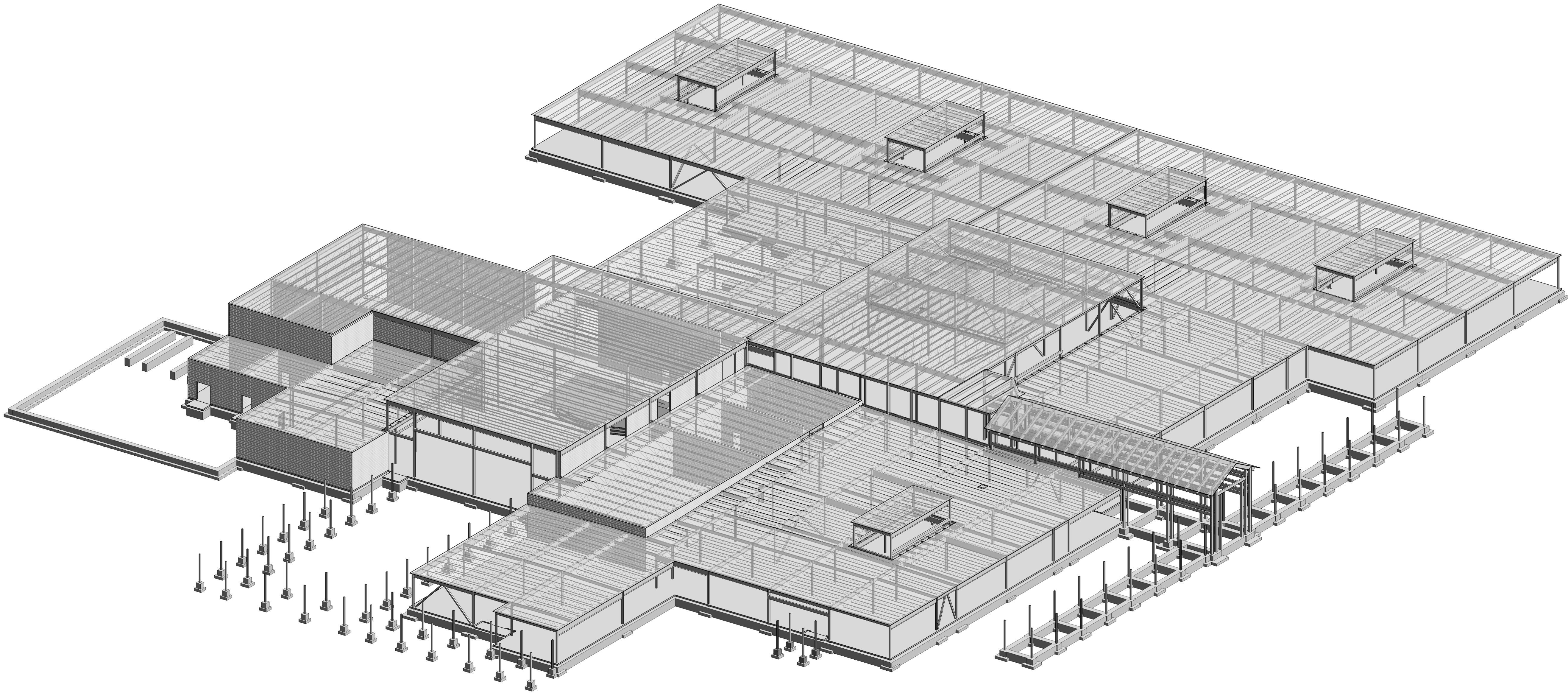
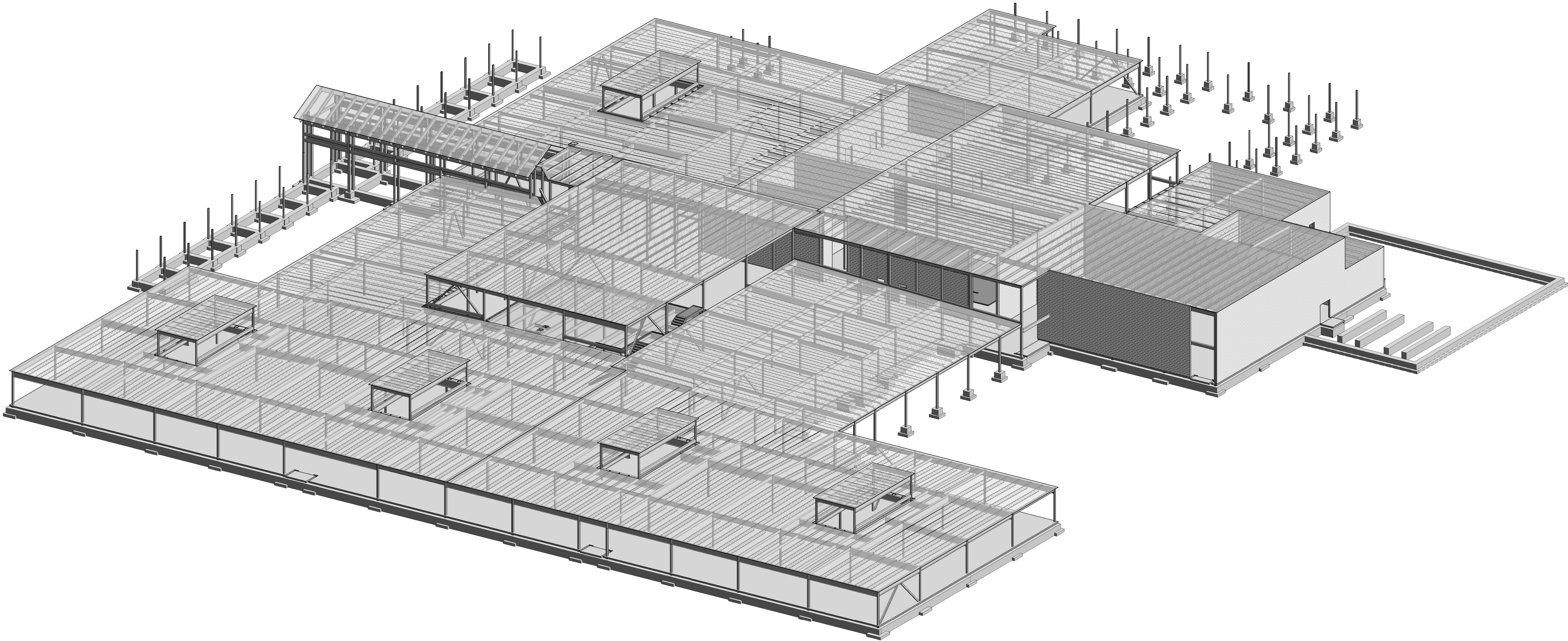


SHEET NUMBER	3D VIEW & SHEET INDEX	SHEET NAME
S-000		
S-010		GENERAL NOTES
S-011		GENERAL NOTES
S-012		GENERAL SUBGRADE NOTES AND TYP DETAILS
S-101		COMPOSITE FOUNDATION PLAN
S-101A		FOUNDATION PLAN - AREA A
S-101B		FOUNDATION PLAN - AREA B
S-101C		FOUNDATION PLAN - AREA C
S-101D		FOUNDATION PLAN - AREA D
S-101E		FOUNDATION PLAN - AREA E
S-101F		FOUNDATION PLAN - AREA F
S-101G		FOUNDATION PLAN - AREA G
S-101H		FOUNDATION PLAN - AREA H
S-102		COMPOSITE LOW ROOF FRAMING PLAN
S-102A		MEZZANINE/ LOW ROOF FRAMING PLAN - AREA A
S-102B		LOW ROOF FRAMING PLAN - AREA B
S-102C		LOW ROOF FRAMING PLAN - AREA C
S-102D		LOW ROOF FRAMING PLAN - AREA D
S-102E		MEZZANINE/ LOW ROOF FRAMING PLAN - AREA E
S-102F		LOW ROOF FRAMING PLAN - AREA F
S-102G		LOW ROOF FRAMING PLAN - AREA G
S-102H		LOW ROOF FRAMING PLAN - AREA H
S-103		COMPOSITE HIGH ROOF FRAMING PLAN
S-103A		HIGH ROOF FRAMING PLAN - AREA A
S-103B		HIGH ROOF FRAMING PLAN - AREA B
S-103C		HIGH ROOF FRAMING PLAN - AREA C
S-103E		HIGH ROOF FRAMING PLAN - AREA E
S-104		CLERESTORY ROOF AND MISC FRAMING PLANS
S-300		GENERAL CONCRETE AND STL REINF NOTES AND TYP DETAILS
S-301		GENERAL SUB-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-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-321		TYPICAL MARQUEE SIGN PLANS & 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-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		GENERAL STEEL NOTES AND TYP DETAILS
S-507		GENERAL STEEL NOTES AND TYP DETAILS
S-508		GENERAL STEEL NOTES AND TYP DETAILS
S-510		COMPOSITE FRAMING DETAILS
S-520		ROOF FRAMING DETAILS
S-521		ROOF FRAMING DETAILS
S-522		ROOF FRAMING DETAILS
S-600		TYPICAL WIND BRACING ELEVATIONS
S-601		TYPICAL WIND BRACING ELEVATIONS
S-610		TYPICAL WIND BRACING DETAILS
S-700		TYPICAL LADDER DETAILS



1 3D VIEW 1



2 3D VIEW 2

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.

ARCHITECT

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608

PBK Architects, Inc.
PBK.com

OWNER

TOMBALL ISD
11111 Greenway Plaza
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608

PBK Architects, Inc.
PBK.com

ENGINEER

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608

PBK Architects, Inc.
PBK.com

DESIGNER

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608

PBK Architects, Inc.
PBK.com

ISSUE FOR PROPOSAL

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608

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NEW JUERGEN ROAD ELEMENTARY SCHOOL

JUERGEN ROAD
TOMBALL, TX

ISSUE FOR PROPOSAL

TOMBALL

INDEPENDENT SCHOOL DISTRICT

C B D

E A

H G F

KEY PLAN

NORTH: PLAN TRUE

DISCIPLINE

STATE OF TEXAS

JOHN R. KUBALA

106120

02/27/2023

Kubala Engineers

F-23612

CLIENT

TOMBALL ISD

DATE

02/27/2023

PROJECT NUMBER

220137

DRAWING HISTORY

No. Description Date

ISSUE FOR PROPOSAL

BUILDING NUMBER

3D VIEW & SHEET INDEX

S-000

THE FOUNDATION DESIGN AND SUBSURFACE INFORMATION IS BASED ON THE GEOTECHNICAL INVESTIGATION REPORT AS FOLLOWS:

GEOTECHNICAL CONSULTANT:	ALPHA TESTING
GEOTECHNICAL REPORT NUMBER:	H211862
GEOTECHNICAL REPORT LOCATION:	TOMBALL, TEXAS
DATE OF REPORT:	SEPTEMBER 13, 2022

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 PERUS WHEN TESTED IN ACCORDANCE WITH ASTM E96. THE RETARDER/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 USED TO PROVIDE THE REINFORCING MANUFACTURER'S RECOMMENDED VOID FORMS SHALL BE WAX COATED FOR MOISTURE PROTECTION. RECTANGULAR IN PROFILE, AND EQUAL TO THE WIDTH OF THE ADJACENT GRADE BEAM. SLOP RETAINERS ARE REQUIRED. GRADE BEAMS TO BE FORMED EACH SIDE.

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 OPERATION OF EACH LIFT FOR THE ATTERBERG LIMITS IN ACCORDANCE WITH ASTM D4318-88 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.

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. ALL SUBGRADE BE OBSERVED, TESTED, AND APPROVED BY THE REGISTERED PROFESSIONAL ENGINEER PRIOR TO PROCEEDING WITH ANY FURTHER CONSTRUCTION.

2. SITE PREPARATION FOR THE BUILDING PAD SHALL CONSIST OF THE REMOVAL OF EXISTING PLANTING, TOPSOIL, VEGETATION, ORGANIC MATTER, AND OTHER DEBRIS/UNDESIRABLE SURFACE MATERIAL, AS NECESSARY TO PROVIDE A REQUIRED AMOUNT OF FILL UNDER THE BUILDING AND EXTENDING BEYOND THE PERIMETER OF THE BUILDING AS SHOWN IN THE SITE PREPARATION DETAIL. PROPER SITE DRAINAGE SHOULD BE MAINTAINED DURING CONSTRUCTION SO THAT PONING OF SURFACE RUNOFF DOES NOT OCCUR AND CAUSE CONSTRUCTION DELAYS AND/OR INHIBIT SITE ACCESS.

3. THE SUBGRADE SHALL BE PROFILESOLLED 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. PROFILESOLLING SHOULD BE RECORDED AND REPORTED TO THE REGISTERED PROFESSIONAL ENGINEER.

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 LAYER OF SUBGRADE. IF THE SUBGRADE IS FOUND TO BE UNSATISFACTORY, THE CONTRACTOR SHALL REWORK THE SUBGRADE TO MEET THE RECOMMENDATIONS. IF THE SUBGRADE IS FOUND TO BE SATISFACTORY, THE SUBGRADE SHALL BE STABILIZED WITH 8 PERCENT BY VOLUME OF 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 p_u 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 GERM PRIOR TO INSTALLATION OF ANY FOUNDATION AND/OR SLAB-ON-GRADE RELATED CONSTRUCTION. IF THE BUILDING PAD HAS BEEN FOUND TO BE UNSATISFACTORY, THE CONTRACTOR SHALL REWORK THE FILL/AGGREGATE TO MEET THE RECOMMENDATIONS. IF THE BUILDING PAD IS FOUND TO BE SATISFACTORY, 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 2 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 A MAXIMUM OF 10 PERCENT OF THE MAXIMUM DRY DENSITY (ASTM D698) AND 10 PERCENT OF THE OPTIMUM MOISTURE CONTENT, THE FILL MOISTURE CONTENT 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 OPTIMUM LIME CONTENT SHALL BE BETWEEN OPTIMUM AND +2 PERCENT OF THE OPTIMUM MOISTURE CONTENT FOR SELECT FILL.

