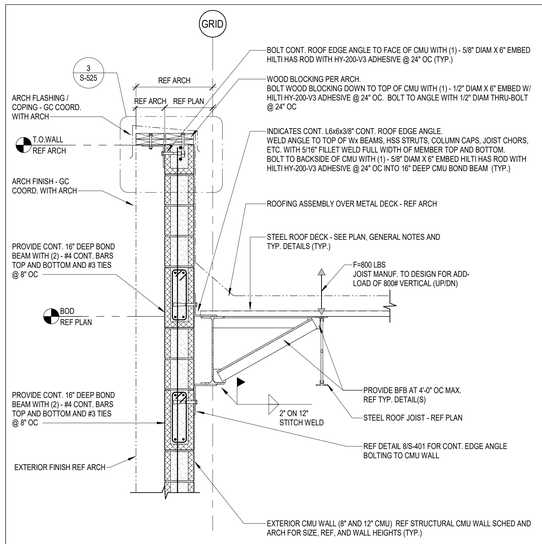
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DRAWN BY: JJ

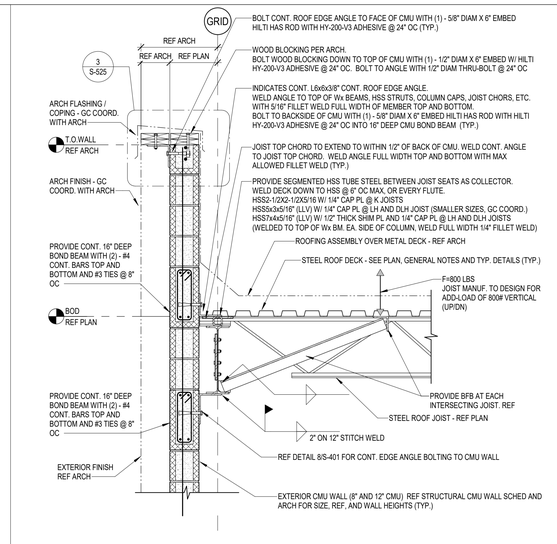
ROOF FRAMING DETAILS

S-523

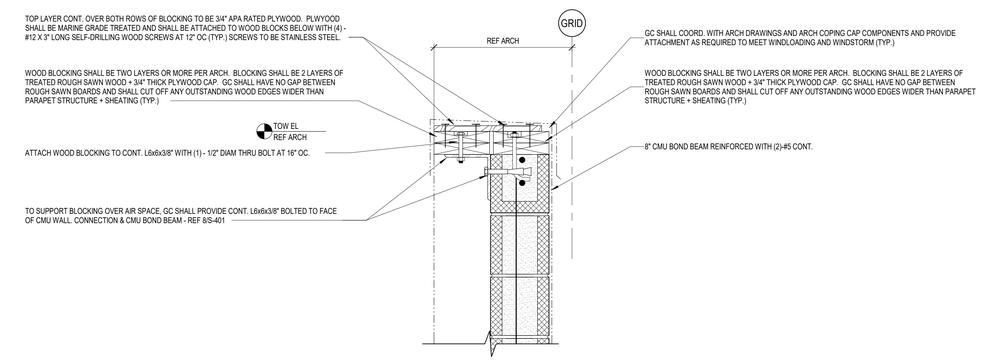
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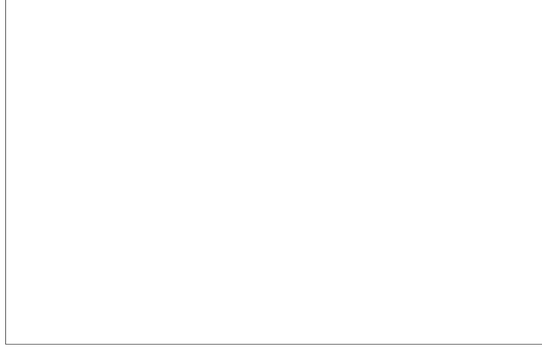
1 ROOF SECTION WITH CMU PARAPET
3/4" = 1'-0"



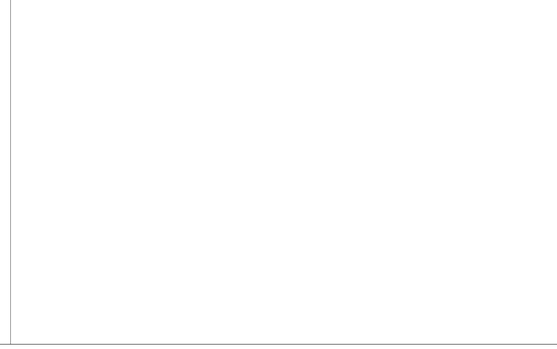
2 ROOF SECTION WITH CMU PARAPET
3/4" = 1'-0"



3 TYPICAL TOP OF PARAPET DETAIL WITH CMU BACK-UP
1 1/2" = 1'-0"



5 ROOF SECTION WITH CMU PARAPET
3/4" = 1'-0"



6 ROOF SECTION WITH CMU PARAPET
3/4" = 1'-0"

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Tomball ISD-Multi-Program Activity Center-Tomball High School

118 Baker Dr, Tomball, Tx 77375

ISSUE FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SI

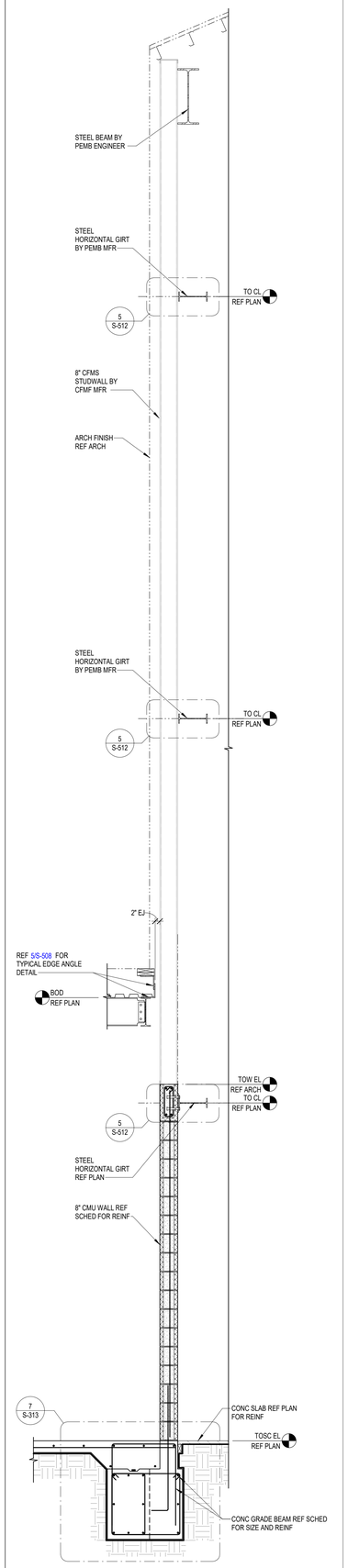
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ROOF FRAMING DETAILS

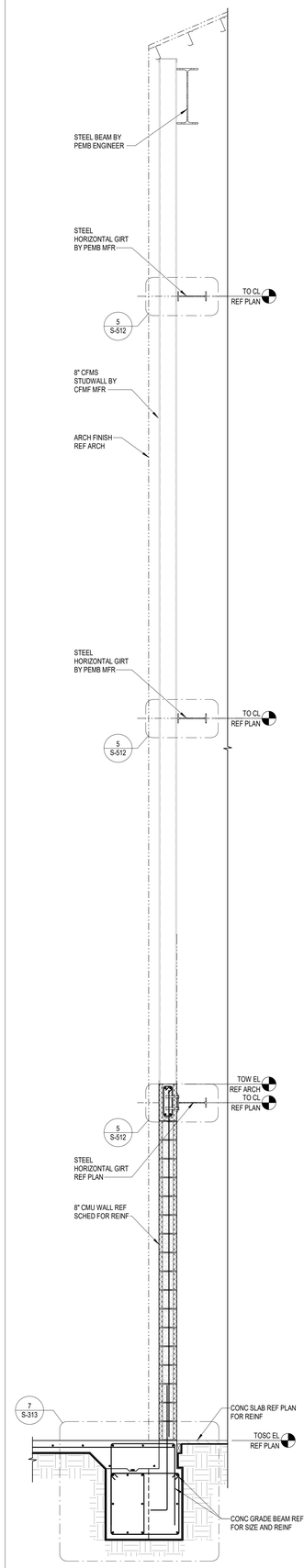
S-525

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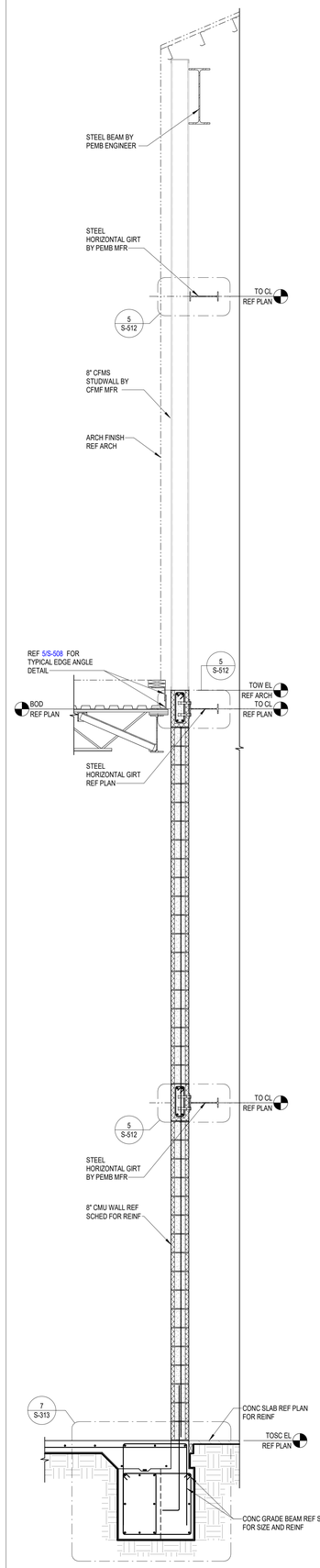
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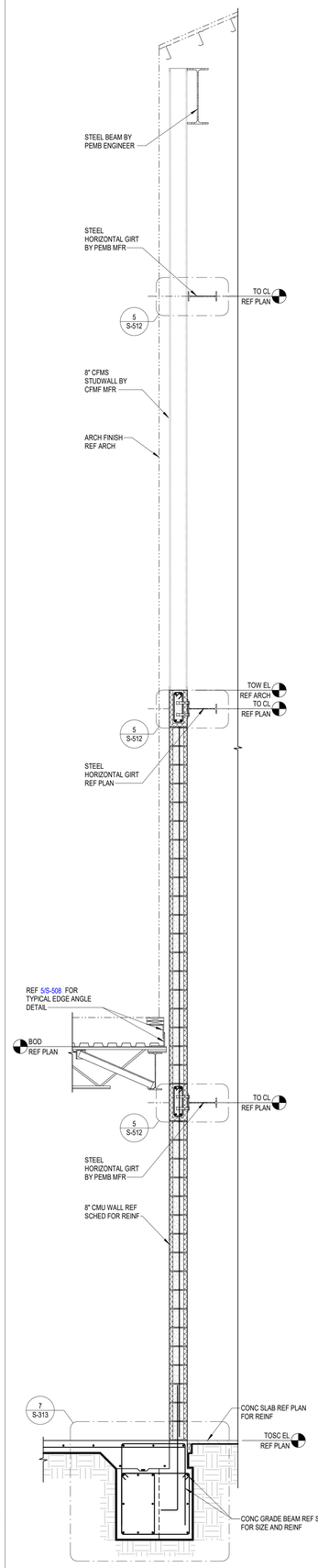
1 FULL HEIGHT WALL SECTION W/ GIRTS
1/2" = 1'-0"



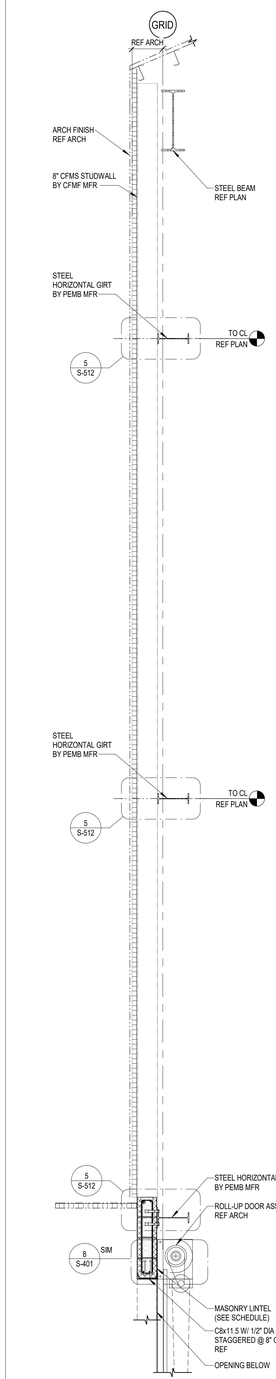
2 FULL HEIGHT WALL SECTION W/ GIRTS
1/2" = 1'-0"



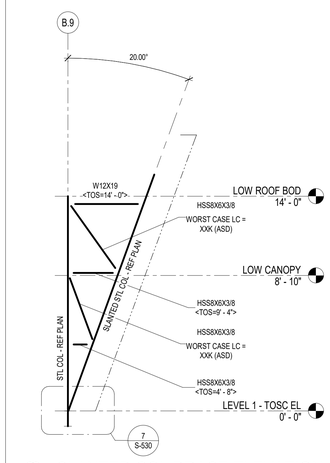
3 FULL HEIGHT WALL SECTION W/ GIRTS
1/2" = 1'-0"



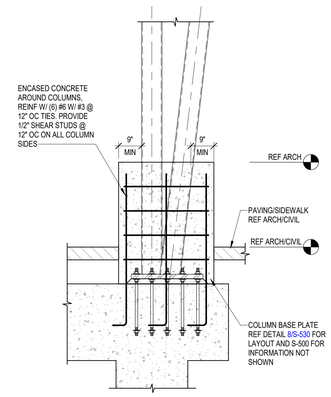
4 FULL HEIGHT WALL SECTION W/ GIRTS
1/2" = 1'-0"



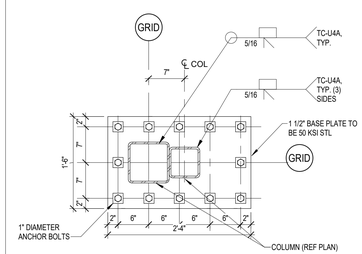
5 OPENING LINTEL AND PANEL SUPPORT
1/2" = 1'-0"



6 SLANTED COL BRACE ELEVATION
1/4" = 1'-0"



7 SLOPED COLS
1/2" = 1'-0"



8 BASE PL AT SLOPED COLS
1" = 1'-0"

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Tomball ISD-Multi-Program Activity Center- Tomball High School

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
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CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

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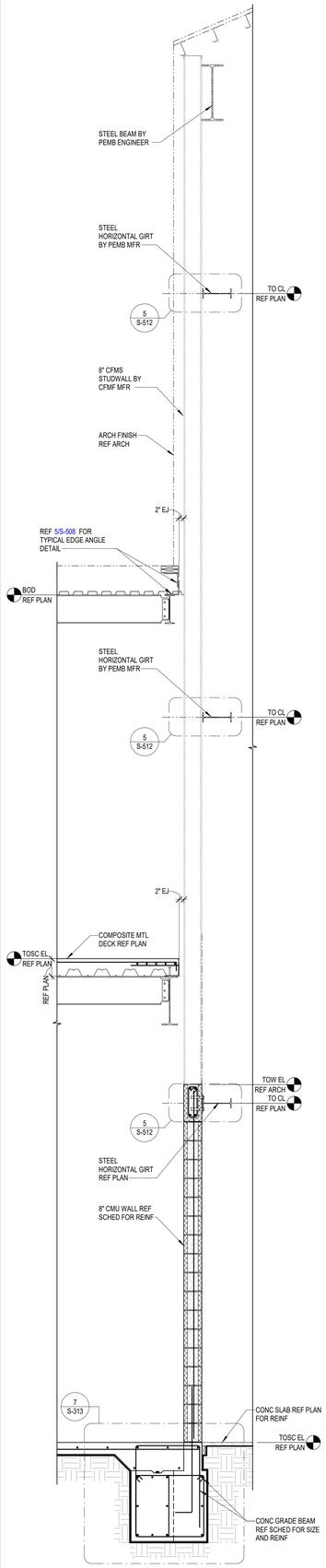
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BUILDING SECTIONS

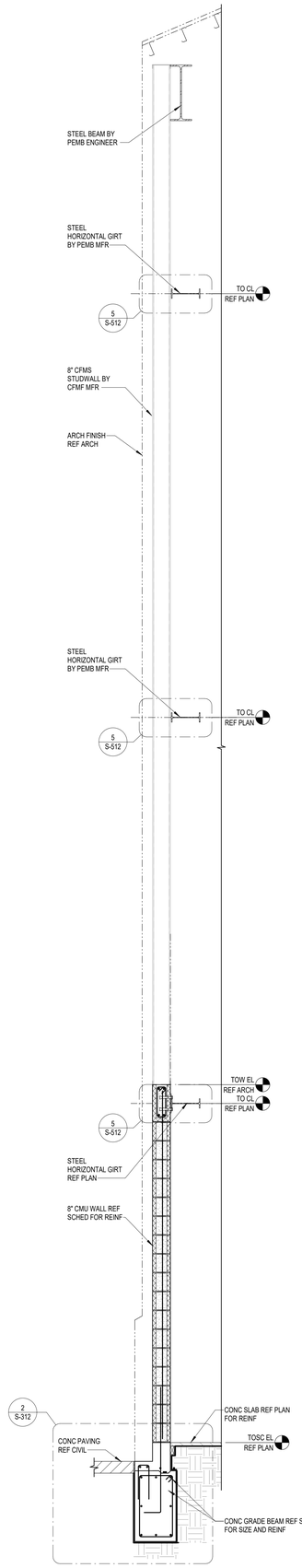
S-530

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1 FULL HEIGHT WALL SECTION W/ GIRTS
1/2" = 1'-0"



2 FULL HEIGHT WALL SECTION W/ GIRTS
1/2" = 1'-0"

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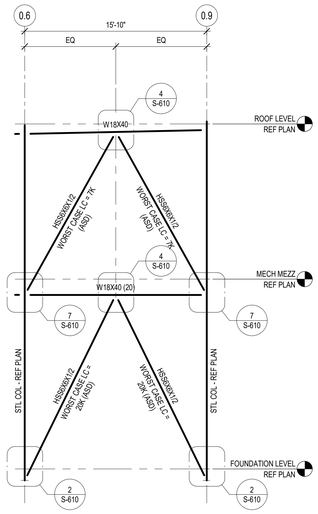
BUILDING SECTIONS

S-531

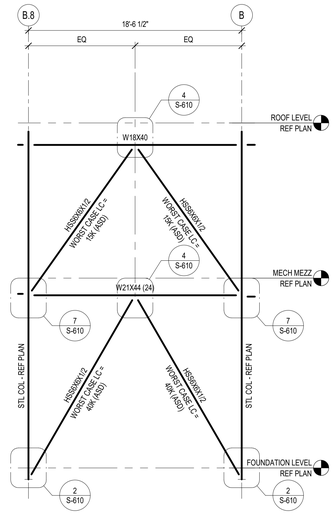
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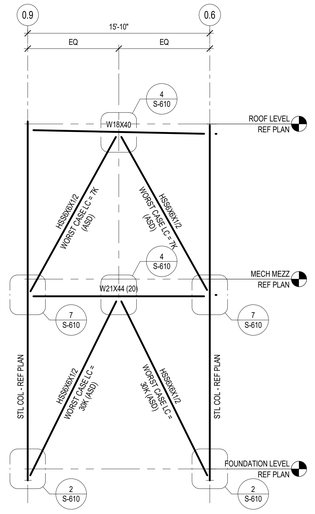
S-600 - TYPICAL WIND BRACING ELEVATIONS



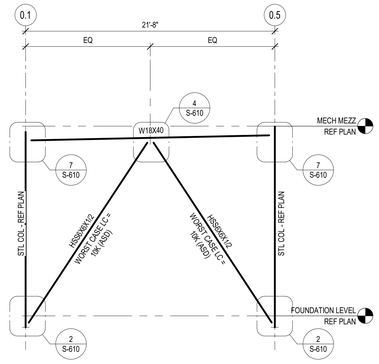
1 BRACE ELEVATION
3/16" = 1'-0"



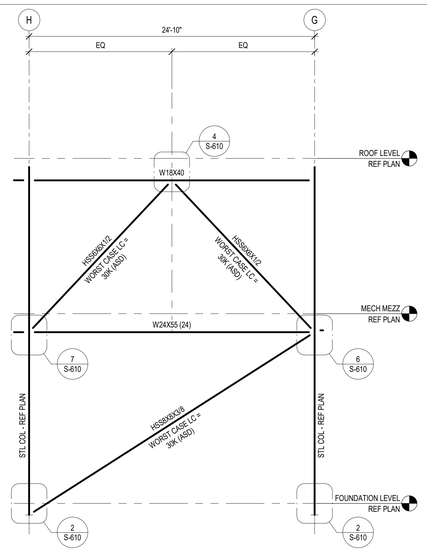
2 BRACE ELEVATION
3/16" = 1'-0"



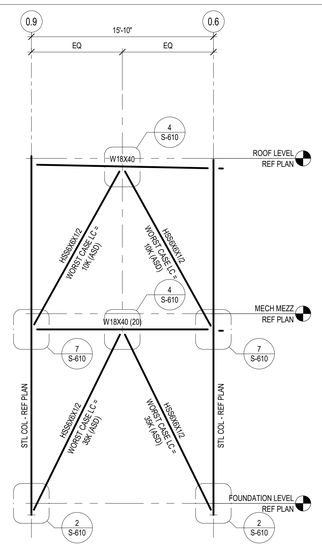
3 BRACE ELEVATION
3/16" = 1'-0"



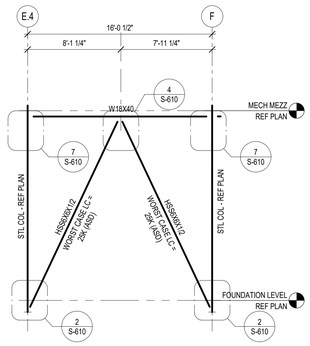
4 BRACE ELEVATION
3/16" = 1'-0"



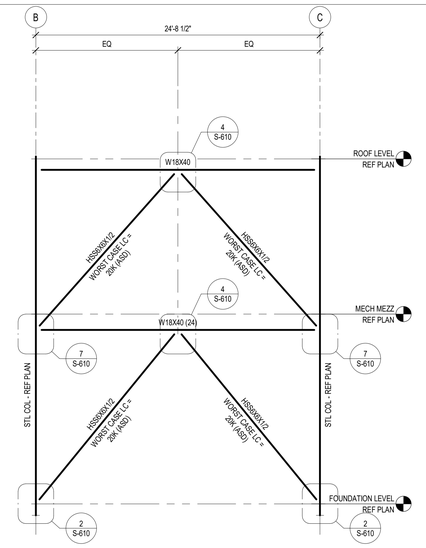
5 BRACE ELEVATION
3/16" = 1'-0"



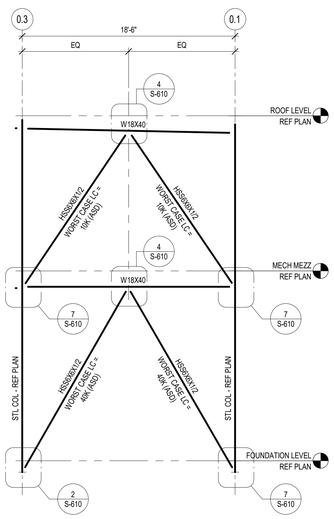
6 BRACE ELEVATION
3/16" = 1'-0"



7 BRACE ELEVATION
3/16" = 1'-0"



8 BRACE ELEVATION
3/16" = 1'-0"



9 BRACE ELEVATION
3/16" = 1'-0"

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ISSUE FOR PROPOSAL

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
JOHN R. KUBALA
106120
LICENSED
PROFESSIONAL ENGINEER
10/30/2026
Kubala Engineers
F-23612

CLIENT	
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DRAWN BY: JJ

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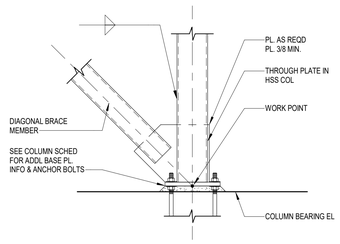
TYPICAL WIND BRACING ELEVATIONS

S-600

Plot Stamp:
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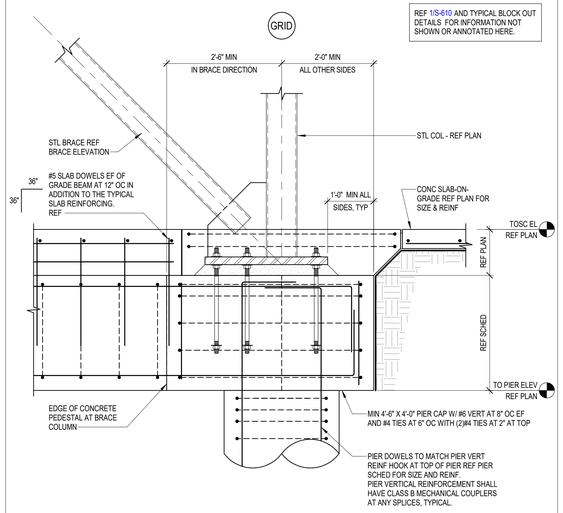
VERTICAL BRACE NOTES:

1. VERTICAL BRACE CONNECTIONS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS WORKING FOR THE FABRICATOR. SUBMIT CALCULATIONS IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
2. MEMBER CONNECTIONS TO BE DESIGNED FOR FORCES (KIPS) SHOWN. FORCES INDICATED ARE UNFACTORED ACCORDING TO ALLOWABLE STRESS DESIGN METHOD (ASD). WHERE FORCES ARE NOT GIVEN, DESIGN FOR THE TENSILE CAPACITY OF THE DIAGONAL MEMBERS.
3. CONNECTIONS SHALL BE DESIGNED AND DETAILED TO TRANSFER FORCES BETWEEN MEMBERS WITHOUT ECCENTRICITY.
4. CONNECTIONS SHALL BE DESIGNED AND DETAILED FOR BOTH TENSION AND COMPRESSION PER FORCES PROVIDED.
5. FILLET WELD CONNECTIONS SHALL COMPLY WITH REQUIREMENTS NOTED IN AWS D1.1

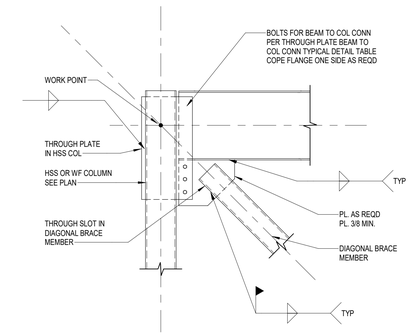


SECTION VIEW

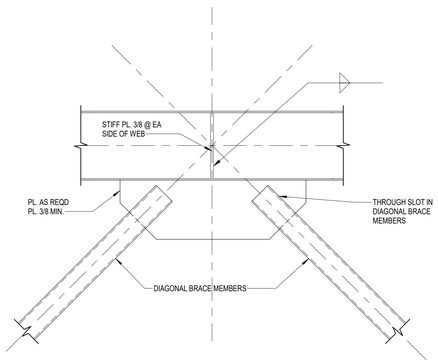
1 TYPICAL DETAIL OF VERTICAL BRACE CONNECTION
NO SCALE



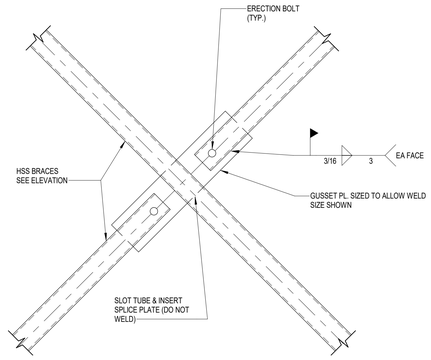
2 TYPICAL DETAIL OF VERTICAL BRACE CONNECTION
NO SCALE



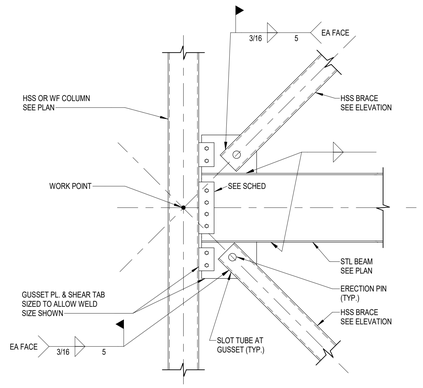
3 TYPICAL DETAIL OF VERTICAL BRACE CONNECTION
NO SCALE



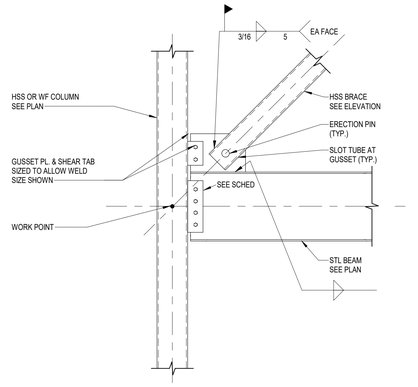
4 TYPICAL DETAIL OF VERTICAL BRACE CONNECTION
NO SCALE



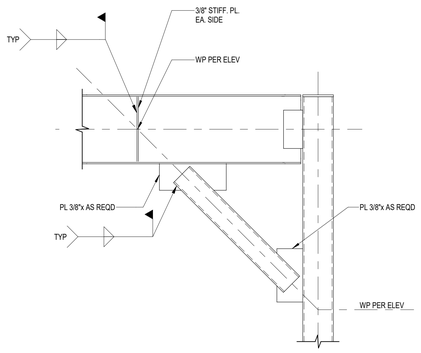
5 TYPICAL DETAIL OF TUBE X-BRACE
NO SCALE



6 TYPICAL DETAIL OF TUBE K-BRACE AT WIDE FLANGE BEAM
NO SCALE



7 TYPICAL DETAIL OF TUBE K-BRACE AT WIDE FLANGE BEAM
NO SCALE



8 TYPICAL DETAIL OF VERTICAL BRACE CONNECTION
NO SCALE

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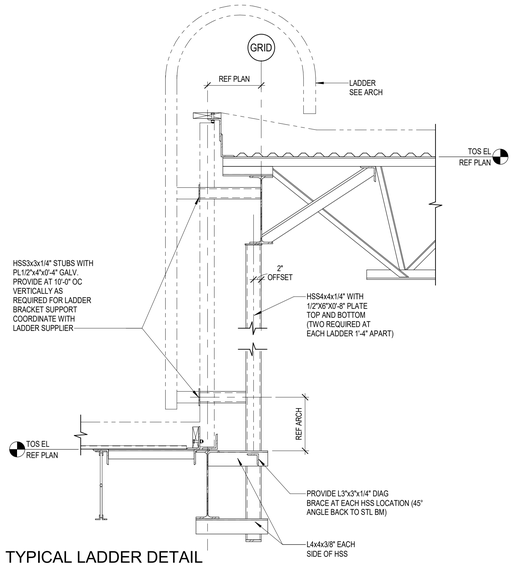
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TYPICAL WIND BRACING DETAILS

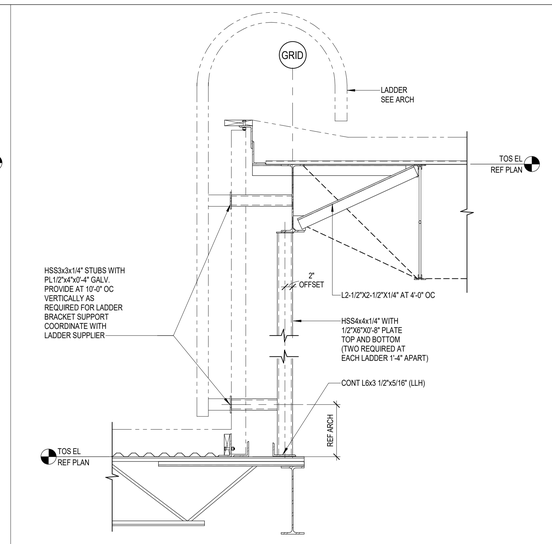
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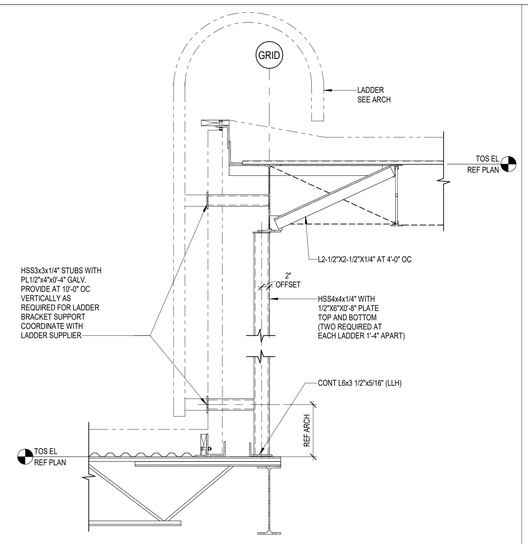
S-700 - TYPICAL LADDER DETAILS



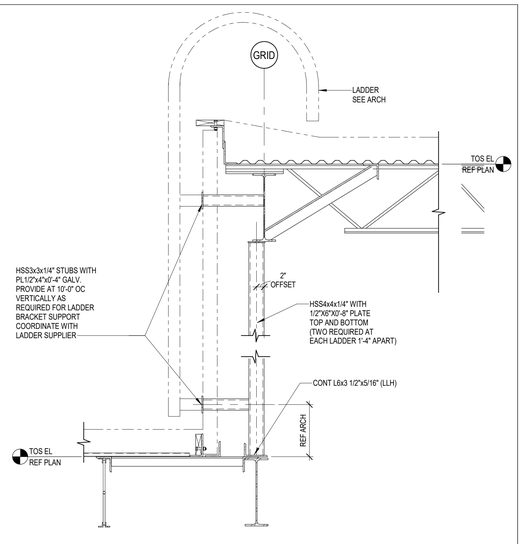
1 TYPICAL LADDER DETAIL
3/4" = 1'-0"



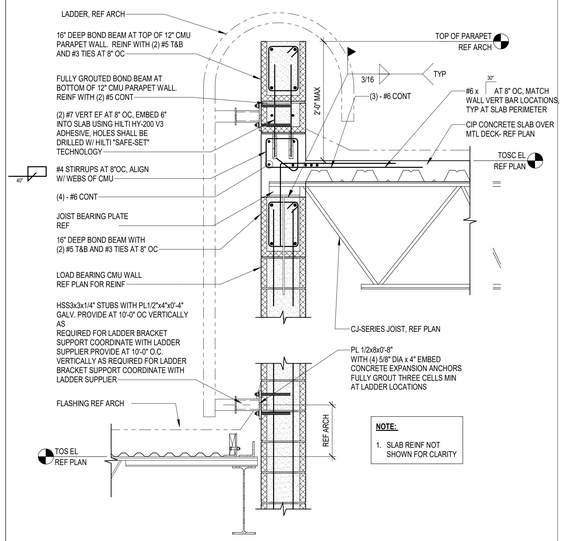
2 TYPICAL LADDER DETAIL
3/4" = 1'-0"



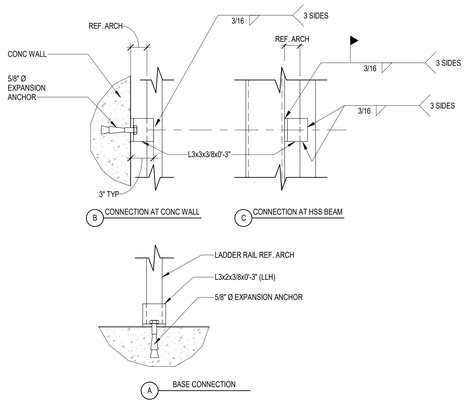
3 TYPICAL LADDER DETAIL
3/4" = 1'-0"



4 TYPICAL LADDER DETAIL
3/4" = 1'-0"



5 TYPICAL LADDER DETAIL
3/4" = 1'-0"



9 LADDER SUPPORT DETAIL
1 1/2" = 1'-0"

NOTE:

GC SHALL COORDINATE LADDER TYPE, LOCATION, CONNECTION, AND HEIGHT WITH ARCH PRIOR TO CONSTRUCTION.

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DRAWN BY: JJ

TYPICAL LADDER DETAILS

S-700

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S-800 - OPTIONAL WIDE FLANGE ALTERNATE SCHEDULE AND SUPPLEMENTAL NOTES

OPTIONAL WIDE FLANGE ALTERNATE SCHEDULE AND SUPPLEMENTAL NOTES:

DUE TO POTENTIAL PROCUREMENT DELAYS ASSOCIATED WITH W24 AND LARGER WIDE-FLANGE BEAMS, THE FOLLOWING ALTERNATE W21 BEAM SIZES MAY BE CONSIDERED, SUBJECT TO OWNER APPROVAL.

ORIGINAL BEAM SIZE	ALTERNATE BEAM SIZE
W24x55	W21x68
W24x62	W21x73
W24x68	W21x83
W24x76	W21x93
W27x84	W21x122
W30x90	W21x147
W30x108	W21x166
W30x116	W21x201

GENERAL NOTES:

1. ALTERNATE BEAM SIZES SHOWN IN THE TABLE MAY BE USED IN LIEU OF THE ORIGINALLY SPECIFIED MEMBERS, SUBJECT TO OWNER APPROVAL AND PRIOR WRITTEN ACCEPTANCE BY THE STRUCTURAL ENGINEER OF RECORD (EOR).
2. CONTRACTOR SHALL VERIFY MATERIAL AVAILABILITY AND LEAD TIMES PRIOR TO REQUESTING SUBSTITUTIONS.
3. CONTRACTOR SHALL COORDINATE ALL CHANGES IN BEAM DEPTH, CONNECTION GEOMETRY, FRAMING ELEVATIONS, AND CLEARANCES WITH THE ARCHITECT, MEP ENGINEERS, AND AFFECTED TRADES.
4. ALL CONNECTIONS, CAMBER REQUIREMENTS, AND ASSOCIATED FRAMING DETAILS SHALL BE REVIEWED AND MODIFIED AS REQUIRED TO ACCOMMODATE THE ALTERNATE MEMBERS. NO ADDITIONAL COST OR SCHEDULE IMPACT SHALL BE INCURRED BY THE OWNER WITHOUT PRIOR APPROVAL.
5. ORIGINAL BEAM SIZES SHALL REMAIN ACCEPTABLE AND MAY BE USED WHERE AVAILABLE.

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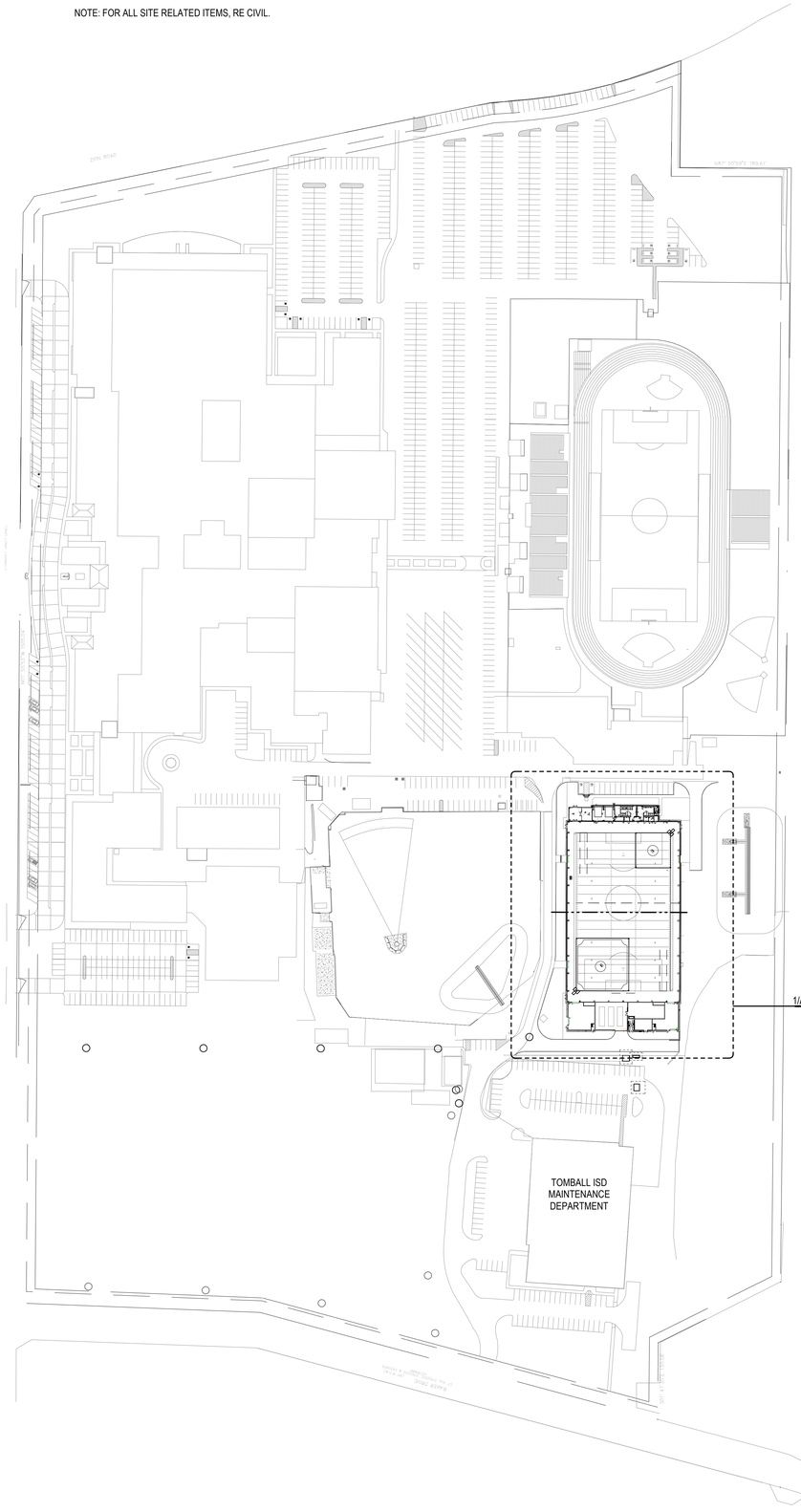
OPTIONAL WIDE FLANGE ALTERNATE SCHEDULE AND SUPPLEMENTAL NOTES

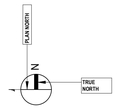
S-800

Plot Stamp:
10/29/2026 5:58:39 PM

A-AS101 : COMPOSITE - ARCHITECTURAL SITE PLAN

NOTE: FOR ALL SITE RELATED ITEMS, RE CIVIL.





1 ARCHITECTURAL SITE PLAN - COMPOSITE TOMBALL HIGH SCHOOL
1" = 100'-0"

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Tomball ISD-Multi-Program Activity Center- Tomball High School

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REGISTERED ARCHITECT
EDMUND K. RAMIREZ
14374
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: Checker

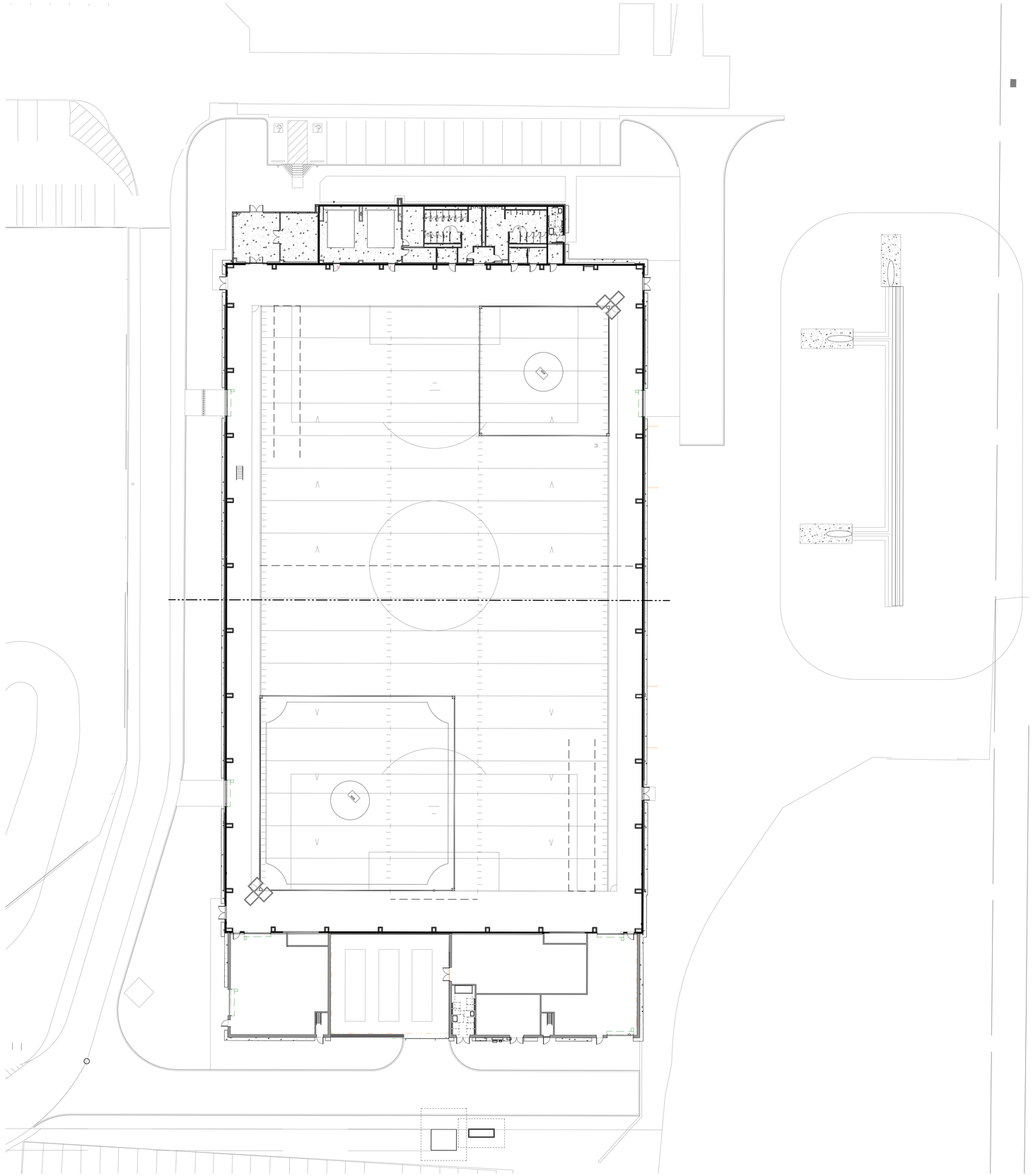
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COMPOSITE - ARCHITECTURAL SITE PLAN

A-AS101

Plot Stamp:
10/30/2026 2:54:34 PM

A-AS102 - ARCHITECTURAL SITE PLAN TOMBALL HIGH SCHOOL



NOTE:
FOR ALL SITE RELATED ELEMENTS, RE CIVIL

1 ARCHITECTURAL SITE PLAN -TOMBALL HIGH SCHOOL
1" = 20'-0"

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ISSUED FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND X. RAMIREZ JR. 14374 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: Checker

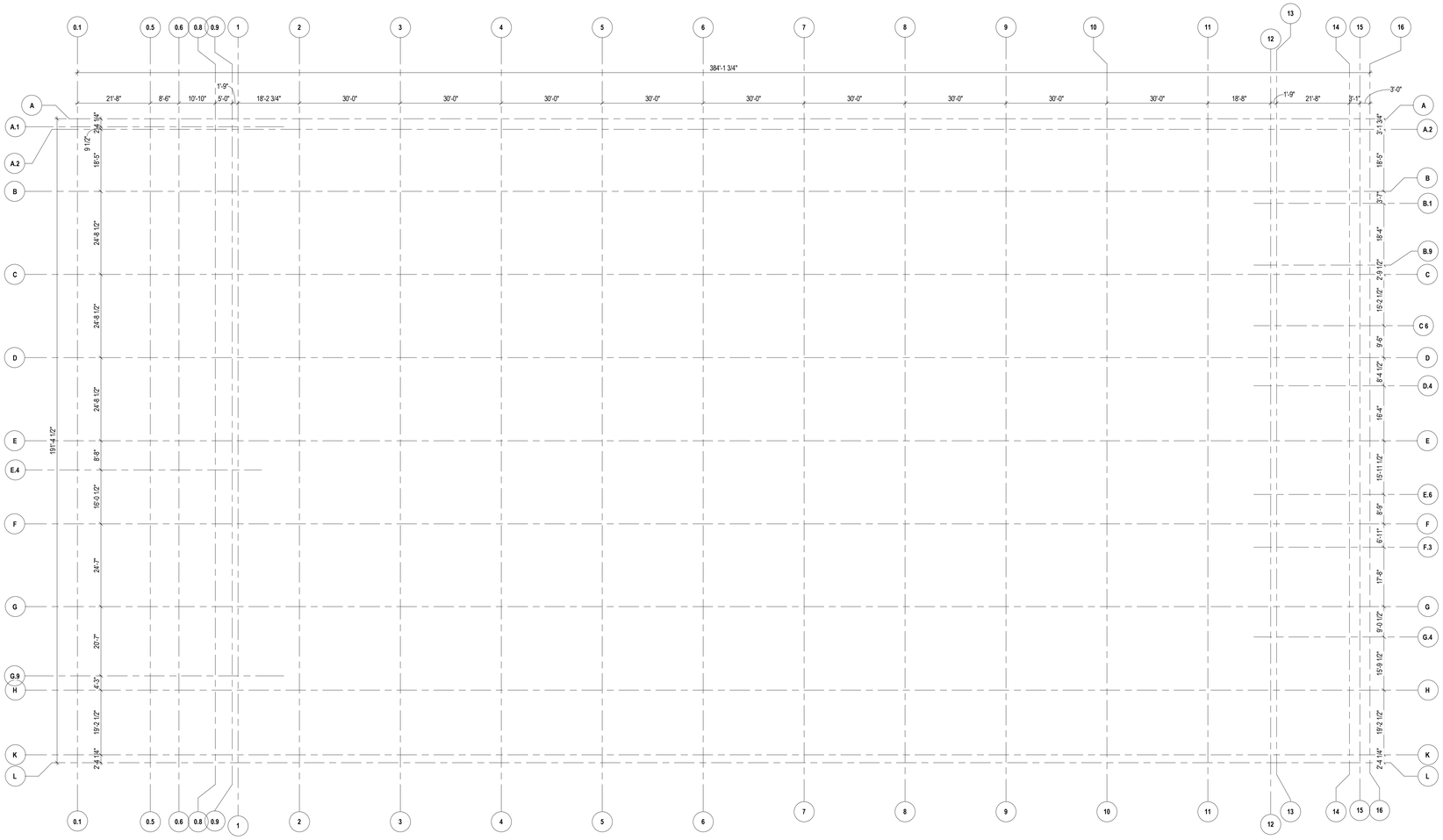
DRAWN BY: Author

ARCHITECTURAL SITE PLAN TOMBALL HIGH SCHOOL

A-AS102

Plot Stamp:
10/30/2026 2:54:36 PM

A100 - GRID GEOMETRY PLAN - OVERALL



1 1ST FLOOR GRID PLAN -OVERALL
1/16" = 1'-0"

Plot Stamp:
10/30/2026 2:54:37 PM

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND K. RAMIREZ
14374
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

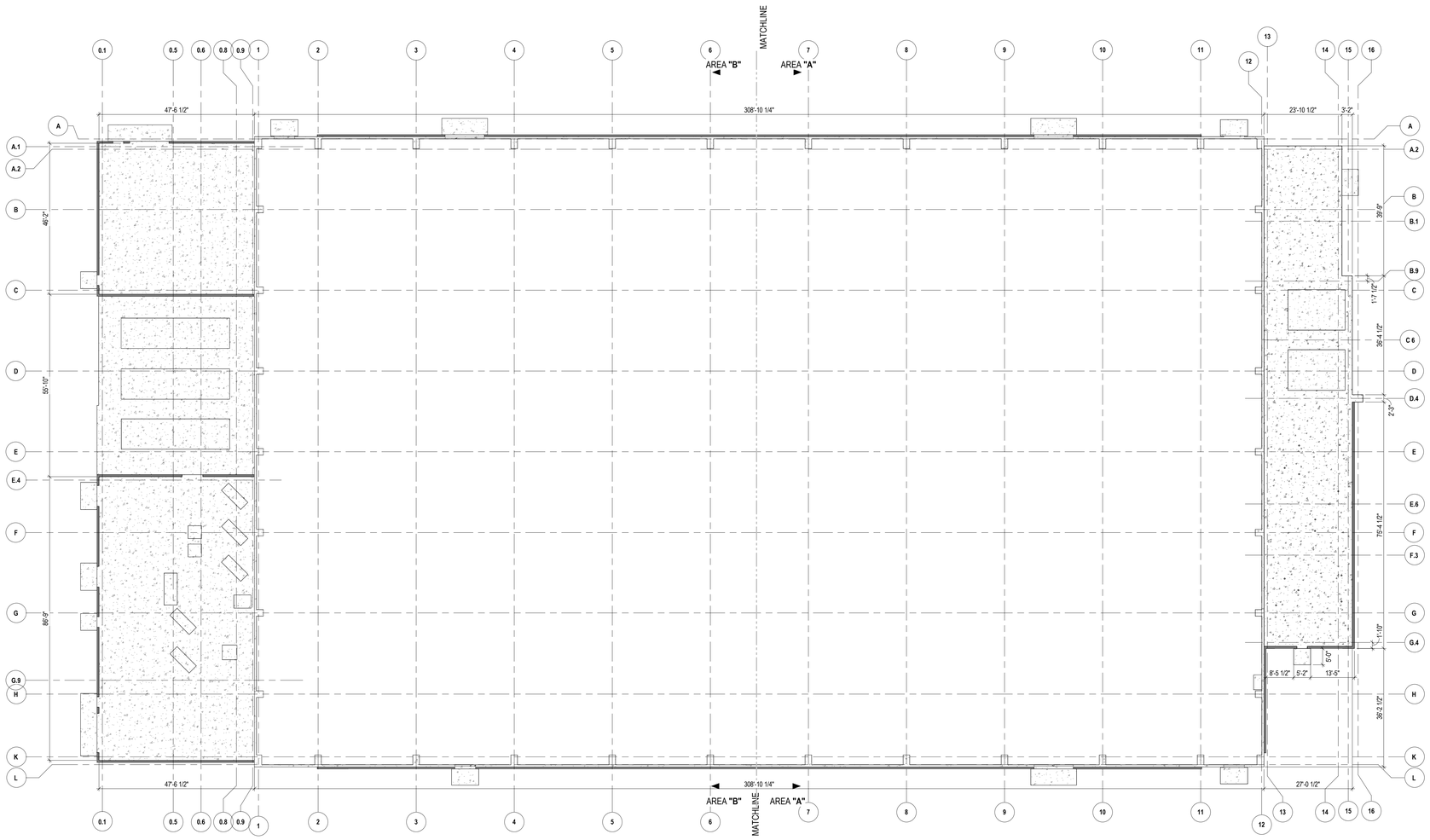
No.	Description	Date

CHECKED BY: Checker

DRAWN BY: Author

GRID GEOMETRY PLAN - OVERALL

A100



1 LEVEL 1 - SLAB PLAN - OVERALL
1/16" = 1'-0"

Plot Stamp:
10/30/2026 2:54:37 PM

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KEY PLAN

TRUE NORTH

EDWARD A. RAMIREZ — 14378 — REGISTERED ARCHITECT — STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

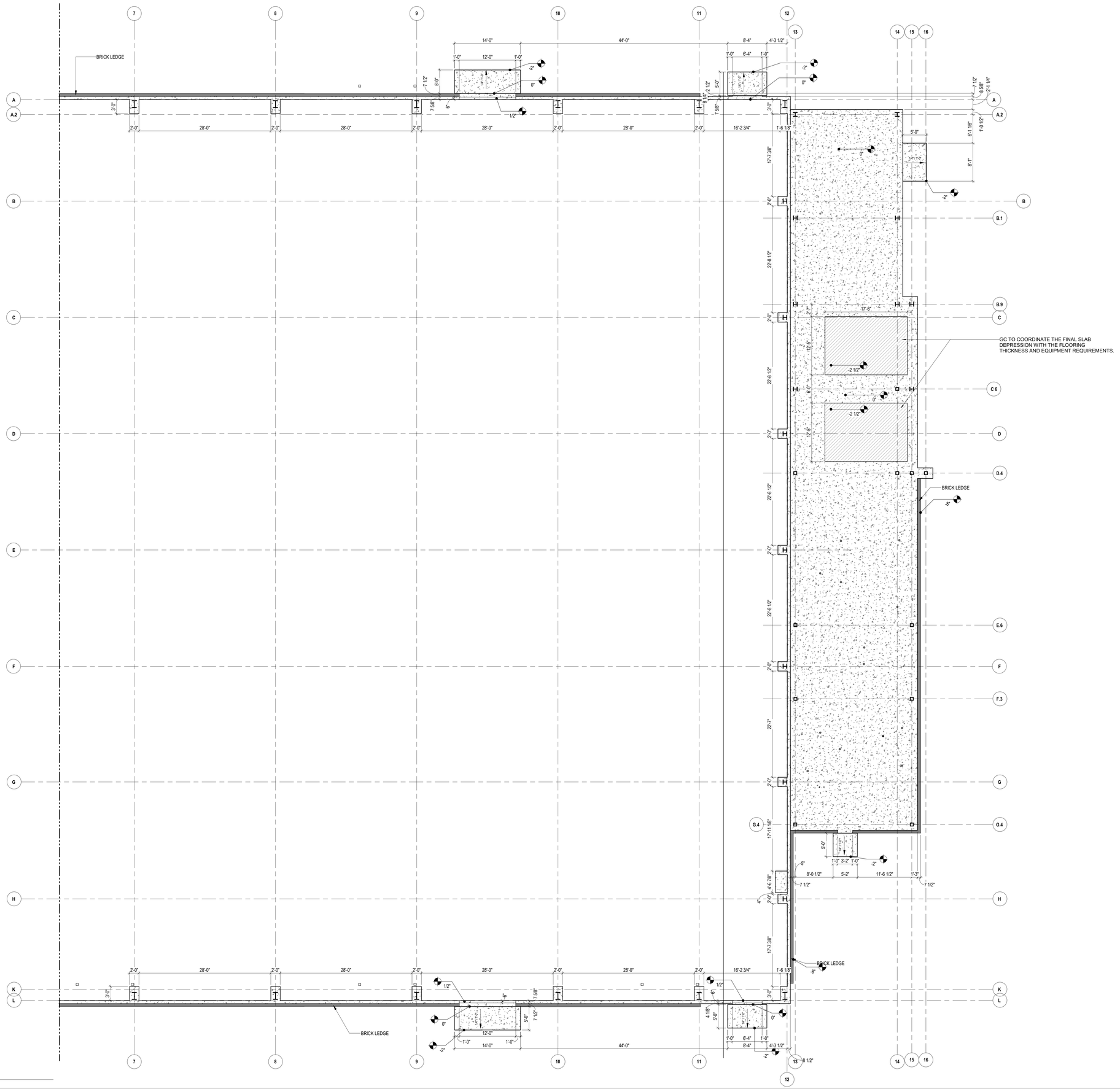
No.	Description	Date

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LEVEL 1 SLAB PLAN - OVERALL

A101



1 LEVEL 1 - SLAB PLAN - AREA A
1/8" = 1'-0"

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10/30/2026 2:54:38 PM

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND A. RAMIREZ, JR.
14378
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

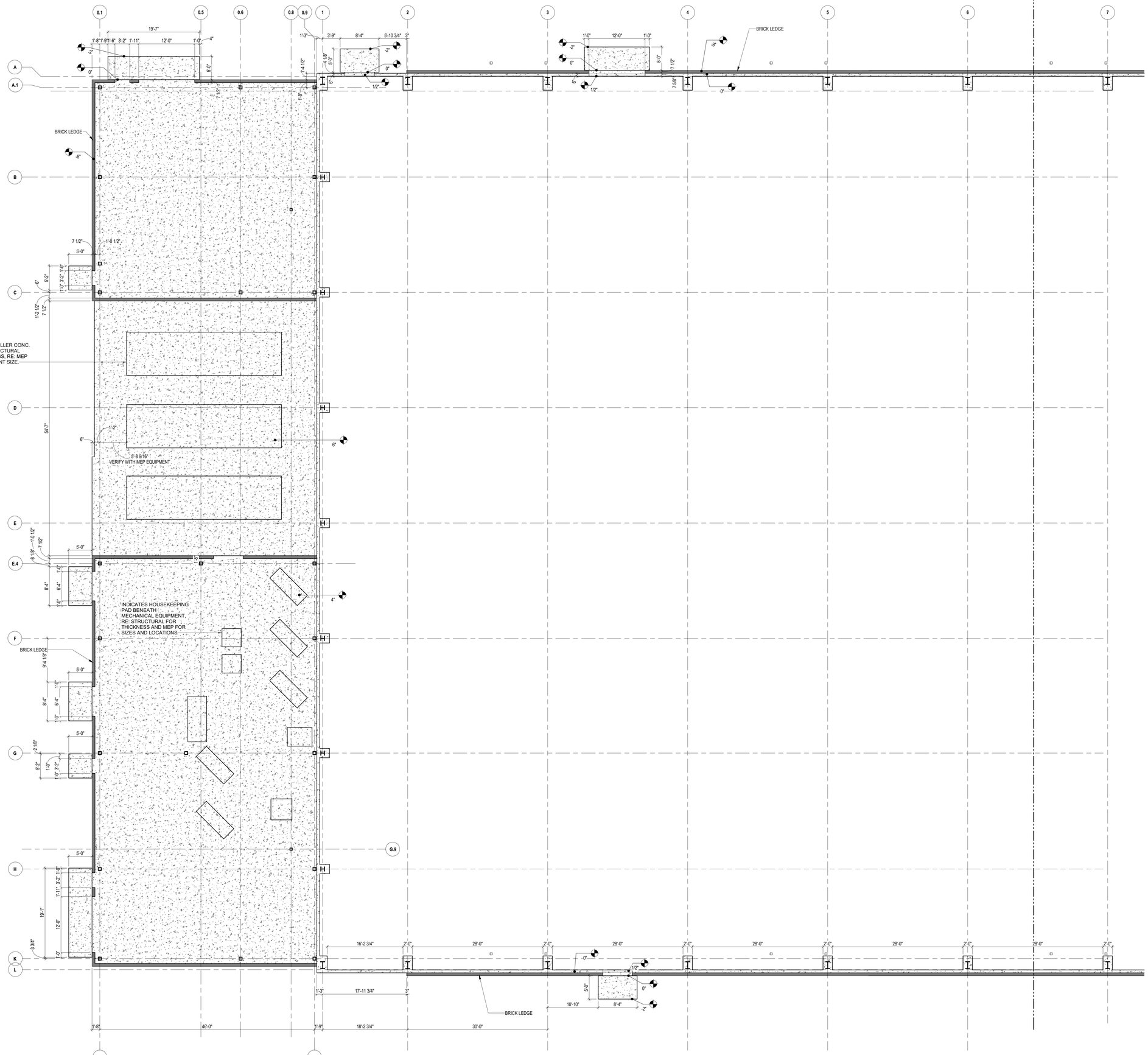
No.	Description	Date
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LEVEL 1 SLAB PLAN - AREA A

A101A



1 LEVEL 1 - SLAB PLAN - AREA B
1/8" = 1'-0"

Plot Stamp:
10/30/2026 2:54:39 PM

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND A. RAMIREZ JR. 14374 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

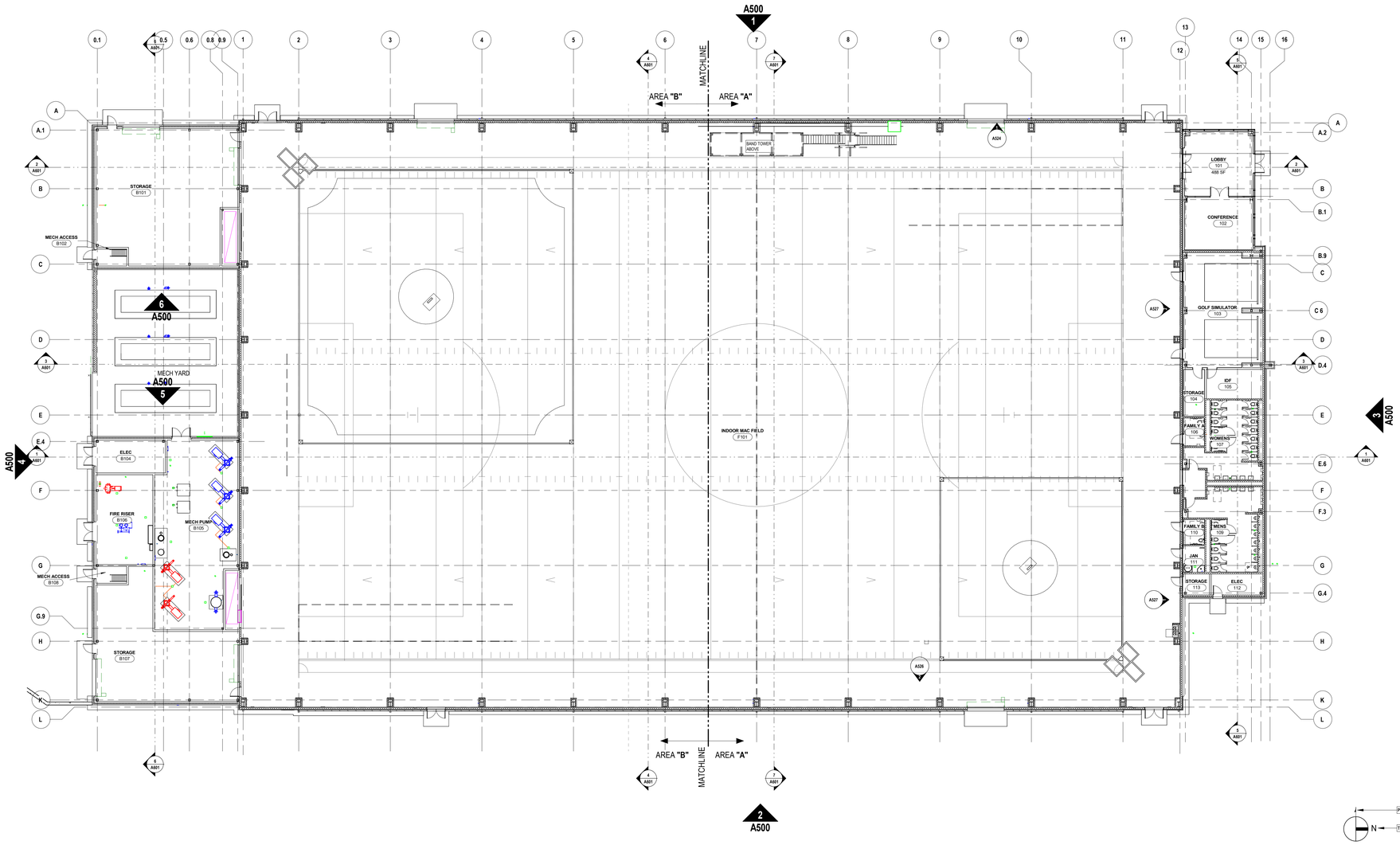
No.	Description	Date

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DRAWN BY: Author

LEVEL 1 SLAB PLAN - AREA B

A101B



1 LEVEL 1 - FLOOR PLAN - OVERALL
1/16" = 1'-0"

Plot Stamp:
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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND A. RAMIREZ
14374
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

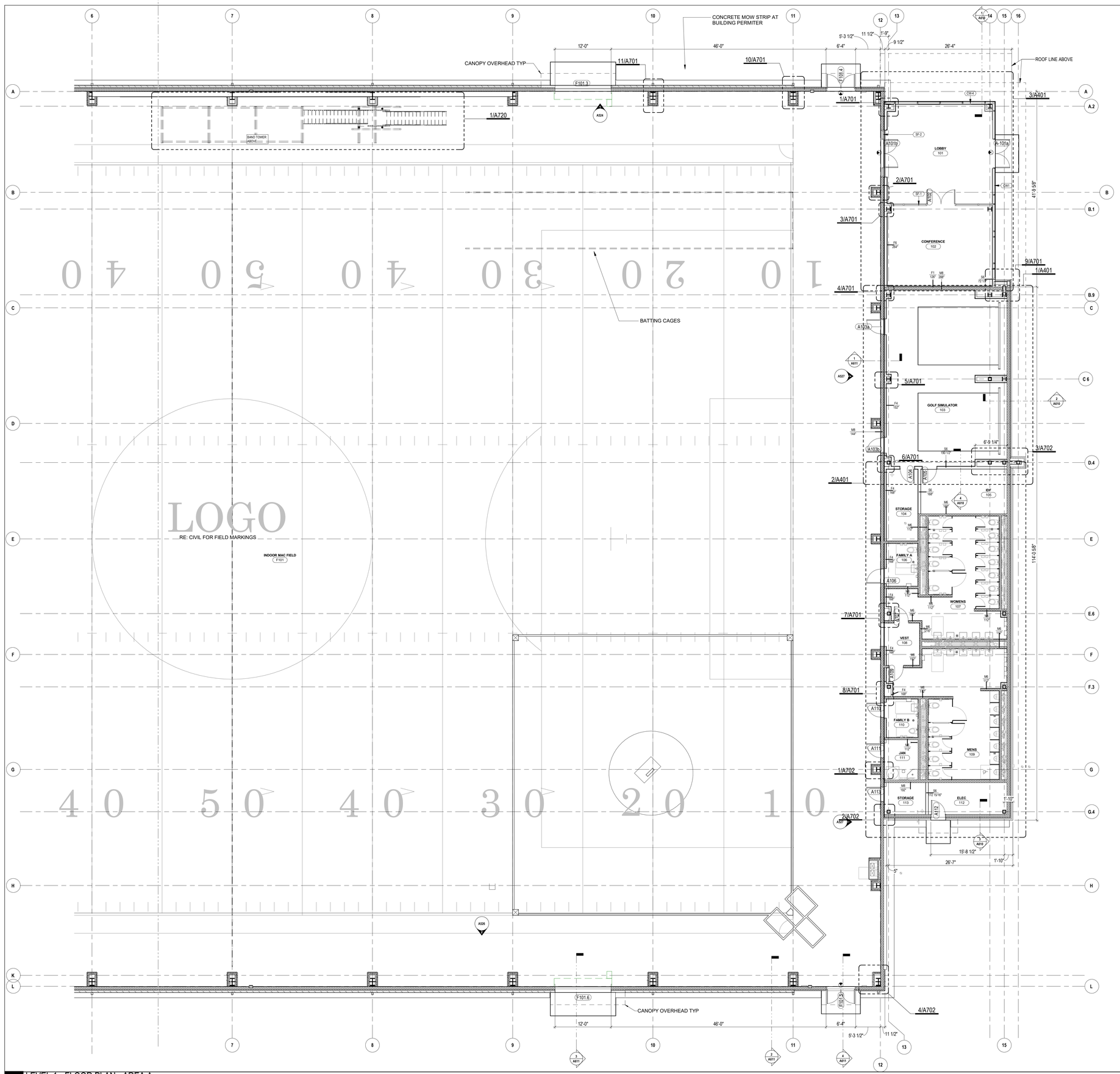
CHECKED BY: Checker

DRAWN BY: Author

LEVEL 1 FLOOR PLAN - OVERALL

A110

A110A - LEVEL 1 FLOOR PLAN - AREA A



1 LEVEL 1 - FLOOR PLAN - AREA A
1/8" = 1'-0"

GENERAL ARCH PLAN NOTES

1. DO NOT SCALE DRAWINGS, WRITTEN DIMENSIONS TAKE PRECEDENCE, CONTACT ARCH IF CLARIFICATION IS NECESSARY IN ORDER TO DETERMINE THE INTENT OF THE CONTRACT DOCUMENTS
2. DRAWINGS NOTED AS "N.T.S" OR "NTS" ARE NOT TO SCALE
3. ALL DIMENSIONS ARE TO STRUCTURAL COLUMN LINES OR THE SURFACE OF PARTITION ASSEMBLY U.N.O.
4. FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE COMMENCING WORK. NOTIFY ARCH. OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH AFFECTED WORK
5. NOTES OR DIMENSIONS NOTED AS "TYPICAL" OR "TYP." OR "TYP" SHALL APPLY TO CONDITIONS THAT ARE THE SAME OR SIMILAR
6. DIMENSIONS NOTED AS "FIELD VERIFY" OR "V.I.F." OR "VIF" SHALL BE MEASURED AND CONFIRMED AT THE PROJECT SITE BY THE CONTRACTOR AND REVIEWED WITH THE ARCH. BEFORE INCORPORATING INTO THE WORK
7. DIMENSIONS NOTED AS "CLEAR" OR "CLEAR INSIDE" REQUIRE SPECIFIC COORDINATION AMONG DISCIPLINES AND OR MANUFACTURERS
8. REFER TO PARTITION TYPES ON A-800 SERIES SHEETS
9. ALL INTERIOR PARTITIONS THIS SHEET, EXCEPT FOR FURR-OUT PARTITIONS, SHALL BE PARTITION TYPE M8 U.N.O.
10. ALL INTERIOR FURR-OUT PARTITIONS THIS SHEET SHALL BE PARTITION TYPE M4 U.N.O.
11. ALIGN FINISHED FACE OF WALLS WHERE WALL PARTITIONS OF DIFFERING THICKNESS ABUT AND OR ADJOIN IN THE SAME PLANE
12. PROVIDE AND INSTALL CONT. REVEAL, TRIM AT JOINT WHERE GYPSUM BOARD WALL PARTITIONS ABUT AND OR ADJOIN MASONRY WALL PARTITIONS IN THE SAME PLANE
13. ALL INTERIOR CMU OUTSIDE CORNERS SHALL HAVE BULLNOSE U.N.O.
14. ALL DOORS SHALL BE SET 6 INCHES OFF THE ADJACENT PERPENDICULAR WALL ON THE HINGE SIDE OF THE DOOR U.N.O., NOTIFY ARCH. OF ANY DOOR-RELATED CONFLICTS, INCLUDING BUT NOT LIMITED TO CONFLICTS CONCERNING ACCESSIBILITY STANDARDS
15. ALL DOOR THRESHOLDS AT ALL EXTERIOR DOORS SHALL BE SET IN FULL BED OF SEALANT
16. COORD. ALL ROOF DRAIN LEADER LOCATIONS WITH FLOOR PLAN PRIOR TO FLOOR SLAB CONSTRUCTION
17. ALL FLOOR SLOPES TO FLOOR DRAINS SHALL NOT EXCEED 1:48
18. PROVIDE AND INSTALL SELF-LEVELING UNDERLAYMENT WHERE UNEVEN FLOOR SLAB EXISTS PRIOR TO INSTALLATION OF FLOOR FINISHES
19. COORD. HOUSEKEEPING PAD LOCATIONS AND DIMENSIONS WITH EQUIPMENT TO BE INSTALLED
20. ALL FLOOR FINISH CHANGES SHALL OCCUR AT THE CENTERLINE OF DOORS U.N.O.
21. ALL FLOOR FINISH MATERIAL CHANGES SHALL HAVE REDUCER STRIPS
22. ALL REQUIRED ACCESSIBLE CLEARANCES FOR ALL ITEMS, INCLUDING BUT NOT LIMITED TO ALL COUNTER TOPS, ALL PLUMBING FIXTURES, ALL DRINKING FOUNTAINS, ALL ELECTRIC WATER COOLERS, ALL LAVATORIES, ALL URINALS, ALL TOILETS SHALL BE STRICTLY ENFORCED
23. REFER TO OTHER DISCIPLINE DOCUMENTS FOR ADDITIONAL SCOPE OF WORK

LEGEND - FLOOR PLAN SYMBOLS

INTERIOR ELEVATIONS
DETAIL NUMBER
SHEET NUMBER

WALL SECTIONS
DETAIL NUMBER
SHEET NUMBER

PLAN CALLOUTS
DETAIL NUMBER
SHEET NUMBER

MATCHLINE
SHEET NUMBER
DETAIL NUMBER

BUILDING ELEMENTS
EXISTING PARTITION TO REMAIN
TEMPORARY PARTITION
PARTITION
PARTITION TAG: REFER TO PARTITION SHEETS FOR MORE INFORMATION
DOOR TAG (SHOWS DOOR NUMBER) REFER TO DOOR SCHEDULE

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ISSUED FOR PROPOSAL

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMOND A. RAMIREZ JR. 14374 STATE OF TEXAS

CLIENT: TOMBALL ISD
DATE: 10/30/2026
PROJECT NUMBER: 25046901

DRAWING HISTORY

No.	Description	Date
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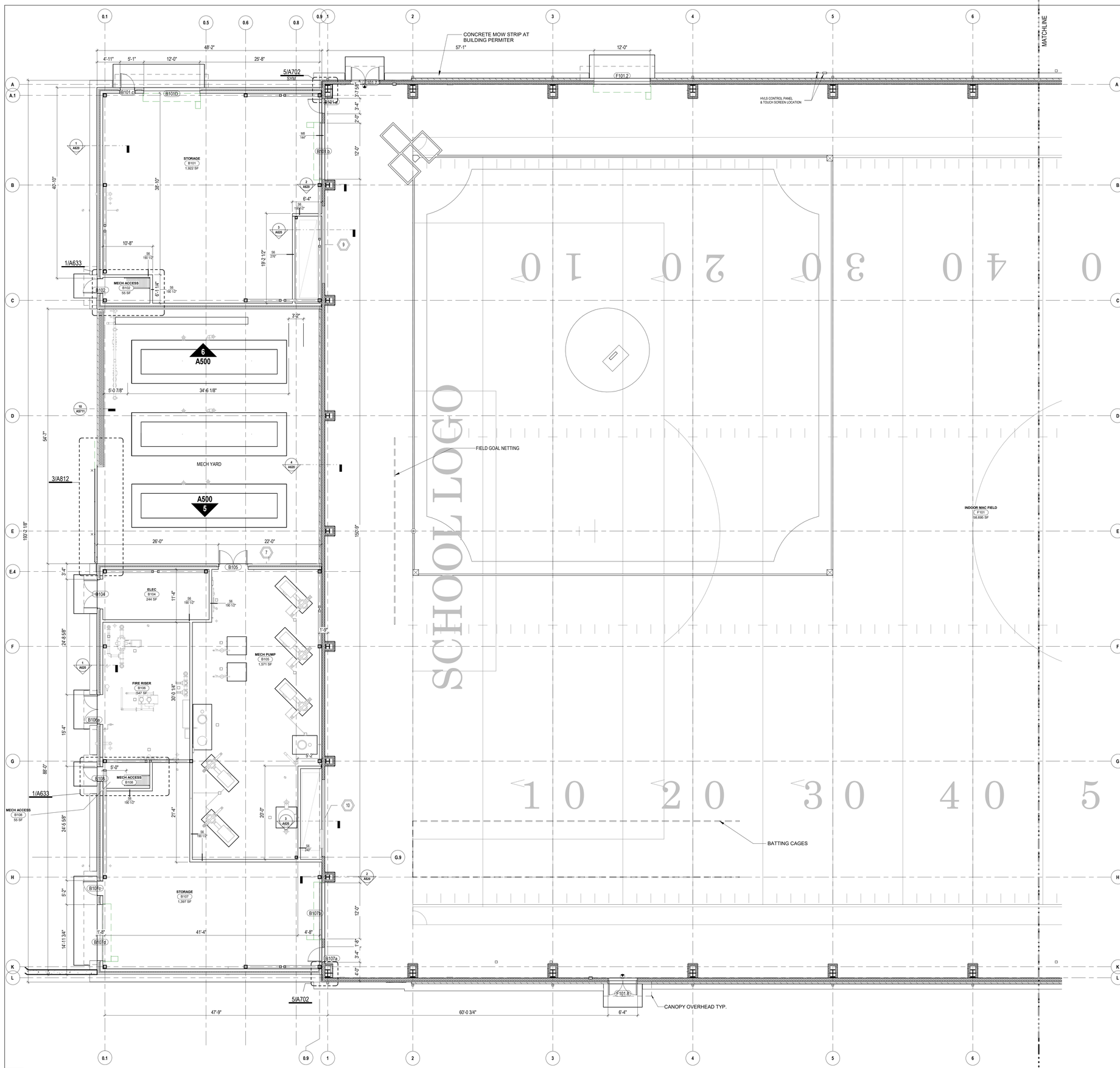
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LEVEL 1 FLOOR PLAN - AREA A

A110A

Plot Stamp:
10/30/2026 2:54:45 PM

A110B - LEVEL 1 FLOOR PLAN - AREA B



1 LEVEL 1 - FLOOR PLAN - AREA B2
1/8" = 1'-0"

1 A502

GENERAL ARCH PLAN NOTES

1. DO NOT SCALE DRAWINGS, WRITTEN DIMENSIONS TAKE PRECEDENCE, CONTACT ARCH IF CLARIFICATION IS NECESSARY IN ORDER TO DETERMINE THE INTENT OF THE CONTRACT DOCUMENTS
2. DRAWINGS NOTED AS "N.T.S" OR "NTS" ARE NOT TO SCALE
3. ALL DIMENSIONS ARE TO STRUCTURAL COLUMN LINES OR THE SURFACE OF PARTITION ASSEMBLY U.N.O.
4. FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE COMMENCING WORK. NOTIFY ARCH. OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH AFFECTED WORK
5. NOTES OR DIMENSIONS NOTED AS "TYPICAL" OR "TYP." OR "TYP" SHALL APPLY TO CONDITIONS THAT ARE THE SAME OR SIMILAR
6. DIMENSIONS NOTED AS "FIELD VERIFY" OR "V.I.F." OR "VIF" SHALL BE MEASURED AND CONFIRMED AT THE PROJECT SITE BY THE CONTRACTOR AND REVIEWED WITH THE ARCH. BEFORE INCORPORATING INTO THE WORK
7. DIMENSIONS NOTED AS "CLEAR" OR "CLEAR INSIDE" REQUIRE SPECIFIC COORDINATION AMONG DISCIPLINES AND OR MANUFACTURERS
8. REFER TO PARTITION TYPES ON A-800 SERIES SHEETS
9. ALL INTERIOR PARTITIONS THIS SHEET, EXCEPT FOR FURR-OUT PARTITIONS, SHALL BE PARTITION TYPE M8 U.N.O.
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11. ALIGN FINISHED FACE OF WALLS WHERE WALL PARTITIONS OF DIFFERING THICKNESS ABUT AND OR ADJOIN IN THE SAME PLANE
12. PROVIDE AND INSTALL CONT. REVEAL, TRIM AT JOINT WHERE GYPSUM BOARD WALL PARTITIONS ABUT AND OR ADJOIN MASONRY WALL PARTITIONS IN THE SAME PLANE
13. ALL INTERIOR CMU OUTSIDE CORNERS SHALL HAVE BULLNOSE U.N.O.
14. ALL DOORS SHALL BE SET 6 INCHES OFF THE ADJACENT PERPENDICULAR WALL ON THE HINGE SIDE OF THE DOOR U.N.O., NOTIFY ARCH. OF ANY DOOR-RELATED CONFLICTS, INCLUDING BUT NOT LIMITED TO CONFLICTS CONCERNING ACCESSIBILITY STANDARDS
15. ALL DOOR THRESHOLDS AT ALL EXTERIOR DOORS SHALL BE SET IN FULL BED OF SEALANT
16. COORD. ALL ROOF DRAIN LEADER LOCATIONS WITH FLOOR PLAN PRIOR TO FLOOR SLAB CONSTRUCTION
17. ALL FLOOR SLOPES TO FLOOR DRAINS SHALL NOT EXCEED 1:48
18. PROVIDE AND INSTALL SELF-LEVELING UNDERLAYMENT WHERE UNEVEN FLOOR SLAB EXISTS PRIOR TO INSTALLATION OF FLOOR FINISHES
19. COORD. HOUSEKEEPING PAD LOCATIONS AND DIMENSIONS WITH EQUIPMENT TO BE INSTALLED
20. ALL FLOOR FINISH CHANGES SHALL OCCUR AT THE CENTERLINE OF DOORS U.N.O.
21. ALL FLOOR FINISH MATERIAL CHANGES SHALL HAVE REDUCER STRIPS
22. ALL REQUIRED ACCESSIBLE CLEARANCES FOR ALL ITEMS, INCLUDING BUT NOT LIMITED TO ALL COUNTER TOPS, ALL PLUMBING FIXTURES, ALL DRINKING FOUNTAINS, ALL ELECTRIC WATER COOLERS, ALL LAVATORIES, ALL URINALS, ALL TOILETS SHALL BE STRICTLY ENFORCED
23. REFER TO OTHER DISCIPLINE DOCUMENTS FOR ADDITIONAL SCOPE OF WORK

LEGEND - FLOOR PLAN SYMBOLS

INTERIOR ELEVATIONS
DETAIL NUMBER
SHEET NUMBER

WALL SECTIONS
DETAIL NUMBER
SHEET NUMBER

PLAN CALLOUTS
DETAIL NUMBER
SHEET NUMBER

MATCHLINE
SHEET NUMBER
DETAIL NUMBER

BUILDING ELEMENTS
EXISTING PARTITION TO REMAIN
TEMPORARY PARTITION
PARTITION
PARTITION TAG: REFER TO PARTITION SHEETS FOR MORE INFORMATION
DOOR TAG (SHOWS DOOR NUMBER) REFER TO DOOR SCHEDULE

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND A. RAMIREZ JR. 14378 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

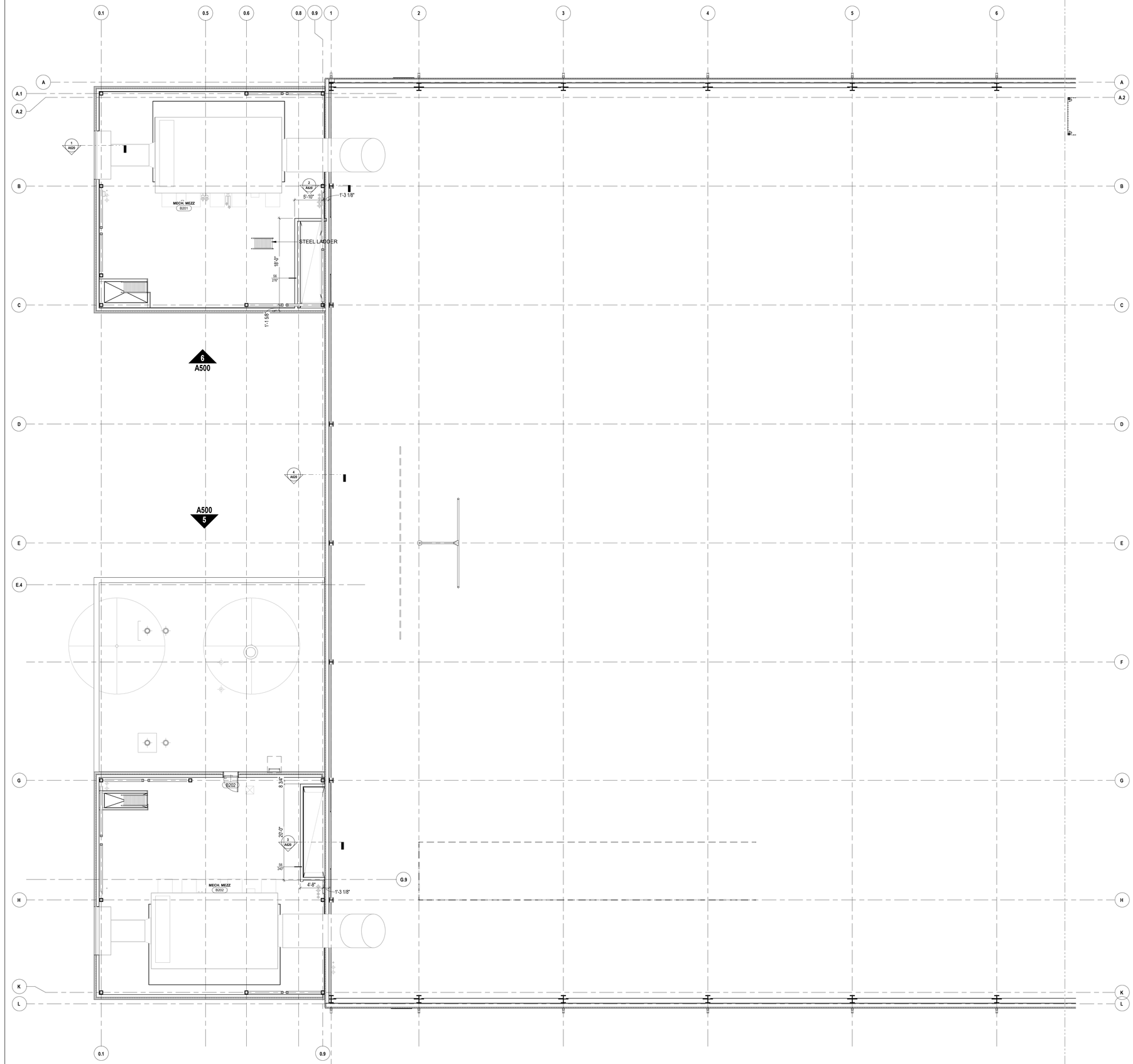
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LEVEL 1 FLOOR PLAN - AREA B

A110B

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A120 - MEZZANINE FLOOR PLAN



1 MEZZANINE LEVEL
1/8" = 1'-0"

Plot Stamp:
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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND X. RAMIREZ
14374
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

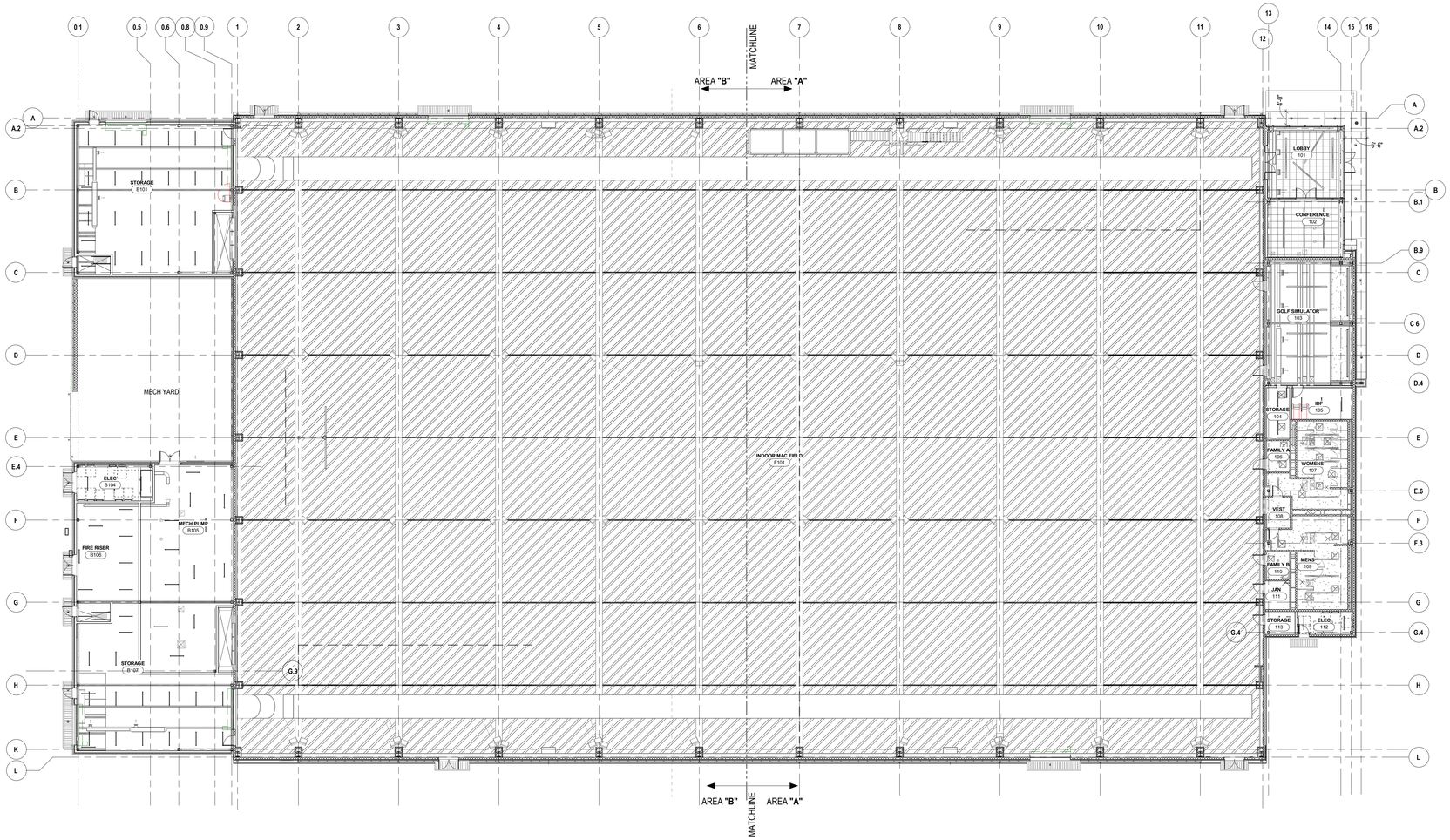
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DRAWN BY: Author

MEZZANINE FLOOR PLAN

A120

A201 - LEVEL 1 REFLECTED CEILING PLAN - OVERALL



1 LEVEL 1 - REFLECTED CEILING PLAN - OVERALL
1/16" = 1'-0"

GENERAL CEILING PLAN NOTES

1. REFER TO AND COORD. WITH ROOM FINISH SCHEDULES FOR SPECIFIC CEILING TYPES.
2. ALL SCHEDULED CEILING HEIGHTS ARE FROM THE MAIN FLOOR LEVEL WITHIN THE ROOM AND OR SPACE, AND ARE NOT FROM AN ELEVATED FLOOR LEVEL, AND ARE NOT FROM A RECESSED FLOOR LEVEL.
3. NO FIRE SPRINKLER HEADS ARE SHOWN ON ARCH. CEILING PLANS. ALL SPRINKLER HEADS SHALL BE CENTERED WITHIN CEILING TILES U.N.O.
4. ONLY CEILING MOUNTED FIXTURES AND EQUIP. IS SHOWN ON ARCH. CEILING PLANS. REFER TO INTERIOR ELEVATIONS FOR WALL MOUNTED FIXTURES. REFER TO MEPT DOCUMENTS FOR ADDITIONAL INFORMATION CONCERNING CEILING MOUNTED FIXTURES AND OR WALL MOUNTED FIXTURES.
5. CEILING MOUNTED LIGHT FIXTURES ARE SHOWN FOR LOCATION PURPOSES ONLY. COORD. WITH ELEC. DOCUMENTS FOR LIGHT FIXTURE DESIGNATIONS & SPECIFICATIONS.
6. CEILING MOUNTED LIGHT FIXTURES WITHIN FIRE RATED CEILING ASSEMBLIES SHALL HAVE LIGHT FIXTURE PROTECTION AND BE TENTED OR OTHERWISE FIRE RATED TO MATCH CEILING ASSEMBLY FIRE RATING.
7. VERIFY LOCATIONS OF ALL CEILING ACCESS PANELS WITH MEPT DOCUMENTS. COORD. LOCATIONS OF CEILING ACCESS PANELS WITH ARCH. PRIOR TO INSTALLATION. CEILING ACCESS PANEL FIRE RATINGS SHALL MATCH CEILING ASSEMBLY FIRE RATINGS.
8. REFER TO WALL SECTIONS FOR WALL-CEILING INTERFACE
9. THE GC SHALL COORDINATE WITH ARCH. THE ALIGNMENT OF ALL CEILING DEVICES, INCLUDING BUT NOT LIMITED TO LIGHT SENSORS, SPRINKLERS, SPEAKERS, GRILLES, LIGHT FIXTURES AND EXIT SIGNS, TO ENSURE UNIFORMITY AND CONSISTENCY THROUGHOUT THE CEILING PLAN, TYPICAL.
10. REFER TO MEP DRAWINGS FOR ALL MECHANKCAL ROOM LIGHTING AND ANY FIXTURES NOT SHOWN ON ARCHITECTURAL RCP.
11. PAINT ALL DUCTWORK, CONDUITS, PIPING, STRUCTURAL BEAMS, STRUCTURAL JOISTS, STRUCTURAL COLUMNS, METAL ROOF DECK, AND OTHER STRUCTURAL MEMBERS, BOTH EXTERIOR AND INTERIOR ***PNT-03***, ***EXCEPT*** IN LOCKER ROOMS AND WEIGHT ROOMS WHICH WILL BE ***PNT-05***.
12. LIGHTING FIXTURES TO BE CENTERED AND SPACED EQUALLY UNLESS DIMENSIONED OR U.N.O..
13. CEILNGS AT ALL SHOWERS SHALL BE EPOXY PAINTED MOISTURE RESISTANT GYP. BOARD.

CEILING MATERIALS LEGEND

ACT1
2' X 2' ACOUSTIC TILE
RE: ROOM FINISH SCHEDULE

GB-01
GYPSUM BOARD CEILING ASSEMBLY

OPEN TO STRUCTURE

ACM-1
ALUMINUM COMPOSITE PANEL

SIMPLE SAVER

CEILING SYMBOLS LEGEND

DETAIL SECTIONS
DETAIL NUMBER
SHEET NUMBER

PLAN CALLOUTS
DETAIL NUMBER
SHEET NUMBER

MATCHLINE
SEE 3 / Ax.xx

MATCHLINE
SHEET NUMBER
DETAIL NUMBER

BUILDING ELEMENTS
GWB PARTITION TYPE
CMU PARTITION TYPE

GYPSUM BOARD, PLASTER, OR STUCCO CEILING; RE: CEILING TAGS

24" x 24" ACOUSTIC TILE CEILING SYSTEM; RE: CEILING TAGS AND SPECIFICATIONS

SIMPLE SAVER SYSTEM OR ARCH. APPROVED EQUAL.

LED DOWN LIGHT; RECESSED CEILING MTD. FIXTURE. INSTALL BOTTOME OF FIXTURES @ 10'-0" AFF IN GWB CEILINGS (U.N.O.). ALL SHOWER AREAS WILL BE WET LABELED.

SPORT LIGHT (MUSCO OR ARCH. APPROVED EQUAL)

CEILING TYPE
HEIGHT ABOVE LEVEL (NOT FINISH FLOOR)
MATERIAL FINISH
HEIGHT ABOVE LEVEL
RETURN AIR GRILLE (DIAGONAL SYMBOL SHAPES WILL VARY)
SUPPLY AIR GRILLE (CROSSHATCH SYMBOL SHAPES WILL VARY)
LIGHT FIXTURE (SYMBOL SHAPES WILL VARY)
LINEAR LED; SUSPENDED/RECESSED CEILING MTD FIXTURE. INSTALL BOTTOME OF FIXTURES @ 10'-0"AFF FOR SUSPENDED & CEILING MOUNTED, EXPECT IN AREAS, SUCH AS, THE INDOOR FIELD, WEIGHT ROOM & SPORTS MED. STORAGE. ALL RESTROOM & SHOWER AREA FIXTURES WILL NEED TO BE WET LABELED.
LED EXIT SIGN LIGHT FIXTURES. MOUNT TO OR SUSPENDED FROM WALLS, CEILINGS AND STRUCTURES ABOVE AS REQUIRED BY CODE.

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ISSUED FOR PROPOSAL

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMOND A. RAMIREZ JR. 14378 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

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CHECKED BY: Checker

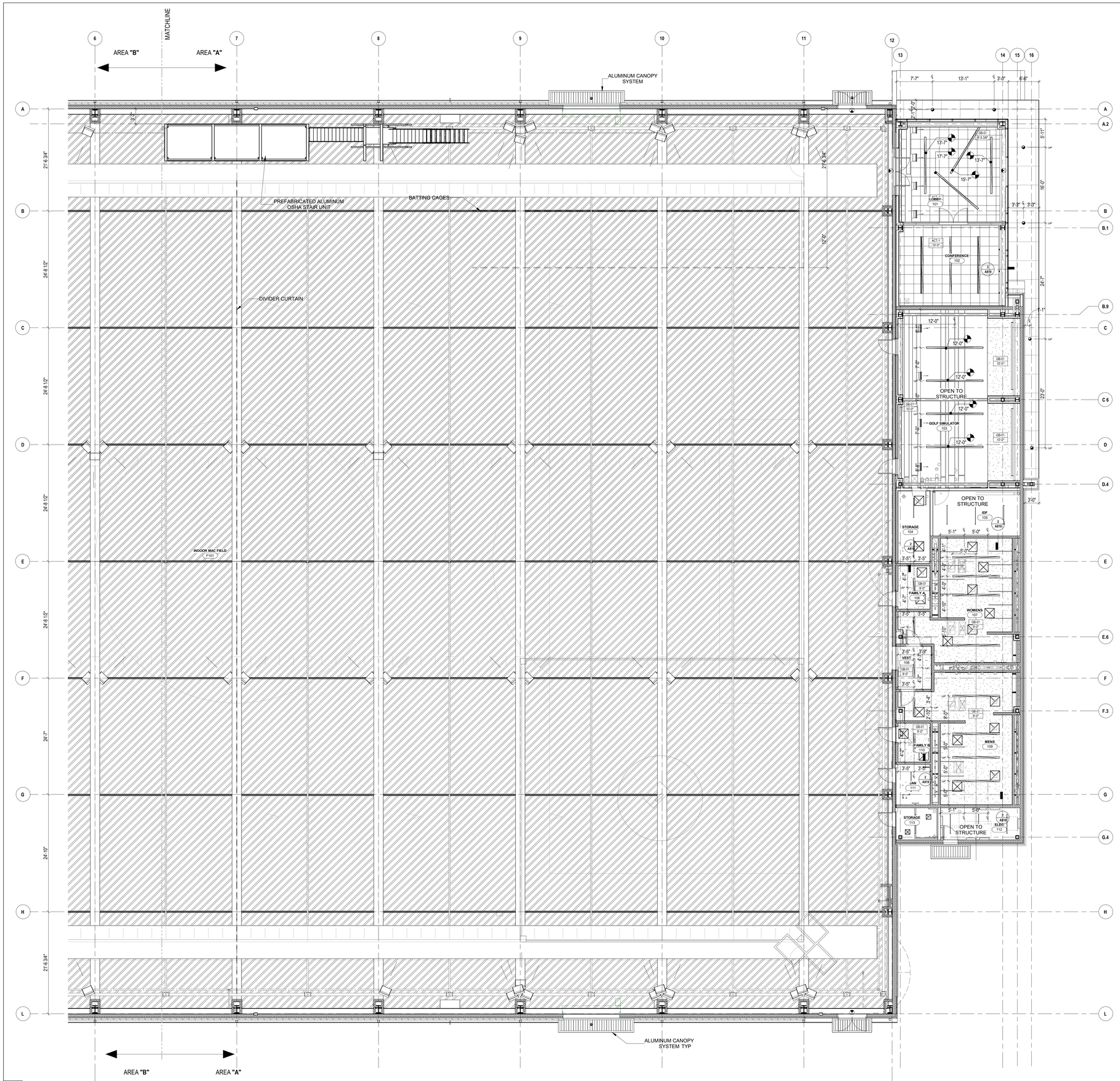
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LEVEL 1 REFLECTED CEILING PLAN - OVERALL

A201

Plot Stamp:
10/30/2026 2:54:52 PM

A201A - INDOOR PRACTICE FIELD REFLECTED CEILING PLAN - SECTOR A



1 CEILING PLAN LEVEL 1 AREA A
1/8" = 1'-0"

GENERAL CEILING PLAN NOTES

1. REFER TO AND COORD. WITH ROOM FINISH SCHEDULES FOR SPECIFIC CEILING TYPES.
2. ALL SCHEDULED CEILING HEIGHTS ARE FROM THE MAIN FLOOR LEVEL WITHIN THE ROOM AND OR SPACE, AND ARE NOT FROM AN ELEVATED FLOOR LEVEL, AND ARE NOT FROM A RECESSED FLOOR LEVEL.
3. NO FIRE SPRINKLER HEADS ARE SHOWN ON ARCH. CEILING PLANS. ALL SPRINKLER HEADS SHALL BE CENTERED WITHIN CEILING TILES U.N.O.
4. ONLY CEILING MOUNTED FIXTURES AND EQUIP. IS SHOWN ON ARCH. CEILING PLANS. REFER TO INTERIOR ELEVATIONS FOR WALL MOUNTED FIXTURES. REFER TO MEPT DOCUMENTS FOR ADDITIONAL INFORMATION CONCERNING CEILING MOUNTED FIXTURES AND OR WALL MOUNTED FIXTURES.
5. CEILING MOUNTED LIGHT FIXTURES ARE SHOWN FOR LOCATION PURPOSES ONLY. COORD. WITH ELEC. DOCUMENTS FOR LIGHT FIXTURE DESIGNATIONS & SPECIFICATIONS.
6. CEILING MOUNTED LIGHT FIXTURES WITHIN FIRE RATED CEILING ASSEMBLIES SHALL HAVE LIGHT FIXTURE PROTECTION AND BE TENTED OR OTHERWISE FIRE RATED TO MATCH CEILING ASSEMBLY FIRE RATING.
7. VERIFY LOCATIONS OF ALL CEILING ACCESS PANELS WITH MEPT DOCUMENTS. COORD. LOCATIONS OF CEILING ACCESS PANELS WITH ARCH. PRIOR TO INSTALLATION. CEILING ACCESS PANEL FIRE RATINGS SHALL MATCH CEILING ASSEMBLY FIRE RATINGS.
8. REFER TO WALL SECTIONS FOR WALL-CEILING INTERFACE
9. THE GC SHALL COORDINATE WITH ARCH. THE ALIGNMENT OF ALL CEILING DEVICES, INCLUDING BUT NOT LIMITED TO LIGHT SENSORS, SPRINKLERS, SPEAKERS, GRILLES, LIGHT FIXTURES AND EXIT SIGNS, TO ENSURE UNIFORMITY AND CONSISTENCY THROUGHOUT THE CEILING PLAN, TYPICAL.
10. REFER TO MEP DRAWINGS FOR ALL MECHANKCAL ROOM LIGHTING AND ANY FIXTURES NOT SHOWN ON ARCHITECTURAL RCP.
11. PAINT ALL DUCTWORK, CONDUITS, PIPING, STRUCTURAL BEAMS, STRUCTURAL JOISTS, STRUCTURAL COLUMNS, METAL ROOF DECK, AND OTHER STRUCTURAL MEMBERS, BOTH EXTERIOR AND INTERIOR ***PNT-03***, ***EXCEPT*** IN LOCKER ROOMS AND WEIGHT ROOMS WHICH WILL BE ***PNT-05***.
12. LIGHTING FIXTURES TO BE CENTERED AND SPACED EQUALLY UNLESS DIMENSIONED OR U.N.O..
13. CEILNGS AT ALL SHOWERS SHALL BE EPOXY PAINTED MOISTURE RESISTANT GYP. BOARD.

CEILING MATERIALS LEGEND

ACT1
2' X 2' ACOUSTIC TILE
RE: ROOM FINISH SCHEDULE

GB-01
GYPSUM BOARD CEILING ASSEMBLY

OPEN TO STRUCTURE

ACM-1
ALUMINUM COMPOSITE PANEL

SIMPLE SAVER

CEILING SYMBOLS LEGEND

DETAIL SECTIONS
DETAIL NUMBER
SHEET NUMBER

PLAN CALLOUTS
DETAIL NUMBER
SHEET NUMBER

MATCHLINE
SEE 3 / Ax.xx

MATCHLINE
SHEET NUMBER
DETAIL NUMBER

BUILDING ELEMENTS

GWB PARTITION TYPE

CMU PARTITION TYPE

GYPSUM BOARD, PLASTER, OR STUCCO CEILING; RE: CEILING TAGS

24" x 24" ACOUSTIC TILE CEILING SYSTEM; RE: CEILING TAGS AND SPECIFICATIONS

SIMPLE SAVER SYSTEM OR ARCH. APPROVED EQUAL.

LED DOWN LIGHT; RECESSED CEILING MTD. FIXTURE. INSTALL BOTTOME OF FIXTURES @ 10'-0" AFF IN GWB CEILINGS (U.N.O.). ALL SHOWER AREAS WILL BE WET LABELED.

CEILING TYPE
HEIGHT ABOVE LEVEL (NOT FINISH FLOOR)
MATERIAL FINISH
HEIGHT ABOVE LEVEL

RETURN AIR GRILLE (DIAGONAL SYMBOL SHAPES WILL VARY)

SUPPLY AIR GRILLE (CROSSHATCH SYMBOL SHAPES WILL VARY)

LIGHT FIXTURE (SYMBOL SHAPES WILL VARY)

LINEAR LED; SUSPENDED/RECESSED CEILING MTD FIXTURE. INSTALL BOTTOME OF FIXTURES @ 10'-0"AFF FOR SUSPENDED & CEILING MOUNTED, EXPECT IN AREAS, SUCH AS, THE INDOOR FIELD, WEIGHT ROOM & SPORTS MED. STORAGE. ALL RESTROOM & SHOWER AREA FIXTURES WILL NEED TO BE WET LABELED.

LED EXIT SIGN LIGHT FIXTURES. MOUNT TO OR SUSPENDED FROM WALLS, CEILINGS AND STRUCTURES ABOVE

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B A

KEY PLAN

TRUE NORTH



CLIENT
TOMBALL ISD

DATE 10/30/2026
PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date
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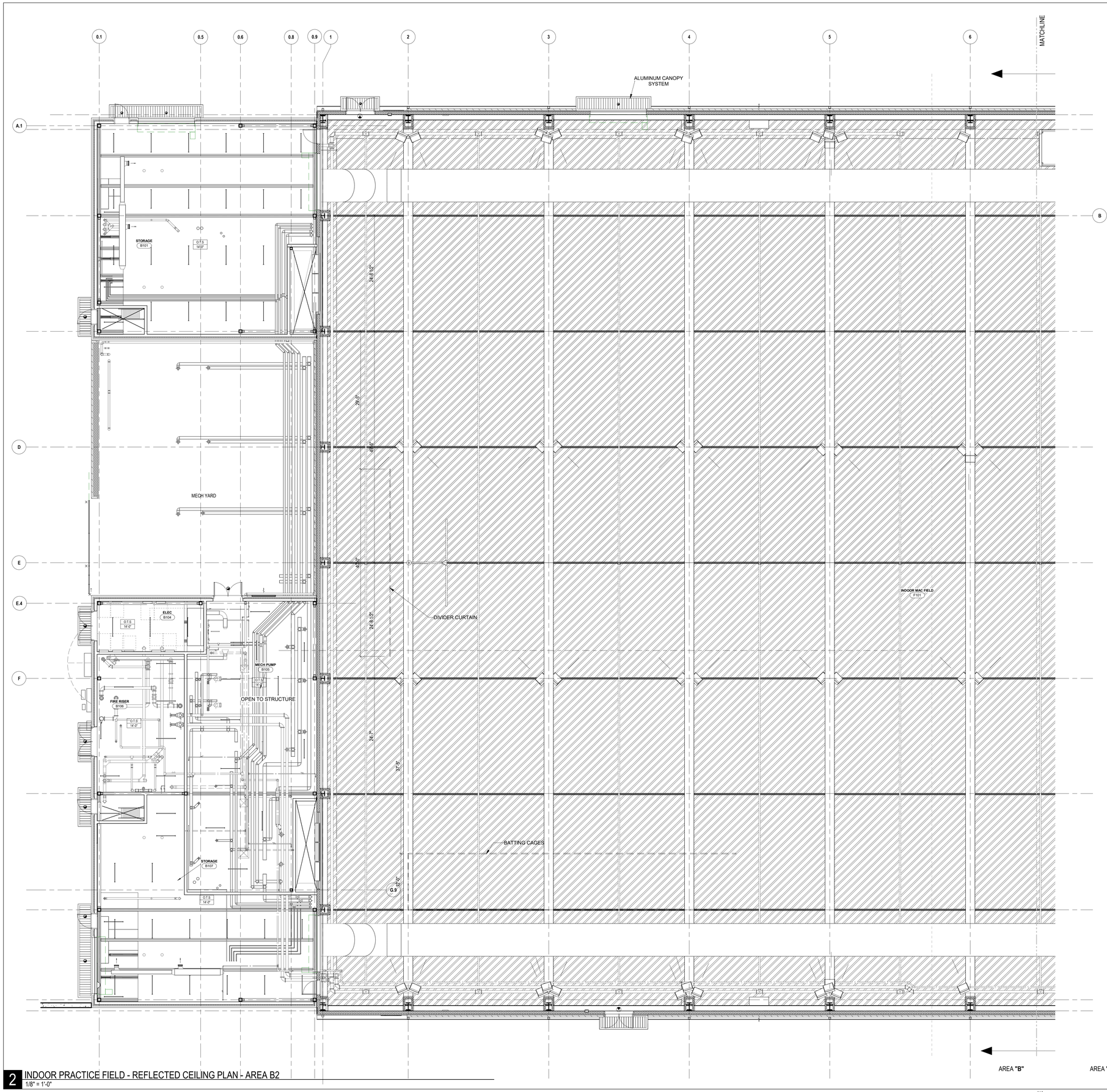
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INDOOR PRACTICE FIELD REFLECTED CEILING PLAN - SECTOR A

A201A

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A201B - INDOOR PRACTICE FIELD REFLECTED CEILING PLAN - SECTOR B



2 INDOOR PRACTICE FIELD - REFLECTED CEILING PLAN - AREA B2
1/8" = 1'-0"

GENERAL CEILING PLAN NOTES

1. REFER TO AND COORD. WITH ROOM FINISH SCHEDULES FOR SPECIFIC CEILING TYPES.
2. ALL SCHEDULED CEILING HEIGHTS ARE FROM THE MAIN FLOOR LEVEL WITHIN THE ROOM AND OR SPACE, AND ARE NOT FROM AN ELEVATED FLOOR LEVEL, AND ARE NOT FROM A RECESSED FLOOR LEVEL.
3. NO FIRE SPRINKLER HEADS ARE SHOWN ON ARCH. CEILING PLANS. ALL SPRINKLER HEADS SHALL BE CENTERED WITHIN CEILING TILES U.N.O.
4. ONLY CEILING MOUNTED FIXTURES AND EQUIP. IS SHOWN ON ARCH. CEILING PLANS. REFER TO INTERIOR ELEVATIONS FOR WALL MOUNTED FIXTURES. REFER TO MEPT DOCUMENTS FOR ADDITIONAL INFORMATION CONCERNING CEILING MOUNTED FIXTURES AND OR WALL MOUNTED FIXTURES.
5. CEILING MOUNTED LIGHT FIXTURES ARE SHOWN FOR LOCATION PURPOSES ONLY. COORD. WITH ELEC. DOCUMENTS FOR LIGHT FIXTURE DESIGNATIONS & SPECIFICATIONS.
6. CEILING MOUNTED LIGHT FIXTURES WITHIN FIRE RATED CEILING ASSEMBLIES SHALL HAVE LIGHT FIXTURE PROTECTION AND BE TENTED OR OTHERWISE FIRE RATED TO MATCH CEILING ASSEMBLY FIRE RATING.
7. VERIFY LOCATIONS OF ALL CEILING ACCESS PANELS WITH MEPT DOCUMENTS. COORD. LOCATIONS OF CEILING ACCESS PANELS WITH ARCH. PRIOR TO INSTALLATION. CEILING ACCESS PANEL FIRE RATINGS SHALL MATCH CEILING ASSEMBLY FIRE RATINGS.
8. REFER TO WALL SECTIONS FOR WALL-CEILING INTERFACE
9. THE GC SHALL COORDINATE WITH ARCH. THE ALIGNMENT OF ALL CEILING DEVICES, INCLUDING BUT NOT LIMITED TO LIGHT SENSORS, SPRINKLERS, SPEAKERS, GRILLES, LIGHT FIXTURES AND EXIT SIGNS, TO ENSURE UNIFORMITY AND CONSISTENCY THROUGHOUT THE CEILING PLAN, TYPICAL.
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11. PAINT ALL DUCTWORK, CONDUITS, PIPING, STRUCTURAL BEAMS, STRUCTURAL JOISTS, STRUCTURAL COLUMNS, METAL ROOF DECK, AND OTHER STRUCTURAL MEMBERS, BOTH EXTERIOR AND INTERIOR ***PNT-03***, ***EXCEPT*** IN LOCKER ROOMS AND WEIGHT ROOMS WHICH WILL BE ***PNT-05***.
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CEILING MATERIALS LEGEND

ACT1
2' X 2' ACOUSTIC TILE
RE: ROOM FINISH SCHEDULE

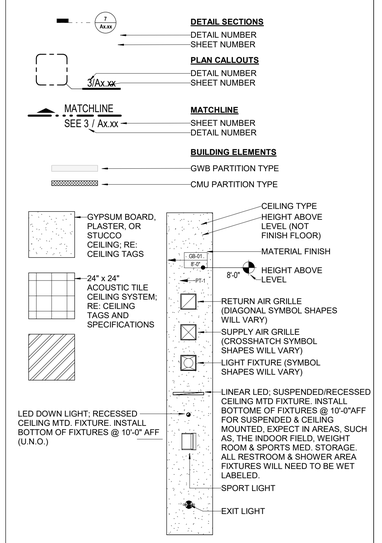
GB-01
GYPSUM BOARD CEILING ASSEMBLY

OPEN TO STRUCTURE

ACM-1
ALUMINUM COMPOSITE PANEL

SIMPLE SAVER

CEILING SYMBOLS LEGEND



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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND X. RAMEY
14374
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

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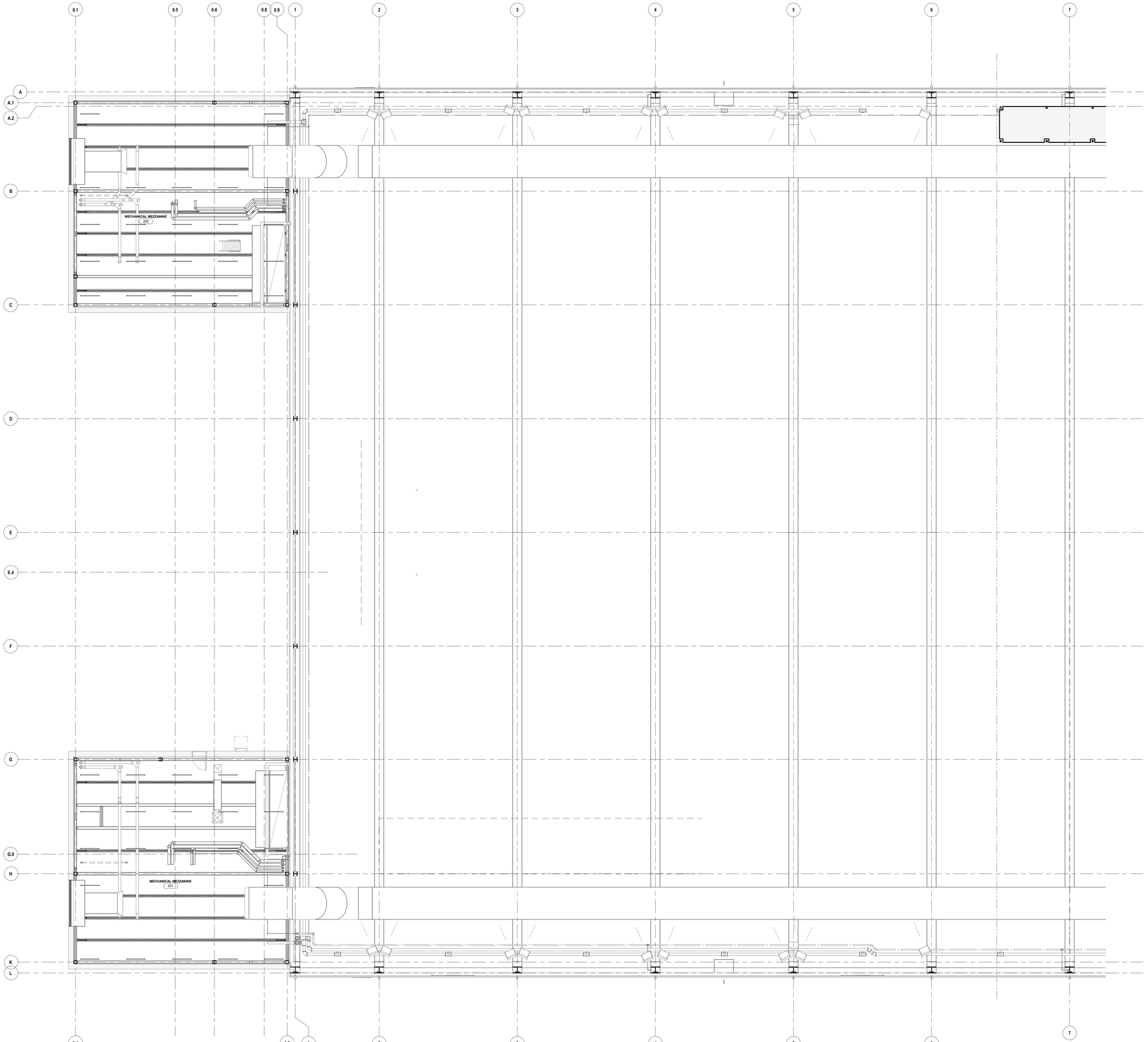
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INDOOR PRACTICE FIELD REFLECTED CEILING PLAN - SECTOR B

A201B

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A202B - INDOOR PRACTICE FIELD REFLECTED CEILING PLAN MEZZ. LEVEL- SECTOR B



1 MECH. MEZZANINE
1/8" = 1'-0"

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND A. RAMIREZ
14378
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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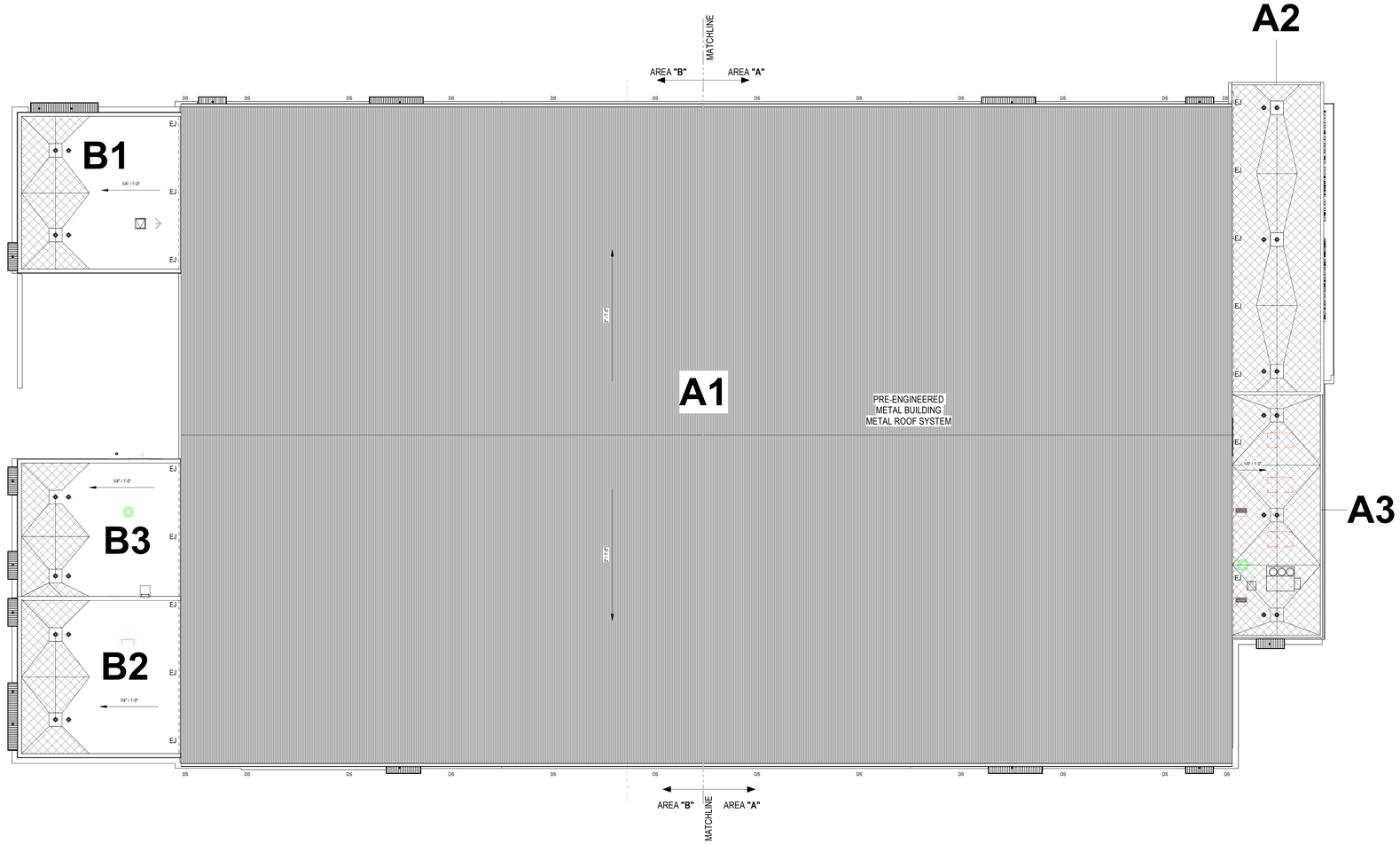
INDOOR PRACTICE FIELD REFLECTED CEILING PLAN MEZZ. LEVEL- SECTOR B

A202B

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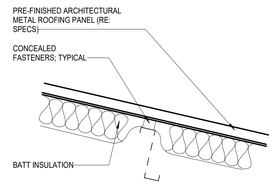
Roof Schedule

Mark	Area	Type Mark	Comments
A1	60,565 SF	R1	
A2	2,390 SF	R2	
A3	1,922 SF	R2	
B1	2,091 SF	R3	
B2	2,120 SF	R3	
B3	1,834 SF	R3	
Grand total	70,921 SF		

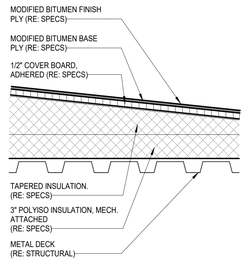


1 ROOF PLAN - COMPOSITE
1/16" = 1'-0"

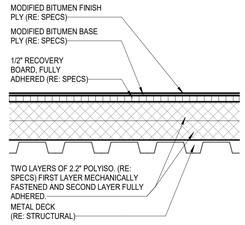
R1



R2



R3



ROOFING - NOMENCLATURE
NOT TO SCALE

1. CONTRACTOR SHALL REVIEW AND COORDINATE WITH ARCHITECTURAL, MEP, AND STRUCTURAL DOCUMENTS TO ASCERTAIN EXACT CONDITIONS AND COMPONENTS RELATED TO THE WORK DESCRIBED BY THESE DOCUMENTS. ALL WORK SHALL BE IN ACCORDANCE WITH ACCEPTED MANUFACTURER'S PRINTED INSTRUCTIONS AND NRCA STANDARDS.
2. DIMENSIONS, DETAILS, EQUIPMENT SIZE AND LOCATION SHOWN IN THESE CONSTRUCTION DOCUMENTS ARE FOR CONVEYANCE OF DESIGN INTENT ONLY. EXACT SIZE, LOCATION, TYPE OF MATERIAL AND TYPE OF CONSTRUCTION OF EXISTING CONDITIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN AND CONFIRM.
3. INDICATED ROOF HEIGHTS ARE GENERAL IN NATURE. RE: STRUCTURAL FOR FRAMING HEIGHTS.
4. REFER TO NOMENCLATURE FOR TYPE OF ROOF SYSTEM. AREAS ARE MARKED WITH DESIGNATED LETTER ON ROOF PLAN.
5. NOTE THAT THE DETAILS DRAWN ARE GENERIC IN NATURE AND ARE NOT NECESSARILY LOCATED AND KEYED TO THE ROOF PLANS.
6. ALL NEW / EXISTING CRICKETS AND TAPERED INSULATION SHALL BE INSTALLED WITH A FINISHED 1/2" PER FOOT MIN. SLOPE. CRICKET THE UP SLOPE SIDE OF ALL SQUARE CURBS AND PROJECTIONS OVER 20" IN WIDTH.
7. ALL CURB MOUNTED HVAC UNITS, EQUIPMENT, ETC. SHALL HAVE A MINIMUM 10" CURB HEIGHT.
8. WORK TO ANY UTILITY CONDUIT OR PIPE SHALL BE PERFORMED BY SPECIFIC LICENSED SUBCONTRACTORS SPECIALIZING IN HVAC, PLUMBING AND ELECTRICAL WORK. PERMITS AND INSPECTIONS ARE REQUIRED.
9. UNLESS INDICATED OTHERWISE ON THE CONSTRUCTION DOCUMENTS, ALL EXISTING JOINTS / AREA DIVIDERS / CURB MOUNTED EQUIPMENT / SKYLIGHTS SHALL BE MIN. 10" ABOVE ROOF DECK.
10. ALL SOIL STACK FLASHING SHALL BE A MIN. 10" ABOVE FINISHED ROOF SURFACE. COUPLE PVC PIPE ABOVE DECK AND COUPLE CAST IRON PIPE BELOW DECK. PROPERLY SUPPORT PIPE BELOW ROOF DECK FROM LATERAL MOVEMENT.
11. ALL PIPING/ CONDUITS/ ETC. SHALL BE A MIN. 10" ABOVE ROOF SURFACE. PROVIDE PORTABLE PIPE HANGERS WITH PROTECTION PADS AS SPECIFIED. MEP CONTRACTORS SHALL PROVIDE SUPPORTS FOR UTILITY LINES.
12. PROVIDE "MERCURY" GAS LINE TEST (COORDINATE WITH OWNER AND ARCHITECT FOR WITNESS OF THE TEST). REPAIR ANY FOUND LEAKS AND RETEST AS REQUIRED.
13. PROVIDE SHEET METAL HOODED (WITH METAL FACE CLOSURE) CAPS, WOOD CURB, BOX COVER AT ALL GAS AND WATER PIPE ROOF PENETRATIONS AS DETAILED AND SPECIFIED. PROVIDE POSITIVE SLOPE AWAY FROM FACE COVER.
14. PROVIDE WALKWAY PROTECTION PADS AS SPECIFIED AROUND ALL ROOF HATCHES, HVAC ROOFTOP UNITS, DOORS THAT OPEN ONTO ROOF AND AT TOP AND BOTTOM OF ALL ROOF TOP ACCESS LOCATIONS.
15. ISOLATE ALL HEAT PIPES / FLUES AS DETAILED AND RECOMMENDED AND OUTLINED IN THE NRCA MANUAL FOR HOT STACK FLASHING AND AS DETAILED.
16. ALL OUTSIDE AIR INTAKES SHALL BE COVERED TO ELIMINATE ODORS AND FUMES FROM ENTERING INTO THE BUILDING DURING CONSTRUCTION WORK.
17. AFTER SUBSTANTIAL COMPLETION, THE GENERAL CONTRACTOR SHALL EXAMINE AND CLEAN NEW DRAIN LINES AND NEW AND EXISTING (AS APPLICABLE) GUTTERS OF DEBRIS AND BLOCKAGE, FLUSH WITH WATER TO ENSURE THAT DRAINS AND GUTTERS FLOW FREELY.
18. PRIOR TO COMMENCEMENT OF WORK, COORDINATE WALK OF ENTIRE ROOF WITH ROOFING MANUFACTURER'S TECHNICAL REPRESENTATIVE TO IDENTIFY AND LOCATE ALL AREAS OF HIGH SLOPE OR OTHER CONDITIONS WHICH MIGHT REQUIRE SPECIAL PROCEDURES FOR SYSTEM ATTACHMENT.
19. REFER TO MEP DRAWINGS FOR SIZE AND LOCATION OF NEW ROOF DECK PENETRATIONS AND ROOF TOP EQUIPMENT.
20. INSTALL NEW SPLASH PAN AT ALL LOCATIONS WHERE ROOF DRAINAGE DISCHARGES ONTO ROOF AREA. INSTALL NEW SPLASH BLOCKS WHERE ROOF DRAINAGE DISCHARGES ON GROUND.
21. REFER TO GENERAL DETAILS FOR TYPICAL SPLASH PAN, ROOF DRAIN AND OVERFLOW DRAIN DETAILS.
22. GENERAL CONTRACTOR TO ENSURE ALL ROOFTOP PENETRATIONS (SOIL STACKS, VENTS, ETC.) ARE INSTALLED MIN. 4'-0" FROM OTHER DECK PENETRATIONS, RISE WALLS, AND ROOF EDGE. MECHANICAL EQUIPMENT TO BE LOCATED MIN. 10'-0" FROM PERIMETER EDGE AND NO CLOSER THAN 4'-0" FROM RISE WALLS, OR ANY OTHER ROOF PENETRATION.
23. LOCATE PERIMETER DRAINS MAX. 6'-0" FROM EDGE TYPICAL UNLESS SHOWN OTHERWISE. (GENERAL CONTRACTOR TO COORDINATE WITH ROOFING AND PLUMBING CONTRACTOR.)
24. THROUGH WALL BASE FLASHING MIN. HEIGHT 10" AND MAX. HEIGHT 20" FROM FINISH DECK. DO NOT STEP THROUGH WALL FLASHING CLOSER THAN 5'-0" FROM CORNERS.
25. GENERAL CONTRACTOR SHALL COORDINATE LOCATION AND ORIENTATION OF ROOF HATCH AND ACCESS LADDER.
26. GENERAL CONTRACTOR SHALL COORDINATE ALL TOP OF STEEL TO TOP OF BLOCKING AND SUBSTRATE BOARD DIMENSIONS IN FIELD PRIOR TO ORDERING MATERIALS. NO ADDITIONAL COMPENSATION WILL BE GRANTED FOR FAILURE TO COORDINATE THESE DIMENSIONS.
27. GENERAL CONTRACTOR SHALL VERIFY ROOF SLOPES WILL PROPERLY DRAIN AS SHOWN. TAPERED INSULATION HATCHING SHOWN IS NOT INTENDED TO ILLUSTRATE THE ENTIRE LIMITS OF TAPERED INSULATION. ROOF AREAS NOT SLOPED BY STRUCTURE SHALL BE SLOPED WITH TAPERED INSULATION TO ACHIEVE PROPER DRAINAGE.
28. PROVIDE ONE WAY MOISTURE VENTS AT ALL LIGHTWEIGHT CONCRETE OR GYPSUM OVER POUR AREAS AS RECOMMENDED BY THE ROOFING SYSTEM MANUFACTURER.
29. PAINT ALL EXPOSED GAS PIPE.