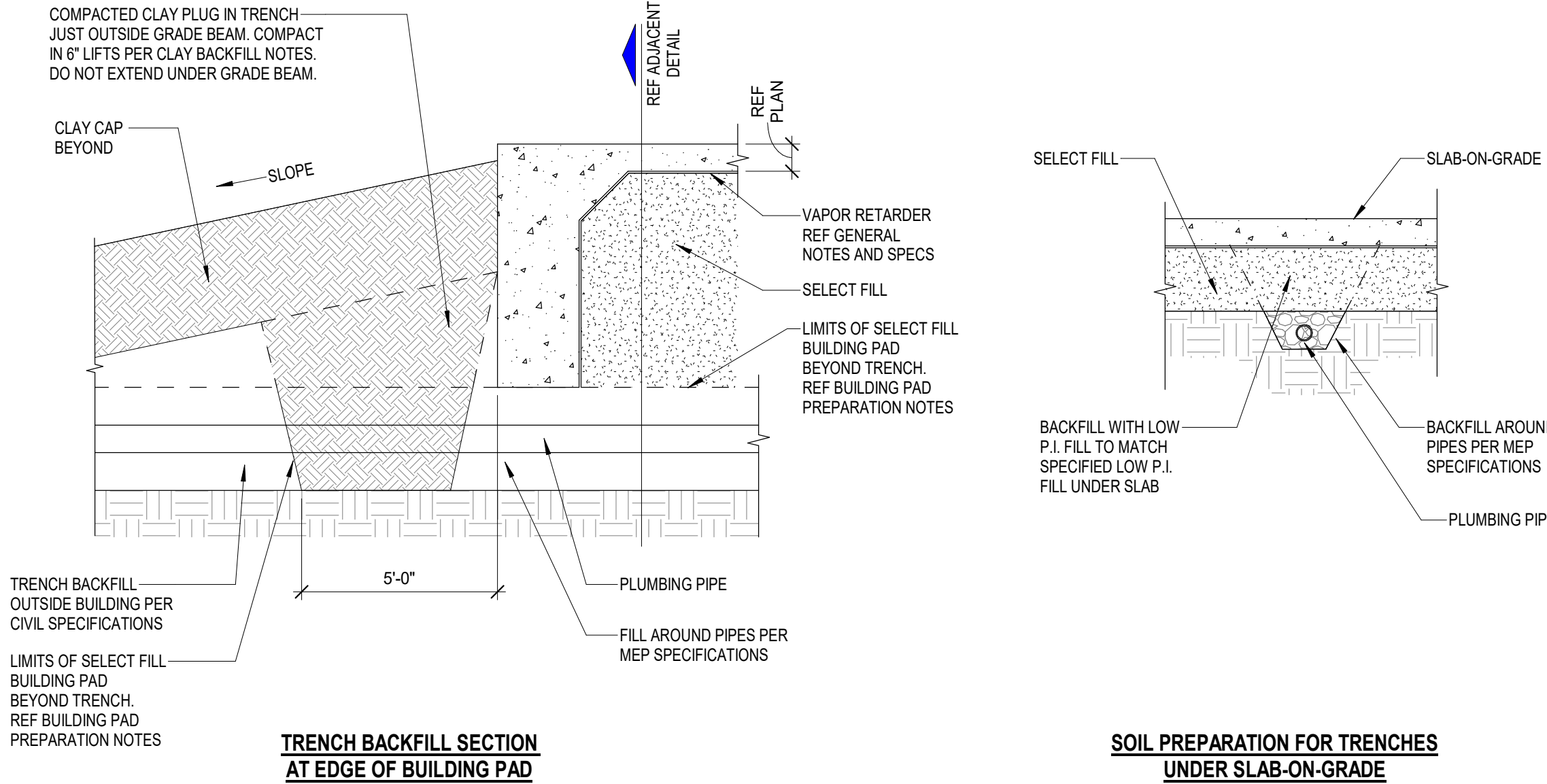
6. CONTRACTOR SHALL MAINTAIN A CLEAN EXCAVATION THAT IS FREE OF WATER 100% OF THE TIME. CONTRACTOR SHALL PROVIDE PUMPS AS REQUIRED TO REMOVE ANY WATER AT ALL TIMES.

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 EFGD (ASTM D 698) MAXIMUM DRY DENSITY AT A MOISTURE CONTENT WITHIN 2 PERCENT OF OPTIMUM MOISTURE CONTENT.

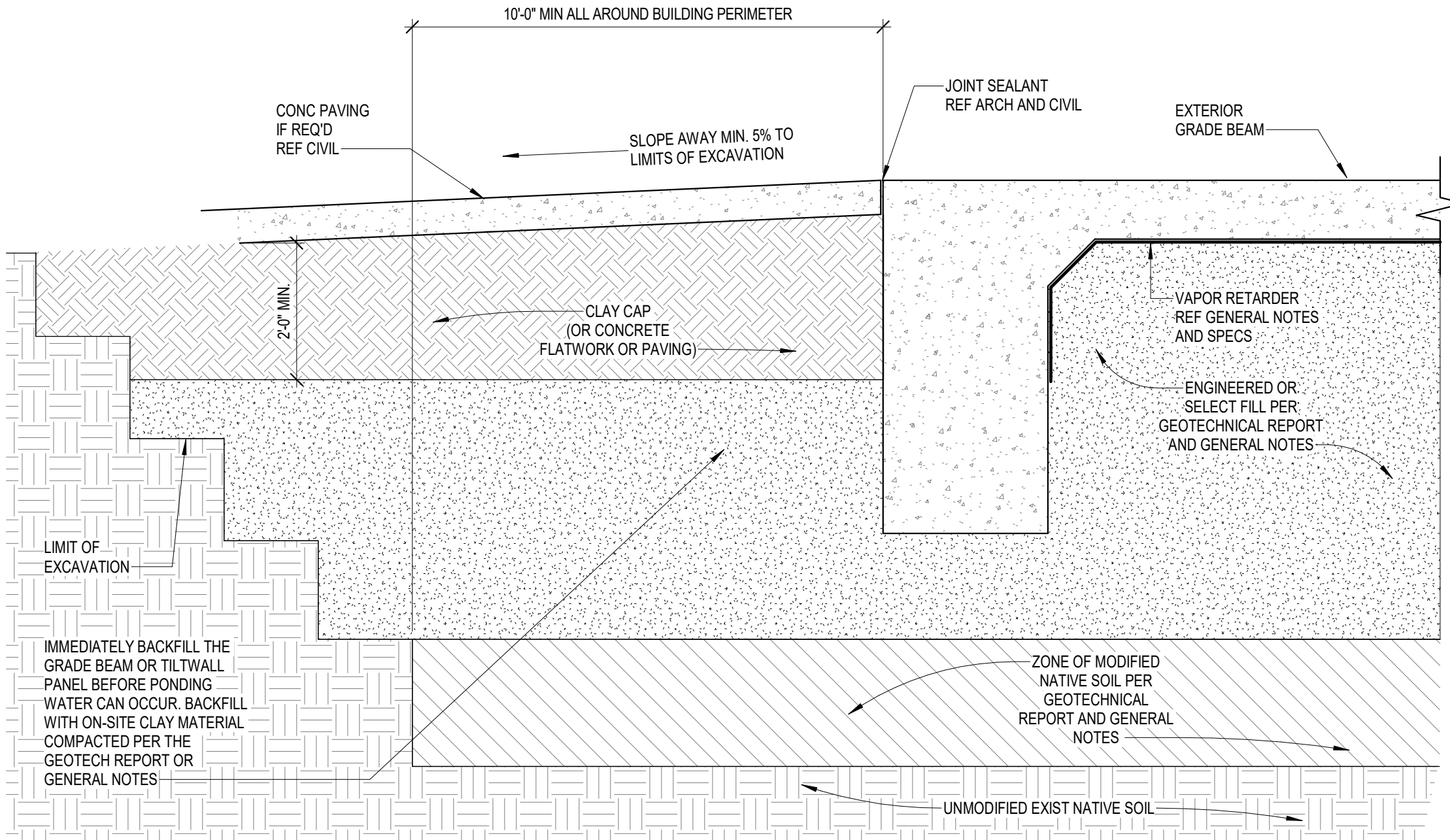
8. A MINIMUM OF 2" OF SELECT FILL MATERIAL IS REQUIRED UNDER THE FLOOR SLAB, AND SHALL EXTEND A MINIMUM OF 10' BEYOND THE BUILDING PERIMETER. THE FILL EXTERIOR GRADE ADJACENT TO THE STRUCTURE SHOULD BE SLOPED TO PROMOTE EFFECTIVE DRAINAGE AWAY FROM THE STRUCTURE.

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 LAPPED IN THE PROJECT'S GEOTECHNICAL REPORT. ANY REINFORCING SHALL BE APPROPRIATELY MANIPULATED TO ENSURE PROPERLY PLACED. VAPOR RETARDER SHALL BE SUITABLY PLACED AND DETAILLED.

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.

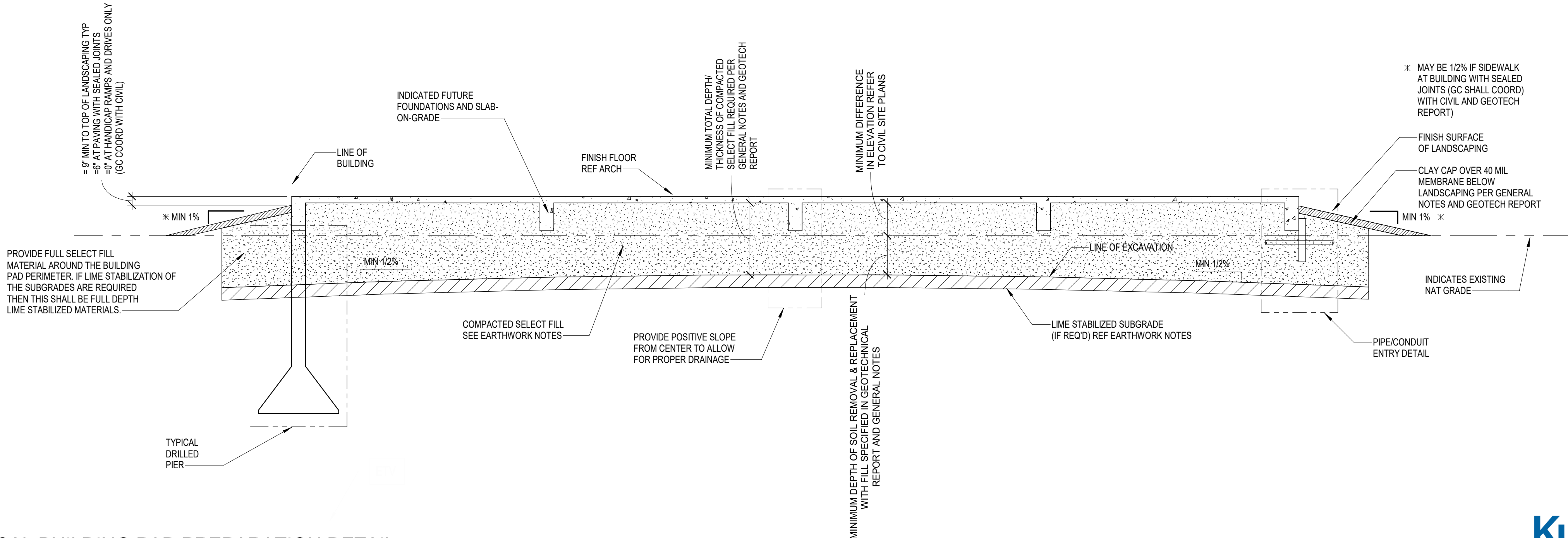


2 TYPICAL DETAIL FOR TRENCH BACKFILL AT EDGE OF BUILDING

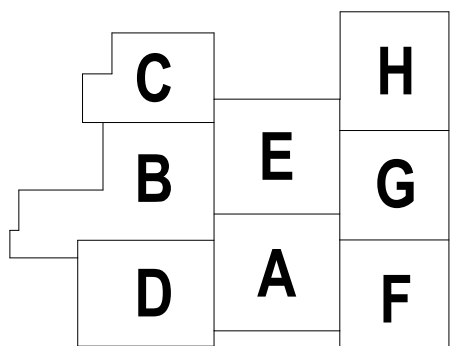
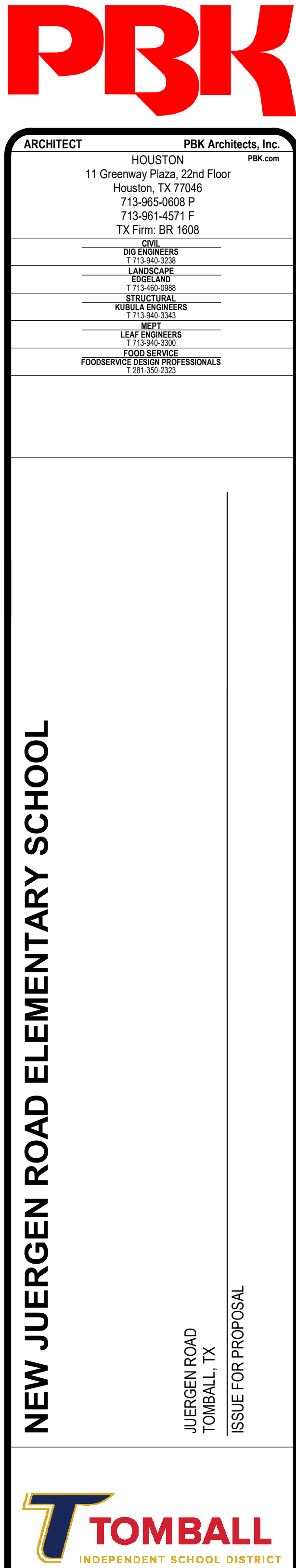


SITE NOTES:

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 PROXIMITY TO THE BUILDING SHALL BE MINIMIZED. 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.

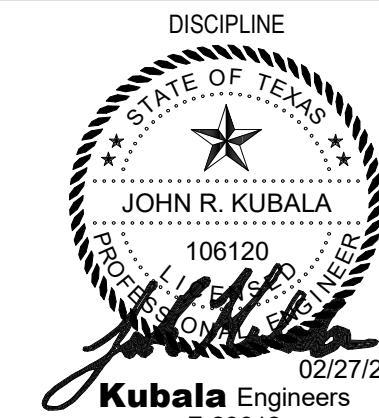


5 TYPICAL BUILDING PAD PREPARATION DETAIL



KEY PLAN

NORTH:  PLAN  TRUE

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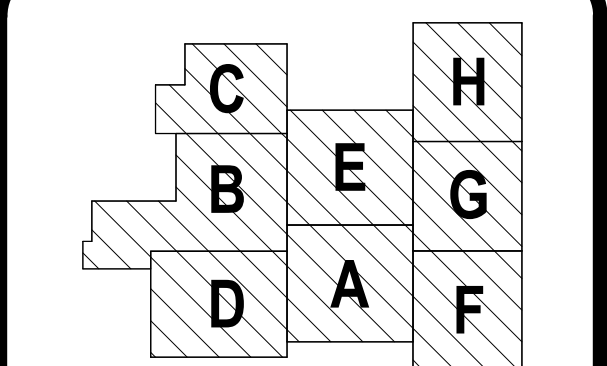
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BUILDING NUMBER

**GENERAL SUBGRADE
NOTES AND TYP
DETAILS**

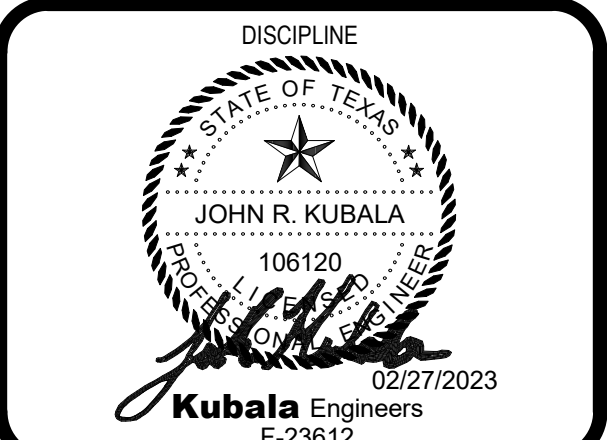
S-012

JUERGEN ROAD
TOMBALL, TX



KEY PLAN

NORTH:  PLAN  TRUE

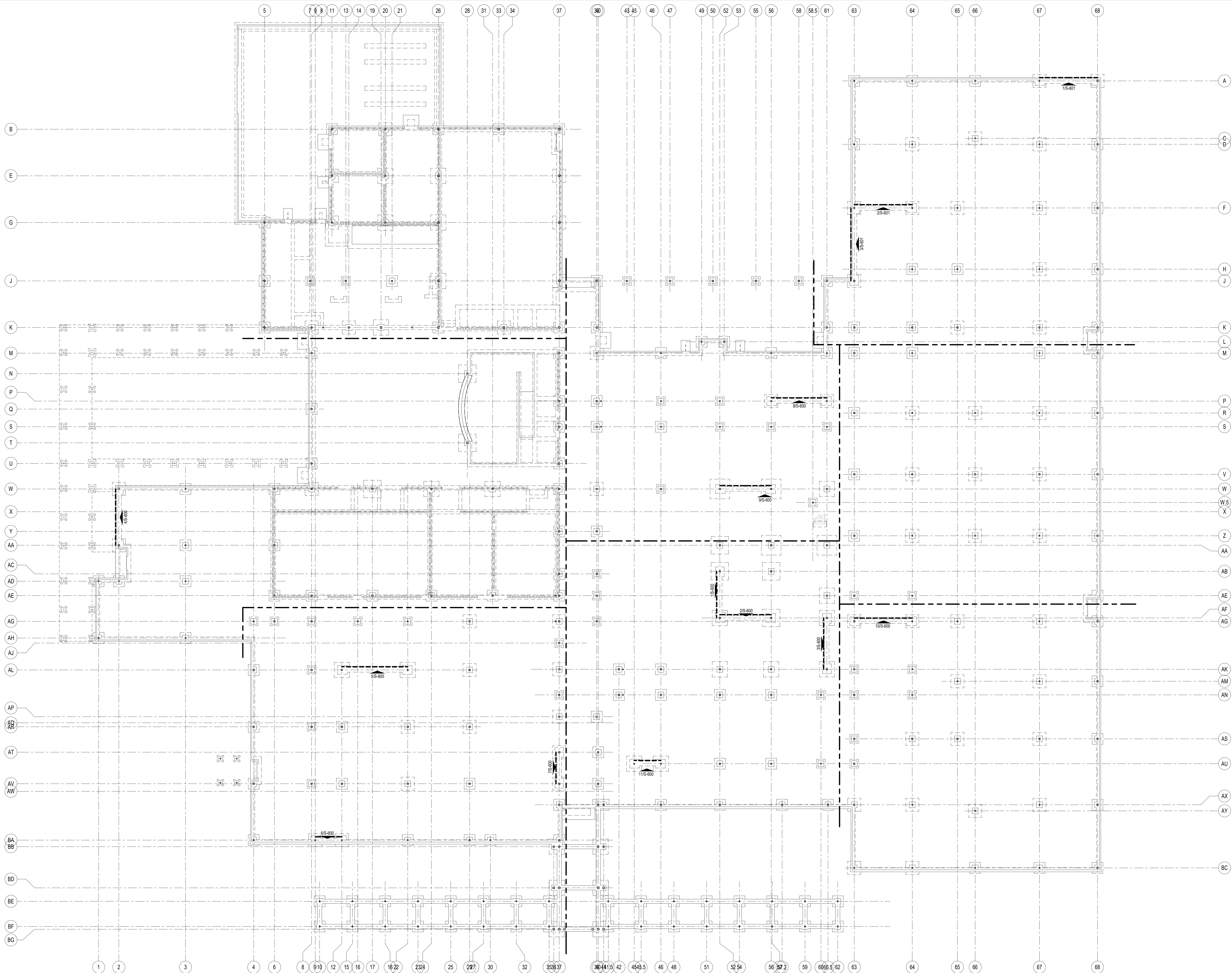


CLIENT TOMBALL ISD		
DATE 02/27/2023	PROJECT NUMBER 220137	
DRAWING HISTORY		
No.	Description	Date

ISSUE FOR PROPOSAL		
BUILDING NUMBER		

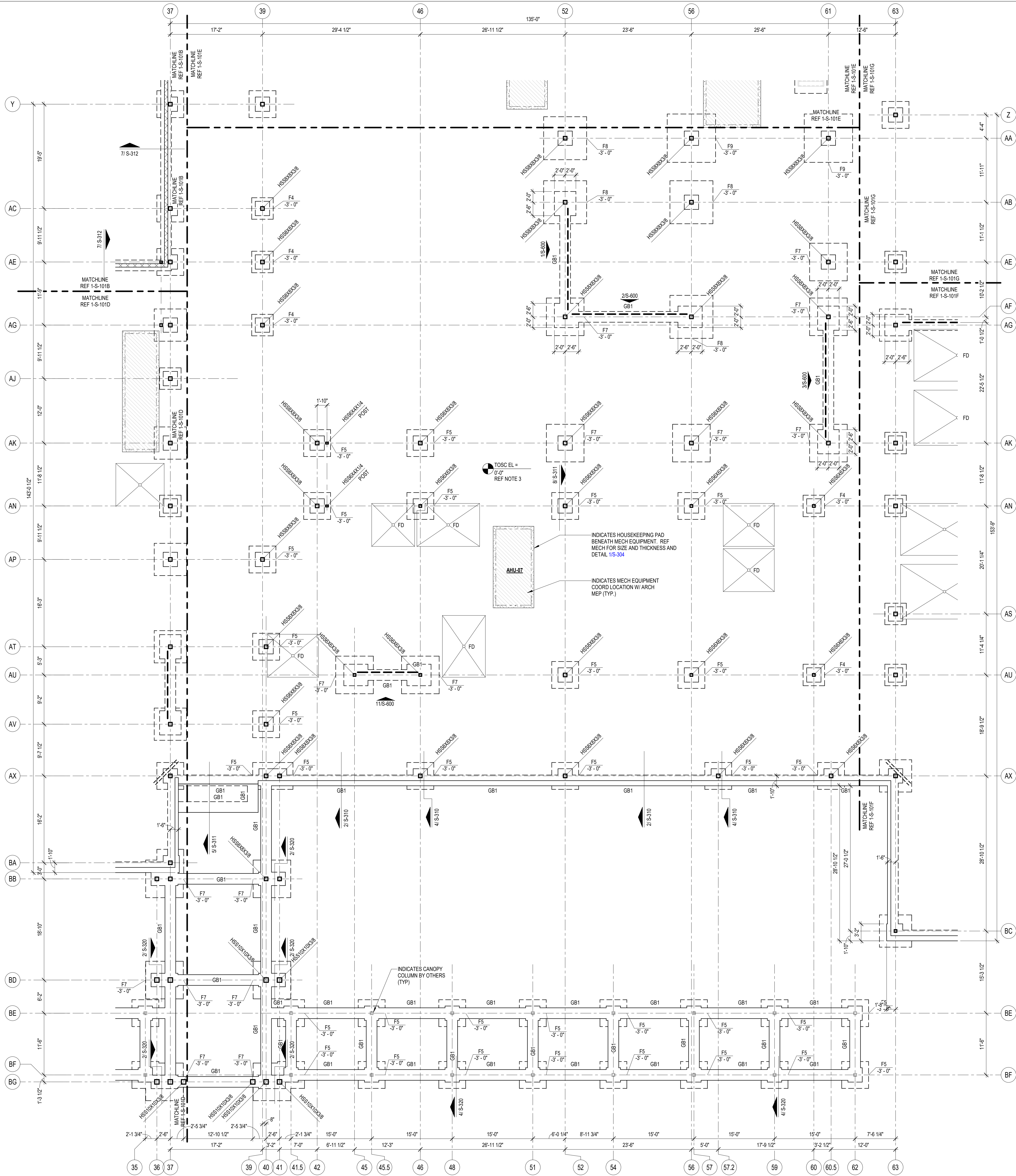
**COMPOSITE
FOUNDATION PLAN**

S-101



1 FOUNDATION & FIRST FLOOR COMPOSITE PLAN

Kubala
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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 ELL) 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 #8 @ 10" OC EACH WAY OR #4 @ 8" OC EACH WAY. ON 3/12 CHAIRS SPACED AT 20" OC EACH WAY. PLACE THE SLAB ON 15 MIL WATER VAPOR BARRIER OVER COMPACTED SELECT FILL (SOIL REPORT) FOR SLAB JOINT DETAILS REFER TO 1S-300 AND 2S-300.
- 3

TOP OF INTERIOR/ EXTERIOR PLINTH ELEVATION SHALL BE = -1'-0" UON. TOP OF GRADE BEAM ELEVATION SHALL BE = -1'-0" UON. TOP OF FOOTING ELEVATION SHALL BE = -3'-0" 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 10S-301 FOR TRENCH DETAIL AND REF 4S-301 FOR FLOOR DRAIN DETAIL.
- 16

AT INTERIOR CMU WALL LOCATIONS, WHERE THE GRADE BEAM IS NOT SHOWN, PROVIDE SLAB TURNDOWN PER DETAIL 4S-312 TYPICAL. AT INTERIOR GLAZING LOCATIONS, WHERE THE GRADE BEAM IS NOT SHOWN, PROVIDE DETAIL 1S-301, TYPICAL.
- 17

PIERS/FOOTINGS WITHOUT CENTERLINES SHOWN ON PLANS, SECTIONS AND/OR DETAILS SHALL BE LOCATED AS FOLLOWS:
A. COLUMNS AND PLASTERS: 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 7S-301 FOR DETAIL TYP.
- 19