ROOFING - GENERAL NOTES
NOT TO SCALE

ROOFING - LEGEND
NOT TO SCALE

- PLUMBING VENT
- FLANGE VENT
- PITCH PAN
- ROOF DRAIN
- OVERFLOW DRAINS
- WALL DRAIN
- CURB MOUNTED VENT
- CURB MOUNTED INTAKE
- GUY WIRE
- POWER VENT
- HEATER VENT
- BOILER VENT
- TURBINE VENT
- PIPE BOX
- GOOSE NECK VENT
- CURB MOUNTED AC
- SPLASH BLOCK
- SPLASH PAN
- A/C ON SUPPORT CURBS
- ROOF HATCH
- SKYLIGHTS
- ANTENNA
- SATELLITE DISH
- SCUPPER
- GUTTER
- DOWNSPOUT
- WALL LADDER
- SWING LADDER
- EXHAUST AND SUPPLY FAN ON SINGLE CURB
- RIDGE LINE
- TAPERED INSULATION/CRICKET
- A1 ROOF AREA DESIGNATION
- TAPERED LIGHT WEIGHT CONCRETE
- AD AREA DIVIDER
- EJ EXPANSION JOINT
- C CONDENSATE LINE
- W WATER LINE
- E ELEC. LINE
- G GAS LINE

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KEY PLAN

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DATE	PROJECT NUMBER
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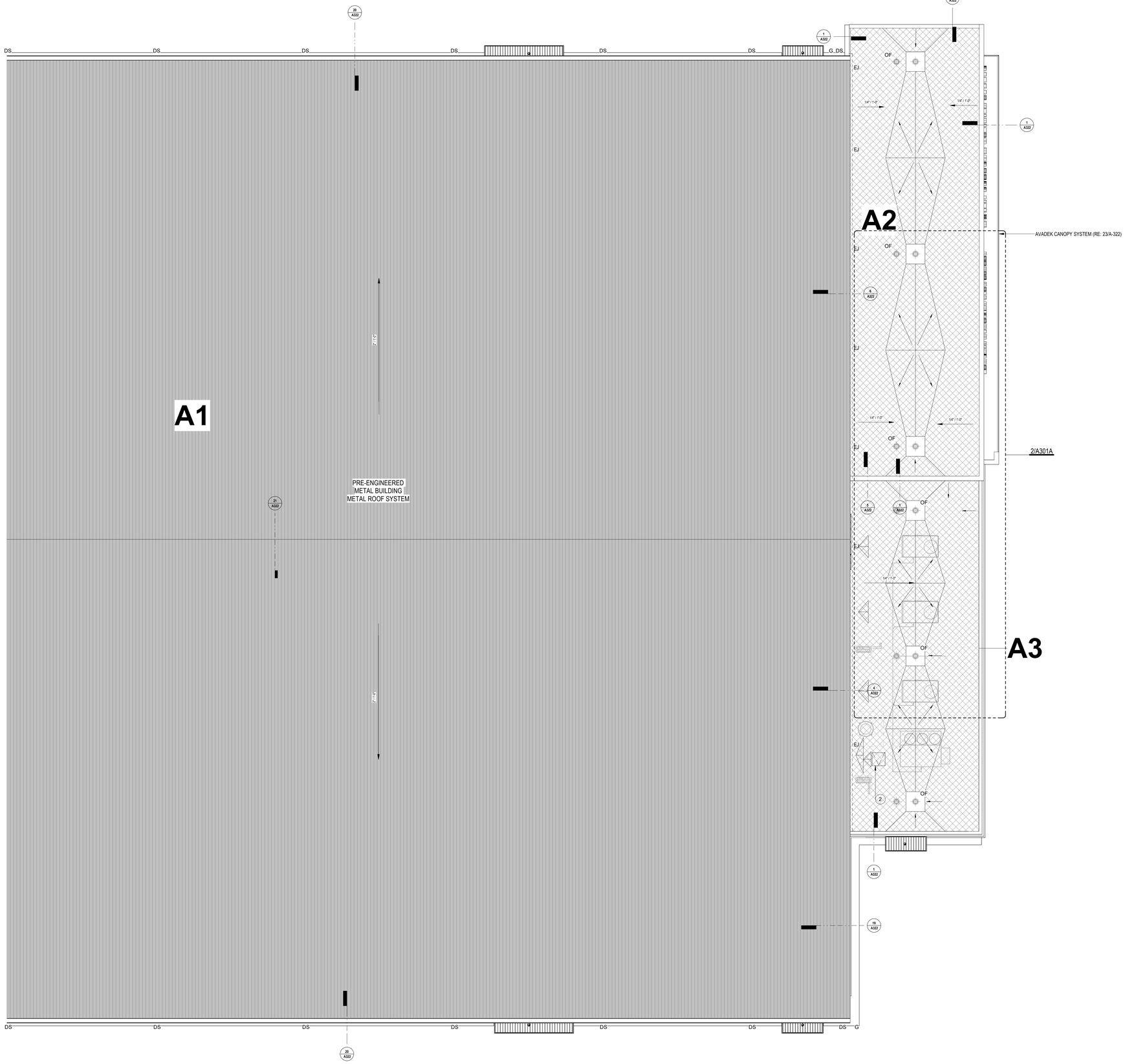
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ROOF PLAN - OVERALL

A301

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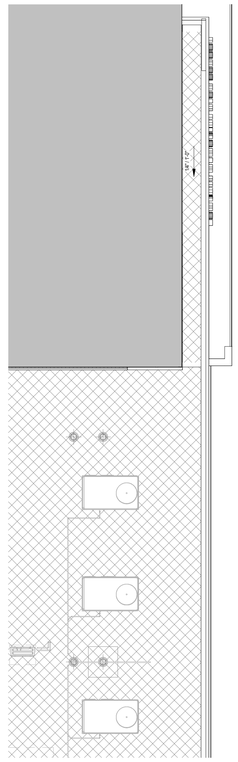
A301A - ENLARGED ROOF PLAN - AREA A



1 ENLARGED ROOF PLAN - AREA A
1/8" = 1'-0"

Roof Schedule

Mark	Area	Type Mark	Comments
A1	60,565 SF	R1	
A2	2,390 SF	R2	
A3	1,922 SF	R2	
B1	2,091 SF	R3	
B2	2,120 SF	R3	
B3	1,834 SF	R3	
Grand total	70,921 SF		



2 AREA A - UNDER CANOPY PLAN
1/8" = 1'-0"

1. ROOF ACCESS LADDER - RE: 24/A-322
2. ROOF HATCH - RE: 14/A-322 (RE: SPECS)
3. ALUMINUM CANOPY FLASHING - RE: 23/A-322 (RE: SPECS)

ROOFING - KEYNOTES
NOT TO SCALE

- PLUMBING VENT
- FLANGE VENT
- PITCH PAN
- ROOF DRAIN
- OVERFLOW DRAINS
- WALL DRAIN
- CURB MOUNTED VENT
- CURB MOUNTED INTAKE
- GUY WIRE
- POWER VENT
- HEATER VENT
- BOILER VENT
- TURBINE VENT
- PIPE BOX
- GOOSE NECK VENT
- CURB MOUNTED AC
- SPLASH BLOCK
- SPLASH PAN
- A/C ON SUPPORT CURBS
- ROOF HATCH
- SKYLIGHTS
- ANTENNA
- SATELLITE DISH
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- GUTTER
- DOWNSPOUT
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- SWING LADDER
- EXHAUST AND SUPPLY FAN ON SINGLE CURB
- RIDGE LINE
- TAPERED INSULATION/CRICKET
- A1 ROOF AREA DESIGNATION
- TAPERED LIGHT WEIGHT CONCRETE
- AD AREA DIVIDER
- EJ EXPANSION JOINT
- C CONDENSATE LINE
- W WATER LINE
- E ELEC. LINE
- G GAS LINE

ROOFING - LEGEND
NOT TO SCALE

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KEY PLAN

TRUE NORTH



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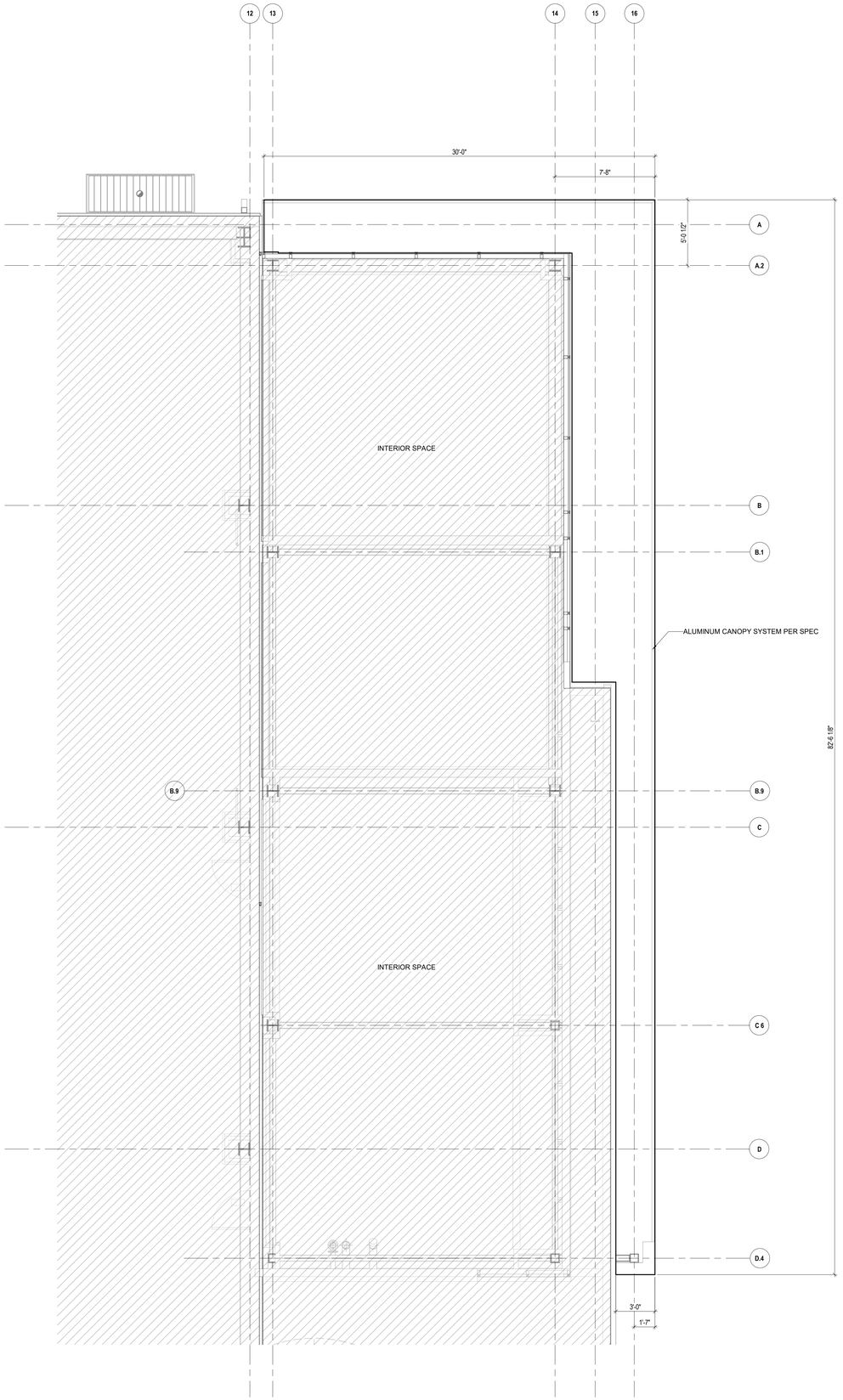
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ENLARGED ROOF PLAN - AREA A

A301A

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A301A.1 - ENLARGED ROOF PLAN - AREA A-ENTRY CANOPY



1 ENTRY CANOPY
1/4" = 1'-0"

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND A. RAMIREZ JR.
14378
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
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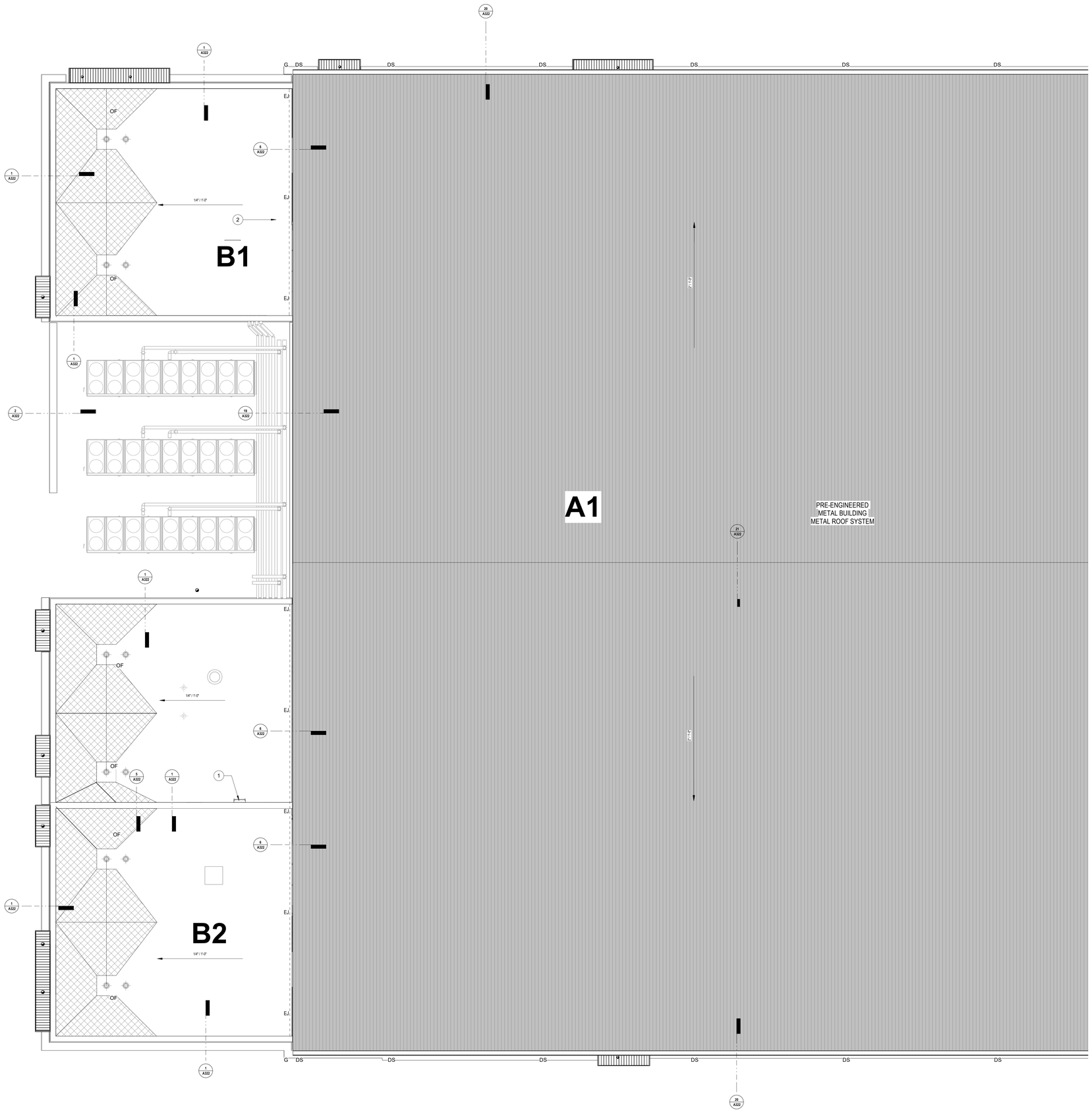
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ENLARGED ROOF PLAN - AREA A-ENTRY CANOPY

A301A.1

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A301B - ENLARGED ROOF PLAN - AREA B



1 ENLARGED ROOF PLAN - AREA B2
1/8" = 1'-0"

Roof Schedule

Mark	Area	Type Mark	Comments
A1	60,565 SF	R1	
A2	2,390 SF	R2	
A3	1,922 SF	R2	
B1	2,091 SF	R3	
B2	2,120 SF	R3	
B3	1,834 SF	R3	
Grand total	70,921 SF		

1. ROOF ACCESS LADDER - RE: 24/A-322
2. ROOF HATCH - RE: 14/A-322 (RE: SPECS)
3. ALUMINUM CANOPY FLASHING - RE: 23/A-322 (RE: SPECS)

ROOFING - KEYNOTES
NOT TO SCALE

- PLUMBING VENT
- FLANGE VENT
- PITCH PAN
- ROOF DRAIN
- OVERFLOW DRAINS
- WALL DRAIN
- CURB MOUNTED VENT
- CURB MOUNTED INTAKE
- GUY WIRE
- POWER VENT
- HEATER VENT
- BOILER VENT
- TURBINE VENT
- PIPE BOX
- GOOSE NECK VENT
- CURB MOUNTED AC
- SPLASH BLOCK
- SPLASH PAN
- A/C ON SUPPORT CURBS
- ROOF HATCH
- SKYLIGHTS
- ANTENNA
- SATELLITE DISH
- SCUPPER
- GUTTER
- DOWNSPOUT
- WALL LADDER
- SWING LADDER
- EXHAUST AND SUPPLY FAN ON SINGLE CURB
- RIDGE LINE
- TAPERED INSULATION/CRICKET
- A1 ROOF AREA DESIGNATION
- TAPERED LIGHT WEIGHT CONCRETE
- AD AREA DIVIDER
- EJ EXPANSION JOINT
- C CONDENSATE LINE
- W WATER LINE
- E ELEC. LINE
- G GAS LINE

ROOFING - LEGEND
NOT TO SCALE

PBK

TX FIRM REG. 1608
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HOUSTON, TX
713-960-8686

Tomball ISD-Multi-Program Activity Center- Tomball High School

1118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

B | A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDWARD J. PENNY
64218
STATE OF TEXAS

CLIENT
TOMBALL ISD

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

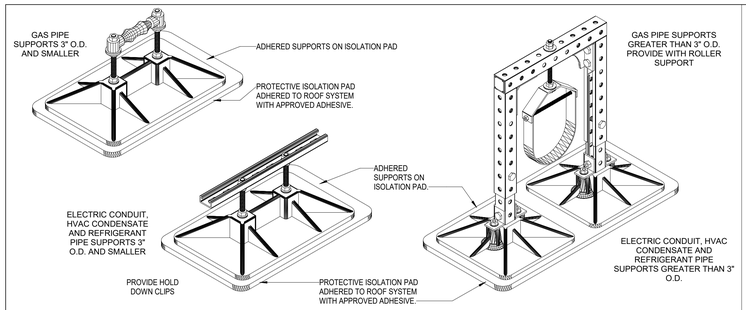
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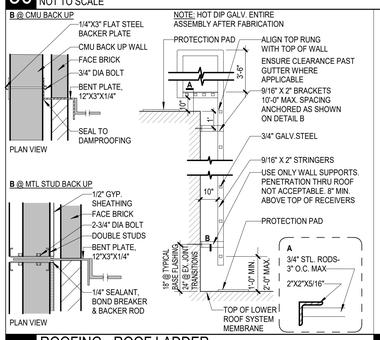
ENLARGED ROOF PLAN - AREA B

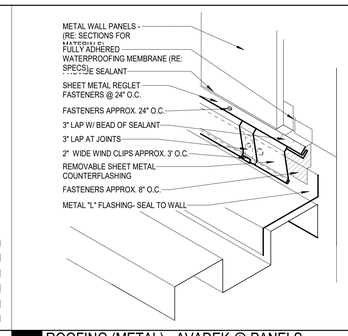
A301B

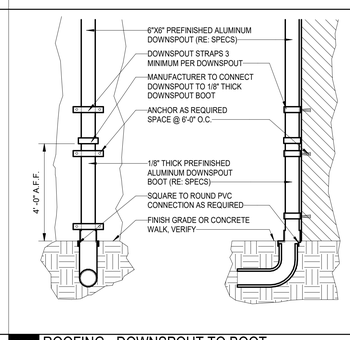
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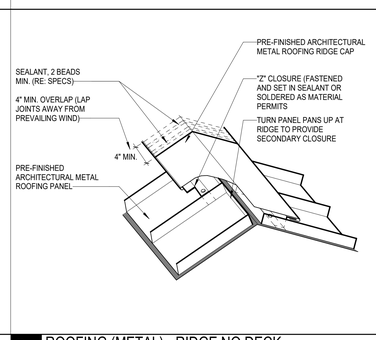


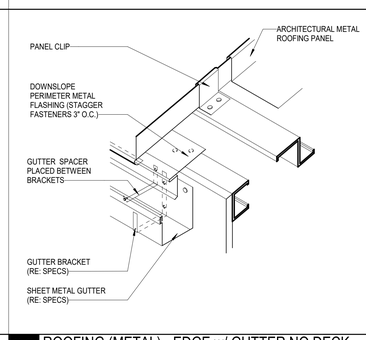
30 ROOFING - PIPE SUPPORTS
NOT TO SCALE

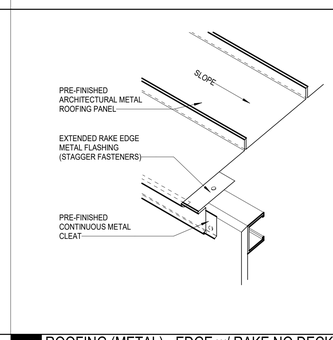




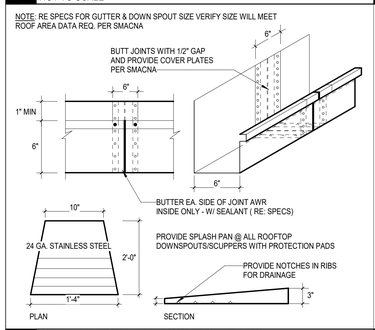




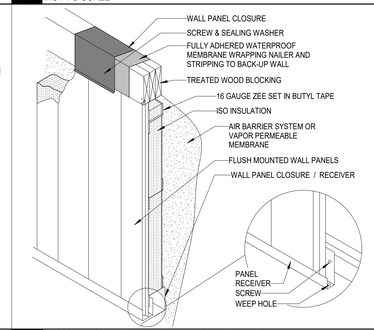




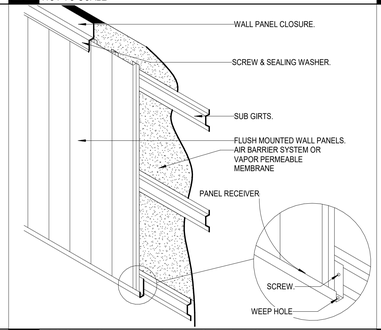
24 ROOFING - ROOF LADDER
NOT TO SCALE



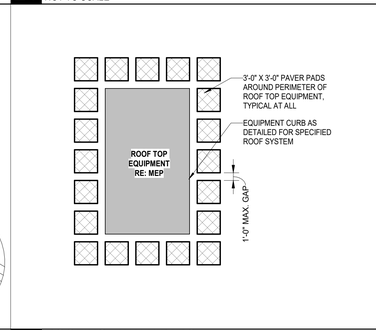
23 ROOFING (METAL) - AVADEK @ PANELS
NOT TO SCALE



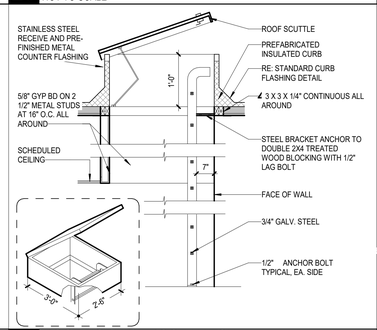
22 ROOFING - DOWNSPOUT TO BOOT
NOT TO SCALE



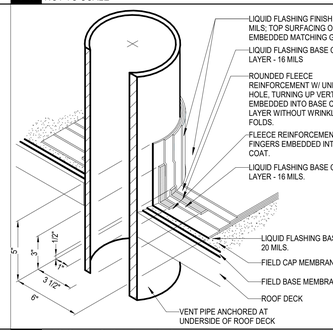
21 ROOFING (METAL) - RIDGE NO DECK
NOT TO SCALE



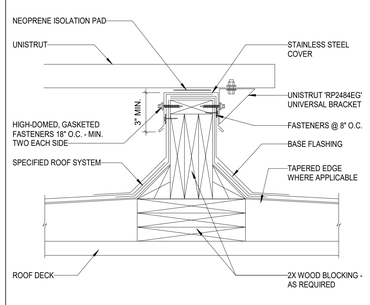
20 ROOFING (METAL) - EDGE w/ GUTTER NO DECK
NOT TO SCALE



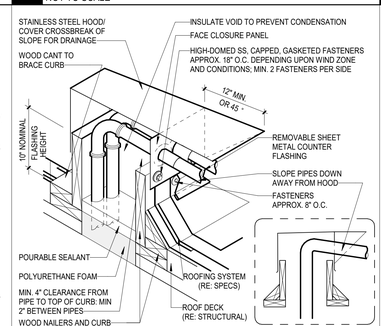
19 ROOFING (METAL) - EDGE w/ RAKE NO DECK
NOT TO SCALE



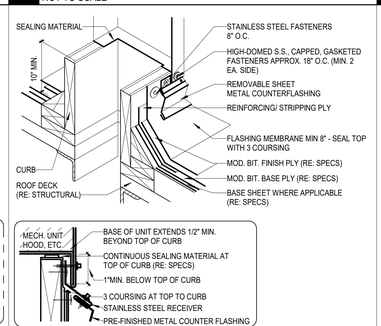
18 GUTTER JOINT AND SPLASH PANS
NOT TO SCALE



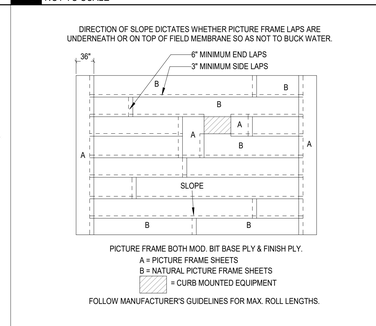
17 ROOFING - WALL PANELS (W/ INSU.)
NOT TO SCALE



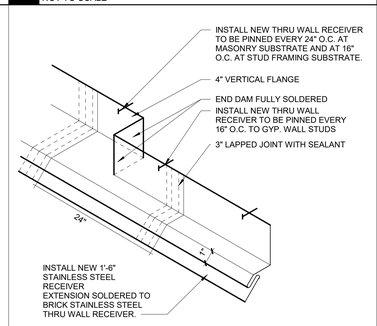
16 ROOFING - WALL PANELS (NO INSU.)
NOT TO SCALE



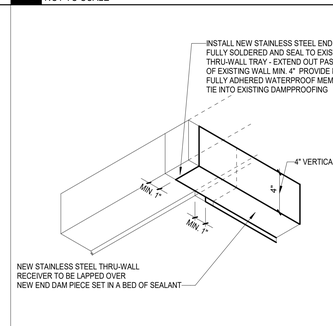
15 ROOFING - WALK PADS
NOT TO SCALE



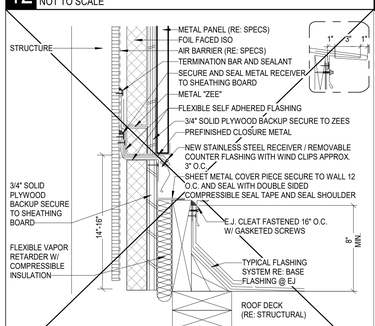
14 ROOFING (MB) - ROOF HATCH
NOT TO SCALE



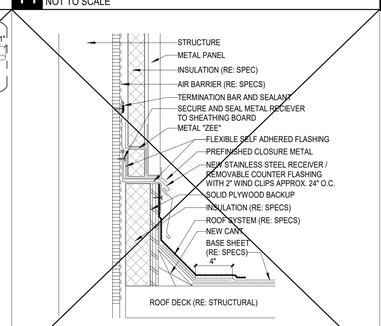
13 ROOFING (MB) - PIPE PENETRATION
NOT TO SCALE



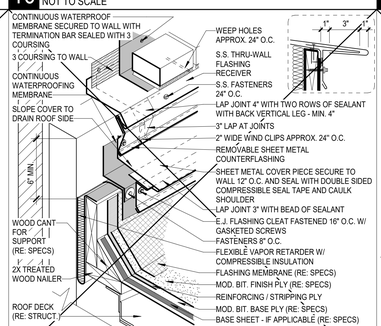
12 ROOFING (MB) - EQUIPMENT SUPPORT
NOT TO SCALE



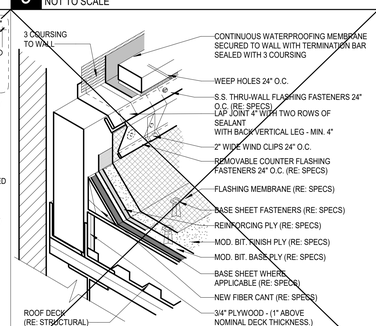
11 ROOFING (MB) - HOODED CURB
NOT TO SCALE



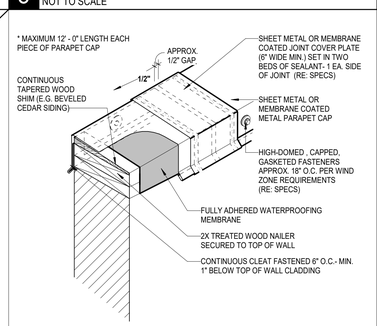
10 ROOFING (MB) - EQUIPMENT CURB
NOT TO SCALE



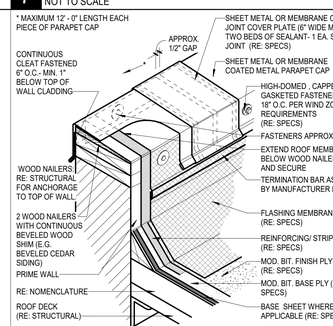
9 ROOFING (MB) - PICTURE FRAME DETAIL
NOT TO SCALE



8 ROOFING - BRICK-PLASTER THRU-WALL
NOT TO SCALE



7 ROOFING - THRU-WALL TRAY
NOT TO SCALE



6 ROOFING (MB) - WALL EJ @ WALL PANEL
NOT TO SCALE

5 ROOFING (MB) - BASE FLASHING @ PANEL
NOT TO SCALE

4 ROOFING (MB) - BASE FLASHING @ EJ
NOT TO SCALE

3 ROOFING (MB) - BASE FLASHING
NOT TO SCALE

2 ROOFING - COPING CAP
NOT TO SCALE

1 ROOFING (MB) - PARAPET
NOT TO SCALE

Plot Stamp:
10/30/2026 2:55:09 PM

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Tomball ISD-Multi-Program Activity Center- Tomball High School

1118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

B | A

KEY PLAN

TRUE NORTH

RICHARD A. RAMIREZ 14378 REGISTERED ARCHITECT STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date
1		

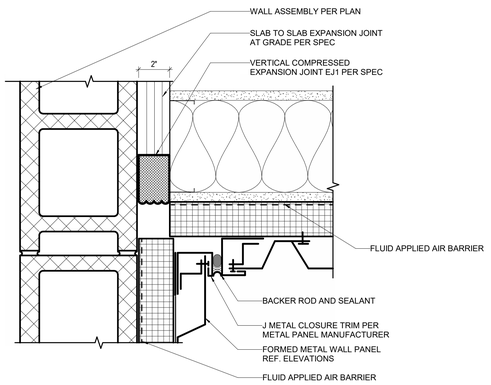
CHECKED BY: JP

DRAWN BY: JH

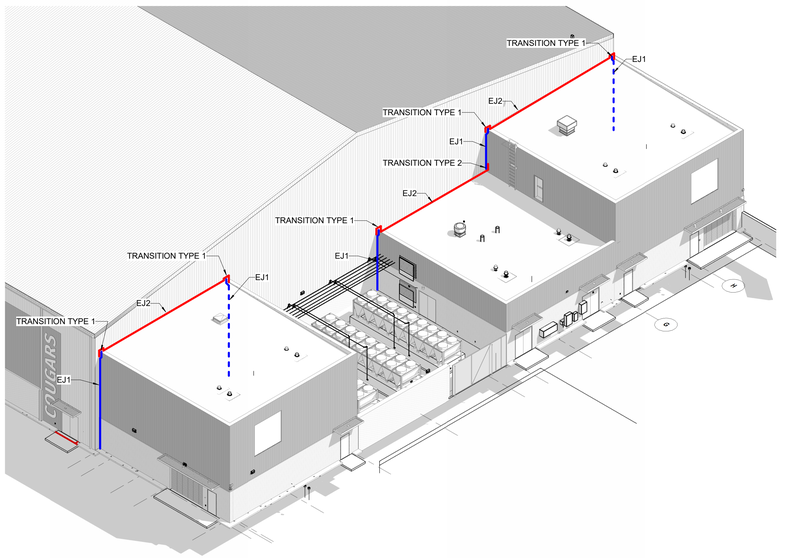
ROOF DETAILS

A322

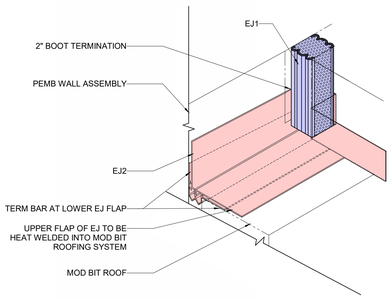
A323 : EXPANSION JOINT DETAILS



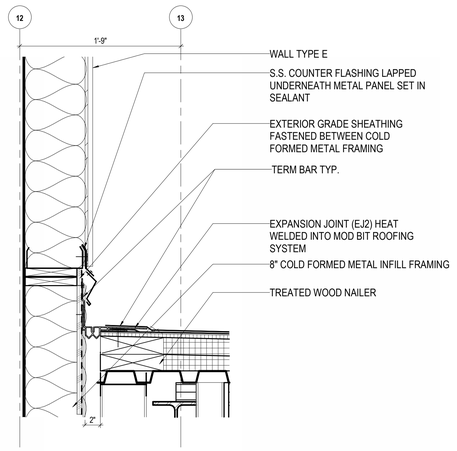
4 WALL TO WALL EXPANSION JOINT DETAIL (EJ1)
3" = 1'-0"



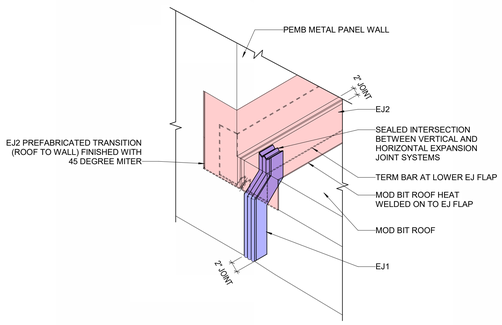
2 EXPANSION JOINT REFERENCE AXON 2



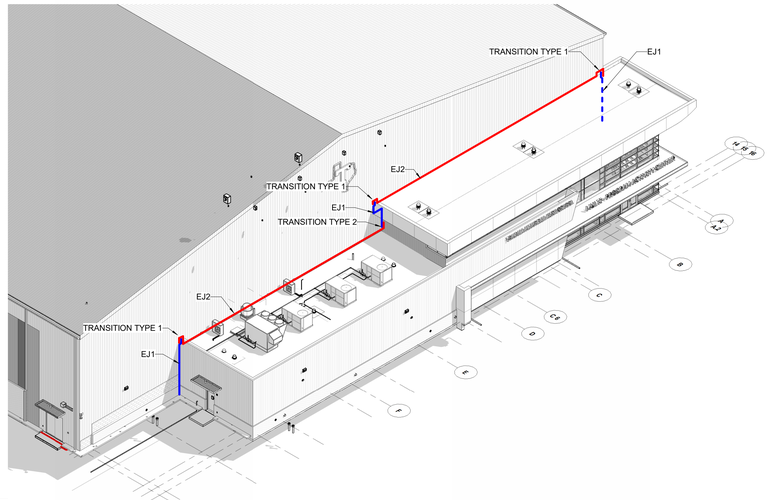
6 EJ2 TRANSITION DETAIL
1 1/2" = 1'-0"



3 ROOF TO WALL EXPANSION JOINT DETAIL (EJ2)
1 1/2" = 1'-0"



5 EJ TRANSITION 1 DETAIL
1 1/2" = 1'-0"



1 EXPANSION JOINT REFERENCE AXON

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Tomball ISD-Multi-Program Activity Center-Tomball High School

1118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND X. RAMIREZ 14374 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date
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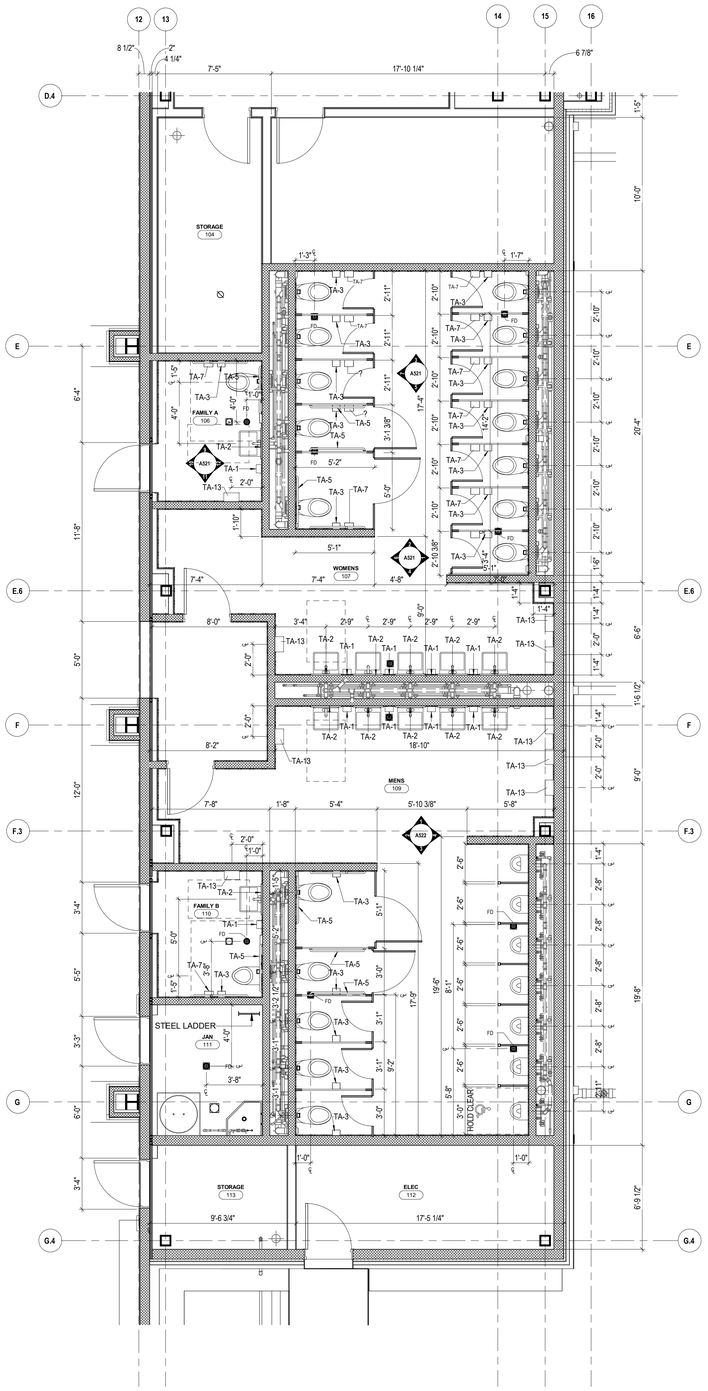
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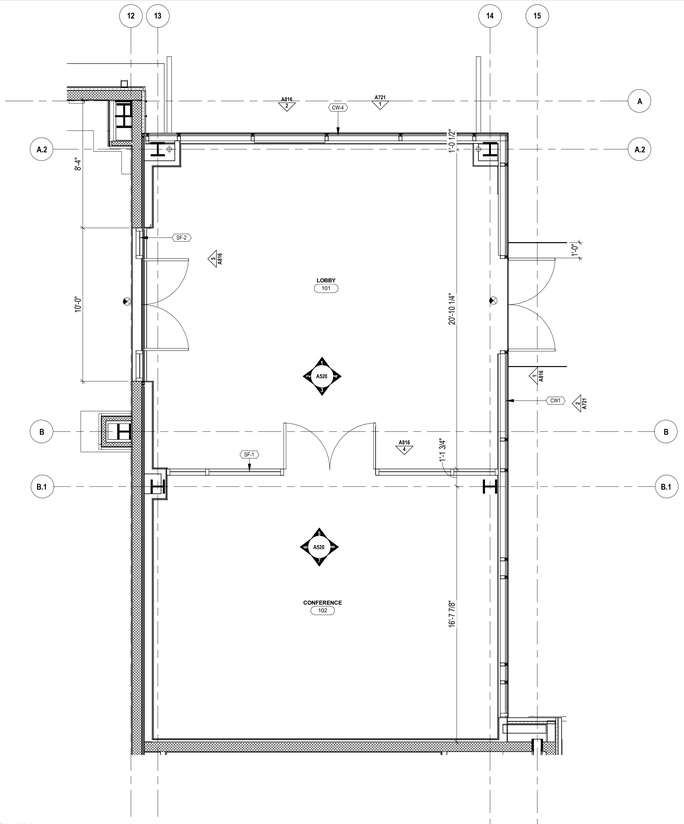
EXPANSION JOINT DETAILS

A323

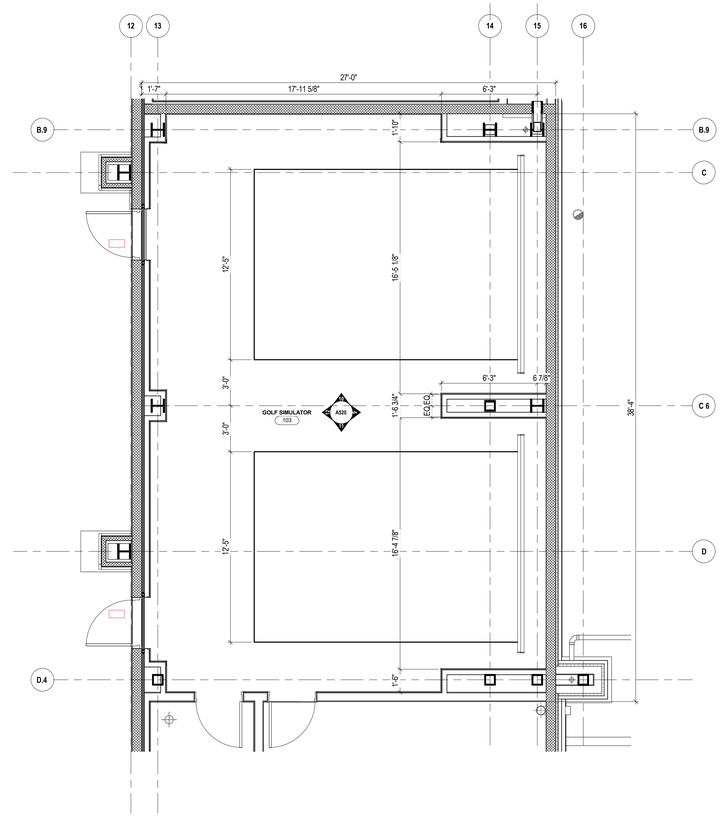
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2 ENLARGED FLOOR PLAN - RESTROOM
1/4" = 1'-0"



3 ENLARGED FLOOR PLAN
1/4" = 1'-0"



1 LEVEL 1 - FLOOR PLAN - AREA A - Callout 1
1/4" = 1'-0"

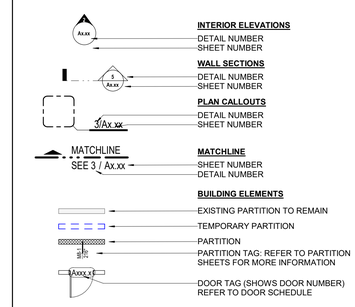
TOILET ACCESSORIES

LABEL	DESCRIPTION	REMARKS
TA-1	SOAP DISPENSER	
TA-2	MIRROR	
TA-3	TOILET PAPER DISPENSER	
TA-4	PAPER TOWEL DISPENSER / RECEPTACLE	
TA-5	GRAB BARS (AT TYPICAL ACCESSIBLE TOILETS)	
TA-6	SANITARY NAPKIN DISPENSER	
TA-7	SANITARY NAPKIN DISPOSAL	
TA-8	MOP AND BROOM HOLDER	
TA-9	GRAB BARS (AT ACCESSIBLE SHOWERS)	
TA-10	FOLDING SHOWER BENCH	
TA-11	CLOTHES HOOK	NOTE 5
TA-12	SHOWER CURTAIN, ROD AND HOOKS	
TA-13	ELECTRIC HAND DRYER	
TA-14	PAPER TOWEL DISPENSER AND TRASH RECEPTACLE	
TA-15	GRAB BARS (AT AMBULATORY ACCESSIBLE TOILETS)	
TA-16	DIAPER CHANGING STATION	
TA-17	TRASH RECEPTACLE	N.I.C
TA-18	VERT GRAB BAR (AT ACCESSIBLE ICC A117.1 TOILETS)	
TA-19	TOILET COVER DISPENSER	
TA-20	STATIONARY DRESSING BENCH	

NOTE: ALL TOILET ACCESSORIES SHALL BE CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED U.N.O.

1. COORDINATE FINAL LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION
2. CONTRACTOR IS TO VERIFY ALL HEIGHTS OF ACCESSORIES TO COMPLY WITH ALL APPLICABLE ACCESSIBILITY REQUIREMENTS
3. REFER TO ALL FINISHES AND COLORS IN FINISH SCHEDULE, VERIFY ALL PATTERNS WITH ARCHITECT
4. ALIGN MIRROR ON CENTER OF LAVATORY
5. ONE (1) HOOK SHALL BE INSTALLED INSIDE DOOR AT EACH TOILET PARTITION. ONE HOOK INSIDE DOOR AT SINGLE TOILET ROOMS AND ONE HOOK AT EACH SHOWER
6. REFER TO SPECIFICATION SECTION 01 60 16 FOR ADDITIONAL TOILET ACCESSORIES INFORMATION

LEGEND - FLOOR PLAN SYMBOLS



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Tomball ISD-Multi-Program Activity Center-Tomball High School

1118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND A. FLEMING
14275
STATE OF TEXAS

CLIENT: TOMBALL ISD
DATE: 10/30/2026
PROJECT NUMBER: 25046901

DRAWING HISTORY

No.	Description	Date
1		

CHECKED BY: Checker
DRAWN BY: Author

ENLARGED FLOOR PLANS

A401

Plot Stamp:
10/30/2026 2:55:11 PM

EXTERIOR MATERIALS LEGEND

BK1 (R)
BRICK TYPE 1-FIELD
RUNNING BOND

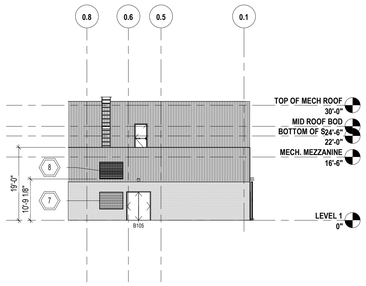
MWP-1
FLUSH PRE-FINISHED UNINSULATED
METAL WALL PANEL
VERTICAL

MWP-2
BOX RIB PRE-FINISHED UNINSULATED
METAL WALL PANEL
VERTICAL

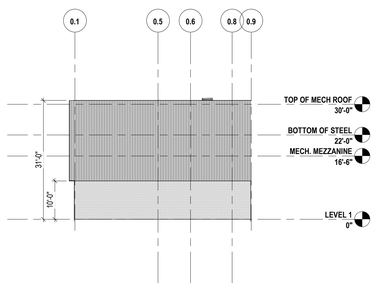
MWP-3
REVEAL PRE-FINISHED UNINSULATED
METAL WALL PANEL
VERTICAL

MWP-4
REVEAL PRE-FINISHED UNINSULATED
METAL WALL PANEL
VERTICAL

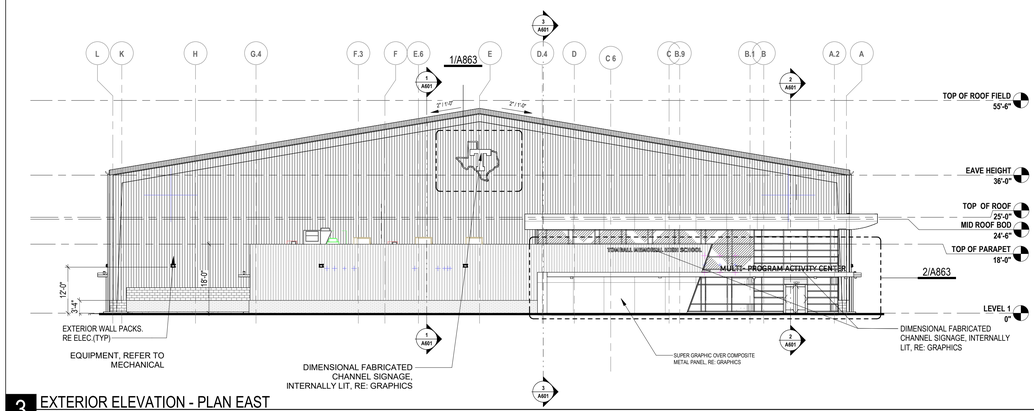
MCM-1
METAL COMPOSITE WALL PANEL



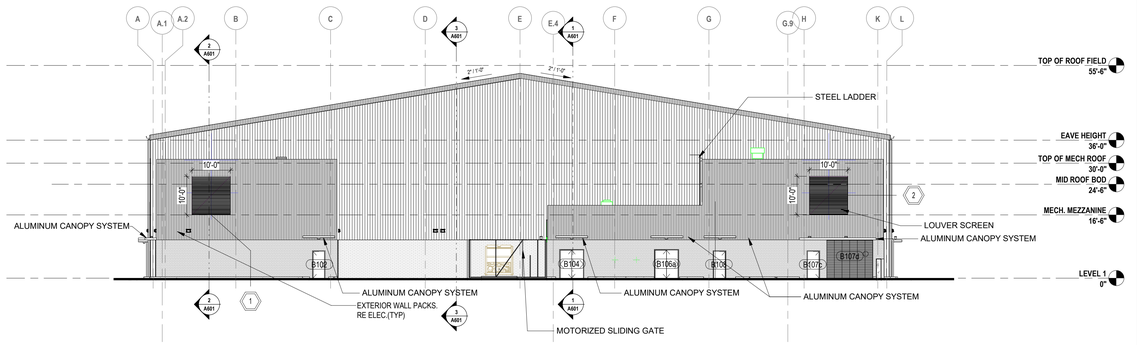
5 EXTERIOR ELEVATION MECH YARD PLAN SOUTH
1/16" = 1'-0"



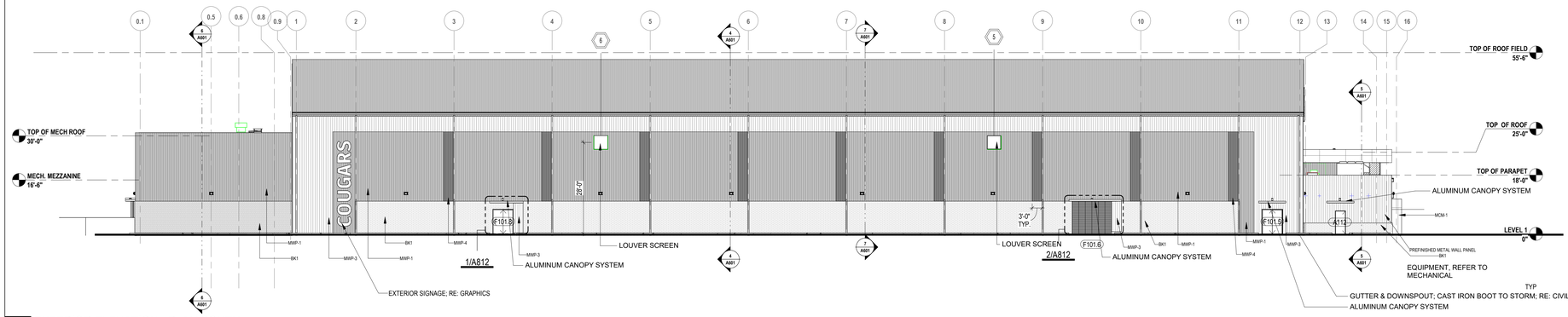
6 EXTERIOR ELEVATION MECH YARD PLAN NORTH
1/16" = 1'-0"



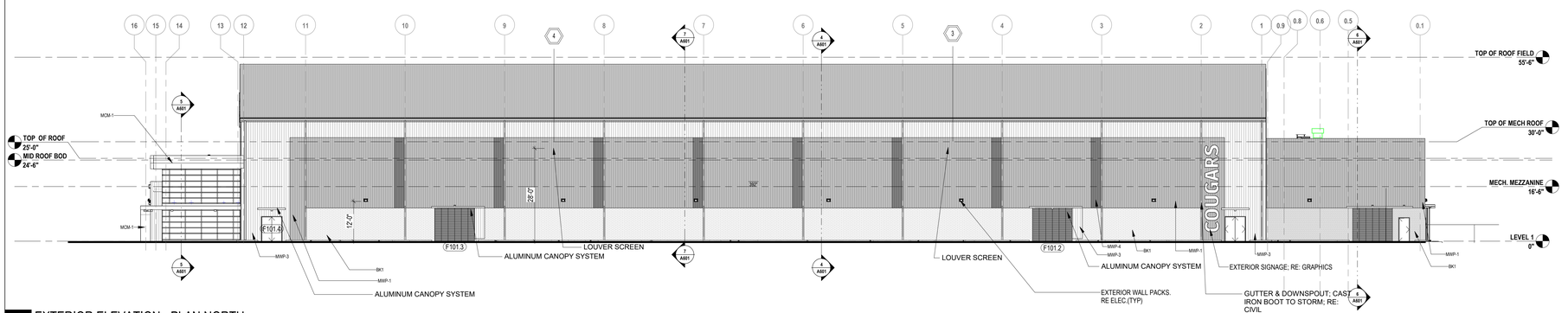
3 EXTERIOR ELEVATION - PLAN EAST
1/16" = 1'-0"



4 EXTERIOR ELEVATION - AREA B2 - PLAN WEST
1/16" = 1'-0"



2 EXTERIOR ELEVATION - PLAN SOUTH
1/16" = 1'-0"



1 EXTERIOR ELEVATION - PLAN NORTH
1/16" = 1'-0"

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Tomball ISD-Multi-Program Activity Center-Tomball High School

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B | A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND A. RAMIREZ
14378
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

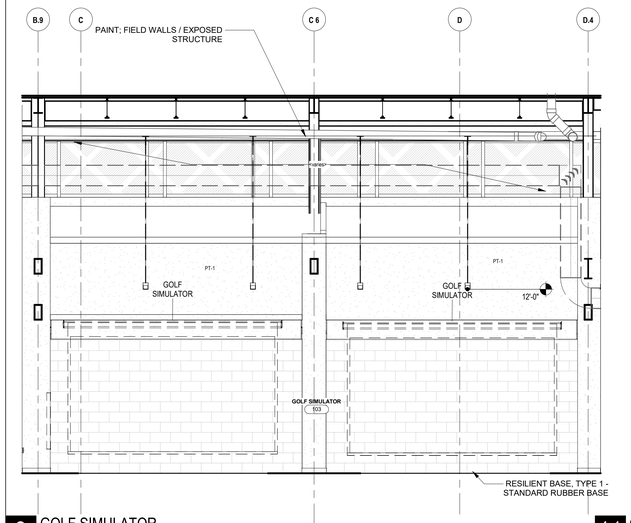
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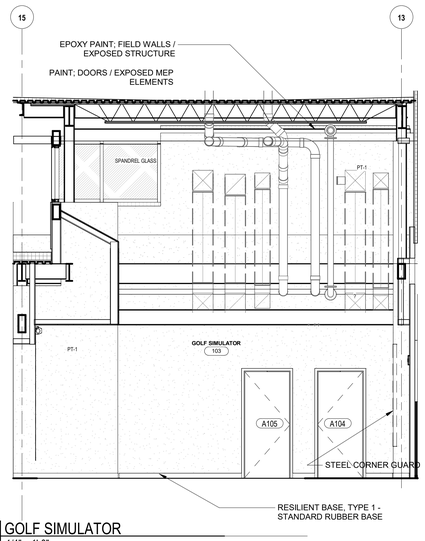
EXTERIOR ELEVATION - OVERALL

A500

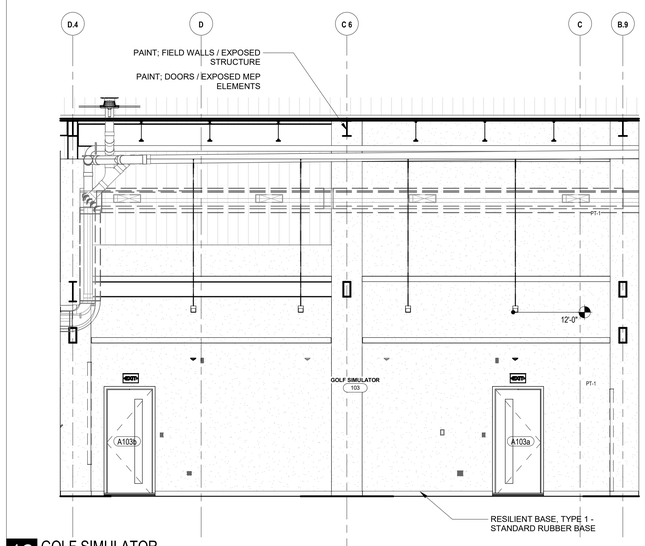
A520 - INTERIOR ELEVATIONS



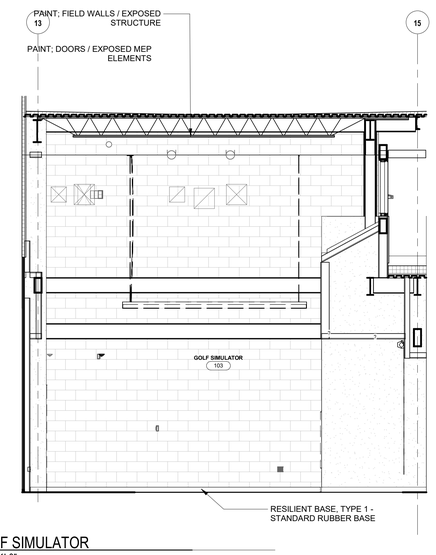
9 GOLF SIMULATOR
1/4" = 1'-0"



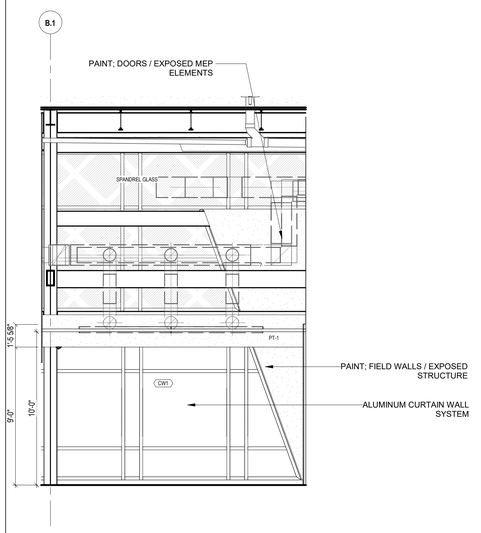
11 GOLF SIMULATOR
1/4" = 1'-0"



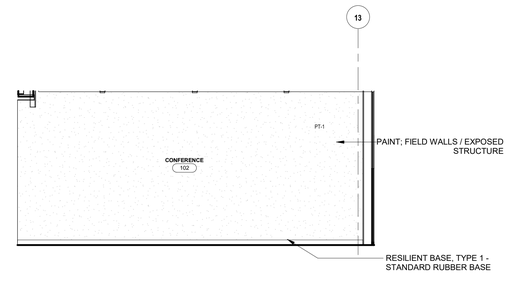
12 GOLF SIMULATOR
1/4" = 1'-0"



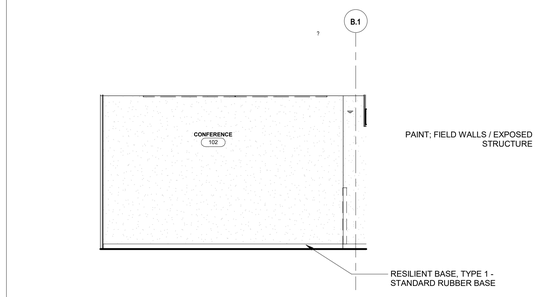
10 GOLF SIMULATOR
1/4" = 1'-0"



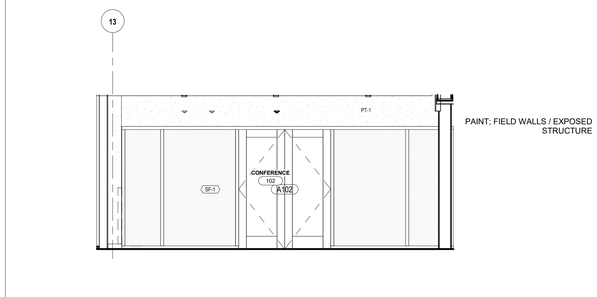
8 CONFERENCE - ELEVATION PLAN EAST
1/4" = 1'-0"



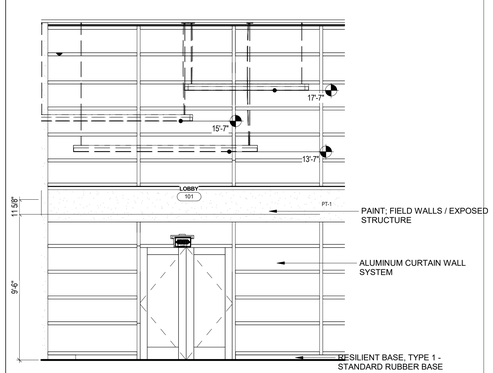
7 CONFERENCE - ELEVATION PLAN SOUTH
1/4" = 1'-0"



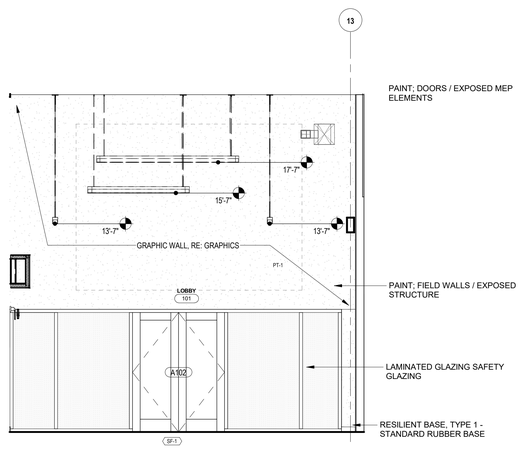
6 CONFERENCE - ELEVATION PLAN WEST
1/4" = 1'-0"



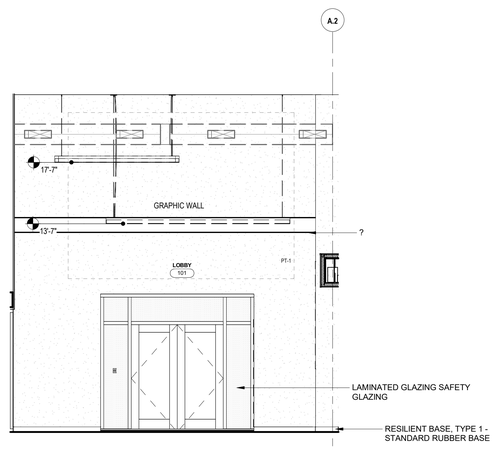
5 CONFERENCE - ELEVATION PLAN NORTH
1/4" = 1'-0"



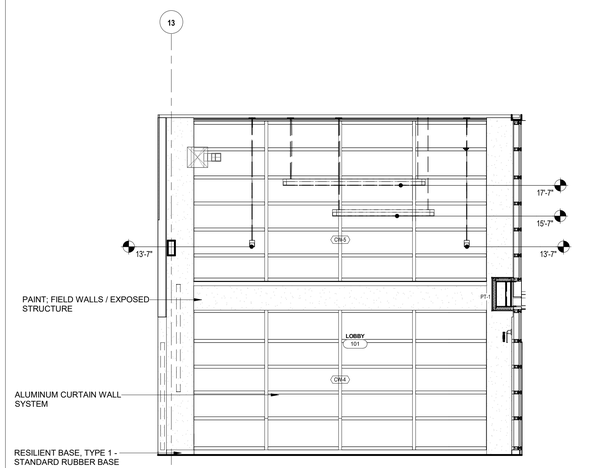
4 LOBBY - ELEVATION PLAN EAST
1/4" = 1'-0"



3 LOBBY - ELEVATION PLAN SOUTH
1/4" = 1'-0"



2 LOBBY - ELEVATION PLAN WEST
1/4" = 1'-0"



1 LOBBY - ELEVATION PLAN NORTH
1/4" = 1'-0"

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Tomball ISD-Multi-Program Activity Center-Tomball High School

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND A. RAMIREZ
14378
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

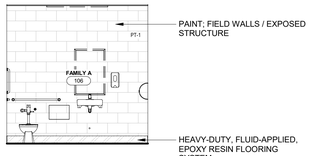
No.	Description	Date
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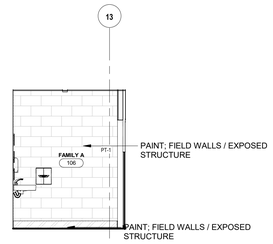
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INTERIOR ELEVATIONS

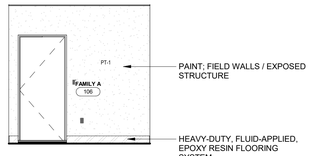
A520



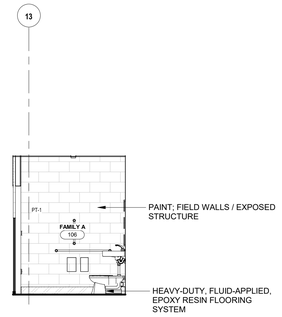
12 FAMILY B- ELEVATION PLAN EAST
1/4" = 1'-0"



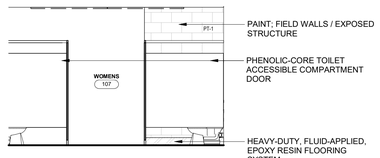
11 FAMILY B - ELEVATION PLAN SOUTH
1/4" = 1'-0"



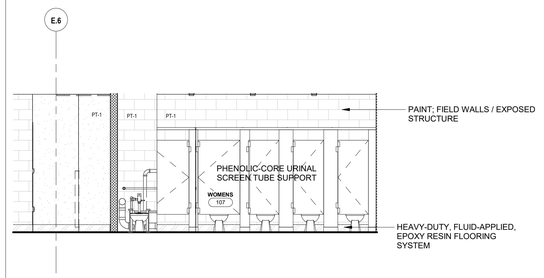
10 FAMILY B - ELEVATION PLAN WEST
1/4" = 1'-0"



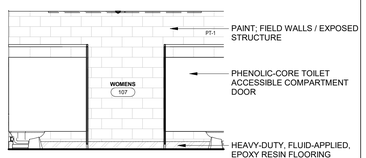
9 FAMILY B - ELEVATION PLAN NORTH
1/4" = 1'-0"



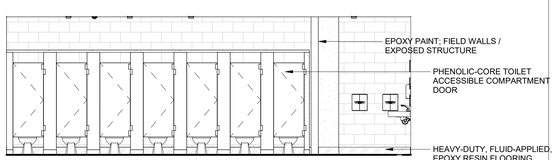
5 MEN'S - ELEVATION PLAN SOUTH (B)
1/4" = 1'-0"



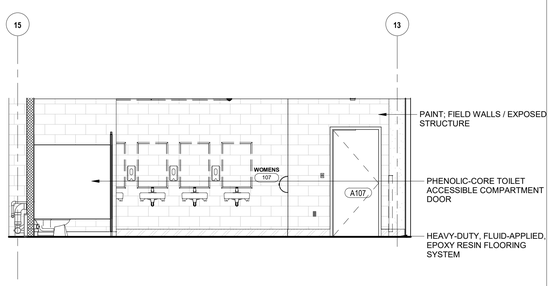
7 MEN'S - ELEVATION PLAN WEST (B)
1/4" = 1'-0"



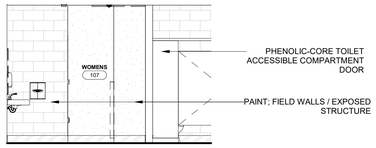
3 MEN'S - ELEVATION PLAN NORTH (B)
1/4" = 1'-0"



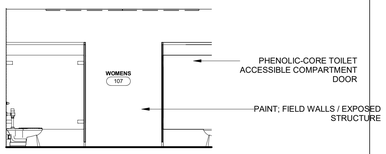
1 MEN'S - ELEVATION PLAN EAST (A)
1/4" = 1'-0"



4 MEN'S - ELEVATION PLAN SOUTH (A)
1/4" = 1'-0"



6 MEN'S - ELEVATION PLAN WEST (A)
1/4" = 1'-0"



2 MEN'S - ELEVATION PLAN NORTH (A)
1/4" = 1'-0"

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Tomball ISD-Multi-Program Activity Center- Tomball High School

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ISSUED FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND X. RAMIREZ
14374
STATE OF TEXAS

CLIENT
TOMBALL ISD

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date
1		

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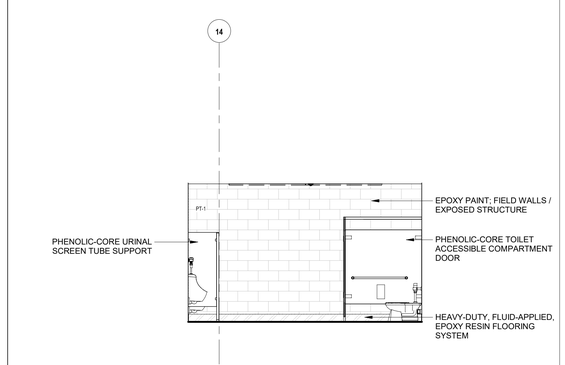
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INTERIOR ELEVATIONS

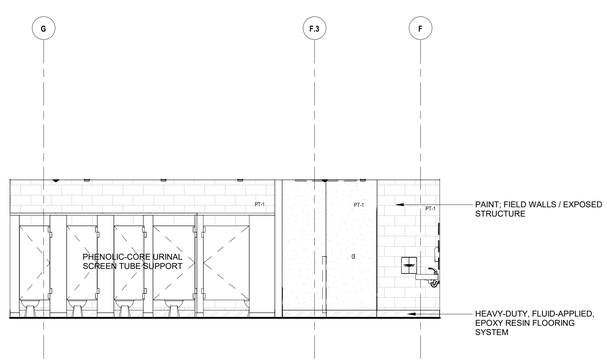
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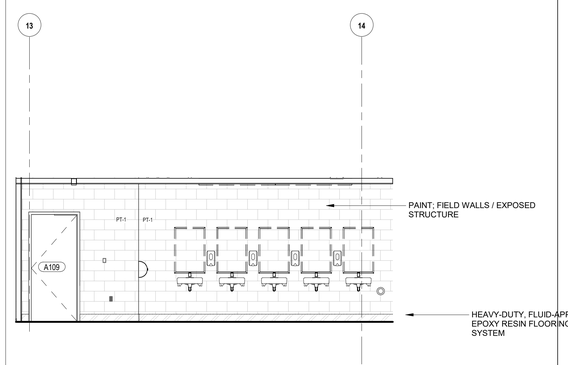
0"
1"



3 WOMENS RESTROOM
1/4" = 1'-0"



2 WOMENS RESTROOM
1/4" = 1'-0"



1 WOMENS RESTROOM
1/4" = 1'-0"

4 WOMENS RESTROOM
1/4" = 1'-0"

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MULTI-PROGRAM ACTIVITY CENTERS

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TOMBALL ISD
DESTINATION EXCELLENCE

KEY PLAN
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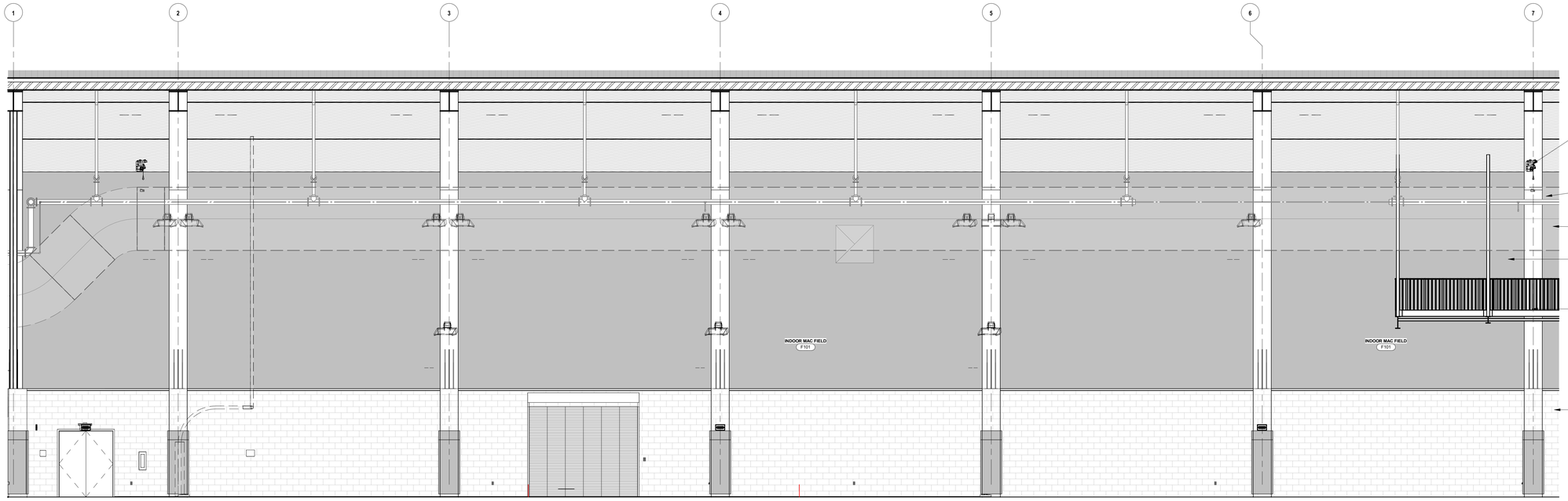
INTERIOR ELEVATIONS

A522

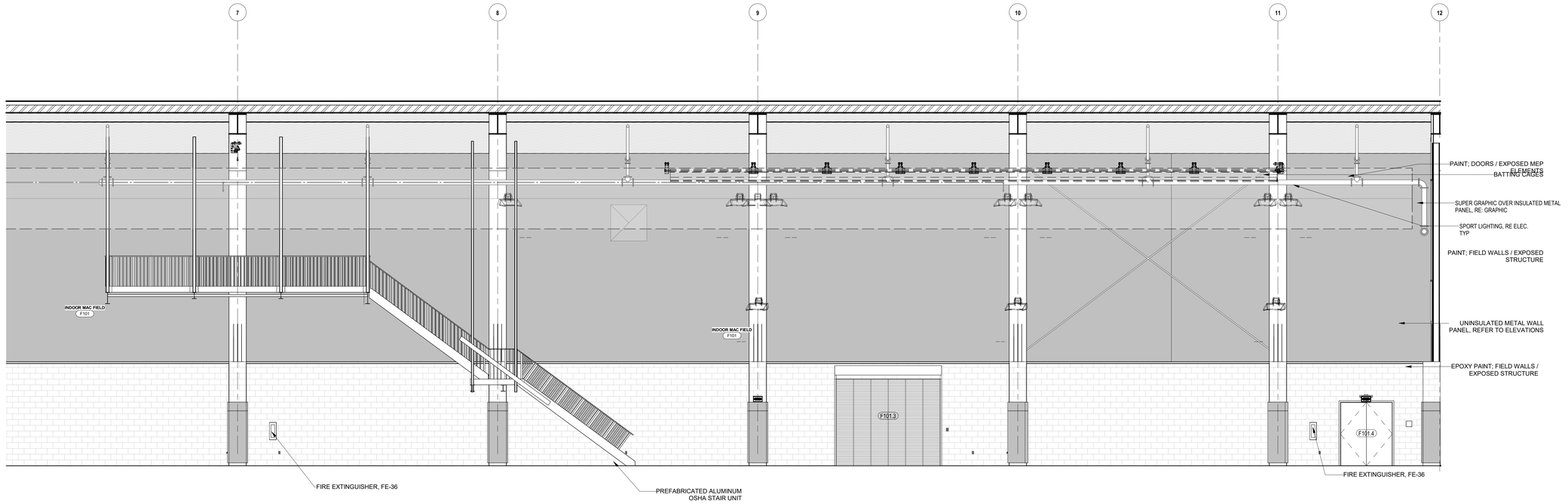
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A524 - LEVEL 1 INTERIOR ELEVATIONS-AREA A&B



2 AREA B - ELEVATION PLAN NORTH
3/16" = 1'-0"



1 AREA A - ELEVATION PLAN NORTH
3/16" = 1'-0"

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KEY PLAN

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REGISTERED ARCHITECT
EDMOND X. RAMIREZ
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No.	Description	Date

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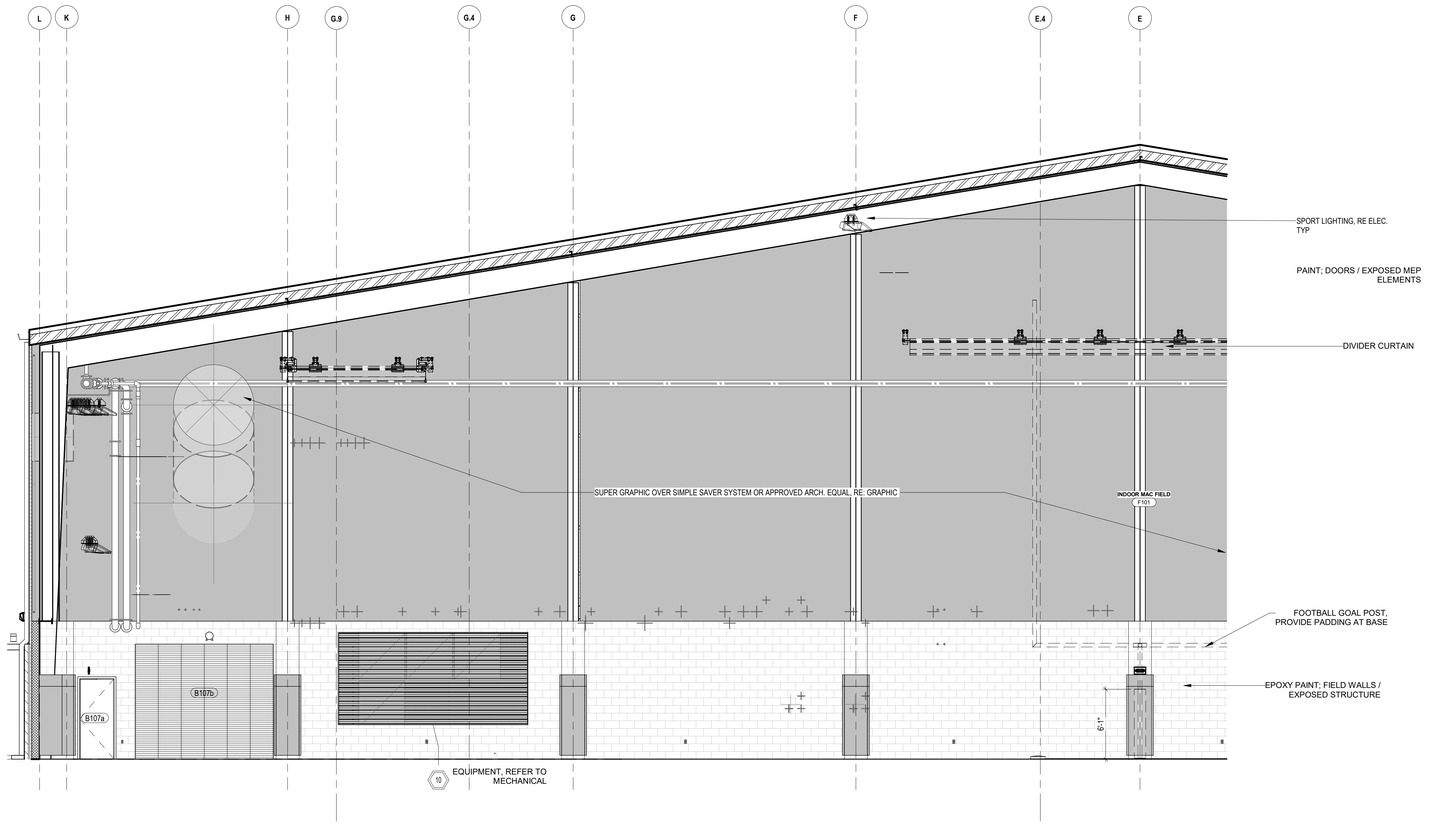
LEVEL 1 INTERIOR ELEVATIONS-AREA A&B

A524

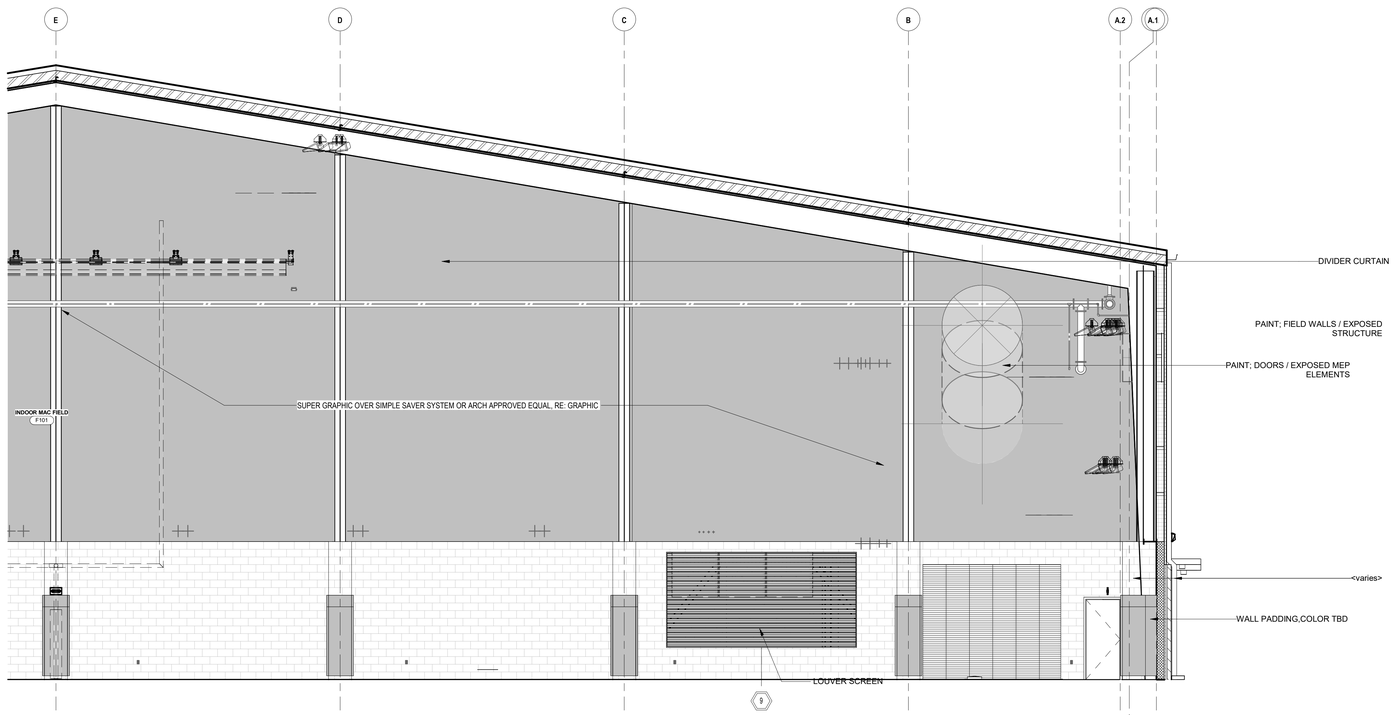
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0"
1"



2 AREA B - ELEVATION PLAN WEST (B)
3/16" = 1'-0"



1 AREA B - ELEVATION PLAN WEST (A)
3/16" = 1'-0"

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TOMBALL ISD

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25046901		01

DATE 10/30/2026

DRAWING HISTORY

No.	Description	Date

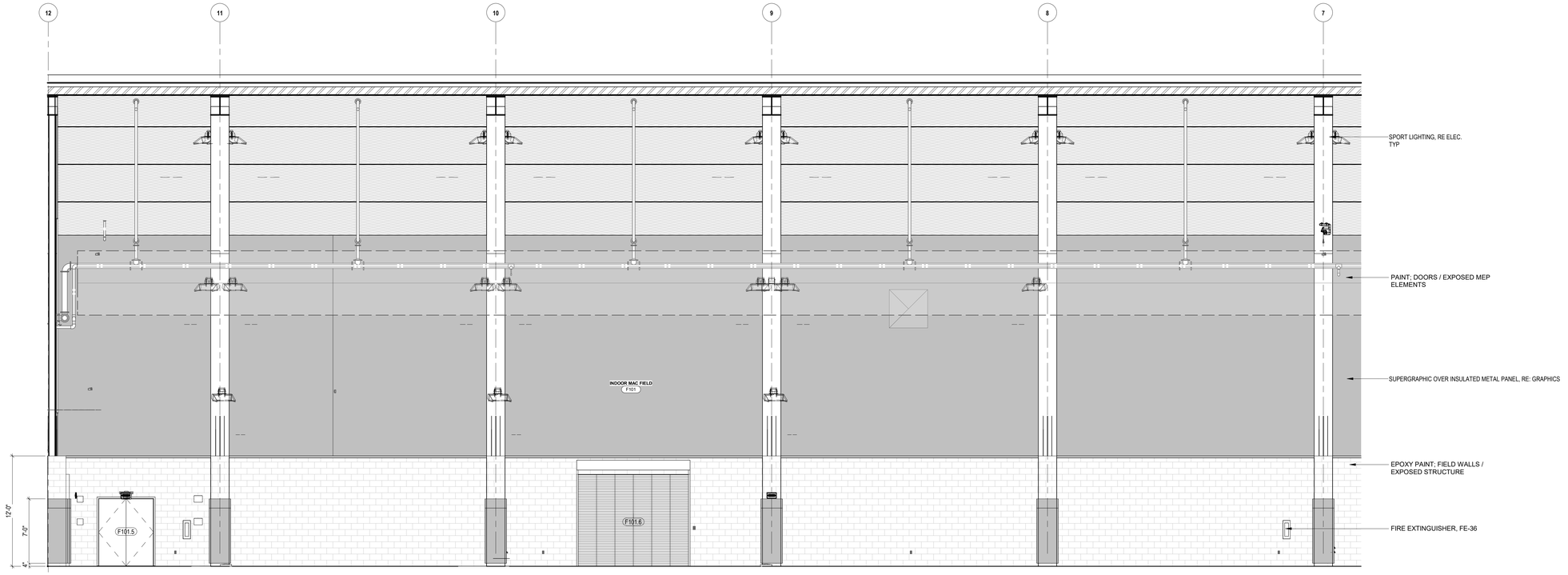
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LEVEL 1 INTERIOR ELEVATIONS AREA B

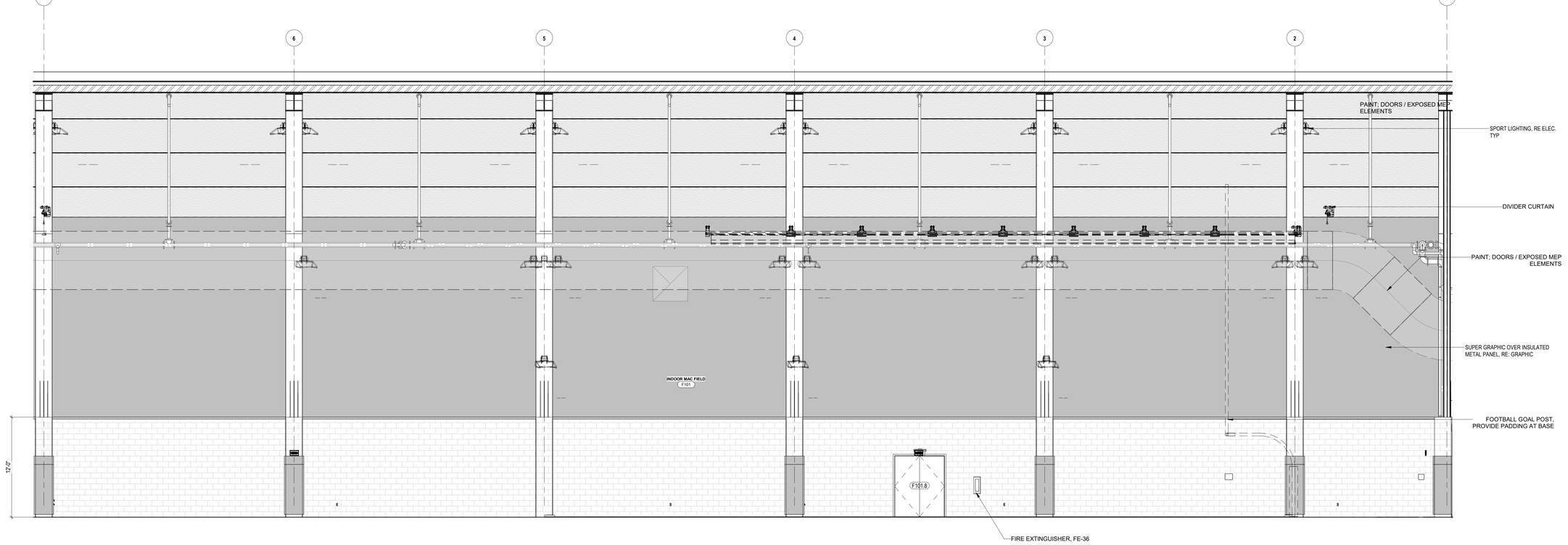
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2 AREA A - ELEVATION PLAN SOTH
3/16" = 1'-0"



1 AREA B - ELEVATION PLAN SOUTH
3/16" = 1'-0"

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PBK	PROJECT NUMBER	CLIENT
	25046901	01

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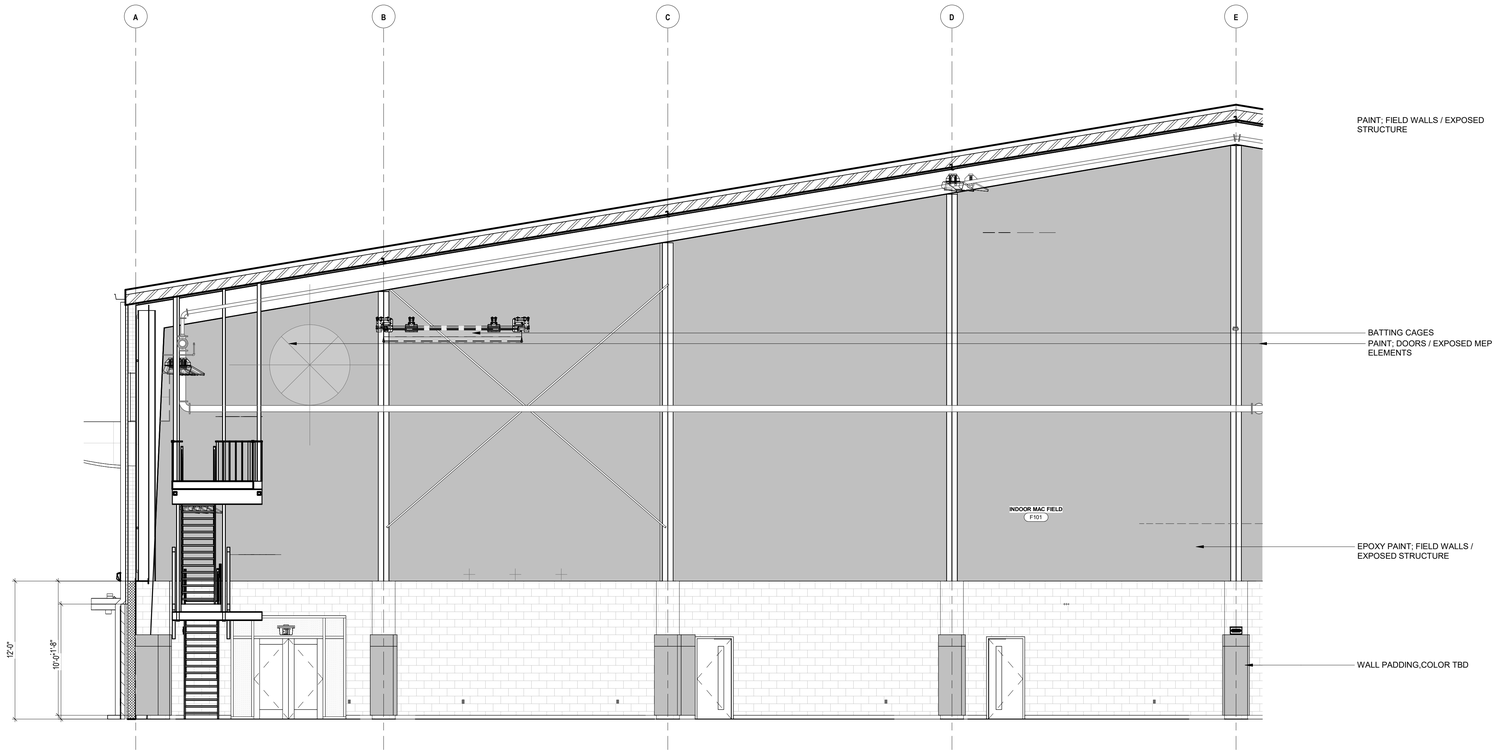
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LEVEL 1 INTERIOR ELEVATIONS AREA A&B

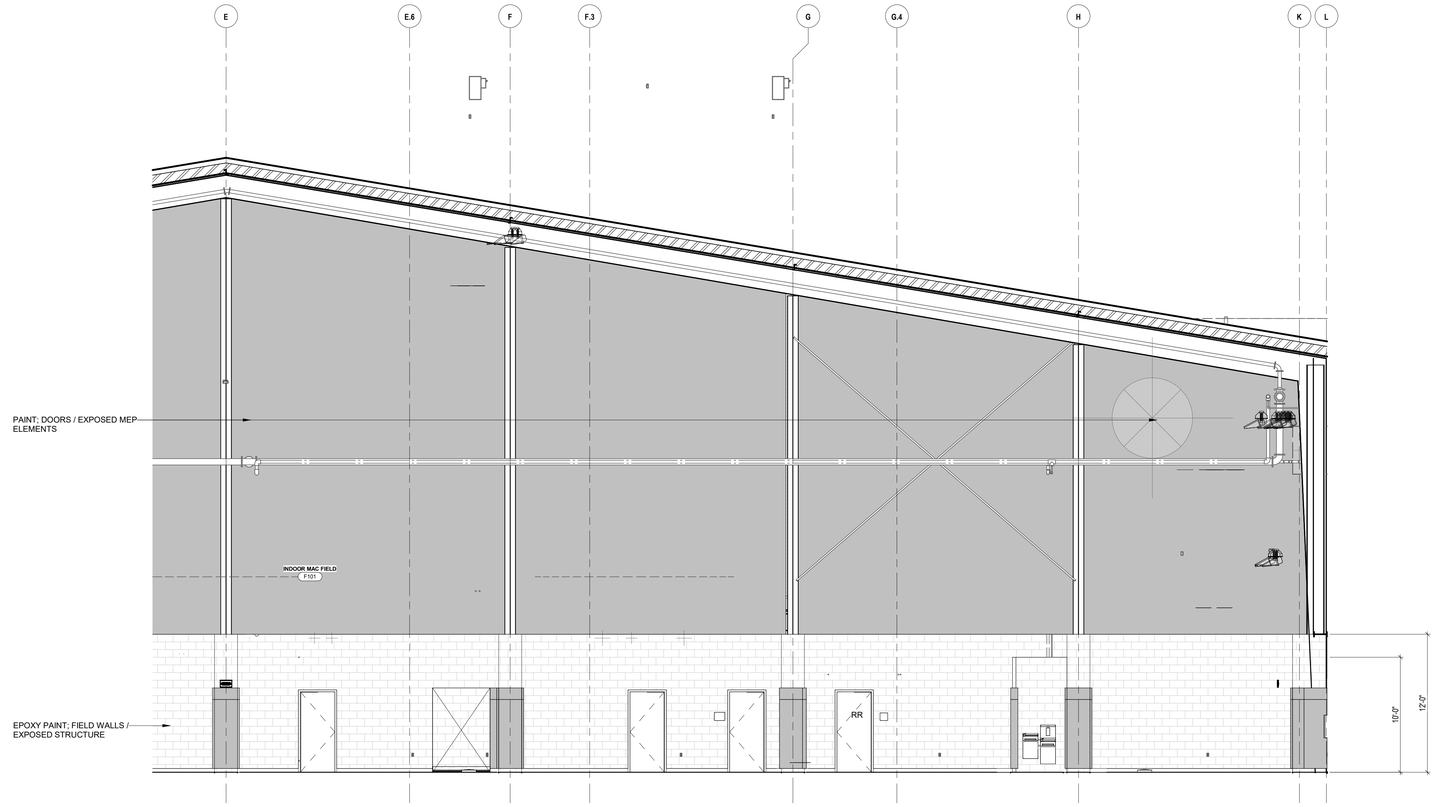
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2 AREA A - ELEVATION PLAN EAST (B)
3/16" = 1'-0"



1 AREA A - ELEVATION PLAN EAST (A)
3/16" = 1'-0"

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MULTI-PROGRAM ACTIVITY CENTERS

TOMBALL HIGH SCHOOL

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TOMBALL ISD
DESTINATION EXCELLENCE

KEY PLAN
NORTH: PLAN TRUE

CLIENT
TOMBALL ISD

PBK	PROJECT NUMBER	CLIENT
	25046901	01

DATE 10/30/2026

DRAWING HISTORY

No.	Description	Date

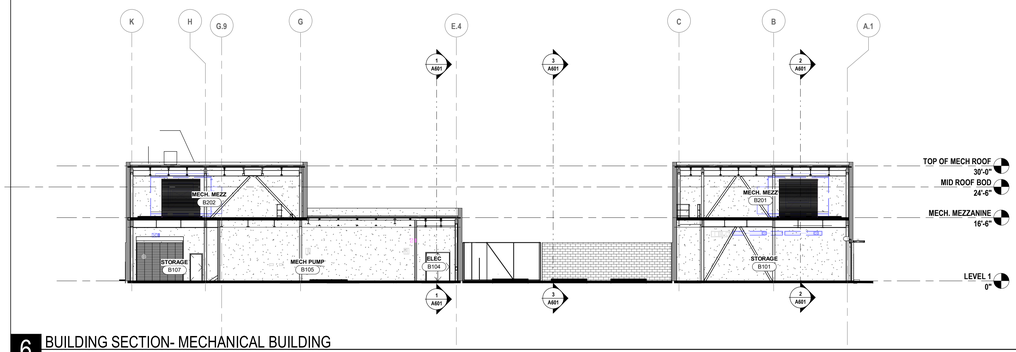
ISSUED FOR PROPOSAL

LEVEL 1 INTERIOR ELEVATIONS AREA A

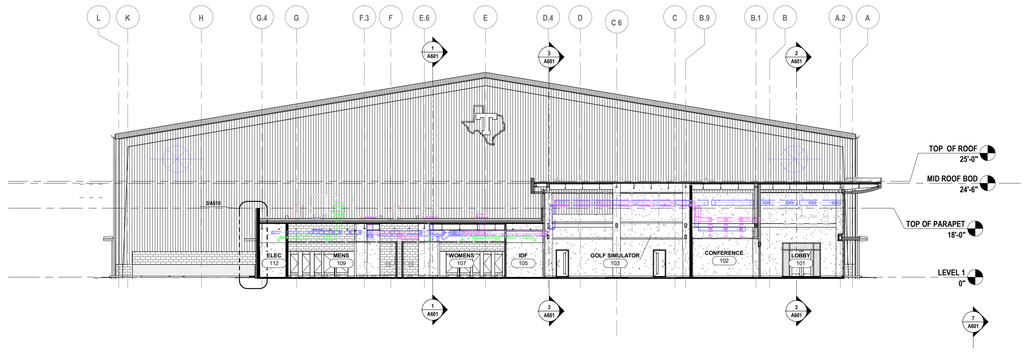
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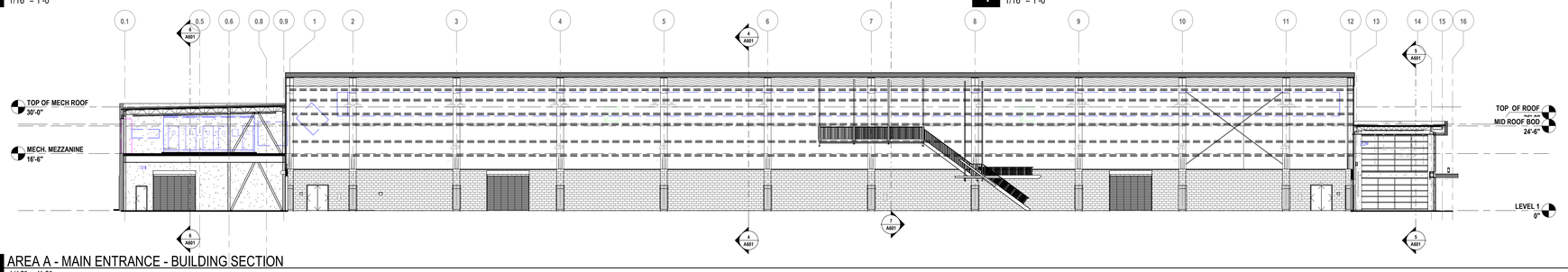
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Checker
DRAWN BY:
Author
Plot Stamp:
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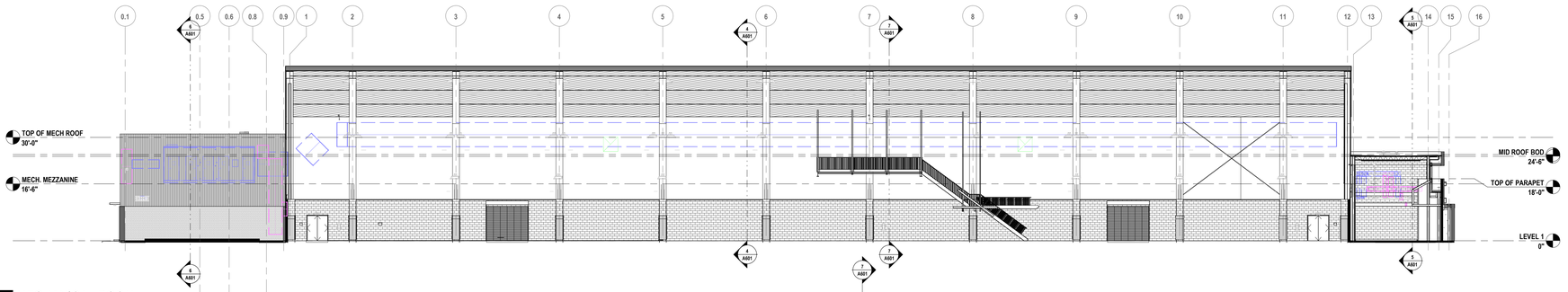
6 BUILDING SECTION- MECHANICAL BUILDING
1/16" = 1'-0"



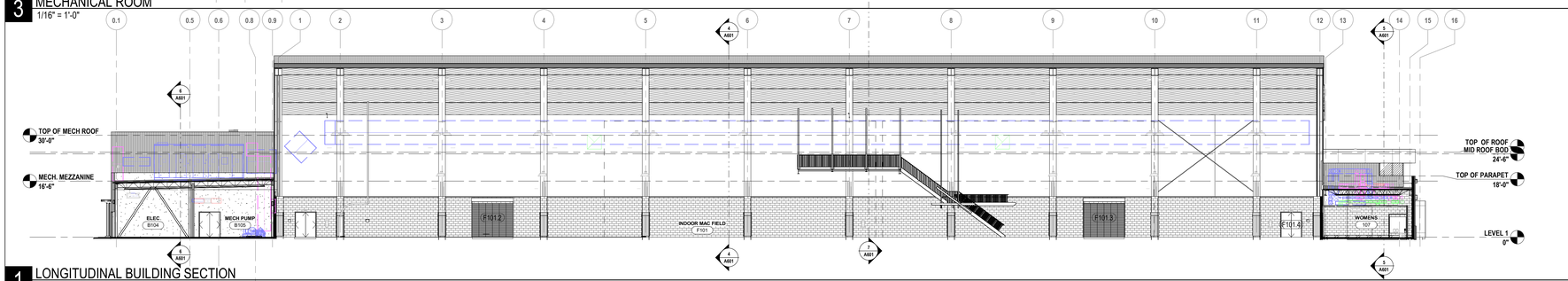
5 BUILDING SECTION- NORTH BUILDING
1/16" = 1'-0"



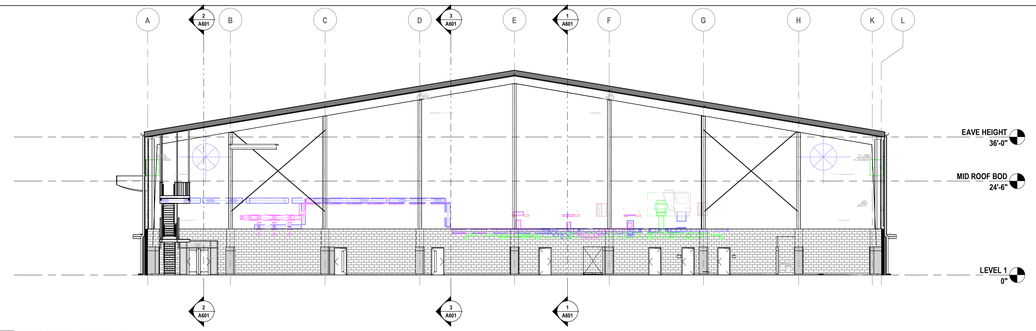
2 AREA A - MAIN ENTRANCE - BUILDING SECTION
1/16" = 1'-0"



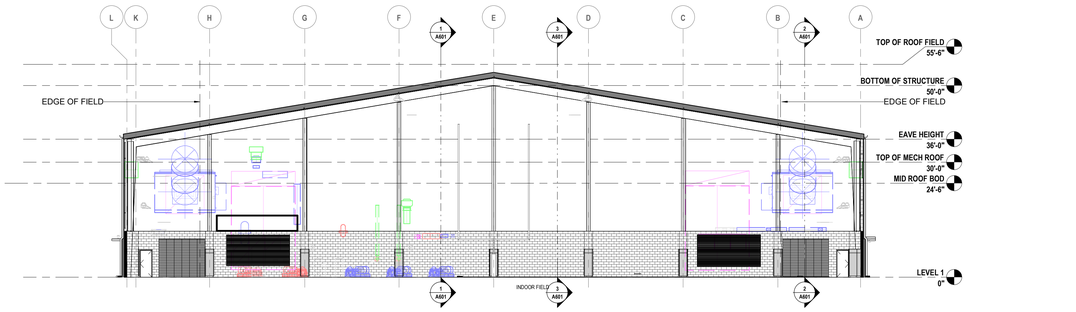
3 MECHANICAL ROOM
1/16" = 1'-0"



1 LONGITUDINAL BUILDING SECTION
1/16" = 1'-0"



7 SECTION AREA A
1/16" = 1'-0"



4 BUILDING SECTION - INDOOR FIELD
1/16" = 1'-0"

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Tomball ISD-Multi-Program Activity Center- Tomball High School

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B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
RAYMOND K. RAMIREZ
#37A
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: Checker

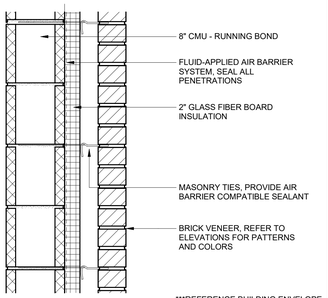
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BUILDING SECTIONS

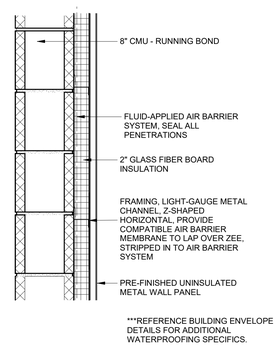
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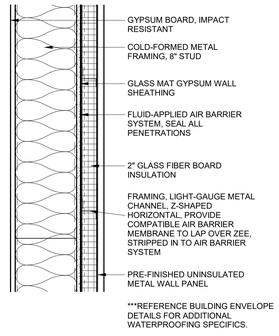
A610 - WALL SECTIONS - AREA A



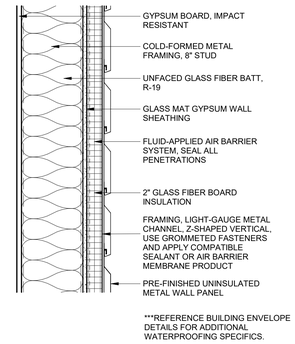
9 EXTERIOR WALL TYPE 'A'
1 1/2" = 1'-0"



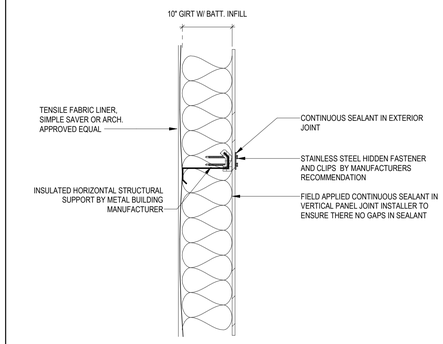
8 EXTERIOR WALL TYPE B
1 1/2" = 1'-0"



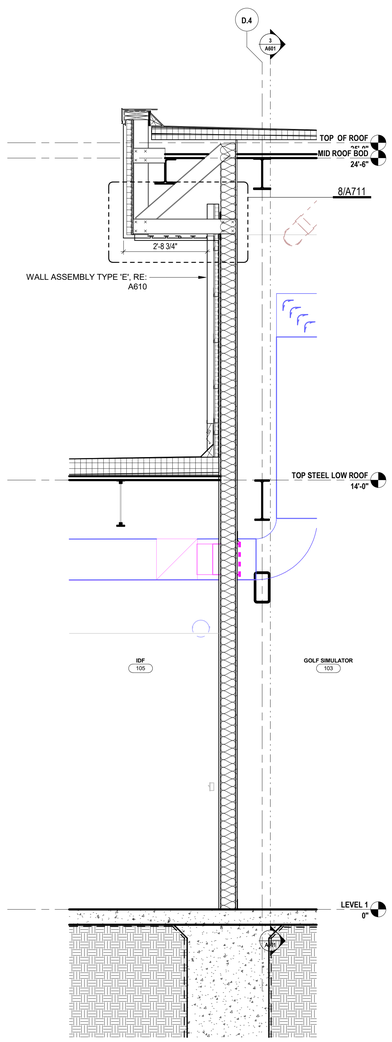
7 EXTERIOR WALL TYPE 'C'
1 1/2" = 1'-0"



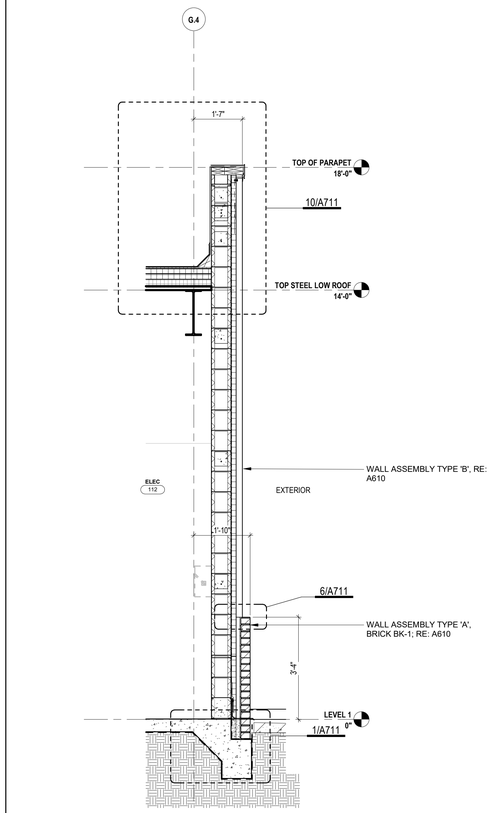
6 EXTERIOR WALL TYPE 'D'
1 1/2" = 1'-0"



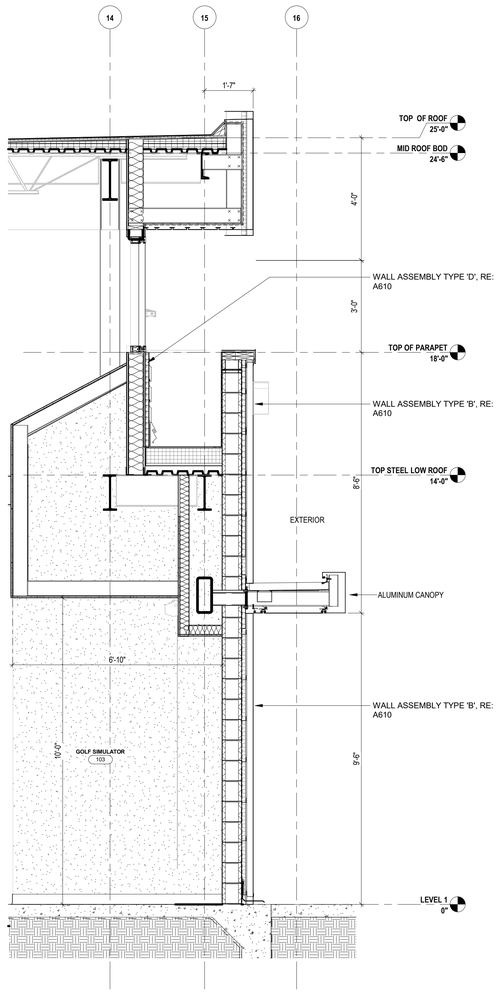
5 EXTERIOR WALL TYPE 'E'- NON INSULATED METAL PANEL
1 1/2" = 1'-0"



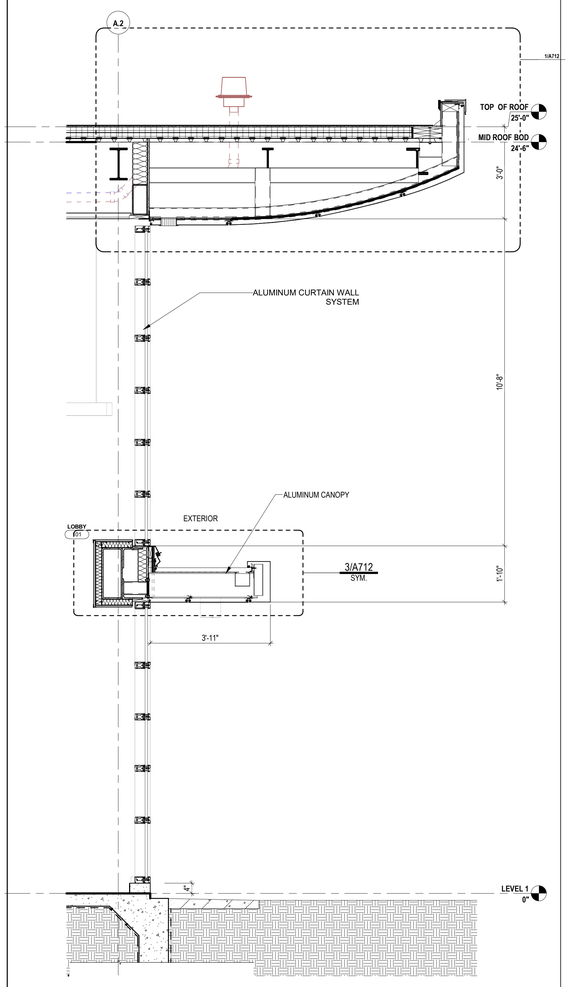
4 TOP GOLF SIMULATOR SECTION
1/2" = 1'-0"



3 WALL SECTION @ ELECTRIAL
1/2" = 1'-0"



2 WALL SECTION @ GOLF SIMULATOR
1/2" = 1'-0"



1 SECTION @LOBBY CURTAIN WALL
1/2" = 1'-0"

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ISSUED FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND A. RAMIREZ JR. 14378 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

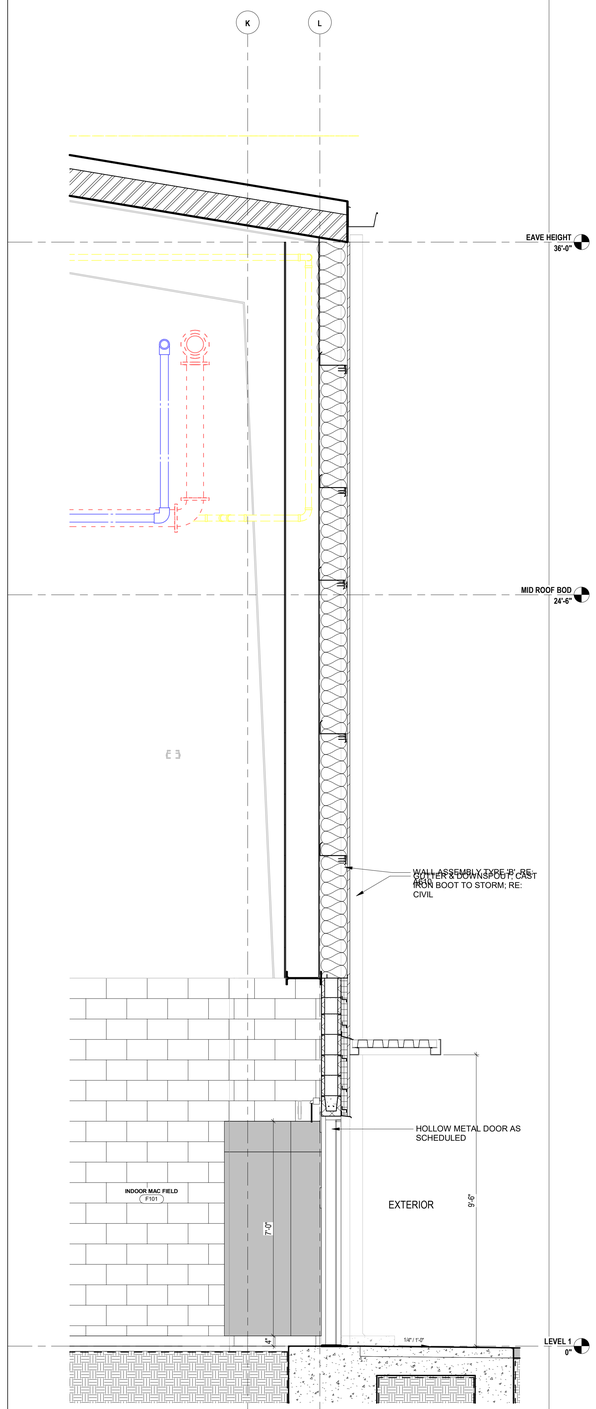
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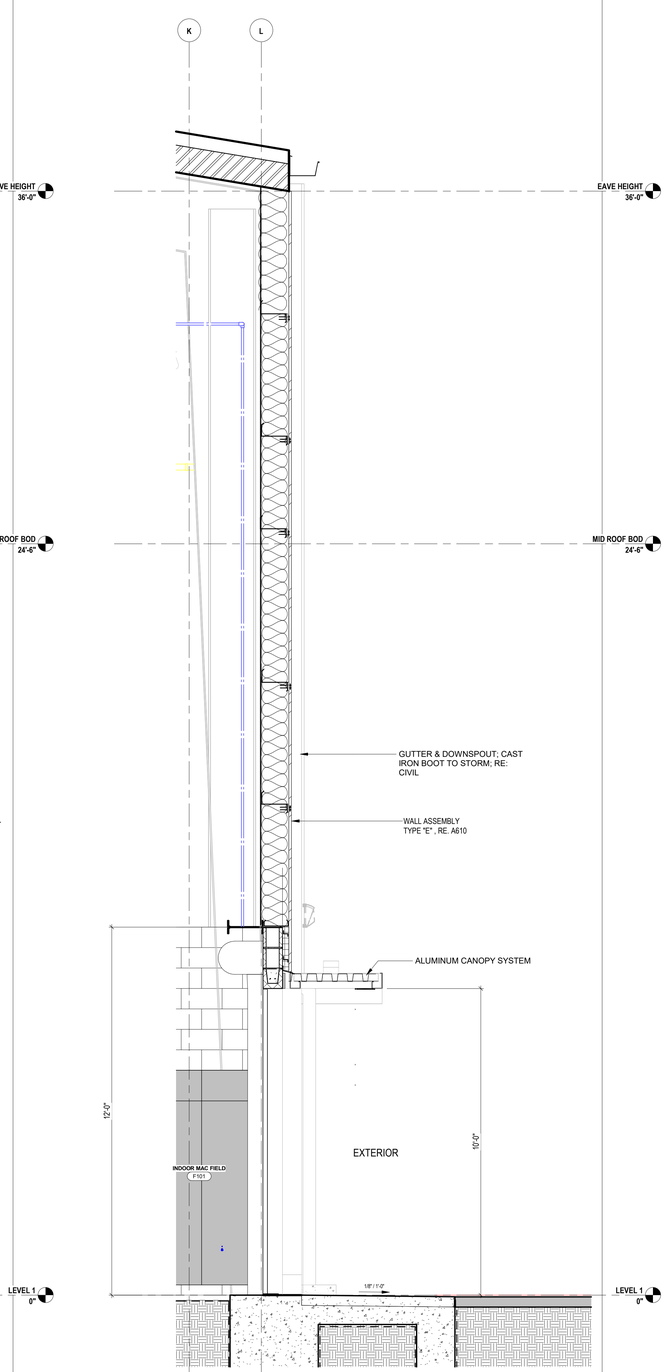
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WALL SECTIONS - AREA A