GC COORDINATE THE LOCATION OF ALL CANOPY COLUMNS WITH ARCH DRAWINGS.
- 20

1. ALL CMU SHOWN ON PLAN ARE PART OF THE STRUCTURAL LATERAL FORCE RESISTING SYSTEM AND SUPPORTS GRAVITY LOADS. NON-STRUCTURAL CMU EXISTS IN OTHER LOCATION (REF ARCH DWGS). A 3/8" VERT CONTROL JOINT SHALL BE PROVIDED WHEREVER STRUCTURAL AND NON-STRUCTURAL CMU ABUT.
2. IT CAN BE COMMON PRACTICE FOR STEEL STUB-UPS WITH STRUCTURAL STEEL SILL SUPPORT MEMBERS TO BE PROVIDED AT LONG FIRST FLOOR WINDOW SILLS (REF DETAIL 4S-311). HOWEVER, FOR FIRST FLOOR WINDOWS, 8'-0" AND NARROWER, THE GC SHALL PROVIDE PRE-ENGINEERED COLD-FORM SILL SUPPORTS UTILIZING COLD-FORM FRAMING ONLY. THESE COLD-FORM SILL SHALL BE DESIGNED BY THE DRYWALL SUBCONTRACTOR'S ENGINEER AND SUBMITTED IN THE SHOP DRAWINGS FOR REVIEW, WHERE FIRST FLOOR WINDOW SILLS EXCEED 8'-0" THE CONTRACTOR SHALL PROVIDE MISC. STRUCTURAL STEEL PER 4S-311 (TYP.).
- 22

PROVIDE STRUCTURAL GEO-FOAM WITH 4" CONCRETE TOPPING SLAB WITH WWF OVER STRUCTURAL TWO WAY SLAB FOR HATCHED AREAS. GEO-FOAM AND TOPPING SLAB BY MANUFACTURER. REF ARCH AND GENERAL NOTES GC NOTE. ORIGINAL BASE / FLAT SLAB EXTENDS CONTINUOUS BELOW RAISED PLATFORM AND STAIRS. PROVIDE GEOFOAM FILL BELOW PLATFORM WITH 4" CONCRETE TOPPING WITH #6 @ 24" O.C. AT MID-HEIGHT OF SLAB. ADDITIONALLY PROVIDE 4" CONCRETE WALLS WITH #6 BARS AT 12" O.C. EACH WAY. DRILL AND EPOXY 4" INTO BASE / FLAT SLAB WITH HILTI HY-200 ADHESIVE.

PBK

ARCHITECT PBK Architects, Inc. HOUSTON 11 Greenway Plaza, 22nd Floor Houston, TX 77046 713-965-0888 P 713-961-4571 F TX Firm BR 1688

DISCIPLINE

LANDSCAPE 1-13-2023
ELECTRICAL 1-13-2023
MECHANICAL 1-13-2023
PLUMBING 1-13-2023
FOUNDATION 1-13-2023
GENERAL CONTRACTOR 1-13-2023

NEW JUERGEN ROAD ELEMENTARY SCHOOL

JUERGEN ROAD
TOMBALL, TX

ISSUE FOR PROPOSAL

TOMBALL

INDEPENDENT SCHOOL DISTRICT

KEY PLAN

NORTH: PLAN TRUE

DISCIPLINE

STATE OF TEXAS
JOHN R. KUBALA
106120
02/27/2023
Kubala Engineers
F-23612

CLIENT

TOMBALL ISD

DATE 02/27/2023 PROJECT NUMBER 220137

DRAWING HISTORY

No.	Description	Date

ISSUE FOR PROPOSAL

BUILDING NUMBER

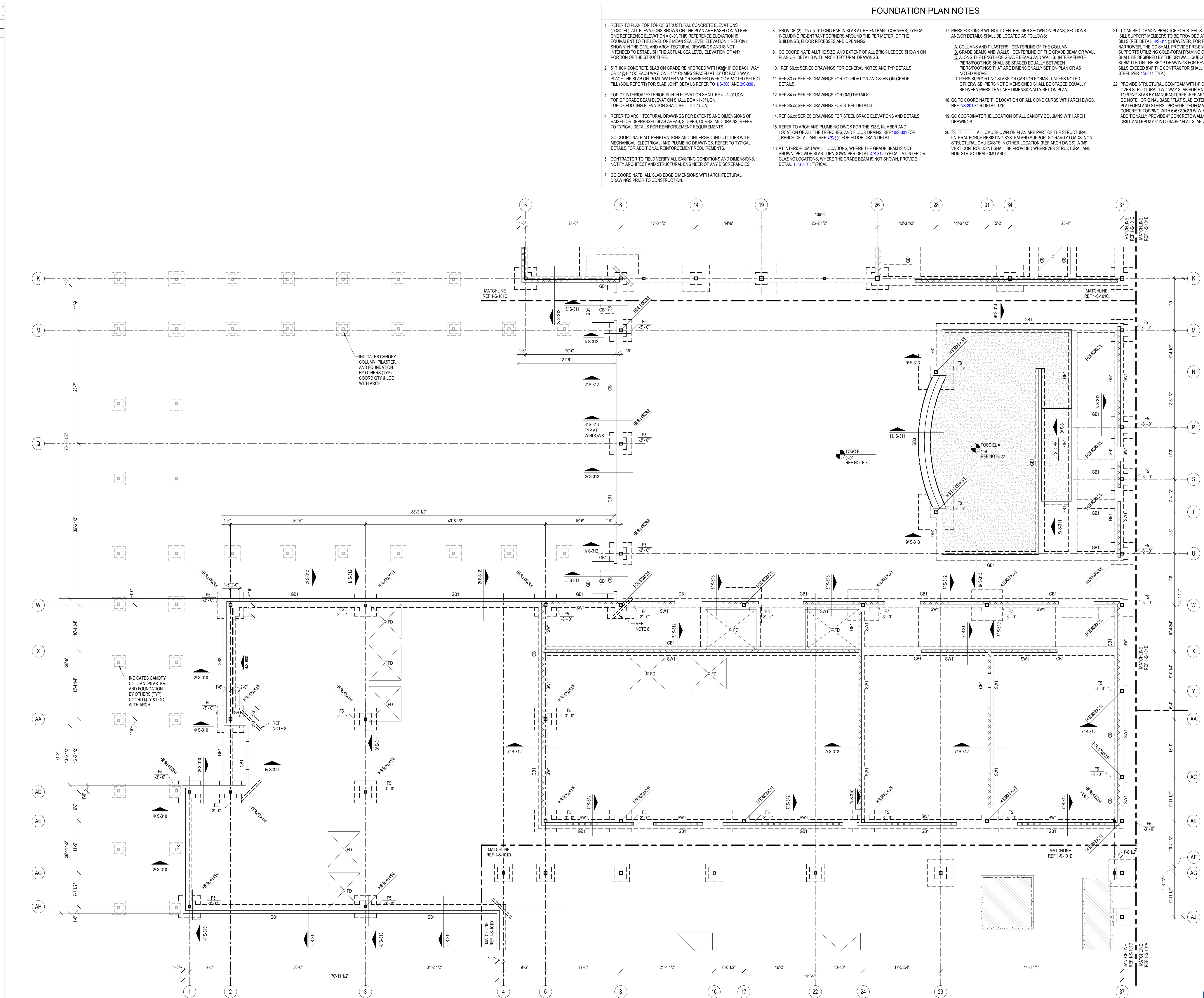
FOUNDATION PLAN - AREA A

S-101A

Kubala

ENGINEERS

PH: (800) 248-3674
WWW.KUBALAEENGINEERS.COM
TX REG. NO. F-23612



- 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 #3 @ 10" OC EACH WAY OR #4 @ 12" OC EACH WAY. ON 3/12 CHAIRS SPACED AT 24" OC EACH WAY. PLACE THE SLAB ON 15 MIL WATER VAPOR BARRIER OVER COMPACTED SELECT FILL (SOIL REPORT) FOR SLAB JOINT DETAILS REFER TO 1S-300 AND 2S-300.

3. TOP OF INTERIOR/ EXTERIOR PLINTH ELEVATION SHALL BE = -1'-0" UON. TOP OF GRADE BEAM ELEVATION SHALL BE = -1'-0" UON. TOP OF FOOTING ELEVATION SHALL BE = -3'-0" 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 10S-301 FOR TRENCH DETAIL AND REF 4S-301 FOR FLOOR DRAIN DETAIL.

16. AT INTERIOR CMU WALL LOCATIONS, WHERE THE GRADE BEAM IS NOT SHOWN, PROVIDE SLAB TURNDOWN PER DETAIL 4S-312 TYPICAL. AT INTERIOR GLAZING LOCATIONS, WHERE THE GRADE BEAM IS NOT SHOWN, PROVIDE DETAIL 13S-301, 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 7S-301 FOR DETAIL TYP.

19. GC COORDINATE THE LOCATION OF ALL CANOPY COLUMNS WITH ARCH DRAWINGS.

20. ALL CMU SHOWN ON PLAN ARE PART OF THE STRUCTURAL LATERAL FORCE RESISTING SYSTEM AND SUPPORTS GRAVITY LOADS. NON-STRUCTURAL CMU EXISTS IN OTHER LOCATION (REF ARCH DWGS). A 3/8" VERT CONTROL JOINT SHALL BE PROVIDED WHEREVER STRUCTURAL AND NON-STRUCTURAL CMU ABUT.

21. IT CAN BE COMMON PRACTICE FOR STEEL STUB-UPS WITH STRUCTURAL STEEL SILL SUPPORT MEMBERS TO BE PROVIDED AT LONG FIRST FLOOR WINDOW SILLS (REF DETAIL 4S-311); HOWEVER, FOR FIRST FLOOR WINDOWS 8'-0" AND NARROWER, THE GC SHALL PROVIDE PRE-ENGINEERED COLD-FORM SILL SUPPORTS UTILIZING COLD-FORM FRAMING ONLY. THESE COLD-FORM SILL SHALL BE DESIGNED BY THE DRYWALL SUBCONTRACTOR'S ENGINEER AND SUBMITTED IN THE SHOP DRAWINGS FOR REVIEW WHERE FIRST FLOOR WINDOW SILLS EXCEED 8'-0" THE CONTRACTOR SHALL PROVIDE MISC. STRUCTURAL STEEL PER 4S-311 (TYP.)

22. PROVIDE STRUCTURAL GEO-FOAM WITH 4" CONCRETE TOPPING SLAB WITH WWF OVER STRUCTURAL TWO WAY SLAB FOR HATCHED AREA. GEO-FOAM AND TOPPING SLAB BY MANUFACTURER. REF ARCH AND GENERAL NOTES. GC NOTE: ORIGINAL BASE / FLAT SLAB EXTENDS CONTINUOUS BELOW RAISED PLATFORM AND STAIRS. PROVIDE GEOFOAM FILL BELOW PLATFORM WITH 4" CONCRETE TOPPING WITH 60X2.9X2.9 W.W.M. AT MID-HEIGHT OF SLAB. ADDITIONALLY PROVIDE 4" CONCRETE WALLS WITH #3 BARS AT 12" OC EACH WAY. DRILL AND EPOXY 4" INTO BASE / FLAT SLAB WITH HLT HY-200 ADHESIVE.

ARCHITECT

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0688 P
TX Firm: BR 1688

PBK Architects, Inc.

PBK.com

OWNER

JUERGEN ROAD ELEMENTARY SCHOOL
TOMBALL, TX

ISSUE FOR PROPOSAL

TOMBALL

INDEPENDENT SCHOOL DISTRICT

KEY PLAN

NORTH: PLAN TRUE

DISCIPLINE

STATE OF TEXAS
JOHN R. KUBALA
106120
02/27/2023
Kubala Engineers
F-23612

CLIENT

TOMBALL ISD

DATE

02/27/2023

PROJECT NUMBER

220137

DRAWING HISTORY

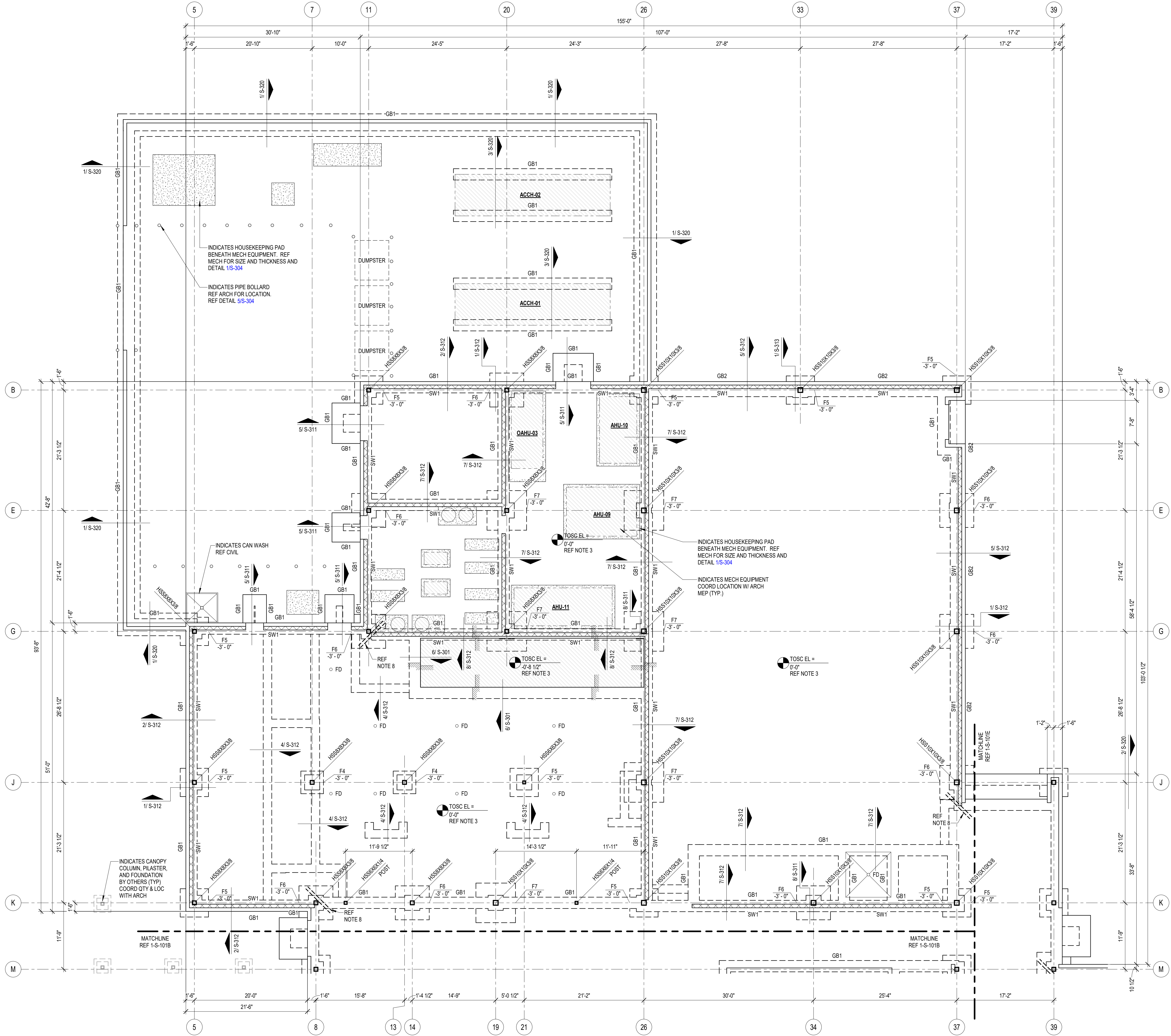
No.	Description	Date

ISSUE FOR PROPOSAL

BUILDING NUMBER

FOUNDATION PLAN - AREA B

S-101B



1 FOUNDATION PLAN - AREA C
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 S-1017 INTENDED TO ESTABLISH THE ACTUAL SEA LEVEL ELEVATION OF ANY PORTION OF THE STRUCTURE.

2. 5" THICK CONCRETE SLAB ON GRADE REINFORCED WITH #8@10" OC EACH WAY OR #4@8" OC EACH WAY ON 3/12 CHAIRS SPACED AT 32" OC EACH WAY. PLACE THE SLAB ON 15 MIL WATER VAPOR BARRIER OVER COMPACTED SELECT FILL (SOIL REPORT) FOR SLAB JOINT DETAILS REFER TO 1/S-300 AND 2/S-300.

3. TOP OF INTERIOR/ EXTERIOR PLINTH ELEVATION SHALL BE = -1'-0" UON. TOP OF GRADE BEAM ELEVATION SHALL BE = -1'-0" UON. TOP OF FOOTING ELEVATION SHALL BE = -3'-0" UON.

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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.

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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.

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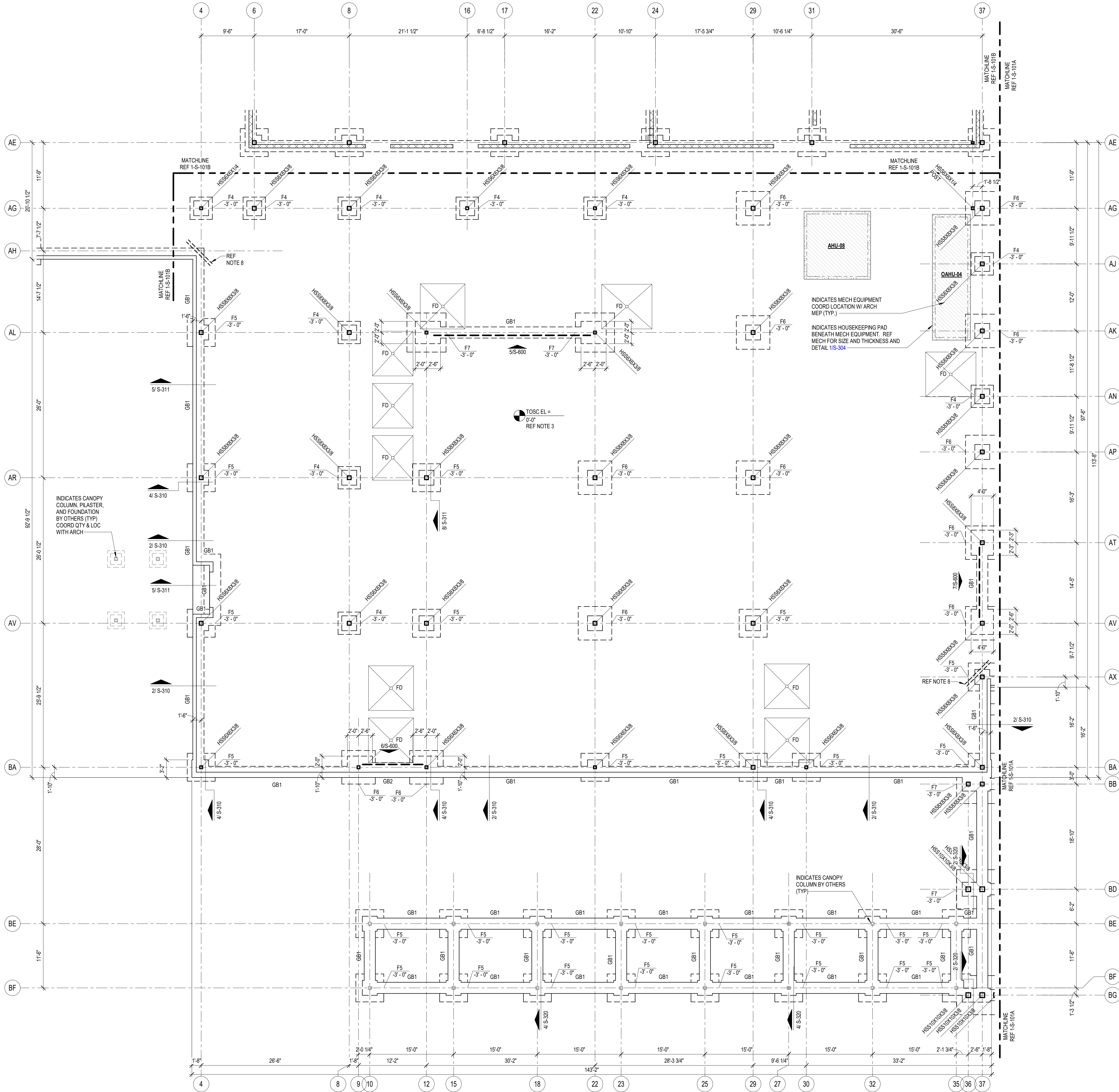
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B. GRADE BEAMS AND WALLS: CENTERLINE OF THE GRADE BEAM OR WALL.
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19. GC COORDINATE THE LOCATION OF ALL CANOPY COLUMNS WITH ARCH DRAWINGS.

20. 1/S-300, 2/S-300, 3/S-300, 4/S-300, 5/S-300, 6/S-300, 7/S-300, 8/S-300, 9/S-300, 10/S-300, 11/S-300, 12/S-300, 13/S-300, 14/S-300, 15/S-300, 16/S-300, 17/S-300, 18/S-300, 19/S-300, 20/S-300, 21/S-300, 22/S-300, 23/S-300, 24/S-300, 25/S-300, 26/S-300, 27/S-300, 28/S-300, 29/S-300, 30/S-300, 31/S-300, 32/S-300, 33/S-300, 34/S-300, 35/S-300, 36/S-300, 37/S-300, 38/S-300, 39/S-300, 40/S-300, 41/S-300, 42/S-300, 43/S-300, 44/S-300, 45/S-300, 46/S-300, 47/S-300, 48/S-300, 49/S-300, 50/S-300, 51/S-300, 52/S-300, 53/S-300, 54/S-300, 55/S-300, 56/S-300, 57/S-300, 58/S-300, 59/S-300, 60/S-300, 61/S-300, 62/S-300, 63/S-300, 64/S-300, 65/S-300, 66/S-300, 67/S-300, 68/S-300, 69/S-300, 70/S-300, 71/S-300, 72/S-300, 73/S-300, 74/S-300, 75/S-300, 76/S-300, 77/S-300, 78/S-300, 79/S-300, 80/S-300, 81/S-300, 82/S-300, 83/S-300, 84/S-300, 85/S-300, 86/S-300, 87/S-300, 88/S-300, 89/S-300, 90/S-300, 91/S-300, 92/S-300, 93/S-300, 94/S-300, 95/S-300, 96/S-300, 97/S-300, 98/S-300, 99/S-300, 100/S-300, 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1093/S-300, 1094/S-300, 1095/S-300, 1096/S-300, 1097/S-300, 1098/S-300,



- ### FOUNDATION PLAN NOTES
- REFER TO PLAN FOR TOP OF STRUCTURAL CONCRETE ELEVATIONS (TOSSC 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.
 - 5" THICK CONCRETE SLAB ON GRADE REINFORCED WITH #8@10" OC EACH WAY OR #4@8" OC EACH WAY ON 3/12 CHAIRS SPACED AT 20" OC EACH WAY. PLACE THE SLAB ON 15 MIL WATER VAPOR BARRIER OVER COMPACTED SELECT FILL (SOIL REPORT) FOR SLAB JOINT DETAILS REFER TO 15S-300 AND 25S-300.
 - TOP OF INTERIOR/ EXTERIOR PLUMB ELEVATION SHALL BE = -1'-0" UON. TOP OF GRADE BEAM ELEVATION SHALL BE = -1'-0" UON. TOP OF FOOTING ELEVATION SHALL BE = -3'-0" UON.
 - 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.
 - GC COORDINATE ALL PENETRATIONS AND UNDERGROUND UTILITIES WITH MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. REFER TO TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT REQUIREMENTS.
 - CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT AND STRUCTURAL ENGINEER OF ANY DISCREPANCIES.
 - GC COORDINATE ALL SLAB EDGE DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
 - 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.
 - GC COORDINATE ALL THE SIZE AND EXTENT OF ALL BRICK LEDGES SHOWN ON PLAN OR DETAILS WITH ARCHITECTURAL DRAWINGS.
 - REF S0.xx SERIES DRAWINGS FOR GENERAL NOTES AND TYP DETAILS
 - REF S3.xx SERIES DRAWINGS FOR FOUNDATION AND SLAB-ON-GRADE DETAILS.
 - REF S4.xx SERIES DRAWINGS FOR CMU DETAILS.
 - REF S5.xx SERIES DRAWINGS FOR STEEL DETAILS.
 - REF S6.xx SERIES DRAWINGS FOR STEEL BRACE ELEVATIONS AND DETAILS.
 - REFER TO ARCH AND PLUMBING DWGS FOR THE SIZE, NUMBER AND LOCATION OF ALL THE TRENCHES, AND FLOOR DRAINS. REF 10S-301 FOR TRENCH DETAIL AND REF 45S-301 FOR FLOOR DRAIN DETAIL.
 - AT INTERIOR CMU WALL LOCATIONS, WHERE THE GRADE BEAM IS NOT SHOWN, PROVIDE SLAB TURNDOWN PER DETAIL 45S-312 TYPICAL. AT INTERIOR GLAZING LOCATIONS, WHERE THE GRADE BEAM IS NOT SHOWN, PROVIDE DETAIL 15S-301, TYPICAL.
 - PIERS/FOOTINGS WITHOUT CENTERLINES SHOWN ON PLANS, SECTIONS AND/OR DETAILS SHALL BE LOCATED AS FOLLOWS:
 - A. COLUMNS AND PLASTERS: 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 PERS/FOOTINGS SHALL BE SPACED EQUALLY BETWEEN PERS/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.
 - GC TO COORDINATE THE LOCATION OF ALL CONC CURBS WITH ARCH DWGS. REF 75S-301 FOR DETAIL TYP.
 - GC COORDINATE THE LOCATION OF ALL CANOPY COLUMNS WITH ARCH DRAWINGS.
 - ALL CMU SHOWN ON PLAN ARE PART OF THE STRUCTURAL LATERAL FORCE RESISTING SYSTEM AND SUPPORTS GRAVITY LOADS. NON-STRUCTURAL CMU EXISTS IN OTHER LOCATION (REF ARCH DWGS). A 38" VERT CONTROL JOINT SHALL BE PROVIDED WHEREVER STRUCTURAL AND NON-STRUCTURAL CMU ABUT.
 - IT CAN BE COMMON PRACTICE FOR STEEL STUB-UPS WITH STRUCTURAL STEEL SILL SUPPORT MEMBERS TO BE PROVIDED AT LONG FIRST FLOOR WINDOW SILLS (REF DETAIL 45S-311). HOWEVER, FOR FIRST FLOOR WINDOWS, 8'-0" AND NARROWER, THE GC SHALL PROVIDE PRE-ENGINEERED COLD-FORM SILL SUPPORTS UTILIZING COLD-FORM FRAMING ONLY. THESE COLD-FORM SILL SHALL BE DESIGNED BY THE DRYWALL SUBCONTRACTOR'S ENGINEER AND SUBMITTED IN THE SHOP DRAWINGS FOR REVIEW, WHERE FIRST FLOOR WINDOW SILLS EXCEED 8'-0" THE CONTRACTOR SHALL PROVIDE MISC. STRUCTURAL STEEL PER 45S-311 (TYP.).
 - PROVIDE STRUCTURAL GEO-FOAM WITH 4" CONCRETE TOPPING SLAB WITH WWF OVER STRUCTURAL TWO WAY SLAB FOR HATCHED AREAS. GEO-FOAM AND TOPPING SLAB BY MANUFACTURER. REF ARCH AND GENERAL NOTES GC NOTE. ORIGINAL BASE / FLAT SLAB EXTENDS CONTINUOUS BELOW RAISED PLATFORM AND STAIRS. PROVIDE GEOFOAM FILL BELOW PLATFORM WITH 4" CONCRETE TOPPING WITH 6662 842.9 W.W.M. AT MID-HEIGHT OF SLAB. ADDITIONALLY PROVIDE 4" CONCRETE WALLS WITH #3 BARS AT 12" OC EACH WAY, DRILL AND EPOXY 4" INTO BASE / FLAT SLAB WITH HILTI-HY-200 ADHESIVE.