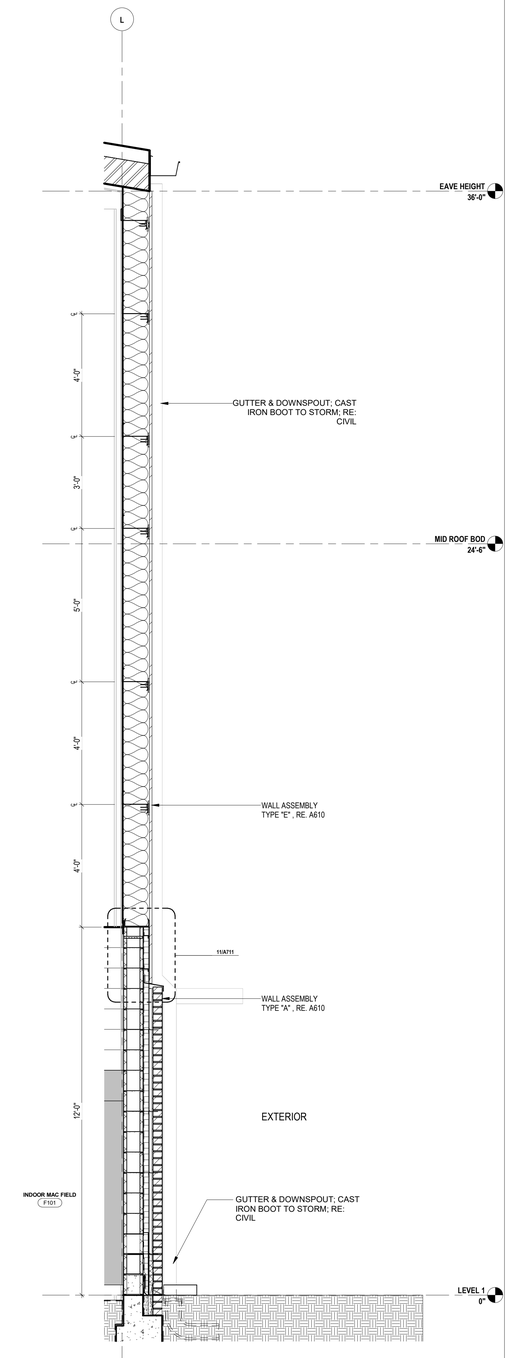
A610



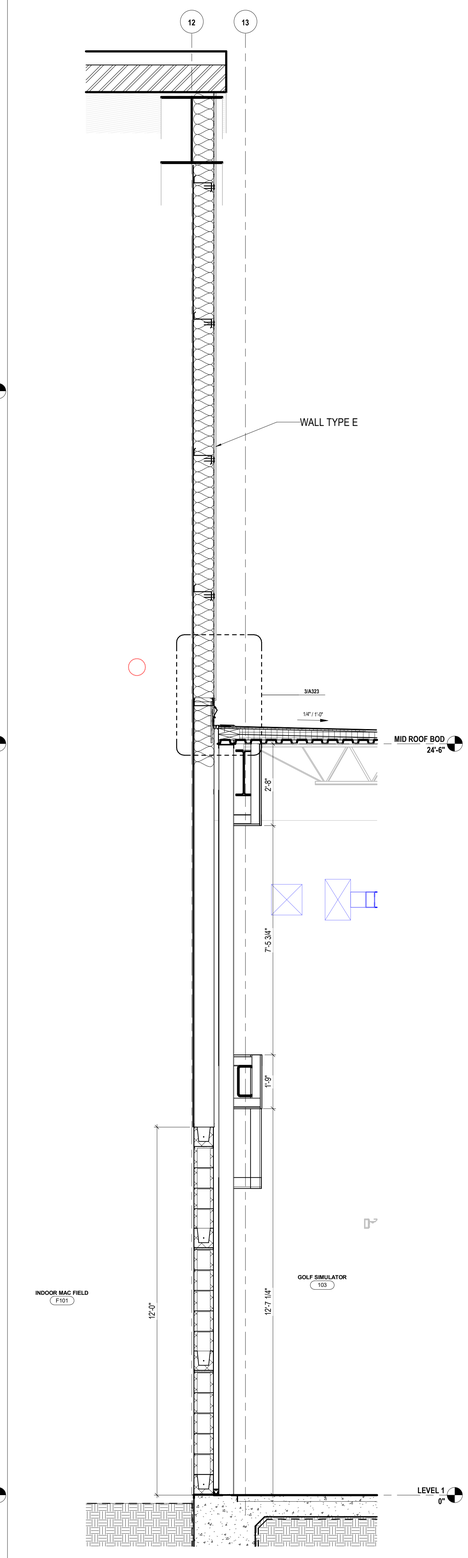
4 HOLLOW MWTAL DOOR SECTION
1/2" = 1'-0"



3 OVERHEAD DOOR SECTION
1/2" = 1'-0"



2 BRICK TO METAL PANEL SECTION
1/2" = 1'-0"



1 METAL PANEL WALL TO LOW ROOF SECTION
1/2" = 1'-0"

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND A. RAMIREZ JR. 14378 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date
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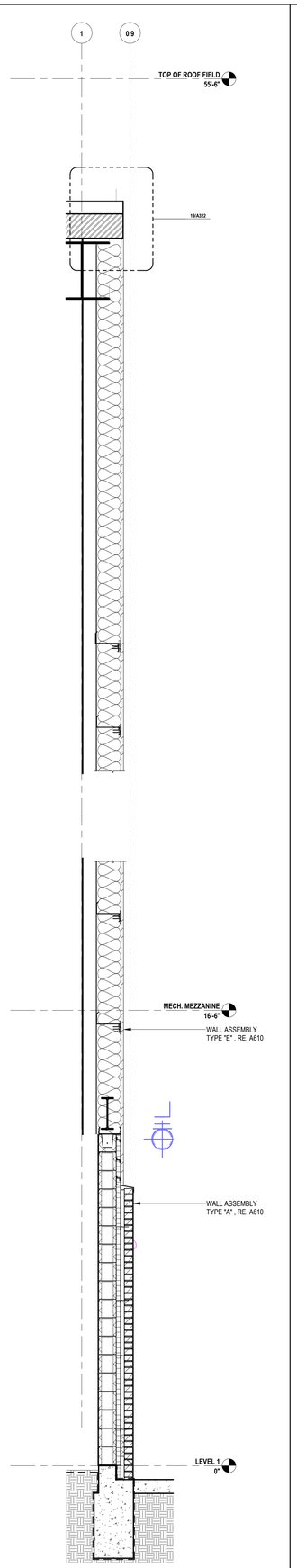
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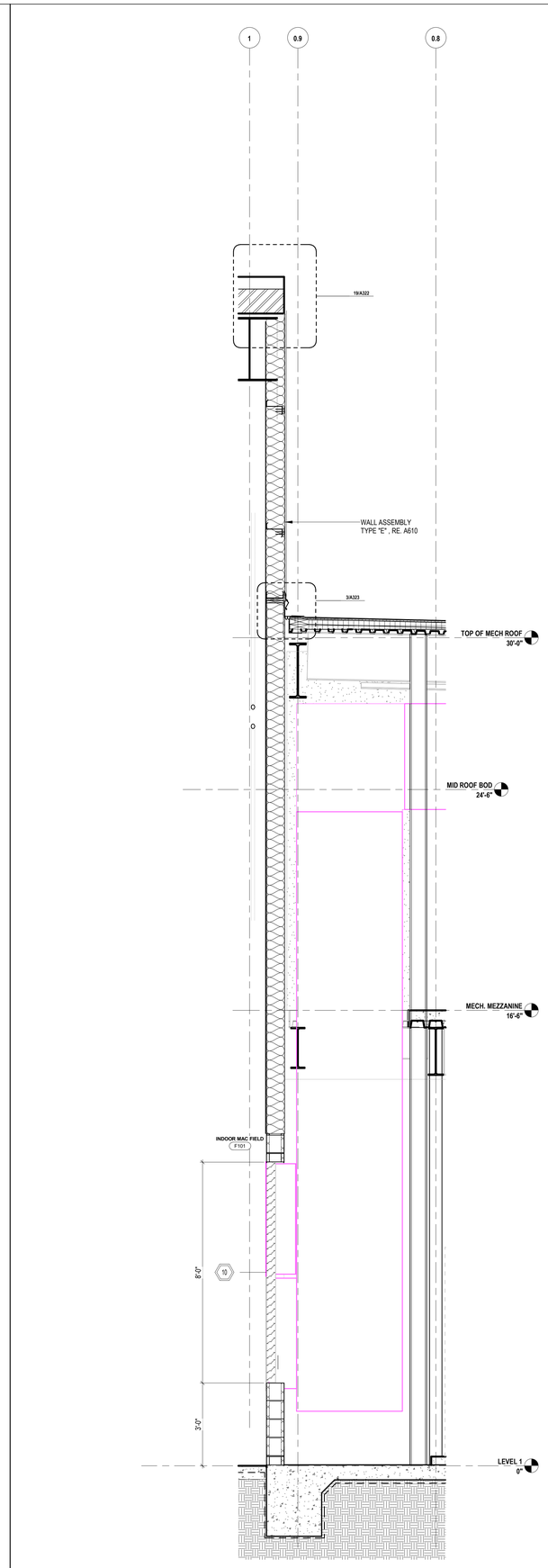
WALL SECTIONS - AREA A

A611

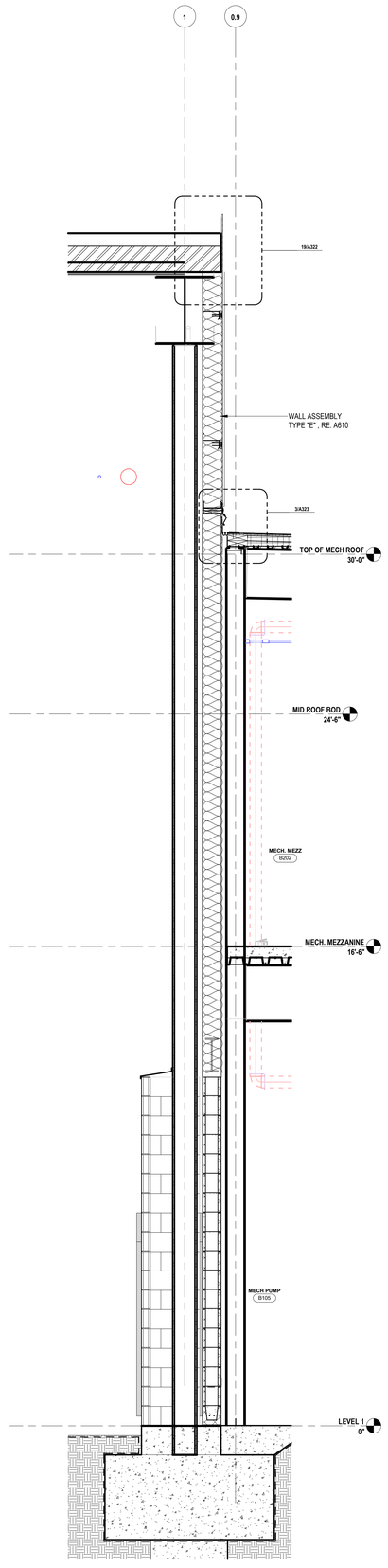
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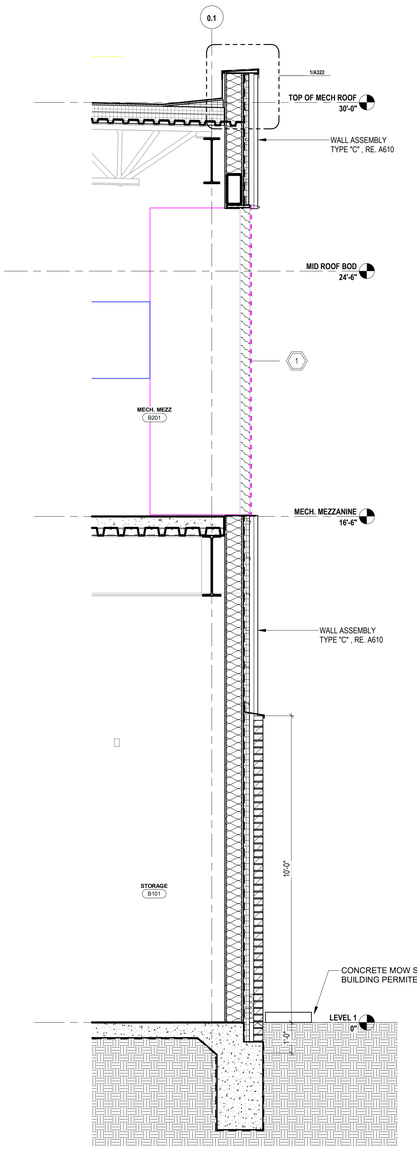
4 Section 132
1/2" = 1'-0"



3 WALL SECTION @ STORAGE WALL
1/2" = 1'-0"



2 Section 154
1/2" = 1'-0"



1 Section 148
1/2" = 1'-0"

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND A. RAMIREZ
14378
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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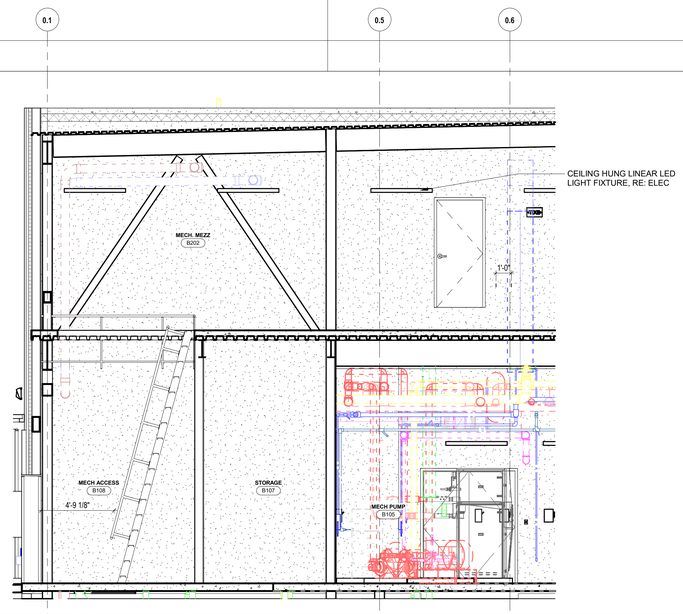
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WALL SECTIONS - AREA B

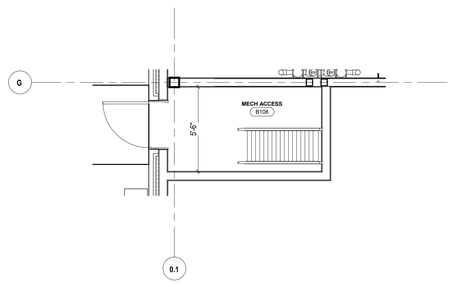
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A633 - STAIR PLAN AND DETAILS



2 MECH MEZZANINE STAIR SECTION
1/4" = 1'-0"



1 MECH MEZZANINE STAIR
1/4" = 1'-0"

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND X. RAMIREZ
14374
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

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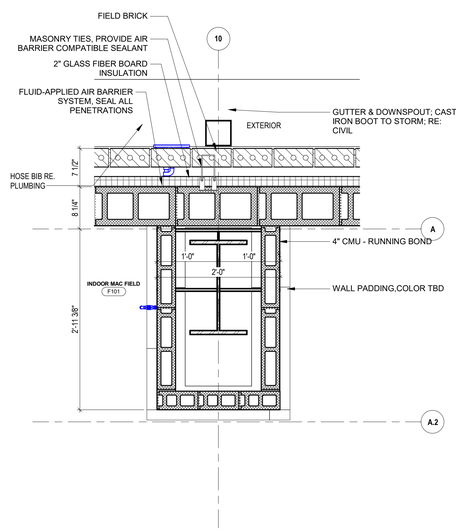
CHECKED BY: Checker

DRAWN BY: Author

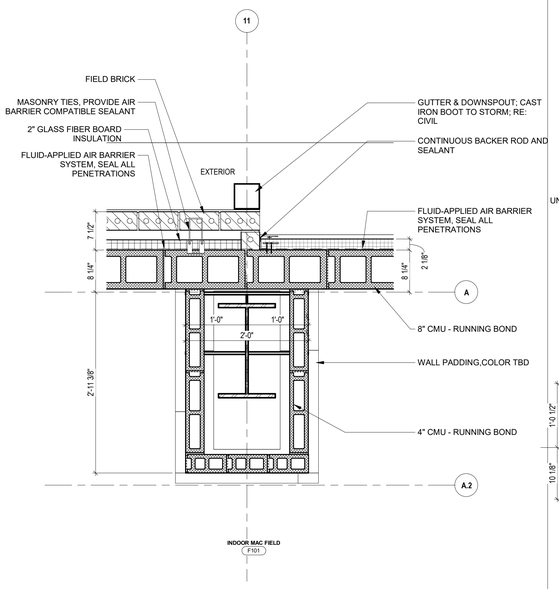
STAIR PLAN AND DETAILS

A633

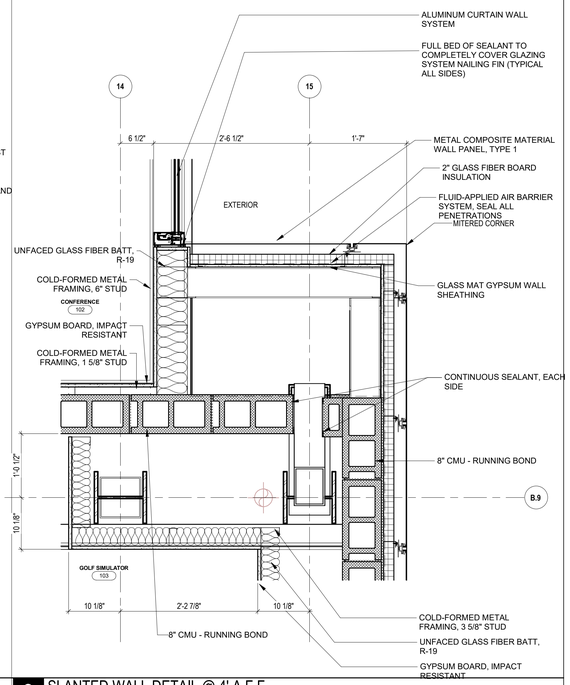
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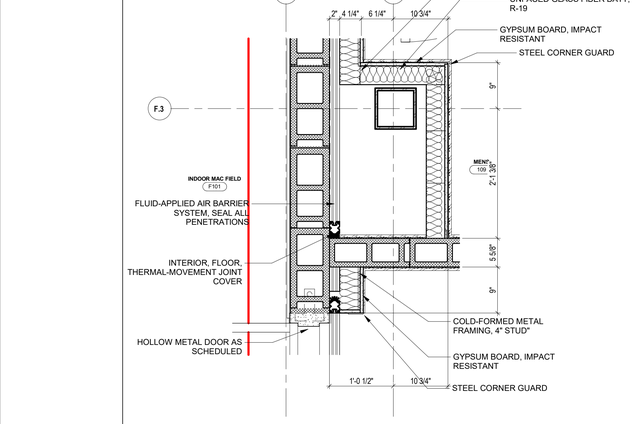
11 FIELD COLUMN WRAP DETAIL EAST /WEST WALLS
1" = 1'-0"



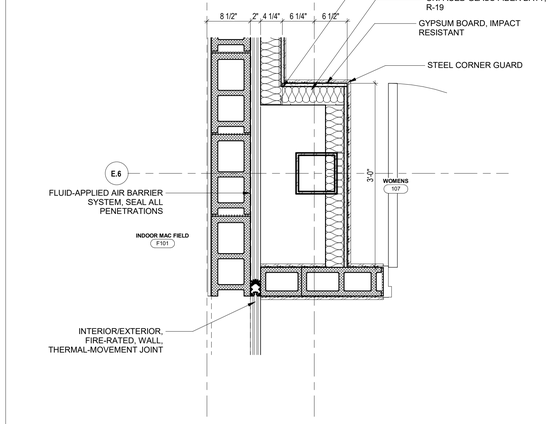
10 INSULATED METAL PANEL / BRICK WALL DETAIL
1" = 1'-0"



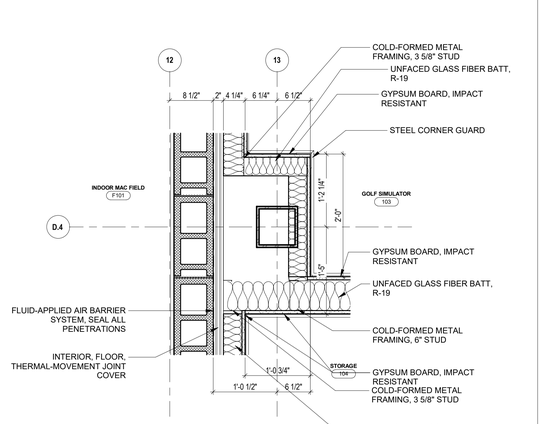
9 SLANTED WALL DETAIL @ 4' A.F.F
1" = 1'-0"



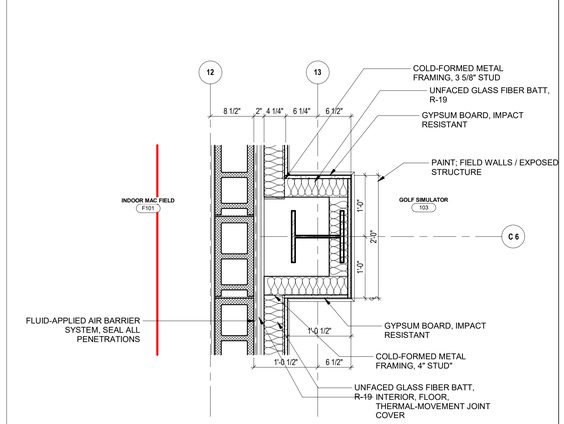
8 COLUMN WRAP @ MEN'R R.R.
1" = 1'-0"



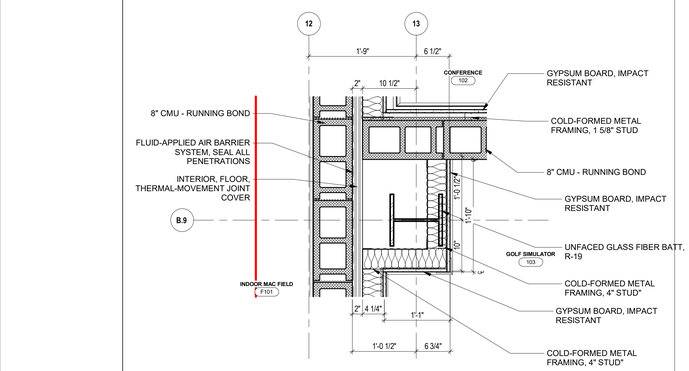
7 COLUMN WRAP @ WOMEN'S RR.
1" = 1'-0"



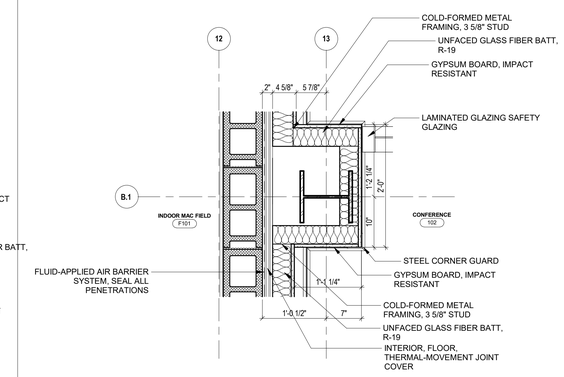
6 COLUMN WRAP @ GOLF SIMULATOR
1" = 1'-0"



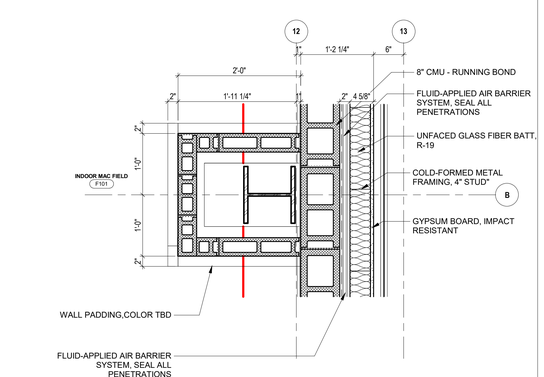
5 COLUMN WRAP @ GOLF SIMULATOR
1" = 1'-0"



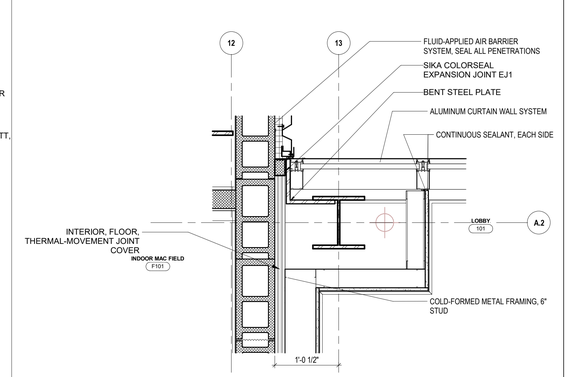
4 COLUMN WRAP @ GOLF SIMULATOR
1" = 1'-0"



3 COLUMN WRAP @ CONFERENCE
1" = 1'-0"



2 TYPICAL COLUMN WRAP @ FIELD
1" = 1'-0"



1 COLUMN WRAP DETAIL AT LOBBY
1" = 1'-0"

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Tomball ISD-Multi-Program Activity Center-Tomball High School

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ISSUED FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT RAYMOND K. RAMIREZ 14374 STATE OF TEXAS

CLIENT: TOMBALL ISD

DATE: 10/30/2026

PROJECT NUMBER: 25046901

DRAWING HISTORY

No.	Description	Date

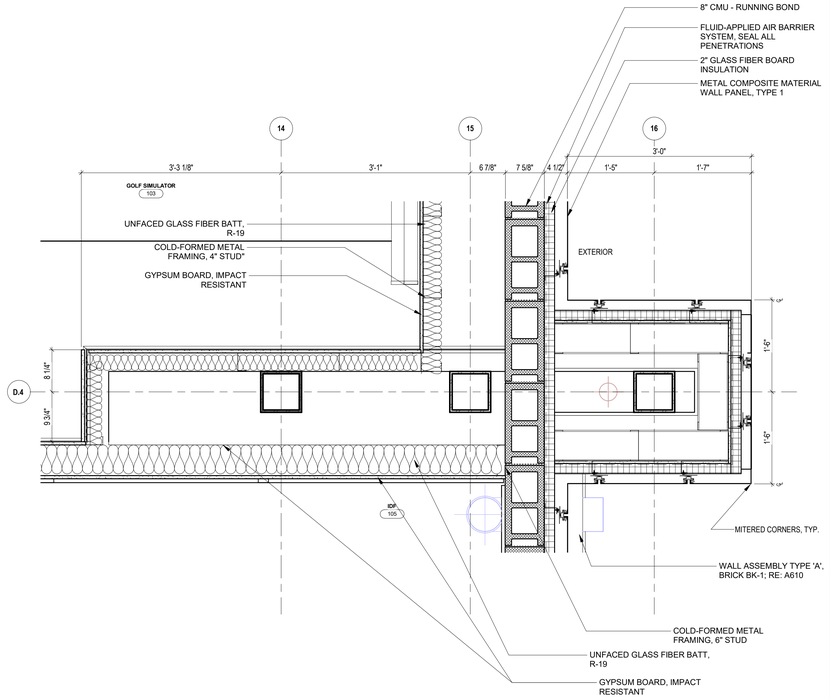
CHECKED BY: Checker

DRAWN BY: Author

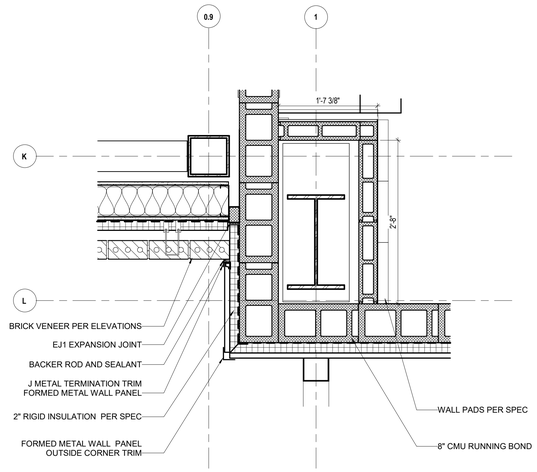
PLAN DETAILS

A701

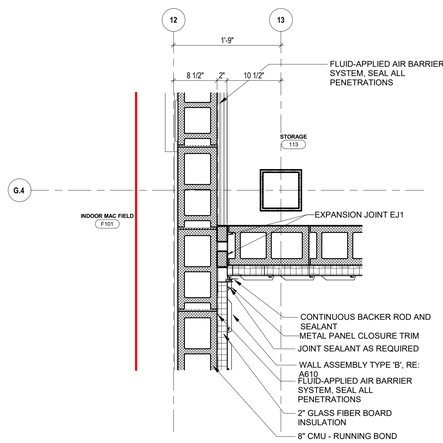
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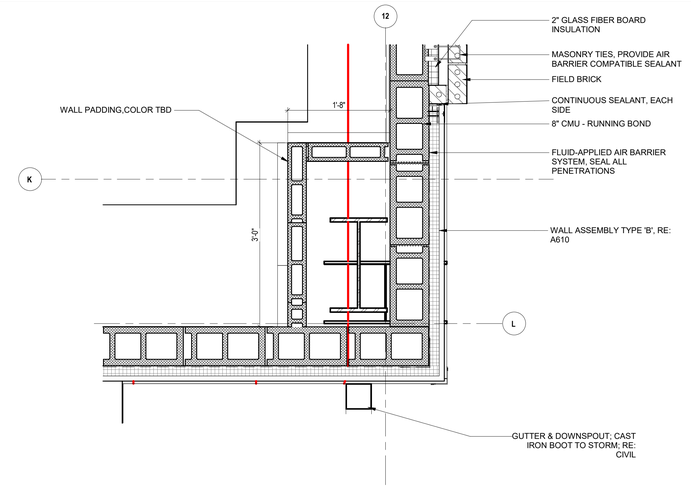
3 EXTERIOR ACM COLUMN DETAIL/ GOLF SIMILATOR CORNER COLUMN WRAP
1" = 1'-0"



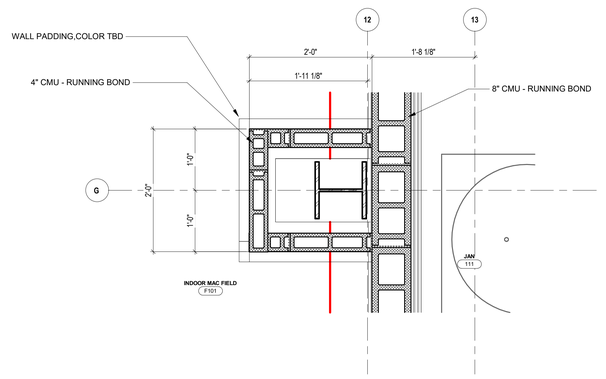
5 PEMB EXPANSION JOINT CORNER DETAIL
1" = 1'-0"



2 EXTERIOR CORNER DETAIL
1" = 1'-0"



4 PEMB CORNER DETAIL
1" = 1'-0"



1 FIELD COLUMN DETAIL WRAP NORTH /SOUTH WALLS
1" = 1'-0"

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ISSUED FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND A. RAMIREZ JR. 14378 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date
1		

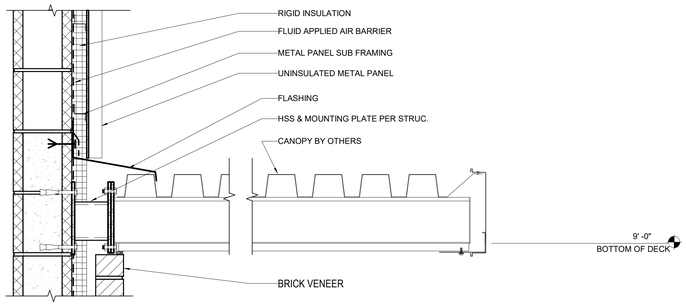
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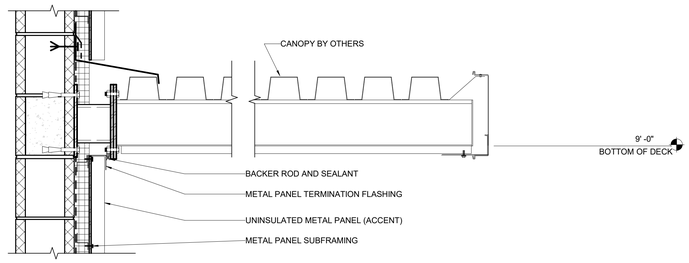
PLAN DETAILS

A702

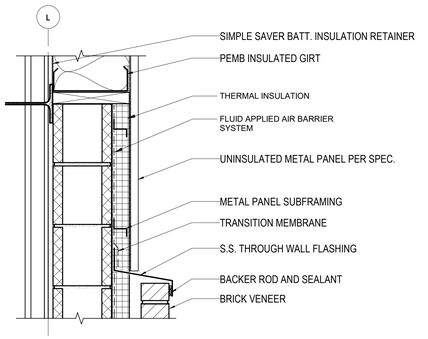
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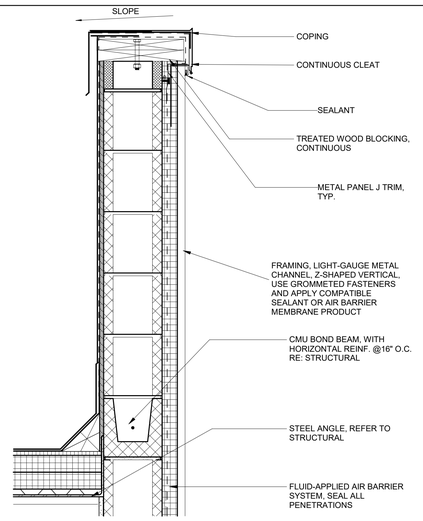
14 CANOPY DETAIL AT BRICK
1 1/2" = 1'-0"



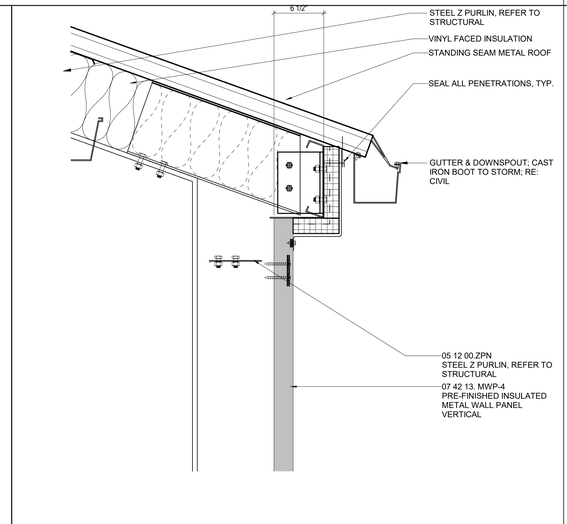
13 CANOPY DETAIL AT ACCENT METAL PANEL
1 1/2" = 1'-0"



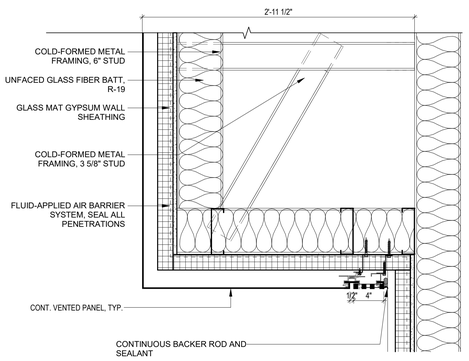
11 BRICK TO METAL TRANSITION DETAIL
1 1/2" = 1'-0"



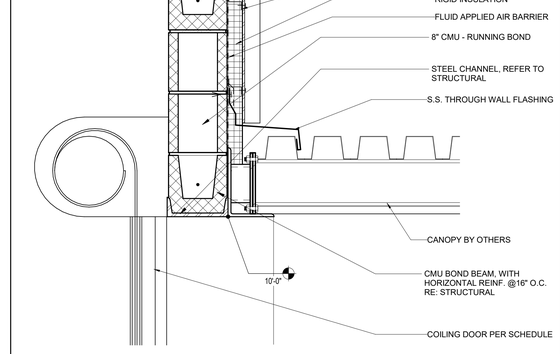
10 WALL SECTION @ HI-LOW ROOF
1 1/2" = 1'-0"



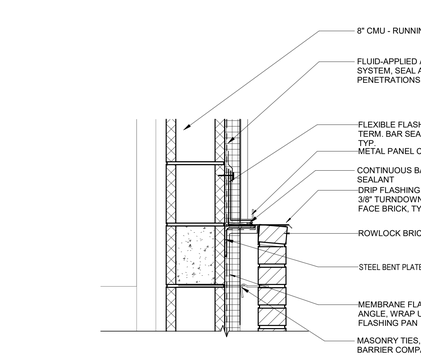
9 INDOOR FIELD GUTTER DETAIL @ MWP-4
1 1/2" = 1'-0"



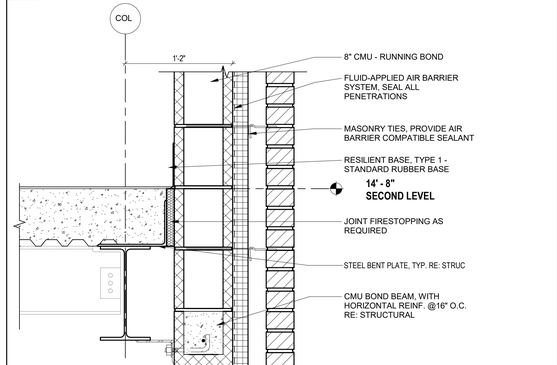
8 SECTION @ EXTERIOR WALL
1 1/2" = 1'-0"



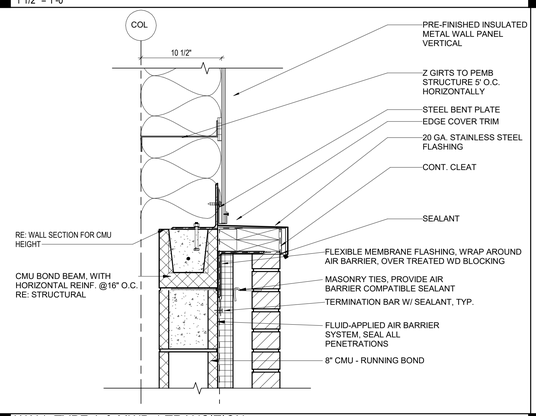
7 HEAD/SILL DETAIL @ INDOOR FIELD OVERHEAD DOOR
1 1/2" = 1'-0"



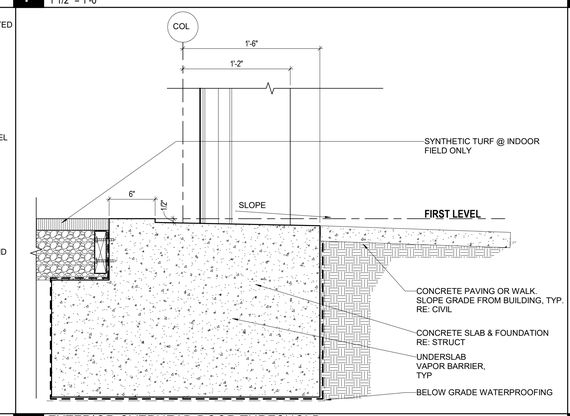
6 SECTION @ WALL TYPE A & B TRANSITION
1 1/2" = 1'-0"



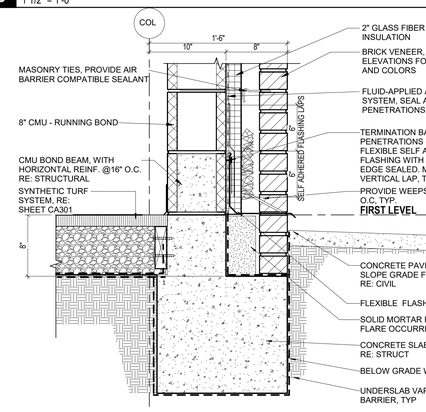
5 BRICK SLAB EDGE CMU
1 1/2" = 1'-0"



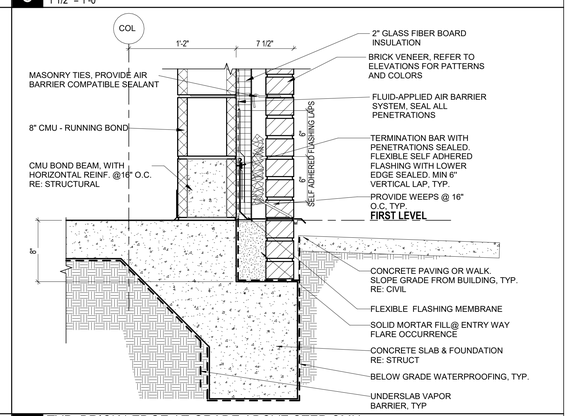
4 WALL TYPE A & MWP-4 TRANSITION
1 1/2" = 1'-0"



3 EXTERIOR OVERHEAD DOOR THRESHOLD
1 1/2" = 1'-0"



2 TYP. BRICK LEDGE @ INDOOR FIELD
1 1/2" = 1'-0"



1 TYP. BRICK LEDGE AT GRADE ABOVE STEP CMU
1 1/2" = 1'-0"

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ISSUED FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT RAYMOND K. RAMIREZ 14374 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date
1		

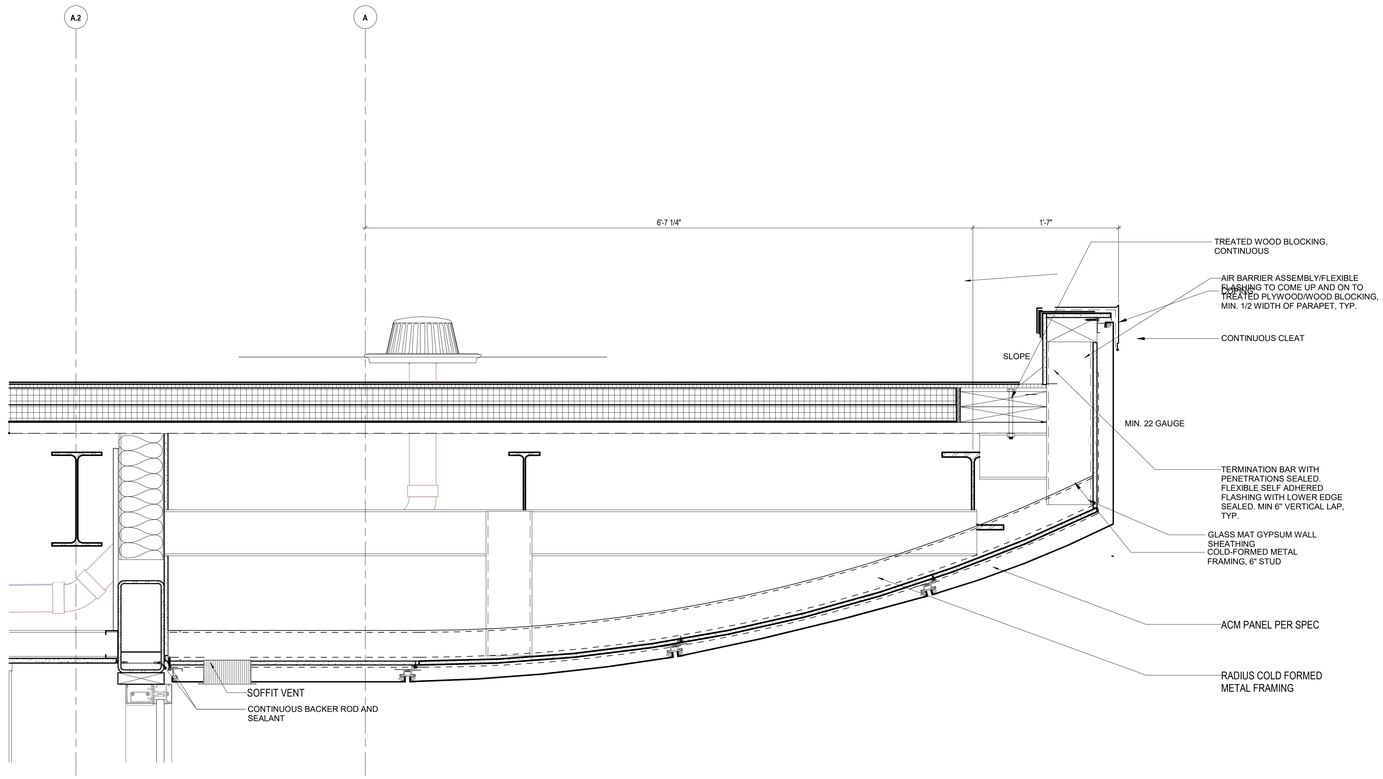
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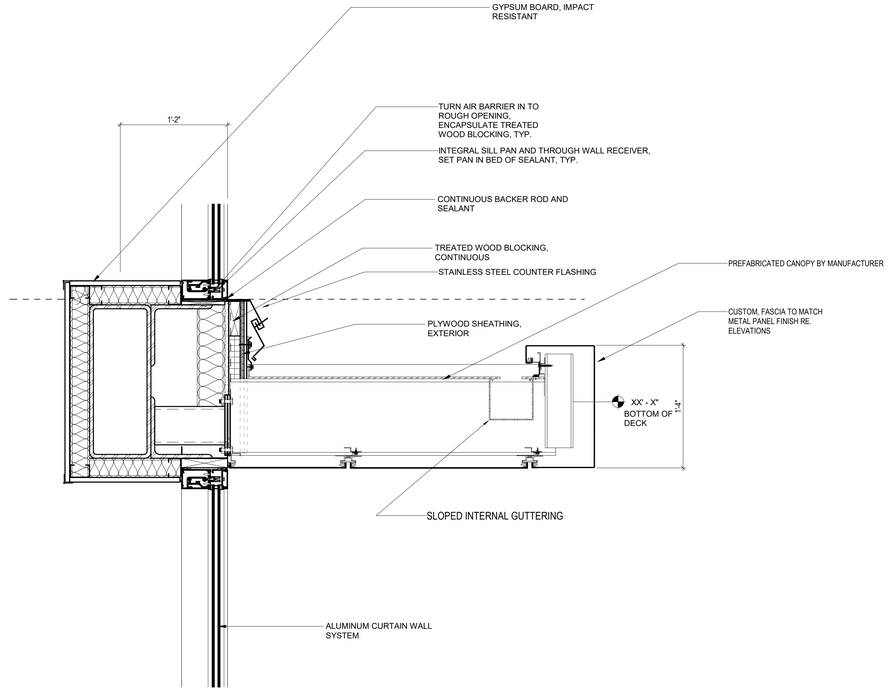
WALL SECTION DETAILS

A711

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1 PARAPET @ WEIGHT ROOM CURTAIN WALL
1 1/2" = 1'-0"



3 SECTION @ VESTIBULE ROOF OVERHANG
1 1/2" = 1'-0"

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND X. RAMIREZ 74374 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date
1		

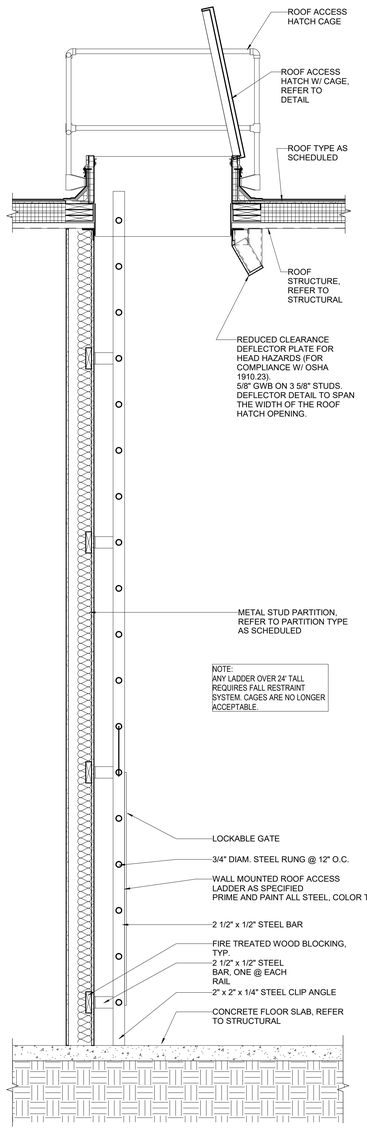
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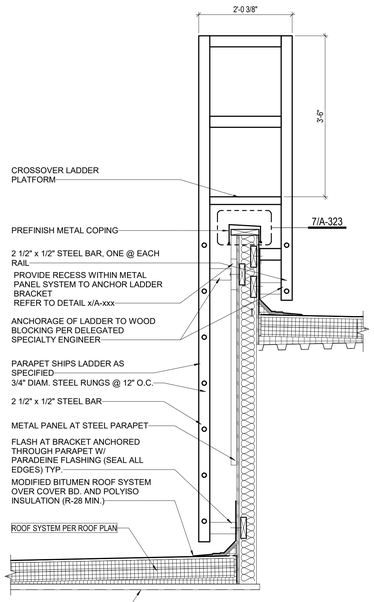
WALL SECTION DETAILS

A712

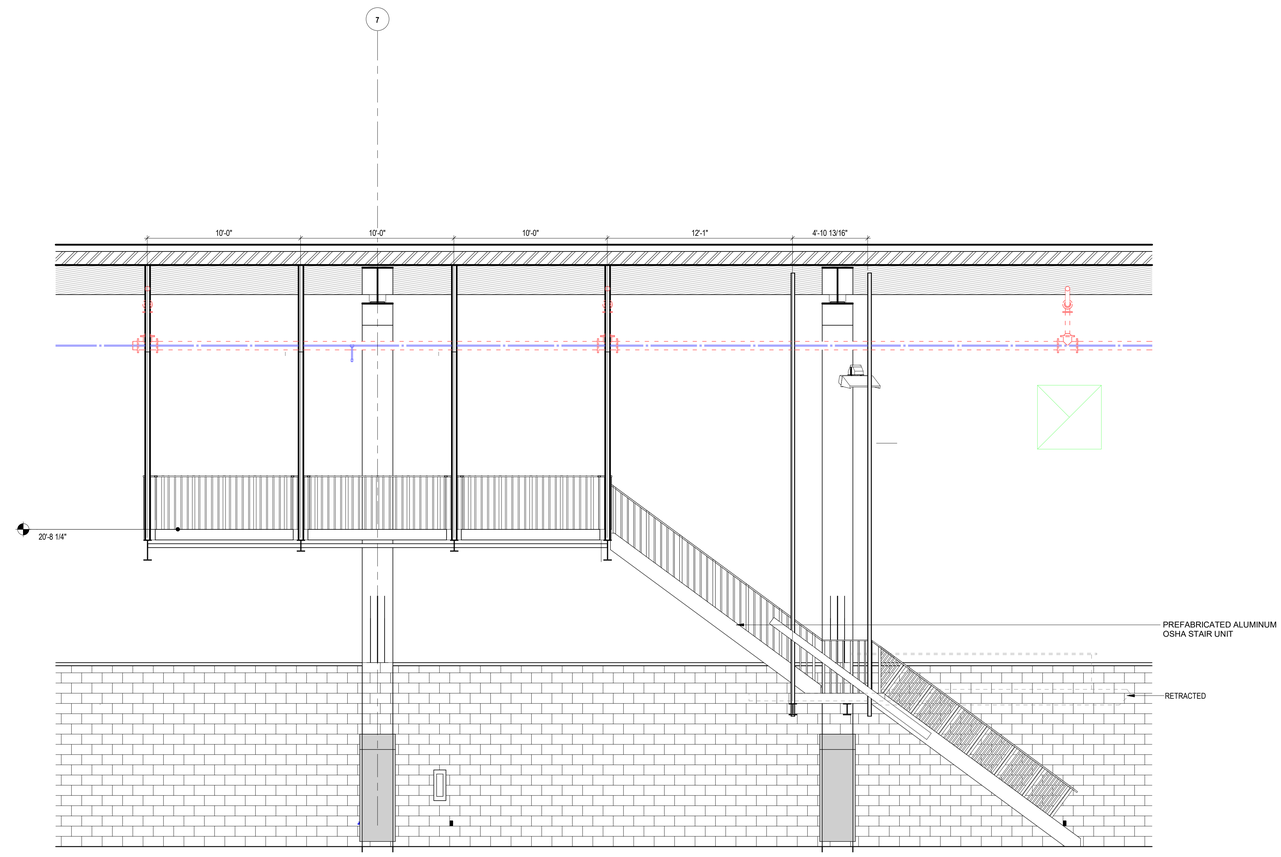
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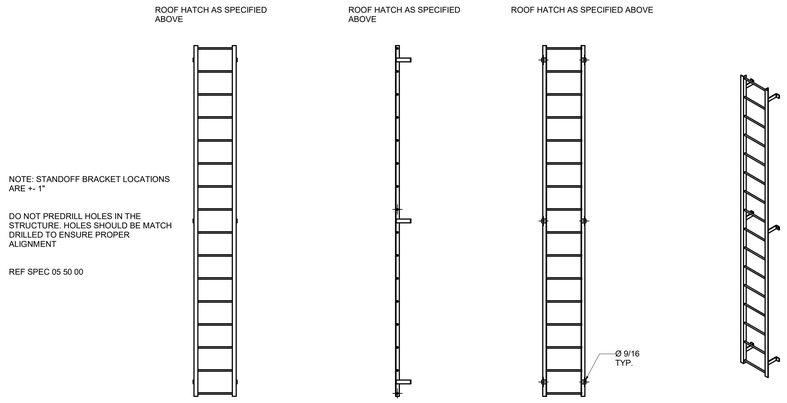
5 ROOF ACCESS LADDER
3/4" = 1'-0"



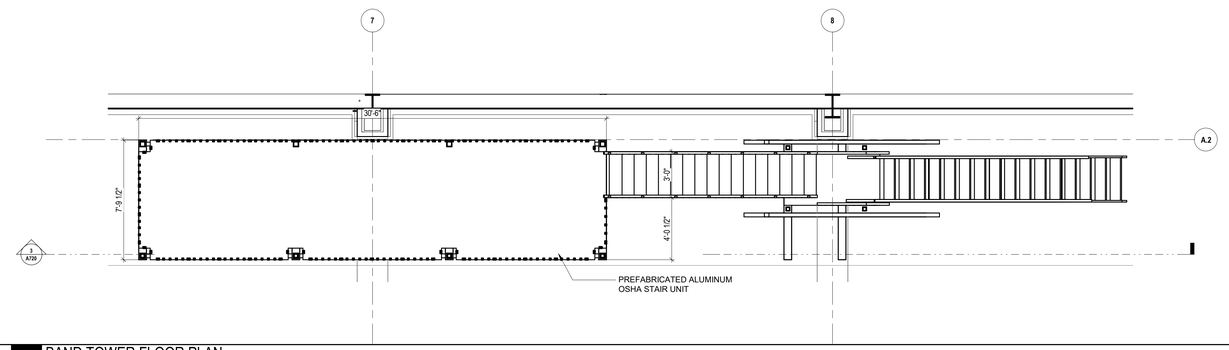
4 PARAPET CROSSOVER LADDER
3/4" = 1'-0"



3 BAND TOWER SECTION
1/4" = 1'-0"



2 STEEL LADDER - ROOF ACCESS/ROOF LADDER
3/8" = 1'-0"



1 BAND TOWER FLOOR PLAN
1/4" = 1'-0"

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT RAYMOND K. RAMIREZ 24374 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

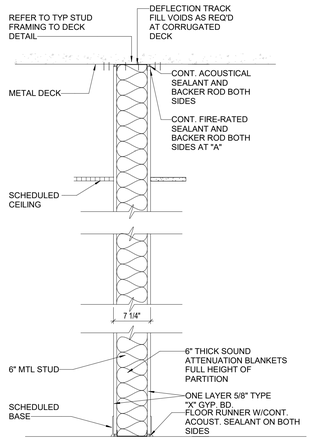
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DETAILS

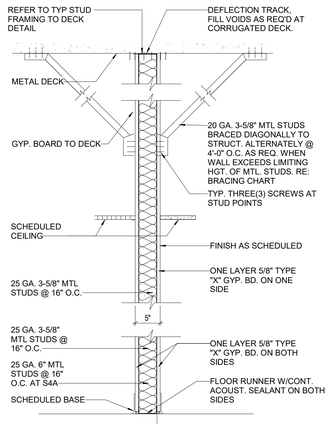
A720

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TYPE	FIRE RAT'G	DESCRIPTION
S6	NONE	6" MTL. STUD TO DECK
S6A	ONE HOUR	6" MTL. STUD TO DECK

7 PARTITION TYPE S6
1" = 1'-0"



TYPE	FIRE RAT'G	DESCRIPTION
S4	ONE HOUR	3-5/8" MTL STUD TO DECK WITH FIRE RATED CEILING
S4A	ONE HOUR	6" MTL STUD TO DECK WITH FIRE-RATED CEILING

6 PARTITION TYPE S4
1" = 1'-0"

STUD TYPE	STUD PROP.	SPACING	MAX. LENGTH	NOTES
SJ 20 (40 KSI) (20 GA.)	1X = 0.541 IN^4	4'-0" O.C.	14'-0"	BRACE AT MID-POINT FOR LENGTHS OVER 14'-0"
	rx = 1.429 IN			
	A = 0.2136 IN^2			
	Sx = 0.273 IN^3			

STUD TYPE	STUD PROP.	SPACING	MAX. LENGTH	NOTES
SJ 20 (40 KSI) (20 GA.)	1X = 1.787 IN^4	4'-0" O.C.	20'-0"	BRACE AT MID-POINT FOR LENGTHS OVER 20'-0"
	rx = 2.253 IN			
	A = 0.2148 IN^2			
	Sx = 0.539 IN^3			

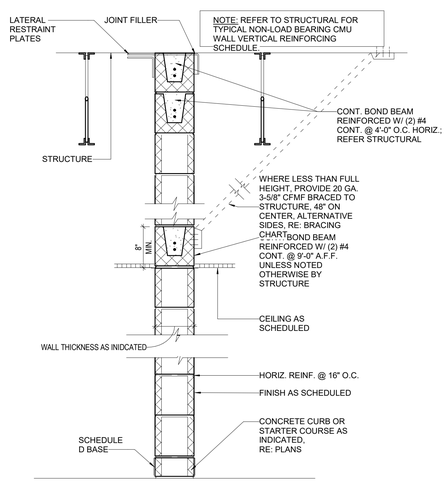
STUD SIZE	LATERAL LOAD	DEFLECTION	25 GAUGE MAXIMUM HEIGHT	20 GAUGE MAXIMUM HEIGHT
1-5/8"	5 PSF	L/360	8'-6"	8'-9"
2-1/2"	5 PSF	L/360	11'-7"	11'-5"
3-5/8"	5 PSF	L/360	13'-7"	14'-5"
4"	5 PSF	L/360	14'-4"	15'-2"
6"	5 PSF	L/360	19'-2"	20'-8"

NOTE: LIMITING HEIGHTS ARE BASED ON THE "SHORTEST" OR WORST CASE HEIGHT LIMITATION OF THE MANUFACTURERS LISTED IN SPECIFICATION 09 21 16 GYPSUM BOARD ASSEMBLIES. NOTIFY ARCHITECT IF LISTED HEIGHT LIMITATIONS ARE NOT AVALIABLE.

STUD SIZE	LATERAL LOAD	DEFLECTION	25 GAUGE MAXIMUM HEIGHT
4"	7.5 PSF	L/360	14'-1"
6"	7.5 PSG	L/360	18'-5"

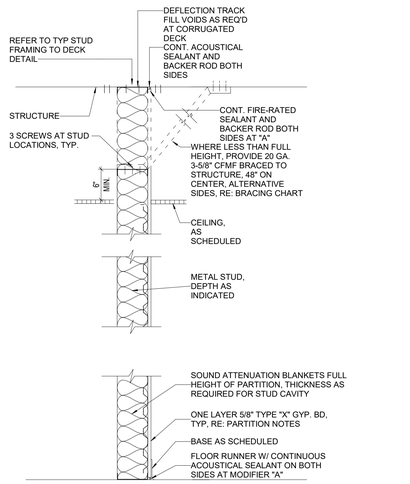
NOTE: LIMITING HEIGHTS ARE BASED ON THE "USG VERTICAL SHAFT WALL". NOTIFY ARCHITECT IF LISTED HEIGHT LIMITATIONS ARE NOT ACHIEVABLE.

5 PARTITION TYPES-BRACING CHART1
12" = 1'-0"



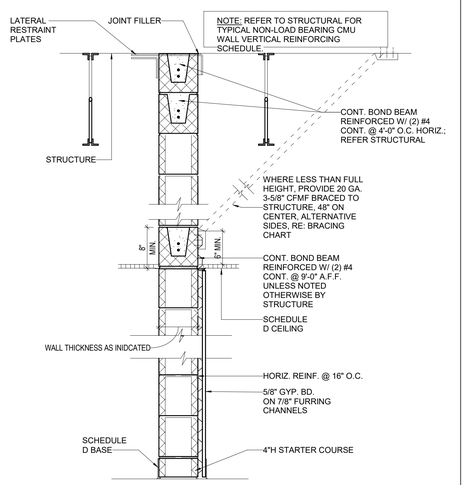
TYPE	CORE THICKNESS	TOTAL THICKNESS	DESCRIPTION	FIRE RATING	UL DESIGN	STC RATING
M4--	3-5/8"	3-5/8"	CMU	0	-	-
M8--	7-5/8"	7-5/8"	CMU	0	-	44
M8-1	7-5/8"	7-5/8"	CMU 1-HOUR RATING	1	-	44

4 PARTITION TYPE M
1" = 1'-0"



TYPE	CORE THICKNESS	TOTAL THICKNESS	DESCRIPTION	FIRE RATING	UL DESIGN	STC RATING
F0--	7/8"	1-1/2"	METAL CHANNEL WITH GYP BD ON ONE FACE	0	-	-
F2--	2-1/2"	3-1/8"	METAL STUD WITH GYP BD ON ONE FACE	0	-	-
F4--	4"	4-5/8"	METAL STUD WITH GYP BD ON ONE FACE	0	-	-
F4A-	4"	4-5/8"	METAL STUD WITH GYP BD ON ONE FACE, ACOUSTIC INSULATION	0	-	-
F6--	6"	6 5/8"	METAL STUD WITH GYP BD ON ONE FACE	0	-	-
F6A-	6"	6 5/8"	METAL STUD WITH GYP BD ON ONE FACE, ACOUSTIC INSULATION	0	-	-

2 PARTITION TYPE F
1" = 1'-0"



TYPE	CORE THICKNESS	TOTAL THICKNESS	DESCRIPTION	FIRE RATING	UL DESIGN	STC RATING
C6--	5-5/8"	7-1/4"	6" CMU W/ 7/8" CFMF AND 5/8" GYP BD	0	-	0
C8--	7-5/8"	9-1/4"	8" W 7/8" CFMF AND 5/8" GYP BD	0	-	0

1 PARTITION TYPE C
1" = 1'-0"

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND X. RAMIREZ 14374 STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

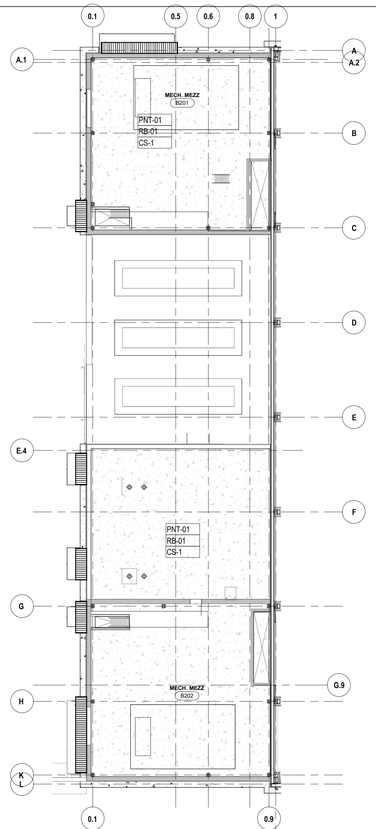
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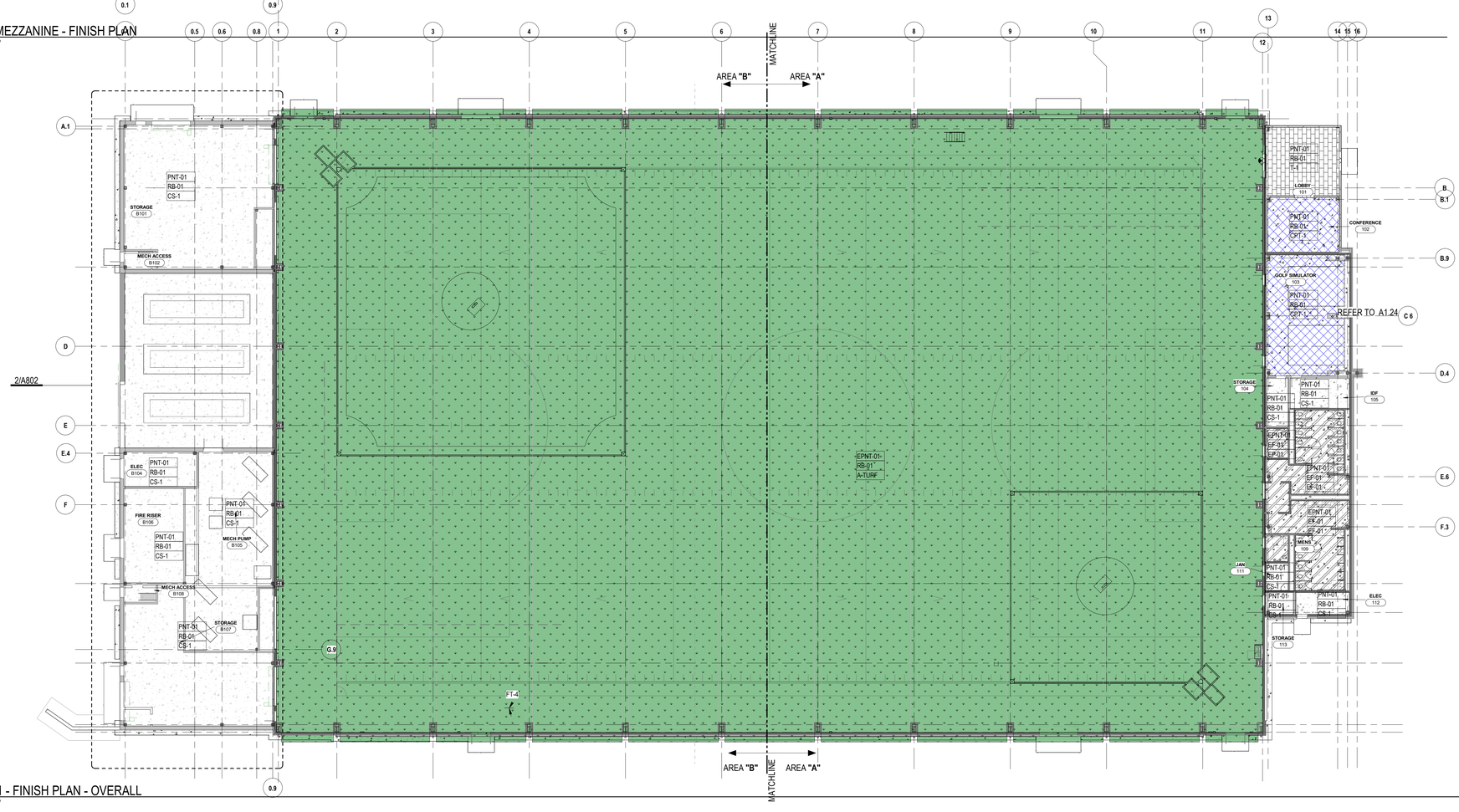
PARTITION TYPES

A801

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2 MECH MEZZANINE - FINISH PLAN
1/16" = 1'-0"



1 LEVEL 1 - FINISH PLAN - OVERALL
1/16" = 1'-0"

GENERAL FINISH LEGEND NOTES

1. ALL FINISH MATERIALS SHALL MEET THE FLAME SPREAD RATINGS PER THE BUILDING CODE.
2. REFER TO INTERIOR ELEVATIONS FOR SPECIFIC MATERIAL LOCATIONS.
3. PAINT ALL EXPOSED STRUCT. MEMBERS, STRUCT. DECK, DUCTWORK, DIFFUSERS, PIPING, CONDUIT, EQUIP. HOUSINGS, LIGHT FIXTURE HOUSINGS, CABLE SUPPORTS, CABLE TRAYS, EQUIP. SUPPORTS, HANGERS, ETC. REFER TO SPEC SECTION 01 60 16 FOR PAINT SELECTIONS & THEIR LOCATIONS
4. PAINT ALL NON-FACTORY FINISHED EXPOSED METAL.
5. REFER TO TYPICAL FLOORING TRANSITION DETAILS FOR FLOORING MATERIAL TRANSITIONS.
6. ALL FLOORING TRANSITIONS AT DOORS SHALL BE LOCATED UNDER THE DOOR IN THE CLOSED POSITION, U.N.O.
7. PROTECT ALL FINISHED FLOORING SURFACES FROM DAMAGE DURING ALL CONSTRUCTION PHASES.
8. PROVIDE AND INSTALL BULLNOSE TRIM AT ALL TRANSITIONS FROM CERAMIC WALL TILE TO OTHER MATERIAL U.N.O. REFER TO FINISH TRANSITION DETAILS ON SHEET A841 OF ADDITIONAL INFO.
9. REFER TO REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
10. ALL ELECTRICAL DEVICE COVERS ARE TO BE WHITE U.N.O.
11. ALL CARPET PATTERNS TO RUN PARALLEL TO CORRIDOR, U.N.O.
12. PAINT ALL HOLLOW METAL DOOR FRAMES TO MATCH ADJACENT WALL COLOR U.N.O.
13. ALL FLOOR TRANSITIONS TO HAPPEN IN MIDDLE OF DOORS
14. ALL INTERIOR FINISH INFORMATION CAN BE REFERENCED IN SPEC SECTION 01 60 16

FINISH SCHEDULE REMARKS

ALL SCHEDULED DIRECTIONS (NORTH, EAST, SOUTH, WEST) ARE PER PLAN DIRECTIONS, NOT TRUE COMPASS DIRECTIONS.

ALL SCHEDULED CEILING HEIGHTS ARE FROM THE PRIMARY FLOOR LEVEL WITHIN THE ROOM AND OR SPACE, AND ARE NOT FROM AN ELEVATED FLOOR LEVEL, AND ARE NOT FROM A RECESSED FLOOR LEVEL.

ALL FINISH MATERIALS SHALL MEET FLAME SPREAD RATINGS PER THE BUILDING CODE.

PROTECT ALL FINISHED FLOORING SURFACES FROM DAMAGE DURING ALL CONSTRUCTION PHASES.

CARPET PATTERNS SHALL RUN PARALLEL TO CORRIDOR U.N.O.

PROVIDE AND INSTALL BULLNOSE TRIM AT ALL TRANSITIONS FROM CERAMIC WALL TILE TO OTHER MATERIALS U.N.O.

PAINT ALL NON-FACTORY FINISHED EXPOSED METAL.

PAINT ALL H.M. PNT-03 DOORS U.N.O.

LAY-IN CEILING TYPES

TYPE A:	STANDARD MINERAL FIBER, ANTIMICROBIAL, 24"X24"
TYPE B:	GLASS FIBER, HIGH NRC, ANTIMICROBIAL, 24"X24"
TYPE C:	VINYL-FACED MINERAL FIBER, ANTIMICROBIAL, 24"X24"
TYPE D:	IMPACT RESISTANT, MINERAL FIBER, ANTIMICROBIAL, 24"X24"
TYPE E:	WOOD FIBER, 24"X24"
TYPE F:	MINERAL FIBER, ANTIMICROBIAL, 24"X24"

1. REFER TO FLOOR PATTERN PLANS
2. REFER TO INTERIOR ELEVATIONS
3. REFER TO CEILING PLANS
4. 48"H FRP WAINSCOT AT MOP SINK, EXTEND 24" EACH SIDE BEYOND SINK EDGES.
5. 48"H STAINLESS STEEL WAINSCOT AT MOP SINK, EXTEND 24" EACH SIDE BEYOND SINK EDGES
6. 3/4" TREATED PLYWOOD WAINSCOT FULL HEIGHT ALL AROUND, PAINT
7. PAINT ALL EXPOSED CEILING-RELATED ITEMS, INCLUDING BUT NOT LIMITED TO, STRUCT. MEMBERS, STRUCT. DECK, DUCTWORK, DIFFUSERS, PIPING, CONDUIT, EQUIP. HOUSINGS, LIGHT FIXTURE HOUSINGS, CABLE SUPPORTS, CABLE TRAYS, EQUIP. SUPPORTS, HANGERS
8. PAINT ALL EXPOSED CEILING-RELATED ITEMS FLAT BLACK, INCLUDING BUT NOT LIMITED TO, STRUCT. MEMBERS, STRUCT. DECK, DUCTWORK, DIFFUSERS, PIPING, CONDUIT, EQUIP. HOUSINGS, LIGHT FIXTURE HOUSINGS, CABLE SUPPORTS, CABLE TRAYS, EQUIP. SUPPORTS, HANGERS
9. PAINT ALL EXPOSED CEILING-RELATED ITEMS WHITE, INCLUDING BUT NOT LIMITED TO, STRUCT. MEMBERS, STRUCT. DECK, DUCTWORK, DIFFUSERS, PIPING, CONDUIT, EQUIP. HOUSINGS, LIGHT FIXTURE HOUSINGS, CABLE SUPPORTS, CABLE TRAYS, EQUIP. SUPPORTS, HANGERS
10. DO NOT PAINT ACOUSTICAL STRUCT. DECK
11. 1-HR FIRE RATED CEILING ASSEMBLY
12. 2-HR FIRE RATED CEILING ASSEMBLY
13. DOUBLE CEILING ASSEMBLY, REFER TO __N/A_____
14. HOLD-DOWN CLIPS AT SUSP. LAY-IN CEILING SYSTEM WITHIN 8'-0" MIN. ANY DIRECTION FROM AN EXTERIOR DOOR LOCATION
15. REFER TO SHEET A861 & A862 FOR LOCATIONS AND TYPES OF VINYL WALL GRAPHICS. REFER TO GRAPHICS CONSULTANT DRAWINGS FOR ADDITIONAL INFORMATION.

FLOOR FINISH LEGEND

CPT-1, CARPET
CPT-1
RE: FINISH SCHEDULE IN SPEC SECTION 01 60 16, INTERIOR DESIGN SELECTIONS

T-1, CERAMIC TILE
T-1
RE: FINISH SCHEDULE IN SPEC SECTION 01 60 16, INTERIOR DESIGN SELECTIONS

CS-1, SEALED CONCRETE, TYPE-1
SL1
RE: FINISH SCHEDULE IN SPEC SECTION 01 60 16, INTERIOR DESIGN SELECTIONS

EF-1 , EPOXY, TYPE-1
09 67 00.FFB
RE: FINISH SCHEDULE IN SPEC SECTION 01 60 16, INTERIOR DESIGN SELECTIONS

ARTIFICIAL TURF (A-TURF)

XX
XX
XX
WALL FINISH
WALL BASE FINISH
FLOOR FINISH

XXXX
ACCENT WALL FINISH

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KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND K. REMMERT 14374 STATE OF TEXAS

CLIENT
TOMBALL ISD

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date
1		

CHECKED BY: Checker

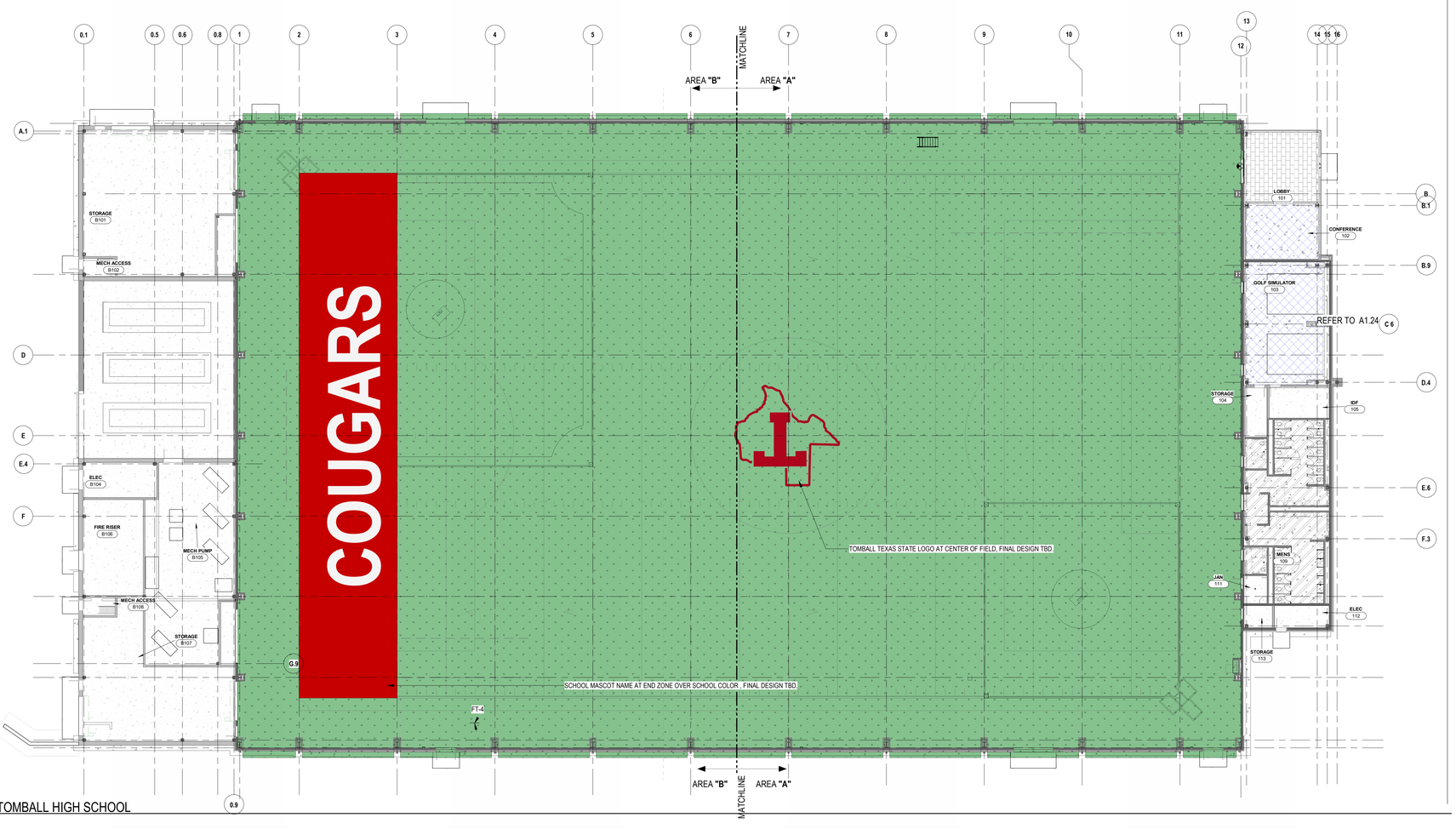
DRAWN BY: Author

LEVEL 1 FINISH FLOOR PLAN - OVERALL

A802

Plot Stamp:
10/30/2026 2:56:50 PM

A802.1 - TURF LAYOUT-TOMBALL HIGH SCHOOL



1 TURF LAYOUT TOMBALL HIGH SCHOOL
1/16" = 1'-0"

Plot Stamp:
10/30/2026 3:02:02 PM

Tomball ISD-Multi-Program Activity Center- Tomball High School

1118 Baker Dr, Tomball, Tx 77375

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KEY PLAN

TRUE NORTH



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TOMBALL ISD	
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10/30/2026	25046901

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No.	Description	Date
1		

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TURF LAYOUT-TOMBALL HIGH SCHOOL

A802.1

DOOR SCHEDULE NORTH/SOUTH BUILDINGS

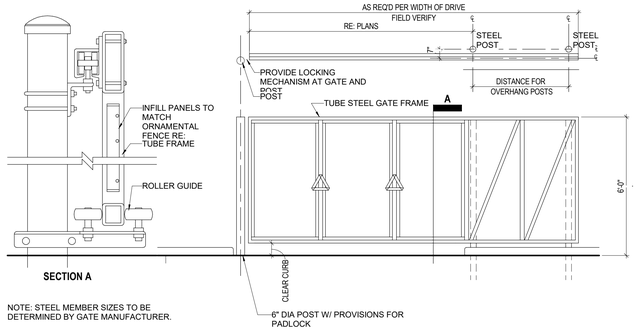
ID	ROOM	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR TYPE	DOOR PANEL MATERIAL	FRAME MATERIAL	FRAME TYPE	HW SET	GENERAL FIRE RATING/PANIC HRDWR	INSULATION REQUIRED	SCHEDULE COMENTS
LEVEL 1											
A103a	INDOOR MAC FIELD	3'-0"	7'-0"	NV2	HM-PNT-3	HM-PNT-3	001	501			
A103b	INDOOR MAC FIELD	3'-0"	7'-0"	NV2	HM-PNT-3	HM-PNT-3	001	501			
A104	STORAGE	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	203			
A105	IDF	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	201			
A106	INDOOR MAC FIELD	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	301G			
A107	WOMENS	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	801LG			
A109	MENS	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	801LG			
A110	INDOOR MAC FIELD	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	301G			
A111	INDOOR MAC FIELD	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	203			
A112	ELEC	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	C715		X	CR
A113	INDOOR MAC FIELD	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	203			
B101.a	STORAGE	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	201			
B101.b	STORAGE	12'-0"	10'-0"	OHCS	AL	AL	123	001-INT			
B101.c	STORAGE	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	C715		X	CR
B101D	STORAGE	12'-0"	10'-0"	OHCS	AL	AL	123	001-EXT	001M-EXT	X	
B102	MECH ACCESS	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	C205		X	CR
B104	ELEC	6'-0"	7'-4"	F	HM-PNT-3	HM-PNT-3	001	C714M		X	CR
B105	MECH PUMP	6'-0"	7'-4"	F	HM-PNT-3	HM-PNT-3	001	D214		X	
B106a	FIRE RISER	6'-0"	7'-4"	F	HM-PNT-3	HM-PNT-3	001	C214		X	CR
B107a	STORAGE	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	201			
B107b	INDOOR MAC FIELD	12'-0"	10'-0"	OHCS	AL	AL	123	001-INT			
B107c	STORAGE	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	C205		X	CR
B107d	STORAGE	12'-0"	10'-0"	OHCS	AL	AL	123	001-EXT	001M-EXT	X	
B108	MECH ACCESS	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	C205I		X	CR
TOP OF PARAPET											
B202	MECH. MEZZ	3'-0"	7'-0"	F	HM-PNT-3	HM-PNT-3	001	201-MEZ		X	
Grand total: 25											

DOOR SCHEDULE FIELD AREA

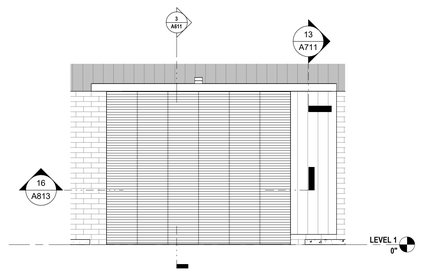
ID	ROOM	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR TYPE	DOOR MATERIAL	FRAME MATERIAL	FRAME TYPE	HW SET	GENERAL FIRE RATING/PANIC HRDWR	INSULATION REQUIRED	SCHEDULE COMENTS
LEVEL 1											
F101.2	INDOOR MAC FIELD	12'-0"	10'-0"	OHCS	AL	AL	123	001-EXT	001M-EXT	X	
F101.3	INDOOR MAC FIELD	12'-0"	10'-0"	OHCS	AL	AL	123	001-EXT	001M-EXT	X	
F101.4	INDOOR MAC FIELD	6'-0"	7'-4"		HM-PNT-3		001	C714M		X	CR
F101.5	INDOOR MAC FIELD	6'-0"	7'-4"		HM-PNT-3		001	C714M		X	CR
F101.6	INDOOR MAC FIELD	12'-0"	10'-0"	OHCS	AL	AL	123	001-EXT	001M-EXT	X	
F101.7	INDOOR MAC FIELD	6'-0"	7'-4"		HM-PNT-3		001	C714M		X	CR
F101.8	INDOOR MAC FIELD	6'-0"	7'-4"		HM-PNT-3		001	C714M		X	CR
Grand total: 7											

LOUVER SCHEDULE

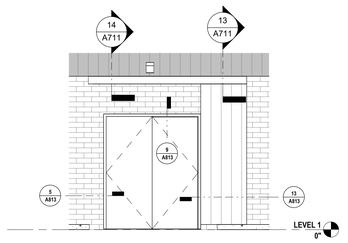
Mark	Size	Comments
1	120"x120"	EXTERIOR
2	120"x120"	EXTERIOR
3	50"x50"	EXTERIOR
4	50"x50"	EXTERIOR
5	48"x48"	EXTERIOR
6	50"x50"	EXTERIOR
7	72"x52"	EXTERIOR
8	72"x52"	EXTERIOR
9	197"x98"	INTERIOR (IMPACT RATED)
10	197"x95"	INTERIOR (IMPACT RATED)



3 ROLLING GATE
1" = 1'-0"



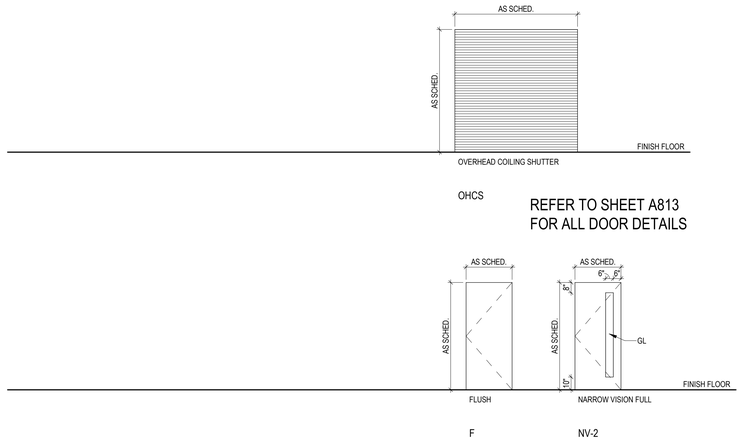
2 OVERHEAD DOOR DETAIL REFERENCE ELEVATION
1/4" = 1'-0"



1 DOOR & CANOPY DETAIL REFERENCE ELEVATION
1/4" = 1'-0"



FRAME TYPES
NOT TO SCALE



DOOR PANEL TYPES
NOT TO SCALE

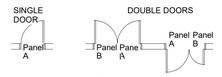
MATERIALS

AL - ALUMINUM	**VL -** VINYL
HM - HOLLOW METAL	**PL -** PLASTIC LAMINATE
HG - HOLLOW METAL GALV	**WS -** WOOD, SOLID CORE
HS - HM 24 GA. STEEL	**WH -** WOOD, HOLLOW CORE
SS - STAINLESS STEEL	**PTD# -** PAINTED TYPE

REMARKS LEGEND

1. WITH EGRESS DEVICE
2. MAGNETTIC DOOR HOLDER
3. FIRE DOOR
4. ELEVATOR MACHINE ROOM DOORS
5. ELECTRICAL ROOM DOORS
6. KICK PLATE ON BOTH SIDES
7. ACCESS PANEL DOOR
8. WITH CLOSER

DOOR PANEL LEGEND



PANEL "A" WILL ALWAYS BE FROM RIGHT HINGE SWINGING OUTWARD, & THE LARGEST PANEL ON AN UNEVEN DESIGN.
ON SLIDING/AUTOMATIC DOORS PANEL "A" WILL ALWAYS BE THE SLIDER, & PANEL "B" WILL ALWAYS BE THE FIX PANEL.

FRAME CONFIGURATION

LEGEND:

TRANSOM:
0 - No Transom
1 - Has Transom

SIDELITE:
0 - No Sidelite
1 - 1 Sidelite
2 - 2 Sidelites

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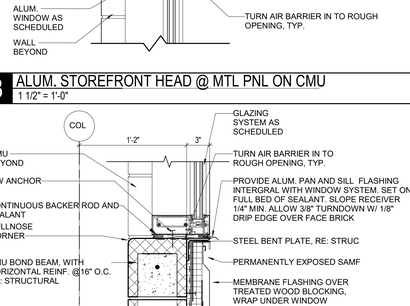
No.	Description	Date
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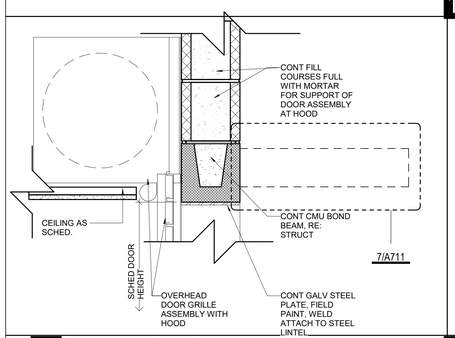
DOORS SCHEDULES & FRAME TYPES

A812

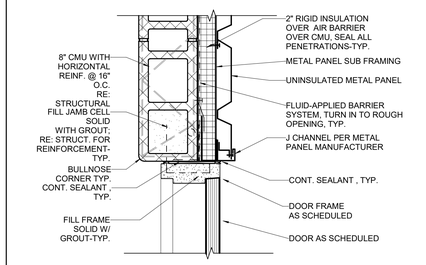
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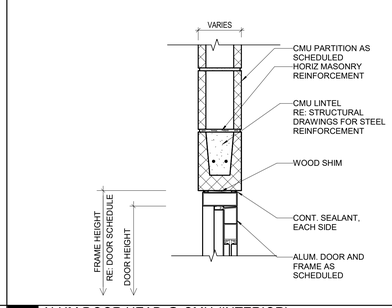
12 HM DOOR HEAD @ METAL PANEL ON CMU
1 1/2" = 1'-0"



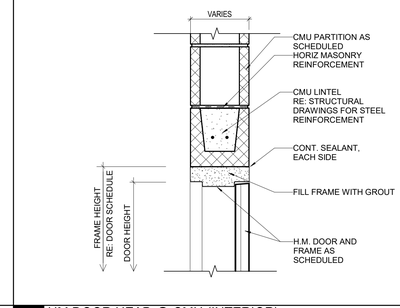
15 OVERHEAD ROLLING HEAD
1 1/2" = 1'-0"



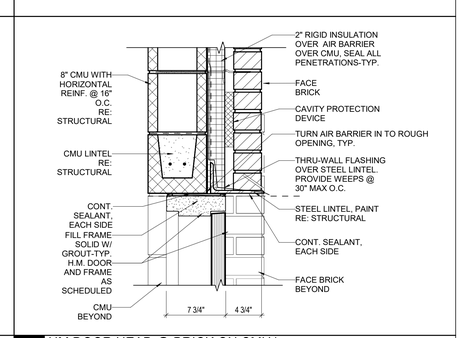
13 HM DOOR JAMB @ METAL PANEL ON CMU
1 1/2" = 1'-0"



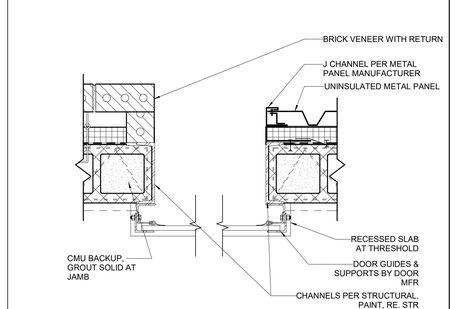
11 ALUM DOOR HEAD @ CMU (INTERIOR)
1 1/2" = 1'-0"



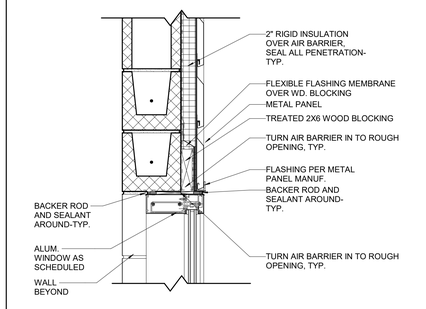
10 HM DOOR HEAD @ CMU (INTERIOR)
1 1/2" = 1'-0"



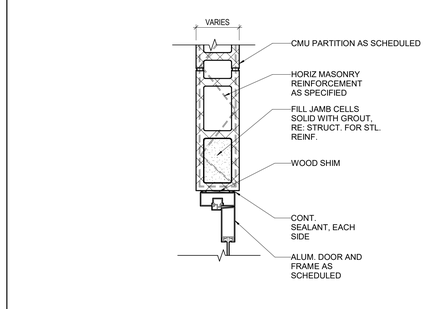
9 HM DOOR HEAD @ BRICK ON CMU1
1 1/2" = 1'-0"



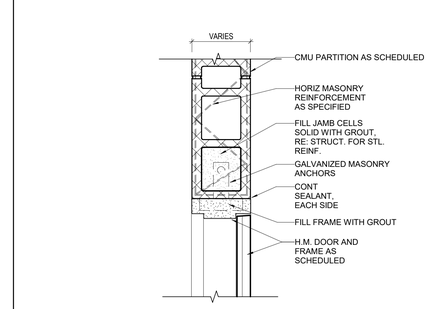
16 OH DOOR JAMB @ CMU
1 1/2" = 1'-0"



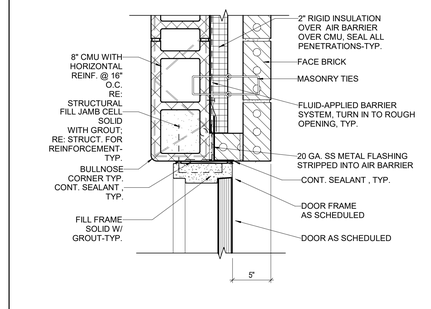
8 ALUM. STOREFRONT HEAD @ MTL PNL ON CMU
1 1/2" = 1'-0"



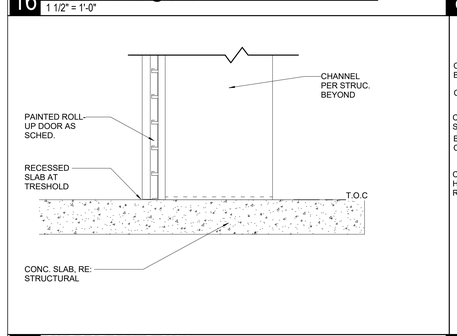
7 ALUM DOOR JAMB @ CMU (INTERIOR)
1 1/2" = 1'-0"



6 HM DOOR JAMB @ CMU (INTERIOR)
1 1/2" = 1'-0"

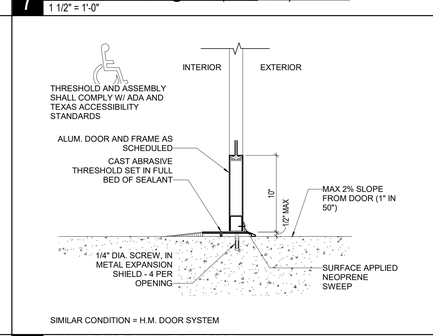


5 HM DOOR JAMB @ BRICK ON CMU1
1 1/2" = 1'-0"



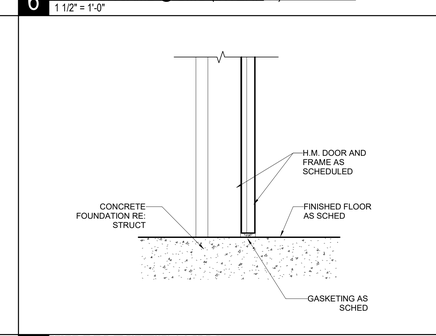
17 OH DOOR SILL @ CMU
1 1/2" = 1'-0"

4 ALUM. SILL @ METAL PANEL ON CMU
1 1/2" = 1'-0"

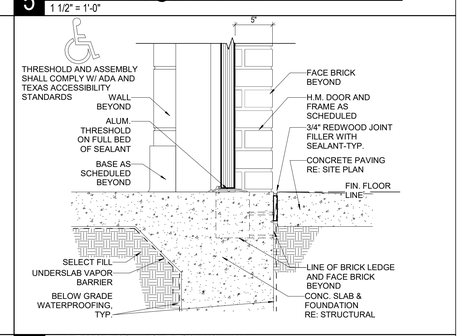


SIMILAR CONDITION = H.M. DOOR SYSTEM

3 ALUM DOOR SILL (EXTERIOR)
1 1/2" = 1'-0"



2 HM DOOR SILL (INTERIOR)
1 1/2" = 1'-0"



1 HM DOOR SILL @ BRICK ON CMU
1 1/2" = 1'-0"

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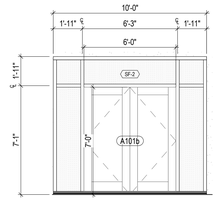
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DOOR & GLAZING DETAILS

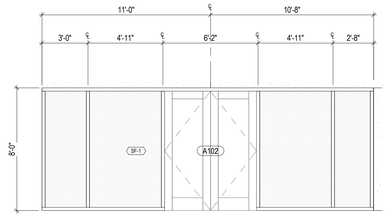
A813

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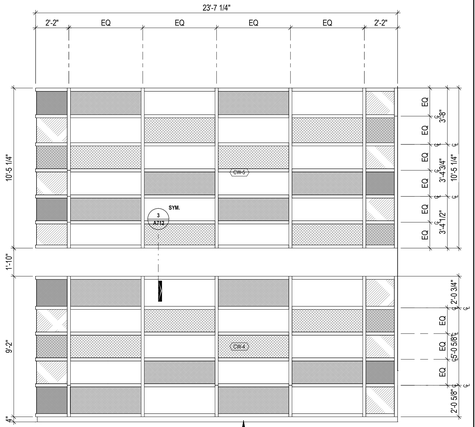
A816 - CURTAINWALL/STOREFRONT ELEVATIONS



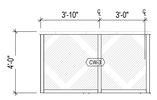
5 STOREFRONT 2
1/4" = 1'-0"



4 STOREFRONT 1
1/4" = 1'-0"



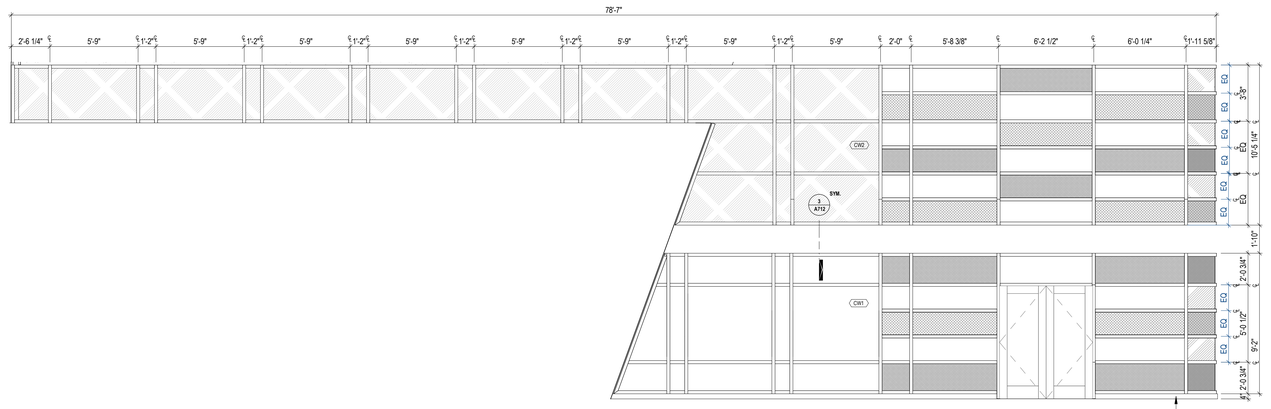
2 CURTAIN WALL ELEVATION CW-4CW-5
1/4" = 1'-0"



3 CURTAIN WALL ELEVATION CW-3
1/4" = 1'-0"

GL1 - CLEAR
GL2 - SPANDREL
GL3 - COLOR 1
GL4 - COLOR 2
GL5 - COLOR 1 SPANDREL
GL6 - COLOR 2 SPANDREL
GL7 - CLEAR

CURTAIN WALL GLAZING TYPES
N.T.S



1 CURTAIN WALL ELEVATION CW1-CW2
1/4" = 1'-0"

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RAYMOND K. RAMIREZ
#37A
STATE OF TEXAS

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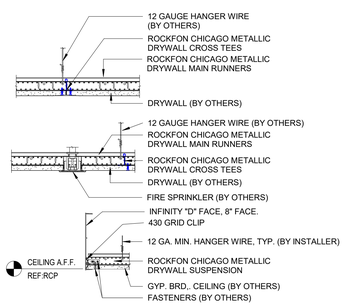
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CURTAINWALL/STOREFRONT ELEVATONS

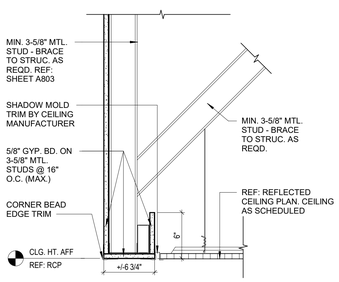
A816

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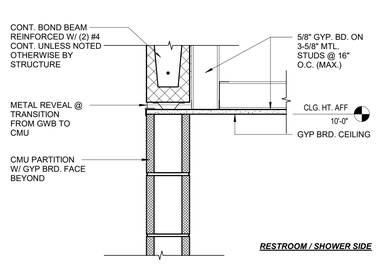
A819 - CEILING DETAILS



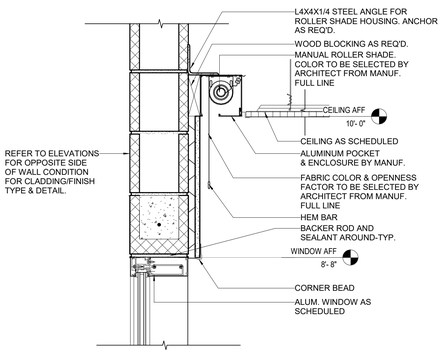
6 SUSPENDED CEILLING DETAIL
1 1/2" = 1'-0"



3 FURR DOWN @ TYPICAL ACOUSTICAL CEILING PANELS
1 1/2" = 1'-0"



2 GYP CEILING @ CMU HEADER - LOCKER/RESTROOM
1 1/2" = 1'-0"



1 ROLLER SHADE WITH ACT AT WINDOWS - TYPICAL DETAIL
1 1/2" = 1'-0"

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No.	Description	Date
1		

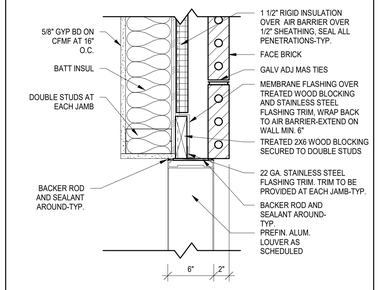
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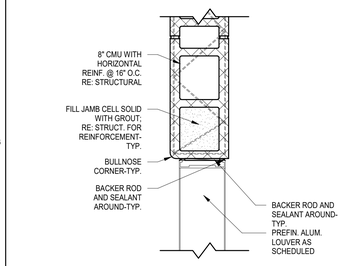
CEILING DETAILS

A819

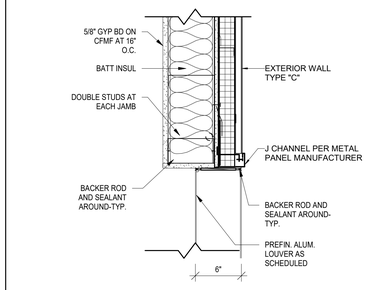
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10/30/2026 2:56:58 PM



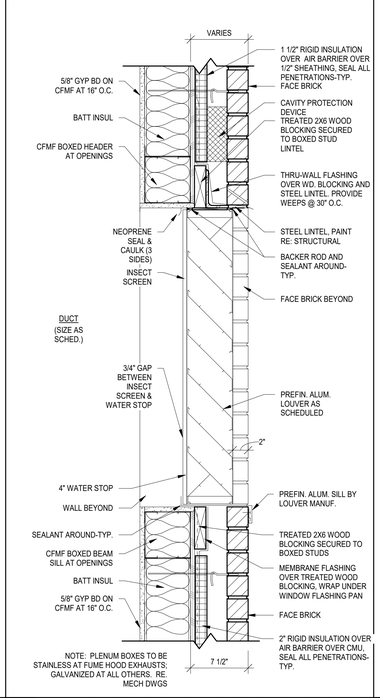
6 ALUM LOUVER JAMB @ BRICK ON CFMF
1 1/2" = 1'-0"



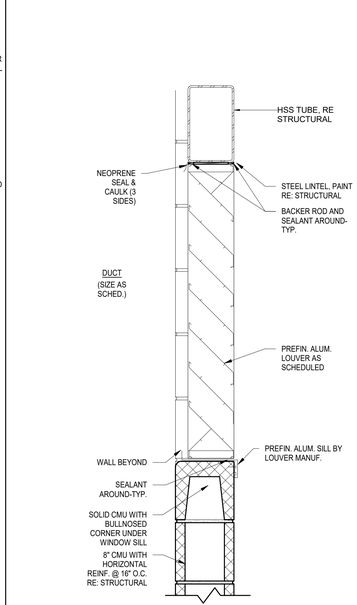
4 ALUM LOUVER JAMB @ CMU
1 1/2" = 1'-0"



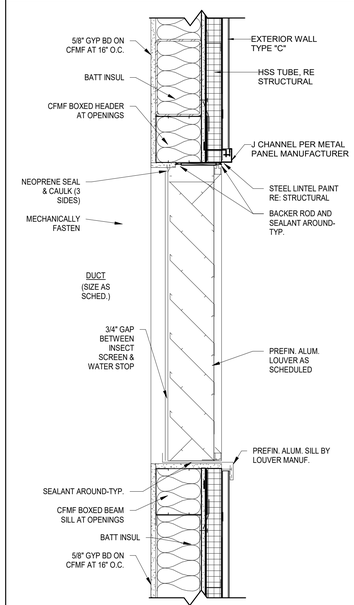
3 ALUM LOUVER JAMB @ CFMF
1 1/2" = 1'-0"



5 ALUM LOUVER HEAD / SILL @ BRICK ON CFMF
1 1/2" = 1'-0"



2 ALUM LOUVER HEAD / SILL @ CMU
1 1/2" = 1'-0"



1 ALUM LOUVER HEAD / SILL @ CFMF
1 1/2" = 1'-0"

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Tomball ISD-Multi-Program Activity Center-Tomball High School

1118 Baker Dr, Tomball, Tx 77375

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KEY PLAN

TRUE NORTH



CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: Checker

DRAWN BY: Author

LOUVER DETAILS

A818

Plot Stamp:
10/30/2026 2:56:57 PM

INTERIOR ROOM FINISH SCHEDULE

ROOM DATA		FINISHES						
NUMBER	NAME	FLOOR FINISH	BASE FINISH	NORTH	EAST	SOUTH	WEST	REMARKS
LEVEL 1								
101	LOBBY	T-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
102	CONFERENCE	CPT- 01	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
103	GOLF SIMULATOR	CPT- 01	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	PAINT TRANSITION TO BLACK AT 10' A.F.F. EXPOSED STRUCTURE ABOVE TO BE PAINTED BLACK
104	STORAGE	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
105	IDF	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
106	FAMILY A	EF-1	EF-01	EPNT-01	PNT-01	PNT-01	PNT-01	
107	WOMENS	EF-01	EF-01	EPNT-01	EPNT-01	EPNT-01	EPNT-01	
108	VEST	EF-01	EF-01	EPNT-01	EPNT-01	EPNT-01	EPNT-01	
109	MENS	CPT- 01	RB-1	EPNT-01	EPNT-01	EPNT-01	EPNT-01	
110	FAMILY B	EF-01	EF-01	EPNT-01	EPNT-01	EPNT-01	EPNT-01	
111	JAN	CS-1	RB-1	EPNT-01	EPNT-01	EPNT-01	EPNT-01	
112	ELEC	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
113	STORAGE	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
B101	STORAGE	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
B102	MECH ACCESS	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
B104	ELEC	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
B105	MECH PUMP	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
B106	FIRE RISER	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
B107	STORAGE	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
B108	MECH ACCESS	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
F101	INDOOR MAC FIELD	ARTIFICIAL GRASS	RB-01	GP-01, EPNT-01	GP-01, EPNT-01	GP-01, EPNT-01	GP-01, EPNT-01	
TOP OF PARAPET								
B201	MECH. MEZZ	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	
B202	MECH. MEZZ	CS-1	RB-1	PNT-01	PNT-01	PNT-01	PNT-01	

GENERAL FINISH LEGEND NOTES

1. ALL FINISH MATERIALS SHALL MEET THE FLAME SPREAD RATINGS PER THE BUILDING CODE.
2. REFER TO INTERIOR ELEVATIONS FOR SPECIFIC MATERIAL LOCATIONS.
3. PAINT ALL EXPOSED STRUCT. MEMBERS, STRUCT. DECK, DUCTWORK, DIFFUSERS, PIPING, CONDUIT, EQUIP. HOUSINGS, LIGHT FIXTURE HOUSINGS, CABLE SUPPORTS, CABLE TRAYS, EQUIP. SUPPORTS, HANGERS, ETC. REFER TO SPEC SECTION 01 60 16 FOR PAINT SELECTIONS & THEIR LOCATIONS
4. PAINT ALL NON-FACTORY FINISHED EXPOSED METAL.
5. REFER TO TYPICAL FLOORING TRANSITION DETAILS FOR FLOORING MATERIAL TRANSITIONS.
6. ALL FLOORING TRANSITIONS AT DOORS SHALL BE LOCATED UNDER THE DOOR IN THE CLOSED POSITION. U.N.O.
7. PROTECT ALL FINISHED FLOORING SURFACES FROM DAMAGE DURING ALL CONSTRUCTION PHASES.
8. PROVIDE AND INSTALL BULLNOSE TRIM AT ALL TRANSITIONS FROM CERAMIC WALL TILE TO OTHER MATERIAL U.N.O. REFER TO FINISH TRANSITION DETAILS ON SHEET A841 OF ADDITIONAL INFO.
9. REFER TO REFLECTED CEILING PLANS FOR CEILING HEIGHTS.
10. ALL ELECTRICAL DEVICE COVERS ARE TO BE WHITE U.N.O.
11. ALL CARPET PATTERNS TO RUN PARALLEL TO CORRIDOR, U.N.O.
12. PAINT ALL HOLLOW METAL DOOR FRAMES TO MATCH ADJACENT WALL COLOR U.N.O.
13. ALL FLOOR TRANSITIONS TO HAPPEN IN MIDDLE OF DOORS
14. ALL INTERIOR FINISH INFORMATION CAN BE REFERENCED IN SPEC SECTION 01 60 16

FLOOR FINISH LEGEND

CPT-1, CARPET
CPT-1
RE: FINISH SCHEDULE IN SPEC SECTION 01 60 16, INTERIOR DESIGN SELECTIONS

T-1, CERAMIC TILE
T-1
RE: FINISH SCHEDULE IN SPEC SECTION 01 60 16, INTERIOR DESIGN SELECTIONS

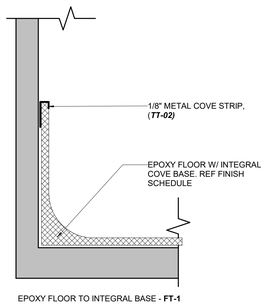
CS-1, SEALED CONCRETE, TYPE-1
SL1
RE: FINISH SCHEDULE IN SPEC SECTION 01 60 16, INTERIOR DESIGN SELECTIONS

EF-1 , EPOXY, TYPE-1
09 67 00.FFB
RE: FINISH SCHEDULE IN SPEC SECTION 01 60 16, INTERIOR DESIGN SELECTIONS

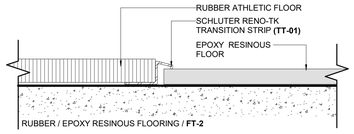
ARTIFICIAL TURF (A-TURF)

XX
XX
XX
WALL FINISH
WALL BASE FINISH
FLOOR FINISH

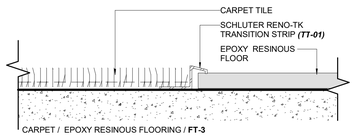
XXXX
ACCENT WALL FINISH



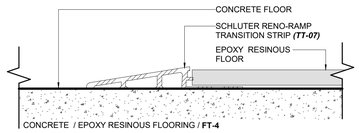
EPOXY FLOOR TO INTEGRAL BASE - **FT-1**



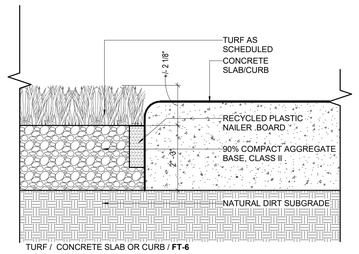
RUBBER / EPOXY RESINOUS FLOORING / **FT-2**



CARPET / EPOXY RESINOUS FLOORING / **FT-3**



CONCRETE / EPOXY RESINOUS FLOORING / **FT-4**



TURF / CONCRETE SLAB OR CURB / **FT-6**

1 INTERIOR FLOOR TRANSITIONS
12" = 1'-0"

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B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT EDMUND X. RAMIREZ 14374 STATE OF TEXAS

CLIENT: TOMBALL ISD
DATE: 10/30/2026
PROJECT NUMBER: 25046901

DRAWING HISTORY

No.	Description	Date
1		

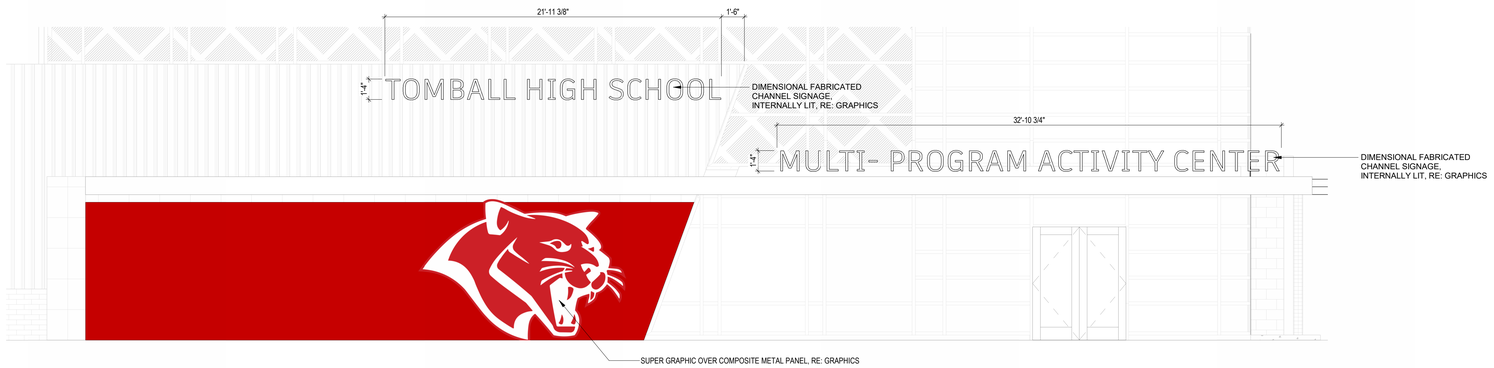
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DRAWN BY: Author

ROOM FINISH SCHEDULE & TRANSITION DETAILS

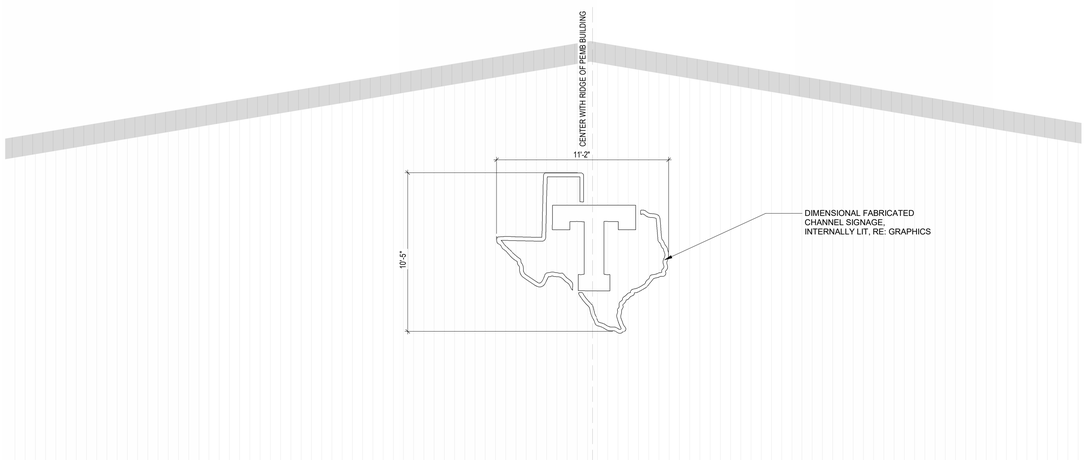
A841

Plot Stamp:
10/30/2026 2:56:58 PM

A863 : EXTERIOR SIGNAGE



2 EXTERIOR PANEL LAYOUT - PLAN EAST-TOMBAL HIGH SCHOOL EXTERIOR SIGNAGE
1/4" = 1'-0"



1 TOMBALL ISD LOGO- TYP FOR TOMBALL HIGH SCHOLL,MEMORIAL AND WEST
1/4" = 1'-0"

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Tomball ISD-Multi-Program Activity Center- Tomball High School

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B A

KEY PLAN

TRUE NORTH

REGISTERED ARCHITECT
EDMUND X. RAMIREZ JR.
14374
STATE OF TEXAS

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: Checker

DRAWN BY: Author

EXTERIOR SIGNAGE

A863

Plot Stamp:
10/30/2026 3:02:04 PM

MECHANICAL PIPING LEGEND

DESCRIPTION	ABBV.
PUMPED CONDENSATE RETURN	PCR
HOT WATER SUPPLY	HWS
HOT WATER RETURN	HWR
CONDENSER WATER SUPPLY	CWS
CONDENSER WATER RETURN	CWR
CHILLED WATER SUPPLY	CHS
CHILLED WATER RETURN	CHR
CONDENSATE DRAIN (INSULATED)	CD
REFRIGERANT LINE (LIQUID)	RL
REFRIGERANT LINE (SUCTION)	RS
REFRIGERANT LINE (HOT GAS)	RHG
LOW PRESSURE CONDENSATE	LPC
MEDIUM PRESSURE CONDENSATE	MPC
HIGH PRESSURE CONDENSATE	HPC

MECHANICAL SHEET INDEX

Sheet Number	Sheet Name	Discipline	Discipline No
M-001	MECHANICAL GENERAL NOTES AND LEGENDS	MECHANICAL	12
M-101A	1ST FLOOR MECHANICAL PLAN - AREA A	MECHANICAL	12
M-101B	1ST FLOOR MECHANICAL PLAN - AREA B	MECHANICAL	12
M-201A	2ND FLOOR MECHANICAL PLAN - AREA A	MECHANICAL	12
M-201B	2ND FLOOR MECHANICAL PLAN - AREA B	MECHANICAL	12
M-301A	MECHANICAL ROOF PLAN - AREA A	MECHANICAL	12
M-301B	MECHANICAL ROOF PLAN - AREA B	MECHANICAL	12
M-401	MECHANICAL PIPING DIAGRAM	MECHANICAL	12
M-402	MECHANICAL PIPING DIAGRAM	MECHANICAL	12
M-501	MECHANICAL SECTION VIEW	MECHANICAL	12
M-502	MECHANICAL SECTION VIEW	MECHANICAL	12
M-503	MECHANICAL SECTION VIEW	MECHANICAL	12
M-601	MECHANICAL SCHEDULES	MECHANICAL	12
M-602	MECHANICAL SCHEDULES	MECHANICAL	12
M-701	MECHANICAL DETAILS	MECHANICAL	12
M-702	MECHANICAL DETAILS	MECHANICAL	12
M-703	MECHANICAL DETAILS	MECHANICAL	12
M-704	MECHANICAL DETAILS	MECHANICAL	12

MECHANICAL PIPING SYMBOLS LEGEND

DRAWINGS	DETAILS	DESCRIPTION
		DIRECTION OF FLOW
		DROP IN PIPE
		RISE IN PIPE
		GATE VALVE
		BALL VALVE
		CHECK VALVE
		SUPERVISED VALVE WITH FLOW SWITCH
		PLUG VALVE / GAS COCK
		BUTTERFLY VALVE
		HOT WATER BALANCING VALVE
		PIPE UNION
		PRESSURE CONTROL VALVE
		3-WAY VALVE
		SOLENOID VALVE
		FLOW SWITCH
		PRESSURE GAUGE WITH GAUGE COCK
		THERMOMETER
		T & P RELIEF VALVE
		STRAINER
		CAP
		FLEXIBLE CONNECTION
		NEW CONNECTION TO EXISTING PIPING

NOTES:

1. NOT ALL SYMBOLS MAY BE USED ON THESE DRAWINGS.

MECHANICAL SYMBOLS LEGEND

SYMBOL	DESCRIPTION	ABBV.
	SUPPLY AIR CEILING DIFFUSER	SAG/SAR
	RETURN AIR GRILLE / REGISTER	RAG / RAR
	EXHAUST GRILLE / REGISTER	EG / ER
	SUPPLY AIR CEILING DIFFUSER	CD
	LINEAR SLOT DIFFUSER	LD
	SIDEWALL SUPPLY AIR GRILLE/REGISTER	SAG/SAR
	SIDEWALL RETURN AIR GRILLE/REGISTER	RAG/RAR
	DUCT MT'D. SIDEWALL SUPPLY AIR GRILLE/REGISTER	SAG/SAR
	SUPPLY DUCT RISE/DROP	
	RETURN DUCT RISE/DROP	
	EXHAUST DUCT RISE/DROP	
	DOOR GRILLE	DG
UC 3/4"	UNDERCUT DOOR	UC
WxD TD	LINED RETURN TRANSFER DUCT ABOVE CEILING (SIZE AS INDICATED)	TD
	SQUARE ELBOW WITH DOUBLE THICKNESS TURNING VANES	
	VOLUME DAMPER	MVD
	FLEXIBLE DUCT	FLEX.CONN.
	NEW DUCTWORK	
	EXISTING DUCTWORK / EQUIPMENT	
	DEMO DUCTWORK / EQUIPMENT	
	NEW MECHANICAL EQUIPMENT	
	THERMOSTAT SENSOR	
	HUMIDISTAT SENSOR	
T1	COMBINATION TEMPERATURE AND CO2 SENSOR	
T2	COMBINATION TEMPERATURE, HUMIDITY, & CO2 SENSOR	
T3	COMBINATION TEMPERATURE & HUMIDITY SENSOR	
SD	SMOKE DAMPER	SD
FD	FIRE DAMPER	FD
FS	COMBINATION FIRE AND SMOKE DAMPER	F/SD
CO2	CARBON DIOXIDE SENSOR	CO2
CO	CARBON MONOXIDE SENSOR	CO
BD	BAROMETRIC DAMPER	BD
2	SMOKE DETECTOR (BY DIVISION 28)	2
A	PNEUMATIC DAMPER ACTUATOR	A
BDD	BACKDRAFT DAMPER	BDD
FMS	FLOW MEASURING STATION	FMS
	SPIN-IN VOLUME DAMPER	
M	MOTORIZED DAMPER	M
	AIRFLOW DIRECTION	
	SUPPLY AIR	SA
	RETURN AIR	RA
	OUTSIDE AIR	OA
	EXHAUST AIR	EA
	OWNER-FURNISHED EQUIPMENT	OFE
	ABOVE FINISHED FLOOR	AFF
	BOTTOM OF DUCT	BOD
	NOT IN CONTRACT	NIC
	FURNISHED BY OTHERS	FBO
	REFLECTIVE CEILING PLAN	RCP
	EXISTING	(E)
	SCOPE OF WORK	SOW
	VARIABLE FREQUENCY DRIVE	VFD
	DISCONNECT FROM EXISTING	FBO
	CONNECT TO EXISTING	
1 / M-401	PLAN SECTION SECTION NUMBER SHEET NUMBER	
A.150	DIFFUSER SCHEDULE CFM	
RE:01/M-401	DRAWING REFERENCE DETAIL NUMBER SHEET NUMBER	

NOTES:

1. NOT ALL SYMBOLS MAY BE USED ON THESE DRAWINGS.

MECHANICAL GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED AS PER THE LOCAL MECHANICAL CODE, THE LOCAL BUILDING CODES AND LOCAL ENERGY CONSERVATION CODE.
2. PROVIDE ALL MATERIALS, LABOR, EQUIPMENT AND ANY OTHER INCIDENTALS ESSENTIAL FOR A COMPLETE AND OPERATIONAL INSTALLATION OF THE HVAC WORK SHOWN ON THE PLANS.
3. ALL DUCTWORK SHALL BE FABRICATED PER THE LATEST SMACNA STANDARDS.
4. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL INFO FOR COORDINATION AND POTENTIAL CONFLICTS. THE MECHANICAL SUBCONTRACTOR SHALL, WITHOUT EXTRA COST TO THE PROJECT SHALL MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICTS WITH OTHER TRADES, OR FOR PROPER EXECUTION OF THE WORK.
5. DUCT DIMENSIONS INDICATED ON DRAWINGS ARE CLEAR INSIDE AIR STREAM DIMENSIONS.
6. ALL NEW HVAC EQUIPMENT SHALL BE CLEANED AFTER THE FINISHING OF DRYWALL AND PRIOR TO THE RELEASE OF BUILDING TO THE OWNER. IF THE DUCTWORK AND AIR DEVICES ARE NOT PROPERLY PROTECTED DURING CONSTRUCTION THAN IT SHALL BE CLEANED AS WELL. CONTRACTOR TO PROVIDE DOCUMENTATION WITH DATE AND TIME OF ALL THE PERFORMED SERVICES.
7. ALL WALL MOUNTED TEMPERATURE, HUMIDITY AND CO2 SENSORS SHALL BE MOUNTED AT THE SAME ELEVATION AS THE LIGHT SWITCHES. COORDINATE WITH ELECTRICAL DRAWINGS AND ARCHITECTURAL ELEVATION PLAN.
8. REFER TO MECHANICAL ROOF PLAN FOR ROOF MOUNTED EQUIPMENTS.
9. REFER TO CHILLED WATER AND HEATING WATER PIPING DIAGRAMS FOR PIPE SIZES.
10. NEW PIPING TO BE INSTALLED AS TO NOT BLOCK ANY ACCESS DOORS FROM FULL SWING OPENING.
11. PRIOR TO INSTALLATION OF EQUIPMENT, VERIFY MANUFACTURER'S RECOMMENDED AND CODE REQUIRED CLEARANCES ARE AVAILABLE.
12. COORDINATE ALL WORK WITH ALL OTHER TRADES.
13. PROVIDE FIRE DAMPERS, SMOKE DAMPERS, OR COMBINATION FIRE/SMOKE DAMPERS IN ALL DUCTWORK AND RETURN AIR OPENINGS WHICH PENETRATE FIRE OR SMOKE RATED WALL OR FLOOR SLABS. FIRE OR SMOKE RATED WALLS CAN INCLUDE BUT NOT LIMITED TO CORRIDOR WALLS, MECHANICAL ROOMS, ELECTRICAL ROOMS, AND STORAGE ROOMS. REFER TO ARCHITECTURAL PLANS FOR PARTITION AND WALL TYPES INDICATING FIRE OR SMOKE RATED WALL LOCATION AND RATING.
14. REFER TO ARCHITECTURAL LOUVER SCHEDULE AND ELEVATION PLANS FOR EXACT SIZE, LOCATION AND ELEVATION.
15. ALL FAN POWERED BOXES SHALL BE EQUIPPED WITH FACTORY PROVIDED AND MOUNTED INDUCED AIR INLET ELBOW SOUND ATTENUATOR.
16. ALL TERMINAL UNITS AND INLINE EXHAUST FANS SHALL BE INSTALLED IN PROPER ACCESSIBLE AREA.
17. PROVIDE 24"x24" ACCESS PANEL IN THE GYP BOARD CEILING WHERE TERMINAL UNITS AND INLINE EXHAUST FANS ARE INSTALLED. COORDINATE WITH ARCHITECTURAL CEILING PLANS.
18. COORDINATE ALL AIR DEVICES LOCATIONS WITH FINAL ARCHITECTURAL REFLECTED CEILING PLAN.
19. ALL SUPPLY AND RETURN AIR CEILING DEVICES SHALL BE INSULATED ON TOP OF DEVICES TO PREVENT CONDENSATION. INSULATE DEVICES WITH 1-1/2" WRAPAROUND INSULATION AND TOTALLY COVER ALL SURFACES; SECURE INSULATION IN PLACE AND APPLY INSULATION PRIOR TO MOUNTING AIR DEVICES.
20. PROVIDE TURNING VANES ON ALL RECTANGULAR ELBOWS.
21. ALL EXPOSED DUCTWORK SHALL BE DOUBLE WALL DUCT. REFER TO SPECIFICATION. PAINT DUCTWORK. COORDINATE COLOR WITH THE ARCHITECT.
22. PROVIDE 16x16 RETURN AIR OPENING IN WALL ABOVE CEILING WHERE WALLS GO UPTO DECK AND RETURN OPENING NOT SHOWN ON THE DRAWINGS. SHOW RETURN AIR OPENINGS IN DUCT SHOP DRAWINGS.
23. PROVIDE INTERNALLY LINED DUCT FOR THE FOLLOWING DUCTWORK UNLESS OTHERWISE NOTED ON THE DRAWINGS:
    -FIRST 20'-0" OF SUPPLY AND RETURN DUCT FROM ROOF MOUNTED AIR HANDLING UNITS.
    -FIRST 10'-0" OF ROOF MOUNTED EXHAUST FANS.
    -ALL RETURN AIR BOOTS AND TRANSFER DUCTS.
24. BUILDING AUTOMATION SYSTEM THERMOGRAPHICS SHALL BE UPDATED TO REFLECT CURRENT FLOOR PLAN, ROOM NAMES AND ALL ASSOCIATED HVAC EQUIPMENT.
25. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE ELECTRICAL AND PLUMBING CHANGES FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.
26. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE BETWEEN CONTRACTORS SHALL BE WITHOUT ANY ADDITIONAL COST TO THE PROJECT.
27. ALL DUCTWORK (SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR) IN UNCONDITIONED / NON-RETURN PLENUM SHALL BE PROVIDED WITH DUCT WRAP INSULATION.
28. REFER TO SNAP 'N SHIELD REFRIGERANT PIPING SUPPORT DETAIL FOR REFRIGERANT PIPING SUPPORT.
29. PROVIDE INSULATED CONDENSATE DRAIN PIPE FROM FLOOR MOUNTED OR SUSPENDED UNIT TO NEAREST FLOOR DRAIN. REFER TO PLUMBING DRAWINGS FOR EXACT DRAIN LOCATION.
30. PROVIDE CLEAR, WEATHERPROOF ENCLOSURE FOR THE CONTROL VALVE ACTUATORS LOCATED OUTDOORS.
31. ALL EXPOSED AND OUTDOOR REFRIGERANT AND CONDENSATE PIPING SHALL BE PROVIDED WITH INSULATION AND ALUMINUM JACKET.
32. ALL OUTSIDE AIR INTAKE OPENINGS SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY PLUMBING VENT, FUEL-FIRED APPLIANCE VENT OR EXHAUST AIR DISCHARGE.
33. FOR ALL OPEN SPACES (MAIN CORRIDOR, GYM, CAFETERIA, LIBRARY ETC.). PROVIDE SENSORS IN CLEAR LOCKABLE PROTECTIVE ENCLOSURE.
34. NOT ALL SYMBOLS OR ABBREVIATIONS MAY BE USED ON THESE DRAWINGS.
35. ALL CHILLED AND HEATING WATER PIPING TAPS SHALL BE OFF OF THE TOP OF THE WATER LINES. NO SIDE OR BOTTOM TAPS SHALL BE ACCEPTABLE.
36. ALL EQUIPMENT SHALL BE INSTALLED FOR SERVICEABILITY WITH A MINIMUM OF 36" CLEARANCE OR ADDITIONAL CLEARANCE AS REQUIRED BY CODE OR EQUIPMENT MANUFACTURER. ALL SERVICE DOORS SHALL BE ABLE TO FULLY SWING OPEN WITHOUT ANY OBSTRUCTION SUCH AS BUT NOT LIMITED TO PIPING, DUCT, WALLS, ETC.
37. ALL PIPING (HOT AND CHILLED) SHALL BE PAINTED 18 INCHES MINIMUM AT ALL TERMINATIONS AT CHILLERS, PUMPS, AND AIR HANDLING UNITS BEFORE INSULATION IS INSTALLED. PAINT SHALL BE RUST INHIBITING OR GALVANIZING TYPE.