ARCHITECT

HOUSTON

11 Greenway Plaza, 22nd Floor

Houston, TX 77046

713-965-0888 P

713-961-4571 F

TX Firm: BR 1688

PKB Architects, Inc.

PKB.com

OWNER

HOUSTON

11 Greenway Plaza, 22nd Floor

Houston, TX 77046

713-965-0888 P

713-961-4571 F

TX Firm: BR 1688

ENGINEER

HOUSTON

11 Greenway Plaza, 22nd Floor

Houston, TX 77046

713-965-0888 P

713-961-4571 F

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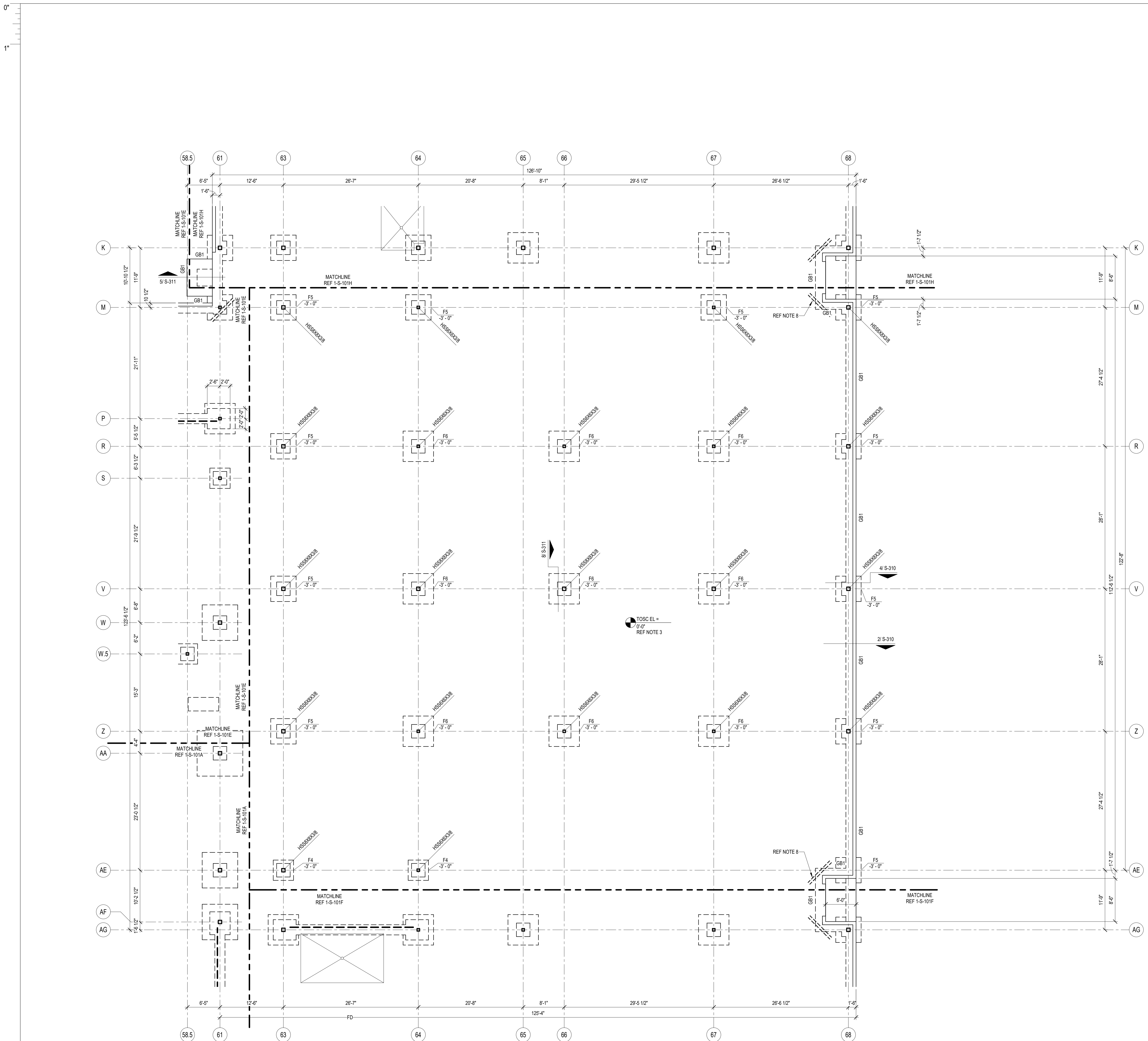
ENGINEER

HOUSTON

11 Greenway Plaza, 22nd Floor

Houston, TX 77046

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1 FOUNDATION PLAN - AREA G

FOUNDATION PLAN NOTES

- REFER TO PLAN FOR TOP OF STRUCTURAL CONCRETE ELEVATIONS
(TOS) CGL ALL ELEVATIONS SHOWN ON THE PLAN ARE BASED ON A LEVEL
ELEVATION OF 10.000. THE ELEVATION OF THE FINISHED GRADE BEAM IS
EQUIVALENT TO THE LEVEL ONE MEAN SEA LEVEL ELEVATION = REF C/1
SHOWN IN THE CIVIL AND ARCHITECTURAL DRAWINGS AND IS NOT
INTENDED TO ESTABLISH THE ACTUAL SEA LEVEL ELEVATION OF ANY
PORTION OF THE STRUCTURE.
5. 7" THICK CONCRETE SLAB ON GRADE REINFORCED WITH #4@10" OC EACH WAY
OR #4@10" OC EACH WAY, ON 1/2" CHAIRS SPACED AT 36" OC EACH WAY.
PLACE THE SLAB ON 1.5 MI. WATER PUMP BARRIER OVER COMPACT SELECT
FILL. PROVIDE 3" MIN. FILL BELOW SLAB TO 15'-30" AND 3" @ 30".
- TOP OF INTERIOR EXTERIOR FINISH ELEVATION SHALL BE = -1'-0" UON.
TOP OF GRADE BEAM ELEVATION SHALL BE = -1'-0" UON.
TOP OF FOOTING ELEVATION SHALL BE = -3'-0" UON.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXTENTS AND DIMENSIONS OF
RAISED OR DERESSED SLAB AREAS, SLOPES, CURBS, AND DRAINS. REFER
TO TYPICAL DETAILS FOR REINFORCEMENT REQUIREMENTS.
5. GC COORDINATE ALL PENETRATIONS AND UNDERGROUND UTILITIES WITH
ELECTRICAL, PLUMBING, MECHANICAL, AND STRUCTURAL 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 BARS 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 SIZE AND EXTENT OF ALL BRICK LEDGES SHOWN ON
PLAN OR DETAILS WITH ARCHITECTURAL DRAWINGS.
10. REF S0.x.x SERIES DRAWINGS FOR GENERAL NOTES, NOTES AND TYP DETAILS
11. REF R3.x.x SERIES DRAWINGS FOR FOUNDATION AND SLAB-ON GRADE
12. REF S4.x.x SERIES DRAWINGS FOR CMU DETAILS
13. REF S5.x.x SERIES DRAWINGS FOR STEEL DETAILS
14. REF S6.x.x 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 785-301 FOR
TRENCHES AND REF 485-301 FOR FLOOR DRAIN DETAIL.
16. AT INTERIOR CMU WALL VERTICAL LOCATIONS, WHERE THE GRADE BEAM IS NOT
SHOWN, PROVIDE SLAB TURN DOWN PER DETAIL 485-312/321 AT INTERIOR
GLAZING LOCATIONS, WHERE THE GRADE BEAM IS NOT SHOWN, PROVIDE
DETAIL 195-301, TYPICAL.
17. PIER FOOTINGS WITHOUT CENTERLINES SHOWN ON PLANS, SECTIONS
AND/OR DETAILS SHALL BE LOCATED AS FOLLOWS:
- A. COLUMNS AND PLASTERS: CENTERLINE OF THE COLUMN.
B. GRADE BEAM OR BASE: CENTERLINE OF THE GRADE BEAM OR WALL.
C. ALONG THE LENGTH OF GRADE BEAMS & WALLS: INTERMEDIATE
PIER FOOTINGS SHALL BE SPACED EQUALLY BETWEEN
PIER FOOTINGS THAT ARE DIMENSIONALLY SET ON PLAN OR AS
NOTED ABOVE.
- D. PIERS SUPPORTING SLABS ON CARTON FORMS: UNLESS NOTED
OTHERWISE, PIERS NOT BE DIMENSIONALLY SET ON PLAN OR AS
NOTED BUT PIERS THAT ARE DIMENSIONALLY SET ON PLAN.
18. GC TO CORRELATE THE LOCATION OF ALL CONC CURBS WITH ARCH DWGS.
REF 785-301 FOR DETAIL.
19. GC CORRELATE THE LOCATION OF ALL CANOPY COLUMNS WITH ARCH
DRAWINGS.
20. ~~XXXXXX~~ ALL CMU SHOWN ON PLAN ARE PART OF THE STRUCTURAL
LATERAL FORCE RESISTING SYSTEM AND SUPPORTS GRAVITY LOADS. NON-
STRUCTURAL CMU BASED ON THE LOCATION REF ARCH DWGS, 38"
VERTICAL JOINT SHALL BE PROVIDED WHEREVER STRUCTURAL AND
NON-STRUCTURAL CMU ABUT.
21. IT CAN BE COMMON PRACTICE FOR STEEL STUD-UPS WITH STRUCTURAL STEEL
SILL SUPPORT MEMBERS TO BE PROVIDED AT LONG FIRST FLOOR WINDOW
SILLS. PROVIDE 2" MIN. BASE EXTENSION CONTINUOUS BELOW RAISED
PLATFORM AND STAIRS. PROVIDE GROUND FILL BELOW PLATFORM WITH 4"
CONCRETE TOPPING WITH #6@2 X 36" W.W.M. AT MID-HEIGHT OF THE
ADDITIONAL 2" MIN. BASE EXTENSION. PROVIDE 12" OC EACH WAY
DRILL AND EPOXY 4" IN DIA. / FLAT SLAB WITH HY-200 ADHESIVE.
22. PROVIDE STRUCTURAL GROUND-FORM WITH 4" CONCRETE TOPPING SLAB WITH WWF
OVER STRUCTURAL TWO WAY SLAB FOR HATCHED AREAS. GROUND-FORM AND
TOPPING SLAB BY MANUFACTURER-REF ARCH AND GENERAL NOTES.
PROVIDE 2" MIN. BASE EXTENSION CONTINUOUS BELOW RAISED
PLATFORM AND STAIRS. PROVIDE GROUND FILL BELOW PLATFORM WITH 4"
CONCRETE TOPPING WITH #6@2 X 36" W.W.M. AT MID-HEIGHT OF THE
ADDITIONAL 2" MIN. BASE EXTENSION. PROVIDE 12" OC EACH WAY
DRILL AND EPOXY 4" IN DIA. / FLAT SLAB WITH HY-200 ADHESIVE.