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LICENSED
PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

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TOMBALL ISD	
DATE: 10/30/2026	PROJECT NUMBER: 25046901

DRAWING HISTORY

No.	Description	Date

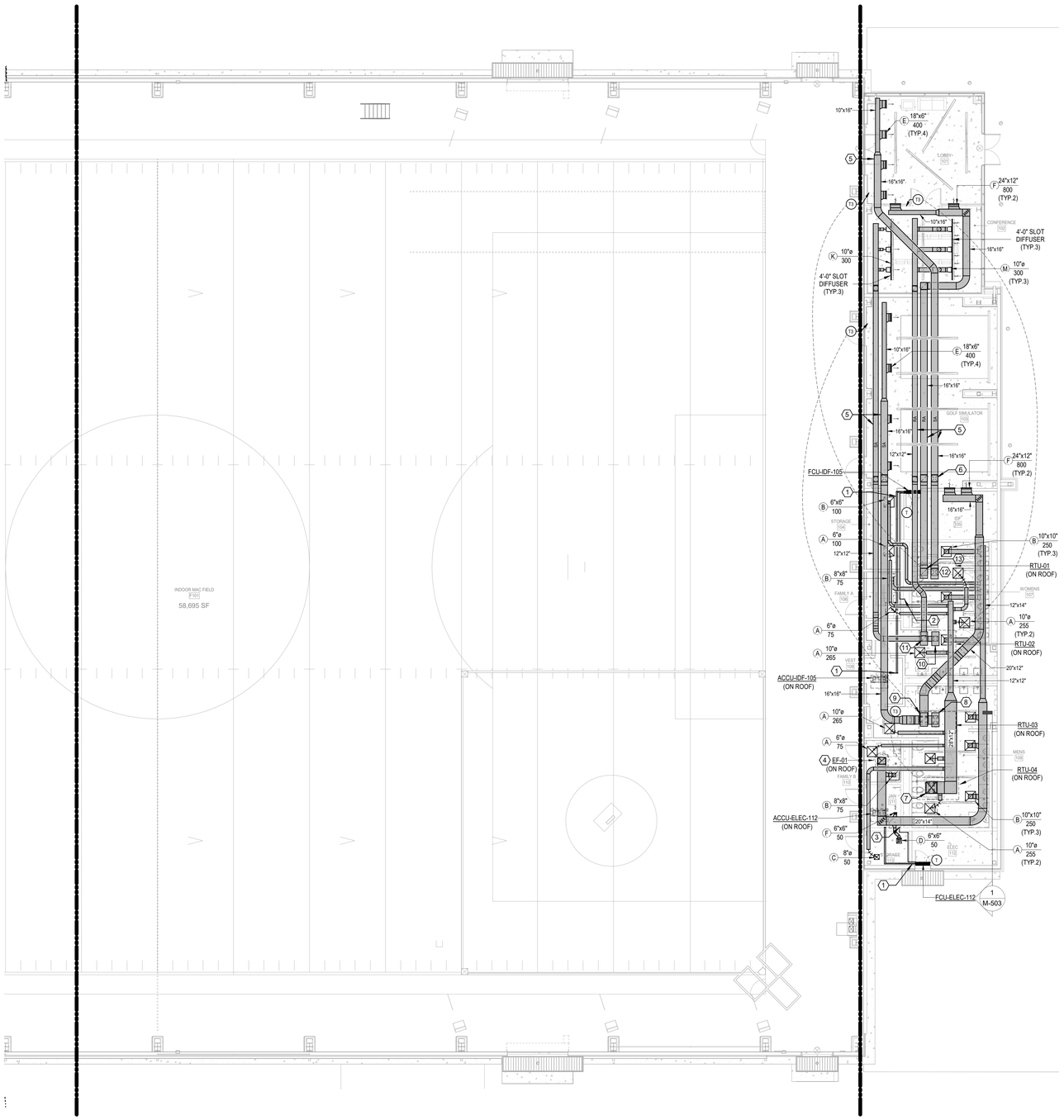
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MECHANICAL GENERAL NOTES AND LEGENDS

M-001

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10/30/2026 10:45:16 AM



1 **1ST FLOOR MECHANICAL PLAN - AREA A**
SCALE: 1" = 10'-0"

GENERAL NOTE:

PER TOMBALL ISD CONSTRUCTION STANDARDS PRIOR TO BEGINNING OF ANY WORK, THE MECHANICAL CONTRACTOR SHALL FURNISH AS PART OF THE MECHANICAL EQUIPMENT SUBMITTALS, A ¼" = 1'-0" SCALED DRAWINGS OF ALL PROPOSED EQUIPMENT INDICATING ACCURATE SIZES AND CHARACTERISTICS AS WELL AS CLEARANCES, PIPING ROUTES, AND ALL OTHER DETAIL AS REQUIRED TO ALLOW THE ENGINEER, ARCHITECT, AND TOMBALL ISD THE OPPORTUNITY TO APPROVE THE PROPOSED LAYOUT AND EQUIPMENT. EVERY EFFORT SHALL BE MADE TO PREVENT "STACKING" OF SYSTEMS ABOVE THE CEILING WHICH MAKES FUTURE MAINTENANCE OR REPAIR DIFFICULT OR IMPOSSIBLE. A SCALED SHOP DRAWING OF EACH CENTRAL PLANT / BOILER ROOM / PUMP ROOM / MECHANICAL / ELECTRICAL / TECHNOLOGY ROOM WILL BE REQUIRED TO ENSURE ALL COORDINATION OF ALL TRADES WITHIN EACH ROOM.

KEYED NOTES

1. LIQUID AND SUCTION REFRIGERANT PIPING TO CONDENSING UNIT ON ROOF. REFER TO M-301A FOR PIPE CONTINUATION. SIZE PER MANUFACTURERS RECOMMENDATION. ALL EXPOSED AND OUTDOOR PIPING SHALL BE WRAPPED WITH ALUMINUM JACKETING. REFER TO DETAILS ON UNIT MOUNTING REQUIREMENTS.
2. CONDENSATE DRAIN ROUTED TO SINK TRAP IN RESTROOM. SUPPORT VERTICAL CONDENSATE PIPING AT EVERY 3'-0" INTERVAL. ALL EXPOSED PIPING SHALL BE WRAPPED WITH ALUMINUM JACKET.
3. CONDENSATE DRAIN ROUTED MOP SINK IN CUSTODIAL ROOM. SUPPORT VERTICAL CONDENSATE PIPING AT EVERY 3'-0" INTERVAL. ALL EXPOSED PIPING SHALL BE WRAPPED WITH ALUMINUM JACKET.
4. 16"x18" EXHAUST AIR DUCT UP TO EXHAUST FAN **EF-01**, TRANSITION TO UNIT INLET.
5. ALL EXPOSED DUCT SHALL BE DOUBLE WALLED DUCT. REFER TO METAL DUCT SPECIFICATION FOR ADDITIONAL DETAIL.
6. EXPOSED DUCT TO BE ROUTED UP TO JUST BELOW STRUCTURE.
7. 28"x12" SUPPLY AIR DUCT UP TO ROOFTOP UNIT RTU-04 ON ROOF; TRANSITION TO UNIT INLET.
8. 20"x12" SUPPLY AIR DUCT UP TO ROOFTOP UNIT RTU-03 ON ROOF; TRANSITION TO UNIT INLET.
9. 20"x12" RETURN AIR DUCT UP TO ROOFTOP UNIT RTU-03 ON ROOF; TRANSITION TO UNIT INLET.
10. 12"x12" SUPPLY AIR DUCT UP TO ROOFTOP UNIT RTU-02 ON ROOF; TRANSITION TO UNIT INLET.
11. 12"x12" RETURN AIR DUCT UP TO ROOFTOP UNIT RTU-02 ON ROOF; TRANSITION TO UNIT INLET.
12. 16"x16" SUPPLY AIR DUCT UP TO ROOFTOP UNIT RTU-01 ON ROOF; TRANSITION TO UNIT INLET.
13. 16"x16" SUPPLY AIR DUCT UP TO ROOFTOP UNIT RTU-01 ON ROOF; TRANSITION TO UNIT INLET.

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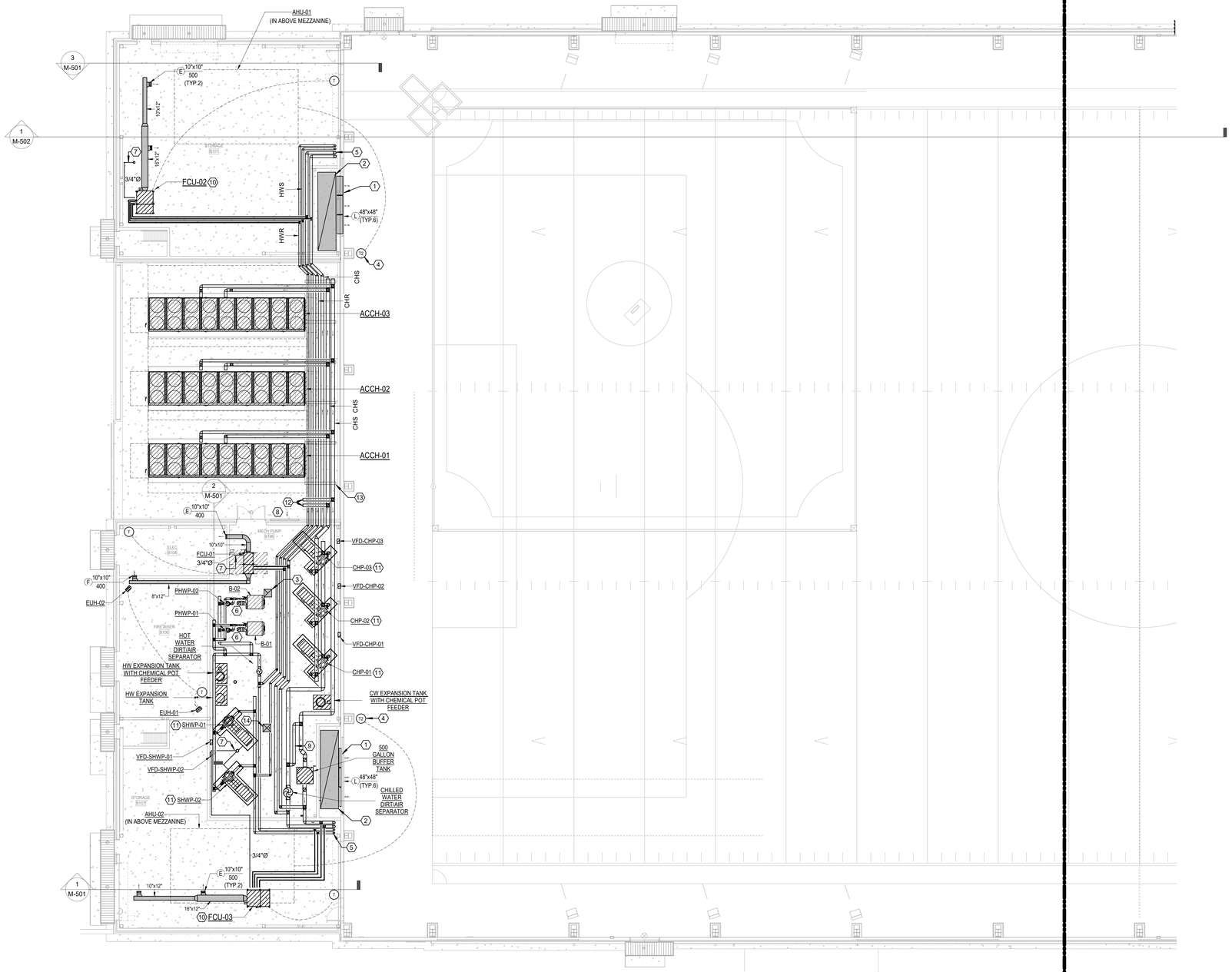
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1ST FLOOR MECHANICAL PLAN - AREA A

M-101A

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1 **1ST FLOOR MECHANICAL PLAN - AREA B**
SCALE: 1" = 10'-0"

GENERAL NOTE:

PER TOMBALL ISD CONSTRUCTION STANDARDS PRIOR TO BEGINNING OF ANY WORK, THE MECHANICAL CONTRACTOR SHALL FURNISH AS PART OF THE MECHANICAL EQUIPMENT SUBMITTALS, A ¼" = 1'-0" SCALED DRAWINGS OF ALL PROPOSED EQUIPMENT INDICATING ACCURATE SIZES AND CHARACTERISTICS AS WELL AS CLEARANCES, PIPING ROUTES, AND ALL OTHER DETAIL AS REQUIRED TO ALLOW THE ENGINEER, ARCHITECT, AND TOMBALL ISD THE OPPORTUNITY TO APPROVE THE PROPOSED LAYOUT AND EQUIPMENT. EVERY EFFORT SHALL BE MADE TO PREVENT "STACKING" OF SYSTEMS ABOVE THE CEILING WHICH MAKES FUTURE MAINTENANCE OR REPAIR DIFFICULT OR IMPOSSIBLE. A SCALED SHOP DRAWING OF EACH CENTRAL PLANT / BOILER ROOM / PUMP ROOM / MECHANICAL / ELECTRICAL / TECHNOLOGY ROOM WILL BE REQUIRED TO ENSURE ALL COORDINATION OF ALL TRADES WITHIN EACH ROOM.

KEYED NOTES

1. 3x2 ARRAY OF 48"x48" TITUS 50F RETURN AIR GRILLES TO CONNECT TO DUCT IN VERTICAL CHASE. PROVIDE HEAVY GAGE METAL WEBBING FOR PROTECTION.
2. INTERNALLY LINED 200"x46" RETURN AIR DUCT UP TO MECHANICAL MEZZANINE. ROUTE DUCTWORK IN VERTICAL CHASE.
3. 20"X20" EXHAUST AIR DUCT UP TO EF-02 ON ROOF. CONTRACTOR TO LEAVE END OF EXHAUST DUCT OPEN AND PROVIDE ALUMINUM BIRDSCREEN.
4. PROVIDE SENSOR IN CLEAR, LOCKABLE ENCLOSURE.
5. HOT AND CHILLED WATER MECHANICAL PIPING UP TO MECHANICAL MEZZANINE. REFER TO M-201B FOR CONTINUATION.
6. 10"ø BOILER FLUE THROUGH ROOF, REFER TO M-301B FOR CONTINUATION.
7. CONDENSATE DRAIN ROUTED TO FLOOR DRAIN. SUPPORT VERTICAL CONDENSATE PIPING AT EVERY 5'-0" INTERVAL. ALL EXPOSED PIPING SHALL BE WRAPPED WITH ALUMINUM JACKET. REFER TO PLUMBING DRAWINGS FOR DRAIN LOCATIONS.
8. 60" x 60" COMBUSTION LOUVER. INSTALL TWO LOUVERS IN SPECIFIED LOCATION AT DIFFERENT ELEVATIONS; LOWER LOUVER TO BE INSTALLED 12" A.F.F. HIGHER LOUVER TO BE INSTALLED 9'-0" A.F.F.
9. BYPASS PIPING. REFER TO PIPING DIAGRAM FOR ADDITIONAL DETAILS.
10. FAN COIL UNIT SUSPENDED FROM STRUCTURE. MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL CONTINUOUSLY WELDED 304 STAINLESS STEEL AUXILIARY DRAIN PAN.
11. MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL CONTINUOUSLY WELDED 316 STAINLESS STEEL DRAIN PAN AROUND ENTIRE PUMP PERIMETER. PROVIDE DRAIN CONNECTION FROM PAN TO FLOOR DRAIN.
12. TEMPORARY CHILLED WATER SUPPLY AND RETURN BRANCH PIPING. REFER TO 1 / M-401 FOR ADDITIONAL INFORMATION.
13. PROVIDE PIPE STANCHIONS EVERY 8'-0" INTERVAL.
14. 20"X20" SUPPLY AIR DUCT DOWN FROM MECHANICAL MEZZANINE. CONTRACTOR LEAVE END OF SUPPLY DUCT OPEN AND PROVIDE ALUMINUM BIRDSCREEN.

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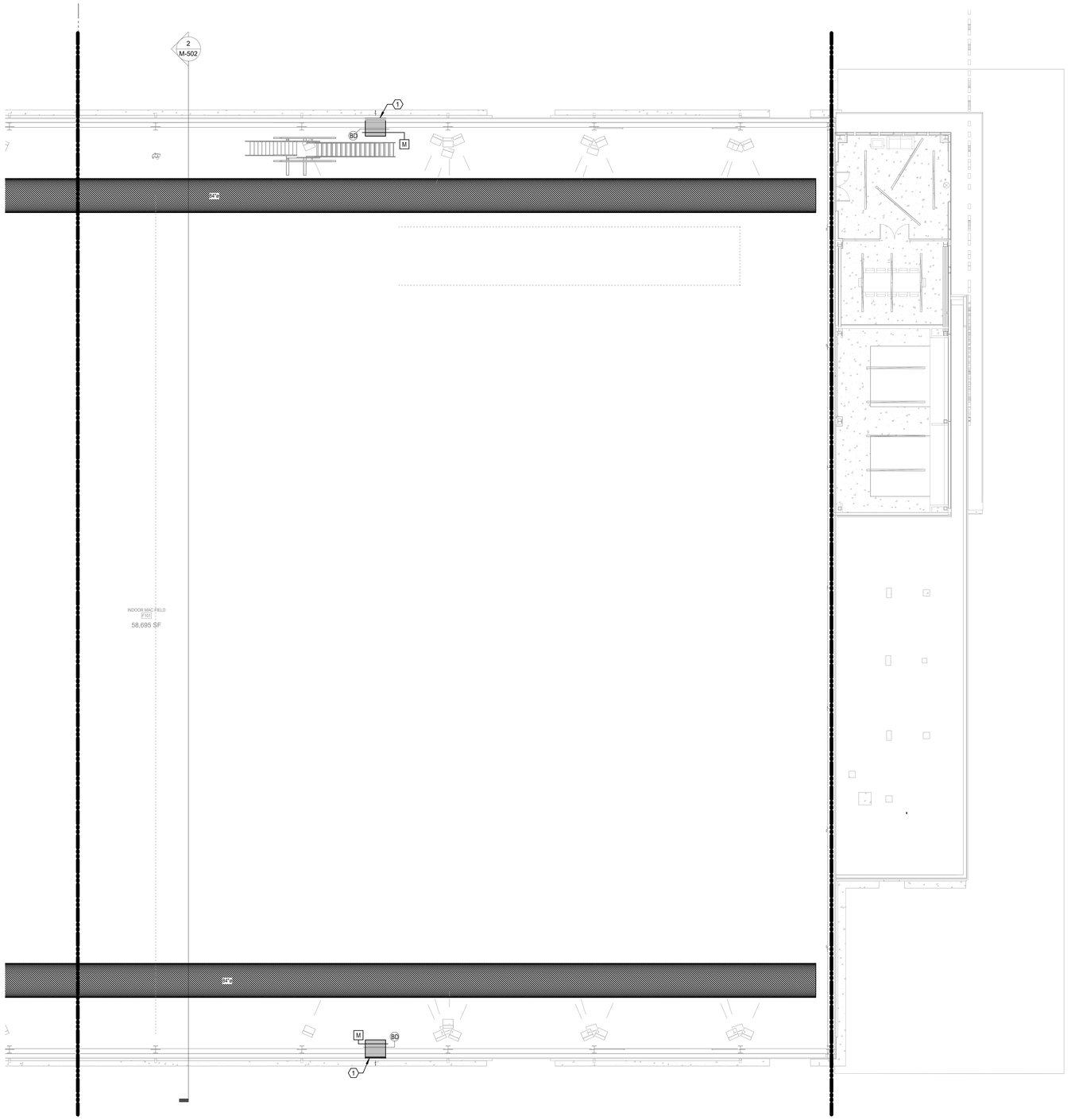
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1ST FLOOR MECHANICAL PLAN - AREA B

M-101B

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1 **1ST FLOOR MECHANICAL PLAN - AREA B Copy 1 Copy 1**
SCALE: 1" = 10'-0"

GENERAL NOTE:

PER TOMBALL ISD CONSTRUCTION STANDARDS PRIOR TO BEGINNING OF ANY WORK, THE MECHANICAL CONTRACTOR SHALL FURNISH AS PART OF THE MECHANICAL EQUIPMENT SUBMITTALS, A ¼" = 1'-0" SCALED DRAWINGS OF ALL PROPOSED EQUIPMENT INDICATING ACCURATE SIZES AND CHARACTERISTICS AS WELL AS CLEARANCES, PIPING ROUTES, AND ALL OTHER DETAIL AS REQUIRED TO ALLOW THE ENGINEER, ARCHITECT, AND TOMBALL ISD THE OPPORTUNITY TO APPROVE THE PROPOSED LAYOUT AND EQUIPMENT. EVERY EFFORT SHALL BE MADE TO PREVENT "STACKING" OF SYSTEMS ABOVE THE CEILING WHICH MAKES FUTURE MAINTENANCE OR REPAIR DIFFICULT OR IMPOSSIBLE. A SCALED SHOP DRAWING OF EACH CENTRAL PLANT / BOILER ROOM / PUMP ROOM / MECHANICAL / ELECTRICAL / TECHNOLOGY ROOM WILL BE REQUIRED TO ENSURE ALL COORDINATION OF ALL TRADES WITHIN EACH ROOM.

KEYED NOTES

1 50"x50" RELIEF AIR LOUVER WITH SHORT METAL PLENUM, MOTORIZED DAMPER, AND BAROMETRIC DAMPER. CONFIRM PLENUM COLOR WITH ARCHITECT.

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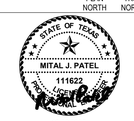
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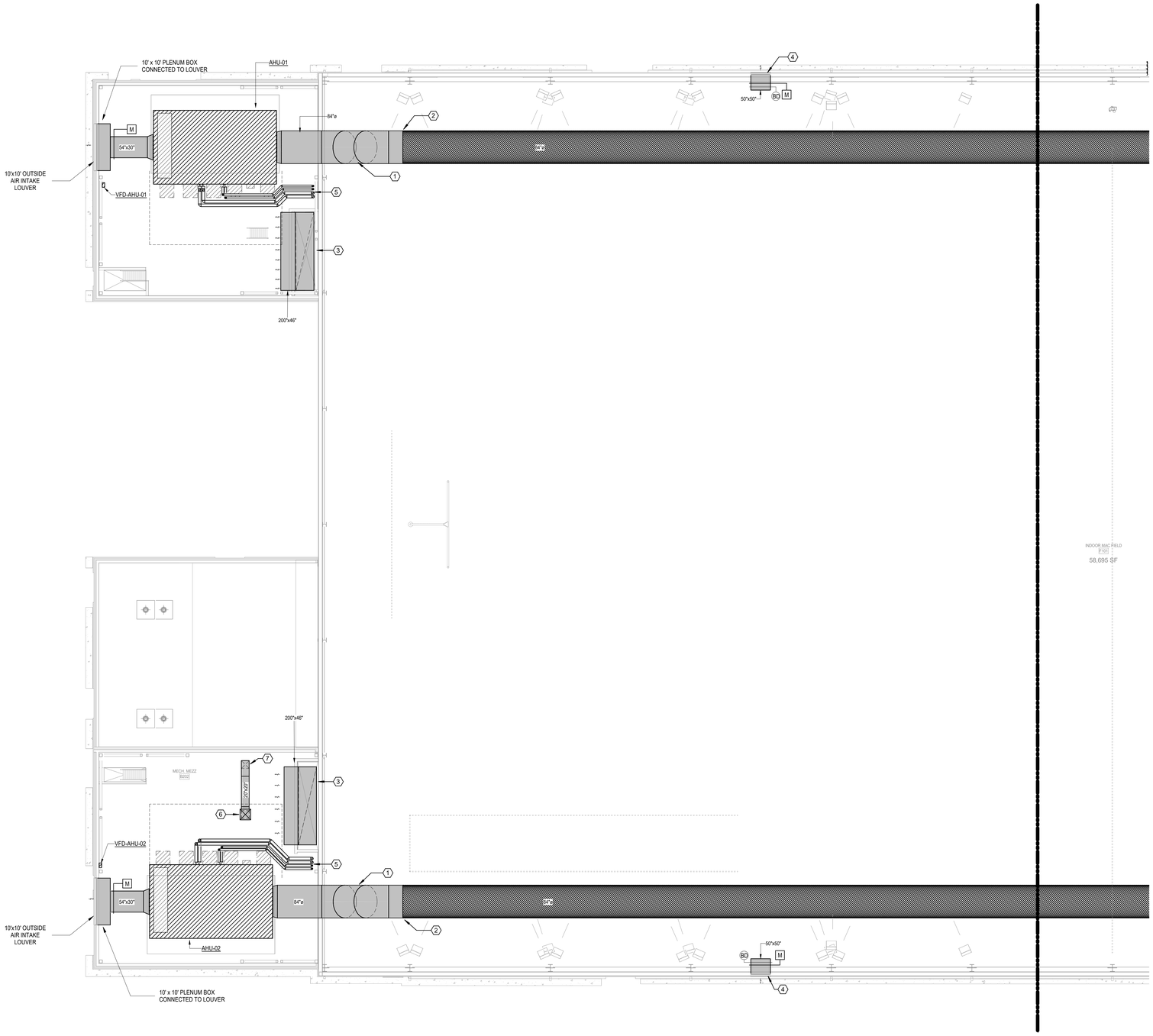
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2ND FLOOR MECHANICAL PLAN - AREA A

M-201A

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1 1ST FLOOR MECHANICAL PLAN - AREA B Copy 1
SCALE: 1" = 10'-0"

GENERAL NOTE:

PER TOMBALL ISD CONSTRUCTION STANDARDS PRIOR TO BEGINNING OF ANY WORK, THE MECHANICAL CONTRACTOR SHALL FURNISH AS PART OF THE MECHANICAL EQUIPMENT SUBMITTALS, A ¼" = 1'-0" SCALED DRAWINGS OF ALL PROPOSED EQUIPMENT INDICATING ACCURATE SIZES AND CHARACTERISTICS AS WELL AS CLEARANCES, PIPING ROUTES, AND ALL OTHER DETAIL AS REQUIRED TO ALLOW THE ENGINEER, ARCHITECT, AND TOMBALL ISD THE OPPORTUNITY TO APPROVE THE PROPOSED LAYOUT AND EQUIPMENT. EVERY EFFORT SHALL BE MADE TO PREVENT 'STACKING' OF SYSTEMS ABOVE THE CEILING WHICH MAKES FUTURE MAINTENANCE OR REPAIR DIFFICULT OR IMPOSSIBLE. A SCALED SHOP DRAWING OF EACH CENTRAL PLANT / BOILER ROOM / PUMP ROOM / MECHANICAL / ELECTRICAL / TECHNOLOGY ROOM WILL BE REQUIRED TO ENSURE ALL COORDINATION OF ALL TRADES WITHIN EACH ROOM.

KEYED NOTES

1. ALL EXPOSED DUCTWORK TO BE DOUBLE WALLED.
2. TRANSITION FROM DOUBLE WALLED METAL DUCT TO FABRIC DUCT.
3. INTERNALLY LINED 200"X46" RETURN AIR DUCT UP FROM FIRST FLOOR. ELBOW OVER AT BOTTOM OF METAL STRUCTURE.
4. 50"x50" RELIEF AIR LOUVER WITH SHORT METAL PLENUM. MOTORIZED DAMPER, AND BAROMETRIC DAMPER. CONFIRM PLENUM COLOR WITH ARCHITECT.
5. MECHANICAL PIPING UP FROM FIRST FLOOR. REFER TO M-101B FOR CONTINUATION.
6. 20"x20" SUPPLY AIR DUCT UP DO SF-01 ON ROOF. TRANSITION TO UNIT INLET.
7. 20"x20" SUPPLY AIR DUCT DOWN TO MECHANICAL PUMP ROOM. REFER TO M-101B FOR CONTINUATION.

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DATE	PROJECT NUMBER
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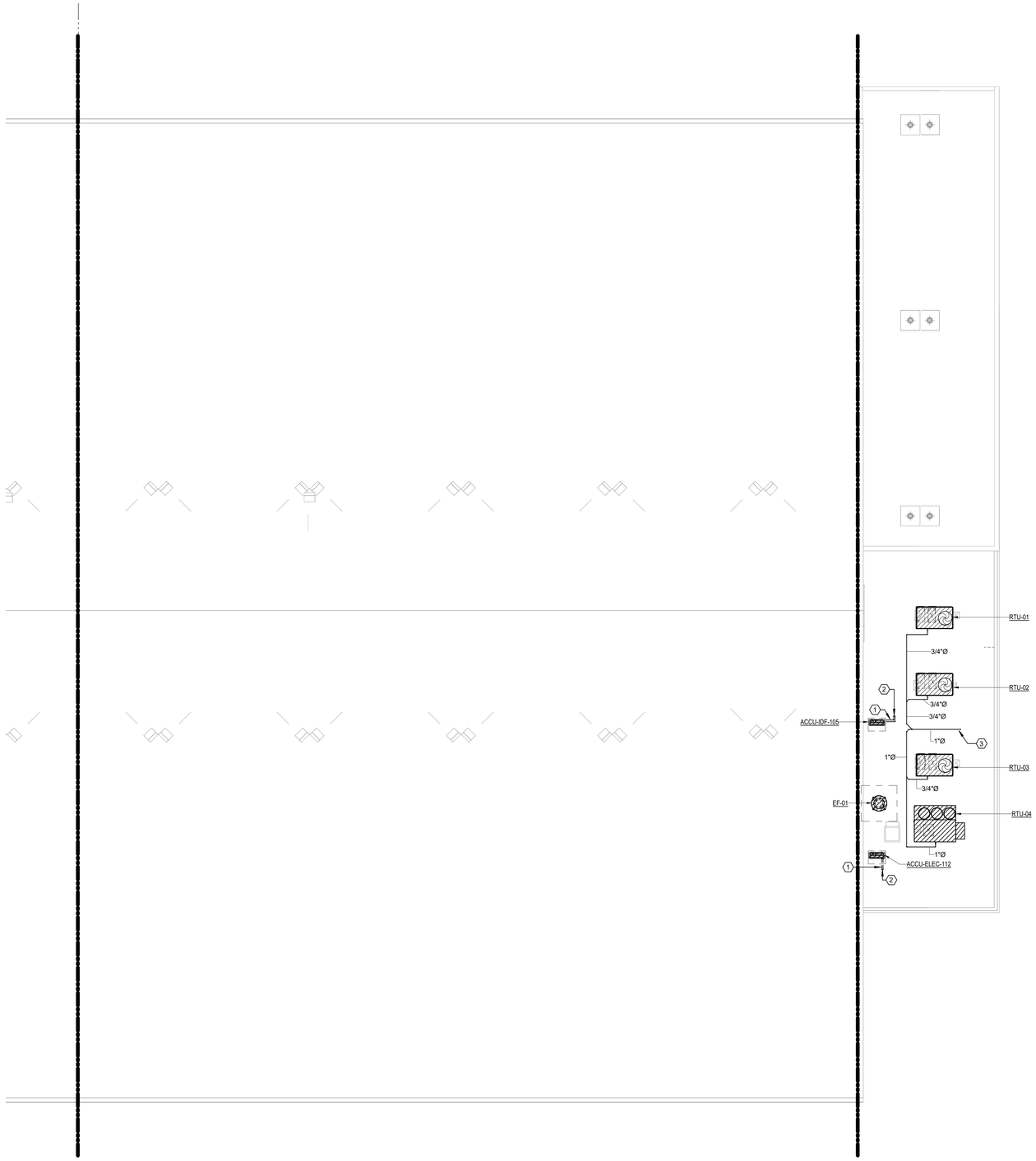
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2ND FLOOR MECHANICAL PLAN - AREA B

M-201B

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1 **MECHANICAL ROOF PLAN - AREA A**
SCALE: 1" = 10'-0"

GENERAL NOTE:

PER TOMBALL ISD CONSTRUCTION STANDARDS PRIOR TO BEGINNING OF ANY WORK, THE MECHANICAL CONTRACTOR SHALL FURNISH AS PART OF THE MECHANICAL EQUIPMENT SUBMITTALS, A ½" = 1'-0" SCALED DRAWINGS OF ALL PROPOSED EQUIPMENT INDICATING ACCURATE SIZES AND CHARACTERISTICS AS WELL AS CLEARANCES, PIPING ROUTES, AND ALL OTHER DETAIL AS REQUIRED TO ALLOW THE ENGINEER, ARCHITECT, AND TOMBALL ISD THE OPPORTUNITY TO APPROVE THE PROPOSED LAYOUT AND EQUIPMENT. EVERY EFFORT SHALL BE MADE TO PREVENT 'STACKING' OF SYSTEMS ABOVE THE CEILING WHICH MAKES FUTURE MAINTENANCE OR REPAIR DIFFICULT OR IMPOSSIBLE. A SCALED SHOP DRAWING OF EACH CENTRAL PLANT / BOILER ROOM / PUMP ROOM / MECHANICAL / ELECTRICAL / TECHNOLOGY ROOM WILL BE REQUIRED TO ENSURE ALL COORDINATION OF ALL TRADES WITHIN EACH ROOM.

KEYED NOTES

1. LIQUID AND SUCTION REFRIGERANT PIPING TO CONDENSING UNIT. SIZE PER MANUFACTURERS RECOMENDATION. ALL EXPOSED AND OUTDOOR PIPING SHALL BE INSULATED AND WRAPPED WITH ALUMINUM JACKETING. REFER TO DETAILS ON UNIT MOUNTING REQUIREMENTS.
2. REFRIGERANT PIPING UP FROM FIRST FLOOR. REFER TO M-101A FOR CONTINUATION. PROVIDE STAINLESS STEEL PIPE HOOD AT ROOF PENETRATION.
3. 1"ø CONDENSATE DRAIN ROUTED TO ROOF DRAIN. ALL EXPOSED PIPING SHALL BE WRAPPED WITH ALUMINUM JACKET.

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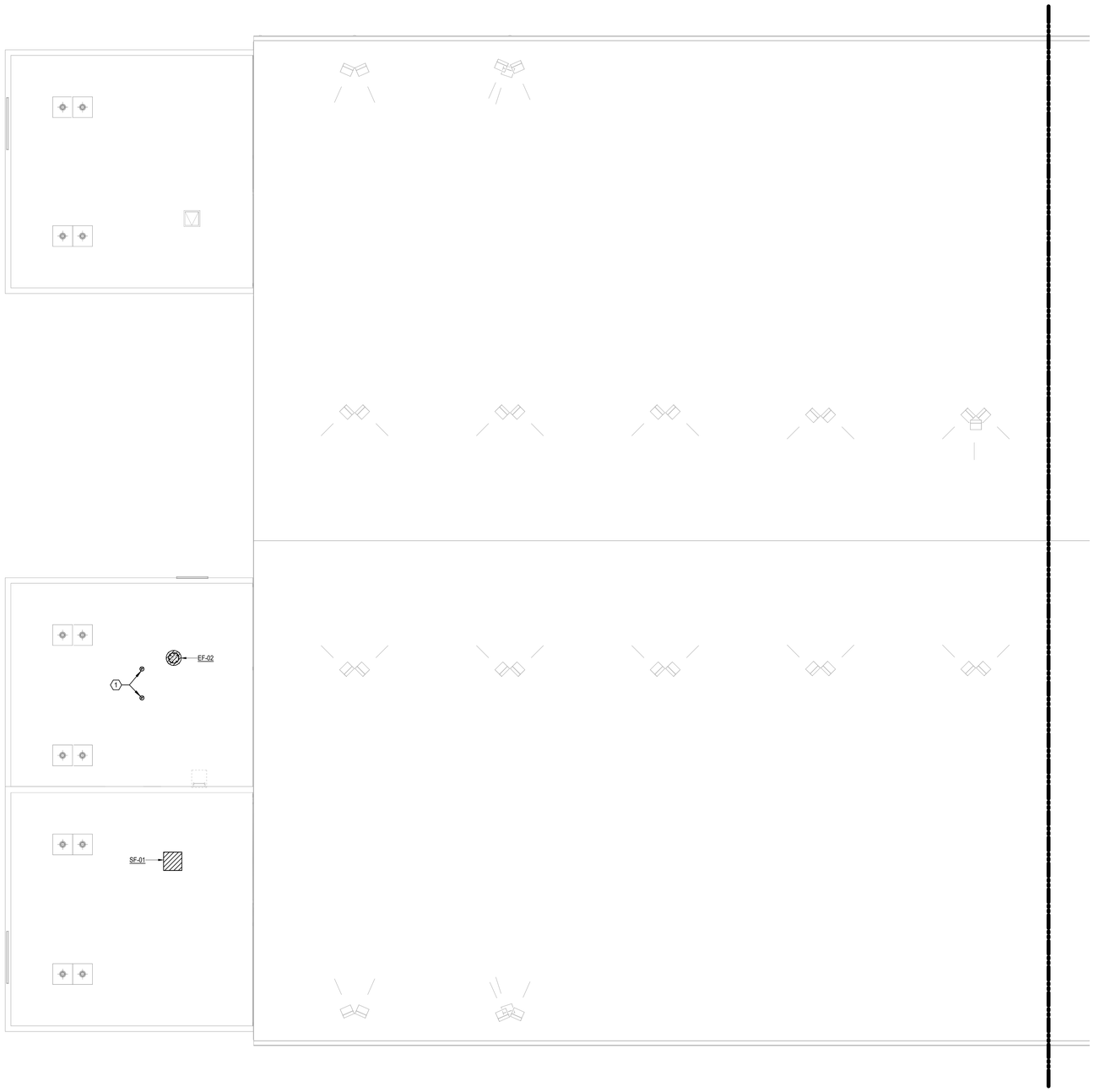
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MECHANICAL ROOF PLAN - AREA A

M-301A

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1 **MECHANICAL ROOF PLAN - AREA B**
SCALE: 1" = 10'-0"

GENERAL NOTE:

PER TOMBALL ISD CONSTRUCTION STANDARDS PRIOR TO BEGINNING OF ANY WORK, THE MECHANICAL CONTRACTOR SHALL FURNISH AS PART OF THE MECHANICAL EQUIPMENT SUBMITTALS, A ½" = 1'-0" SCALED DRAWINGS OF ALL PROPOSED EQUIPMENT INDICATING ACCURATE SIZES AND CHARACTERISTICS AS WELL AS CLEARANCES, PIPING ROUTES, AND ALL OTHER DETAIL AS REQUIRED TO ALLOW THE ENGINEER, ARCHITECT, AND TOMBALL ISD THE OPPORTUNITY TO APPROVE THE PROPOSED LAYOUT AND EQUIPMENT. EVERY EFFORT SHALL BE MADE TO PREVENT 'STACKING' OF SYSTEMS ABOVE THE CEILING WHICH MAKES FUTURE MAINTENANCE OR REPAIR DIFFICULT OR IMPOSSIBLE. A SCALED SHOP DRAWING OF EACH CENTRAL PLANT / BOILER ROOM / PUMP ROOM / MECHANICAL / ELECTRICAL / TECHNOLOGY ROOM WILL BE REQUIRED TO ENSURE ALL COORDINATION OF ALL TRADES WITHIN EACH ROOM.

KEYED NOTES

1 10"ø BOILER FLUE THROUGH ROOF; PROVIDE RAIN CAP.

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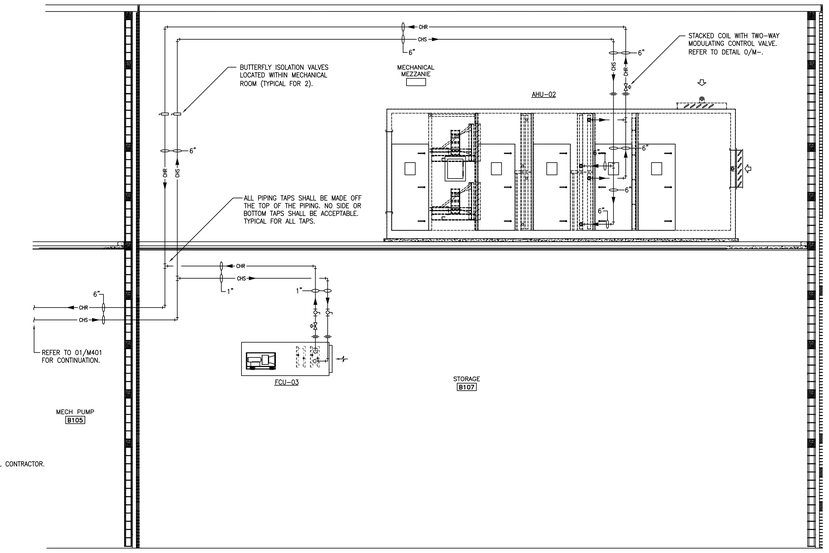
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MECHANICAL ROOF PLAN - AREA B

M-301B

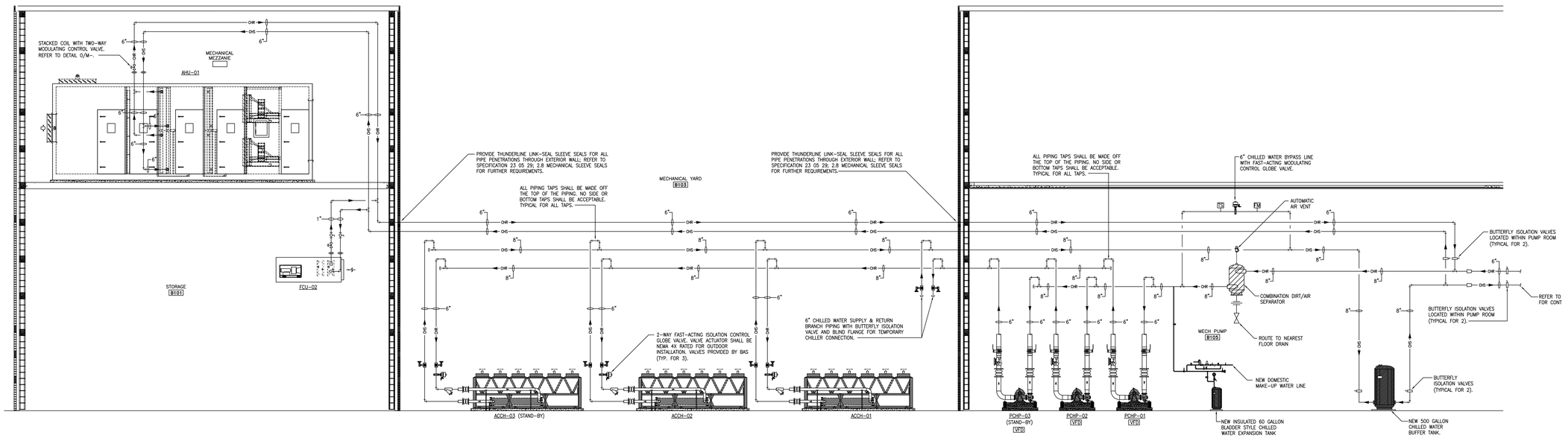
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02 CHILLED WATER PIPING DIAGRAM
SCALE: NONE

GENERAL NOTES:

1. CHILLED AND HEATING WATER PIPING SYSTEM SHALL BE FLUSHED AND CLEANED AND PROVIDED WITH NEW CLOSED LOOP CHEMICAL TREATMENT. PER TOMBALL ISD DESIGN GUIDELINES FLUSHING AND CLEANING OF HYDRONIC PIPING SHALL BE PERFORMED BY A THIRD PARTY FLUSHING PROFESSIONAL CONTRACTOR HIRED BY THE GENERAL CONTRACTOR AND NOT THE INSTALLING MECHANICAL CONTRACTOR. REFER TO SPECIFICATION SECTION 23 25 19 FLUSHING AND CLEANING OF HYDRONIC PIPING SYSTEMS FOR FURTHER REQUIREMENTS.
2. ALL INDOOR AND OUTDOOR CHILLED AND HEATING WATER PIPING SHALL HAVE PHENOLIC FOAM INSULATION; PROVIDE PIPE MARKERS WITH FLOW ARROW AS SPECIFIED.
3. ALL PIPING LOCATED OUTDOORS SHALL BE PROVIDED WITH ALUMINUM JACKETING.
4. ALL CHILLED AND HEATING WATER PIPING SHALL BE SET AS TO NOT BLOCK ANY ACCESS DOORS. ACCESS DOORS SHALL BE ABLE TO FULLY SWING OPEN WITH NO PIPING OBSTRUCTION.
5. ALL CHILLED AND HEATING WATER PIPING SHALL SHALL BE PAINTED 18" MINIMUM AT ALL TERMINATIONS AT CHILLERS, PUMPS, AND AIR HANDLING UNITS BEFORE INSULATION IS INSTALLED. PAINT SHALL BE RUST INHIBITING OR GALVANIZING TYPE.



01 CHILLED WATER PIPING DIAGRAM
SCALE: NONE

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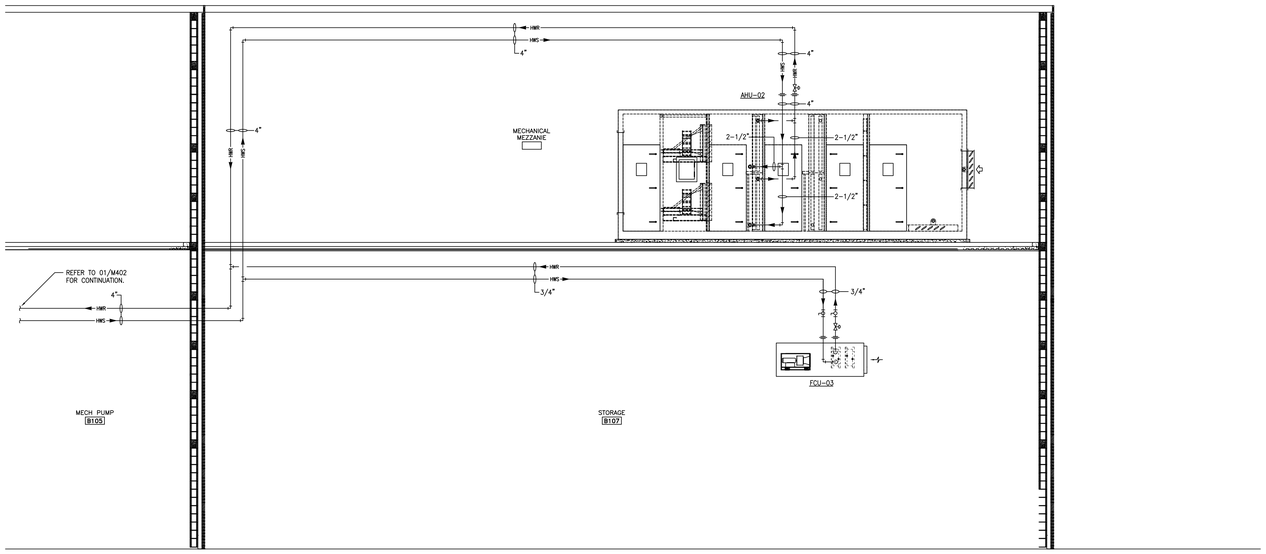
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MECHANICAL PIPING DIAGRAM

M-401

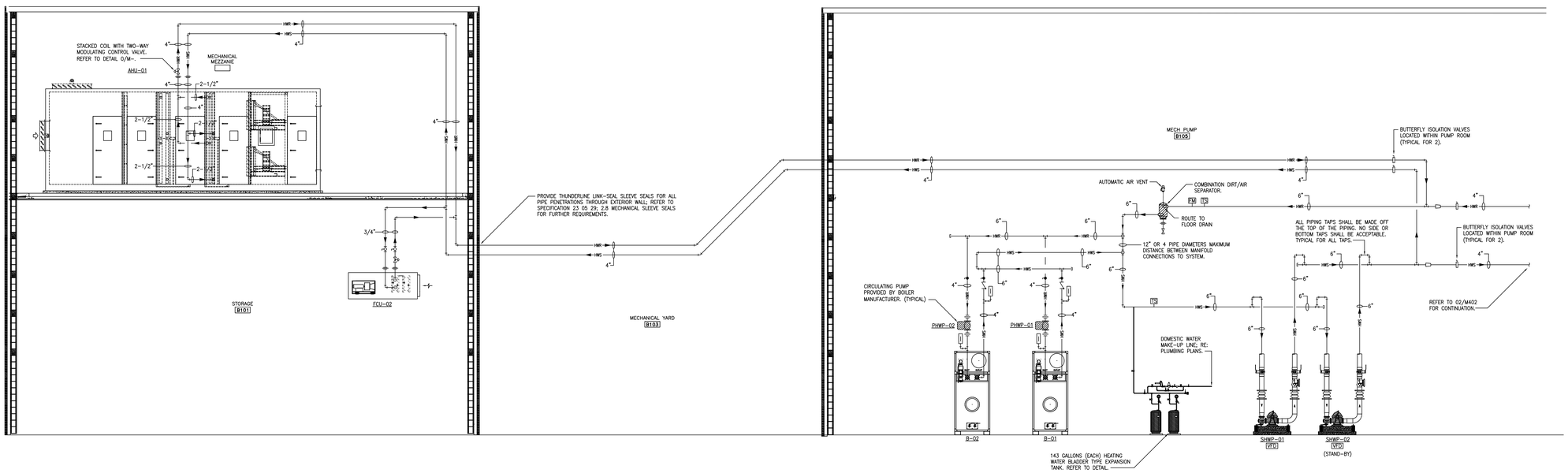
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02 HEATING WATER PIPING DIAGRAM
SCALE: NONE

GENERAL NOTES:

1. CHILLED AND HEATING WATER PIPING SYSTEM SHALL BE FLUSHED AND CLEANED AND PROVIDED WITH NEW CLOSED LOOP CHEMICAL TREATMENT. PER TOMBALL ISD DESIGN GUIDELINES FLUSHING AND CLEANING OF HYDRONIC PIPING SHALL BE PERFORMED BY A THIRD PARTY FLUSHING PROFESSIONAL CONTRACTOR HIRED BY THE GENERAL CONTRACTOR AND NOT THE INSTALLING MECHANICAL CONTRACTOR. REFER TO SPECIFICATION SECTION 23 25 19 FLUSHING AND CLEANING OF HYDRONIC PIPING SYSTEMS FOR FURTHER REQUIREMENTS.
2. ALL INDOOR AND OUTDOOR CHILLED AND HEATING WATER PIPING SHALL HAVE PHENOLIC FOAM INSULATION; PROVIDE PIPE MARKERS WITH FLOW ARROW AS SPECIFIED.
3. ALL PIPING LOCATED OUTDOORS SHALL BE PROVIDED WITH ALUMINUM JACKETING.
4. ALL CHILLED AND HEATING WATER PIPING SHALL BE SET AS TO NOT BLOCK ANY ACCESS DOORS. ACCESS DOORS SHALL BE ABLE TO FULLY SWING OPEN WITH NO PIPING OBSTRUCTION.
5. ALL CHILLED AND HEATING WATER PIPING SHALL SHALL BE PAINTED 18" MINIMUM AT ALL TERMINATIONS AT CHILLERS, PUMPS, AND AIR HANDLING UNITS BEFORE INSULATION IS INSTALLED. PAINT SHALL BE RUST INHIBITING OR GALVANIZING TYPE.
6. ALL CHILLED AND HEATING WATER PIPING TAPS SHALL BE OFF OF THE TOP OF THE PIPING. NO SIDE OR BOTTOM TAPS SHALL BE ACCEPTABLE.



01 HEATING WATER PIPING DIAGRAM
SCALE: NONE

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Tomball ISD-Multi-Program Activity Center-
Tomball High School

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KEY PLAN

PLAN NORTH

TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED
PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

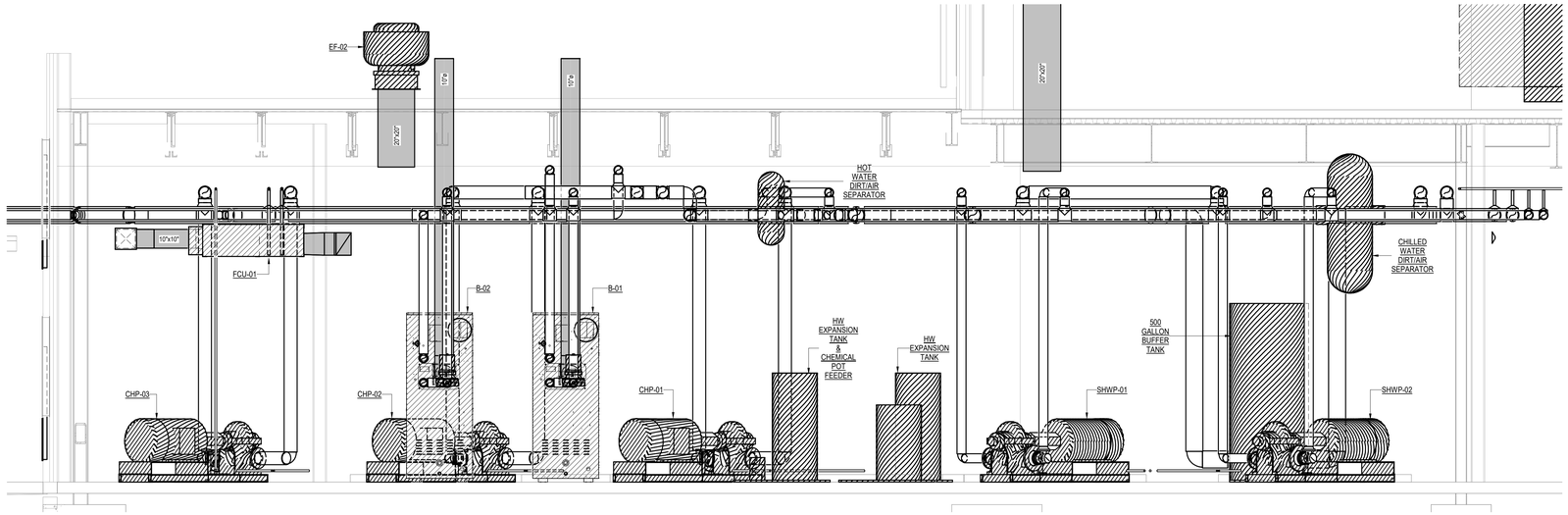
CHECKED BY: MP

DRAWN BY: HV

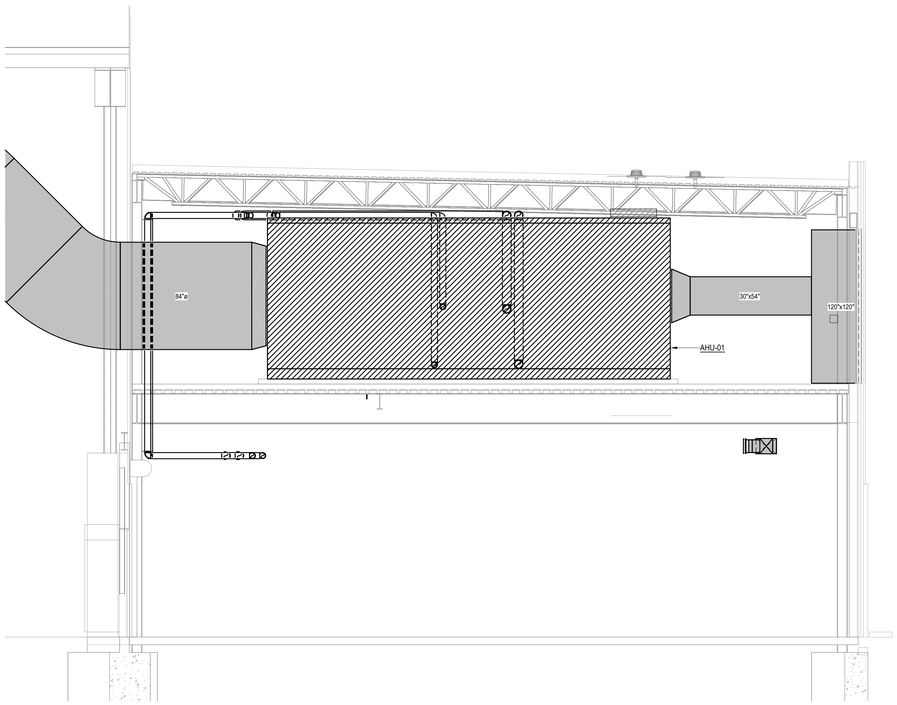
MECHANICAL PIPING DIAGRAM

M-402

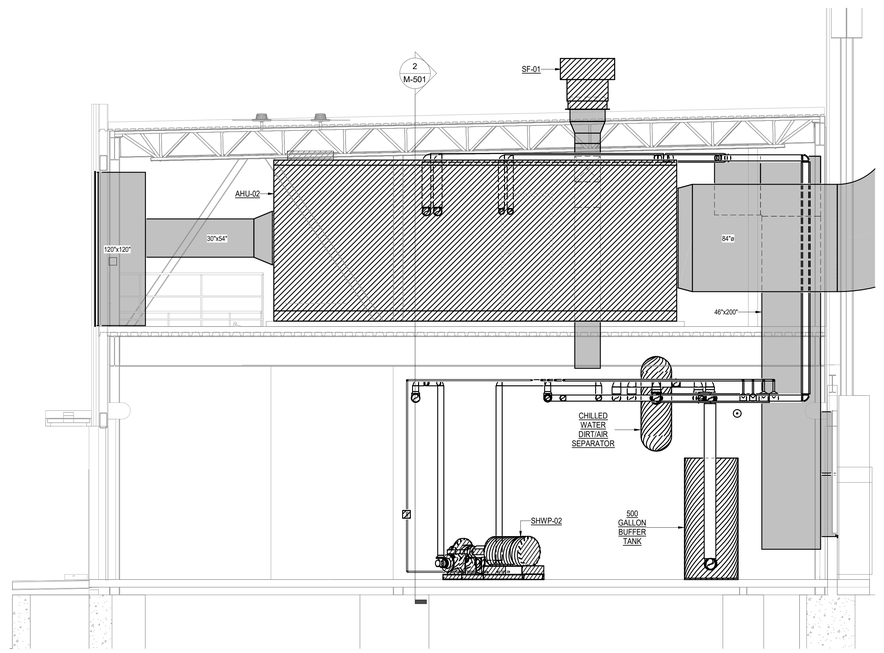
Plot Stamp:
10/30/2026 10:45:27 AM



2 **PUMP ROOM - SECTION VIEW**
SCALE: 3/8" = 1'-0"



3 **AHU-01 MECH MEZZ**
SCALE: 1/4" = 1'-0"



1 **AHU-02 - MECH MEZZ**
SCALE: 1/4" = 1'-0"

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CHECKED BY: MP
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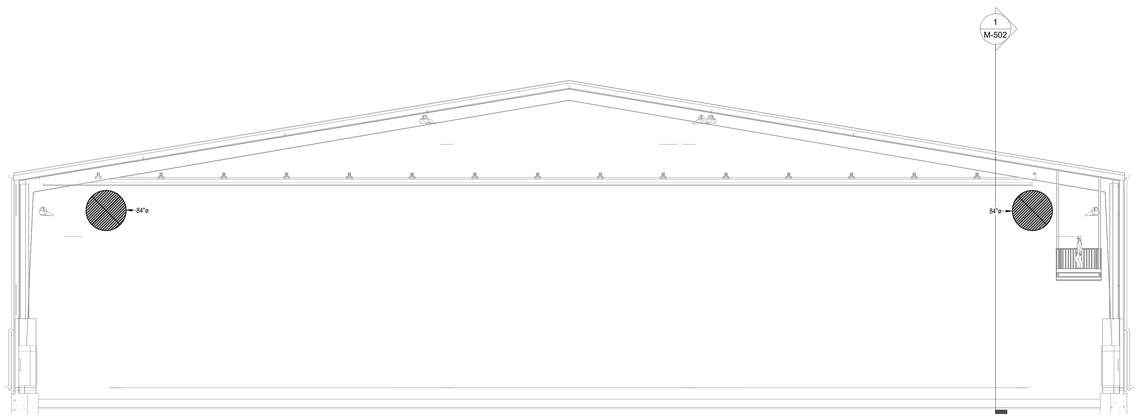
MECHANICAL SECTION VIEW

M-501

Plot Stamp:
10/30/2026 10:45:34 AM



1 MULTI-PROGRAM ACTIVITY CENTER SECTION - FABRIC DUCT
SCALE: 3/32" = 1'-0"



2 MULTI-PROGRAM ACTIVITY CENTER CROSS SECTION
SCALE: 3/32" = 1'-0"

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10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

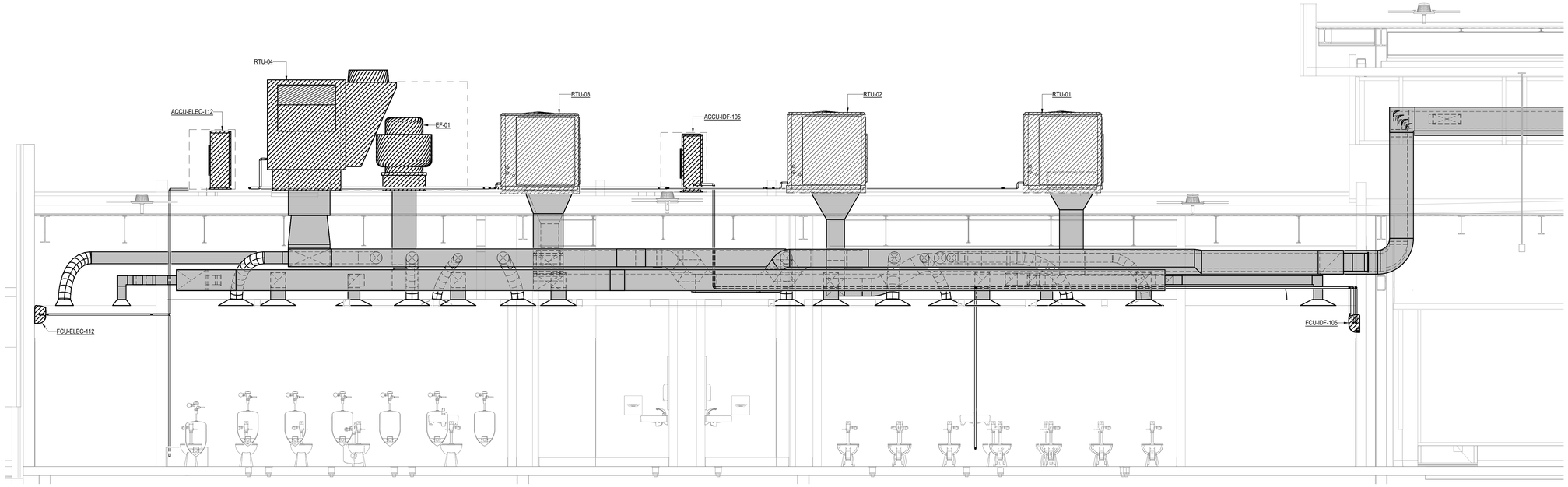
CHECKED BY: MP
DRAWN BY: HV

MECHANICAL SECTION VIEW

M-502

Plot Stamp:
10/30/2026 10:45:36 AM

M-503 - MECHANICAL SECTION VIEW



1 **LOW ROOF AHU - SECTION VIEW**
SCALE: 3/8" = 1'-0"

Plot Stamp:
10/30/2026 10:45:42 AM

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DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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MECHANICAL SECTION VIEW

M-503

ELECTRIC UNIT HEATER SCHEDULE

DESIGNATION	SERVICE	MANUFACTURER	MODEL	NOTES	CFM	TEMP RISE	WEIGHT (LBS)	KW	AMPS	VOLT / Ø / HZ
EUH-01	FIRE RISER ROOM	MARKEL	G1GS1	1-4	400	26.0°	50	3.3	11.9	277 / 1 / 60
EUH-02	FIRE RISER ROOM	MARKEL	G1GS1	1-4	400	26.0°	50	3.3	11.9	277 / 1 / 60

1. REFERENCE ELCTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS.
2. PROVIDE DIRECTIONAL LOUVER VELOCITY SHALL BE 1000 FPM.
3. PROVIDE HORIZONTAL DISCHARGE WALL MOUNT BRACKET AND ADJUSTABLE WALL MOUNTED THERMOSTAT AS INDICATED ON DRAWINGS.
4. UNIT HEATER SHALL BE FAN FORCED; RECOMMENDED MOUNTING HEIGHT: 7'-0" ABOVE FINISHED FLOOR.

HVAC FANS SCHEDULE

DESIGNATION	LOCATION	SERVICE	MANUFACTURER	MODEL NUMBER	NOTES	FAN DATA						
						TYPE	DRIVE TYPE	CFM	STATIC PRESSURE (" W.G.)	MOTOR HP. (MIN.)	RPM (MAX.)	VOLT / Ø / HZ
EF-01	ROOF	RESTROOM	COOK	ACRU	1-6	CENTRIFUGAL	DIRECT	1,850	0.75	1/2	1,725	115 / 1 / 60
EF-02	ROOF	BOILER ROOM PURGE	COOK	ACRU	1-6	CENTRIFUGAL	DIRECT	1,600	0.75	1/2	1,725	115 / 1 / 60
SF-01	ROOF	BOILER ROOM SUPPLY	COOK	ASP	1-3,5,6,7,8	CENTRIFUGAL	DIRECT	1,600	0.75	1/2	1,725	115 / 1 / 60

1. REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL DATA.
2. REFERENCE SPECIFICATIONS FOR SEQUENCE OF OPERATIONS.
3. PROVIDE NEW MINIMUM 14" TALL ROOF CURBS RATED FOR A MINIMUM OF 155 MPH WIND RATING TO BE PROVIDED BY FAN MANUFACTURER.
4. PROVIDE UPBLAST FAN.
5. FAN SHALL BE PROVIDED WITH ECM MOTOR. STARTER SHALL BE PROVIDED BY FAN MANUFACTURER. JUNCTION BOX AND SPEED CONTROLLER TRANSFORMER SHALL BE FACTORY MOUNTED AND WIRED.
6. FAN MANUFACTURER SHALL PROVIDE MOTORIZED DAMPER IN DAMPER TRAY OF ROOF CURB. ACTUATOR SHALL BE THE SAME VOLTAGE AS MOTOR IN FAN. DAMPER SHALL ENERGIZE THROUGH INTEGRAL END SWITCH.
7. INTERLOCK FAN WITH THERMOSTAT SET TO 80° (ADJUSTABLE).
8. PROVIDE SUPPLY FAN WITH 2" THICK ALUMINUM FILTER. SCHEDULED FAN EXTERNAL STATIC PRESSURE EXCLUDES FILTER LOSSES. PROVIDE FAN TO OVERCOME FILTER LOSSES AND PROVIDE EXTERNAL STATIC PRESSURE AS SCHEDULED.

FAN COIL UNIT SCHEDULE

DESIGNATION	SERVICE	TYPE	ARRANGEMENT	MANUFACTURER	MODEL NUMBER	DIMENSIONS (L x W x H) INCHES	OPERATING WEIGHT (lbs.)	SEE NOTE	BLOWER DATA								COOLING COIL DATA									HEATING COIL DATA								ELECTRICAL DATA			
									TOTAL CFM	OUTSIDE AIR CFM	EST. EXT. SP. (IN. WG.)	BRAKE H.P.	MOTOR H.P.	DRIVE	FAN TYPE	CFM OVER COIL	MAX. FACE VELOCITY (FPM)	GRAND SENSIBLE BTUH	GRAND TOTAL BTUH	EAT (°F DB)	EAT (°F WB)	LAT (°F DB)	LAT (°F WB)	GPM	EWT (°F DB)	LWT (°F DB)	CFM OVER COIL	MAX. FACE VELOCITY (FPM)	GRAND TOTAL BTUH	EAT (°F DB)	LAT (°F DB)	GPM	EWT (°F DB)	LWT (°F DB)	FLA	MCA	MOCP	VOLTAGE
FCU-01	ELECTRICAL ROOM B104	SZ CV	HORIZONTAL	TRANE	BCHE	30"L x 24"W x 17"H	113 LBS.	1-10	400	0	0.75	0.176	0.5 HP	DIRECT	FC	400	500	10,436	13,536	78.2°	65.0°	55.0°	54.0°	2.7	45.0°	55.0°	-	-	-	-	-	-	-	-	1.0	1.25	15	460 / 3 / 60
FCU-02	STORAGE B101	SZ CV	HORIZONTAL	TRANE	BCHE	33"L x 42"W x 17"H	168 LBS.	1-10	1,000	0	0.75	0.521 BHP	1 HP	DIRECT	FC	1,000	500	26,342	33,822	78.4°	65.0°	55.0°	54.0°	6.8	45.0°	55.0°	1,000	500	23,760	60.0°	82.0°	1.4	140.0°	100.0°	1.75	2.19	15	460 / 3 / 60
FCU-03	STORAGE B107	SZ CV	HORIZONTAL	TRANE	BCHE	33"L x 42"W x 17"H	168 LBS.	1-10	1,000	0	0.75	0.521 BHP	1 HP	DIRECT	FC	1,000	500	26,342	33,822	78.4°	65.0°	55.0°	54.0°	6.8	45.0°	55.0°	1,000	500	23,760	60.0°	82.0°	1.4	140.0°	100.0°	1.75	2.19	15	460 / 3 / 60

1. REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL DATA.
2. ESTIMATED EXTERNAL STATIC PRESSURE INCLUDES LOSSES THROUGH DUCTWORK, AIR DEVICES, SOUND ATTENUATORS, ETC.
3. FAN COIL UNIT INTERNAL STATIC PRESSURE SHALL INCLUDE LOSSES THROUGH COILS, CASING, INTERNAL DAMPERS, AND 0.50" W.G. FOR DIRTY FILTER.
4. COILS PRESSURE DROP SHALL NOT EXCEED 10 FT. AT SCHEDULED GPM.
5. FAN COIL UNIT SUSPENDED FROM STRUCTURE.
6. PROVIDE FLOAT SWITCH IN AUXILIARY DRAIN PAN.
7. PROVIDE 2" THICK PLEATED MERV 13 FILTERS.
8. PROVIDE FACTORY MOUNTED STARTER AND DISCONNECT.
9. PROVIDE HOT WATER COIL IN RE-HEAT POSITION.
10. MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL 304 STAINLESS STEEL AUXILARY DRAIN PANS.

PACKAGED, OUTDOOR, CENTRAL-STATION AIR-HANDLING UNITS

DESIGNATION	SERVICE	TYPE	MANUFACTURER	MODEL	DIMENSIONS (L" x W" x H")	OPERATING WEIGHT (LBS.)	REFRIGERANT TYPE / CHARGE (LBS.)	SEE NOTE	MIN. EER AT AHRI CONDITIONS		SUPPLY BLOWER DATA						COOLING COIL DATA								HOT GAS RE-HEAT COIL DATA		GAS HEATING DATA					ELECTRICAL DATA		
									IEER @ AHRI	EER @ AHRI	TOTAL CFM	OUTSIDE AIR CFM	EST. EXT. SP. (IN. WG.)	MAX. MOTOR HP (EACH)	MAX. BHP	TYPE	CFM OVER COIL	MAX. FACE VELOCITY (FPM)	GRAND SENSIBLE BTUH	GRAND TOTAL BTUH	EAT (°F DB)	EAT (°F WB)	LAT (°F DB)	LAT (°F DB)	TOTAL BTUH	LAT (°F DB)	INPUT BTUH	OUTPUT BTUH	TURNDOWN	EAT (°F DB)	LAT (°F DB)	MCA	MOCP	VOLTAGE
RTU-01	LOBBY	SINGLE ZONE CV	TRANE	PRECEDENT	7.34" x 4.44" x 4.24"	1,096 LBS.	R-454B / 7.4 LBS.	1-24		14.3	1,600	100	0.75	3 HP	0.38	DIRECT DRIVE - .	1,600	500	34,380	45,120	79.1°	65.9°	55.0°F	54.0°F	41,350	72°F	80,000	64,800	2 STAGE	62.2°F	92.2°	17.0	20	460 / 3 / 60
RTU-02	CONFERENCE ROOM	SINGLE ZONE CV	TRANE	PRECEDENT	7.34" x 4.44" x 4.24"	1,091 LBS.	R-454B / 7.4 LBS.	1-24		14.3	900	100	0.75	3 HP	0.23	DIRECT DRIVE - .	900	500	23,770	32,520	80.0°	66.7°	55.0°F	54.0°F	25,530	72°F	80,000	64,800	2 STAGE	60.0°F	90.0°	13.0	15	460 / 3 / 60
RTU-03	GOLF SIMULATOR	SINGLE ZONE CV	TRANE	PRECEDENT	7.34" x 4.44" x 4.24"	1,105 LBS.	R-454B / 7.4 LBS.	1-24	24.2	13.4	1,600	350	0.75	3 HP	0.57	DIRECT DRIVE - .	1,600	500	50,960	71,640	81.9°	68.3°	55.0°F	54.0°F	37,550	72°F	80,000	64,800	2 STAGE	55.2°F	85.2°	23.0	35	460 / 3 / 60
RTU-04	RESTROOMS	SINGLE ZONE CV	VALENT	VX	98.6" x 86.4" x 65.9"	2,350 LBS.	R-454B	1-24	20.2	10.8	1,850	1,850	0.75	1 HP		DIRECT DRIVE - .	1,850	500	85,000	181,300	96.0°	80.0°	55.0°F	54.0°F	834,000	72°F	200,000	162,000	10:1	20.0°F	80.0°	42.3	60	460 / 3 / 60
																				330,580														

NOTES:
1. REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS.
2. ESTIMATED EXTERNAL STATIC PRESSURE INCLUDES LOSSES THROUGH DUCTWORK, AIR DEVICES, SOUND ATTENUATORS, ETC.
3. ROOF TOP UNIT INTERNAL STATIC PRESSURE SHALL INCLUDE LOSSES THROUGH COILS, CASING, INTERNAL DAMPERS, AND 0.75" W.G. FOR DIRTY FILTERS.
4. EQUIPMENT SHALL COMPLY WITH LATEST EDITION OF 2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) AND SHALL MEET OR EXCEED THE SCHEDULED EFFICIENCY VALUES.
5. PROVIDE LOW LEAK, MOTORIZED, ALUMINUM, FULLY MODULATING DAMPER ASSEMBLY.
6. FAN CONSTRUCTION SHALL BE MINIMUM AMCA CLASS 2, PREMIUM EFFICIENT, TOTALLY ENCLOSED FAN-COOLED (TEFC) MOTOR.
7. PROVIDE OA HOOD WITH METAL MESH OA FILTERS AND PERMENANT METAL FILTER FRAMES WITH MAXIMUM 2" THICK MERV 13 FILTER MEDIA UPSTREAM OF COOLING COIL.
8. EQUIPMENT SHALL BE PROVIDED WITH PHASE/VOLTAGE MONITOR TO BE PROVIDED BY THE MANUFACTURER.
9. HOT GAS RE-HEAT COILS SHALL BE MICROCHANNEL.
10. AMBIENT AIR TEMPERATURE TO BE 105°F.
11. REFRIGERANT SHALL BE R-454b. UNIT SHALL INCLUDE A FACTORY INSTALLED LEAK DETECTION SYSTEM PER UL 60335-2-40. UNITS PROVIDED WITH FACTORY INSTALLED LEAK DETECTORS SHALL HAVE BACNET POINTS TO COMMUNICATE TO BAS.
12. SCROLLS COMPRESSORS REQUIRE BRD STANDARD COMPRESSOR BLANKETS (NO EXCEPTION). COMPRESSOR BLANKETS FOR SOUND ATTENUATION. STAINLESS STEEL DRAIN PAN TO BE INCLUDED UNDERNEATH ALL FACTORY INSTALLED COMPRESSORS.
13. PROVIDE SINGLE POINT POWER CONNECTION WITH FACTORY MOUNTED AND WIRED DISCONNECT AND UNPOWERED 120V/15A GFCI CONVENIENCE OUTLET. CONVENIENCE OUTLET CONNECTION SHALL BE A SEPARATE ELECTRICAL FEED AND NOT FROM THE MAIN.
14. PROVIDE LOW AMBIENT CONTROL DOWN TO 35°F.
15. PROVIDE 14" TALL INSULATED AND FULLY WELDED WIND RATED CURB WITH HOLD DOWN BRACKETS; STRUCTURALLY CALCULATED TO MEET THE WIND REQUIREMENTS OF THE 2015 IBC. CURB ASSEMBLY MUST BE RATED FOR 155 MPH, THREE SECOND GUST. MANUFACTURER TO PROVIDE SIGNED AND SEALED DRAWINGS BY PROFESSIONAL ENGINEER OF THE RATED ASSEMBLY. CURB SHALL BE PROVIDED BY THE MANUFACTURER AND NOT BY OTHERS.
16. PROVIDE MODULATING HOT GAS RE-HEAT COIL FOR ACTIVE HUMIDITY CONTROL.
17. PROVIDE HAIL GUARDS.
18. PROVIDE FACTORY MOUNTED AND WIRED CONTROLLER WITH LCD SCREEEN AND BACNET INTERFACE. BUILDING AUTOMATION SYSTEMS SUBCONTRACTOR SHALL PROVIDE AND INSTALL COMMUNICATION WIRE FROM BACNET INTERFACE CARD TO DDC SYSTEM.
19. MANUFACTURER SHALL PROVIDE ANY ACCESSORIES REQUIRED TO FACILITATE 2-WAY COMMUNICATION WITH THE BAS CONTRACTOR'S SYSTEM. THIS INCLUDES, BUT IS NOT LIMITED TO, FURNISHING, INSTALLING AND PROGRAMMING OF COMMUNICATION CARD (i.e. BACnet) AND COORDINATION WITH THE BAS CONTRACTOR. ALL TEMPERATURE AND HUMIDITY SENSORS SHALL BE PROVIDED, WIRED, AND INSTALLED BY BUILDING AUTOMATION SYSTEMS CONTRACTOR.
20. PROVIDE UNIT WITH INTEGRATED ECONOMIZER CYCLE CONTROL WITH LOW LEAK, MOTORIZED, ALUMINUM, FULLY MODULATING ENTHALPY CONTROLLED ECONOMIZER DAMPER ASSEMBLY. PROVIDE UNIT WITH BAROMETRIC RELIEF DAMPER.
21. PROVIDE FLOAT SWITCH IN COOLING COIL DRAIN PAN.
22. CONDENSER FAN OPERATION SHALL INCLUDE HEAD PRESSURE CONTROL OPTION. (LOW AMBIENT TO 0°F). UNIT SHALL OPERATE AT FULL COOLING CAPACITY DOWN AT OUTDOOR TEMPERATURE TO 0°F.
23. PROVIDE ACOUSTICAL STYLE ROOF CURBS WITH BRD ACOUSTICAL ROOF CURB TREATMENT; REFER TO DETAIL 02/M-703 AND SPECIFICATION.
24. ROOFTOP UNIT SHALL HAVE A MODULATING DIGITAL SCROLL OR INVERTER VFD COMPRESSOR FOR ACCURATE SUPPLY AIR DRY BULB AND DEW POINT CONTROL.

CUSTOM INDOOR CENTRAL-STATION AIR-HANDLING UNITS

DESIGNATION	SERVICE	TYPE	ARRANGEMENT	MANUFACTURER	MODEL	MAX. ALLOWABLE DIMENSIONS (L x W x H) INCHES	MAX. OPERATING WEIGHT (LBS.)	SEE NOTE	BLOWER DATA									COOLING COIL DATA										HEATING COIL DATA							
									TOTAL CFM	OUTSIDE AIR CFM	EST. EXT. SP. (IN WG.)	MAX. ALLOWABLE TOTAL BRAKE H.P.	MOTOR QTY / MAX. MOTOR HP (EACH)	MIN. FAN EFFICIENCY	VARIABLE FREQUENCY DRIVE HP	TYPE	VOLTAGE	CFM OVER COIL	MAX. FACE VELOCITY (FPM)	AIR PRESSURE DROP (FT. W.C.)	FLUID PRESSURE DROP (FT. W.C.)	SENSIBLE BTUH	GRAND TOTAL BTUH	EAT (°F DB)	EAT (°F WB)	LAT (°F DB)	LAT (°F WB)	GPM	EWT (°F DB)	LWT (°F DB)	CFM OVER COIL	MAX. FACE VELOCITY (FPM)	AIR PRESSURE DROP (FT. W.C.)	FLUID PRESSURE DROP (FT. W.C.)	TOTAL BTUH	EAT (°F DB)	LAT (°F DB)	GPM	EWT (°F DB)	LWT (°F DB)
AHU-01	MULTI-PURPOSE	SZ VAV	HORIZONTAL DRAW-THRU	CLIMATECRAFT	24MTX	315.25" x 189" x 127"	30,000 LBS.	1 - 21	62,000	18,000	1.5	48.1	6 / 15 HP	70.6%	100 HP	DIRECT / PLENUM	460 / 3 / 60	62,000	501	0.69	16.84	1,890,000	2,952,432	83.2°	69.4°	55°F	54°F	590	45°F	55°F	62,000	501	0.22	12.46	2,548,800	51.9°	90°F	127	140°F	100°F
AHU-02	MULTI-PURPOSE	SZ VAV	HORIZONTAL DRAW-THRU	CLIMATECRAFT	24MTX	315.25" x 189" x 127"	30,000 LBS.	1 - 21	62,000	18,000	1.5	48.1	6 / 15 HP	70.6%	100 HP	DIRECT / PLENUM	460 / 3 / 60	62,000	501	0.69	16.84	1,890,000	2,952,432	83.2°	69.4°	55°F	54°F	590	45°F	55°F	62,000	501	0.22	12.46	2,548,800	51.9°	90°F	127	140°F	100°F

1. REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL CHARACTERISTICS.
2. ESTIMATED EXTERNAL STATIC PRESSURE INCLUDES LOSSES THROUGH DUCTWORK, AIR DEVICES, SOUND ATTENUATORS, ETC.
3. AIR HANDLING UNIT INTERNAL STATIC PRESSURE SHALL INCLUDE LOSSES THROUGH COILS, CASING, AND 0.75" W.G. FOR DIRTY FILTERS.
4. COOLING COILS SHALL HAVE A MINIMUM OF 8 ROWS AND A MAXIMUM OF 10 FINS PER INCH. PRESSURE DROP THROUGH COIL SHALL NOT EXCEED 16.84 FT. WC AT SCHEDULED GPM.
5. PRE-WIRED AND FACTORY INSTALLED MARINE LED LIGHTS IN EACH SECTION WITH SINLGE LIGHT SWITCH. LIGHTS SHALL BE PROVIDED WITHIN THE MIXED AIR SECTION, FILTER SECTION, CHILLED WATER COIL, HOT WATER RE-HEAT COIL, AND SUPPLY FAN SECTIONS; REFER TO DETAIL.
6. PROVIDE FACTORY FIVE (5) YEAR ROTATING PARTS WARRANTY ON ALL FANS.
7. PROVIDE FACTORY MOUNTED AND WIRED MOTOR OVERLOAD PANEL ON FAN SECTION FOR SINGLE CONNECTION TO WALL MOUNTED VARIABLE FREQUENCY DRIVE. MOP SHALL ALLOW ELECTRICAL CONTRACTOR TO LAND POWER TO DEVICE WITHOUT PENETRATING THROUGH CABINET. FIELD INSTALLED JUNCTION BOXES OR MOTOR OVERLOAD PANELS ARE NOT ACCEPTABLE.
8. PROVIDE FACTORY MOUNTED SHAFT GROUNDING KIT FOR AIR HANDLING UNIT MOTOR. NO EXCEPTIONS.
9. PROVIDE FACTORY FABRICATED MIXING SECTION WITH RETURN AIR AND OUTSIDE AIR OPENINGS. PROVIDE DAMPERS WITH ASSOCIATED OPENINGS. ACTUATORS SHALL BE PROVIDED AND INSTALLED BY BAS SUBCONTRACTOR.
10. PROVIDE FACOTRY MODULATING MOTORIZED OUTSIDE AIR DAMPER FOR DEMAND CONTROL VENTILATION. MOTORIZED ACTUATOR SHALL BE PROVIDED AND INSTALLED BY CONTROLS CONTRACTOR.
11. PROVIDE AIRFLOW MEASURING STATION (AFMS) WITHIN OUTSIDE AIR DUCT. AFMS SHALL BE DESIGNED TO OPERATE WITHOUT PRE-FILTRATION AND BE SPECIFICALLY DESIGNED TO OPERATE IN TURBULENT AIRSTREAMS. AFMS SHLALL BE PROVIDED AND INSTALLED BY BAS SUBCONTRACTOR.
12. PROVIDE HOT WATER COIL IN RE-HEAT POSITION.
13. PROVIDE ALUMINUM TREAD PLATE FLOOR EMBOSSED WITH FOUR-WAY TREAD PLATE AND FINISHED HIGH GLOSS; 3/16" THICK O.D. OVER TREADS AND 0.125 AT BASE.
14. PROVIDE FACTORY MOUNTED MOTOR REMOVAL WINCH. IF WINCH IS NOT AVAILABLE, PROVIDE MOTOR REMOVAL BEAM / RAIL.
15. ALL ACCESS DOORS SHALL BE PROVIDED WITH TEST PORTS AND DOOR WINDOWS WITH SAFETY CATCH FOR POSITIVE PRESSURE FAN ACCESS DOOR. ACCESS DOORS SHALL BE SAME THICKNESS AND CONSTRUCTION AS CABINET.
16. PROVIDE 2" THICK MERV 13 FILTERS IN HOLDING FRAMES AND SHALL BE FRONT LOADING.
17. CUSTOM AIR HANDLING UNIT SHALL HAVE TWO (2) POINTS OF ELECTRICAL CONNECTION: ONE (1) ELECTRICAL POWER SERVICE FOR SUPPLY FANS AND ONE (1) ELECTRICAL POWER CONNECTION FOR GENERAL ELECTRICAL SERVICE FOR SWITCH / CONVENIENCE OUTLET / COMPACT LED LIGHTING. ELECTRICAL POWER SERVICE FOR COMPACT LED LIGHTING SHALL BE: 120 / 1 / 60; 20 AMPS.
18. ALL FANS SHALL BE PROVIDED WITH ZERO NET EFFECT VERTICAL BACKDRAFT DAMPERS.
19. PROVIDE 304 STAINLESS STEEL DRAIN PAN FOR BOTH COOLING AND RE-HEAT COILS WITH INTERMEDIATE DRAIN PANS. DRAIN PANS SHALL EXTEND 24" PAST THE COIL.
20. FAN ARRAY SHALL BE CAPABLE FOR N-1 OPERATION: WHEN INDIVIDUAL FAN TRANSDUCER (PROVIDED AND INSTALLED BY BAS SUBCONTRACTOR) CONNECTED TO FACTORY MOUNTED INDIVIDUAL FAN PIZO RING INDICATES THAT A FAN HAS FAILED, THE BMS WILL INCREASE THE FREQUENCY ON THE VFD TO MEET ORIGINAL DESIGN AIRFLOW WITH REMAINING (5) FIVE FANS. SUBMITTAL FAN DOCUMENTATION SHALL SHOW OPERATING FREQUENCY AT BOTH (6) SIX AND (5) FANS TO PERFORM AT DESIGN AIRFLOW.
21. UNIT DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS FOR OPTIMUM MAINTENANCE AND OPERATION. SCHEDULED HEIGHT SHALL NOT BE EXCEEDED. REFER TO DETAIL 01/-M704.

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KEY PLAN

PLAN NORTH

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STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED
PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT
TOMBALL ISD

DATE 10/30/2026 | PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: MP

DRAWN BY: HV

MECHANICAL SCHEDULES

M-601

HYDRONIC PUMP SCHEDULE

DESIGNATION	SERVICE	TYPE	NOTES	GPM	HEAD (FT. H20)	EFFICIENCY	RPM (MAX.)	MAX. ALLOWABLE MOTOR H.P.	MAX. ALLOWABLE BRAKE HP	ELECTRICAL (VOLTS / PH / HZ)	MANUFACTURER	MODEL NUMBER	MAXIMUM NPSHA (FT.)
CHP-01	ACCH-01	HORIZONTAL SPLIT-CASE DOUBLE SUCTION	1-6,8	595	75'	82.0%	1,800	20.0	13.8	460 / 3 / 60	BELL & GOSSETT	e-HSC	8.19
CHP-02	ACCH-02	HORIZONTAL SPLIT-CASE DOUBLE SUCTION	1-6,8	595	75'	82.0%	1,800	20.0	13.8	460 / 3 / 60	BELL & GOSSETT	e-HSC	8.19
CHP-03	ACCH-03	HORIZONTAL SPLIT-CASE DOUBLE SUCTION	1-8	595	75'	82.0%	1,800	20.0	13.8	460 / 3 / 60	BELL & GOSSETT	e-HSC	8.19
SHWP-01	BUILDING LOOP	HORIZONTAL SPLIT-CASE DOUBLE SUCTION	1-6	258	55'	74.0%	1,800	7.5	4.76	460 / 3 / 60	BELL & GOSSETT	e-HSC	5.87
SHWP-02	BUILDING LOOP	HORIZONTAL SPLIT-CASE DOUBLE SUCTION	1-7	258	55'	74.0%	1,800	7.5	4.76	460 / 3 / 60	BELL & GOSSETT	e-HSC	5.87

1. REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL DATA.
2. IMPELLER SHALL NOT EXCEED 85% OF CUTWATER DIAMETER.
3. PUMP CURVE SHALL HAVE A MINIMUM OF 8 PSI DIFFERENTIAL BETWEEN 65% OF DESIGN FLOW AND 100% OF DESIGN FLOW.
4. PROVIDE TOTALLY ENCLOSED FAN COOLED (TEFC) MOTOR.
5. PROVIDE WITH VARIABLE FREQUENCY DRIVE FOR PRIMARY VARIABLE FLOW OPERATION.
6. ALL PUMPS SHALL HAVE A STAINLESS STEEL DRAIN PAN PROPERLY PLUMBED TO FLOOR DRAIN. DRAIN PANS SHALL BE PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR.
7. PUMP SHALL SERVE AS STANDBY OPERATION.
8. SYSTEM CURVE OF SELECTED PUMPS MUST CROSS ALL DUTY PUMP CURVES AT FULL SPEED.

MINIMUM VENTILATION RATES (AHU-01 & AHU-02)

OCCUPANCY CATEGORY	SPACE AREA (SQ. FT.)	PEOPLE OUTDOOR AIR RATE (CFM PER PERSON)	AREA OUTDOOR AIR RATE (CFM PER SQ. FT.)	OCCUPANTS	OCCUPANT DENSITY (occ/1000 sqft)	COMBINED OUTDOOR AIR RATE (TOTAL CFM)	EXHAUST RATE (CFM PER SQ. FT.)	TOTAL EXHAUST REQUIRED
INDOOR MAC FIELD F101	58,702	20	0.18	1,220	7	34,966	0	0
TOTAL CFM						**34,966**		**0**

MINIMUM VENTILATION RATES (RTU-01)

OCCUPANCY CATEGORY	SPACE AREA (SQ. FT.)	PEOPLE OUTDOOR AIR RATE (CFM PER PERSON)	AREA OUTDOOR AIR RATE (CFM PER SQ. FT.)	OCCUPANT	OCCUPANT DENSITY (occ/1000 sqft)	COMBINED OUTDOOR AIR RATE (TOTAL CFM)	EXHAUST RATE (CFM PER SQ. FT.)	TOTAL EXHAUST REQUIRED
LOBBY 101	494	5	0.06	5	10	54.6	0	0
TOTAL CFM						**54.6**		**0**

MINIMUM VENTILATION RATES (RTU-02)

OCCUPANCY CATEGORY	SPACE AREA (SQ. FT.)	PEOPLE OUTDOOR AIR RATE (CFM PER PERSON)	AREA OUTDOOR AIR RATE (CFM PER SQ. FT.)	OCCUPANT	OCCUPANT DENSITY (occ/1000 sqft)	COMBINED OUTDOOR AIR RATE (TOTAL CFM)	EXHAUST RATE (CFM PER SQ. FT.)	TOTAL EXHAUST REQUIRED
CONFERENCE ROOM 102	395	5	0.06	12	50	83.7	0	0
TOTAL CFM						**83.7**		**0**

MINIMUM VENTILATION RATES (RTU-03)

OCCUPANCY CATEGORY	SPACE AREA (SQ. FT.)	PEOPLE OUTDOOR AIR RATE (CFM PER PERSON)	AREA OUTDOOR AIR RATE (CFM PER SQ. FT.)	OCCUPANT	OCCUPANT DENSITY (occ/1000 sqft)	COMBINED OUTDOOR AIR RATE (TOTAL CFM)	EXHAUST RATE (CFM PER SQ. FT.)	TOTAL EXHAUST REQUIRED
GOLF SIMULATOR 103	861	20	0.18	6	7	275.0	0	0
TOTAL CFM						**275.0**		**0**

MINIMUM VENTILATION RATES (RTU-04)

OCCUPANCY CATEGORY	SPACE AREA (SQ. FT.)	PEOPLE OUTDOOR AIR RATE (CFM PER PERSON)	AREA OUTDOOR AIR RATE (CFM PER SQ. FT.)	OCCUPANT	OCCUPANT DENSITY (occ/1000 sqft)	COMBINED OUTDOOR AIR RATE (TOTAL CFM)	EXHAUST RATE (CFM PER SQ. FT.)	TOTAL EXHAUST REQUIRED
WOMENS RESTROOM	927	0	0	0	0	0.0	70 CFM / FIXTURE	840
MENS RESTOOM	994	0	0	0	0	0.0	70 CFM / FIXTURE	840
FAMILY A 106	120	0	0	0	0	0.0	50 CFM / FIXTURE	50
FAMILY B 110	120	0	0	0	0	0.0	50 CFM / FIXTURE	50
STORAGE 104	212	5	0.06	0	0	12.7	0	0
TOTAL CFM						**12.7**		**1,780**

DIFFUSER SCHEDULE

DESIGNATION	MODEL NUMBER	NOISE CRITERIA (NC)	DESCRIPTION
A	TITUS TDCA (SUPPLY)	25	24x24 MODULE SIZE, LAY-IN BORDER TYPE, 18"x18" NECK SIZE WITH ROUND DUCT CONNECTION SIZED AS INDICATED ON PLANS. NO OPPOSED BLADE DAMPER, ALL STEEL CONSTRUCTION.
B	TITUS PAR (RETURN)	25	24x24 MODULE SIZE, LAY-IN BORDER TYPE, 22"x22" NECK SIZE UNLESS NOTED OTHERWISE. NO OPPOSED BLADE DAMPER, ALL STEEL CONSTRUCTION.
C	TITUS TDCA (SUPPLY)	25	12x12 MODULE SIZE, LAY-IN BORDER TYPE, 9"x9" NECK SIZE WITH ROUND DUCT CONNECTION SIZED AS INDICATED ON PLANS. NO OPPOSED BLADE DAMPER, ALL STEEL CONSTRUCTION.
D	TITUS PAR (RETURN)	25	12x12 MODULE SIZE, LAY-IN BORDER TYPE, 10"x10" NECK SIZE UNLESS NOTED OTHERWISE. NO OPPOSED BLADE DAMPER, ALL STEEL CONSTRUCTION.
E	TITUS 272FS (SUPPLY)	25	DOUBLE DEFLECTION, 3/4" BLADE SPACING, FRONT BLADES PARALLEL TO SHORT DIMENSION, NO OPPOSED BLADE DAMPER, SURFACE MOUNTING BORDER TYPE WITH COUNTERSUNK HOLES, ALL ALUMINUM CONTSTRUCTION.
F	TITUS 23RS (RETURN)	25	3/4" BLADE SPACING, 45° FIXED DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION. ALL STEEL CONTSTRUCTION.
G	TITUS DL (SUPPLY)	25	HIGH CAPACITY LONG THROW DRUM LOUVER
H	350ZFL (RETURN)	25	3/4" BLADE SPACING, 0° FIXED DEFLECTION, BLADES PARALLEL TO THE LONG DIMENSION. ALL STEEL CONTSTRUCTION.
I	TITUS TDCA-AA (SUPPLY)	25	24x24 MODULE SIZE, LAY-IN BORDER TYPE, 18"x18" NECK SIZE WITH ROUND DUCT CONNECTION SIZED AS INDICATED ON PLANS. NO OPPOSED BLADE DAMPER, ALL ALUMINUM CONSTRUCTION.
J	TITUS PAR-AA (RETURN)	25	24x24 MODULE SIZE, LAY-IN BORDER TYPE, 22"x22" NECK SIZE UNLESS NOTED OTHERWISE. NO OPPOSED BLADE DAMPER, ALL ALUMINUM CONSTRUCTION.
K	TITUS ML-39 (SUPPLY)	25	1" SLOT WIDTH, 2-SLOTS, CONTINUOUS, WITH PATTERN CONTROLLERS, WITH INSULATED PLENUM. CONTRACTOR TO DETERMINE FRAMING AND BORDER ACCORDING TO RESPECTIVE CEILING PLAN AND COORDINATE WITH ARCHITECT.
L	TITUS 50F (RETURN)	25	ALUMINUM EGGCRATE, ALUMINUM BORDER AND GRID, 1/2 x 1/2 x 1/2" ALUMINUM CORE, HIGH FREE AREA CORE, MINIMIZED PRESSURE DROP.
M	TITUS MLR-39 (RETURN)	25	1" SLOT WIDTH, 2-SLOTS, CONTINUOUS, WITH INSTALLED PLENUM, CONTRACTOR TO DETERMINE FRAMING AND BORDER ACCORDING TO RESPECTIVE CEILING PLAN AND COORDINATE WITH ARCHITECT.

1. ALL DIFFUSER DESIGNATIONS MAY NOT BE USED ON PROJECT.
2. PROVIDE ROTO-TWIST CABLE OPERATED DAMPERS IN GYP BOARD CEILINGS.

DUCTLESS MINI-SPLIT SYSTEM AIR-CONDITIONERS SCHEDULE

EVAPORATOR SECTION		
INDOOR EVAPORATOR DESIGNATION	**FCU-IDF-105**	**FCU-ELEC-112**
SERVICE	IDF 105	ELECTRICAL ROOM 112
MANUFACTURER	MITSUBUSHI	MITSUBUSHI
MODEL NUMBER	PKA	PKA
TYPE	WALL MOUNTED	WALL MOUNTED
WEIGHT (LBS.)	40	40
DIMENSIONS (H x W x D) INCHES	12 x 10 x 36	12 x 10 x 36
NOTES	1-9	1-9
FAN CFM (HIGH / MEDIUM / LOW) SPEED	215 / 255 / 320 / 375	215 / 255 / 320 / 375
ENTERING AIR EVAP (DB / WB) °F - COOLING MODE	80°F / 67°F	80°F / 67°F
ENTERING AIR EVAP (DB / WB) °F - HEATING MODE	70°F / 60°F	70°F / 60°F
TOTAL BTUH COOLING	12,000	12,000
AIR-COOLED CONDENSER		
DESIGNATION	**ACCU-IDF-105**	**ACCU-ELEC-112**
SERVES	FCU-IDF-105	FCU-ELEC-112
LOCATION	ROOF	ROOF
MANUFACTURER	MITSUBUSHI	MITSUBUSHI
MODEL NUMBER	PUY	PUY
NOMINAL TONNAGE	**1 TON**	**1 TON**
EER2	14.8	14.8
SEER2	21.1	21.1
VOLTS/PH/HZ	**208 / 1 / 60**	**208 / 1 / 60**
MCA	16	16
MOCP	27	27
REFRIGERANT	R-454B	R-454B
AMBIENT TEMPERATURE °F	105°F	105°F
WEIGHT (LBS.)	120	120
DIMENSIONS (H x W x D) INCHES	25 x 35 x 12	25 x 35 x 12

1. REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL DATA.
2. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
3. PROVIDE REMOTE WALL MOUNTED PROGRAMMABLE THERMOSTAT WITH BACnet INTERFACE.
4. PROVIDE INVERTER DRIVEN COMPRESSOR.
5. INDOOR UNIT IS POWERED BY THE OUTDOOR UNIT. INTERCONNECTING POWER WIRING FROM OUTDOOR TO INDOOR UNIT IS BY ELECTRICAL CONTRACTOR. REFER TO ELECTRICAL DRAWINGS.
6. PROVIDE MATCHING CONDENSING UNIT FROM SAME MANUFACTURER.
7. MANUFACTURER SHALL PROVIDE A CONDENSATE PUMP. PUMP SHALL BE POWERED BY THE UNIT AND SHALL NOT START / STOP UNLESS THE UNIT IS ENERGIZED / DE-ENERGIZED.
8. ROOF MOUNTED CONDENSING UNIT SHALL BE RATED FOR 155 MPH WIND SPEED.
9. PROVIDE UNIT WITH LOW AMBIENT KIT.

ROTARY-SCREW WATER CHILLERS AIR-COOLED SCHEDULE

DESIGNATION	MANUFACTURER	MODEL NUMBER	REFRIGERANT	COMPRESSOR TYPE	EVAPORATOR DATA								AMBIENT TEMP (°F)	MAX. UNIT KW / TON (@ DESIGN CONDITIONS)	EER AT AHRI CONDITIONS		DIMENSIONS (L x W x H) INCHES	OPERATING WEIGHT (lbs)	ELECTRICAL DATA		
					CAPACITY (TONS)	E.W.T. (°F)	L.W.T. (°F)	GPM	MINIMUM EVAPORATOR FLOW RATE (GPM)	FOULING FACTOR	NO. OF PASSES	MAX. FLUID P.D. (FT)			FULL LOAD (EER)	IPLV (EER)			MCA	MOCP	VOLTS / Ø / HZ
ACCH-01	TRANE	RTAF	R-513A	SCREW	248.0	55°F	45°F	595	304	0.0001	1	11.0	100°F	1.27	10.23	16.07	414" x 88" x 94"	17,231	544	700	460 / 3 / 60
ACCH-02	TRANE	RTAF	R-513A	SCREW	248.0	55°F	45°F	595	304	0.0001	1	11.0	100°F	1.27	10.23	16.07	414" x 88" x 94"	17,231	544	700	460 / 3 / 60
ACCH-03	TRANE	RTAF	R-513A	SCREW	248.0	55°F	45°F	595	304	0.0001	1	11.0	100°F	1.27	10.23	16.07	414" x 88" x 94"	17,231	544	700	460 / 3 / 60

1. REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL DATA.
2. PROVIDE CHILLER WITH SINGLE POINT POWER CONNECTION AND FACTORY MOUNTED NON-FUSED MOLDED CASE DISCONNECT SWITCH.
3. PROVIDE FACTORY INSTALLED ELECTRIC IMMERSION HEATER WITH THERMOSTAT TO PROTECT EVAPTORATOR FROM FREEZING DOWN TO -20°F AMBIENT. REFER TO SPECIFICATION FOR FURTHER REQUIREMENT.
4. CONDENSER COILS SHALL MICROCHANNEL FULLY DIPPED AND BAKED (E-COAT) WITH UV TOP COAT.
5. PROVIDE LOW AMBIENT HEAD PRESSURE CONTROL AS SPECIFIED.
6. CONTROL PANEL SHALL BE NEC409 AND UL508A COMPLIANT WITH 65k SCCR (HIGH SHORT CIRCUIT CURRENT RATING).
7. CHILLER SHALL BE PROVIDED WITH BACNET INTERFACE CARD.
8. PROVIDE LOW SOUND CONDENSER FANS.
9. SOUND CRITERIA 30'-0" FROM THE COIL SIDE OF THE CHILLER: A-WEIGHTED SOUND PRESSURE LEVEL SHALL NOT EXCEED 70 DBA.
10. COMPRESSOR ACOUSTIC BLANKETS AND LOW SOUND FANS SHALL BE PROVIDED REGARDLESS IF SCHEDULED DBA IS MET WITHOUT.
11. PROVIDE ULTRA-LOW SOUND PACKAGED MANUFACTURED BY BRD -NOISE AND VIBRATION CONTROL, INC. HUSH COVER CHILLER NOISE REDUCTION PRODUCT LINE; NO EXCEPTIONS. REFER TO DETAIL AND SPECIFICATIONS.
12. PROVIDE A MINIMUM OF TWO INDEPENDENT REFRIGERANT CIRCUITS.
13. AIR-COOLED CHILLER ACCH-03 SHALL SERVE AS STAND-BY OPERATION.
14. PROVIDE FACTORY INSTALLED UN-POWERED 120V GFCI UNIT MOUNTED CONVENIENCE OUTLET.
15. REQUIRED JOB SITE EDDY CURRENT TESTING: THE INSTALLING MECHANICAL CONTRACTOR SHALL ARRANGE THE SERVICES OF A TESTING GROUP TO CONDUCT AN EDDY CURRENT TEST OF THE EVAPORATOR TUBES ON SITE PRIOR TO CHILLER STARTUP. SUBMIT FINAL REPORT TO OWNER AND ENGINEER. REFER TO SPECIFICATION 23 64 27; 2.13 FIELD CONDUCTED EDDY CURRENT TEST.
16. PROVIDE BRD-NOISE AND VIBRATION CONTROL AS SPECIFIED AND DETAILED PER 01/M-703

CONDENSING BOILER SCHEDULE

DESIGNATION	TYPE	LOCATION	NOTES	BURNER FUEL	MIN. EFFICIENCY	MIN. INPUT (BTUH)	MIN. OUTPUT (BTUH)	MANUFACTURER	MODEL NUMBER	GPM	E.W.T. (°F)	L.W.T. (°F)	FLUE SIZE (DIA.)	DIMENSIONS (L x W x H) INCHES	WEIGHT (LBS.)	BOILER ELECTRICAL INFORMATION			CIRCULATING PUMP ELECTRICAL INFORMATION			
																FLA	MAX. AMPS	VOLT / PH / HZ	DESIGNATION	MAX H.P.	FLA	VOLT / PH / HZ
B-01	CONDENSING	BOILER ROOM	1-12	NAT. GAS	94%	3,000,000	2,841,000	CAMUS	AVENGER	142	100°F	140°F	10"Ø	35" x 44" x 90"	2,400 LBS.	12.0	20	208ph / 3ph / 60hz	PHWP-01	1 1/2	6.6	208ph / 3ph / 60hz
B-02	CONDENSING	BOILER ROOM	1-12	NAT. GAS	94%	3,000,000	2,841,000	CAMUS	AVENGER	142	100°F	140°F	10"Ø	35" x 44" x 90"	2,400 LBS.	12.0	20	208ph / 3ph / 60hz	PHWP-02	1 1/2	6.6	208ph / 3ph / 60hz

1. REFERENCE ELECTRICAL DRAWINGS FOR ELECTRICAL DATA.
2. PROVIDE AUXILIARY PUMP AS REQUIRED BY MANUFACTURER TO CIRCULATE WATER AT BYPASS CONDITIONS. REFER TO ELECTRICAL DRAWINGS.
3. PROVIDE CATEGORY IV FLUE PIPE. INNER PIPE OF AL29-4C AND OUTER PIPE OF 430 STAINLESS STEEL.
4. PROVIDE WITH A CONDENSATE NEUTRALIZATION KIT WITH SCHEDULE 8-CPVC CONDENSATE PIPING.
5. CONDENSING BOILER HEAT EXCHANGER SHALL BE OF STAINLESS STEEL. COPPER HEAT EXCHANGERS ARE NOT ACCEPTABLE: REFER TO SPECIFICATION.
6. BOILER MANUFACTURER SHALL PROVIDE CONTROLS FOR BOILER SEQUENCING AND CONTROL. BAS SHALL INTERFACE TO BOILER CONTROL PANEL.
7. MANUFACTURER SHALL PROVIDE BACNET INTERFACE CARD ANY ACCESSORIES REQUIRED TO FACILITATE 2-WAY COMMUNICATION WITH THE BAS CONTRACTOR'S SYSTEM. THIS INCLUDES, BUT IS NOT LIMITED TO, FURNISHING, INSTALLING AND PROGRAMMING OF COMMUNICATION CARD (i.e. BACnet)
8. PROVIDE SEPARATE POINT CONNECTION TO BOILER AND CIRCULATING PUMP. ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL STARTER AND DISCONNECT WITH HOA AS REQUIRED FOR BOILER AND CIRCULATING PUMP; COORDINATE WITH BOILER MANUFACTURER.
9. FLUE PIPING SHALL BE PROVIDED AND SUBMITTED BY BOILER DISTRIBUTOR AFTER BOILER SUBMITTAL HAS BEEN APPROVED BY ENGINEER. FLUE PIPE SHALL NOT BE SUBMITTED BY ANY OTHER PARTY OTHER THAN THE BOILER SALES REPRESENTATIVE AWARDED THE PROJECT. FLUE PIPE SHALL BE INSTALLED BY MECHANICAL CONTRACTOR.
10. BOILER REPRESENTATIVE IS RESPONSIBLE FOR PROVIDING THE GAS REGULATORS FOR EACH BOILER TO PROVIDE PROPER GAS FLOW REQUIRED. REGULATORS TO BE INSTALLED AND VENTED BY PLUMBING CONTRACTOR AS REQUIRED.
11. BOILER REPRESENTATIVE IS TO COORDINATE WITH CONTROLS CONTRACTOR TO INSTALL LOW VOLTAGE WIRING FOR BACnet, CASCADE, BMS AND HW SYSTEM LOOP SENSOR, LOW WATER CUTOFF FLOW SWITCH AS NEEDED.
12. BOILERS SHALL BE TWO-PASS COUNTER FLOW FIRE-TUBE BOILER.

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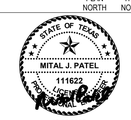
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ISSUED FOR PROPOSAL

B A

KEY PLAN — PLAN NORTH — TRUE NORTH



10/30/2026
LEAF ENGINEERS
F-18672

CLIENT
TOMBALL ISD

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

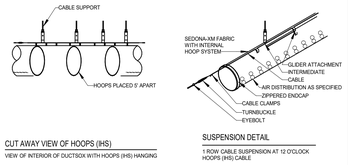
No.	Description	Date

CHECKED BY: MP
DRAWN BY: HV

MECHANICAL SCHEDULES

M-602

Plot Stamp:
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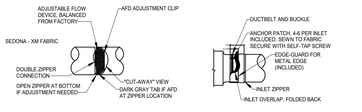


CUT AWAY VIEW OF HOOPS (IHS)

VIEW OF INTERIOR OF DUCTSOX WITH HOOPS (IHS) HANGING

SUSPENSION DETAIL

1 ROW CABLE SUSPENSION AT 12 O'CLOCK HOOPS (IHS) CABLE



ADJUSTABLE FLOW DEVICE (AFD)

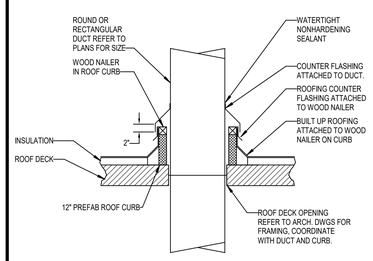
INSTALLED AT ZIPPER LOCATION AT INLET OR AS SPECIFIED IN OTHER LOCATIONS. ZIPPER TO ZIPPER CONNECTION AS SHOWN. EXTERNAL LABEL IDENTIFIES LOCATION

INLET ATTACHMENT DETAIL

SEDONA - XM FABRIC

INTERNAL HOOP SYSTEM FABRIC DUCT DETAIL — 15

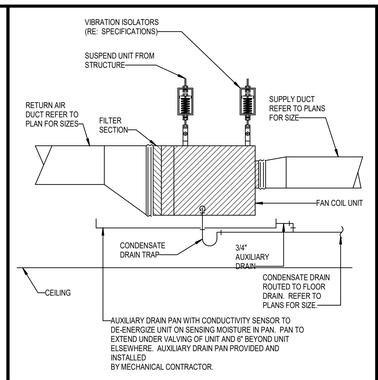
NOT TO SCALE



NOTE: FLASHING SHALL BE COMPATIBLE WITH EXISTING ROOFING. ALL MATERIALS USED SHALL BE AS RECOMMENDED BY EXISTING ROOFING SYSTEM MANUFACTURER.

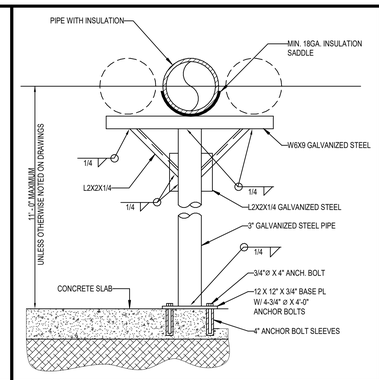
DUCT PENETRATION THROUGH ROOF DETAIL — 14

NOT TO SCALE



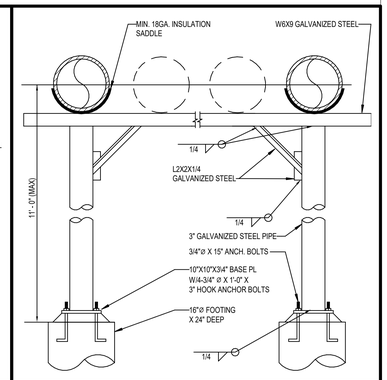
FAN COIL UNIT DETAIL — 13

NOT TO SCALE



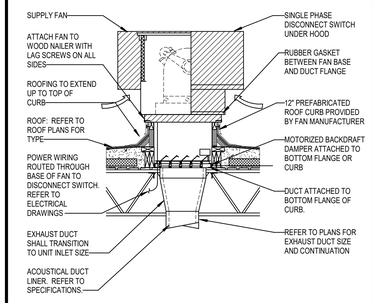
PIPE STANCHION DETAIL — 12

NOT TO SCALE



DOUBLE PIPE STANCHION PIPE SUPPORT DETAIL — 11

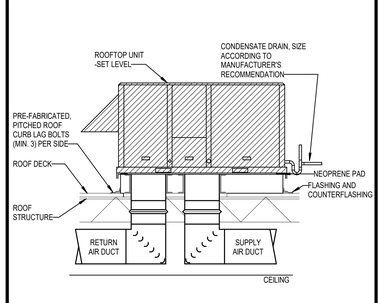
NOT TO SCALE



NOTES:
1. FOR THREE PHASE FANS, REFER TO THREE PHASE DISCONNECT SWITCH DETAIL
2. PROVIDE DUCT LINER IN THE FIRST 10 FEET OF DUCT FROM FAN.

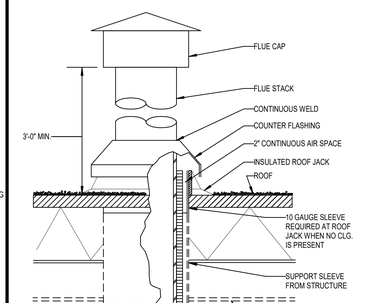
HOODED SUPPLY ROOF MOUNTED FAN DETAIL — 10

NOT TO SCALE



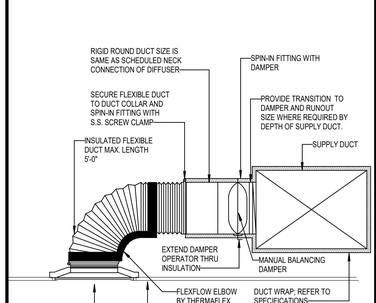
ROOFTOP AIR CONDITIONING UNIT DETAIL — 09

NOT TO SCALE



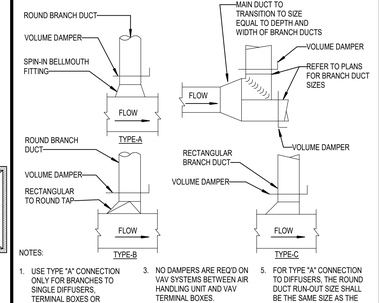
BOILER FLUE STACK DETAIL — 08

NOT TO SCALE



CEILING DIFFUSER CONNECTION DETAIL — 07

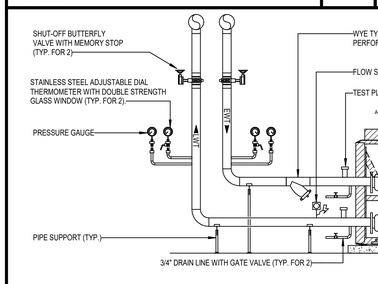
NOT TO SCALE



NOTES:
1. USE TYPE "A" CONNECTION ONLY FOR BRANCHES TO SINGLE DIFFUSERS, TERMINAL BOXES OR GRILLES FROM THE MAIN.
2. USE TYPE "B" OR "C" BRANCH WHERE BRANCH FLOW IS 20% OR LESS OF MAIN.
3. NO DAMPERS ARE REQ'D ON VAV SYSTEMS BETWEEN AIR HANDLING UNIT AND VAV TERMINAL BOXES.
4. USE TEE SPLIT WHERE BRANCH FLOW IS MORE THAN 20% OF MAIN.
5. FOR TYPE "A" CONNECTION TO DIFFUSERS, THE ROUND DUCT RUN-OUT SIZE SHALL BE THE SAME SIZE AS THE NECK OF DIFFUSER, UNLESS OTHERWISE INDICATED.
4. PROVIDE VOLUME DAMPERS ON SUPPLY, OUTSIDE AIR, RETURN AND EXHAUST DUCT SYSTEMS AS SHOWN.

BRANCH DUCT DETAILS — 06

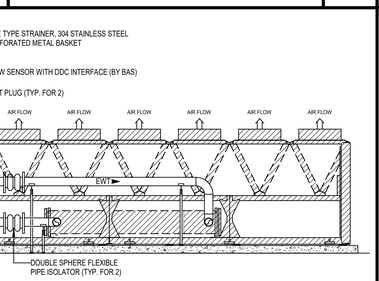
NOT TO SCALE



NOTES:
1. EXTERIOR PIPE SHALL BE INSULATED AND WRAPPED WITH ALUMINUM JACKET; REFER TO SPECIFICATIONS SECTION 23 07 19.
2. SHUT-OFF VALVE SHALL BE LINE SIZE.
3. MANUFACTURER PROVIDED FLOW SWITCH SHALL BE INSTALLED IN UPRIGHT POSITION LOCATED IN HORIZONTAL SECTION OF PIPE RUN OF AT LEAST (5) FIVE PIPE DIAMETERS ON EACH SIDE OF THE FLOW SWITCH; FLOW SWITCH MAY BE INSTALLED IN VERTICAL PIPE IF THE FLOW IS IN THE UPRIGHT DIRECTION.
4. PROVIDE TYPE WSW - TWO LAYERS OF 3/8" THICK NEOPRENE PAD CONSISTING OF SQUARE WAFFLE MODULES SEPARATED BY A 16 GAUGE GALVANIZED SHIM. REFER TO SPECIFICATION SECTION 23 05 48.
5. PROVIDE DOUBLE SPHERE FLEXIBLE PIPE ISOLATOR AT CHILLER INLET AND OUTLET.
6. BUTTERFLY VALVES SHALL BE PROVIDED WITH MEMORY STOP REGARDLESS OF SIZE. FOR BUTTERFLY VALVES LARGER THAN 6" PROVIDE HAND-WHEEL AND GEAR DRIVE WITH MEMORY STOP.

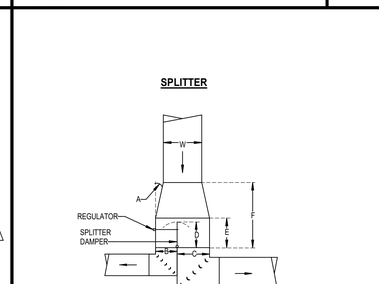
AIR - COOLED CHILLER PIPING DETAIL — 05

NOT TO SCALE



CONDENSATE TRAP PIPING DETAIL — 04

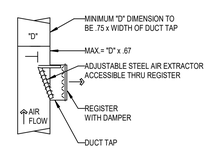
NOT TO SCALE



DIMENSIONS
1. ANGLE "A" TO BE 15° OR LESS (BOTH SIDES)
2. SEE FLOOR PLANS FOR B, C, & W.
3. SPLITTER DAMPER LENGTH D = 1.5 x B
4. E = D + 3" MINIMUM
5. VERTICAL DIMENSION TO BE MAINTAINED THRU F.
6. CHANGE IN VERTICAL DIMENSION TO OCCUR AFTER TURNS.

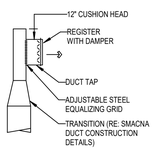
1 DAMPER ABOVE INACCESSIBLE CEILING
2 DAMPER ABOVE LAY-IN CEILING

AIR EXTRACTOR AT SIDEWALL REGISTER



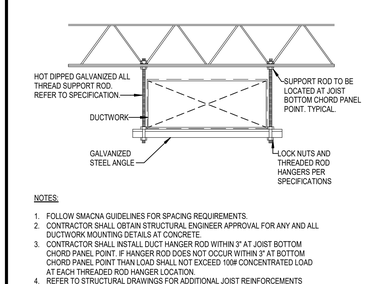
1. MAX. WIDTH OF DUCT TAP SHALL BE 48". PROVIDE BOTTOM BRACKET FOR SUPPORT WHERE EXTRACTOR EXCEEDS 16".
2. MAX. HEIGHT OF DUCT TAP SHALL BE 12" (MIN. = 4")

SIDEWALL REGISTER AT END OF DUCT



DUCT CONSTRUCTION DETAIL — 01

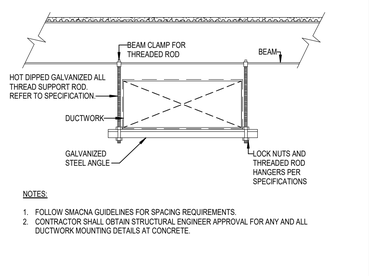
NOT TO SCALE



NOTES:
1. FOLLOW SMACNA GUIDELINES FOR SPACING REQUIREMENTS.
2. CONTRACTOR SHALL OBTAIN STRUCTURAL ENGINEER APPROVAL FOR ANY AND ALL DUCTWORK MOUNTING DETAILS AT CONCRETE.
3. CONTRACTOR SHALL INSTALL DUCT HANGER ROD WITHIN 3" AT JOIST BOTTOM CHORD PANEL POINT. IF HANGER ROD DOES NOT OCCUR WITHIN 3" AT BOTTOM CHORD PANEL POINT THAN LOAD SHALL NOT EXCEED 100# CONCENTRATED LOAD AT EACH THREADED ROD HANGER LOCATION.
4. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL JOIST REINFORCEMENTS REQUIREMENTS IF DUCT HANGER RODS ARE MORE THAN 3" FROM JOIST BOTTOM CHORD PANEL POINT AND EXCEED 100# CONCENTRATED LOAD.
5. IF DUCT RUNS PARALLEL WITH STRUCTURE, PROVIDE SECURED UNISTRUT HEADER LAID ACROSS MULTIPLE JOISTS MOUNTED TO JOIST BOTTOM CHORD.
6. BEAM CLAMPS AND FLANGE CLIPS ARE NOT ACCEPTABLE FOR JOISTS.