ARCHITECT **PKB Architects, Inc.**
PKB.com

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0608 P
713-961-4571 F
TX Firm: BR 1608

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T 713-940-3238

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T 713-460-0088

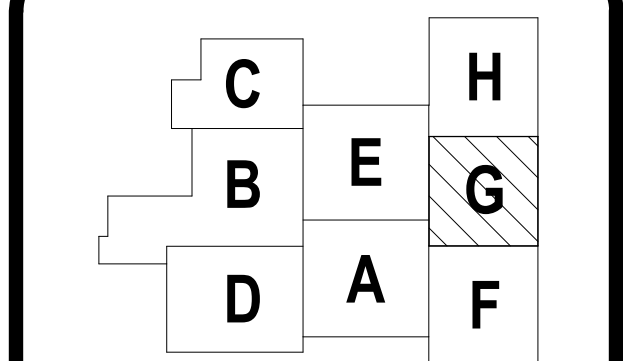
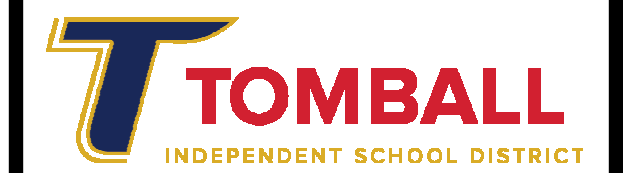
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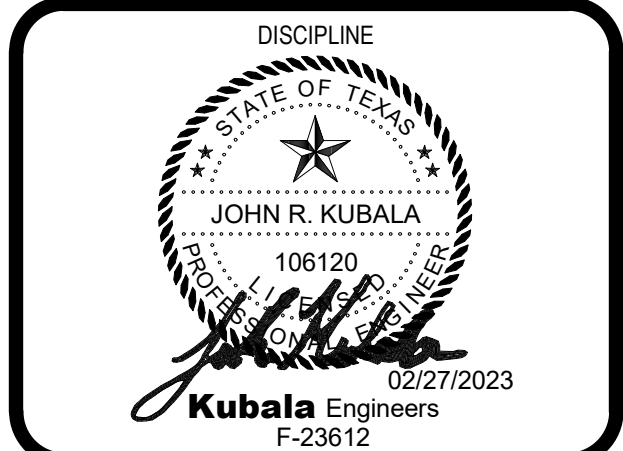
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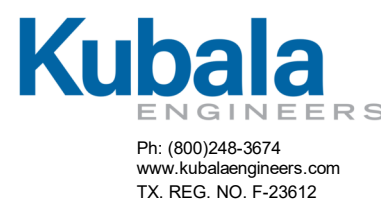
KEY PLAN

NORTH:  PLAN  TRUE

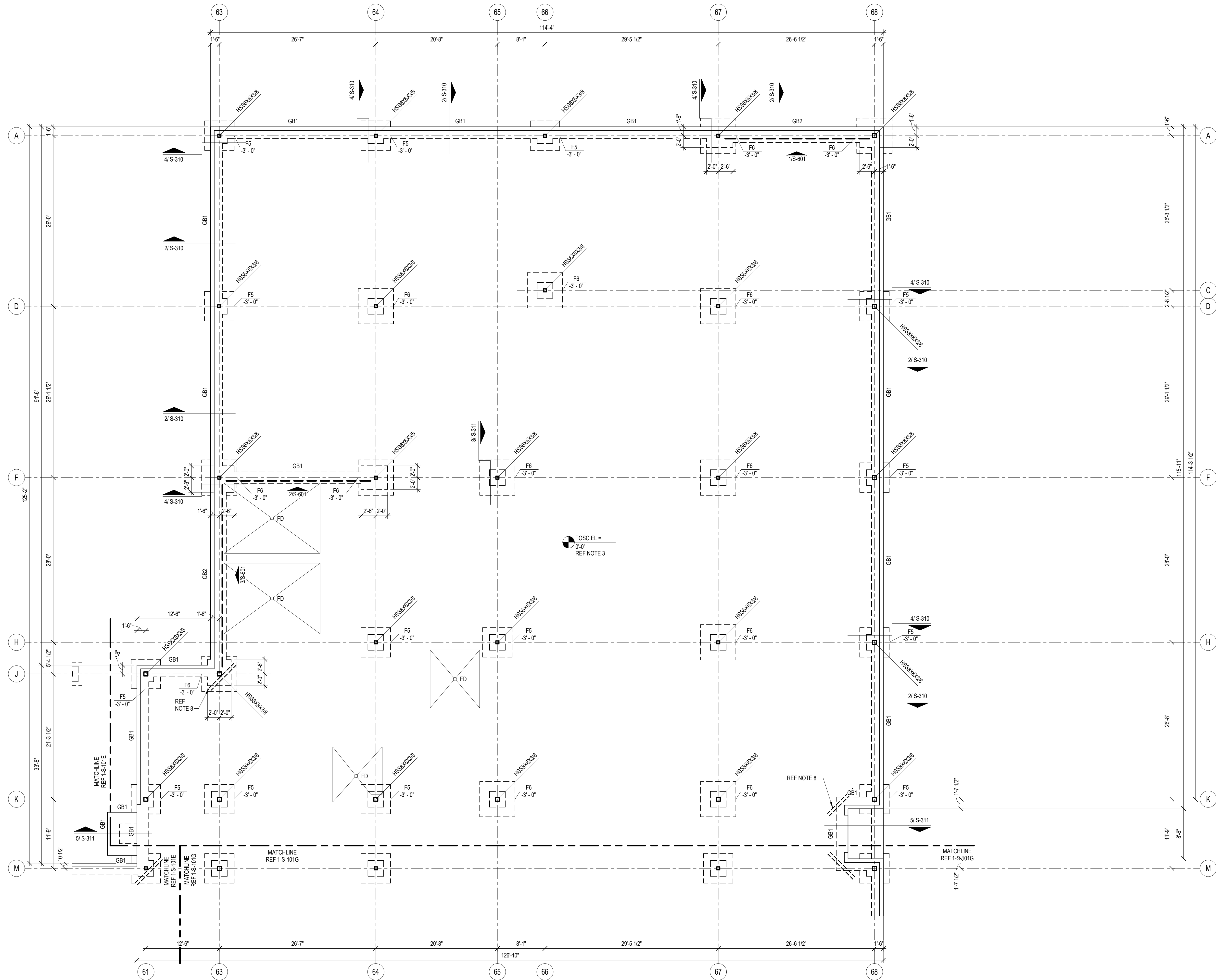
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BUILDING NUMBER

**FOUNDATION PLAN -
AREA G**



S-101G



1 FOUNDATION PLAN - AREA H

FOUNDATION PLAN NOTES

- REFER TO PLAN FOR FOOT OF STRUCTURAL CONCRETE ELEVATIONS (TOSC & EL). ALL ELEVATIONS SHOWN ON THE PLAN ARE BASED ON A LEVEL, UNLESS OTHERWISE NOTED. FINISH GRADE ELEVATION IS EQUIVALENT TO THE LEVEL, ONE MEAN SEA LEVEL ELEVATION = REF. CIV. SHOWN IN THE CIVIL AND ARCHITECTURAL DRAWINGS AND IS NOT TO BE DISTURBED TO ESTABLISH THE ACTUAL, SEA LEVEL ELEVATION OF ANY PORTION OF THE STRUCTURE.
- 5" THICK CONCRETE SLAB ON GRADE REINFORCED WITH #4@10" OC EACH WAY OR #4@10" EACH WAY. ON 1 1/2" CHAIRS SPACED AT 36" OC EACH WAY. PLACE EACH WAY ON 15 MI. WATER VAPOR BARRIER OVER COMPOUND SELECT FL. (S&P) REFER TO SLAB JOINT DETAILS REFER TO 15-300 AND 25-300.
- TOP OF INTERIOR EXTERIOR FINISH ELEVATION SHALL BE ± 1'-0" TOP OF GRADE OR FINISH ELEVATION SHALL BE ± 3'-0" TOP OF FOOTING ELEVATION SHALL BE ± 3'-0" TOP.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXTENSIONS AND DIMENSIONS OF RAISED OR DERESSED SLAB AREAS, SLOPES, CURBS, AND DRAINS. REFER TO TYPICAL DETAILS FOR REINFORCEMENT REQUIREMENTS.
- GC COORDINATE ALL PENETRATIONS AND UNDERGROUND UTILITIES WITH MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. REFER TO TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT REQUIREMENTS.
- CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT AND STRUCTURAL ENGINEER OF ANY DISCREPANCIES.
- GC COORDINATE ALL SLAB EDGE DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
- PROVIDE (2) - #5 x 4' LONG BAR IN SLAB AT RE-ENTRANCE CORNERS. TYPICAL LOCATION OF THE TRENCHES AND FLOOR DRAINS. REFER TO 10S-301 FOR THE BUILDINGS, FLOOR RECESSES AND OPENINGS.
- GC COORDINATE ALL THE SIZE AND EXTENT OF ALL BRICK EDGES SHOWN ON PLAN OR DETAILS WITH ARCHITECTURAL DRAWINGS.
- REF 50x SERIES DRAWINGS FOR GENERAL NOTES AND TYP. DETAILS
- REF S3x SERIES DRAWINGS FOR FOUNDATION AND SLAB-ON-GRADE DETAILS.
- REF S4x SERIES DRAWINGS FOR CONJ. WALLS.
- REF S5x SERIES DRAWINGS FOR STEEL, BRACE ELEVATIONS AND DETAILS.
- REFER TO ARCH. AND PLUMBING DWGS FOR THE SIZE, NUMBER AND LOCATION OF THE TRENCHES AND FLOOR DRAINS. REFER TO 10S-301 FOR TRENCH DETAIL AND REFER 45-301 FOR FLOOR DRAIN DETAIL.
- AT INTERIOR CM WALL LOCATIONS, WHERE THE GRADE BEAM IS NOT SHOWN, PROVIDE SLAB TURNUP/END DETAIL 45-312 TYPICAL. AT INTERIOR GLAZING LOCATIONS, WHERE THE GRADE BEAM IS NOT SHOWN, PROVIDE DETAIL 10S-301 TYPICAL.
- PIERS/FOOTINGS WITHOUT CENTERLINE SHOWN ON PLANS, SECTIONS AND ELEVATIONS SHALL LOCATE CENTERLINE OF THE GRADE BEAM OR WALLS.
- A. ALONG THE BEAMS AND PLASTERS: CENTERLINE OF THE COLUMN OR BEAM OR WALL.
- B. ALONG THE BEAMS AND WALLS: CENTERLINE OF THE GRADE BEAM OR WALLS.
- C. ALONG THE LENGTH OF GRADE BEAMS AND WALLS: INTERMEDIATE PIERS/FOOTINGS SHALL BE SPACED EQUALLY BETWEEN THE END 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.
- GC TO COORDINATE THE LOCATION OF ALL CONJ. CURBS WITH ARCH DWGS. REF 75-301 FOR DETAIL TYP.
- GC COORDINATE THE LOCATION OF ALL CANOPY COLUMNS WITH ARCH DRAWINGS.
20. XXXXXX ALL CMU SHOWN ON PLAN ARE PART OF THE STRUCTURAL LATERAL FORCE RESISTING SYSTEM AND SUPPORT GRAVITY LOADS. NON-STRUCTURAL CMU EXISTS IN OTHER LOCATIONS (REF ARCH DWGS). A 3" CONCRETE JOINT SHALL BE PROVIDED WHEREVER STRUCTURAL AND NON-STRUCTURAL CMU ABUT.
21. IT CAN BE COMMON PRACTICE FOR STEEL STUD-UPS WITH STRUCTURAL STEEL SLIP SUPPORT MEMBERS TO BE PROVIDED AT LONG FIRST FLOOR WINDOW SILLS (REF DETAIL 45-311). HOWEVER, FOR FIRST FLOOR WINDOWS 8'-0" AND LONGER, PROVIDE PRE-ENGINEERED COLD-FORM STEEL SLIP SUPPORTS UTILIZING COLD-FORM FRAMING ONLY. THESE COLD-FORM SLIP SUPPORTS SHALL BE DESIGNED BY THE DRYWALL SUBCONTRACTOR'S ENGINEER AND SHALL BE APPROVED BY THE ARCHITECT OR REVIEWER. WHERE FIRST FLOOR WINDOWS SILLS EXCEED 8'-0" THE CONTRACTOR SHALL PROVIDE MISC. STRUCTURAL STEEL PER 45-311 (TYP.).
22. PROVIDE STRUCTURAL GEO-FOAM WITH 4" CONCRETE TOPPING SLAB WITH WVF OVER STRUCTURAL TWO WAY SLAB FOR HATCHED AREAS. GEO-FOAM TO BE MANUFACTURED BY MANUFACTURER. REF ARCH AND GENERAL NOTES. GC NOTE: ORIGINAL BASE / FLAT SLAB EXTENDS CONTINUOUS BELOW RASSED PLATFORMS AND STAIRS. PROVIDE CONCRETE FLAT BELOW PLATFORM WITH 4" CONCRETE TOPPING SLAB WITH WVF. PROVIDE CONCRETE TOPPING SLAB. ADDITIONALLY PROVIDE 4" CONCRETE SLAB WALLS WITH #3 BARS AT 12" OC EACH WAY. DRILL AND EPOXY 4" INTO BASE / FLAT SLAB WITH HL-200 ADHESIVE.