DUCT HANGER TRAPEZE DETAIL — 03

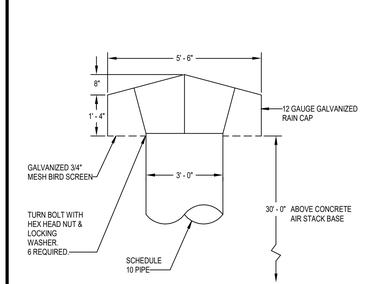
NOT TO SCALE



NOTES:
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2. CONTRACTOR SHALL OBTAIN STRUCTURAL ENGINEER APPROVAL FOR ANY AND ALL DUCTWORK MOUNTING DETAILS AT CONCRETE.

RAIN CAP DETAIL — 02

NOT TO SCALE



RAIN CAP DETAIL — 02

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KEY PLAN

PLAN NORTH

TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED PROFESSIONAL ENGINEER

10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

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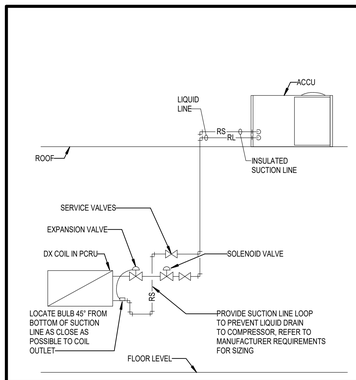
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MECHANICAL DETAILS

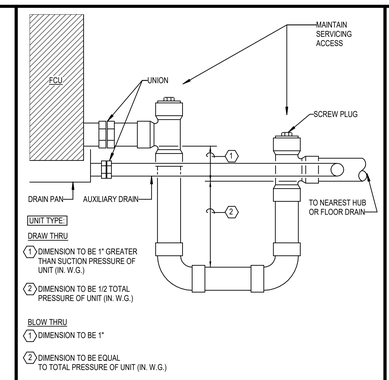
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Plot Stamp:
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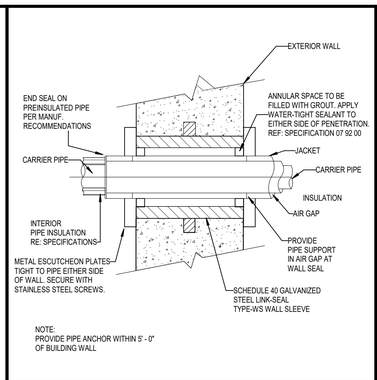
REFRIGERANT PIPING - ROOF ACCU DETAIL — 16

NOT TO SCALE



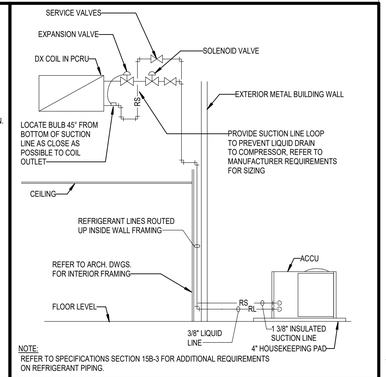
FAN COIL CONDENSATE DRAIN DETAIL — 15

NOT TO SCALE



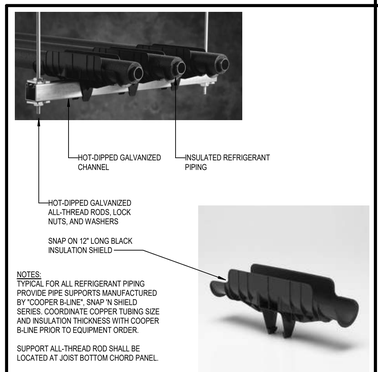
ABOVE GRADE EXTERIOR WALL PIPE PENETRATION DETAIL — 14

NOT TO SCALE



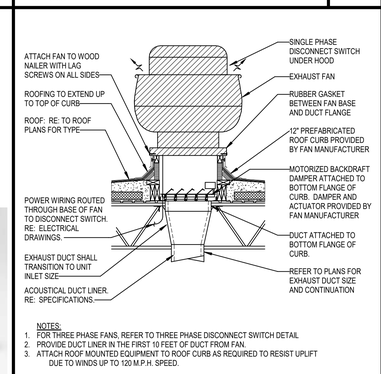
REFRIGERANT PIPING - FLOOR ACCU DETAIL — 13

NOT TO SCALE



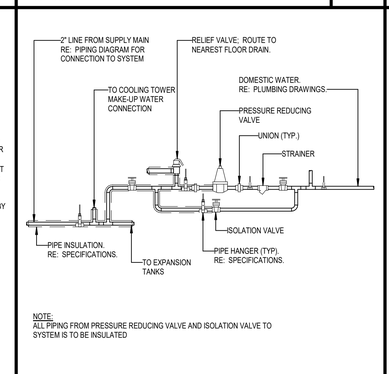
SNAP 'N SHIELD REFRIGERANT PIPING SUPPORT DETAIL — 12

NOT TO SCALE



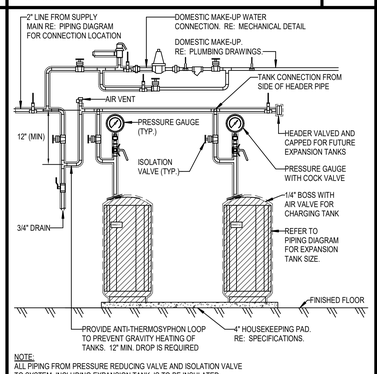
UPBLAST ROOF MOUNTED EXHAUST FAN DETAIL — 11

NOT TO SCALE



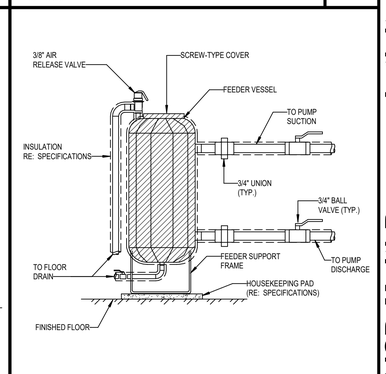
DOMESTIC MAKE - UP WATER CONNECTION DETAIL — 10

NOT TO SCALE



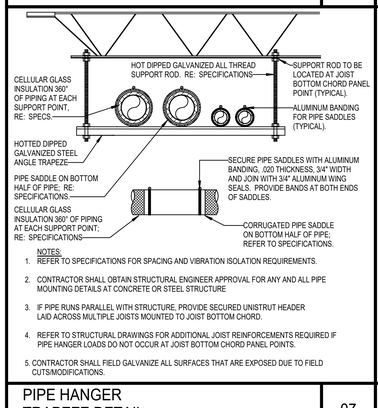
HOT WATER BLADDER TYPE EXPANSION TANK PIPING DETAIL — 09

NOT TO SCALE



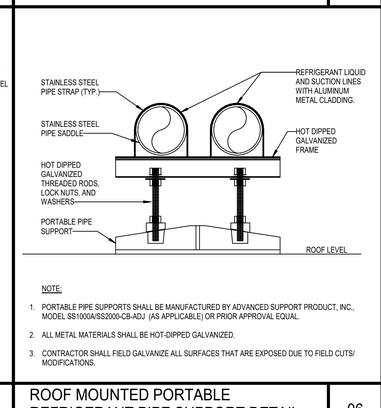
CHEMICAL SHOT FEEDER PIPING DETAIL — 08

NOT TO SCALE



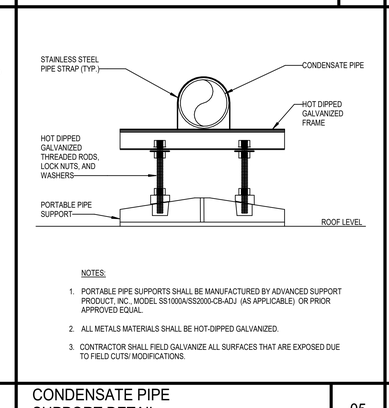
PIPE HANGER TRAPEZE DETAIL — 07

NOT TO SCALE



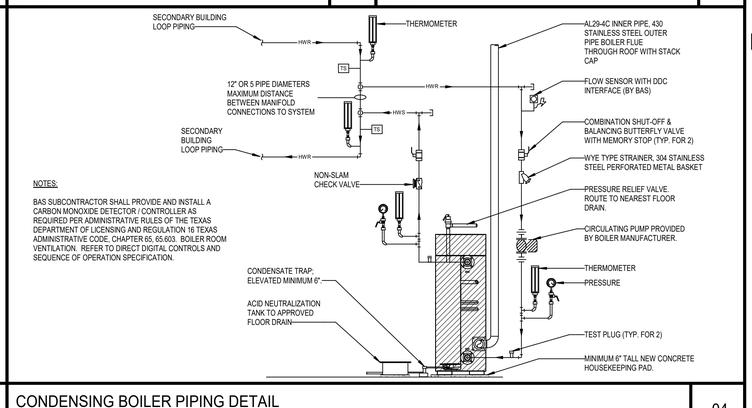
ROOF MOUNTED PORTABLE REFRIGERANT PIPE SUPPORT DETAIL — 06

NOT TO SCALE



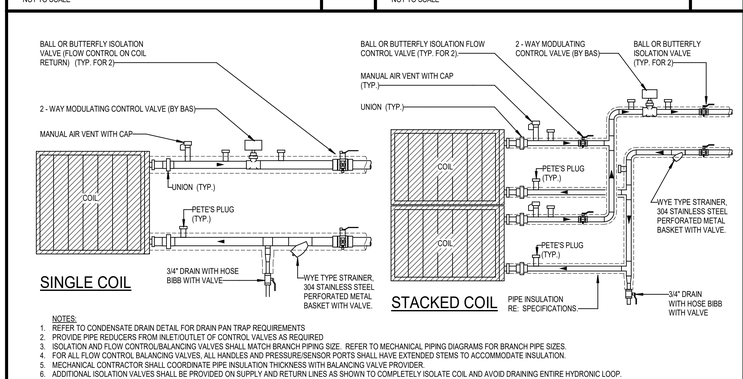
CONDENSATE PIPE SUPPORT DETAIL — 05

NOT TO SCALE



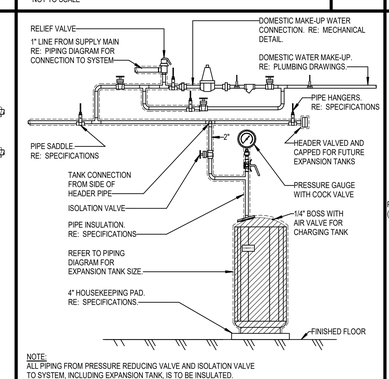
CONDENSING BOILER PIPING DETAIL — 04

NOT TO SCALE



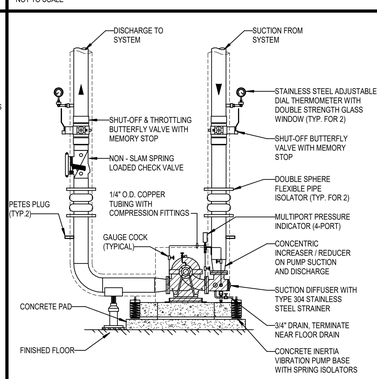
COIL PIPING ACCESSORIES WITH 2-WAY CONTROL VALVE CONNECTION DETAIL — 03

NOT TO SCALE



CHILLED WATER BLADDER TYPE EXPANSION TANK PIPING DETAIL — 02

NOT TO SCALE



HORIZONTAL SPLIT - CASE PUMP PIPING DETAIL — 01

NOT TO SCALE

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KEY PLAN

PLAN NORTH — TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED
PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT: TOMBALL ISD
DATE: 10/30/2026
PROJECT NUMBER: 25046901

DRAWING HISTORY

No.	Description	Date

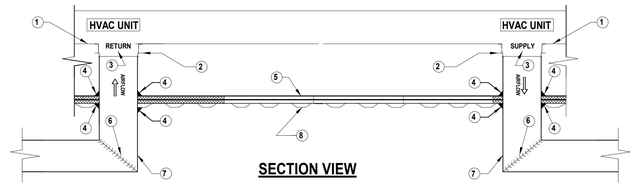
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MECHANICAL DETAILS

M-702

Plot Stamp:
10/30/2026 10:45:45 AM

HUSHCORE™ DECK™ ACOUSTICAL CURB SYSTEM WITH INTEGRATED ROOFTOP UNIT DETAIL



SECTION VIEW

IN-CURB ACOUSTICAL SYSTEM

The DECK™ In-Curb Acoustical System shall meet Class "A" Spread and Smoke Develop as per ASTME-84. The multi-layer composite system, model BUB-755 shall reduce radiated noise inside the curb. HUSH SEALANT™ model HSAC-100 Acoustical grade caulk shall be used around all curb perimeter edges and around all curb openings as detailed above after contractor supplied decking is flashed to within ½" without contacting the duct wall. The In-curb acoustical DECK™ System shall meet STC-52 in accordance with test procedure ASTM-E90-10. System shall be by BRD Noise & Vibration Control, Inc. (610) 863-6300.

Freq. (Hz)	80	100	125	160	200	250	315	400	500	630	800	1000
TL (dB)	26	27	33	32	35	42	45	45	50	59	59	60

Freq. (Hz)	1250	1600	2000	2500	3150	4000	5000	6300	8000	10000	STC
TL (dB)	62	63	64	65	67	71	74	78	80	80	52

BY RTU UNIT MANUFACTURER

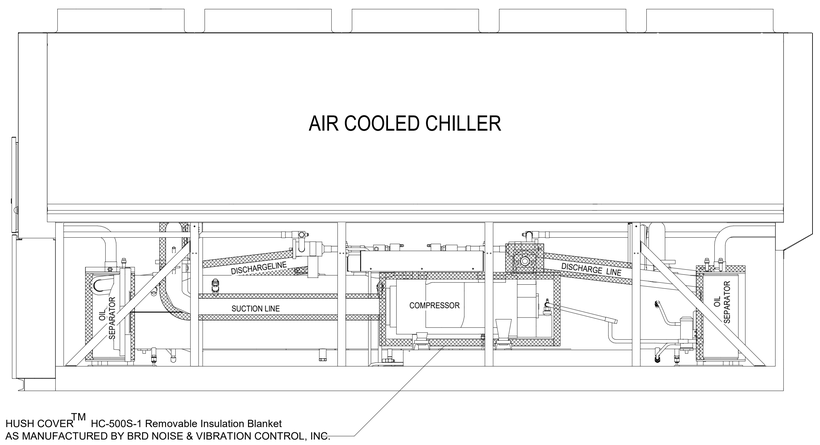
1. RTU BASE
2. INTEGRAL CURB DUCT SUPPORT
3. RTU OPENING
4. HUSH SEALANT™ ACOUSTICAL GRADE CAULK AT ALL DUCT DROPS & CURB PERIMETER
5. HUSHCORE™ DECK™ SYSTEM, IN-CURB ACOUSTICAL TREATMENT

BY HVAC CONTRACTOR

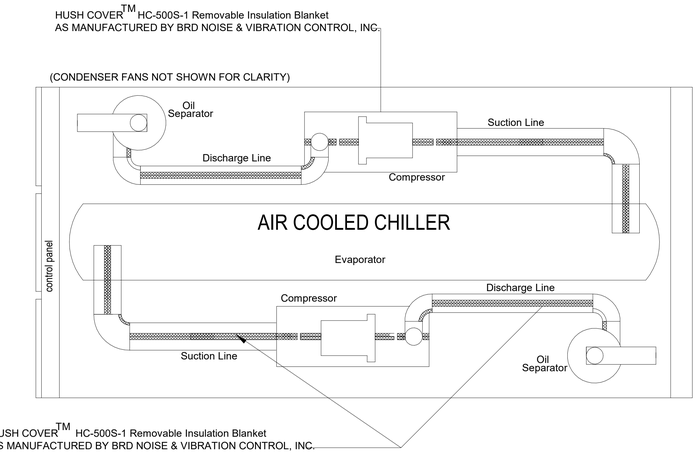
6. TURNING VANE
7. DUCT WORK
8. ROOF DECK FLASHED TO WITHIN 1/4" OF ALL DUCT DROPS BUT NOT IN CONTACT WITH DUCT WALL

HUSHCORE DECK ACOUSTICAL CURB SYSTEM
WITH INTEGRATED ROOFTOP UNIT DETAIL
NOT TO SCALE

02



HUSHCORE™ ***STANDARD***™ Chiller Noise Reduction System
ELEVATION VIEW



HUSHCORE™ ***STANDARD***™ Chiller Noise Reduction System
PLAN VIEW

BRD-NOISE AND VIBRATION CONTROL HUSHCORE
AIR-COOLED SCREW CHILLER NOISE REDUCTION SYSTEM DETAIL
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Tomball ISD-Multi-Program Activity Center-
Tomball High School

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KEY PLAN

PLAN NORTH | TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED
PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

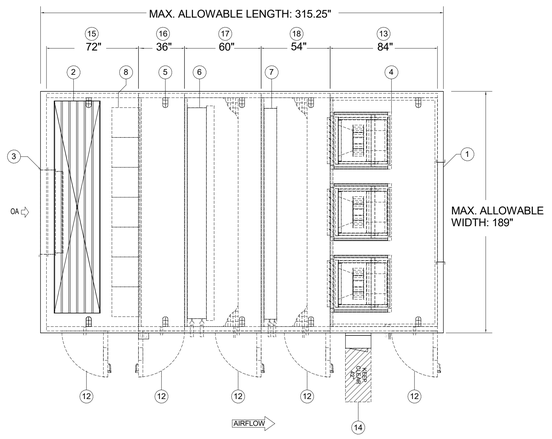
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MECHANICAL DETAILS

M-703

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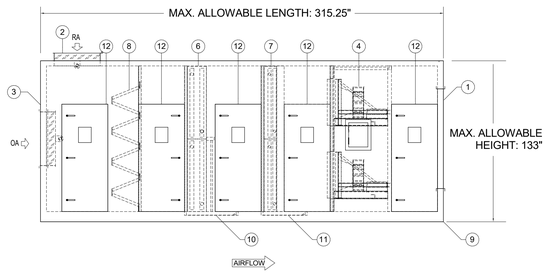
PLAN VIEW



KEYED NOTES:

1. 78" WIDE x 78" TALL FRONT SUPPLY AIR DISCHARGE OPENING.
2. 166" WIDE x 36 TALL" TOP RETURN AIR INLET OPENING WITH FACTORY BALANCING DAMPER.
3. 66" WIDE x 42" TALL OUTSIDE AIR INTAKE OPENING. O/A OPENING SHALL BE LOCATED ON REAR FACTORY MIXED AIR PLENUM. DAMPER SHALL BE PROVIDED BY CUSTOM AHU MANUFACTURER; MODULATING DAMPER ACTUATOR PROVIDED AND INSTALLED BY BAS SUBCONTRACTOR.
4. INTERNALLY ISOLATED DIRECT DRIVE PLENUM MATRIX SUPPLY FAN WALL SECTION WITH BACK DRAFT DAMPER AND ACOUSTICAL PERFORATED INTERIOR LINERS (TYPICAL FOR 6).
5. LED INTERNAL LIGHT ON EACH SIDE OF EACH SECTION. TYPICAL OF (10) TEN.
6. STACKED (2) TWO HIGH CHILLED WATER COIL SECTION.
7. STACKED (2) TWO HIGH HOT WATER RE-HEAT COIL SECTION.
8. ANGLED FILTER BANK SECTION WITH FACTORY INSTALLED SLIDING LADDER.
9. 8" TALL BASE RAIL.
10. 304 STAINLESS STEEL CHILLED WATER COIL DRAIN PAN WITH INTERMEDIATE DRAIN PAN FOR STACKED COIL.
11. 304 STAINLESS STEEL HOT WATER RE-HEAT COIL DRAIN PAN WITH INTERMEDIATE DRAIN PAN FOR STACKED COIL.
12. MINIMUM 36" WIDE BY 84" TALL ACCESS DOOR - OUTWARD DOOR SWING (POSITIVE PRESSURE) WITH SAFETY CATCH. DOOR SHALL BE 3" THICK WITH WINDOW AND TEST PORTS. DOOR CONSTRUCTION SHALL MATCH ADJACENT CABINET.
13. MINIMUM 84" LONG FAN SECTION.
14. FACTORY PROVIDED, WIRED AND MOUNTED MOTOR OVERLOAD PANEL. VARIABLE FREQUENCY DRIVES SHALL BE PROVIDED BY "OTHERS" FOR FIELD INSTALLATION.
15. MINIMUM 72" LONG FACTORY FABRICATED MIXED AIR SECTION.
16. MINIMUM 36" LONG FILTER SECTION.
17. MINIMUM 60" LONG CHILLED WATER COIL SECTION.
18. MINIMUM 54" LONG RE-HEAT COIL SECTION.

ELEVATION VIEW



SCHEDULED DIMENSIONS ARE MINIMUM REQUIREMENT FOR MAINTENANCE AND OPERATION

GENERAL NOTES:

1. REFER TO SPECIFICATION SECTION 23 73 13.19 CUSTOM INDOOR CENTRAL-STATION AIR HANDLING UNITS.
2. ALL INTERNAL DAMPERS SHALL BE PROVIDED BY AIR UNIT MANUFACTURER; ACTUATORS PROVIDED AND INSTALLED BY BAS.
3. MAXIMUM ALLOWABLE WEIGHT AND DIMENSIONS SHALL NOT BE EXCEEDED.
4. REFER TO MECHANICAL FLOOR PLANS FOR COIL HANDING.

CUSTOM AIR HANDLING UNIT AHU-01 AND AHU-02 DETAIL

NOT TO SCALE

01

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KEY PLAN

PLAN NORTH

TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED PROFESSIONAL ENGINEER

10/30/2026
LEAF ENGINEERS
F-16672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: MP

DRAWN BY: HV

MECHANICAL DETAILS

M-704

Plot Stamp:
10/30/2026 10:45:45 AM

GENERAL ELECTRICAL NOTES

1. UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR OTHERWISE INSTRUCTED BY THE ARCHITECT, ELECTRICAL OUTLETS SHALL HAVE THE FOLLOWING MOUNTING HEIGHTS. DIMENSIONS ARE TO CENTER OF BOX UNLESS OTHERWISE NOTED:

WALL SWITCHES	•
WALL CONVENIENCE RECEPTACLES	15" AFF TO BOTTOM OF BOX
WALL DATA/VOICE OUTLETS	15" AFF TO BOTTOM OF BOX
WALL OUTLETS FOR WALL MTD. TELEPHONE	•
WALL CLOCK OUTLETS	7'-0" AFF (OR ABOVE CHALKBOARDS WHERE REQUIRED)*
MANUAL FIRE ALARM PULL STATIONS	•
FIRE ALARM SPEAKER/HORN	1'-0" BELOW CEILING, OR IN CEILING, AS REQUIRED*
INTERIOR BELLS,BUZZERS, HORNS	1'-0" BELOW CEILING, OR IN CEILING, AS REQUIRED*
SPECIAL PURPOSE WALL OUTLETS	15" AFF TO BOTTOM OF BOX (OR HIGHER AS REQUIRED TO SERVE EQUIPMENT)
PUSH BUTTONS	
ADA VISUAL ALARM	80" AFF TO BOTTOM OF LENS OR 6" BELOW CEILING, WHICHEVER IS LOWER. ENTIRE LENS TO BE WITHIN 80" TO 96" AFF*
	• TOP OF BOX SHALL BE 42" AFF MAX. FOR WHEELCHAIR FRONTAL APPROACH AND 48" AFF MAX. FOR SIDE APPROACH. VERIFY EXACT HEIGHT WITH ARCHITECT
	* 7'-0" AFF TO BOTTOM OF DEVICE IF DEVICE PROTRUDES MORE THAN 4" FROM WALL (PER ADA)

AFF = ABOVE FINISHED FLOOR
AFG = ABOVE FINISHED GRADE

2. UNLESS SPECIFICALLY INDICATED ON THE ELECTRICAL DRAWINGS, OUTLETS LOCATED AT COUNTERS AND CABINETS SHALL BE MOUNTED AS SHOWN ON ARCHITECTURAL DETAILS AND ELEVATIONS, OR AS DIRECTED BY ARCHITECT.
3. COORDINATE MOUNTING HEIGHTS AND DETAILS OF ALL OUTLETS (POWER, SIGNAL, ETC.) WITH ARCHITECTURAL CASEWORK DRAWINGS PRIOR TO DIVISION 26 ROUGH-IN. PROVIDE COORDINATION DRAWINGS IN ACCORDANCE WITH DIVISION 26 SPECIFICATIONS WHERE CONFLICTS EXIST. OBTAIN APPROVAL FROM ARCHITECT BEFORE ELECTRICAL ROUGH-IN WHEN CONFLICTS ARISE.
4. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL HVAC AND PLUMBING EQUIPMENT.
5. CIRCUITING
   - A. BRANCH CIRCUITING IS SCHEMATIC IN NATURE AND IS INTENDED TO INDICATE CIRCUIT LOADING AND CONTROL, NOT METHODS OF INSTALLATION. REFER TO SPECIFICATIONS FOR METHODS OF INSTALLATION AND MATERIALS, INCLUDING WHETHER OR NOT BX IS ALLOWED AND WHETHER "THROUGH-FIXTURE" OR "OCTOPUS (EMT WITH FLEXIBLE WHIPS)" TYPE LIGHTING BRANCH CIRCUITING IS REQUIRED.
   - B. WHERE WIRE SIZE AND CONDUIT SIZE IS NOT INDICATED ON THE DRAWINGS AND/OR PANEL SCHEDULES, REFER TO SPECIFICATIONS FOR MINIMUM SIZE REQUIRED.
   - C. BRANCH CIRCUITS ON THE DRAWINGS ARE GENERALLY NOT SHOWN GROUPED IN SINGLE RACEWAYS. HOWEVER, GROUPING IS ALLOWED UNDER CERTAIN CONDITIONS. REFER TO DIVISION 26 SPECIFICATIONS UNDER SECTION ENTITLED "ELECTRICAL WIRING" FOR REQUIREMENTS.
   - D. THE DRAWINGS GENERALLY INDICATE QUANTITY OF CONDUCTORS ON BRANCH CIRCUIT HOME RUNS ONLY. ELSEWHERE WITHIN CIRCUITS, PROVIDE QUANTITY OF CONDUCTORS AS NEEDED TO ACCOMPLISH CIRCUITING AND SWITCHING REQUIREMENTS SHOWN.
6. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION, NEC, ALL STATE AND LOCAL CODES AND AMENDMENTS.
7. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF ALL ISSUED BOOK SPECIFICATIONS.

ELECTRICAL SYMBOL LEGEND

1. EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS.
2. DASHED ELECTRICAL EQUIPMENT GENERALLY INDICATES EXISTING EQUIPMENT.
3. LONG-SHORT-SHORT-LONG DASHING GENERALLY INDICATES MATCH LINE OR DEFINES AREA FOR SPECIAL NOTE.

CIRCUIT RELATED:

- LIGHTING OR POWER CIRCUIT(S). ARROW INDICATES HOME RUN, LONGER TICK(S) INDICATE NEUTRAL WIRE(S), SHORTER STRAIGHT TICK(S) INDICATE PHASE WIRE(S), SLANTED SHORTER TICK(S) INDICATE SWITCH LEG(S), DOT(S) INDICATE GROUNDING CONDUCTOR(S), DASHED WIRING (LONG-SHORT-LONG DASHES) INDICATES WIRING BELOW SLAB OR GRADE, DASHED WIRING (SERIES OF SHORT DASHES) INDICATES EXISTING WIRING, SLASH THROUGH ARROW INDICATES PARTIAL CIRCUIT, "D" ON HOMERUN ARROW INDICATES DEDICATED CIRCUIT: PROVIDE A SEPARATE NEUTRAL FOR EACH PHASE CONDUCTOR FOR ENTIRE LENGTH OF CIRCUIT FROM PANEL TO OUTLET; COUNT EACH NEUTRAL AS CURRENT-CARRYING AND GROUP A MAXIMUM OF SIX THHN/THWN CONDUCTORS IN A SINGLE RACEWAY; GROUNDING CONDUCTOR IS NOT COUNTED
- JUNCTION BOX
- GROUNDING FIXTURE

LIGHTING:

- LED LIGHTING FIXTURE. LETTER INDICATES TYPE, SMALL LETTER INDICATES SWITCH CONTROL, NUMBER INDICATES CIRCUIT, CROSS HATCHING INDICATES FIXTURE ON EMERGENCY SYSTEM; FOR SOLID CIRCLE WITHIN FIXTURE REFERENCE APPROPRIATE CATEGORY "A" CIRCUIT RELATED SYMBOL
- STRIP TYPE LED LIGHTING FIXTURE. LETTER INDICATES TYPE, SMALL LETTER INDICATES SWITCH CONTROL, NUMBER INDICATES CIRCUIT, FOR SOLID CIRCLE ATTACHED TO FIXTURE REFERENCE APPROPRIATE CATEGORY "A" CIRCUIT RELATED SYMBOL
- LED LIGHTING FIXTURE. LETTER INDICATES TYPE, SMALL LETTER INDICATES SWITCH CONTROL, NUMBER INDICATES CIRCUIT, FOR SOLID CIRCLE REFERENCE APPROPRIATE CATEGORY "A" CIRCUIT RELATED SYMBOL
- DESIGNATES FIXTURE ON EMERGENCY POWER. RE: LIGHTING PLAN NOTES AND FIXTURE SCHEDULE NOTES FOR ADDITIONAL INFORMATION
- WALL OR BRACKET MOUNTED FIXTURE OR DEVICE
- EXIT LIGHT FIXTURE. LETTER INDICATES TYPE, NUMBER INDICATES CIRCUIT, NUMBER AND LOCATION OF SHADED TRIANGLE SECTIONS INDICATE NUMBER OF EXIT SIGN FACES AND DIRECTION OF EACH FACE. PROVIDE CHEVRON DIRECTIONAL INDICATORS AS SHOWN ON DRAWINGS

CONTROL:

- $ — SWITCH. SMALL LETTER INDICATES FIXTURES CONTROLLED, "P" INDICATES PILOT LIGHT, "WP" INDICATES WEATHERPROOF, "K" INDICATES KEY POERATED, "MO" INDICATES SPDT MOMENTARY CONTACT, "2" INDICATES DPDT, "3" INDICATES 3-WAY, "4" INDICATES 4-WAY, "M" INDICATES MANUAL MOTOR STARTER, CIRCUIT DESIGNATION NEXT TO SWITCH INDICATES BRANCH CIRCUIT NUMBER
- $D — WALL BOX DIMMER SWITCH. "MARK" INDICATES WATTAGE IF OTHER THAN 600, "3D" INDICATES 3-WAY DIMMER
- $$ — MULTI-LEVEL SWITCH. CIRCUIT DESIGNATION NEXT TO SWITCH INDICATES BRANCH CIRCUIT NUMBER
- $T — DIGITAL TIME SWITCH
- PC — PHOTOELECTRIC CONTROL
- EPO — EMERGENCY POWER OFF (EPO) PUSHBUTTON
- PB — PUSH BUTTON
- $OC — WALL MOUNT OCCUPANCY SENSOR
- DT — DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY SENSOR
- CR — CEILING MOUNTED RESTROOM OCCUPANCY SENSOR
- CC — CEILING MOUNTED CORRIDOR OCCUPANCY SENSOR
- HB — CEILING MOUNTED HIGH CEILING OCCUPANCY SENSOR
- PLC — ABOVE CEILING MOUNTED PLUG LOAD CONTROL POWER PACK

POWER OUTLETS:

- 20A-125V DUPLEX RECEPTACLE
- 20A-125V GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE. "WP" INDICATES WEATHER PROOF DEVICE
- 20A-125V DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP. REFER TO ARCHITECT FOR EXACT HEIGHT ABOVE COUNTER
- $C — 20A-125V CONTROLLED DUPLEX RECEPTACLE
- 20A-125V ISOLATED GROUND TYPE DUPLEX RECEPTACLE
- CH — 20A-125V DUPLEX TAMPER RESISTANT RECEPTACLE WITH (2) USB CHARGING PORTS
- 20A-125V FOURPLEX RECEPTACLE. SAME SYMBOLOGY AS DUPLEX RECEPTACLE
- SPECIAL PURPOSE SINGLE POWER RECEPTACLE. RATED AS INDICATED (IF NO RATING INDICATED, RECEPTACLE RATING SHALL MATCH BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE AND SHALL MEET REQUIREMENTS OF EQUIPMENT BEING CONNECTED), "C" INDICATES CLOCK OUTLET
- 20A-125V FLUSH FLOOR DUPLEX RECEPTACLE. 20A WHEN INDICATED OR IF BRANCH CIRCUIT SERVES ONLY SINGLE DUPLEX. PROVIDE CARPED FLANGE WHERE APPLICABLE
- LC1-X — CIRCUIT DESIGNATION NEXT TO RECEPTACLE DEVICES INDICATES BRANCH CIRCUIT NUMBER. RE: PANEL SCHEDULES FOR INFORMATION.

TELEPHONE/DATA:

- FLUSH FLOOR TELEPHONE OUTLET WITH CARPET FLANGE WHERE APPLICABLE
- WALL COMMUNICATIONS OR DATA OUTLET. REFER TO 'TS' SERIES SHEETS FOR EXACT BOX / CONDUIT REQUIREMENTS
- FLUSH FLOOR COMMUNICATIONS OR DATA OUTLET. REFER TO 'TS' SERIES SHEETS FOR EXACT BOX / CONDUIT REQUIREMENTS. PROVIDE CARPET FLANGE WHERE APPLICABLE
- SURFACE FLOOR COMMUNICATIONS OR DATA OUTLET. REFER TO 'TS' SERIES SHEETS FOR EXACT BOX / CONDUIT REQUIREMENTS. PROVIDE CARPET FLANGE WHERE APPLICABLE

EQUIPMENT:

- +42" — A NOTATION INDICATING THE MOUNTING HEIGHT OF A DEVICE AS MEASURED FROM FINISHED FLOOR OR GRADE TO CENTER LINE OF DEVICE
- MOTOR
- DISCONNECT SWITCH. FRAME SIZE/FUSE SIZE/POLES AS INDICATED, "NF" INDICATES NON-FUSIBLE. NEMA 1 ENCLOSURE UNLESS OTHERWISE NOTED. PROVIDE FUSED BUSWAY PLUG WHEN SWITCH IS INDICATED ON BUSWAY. ALL DISCONNECT SWITCHES SHALL BE 30/NF/3 UNLESS OTHERWISE NOTED
- SINGLE CIRCUIT BREAKER IN INDIVIDUAL ENCLOSURE
- MAGNETIC MOTOR CONTROLLER. NUMBER INDICATES NEMA SIZE. STARTER NEMA SIZE SHALL BE "NEMA 1" UNLESS OTHERWISE NOTED
- COMBINATION DISCONNECT SWITCH / MOTOR CONTROLLER
- CONTACTOR
- PANELBOARD
- SWITCHBOARD / DP
- T — TRANSFORMER
- GROUNDING CONNECTION TO GROUNDING ELECTRODE AS DEFINED IN NEC ARTICLE 250
- BELL. "WP" INDICATED OUTDOOR RATED

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KEY PLAN

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STATE OF TEXAS
MATTHEW R. SICKORE
107736
LICENSED
PROFESSIONAL
ENGINEER

10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE: 10/30/2026	PROJECT NUMBER: 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: Checker
DRAWN BY: TLG/MM3

ELECTRICAL SYMBOL LEGEND AND GENERAL NOTES

E-000

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10/30/2026 7:55:07 AM

SITE PLAN GENERAL NOTES:

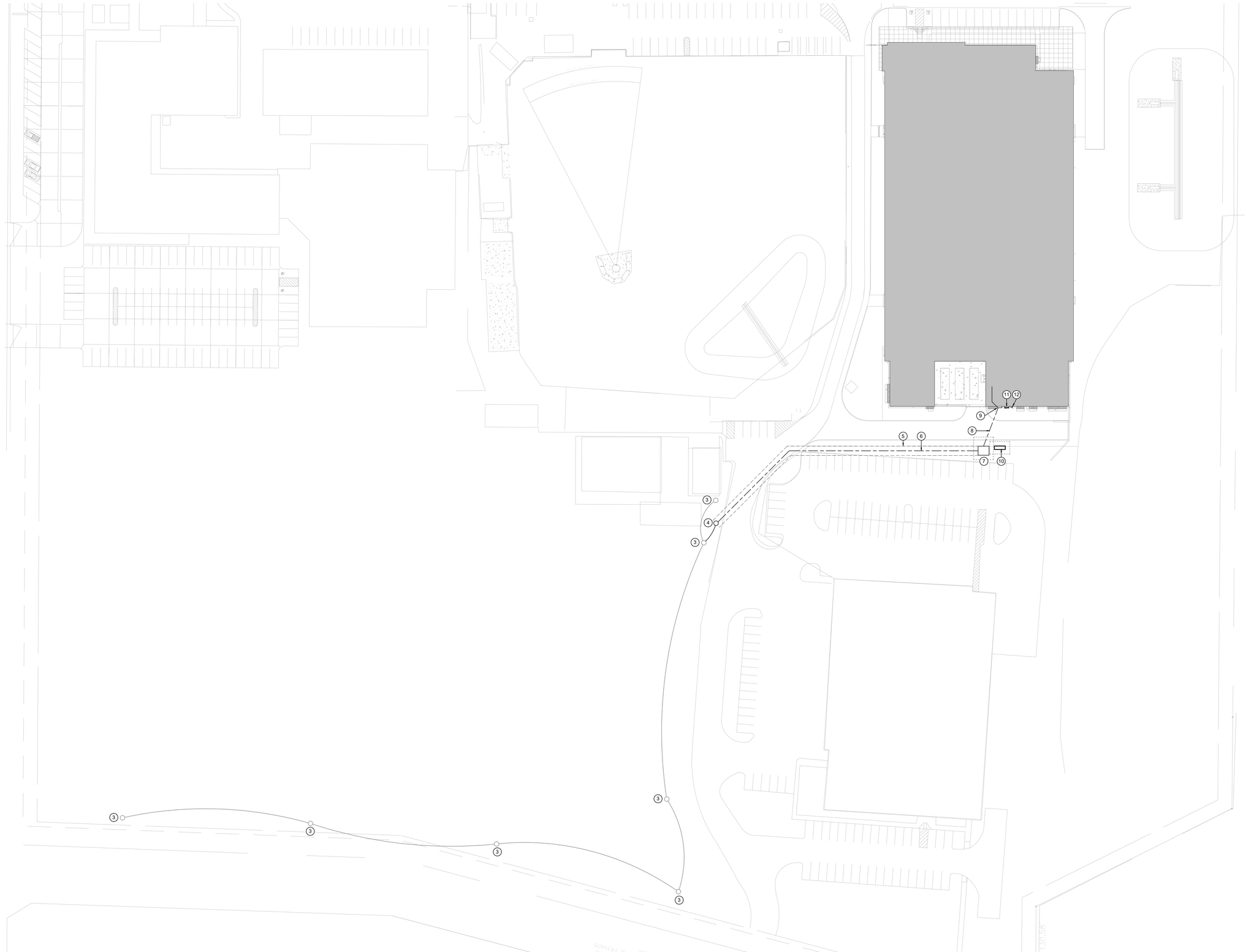
1. COORDINATE ROUTING FOR ALL UNDERGROUND ELECTRICAL BRANCH CIRCUITS AND FEEDERS WITH OTHER DISCIPLINES PRIOR TO TRENCHING.
2. UNLESS NOTED OTHERWISE ALL UNDERGROUND CONDUIT SHOWN ON THIS PLAN TO BE MINIMUM 1" IN SIZE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES CAUSED BY INSTALLATION OF NEW WORK.

SITE PLAN KEYED NOTES:

1. POST INDICATING VALVE, REFER TO CIVIL DRAWINGS FOR EXACT LOCATION. PROVIDE 1" CONDUIT WITH PULL STRING TO FIRE ALARM CONTROL PANEL.
2. WIRE AND CONNECT TO IRRIGATION CONTROLLER.
3. APPROXIMATE LOCATION OF EXISTING TERMINAL POLE
4. APPROXIMATE LOCATION OF NEW TERMINAL POLE (BY UTILITY).
5. UTILITY EASEMENT.
6. CONCRETE ENCASED UNDERGROUND PRIMARY.
7. PADMOUNT TRANSFORMER (BY UTILITY). PROVIDE PAD AND ALL REQUIREMENTS FOR METER AS REQUIRED BY UTILITY.

SITE PLAN KEYED NOTES:

8. CONCRETE ENCASED SECONDARY SERVICE ENTRANCE INTO BUILDING.
9. SERVICE ENTRANCE RATED DISCONNECT.
10. NEW GENERATOR REFER TO SHEET E-501 FOR ADDITIONAL INFORMATION.
11. NEW NEMA 3R RATED WIRE WAY REFER TO SHEET E-501 FOR ADDITIONAL INFORMATION.
12. ASCO SERIES 300 DUAL PURPOSE QUICK CONNECT POWER PANEL. REFER TO SHEET E-501 FOR ADDITIONAL INFORMATION.



1 ELECTRICAL SITE PLAN - TOMBALL HS
SCALE: 1" = 40'-0"

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No.	Description	Date

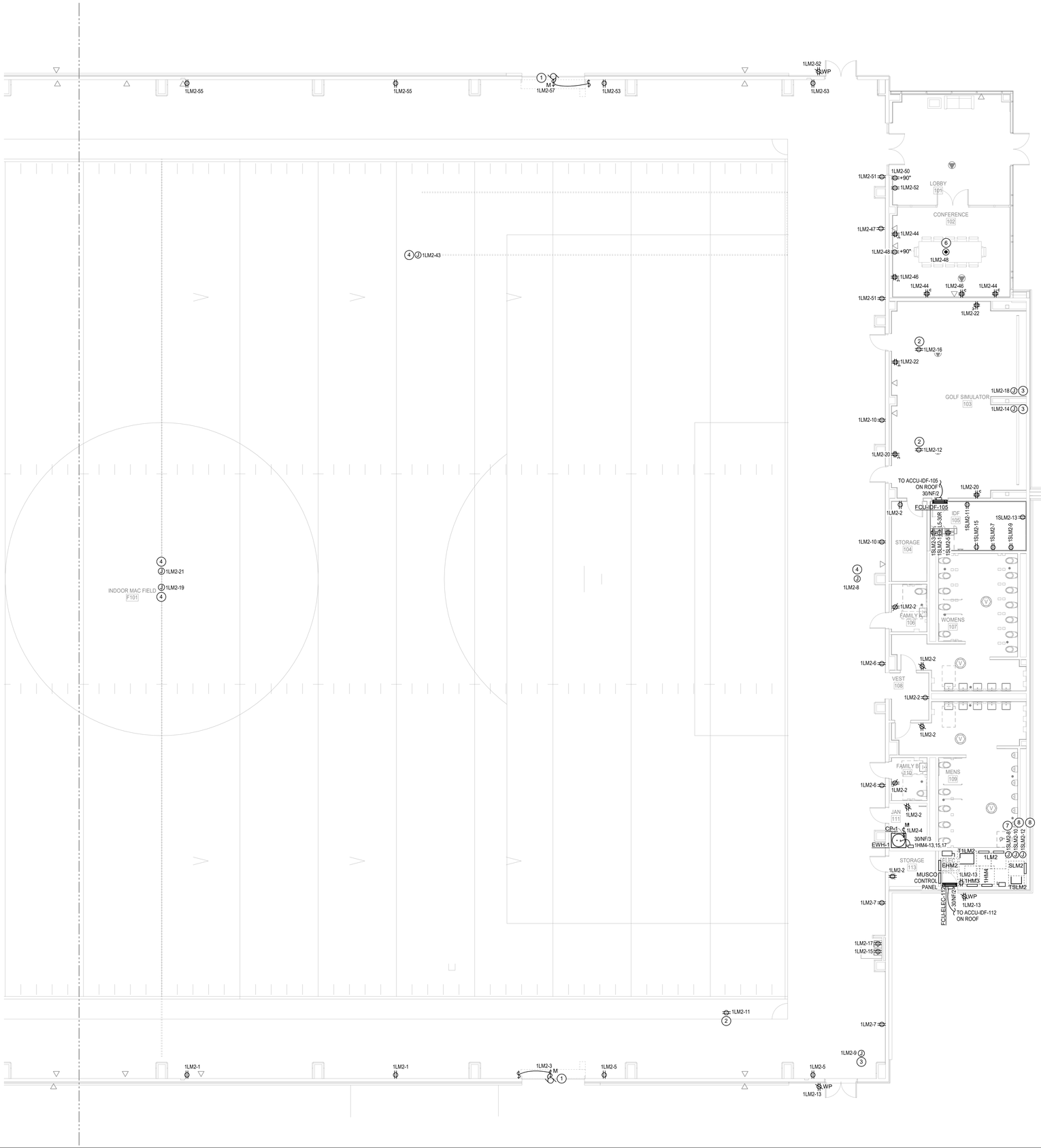
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DRAWN BY: TLG/MM3

ELECTRICAL SITE PLAN - TOMBALL HS

ES-101

Plot Stamp:
10/30/2026 7:55:42 AM



1 **1ST FLOOR POWER PLAN - AREA A**
SCALE: 1/8" = 1'-0"

Plot Stamp:
10/30/2026 7:55:08 AM

POWER PLAN GENERAL NOTES:

1. FOR EQUIPMENT OR DEVICES SHOWN ON ARCHITECTURAL DRAWINGS THAT REQUIRE POWER AND NOT IDENTIFIED ON ELECTRICAL PLANS, ASSUME AT A MINIMUM A DUPELX OUTLET, A DEDICATED CIRCUIT WITH 2#12,1#12G,3/4"C. WITH HOMERUN TO NEAREST 120/208V PANEL. ITEMS SUCH AS BUT NOT LIMITED TO ROLL DOWN DOORS, COUNTER DOORS, OVERHEAD GRILLES, DISPLAY CASES, HAND DRYERS, WATER COOLERS, ICE MAKERS, GARBAGE DISPOSALS, OSCILLATING FANS, LCD's, PROJECTORS, DISHWASHERS, MOTORIZED PROJECTION SCREENS, ETC.
2. DATA/COMMUNICATION OUTLETS ARE SHOWN ON THIS DRAWING FOR COORDINATION PURPOSES ONLY. PROVIDE AND INSTALL ALL CONDUITS AND BACK BOXES REQUIRED BY LOW VOLTAGE SYSTEMS. COORDINATE WITH "TS" DRAWINGS, DETAILS, ETC. AND ARCHITECTURAL DRAWINGS FOR EXACT QUANTITIES, LOCATIONS, AND REQUIREMENTS PRIOR TO ROUGH-IN.
3. CONTRACTOR TO PROVIDE CONNECTION FROM EXHAUST FANS TO ALL MOTORIZED BACKDRAFT DAMPERS AS REQUIRED, COORDINATE WITH MECHANICAL.
4. UNLESS OTHERWISE NOTED, ALL DISCONNECT SHOWN SHALL BE 30/NF/3 DISCONNECT.
5. CONTRACTOR SHALL NOTE THAT ALL 15 AMP AND 20 AMP NON-LOCKING TYPE RECEPTACLES THAT ARE NOT LOCATED WITHIN DEDICATED APPLIANCE SPACE AND ARE BELOW 66" ABOVE FINISHED FLOOR SHALL BE TAMPER RESISTANT TYPE RECEPTACLES. PER NEC 406.12.

POWER PLAN KEYED NOTES:

1. PROVIDE POWER TO OVERHEAD DOOR. COORDINATE EXACT LOCATION WITH MANUFACTURER PRIOR TO INSTALLATION.
2. CEILING MOUNTED RECEPTACLE FOR POWER TO PROJECTOR. REFER TO ARCHITECT FOR EXACT LOCATION, MOUNTING AND ADDITIONAL INFORMATION PRIOR TO INSTALLATION.
3. JUNCTION BOX FOR POWER TO PROJECTION SCREEN. REFER TO ARCHITECT FOR EXACT LOCATION, MOUNTING AND ADDITIONAL INFORMATION PRIOR TO INSTALLATION.
4. JUNCTION BOX FOR POWER TO MOTORIZED CURTAIN. COORDINATE EXACT LOCATION OF JUNCTION BOX WITH MANUFACTURER PRIOR TO ROUGH-IN.
5. JUNCTION BOX FOR POWER TO MOTORIZED CURTAIN CONTROL. COORDINATE EXACT LOCATION OF JUNCTION BOX WITH MANUFACTURER PRIOR TO ROUGH-IN.
6. PROVIDE HUBBELL RECESSED ACTIVATION ON GRADE FLOOR BOX #CFB6G30CR CAPABLE OF UP TO 2" ENTRY PER GANG. SERVICE FITTING SHALL NOT EXCEED NOT EXCEED 0.15" RISE AND CAPABLE OF CABLE EGRESS WHEN IN USE. PROVIDE (4) GANGS WITH PERMANENTLY MARKED "CONTROLLED" RECEPTACLE #HBL5362C2GRYTR AND (2) GANGS FOR DATA OPENINGS. FLOOR BOX SHALL BE PROVIDED WITH (2) 1" SPARE CONDUITS ONE FOR POWER AND ONE FOR DATA ROUTED FROM THE FLOOR BOX TO THE NEAREST FULL HEIGHT WALL TO THE ACCESSIBLE CEILING OF THIS LEVEL. PROVIDE WITH PULL-LINE FLOOR DEVICES AND DATA CABLING SHALL NOT BE DAISY CHAINED TOGETHER. REFER TO ARCHITECT FOR EXACT LOCATION, COVER TYPE, AND FINISH PRIOR TO INSTALLATION.
7. JUNCTION BOX FOR POWER TO FIRE ALARM CONTROL PANEL. COORDINATE EXACT LOCATION AND ADDITIONAL INFORMATION WITH TECHNOLOGY DRAWINGS PRIOR TO ROUGH-IN.
8. JUNCTION BOX FOR POWER TO TECH BOOST PANEL. COORDINATE EXACT LOCATION AND ADDITIONAL INFORMATION WITH TECHNOLOGY DRAWINGS PRIOR TO ROUGH-IN.

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KEY PLAN
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CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

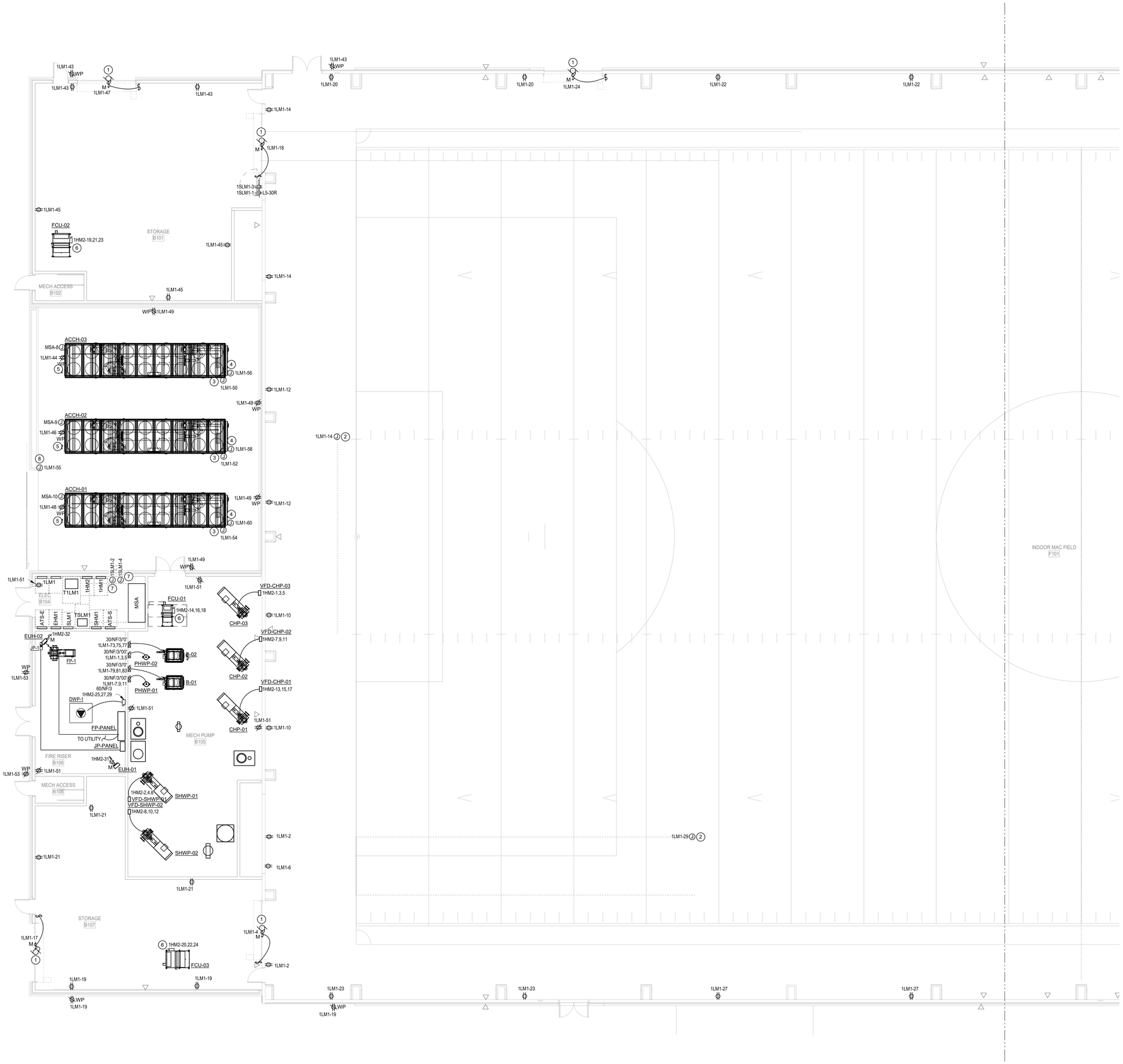
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No.	Description	Date

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1ST FLOOR POWER PLAN - AREA A

E-101A



1 1ST FLOOR POWER PLAN - AREA B

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

POWER PLAN GENERAL NOTES:

1. FOR EQUIPMENT OR DEVICES SHOWN ON ARCHITECTURAL DRAWINGS THAT REQUIRE POWER AND NOT IDENTIFIED ON ELECTRICAL PLANS, ASSUME AT A MINIMUM A DUPLEX OUTLET, A DEDICATED CIRCUIT WITH 2#12,1#12G,3/4"C. WITH HOMERUN TO NEAREST 120/208V PANEL. ITEMS SUCH AS BUT NOT LIMITED TO ROLL DOWN DOORS, COUNTER DOORS, OVERHEAD GRILLES, DISPLAY CASES, HAND DRYERS, WATER COOLERS, ICE MAKERS, GARBAGE DISPOSALS, OSCILLATING FANS, LCD's, PROJECTORS, DISHWASHERS, MOTORIZED PROJECTION SCREENS, ETC.
2. DATA/COMMUNICATION OUTLETS ARE SHOWN ON THIS DRAWING FOR COORDINATION PURPOSES ONLY. PROVIDE AND INSTALL ALL CONDUITS AND BACK BOXES REQUIRED BY LOW VOLTAGE SYSTEMS. COORDINATE WITH "T" DRAWINGS, DETAILS, ETC. AND ARCHITECTURAL DRAWINGS FOR EXACT QUANTITIES, LOCATIONS, AND REQUIREMENTS PRIOR TO ROUGH-IN.
3. CONTRACTOR TO PROVIDE CONNECTION FROM EXHAUST FANS TO ALL MOTORIZED BACKDRAFT DAMPERS AS REQUIRED, COORDINATE WITH MECHANICAL.
4. UNLESS OTHERWISE NOTED, ALL DISCONNECT SHOWN SHALL BE 30/NF/3 DISCONNECT.
5. CONTRACTOR SHALL NOTE THAT ALL 15 AMP AND 20 AMP NON-LOCKING TYPE RECEPTACLES THAT ARE NOT LOCATED WITHIN DEDICATED APPLIANCE SPACE AND ARE BELOW 66" ABOVE FINISHED FLOOR SHALL BE TAMPER RESISTANT TYPE RECEPTACLES. PER NEC 406.12.

POWER PLAN KEYED NOTES:

1. PROVIDE POWER TO OVERHEAD DOOR. COORDINATE EXACT LOCATION WITH MANUFACTURER PRIOR TO INSTALLATION.
2. JUNCTION BOX FOR POWER TO MOTORIZED CURTAIN. COORDINATE EXACT LOCATION OF JUNCTION BOX WITH MANUFACTURER PRIOR TO ROUGH-IN.
3. JUNCTION BOX FOR HARDWIRED POWER CONNECTION TO CONTROL VALVE. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION AND ADDITIONAL INFORMATION PRIOR TO INSTALLATION.
4. JUNCTION BOX FOR HARDWIRED POWER CONNECTION TO HEAT TRACING. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION AND ADDITIONAL INFORMATION PRIOR TO INSTALLATION.
5. RECEPTACLE SHALL BE PROVIDED WITH THE UNIT BY DIVISION 23.
6. UNIT SHALL BE PROVIDED WITH FACTORY MOUNTED STARTER AND DISCONNECT BY DIVISION 23.
7. JUNCTION BOX FOR POWER TO NOTIFICATION PANEL. COORDINATE EXACT LOCATION AND ADDITIONAL INFORMATION WITH TECHNOLOGY DRAWINGS PRIOR TO ROUGH-IN.
8. JUNCTION BOX FOR POWER TO MOTORIZED GATE. PROVIDE 1" CONDUIT FOR POWER WITH PULL LINE ROUTED UNDERGROUND FROM ELECTRICAL ROOM TO GATE MOTOR. CONTRACTOR SHALL FIELD COORDINATE EXACT ROUTING AND TERMINATION REQUIREMENTS PRIOR TO INSTALLATION.

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STATE OF TEXAS
MATTHEW R. SICKORE
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LICENSED PROFESSIONAL ENGINEER
10/30/2026
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F-18672

CLIENT	
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DRAWING HISTORY

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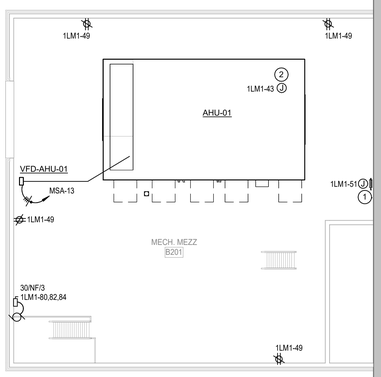
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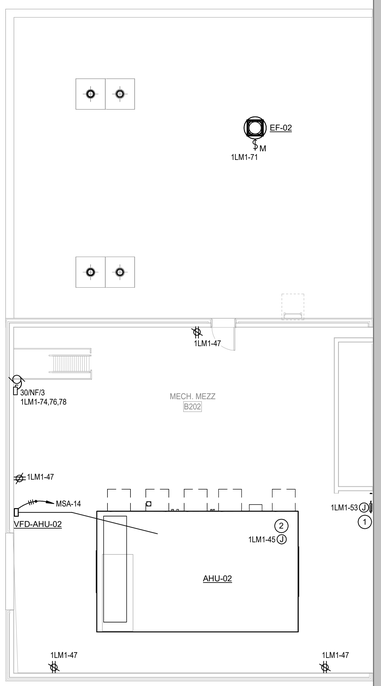
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1ST FLOOR POWER PLAN - AREA B

E-101B

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J

J

1 MEZZANINE POWER PLAN
SCALE: 1/8" = 1'-0"

POWER PLAN GENERAL NOTES:

1. FOR EQUIPMENT OR DEVICES SHOWN ON ARCHITECTURAL DRAWINGS THAT REQUIRE POWER AND NOT IDENTIFIED ON ELECTRICAL PLANS, ASSUME AT A MINIMUM A DUPELX OUTLET, A DEDICATED CIRCUIT WITH 2#12,1#12G,3/4"C. WITH HOMERUN TO NEAREST 120/208V PANEL. ITEMS SUCH AS BUT NOT LIMITED TO ROLL DOWN DOORS, COUNTER DOORS, OVERHEAD GRILLES, DISPLAY CASES, HAND DRYERS, WATER COOLERS, ICE MAKERS, GARBAGE DISPOSALS, OSCILLATING FANS, LCD's, PROJECTORS, DISHWASHERS, MOTORIZED PROJECTION SCREENS, ETC.
2. DATA/COMMUNICATION OUTLETS ARE SHOWN ON THIS DRAWING FOR COORDINATION PURPOSES ONLY. PROVIDE AND INSTALL ALL CONDUITS AND BACK BOXES REQUIRED BY LOW VOLTAGE SYSTEMS. COORDINATE WITH 'TS' DRAWINGS, DETAILS, ETC. AND ARCHITECTURAL DRAWINGS FOR EXACT QUANTITIES, LOCATIONS, AND REQUIREMENTS PRIOR TO ROUGH-IN.
3. CONTRACTOR TO PROVIDE CONNECTION FROM EXHAUST FANS TO ALL MOTORIZED BACKDRAFT DAMPERS AS REQUIRED, COORDINATE WITH MECHANICAL.
4. UNLESS OTHERWISE NOTED, ALL DISCONNECT SHOWN SHALL BE 30/NF/3 DISCONNECT.
5. CONTRACTOR SHALL NOTE THAT ALL 15 AMP AND 20 AMP NON-LOCKING TYPE RECEPTACLES THAT ARE NOT LOCATED WITHIN DEDICATED APPLIANCE SPACE AND ARE BELOW 66" ABOVE FINISHED FLOOR SHALL BE TAMPER RESISTANT TYPE RECEPTACLES. PER NEC 406.12.

POWER PLAN KEYED NOTES:

1. JUNCTION BOX FOR POWER TO ELECTRONIC TRAP PRIMER. REFER TO PLUMBING DRAWINGS FOR EXACT LOCATION AND ADDITIONAL INFORMATION PRIOR TO INSTALLATION.
2. JUNCTION BOX FOR POWER TO MISC. AIR HANDLING POWER. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION AND ADDITIONAL INFORMATION PRIOR TO INSTALLATION.

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10/30/2026
LEAF ENGINEERS
F-10672

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DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

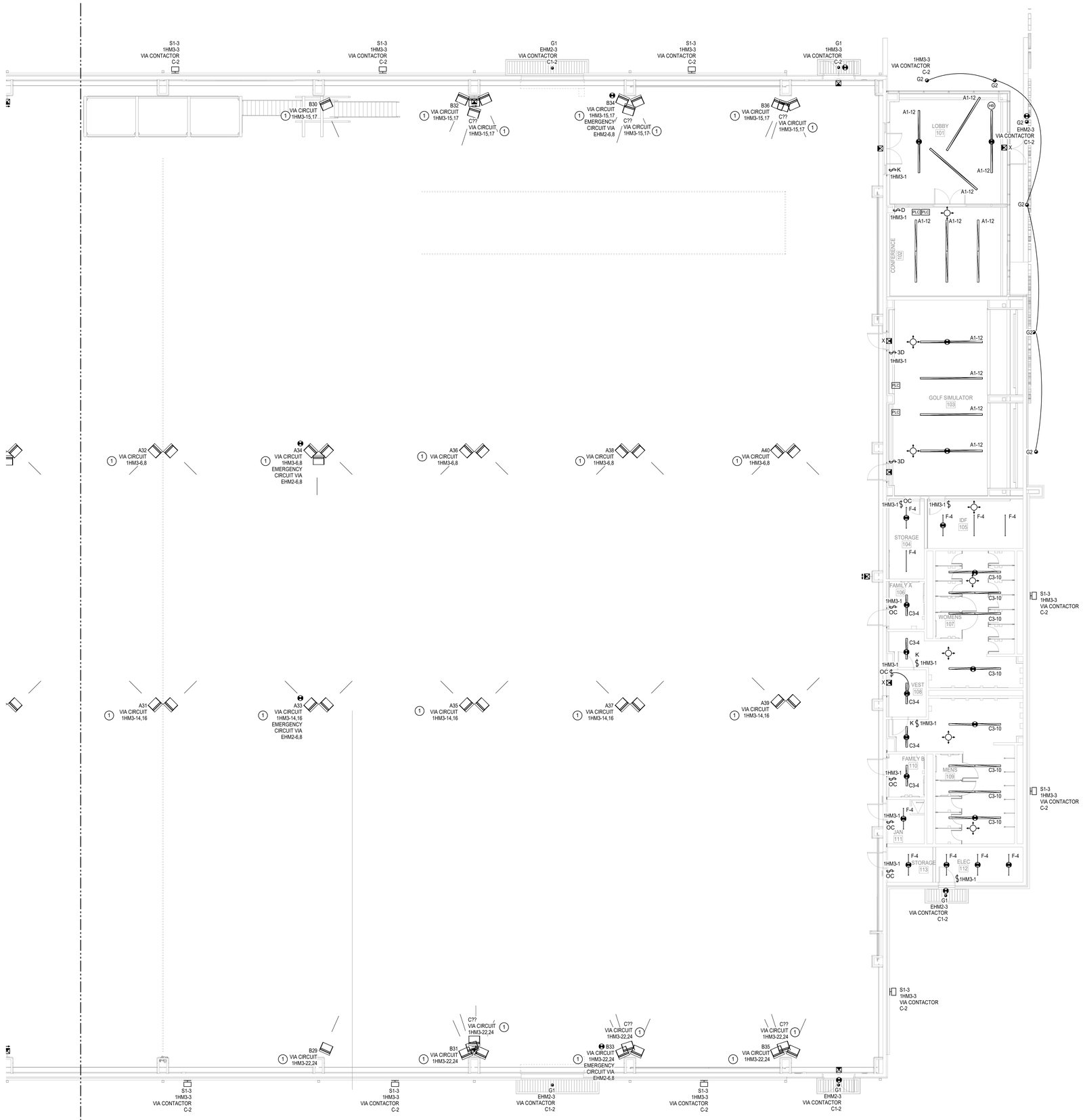
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MEZZANINE POWER PLAN - AREA B

E-120B

Plot Stamp:
10/30/2026 7:55:29 AM



1 1ST FLOOR LIGHTING PLAN - AREA A

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

LIGHTING PLAN GENERAL NOTES

1. REFER TO ARCHITECT'S REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES.
2. UNLESS OTHERWISE NOTED, ALL EXIT SIGNS ARE TYPE "X1".
3. PROVIDE 20A EMERGENCY LIGHTING BRANCH CIRCUIT(S), 2#10, 1#10G, 3/4"C FROM EMERGENCY PANEL. PROVIDE CONNECTION TO ALL 277V FIXTURES DESIGNATED FOR USE AS EMERGENCY IN THIS AREA. PROVIDE EMERGENCY AUTOMATIC TRANSFER DEVICES FOR ALL LIGHT FIXTURES SHOWN TO BE ON EMERGENCY. PROVIDE 20A UNSWITCHED BRANCH CIRCUIT (2#12, 1#12G, 3/4"C) FROM EMERGENCY PANEL TO ALL EXIT SIGNS IN THIS AREA, SEE PANEL SCHEDULE FOR CIRCUIT NUMBER(S).
4. UNLESS OTHERWISE NOTED, TWO SWITCHES SIDE-BY-SIDE INDICATES MULTI-LEVEL SWITCHING. PROVIDE ONE-PIECE COVER PLATE FOR LIGHT SWITCHES. DESIGNATION NEXT TO SWITCHES INDICATES BRANCH CIRCUIT NUMBER. PROVIDE CONNECTION TO ALL FIXTURES IN THE ROOM.
5. PROVIDE A COMPLETE AND OPERATIONAL SYSTEM OF OCCUPANCY SENSORS FOR ON/OFF CONTROL OF ALL LIGHT FIXTURES INCLUDING BUT NOT LIMITED TO POWER PACKS, WIRING, ETC. RE: DIVISION 26 SPECIFICATIONS FOR ADDITIONAL INFORMATION.

LIGHTING PLAN KEYED NOTES:

1. MUSCO PROVIDED LIGHTING. REFER TO MUSCO DRAWINGS FOR EXACT FIXTURE, FIXTURE TYPE, LOCATION AND ADDITIONAL INFORMATION PRIOR TO INSTALLATION.

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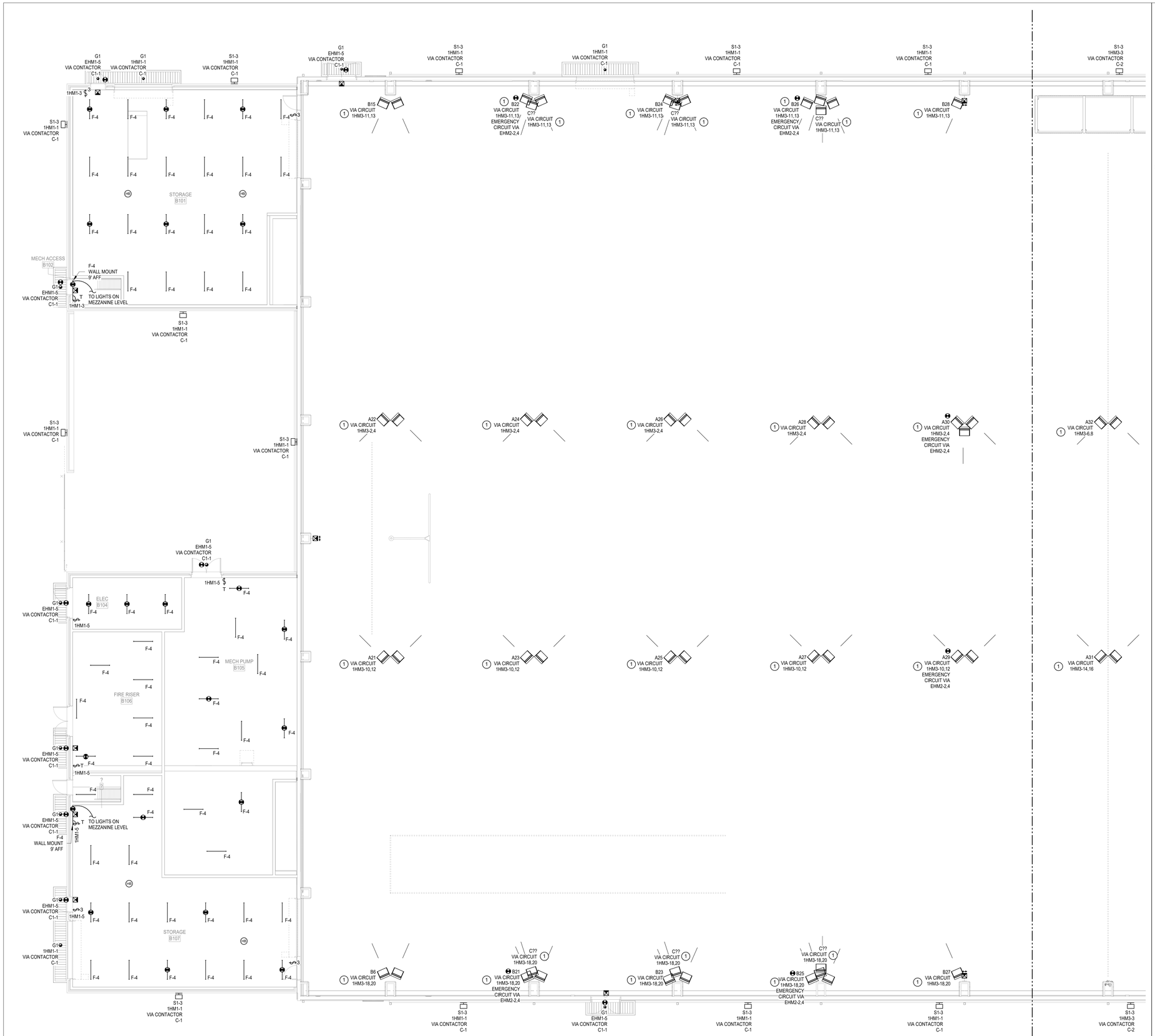
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1ST FLOOR LIGHTING PLAN - AREA A

E-201A

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1 **1ST FLOOR LIGHTING PLAN - AREA B**
SCALE: 1/8" = 1'-0"

LIGHTING PLAN GENERAL NOTES

1. REFER TO ARCHITECT'S REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES.
2. UNLESS OTHERWISE NOTED, ALL EXIT SIGNS ARE TYPE "X1".
3. PROVIDE 20A EMERGENCY LIGHTING BRANCH CIRCUIT(S), 2#10, 1#10G, 3/4"C FROM EMERGENCY PANEL. PROVIDE CONNECTION TO ALL 277V FIXTURES DESIGNATED FOR USE AS EMERGENCY IN THIS AREA. PROVIDE EMERGENCY AUTOMATIC TRANSFER DEVICES FOR ALL LIGHT FIXTURES SHOWN TO BE ON EMERGENCY. PROVIDE 20A UNSWITCHED BRANCH CIRCUIT (2#12, 1#12G, 3/4"C) FROM EMERGENCY PANEL TO ALL EXIT SIGNS IN THIS AREA, SEE PANEL SCHEDULE FOR CIRCUIT NUMBER(S).
4. UNLESS OTHERWISE NOTED, TWO SWITCHES SIDE-BY-SIDE INDICATES MULTI-LEVEL SWITCHING. PROVIDE ONE-PIECE COVER PLATE FOR LIGHT SWITCHES. DESIGNATION NEXT TO SWITCHES INDICATES BRANCH CIRCUIT NUMBER. PROVIDE CONNECTION TO ALL FIXTURES IN THE ROOM.
5. PROVIDE A COMPLETE AND OPERATIONAL SYSTEM OF OCCUPANCY SENSORS FOR ON/OFF CONTROL OF ALL LIGHT FIXTURES INCLUDING BUT NOT LIMITED TO POWER PACKS, WIRING, ETC. RE: DIVISION 26 SPECIFICATIONS FOR ADDITIONAL INFORMATION.

LIGHTING PLAN KEYED NOTES:

1. MUSCO PROVIDED LIGHTING. REFER TO MUSCO DRAWINGS FOR EXACT FIXTURE, FIXTURE TYPE, LOCATION AND ADDITIONAL INFORMATION PRIOR TO INSTALLATION.

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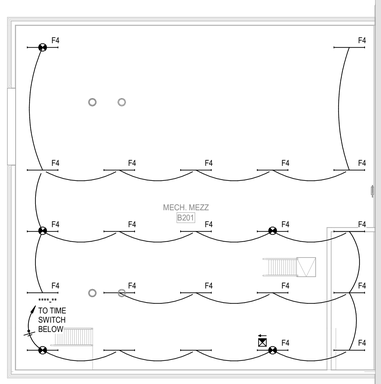
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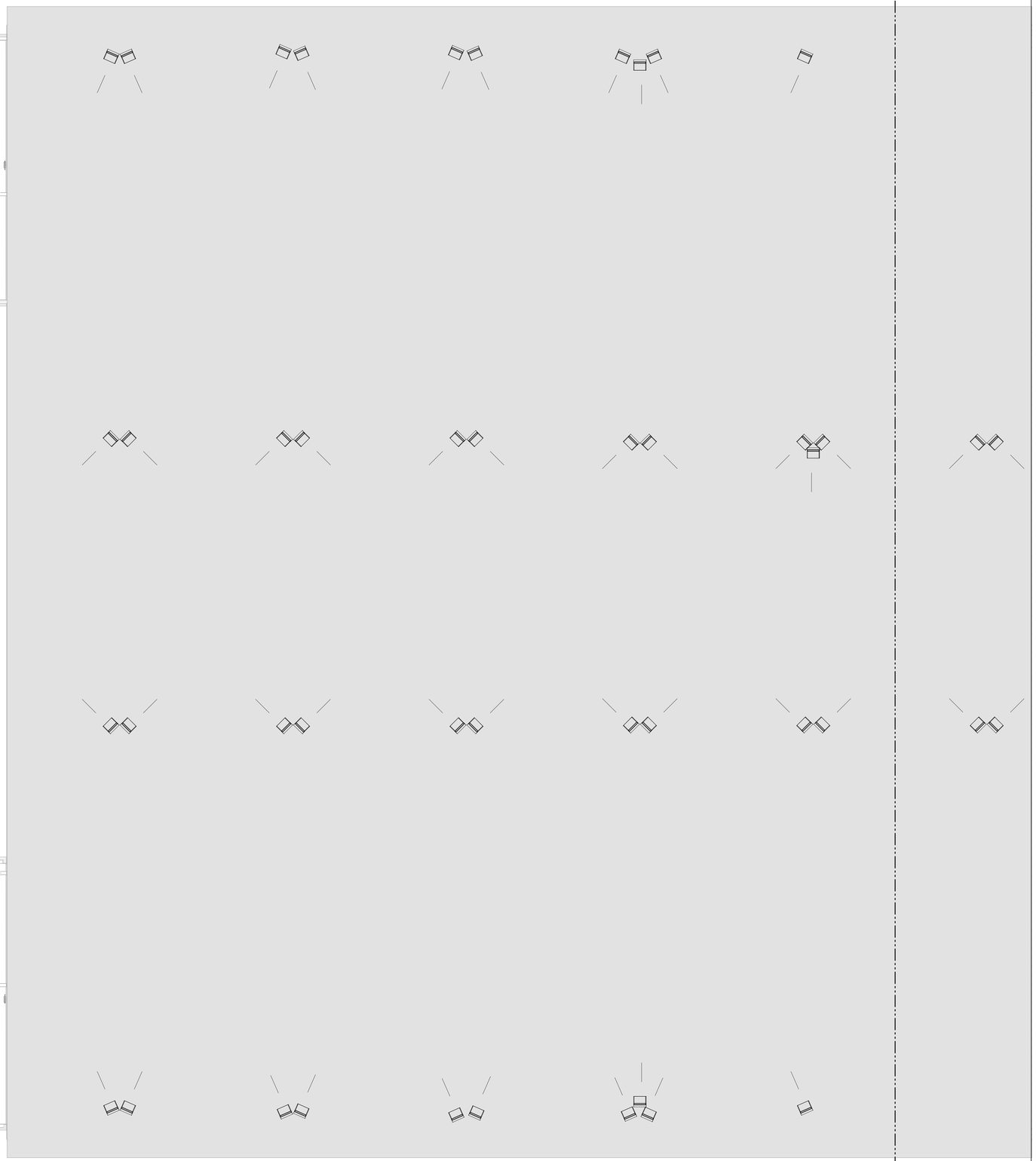
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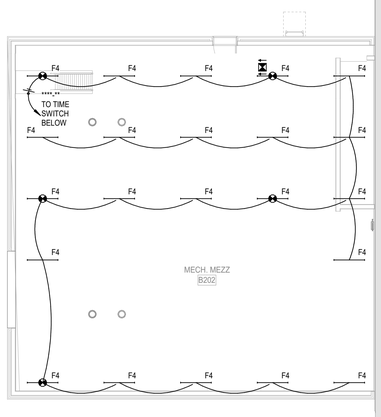
1ST FLOOR LIGHTING PLAN - AREA B

E-201B

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1 MEZZANINE LIGHTING PLAN
SCALE: 1/8" = 1'-0"

LIGHTING PLAN GENERAL NOTES

1. REFER TO ARCHITECT'S REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES.
2. UNLESS OTHERWISE NOTED, ALL EXIT SIGNS ARE TYPE "X1".
3. PROVIDE 20A EMERGENCY LIGHTING BRANCH CIRCUIT(S), 2#10, 1#10G, 3/4"C FROM EMERGENCY PANEL. PROVIDE CONNECTION TO ALL 277V FIXTURES DESIGNATED FOR USE AS EMERGENCY IN THIS AREA. PROVIDE EMERGENCY AUTOMATIC TRANSFER DEVICES FOR ALL LIGHT FIXTURES SHOWN TO BE ON EMERGENCY. PROVIDE 20A UNSWITCHED BRANCH CIRCUIT (2#12, 1#12G, 3/4"C) FROM EMERGENCY PANEL TO ALL EXIT SIGNS IN THIS AREA, SEE PANEL SCHEDULE FOR CIRCUIT NUMBER(S).
4. UNLESS OTHERWISE NOTED, TWO SWITCHES SIDE-BY-SIDE INDICATES MULTI-LEVEL SWITCHING. PROVIDE ONE-PIECE COVER PLATE FOR LIGHT SWITCHES. DESIGNATION NEXT TO SWITCHES INDICATES BRANCH CIRCUIT NUMBER. PROVIDE CONNECTION TO ALL FIXTURES IN THE ROOM.
5. PROVIDE A COMPLETE AND OPERATIONAL SYSTEM OF OCCUPANCY SENSORS FOR ON/OFF CONTROL OF ALL LIGHT FIXTURES INCLUDING BUT NOT LIMITED TO POWER PACKS, WIRING, ETC. RE: DIVISION 26 SPECIFICATIONS FOR ADDITIONAL INFORMATION.

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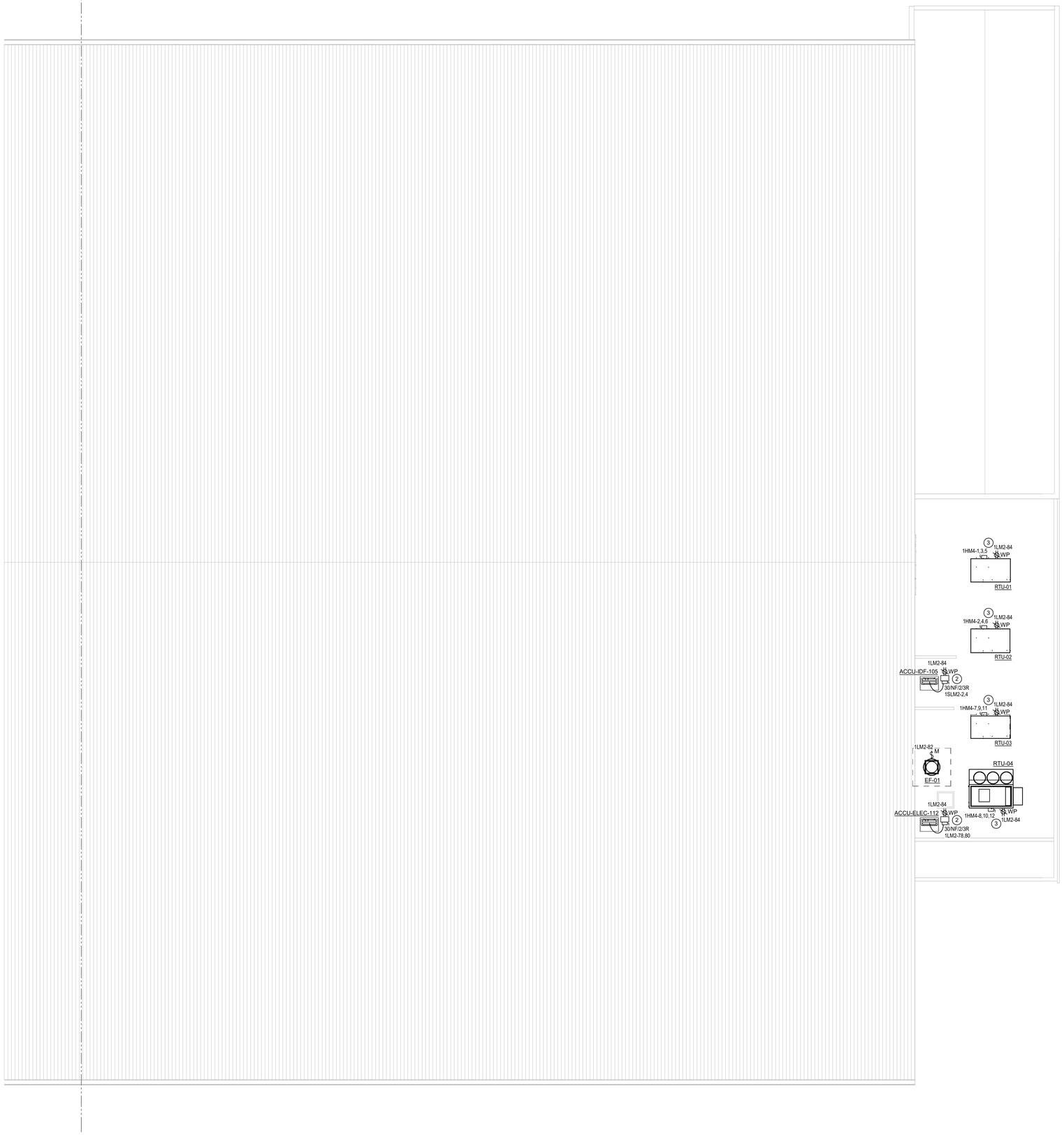
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MEZZANINE LIGHTING PLAN - AREA B

E-220B

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ROOF PLAN NOTES:

1. ALL MOTOR SWITCHES SHALL BE WEATHERPROOF.

(2) REFER TO DETAIL ON SHEET E-602 FOR PEDESTAL-MOUNT DISCONNECT AND RECEPTACLE.

(3) DISCONNECT AND RECEPTACLE SHALL BE PROVIDED WITH THE UNIT BY DIVISION 23.

1 **ELECTRICAL ROOF PLAN - AREA A**
SCALE: 1/8" = 1'-0"

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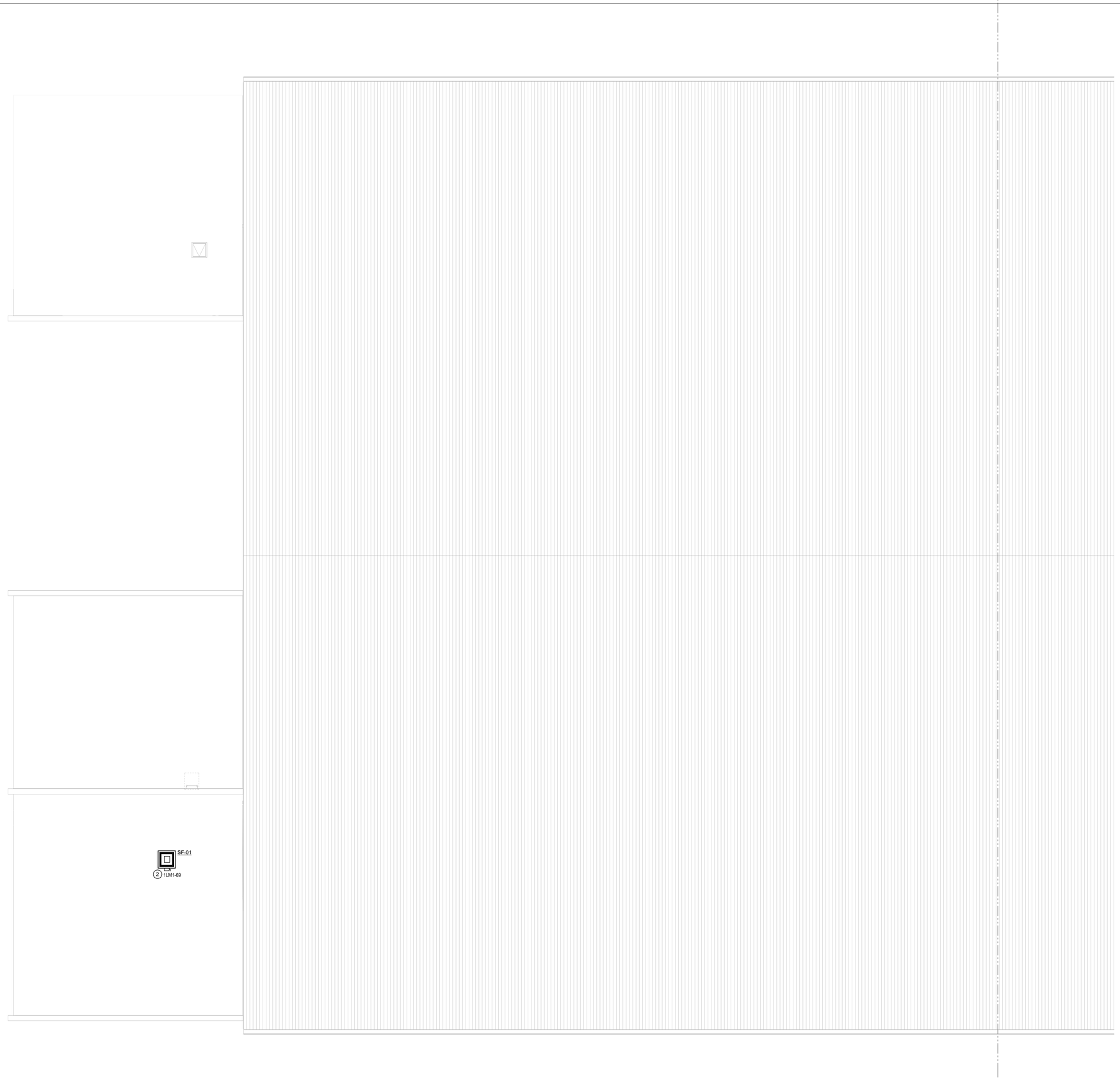
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ELECTRICAL ROOF PLAN - AREA A

E-301A

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E-301B - ELECTRICAL ROOF PLAN - AREA B



1 ELECTRICAL ROOF PLAN - AREA B
SCALE: 1/8" = 1'-0"

ROOF PLAN NOTES:

1. ALL MOTOR SWITCHES SHALL BE WEATHERPROOF.
2. DISCONNECTING MEANS TO BE PROVIDED WITH THE UNIT BY DIVISION 23.

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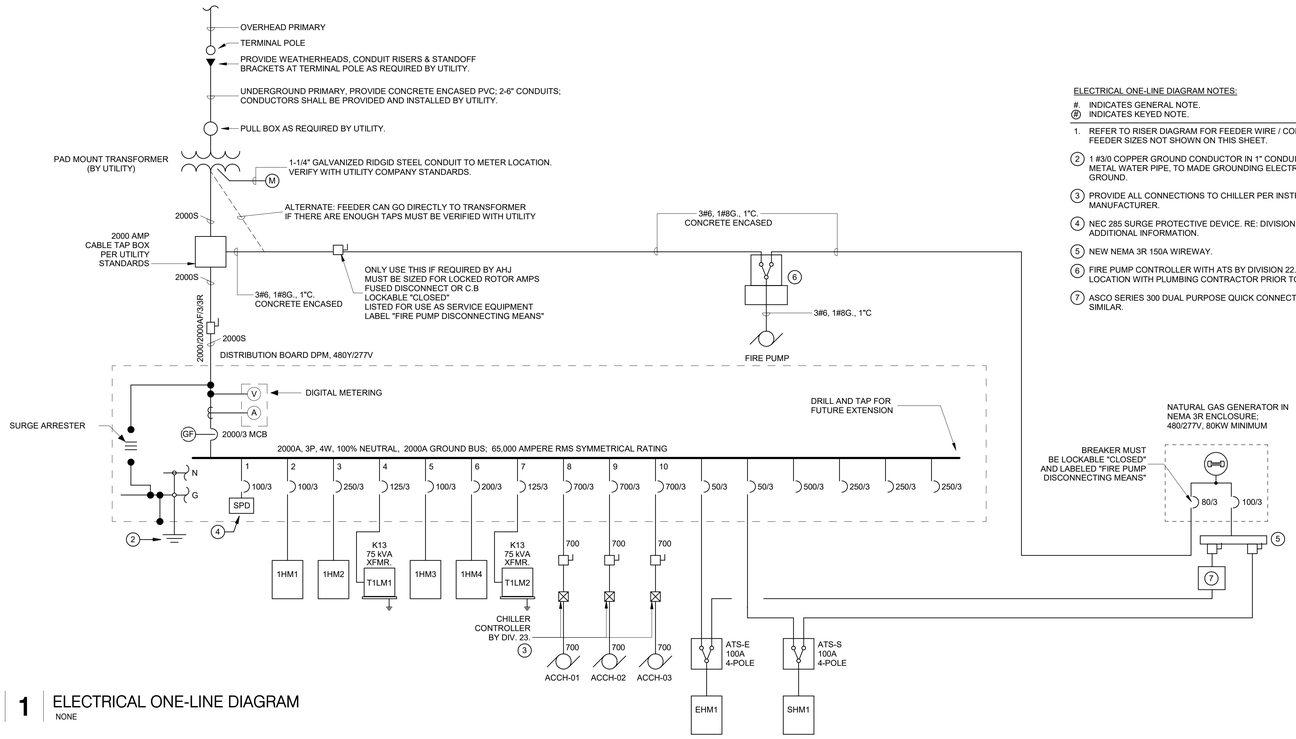
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ELECTRICAL ROOF PLAN - AREA B

E-301B

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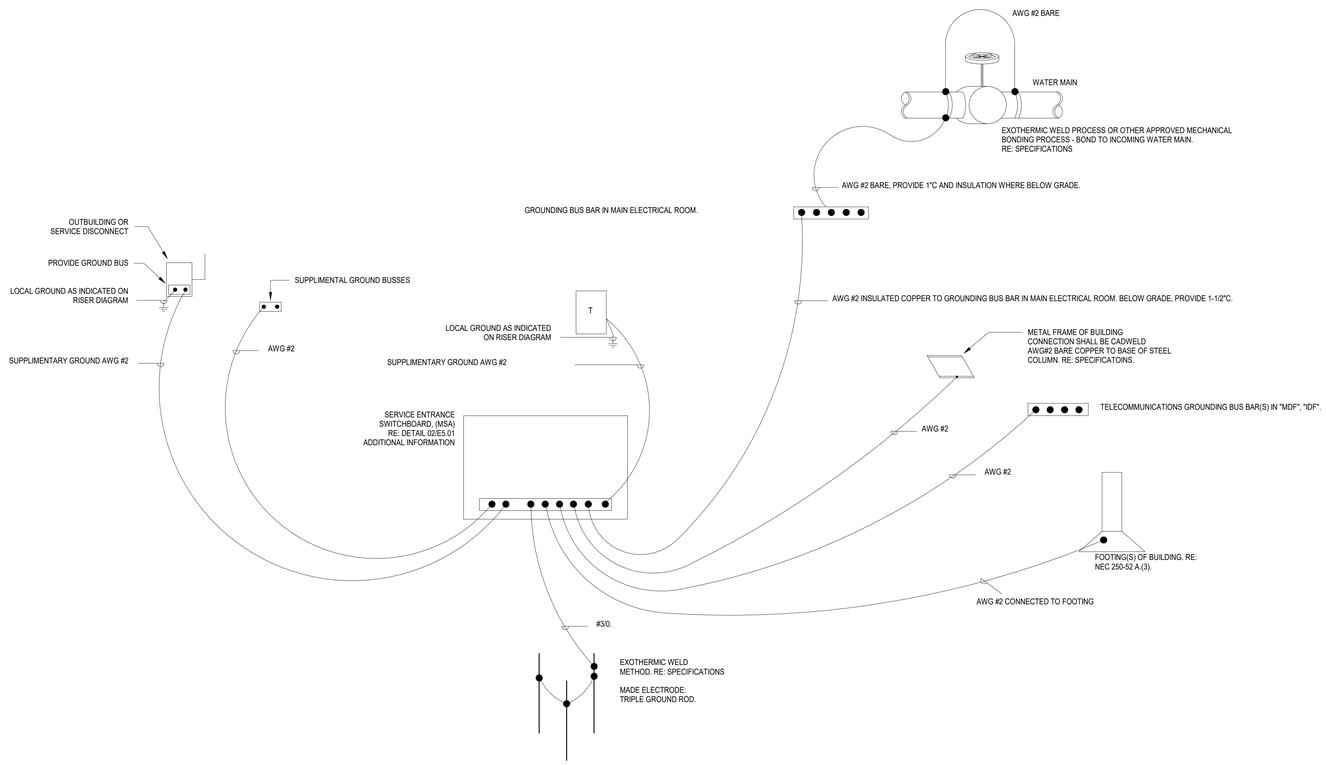


1 ELECTRICAL ONE-LINE DIAGRAM
NONE

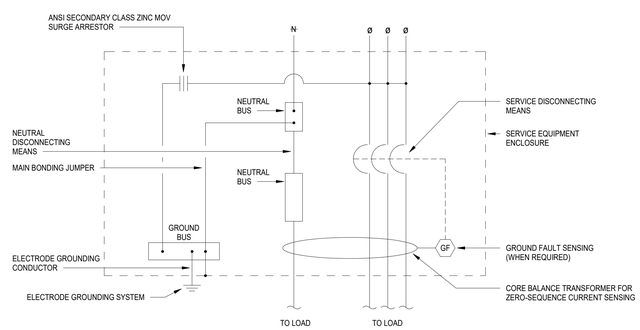
ELECTRICAL ONE-LINE DIAGRAM NOTES:

#. INDICATES GENERAL NOTE.
Ⓓ INDICATES KEYED NOTE.

1. REFER TO RISER DIAGRAM FOR FEEDER WIRE / CONDUIT SIZES AND FOR ALL FEEDER SIZES NOT SHOWN ON THIS SHEET.
2. 1 #3/0 COPPER GROUND CONDUCTOR IN 1" CONDUIT TO MAIN INCOMING METAL WATER PIPE, TO MADE GROUNDING ELECTRODE AND TO BUILDING GROUND.
3. PROVIDE ALL CONNECTIONS TO CHILLER PER INSTRUCTIONS OF CHILLER MANUFACTURER.
4. NEC 285 SURGE PROTECTIVE DEVICE. RE: DIVISION 26 SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. NEW NEMA 3R 150A WIREWAY.
6. FIRE PUMP CONTROLLER WITH ATS BY DIVISION 22. COORDINATE EXACT LOCATION WITH PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
7. ASCO SERIES 300 DUAL PURPOSE QUICK CONNECT POWER PANEL OR SIMILAR.



2 ELECTRICAL GROUNDING REQUIREMENTS
NOT TO SCALE



3 ELECTRIC SERVICE GROUNDING DETAIL
NOT TO SCALE

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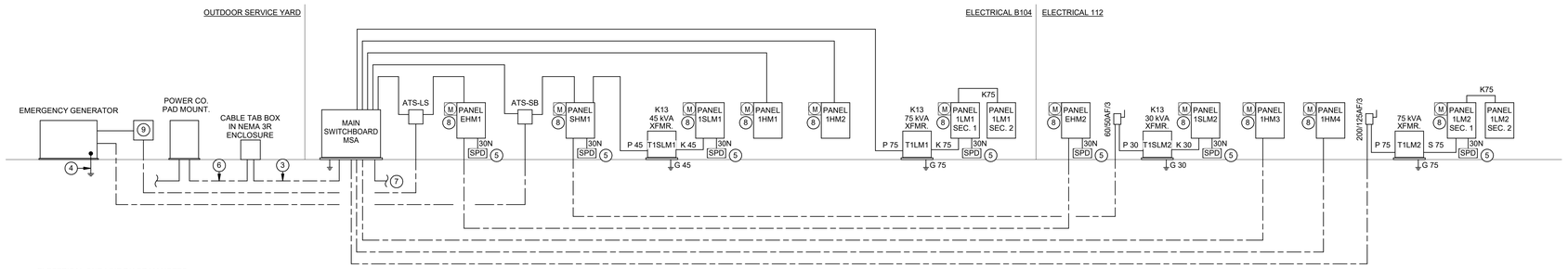
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ELECTRICAL ONE-LINE DIAGRAM

E-501

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ELECTRICAL ONE-LINE DIAGRAM NOTES:

#. INDICATES GENERAL NOTE.
(#) INDICATES KEYED NOTE.

1. UNLESS NOTED OTHERWISE, ALL TRANSFORMERS TO BE 480: 208/120 VOLT 3P, 4W.
2. PROVIDE THRU-FEED LUGS FOR ALL MULTI-SECTION PANELBOARDS.

(3) REFERENCE ONE-LINE DIAGRAM.

(4) 1#6 G, 3/4"C.

(5) SURGE PROTECTIVE DEVICE, RE: DIVISION 26 SPECIFICATIONS FOR ADDITIONAL INFORMATION.

(6) PER LOCAL UTILITY COMPANY STANDARDS.

(7) PROVIDE (2) 3-1/2" CONDUITS WITH PULL STRING(S) STUBBED 5' OUTSIDE OF THE MAIN BUILDING FOR FUTURE USE.

(8) PROVIDE E-MON/D-MON CLASS 3200 SMART METER. OR APPROVED EQUAL BY ENGINEER. ENERGY METERING DEVICES SHALL HAVE ALL CAPABILITIES DESCRIBED IN THE NOTED CODE SECTION. ENERGY METERING HAS BEEN PROVIDED FOR THE BUILDING AND ITS ASSOCIATED SITE THAT COMPLIES WITH SECTION C405.12 OF THE 2021 AND 2024 INTERNATIONAL ENERGY CONSERVATION CODE.

(9) ASCO SERIES 300 DUAL PURPOSE QUICK CONNECT POWER PANEL OR SIMILAR.

1 ELECTRICAL RISER DIAGRAM
NONE

FEEDER SCHEDULE

TAG NUMBER	CONDUCTOR QUANTITY AND SIZE	CONDUIT SIZE	SETS	COMMENTS
30N	4#10, 1#10G	1"	1	
50N	4#6, 1#10G	1"	1	
60N	4#6, 1#10G	1"	1	
100	3#1, 1#8G	1 1/2"	1	
100N	4#1, 1#8G	1 1/2"	1	
125	3#1, 1#6G	1 1/2"	1	
125N	4#1, 1#6G	2"	1	
150	3#1/0, 1#6G	1 1/2"	1	
150N	4#1/0, 1#6G	2"	1	
175	3#2/0, 1#6G	2"	1	
175N	4#2/0, 1#6G	2"	1	
200	3#3/0, 1#6G	2"	1	
200N	4#3/0, 1#6G	2"	1	
225	3#4/0, 1#4G	2"	1	
225N	4#4/0, 1#4G	2 1/2"	1	
250	3#250, 1#4G	2 1/2"	1	
250N	4#250, 1#4G	3"	1	
300	3#350, 1#4G	3"	1	
300N	4#350, 1#4G	3"	1	
400	3#3/0, 1#3G	2"	2	
400N	4#3/0, 1#3G	2"	2	
400S	4#500	3 1/2"	1	
500	3#250, 1#2G	2 1/2"	2	
600	3#350, 1#1G	3"	2	
600N	4#350, 1#1G	3"	2	
600S	4#350	3"	2	
800	3#500, 1#1/0G	3"	2	
800N	4#500, 1#1/0G	3 1/2"	2	
800S	4#500	3 1/2"	2	
1000	3#400, 1#2/0G	3"	3	
1000N	4#400, 1#2/0G	3"	3	
1000S	4#400	3"	3	
1200	3#350, 1#3/0G	3"	4	
1200N	4#350, 1#3/0G	3"	4	
1200S	4#350	3"	4	
1600S	4#400	3"	5	
2000S	4#400	3"	6	
2500S	4#500	3 1/2"	7	
3000S	4#500	3 1/2"	8	
4000S	4#500	3 1/2"	11	

TRANSFORMER FEEDER SCHEDULE

TAG NUMBER	CONDUCTOR QUANTITY AND SIZE	CONDUIT SIZE	SETS	COMMENTS
P15	3#10, 1#10G	3/4"	1	
S15	4#6, 1#8G	1"	1	
K15	3#4, 1#6N, 1#8G	1 1/4"	1	
G15	1#8G	1/2"	1	
P15	2#8, 1#10G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
S15	3#4, 1#6G	1 1/2"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
G15	1#6G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
P25	2#6, 1#10G	1"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
D25	3#1, 1#6G	1 1/2"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
G25	1#6G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
P30	3#6, 1#10G	3/4"	1	
S30	4#1, 1#6G	1 1/2"	1	
K30	3 #1/0, 1#2/0N, 1#6G	2"	1	
G30	1#6G	1/2"	1	
P37	2#1, 1#6G	1 1/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
D37	3#3/0, 1#4G	3"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
G37	1#4G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
P45	3#4, 1#8G	1"	1	
S45	4#1/0, 1#6G	1 1/2"	1	
K45	3#2/0, 1#250, 1#4G	2"	1	
G45	1#6G	1/2"	1	
P50	2#1, 1#6G	1 1/4"	1	
S50	3#3/0, 1#3G	2"	1	
G50	1#3G	3/4"	1	
P75	3#1, 1#8G	1 1/2"	1	
S75	4#4/0, 1#2G	2 1/2"	1	
K75	3#4/0, 2#3/0N, 1#2G	2 1/2"	1	
G75	1#1/0G	1/2"	1	
P75	2#3/0, 1#6G	2"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
S75	3#3/0, 1#4G	2"	2	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
G75	1#4G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
P75A	3#1, 1#8G	1 1/2"	1	FOR 480 3Ø: 120/240 3Ø TRANSFORMERS
S75A	4#4/0, 1#2G	2 1/2"	1	FOR 480 3Ø: 120/240 3Ø TRANSFORMERS
G75A	1#2G	1/2"	1	FOR 480 3Ø: 120/240 3Ø TRANSFORMERS
P112	3#2/0, #6G	2"	1	
S112	4#3/0, 1#1/0G	2"	2	
K112	3#4/0, 1#350N, 1#1/0G	2 1/2"	2	
G112	1#1/0G	3/4"	1	
P150	3#250, 1#4G	2 1/2"	1	
S150	4#350, 1#2/0G	3"	2	
K150	3#350, 2#3/0N, 1#2/0G	3"	2	
G150	1#2/0G	3/4"	1	
P167	2#4/0, 1#2/0G	2"	2	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
S167	3#350, 1#3/0G	3"	3	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
G167	1#3/0G	3/4"	1	FOR 480 1Ø: 120/240 1Ø TRANSFORMERS
P225	3#500, 3#3G	3"	1	
S225	4#300, 1#2/0G	3"	1	
K225	3#350, 2#3/0, 1#1G	3 1/2"	3	
G225	1#2/0G	3/4"	1	

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10/30/2026
LEAF ENGINEERS
F-18672

CLIENT
TOMBALL ISD

DATE 10/30/2026
PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: Checker
DRAWN BY: TLG/MM3

ELECTRICAL RISER DIAGRAM

E-502

Plot Stamp:
10/30/2026 7:55:38 AM

LESCO - Lighting Fixture Schedule

Fixture Type	Manufacturer	Catalog Number	Lamp Type	Mounting	Voltage	Dimming Type	Description
A1-12'	MARK	S4PID LLP 12FT MSL6 80CRI 35K 1000LMF I80CRI I35K I400LMF BW SCT MIN10 FLL DC MVOLT WHTT ZT F2/36A RDCY WHTCH WCRD MCS - (VERIFY FINISH) (VERIFY SUSPENSION LENGTH)	112W, 3500K, 4848LM	SUSPENDED	MVOLT	1-10V	SUSPENDED LINEAR - DIRECT - INDIRECT - SINGLE CIRCUIT
B3-8'	MARK	S4PID LLP 12FT MSL6 80CRI 35K 1000LMF I80CRI I35K I400LMF BW SCT MIN10 FLL DC MVOLT WHTT [1E10WLCP] ZT F2/36A RDCY WHTCH WCRD MCS - (VERIFY FINISH) (VERIFY SUSPENSION...	63W, 3500K, 3016LM	SUSPENDED	MVOLT	1-10V	SUSPENDED LINEAR - DIRECT - INDIRECT - SINGLE CIRCUIT
B3-10'	MARK	SL4L LOP 10FT FLP TG 80CRI 35K 800LMF MIN10 277 ZT DPL (VERIFY FINISH)	80W, 3500K, 3016LM	RECESSED	277	1-10V	RECESSED LINEAR - GRID CEILING - 800L/FT - DAMP LISTED
C3-4'	MARK	SL4L LOP 4' FLP FL 80CRI 40K 800LMF MIN10 277 ZT WL (VERIFY FINISH)	31W, 4000K, 3016LM	RECESSED	277	1-10V	RECESSED LINER - HARD CEILING - WET LOCATION - 800L/FT - WET LOCATION
C3-10'	MARK	SL4L LOP10' FLP FL 80CRI 40K 800LMF MIN10 277 ZT WL (VERIFY FINISH)	80W, 4000K, 3016LM	RECESSED	277	1-10V	RECESSED LINER - HARD CEILING - WET LOCATION - 800L/FT - WET LOCATION
D3	MARK	S4PD LLP XX(RUN LENGTH) MSL4 80CRI 35K 800LMF SCT MIN10 CLL MVOLT WHT ZT F1/36	27W, 3500K, 3255	SUSPENDED	MVOLT	1-10V	SUSPENDED LINEAR - DIRECT
F-4'	LITHONIA	CSS L48 4000LM MVOLT MIN10 ZT 35K 80CRI - SUPPLY HC36 M12 IN SUSPENDED APPLICATIONS	36W, 3500K, 678LM	SURFACE/ SUSPENDED	MVOLT	1-10V	SURFACE OR SUSPENDED - 4' UTILITY STRIP - 4000 LUMEN
G1	LITHONIA	LDN4 35/20 L04 AR LSS MVOLT GZ10 BAA	22W, 3500K, 1979LM	RECESSED	MVOLT	1-10V	RECESSED - 4" LED DOWNLIGHT - 2000 LUMEN - 3500K - WET LOCATION IP55
G2	LITHONIA	LDN6 40/20 L06AR LSS MVOLT GZ10 BAA	23W, 4000K, 2009LM	RECESSED	MVOLT	1-10V	RECESSED - 6" LED DOWNLIGHT - 2000 LUMEN - 4000K - NOTE SPECIFIED COLOR TEMP
S1-3	LITHONIA	WDGE2 LED P4 40K 80CRI T3M MVOLT SRM [E10WH] XX(CONTROL) DDBXD (VERIFY FINISH) (VERIFY CONTROL)	47W, 4000K, 4268LM	SURFACE	MVOLT	1-10V	SURFACE WALL PACK - 4500 LUMEN - TYPE 3 DISTRIBUTION - 4000K
X	LITHONIA	EDG	2W	SURFACE	MVOLT	NA	CONFIRM COLOR WITH ARCHITECT
X1	LITHONIA	EXRG	2W	SURFACE	MVOLT	NA	THERMOPLASTIC LED EXIT SIGN - CONFIRM COLOR WITH ARCHITECT

GENERAL LIGHTING SCHDULES NOTES

1. REFER TO ARCHITECT'S REFLECTED CEILING PLAN AND RELATED DETAILS TO DETERMINE PROPER CEILING TYPE COMPATIBILITY FOR EACH LUMINAIRE. PROVIDE ANY EXTRA FITTINGS OR OPTIONS AS REQUIRED TO ENSURE CORRECT MOUNTING IN THE GIVEN CEILING.
2. PROVIDE FIRE RATED CANOPY OR ENCLOSURE FOR ALL FIXTURES RECESSED IN A FIRE RATED CEILING. THE FIRE RATED CANOPY OR ENCLOSURE SHALL BE REQUIRED BY THE UL DESIGN NUMBER LISTED IN THE UL FIRE RESISTANCE DIRECTORY. REFER TO ARCHITECTURAL DRAWING FOR THE UL DESIGN NUMBER. COORDINATE WITH CEILING INSTALLER AND MANUFACTURER.

LIGHTING FIXTURE NOTES

KEY TO NOTE PREFIXES: "G" NOTES ARE "GENERAL" LIGHTING NOTES THAT APPLY TO THE ENTIRE PROJECT. "S" NOTES ARE "SCHEDULE" NOTES THAT APPLY TO SPECIFIC LUMINAIRES.

G.1 REFER TO ARCHITECTURAL REFLECTED CEILING PLANS, ELEVATIONS, SECTIONS, AND DETAILS FOR THE EXACT LOCATION OF ALL LUMINAIRES. ARCHITECTURAL PLANS SHALL GOVERN FOR LOCATION AND LAYOUT. IF ARCHITECTURAL AND ELECTRICAL DRAWINGS CONFLICT IN EXACT COUNT OR FIXTURE TYPE, PROVIDE THE GREATER QUANTITY OR COST TYPE UNLESS OTHERWISE INSTRUCTED.

G2. REFER TO DIVISION 26 ELECTRICAL SPECIFICATIONS FOR ADDITIONAL LUMINAIRE AND ELECTRICAL REQUIREMENTS (LENS, AIR HANDLING CHARACTERISTICS, T-BAR CLIPS, BALLAST, LAMPS, TIME FRAME FOR SUBMITTAL OF SUBSTITUTE LIGHT FIXTURES FOR PRIOR APPROVAL, ETC.).

G3. FOR EACH SCHEDULED LUMINAIRE, PROVIDE ALL REQUIRED APPURTENANCES FOR INSTALLATION IN APPLICABLE STRUCTURE OR SPECIFIED ARCHITECTURAL EILING. ALL LUMINAIRES SHALL HAVE THE APPROPRIATE NEMA TYPE FRAME THAT IS COMPATIBLE WITH THE CEILING SYSTEM SPECIFIED BY THE ARCHITECT. ELECTRICAL DRAWINGS DO NOT INDICATE CEILING TYPES, CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS TO DETERMINE CEILING TYPE (GRID, FLANGE, SPLINE, SCREW SLOT, ETC.) AND PROVIDE APPROPRIATE FRAME.

G4. EXIT SIGNS AND OTHER LUMINAIRES SHALL NOT BE SUPPORTED BY CEILING TILE. PROVIDE MOUNTING FRAME OR HANGERS TO SECURELY FASTEN IN PLACE ALL LUMINAIRES MOUNTED IN CEILING TILE. FRAMING MEMBERS OF A SUSPENDED CEILING SYSTEM MAY BE USED WHERE DESIGNED FOR THE PURPOSE AND INSTALLED PER NEC 410-16(c).

G5. WHERE A SURFACE-MOUNTED LUMINAIRE CONTAINING A BALLAST IS TO BE INSTALLED ON COMBUSTIBLE LOW-DENSITY CELLULOSE FIBERBOARD, IT SHALL BE LISTED FOR THIS CONDITION OR SHALL BE SPACED NOT LESS THAN 1 1/2 INCHES FROM THE SURFACE OF THE FIBERBOARD (NEC 410-76(b)).

G6. REQUEST FOR SUBSTITUTION SHALL FOLLOW SPECIFIED PROCEDURES AND SHALL INCLUDE A WORKING SAMPLE SUITABLE FOR TABLE TOP EXAMINATION.

S1. UNLESS OTHERWISE NOTED, MOUNT EXIT SIGN DIRECTLY ABOVE EGRESS DOOR (MAXIMUM 24" ABOVE DOOR). PROVIDE WALL MOUNT EXIT SIGNS IN HIGH CEILING AREAS. PROVIDE WINDOW MULLION MOUNTING WITH CONCEALED WIRING WHERE REQUIRED. COORDINATE EXACT ELEVATION WITH ARCHITECT PRIOR TO ROUGH-IN.

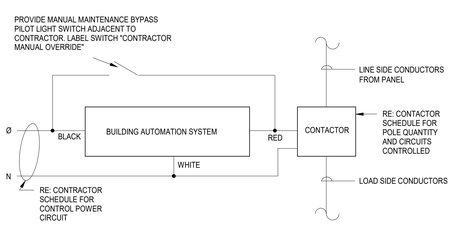
CHANGE POLE HEIGHT TO MATCH YOUR REQUIREMENTS

S2. PROVIDE KW #RTSP30-DBZ-DM-BC POLE. POLE SHAFT SHALL CONFORM TO ASTM-A-500 GRADE B, ANCHOR BASE OF HOT ROLLED CARBON STEEL, PROVIDE ANCHOR BOLTS. PROVIDE 30' POLE WITH MINIMUM 3 MIL. BAKED POLYESTER POWDER COAT FINISH. COLOR TO MATCH LUMINAIRE.

S3. PROVIDE KW #RTSP30-DBZ-DM2180-BC POLE. POLE SHAFT SHALL CONFORM TO ASTM-A-500 GRADE B, ANCHOR BASE OF HOT ROLLED CARBON STEEL, PROVIDE ANCHOR BOLTS. PROVIDE 30' POLE WITH MINIMUM 3 MIL. BAKED POLYESTER POWDER COAT FINISH. COLOR TO MATCH LUMINAIRE.

CONTACTOR SCHEDULE							
DESIG-NATION	CIRCUITS SERVED	CONTACTOR CHARACTERISTICS					REMARKS
		CONTACT AMPS	N.O. POLES	COIL VOLTS	CONTROL	SUPPLY CKT.	
C		20	4	277	DDC	1HM3-9	SIEMENS CLASS LC OR ABB CR460 (1)
C-1	1HM1-1						
C-2	1HM3-3						
C-3 TO 4	SPARE						
C1		20	4	277	DDC	EHM2-9	
C1-1	EHM1-5						
C1-2	EHM2-3						
C1-3 TO 4	SPARE						

(1) PHOTOCELL ON/TIMECLOCK OFF.



3 CONTACTOR CONTROL DIAGRAM
NOT TO SCALE

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713-960-9595
LEAF ENGINEERS

Tomball ISD-Multi-Program Activity Center-
Tomball High School

1118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

B A

KEY PLAN

PLAN NORTH | TRUE NORTH

STATE OF TEXAS
MATTHEW R. SICKORE
107736
LICENSED PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT
TOMBALL ISD

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

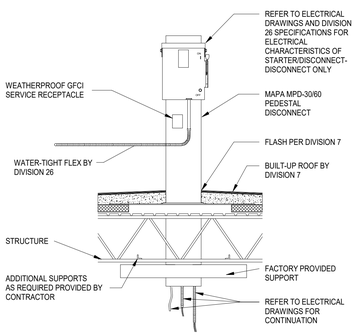
No.	Description	Date

CHECKED BY: Checker
DRAWN BY: TLG/MM3

ELECTRICAL LIGHTING FIXTURE AND CONTACTOR SCHEDULE

E-601

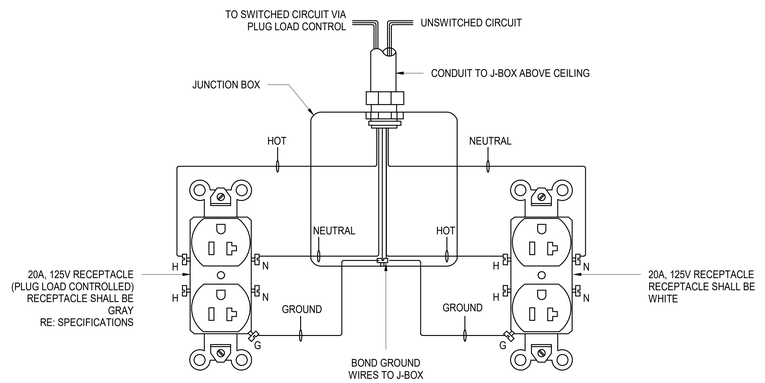
Plot Stamp:
10/30/2026 7:55:39 AM



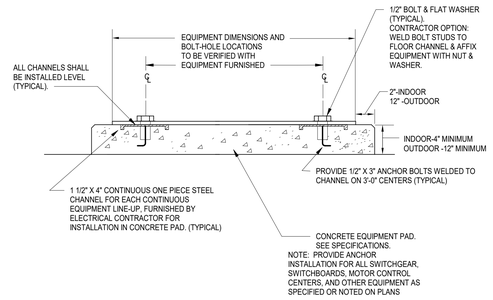
NOTES:

1. WATER-TIGHT FLEX CONDUIT SHALL NOT RESTRICT FAN FROM ROTATING ON HINGED SUB-BASE FOR SERVICE TO DAMPERS AND DUCT CONNECTION. REFER TO DIVISION 26.

6 PEDESTAL MOUNT DISCONNECT
NOT TO SCALE

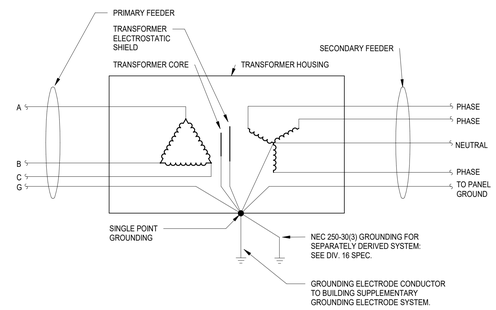


5 QUADPLEX RECEPTACLE WITH PLUG LOAD CONTROLS
NOT TO SCALE

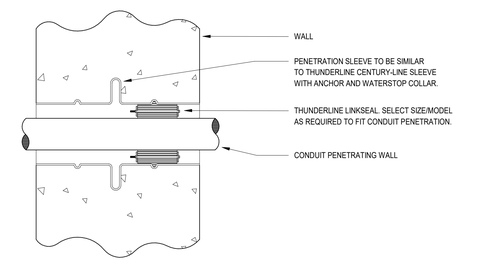


NOTE: PROVIDE ANCHOR INSTALLATION FOR ALL SWITCHGEAR, SWITCHBOARDS, MOTOR CONTROL CENTERS, AND OTHER EQUIPMENT AS SPECIFIED OR NOTED ON PLANS

3 EQUIPMENT ANCHOR DETAIL
NOT TO SCALE



2 DELTA-WYE TRANSFORMER SCHEMATIC
NOT TO SCALE



1 CONDUIT PENETRATION DETAIL - EXTERIOR WALL
NOT TO SCALE

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LEAF ENGINEERS

Tomball ISD-Multi-Program Activity Center-Tomball High School

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ISSUED FOR PROPOSAL

B A

KEY PLAN

PLAN NORTH | TRUE NORTH



10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: Checker

DRAWN BY: TLG/MM3

ELECTRICAL DETAILS

E-602

Plot Stamp:
10/30/2026 7:55:39 AM

Electrical Load Calculations

AIC Rating: **100000**

Job: Tomball ISD Multi-Program Activity Center

Volts - Phase: **480Y/277V-3PH 4W**

Job No.: 25046901

DISTRIBUTI... **MSA**

Served From: UTILITY CO TRANSFORMER

Connected Load (KVA)

Cir. No.	Load Served	Amp/Poles	Wire and Conduit Size	Lighting	Conv. Outlets	Motors	Heating	Cooling	Others	Elect. Cooking	Spare/ Spaces	Elevators	Residential	Total KVA	Total Amps
1	SPD	100/3												0.0	0.0
2	PANEL 1HM1	100/3	SEE RISER	4.8	0.0	0.0	0.0	0.0	0.0	0.0				4.8	5.8
3	PANEL 1HM2	250/3	SEE RISER	0.0	0.0	101.2	6.6	4.7	0.0	0.0				112.5	135.3
4	XFMR T1LM1	125/3	SEE RISER	0.0	11.4	33.4	0.0	0.0	0.0	15.3	0.0			60.0	72.2
5	PANEL 1HM3	100/3	SEE RISER	60.2	0.0	0.0	0.0	0.0	0.1	0.0				60.3	72.6
6	PANEL 1HM4	200/3	SEE RISER	0.0	0.0	0.0	0.0	79.0	12.3	0.0				91.3	109.9
7	XFMR T1LM2	125/3	SEE RISER	0.0	15.0	11.3	0.0	3.3	3.9	0.0				33.5	40.3
8	ACCH-01	700/3	SEE RISER			452.1								452.1	543.7
9	ACCH-02	700/3	SEE RISER			452.1								452.1	543.7
10	ACCH-03	700/3	SEE RISER			0.0								0.0	0.0
11	ATS-E	50/3	SEE RISER	13.5	0.0	0.0	0.0	0.0	0.1	0.0				13.6	16.3
12	ATS-S	100/3	SEE RISER	0.0	0.0	0.0	0.0	3.3	16.5	0.0				19.8	23.9
13	AHU-01	225/3	3#4/0, 1#4G.,2					103.1						103.1	124.0
14	AHU-02	225/3	3#4/0, 1#4G.,3					103.1						103.1	124.0
15	SPACE	250/3												0.0	0.0
16	SPACE	250/3												0.0	0.0
Total...				78.5	26.4	1050.0	6.6	296.5	48.2	0.0	0.0	0.0	0.0	1506.2	1811.7
Demand...				-- 1.25	-- *	-- **	-- 1.0	-- 1.0	-- 1.00	-- 0.65	-- 0.5	-- ***	-- ****	--	--
Total...				98.1	18.2	1050.0	0.0	296.5	48.2	0.0	0.0	0.0	0.0	1511.0	1817.5

* 100% of 1st 10 KVA, 50% of remaining.
** 125% of largest motor + 100% sum of remaining motors
*** Elevator Demand Factor based on T620-14.
**** Residential Demand Factor based on T220-32.

Largest Motor: _____ KVA

DISTRIBUTION PANEL:		MSA
MAINS	TYPE:	MAIN BREAKER
	SIZE:	2000 AMP
BUS SIZE	PHASE:	2000 AMP
	NEUTRAL:	2000 AMP
	GROUND:	PER NEC

Date: 10/21/2026 | By: TG

Job: Tomball ISD Multi-Program Activity Center | Job No. 25046901

Mounting **SURFACE** | Main Type **MCB (100A)** | Neutral **100%** | Voltage: **480Y/277V-3PH 4W** | Main Size: **100 AMPS** | AIC... **42000** | Ground **Equipment Ground** | Lugs **SINGLE**

PANEL: **1HM1** — ALL LOADS IN VA

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
800							0.00	EXTERIOR LIGHTING B	20/1	10	1	A	2			SPACE								0.00
2250							0.00	INTERIOR LIGHTING B	20/1	12	3	B	4			SPACE								0.00
1750							0.00	INTERIOR LIGHTING B	20/1	12	5	C	6			SPACE								0.00
							0.00	SPACE			7	A	8			SPACE								0.00
							0.00	SPACE			9	B	10			SPACE								0.00
							0.00	SPACE			11	C	12			SPACE								0.00
							0.00	SPACE			13	A	14			SPACE								0.00
							0.00	SPACE			15	B	16			SPACE								0.00
							0.00	SPACE			17	C	18			SPACE								0.00
							0.00	SMART METER	20/3	12	19	A	20			SPACE								0.00
							0.00	-	-	-	21	B	22			SPACE								0.00
							0.00	-	-	-	23	C	24			SPACE								0.00
4800	0	0	0	0	0	0	0.00	**TOTALS**								**TOTALS**	0	0	0	0	0	0	0	0.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Design KVA

Phase Load	
Ph	KVA
A	0.8
B	2.3
C	1.8

Panel Remarks:

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	4.8	5.8		6.0	7.2

PANEL: **1HM1**

Date: 10/21/2026 | By: TG

Job: Tomball ISD Multi-Program Activity Center | Job No. 25046901

Mounting **SURFACE** | Main Type **MCB (250A)** | Neutral **100%** | Voltage: **480Y/277V-3PH 4W** | Main Size: **250 AMPS** | AIC... **42000** | Ground **Equipment Ground** | Lugs **SINGLE**

PANEL: **1HM2** — ALL LOADS IN VA

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
		7479					0.00	CHP-03	60/3	6	1	A	2	10	30/3	SHWP-02			3047					0.00
		7479					0.00	-	-	-	3	B	4	-	-	-			3047					0.00
		7479					0.00	-	-	-	5	C	6	-	-	-			3047					0.00
		7479					0.00	CHP-02	60/3	6	7	A	8	10	30/3	SHWP-01			3047					0.00
		7479					0.00	-	-	-	9	B	10	-	-	-			3047					0.00
		7479					0.00	-	-	-	11	C	12	-	-	-			3047					0.00
		7479					0.00	CHP-01	60/3	6	13	A	14	12	15/3	FCU-01					346			0.00
		7479					0.00	-	-	-	15	B	16	-	-	-					346			0.00
		7479					0.00	-	-	-	17	C	18	-	-	-					346			0.00
				607			0.00	FCU-02	15/3	12	19	A	20	12	15/3	FCU-03					607			0.00
				607			0.00	-	-	-	21	B	22	-	-	-					607			0.00
				607			0.00	-	-	-	23	C	24	-	-	-					607			0.00
		3878					0.00	DWP-1	35/3	8	25	A	26	12	15/3	JP-1			1330					0.00
		3878					0.00	-	-	-	27	B	28	-	-	-			1330					0.00
		3878					0.00	-	-	-	29	C	30	-	-	-			1330					0.00
			3300				0.00	EUH-01	20/1	12	31	A	32	12	20/1	EHU-02				3300				0.00
							0.00	SPACE			33	B	34			SPACE								0.00
							0.00	SPACE			35	C	36			SPACE								0.00
							0.00	SPACE			37	A	38			SPACE								0.00
							0.00	SPACE			39	B	40			SPACE								0.00
							0.00	SPACE			41	C	42			SPACE								0.00
							0.00	SPACE			43		44			SPACE								0.00
							0.00	SPACE			45		46			SPACE								0.00
							0.00	SPACE			47		48			SPACE								0.00
							0.00	SPACE			49		50			SPACE								0.00
							0.00	SPACE			51		52			SPACE								0.00
							0.00	SPACE			53		54			SPACE								0.00
							0.00	SMART METER	20/3	12	55		56			SPACE								0.00
							0.00	-	-	-	57		58			SPACE								0.00
							0.00	-	-	-	59		60			SPACE								0.00
0	0	78945	3300	1820	0	0	0.00	**TOTALS**								**TOTALS**	0	0	22271	3300	2859	0	0	0.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.0	101.2	6.6	4.7	0.0	0.0	0.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.0	101.2	6.6	0.0	0.0	0.0	0.0	Design KVA

Phase Load	
Ph	KVA
A	41.9
B	35.3
C	35.3

Panel Remarks:

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	112.5	135.3		107.8	129.7

PANEL: **1HM2**

Date: 10/21/2026 | By: TG

Job: Tomball ISD Multi-Program Activity Center | Job No. 25046901

Mounting **SURFACE** | Main Type **MCB (225A)** | Neutral **200%** | Voltage: **208Y/120V-3PH 4W** | Main Size: **250 AMPS** | AIC... **10000** | Ground **Equipment Ground** | Lugs **FEED THRU**

PANEL: **1LM1** — ALL LOADS IN VA

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
		792					0.00	PHWP-02	15/3 **	12	1	A	2	12	20/1	FIELD REC		1000						0.00
		792					0.00	-	-	-	3	B	4	12	20/1	OVERHEAD DOOR			1200					0.00
		792					0.00	-	-	-	5	C	6	12	20/1	PITCHING MACHINE						1920		0.00
		792					0.00	PHWP-01	15/3 **	12	7	A	8		20/1	SPARE								1.00
		792					0.00	-	-	-	9	B	10	12	20/1	FIELD REC		1000						0.00
		792					0.00	-	-	-	11	C	12	12	20/1	FIELD REC		1000						0.00
							1.00	SPARE	20/1		13	A	14	10	20/1	CURTAIN			1920					0.00
							1.00	SPARE	20/1		15	B	16	12	20/1	FIELD REC		1000						0.00
	1200						0.00	OVERHEAD DOOR	20/1	12	17	C	18	12	20/1	OVERHEAD DOOR			1200					0.00
	720						0.00	STORAGE & EXT REC	20/1	12	19	A	20	12	20/1	FIELD REC		1000						0.00
	540						0.00	STORAGE REC	20/1	12	21	B	22	12	20/1	FIELD REC		1000						0.00
	1000						0.00	FIELD REC	20/1	10	23	C	24	12	20/1	OVERHEAD DOOR			1200					0.00
							1.00	SPARE	20/1	10	25	A	26		20/1	SPARE								1.00
	1000						0.00	FIELD REC	20/1	10	27	B	28		20/1	SPARE								1.00
		1920					0.00	CURTAIN	20/1	8	29	C	30		20/1	SPARE								1.00
							1.00	SPARE	20/1		31	A	32		20/1	SPARE								1.00
							1.00	SPARE	20/1		33	B	34		20/1	SPARE								1.00
							1.00	SPARE	20/1		35	C	36		20/1	SPARE								1.00
							0.00	SMART METER	20/3	12	37	A	38	10	30/3	SPD								0.00
							0.00	-	-	-	39	B	40	-	-	-								0.00
							0.00	-	-	-	41	C	42	-	-	-								0.00
0	3260	7872	0	0	0	0	6.00	**TOTALS**								**TOTALS**	0	6000	5520	0	0	1920	0	7.00

PANEL: **1LM1** **2** **(Section...**

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
					1920		0.00	AHU-01 ELEC SWTC	20/1	10	43	A	44	12	20/1	CHILLER REC		180						0.00
					1920		0.00	AHU-02 ELEC SWTC	20/1	10	45	B	46	12	20/1	CHILLER REC		180						0.00
	900						0.00	MECH MEZZ REC	20/1	12	47	C	48	12	20/1	CHILLER REC		180						0.00
	720						0.00	MECH MEZZ REC	20/1	12	49	A	50	12	20/1	CHILLER CTRL VALVE						500		0.00
				500			0.00	ELEC TRAP PRIMER	20/1	12	51	B	52	12	20/1	CHILLER CTRL VALVE						500		0.00
				500			0.00	ELEC TRAP PRIMER	20/1	12	53	C	54	12	20/1	CHILLER CTRL VALVE						500		0.00
				1000			0.00	MOTORIZED GATE	20/1	10	55	A	56	10	30/1	CHILLER HEAT TRACE						2000		0.00
							1.00	SPARE	20/1		57	B	58	10	30/1	CHILLER HEAT TRACE						2000		0.00
							1.00	SPARE	20/1		59	C	60	10	30/1	CHILLER HEAT TRACE						2000		0.00
							1.00	SPARE	20/1		61	A	62		20/1	SPARE								1.00
							1.00	SPARE	20/1		63	B	64		20/1	SPARE								1.00
							1.00	SPARE	20/1		65	C	66		20/1	SPARE								1.00
							1.00	SPARE	20/1		67	A	68		20/1	SPARE								1.00
	1176						0.00	SF-01	20/1 **	10	69	B	70		20/1	SPARE								1.00
	1176						0.00	EF-02	20/1 **	12	71	C	72		20/1	SPARE								1.00
	1440						0.00	B-02	20/3 **	12	73	A	74	10	20/3 **	HOIST			1498					0.00
	1440						0.00	-	-	-	75	B	76	-	-	-			1498					0.00
	1440						0.00	-	-	-	77	C	78	-	-	-			1498					0.00
	1440						0.00	B-01	20/3 **	12	79	A	80	10	20/3 **	HOIST			1498					0.00
	1440						0.00	-	-	-	81	B	82	-	-	-			1498					0.00
	1440						0.00	-	-	-	83	C	84	-	-	-			1498					0.00
0	1620	10992	0	0	5840	0	6.00	**TOTALS**								**TOTALS**	0	540	8986	0	0	7500	0	6.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	11.4	33.4	0.0	0.0	15.3	0.0	25.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	10.7	33.4	0.0	0.0	15.3	0.0	12.5	Design KVA

Phase Load	
Ph	KVA
A	18.4
B	19.5
C	22.2

Panel Remarks:

** PROVIDE E-MON/D-MON MULTI-MON BRANCH METER FOR CIRCUIT.

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	85.0	236.1		71.8	199.4

PANEL: **1LM1**

Date: 10/21/2026 | By: TG

Job: Tomball ISD Multi-Program Activity Center | Job No. 25046901

Mounting **SURFACE** | Main Type **MCB (100A)** | Neutral **100%** | Voltage: **480Y/277V-3PH 4W** | Main Size: **100 AMPS** | AIC... **42000** | Ground **Equipment Ground** | Lugs **SINGLE**

PANEL: **1HM3** — ALL LOADS IN VA

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
2500							0.00	INTERIOR LIGHTING A	20/1	12	1	A	2	8	20/2	MUSCO LIGHTING	3960							0.00
600							0.00	EXTERIOR LIGHTING A	20/1	10	3	B	4	-	-	-	3960							0.00
							0.00	SPACE			5	C	6	8	20/2	MUSCO LIGHTING	3550							0.00
							0.00	SPACE			7	A	8	-	-	-	3550							0.00
						100	0.00	CONTACTOR CONTROL	20/1	12	9	B	10	8	20/2	MUSCO LIGHTING	3960							0.00
3555							0.00	MUSCO LIGHTING	20/2	8	11	C	12	-	-	-	3960							0.00
3555							0.00	-	-	-	13	A	14	8	20/2	MUSCO LIGHTING	3960							0.00
3015							0.00	MUSCO LIGHTING	20/2	8	15	B	16	-	-	-	3960							0.00
3015							0.00	-	-	-	17	C	18	8	20/2	MUSCO LIGHTING	3555							0.00
							0.00	SMART METER	20/3	12	19	A	20	-	-	-	3555							0.00
							0.00	-	-	-	21	B	22	8	20/2	MUSCO LIGHTING	3015							0.00
							0.00	-	-	-	23	C	24	-	-	-	3015							0.00
16240	0	0	0	0	0	100	0.00	**TOTALS**								**TOTALS**	44000	0	0	0	0	0	0	0.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
60.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
75.3	0.0	0.0	0.0	0.0	0.1	0.0	0.0	Design KVA

Phase Load	
Ph	KVA
A	21.1
B	18.6
C	20.7

Panel Remarks:

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	60.3	72.6		73.4	90.7

PANEL: **1HM3**

Date: 10/21/2026 | By: TG

Job: Tomball ISD Multi-Program Activity Center | Job No. 25046901

Mounting **SURFACE** | Main Type **MCB (200A)** | Neutral **100%** | Voltage: **480Y/277V-3PH 4W** | Main Size: **250 AMPS** | AIC... **42000** | Ground **Equipment Ground** | Lugs **SINGLE**

PANEL: **1HM4** — ALL LOADS IN VA

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S
				4709			0.00	RTU-01	20/3	12	1	A	2	12	15/3	RTU-02					3601			0.00
				4709			0.00		-	-	3	B	4	-	-	-					3601			0.00
				4709			0.00		-	-	5	C	6	-	-	-					3601			0.00
				6371			0.00	RTU-03	35/3	8	7	A	8	6	60/3	RTU-04					11662			0.00
				6371			0.00		-	-	9	B	10	-	-	-					11662			0.00
				6371			0.00	-	-	-	11	C	12	-	-	-					11662			0.00
					4100		0.00	EWH-1	20/3	12	13	A	14			SPACE								0.00
					4100		0.00	-	-	-	15	B	16			SPACE								0.00
					4100		0.00	-	-	-	17	C	18			SPACE								0.00
							0.00	SPACE			19	A	20			SPACE								0.00
							0.00	SPACE			21	B	22			SPACE								0.00
							0.00	SPACE			23	C	24			SPACE								0.00
							0.00	SPACE			25	A	26			SPACE								0.00
							0.00	SPACE			27	B	28			SPACE								0.00
							0.00	SPACE			29	C	30			SPACE								0.00
							0.00	SPACE			31	A	32			SPACE								0.00
							0.00	SPACE			33	B	34			SPACE								0.00
							0.00	SPACE			35	C	36			SPACE								0.00
							0.00	SMART METER	20/3	12	37	A	38			SPACE								0.00
							0.00	-	-	-	39	B	40			SPACE								0.00
							0.00	-	-	-	41	C	42			SPACE								0.00
0	0	0	0	33240	12300	0	0.00	**TOTALS**								**TOTALS**	0	0	0	0	45788	0	0	0.00

LOAD SUMMARY

Ltg.	Recept	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.0	0.0	0.0	79.0	12.3	0.0	0.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.0	0.0	0.0	79.0	12.3	0.0	0.0	Design KVA

Phase Load	
Ph	KVA
A	30.4
B	30.4
C	30.4

Panel Remarks:

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	91.3	109.9		91.3	109.9

PANEL: **1HM4**

Date: 10/21/2026 | By: TG

MSA	1HM1
1HM2	1LM1
1HM3	1HM4

Plot Stamp:
10/30/2026 7:55:40 AM

PBK
TX FIRM BR 1608
www.pbk.com
HOUSTON, TX
713-960-9595

LEAF ENGINEERS

Tomball ISD-Multi-Program Activity Center-
Tomball High School

1118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

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B A

KEY PLAN

PLAN NORTH | TRUE NORTH

STATE OF TEXAS — MATTHEW R. SICKORE — 107736 — LICENSED PROFESSIONAL ENGINEER

10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: Checker
DRAWN BY: TLG/MM3

ELECTRICAL PANEL SCHEDULES

E-701

Job: Tomball ISD Multi-Program Activity Center — Job No. 25046901

Mounting: **SURFACE** — Main Type: **MCB (225A)** — Neutral: **200%**
Voltage: **208Y/120V-3PH 4W** — Main Size: **250 AMPS**
AIC: **10000** — Ground: **Equipment Ground** — Lugs: **FEED THRU**

PANEL: **1LM2** — ALL LOADS IN VA

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S
	1000						0.00	FIELD REC	20/1	10	1	A	2	12	20/1	STORAGE & RR REC		1440						0.00
		1200					0.00	OVERHEAD DOOR	20/1	12	3	B	4	12	20/1	CP-1								0.00
	1000						0.00	FIELD REC	20/1	12	5	C	6	12	20/1	FIELD REC		1000						0.00
	1000						0.00	FIELD REC	20/1	12	7	A	8	8	20/1	CURTAIN			1920					0.00
					300		0.00	PROJECTOR	20/1	12	9	B	10	12	20/1	FIELD REC		1000						0.00
					300		0.00	PROJECTION SCREEN	20/1	12	11	C	12	12	20/1	PROJECTOR						300		0.00
	540						0.00	EXTERIOR REC	20/1	12	13	A	14	12	20/1	PROJECTION SCREEN						300		0.00
					300		0.00	EDF	20/1 **	12	15	B	16	12	20/1	PROJECTION SCREEN						300		0.00
					300		0.00	EDF	20/1 **	12	17	C	18	12	20/1	PROJECTION SCREEN						300		0.00
		1920					0.00	CURTAIN	20/1	6	19	A	20	12	20/1	GOLF REC		720						0.00
		1920					0.00	CURTAIN	20/1	6	21	B	22	12	20/1	GOLF REC		720						0.00
							1.00	SPARE	20/1		23	C	24		20/1	SPARE								1.00
							1.00	SPARE	20/1		25	A	26		20/1	SPARE								1.00
							1.00	SPARE	20/1		27	B	28		20/1	SPARE								1.00
							1.00	SPARE	20/1		29	C	30		20/1	SPARE								1.00
							1.00	SPARE	20/1		31	A	32		20/1	SPARE								1.00
							1.00	SPARE	20/1		33	B	34		20/1	SPARE								1.00
							1.00	SPARE	20/1		35	C	36		20/1	SPARE								1.00
							0.00	SMART METER	20/3	12	37	A	38	10	30/3	SPD								0.00
							0.00	-	-	-	39	B	40	-	-	-								0.00
							0.00	-	-	-	41	C	42	-	-	-								0.00
0	3540	5040	0	0	1200	0	7.00	**TOTALS**								**TOTALS**	0	4880	1920	0	0	1200	0	7.00

PANEL: **1LM2** **2** **(Section...**

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S
		1920					0.00	CURTAIN	20/1	8	43	A	44	12	20/1	CONF RM REC		1080						0.00
							1.00	SPARE	20/1		45	B	46	12	20/1	CONF RM REC		720						0.00
					1000		0.00	PITCHING MACHINE	20/1	10	47	C	48	12	20/1	CONF RM FLR & TV REC		360				250		0.00
							1.00	SPARE	20/1		49	A	50	10	20/1	LOBBY TV						250		0.00
	1000						0.00	FIELD REC	20/1	10	51	B	52	10	20/1	LOBBY & EXTERIOR REC		360						0.00
	1000						0.00	FIELD REC	20/1	10	53	C	54		20/1	SPARE								1.00
	1000						0.00	FIELD REC	20/1	10	55	A	56		20/1	SPARE								1.00
		1200					0.00	OVERHEAD DOOR	20/1	10	57	B	58		20/1	SPARE								1.00
							1.00	SPARE	20/1		59	C	60		20/1	SPARE								1.00
							1.00	SPARE	20/1		61	A	62		20/1	SPARE								1.00
							1.00	SPARE	20/1		63	B	64		20/1	SPARE								1.00
							1.00	SPARE	20/1		65	C	66		20/1	SPARE								1.00
							1.00	SPARE	20/1		67	A	68		20/1	SPARE								1.00
							1.00	SPARE	20/1		69	B	70		20/1	SPARE								1.00
							1.00	SPARE	20/1		71	C	72		20/1	SPARE								1.00
							1.00	SPARE	20/1		73	A	74		20/1	SPARE								1.00
							1.00	SPARE	20/1		75	B	76		20/1	SPARE								1.00
							1.00	SPARE	20/1		77	C	78	10	30/2 ***	ACCU-IDF-112/FCU					1664			0.00
							1.00	SPARE	20/1		79	A	80	-	-	-					1664			0.00
							1.00	SPARE	20/1		81	B	82	10	20/1 ***	EF-1			1176					0.00
							1.00	SPARE	20/1		83	C	84	10	20/1	ROOF REC		1080						0.00
0	3000	3120	0	0	1000	0	15.00	**TOTALS**								**TOTALS**	0	3600	1176	0	3328	500	0	12.00

LOAD SUMMARY

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	15.0	11.3	0.0	3.3	3.9	0.0	41.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	12.5	11.3	0.0	3.3	3.9	0.0	20.5	Design KVA

Phase Load

Ph	KVA
A	14.8
B	10.2
C	8.6

Panel Remarks:
**: PROVIDE GFCI BREAKER

***: PROVIDE E-MON/D-MON MULTI-MON BRANCH METER FOR CIRCUIT.

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	74.5	206.8		51.5	142.9

PANEL: **1LM2**

Date: 10/21/2026 — By: TG — NEMA

Job: Tomball ISD Multi-Program Activity Center — Job No. 25046901

Mounting: **SURFACE** — Main Type: **MCB (60A) ***** — Neutral: **100%**
Voltage: **480Y/277V-3PH 4W** — Main Size: **100 AMPS**
AIC: **42000** — Ground: **Equipment Ground** — Lugs: **SINGLE**

PANEL: **EHM1** — ALL LOADS IN VA

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S
500							0.00	INT. EM LIGHT B	20/1	12	1	A	2			SPACE								0.00
750							0.00	INT. EM LIGHT B	20/1	12	3	B	4			SPACE								0.00
200							0.00	EXT. EM LIGHT B	20/1	10	5	C	6			SPACE								0.00
300							0.00	EXIT SIGNS B	20/1	10	7	A	8			SPACE								0.00
							0.00	SPACE			9	B	10			SPACE								0.00
							0.00	SPACE			11	C	12			SPACE								0.00
							0.00	SPACE			13	A	14			SPACE								0.00
							0.00	SPACE			15	B	16			SPACE								0.00
							0.00	SPACE			17	C	18			SPACE								0.00
							0.00	SMART METER	20/3	12	19	A	20	10	30/3	SPD								0.00
							0.00	-	-	-	21	B	22	-	-	-								0.00
							0.00	-	-	-	23	C	24	-	-	-								0.00
1750	0	0	0	0	0	0	0.00	**TOTALS**								**TOTALS**	0	0	0	0	0	0	0	0.00

LOAD SUMMARY

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description
13.5	0.0	0.0	0.0	0.1	0.0	0.0	0.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
16.8	0.0	0.0	0.0	0.0	0.1	0.0	0.0	Design KVA

Phase Load

Ph	KVA
A	0.8
B	0.8
C	0.2

Panel Remarks:
***: MAIN CIRCUIT BREAKER SHALL BE PROVIDED WITH ADJUSTABLE INSTANTANEOUS TRIP.

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	13.6	16.3		16.9	20.3

PANEL: **EHM1**

Date: 10/21/2026 — By: TG

Job: Tomball ISD Multi-Program Activity Center — Job No. 25046901

Mounting: **SURFACE** — Main Type: **MCB (60A) ***** — Neutral: **100%**
Voltage: **480Y/277V-3PH 4W** — Main Size: **100 AMPS**
AIC: **42000** — Ground: **Equipment Ground** — Lugs: **SINGLE**

PANEL: **SHM1** — ALL LOADS IN VA

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S
							0.00	SPACE			1	A	2			SPACE								0.00
							0.00	SPACE			3	B	4			SPACE								0.00
							0.00	SPACE			5	C	6			SPACE								0.00
							0.00	SPACE			7	A	8			SPACE								0.00
							0.00	SPACE			9	B	10			SPACE								0.00
							0.00	SPACE			11	C	12			SPACE								0.00
0	0	0	0	0	1933	0	0.00	XFMR TSLM1	25/3	SEE	13	A	14	SEE	50/3	XFMR T1LM2	0	0	0	0	1109	3573	0	0.00
0	0	0	0	0	1933	0	0.00	-	-	RISER	15	B	16	RISER	-	-	0	0	0	0	1109	3573	0	0.00
0	0	0	0	0	1933	0	0.00	-	-	-	17	C	18	-	-	-	0	0	0	0	1109	3573	0	0.00
							0.00	SMART METER	20/3	12	19	A	20	10	30/3	SPD								0.00
							0.00	-	-	-	21	B	22	-	-	-								0.00
							0.00	-	-	-	23	C	24	-	-	-								0.00
0	0	0	0	0	5800	0	0.00	**TOTALS**								**TOTALS**	0	0	0	0	3328	10720	0	0.00

LOAD SUMMARY

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.0	0.0	0.0	3.3	16.5	0.0	0.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.0	0.0	0.0	3.3	16.5	0.0	0.0	Design KVA

Phase Load

Ph	KVA
A	6.6
B	6.6
C	6.6

Panel Remarks:
***: MAIN CIRCUIT BREAKER SHALL BE PROVIDED WITH ADJUSTABLE INSTANTANEOUS TRIP.

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	19.8	23.9		19.8	23.9

PANEL: **SHM1**

Date: 10/21/2026 — By: TG

Job: Tomball ISD Multi-Program Activity Center — Job No. 25046901

Mounting: **SURFACE** — Main Type: **MCB (200A) ***** — Neutral: **200%**
Voltage: **208Y/120V-3PH 4W** — Main Size: **100 AMPS**
AIC: **10000** — Ground: **Equipment Ground** — Lugs: **FEED THRU**

PANEL: **1SLM1** — ALL LOADS IN VA

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S
					2880		0.00	TECH RACK	30/1	10	1	A	2	12	20/1	NOTIFICATION PNL						500		0.00
					1920		0.00	TECH RACK	20/1	12	3	B	4	12	20/1	NOTIFICATION PNL						500		0.00
							0.00	SPARE	20/1		5	C	6		20/1	SPARE								1.00
							0.00	SPARE	20/1		7	A	8		20/1	SPARE								1.00
							0.00	SPARE	20/1		9	B	10		20/1	SPARE								1.00
							0.00	SPARE	20/1		11	C	12		20/1	SPARE								1.00
							0.00	SPARE	20/1		13	A	14		20/1	SPARE								1.00
							0.00	SPARE	20/1		15	B	16		20/1	SPARE								1.00
							0.00	SPARE	20/1		17	C	18		20/1	SPARE								1.00
							0.00	SPARE	20/1		19	A	20		20/1	SPARE								1.00
							0.00	SPARE	20/1		21	B	22		20/1	SPARE								1.00
							0.00	SPARE	20/1		23	C	24		20/1	SPARE								1.00
							0.00	SPARE	20/1		25	A	26		20/1	SPARE								1.00
							0.00	SPARE	20/1		27	B	28		20/1	SPARE								1.00
							0.00	SPARE	20/1		29	C	30		20/1	SPARE								1.00
							1.00	SPARE	20/1		31	A	32		20/1	SPARE								1.00
							1.00	SPARE	20/1		33	B	34		20/1	SPARE								1.00
							1.00	SPARE	20/1		35	C	36		20/1	SPARE								1.00
							0.00	SMART METER	20/3	12	37	A	38	10	30/3	SPD								0.00
							0.00	-	-	-	39	B	40	-	-	-								0.00
							0.00	-	-	-	41	C	42	-	-	-								0.00
0	0	0	0	0	4800	0	2.00	**TOTALS**								**TOTALS**	0	0	0	0	0	1000	0	16.00

LOAD SUMMARY

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.0	0.0	0.0	0.0	5.8	0.0	18.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.0	0.0	0.0	0.0	5.8	0.0	9.0	Design KVA

Phase Load

Ph	KVA
A	3.4
B	2.4
C	0.0

Panel Remarks:
***: MAIN CIRCUIT BREAKER SHALL BE PROVIDED WITH ADJUSTABLE INSTANTANEOUS TRIP.

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	23.8	66.1		14.8	41.1

PANEL: **1SLM1**

Date: 10/21/2026 — By: TG — NEMA

Job: Tomball ISD Multi-Program Activity Center — Job No. 25046901

Mounting: **SURFACE** — Main Type: **MCB (50A) ***** — Neutral: **100%**
Voltage: **480Y/277V-3PH 4W** — Main Size: **100 AMPS**
AIC: **42000** — Ground: **Equipment Ground** — Lugs: **SINGLE**

PANEL: **EHM2** — ALL LOADS IN VA

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S
1250							0.00	INT. EM LIGHT A	20/1	12	1	A	2	8	20/2	MUSCO LIGHTING	3040							0.00
150							0.00	EXT. EM LIGHT A	20/1	10	3	B	4	-	-	-	3040							0.00
300							0.00	EXIT SIGNS A	20/1	10	5	C	6	8	20/2	MUSCO LIGHTING	1960							0.00
							0.00	SPACE			7	A	8	-	-	-	1960							0.00
					100		0.00	CONTACTOR CNTRL	20/1	12	9	B	10			SPACE								0.00
							0.00	SPACE			11	C	12			SPACE								0.00
							0.00	SPACE			13	A	14			SPACE								0.00
							0.00	SPACE			15	B	16			SPACE								0.00
							0.00	SPACE			17	C	18			SPACE								0.00
							0.00	SMART METER	20/3	12	19	A	20	10	30/3	SPD								0.00
							0.00	-	-	-	21	B	22	-	-	-								0.00
							0.00	-	-	-	23	C	24	-	-	-								0.00
1700	0	0	0	0	100	0	0.00	**TOTALS**								**TOTALS**	10000	0	0	0	0	0	0	0.00

LOAD SUMMARY

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description
11.7	0.0	0.0	0.0	0.0	0.1	0.0	0.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
14.6	0.0	0.0	0.0	0.0	0.1	0.0	0.0	Design KVA

Phase Load

Ph	KVA
A	6.3
B	3.3
C	2.3

Panel Remarks:
***: MAIN CIRCUIT BREAKER SHALL BE PROVIDED WITH ADJUSTABLE INSTANTANEOUS TRIP.

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	11.8	14.2		14.7	17.7

PANEL: **EHM2**

Date: 10/21/2026 — By: TG

Job: Tomball ISD Multi-Program Activity Center — Job No. 25046901

Mounting: **SURFACE** — Main Type: **MCB (100A) ***** — Neutral: **200%**
Voltage: **208Y/120V-3PH 4W** — Main Size: **100 AMPS**
AIC: **10000** — Ground: **Equipment Ground** — Lugs: **FEED THRU**

PANEL: **1SLM2** — ALL LOADS IN VA

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description	Amp/P	Wire	Cir. No.	Ph	Cir. No.	Wire	Amp/P	Description	Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S
					2880		0.00	IDF RACK	30/1	10	1	A	2	10	30/2 **	ACCU-IDF-105/FCU					1664			0.00
					1920		0.00	IDF RACK	20/1	12	3	B	4	-	-	-					1664			0.00
					1920		0.00	IDF RACK	20/1	12	5	C	6		20/1	SPARE								1.00
					500		0.00	ACCESS CTRL PNL	20/1	12	7	A	8	12	20/1	FACP					500			0.00
					500		0.00	INTRUSION CTRL PNL	20/1	12	9	B	10	12	20/1	TECH BOOST PNL					500			0.00
					500		0.00	IDF RM REC	20/1	12	11	C	12	12	20/1	TECH BOOST PNL					500			0.00
					500		0.00	IDF RM REC	20/1	12	13	A	14		20/1	SPARE								1.00
					500		0.00	IDF RM REC	20/1	12	15	B	16		20/1	SPARE								1.00
							1.00	SPARE	20/1		17	C	18		20/1	SPARE								1.00
							1.00	SPARE	20/1		19	A	20		20/1	SPARE								1.00
							1.00	SPARE	20/1		21	B	22		20/1	SPARE								1.00
							1.00	SPARE	20/1		23	C	24		20/1	SPARE								1.00
							1.00	SPARE	20/1		25	A	26		20/1	SPARE								1.00
							1.00	SPARE	20/1		27	B	28		20/1	SPARE								1.00
							1.00	SPARE	20/1		29	C	30		20/1	SPARE								1.00
							1.00	SPARE	20/1		31	A	32		20/1	SPARE								1.00
							1.00	SPARE	20/1		33	B	34		20/1	SPARE								1.00
							1.00	SPARE	20/1		35	C	36		20/1	SPARE								1.00
							0.00	SMART METER	20/3	12	37	A	38	10	30/3	SPD								0.00
							0.00	-	-	-	39	B	40	-	-	-								0.00
							0.00	-	-	-	41	C	42	-	-	-								0.00
0	0	0	0	0	9220	0	10.00	**TOTALS**								**TOTALS**	0	0	0	0	0	3328	1500	0	13.00

LOAD SUMMARY

Ltg.	Receptacle	Motor	Heat	Cool	Other	Kitchen	S/S	Description
0.0	0.0	0.0	0.0	3.3	10.7	0.0	23.0	Connected KVA
1.25	**	1.00	1.00	1.00	1.00	0.65	0.50	*Design Factors
0.0	0.0	0.0	0.0	3.3	10.7	0.0	11.5	Design KVA

Phase Load

Ph	KVA
A	6.0
B	5.1
C	2.9

Panel Remarks:
***: MAIN CIRCUIT BREAKER SHALL BE PROVIDED WITH ADJUSTABLE INSTANTANEOUS TRIP.

**: PROVIDE E-MON/D-MON MULTI-MON BRANCH METER FOR CIRCUIT.

*Input div. factor per descriptions as required for calculations.
**100% of 1st 10 KVA, 50% of remaining.

	Con. KVA	Con. Amps		Des. KVA	Des. Amps
TOTAL	37.0	102.8		25.5	70.9

PANEL: **1SLM2**

Date: 10/21/2026 — By: TG — NEMA

1LM2	EHM1
SHM1	1SLM1
EHM2	1SLM2

Plot Stamp:
10/30/2026 7:55:41 AM

PBK
TX FIRM BR 1608
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HOUSTON, TX
713-960-8686

LEAF ENGINEERS

Tomball ISD-Multi-Program Activity Center-
Tomball High School

1118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

B A

KEY PLAN — PLAN NORTH — TRUE NORTH

STATE OF TEXAS
MATTHEW R. SICKORE
107736
LICENSED PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: Checker
DRAWN BY: TLG/MM3

ELECTRICAL PANEL SCHEDULES

E-702

PF-000 - FIRE PROTECTION COVER SHEET

FIRE PROTECTION NFPA DESIGN CRITERIA

THESE FIRE PROTECTION SYSTEM ENGINEERING DOCUMENTS INDICATE THE NATURE AND SCOPE OF THE WORK FOR THE REFERENCED PROJECT INSOFAR AS THEY INVOLVE THE SAFEGUARDING OF LIFE, HEALTH, AND PROPERTY. THE LICENSED FIRE SPRINKLER CONTRACTOR SHALL USE THESE DRAWINGS TO CREATE THE FIRE PROTECTION SYSTEM LAYOUT DOCUMENTS, PERFORM HYDRAULIC CALCULATIONS, AND PROVIDE PRODUCT DATA SUBMITTALS FOR THE MATERIALS TO BE USED WHICH CONFORM TO THE PROJECT SPECIFICATION REQUIREMENTS. THE FIRE SPRINKLER CONTRACTOR SHALL SUBMIT THESE DOCUMENTS TO THE ENGINEER FOR REVIEW PRIOR TO SUBMISSION TO THE AHJ.

AFTER THE REVIEW BY THE ENGINEER, THE CONTRACTOR SHALL SUBMIT A FINAL ENGINEER-REVIEWED FIRE PROTECTION DOCUMENT TO THE AHJ, WHICH SHALL BE IN ACCORDANCE WITH NFPA AND ALL APPLICABLE LOCAL CODES. THESE DOCUMENTS SHALL PROVIDE FULL SYSTEM DETAILS ON THE LOCATION OF RISERS, CROSS MAINS, BRANCH LINES, SPRINKLER HEADS, SIZING OF PIPING, AND HANGER LOCATIONS FROM WHICH WILL FORM THE BASIS OF THE FABRICATION AND INSTALLATION.

THE SYSTEM SHALL BE AN HYDRAULICALLY CALCULATED, FULLY AUTOMATIC, WET-PIPE SYSTEM. THE ENTIRE BUILDING SHALL BE SPRINKLERED. PORTIONS OF THE SYSTEM PROTECTING EXTERIOR CANOPIES SHALL BE PROTECTED FROM FREEZING BY ANY OF THE APPROVED METHODS OUTLINED IN NFPA-13, 2019 EDITION. PROTECT EXPOSED PIPING USING DRY SPRINKLERS OR ALTERNATE METHOD OF FREEZE PROTECTION. FIRE SPRINKLER SYSTEM FOR THE ENTIRE BUILDING SHALL BE DESIGNED BASED ON THE FOLLOWING:

- LIGHT HAZARD OCCUPANCY WITH HYDRAULIC CALCULATIONS BASED ON A MINIMUM DESIGN DENSITY OF 0.10 GPM/SF OVER THE MOST DEMANDING 1500 SF; MAXIMUM COVERAGE AREA PER SPRINKLER SHALL NOT EXCEED 225 SF; MAXIMUM SPRINKLER SPACING SHALL NOT EXCEED 15 FEET.
- ORDINARY GROUP I HAZARD OCCUPANCY WITH HYDRAULIC CALCULATIONS BASED ON A MINIMUM DESIGN DENSITY 0.15 GPM/SF OVER THE MOST HYDRAULICALLY DEMANDING 1500 SQUARE FEET. THE MAXIMUM COVERAGE AREA SHALL NOT EXCEED 130 SF PER SPRINKLER; THE MAXIMUM DISTANCE BETWEEN THE SPRINKLERS SHALL NOT EXCEED 15 FEET.
- ORDINARY GROUP II HAZARD OCCUPANCY WITH HYDRAULIC CALCULATIONS BASED ON A MINIMUM DESIGN DENSITY 0.20 GPM/SF OVER THE MOST HYDRAULICALLY DEMANDING 1500 SQUARE FEET. THE MAXIMUM COVERAGE AREA SHALL NOT EXCEED 130 SF PER SPRINKLER; THE MAXIMUM DISTANCE BETWEEN THE SPRINKLERS SHALL NOT EXCEED 15 FEET.
- EXTRA GROUP I HAZARD OCCUPANCY WITH HYDRAULIC CALCULATIONS BASED ON A MINIMUM DESIGN DENSITY 0.30 GPM/SF OVER THE MOST HYDRAULICALLY DEMANDING 2500 SQUARE FEET. THE MAXIMUM COVERAGE AREA SHALL NOT EXCEED 130 SF PER SPRINKLER; THE MAXIMUM DISTANCE BETWEEN THE SPRINKLERS SHALL NOT EXCEED 15 FEET.
- EXTRA GROUP II HAZARD OCCUPANCY WITH HYDRAULIC CALCULATIONS BASED ON A MINIMUM DESIGN DENSITY 0.40 GPM/SF OVER THE MOST HYDRAULICALLY DEMANDING 2500 SQUARE FEET. THE MAXIMUM COVERAGE AREA SHALL NOT EXCEED 130 SF PER SPRINKLER; THE MAXIMUM DISTANCE BETWEEN THE SPRINKLERS SHALL NOT EXCEED 15 FEET.
- SPRINKLERS SHALL BE ORDINARY TEMPERATURE, CONCEALED TYPE (COLOR TO MATCH CEILING), STANDARD COVERAGE, QUICK RESPONSE, 155F. EQUIVALENT TO TYCO SERIES RFII.
- HYDRAULIC CALCULATIONS SHALL INCLUDE AN INSIDE HOSE STREAM ALLOWANCE OF 100 GPM FOR LIGHT HAZARD, 250 GPM FOR ORDINARY HAZARD, AND 500 GPM FOR EXTRA HAZARD AT HOSE VALVE CONNECTIONS

FIRE PROTECTION ABBREVIATION SCHEDULE

(A)	ITEM NOTED TO BE ABANDONED	GC	GENERAL CONTRACTOR
(D)	ITEM NOTED TO BE DEMOLISHED	GPH	GALLONS PER HOUR
(E)	EXISTING ITEM	GPM	GALLONS PER MINUTE
(N)	NEW ITEM	HP	HORSEPOWER
(R)	ITEM NOTED TO BE RELOCATED	IE	INVERT ELEVATION
AAP	AREA ALARM PANEL	KW	KILOWATTS
AFF	ABOVE FINISHED FLOOR	MAP	MASTER ALARM PANEL
AP	ACCESS PANEL	MECH	MECHANICAL
BFF	BELOW FINISHED FLOOR	NC	NORMALLY CLOSED
BFPV	BACKFLOW PREVENTER	NIC	NOT IN CONTRACT
BOB	BOTTOM OF BEAM	NO	NORMALLY OPEN
BOP	BOTTOM OF PIPE	OF / CI	OWNER FURNISHED / CONTRACTOR INSTALLED
C / C	CUT AND CAP	OF / OI	OWNER FURNISHED / OWNER INSTALLED
CI	CAST IRON	OD	OVERFLOW DRAIN
CLG	CEILING	PIV	POST INDICATOR VALVE
CO	CLEANOUT	PRV	PRESSURE REDUCING VALVE
CONN	CONNECTION	RE:	REFER TO
CONT	CONTINUATION	RIC	ROUGH-IN AND CONNECT
DPV	DRY PIPE VALVE	RP BFPV	REDUCED PRESSURE BACKFLOW PREVENTER
DWG	DRAWING	RPM	REVOLUTIONS PER MINUTE
EA	EACH	SF	SQUARE FEET
FCO	FLOOR CLEANOUT	TOP	TOP OF PIPE
FD	FLOOR DRAIN	TYP	TYPICAL
FDV	FIRE DEPARTMENT VALVE	U/F	UNDERFLOOR
FF	FINISHED FLOOR	U/S	UNDERSLAB
FHC	FIRE HOSE CABINET	VB	VACUUM BREAKER
FL	FLOW LINE	WCO	WALL CLEANOUT
FS	FLOOR SINK	YH	YARD HYDRANT
FT	FEET	ZV	ZONE VALVE

NOTES:

1. NOT ALL ABBREVIATIONS MAY BE USED ON THESE DRAWINGS.

FIRE PROTECTION SYMBOLS LEGEND

DRAWINGS	DETAILS	ABV.	DESCRIPTION
	CA	CA	COMPRESSED AIR
	CW	CW	COLD WATER
	(D)	(D)	DEMOLISHED PIPING OR EQUIPMENT
	D	D	CONDENSATE
	DSP	DSP	DRY SPRINKLER
	(E)	(E)	EXISTING PIPING OR EQUIPMENT
	F	F	FIRE
	SP	SP	SPRINKLER
			DIRECTION OF FLOW
			DROP IN PIPE
			RISE IN PIPE
			GATE VALVE
			BALL VALVE
			CHECK VALVE
			SUPERVISED VALVE WITH FLOW SWITCH
			BUTTERFLY VALVE
			PIPE UNION
			PRESSURE CONTROL VALVE
			3-WAY VALVE
			SOLENOID VALVE
			FLOW SWITCH
			PRESSURE GAUGE WITH GAUGE COCK
			THERMOMETER
		FD	FLOOR DRAIN
		FS	FLOOR SINK
			T & P RELIEF VALVE
			STRAINER
		CO	END OF LINE CLEANOUT
		FCO / COTG	FLOOR CLEANOUT / CLEANOUT TO GRADE
		WCO	WALL CLEANOUT
			CAP
			FLEXIBLE CONNECTION
			NEW CONNECTION TO EXISTING PIPING

NOTES:

1. NOT ALL SYMBOLS MAY BE USED ON THESE DRAWINGS. FOR ANY CLARIFICATIONS, CONTACT THE ENGINEER PRIOR TO INSTALL.

FIRE PROTECTION GENERAL NOTES

A. ALL FIRE SPRINKLER HEADS/PIPING/EQUIPMENT NOTED ON THE DRAWINGS "TO REMAIN" SHALL BE FIELD VERIFIED OF THEIR EXACT LOCATIONS BY THE FIRE SPRINKLER CONTRACTOR PRIOR TO COMMENCING ANY WORK.

B. ALL EXISTING FIRE PROTECTION SYSTEMS NOTED ON THE DRAWINGS "TO REMAIN" SHALL REMAIN IN OPERATION DURING ALL PHASES OF CONSTRUCTION. NO SYSTEMS ARE TO BE SHUTDOWN WITHOUT AUTHORIZATION FROM THE OWNER AND LOCAL FIRE DISTRICT.

C. ALL AREAS OF THE BUILDING(S) SHALL BE FULLY SPRINKLERED IN ACCORDANCE WITH SPECIFICATIONS AND CODE REQUIREMENTS.

D. SPRINKLER SYSTEM SHALL BE DESIGNED AND INSTALLED BY A STATE LICENSED FIRE PROTECTION CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE, JURISDICTIONAL, GOVERNMENTAL AGENCIES AND NFPA 13 (LATEST ADDITION). SPRINKLER SYSTEM MUST ALSO BE APPROVED BY OWNER AND OWNER'S FIRE INSURANCE UNDERWRITER.

E. SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED BY THE CONTRACTOR FOR ENGINEER, OWNER, OWNER'S FIRE INSURANCE UNDERWRITER, AND FIRE MARSHALL'S APPROVAL.

F. THE LOCATION OF FIRE SPRINKLER HEADS SHALL BE COORDINATED WITH THE NEW CEILING LAYOUTS AND ALL OTHER TRADES FOR COMPLETE FIRE PROTECTION COVERAGE OF ALL AREAS. PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.

G. HEADS SHALL BE SYMMETRICALLY LOCATED IN CENTER OF CEILING PANELS. PROVIDE PENDENT AND/OR UPRIGHT TYPE SPRINKLER HEAD WHERE REQUIRED. CONTRACTOR SHALL COORDINATE WITH ARCHITECT THE LOCATIONS OF THE SPRINKLER HEADS PRIOR TO INSTALLATION. COORDINATE LAYOUT WITH CEILING OR SOFFIT LIGHT FIXTURES, HVAC DIFFUSERS, RETURNS, ETC.

H. CONTRACTOR TO DESIGN SPRINKLER SYSTEM AS REQUIRED TO ACCOMODATE NEW FIXTURES, PARTITIONS, SOFFITS, FURR DOWNS, CEILING HEIGHTS, ETC.

I. FLOW AND TAMPER SWITCHES ARE TO BE PROVIDED ON THE FIRE SPRINKLER SYSTEM. ALL ELECTRICAL WIRING TO BE PROVIDED BY ELECTRICAL CONTRACTOR.

J. LOCATE INSPECTOR TEST DRAIN(S) AT EXTERIOR WALL AND AWAY FROM FOOT TRAFFIC AND FRONT ENTRY AREAS IN COORDINATION WITH THE ARCHITECTURAL PLANS AND BUILDING CONDITIONS PRIOR TO FINAL INSTALL.

K. CONTRACTOR SHALL COORDINATE WITH ARCHITECT'S PLANS, WHERE APPLICABLE, TO PROVIDE INTERIOR CLASS I STANDPIPE TYPE 2.5" HOSE VALVES PLACED STRATEGICALLY IN BUILDING AREAS MOST AFFECTED BY INCREASED EXIT TRAVEL DISTANCE, TO GIVE RESPONDING FIRE DEPARTMENT ACCESS TO WATER SUPPLY DEEP INTO THE BUILDING'S INTERIOR, AND REDUCE INTERIOR HOSE LENGTHS TO 250 FT.

L. THE FIRE RISER AND/OR FIRE PUMP ROOM LAYOUT REQUIREMENTS NOTED ON THESE PLANS SHALL BE ADHERED TO AS CLOSELY AS POSSIBLE BUT SHALL NOT SUPERSEDE CODE CONSTRAINTS AND/OR REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. WHERE CODE OR AHJ REQUIREMENTS SUPERSEDE ITEMS SHOWN ON THIS PLAN, CONTRACTOR SHALL INCLUDE ALL ASSOCIATED PROVISIONS IN THE BID, AND SHALL MAKE THEM AT NO ADDITIONAL COST TO THE OWNER. PROPOSED DEVIATIONS FROM THIS PLAN SHALL BE SUBJECT TO THE ARCHITECT'S AND ENGINEER'S REVIEW AND APPROVAL PRIOR TO IMPLEMENTATION.

M. REFER TO OWNER'S CRITERIA FOR ADDITIONAL INFORMATION.

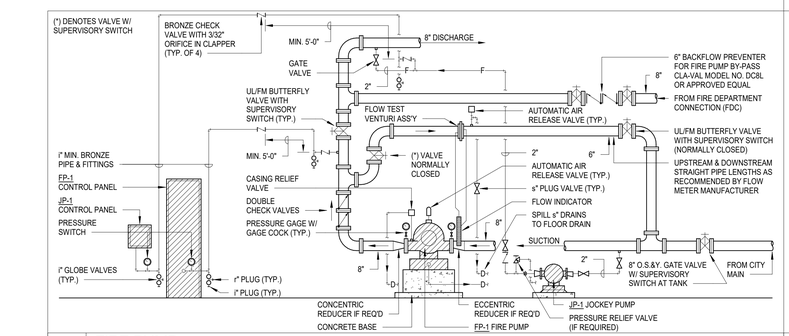
N. REFER TO ARCHITECT FOR SPRINKLER SYSTEM DESIGN OCCUPANCY.

FIRE PROT. PIPE MATERIAL SCHEDULE

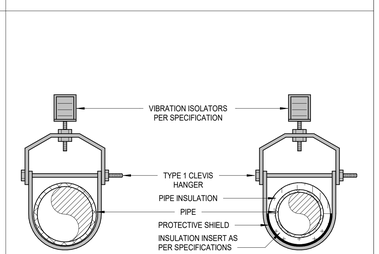
PIPING SYSTEM	BELOW GRADE	ABOVE GRADE
FIRE (WET) PROTECTION	BLACK STEEL SCH 40	BLK STEEL SCH 40 PIPE ≤ 2.0" / PIPE ≥ 2.5" BLK STEEL SCH 10
FIRE (DRY) PROTECTION	GALVANIZED STEEL SCH 40	GALVANIZED STEEL SCH 40
COMPRESSED AIR	TYPE 'K' COPPER	GALVANIZED STEEL SCH 40

FIRE PROT. PROPOSED ZONE LEGEND

AREA (SQ FT)	ZONE
40,073	ZONE #1
34,861	ZONE #2

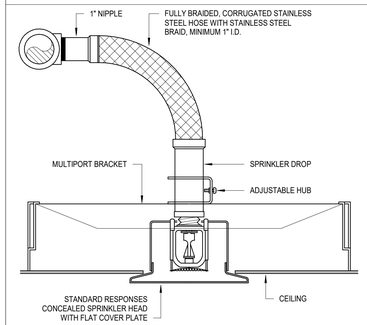


7 FIRE PUMP
N.T.S

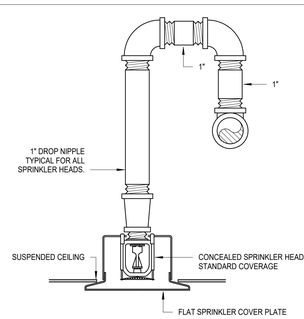


NOTES:
ROUTE PIPING AS LOW AS POSSIBLE TO CEILING GRID FOR EASE OF ACCESSIBILITY

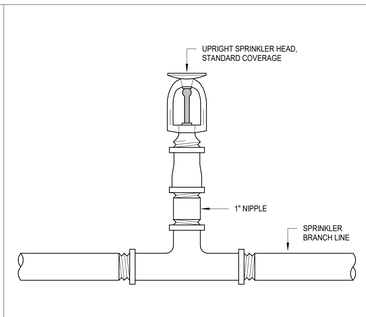
6 SINGLE PIPE TYPE 1 CLEVIS HANGER
N.T.S



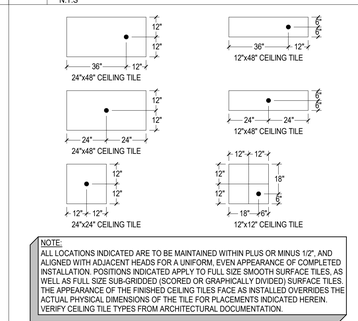
5 FLEXIBLE SPRINKLER PIPING
N.T.S



4 CONCEALED SPRINKLER HEAD
N.T.S

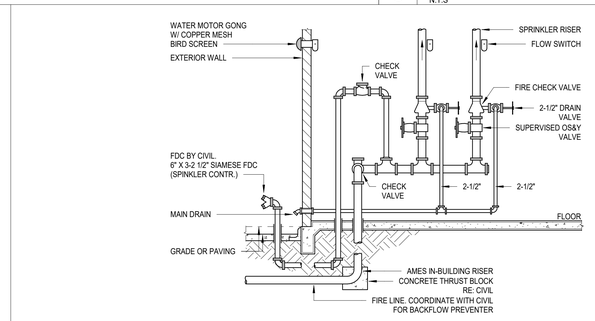


3 UPRIGHT SPRINKLER HEAD
N.T.S



NOTE:
ALL LOCATIONS INDICATED ARE TO BE MAINTAINED WITHIN PLUS OR MINUS 1/2", AND ALIGNED WITH ADJACENT HEADS FOR A UNIFORM, EVEN APPEARANCE OF COMPLETED INSTALLATION. POSITIONS INDICATED APPLY TO FULL SIZE SMOOTH SURFACE TILES, AS WELL AS FULL SIZE SUB-GRIDDED (SCORED OR GRAPHICALLY DIVIDED) SURFACE TILES. THE APPEARANCE OF THE FINISHED CEILING TILES FACE AS INSTALLED OVERRIDES THE ACTUAL PHYSICAL DIMENSIONS OF THE TILE FOR PLACEMENTS INDICATED HEREIN. VERIFY CEILING TILE TYPES FROM ARCHITECTURAL DOCUMENTATION.

2 SPRINKLER HEAD LOCATIONS
N.T.S



1 FIRE SPRINKLER RISER DIAGRAM
N.T.S

PBK
TX FIRM SR 1608
www.pbk.com
HOUSTON, TX
713-960-9595
LEAF ENGINEERS

Tomball ISD-Multi-Program Activity Center-Tomball High School

1118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED
PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SC

DRAWN BY: SC

FIRE PROTECTION COVER SHEET

PF-000

Plot Stamp:
10/30/2026 6:58:46 AM

PUMP W/O BREAK TANK SCHEDULE

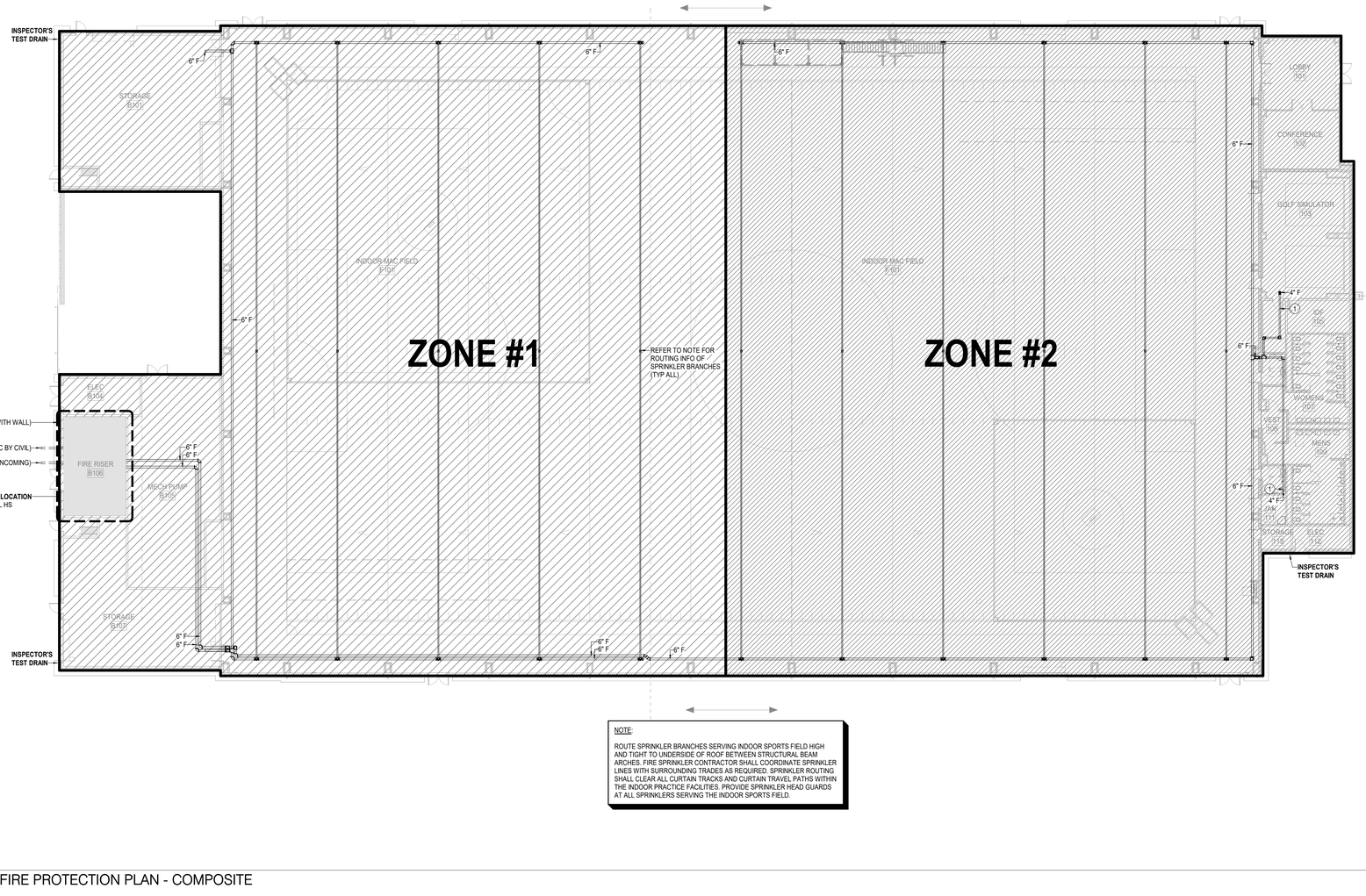
UNIT	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	INLET PRESSURE (PSI)	OUTLET PRESSURE (PSI)	RPM	CAPACITY		ELECTRICAL				REMARKS
							GPM	Ψ (FT)	HP	V	Φ	Hz	
FP-1	ARMSTRONG HSC 5x4x12HF	FIRE RISER B106	HORIZONTAL SPLIT-CASE	33	73	3600	500	-	30	480	3	60	• RE: NOTES 2 THRU 3 • PROVIDE 5 PSI SAFETY FACTOR
JP-1	ARMSTRONG 4700-VMS-01-0B-2P	FIRE RISER B106	VERTICAL SPLIT-COUPLED MULTISTAGE	-	60	3600	5	-	1	480	3	60	• RE: NOTE 4 • OVAL FLANGE • HQQE SEAL TYPE

NOTES:

1. COORDINATE WITH PUMP MANUFACTURER'S INSTALLATION DRAWINGS FOR PROPER AND CORRECT INSTALLATION OF ALL EQUIPMENT AND APPURTENANCES.
2. ELECTRIC FIRE PUMP CONTROLLER FOR 30 HP PUMP, POWER RATING: 460VOLTS / 3PHASE / 60Hz, MODEL NUMBER: GPY-480 / 30 / 3 / 60, NEMA 2 STANDARD ENCLOSURE, 100,000 AMPS WITHSTAND RATING, CONTROL PANEL TYPE: WYE DELTA OPEN w/ AUTOMATIC TRANSFER SWITCH.
3. ELECTRICIAN SHALL COORDINATE WITH MANUFACTURER TO PROVIDE REQUIRED WIRING FROM FIRE PUMP TO FIRE PUMP CONTROLLER.
4. ELECTRIC JOCKEY PUMP CONTROLLER FOR 1 HP PUMP, POWER RATING: 460VOLTS / 3PHASE / 60Hz, MODEL NUMBER: JPLT-480 / 1 / 3 / 60, NEMA 2 STANDARD ENCLOSURE, CONTROL PANEL TYPE: ACROSS THE LINE.
5. AT FIRE PUMP AND JOCKEY PUMP, PROVIDE A HOSE VALVE SYSTEM IN ACCORDANCE WITH NFPA 20, INCLUDE A FLOW METER, AND VERIFY THAT RHE FIREPAK'S SUCTION AND DISCHARGE CONNECTIONS ARE ORIENTED CORRECTLY.

TOMBALL HS - FLOW TEST INFORMATION

DATA		NOTES
STATIC PRESSURE (PSI)	56	1. DATA FROM HYDRANT FLOW TEST AT 1110 BAKER DR, TOMBALL, TX 77375, DATED 08/31/2026. FLOW TEST PERFORMED BY KAUFFMAN CO.
RESIDUAL PRESSURE (PSI)	50	2. FIRE HYDRANT FLOW TEST SHALL BE CONDUCTED NO MORE THAN 6 MONTHS PRIOR TO WORKING PLAN SUBMITTAL
FLOW @ TEST (GPM)	2789	3. FIRE PROTECTION CONTRACTOR SHALL PERFORM HYDRANT FLOW TEST PRIOR TO MAKING DESIGN CALCULATIONS AND APPLICATION FOR PERMIT.
FLOW @ 20 PSI (GPM)	3541	



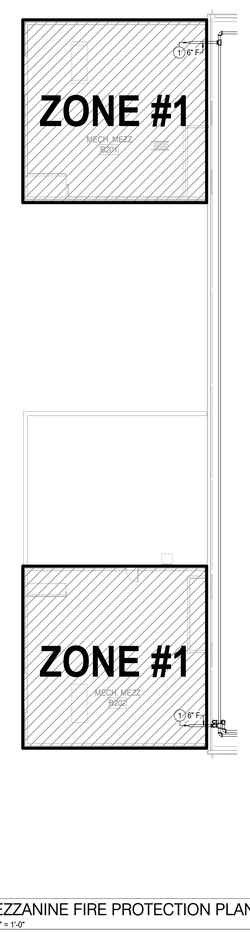
NOTE:

ROUTE SPRINKLER BRANCHES SERVING INDOOR SPORTS FIELD HIGH AND TIGHT TO UNDERSIDE OF ROOF BETWEEN STRUCTURAL BEAM ARCHES. FIRE SPRINKLER CONTRACTOR SHALL COORDINATE SPRINKLER LINES WITH SURROUNDING TRADES AS REQUIRED. SPRINKLER ROUTING SHALL CLEAR ALL CURTAIN TRACKS AND CURTAIN TRAVEL PATHS WITHIN THE INDOOR PRACTICE FACILITIES. PROVIDE SPRINKLER HEAD GUARDS AT ALL SPRINKLERS SERVING THE INDOOR SPORTS FIELD.

1 1ST FLOOR FIRE PROTECTION PLAN - COMPOSITE
1/16" = 1'-0"

KEYNOTES - PLUMBING PLAN

1 AREA(S) TO BE PROTECTED WITH WET FIRE SPRINKLER SYSTEM AS PER NFPA 13.



2 MEZZANINE FIRE PROTECTION PLAN - AREA B
1/16" = 1'-0"

PBK
TX FIRM BR 1608
www.pbk.com
HOUSTON, TX
713-960-9696
LEAF ENGINEERS

Tomball ISD-Multi-Program Activity Center-
Tomball High School

1118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PRICING PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SC
DRAWN BY: SC

1ST FLOOR FIRE PROTECTION PLAN - COMPOSITE

PF-101

Plot Stamp:
10/30/2026 6:58:48 AM

APPLICATION OF BACKFLOW PREVENTERS SCHEDULE (IPC)

DEVICE	DEGREE OF HAZARD	APPLICATION	APPLICABLE STANDARDS
AIR GAP	HIGH OR LOW HAZARD	BACKSIPHONAGE OR BACKPRESSURE	ASME A112.1.2
AIR GAP FITTINGS FOR USE WITH PLUMBING FIXTURES, APPLIANCES AND APPURTENANCES	HIGH OR LOW HAZARD	BACKSIPHONAGE OR BACKPRESSURE	ASME A112.1.3
ANTISIPHON-TYPE FILL VALVES FOR GRAVITY WATER CLOSET FLUSH TANKS	HIGH HAZARD	BACKSIPHONAGE ONLY	ASSE 1002/ASME A112.1002, CSA B125.3, CSA B125.3
BACKFLOW PREVENTER FOR CARBONATED BEVERAGE MACHINES	LOW HAZARD	BACKPRESSURE OR BACKSIPHONAGE (SIZES 1/4" - 3/8")	ASSE 1022
BACKFLOW PREVENTER WITH INTERMEDIATE ATMOSPHERIC VENTS	LOW HAZARD	BACKPRESSURE OR BACKSIPHONAGE (SIZES 1/4" - 3/4")	ASSE 1012, CAN/CSA B64.3
BAROMETRIC LOOP	HIGH OR LOW HAZARD	BACKSIPHONAGE ONLY	(SEE IPC 608.14.4)
DOUBLE CHECK BACKFLOW PREVENTION ASSEMBLY & DOUBLE CHECK FIRE PROTECTION BACKFLOW PREVENTION ASSEMBLY	LOW HAZARD	BACKPRESSURE OR BACKSIPHONAGE (SIZES 3/8" - 16")	ASSE 1015, AWWA C510, CSA B64.5, CSA B64.5.1
DOUBLE CHECK DETECTOR FIRE PROTECTION BACKFLOW PREVENTION ASSEMBLIES	LOW HAZARD	BACKPRESSURE OR BACKSIPHONAGE (FOR DIVISION 21 SYSTEMS) (SIZES 2" - 16")	ASSE 1048
DUAL-CHECK-VALVE-TYPE BACKFLOW PREVENTER	LOW HAZARD	BACKPRESSURE OR BACKSIPHONAGE (SIZES 1/4" - 1")	ASSE 1024, CSA B64.6
HOSE CONNECTION BACKFLOW PREVENTER	HIGH OR LOW HAZARD	LOW HEAD BACKPRESSURE, RATED WORKING PRESSURE, BACKPRESSURE OR BACKSIPHONAGE (SIZES 1/2" - 1")	ASSE 1052, CSA B64.2.1.1
HOSE CONNECTION VACUUM BREAKER	HIGH OR LOW HAZARD	LOW HEAD BACKPRESSURE OR BACKSIPHONAGE (SIZES 1/2", 3/4", 1")	ASSE 1011, CAN/CSA B64.2, CSA B64.2.1
LABORATORY FAUCET BACKFLOW PREVENTER	HIGH OR LOW HAZARD	LOW HEAD BACKPRESSURE OR BACKSIPHONAGE	ASSE 1035, CSA B64.7
PIPE-APPLIED ATMOSPHERIC-TYPE VACUUM BREAKER	HIGH OR LOW HAZARD	BACKSIPHONAGE ONLY (SIZES 1/4" - 4")	ASSE 1001, CAN/CSA B64.1.1
PRESSURE VACUUM BREAKER ASSEMBLY	HIGH OR LOW HAZARD	BACKSIPHONAGE ONLY (SIZES 1/2" - 2")	ASSE 1020, CSA B64.1.2
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER & REDUCED PRESSURE PRINCIPLE FIRE PROTECTION BACKFLOW PREVENTER	HIGH OR LOW HAZARD	BACKPRESSURE OR BACKSIPHONAGE (SIZES 3/8" - 16")	ASSE 1013, AWWA C511, CAN/CSA B64.4, CSA B64.4.1
REDUCED PRESSURE DETECTOR FIRE PROTECTION BACKFLOW PREVENTION ASSEMBLIES	HIGH OR LOW HAZARD	BACKPRESSURE OR BACKSIPHONAGE (FOR DIVISION 21 SYSTEMS)	ASSE 1047
SPILL-RESISTANT VACUUM BREAKER ASSEMBLY	HIGH OR LOW HAZARD	BACKSIPHONAGE ONLY (SIZES 1/4" - 2")	ASSE 1056
VACUUM BREAKER WALL HYDRANTS, FROST-RESISTANT, AUTOMATIC DRAINING TYPE	HIGH OR LOW HAZARD	LOW HEAD BACKPRESSURE OR BACKSIPHONAGE (SIZES 3/4" - 1")	ASSE 1019, CAN/CSA B64.2.2

NOTES:

1. PROVIDE BACKFLOW PREVENTION METHOD AS REQUIRED FOR COMPLIANCE WITH ALL LOCAL APPLICABLE CODES AND AHJS.

PLUMBING ABBREVIATION SCHEDULE

(A)	ITEM NOTED TO BE ABANDONED	KW	KILOWATTS
(D)	ITEM NOTED TO BE DEMOLISHED	L	LAVATORY
(E)	EXISTING ITEM	MAP	MASTER ALARM PANEL
(N)	NEW ITEM	MECH	MECHANICAL
(R)	ITEM NOTED TO BE RELOCATED	MH	MANHOLE
AAP	AREA ALARM PANEL	MS	MOP SINK
AAV	AUTOMATIC AIR VENT	NC	NORMALLY CLOSED
AFF	ABOVE FINISHED FLOOR	NIC	NOT IN CONTRACT
AP	ACCESS PANEL	NO	NORMALLY OPEN
BFF	BELOW FINISHED FLOOR	OF / CI	OWNER FURNISHED / CONTRACTOR INSTALLED
BFPV	BACKFLOW PREVENTER	OF / OI	OWNER FURNISHED / OWNER INSTALLED
BOB	BOTTOM OF BEAM	OD	OVERFLOW DRAIN
BOP	BOTTOM OF PIPE	OW	OIL WASTE
BTUH	BRITISH THERMAL UNITS PER HOUR	PIV	POST INDICATOR VALVE
C / C	CUT AND CAP	PRV	PRESSURE REDUCING VALVE
CFH	CUBIC FEET PER HOUR	RD	ROOF DRAIN
CFS	CUBIC FEET PER SECOND	RE:	REFER TO
CI	CAST IRON	RIC	ROUGH-IN AND CONNECT
CLG	CEILING	RO	REVERSE OSMOSIS
CO	CLEANOUT	RP BFPV	REDUCED PRESSURE BACKFLOW PREVENTER
CONN	CONNECTION	RPM	REVOLUTIONS PER MINUTE
CONT	CONTINUATION	RVB	REFRIGERATOR VALVE BOX
DF	DRINKING FOUNTAIN	SD	STORM DRAIN
DPV	DRY PIPE VALVE	SF	SQUARE FEET
DWG	DRAWING	SS	SERVICE (MOP) SINK
EA	EACH	SK	SINK
EDF	ELECTRIC DRINKING FOUNTAIN	TMV	THERMOSTATIC MIXING VALVE
FCO	FLOOR CLEANOUT	TOP	TOP OF PIPE
FD	FLOOR DRAIN	TP	TRAP PRIMER
FDV	FIRE DEPARTMENT VALVE	TYP	TYPICAL
FF	FINISHED FLOOR	U	URINAL
FHC	FIRE HOSE CABINET	U/F	UNDERFLOOR
FL	FLOW LINE	U/S	UNDERSLAB
FS	FLOOR SINK	VB	VACUUM BREAKER
FT	FEET	VCT	VITRIFIED CLAY TILE
FU	FIXTURE UNIT	VTR	VENT THRU ROOF
GC	GENERAL CONTRACTOR	WC	WATER CLOSET
GPH	GALLONS PER HOUR	WCO	WALL CLEANOUT
GPM	GALLONS PER MINUTE	WH	WALL HYDRANT
HB	HOSE BIBB	WMB	WASHING MACHINE BOX
HP	HORSEPOWER	YH	YARD HYDRANT
IE	INVERT ELEVATION	ZV	ZONE VALVE

NOTES:

1. NOT ALL ABBREVIATIONS MAY BE USED ON THESE DRAWINGS.

PLUMBING FIXTURE CONNECTION SCHEDULE

DESCRIPTION	WASTE	TRAP	VENT	DFU	BRANCH CONN		FIXTURE CONN		FIXTURE UNITS		REMARKS
					CW	HW	CW	HW	CW	HW	
WATER CLOSET (FV)	4"	-	2"	4	1-1/4"	-	1"	-	10.00	-	INTEGRAL TRAP
WATER CLOSET (FT)	4"	-	2"	3	3/4"	-	1/2"	-	2.50	-	INTEGRAL TRAP
LAVATORY	2"	1-1/4"	2"	1	3/4"	3/4"	1/2"	1/2"	0.75	0.75	PROVIDE TMV
SHOWER	2"	2"	2"	2	3/4"	3/4"	1/2"	1/2"	1.50	1.50	PROVIDE TMV
BATH TUB	2"	1-1/2"	2"	3	3/4"	3/4"	1/2"	1/2"	3.00	3.00	PROVIDE TMV
SINK	2"	1-1/2"	2"	2	3/4"	3/4"	1/2"	1/2"	1.13	1.13	PROVIDE TMV
WASHING MACHINE	2"	2"	2"	3	3/4"	3/4"	1/2"	1/2"	3.00	3.00	-
SERVICE SINK	2"	1-1/2"	2"	2	3/4"	3/4"	1/2"	1/2"	2.25	2.25	PROVIDE TMV
HOSE BIBB	-	-	-	-	3/4"	-	3/4"	-	2.50	-	-
FLOOR SINK	2"	2"	2"	2	-	-	-	-	-	-	RE: DRAWINGS FOR SIZE
FLOOR DRAIN	3"	3"	2"	4	-	-	-	-	-	-	RE: DRAWINGS FOR SIZE
ICE MACHINE	-	-	-	-	3/4"	-	1/2"	-	1.00	-	-
DRINKING FOUNTAIN	2	1-1/2"	2	0.5	3/4"	-	1/2"	-	0.25	-	-

NOTES:

1. ROUGH-IN SUPPLY WASTE AND VENT PIPE SIZES INDICATED ABOVE ARE MINIMUM SIZES SHOWN FOR ROUGH-IN ONLY.
2. COORDINATE WITH PLUMBING FIXTURE MANUFACTURER'S INSTALLATION DRAWINGS FOR PROPER AND CORRECT INSTALLATION OF ALL FIXTURES.
3. ALL PLUMBING FIXTURES SHALL BE COMPLETELY ROUGHED-IN BY THE PLUMBING CONTRACTOR AND SHALL MEET ALL CODES HAVING JURISDICTION.
4. ALL FIXTURES SHALL BE COMMERCIAL GRADE UNLESS OTHERWISE NOTED.
5. PROVIDE AND INSTALL A WATER HAMMER ARRESTOR IN PIPING TO ALL FIXTURES AND/OR FIXTURE BANKS.

TABLE FOR HANGER SPACING MINIMUM REQUIREMENTS (IPC)

PIPING MATERAL	MAX HORIZONTAL SPACING (ft)	MAX VERTICAL SPACING (ft)
ABS PIPE	4	10[b]
ALUMINUM TUBING	10	15
BRASS PIPE	10	10
CAST-IRON PIPE	5[a]	15
COPPER OR COPPER-ALLOY PIPE	12	10
COPPER OR COPPER-ALLOY TUBING, 1-1/4" DIAMETER AND SMALLER	6	10
COPPER OR COPPER-ALLOY TUBING, 1-1/2" DIAMETER AND LARGER	10	10
CROSS-LINKED POLYETHYLENE (PEX) PIPE	2.67 (32in)	10[b]
CROSS-LINKED POLYETHYLENE / ALUMINUM / CROSS-LINKED POLYETHYLENE (PEX-AL-PEX) PIPE	2.67 (32in)	4
CPVC PIPE OR TUBING, 1" AND SMALLER	3	10[b]
CPVC PIPE OR TUBING, 1-1/4" AND LARGER	4	10[b]
STEEL PIPE	12	15
LEAD PIPE	CONTINUOUS	4
POLYETHYLENE / ALUMINUM / POLYETHYLENE (PE-AL-PE) PIPE	2.67 (32in)	4
POLYETHYLENE OF RAISED TEMPERATURE (PE-RT) PIPE	2.67 (32in)	10[b]
POLYPROPYLENE (PP) PIPE OR TUBING, 1" AND SMALLER	2.67 (32in)	10[b]
POLYPROPYLENE (PP) PIPE OR TUBING, 1-1/4" AND LARGER	4	10[b]
PVC PIPE	4	10[b]
STAINLESS STEEL DRAINAGE SYSTEMS	10	10[b]

NOTES:

FOR SI: 1 in = 25.4 mm, 1 ft = 304.8 mm

a. THE MAXIMUM HORIZONTAL SPACING OF CAST-IRON PIPE HANGERS SHALL BE INCREASED TO 10' WHERE 10-FOOT LENGTHS OF PIPE ARE INSTALLED.

b. MIDSTORY GUIDE FOR SIZES 2" AND SMALLER.

PLUMBING SYMBOLS LEGEND

DRAWINGS	DETAILS	ABV.	DESCRIPTION
	AV	AV	ACID VENT
	AW	AW	ACID WASTE
	CA	CA	COMPRESSED AIR
		CW	COLD WATER
		(D)	DEMOLISHED PIPING OR EQUIPMENT
	D	D	CONDENSATE
		(E)	EXISTING PIPING OR EQUIPMENT
	G	G	NATURAL GAS
	GW	GW	GREASE WASTE
		HW	HOT WATER
		HWR	HOT WATER RETURN
	OD	OD	OVERFLOW DRAIN
	SD	SD	STORM DRAIN
	SS	SS	SANITARY SEWER
		V	VENT
			DIRECTION OF FLOW
			DROP IN PIPE
			RISE IN PIPE
			GATE VALVE
			BALL VALVE
			CHECK VALVE
			SUPERVISED VALVE WITH FLOW SWITCH
			PLUG VALVE / GAS COCK
			BUTTERFLY VALVE
			HOT WATER BALANCING VALVE
			PIPE UNION
			PRESSURE CONTROL VALVE
			3-WAY VALVE
			SOLENOID VALVE
			FLOW SWITCH
			PRESSURE GAUGE WITH GAUGE COCK
			THERMOMETER
		RD / OD	ROOF DRAIN / OVERFLOW DRAIN
		FD	FLOOR DRAIN
		FS	FLOOR SINK
			T & P RELIEF VALVE
			STRAINER
		CO	END OF LINE CLEANOUT
		FCO / COTG	FLOOR CLEANOUT / CLEANOUT TO GRADE
		WCO	WALL CLEANOUT
			CAP
			FLEXIBLE CONNECTION
			NEW CONNECTION TO EXISTING PIPING

NOTES:

1. NOT ALL SYMBOLS MAY BE USED ON THESE DRAWINGS. FOR ANY CLARIFICATIONS, CONTACT THE ENGINEER PRIOR TO INSTALL.

PLUMBING PIPE MATERIAL SCHEDULE

PIPING SYSTEM	BELOW GRADE	ABOVE GRADE
STORM WASTE	PVC SCH 40 SOLID WALL	CAST IRON NO HUB
SANITARY WASTE AND VENT	PVC SCH 40 SOLID WALL	CAST IRON NO HUB
DOMESTIC WATER	TYPE 'K' COPPER	TYPE 'L' COPPER
NATURAL GAS	POLYETHYLENE W/ SLEEVE UNDER SLAB	SCH 40 BLACK STEEL

DRAWING REFERENCE KEY

REFER TO DETAIL NUMBER

RE:01/P-401

SHEET NUMBER

WATER HAMMER ARRESTOR SCHEDULE

PIPE SIZE	CROSS FIXTURE UNITS	PDI STD.
1/2"	1-11	"A"
3/4"	12-32	"B"
1"	33-60	"C"
1-1/4"	61-113	"D"
1-1/2"	114-154	"E"
2"	155-330	"F"

NOTES:

1. ASSE 1010 WATER HAMMER ARRESTORS SHALL BE PROVIDED TO ALL FIXTURE RUNOUT AND SHALL BE SIZED ACCORDING TO LOCAL PLUMBING CODE (AHJ) & PDI. WATER HAMMER ARRESTORS SHALL BE SIZED AND INSTALLED PER MANUFACTURER'S REQUIREMENTS. THE DEVICE SHALL HAVE LIFETIME WARRANTY AND BE INSTALLED WITHOUT REQUIRING ACCESS DOORS AND PANELS.

HORIZONTAL DRAIN PIPE SLOPE (IPC)

PIPE SIZE	MINIMUM SLOPE
STORM WASTE DRAINAGE	1/8" PER FOOT (1%)
SANITARY WASTE DRAINAGE 2-1/2" OR SMALLER	1/4" PER FOOT (2%)
SANITARY WASTE DRAINAGE 3" TO 6"	1/8" PER FOOT (1%)
SANITARY WASTE DRAINAGE 8" OR LARGER	1/16" PER FOOT (0.5%)
GREASE WASTE DRAINAGE	1/4" PER FOOT (2%)

NOTES:

1. SANITARY WASTE DRAINAGE SLOPES SHALL APPLY TO ANY NON-SPECIFIED DRAINAGE PIPING SYSTEMS (E.G., CHEMICAL WASTE, ETC.) OR AS PER CODE REQUIREMENTS.

PROJECT GENERAL NOTES

A. ALL EQUIPMENT AND/OR SYSTEMS NOTED ON THE DRAWINGS "TO REMAIN" SHALL BE INSPECTED AND TESTED ON SITE TO CERTIFY WORKING CONDITION. A WRITTEN REPORT ON THE CONDITION OF ALL EQUIPMENT TO REMAIN, INCLUDING A COPY OF THE TEST RESULTS WITH RECOMMENDED REMEDIAL ACTIONS AND COSTS, SHALL BE MADE BY THIS CONTRACTOR TO THE ARCHITECT/ENGINEER FOR REVIEW.

B. THE PLUMBING WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE LOCAL CODES AS WELL AS ALL LOCAL REGULATIONS THAT MAY APPLY. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE, THE MORE STRINGENT STANDARD SHALL APPLY.

C. THE PLUMBING WORK SHALL BE EXECUTED IN STRICT ACCORDANCE WITH THE PLUMBING SPECIFICATIONS. IN CASE OF CONFLICTS BETWEEN THE PLUMBING DRAWINGS AND THE PLUMBING SPECIFICATIONS, THE MORE EXPENSIVE OF THE TWO SHALL APPLY.

D. ALL PLUMBING WORK SHALL BE COORDINATED WITH ALL OTHER TRADES BEFORE PROCEEDING WITH THE INSTALLATION.

E. INVERT ELEVATIONS AND EXACT LOCATIONS OF ALL IMPACTED EXISTING UTILITIES SHALL BE CHECKED BEFORE PROCEEDING WITH NEW WORK.

F. NO CHANGES ARE TO BE MADE IN PLUMBING LAYOUT WITHOUT WRITTEN PERMISSION BY THE ARCHITECT OR ENGINEER.

G. NO PIPING SHALL RUN EXPOSED IN FINISHED AREAS.

H. ROUGH-IN DIMENSIONS OF ALL TOILET FIXTURES MUST BE COORDINATED WITH THE GENERAL CONTRACTOR. ROUGH-IN MOUNTING HEIGHTS OF ALL RESTROOMS/SHOWER FIXTURES MUST BE COORDINATED WITH THE ARCHITECTURAL MOUNTING HEIGHTS GUIDELINES PRIOR TO INSTALLATION.

I. PROVIDE SHUT-OFF VALVES FOR WATER HEATER BRANCH. PROVIDE DIELECTRIC FITTINGS OR COUPLINGS WHEREVER DISSIMILAR METALS ARE IN CONTACT.

J. PROVIDE SHUT-OFF VALVES AT EACH FIXTURE AND AT EACH FLOOR (IF FIXTURES ARE STACKED) ON HOT AND COLD WATER SUPPLY PIPES. PROVIDE HOT WATER RETURN BALANCING VALVE WITH SHUT-OFF VALVE ON HOT WATER RETURN PIPES AT THE END OF A LOOPED HOT WATER BRANCH. LOCATE HOT WATER SHUT-OFF VALVE(S) TO NOT IMPEDE THE HOT WATER RETURN SYSTEM.

K. ALL ACCESS PANELS SHALL BE BY GENERAL CONTRACTOR. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR LOCATION.

L. INSTALL ALL REQUIRED CLEANOUTS TO CLEAR EQUIPMENT AND FIXTURES.

M. ALL WORK SHALL BE PROPERLY TESTED, BALANCED, CLEANED AND DISINFECTED. PROVIDE A ONE YEAR WARRANTY FROM DATE OF FINAL INSPECTION ON ALL PARTS AND LABOR.

N. ALL PLUMBING FIXTURES SPECIFIED ARE FOR INFORMATION ONLY. EQUAL EQUIPMENT MAY BE INSTALLED SECURING FIRST THE ENGINEER'S APPROVAL.

O. PITCH ALL WASTE AND SOIL PIPING AT MAXIMUM SLOPE POSSIBLE, BUT NOT LESS THAN AS REQUIRED PER THE APPLICABLE LOCAL CODES. PITCH ALL GREASE WASTE PIPING AT A MINIMUM OF 1/4" PER FOOT AS REQUIRED PER THE APPLICABLE LOCAL CODES.

P. PROVIDE ALL PIPE OPENINGS THROUGH PARTITIONS WITH PIPE SLEEVES. WHERE PENETRATING FIRE RATED PARTITIONS, THE SPACE BETWEEN THE PIPE AND THE SLEEVE SHALL BE SEALED WITH FIRE STOPPING MATERIAL.

Q. ANY UNAUTHORIZED CHANGES TO THE EQUIPMENT, DESIGN OR INSTALLATION OF THE PLUMBING SYSTEMS WITHOUT THE EXPRESSED WRITTEN CONSENT OF THE ENGINEER IS UNACCEPTABLE AND GROUNDS FOR REMOVAL OF ALL LIABILITY OF THE ARCHITECT/ENGINEER FOR THE REVISED DESIGN.

R. PROVIDE CONDENSATE DRAIN FROM ROOF MOUNTED EQUIPMENT TO OPEN SITE DRAIN OR AS SHOWN ON DRAWINGS.

S. ALL PIPING MATERIAL SHALL BE OF DOMESTIC MANUFACTURE AND SHALL COMPLY WITH THE BUY AMERICAN ACT.

PLUMBING TESTING NOTES

1. ALL EQUIPMENT AND/OR SYSTEMS NOTED ON THE DRAWINGS "TO REMAIN" SHALL BE INSPECTED AND TESTED ON SITE TO CERTIFY WORKING CONDITION. A WRITTEN REPORT ON THE CONDITION OF ALL EQUIPMENT TO REMAIN, INCLUDING A COPY OF THE TEST RESULTS WITH RECOMMENDED REMEDIAL ACTIONS AND COSTS SHALL BE MADE BY THIS CONTRACTOR TO THE ARCHITECT/ENGINEER FOR REVIEW.
2. PIPE COVER AND BACKFILLING:
   A. AFTER HYDROSTATIC TEST, EVENLY BACKFILL ENTIRE TRENCH WIDTH BY HAND PLACING BACKFILL MATERIAL AND HAND TAMPING IN FOUR (4) INCHES COMPACTED LAYERS TO TWELVE (12) INCHES MINIMUM COVER OVER TOP OF JACKET. COMPACT TO 95 PERCENT MAXIMUM DENSITY.
   B. EVENLY AND CONTINUOUSLY BACKFILL REMAINING TRENCH DEPTH IN UNIFORM LAYERS WITH BACKFILL MATERIAL.
   C. DO NOT USE WHEELED OR TRACKED VEHICLES FOR TAMPING.
3. PRESSURE TEST ALL DOMESTIC WATER PIPING. AFTER INSTALLATION AND PRIOR TO BACKFILL OR COVER-UP, RINSE PIPING SYSTEM OF PARTICULATE CONTAMINANTS, CAP AND SUBJECT TO STATIC WATER PRESSURE OF 125 PSIG FOR FOUR (4) HOURS. REPAIR LEAKS AND DEFECTS AND RE-TEST ANY PORTION OF PIPING SYSTEM THAT FAILS. PROVIDE WRITTEN TEST REPORT INCLUDING DATE AND TIME OF TEST, PASS OR FAIL INDICATION, SUMMARY OF REMEDIAL WORK REQUIRED AND DATE AND TIME OF EACH RE-TEST.
4. PRIOR TO COVER UP, WATER PIPE, SANITARY PIPE, AND GAS PIPING SHALL BE PRESSURE TESTED. TESTS SHALL BE WITNESSED BY CONSULTANT AND OWNER. NOTIFY OWNER 48 HOURS PRIOR TO TEST. TEST SHALL BE WITNESSED BY CLIENT PLUMBING TECHNICIAN.
5. UPON COMPLETION OF THE SANITARY PIPING SYSTEM, THE CONTRACTOR SHALL NOTIFY ENGINEER AND OWNER TO OBSERVE A SMOKE TEST OF THE SYSTEM. SMOKE TESTING SHALL BE PERFORMED ON SANITARY PIPING SYSTEM TWICE DURING CONSTRUCTION.
6. ALL WASTE PIPING SYSTEMS:
   A. WATER TEST SHALL BE APPLIED TO THESE DRAINAGE SYSTEMS EITHER IN THEIR ENTIRETY OR IN SECTIONS AS REQUIRED, AFTER ROUGH PIPING HAS BEEN INSTALLED. IF THE SYSTEM IS TESTED IN SECTIONS, EACH OPENING SHALL BE TIGHTLY CLOSED EXCEPT THE HIGHEST OPENING IN THE SECTION UNDER TEST. ALL SECTIONS SHALL BE TESTED WITH A MINIMUM OF 10 FEET HEAD OF WATER. IN TESTING SUCCESSIVE SECTIONS AT LEAST THE UPPER 10 FEET OF THE NEXT PRECEDING SECTION SHALL BE TESTED SO THAT NO JOINT OF PIPING IN THE BUILDING EXCEPT THE UPPERMOST 10 FEET OF THE SYSTEM SHALL BE SUBMITTED TO A TEST OF LESS THAN 10 FOOT OF HEAD OF WATER. THE WATER SHALL BE KEPT IN THE SYSTEM FOR AT LEAST 30 MINUTES BEFORE INSPECTION STARTS; THE SYSTEM SHALL THEN BE MADE TIGHT AT ALL POINTS.
   B. ANY POINTS OF THE DRAINAGE SYSTEMS TO BE TESTED WITH AIR INSTEAD OF WATER SHALL BE MADE BY ATTACHING AN AIR COMPRESSOR TESTING APPARATUS TO ANY SUITABLE OPENING AND AFTER CLOSING ALL OTHER INLETS OR OUTLETS, FORCING AIR INTO THE SYSTEM UNTIL THERE IS A MINIMUM GAUGE PRESSURE OF 5 PSI. THIS PRESSURE SHALL BE HELD WITHOUT THE INTRODUCTION OF ADDITIONAL AIR FOR A PERIOD OF AT LEAST 30 MINUTES.
   C. EXTERIOR CONNECTIONS SHALL BE TESTED AS PART OF THE INTERIOR SYSTEMS.
7. ADDITIONAL TESTS:
   A. PROVIDE ALL ADDITIONAL TESTS SUCH AS SMOKE OR PRESSURE TESTS AS REQUIRED BY THE REGULATIONS OR AS DIRECTED BY AUTHORITIES MAKING THE INSPECTION. CONTRACTOR SHALL COORDINATE SAID ADDITIONAL TESTS WITH ANY THIRD-PARTY TESTING ENTITIES AS REQUIRED.
   B. PROVIDE FOR ANY REPEATED TEST AS DIRECTED BY THE OWNER'S REPRESENTATIVE, TO MAKE ALL SYSTEMS TIGHT AS REQUIRED.
   C. VISUAL INSPECTIONS OF JOINTS, VALVES, ETC. SHALL BE MADE AS DIRECTED BY THE ENGINEER.
   D. PRESSURE TEST NATURAL GAS PIPING IN ACCORDANCE WITH NFPA 54. PRESSURE TEST PRIOR TO BACKFILL, MINIMUM 50 PSI FOR 24 HOURS.

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KEY PLAN

TRUE NORTH



10/30/2026
LEAF ENGINEERS
F-16672

CLIENT

DATE: 10/30/2026

PROJECT NUMBER: 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SC

DRAWN BY: SC

PLUMBING COVER SHEET

P-000

Plot Stamp:
10/30/2026 6:58:28 AM

KEYNOTES - PLUMBING PLAN

1 INCOMING 3" COLD WATER ENTRY, RE: CIVIL DRAWING FOR SITE ROUTING.

2 3/4" COLD WATER DOWN TO SERVE WALL HYDRANT.

3 INCOMING 6" FIRE WATER ENTRY, RE: CIVIL DRAWING FOR SITE ROUTING.

4 INCOMING 6" FIRE WATER FROM REMOTE FIRE DEPARTMENT CONNECTION, RE: CIVIL PLAN FOR EXACT LOCATION.

5 6" VENT UP FROM BELOW.

6 6" VENT THRU ROOF (VTR).

7 3/4" COLD WATER DOWN TO SERVE HOSE BIBB.

8 3/4" COLD WATER DOWN TO SERVE PLUMBING FIXTURE(S).

9 6" STORM WASTE DOWN FROM ABOVE.

10 OVERFLOW WASTE DISCHARGE TO DAYLIGHT 18" ABOVE GRADE, PROVIDE SPLASH BLOCK. PROVIDE DOWNSPOUT NOZZLE (HINGED PERFORATED FLAPPER STYLE).

11 BALL VALVE (BYPASS NORMALLY CLOSED). REFER TO PLANS FOR LINE SIZE.

12 6" STORM WASTE DOWN FROM ROOF DRAIN.

13 6" STORM WASTE DOWN FROM OVERFLOW DRAIN.

KEYNOTES - PLUMBING PLAN

14 6" STORM WASTE DOWN.

15 RPZ BACKFLOW PREVENTER INSTALLED 4'-0" AFF, DRAIN LINE ROUTED TO NEARBY APPROVED WASTE RECEPTOR FOR INDIRECT (1" AIR GAP) DISCHARGE. REFER TO PLANS FOR LINE SIZE.

16 MAKE-UP WATER CONNECTION TO EQUIPMENT, VERIFY LINE SIZE WITH MECHANICAL DETAILS PRIOR TO FINAL CONNECTION(S). REFER TO MECHANICAL DETAILS FOR CONTINUATION.

17 PROVIDE REGULATOR (STEP DOWN FROM 5 PSI TO 7"-14" W.C.) W/ SHUT-OFF VALVE ON EACH SIDE, INSTALLED AS PER THE SPECIFICATIONS. VENT REGULATOR TO EXTERIOR AS REQUIRED. CONTRACTOR SHALL COORDINATE EXACT EQUIPMENT INLET SIZE AND PRESSURE REQUIREMENTS PRIOR TO INSTALL.

18 PROVIDE GAS ACCUMULATION EXPANSION PIPE AT GENERATOR INLET, OR PROVIDE PER MANUFACTURER INSTALL GUIDELINES TO ENSURE PIPING CONFIGURATION DOES NOT STARVE THE EQUIPMENT AT START-UP.

19 CONNECT TO EQUIPMENT, VERIFY LINE SIZE WITH MANUFACTURER INSTALL REQUIREMENTS PRIOR TO FINAL CONNECTION(S). PROVIDE ACCESSIBLE FULL LINE-SIZE SHUT-OFF VALVE.

GENERAL NOTES - PLUMBING PLAN

A. THE CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION.

B. ALL FINAL CONNECTIONS TO FIXTURES AND EQUIPMENT SHALL BE MADE BY THE PLUMBING CONTRACTOR.

C. ALL PLUMBING PIPING SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO ANY INSTALLATION OF ALL PLUMBING FIXTURES AND EQUIPMENT BY THE PLUMBING CONTRACTOR.

D. ALL FLOOR DRAINS AND FLOOR SINKS SHOWN ON THIS DRAWING SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION.

E. REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATIONS OF FIXTURES, EQUIPMENT, ETC. DO NOT SCALE FROM PLUMBING DRAWINGS.

F. ALL WALL CLEAN-OUTS SHALL BE ACCESSIBLE BY AN ACCESS PANEL.

G. PROVIDE AND INSTALL A DOUBLE EXTERIOR CLEAN-OUT (DCOTG) ON ALL SANITARY LINES EXITING THE BUILDING.

H. ALL FLOOR DRAINS AND FLOOR SINKS SHALL BE PROVIDED WITH A TRAP PRIMER AND INSTALLED BY THE PLUMBING CONTRACTOR.

I. FIXTURES DESIGNATED AS ADA ACCESSIBLE BY ARCHITECT SHALL BE INSTALLED AT ADA ACCESSIBLE HEIGHT PER ARCHITECTURAL DETAILS.

GENERAL NOTES - PLUMBING PLAN

J. ALL DOMESTIC COLD AND HOT WATER TAKE-OFFS SHALL HAVE AN ISOLATION SHUT-OFF VALVE.

K. FLOOR DRAINS AND FLOOR SINKS IN MECHANICAL ROOMS SHALL BE SET NOT LESS THAN 6" FROM HOUSEKEEPING PADS. RE: MECHANICAL DRAWINGS. DO NOT PLACE ON, OR IN, HOUSEKEEPING PAD, OR UNDERNEATH EQUIPMENT.

L. CONTRACTOR SHALL DEWATER ANY AREA AT OR BELOW GRADE PRIOR TO SETTING EQUIPMENT.

M. CONTRACTOR SHALL PROVIDE AND INSTALL A TRAP PRIMER, TP-1, AND A HOSE BIBB, HB-3, IN ALL MECHANICAL ROOMS.

N. CONTRACTOR SHALL PROVIDE AND INSTALL A HOSE BIBB WITH WHEEL HANDLE IN ALL MECHANICAL ROOMS, HB-3.

O. ANY AND ALL WATER PIPING EXPOSED TO OUTSIDE ELEMENTS SHALL BE INSULATED AND HEAT TRACED TO PREVENT FREEZING.

P. ALL SANITARY 3" OR ABOVE SHALL BE INSPECTED BY A CAMERA PRIOR TO SUBSTANTIAL COMPLETION.

PUMP W/O BREAK TANK SCHEDULE

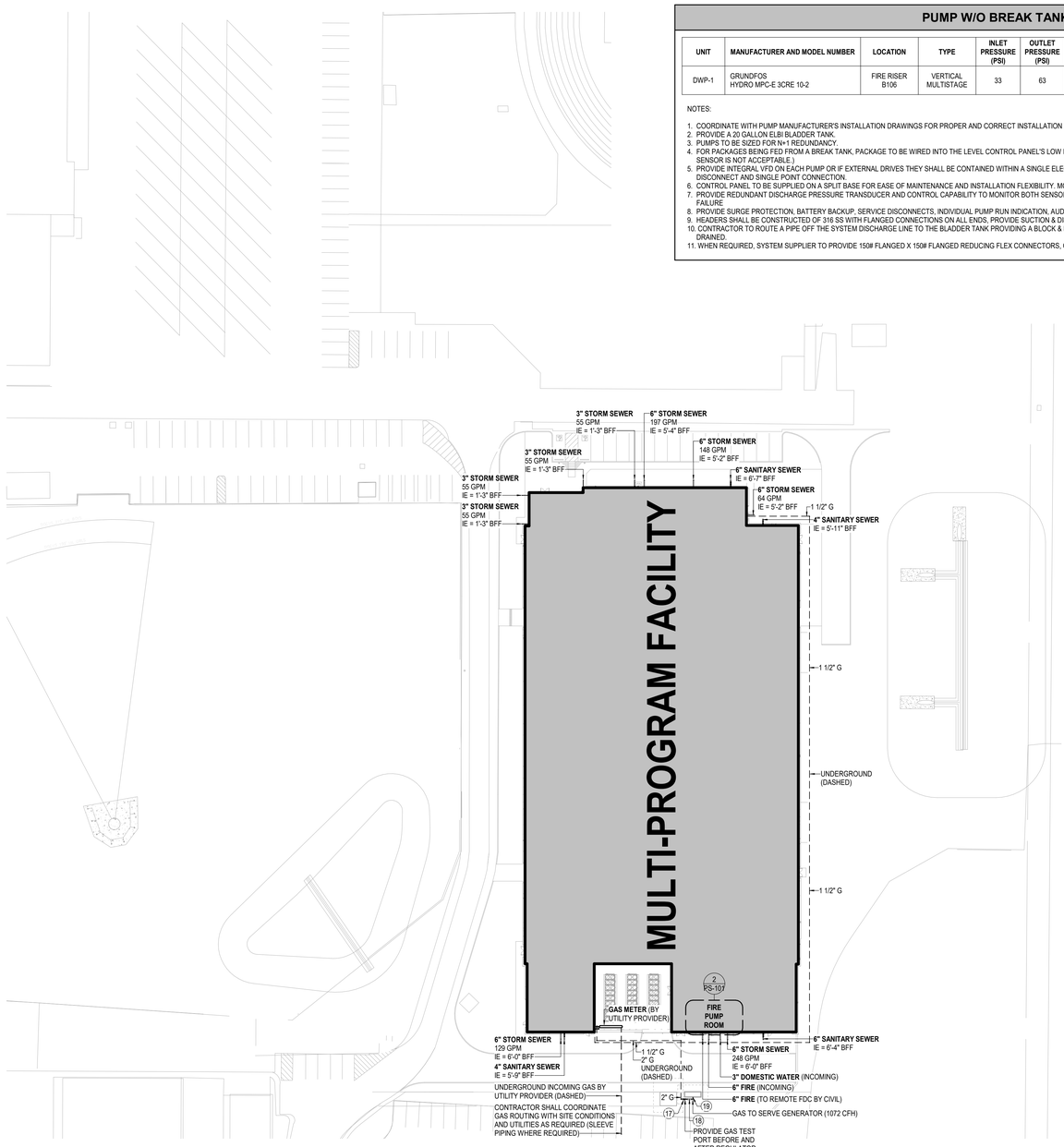
UNIT	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	INLET PRESSURE (PSI)	OUTLET PRESSURE (PSI)	RPM	CAPACITY		ELECTRICAL				REMARKS
							GPM	Ψ (FT)	HP	V	Φ	Hz	
DWP-1	GRUNDFOS HYDRO MPC-E 3CRE 10-2	FIRE RISER B106	VERTICAL MULTISTAGE	33	63	3600	100	69	1.5 (x3)	480	3	60	• TRIPLEX (3) BOOSTER, w/ N+1 REDUNDANCY • RE: NOTES 2 THRU 11

NOTES:

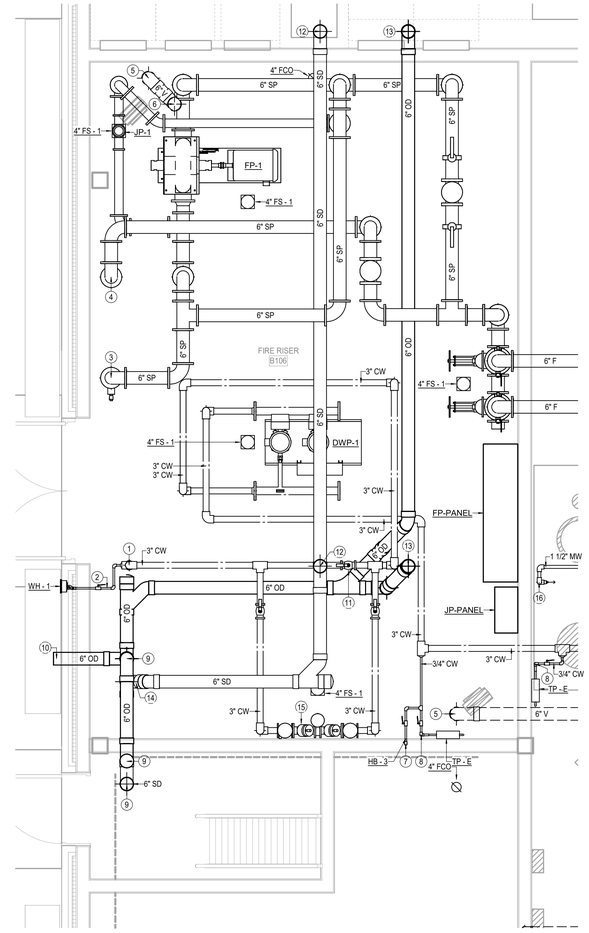
1. COORDINATE WITH PUMP MANUFACTURER'S INSTALLATION DRAWINGS FOR PROPER AND CORRECT INSTALLATION OF ALL EQUIPMENT AND APPURTENANCES.
2. PROVIDE A 20 GALLON ELBI BLADDER TANK.
3. PUMPS TO BE SIZED FOR N+1 REDUNDANCY.
4. FOR PACKAGES BEING FED FROM A BREAK TANK, PACKAGE TO BE WIRED INTO THE LEVEL CONTROL PANEL'S LOW LEVEL ALARM FOR DRY RUN PROTECTION (NOTE: DRY RUN PROTECTION BY SUCTION PRESSURE SENSOR IS NOT ACCEPTABLE.)
5. PROVIDE INTEGRAL VFD ON EACH PUMP OR IF EXTERNAL DRIVES THEY SHALL BE CONTAINED WITHIN A SINGLE ELECTRICAL ENCLOSURE (MIN. NEMA 3R UNLESS NOTED OTHERWISE), PANEL SHALL HAVE MAIN DISCONNECT AND SINGLE POINT CONNECTION.
6. CONTROL PANEL TO BE SUPPLIED ON A SPLIT BASE FOR EASE OF MAINTENANCE AND INSTALLATION FLEXIBILITY. MOUNTING THE CONTROL PANEL TO THE PUMP SKID IS NOT PERMITED.
7. PROVIDE REDUNDANT DISCHARGE PRESSURE TRANSDUCER AND CONTROL CAPABILITY TO MONITOR BOTH SENSOR AND AUTOMATICALLY SWITCH TO SECONDARY SENSOR IN THE EVENT OF A PRIMARY SENSOR FAILURE.
8. PROVIDE SURGE PROTECTION, BATTERY BACKUP, SERVICE DISCONNECTS, INDIVIDUAL PUMP RUN INDICATION, AUDIBLE & VISUAL ALARM, BACNET COMMUNICATION INTERFACE.
9. HEADERS SHALL BE CONSTRUCTED OF 316 SS WITH FLANGED CONNECTIONS ON ALL ENDS, PROVIDE SUCTION & DISCHARGE ISOLATION VALVES AND DISCHARGE CHECK VALVES ON EACH PUMP.
10. CONTRACTOR TO ROUTE A PIPE OFF THE SYSTEM DISCHARGE LINE TO THE BLADDER TANK PROVIDING A BLOCK & BLEED PIPING ARRANGEMENT THAT ALLOWS THE TANK TO BE ISOLATED FROM THE SYSTEM AND DRAINED.
11. WHEN REQUIRED, SYSTEM SUPPLIER TO PROVIDE 150# FLANGED X 150# FLANGED REDUCING FLEX CONNECTORS, OF ALL STAINLESS STEEL CONSTRUCTION (RE: PLANS FOR PIPE CONNECTION SIZES).

TOMBALL HS - FLOW TEST INFORMATION

DATA		NOTES
STATIC PRESSURE (PSI)	56	1. DATA FROM HYDRANT FLOW TEST AT 1110 BAKER DR, TOMBALL, TX 77375, DATED 09/31/2026. FLOW TEST PERFORMED BY KAUFFMAN CO. 2. FIRE HYDRANT FLOW TEST SHALL BE CONDUCTED NO MORE THAN 6 MONTHS PRIOR TO WORKING PLAN SUBMITTAL. 3. FIRE PROTECTION CONTRACTOR SHALL PERFORM HYDRANT FLOW TEST PRIOR TO MAKING DESIGN CALCULATIONS AND APPLICATION FOR PERMIT.
RESIDUAL PRESSURE (PSI)	50	
FLOW @ TEST (GPM)	2789	
FLOW @ 20 PSI (GPM)	3541	



1 PLUMBING SITE PLAN - TOMBALL HS
1" = 40'-0"



2 ENLARGED PLAN - TOMBALL HS FIRE PUMP ROOM
3/8" = 1'-0"

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED
PROFESSIONAL ENGINEER

10/30/2026
LEAF ENGINEERS
F-18672

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

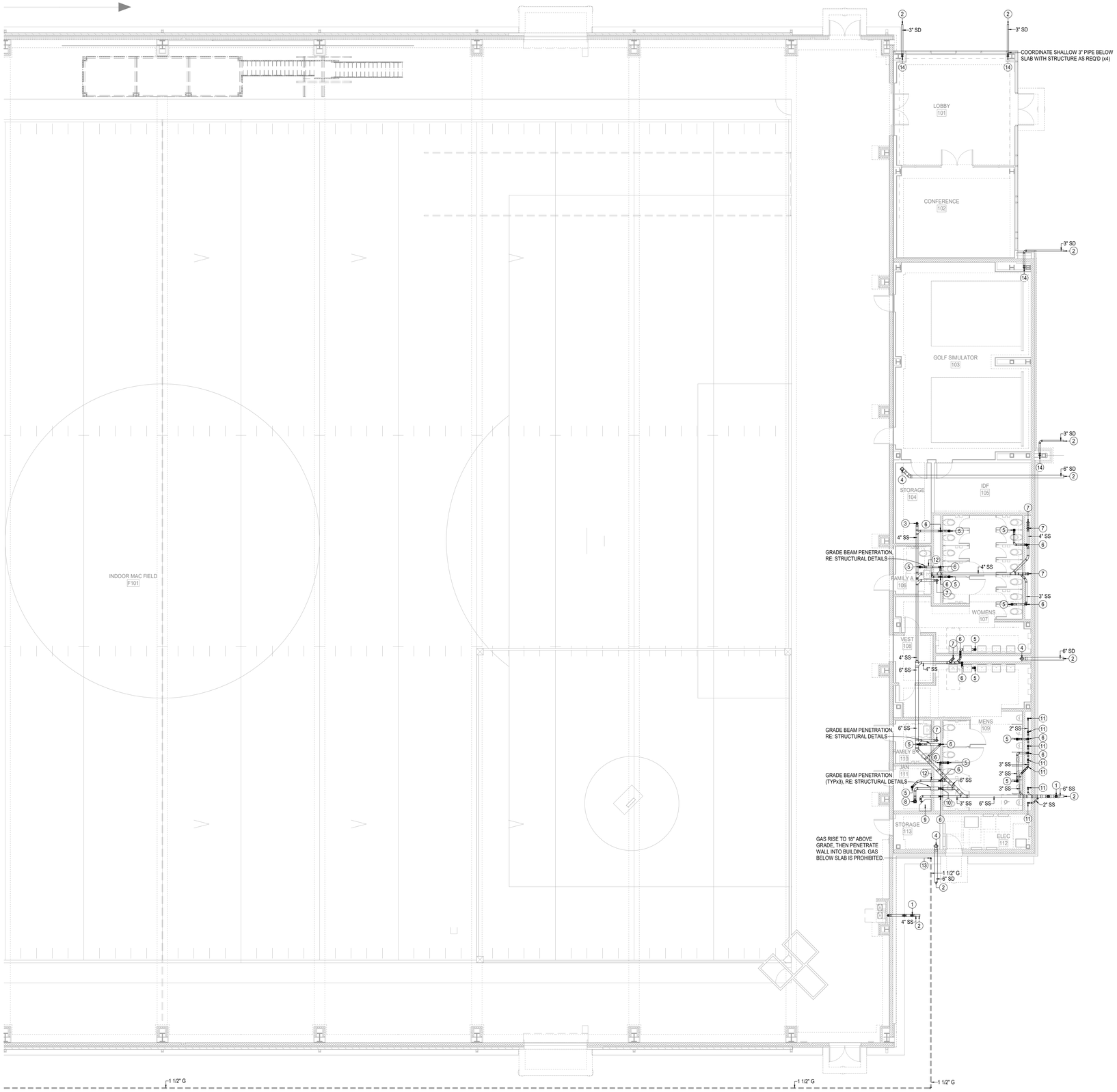
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DRAWN BY: SC

PLUMBING SITE PLAN - TOMBALL HS

PS-101

Plot Stamp:
10/30/2026 6:58:53 AM



1 1ST FLOOR PLUMBING UNDERFLOOR PLAN - AREA A
1/8" = 1'-0"

GENERAL NOTES - PLUMBING PLAN

A. THE CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION.

B. ALL FINAL CONNECTIONS TO FIXTURES AND EQUIPMENT SHALL BE MADE BY THE PLUMBING CONTRACTOR.

C. ALL PLUMBING PIPING SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO ANY INSTALLATION OF ALL PLUMBING FIXTURES AND EQUIPMENT BY THE PLUMBING CONTRACTOR.

D. ALL FLOOR DRAINS AND FLOOR SINKS SHOWN ON THIS DRAWING SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION.

E. REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATIONS OF FIXTURES, EQUIPMENT, ETC. DO NOT SCALE FROM PLUMBING DRAWINGS.

F. ALL WALL CLEAN-OUTS SHALL BE ACCESSIBLE BY AN ACCESS PANEL.

G. PROVIDE AND INSTALL A DOUBLE EXTERIOR CLEAN-OUT (DCOTG) ON ALL SANITARY LINES EXITING THE BUILDING.

H. ALL FLOOR DRAINS AND FLOOR SINKS SHALL BE PROVIDED WITH A TRAP PRIMER AND INSTALLED BY THE PLUMBING CONTRACTOR.

I. FIXTURES DESIGNATED AS ADA ACCESSIBLE BY ARCHITECT SHALL BE INSTALLED AT ADA ACCESSIBLE HEIGHT PER ARCHITECTURAL DETAILS.

J. ALL DOMESTIC COLD AND HOT WATER TAKE-OFFS SHALL HAVE AN ISOLATION SHUT-OFF VALVE.

K. FLOOR DRAINS AND FLOOR SINKS IN MECHANICAL ROOMS SHALL BE SET NOT LESS THAN 6" FROM HOUSEKEEPING PADS. RE: MECHANICAL DRAWINGS. DO NOT PLACE ON, OR IN, HOUSEKEEPING PAD, OR UNDERNEATH EQUIPMENT.

L. CONTRACTOR SHALL DEWATER ANY AREA AT OR BELOW GRADE PRIOR TO SETTING EQUIPMENT.

M. CONTRACTOR SHALL PROVIDE AND INSTALL A TRAP PRIMER, TP-1, AND A HOSE BIBB, HB-3, IN ALL MECHANICAL ROOMS.

N. CONTRACTOR SHALL PROVIDE AND INSTALL A HOSE BIBB WITH WHEEL HANDLE IN ALL MECHANICAL ROOMS, HB-3.

O. ANY AND ALL WATER PIPING EXPOSED TO OUTSIDE ELEMENTS SHALL BE INSULATED AND HEAT TRACED TO PREVENT FREEZING.

P. ALL SANITARY 3" OR ABOVE SHALL BE INSPECTED BY A CAMERA PRIOR TO SUBSTANTIAL COMPLETION.

KEYNOTES - PLUMBING PLAN

1 4" WASTE DOWN FROM DOUBLE CLEANOUT TO GRADE.

2 RE: CIVIL DRAWING FOR CONTINUATION.

3 4" WASTE DOWN FROM FLOOR CLEANOUT.

4 6" STORM WASTE DOWN FROM ABOVE.

5 3" WASTE DOWN FROM FLOOR DRAIN, PROVIDE TRAP PRIMER.

6 3" WASTE DOWN AND 2" VENT UP.

7 4" WASTE DOWN FROM ABOVE.

8 4" WASTE DOWN FROM FLOOR SINK, PROVIDE TRAP PRIMER.

9 3" WASTE DOWN FROM ABOVE, PROVIDE TRAP PRIMER.

10 4" WASTE DOWN AND 2" VENT UP.

11 2" WASTE DOWN FROM ABOVE.

12 HORIZONTAL STRUCTURAL GRADE BEAM PENETRATION, THE PLUMBING CONTRACTOR SHALL COORDINATE WITH AND REFER TO THE STRUCTURAL DRAWINGS FOR DETAILS AND ADDITIONAL INFORMATION AS REQUIRED.

13 1-1/2" GAS UP.

14 3" STORM WASTE DOWN FROM ABOVE.

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

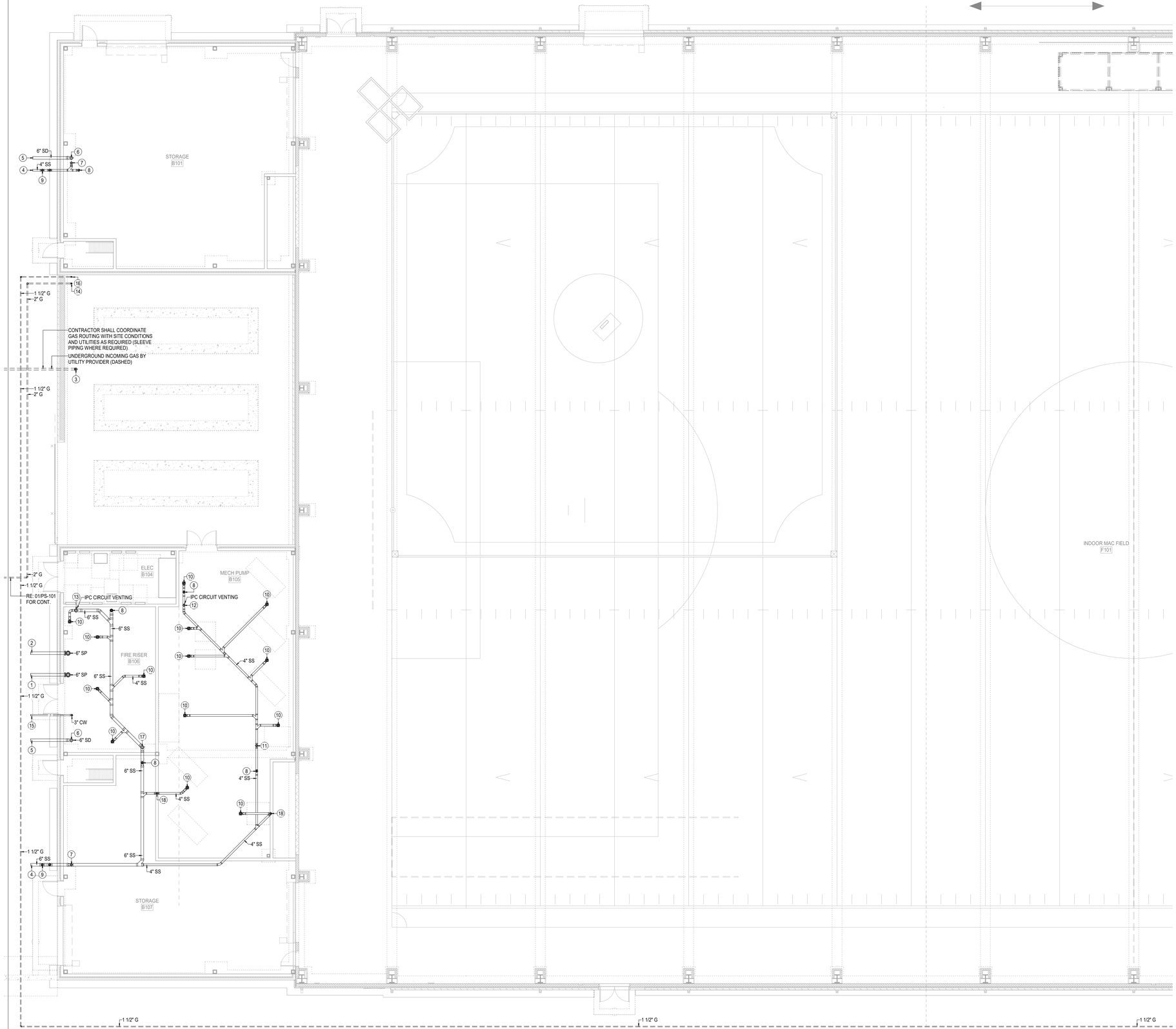
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1ST FLOOR PLUMBING UNDERFLOOR PLAN - AREA A

PU-101A

Plot Stamp:
10/30/2026 6:58:56 AM



1 1ST FLOOR PLUMBING UNDERFLOOR PLAN - AREA B
1/8" = 1'-0"

GENERAL NOTES - PLUMBING PLAN

A. THE CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION.

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K. FLOOR DRAINS AND FLOOR SINKS IN MECHANICAL ROOMS SHALL BE SET NOT LESS THAN 6" FROM HOUSEKEEPING PADS. RE: MECHANICAL DRAWINGS. DO NOT PLACE ON, OR IN, HOUSEKEEPING PAD, OR UNDERNEATH EQUIPMENT.

L. CONTRACTOR SHALL DEWATER ANY AREA AT OR BELOW GRADE PRIOR TO SETTING EQUIPMENT.

M. CONTRACTOR SHALL PROVIDE AND INSTALL A TRAP PRIMER, TP-1, AND A HOSE BIBB, HB-3, IN ALL MECHANICAL ROOMS.

N. CONTRACTOR SHALL PROVIDE AND INSTALL A HOSE BIBB WITH WHEEL HANDLE IN ALL MECHANICAL ROOMS, HB-3.

O. ANY AND ALL WATER PIPING EXPOSED TO OUTSIDE ELEMENTS SHALL BE INSULATED AND HEAT TRACED TO PREVENT FREEZING.

P. ALL SANITARY 3" OR ABOVE SHALL BE INSPECTED BY A CAMERA PRIOR TO SUBSTANTIAL COMPLETION.

KEYNOTES - PLUMBING PLAN

1 INCOMING 6" FIRE WATER ENTRY, RE: CIVIL DRAWING FOR SITE ROUTING.

2 6" FIRE LINE FROM REMOTE SIAMESE FIRE DEPARTMENT CONNECTION, RE: CIVIL PLAN FOR CONTINUATION.

3 COORDINATE UNDERGROUND GAS ROUTING AND INSTALL WITH CIVIL SITE UTILITIES AND PROVIDING SLEEVING AS REQ'D.

4 RE: CIVIL DRAWING FOR CONTINUATION.

5 OUTGOING 6" STORM WASTE, I.E. AS NOTED ON PLAN, RE: CIVIL DRAWING FOR CONTINUATION.

6 6" STORM WASTE DOWN FROM ABOVE.

7 4" WASTE DOWN FROM ABOVE.

8 4" WASTE DOWN FROM FLOOR CLEANOUT.

9 4" WASTE DOWN FROM DOUBLE CLEANOUT TO GRADE.

10 4" WASTE DOWN FROM FLOOR SINK, PROVIDE TRAP PRIMER.

11 4" WASTE DOWN AND 4" VENT UP.

12 4" VENT UP.

13 6" VENT UP.

14 2" GAS UP.

15 INCOMING 3" COLD WATER ENTRY, RE: CIVIL DRAWING FOR SITE ROUTING.

16 1-1/2" GAS UP.

17 6" WASTE DOWN AND 6" VENT UP.

18 4" WASTE DOWN AND 2" VENT UP.

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LICENSED PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

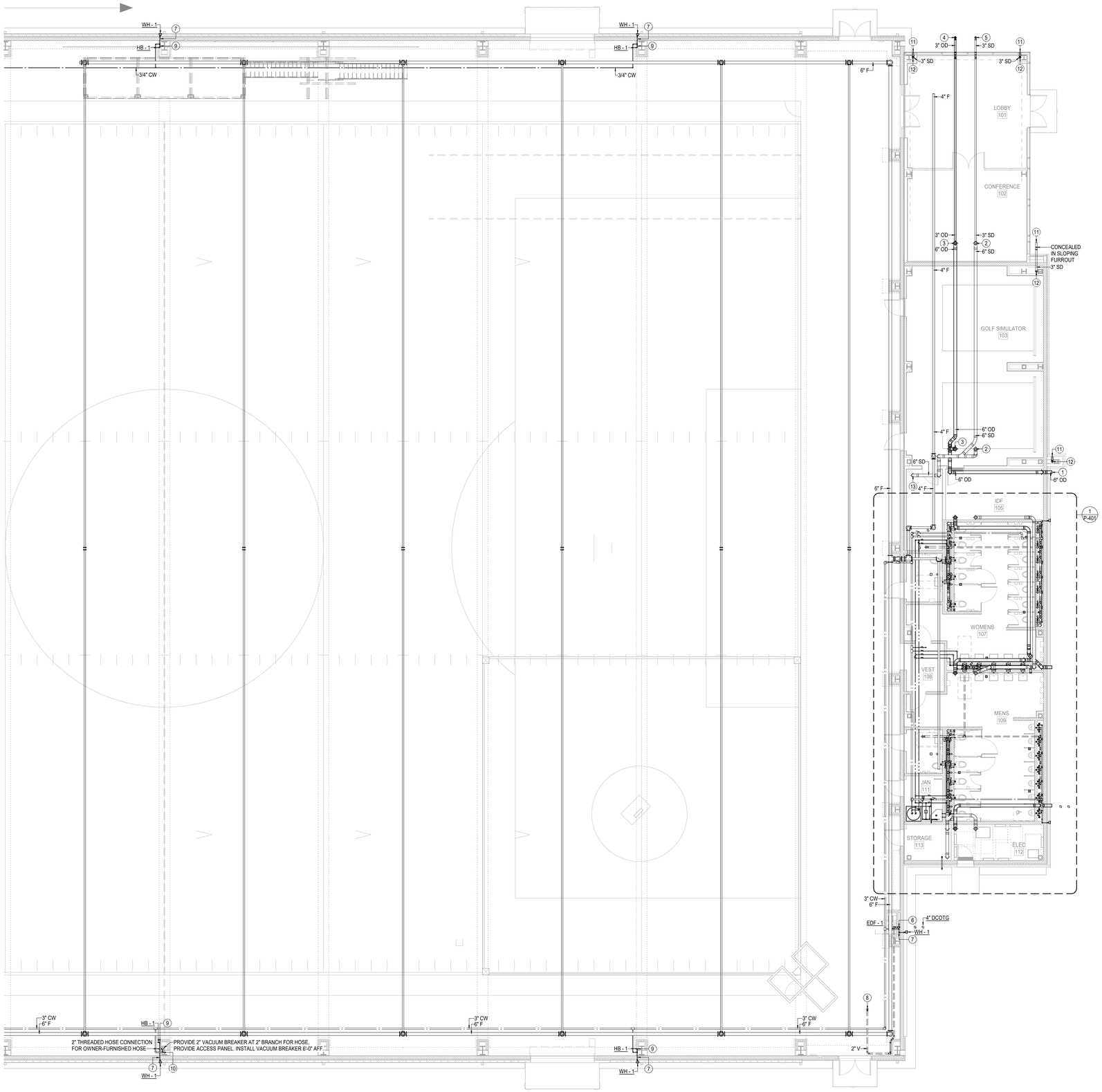
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1ST FLOOR PLUMBING UNDERFLOOR PLAN - AREA B

PU-101B

Plot Stamp:
10/30/2026 6:58:58 AM



1 1ST FLOOR PLUMBING PLAN - AREA A
1/8" = 1'-0"

GENERAL NOTES - PLUMBING PLAN

A. THE CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION.

B. ALL FINAL CONNECTIONS TO FIXTURES AND EQUIPMENT SHALL BE MADE BY THE PLUMBING CONTRACTOR.

C. ALL PLUMBING PIPING SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO ANY INSTALLATION OF ALL PLUMBING FIXTURES AND EQUIPMENT BY THE PLUMBING CONTRACTOR.

D. ALL FLOOR DRAINS AND FLOOR SINKS SHOWN ON THIS DRAWING SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION.

E. REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATIONS OF FIXTURES, EQUIPMENT, ETC. DO NOT SCALE FROM PLUMBING DRAWINGS.

F. ALL WALL CLEAN-OUTS SHALL BE ACCESSIBLE BY AN ACCESS PANEL.

G. PROVIDE AND INSTALL A DOUBLE EXTERIOR CLEAN-OUT (DCOTG) ON ALL SANITARY LINES EXITING THE BUILDING.

H. ALL FLOOR DRAINS AND FLOOR SINKS SHALL BE PROVIDED WITH A TRAP PRIMER AND INSTALLED BY THE PLUMBING CONTRACTOR.

I. FIXTURES DESIGNATED AS ADA ACCESSIBLE BY ARCHITECT SHALL BE INSTALLED AT ADA ACCESSIBLE HEIGHT PER ARCHITECTURAL DETAILS.

J. ALL DOMESTIC COLD AND HOT WATER TAKE-OFFS SHALL HAVE AN ISOLATION SHUT-OFF VALVE.

K. FLOOR DRAINS AND FLOOR SINKS IN MECHANICAL ROOMS SHALL BE SET NOT LESS THAN 6" FROM HOUSEKEEPING PADS. RE: MECHANICAL DRAWINGS. DO NOT PLACE ON, OR IN, HOUSEKEEPING PAD, OR UNDERNEATH EQUIPMENT.

L. CONTRACTOR SHALL DEWATER ANY AREA AT OR BELOW GRADE PRIOR TO SETTING EQUIPMENT.

M. CONTRACTOR SHALL PROVIDE AND INSTALL A TRAP PRIMER, TP-1, AND A HOSE BIBB, HB-3, IN ALL MECHANICAL ROOMS.

N. CONTRACTOR SHALL PROVIDE AND INSTALL A HOSE BIBB WITH WHEEL HANDLE IN ALL MECHANICAL ROOMS, HB-3.

O. ANY AND ALL WATER PIPING EXPOSED TO OUTSIDE ELEMENTS SHALL BE INSULATED AND HEAT TRACED TO PREVENT FREEZING.

P. ALL SANITARY 3" OR ABOVE SHALL BE INSPECTED BY A CAMERA PRIOR TO SUBSTANTIAL COMPLETION.

KEYNOTES - PLUMBING PLAN

1 OVERFLOW WASTE DISCHARGE TO DAYLIGHT 18" ABOVE GRADE. PROVIDE SPLASH BLOCK. PROVIDE DOWNSPOUT NOZZLE (HINGED PERFORATED FLAPPER STYLE).

2 6" STORM WASTE DOWN FROM ROOF DRAIN.

3 6" STORM WASTE DOWN FROM OVERFLOW DRAIN.

4 3" STORM WASTE DOWN FROM OVERFLOW DRAIN.

5 3" STORM WASTE DOWN FROM ROOF DRAIN.

6 2" WASTE DOWN AND 2' VENT UP FROM PLUMBING FIXTURE(S), 3/4" COLD WATER DOWN TO SERVE PLUMBING FIXTURE(S).

7 3/4" COLD WATER DOWN TO SERVE WALL HYDRANT.

8 3" VENT THRU ROOF (VTR).

9 3/4" COLD WATER DOWN TO SERVE HOSE BIBB.

10 2" COLD WATER DOWN TO SERVE PLUMBING FIXTURE(S).

11 3" STORM WASTE CONNECTION AT AVADECK DRAIN OUTLET. REFER TO AVADECK AND ARCHITECTURAL DETAILS FOR DRAIN OUTLET INTERCONNECTION TO PLUMBING PIPE REQUIREMENTS. CONTRACTOR SHALL CLOSELY COORDINATE 3" STORM PIPE WITH AVADECK DRAIN OUTLET AND 3" STORM PIPE ROUTING FROM OUTLET TO UNDERGROUND AROUND STRUCTURAL COMPONENTS. REFER TO STRUCTURAL DETAILS FOR STEEL AND CONCRETE SUPPORTS AT THIS AREA.

12 3" STORM WASTE DOWN.

13 6" STORM WASTE DOWN.

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED
PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

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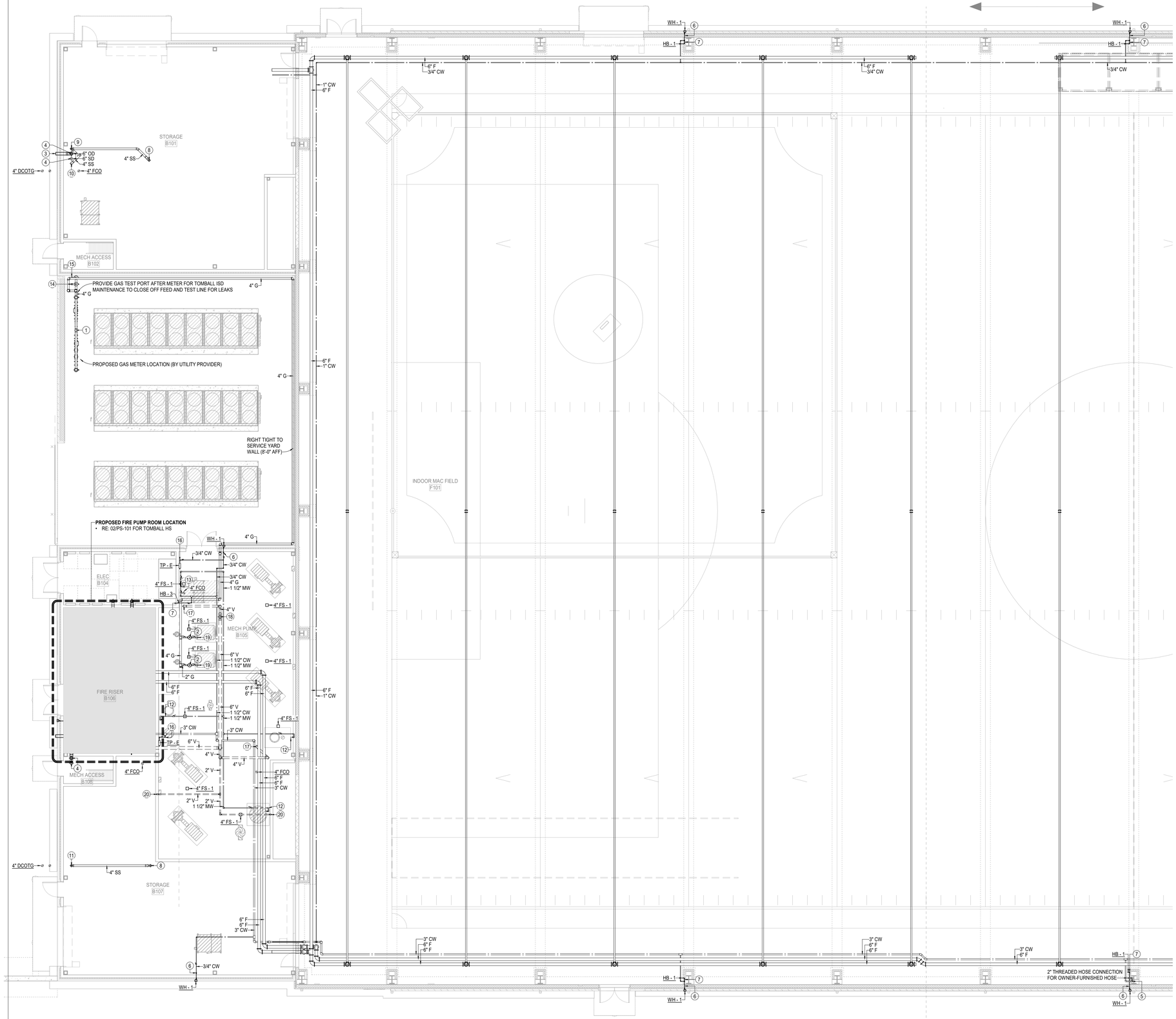
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1ST FLOOR PLUMBING PLAN - AREA A

P-101A

Plot Stamp:
10/30/2026 6:58:31 AM

P-101B - 1ST FLOOR PLUMBING PLAN - AREA B



1 1ST FLOOR PLUMBING PLAN - AREA B
1/8" = 1'-0"

GENERAL NOTES - PLUMBING PLAN

A. THE CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION.

B. ALL FINAL CONNECTIONS TO FIXTURES AND EQUIPMENT SHALL BE MADE BY THE PLUMBING CONTRACTOR.

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E. REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATIONS OF FIXTURES, EQUIPMENT, ETC. DO NOT SCALE FROM PLUMBING DRAWINGS.

F. ALL WALL CLEAN-OUTS SHALL BE ACCESSIBLE BY AN ACCESS PANEL.

G. PROVIDE AND INSTALL A DOUBLE EXTERIOR CLEAN-OUT (DCOTG) ON ALL SANITARY LINES EXITING THE BUILDING.

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N. CONTRACTOR SHALL PROVIDE AND INSTALL A HOSE BIBB WITH WHEEL HANDLE IN ALL MECHANICAL ROOMS, HB-3.

O. ANY AND ALL WATER PIPING EXPOSED TO OUTSIDE ELEMENTS SHALL BE INSULATED AND HEAT TRACED TO PREVENT FREEZING.

P. ALL SANITARY 3" OR ABOVE SHALL BE INSPECTED BY A CAMERA PRIOR TO SUBSTANTIAL COMPLETION.

KEYNOTES - PLUMBING PLAN

1 NEW GAS METER. CONTRACTOR SHALL COORDINATE WITH THE GAS UTILITY PROVIDER TO PROVIDE AND INSTALL THE NEW GAS METER TO SERVE THE NEW TOTAL FACILITY LOAD AS INDICATED. CONTRACTOR SHALL COORDINATE WITH THE CIVIL SITE UTILITIES AND THE GAS UTILITY PROVIDER IN ROUTING A NEW SUPPLY MAIN TO THE NEW GAS METER AND PROVIDING SLEEVING AS REQ'D.

2 PROVIDE REGULATOR (STEP DOWN FROM 5 PSI TO 7"-14" W.C.) W/ SHUT-OFF VALVE ON EACH SIDE, INSTALLED AS PER THE SPECIFICATIONS. VENT REGULATOR TO EXTERIOR AS REQUIRED. CONTRACTOR SHALL COORDINATE EXACT EQUIPMENT INLET SIZE AND PRESSURE REQUIREMENTS PRIOR TO INSTALL.

3 OVERFLOW WASTE DISCHARGE TO DAYLIGHT 18" ABOVE GRADE. PROVIDE SPLASH BLOCK. PROVIDE DOWNSPOUT NOZZLE (HINGED PERFORATED FLAPPER STYLE).

4 6" STORM WASTE DOWN FROM ABOVE.

5 2" COLD WATER DOWN TO SERVE PLUMBING FIXTURE(S).

6 3/4" COLD WATER DOWN TO SERVE WALL HYDRANT.

7 3/4" COLD WATER DOWN TO SERVE HOSE BIBB.

8 4" WASTE DOWN FROM FLOOR SINK. PROVIDE TRAP PRIMER.

9 2" VENT UP.

10 4" WASTE DOWN.

11 4" WASTE DOWN AND 2" VENT UP.

12 MAKE-UP WATER CONNECTION TO EQUIPMENT. VERIFY LINE SIZE WITH MECHANICAL DETAILS PRIOR TO FINAL CONNECTION(S). REFER TO MECHANICAL DETAILS FOR CONTINUATION.

13 1-1/2" COLD WATER DOWN TO SERVE RPZ BACKFLOW PREVENTER (INSTALLED 4'-0" AFF. DRAIN LINE ROUTED TO NEARBY APPROVED WASTE RECEPTOR FOR INDIRECT (1" AIR GAP) DISCHARGE). PROVIDE HOSE BIBB (HB-3) WITH SHUT-OFF VALVE DOWNSTREAM OF BACKFLOW PREVENTER. EXTEND 1-1/2" MAKE-UP WATER TO SERVE THE REQUIRED MECHANICAL EQUIPMENT. REFER TO MECHANICAL DETAILS FOR CONTINUATION.

14 2" GAS DOWN.

15 1-1/2" GAS DOWN.

16 3/4" COLD WATER DOWN TO SERVE PLUMBING FIXTURE(S).

17 4" VENT UP FROM BELOW.

18 6" VENT THRU ROOF (VTR).

19 CONNECT TO EQUIPMENT. VERIFY LINE SIZE WITH MANUFACTURER INSTALL REQUIREMENTS PRIOR TO FINAL CONNECTION(S). PROVIDE ACCESSIBLE FULL LINE-SIZE SHUT-OFF VALVE.

20 2" VENT UP FROM BELOW.

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KEY PLAN

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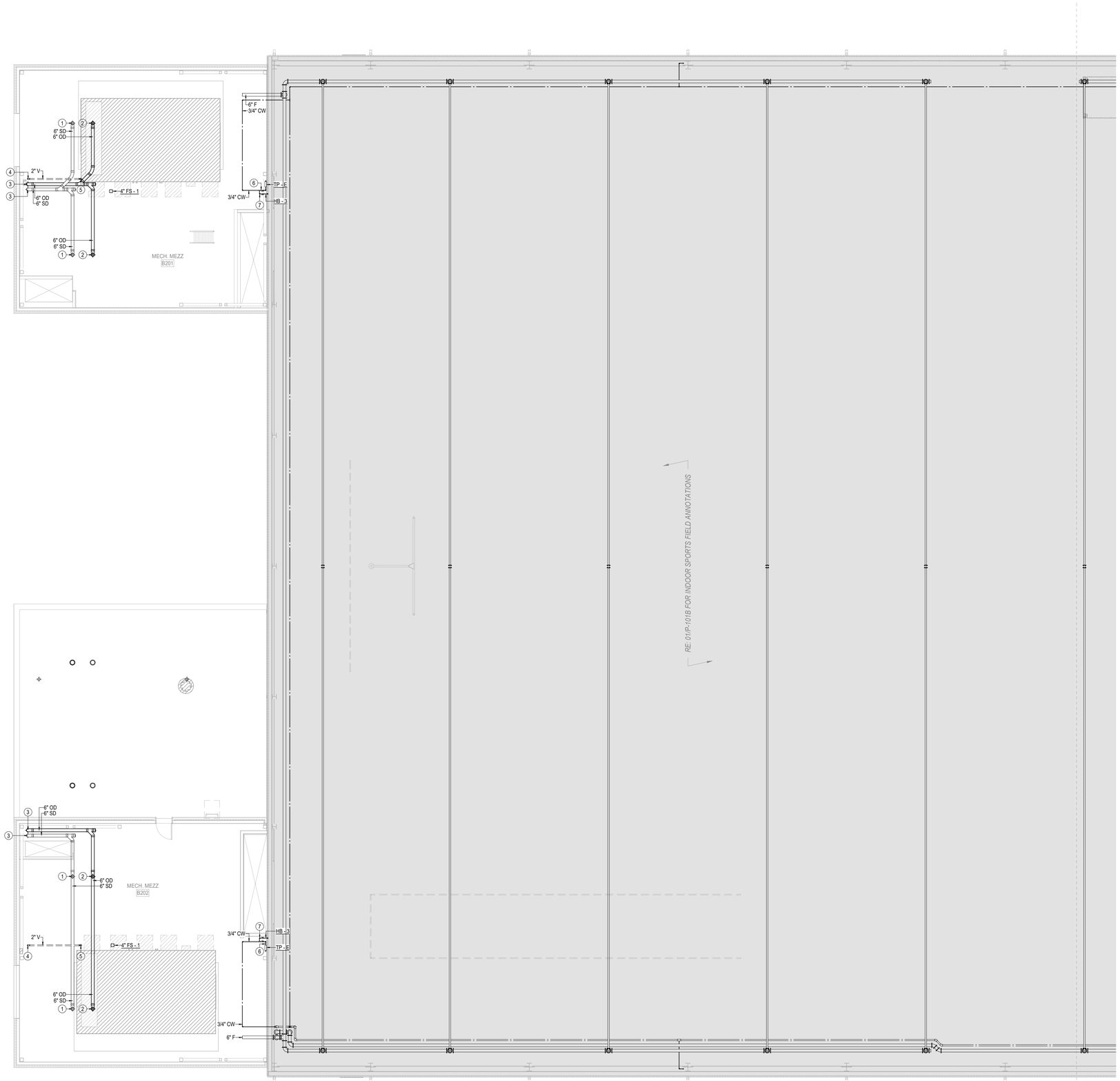
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1ST FLOOR PLUMBING PLAN - AREA B

P-101B

Plot Stamp:
10/30/2026 6:58:35 AM



1 MEZZANINE PLUMBING PLAN - AREA B
1/8" = 1'-0"

Plot Stamp:
10/30/2026 6:58:37 AM

GENERAL NOTES - PLUMBING PLAN

A. THE CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION.

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KEYNOTES - PLUMBING PLAN

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2 6" STORM WASTE DOWN FROM OVERFLOW DRAIN.

3 6" STORM WASTE DOWN.

4 2" VENT UP FROM BELOW.

5 3" VENT THRU ROOF (VTR).

6 3/4" COLD WATER DOWN TO SERVE PLUMBING FIXTURE(S).

7 3/4" COLD WATER DOWN TO SERVE HOSE BIBB.

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CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

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MEZZANINE PLUMBING PLAN - AREA B

P-120B



1 PLUMBING ROOF PLAN - COMPOSITE
1/16" = 1'-0"

GENERAL NOTES - PLUMBING PLAN

A. THE CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION.

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KEYNOTES - PLUMBING PLAN

1 PROVIDE REGULATOR (STEP DOWN FROM 5 PSI TO 7"-14" W.C.) W/ SHUT-OFF VALVE ON EACH SIDE, INSTALLED AS PER THE SPECIFICATIONS. VENT REGULATOR TO EXTERIOR AS REQUIRED. CONTRACTOR SHALL COORDINATE EXACT EQUIPMENT INLET SIZE AND PRESSURE REQUIREMENTS PRIOR TO INSTALL.

2 1-1/2" GAS DOWN.

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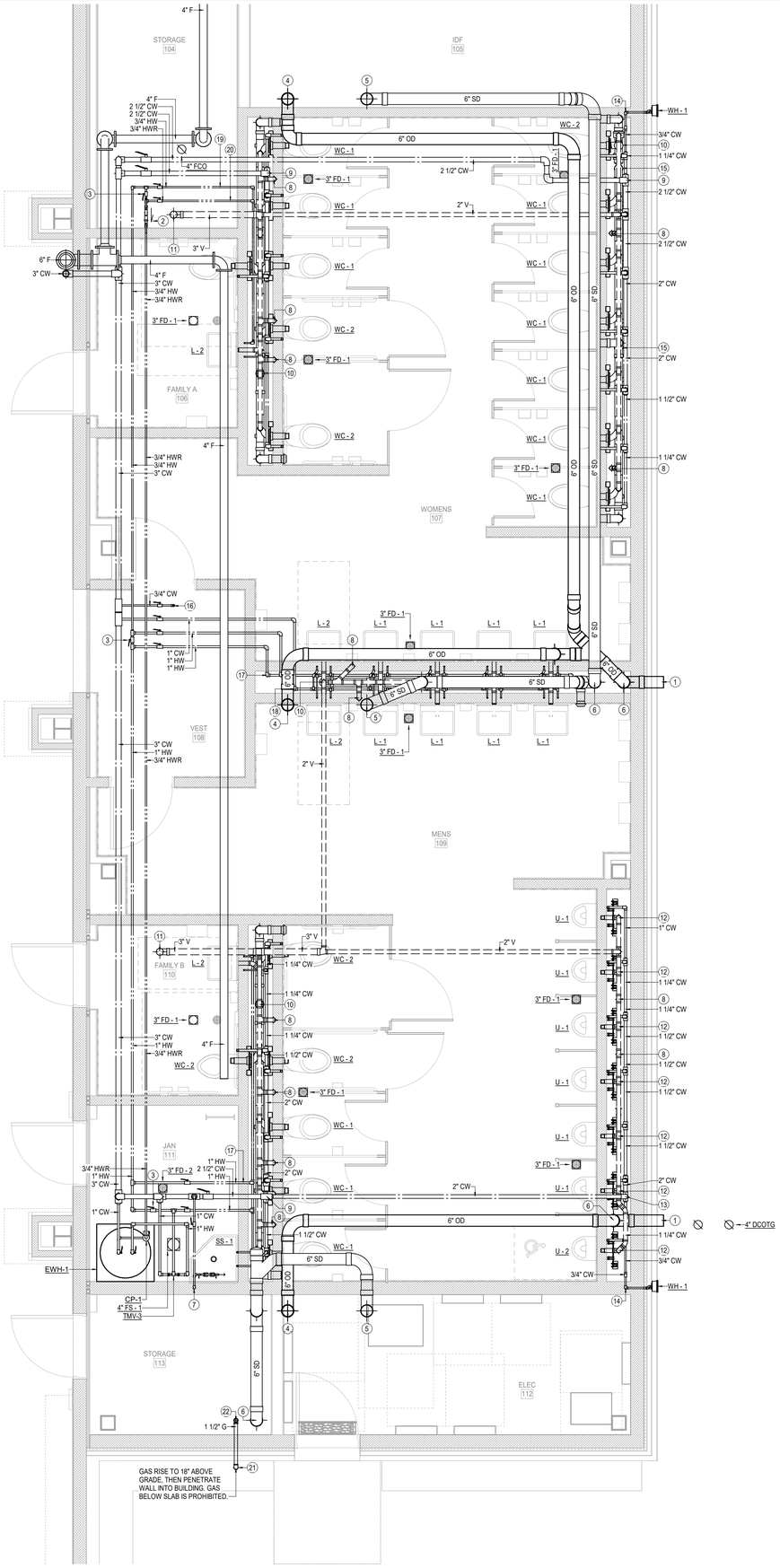
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PLUMBING ROOF PLAN - COMPOSITE

P-301

Plot Stamp:
10/30/2026 6:58:38 AM



1 1ST FLOOR PLUMBING PLAN - AREA A - RESTROOMS
3/8" = 1'-0"

GENERAL NOTES - PLUMBING PLAN

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KEYNOTES - PLUMBING PLAN

1 OVERFLOW WASTE DISCHARGE TO DAYLIGHT 18" ABOVE GRADE, PROVIDE SPLASH BLOCK. PROVIDE DOWNSPOUT NOZZLE (HINGED PERFORATED FLAPPER STYLE).

2 3/4" HOT WATER RETURN BALANCING VALVE (CONFIRM/ADJUST SETPOINT OF EACH INDIVIDUAL BALANCING VALVE TO FLOW MINIMUM OF 0.5 GPM AND ADJUST AS REQUIRED TO PROVIDE PROPER/NECESSARY BALANCING). PROVIDE STRAINER, CHECK VALVE AND ISOLATION VALVES AT BALANCING VALVE ASSEMBLY.

3 BALL VALVE (BYPASS NORMALLY CLOSED). REFER TO PLANS FOR LINE SIZE.

4 6" STORM WASTE DOWN FROM OVERFLOW DRAIN.

5 6" STORM WASTE DOWN FROM ROOF DRAIN.

6 6" STORM WASTE DOWN.

7 3/4" COLD WATER DOWN TO SERVE CHEMICAL DISPENSER BY OTHERS. CONTRACTOR SHALL PROVIDE LOCAL AHJ-APPROVED METHOD OF BACKFLOW PROTECTION AS REQ'D FOR THE UNIT. REFER TO UNIT INSTALLATION REQUIREMENTS FOR ADDITIONAL INFORMATION.

8 2" VENT UP FROM BELOW.

9 2-1/2" COLD WATER DOWN TO SERVE PLUMBING FIXTURE(S).

10 4" WASTE DOWN AND 2" VENT UP.

11 4" VENT THRU ROOF (VTR).

12 2" WASTE DOWN AND 2" VENT UP.

13 2" COLD WATER DOWN TO SERVE PLUMBING FIXTURE(S).

14 3/4" COLD WATER DOWN TO SERVE WALL HYDRANT.

15 4" WASTE DOWN.

16 3/4" COLD WATER UP TO SERVE PLUMBING FIXTURE(S) ABOVE.

17 1" HOT WATER DOWN TO SERVE PLUMBING FIXTURE(S).

18 1" COLD WATER DOWN TO SERVE PLUMBING FIXTURE(S).

19 3/4" HOT WATER DOWN TO SERVE PLUMBING FIXTURE(S).

20 3/4" HOT WATE RETURN UP.

21 1-1/2" GAS DOWN.

22 1-1/2" GAS UP.

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CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SC
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PLUMBING ENLARGED PLAN

P-401

Plot Stamp:
10/30/2026 6:58:42 AM

ELECTRIC WATER HEATER SCHEDULE

UNIT	MANUFACTURER AND MODEL NUMBER	LOCATION	CAPACITY (GAL)	RECOVERY (GPH)	TEMP RISE (°F)	ELECTRICAL				REMARKS
						kW	V	Φ	Hz	
EWH-1	AO SMITH DRE-52	JAN 111	50	50	100	12.3	480	3	60	• PROVIDE WITH THERM-X-TROL ST-5-C EXPANSION TANK

NOTES:

1. COORDINATE WITH WATER HEATER MANUFACTURER'S INSTALLATION DRAWINGS FOR PROPER AND CORRECT INSTALLATION OF ALL EQUIPMENT AND APPURTENANCES.

PUMP SCHEDULE

UNIT	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	INLET PRESSURE (PSI)	OUTLET PRESSURE (PSI)	RPM	CAPACITY		ELECTRICAL				REMARKS
							GPM	Ψ (FT)	HP	V	Φ	Hz	
CP-1	BELL & GOSSETT ECOCIRC 19-16	JAN 111	INLINE CIRCULATOR	-	2.2	1458	1.5	5	1/10	115	1	60	-

NOTES:

1. COORDINATE WITH PUMP MANUFACTURER'S INSTALLATION DRAWINGS FOR PROPER AND CORRECT INSTALLATION OF ALL EQUIPMENT AND APPURTENANCES.

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	CONNECTION SIZE				REMARKS
		WASTE	VENT	CW	HW	
WC-1	WATER CLOSET, WALL-MOUNTED BOWL W/ 1-1/2" TOP SPUD, 1.28 GPF, ELONGATED RIM, PROVIDE OPEN FRONT SEATLESS COVER AND ADJUSTABLE CARRIER	4"	2"	1-1/2"	-	• MANUAL FLUSH VALVE
WC-2	WATER CLOSET, SAME AS WC-1 EXCEPT FLUSH VALVE SHALL BE ROUGHED-IN NO MORE THAN 44" AFF W/ CENTER LINE OF FIXTURE 18" FROM FINISHED WALL OR PARTITION, ADA	4"	2"	1-1/2"	-	• MANUAL FLUSH VALVE
U-1	URINAL, WALL-MOUNTED W/ 3/4" TOP SPUD, HIGH EFFICIENCY 0.125 GPF, MOUNT URINAL RIM AT 24" ABOVE FINISHED FLOOR, PROVIDE FLOOR SUPPORTED URINAL CARRIER	2"	2"	3/4"	-	• MANUAL FLUSH VALVE
U-2	URINAL, SAME AS U-1 EXCEPT RIM SHALL BE MOUNTED NO HIGHER THAN 17" AFF	2"	2"	3/4"	-	• MANUAL FLUSH VALVE
L-1	LAVATORY, WALL-MOUNTED, 0.5 GPM W/ AERATOR FAUCET, ZURN Z-8746-CP OFFSET GRID DRAIN, ZURN Z-8802LR-CP ANGLE STOPS W/ Ø3/8" (OD) TUBING, DEARBORN 701-1 17 GA. P-TRAP, TRUEBRO 105W OFFSET INSULATION KIT (NOT REQUIRED IF CABINET APRON IS INSTALLED), ADA, LEAD-FREE	2"	2"	3/4"	3/4"	• MANUAL METERED FAUCET • PROVIDE ASSE 1070 TMV-1 SIMILAR TO LEONARD 170-LF-CP
L-2	LAVATORY, SAME AS L-1 EXCEPT RIM SHALL BE MOUNTED NO HIGHER THAN 34" AFF	2"	2"	3/4"	3/4"	• MANUAL METERED FAUCET • PROVIDE ASSE 1070 TMV-1 SIMILAR TO LEONARD 170-LF-CP
SK-1	SINK, DROP-IN SINGLE BOWL, TYPE 304 STAINLESS STEEL, WRISTBLADE LEVER HANDLES, 1.5 GPM W/ AERATOR FAUCET, ZURN Z-8746-CP OFFSET GRID DRAIN, ZURN Z-8802LR-CP ANGLE STOPS W/ Ø3/8" (OD) TUBING, DEARBORN 701-1 17 GA. P-TRAP, TRUEBRO 105W OFFSET INSULATION KIT (NOT REQUIRED IF CABINET APRON IS INSTALLED), ADA, LEAD-FREE	2"	2"	3/4"	3/4"	• PROVIDE ASSE 1070 TMV-1 SIMILAR TO LEONARD 170-LF-CP • PROVIDE ZURN MODEL Z1180 PLASTER TRAP AT ART ROOM SINKS
EDF-1	ELECTRIC DRINKING FOUNTAIN, INDOOR BI-LEVEL WALL-MOUNTED W/ BOTTLE FILLER, STAINLESS STEEL FINISH, DEARBORN 704-1 1-1/2" 17 GA. P-TRAP, BRASS CRAFT C2CR19C ANGLE STOP, AQUAFLO SFC-120-PP STAINLESS STEEL FLEX CONNECTORS, CHROME PLATED BUBBLER, SELF-CLOSING MECHANICAL PUSHBUTTON, STREAM REGULATOR, NON-FILTERED, REFRIGERATED, ELECTRICAL, ADA, LEAD-FREE	2"	2"	3/4"	-	-
SS-1	SERVICE SINK, FLOOR-MOUNTED CORNER TYPE W/ DROP FRONT SINGLE BASIN, SOLID SURFACE MATERIAL (NON-POROUS STONE), INCLUDE HOSE W/ BRACKET AND MOP HANGER, LEAD-FREE	3"	2"	3/4"	3/4"	• PROVIDE SERVICE SINK FAUCET W/ WALL BRACE, PAIL HOOK AND 3/4" HOSE THREAD ON SPOUT • PROVIDE WITH STAINLESS STEEL WALL GUARDS
FD-1	FLOOR DRAIN, ROUND, ADJUSTABLE NICKEL-BRONZE STRAINER, LACQUERED CAST IRON BODY W/ DOUBLE DRAINAGE FLANGE, WEEP HOLES, REVERSIBLE CLAMPING COLLAR, PUSH ON GASKET OUTLET OR NO HUB OUTLET	SEE PLANS		-	-	• PROVIDE TRAP PRIMER TYPE TP-2
FD-2	FLOOR DRAIN, SQUARE, ADJUSTABLE NICKEL-BRONZE STRAINER, LACQUERED CAST IRON BODY W/ DOUBLE DRAINAGE FLANGE, WEEP HOLES, REVERSIBLE CLAMPING COLLAR, SEDIMENT BUCKET, PUSH ON GASKET OUTLET OR NO HUB OUTLET	SEE PLANS		-	-	• PROVIDE TRAP PRIMER TYPE TP-1 OR TP-E
FD-3	FLOOR DRAIN, ROUND, MEDIUM-DUTY ACID RESISTANT COATED INTERIOR AND NICKEL-BRONZE RIM, LACQUERED CAST IRON BODY, SEEPAGE PAN, COMBINATION MEMBRANE FLASHING CLAMP AND FRAME, SEDIMENT BUCKET, PUSH ON GASKET OUTLET OR NO HUB OUTLET	SEE PLANS		-	-	• PROVIDE TRAP PRIMER TYPE TP-1 OR TP-E • PROVIDE 4" FUNNEL DRAIN FOR FREEZER DRAIN ONLY
FS-1	FLOOR SINK, 8" SQUARE, MEDIUM-DUTY ACID RESISTANT COATED INTERIOR AND NICKEL-BRONZE RIM W/ SECURED 1/2 GRATE, CAST IRON BODY, INTEGRAL SEEPAGE PAN, POLISHED ALUMINUM BOTTOM DOME STRAINER, PUSH ON GASKET OUTLET OR NO HUB OUTLET	SEE PLANS		-	-	• PROVIDE TRAP PRIMER TYPE TP-1 OR TP-E
TP-1	TRAP PRIMER, PRESSURE DROP TYPE, VACUUM BREAKER TRAP PRIMER CONNECTED TO COLD WATER SUPPLY ONLY W/ ISOLATION VALVE, LEAD-FREE	-	-	-	-	-
TP-2	TRAP PRIMER, FLUSH VALVE TYPE, VACUUM BREAKER TRAP PRIMER ATTACHED TO WATER CLOSET FLUSH VALVE, LEAD-FREE	-	-	-	-	-
TP-3	TRAP PRIMER, AUTOMATIC TYPE, INTEGRAL ANTI-SIPHON AIR PORT, CONNECT TRAP PRIMER TO COLD WATER SUPPLY ONLY, LEAD-FREE	-	-	-	-	-
TP-E	TRAP PRIMER, ELECTRIC TYPE, VACUUM BREAKER TRAP PRIMER CONNECTED TO COLD WATER SUPPLY MANIFOLD, SLOW CLOSING 24 VAC SOLENOID VALVE W/ INTEGRAL STRAINER, 120 - 24 VAC TRANSFORMER, LEAD-FREE	-	-	-	-	-
RD-1	ROOF DRAIN, LOW PROFILE REMOVABLE ALUMINUM DOME AND LACQUERED CAST IRON SUMP RECIEVER, UNDERDECK CLAMP, NO-HUB CONNECTION	-	-	-	-	-
OD-1	OVERFLOW ROOF DRAIN, WATERDAM EXTENDED TO 2" ABOVE FLOOD ELEVATION, LOW PROFILE REMOVABLE ALUMINUM DOME AND LACQUERED CAST IRON SUMP RECIEVER, UNDERDECK CLAMP, NO-HUB CONNECTION	-	-	-	-	-
HB-1	HOSE BIBB, WALL-MOUNTED, ENCLOSED IN BOX FLUSH W/ WALL, ANTI-SIPHON WALL FAUCET W/ INTEGRAL BACKFLOW PREVENTER, LEAD-FREE	-	-	3/4"	-	-
HB-2	HOSE BIBB, WALL-MOUNTED, ENCLOSED IN BOX FLUSH W/ WALL, ANTI-SIPHON WALL FAUCET W/ INTEGRAL BACKFLOW PREVENTER, FREEZE-RESISTANT, LEAD-FREE	-	-	3/4"	-	• PROVIDE IN EXTERIOR MECHANICAL SPACES
HB-3	HOSE BIBB, WALL-MOUNTED, EXPOSED, ANTI-SIPHON WALL FAUCET W/ INTEGRAL BACKFLOW PREVENTER, LEAD-FREE	-	-	3/4"	-	• PROVIDE IN INTERIOR MECHANICAL SPACES
WH-1	WALL HYDRANT, WALL-MOUNTED, ENCLOSED IN BOX FLUSH W/ WALL, ANTI-SIPHON WALL HYDRANT W/ INTEGRAL BACKFLOW PREVENTER, FREEZE-RESISTANT, LOCKABLE BOX AND LOOSE TEE KEY TO BE FURNISHED W/ WALL HYDRANT, LEAD-FREE	-	-	3/4"	-	-
WH-4	ROOF HYDRANT, ROOF-MOUNTED, BACKFLOW PROTECTED, ROD GUIDE TO ELIMINATE SIDE PULL, ADJUSTABLE LINK AND POSITIVE LEVER LOCK TENSION, VARIABLE FLOW PLUNGER, FREEZE-RESISTANT, LEAD-FREE	1"	-	1"	-	• ROOF HYDRANT DRAIN, IF APPLICABLE, SHALL BE PIPED TO AN APPROVED WASTE RECEPTOR LOCATION
RVB-1	REFRIGERATOR VALVE BOX, WALL-MOUNTED, STAINLESS STEEL PREFORMED ROUGH-IN BOX FLUSH W/ WALL, INTEGRAL WATER HAMMER ARRESTER, LEAD-FREE	-	-	3/4"	-	-
RVB-2	REFRIGERATOR VALVE BOX, WALL-MOUNTED, STAINLESS STEEL PREFORMED ROUGH-IN BOX FLUSH W/ WALL, INTEGRAL WATER HAMMER ARRESTER, LEAD-FREE	2"	2"	3/4"	3/4"	-
TMV-1	THERMOSTATIC MIXING VALVE, POINT-OF-USE, FLOW CAPACITY BETWEEN 0.25 GPM MINIMUM AND 4 GPM MAXIMUM AT 5 PSI PRESSURE DROP, VOLUME CONTROL SHUT-OFF VALVE ON OUTLET, CHECK VALVE ON INLETS, LEAD-FREE	-	-	3/8"	3/8"	• ASSE 1070, MOUNTED IN PIPING UNDER LAVATORY/SINK/ETC.
TMV-3	THERMOSTATIC MIXING VALVE, HIGH / LOW USE, FLOW CAPACITY UP TO 19 GPM MAXIMUM AT 5 PSI PRESSURE DROP, VOLUME CONTROL SHUT-OFF VALVE ON OUTLET, CHECK VALVE ON INLETS, LEAD-FREE	-	-	1"	1"	• ASSE 1017, LOCATED AT WATER HEATER 1" OUTLET

NOTES:

1. ROUGH-IN SUPPLY WASTE AND VENT PIPE SIZES INDICATED ARE MINIMUM SIZES SHOWN FOR ROUGH-IN PURPOSES ONLY.
2. COORDINATE WITH FIXTURE MANUFACTURER'S INSTALLATION DRAWINGS FOR PROPER AND CORRECT INSTALLATION OF ALL FIXTURES AND APPURTENANCES.
3. ALL PLUMBING FIXTURES SHALL BE COMPLETELY ROUGH-IN BY THE PLUMBING CONTRACTOR AND SHALL MEET ALL CODES HAVING JURISDICTION.
4. ALL FIXTURES TO BE COMMERCIAL GRADE UNLESS OTHERWISE NOTED.
5. PROVIDE A WATER HAMMER ARRESTER IN PIPING TO ALL FIXTURES AND / OR FIXTURE BANKS.
6. PROVIDE A SHUT-OFF VALVE AT ALL FIXTURES AND / OR FIXTURE BANKS AND AT EACH FLOOR IF FIXTURES AND / OR FIXTURE BANKS ARE STACKED (MULTI-LEVEL).

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LEAF ENGINEERS

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ISSUED FOR PROPOSAL

B A

KEY PLAN

TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED
PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

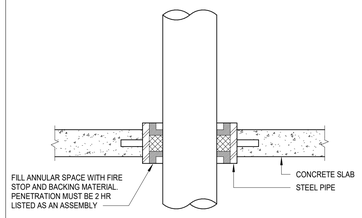
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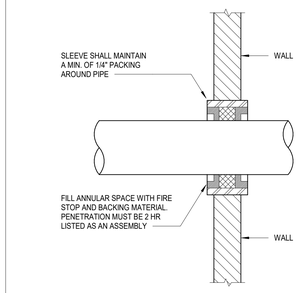
PLUMBING SCHEDULES

P-501

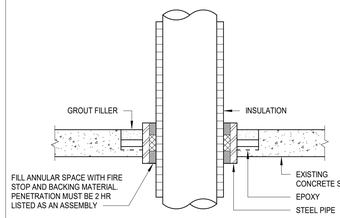
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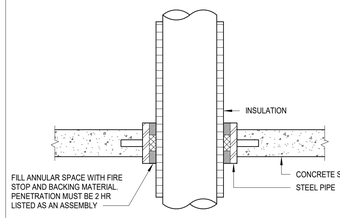
29 UNINSULATED PIPE FLOOR PENETRATION
N.T.S



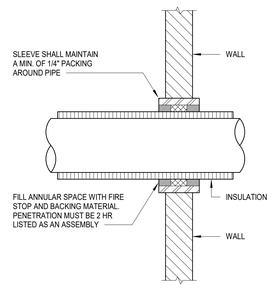
28 UNINSULATED PIPE WALL PENETRATION
N.T.S



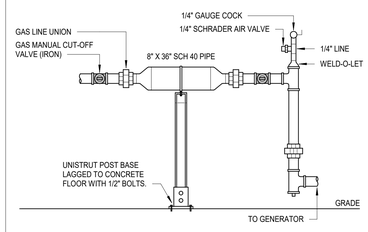
27 INSULATED PIPE FLOOR PENETRATION
N.T.S



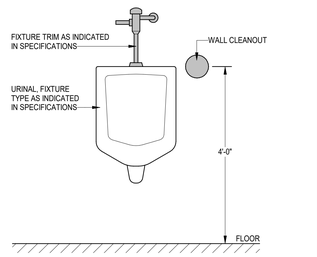
26 INSULATED PIPE FLOOR PENETRATION
N.T.S



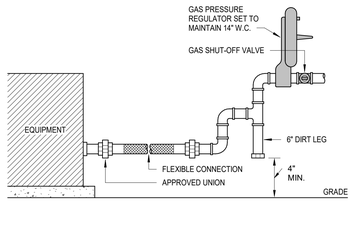
25 INSULATED PIPE WALL PENETRATION
N.T.S



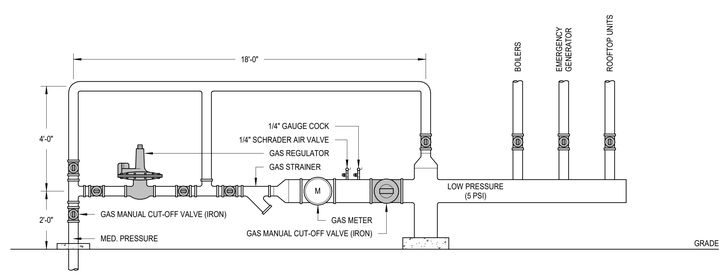
24 GAS ACCUMULATION PIPE AT GENERATOR
N.T.S



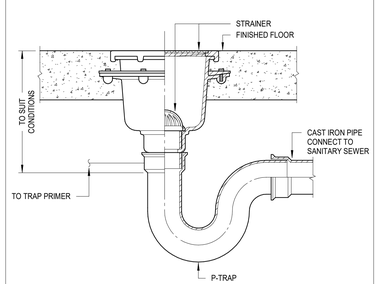
23 URINAL ELEVATION CLEANOUT
N.T.S



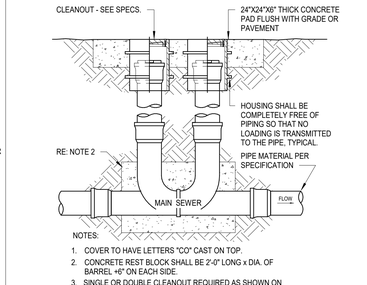
22 EQUIPMENT GAS CONNECTION
N.T.S



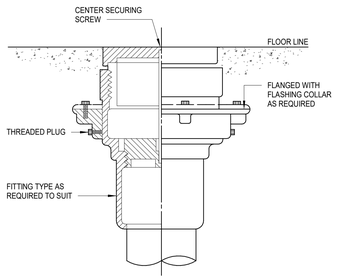
21 TYPICAL LARGE SERVICE GAS METER
N.T.S



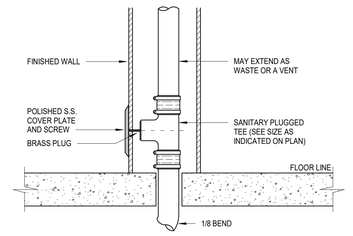
20 FLOOR SINK
N.T.S



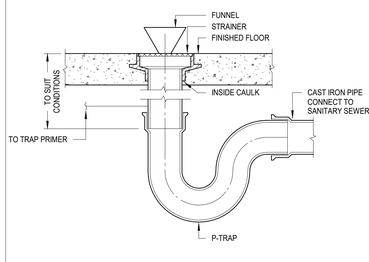
19 P6N DOUBLE EXTERIOR CLEANOUT
N.T.S



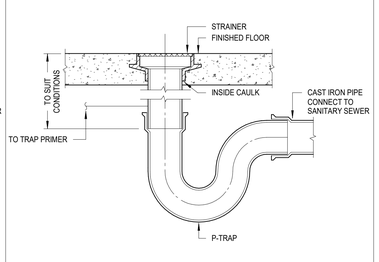
18 FLOOR CLEANOUT
N.T.S



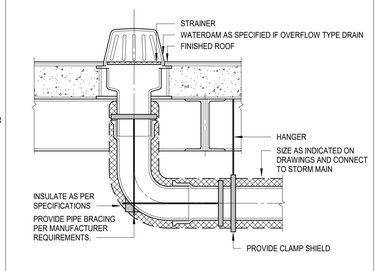
17 WALL CLEANOUT DETAIL
N.T.S



16 FLOOR DRAIN DETAIL
N.T.S

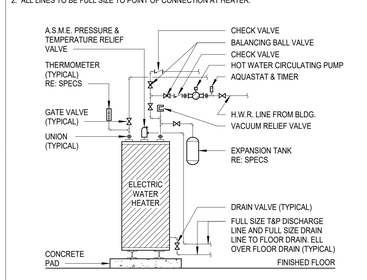


15 FLOOR DRAIN DETAIL
N.T.S

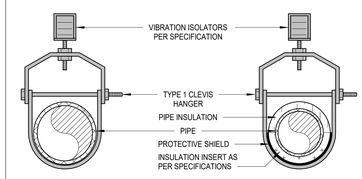


14 ROOF + OVERFLOW DRAIN INSTALL
N.T.S

NOTES:
1. ALL PIPING SHALL BE SECURED TO MAKE RIGID.
2. ALL LINES TO BE FULL SIZE TO POINT OF CONNECTION AT HEATER.



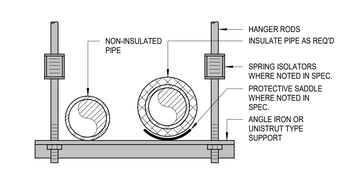
13 ELECTRIC WATER HEATER PIPING
N.T.S



NOTES:
ROUTE PIPING AS LOW AS POSSIBLE TO CEILING GRID FOR EASE OF ACCESSIBILITY

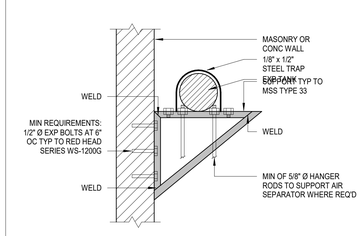
12 SINGLE PIPE TYPE 1 CLEVIS HANGER
N.T.S

NOTES:
SIZE RODS, SPRING CUSHION, AND HORIZONTAL MEMBER APPROVED TO SATISFY LOAD REQUIREMENT W/ SAFETY FACTOR OF 5

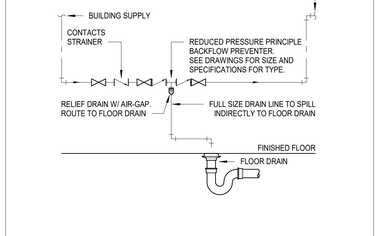


11 PIPE SUPPORT - TRAPEZE TYPE
N.T.S

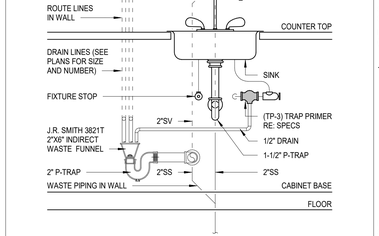
NOTES:
1. ALL STEEL HOT DIPPED GALV AFTER FABRICATION IF OUTDOORS; SANDBLAST AND SHOP PRIME ALL OTHERS
2. SECURE W/ APPROVED ANCHORS TO MATCH WALL CONSTRUCTION



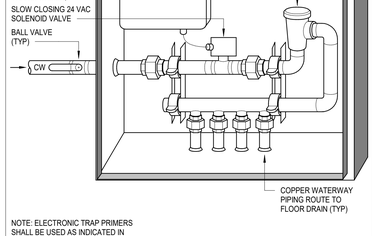
10 PIPE WALL SUPPORT
N.T.S



9 REDUCED PRESSURE BACKFLOW ASSEMBLY
N.T.S

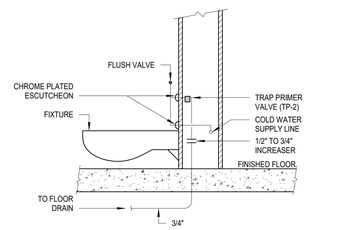


3 INDIRECT WASTE RECEPTOR
N.T.S

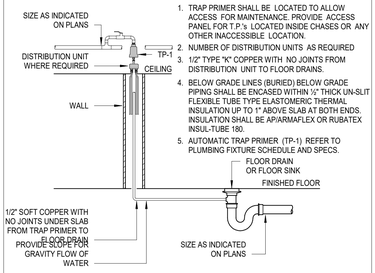


NOTE: ELECTRONIC TRAP PRIMERS SHALL BE USED AS INDICATED IN SPECIFICATIONS AND PLANS.

7 ELECTRONIC TRAP PRIMER (TP-E)
N.T.S

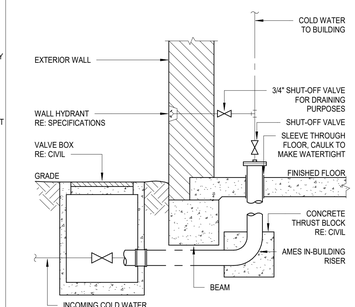


6 TRAP PRIMER (TP-2)
N.T.S

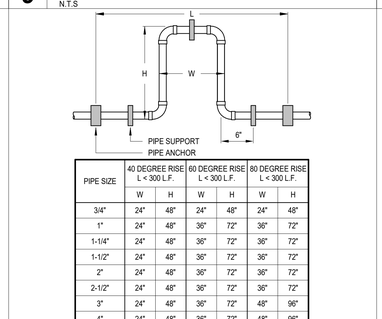


NOTES:
1. TRAP PRIMER SHALL BE LOCATED TO ALLOW ACCESS FOR MAINTENANCE. PROVIDE ACCESS PANEL FOR T.P.'s LOCATED INSIDE CHASES OR ANY OTHER INACCESSIBLE LOCATION.
2. NUMBER OF DISTRIBUTION UNITS AS REQUIRED
3. 1/2" TYPE "K" COPPER WITH NO JOINTS FROM DISTRIBUTION UNIT TO FLOOR DRAINS.
4. BELOW GRADE LINES (BURIED) BELOW GRADE PIPING SHALL BE ENCASED WITHIN ½" THICK UN-SLIT FLEXIBLE TUBE TYPE ELASTOMERIC THERMAL INSULATION UP TO 1" ABOVE SLAB AT BOTH ENDS. INSULATION SHALL BE AP/ARMAFLEX OR RUBATEX INSUL-TUBE 180.
5. AUTOMATIC TRAP PRIMER (TP-1) REFER TO PLUMBING FIXTURE SCHEDULE AND SPECS.

5 TRAP PRIMER (TP-1) W/ DISTRIBUTION
N.T.S

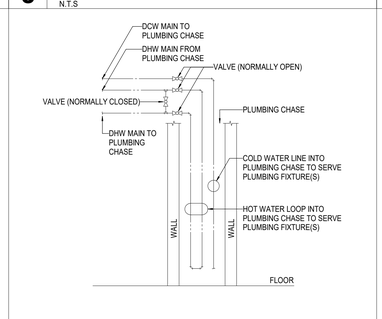


4 DOMESTIC COLD WATER LINE ENTRY
N.T.S

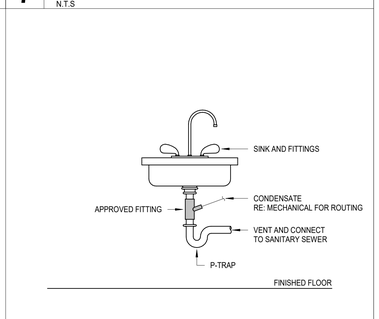


PIPE SIZE	40 DEGREE RISE L < 300 L.F.		60 DEGREE RISE L < 300 L.F.		80 DEGREE RISE L < 300 L.F.	
	W	H	W	H	W	H
3/4"	24"	48"	24"	48"	24"	48"
1"	24"	48"	36"	72"	36"	72"
1-1/4"	24"	48"	36"	72"	36"	72"
1-1/2"	24"	48"	36"	72"	36"	72"
2"	24"	48"	36"	72"	36"	72"
2-1/2"	24"	48"	36"	72"	36"	72"
3"	24"	48"	36"	72"	48"	96"
4"	24"	48"	36"	72"	48"	96"

3 EXPANSION LOOP TABLE
N.T.S



2 HOT WATER BYPASS VALVE DETAIL
N.T.S



1 CONDENSATE TO SINK TAILPIECE
N.T.S

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Tomball ISD-Multi-Program Activity Center-
Tomball High School

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED
PROFESSIONAL
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: SC

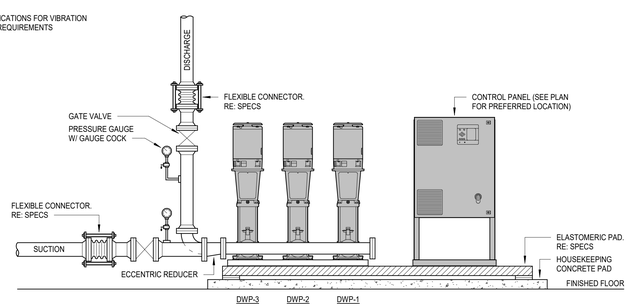
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PLUMBING DETAILS

P-601

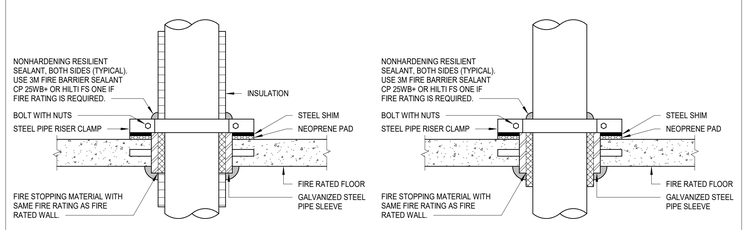
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NOTE:
SEE SPECIFICATIONS FOR VIBRATION ISOLATION REQUIREMENTS



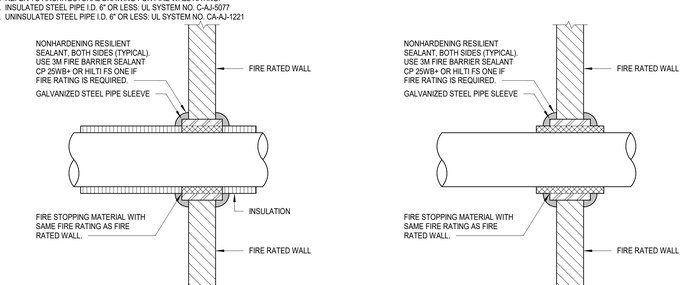
3 DOMESTIC WATER BOOSTER PUMP TRIPLEX
N.T.S

NOTES:
1. REFER TO SPECIFICATIONS FOR INSULATED PIPE RISER SUPPORTS.
2. COORDINATE RISER CLAMP ORIENTATION TO BE WITHIN WALL CAVITY.
3. INSTALL FIRE STOPPING MATERIAL PER MANUFACTURER'S RECOMMENDATION.
4. REFER TO ARCHITECTURAL DRAWING FOR FLOOR FIRE RATING.
5. INSULATED STEEL PIPE I.D. 6" OR LESS: UL SYSTEM NO. C-AJ-5077
6. UNINSULATED STEEL PIPE I.D. 6" OR LESS: UL SYSTEM NO. CA-AJ-1221



2 TYPICAL PIPE PENETRATION THROUGH FIRE RATED FLOOR
3/8" = 1'-0"

NOTES:
1. REFER TO ARCHITECTURAL DRAWING FOR FIRE WALL RATING.
2. INSULATED STEEL PIPE I.D. 6" OR LESS: UL SYSTEM NO. C-AJ-5077
3. UNINSULATED STEEL PIPE I.D. 6" OR LESS: UL SYSTEM NO. CA-AJ-1221



1 TYPICAL PIPE PENETRATION THROUGH FIRE RATED WALL
3/8" = 1'-0"

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT

DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

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PLUMBING DETAILS

P-602

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GAS LOAD ANALYSIS				
GPR - X	INLET (PSI)	(N.C.) OUTLET	EQUIPMENT	CFH
1	5	7"-14"	GENERATOR (EMERGENCY)	1072
2	5	7"-14"	B-01	3000
3	5	7"-14"	B-02	3000
4	5	7"-14"	RTU-01	80
5	5	7"-14"	RTU-02	80
6	5	7"-14"	RTU-03	80
7	5	7"-14"	RTU-04	200
TOTAL GAS LOAD				7512
LIEQ = 2000 FT @ 5 PSI				

*COORDINATE EXACT EQUIPMENT INLET SIZE AND PRESSURE REQUIREMENTS PRIOR TO INSTALL.

KEYNOTES - PLUMBING PLAN

1 NEW GAS METER. CONTRACTOR SHALL COORDINATE WITH THE GAS UTILITY PROVIDER TO PROVIDE AND INSTALL THE NEW GAS METER TO SERVE THE NEW TOTAL FACILITY LOAD AS INDICATED. CONTRACTOR SHALL COORDINATE WITH THE CIVIL SITE UTILITIES AND THE GAS UTILITY PROVIDER IN ROUTING A NEW SUPPLY MAIN TO THE NEW GAS METER AND PROVIDING SLEEVING AS REQ'D.

2 PROVIDE GAS ACCUMULATION EXPANSION PIPE AT GENERATOR INLET, OR PROVIDE PER MANUFACTURER INSTALL GUIDELINES TO ENSURE PIPING CONFIGURATION DOES NOT STARVE THE EQUIPMENT AT START-UP.

3 PROVIDE REGULATOR (STEP DOWN FROM 5 PSI TO 7"-14" W.C.) W/ SHUT-OFF VALVE ON EACH SIDE, INSTALLED AS PER THE SPECIFICATIONS. VENT REGULATOR TO EXTERIOR AS REQUIRED. CONTRACTOR SHALL COORDINATE EXACT EQUIPMENT INLET SIZE AND PRESSURE REQUIREMENTS PRIOR TO INSTALL.

GENERAL NOTES - PLUMBING PLAN

A. THE CONTRACTOR SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION.

B. ALL FINAL CONNECTIONS TO FIXTURES AND EQUIPMENT SHALL BE MADE BY THE PLUMBING CONTRACTOR.

C. ALL PLUMBING PIPING SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO ANY INSTALLATION OF ALL PLUMBING FIXTURES AND EQUIPMENT BY THE PLUMBING CONTRACTOR.

D. ALL FLOOR DRAINS AND FLOOR SINKS SHOWN ON THIS DRAWING SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION.

E. REFER TO ARCHITECTURAL DRAWING FOR EXACT LOCATIONS OF FIXTURES, EQUIPMENT, ETC. DO NOT SCALE FROM PLUMBING DRAWINGS.

F. ALL WALL CLEAN-OUTS SHALL BE ACCESSIBLE BY AN ACCESS PANEL.

G. PROVIDE AND INSTALL A DOUBLE EXTERIOR CLEAN-OUT (DCOTG) ON ALL SANITARY LINES EXITING THE BUILDING.

H. ALL FLOOR DRAINS AND FLOOR SINKS SHALL BE PROVIDED WITH A TRAP PRIMER AND INSTALLED BY THE PLUMBING CONTRACTOR.

I. FIXTURES DESIGNATED AS ADA ACCESSIBLE BY ARCHITECT SHALL BE INSTALLED AT ADA ACCESSIBLE HEIGHT PER ARCHITECTURAL DETAILS.

GENERAL NOTES - PLUMBING PLAN

J. ALL DOMESTIC COLD AND HOT WATER TAKE-OFFS SHALL HAVE AN ISOLATION SHUT-OFF VALVE.

K. FLOOR DRAINS AND FLOOR SINKS IN MECHANICAL ROOMS SHALL BE SET NOT LESS THAN 6" FROM HOUSEKEEPING PADS. RE: MECHANICAL DRAWINGS. DO NOT PLACE ON, OR IN, HOUSEKEEPING PAD, OR UNDERNEATH EQUIPMENT.

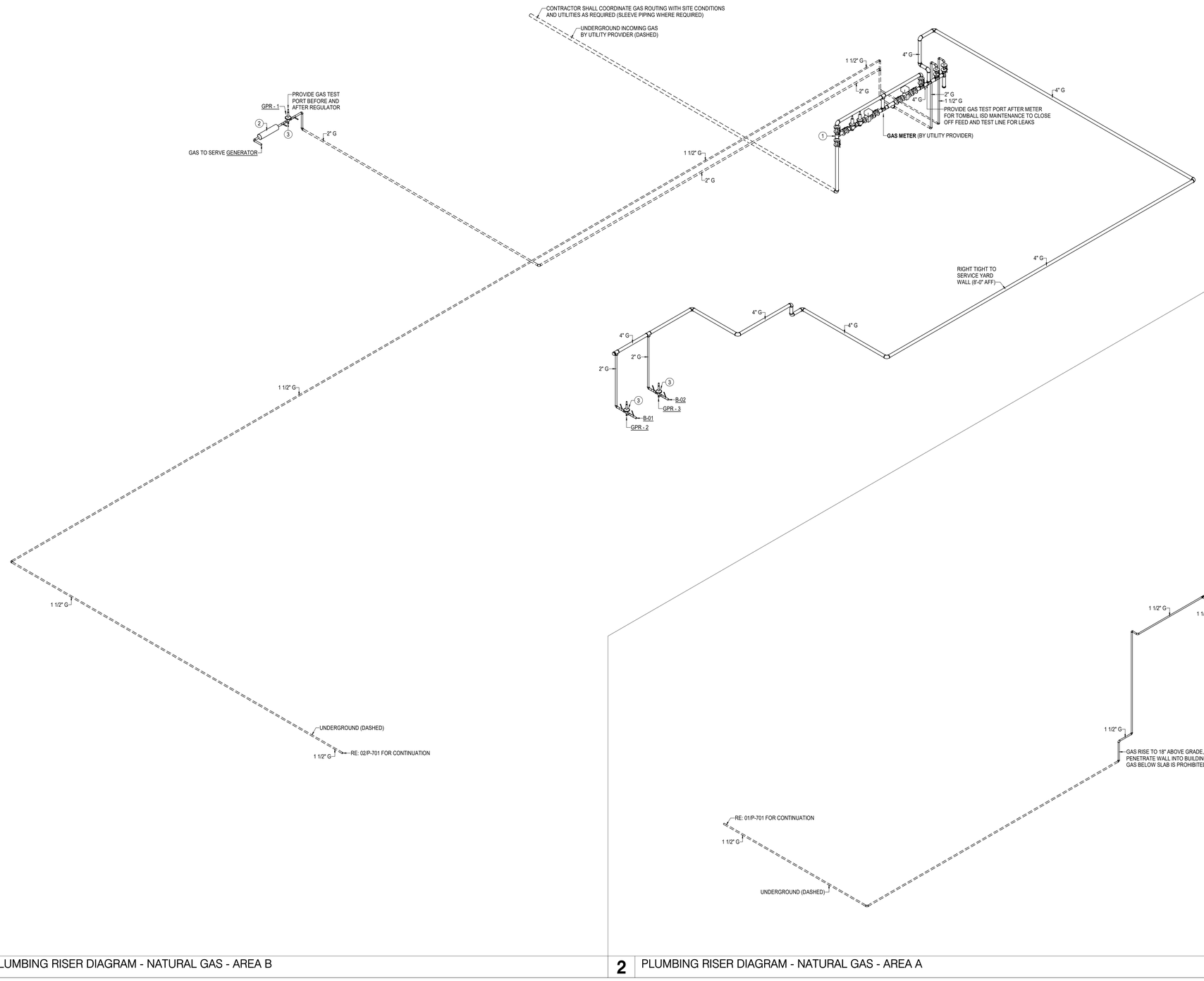
L. CONTRACTOR SHALL DEWATER ANY AREA AT OR BELOW GRADE PRIOR TO SETTING EQUIPMENT.

M. CONTRACTOR SHALL PROVIDE AND INSTALL A TRAP PRIMER, TP-1, AND A HOSE BIBB, HB-3, IN ALL MECHANICAL ROOMS.

N. CONTRACTOR SHALL PROVIDE AND INSTALL A HOSE BIBB WITH WHEEL HANDLE IN ALL MECHANICAL ROOMS, HB-3.

O. ANY AND ALL WATER PIPING EXPOSED TO OUTSIDE ELEMENTS SHALL BE INSULATED AND HEAT TRACED TO PREVENT FREEZING.

P. ALL SANITARY 3" OR ABOVE SHALL BE INSPECTED BY A CAMERA PRIOR TO SUBSTANTIAL COMPLETION.



1 PLUMBING RISER DIAGRAM - NATURAL GAS - AREA B

2 PLUMBING RISER DIAGRAM - NATURAL GAS - AREA A

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KEY PLAN

TRUE NORTH

STATE OF TEXAS
MITAL J. PATEL
111622
LICENSED
PROFESSIONAL
ENGINEER
10/30/2026
LEAF ENGINEERS
F-10672

CLIENT	
DATE 10/30/2026	PROJECT NUMBER 25046901

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PLUMBING RISER DIAGRAMS

P-701

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GENERAL FIRE ALARM NOTES

1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF THE FIRE ALARM SYSTEMS SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. THE INSTALLING CONTRACTOR OF EACH SYSTEM SHALL BE RESPONSIBLE FOR PROVIDING THEIR OWN 120V POWER REQUIREMENTS FOR ALL REMOTE POWER SUPPLIES. THE GENERAL CONTRACTOR'S LICENSED ELECTRICAL SUBCONTRACTOR SHALL COORDINATE ELECTRICAL PANEL LOCATIONS AND AVAILABLE SPACE DEDICATED FOR THE CONTRACTOR'S SYSTEM REQUIREMENTS. (TYPICAL) ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER TOMAIN CONTROL PANELS AND ALL HEAD END EQUIPMENT. SYSTEM INSTALLERS SHALL COORDINATE LOCATION AND CONNECTION OF CONTROL PANEL AND HEAD END POWER WITH THE PROJECT'S ELECTRICAL CONTRACTOR.
2. UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS OR OTHERWISE INSTRUCTED BY THE ARCHITECT OR AS NOTED IN NFPA, FIRE ALARM DEVICES SHALL HAVE THE FOLLOWING MOUNTING HEIGHTS. VERIFY EXACT HEIGHT WITH ARCHITECT. DIMENSIONS ARE TO CENTER OF BOX UNLESS OTHERWISE NOTED:
   - A. MANUAL FIRE PULL STATIONS - MOUNT AT 42" AFF TO THE TOP OF BOX FOR FRONTAL WHEELCHAIR APPROACH; AND 48" AFF FOR SIDE WHEELCHAIR APPROACH. PULL STATIONS SHALL BE LOCATED THROUGHOUT THE PROTECTED AREA SO THAT THEY ARE UNOBSTRUCTED AND ACCESSIBLE; MOUNT WITHIN 5 FT. OF THE EXIT DOORWAY OPENING AT EACH EXIT ON EACH FLOOR; MOUNT ON BOTH SIDES OF GROUP OPENINGS OVER 40 FT. IN WIDTH. ADDITIONAL
   - B. FIRE ALARM AUDIBLE DEVICES - IF CEILING HEIGHTS ALLOW, WALL-MOUNTED APPLIANCES SHALL HAVE THEIR TOPS ABOVE THE FINISHED FLOORS AT HEIGHTS OF NOT LESS THAN 90 IN. AND BELOW THE FINISHED CEILINGS AT HEIGHTS OF NOT LESS THAN 6 IN. THIS REQUIREMENT SHALL NOT PRECLUDE CEILING-MOUNTED OR RECESSED APPLIANCES. COMPLY WITH NFPA 72, CHAPTER 4.
   - C. SOUND PRESSURE LEVEL SHALL EXCEED THE PREVAILING EQUIVALENT SOUND IN THE ROOM BY AT LEAST 15 dbA OR EXCEED ANY MAX SOUND LEVEL WITH A DURATION OF 60 SECONDS BY 5 dbA, WHICHEVER IS LOUDER. SOUND LEVELS FOR ALARM SIGNALS SHALL NOT EXCEED 120 dbA.
3. FIRE ALARM VISUAL DEVICES SHALL COMPLY WITH NFPA 72, CHAPTER 4.
   - A. VISUAL APPLIANCES CANDELA SHALL BE THE HIGHEST VALUE ALLOWED BY NFPA TABLE IN ORDER TO INSTALL THE FEWEST NUMBER OF STROBES.
   - B. THE LAMP SHALL BE XENON STROBE TYPE OR EQUIVALENT.
   - C. THE COLOR SHALL BE CLEAR OR NOMINAL WHITE.
   - D. THE MAX. PULSE DURATION SHALL BE TWO TENTHS OF ONE SECOND (0.2 SEC) WITH A MAX. DUTY CYCLE OF 40%. THE PULSE DURATION IS DEFINED AS THE TIME INTERVAL BETWEEN INITIAL AND FINAL POINTS OF 10% MAX. SIGNAL.
   - E. THE INTENSITY SHALL BE A MINIMUM 0F 75 CANDELA.
   - F. THE FLASH RATE SHALL BE A MIN. OF 1Hz AND MAX. OF 3Hz.
4. VISUAL APPLIANCES SHALL BE PLACED 80" ABOVE THE HIGHEST FLOOR LEVEL WITHIN THE SPACE OR 6" BELOW THE CEILING, WHICHEVER IS LOWER. CEILING MOUNTED WERE INDICATED.
5. AT A MINIMUM, VISUAL SIGNALS APPLIANCES SHALL BE PROVIDED IN BUILDINGS AND FACILITIES IN EACH OF THE FOLLOWING AREAS: HALLWAYS, LOBBIES, AND ANY OTHER GENERAL USAGE AREAS.
6. ALL EQUIPMENT AND WORK PERFORMED SHALL COMPLY WITH ALL OF THE CURRENT AND APPLICABLE CODES, RULES, ORDINANCES, REGULATIONS, AND STANDARDS AS INTERPRETED AND ENFORCED BY THE AUTHORITIES HAVING JURISDICTION.
7. PROVIDE POWER FOR REMOTE BATTERY SUPPLIES AND BOOSTER PANELS AS NEEDED. FIRE ALARM CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR CIRCUIT.
8. ALL FIRE ALARM WIRING SHALL ROUTE DOWN CORRIDORS AND WALKWAYS PARALLEL AND PERPENDICULAR TO BUILDING WALLS.
9. ALL FIRE ALARM CABLING SHALL BE SUPPORTED IN DEDICATED CABLE SUPPORTS. DO NOT ROUTE IN OR TIE-WRAP DIRECTLY TO THE BUILDING'S STRUCTURE.
10. CONTRACTOR TO INSTALL RELAYS IN ALL KITCHEN HOOD ANSUL SYSTEMS TO NOTIFY MAIN FIRE ALARM PANEL UPON ACTIVATION.
11. ALL NOTIFICATION APPLIANCE CIRCUIT CABLES AND ALL OTHER FIRE ALARM SYSTEM CABLE SHALL HAVE A RED OUTER JACKET.
12. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ANY CONDUITS AND/OR BOXES REQUIRED FOR THE INSTALLATION FIRE ALARM DEVICES.
13. PROVIDE AND INSTALL PROTECTIVE BUSHINGS ON ALL STUB-OUTS AND SLEEVES TO PREVENT CABLE DAMAGE. BUSHINGS TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE ACCEPTED.
14. PROVIDE AND INSTALL STOPPER II PROTECTIVE COVERS WITH A LOCAL ALARM FOR ALL MANUAL PULL STATIONS ON THE ENTIRE PROJECT.
15. CONTRACTOR TO PROVIDE CEILING MOUNTED LED NOTIFICATION DEVICES WITH TEST BUTTON FOR ALL DUCT DETECTORS THAT ARE MOUNTED ABOVE CEILING AND/OR IN LOCATIONS NOT VISIBLE FROM THE FLOOR.
16. ALL FIRE ALARM DEVICES ARE NEW UNLESS NOTED OTHERWISE. CONTRACTOR TO CONNECT NEW DEVICES TO NEW FIRE ALARM PANEL AND CONFIGURE PANEL FOR NEW DEVICES AND LAYOUT.
17. CONTRACTOR SHALL PROVIDE AND INSTALL A RELAY FOR EACH FIRE/SMOKE DAMPER ON PROJECT. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS.
18. CONTRACTOR SHALL PROVIDE DUCT DETECTORS ON ALL AIR HANDLING UNITS RATED ABOVE 2,000 CFM AND PER NFPA. PROVIDE DUCT DETECTORS IN BOTH THE HOT AND COLD DECK ON ALL OF THE AHU UNITS. REFER TO MECHANICAL DRAWINGS FOR QUANTITIES AND LOCATIONS OF ALL AHUs.
19. CONTRACTOR SHALL PROVIDE ALL CABLING AND DEVICES REQUIRED TO PROVIDE THE SHUT-DOWN OF ALL HVAC AIR HANDLING UNITS UPON THE FIRE ALARM SYSTEM ENTERING ALARM STATE AND START UP OF ALL AIR HANDLING UNITS UPON THE FIRE ALARM SYSTEM BEING RESET TO A NON-ALARM STATE.
20. CONTRACTOR SHALL PROVIDE ALL REQUISITE FIRE ALARM MODULES AND CABLING AS REQUIRED TO PROVIDE CONTROL OF THEATER / AUDITORIUM HOUSE LIGHTS IN ORDER TO BRING THE LIGHTS UP TO 100% IN AN ALARM EVENT. COORDINATE WITH OTHER TRADES.
21. PROVIDE MOUNTING SUPPORT FROM GRID OR BUILDING STRUCTURE FOR ALL DEVICES INSTALLED IN LAY-IN CEILING TILE.
22. ALL 120V POWER FOR THE SYSTEMS SHALL BE INSTALLED WITHIN THE ENCLOSURE OR INSTALLED IN CONDUIT CONNECTED TO THE ENCLOSURE SO THAT NO CABLING IS EXPOSED. MC CABLE, ROMEX, SO CABLES OR OTHER METHODS ARE NOT ACCEPTABLE.
23. CONTRACTOR SHALL PROVIDE SMOKE DETECTION DEVICES ABOVE ALL PARTIAL CEILING IN ALL CORRIDORS AND OTHER SPACES PER NFPA 72.

FIRE ALARM LEGEND

GROUP	SYMBOL	DESCRIPTION
DEVICES		FOOT ADDED TO ANY SYMBOL INDICATES WALL MOUNTED.
	F	MANUAL FIRE ALARM PULL STATION. INSTALL AT 48" A.F.F. PROVIDE STOPPER II COVER WITH HORN.
	S	FIRE ALARM SPEAKER. PROVIDE WEATHER RESISTANT MODELS FOR DEVICES INSTALLED ON THE EXTERIOR.
		COMBINATION SPEAKER / STROBE. PROVIDE WEATHER RESISTANT MODELS FOR DEVICES INSTALLED ON THE EXTERIOR.
		VISUAL ALARM STROBE.
	S	SMOKE DETECTOR. NO SUBSCRIPT INDICATES IONIZATION TYPE; "P" INDICATES PHOTOELECTRIC TYPE; "D" INDICATES DUCT TYPE AND PHOTOELECTRIC. "M" INDICATES A MULTI-CRITERIA TYPE; PROVIDE IONIZATION TYPE FOR OUTSIDE UNITS.
	!	HEAT DETECTOR; COMBINATION RATE OF RISE AND FIXED TEMPERATURE. "F" INDICATES FIXED TEMPERATURE ONLY; "R" INDICATES RATE OF RISE ONLY. "C" INDICATES RATE COMPENSATION TYPE.
	R	AUXILIARY CONTROL RELAY. "2" INDICATES TWO RELAYS REQUIRED FOR FIRE FIGHTER OVERRIDE CONTROL.
	FACP	FIRE ALARM CONTROL PANEL. INSTALL AT 58" TO CENTER OF PANEL / 72" TO TOP OF PANEL.
	FAA	FIRE ALARM ANNUNCIATOR PANEL.
	PIV	SPRINKLER SYSTEM PIV MONITOR SWITCH.
	FS	SPRINKLER SYSTEM WATER FLOW SWITCH.
	TS	TAMPER SWITCH.
	B	SPRINKLER SYSTEM ELECTRIC ALARM BELL.
	MM	MONITOR MODULE

NOTE:
1. EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS. REFER TO GENERAL ELECTRICAL NOTES FOR WALL-MOUNTED DEVICE MOUNTING HEIGHTS AND BACK BOX REQUIREMENTS.
2. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS.
3. COMPLETE INSTALLATION OF ALL PRODUCTS SHALL BE IN COMPLIANCE WITH ALL CODES, INDUSTRY STANDARDS, COMMON PRACTICES AND MANUFACTURER'S INSTRUCTIONS.
4. CONTRACTOR SHALL PROVIDE BEAM SMOKE DETECTORS IN ALL HIGH CEILING AREAS AS REQUIRED BY CODE.

SEQUENCE OF OPERATIONS

1. WHEN A FIRE ALARM CONDITION IS DETECTED BY ANY OF THE SYSTEM ALARM INITIATING DEVICES THE CONTROL PANEL MUST RESPOND WITHIN 3 SECONDS, THE FOLLOWING FUNCTIONS OCCUR:
   - A. THE SYSTEM COMMON ALARM LED ON THE CPU MODULE SHALL FLASH. THE INTERNAL AUDIBLE TROUBLE DEVICE SHALL SOUND. ACKNOWLEDGEMENT OR SILENCING THE ALARM CONDITION SHALL SILENCE THE ALARM SIGNALS AND CAUSE FLASHING ALARM LED's TO ILLUMINATE STEADY.
   - B. AN BACK-LIT LCD DISPLAY SHALL INDICATE ALL APPLICABLE INFORMATION ASSOCIATED WITH THE ALARM CONDITION INCLUDING: ZONE, DEVICE TYPE, DIVIDE LOCATION AND TIME OF ALARM. LOCATION AND ZONING MESSAGES SHALL BE CUSTOM FIELD PROGRAMMED TO RESPECTIVE PREMISES. THE ALARM INFORMATION MUST BE STORED IN EVENT MEMORY FOR LATER REVIEW. EVENT MEMORY MUST BE AVAILABLE AT THE MAIN AND ALL REMOTE ANNUNCIATORS.
   - C. ANY REMOTE OR LOCAL ANNUNCIATOR LED's ASSOCIATED WITH THE ALARM ZONE SHALL BE ILLUMINATED AS HEREIN SPECIFIED.
   - D. A THREE CHANNEL DIGITAL ALARM COMMUNICATOR SHALL BE INTEGRALLY PROVIDED AND TRANSMIT TROUBLE AND ALARM SIGNALS TO AN APPROVED REMOTE STATION, (REMOTE STATION CONNECTION AND SERVICE PROVIDED BY OWNER).
   - E. WHEN THE ALARMED DEVICE IS RESTORED TO NORMAL, THE CONTROL PANEL SHALL BE REQUIRED TO BE MANUALLY RESET TO CLEAR THE ALARM CONDITION, EXCEPT THAT THE ALARMS MAY BE SILENCED AS PROGRAMMED.
   - F. AN ALARM SHALL BE SILENCED BY A CODE OR FIREFIGHTER KEY AT THE MAIN OR REMOTE ANNUNCIATORS. WHEN SILENCED, THIS SHALL NOT PREVENT THE RESOUNDING OF SUBSEQUENT EVENTS IF ANY OTHER EVENT SHOULD OCCUR, (SUBSEQUENT ALARM FEATURE). WHEN ALARMS ARE SILENCED THE SILENCED LED ON THE CONTROL PANEL AND ON ANY REMOTE ANNUNCIATORS SHALL REMAIN LIT UNTIL THE ALARMED DEVICE IS RETURNED TO NORMAL.
   - G. ALL AUTOMATIC EVENTS PROGRAMMED TO THE ALARM POINT SHALL BE EXECUTED AND THE ASSOCIATED INDICATING DEVICE AND/OR OUTPUTS ACTIVATED. AS EACH INDICATING CIRCUIT OR CONTROL RELAY IS ACTIVATED, ITS ASSOCIATED "ON" LED SHALL BE ILLUMINATED.
   - H. ACTIVATE ALL AUDIBLE/VISUAL ALARM DEVICES.
   - I. DE-ACTIVATE HVAC SYSTEMS OVER 2000 CFM IN AREA OF ALARM.
   - J. DISPLAY SYSTEM STATUS CHANGES ON THE REMOTE ANNUNCIATOR(S).
   - K. RELEASE ALL SMOKE DOOR, FIRE DOORS, FIRE COILING DOORS, FIRE SMOKE DAMPERS AND FIRE SHUTTERS.

AUDIO & VIDEO GENERAL NOTES

1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF EACH SYSTEM SHALL BE A DEDICATED CIRCUIT. THE INSTALLING CONTRACTOR'S LICENSED ELECTRICAL SUBCONTRACTOR SHALL COORDINATE ELECTRICAL PANEL LOCATIONS AND AVAILABLE SPACE DEDICATED FOR THE CONTRACTOR'S SYSTEM REQUIREMENTS (TYPICAL). ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER TO MAIN CONTROL PANELS AND ALL HEAD END EQUIPMENT.
2. THE PROJECT'S ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL IN WALL CONDUITS, BELOW GRADE CONDUITS, BELOW SLAB CONDUITS, CONDUITS ACROSS OPEN AREAS, BACK BOXES, SLEEVES AND PULL STRING REQUIRED FOR DEVICES AND PATHWAYS SHOWN ON THE FLOOR PLANS AND DETAIL SHEETS. ANY ADDITIONAL CONDUITS, SLEEVES, AND RACEWAY REQUIREMENTS FOR EACH SYSTEM SHALL BE THE RESPONSIBILITY OF EACH SYSTEM INSTALLER.
3. ALL EXPOSED WIRING OR WIRING ROUTING ACROSS NON ACCESSIBLE CEILINGS SHALL BE ROUTED IN CONDUIT. SIZE CONDUIT AS REQUIRED TO ROUTE SYSTEMS WITH 40% CABLE FILL RATIO. MINIMUM CONDUIT SIZE SHALL BE 3/4".
4. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL EXTERIOR WALL PENETRATIONS ARE PROPERLY SEALED TO PREVENT ELEMENTS FROM ENTERING BUILDING.
5. NO CONDUITS OR SEAL-TITE SHALL BE INSTALLED ON THE EXTERIOR OF THE BUILDING.
6. ALL CONDUIT STUB OUTS AND SLEEVES SHALL HAVE PROTECTIVE BUSHINGS TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE ACCEPTED. CONTRACTOR TO MAINTAIN A 40% MAXIMUM FILL RATION ON ALL SLEEVES INSTALLED.
7. ALL CABLE SHALL BE ROUTED DOWN CORRIDORS, PARALLEL AND PERPENDICULAR TO THE BUILDING WALLS AND STRUCTURE. CABLE TO EACH DEVICE SHALL BRANCH OFF OF A MAIN CORRIDOR TRUNK. ROUTING CABLES THROUGH CLASSROOMS, OFFICES, STORAGE ROOMS, RESTROOMS OR ANY TYPE OF ROOM OTHER THAN A CORRIDOR WILL NOT BE ACCEPTED. ENTER ALL ROOMS ABOVE THE ASSOCIATED ROOM DOORWAY.
8. THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM A PANDUIT J-MOD CABLE SUPPORT SYSTEM OR OTHER SUPPORT SYSTEM AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. THE CABLE SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. AT LOCATIONS WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING AT ANY LOCATIONS.
9. ALL EXTERIOR AND WALL MOUNTED SPEAKERS SHALL BE MOUNTED AT 10'-0" UNLESS OTHERWISE NOTED.
10. EXTERIOR SPEAKERS SHALL BE ON A SEPARATE LOW VOLTAGE CIRCUIT FROM INTERIOR SPEAKERS.
11. A/V CONTRACTOR SHALL COORDINATE ALL MOUNTING LOCATIONS OF ALL A/V DEVICES TO PROVIDE EVEN AND BALANCED AUDIO COVERAGE OF INTENDED LISTENING AREAS AND UNOBSTRUCTED, SQUARE AND PLUMB VIDEO IMAGE DISPLAYS.
12. ALL LAY-IN CEILING MOUNTED SPEAKERS AND DEVICES SHALL BE INSTALLED UTILIZING A TILE BRIDGE SUPPORT SYSTEM. AT NO POINT SHOULD THE WEIGHT OF A CEILING MOUNTED DEVICE BE SUPPORTED BY A CEILING TILE ALONE.
13. A/V CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL CONDUIT AND BACK BOX REQUIREMENTS.
14. A/V CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES WITH REGARD TO BLOCKING AND PROPER SUPPORT OF ALL A/V DEVICES.
15. PROVIDE MOUNTING SUPPORT FROM GRID OR BUILDING STRUCTURE FOR ALL DEVICES INSTALLED IN LAY-IN CEILING TILE.

SECURITY GENERAL NOTES

1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF THE ACCESS CONTROL, BURGLAR ALARM, AND SECURITY CAMERA SYSTEMS SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. SECURITY CONTRACTOR SHALL COORDINATE ALL 120V POWER REQUIREMENTS AND LOCATIONS WITH ELECTRICAL CONTRACTOR FOR ALL EQUIPMENT AND REMOTE POWER SUPPLIES (TYPICAL)
2. A DOOR CONTACT POSITION SENSOR IS REQUIRED AT ALL ROOF HATCHES (TYPICAL).
3. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY CONDUIT, SLEEVES, AND PROTECTIVE BUSHINGS REQUIRED TO INSTALL COMPLETE SECURITY SYSTEM. PROVIDE ALL CONDUITS REQUIRED AT EXTERIOR DOORS ANNOTATED WITH DOOR CONTACTS OR CARD READERS TO ALLOW FOR INSTALLATION OF DOOR CONTACT POSITION SENSORS AND CARD READERS.
4. SECURITY CONTRACTOR IS RESPONSIBLE FOR CONNECTING SYSTEM TO DISTRICT'S REMOTE MONITORING SERVICE.
5. ALL EXPOSED SECURITY SYSTEMS WIRING OR WIRING ROUTING ACROSS NON ACCESSIBLE CEILINGS SHALL BE ROUTED IN CONDUIT. SIZE CONDUIT AS REQUIRED TO ROUTE SYSTEMS WITH 40% CABLE FILL RATIO. MINIMUM CONDUIT SIZE SHALL BE 3/4"
6. PROVIDE PROTECTIVE COVER FOR ALL DEVICES IN GYMNASIUM AREAS.
7. ENSURE ALL EXTERIOR WALL PENETRATIONS ARE PROPERLY SEALED TO PREVENT ELEMENTS FROM ENTERING BUILDING.
8. NO CONDUITS OR SEAL-TITE SHALL BE INSTALLED ON THE EXTERIOR OF THE BUILDING.
9. ALL LOW VOLTAGE CABLING SHALL BE INDIVIDUALLY ROUTED TO HEAD END POINT AND SUPPORTED IN PROPER CABLE SUPPORT SYSTEM FOR ENTIRE LENGTH OF RUN.
10. ALL EXTERIOR CAMERAS SHALL BE MOUNTED 12' ABOVE FINISHED GRADE UNLESS OTHERWISE INDICATED.
11. ALL CONDUIT STUB OUTS AND SLEEVES SHALL HAVE PROTECTIVE BUSHINGS TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE ACCEPTED.
12. CONTRACTOR SHALL CONNECT FREEZER/COOLER SENSORS TO INTRUSION DETECTION HEAD-END FOR EVENT DETECTION. PROVIDE ALL REQUIRED MODULES TO INTERFACE SENSORS.
13. CONTRACTOR SHALL PROVIDE ALL VIDEO SURVEILLANCE CAMERA MOUNTS AND MOUNTING HARDWARE. COORDINATE WITH OWNER FOR FINAL INSTALLATION LOCATION PRIOR TO ROUGH-IN. PROVIDE CAMERA FIELD OF VIEW ADJUSTMENTS. COORDINATE WITH OWNER.
14. CONTRACTOR SHALL INTEGRATE THE INSTRUSION DETECTION SYSTEM WITH THE ACCESS CONTROL SYSTEM TO PROVIDE THE FUNCTIONALITY OF THE BURGLAR ALARM BEING DISARMED ON AN AUTHORIZED CARD SWIPE AT ANY CARD READER.
15. CONTRACTOR SHALL INTEGRATE THE ACCESS CONTROL, INTRUSION DETECTION AND VIDEO SURVEILLANCE SYSTEMS. PROVIDE ALL REQUIRED MODULES, CABLING AND LICENSES.
16. PROVIDE MOUNTING SUPPORT FROM GRID OR BUILDING STRUCTURE FOR ALL DEVICES INSTALLED IN LAY-IN CEILING TILE.
17. ALL 120V POWER FOR THE SYSTEMS SHALL BE INSTALLED WITHIN THE ENCLOSURE OR INSTALLED IN CONDUIT CONNECTED TO THE ENCLOSURE SO THAT NO CABLING IS EXPOSED. MC CABLE, ROMEX, SO CABLES OR OTHER METHODS ARE NOT ACCEPTABLE.

SECURITY SYSTEMS LEGEND

GROUP	SYMBOL	DESCRIPTION
DEVICES		A FOOT ADDED TO ANY SYMBOL INDICATES A WALL MOUNTED DEVICE. THE CONTRACTOR SHALL VERIFY MOUNTING SURFACE PRIOR TO INSTALLATION. PENETRATIONS THROUGH BRICK, INCLUDING THE EXTERIOR MECHANICAL YARD WALL, SHALL BE CORE-DRILLED, SLEEVED, AND SEALED WITH EXTERIOR-RATED MATERIALS PER DISTRICT AND CODE REQUIREMENTS. REFER TO SHEET T-901, DETAIL #2
	1-SENSOR 2-SENSOR MULTI-SENSOR FISH-EYE	INDICATES THE LOCATION OF A NEW IP SECURITY CAMERA. FOR WALL MOUNT AND EXTERIOR CAMERAS, ELECTRICAL CONTRACTOR SHALL PROVIDE A SINGLE GANG BOX, FLUSH MOUNT AT 12' A.F.F. WITH 1" CONDUIT STUBBED OUT ABOVE NEAREST ACCESSIBLE CEILING. TECHNOLOGY CONTRACTOR SHALL PROVIDE (1) GREEN DATA CABLE ROUTED TO NEAREST IDF. PROVIDE A 10' SERVICE LOOP AT EACH END POINT. FOR EXTERIOR CAMERAS, PROVIDE AN RJ45 BISCUIT WITH A TERMINATED WHIP ROUTED TO CAMERA LOCATION. PROVIDE ALL REQUIRED CONNECTORS AND DEVICES TO PROVIDE FULL FUNCTIONALITY OF CAMERA. PROPERLY SEAL BUILDING PENETRATIONS TO PREVENT EXTERIOR ELEMENTS FROM ENTERING BUILDING. SURFACE MOUNTED CONDUITS ARE NOT PERMITTED.
	ACP	ACCESS CONTROL PANEL MOUNTED ON WALL. ELECTRICAL CONTRACTOR TO PROVIDE 120V. POWER TO PANEL. PROVIDE (1) NETWORK CABLE TO PANEL. COORDINATE WITH DISTRICT TECHNOLOGY DEPARTMENT ON ACQUIRING AN IP ADDRESS.
	CR	ACCESS CONTROL PROXIMITY CARD READER. MOUNT AT 42" A.F.F. PROVIDE ALTRONIX LPD FOR EACH CARD READER. "M" INDICATES A MULLION MOUNTED READER.
	DC	DOOR POSITION SENSOR.

NOTE:
1. EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS. REFER TO GENERAL ELECTRICAL NOTES FOR WALL-MOUNTED DEVICE MOUNTING HEIGHTS.
2. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS.
3. COMPLETE INSTALLATION OF ALL PRODUCTS SHALL BE IN COMPLIANCE WITH ALL CODES, INDUSTRY STANDARDS, COMMON PRACTICES AND MANUFACTURER'S INSTRUCTIONS.

INTERCOM AND CLOCK LEGEND

NOTE: EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS. REFER TO GENERAL ELECTRICAL NOTES FOR WALL-MOUNTED DEVICE MOUNTING HEIGHTS.

GROUP	SYMBOL	DESCRIPTION
DEVICES	S	INTERCOM SPEAKER, FLUSH MOUNTED IN CEILING. SUBSCRIPT "IP" INDICATES AN SPEAKER REQUIRING (1) DATA DROP.
	S	INTERCOM SPEAKER, FLUSH MOUNTED MOUNTED IN WALL. PROVIDE EXTERIOR RATED SPEAKERS INSTALLED ON BUILDING EXTERIOR. SUBSCRIPT "IP" INDICATES AN SPEAKER REQUIRING (1) DATA DROP.
	VC	SPEAKER VOLUME CONTROL, FLUSH MOUNTED IN WALL. 2 GANG EXTRA DEEP BACK BOX WITH SINGLE GANG REDUCER RING AT PROJECT SWITCH HEIGHT WITH (1) 3/4" CONDUIT STUBBED OUT ABOVE ACCESSIBLE CEILING IN SAME ROOM.

NOTE:
1. EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS. REFER TO GENERAL ELECTRICAL NOTES FOR WALL-MOUNTED DEVICE MOUNTING HEIGHTS.
2. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS.
3. COMPLETE INSTALLATION OF ALL PRODUCTS SHALL BE IN COMPLIANCE WITH ALL CODES, INDUSTRY STANDARDS, COMMON PRACTICES AND MANUFACTURER'S INSTRUCTIONS.
4. PROVIDE CLEAR POLYCARBONATE COVER OR WIREGUARD ON ALL DEVICES INSTALLED IN GYMNASIUMS.

TECHNOLOGY PLAN GENERAL NOTES

1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF THE TELECOMMUNICATION, NETWORK, AUDIO/VIDEO, SECURITY AND FIRE ALARM EQUIPMENT SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHERE POSSIBLE. CONTRACTOR SHALL COORDINATE AND INSTALL ALL 120V POWER REQUIREMENTS AND LOCATIONS AS REQUIRED FOR ALL EQUIPMENT (TYPICAL).
2. CONTRACTOR SHALL COORDINATE WITH THE TECHNOLOGY CONSULTANT PRIOR TO THE INSTALLATION OF RACKS AND RACK EQUIPMENT. NO RACKS SHALL BE PERMANENTLY INSTALLED WITHOUT WRITTEN APPROVAL OF THE TECHNOLOGY CONSULTANT.
3. THE PROJECT'S ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONDUITS, PULL STRINGS, BACK BOXES AND SLEEVES REQUIRED FOR DEVICES AND PATHWAYS SHOWN ON THE FLOOR PLANS AND DETAIL SHEETS. ANY ADDITIONAL CONDUITS, SLEEVES, AND RACEWAY REQUIREMENTS FOR EACH SYSTEM SHALL BE THE RESPONSIBILITY OF EACH SYSTEM INSTALLER.
4. THE SELECTED, INSTALLING CONTRACTOR MUST BE A CERTIFIED INTEGRATOR/INSTALLER AUTHORIZED BY THE SPECIFIED SYSTEM MANUFACTURER TO INSTALL THE CABLE PLANT AND CONNECTIVITY PRODUCTS. REFER TO SPECIFICATIONS FOR PRODUCT TYPE AND DESCRIPTION.
5. SYSTEM WIRING AND EQUIPMENT INSTALLATION SHALL BE IN ACCORDANCE WITH ENGINEERING BEST PRACTICES AS ESTABLISHED BY ANSI/EIA/TIA, BICSI, AND THE NEC.
6. ALL WIRING SHALL MEET ALL STATE AND LOCAL ELECTRICAL CODES.
7. ALL TELECOMMUNICATIONS SYSTEMS EQUIPMENT AND MOUNTING LOCATIONS SHALL BE IN COMPLIANCE WITH ADA ACCESSIBILITY STANDARDS.
8. ALL DATA CABLES ARE TO BE INSTALLED WITH A MINIMUM OF 12 INCHES OF SEPARATION FROM AC POWER CABLES AND ALL OTHER LOW VOLTAGE CABLING IN ANY PARALLEL OPEN WIRE RUN.
9. ALWAYS CROSS OTHER SYSTEM CABLES AT A 90 DEGREE ANGLE.
10. ALL CABLES AND TERMINATION COMPONENTS SHALL BE MACHINE LABELED AT BOTH ENDS. LABEL ALL CABLES PER THE TECHNOLOGY DRAWINGS AND/OR SPECIFICATIONS. FINAL CABLE/OUTLET IDENTIFICATION LABELS SHALL BE COORDINATED WITH THE OWNER AND CONSULTANT.
11. CONTRACTOR TO PROVIDE LIGHTNING PROTECTION ON ALL COMMUNICATION CABLE BETWEEN BUILDINGS AND EXTERIOR MOUNTED DEVICES.
12. ALL EXPOSED CABLING ROUTED IN PLENUM SHALL BE PLENUM-RATED. ALL NON PLENUM-RATED CABLING INSTALLED IN PLENUM SPACES SHALL BE INSTALLED IN CONDUIT.
13. NO TERMINATION OR SPLICES SHALL BE INSTALLED IN OR ABOVE CEILINGS UNLESS NOTED OTHERWISE.
14. CONTRACTOR SHALL MAINTAIN WALL RATING WITH PROPER FIRE BLOCKING METHODS.
15. CONTRACTOR SHALL ROUTE ALL LOW VOLTAGE CABLING DOWN CORRIDORS AND PERPENDICULAR OR PARALLEL TO BUILDING WALLS. ENTER INTO ALL ROOMS FROM THE CORRIDOR ABOVE THE MAIN DOORWAY.
16. ALL COMMUNICATION CABLE INSTALLED SHALL ROUTE TO THE CENTER OF THE ROOM IN WHICH IT SERVES AND THEN TO THE OUTLET LOCATION IT IS INTENDED FOR. EACH CABLE SHALL HAVE A 10' SERVICE LOOP AT THE CENTER OF EACH ROOM AND A 3' SERVICE LOOP ABOVE EACH OUTLET LOCATION.
17. THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM A PANDUIT J-MOD CABLE SUPPORT SYSTEM OR OTHER SUPPORT SYSTEM AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. CABLING SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. IN LOCATIONS WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING IN ANY LOCATION.
18. CONTRACTOR SHALL PROVIDE TWO (2) DATA CABLES ROUTED TO THE FIRE ALARM CONTROL PANEL. CONTRACTOR TO COORDINATE WITH THE SYSTEM INSTALLER FOR EXACT LOCATIONS AND TERMINATION INSTRUCTIONS PRIOR TO INSTALLATION.
19. ALL EXPOSED CABLING OR CABLING ROUTING ACROSS NON-ACCESSIBLE CEILINGS SHALL BE INSTALLED IN CONDUIT. CONDUIT SHALL BE PROPERLY SIZED TO MAINTAIN THE 40% FILL RATIO.
20. ALL CONDUIT STUB OUTS AND SLEEVES SHALL HAVE PROTECTIVE BUSHINGS TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE ACCEPTED. CONTRACTOR TO MAINTAIN A 40% MAXIMUM FILL RATION ON ALL SLEEVES INSTALLED.
21. CONTRACTOR SHALL PROVIDE TWO (2) DATA CABLES TO THE ACCESS CONTROL HEAD-END. CONTRACTOR TO COORDINATE WITH THE SYSTEM INSTALLER FOR EXACT LOCATIONS AND TERMINATION INSTRUCTIONS PRIOR TO INSTALLATION.
22. CONTRACTOR TO PROVIDE TWO (2) DATA CABLES TO THE BUILDING AUTOMATION SYSTEM AT EACH BAS HEAD-END LOCATION. CONTRACTOR TO COORDINATE WITH THE SYSTEM INSTALLER FOR EXACT LOCATIONS AND TERMINATION INSTRUCTIONS PRIOR TO INSTALLATION.
23. CONTRACTOR SHALL PROVIDE (1) DATA CABLE FOR EACH IP CAMERA AND IP SPEAKER ROUTED TO NEAREST IDF. COORDINATE WITH OTHER TRADES.
24. CONTRACTOR SHALL PROVIDE (1) DATA CABLE TO THE INTRUSION DETECTION SYSTEM HEAD-END

TECHNOLOGY LEGEND

GROUP	SYMBOL	DESCRIPTION
DEVICES	▽	INDICATES THE LOCATION OF A NEW TECHNOLOGY OUTLET. CONTRACTOR TO PROVIDE FACEPLATE WITH A MINIMUM OF 4-PORTS AT EACH LOCATION UNLESS OTHERWISE NOTED. PROVIDE BLANK COVERS ON UNUSED PORTS. ELECTRICAL CONTRACTOR TO PROVIDE A DOUBLE GANG BACK BOX WITH A SINGLE GANG REDUCER RING AND A 1" CONDUIT FROM THE BOX TO THE NEAREST ACCESSIBLE CEILING. D# INDICATES NUMBER OF BLUE DATA CABLES INSTALLED AT THIS LOCATION.
		INDICATES THE LOCATION OF A CEILING MOUNTED OUTLET. CONTRACTOR SHALL MOUNT THIS OUTLET AT +12" ABOVE THE CEILING AND COORDINATE ALL FINAL LOCATIONS WITH OTHER TRADES ON THE PROJECT TO VERIFY THAT THE LOCATION OF THE OUTLET MAINTAINS 12" OF CLEARANCE FROM THE FRONT OF THE FACEPLATE FOR OWNER ACCESS. ROUTE (1) 1" CONDUIT FROM THE BUILDING STRUCTURE TO A SINGLE GANG BACK BOX MOUNTED AT 5' OR LESS ABOVE THE FINISHED CEILING. SECURE CONDUIT AND BACK BOX TO INSURE MINIMAL SWAY MOVEMENT. D# INDICATES NUMBER OF BLUE DATA CABLES INSTALLED AT THIS LOCATION.
		INDICATES THE LOCATION OF A FLOOR MOUNTED OUTLET. CONTRACTOR TO PROVIDE AND INSTALL (2) 1-1/2" CONDUITS FROM BOX TO NEAREST ACCESSIBLE CEILING. D# INDICATES NUMBER OF DATA CABLES INSTALLED AT THIS LOCATION.
	'AVI'	INDICATES THE LOCATION OF A TEACHER PRESENTATION STATION. PROVIDE A RACO 260 BOX WITH SINGLE-GANG REDUCER RING MOUNTED AT 18" AFF. THE AVI OUTLET SHALL INCLUDE AUDIO/VIDEO INPUT CONNECTIONS AND (2) DATA PORTS. AVI CABLING SHALL BE CFCI AND ROUTED TO THE ASSOCIATED AVO LOCATION. PROVIDE COMPLETE CABLING, TERMINATIONS, AND DEVICES BETWEEN AVI AND AVO. REFER TO DETAILS FOR ADDITIONAL INFORMATION.
	'AVO'	INDICATES THE LOCATION OF AN AUDIO-VIDEO OUTLET. PROVIDE A RACO 260 BOX WITH SINGLE GANG REDUCER RING @ 18" AFF. PROVIDE COMPLETE CABLING AND DEVICES BETWEEN AVI AND AVO. REFER TO DETAILS FOR ADDITIONAL INFORMATION. CABLING IS CFCI
	'AP'	INDICATES WIRELESS ACCESS POINT CONNECTION. CONTRACTOR SHALL PROVIDE AND INSTALL (1) YELLOW CAT6A CABLE ROUTED TO NEAREST IDF. PROVIDE BOX AND CONDUIT AS NOTED FOR CEILING MOUNTED OUTLETS. PROVIDE (1) 15' PLENUM PATCH CABLE FOR EACH LOCATION INSTALLED. PROVIDE 10' SERVICE LOOP UPSTREAM OF TERMINATION POINT. WALL MOUNTED DEVICES SHALL BE INSTALLED AT 10' A.F.F.
	'LCD'	INDICATES WALL MOUNTED LCD DISPLAY. CONTRACTOR TO PROVIDE AND INSTALL A RACO 260 BOX WITH 2 GANG MUD RING AT 60" A.F.F. WITH (1) 2" CONDUITS STUBBED OUT ABOVE NEAREST ACCESSIBLE CEILING AND (1) CAT6/6A CABLE ROUTED TO NEAREST IDF. PROVIDE ALL REQUIRED TERMINATION HARDWARE. ELECTRICAL CONTRACTOR SHALL PROVIDE A DEDICATED CIRCUIT.
	V	INDICATES A CEILING-MOUNTED HALO 3C VAPE DETECTOR. PROVIDE (1) DATA CABLE.

NOTE:
1. EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS. REFER TO GENERAL ELECTRICAL NOTES FOR WALL-MOUNTED DEVICE MOUNTING HEIGHTS.
2. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS.
3. COMPLETE INSTALLATION OF ALL PRODUCTS SHALL BE IN COMPLIANCE WITH ALL CODES, INDUSTRY STANDARDS, COMMON PRACTICES AND MANUFACTURER'S INSTRUCTIONS.
4. ALL CONDUIT STUB-OUTS SHALL BE EQUIPPED WITH A PLASTIC PROTECTIVE BUSHING TO PREVENT CABLE DAMAGE.

TECHNOLOGY

Sheet Number	Sheet Name
T-000	TECHNOLOGY SYSTEM NOTES AND LEGENDS
T-101	TECHNOLOGY CABLE ROUTING PLAN
T-102	TECHNOLOGY CONDUIT ROUTING (NORTH-ELEVATION)
T-103	TECHNOLOGY CONDUIT ROUTING (SOUTH-ELEVATION)
A-TS-101	COMPOSITE - TECHNOLOGY SITE PLAN - TOMBALL HS
A-TS-102	TECHNOLOGY SITE PLAN - TOMBALL HS
TF-101	1ST FLOOR FIRE ALARM PLAN - COMPOSITE
TN-101	1ST FLOOR TECHNOLOGY PLAN - COMPOSITE
TN-501	MDF / IDF ENLARGED DETAILS
TN-601	MDF / IDF ELEVATION DETAILS
TN-701	TECHNOLOGY DETAILS

RESPONSIBILITY MATRIX

SCOPE ITEM	RESPONSIBILITY			NOTES
COMMUNICATIONS - DIVISION 27	OFOI	CFCI	OFCI	
FIBER OPTIC CABLING SYSTEM		✓		SEE NOTE 1.
CATEGORY 6/6A STRUCTURED CABLING SYSTEM		✓		SEE NOTE 1.
VIDEO DISTRIBUTION SYSTEM - SPECIALSPACE	✓			SEE NOTE 4.
AUDIO DISTRIBUTION SYSTEM - SPECIAL SPACE	✓			SEE NOTE 4.
VIDEO DISTRIBUTION SYSTEM - INSTRUCTIONAL SPACE				SEE NOTE 3.
AUDIO DISTRIBUTION SYSTEM - INSTRUCTIONAL SPACE				SEE NOTE 3.
PROJECTORS	✓			SEE NOTE 4.
PROJECTOR MOUNTS	✓			SEE NOTE 4.
FLAT PANEL DISPLAYS	✓			SEE NOTE 4.
FLAT PANEL DISPLAY MOUNTS	✓			SEE NOTE 4.
INTERACTIVE DISPLAYS				SEE NOTE 3.
INTERACTIVE DISPLAY MOUNTS				SEE NOTE 3.
DIGITAL SIGNAGE				SEE NOTE 3.
POWERED PROJECTION SCREENS				SEE NOTE 3.
BUILDING INTERCOM/PA, BELL, AND CLOCK SYSTEM		✓		SEE NOTE 1.
NETWORK EQUIPMENT				
→ MDF/IDF NETWORK EQUIPMENT		✓		SEE NOTE 1.
→ VOIP TELEPHONES				
→ WIRELESS ACCESS POINTS		✓		SEE NOTE 1.
→ UNITERRUPTABLE POWER SUPPLIES (UPS)				
RACEWAY: CONDUIT, BACK BOXES, SLEEVES, ETC.		✓		SEE NOTE 1.
ELECTRICAL POWER		✓		SEE NOTE 2.
LIFE SAFETY AND SECURITY - DIVISION 28	OFOI	CFCI	OFCI	
ACCESS CONTROL SYSTEM(ACS)		✓		SEE NOTE 1.
INTRUSION DETECTION SYSTEM				SEE NOTE 3.
DOOR ACCESS VIDEO INTERCOM SYSTEM				SEE NOTE 3.
VIDEO SURVEILLANCE SYSTEM (VSS)				SEE NOTE 1.
→VSS SERVERS		✓		SEE NOTE 1.
→VSS CAMERAS		✓		SEE NOTE 1.
→VSS PROGRAMMING		✓		SEE NOTE 1.
→VSS CABLING		✓		SEE NOTE 1.
FIRE ALARM SMOKE DETECTION WITH VOICE EVACUATION		✓		SEE NOTE 1.
RACEWAY: CONDUIT, BACK BOXES, SLEEVES, ETC.		✓		SEE NOTE 1.
ELECTRICAL POWER		✓		SEE NOTE 2.

OFOI - OWNER FURNISHED AND OWNER INSTALLED
CFCI - CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED
OFCI - OWNER FURNISHED AND CONTRACTOR INSTALLED

REPONSIBILITY MATRIX NOTES:
1. BASE BID
2. BY DIVISION 26
3. NO SCOPE IN PROJECT.
4. BY OTHERS.

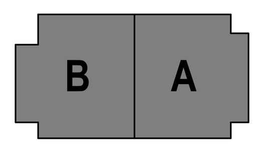
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Tomball ISD-Multi-Program Activity Center-Tomball High School

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KEY PLAN

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STATE OF TEXAS
MATTHEW R. SICKOREZ
107736
LICENSED
PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE 10/30/2026	PROJECT NUMBER 25046901

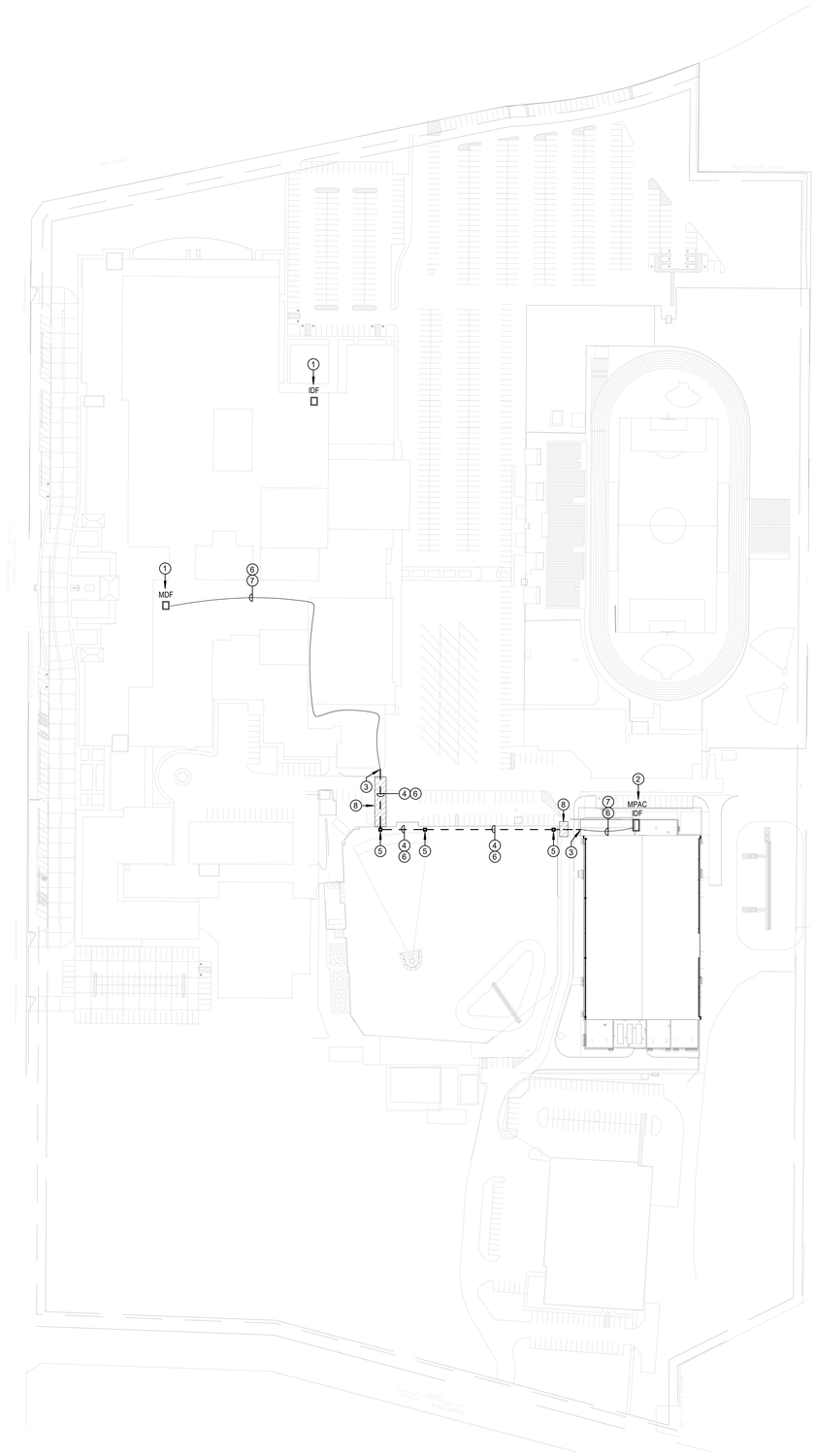
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TECHNOLOGY SYSTEM NOTES AND LEGENDS

T-000



1 **COMPOSITE - TECHNOLOGY SITE PLAN - TOMBALL HS**
SCALE: 1" = 100'-0"

TECHNOLOGY SITE PLAN GENERAL NOTES

A. "LOW VOLTAGE SITE SCOPE OF WORK": THE CONTRACTOR SHALL EXTEND THE EXISTING SCHOOL LOW VOLTAGE INFRASTRUCTURE, INCLUDING ACCESS CONTROL, INTRUSION DETECTION, FIRE ALARM, PUBLIC ADDRESS, AND STRUCTURED CABLING SYSTEMS, TO THE NEW MPAC SPORTS FACILITY BUILDING.
B. ROUTE CABLING FROM THE EXISTING MDF THROUGH NEW EXTERIOR NEMA ENCLOSURES, THROUGH NEW UNDERGROUND CONDUIT PATHWAYS, AND TO THE NEW MPAC IDF ROOM. PROVIDE ALL REQUIRED INNERDUCTS, PULL STRINGS, FITTINGS, SUPPORTS, TERMINATIONS, TESTING, LABELING, AND ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM.

C. ALL CONDUITS AND PULL BOXES SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
D. CONDUIT PATHWAYS AND PULL BOX LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY PROPER PATHWAYS AND LOCATIONS PRIOR TO INSTALLATION.

E. COORDINATE ROUTING FOR ALL UNDERGROUND LOW VOLTAGE CONDUITS WITH OTHER DISCIPLINES PRIOR TO TRENCHING.

F. ALL IN GROUND PULL BOXES SHALL BE EQUIPPED WITH A 48" DEEP GRAVEL DRY WELL TO ALLOW FOR DRAINAGE. SEE CIVIL PLANS FOR DETAILS.

G. TECHNOLOGY CABLING CONTRACTOR SHALL SEAL ALL OPEN CONDUIT ENDS WITH A PERMAGUM SEALING COMPOUND / GUM AFTER CABLING IS INSTALLED.

H. CONTRACTOR SHALL VERIFY PROPER CONDUIT PATHWAY PRIOR TO INSTALLATION.

I. CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES INCURRED DURING CONSTRUCTION.

J. ALL SYSTEMS IN THE EXISTING MDF SHALL REMAIN FULLY OPERATIONAL THROUGHOUT CONSTRUCTION.

K. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS ON ALL ITEMS LISTED BELOW.

SITE PLAN LEGEND

= INDICATES A FREE WIRED CABLE RUN
(CABLES SHALL BE ROUTED OVERHEAD THROUGH CORRIDORS)

= INDICATES AN UNDERGROUND CABLE RUN

= INDICATES A SECTION OF CABLE REQUIRING BORING/SAWCUTTING

(#) TECHNOLOGY SITE PLAN KEYED NOTES

1. INDICATES THE LOCATION OF AN EXISTING MDF/IDF LOCATED IN THE SCHOOL.

2. INDICATES THE LOCATION OF THE NEW IDF LOCATED IN THE MPAC FACILITY.

3. PROVIDE AND INSTALL A NEW 24" X 24" X 12" NEMA ENCLOSURE FOR LOW VOLTAGE CABLING. REFER TO SHEET TN-701, #8 FOR DETAILS.

4. PROVIDE (2) 3" UNDERGROUND CONDUITS FROM NEMA 4 ENCLOSURE TO NEW PULL BOX, COMPLETE WITH PULL STRINGS AND INNERDUCTS.

5. PROVIDE NEW 24" X 36" X 24" UNDERGROUND PULL BOX, INSTALLED FLUSH WITH GRADE, WITH COVER RATED FOR INSTALLATION LOCATION. PROVIDE AT CHANGES OF DIRECTION EXCEEDING 180 DEGREES AND AT INTERVALS NOT EXCEEDING 250 FEET. PROVIDE LONG SWEEP BENDS FOR ALL CONDUITS ENTERING, EXITING, AND ALONG THE ROUTE. DO NOT INSTALL PULL BOXES IN SIDEWALKS. COORDINATE EXACT LOCATION WITH FIELD CONDITIONS PRIOR TO INSTALLATION.

6. PROVIDE AND INSTALL A NEW 24-STRAND SINGLE-MODE FIBER OPTIC CABLE WITH INDOOR/OUTDOOR PLENUM-RATED JACKET ROUTED FROM MDF TO NEW IDF INDICATED.

7. FREE-WIRED CABLING SHALL BE ROUTED OVERHEAD THROUGH ACCESSIBLE CORRIDORS AND CEILING SPACES. COORDINATE EXACT ROUTING WITH FIELD CONDITIONS.

8. INDICATES CONCRETE PATHWAY. CONTRACTOR SHALL HORIZONTALLY BORE BENEATH CONCRETE PATHWAY TO INSTALL CABLING/CONDUIT BETWEEN EXISTING LANDSCAPED AREAS. NO SAWCUTTING OR REMOVAL OF CONCRETE SHALL BE PERMITTED UNLESS OTHERWISE APPROVED.

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LEAF ENGINEERS

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STATE OF TEXAS
MATTHEW R. SICKORE
107736
LICENSED
PROFESSIONAL
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

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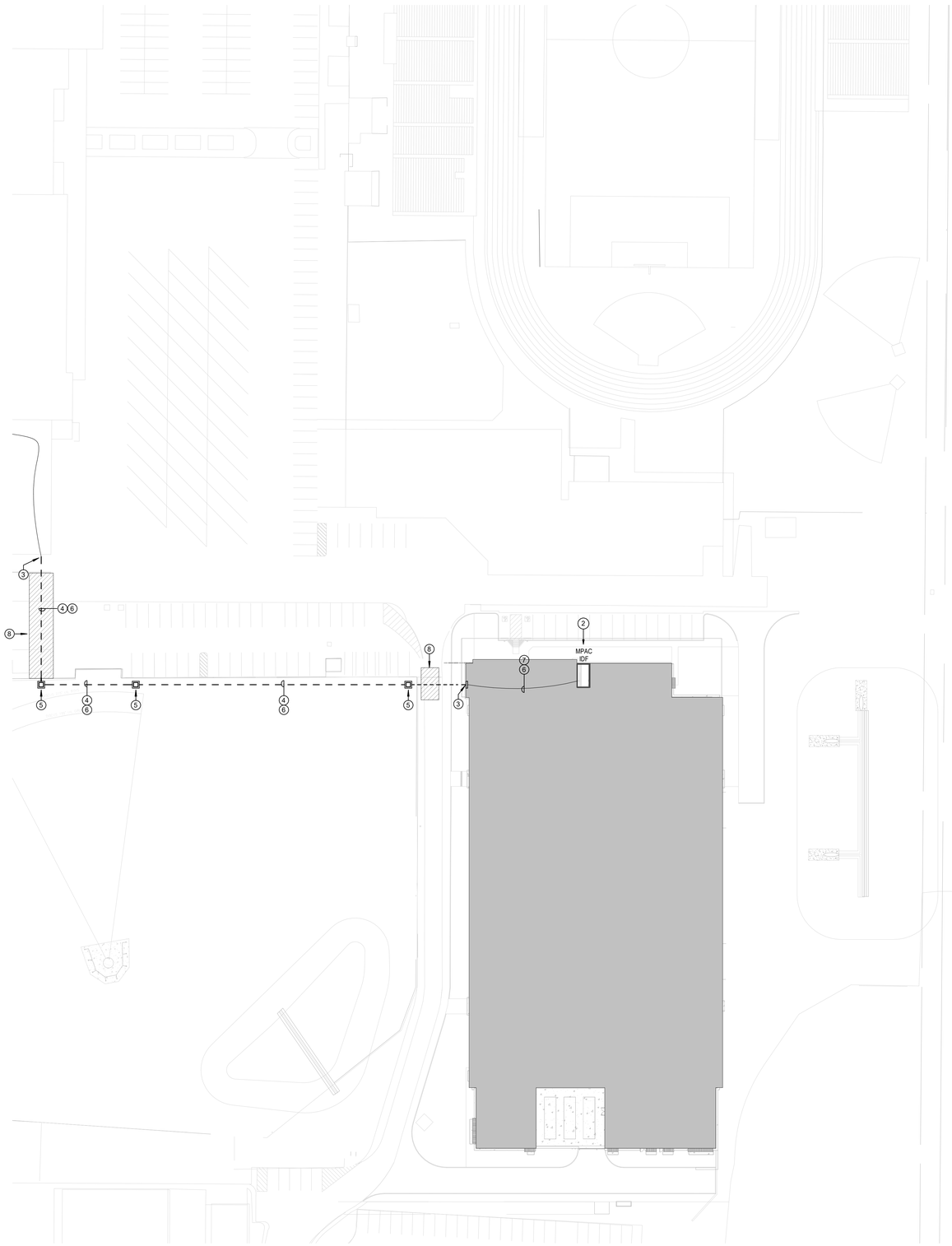
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COMPOSITE - TECHNOLOGY SITE PLAN - TOMBALL HS

TS-101

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10/30/2026 9:00:05 AM



1 **TECHNOLOGY SITE PLAN - TOMBALL HS**
SCALE: 1" = 40'-0"

TECHNOLOGY SITE PLAN GENERAL NOTES

A. "LOW VOLTAGE SITE SCOPE OF WORK": THE CONTRACTOR SHALL EXTEND THE EXISTING SCHOOL LOW VOLTAGE INFRASTRUCTURE, INCLUDING ACCESS CONTROL, INTRUSION DETECTION, FIRE ALARM, PUBLIC ADDRESS, AND STRUCTURED CABLING SYSTEMS, TO THE NEW MPAC SPORTS FACILITY BUILDING.
B. ROUTE CABLING FROM THE EXISTING MDF THROUGH NEW EXTERIOR NEMA ENCLOSURES, THROUGH NEW UNDERGROUND CONDUIT PATHWAYS, AND TO THE NEW MPAC IDF ROOM. PROVIDE ALL REQUIRED INNERDUCTS, PULL STRINGS, FITTINGS, SUPPORTS, TERMINATIONS, TESTING, LABELING, AND ACCESSORIES FOR A COMPLETE AND OPERATIONAL SYSTEM.

C. ALL CONDUITS AND PULL BOXES SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.
D. CONDUIT PATHWAYS AND PULL BOX LOCATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY PROPER PATHWAYS AND LOCATIONS PRIOR TO INSTALLATION.

E. COORDINATE ROUTING FOR ALL UNDERGROUND LOW VOLTAGE CONDUITS WITH OTHER DISCIPLINES PRIOR TO TRENCHING.

F. ALL IN GROUND PULL BOXES SHALL BE EQUIPPED WITH A 48" DEEP GRAVEL DRY WELL TO ALLOW FOR DRAINAGE. SEE CIVIL PLANS FOR DETAILS.

G. TECHNOLOGY CABLING CONTRACTOR SHALL SEAL ALL OPEN CONDUIT ENDS WITH A PERMAGUM SEALING COMPOUND / GUM AFTER CABLING IS INSTALLED.

H. CONTRACTOR SHALL VERIFY PROPER CONDUIT PATHWAY PRIOR TO INSTALLATION.

I. CONTRACTOR IS RESPONSIBLE FOR DAMAGE TO EXISTING UTILITIES INCURRED DURING CONSTRUCTION.

J. ALL SYSTEMS IN THE EXISTING MDF SHALL REMAIN FULLY OPERATIONAL THROUGHOUT CONSTRUCTION.

K. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS ON ALL ITEMS LISTED BELOW.

SITE PLAN LEGEND

= INDICATES A FREE WIRED CABLE RUN
(CABLES SHALL BE ROUTED OVERHEAD THROUGH CORRIDORS)

= INDICATES AN UNDERGROUND CABLE RUN

= INDICATES A SECTION OF CABLE REQUIRING BORING/SAWCUTTING

(#) TECHNOLOGY SITE PLAN KEYED NOTES

1. INDICATES THE LOCATION OF AN EXISTING MDF/IDF LOCATED IN THE SCHOOL.

2. INDICATES THE LOCATION OF THE NEW IDF LOCATED IN THE MPAC FACILITY.

3. PROVIDE AND INSTALL A NEW 24" X 24" X 12" NEMA ENCLOSURE FOR LOW VOLTAGE CABLING. REFER TO SHEET TN-701, #8 FOR DETAILS.

4. PROVIDE (2) 3" UNDERGROUND CONDUITS FROM NEMA 4 ENCLOSURE TO NEW PULL BOX, COMPLETE WITH PULL STRINGS AND INNERDUCTS.

5. PROVIDE NEW 24" X 36" X 24" UNDERGROUND PULL BOX, INSTALLED FLUSH WITH GRADE, WITH COVER RATED FOR INSTALLATION LOCATION. PROVIDE AT CHANGES OF DIRECTION EXCEEDING 180 DEGREES AND AT INTERVALS NOT EXCEEDING 250 FEET. PROVIDE LONG SWEEP BENDS FOR ALL CONDUITS ENTERING, EXITING, AND ALONG THE ROUTE. DO NOT INSTALL PULL BOXES IN SIDEWALKS. COORDINATE EXACT LOCATION WITH FIELD CONDITIONS PRIOR TO INSTALLATION.

6. PROVIDE AND INSTALL A NEW 24-STRAND SINGLE-MODE FIBER OPTIC CABLE WITH INDOOR/OUTDOOR PLENUM-RATED JACKET ROUTED FROM MDF TO NEW IDF INDICATED.

7. FREE-WIRED CABLING SHALL BE ROUTED OVERHEAD THROUGH ACCESSIBLE CORRIDORS AND CEILING SPACES. COORDINATE EXACT ROUTING WITH FIELD CONDITIONS.

8. INDICATES CONCRETE PATHWAY. CONTRACTOR SHALL HORIZONTALLY BORE BENEATH CONCRETE PATHWAY TO INSTALL CABLING/CONDUIT BETWEEN EXISTING LANDSCAPED AREAS. NO SAWCUTTING OR REMOVAL OF CONCRETE SHALL BE PERMITTED UNLESS OTHERWISE APPROVED.

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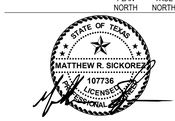
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B A

KEY PLAN

PLAN NORTH
TRUE NORTH



10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CL

DRAWN BY: MT

TECHNOLOGY SITE PLAN - TOMBALL HS

TS-102

Plot Stamp:
10/30/2026 9:00:15 AM

TECHNOLOGY GENERAL NOTES

A. "STRUCTURED CABLING SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE COMMSCOPE CAT6 DATA CABLING SYSTEM. WIRELESS ACCESS POINTS SHALL BE WIRED WITH CAT6A CABLING. PROVIDE A MINIMUM OF (1) 12-STRAND FIBER OPTIC CABLE TO EACH IDF AND (1) 24-STRAND FIBER OPTIC CABLE TO EACH MDF, COMPLETE WITH TERMINATION HARDWARE AND PATCH PANELS. PROVIDE WALL PLATES, BACK BOXES, CONDUIT, AND CABLE TRAYS/RACEWAYS AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.

B. CABLE TRAYS SERVING DATA CABLING IN CORRIDORS SHALL BE ROUTED CONTINUOUSLY ALONG THE CORRIDOR PATH, MAINTAINED AS A PRIMARY TRUNK LINE, AND INSTALLED ABOVE THE CORRIDOR CEILING IN A STRAIGHT, UNOBSTRUCTED RUN WHERE FEASIBLE. COORDINATE ROUTING AND ELEVATIONS WITH ALL TRADES TO AVOID INTERFERENCES, ENSURE MINIMUM CLEARANCES, AND MAINTAIN A CONSISTENT PATH FROM TELECOMMUNICATION ROOMS TO SERVED AREAS.

C. "INTERCOM SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW CAREHAWK INTERCOM SYSTEM CONNECTED TO THE EXISTING MAIN CAMPUS INTERCOM SYSTEM, INCLUDING, BUT NOT LIMITED TO, SPEAKERS, VOLUME CONTROLS, CABLING, MOUNTING HARDWARE, POWER SUPPLIES, PROGRAMMING, AND COMPLETE SYSTEM INTEGRATION FOR A FULLY OPERATIONAL SYSTEM.

D. "SECURITY CAMERA SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL NEW HANWHA CAMERAS TO BE NETWORKED WITH THE EXISTING VMS SYSTEM ON SITE. PROVIDE ALL CABLING, BACK-BOXES, CONDUIT, AND MOUNTING EQUIPMENT REQUIRED FOR A COMPLETE INSTALLATION. PROGRAM AND CONFIGURE ALL PRODUCT PER TOMBALL ISD STANDARDS AND REQUIREMENTS. REFER TO SPECIFICATIONS.

E. "ACCESS CONTROL SCOPE OF WORK": THE CONTRACTOR SHALL ADD CARD READERS AND ASSOCIATED CABLING AT LOCATIONS INDICATED AND INTEGRATE THEM INTO THE EXISTING OPEN OPTION ACCESS CONTROL SYSTEM. PROVIDE ALL REQUIRED PANELS, MODULES, CONTROLLERS, CONDUIT, BACK BOXES, AND MOUNTING HARDWARE FOR A COMPLETE AND FUNCTIONAL INSTALLATION. COORDINATE WITH THE DISTRICT TECHNOLOGY DEPARTMENT FOR PROGRAMMING.

F. "INTRUSION DETECTION SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW BOSCH INTRUSION DETECTION SYSTEM. PROVIDE ALL DOOR CONTACTS, MOTION DETECTORS, SENSORS, EXPANDERS, CABLING, AND MOUNTING EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM.

G. "VAPE DETECTION SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NEW HALO-3C VAPE DETECTORS, CABLING, AND MOUNTING HARDWARE IN ALL STUDENT RESTROOMS WHERE INDICATED.

H. HALO SENSORS SHALL BE MOUNTED NO MORE THAN 9 FEET AFF. PROVIDE PENDANT MOUNTS WHERE NECESSARY TO ACHIEVE RECOMMENDED MOUNTING HEIGHTS. WHERE RECOMMENDED CEILING MOUNTING HEIGHT IS NOT ACHIEVABLE, THE CONTRACTOR SHALL MOUNT DEVICE TO NEAREST WALL AT NO MORE THAN 9 FEET AFF.

I. ALL SYSTEMS IN THE EXISTING MDF / IDF SHALL REMAIN FULLY OPERATIONAL THROUGHOUT THE INSTALLATION.

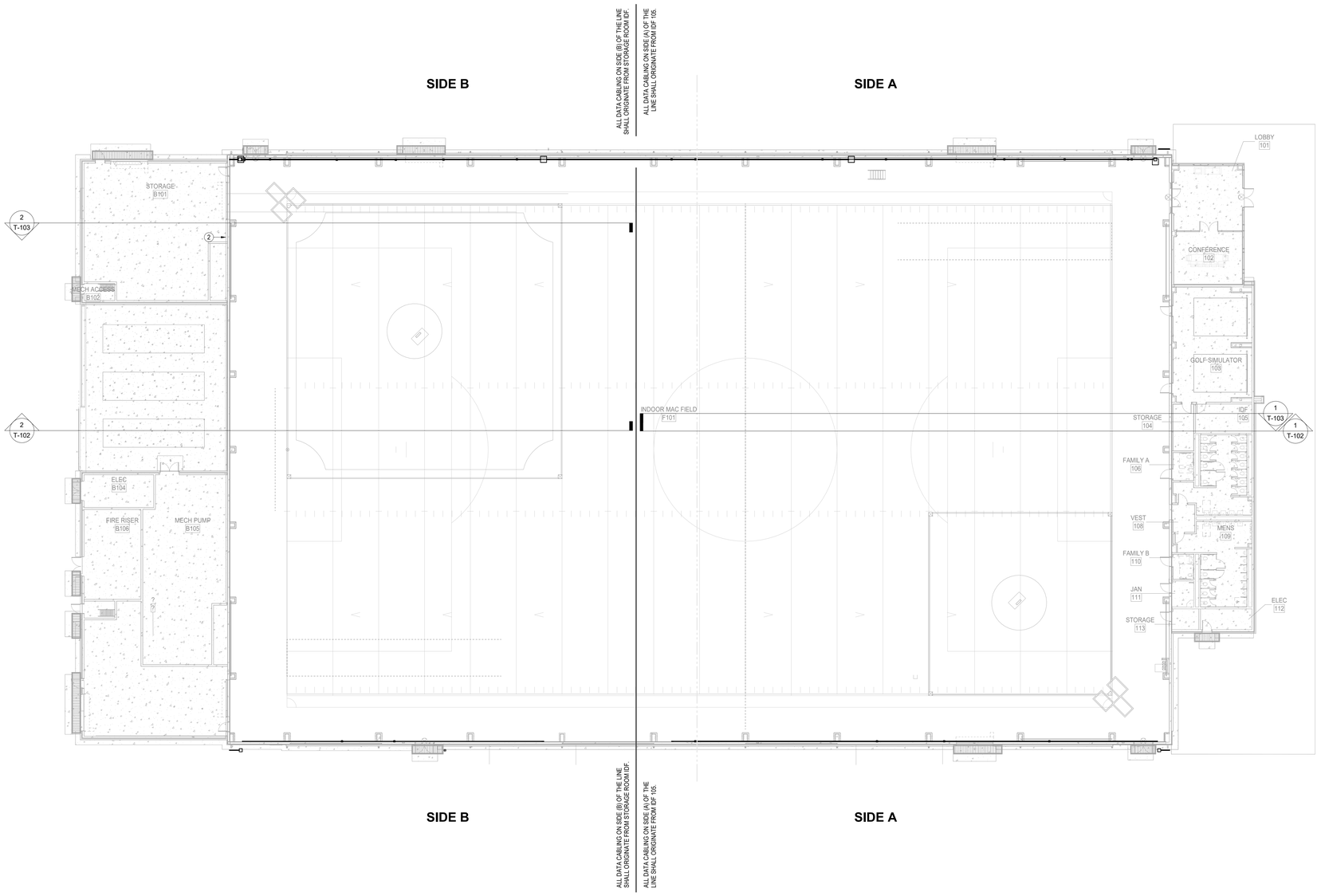
J. THE CONTRACTOR SHALL REPLACE ANY DAMAGED CEILING TILE THAT MAY OCCUR DURING INSTALLATION.

K. THE CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO EXISTING SYSTEM UTILITIES.

L. REFERENCE SPECIFICATIONS FOR ALL MATERIALS AND METHODS.

(#) TECHNOLOGY KEYED NOTES

1 INDICATES THE LOCATION OF A NEW DATA RACK IN IDF 105.
2 INDICATES THE LOCATION OF A NEW WALL MOUNTED DATA CABINET IN STORAGE ROOM.



1 1ST FLOOR TECHNOLOGY CABLE ROUTING PLAN
SCALE: 1/16" = 1'-0"

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KEY PLAN
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TRUE NORTH

STATE OF TEXAS
MATTHEW R. SICKORE
107736
LICENSED
PROFESSIONAL
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CL
DRAWN BY: MT

TECHNOLOGY CABLE ROUTING PLAN

T-101

TECHNOLOGY GENERAL NOTES

A. "STRUCTURED CABLING SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE COMMSCOPE CAT6 DATA CABLING SYSTEM. WIRELESS ACCESS POINTS SHALL BE WIRED WITH CAT6A CABLING. PROVIDE A MINIMUM OF (1) 12-STRAND FIBER OPTIC CABLE TO EACH IDF AND (1) 24-STRAND FIBER OPTIC CABLE TO EACH MDF, COMPLETE WITH TERMINATION HARDWARE AND PATCH PANELS. PROVIDE WALL PLATES, BACK BOXES, CONDUIT, AND CABLE TRAYS/RACEWAYS AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.

B. CABLE TRAYS SERVING DATA CABLING IN CORRIDORS SHALL BE ROUTED CONTINUOUSLY ALONG THE CORRIDOR PATH, MAINTAINED AS A PRIMARY TRUNK LINE, AND INSTALLED ABOVE THE CORRIDOR CEILING IN A STRAIGHT, UNOBSTRUCTED RUN WHERE FEASIBLE. COORDINATE ROUTING AND ELEVATIONS WITH ALL TRADES TO AVOID INTERFERENCES, ENSURE MINIMUM CLEARANCES, AND MAINTAIN A CONSISTENT PATH FROM TELECOMMUNICATION ROOMS TO SERVED AREAS.

C. "INTERCOM SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW CAREHAWK INTERCOM SYSTEM CONNECTED TO THE EXISTING MAIN CAMPUS INTERCOM SYSTEM, INCLUDING, BUT NOT LIMITED TO, SPEAKERS, VOLUME CONTROLS, CABLING, MOUNTING HARDWARE, POWER SUPPLIES, PROGRAMMING, AND COMPLETE SYSTEM INTEGRATION FOR A FULLY OPERATIONAL SYSTEM.

D. "SECURITY CAMERA SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL NEW HANWHA CAMERAS TO BE NETWORKED WITH THE EXISTING VMS SYSTEM ON SITE. PROVIDE ALL CABLING, BACK-BOXES, CONDUIT, AND MOUNTING EQUIPMENT REQUIRED FOR A COMPLETE INSTALLATION. PROGRAM AND CONFIGURE ALL PRODUCT PER TOMBALL ISD STANDARDS AND REQUIREMENTS. REFER TO SPECIFICATIONS.

E. "ACCESS CONTROL SCOPE OF WORK": THE CONTRACTOR SHALL ADD CARD READERS AND ASSOCIATED CABLING AT LOCATIONS INDICATED AND INTEGRATE THEM INTO THE EXISTING OPEN OPTION ACCESS CONTROL SYSTEM. PROVIDE ALL REQUIRED PANELS, MODULES, CONTROLLERS, CONDUIT, BACK BOXES, AND MOUNTING HARDWARE FOR A COMPLETE AND FUNCTIONAL INSTALLATION. COORDINATE WITH THE DISTRICT TECHNOLOGY DEPARTMENT FOR PROGRAMMING.

F. "INTRUSION DETECTION SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW BOSCH INTRUSION DETECTION SYSTEM. PROVIDE ALL DOOR CONTACTS, MOTION DETECTORS, SENSORS, EXPANDERS, CABLING, AND MOUNTING EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM.

G. "VAPE DETECTION SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NEW HALO-3C VAPE DETECTORS, CABLING, AND MOUNTING HARDWARE IN ALL STUDENT RESTROOMS WHERE INDICATED.

H. HALO SENSORS SHALL BE MOUNTED NO MORE THAN 9 FEET AFF. PROVIDE PENDANT MOUNTS WHERE NECESSARY TO ACHIEVE RECOMMENDED MOUNTING HEIGHTS. WHERE RECOMMENDED CEILING MOUNTING HEIGHT IS NOT ACHIEVABLE, THE CONTRACTOR SHALL MOUNT DEVICE TO NEAREST WALL AT NO MORE THAN 9 FEET AFF.

I. ALL SYSTEMS IN THE EXISTING MDF / IDF SHALL REMAIN FULLY OPERATIONAL THROUGHOUT THE INSTALLATION.

J. THE CONTRACTOR SHALL REPLACE ANY DAMAGED CEILING TILE THAT MAY OCCUR DURING INSTALLATION.

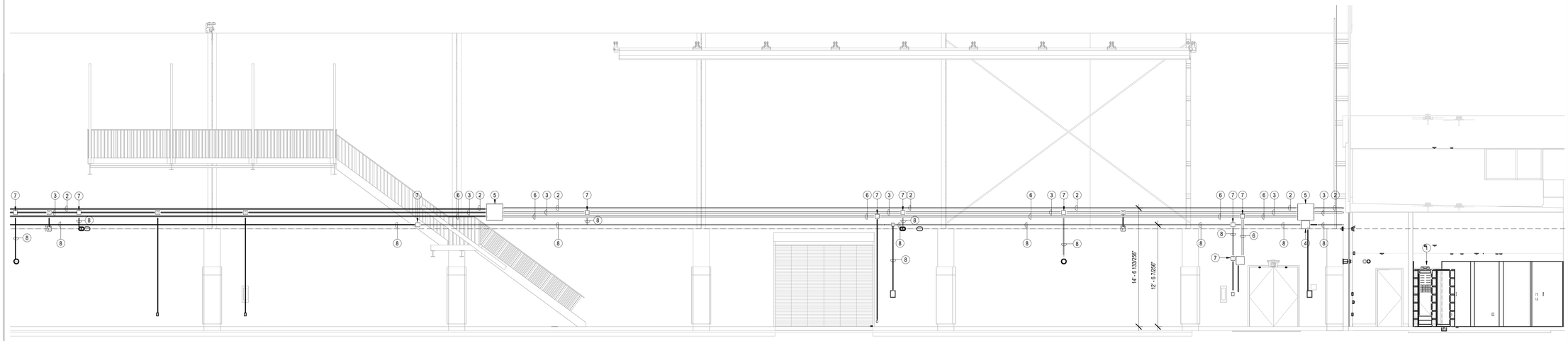
K. THE CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO EXISTING SYSTEM UTILITIES.

L. REFERENCE SPECIFICATIONS FOR ALL MATERIALS AND METHODS.

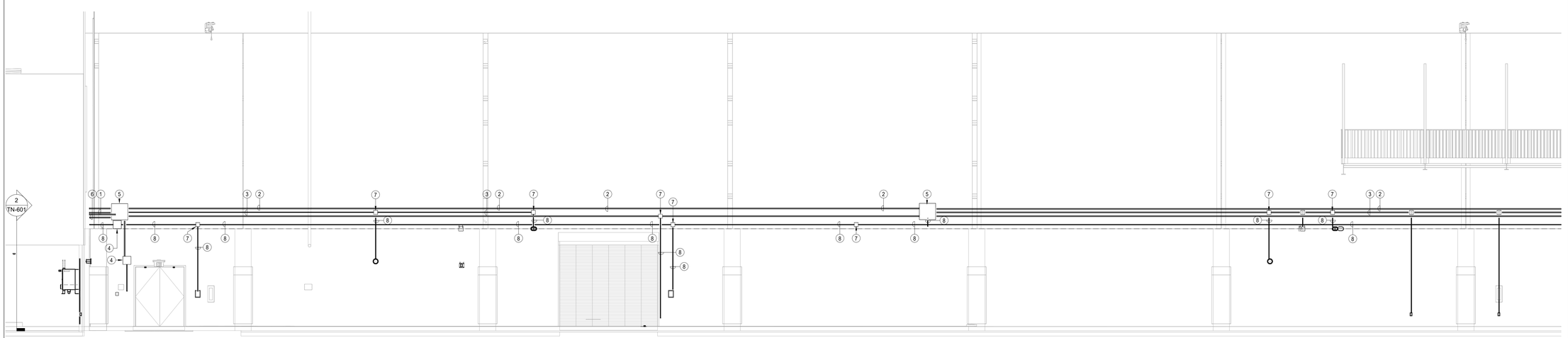
(#) TECHNOLOGY KEYED NOTES

1 INDICATES THE LOCATION OF A NEW DATA RACK IN IDF 105.
2 PROVIDE AND INSTALL (1) 2" CONDUIT FOR FIBER CABLING. PAINT TO MATCH SURFACE.
3 PROVIDE AND INSTALL (1) 2" CONDUIT FOR DATA CABLING. PAINT TO MATCH SURFACE.
4 PROVIDE AND INSTALL A NEW 12" X 12" X 6" NEMA ENCLOSURE FOR FIRE ALARM CABLING. PAINT TO MATCH SURFACE.
5 PROVIDE AND INSTALL A NEW 24" X 24" X 6" NEMA ENCLOSURE FOR LOW VOLTAGE AND DATA CABLING. PAINT TO MATCH SURFACE.
6 PROVIDE AND INSTALL (1) 2" CONDUIT FOR LOW VOLTAGE/COMPOSITE CABLING. PAINT TO MATCH SURFACE.
7 PROVIDE AND INSTALL ANEW 6" X 6" X 6" NEMA ENCLOSURE. PAINT TO MATCH SURFACE.
8 PROVIDE AND INSTALL (1) 1" CONDUIT. PAINT TO MATCH SURFACE.

NOTE TO CONTRACTOR:
THE CONDUIT ROUTING PLAN IS DIAGRAMMATIC AND PROVIDED FOR REFERENCE ONLY. NOT ALL REQUIRED CONDUIT ROUTING IS SHOWN. CONTRACTOR SHALL COORDINATE WITH DEVICE LOCATIONS INDICATED ON THE FLOOR PLANS AND PROVIDE ALL REQUIRED CONDUIT, BACK BOXES, FITTINGS, AND PATHWAYS NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT WALL FINISHES.



1 PLAN NORTH (ELEVATION) CONDUIT ROUTING PLAN - SIDE A
SCALE: 3/16" = 1'-0"



2 PLAN NORTH (ELEVATION) CONDUIT ROUTING PLAN - SIDE B
SCALE: 3/16" = 1'-0"

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KEY PLAN
PLAN NORTH
TRUE NORTH

STATE OF TEXAS
MATTHEW R. SICKOREC
107736
LICENSED
PROFESSIONAL
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CL
DRAWN BY: MT

TECHNOLOGY CONDUIT ROUTING (NORTH-ELEVATION)

T-102

Plot Stamp:
10/30/2026 9:00:52 AM

T-103 - TECHNOLOGY CONDUIT ROUTING (SOUTH-ELEVATION)

TECHNOLOGY GENERAL NOTES

A. "STRUCTURED CABLING SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE COMMSCOPE CAT6 DATA CABLING SYSTEM. WIRELESS ACCESS POINTS SHALL BE WIRED WITH CAT6A CABLING. PROVIDE A MINIMUM OF (1) 12-STRAND FIBER OPTIC CABLE TO EACH IDF AND (1) 24-STRAND FIBER OPTIC CABLE TO EACH MDF, COMPLETE WITH TERMINATION HARDWARE AND PATCH PANELS. PROVIDE WALL PLATES, BACK BOXES, CONDUIT, AND CABLE TRAYS/RACEWAYS AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.

B. CABLE TRAYS SERVING DATA CABLING IN CORRIDORS SHALL BE ROUTED CONTINUOUSLY ALONG THE CORRIDOR PATH, MAINTAINED AS A PRIMARY TRUNK LINE, AND INSTALLED ABOVE THE CORRIDOR CEILING IN A STRAIGHT, UNOBSTRUCTED RUN WHERE FEASIBLE. COORDINATE ROUTING AND ELEVATIONS WITH ALL TRADES TO AVOID INTERFERENCES, ENSURE MINIMUM CLEARANCES, AND MAINTAIN A CONSISTENT PATH FROM TELECOMMUNICATION ROOMS TO SERVED AREAS.

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D. "SECURITY CAMERA SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL NEW HANWHA CAMERAS TO BE NETWORKED WITH THE EXISTING VMS SYSTEM ON SITE. PROVIDE ALL CABLING, BACK-BOXES, CONDUIT, AND MOUNTING EQUIPMENT REQUIRED FOR A COMPLETE INSTALLATION. PROGRAM AND CONFIGURE ALL PRODUCT PER TOMBALL ISD STANDARDS AND REQUIREMENTS. REFER TO SPECIFICATIONS.

E. "ACCESS CONTROL SCOPE OF WORK": THE CONTRACTOR SHALL ADD CARD READERS AND ASSOCIATED CABLING AT LOCATIONS INDICATED AND INTEGRATE THEM INTO THE EXISTING OPEN OPTION ACCESS CONTROL SYSTEM. PROVIDE ALL REQUIRED PANELS, MODULES, CONTROLLERS, CONDUIT, BACK BOXES, AND MOUNTING HARDWARE FOR A COMPLETE AND FUNCTIONAL INSTALLATION. COORDINATE WITH THE DISTRICT TECHNOLOGY DEPARTMENT FOR PROGRAMMING.

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G. "VAPE DETECTION SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NEW HALO-3C VAPE DETECTORS, CABLING, AND MOUNTING HARDWARE IN ALL STUDENT RESTROOMS WHERE INDICATED.

H. HALO SENSORS SHALL BE MOUNTED NO MORE THAN 9 FEET AFF. PROVIDE PENDANT MOUNTS WHERE NECESSARY TO ACHIEVE RECOMMENDED MOUNTING HEIGHTS. WHERE RECOMMENDED CEILING MOUNTING HEIGHT IS NOT ACHIEVABLE, THE CONTRACTOR SHALL MOUNT DEVICE TO NEAREST WALL AT NO MORE THAN 9 FEET AFF.

I. ALL SYSTEMS IN THE EXISTING MDF / IDF SHALL REMAIN FULLY OPERATIONAL THROUGHOUT THE INSTALLATION.

J. THE CONTRACTOR SHALL REPLACE ANY DAMAGED CEILING TILE THAT MAY OCCUR DURING INSTALLATION.

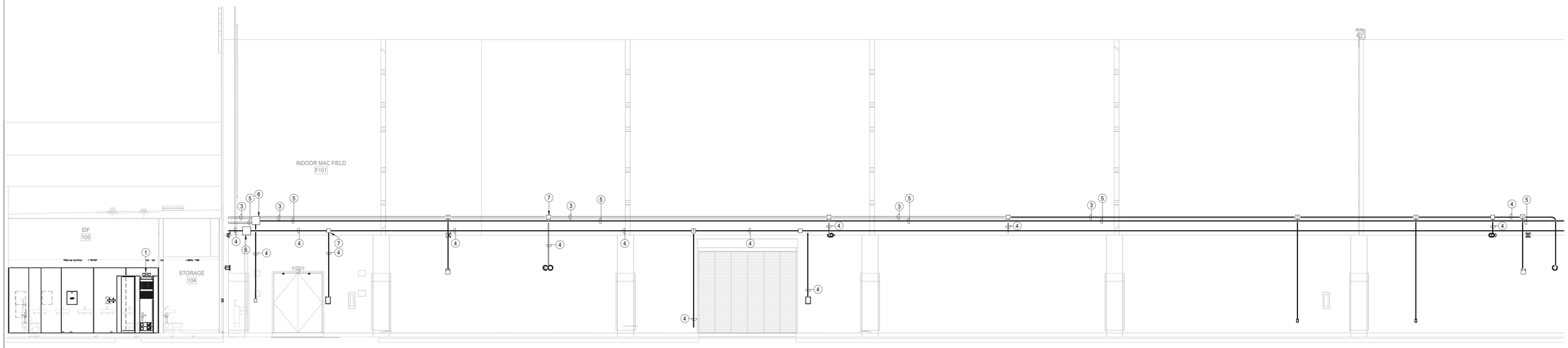
K. THE CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO EXISTING SYSTEM UTILITIES.

L. REFERENCE SPECIFICATIONS FOR ALL MATERIALS AND METHODS.

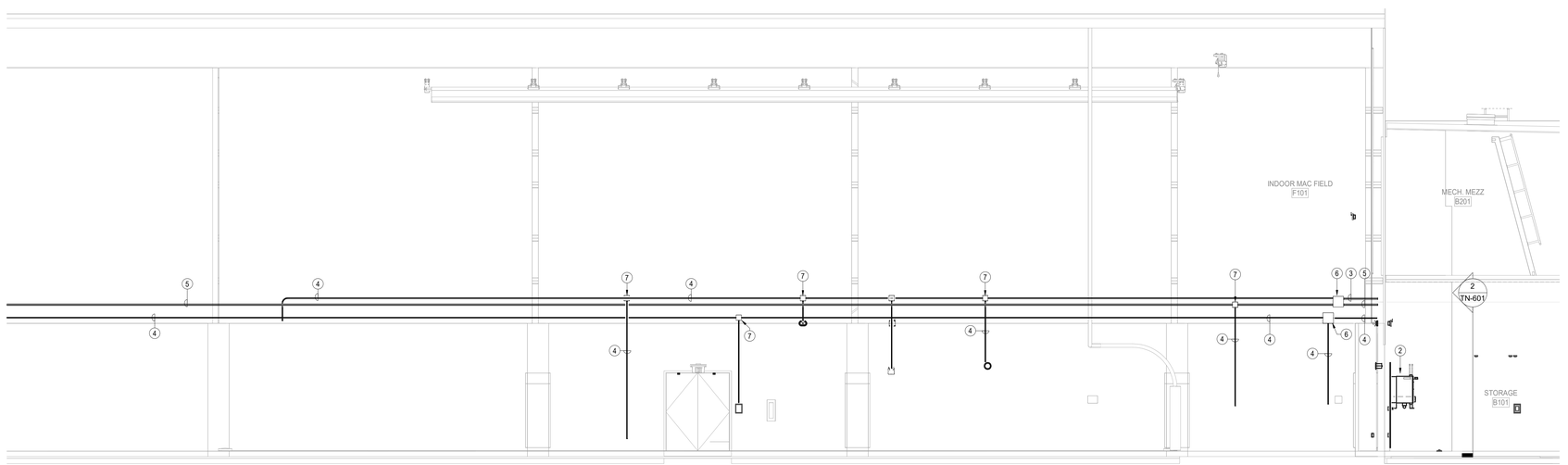
(#) TECHNOLOGY KEYED NOTES

1 INDICATES THE LOCATION OF A NEW DATA RACK IN IDF 105.
2 INDICATES THE LOCATION OF A NEW WALL MOUNTED DATA CABINET IN STORAGE ROOM.
3 PROVIDE AND INSTALL (1) 2" CONDUIT FOR DATA CABLING. PAINT TO MATCH SURFACE.
4 PROVIDE AND INSTALL (1) 1" CONDUIT. PAINT TO MATCH SURFACE.
5 PROVIDE AND INSTALL (1) 2" CONDUIT FOR LOW VOLTAGE/COMPOSITE CABLING. PAINT TO MATCH SURFACE.
6 PROVIDE AND INSTALL A NEW 12" X 12" X 6" NEMA ENCLOSURE FOR FIRE ALARM CABLING. PAINT TO MATCH SURFACE.
7 PROVIDE AND INSTALL ANEW 6" X 6" X 6" NEMA ENCLOSURE. PAINT TO MATCH SURFACE.

NOTE TO CONTRACTOR:
THE CONDUIT ROUTING PLAN IS DIAGRAMMATIC AND PROVIDED FOR REFERENCE ONLY. NOT ALL REQUIRED CONDUIT ROUTING IS SHOWN. CONTRACTOR SHALL COORDINATE WITH DEVICE LOCATIONS INDICATED ON THE FLOOR PLANS AND PROVIDE ALL REQUIRED CONDUIT, BACK BOXES, FITTINGS, AND PATHWAYS NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH ADJACENT WALL FINISHES.



1 PLAN SOUTH (ELEVATION) CONDUIT ROUTING PLAN - SIDE A
SCALE: 3/16" = 1'-0"



2 PLAN SOUTH (ELEVATION) CONDUIT ROUTING PLAN - SIDE B
SCALE: 3/16" = 1'-0"

Plot Stamp:
10/30/2026 9:01:13 AM

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KEY PLAN
PLAN NORTH
TRUE NORTH

STATE OF TEXAS
MATTHEW R. SICKORE
107736
LICENSED PROFESSIONAL ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CL
DRAWN BY: MT

TECHNOLOGY CONDUIT ROUTING (SOUTH-ELEVATION)

T-103

TF-101 - 1ST FLOOR FIRE ALARM PLAN - COMPOSITE

FIRE ALARM GENERAL NOTES

A. THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW NOTIFIER SERIES MANUAL FIRE ALARM SYSTEM IN ACCORDANCE WITH NFPA 72. INTEGRATE THE NEW SPRINKLER SYSTEM WITH THE FIRE ALARM SYSTEM TO PROVIDE REQUIRED ALARM AND SUPERVISORY MONITORING. PROVIDE ALL NECESSARY WIRING, CONDUIT, BACKBOXES, PULL BOXES AND ASSOCIATED MATERIALS IN COMPLIANCE WITH NFPA 70 TO DELIVER A COMPLETE AND FULLY OPERATIONAL SYSTEM. ALL FIRE ALARM WIRING SHALL BE INSTALLED IN EMT CONDUIT UNLESS OTHERWISE APPROVED BY THE OWNER OR AHJ. LOCATIONS SHOWN ARE APPROXIMATE.

B. THE FIRE ALARM SYSTEM SHALL REPORT ALARM, SUPERVISORY, AND TROUBLE SIGNALS TO THE MAIN CAMPUS FIRE ALARM CONTROL PANEL. THE SYSTEM SHALL BE PROGRAMMED AND ZONED AS A SEPARATE AREA SUCH THAT ALARM NOTIFICATION APPLIANCES ARE ACTIVATED ONLY WITHIN THE DESIGNATED ZONE, UNLESS OTHERWISE REQUIRED BY CODE.

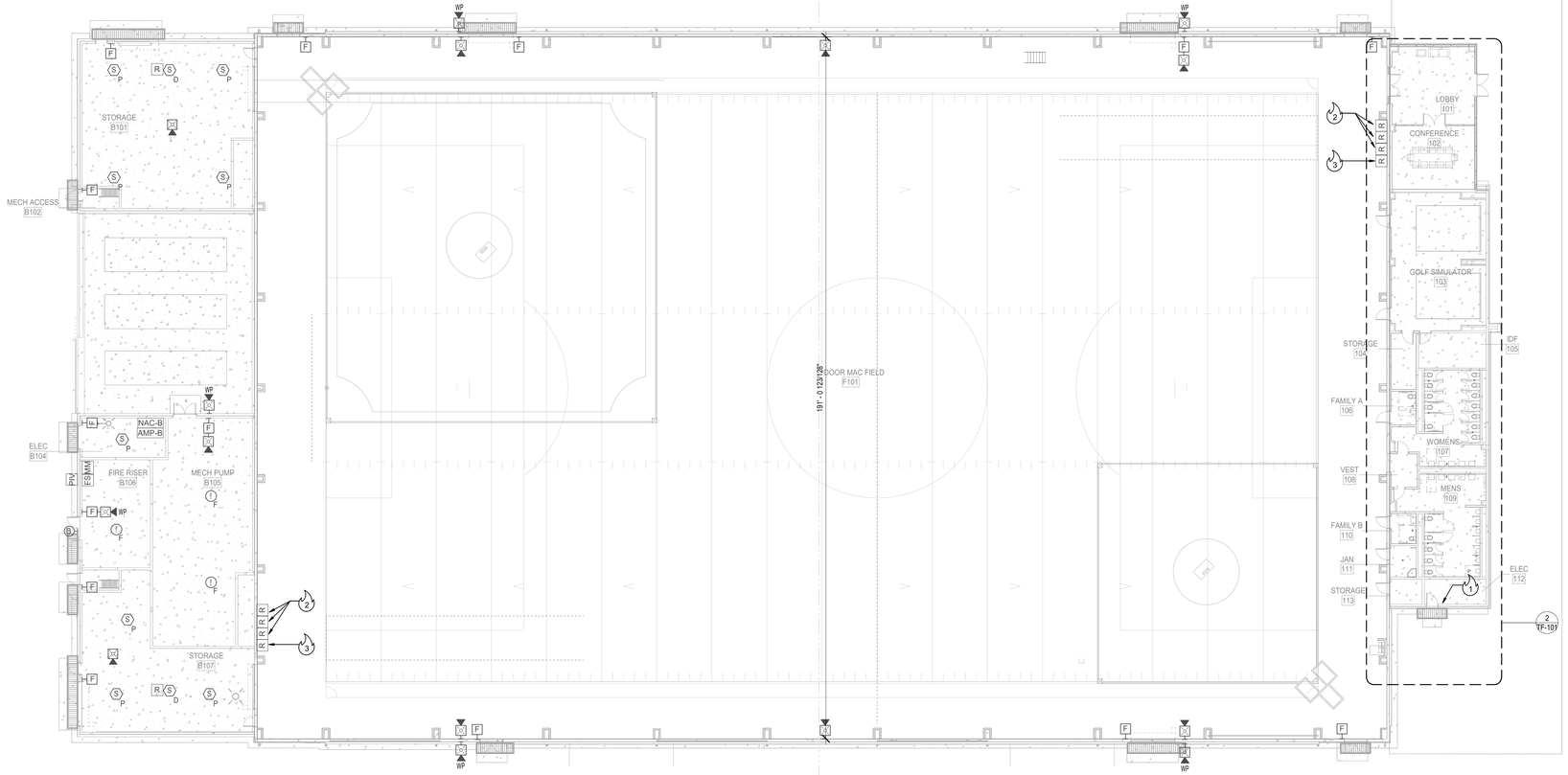
C. PROVIDE ALL RELAYS, CONTROL MODULES, MONITOR MODULES, AND ASSOCIATED WIRING REQUIRED FOR FIRE ALARM INTERFACES WITH BUILDING SYSTEMS, INCLUDING AV EQUIPMENT SHUTDOWN, MOTORIZED CURTAIN OPERATION, LIGHTING CONTROL, DOOR RELEASE, AND OTHER REQUIRED EMERGENCY CONTROL FUNCTIONS. COORDINATE WITH ALL TRADES TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.

D. SURGE PROTECTION SHALL BE PROVIDED ON ALL FIRE ALARM RELATED COMPONENTS, TO PROTECT FROM TRANSIENT VOLTAGE, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: SIGNALING LINE CIRCUITS (SLC), NOTIFICATION APPLIANCE CIRCUITS (NAC), TELEPHONE LINES, AC POWER CONNECTIONS.

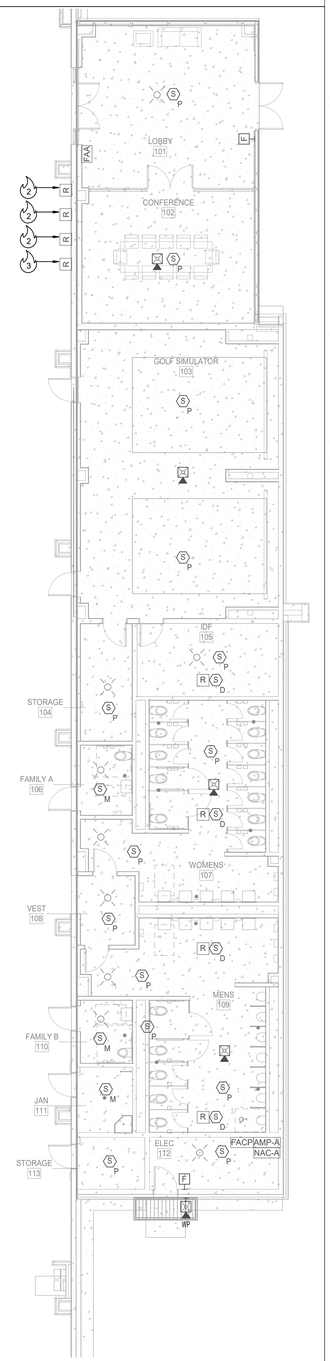
E. AS PART OF PROJECT CLOSEOUT, THE CONTRACTOR SHALL PROVIDE TEN (10) ADDITIONAL SMOKE DETECTORS AND TEN (10) ADDITIONAL HEAT DETECTORS.

FIRE ALARM GENERAL NOTES

1. INDICATES THE LOCATION OF A NEW FIRE ALARM PANEL WITH VOICE EVACUATION.
2. INDICATES THE LOCATION OF A RELAY FOR THE AUTOMATIC CURTAINS.
3. INDICATES THE LOCATION OF A RELAY FOR THE AUTOMATIC LIGHTING CONTROLS.



1 1ST FLOOR FIRE ALARM PLAN - COMPOSITE
SCALE: 1/16" = 1'-0"



2 FA - EAST END ENLARGED PLAN
SCALE: 1/8" = 1'-0"

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KEY PLAN — PLAN NORTH — TRUE NORTH

STATE OF TEXAS
MATTHEW R. SICKORE
107736
LICENSED
PROFESSIONAL
ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

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No.	Description	Date

CHECKED BY: CL
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1ST FLOOR FIRE ALARM PLAN - COMPOSITE

TF-101

Plot Stamp:
10/30/2026 9:01:29 AM

TN-101 - 1ST FLOOR TECHNOLOGY PLAN - COMPOSITE

TECHNOLOGY GENERAL NOTES

A. "STRUCTURED CABLING SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL A COMPLETE COMMSCOPE CAT6 DATA CABLING SYSTEM. WIRELESS ACCESS POINTS SHALL BE WIRED WITH CAT6A CABLING. PROVIDE A MINIMUM OF (1) 12-STRAND FIBER OPTIC CABLE TO EACH IDF AND (1) 24-STRAND FIBER OPTIC CABLE TO EACH MDF, COMPLETE WITH TERMINATION HARDWARE AND PATCH PANELS. PROVIDE WALL PLATES, BACK BOXES, CONDUIT, AND CABLE TRAYS/RACEWAYS AS REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.

B. CABLE TRAYS SERVING DATA CABLING IN CORRIDORS SHALL BE ROUTED CONTINUOUSLY ALONG THE CORRIDOR PATH, MAINTAINED AS A PRIMARY TRUNK LINE, AND INSTALLED ABOVE THE CORRIDOR CEILING IN A STRAIGHT, UNOBSTRUCTED RUN WHERE FEASIBLE. COORDINATE ROUTING AND ELEVATIONS WITH ALL TRADES TO AVOID INTERFERENCES, ENSURE MINIMUM CLEARANCES, AND MAINTAIN A CONSISTENT PATH FROM TELECOMMUNICATION ROOMS TO SERVED AREAS.

C. "INTERCOM SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW CAREHAWK INTERCOM SYSTEM CONNECTED TO THE EXISTING MAIN CAMPUS INTERCOM SYSTEM, INCLUDING, BUT NOT LIMITED TO, SPEAKERS, VOLUME CONTROLS, CABLING, MOUNTING HARDWARE, POWER SUPPLIES, PROGRAMMING, AND COMPLETE SYSTEM INTEGRATION FOR A FULLY OPERATIONAL SYSTEM.

D. "SECURITY CAMERA SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL NEW HANWHA CAMERAS TO BE NETWORKED WITH THE EXISTING VMS SYSTEM ON SITE. PROVIDE ALL CABLING, BACK-BOXES, CONDUIT, AND MOUNTING EQUIPMENT REQUIRED FOR A COMPLETE INSTALLATION. PROGRAM AND CONFIGURE ALL PRODUCT PER TOMBALL ISD STANDARDS AND REQUIREMENTS. REFER TO SPECIFICATIONS.

E. "ACCESS CONTROL SCOPE OF WORK": THE CONTRACTOR SHALL ADD CARD READERS AND ASSOCIATED CABLING AT LOCATIONS INDICATED AND INTEGRATE THEM INTO THE EXISTING OPEN OPTION ACCESS CONTROL SYSTEM. PROVIDE ALL REQUIRED PANELS, MODULES, CONTROLLERS, CONDUIT, BACK BOXES, AND MOUNTING HARDWARE FOR A COMPLETE AND FUNCTIONAL INSTALLATION. COORDINATE WITH THE DISTRICT TECHNOLOGY DEPARTMENT FOR PROGRAMMING.

F. "INTRUSION DETECTION SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW BOSCH INTRUSION DETECTION SYSTEM. PROVIDE ALL DOOR CONTACTS, MOTION DETECTORS, SENSORS, EXPANDERS, CABLING, AND MOUNTING EQUIPMENT NECESSARY FOR A FULLY FUNCTIONAL SYSTEM.

G. "VAPE DETECTION SCOPE OF WORK": THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL NEW HALO-3C VAPE DETECTORS, CABLING, AND MOUNTING HARDWARE IN ALL STUDENT RESTROOMS WHERE INDICATED.

H. HALO SENSORS SHALL BE MOUNTED NO MORE THAN 9 FEET AFF. PROVIDE PENDANT MOUNTS WHERE NECESSARY TO ACHIEVE RECOMMENDED MOUNTING HEIGHTS. WHERE RECOMMENDED CEILING MOUNTING HEIGHT IS NOT ACHIEVABLE, THE CONTRACTOR SHALL MOUNT DEVICE TO NEAREST WALL AT NO MORE THAN 9 FEET AFF.

I. ALL SYSTEMS IN THE EXISTING MDF / IDF SHALL REMAIN FULLY OPERATIONAL THROUGHOUT THE INSTALLATION.

J. THE CONTRACTOR SHALL REPLACE ANY DAMAGED CEILING TILE THAT MAY OCCUR DURING INSTALLATION.

K. THE CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO EXISTING SYSTEM UTILITIES.

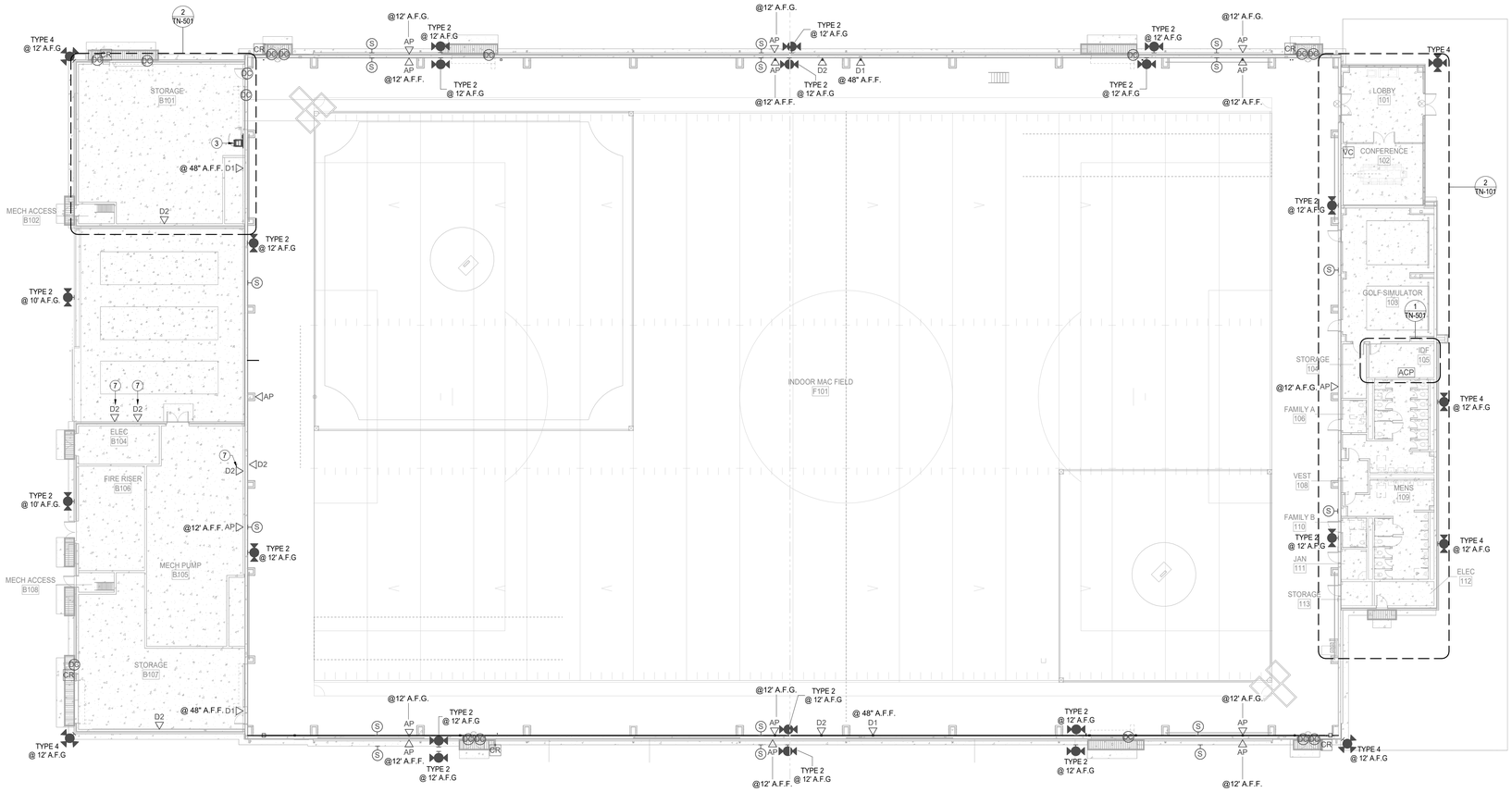
L. REFERENCE SPECIFICATIONS FOR ALL MATERIALS AND METHODS.

(#) TECHNOLOGY KEYED NOTES

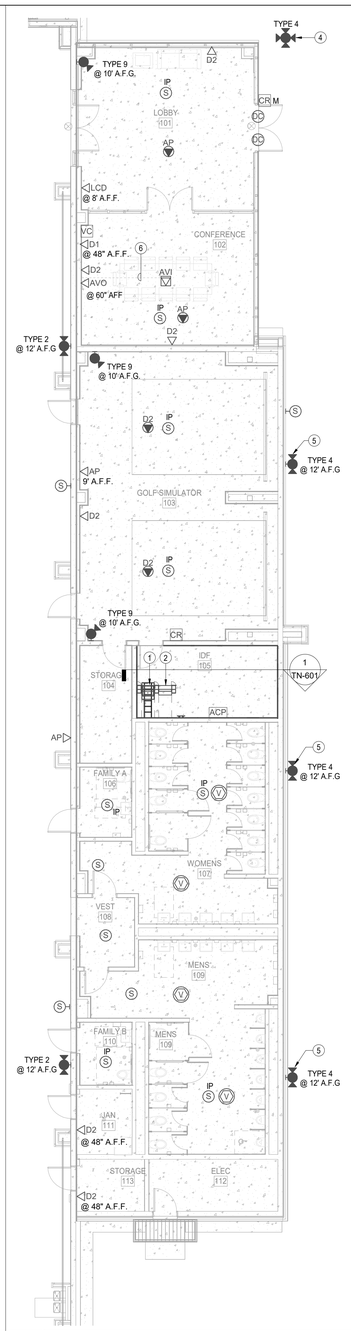
1 INDICATES THE LOCATION OF A NEW DATA RACK IN IDF 105.
2 INDICATES THE PLANNED LOCATION OF A LOCAL SOUND RACK PROVIDED BY OWNER.
3 INDICATES THE LOCATION OF A NEW WALL MOUNTED DATA CABINET IN STORAGE ROOM.
4 INDICATES THE LOCATION OF A NEW CEILING MOUNTED CAMERA BENEATH CANOPY. MOUNT ON FLAT SURFACE.
5 INDICATES THE LOCATION OF A NEW WALL MOUNTED CAMERA BENEATH CANOPY. ENSURE FULL VIEW OF LENS AND NO OBSTRUCTIONS.
6 PROVIDE (1) 2" CONDUIT UNDERFLOOR BETWEEN 'AVI' AND 'AVO' FOR HDMI AND DATA CABLING.
7 INDICATES A NEW DATA DROP FOR THE BAS SYSTEM.

CAMERA TYPE LEGEND

CAMERA	DESCRIPTION
Type 1	Hanwha PND-A9081RV (4K IR Indoor Vandal Dome AI Camera)
Type 2	Hanwha PNM-C12083RVD (6MP x 2 AI IR Multi-directional / Vari-Focal)
Type 3	Hanwha PNM-C16013RVQ (4CH mini AI Multi-directional)
Type 4	Hanwha PNM-C32083RVQ (4K x 4CH AI Multi-directional / Vari-Focal)
Type 5	Hanwha PNM-C34404RQPZ (4K 4CH PTRZ + 2MP 40x PTZ AI Camera)
Type 6	Hanwha PNM-C34404RQPZ (4K 4CH PTRZ + 2MP 40x PTZ AI Camera)
Type 6	Hanwha PNO-A9311R (4K AI IR Bullet Camera / Vari-Focal)
Type 7	Hanwha QNV-C8011R (5MP IR Vandal Dome Camera)
Type 8	Hanwha QNV-8080R (5MP IR Vandal Dome Camera)
Type 9	Hanwha QNV-C9011R (8MP IR Vandal Dome Camera)
Type 10	Hanwha QNV-C9083R (8MP IR Vandal Dome Camera / Vari-Focal)



1 1ST FLOOR TECHNOLOGY PLAN - COMPOSITE
SCALE: 1/16" = 1'-0"



2 TECH - EAST PLAN ENLARGED
SCALE: 1/8" = 1'-0"

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KEY PLAN
PLAN NORTH
TRUE NORTH

STATE OF TEXAS
MATTHEW R. SICKORE
107736
LICENSED
PROFESSIONAL
ENGINEER
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

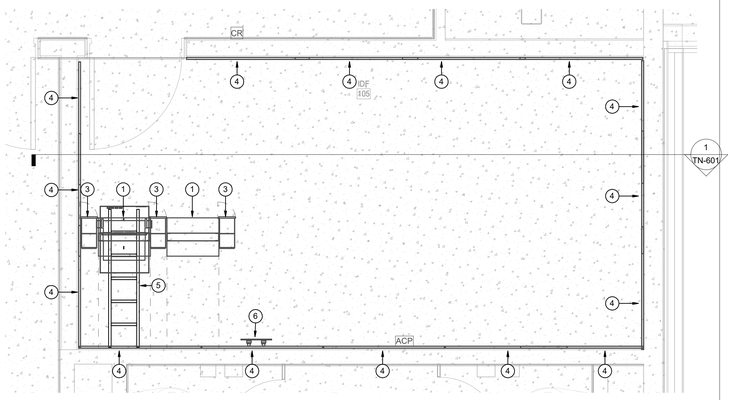
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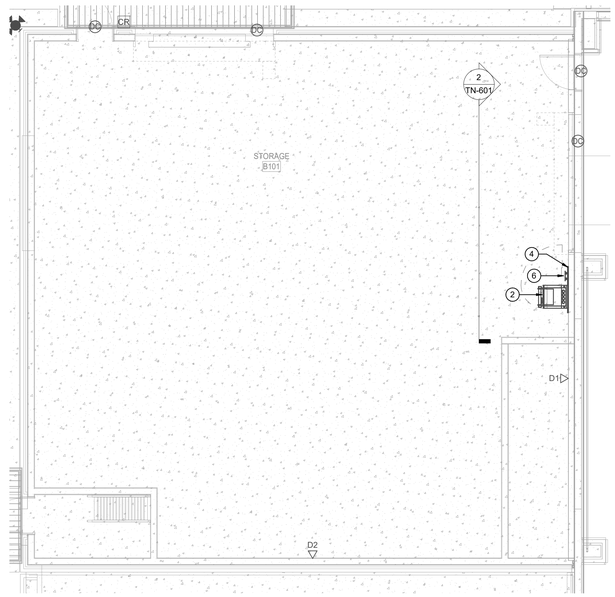
1ST FLOOR TECHNOLOGY PLAN - COMPOSITE

TN-101

Plot Stamp:
10/30/2026 9:01:55 AM



1 IDF 105 (ENLARGED PLAN)
SCALE: 1/2" = 1'-0"



2 STORAGE B101 IDF
SCALE: 3/16" = 1'-0"

MDF / IDF KEYED NOTES

1. INDICATES A NEW CFCI 45RU 2-POST RACK. PROVIDE ALL REQUIRED HARDWARE AND MOUNTING ACCESSORIES.
2. INDICATES A NEW 19RU WALL MOUNTED CABINET. PROVIDE ALL REQUIRED HARDWARE AND MOUNTING ACCESSORIES.
3. INDICATES A NEW CFCI 7' VERTICAL CABLE MANAGER. PROVIDE ALL REQUIRED HARDWARE AND MOUNTING ACCESSORIES.
4. INDICATES THE LOCATION OF A NEW CFCI 3/4" FIRE RATED PLYWOOD. PROVIDE ALL REQUIRED HARDWARE AND MOUNTING ACCESSORIES. PLYWOOD SHALL BE PAINTED WHITE WITH FIRE RATED PAINT. TYPICAL FOR ALL SHOWN.
5. INDICATES A NEW CFCI 12" LADDER TRAY. PROVIDE ALL REQUIRED HARDWARE AND MOUNTING ACCESSORIES.
6. INDICATES A CFCI GROUND BUS BAR MOUNTED AT 48" A.F.F.

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STATE OF TEXAS
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107736
LICENSED
PROFESSIONAL
10/30/2026
LEAF ENGINEERS
F-18672

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

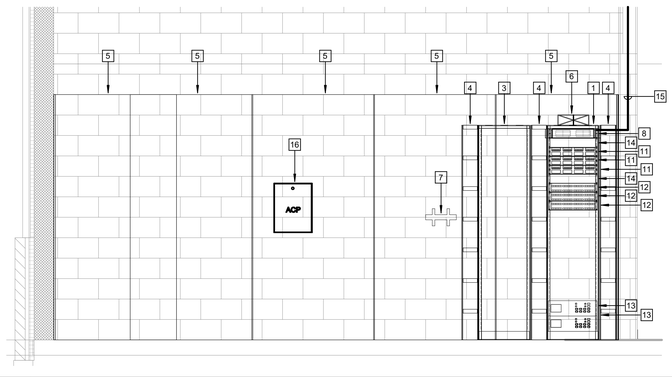
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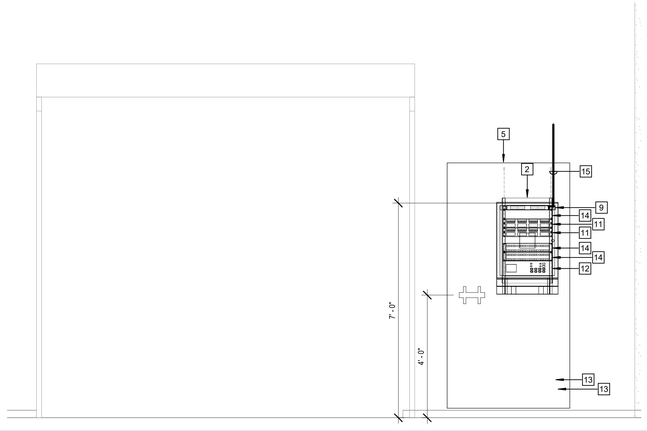
MDF / IDF ENLARGED DETAILS

TN-501

Plot Stamp:
10/30/2026 9:02:23 AM



1 IDF 105 (ELEVATION PLAN)
1/2" = 1'-0"



2 STORAGE B101 IDF (ELEVATION PLAN)
1/2" = 1'-0"

MDF / IDF ELEVATION KEYED NOTES

1. INDICATES A NEW CFCI 45RU 2-POST RACK. PROVIDE ALL REQUIRED HARDWARE AND MOUNTING ACCESSORIES.
2. INDICATES A NEW 19RU WALL MOUNTED CABINET. PROVIDE ALL REQUIRED HARDWARE AND MOUNTING ACCESSORIES.
3. INDICATES A FUTURE AUDIO/VIDEO SOUND RACK.
4. INDICATES A NEW CFCI 7' VERTICAL CABLE MANAGER. PROVIDE ALL REQUIRED HARDWARE AND MOUNTING ACCESSORIES.
5. INDICATES THE LOCATION OF A NEW CFCI 3/4" FIRE RATED PLYWOOD. PROVIDE ALL REQUIRED HARDWARE AND MOUNTING ACCESSORIES. PLYWOOD SHALL BE PAINTED WHITE WITH FIRE RATED PAINT, TYPICAL FOR ALL SHOWN.
6. INDICATES A NEW CFCI 12" LADDER TRAY. PROVIDE ALL REQUIRED HARDWARE AND MOUNTING ACCESSORIES.
7. INDICATES A CFCI GROUND BUS BAR MOUNTED AT 48" A.F.F.
8. INDICATES A NEW A CFCI 2RU FIBER ENCLOSURE.
9. INDICATES A NEW CFCI 1RU FIBER ENCLOSURE.
10. INDICATES A NEW CFCI 2RU HORIZONTAL CABLE MANAGER.
11. INDICATES A NEW CFCI 1RU 48-PORT PATCH PANEL.
12. INDICATES A NEW CFCI 1RU 48-PORT NETWORK SWITCH.
13. INDICATES A NEW CFCI 1RU UPS.
14. INDICATES A NEW 2RU BLANK PLATE.
15. INDICATES A NEW CFCI 12-STRAND SINGLE MODE FIBER OPTIC CABLE.
16. INDICATES THE NEW ACCESS CONTROL PANEL

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CLIENT	
TOMBALL ISD	
DATE: 10/30/2026	PROJECT NUMBER: 25046901

DRAWING HISTORY

No.	Description	Date

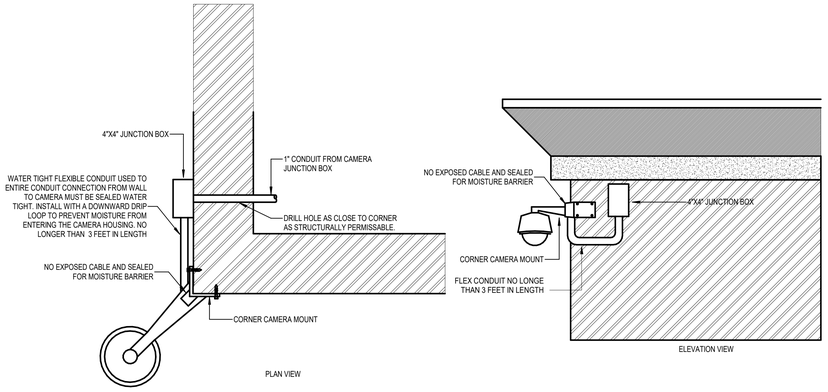
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DRAWN BY: MT

MDF / IDF ELEVATION DETAILS

TN-601

Plot Stamp:
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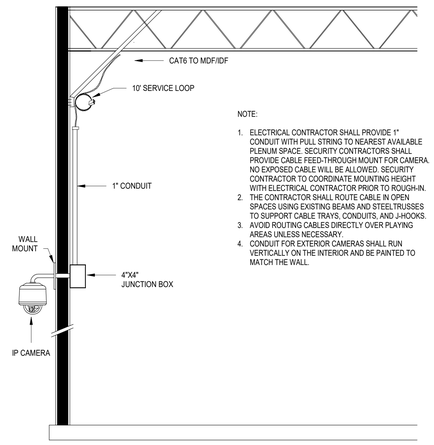


NOTE:

1. ELECTRICAL CONTRACTOR SHALL PROVIDE 1" CONDUIT WITH PULL STRING TO NEAREST AVAILABLE PLENUM SPACE. SECURITY CONTRACTORS SHALL PROVIDE CABLE FEED-THROUGH MOUNT FOR CAMERA. NO EXPOSED CABLE WILL BE ALLOWED. SECURITY CONTRACTOR TO COORDINATE MOUNTING HEIGHT WITH ELECTRICAL CONTRACTOR PRIOR TO ROUGH-IN.
2. THE CONTRACTOR SHALL ROUTE CABLE IN OPEN SPACES USING EXISTING BEAMS AND STEELTRUSSES TO SUPPORT CABLE TRAYS, CONDUITS, AND J-HOOKS.
3. AVOID ROUTING CABLES DIRECTLY OVER PLAYING AREAS UNLESS NECESSARY.

NOT TO SCALE

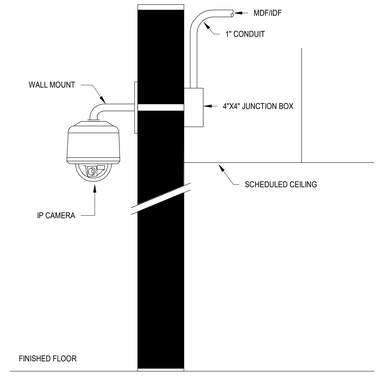
1 CORNER MOUNTED CAMERA
12" = 1'-0"



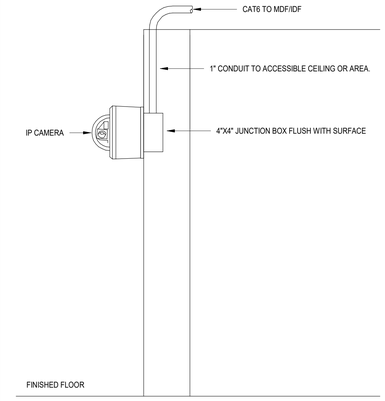
NOTE:

1. ELECTRICAL CONTRACTOR SHALL PROVIDE 1" CONDUIT WITH PULL STRING TO NEAREST AVAILABLE PLENUM SPACE. SECURITY CONTRACTORS SHALL PROVIDE CABLE FEED-THROUGH MOUNT FOR CAMERA. NO EXPOSED CABLE WILL BE ALLOWED. SECURITY CONTRACTOR TO COORDINATE MOUNTING HEIGHT WITH ELECTRICAL CONTRACTOR PRIOR TO ROUGH-IN.
2. THE CONTRACTOR SHALL ROUTE CABLE IN OPEN SPACES USING EXISTING BEAMS AND STEELTRUSSES TO SUPPORT CABLE TRAYS, CONDUITS, AND J-HOOKS.
3. AVOID ROUTING CABLES DIRECTLY OVER PLAYING AREAS UNLESS NECESSARY.
4. CONDUIT FOR EXTERIOR CAMERAS SHALL RUN VERTICALLY ON THE INTERIOR AND BE PAINTED TO MATCH THE WALL.

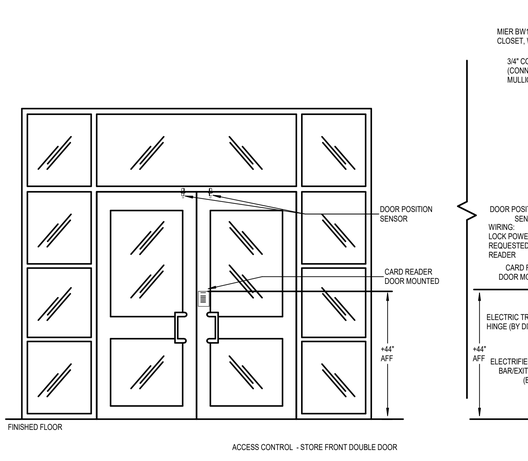
2 WALL MOUNTED CAMERA - OPEN SPACES
12" = 1'-0"

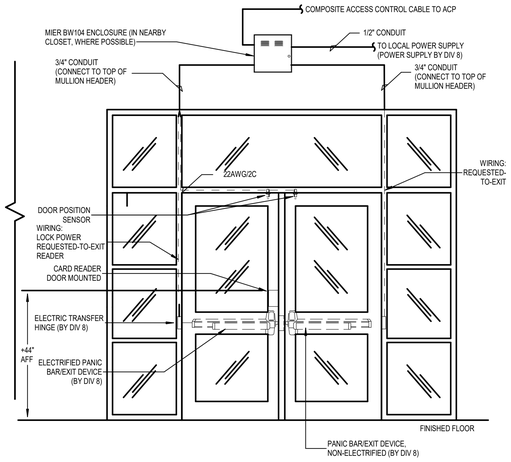


3 EXTERIOR WALL MOUNTED CAMERA
12" = 1'-0"



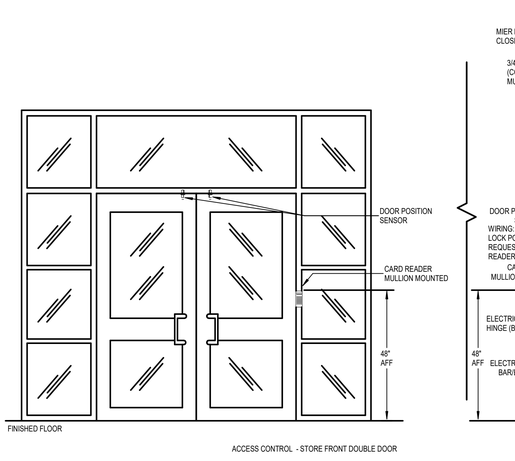
4 INTERIOR WALL MOUNTED CAMERA
12" = 1'-0"

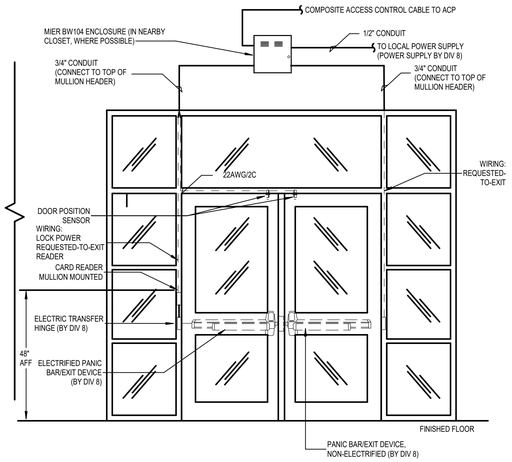




ACCESS CONTROL - STORE FRONT DOUBLE DOOR

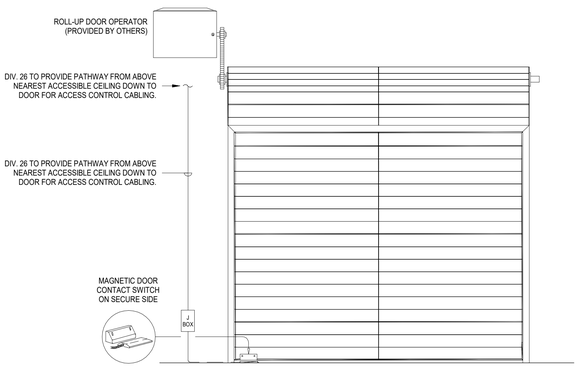
5 STORE FRONT DOUBLE DOOR - DOOR MOUNTED CARD READER
12" = 1'-0"



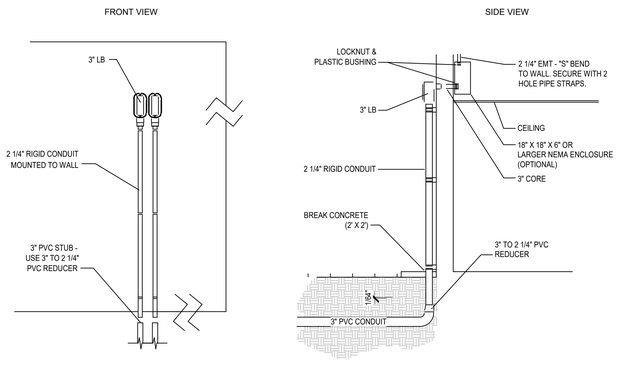


ACCESS CONTROL - STORE FRONT DOUBLE DOOR

6 STORE FRONT DOUBLE DOOR - MULLION MOUNTED CARD READER
12" = 1'-0"

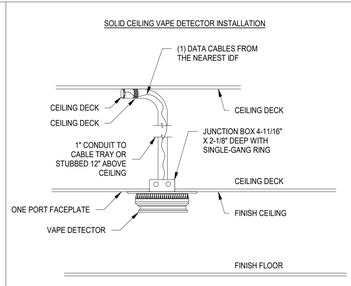


7 OVERHEAD DOOR SURFACE MOUNT CONTACT
SCALE: 12" = 1'-0"

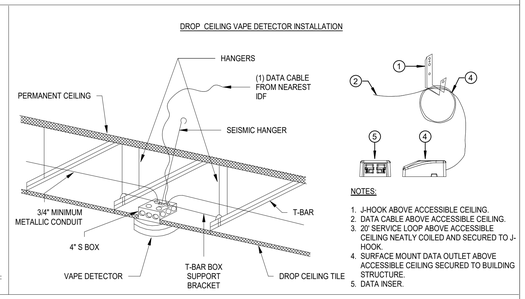


8 UNDERGROUND CONDUIT TO ABOVE CEILING
SCALE: 12" = 1'-0"

SOLID CEILING VAPE DETECTOR INSTALLATION



DROP CEILING VAPE DETECTOR INSTALLATION

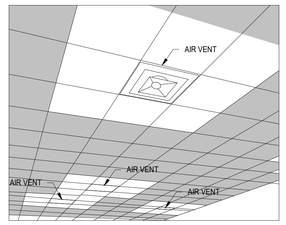


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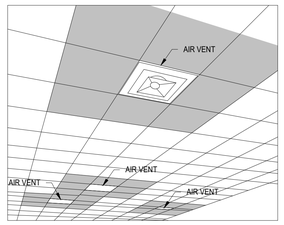
1. J-HOOK ABOVE ACCESSIBLE CEILING.
2. DATA CABLE ABOVE ACCESSIBLE CEILING.
3. 20' SERVICE LOOP ABOVE ACCESSIBLE CEILING NEATLY COILED AND SECURED TO J-HOOK.
4. SURFACE MOUNT DATA OUTLET ABOVE ACCESSIBLE CEILING SECURED TO BUILDING STRUCTURE.
5. DATA INSER.

NOTE:

1. HALO SHOULD BE INSTALLED AT LEAST ONE 2'X2' CEILING TILE AWAY FROM ANY AIR VENT OR HVAC UNIT. DO NOT INSTALL HALO NEXT TO ANY VENT/HVAC UNIT.
2. HALO SHALL NOT EXCEED A MOUNTING HEIGH OF 9' AFF. WHERE CEILING HEIGHTS ARE GREATER THAN 9', PROVIDE PENDANT MOUNTS TO ACHIEVE AND MAINTAIN THE REQUIRED MOUNTING HEIGHT.



CORRECT HALO VAPE DETECTION INSTALLATION



INCORRECT HALO VAPE DETECTION INSTALLATION

9 VAPE DETECTOR MOUNTING DETAIL
12" = 1'-0"

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LEAF ENGINEERS
F-18572

CLIENT	
TOMBALL ISD	
DATE	PROJECT NUMBER
10/30/2026	25046901

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CL
DRAWN BY: MT

TECHNOLOGY DETAILS

TN-701

EAV0.01 - Legend, Notes, Data Coordination

AUDIOVISUAL LEGEND

DEVICE			COORDINATION POWER (DIV. 26)	COORDINATION DATA (DATACOMM)
S1	ENCLOSURE: 2-GANG, 3-1/2" DEEP BOX, (1) 3/4" C EMT MOUNTING: SURFACE MOUNTED TO CEILING TO DECK. VERIFY MOUNTING HEIGHT AND LOCATION WITH ARCH. PRIOR TO ROUGH-IN. PANEL: 2-GANG PLATE; RE: DETAILS. DEVICE(S): SPEAKER LEVEL CABLE	SPEAKER SYSTEMS	X	
TP	ENCLOSURE: 2-GANG, 3-1/2" DEEP BOX, (1) 3/4" C EMT MOUNTING: RECESS IN WALL CENTERED AT 4' A.F.F. VERIFY MOUNTING HEIGHT AND LOCATION WITH ARCH. PRIOR TO ROUGH-IN. PANEL: 2-GANG PLATE; RE: DETAILS. DEVICE(S): TOUCH PANEL, CATEGORY 6 CABLE	TOUCH PANELS	X	
BT	ENCLOSURE: 2-GANG, 3-1/2" DEEP BOX, (1) 3/4" C EMT MOUNTING: RECESS IN WALL CENTERED AT 1'-6" A.F.F. VERIFY MOUNTING HEIGHT AND LOCATION WITH ARCH. PRIOR TO ROUGH-IN. PANEL: 2 GANG DECORA DEVICE(S): BLUETOOTH-DANTE AUDIO ENCODER, CATEGORY 6 CABLE	BLUETOOTH AUDIO	X	
JB	ENCLOSURE: 24"x24"x6" NEMA TYPE 1 JUNCTION BOX WITH SCREW COVER (2) 2" C EMT MOUNTING: SURFACE MOUNTED TO HIGH CEILING, 35' AFF. VERIFY MOUNTING HEIGHT AND LOCATION WITH ARCH. PRIOR TO ROUGH-IN. PANEL: SCREW COVER - JB DEVICE(S): WIRE, EMT CONDUIT	JUNCTION BOX	X	
JR	ENCLOSURE: ENCLOSURE: 24"x24"x6" NEMA TYPE 1 JUNCTION BOX WITH SCREW COVER, (3) 2" C EMT MOUNTING: SURFACE MOUNTED TO CEILING ABOVE ER1., 10' AFF. VERIFY MOUNTING HEIGHT AND LOCATION WITH ARCH. PRIOR TO ROUGH-IN. PANEL: SCREW COVER - JR DEVICE(S): WIRE, EMT CONDUIT	JUNCTION BOX	X	
AN	ENCLOSURE: 2-GANG, 3-1/2" DEEP BOX MOUNTING: RECESS IN WALL CENTERED AT 10'-0". VERIFY MOUNTING HEIGHT AND LOCATION WITH ARCH. PRIOR TO ROUGH-IN. PANEL: 2-GANG PLATE; RE: DETAILS. DEVICE(S): ANTENNA - SEE PLANS AND DETAILS FOR ANTENNA TYPES AND QUANTITY OF EACH TYPE.	ANTENNA	X	
PB	ENCLOSURE: SIZED BY EC, NEMA TYPE 1 JUNCTION BOX WITH SCREW COVER MOUNTING: SURFACE MOUNTED INTERMEDIATE PULL POINTS BETWEEN DEVICE AND JB/JR. PANEL: SCREW COVER - PB DEVICE(S): STANDARD PULL POINT - PLACED EVERY 100' OR EVERY 180 DEGREES OF BEND IN PATHWAYS FROM S1, TP, BT, AN, ect. TO JB AND JR. .	PULL BOX	X	
AP	ENCLOSURE: 2-GANG, 3-1/2" DEEP BOX, (1) 3/4" C EMT MOUNTING: RECESS IN WALL CENTERED AT 12' A.F.F. VERIFY MOUNTING HEIGHT AND LOCATION WITH ARCH. PRIOR TO ROUGH-IN. PANEL: 2 GANG PLATE DEVICE(S): UBIQUITI U7-LR WIRELESS ACCESS POINT FOR AV LAN.	ACCESS POINT	X	

(cable tray symbol)	CABLE TRAY: HOFFMAN LSS12BLK SERIES 1'-0" LADDER TRAY, OR EQUAL, COMPLETE WITH ALL REQUIRED MOUNTING HARDWARE (PROVIDED BY DIV. 270529 TO DIV. 26 E.C. FOR INSTALLATION)	(aiming point symbol)	LOUDSPEAKER AIMING POINT

AUDIOVISUAL LEGEND

DEVICE		COORDINATION POWER (DIV. 26)	COORDINATION DATA (DATACOMM)

ELECTRICAL & CONDUIT INSTALLATION NOTES (CMR, DIV. 26)

1. ALL 120VAC POWER CONDUCTORS, POWER DISTRIBUTION PANELS, JUNCTION BOXES, TERMINAL PANELS, CONDUITS, WIREWAYS, POWER RECEPTACLES AND ALL OTHER DEVICES ASSOCIATED WITH 120VAC POWER CIRCUITS SHALL BE FURNISHED, INSTALLED AND TERMINATED UNDER DIVISION 26 UNLESS OTHERWISE NOTED.
2. ALL CONDUIT SHOWN IS FOR AUDIO/VISUAL AND SOUND REINFORCEMENT SYSTEMS AND IS NOT RELATED TO ANY CONDUIT FOR AC POWER.
3. ALL CONDUIT IS 3/4" EMT UNLESS OTHERWISE NOTED.
4. ALL CONDUIT CONNECTIONS SHALL BE FURNISHED WITH NYLON BUSHINGS TO PREVENT DAMAGE TO CABLES FROM BURRED OR UNEVENLY CUT CONDUIT.
5. USE INSULATED BUSHINGS TO CONNECT CONDUIT TO EQUIPMENT RACKS, TO INSULATE CONDUIT GROUND FROM EQUIPMENT RACK GROUND SYSTEM.
6. KEEP 90° BENDS TO A MINIMUM. THE CONDUIT SYSTEM SHALL NOT HAVE MORE THAN THREE 90° BENDS OR THEIR EQUIVALENT BETWEEN PULL BOXES.
7. ALL PULL BOXES AND OUTLET BOXES SHALL BE AT LEAST 3-1/2" DEEP.
8. ALL CONDUIT RUNS IN EXCESS OF 100 FEET SHALL HAVE INTERMEDIATE JUNCTION BOXES EVERY 100 FEET OR THREE BENDS, WHICHEVER COMES FIRST.
9. ALL AUDIO/VISUAL SYSTEM RELATED JUNCTION BOXES SHALL REMAIN ACCESSIBLE AT ALL TIMES.
10. INSTALL NYLON PULL STRINGS IN ALL EMPTY CONDUITS.
11. CAULK OR OTHERWISE SEAL ALL PENETRATIONS THROUGH ACOUSTICAL PARTITIONS AND BARRIERS.
12. ALL PENETRATIONS THROUGH FIRE-RATED WALLS AND ASSEMBLIES SHALL BE SEALED WITH FIRESTOP MATERIAL PER APPLICABLE CODE. REFER TO DIVISION 7.
13. ELECTRICAL CONTRACTOR SHALL REFER TO ELECTRICAL DRAWINGS FOR ALL 120VAC CONDUIT SIZING.
14. ELECTRICAL CONTRACTOR SHALL REFER TO OTHER DRAWINGS FOR NON-AUDIO/VISUAL SYSTEM RELATED ELECTRICAL INFORMATION FOR THESE AREAS. AUDIO/VISUAL SYSTEM DRAWINGS DO NOT CONTAIN ALL ROOM ELECTRICAL REQUIREMENTS.
15. THE ELECTRICAL CONTRACTOR SHALL INSTALL AND WIRE ALL HIGH VOLTAGE DEVICES.
16. ALL POWER CIRCUITS SHALL BE 120VAC, 20 AMP DEDICATED CIRCUITS UNLESS OTHERWISE NOTED.
17. ELECTRICAL CONTRACTOR SHALL LABEL ALL CIRCUIT BREAKER POSITIONS IN ALL BREAKER PANELS.
18. INSTALL SEPARATE DEDICATED NEUTRAL CONDUCTOR FROM POWER DISTRIBUTION PANEL FOR EACH INDIVIDUAL CIRCUIT.
19. ALLOW MINIMUM 20% SPARE BREAKERS FOR EACH POWER DISTRIBUTION PANEL.
20. 120VAC POWER TO THE EQUIPMENT RACKS SHALL BE TERMINATED INSIDE THE RACKS TO AUDIO/VISUAL SYSTEM SUBCONTRACTOR-SUPPLIED ISOLATED GROUND PLUGMOLD PLUGSTRIPS OR ISOLATED GROUND QUAD CONVENIENCE OUTLETS.
21. CLEARLY LABEL BREAKER PANEL DOOR "AUDIO/VISUAL SYSTEM EQUIPMENT ONLY".
22. INTEGRATED RECESSED LOUDSPEAKER ASSEMBLIES SHALL BE FURNISHED AND INSTALLED BY THE AUDIO/VISUAL SYSTEMS CONTRACTOR. SHOULD SUBSTITUTE EQUIPMENT BE PROVIDED BY THE AV CONTRACTOR THAT REQUIRE THE USE OF DEDICATED LOUDSPEAKER BACK-CANS, THE AV CONTRACTOR SHALL SUPPLY SUCH DEVICES TO DIV. 26 FOR INSTALLATION. ALL OTHER ENCLOSURES AND FLOOR BOXES ASSOCIATED WITH AUDIOVISUAL SCOPES OF WORK, AS CALLED OUT IN THE AUDIOVISUAL DEVICE LEGEND, AND TO INCLUDE EXTERIOR AND SPECIALTY ENCLOSURES LISTED, SHALL BE PROVIDED AND INSTALLED UNDER DIVISION 26, UNLESS EXPLICITLY NOTED OTHERWISE.
23. REFER TO "RELATED WORK IN OTHER SECTIONS" IN AUDIO/VISUAL SYSTEM SPECIFICATION SECTIONS FOR ADDITIONAL INFORMATION.
24. CONDUIT SHALL BE REQUIRED BETWEEN ANY AND ALL LOUDSPEAKERS. WHERE PLENUN-RATED LOUDSPEAKER CABLE IS ALLOWED BY CODE, THIS CONSULTANT WILL CONSIDER SUBSTITUTION REQUESTS SUBMITTED FORMALLY BY THE CONSTRUCTION TEAM, APPROVAL OF WHICH IS SUBJECT TO THE BEST INTERESTS OF THE PROJECT.
25. WIRE NOT INSTALLED IN EQUIPMENT RACKS, NOT PORTABLE, OR NOT INSTALLED IN CONDUIT SHALL BE FIRE-RATED AND MEET ALL APPLICABLE CODES.

AUDIOVISUAL DATA DROP REQUIREMENTS (BY DATACOMM)

DEVICE	QTY	DESCRIPTION
ER*	2	(2) ETHERNET DATA OUTLETS AT EACH SOUND / AV SYSTEM EQUIPMENT RACK "ER*".

1 AV - LEGEND
1/8" = 1'-0"

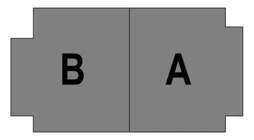
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KEY PLAN

PLAN NORTH
TRUE NORTH

INTERIM NOTIFICATION

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Architectural Registration No. 14374

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DATE 10/30/2026	PROJECT NUMBER 25046901

DRAWING HISTORY

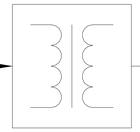
No.	Description	Date

CHECKED BY: *JRM*
DRAWN BY: *TJE*

Legend, Notes, Data Coordination

EAV0.01

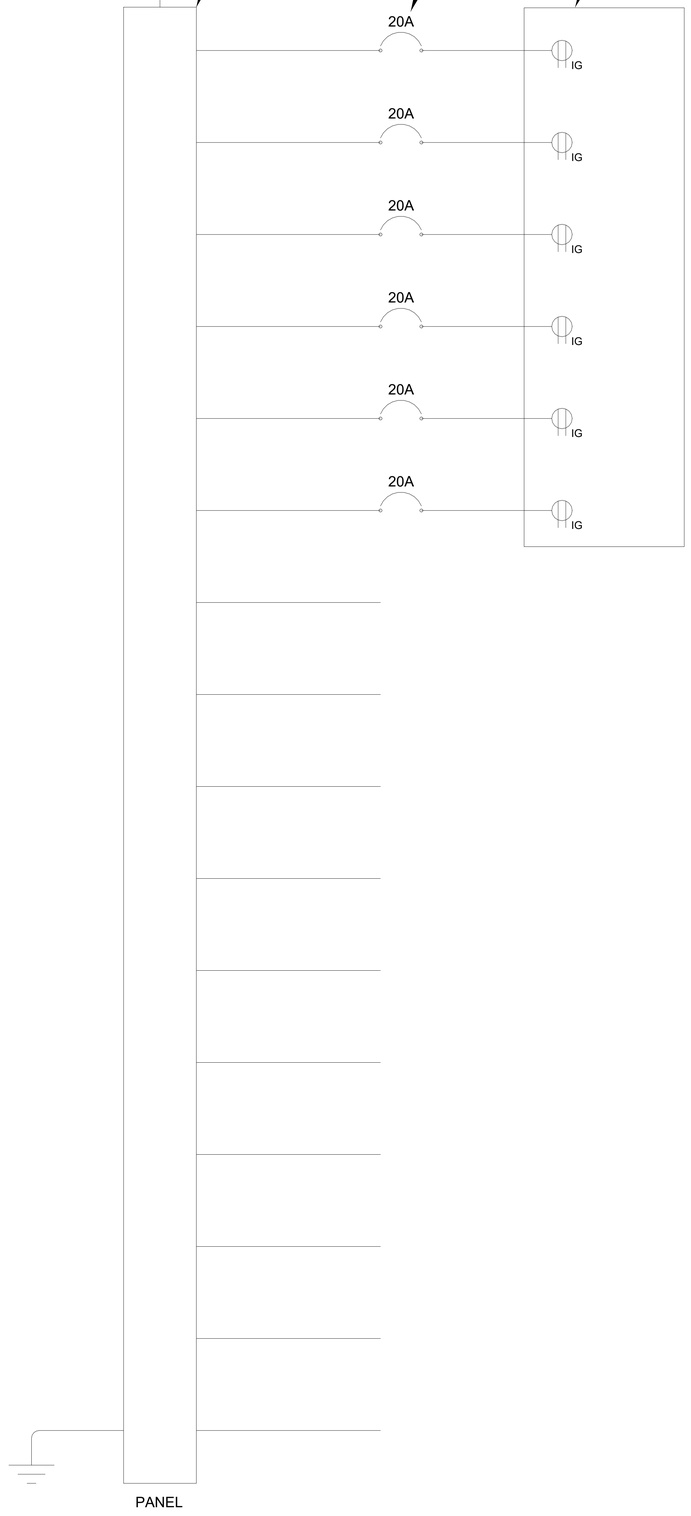
(BY DIV. 26) K-13 RATED ELECTROSTATICALLY SHIELDED ISOLATION TRANSFORMER WITH COPPER WINDINGS, DOUBLE SIZE NEUTRAL TERMINAL, AND ADDITIONAL TRANSIENT VOLTAGE SURGE SUPPRESSION. TRANSFORMER SHALL NOT BE LOCATED WITHIN 14 FEET OF AV EQUIPMENT LOCATIONS.



DEDICATED SOUND/AV SYSTEM POWER DISTRIBUTION PANEL (BY DIV. 26)

SINGLE PHASE DEDICATED CIRCUITS (20 AMP CIRCUITS TERMINATED IN DUPLEX RECEPTACLES UNLESS OTHERWISE NOTED)

SOUND SYSTEM EQUIPMENT RACK(S)



(06) 20-AMP CIRCUITS TERMINATED TO DUPLEX OUTLETS INSIDE EQUIPMENT RACK "ER1" OUTLETS SHALL BE RLM-20IGA RECEPTACLES PROVIDED BY DIV 27.

QTY: **6** (120VAC 20-AMP SINGLE PHASE)

POWER CIRCUITS ASSOCIATED WITH SOUND/AV SYSTEMS FROM DEDICATED POWER TRANSFORMER AND DISTRIBUTION PANEL.

AVERAGE CURRENT DRAW AND HEAT LOADS ASSOCIATED WITH SOUND/AV SYSTEMS IN OPERATION WITH TYPICAL PROGRAM MATERIAL WITH OCCASIONAL CLIPPING:

CURRENT DRAW BASED ON 120VAC CIRCUITS AT SECONDARY SIDE OF ISOLATION TRANSFORMER. TRANSFORMER SHALL BE SIZED BY PROJECT ELECTRICAL CONSULTANT

NOTES:

1. POWER OUTLETS INSIDE RACKS (RLM-20IGA) FURNISHED BY DIV. 27, INSTALLED AND TERMINATED BY ELECTRICAL CONTRACTOR.
2. COORDINATE WITH ELECTRICAL CONTRACTOR FOR EXACT LOCATIONS AND TERMINATION OF AC POWER.
3. REFER TO SOUND SYSTEM SPECIFICATIONS UNDER "RELATED WORK BY OTHERS" FOR ADDITIONAL INFORMATION.
4. ALL CIRCUITS ARE 20 AMP ISOLATED GROUND UNLESS OTHERWISE NOTED.
5. CURRENT DRAW BASED ON 120VAC CIRCUITS AT SECONDARY SIDE OF ISOLATION TRANSFORMER. TRANSFORMER TO BE SIZED BY PROJECT ELECTRICAL ENGINEER.
6. CURRENT DRAW AND HEAT LOAD FOR EACH SYSTEM SHOWN REPRESENT AVERAGE LOADS FOR SOUND SYSTEMS IN OPERATION WITH PROGRAM MATERIAL AT TYPICAL MAXIMUM LEVEL OPERATION.

CONVENIENCE OUTLETS/CIRCUITS ASSOCIATED WITH AUDIOVISUAL SYSTEMS

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Power Coordination

EAV0.02

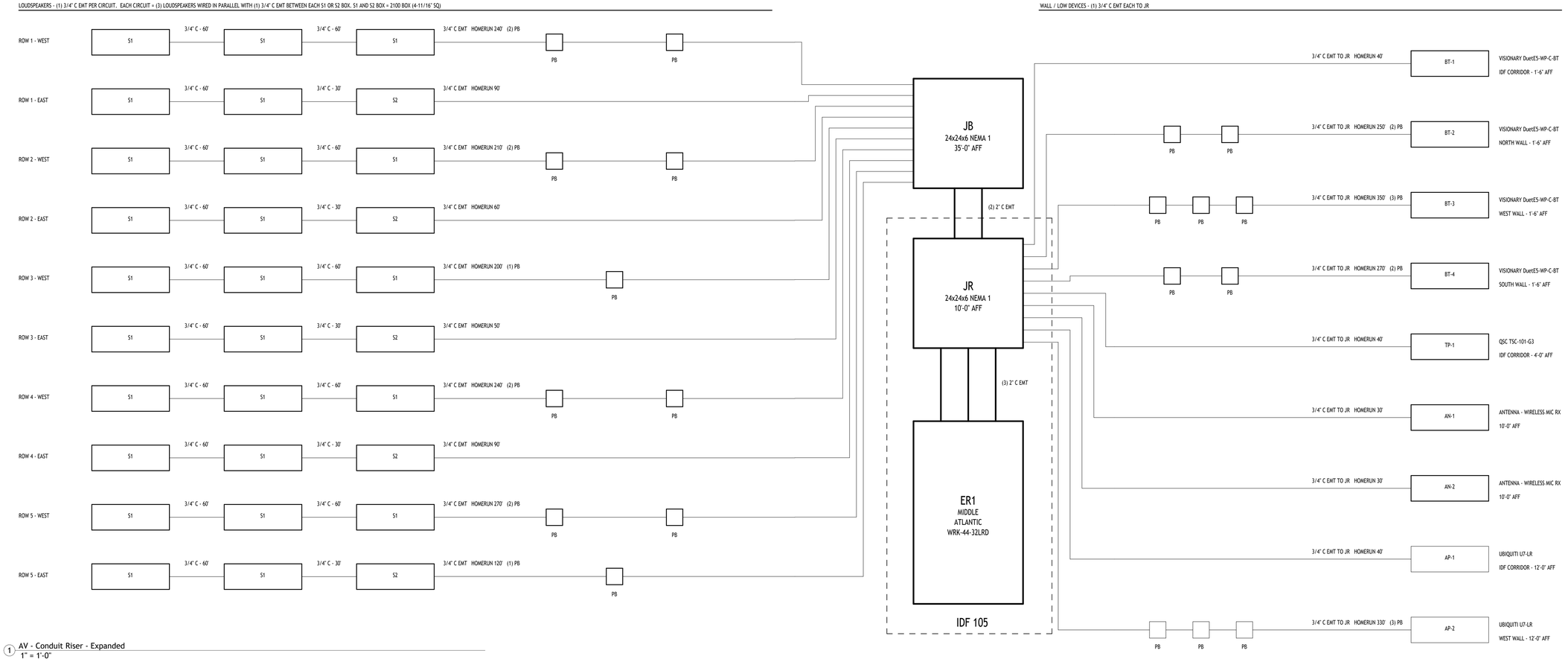
AV CONDUIT RISER DIAGRAM - TOMBALL ISD MULTI-PROGRAM ACTIVITY CENTER

ALL ENDPOINTS, CONDUIT RUNS AND INTERMEDIATE PULL POINTS SHOWN. PB = 2100 BOX (4-11/16" SQ)

INTERMEDIATE PULL POINT REQUIRED EVERY 100' OF CONTINUOUS HOMERUN OR EVERY 180 DEG. OF BEND.

PATHWAY SUMMARY: 30 LOUDSPEAKERS IN 10 CIRCUITS TO JB - 4 BT, 1 TP, 2 AN, 2 AP TO JR

LENGTHS ARE ORTHOGONAL ROUTED ESTIMATES FROM MODELED DEVICE LOCATIONS, BEND-DRIVEN PULL POINTS MAY REQUIRE ADDITIONAL PB's - FIELD COORDINATE.



1 AV - Conduit Riser - Expanded
1" = 1'-0"

CONDUIT NOTES

1. ALL CONDUIT IS EMT UNLESS OTHERWISE NOTED.
2. CONDUIT SIZE IS 3/4" UNLESS OTHERWISE NOTED.
3. FIELD-COORDINATE ALL CONDUIT ROUTING. MINIMIZE ANY EXPOSED CONDUIT; VERIFY ROUTING OF ANY EXPOSED CONDUIT WITH ARCH. PRIOR TO INSTALLATION.
4. COORDINATION REQUIRED BETWEEN ELECTRICAL AND AUDIOVISUAL REGARDING WALL/FLOOR PENETRATIONS OR CORES ASSOCIATED WITH AUDIOVISUAL SYSTEM DEVICES. ALL PENETRATIONS IN ACOUSTICALLY SENSITIVE AREAS TO BE SEALED WITH RESILIENT CAULK. PROVIDE FIRE-RATED SEALANT AS/WHERE REQUIRED BY SUPERSEDING CODE.
5. CONFORM TO ALL PROJECT REQUIREMENTS AND ALL LOCAL, OR OTHERWISE SUPERSEDING, CODES PERTAINING TO ACCEPTABLE AND/OR APPROVED MATERIALS FOR CONDUITS AND PATHWAYS INSTALLED BELOW GRADE, TO INCLUDE ACCESSORIES REQUIRED FOR MOUNTING, COUPLING, AND OTHERWISE REQUIRED FOR A COMPLETE PATHWAY SYSTEM.
6. PULL BOXES (PB) TO BE PLACED AS NEEDED AND SIZED BY EC. PROVIDE A PULL BOX FOR CONDUIT RUNS EVERY 100' OR EVERY 180 DEGREES OF CONDUIT BEND.

2 AV - Conduit Notes
3/16" = 1'-0"

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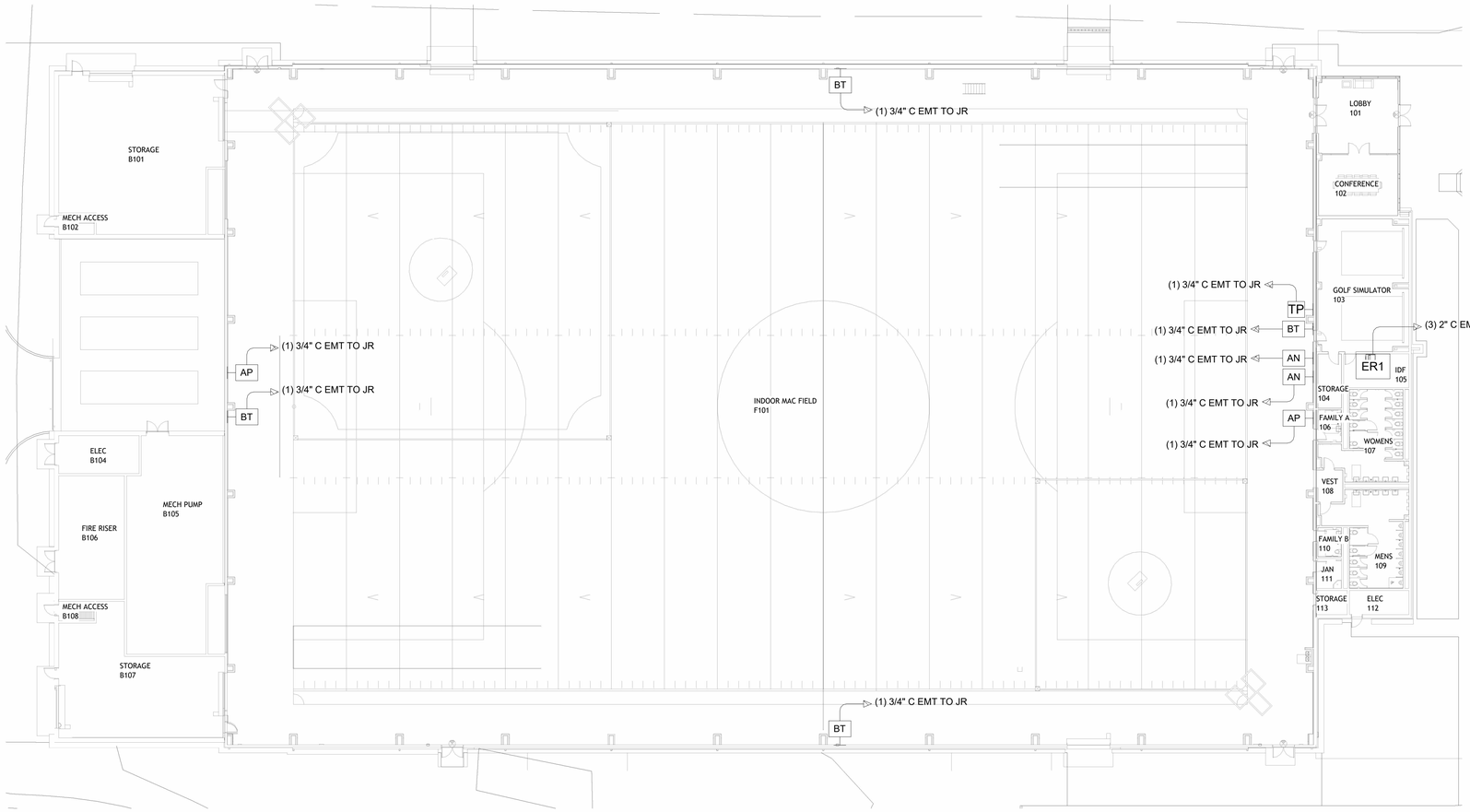
No.	Description	Date

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Conduit Riser

EAV0.03

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1 AV - Level 1 Device Plan
1/16" = 1'-0"

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Overall Floor Plan

EAV1.01



1 AV - Level 1 Enlarged - IDF Scope
3/16" = 1'-0"

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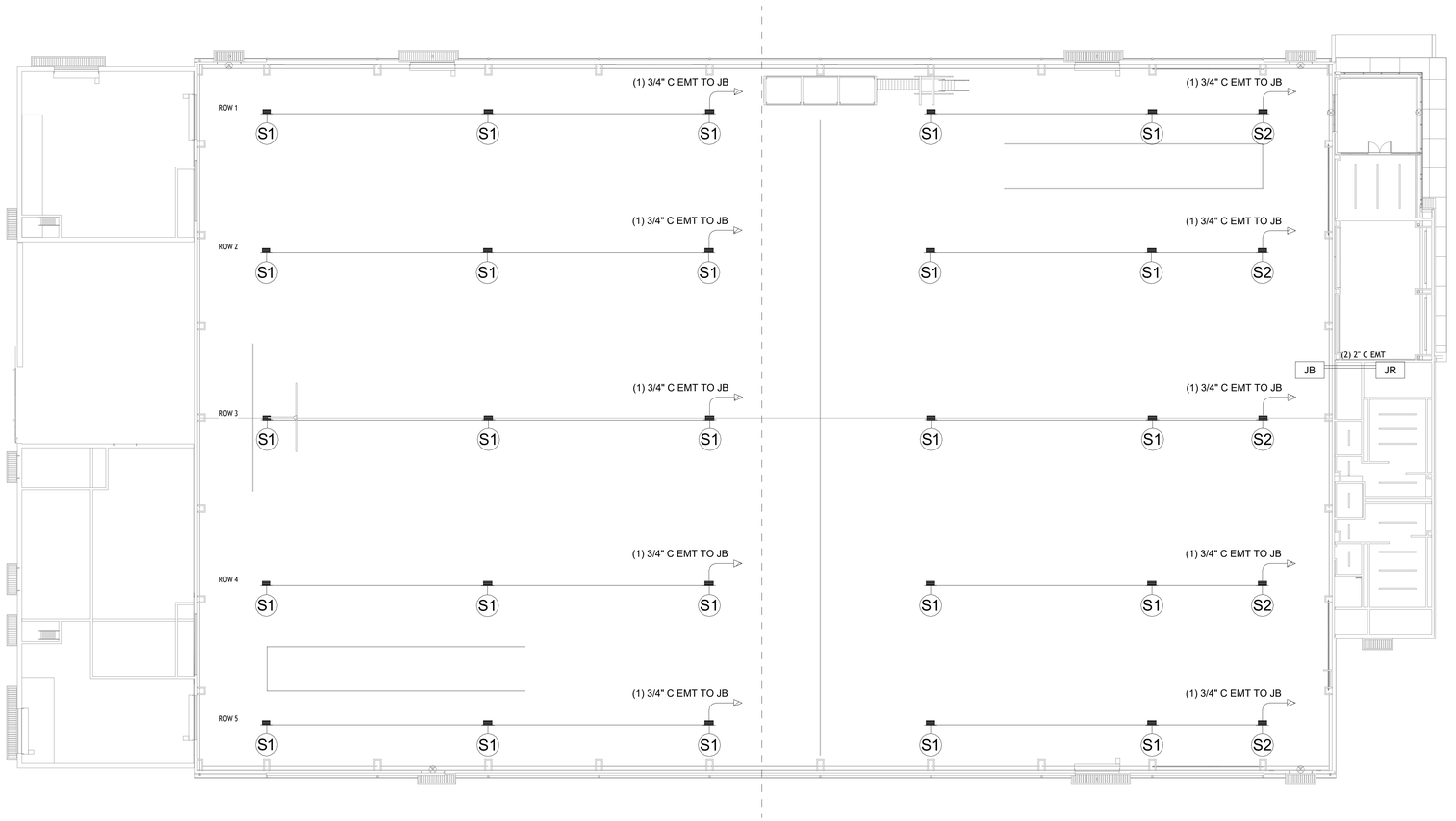
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Enlarged Plan - IDF

EAV1.02

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1 AV - Level 1 RCP
1/16" = 1'-0"

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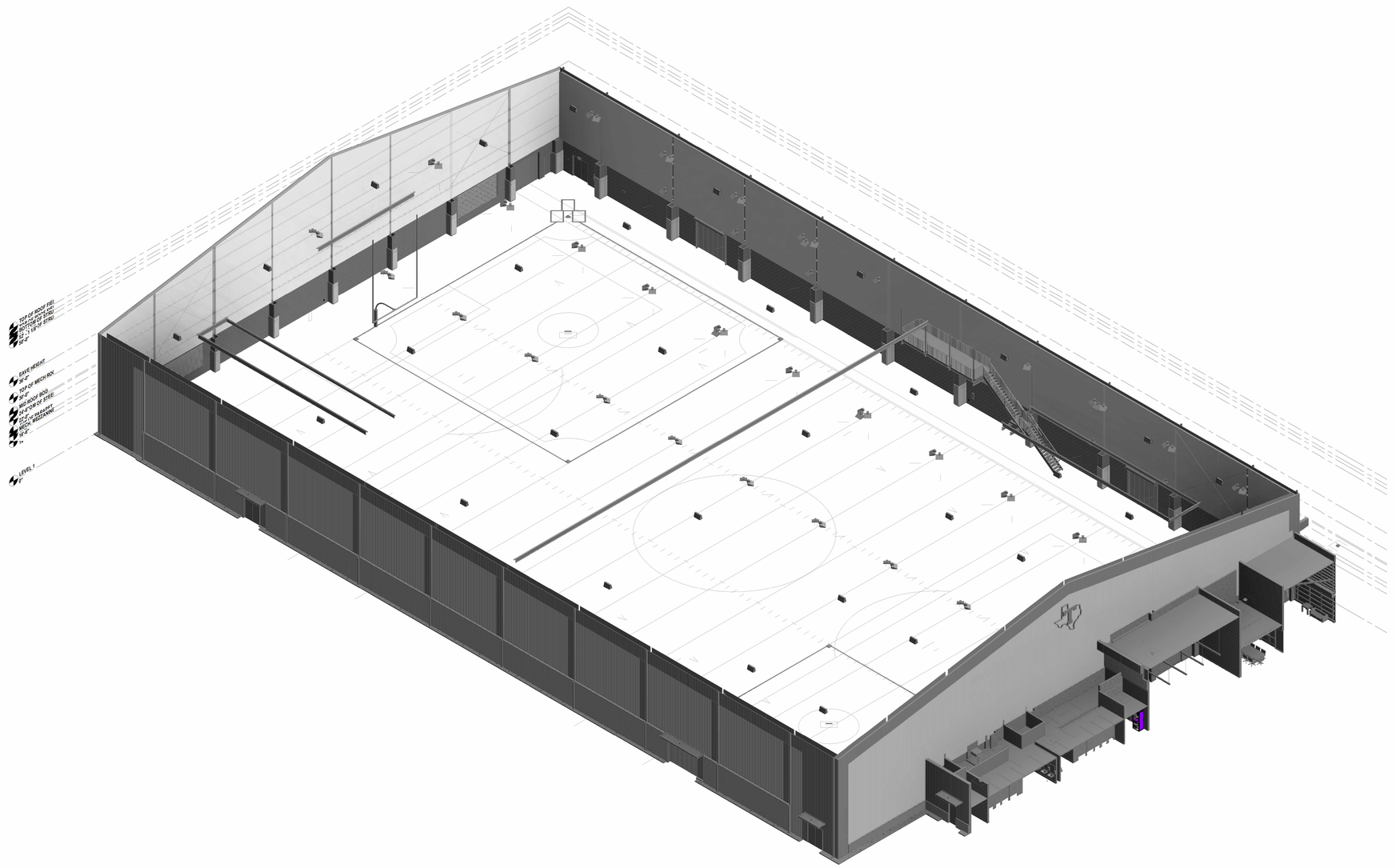
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Overall RCP

EAV2.01

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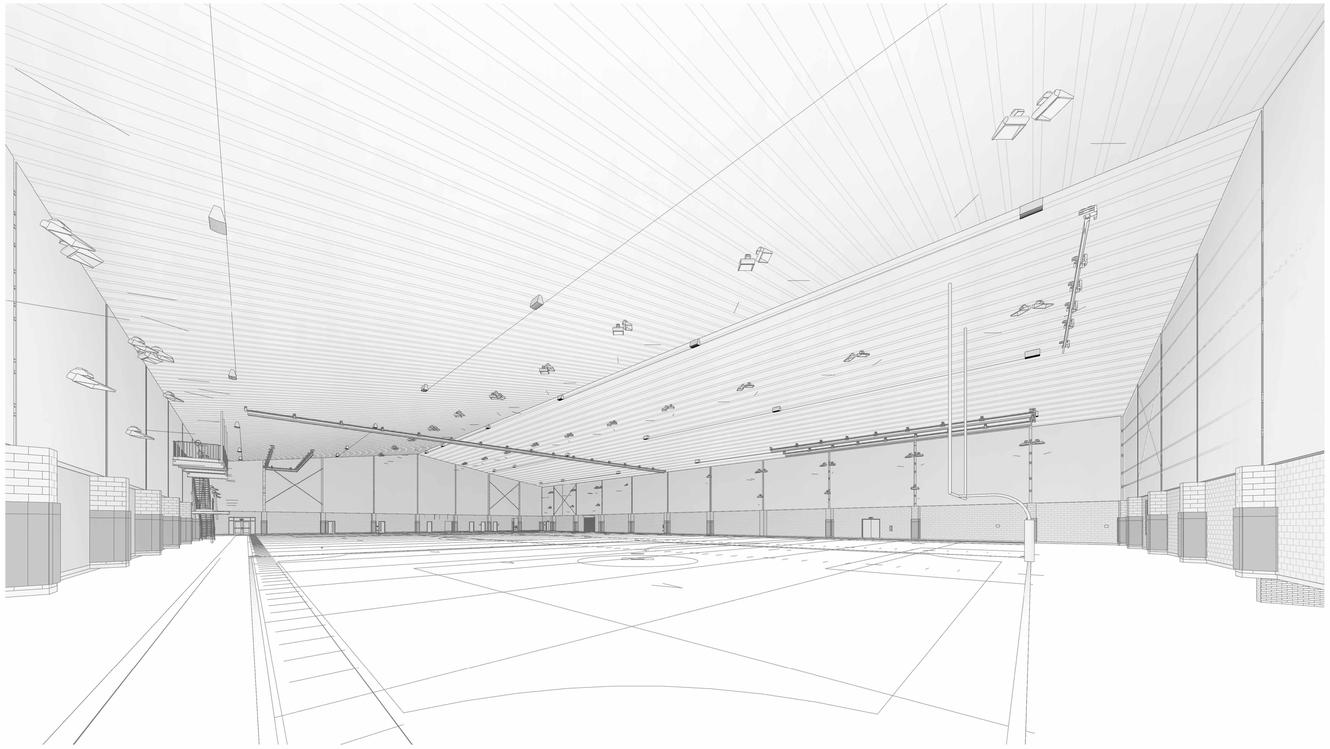
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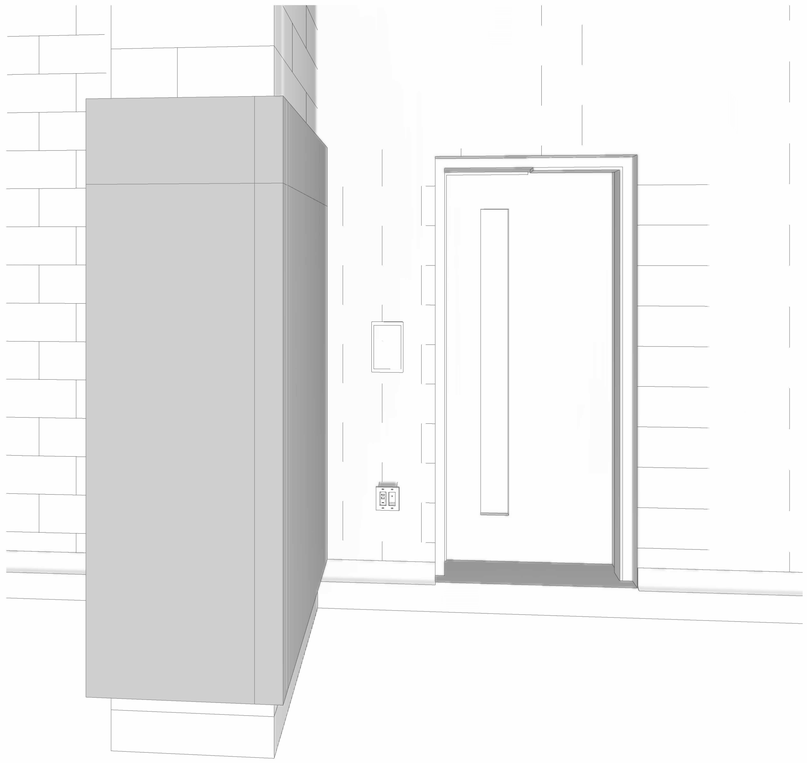
Building Sections - Indoor Mac Field

EAV4.01

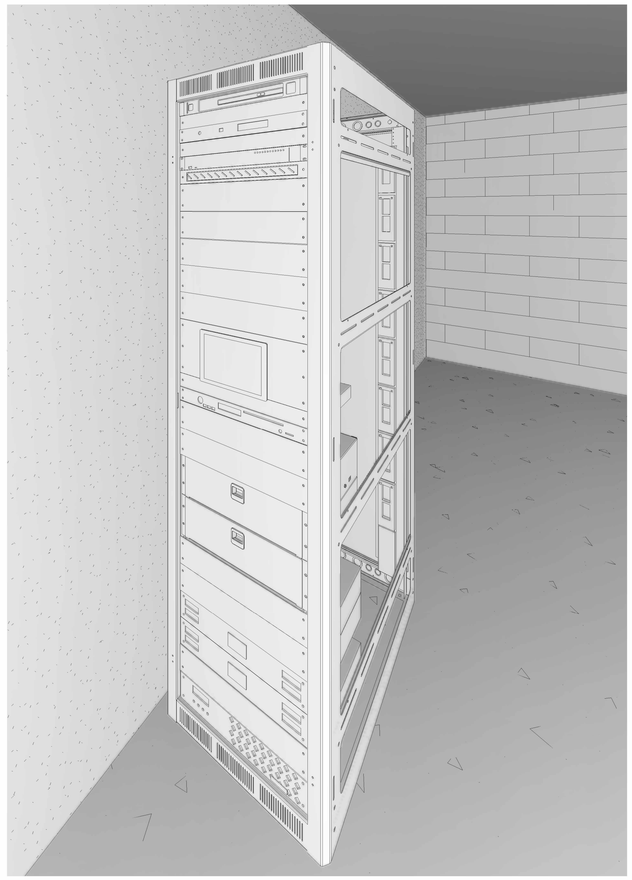
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1 AV - Level 1 Render



2 AV - TP/WP-BT Render



3 AV - ER1 Render

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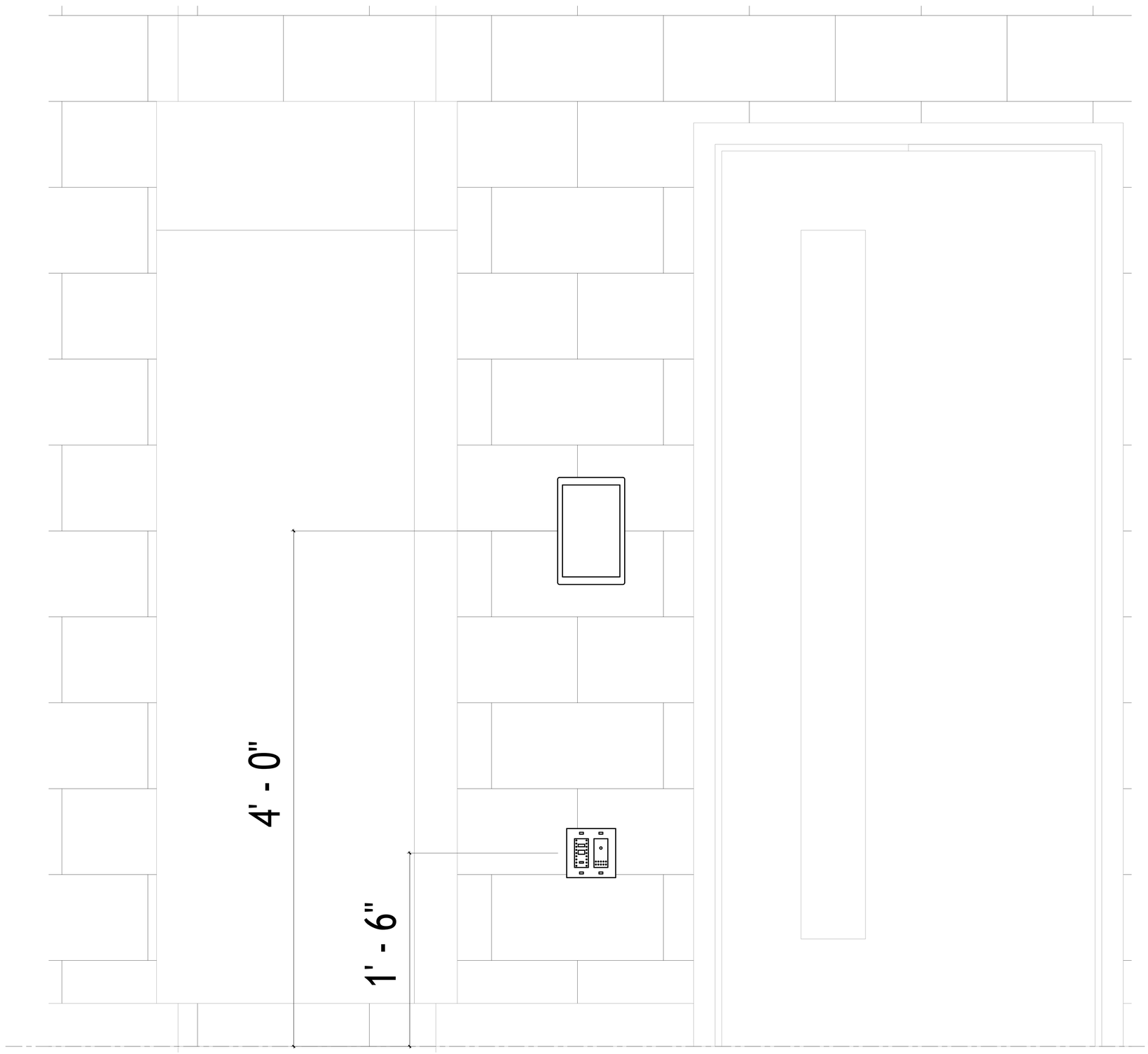
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Building Sections - 3D Renders

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1 TP & BT - Elevation Detail
3" = 1'-0"

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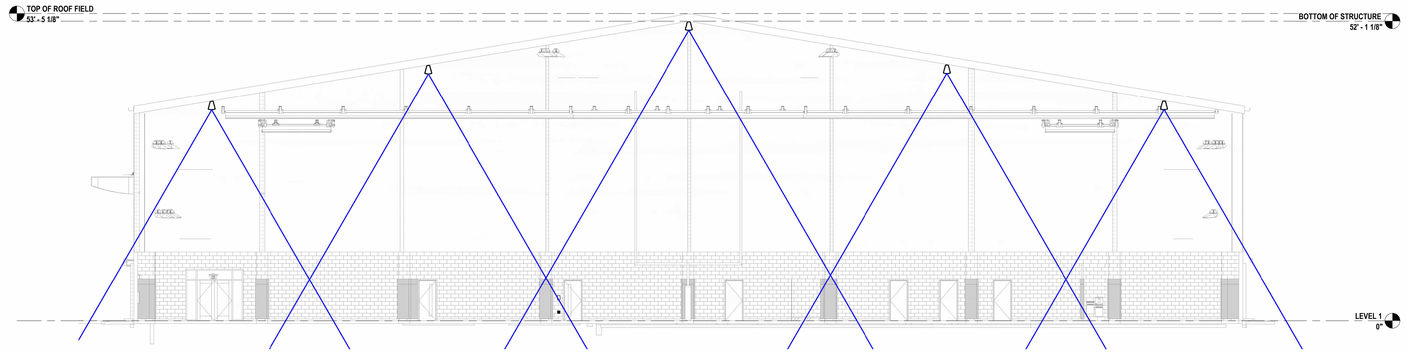
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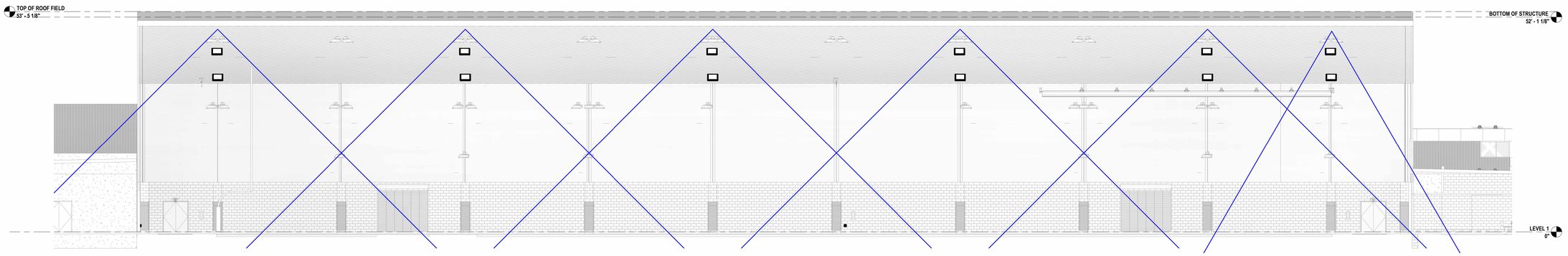
Building Sections - Touch Stations

EAV4.04

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1 S1 - AUDIO COVERAGE DETAIL 1
3/32" = 1'-0"



2 S1 - AUDIO COVERAGE DETAIL 2
3/32" = 1'-0"

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Building Sections - Audio Coverage Pattern

EAV4.05

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TOMBALL ISD MULTI-PROGRAM ACTIVITY CENTER - EQUIPMENT RACK ELEVATION - ER1

TECHNICAL DESIGN GROUP - REV 3 - 2026 - FRONT ELEVATION, N.T.S.
MIDDLE ATLANTIC WRK-44-32LRD - 44RU - 24-1/4" W x 32" D - LOCATED IDF 105

ER1 - FRONT ELEVATION

RU SPAN			RU
44	PDX1	POWER COND. - MIDDLE ATLANTIC PDX-920R-SP 9-OUTLET 20A NEXSYS	
43	BLANK PANEL - EB1	BL1	43
42	DSP1	DSP - QSC CORE 24f GPIO OUT 1 TO MPR1 RELAY CHAIN	
41	BLANK PANEL - EB1	BL1	41
40	SW1	NETWORK SWITCH - NETGEAR GSM4230P-100NAS 24-PORT POE+ / 300W BUDGET	
39	BR1	BRUSH GROMMET PANEL - LEGRAND BR1 CABLE ENTRY FROM JR ABOVE	39
38	WM1	WIRELESS MIC RX - SHURE ULXD4Q 4-CH DIGITAL WIRELESS RECEIVER - DANTE	
37	BLANK PANEL - EB1	BL1	37
35-36	BLANK PANEL - EB2	BL2	35
33-34	BLANK PANEL - EB2	BL2	33
31-32	BLANK PANEL - EB2	BL2	31
29-30	BLANK PANEL - EB2	BL2	29
25-28	TP QSC TSC-101-G3 - 10IN POE TOUCH PANEL		27 25
24	BLANK PANEL - EB1	BL1	
23	PB1	PLAYBACK - TASCAM CD-400U CD / SD / USB / BLUETOOTH / AM-FM	23
21-22	BLANK PANEL - EB2	BL2	21
19-20	BLANK PANEL - EB2	BL2	19
16-18	DRW2	LOCKING DRAWER - MIDDLE ATLANTIC D3LK 3RU LOCKING STORAGE DRAWER	17
13-15	DRW1	LOCKING DRAWER - MIDDLE ATLANTIC D3LK 3RU LOCKING STORAGE DRAWER	15 13
11-12	BLANK PANEL - EB2	BL2	11
9-10	AMP1	AMPLIFIER 1 - POWERSOFT OTTOCANALI 12K4 CH1-5 = ROW 1-5 EAST	9
7-8	AMP2	AMPLIFIER 2 - POWERSOFT OTTOCANALI 12K4 CH1-5 = ROW 1-5 WEST	7
5-6	BLANK PANEL - EB2	BL2	5
3-4	BLANK PANEL - EB2	BL2	3
1-2	UPS1	UPS - MIDDLE ATLANTIC UPX-RLNK-2000R-2 2000VA/1800W W/ RACKLINK NETWORK CARD	1

MPR1 - REAR VERTICAL RACEWAY
MIDDLE ATLANTIC MPR-8A - 72IN
MOUNTED REAR RAIL - NOT ON FRONT FACE

RLM-8 RLM-20IGA
RLM-7 RLM-20IGA
RLM-6 RLM-20IGA
RLM-5 RLM-20IGA
RLM-4 RLM-20IGA
RLM-3 RLM-20IGA
RLM-2 RLM-20IGA
RLM-1 RLM-20IGA
J-BOX

RACK SUMMARY

TOTAL CAPACITY: 44 RU | ACTIVE EQUIPMENT: 24 RU | BLANK PANELS: 20 RU | RACK FULLY POPULATED

GENERAL NOTES

1. MPR1 (MPR-8A RACEWAY W/ 8x RLM-20IGA) IS REAR-RAIL MOUNTED, VERTICAL - SHOWN AT RIGHT FOR REFERENCE ONLY; IT DOES NOT OCCUPY FRONT-FACE RACK UNITS. MODULE 1 DRY CONTACT WIRED 15-2 TO DSP1 GPIO OUT 1 FOR SEQUENCED POWER-UP OF AMPLIFIER AND RACK LOADS. EACH RLM-20IGA PROVIDES (2) 5-20RG ISOLATED-GROUND OUTLETS.
2. TP (QSC TSC-101-G3) IS SURFACE-MOUNTED TO 4RU PLATE VIA MANUFACTURER RACK-MOUNT BRACKET KIT. COORDINATE 2-GANG CUTOUT DIMENSIONS WITH TSC-101-G3 CUTSHEET PRIOR TO FABRICATION.

1 ER1 - Equipment Rack Details
3" = 1'-0"

PBK

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Tomball ISD - Multi-Program Activity Center

Tomball High School
118 Baker Dr, Tomball, Tx 77375

ISSUED FOR PROPOSAL

B A

KEY PLAN

PLAN NORTH | TRUE NORTH

INTERIM NOTIFICATION

Edmund Ramirez
Architectural Registration No. 14374

TO THE BEST OF MY KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE MINIMUM EXISTING CODES.

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10/30/2026	*25046901*

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No.	Description	Date

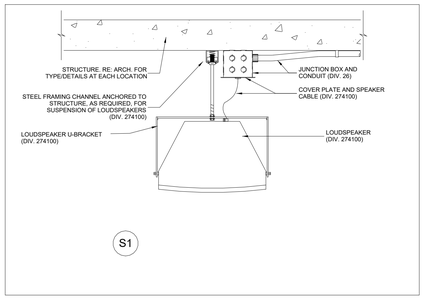
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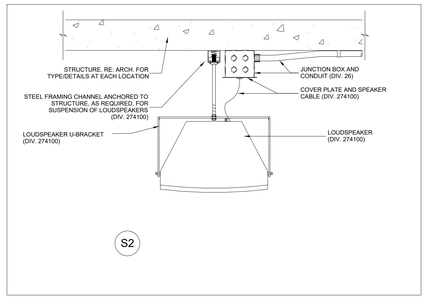
Rack Elevations

EAV7.01

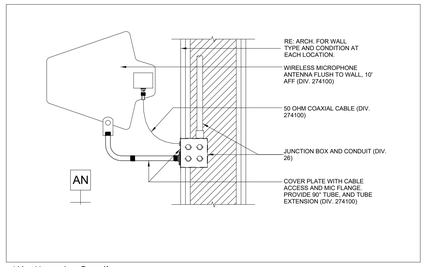
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10/30/2026 2:43:22 PM



2 S1 - Speaker Rigging Detail
1 1/2" = 1'-0"



3 S2 - Speaker Rigging Detail
1 1/2" = 1'-0"



1 AN - Mounting Detail
1 1/2" = 1'-0"

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Mounting Details

EAV8.01

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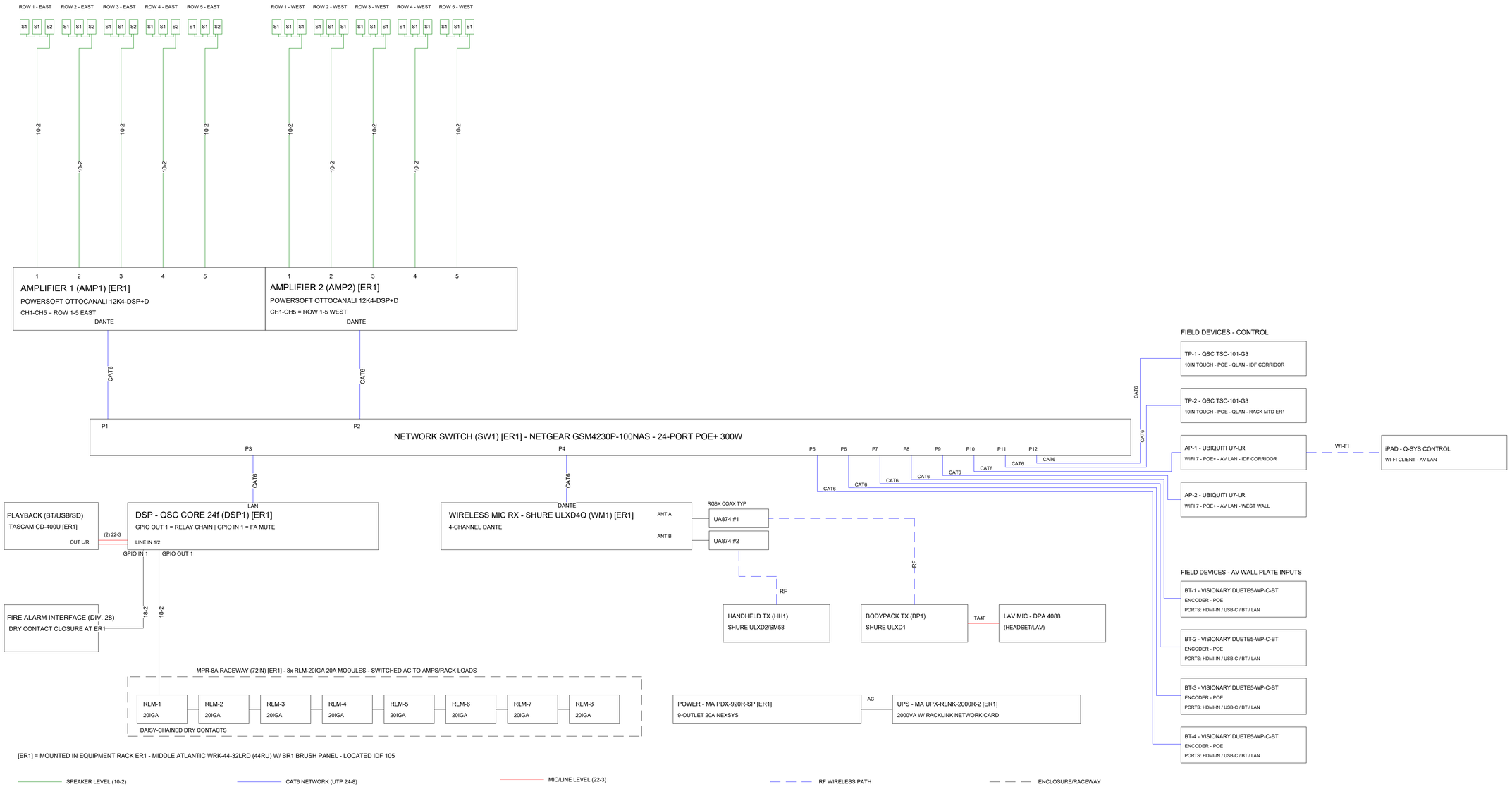
TOMBALL ISD MULTI-PROGRAM ACTIVITY CENTER - AUDIOVISUAL ONELINE DIAGRAM

INDOOR MAC FIELD - 2026

S1 LOUDSPEAKERS: 25x COMMUNITY IP6-1122/96B (S1) - 5 CIRCUITS - 3 SPKRS PARALLEL PER CIRCUIT @ 2.7 OHM - CIRCUIT PATTERN S1, S1, S1 - MOUNTED TO DECK, DOWNFIRE
S2 LOUDSPEAKERS: 5x COMMUNITY IP6-1122/66B (S2) - 5 CIRCUITS - 3 SPKRS PARALLEL PER CIRCUIT @ 2.7 OHM - CIRCUIT PATTERN S2, S1, S1 - MOUNTED TO DECK, DOWNFIRE

CIRCUIT DETAIL TYP - AMP 1 (EAST CIRCUITS): 1x IP6-1122/66B, 2x IP6-1122/96B WIRED PARALLEL USING 10-2 SPEAKER WIRE - (1) 10-2 HOMERUN PER CIRCUIT TO AMP CHANNEL

CIRCUIT DETAIL TYP - AMP 2 (WEST CIRCUITS): 3x IP6-1122/96B WIRED PARALLEL USING 10-2 SPEAKER WIRE - (1) 10-2 HOMERUN PER CIRCUIT TO AMP CHANNEL



[ER1] = MOUNTED IN EQUIPMENT RACK ER1 - MIDDLE ATLANTIC WRK-44-32LRD (44RU) W/ BR1 BRUSH PANEL - LOCATED IDF 105

SPEAKER LEVEL (10-2) — CAT6 NETWORK (UTP 24-8) — MIC/LINE LEVEL (22-3) — RF WIRELESS PATH — ENCLOSURE/RACEWAY

TOMBALL SCHEMATIC ONE-LINE - 2026 - TDG - SCALE: NONE

1 AV - Schematic Onelines
6" = 1'-0"

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Oneline Diagrams

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