ARCHITECT **PKB Architects, Inc.**
PKB.com

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0608 P
713-961-4571 F
TX Firm: BR 1608

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DWD ENGINEERS
713-940-3238

LANDSCAPE ARCHITECTS
EGGS AND
713-940-0588

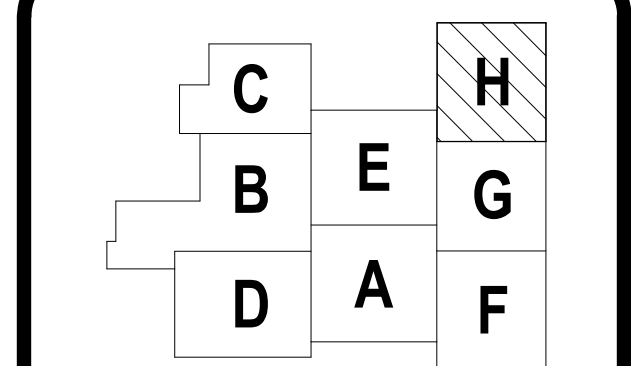
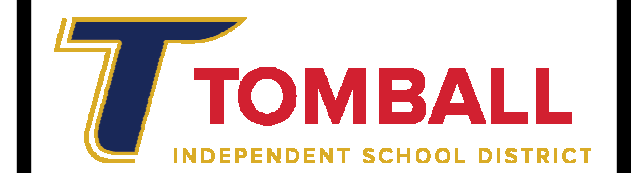
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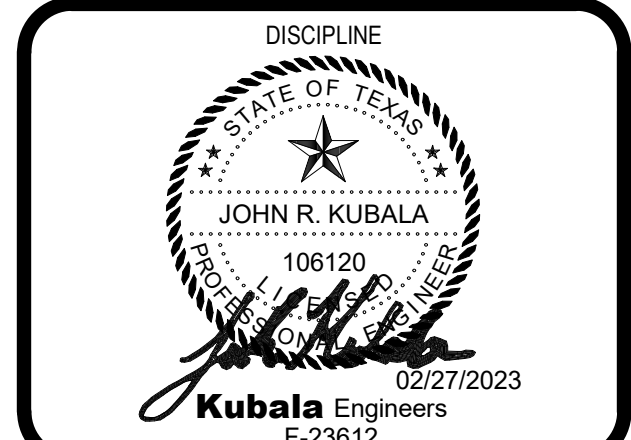
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**FOUNDATION PLAN -
AREA H**

S-101H







ARCHITECT
HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1688

PBK Architects, Inc.
PBK.com

DISCIPLINES
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INDEPENDENT SCHOOL DISTRICT



KEY PLAN
NORTH: PLAN TRUE

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JOHN R. KUBALA
106120
Kubala Engineers
F-23612
02/27/2023

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TOMBALL ISD
DATE
02/27/2023
PROJECT NUMBER
220137

DRAWING HISTORY

No.	Description	Date

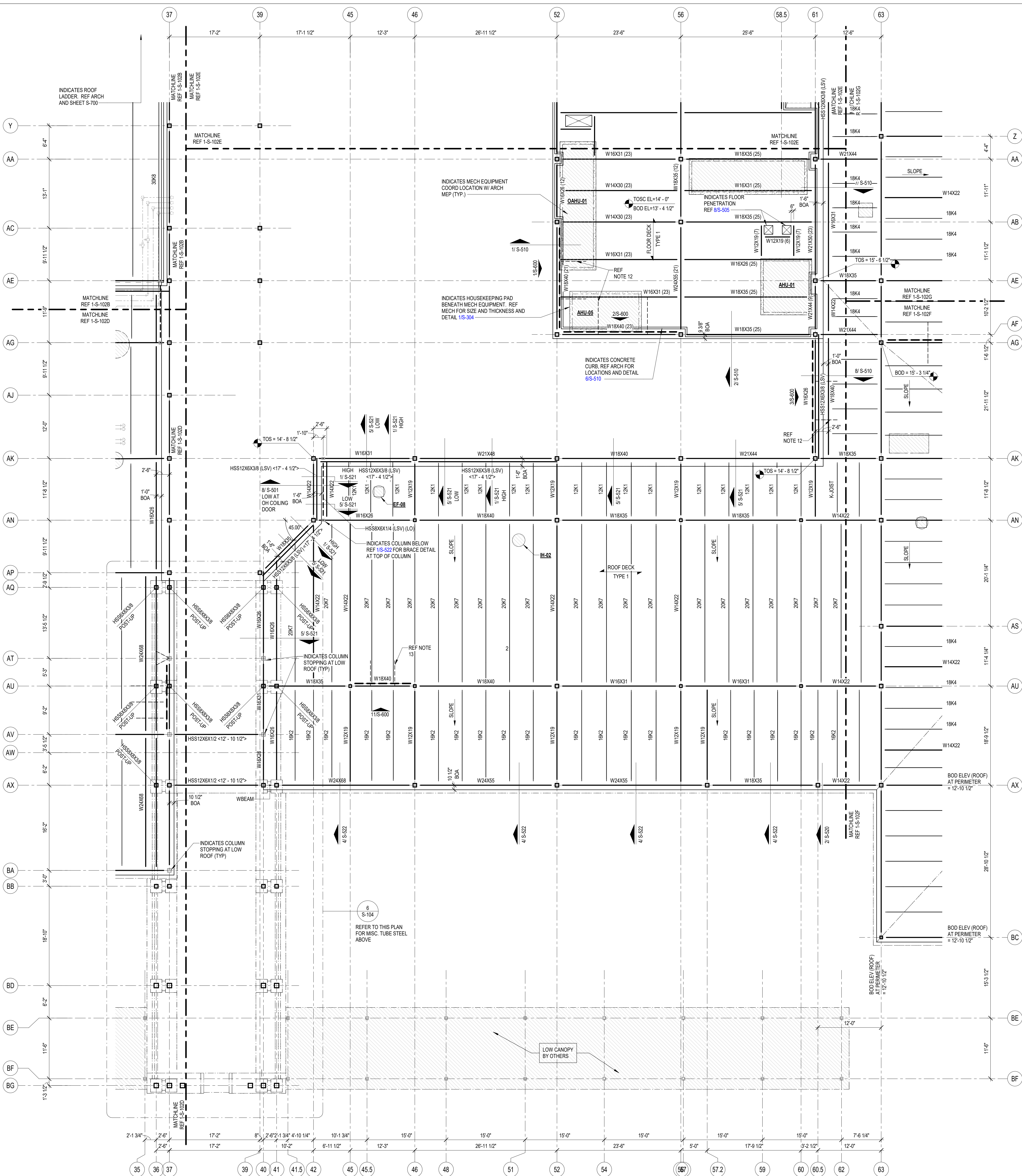
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COMPOSITE LOW ROOF FRAMING PLAN

S-102




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

COMPOSITE FLOOR PLAN NOTES

1. REF PLAN FOR TOP OF SLAB ELEVATION.
2. ALL ELEVATIONS ARE BASED ON TOS EL = 0'-0"
3. STEEL DECK SHALL BE PLACED WITH A TWO-SPAN CONDITION MINIMUM. NO SINGLE SPANS ARE ALLOWED WITHOUT WRITTEN APPROVAL OF ENGINEER-OF-RECORD.
4. COMPOSITE BEAM CONSTRUCTION IS UNSHOWN.
5. DETAILING OF ALL MEMBER CONNECTIONS TO THE SUPPORTS SHALL BE PERFORMED TO SATISFY LATEST AISC ERECTION REQUIREMENTS.
6. TOS EL = BOTTOM OF DECK.
7. UNLESS SHOWN OTHERWISE, STEEL BEAMS OR JOISTS ARE CENTERED ON AND EQUALLY SPACED BETWEEN COLUMN CENTERS.
8. ALL STRUCTURAL STEEL THAT IS PERMANENTLY EXPOSED TO THE EXTERIOR OR IS PERMANENTLY IN UNCONDITIONED SPACE SHALL BE HOT-DIPPED GALVANIZED.
9. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR PENETRATIONS NOT SHOWN. REFER TO TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT REQUIREMENTS AT OPENINGS.
10. PROVIDE ADDITIONAL (.5) - #6 CONT BARS IN COMPOSITE SLAB AROUND FULL PERIMETER OF SLAB AND AROUND OPENINGS. EXTEND BARS 10'-0" PAST CORNERS OF OPENINGS. PROVIDE 5'-0" HOOK AT TERMINATION ENDS. ALL LAPPS IN REINFORCING SHALL BE WITH MECHANICAL COUPLERS OR 2'-0" LAP SPACE (TYP).
11. CONTRACTOR TO VERIFY ALL SLAB EDGE DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
12. INDICATES WIND BRACE PLAN TOP FLOOR BRACING BEAM PER 25.505 TYP. PLACE ALONG ENTIRE GRID AT SLAB FRAME BEAMS. AT LOCATIONS WHERE BRACING SPAC EXCEEDS 4'-0" OC REF 15.505.
13. REF DETAIL 10 FOR ADDITIONAL REINF UNDER INTERIOR CMU WALLS PARALLEL TO DECK SPAN. GO TO COORDINATE THE LOCATION OF ALL CMU WALLS WITH ARCH DRAWINGS.
14. REF 50.x.x SERIES DRAWINGS FOR GENERAL NOTES AND TYP DETAILS.
15. REF 54.x.x SERIES DRAWINGS FOR CMU DETAILS.
16. REF 55.x.x SERIES DRAWINGS FOR SLAB FRAMING DETAILS.
17. REF 56.x.x SERIES DRAWINGS FOR STEEL BEACE ELEVATIONS AND DETAILS.
18.  - ALL CMU SHOWN ON PLAN ARE PART OF THE STRUCTURAL LATERAL FORCE RESISTING SYSTEM AND SUPPORTS GRAVITY LOADS. NON-STRUCTURAL CMU EXISTS IN NON-RESISTING (REF ARCH 505). A 33% VERT. CONTROL JOINT SHALL BE PROVIDED BETWEEN RESISTING AND NON-STRUCTURAL CMU JOINT.

ROOF PLAN NOTES

1. REF PLAN FOR TOP OF SLAB ELEVATION.
2. ALL ELEVATIONS ARE BASED ON TOSCE $E = 0'-0"$.
3. TOP OF ROOF STRUCTURE IS TOSCE 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 BOTH CONNECTION CHORD HORIZONTAL BRIDGING IS REQUIRED.
5. REFER TO THE ROOF DIAPHRAGM CONNECTION SCHEDULE FOR DECK ATTACHMENT TO R/C 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. TOSCE = 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 4.5-507, TYP. ALONG ENTIRE GRID OF ALL BRACE FRAMES. NOT SHOWN IN PLAN FOR CLARITY.
14. REF DETAIL 4.5-506 WHERE TOP OF ROOF EQUIPMENT REQUIREMENTS A STRUCTURAL CURB. JOISTS THAT ARE REQUIRED TO SUPPORT EQUIPMENT SHALL BE DESIGNED FOR AN ADDITIONAL CONCENTRATED DEAD LOAD (AS SHOWN ON PLAN AT ANY POINT ALONG JOIST SPAN). GC SHALL COORDINATE WITH MFR 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 5-011.
16. REF 90.x.x SERIES DRAWINGS FOR GENERAL NOTES AND TYP DETAILS
17. REF 94.x.x SERIES DRAWINGS FOR CMU DETAILS.
18. REF 95.x.x SERIES DRAWINGS FOR STEEL FRAMING DETAILS.
19. REF 96.x.x SERIES DRAWINGS FOR STEEL BEAM ELEVATIONS AND DETAILS.
20. INDICATES COLUMN BRACING PER 9.5-502. TYPICAL AT COLUMNS UNBRACED BY FRAMING MEMBER ABOUT THEIR LOCAL AXIS. NOT ALL SHOWN ON PLAN FOR CLARITY.

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-W/2.9xW/2.9, U.N.Q.

METAL ROOF DECK TYPES

ROOF DECK TYPE 1:
1.0 CSV 22 GA (GALV.) VENTED MTL DECK.

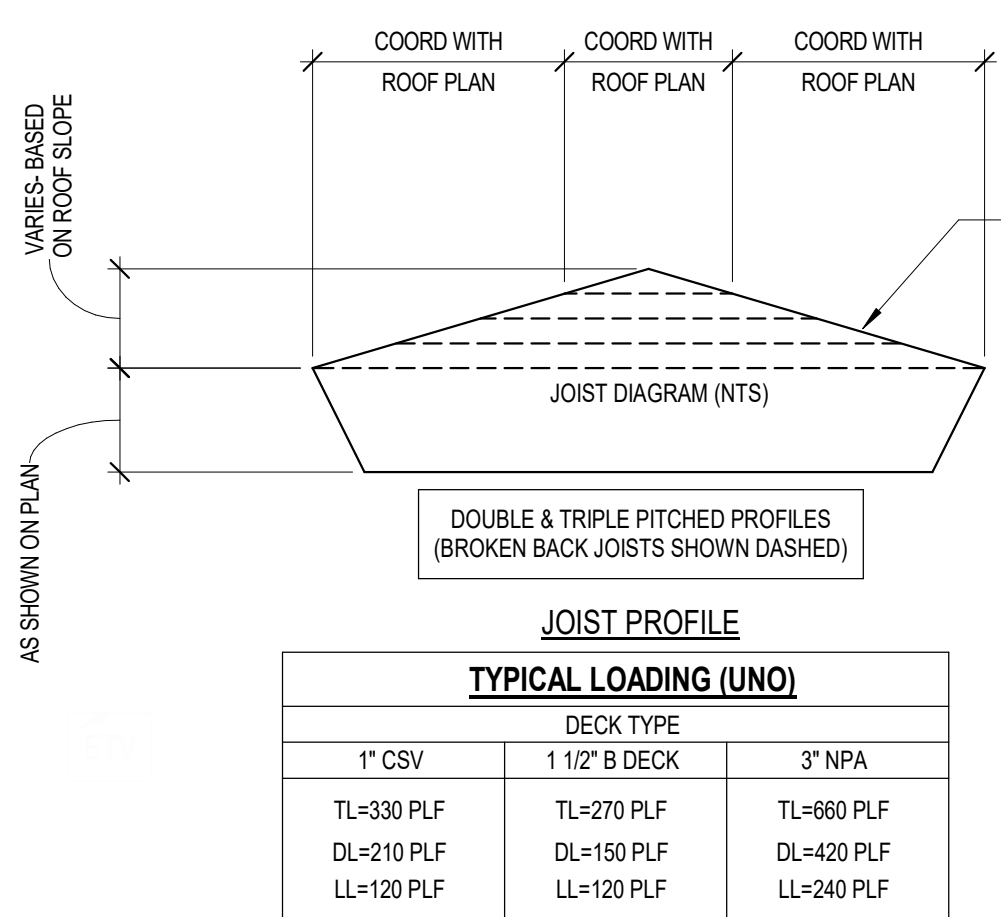
ROOF DECK TYPE 2:
1.5 WR 22 GA (GALV.) MTL DECK.

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-506 FOR MORE INFORMATION REGARDING ROOF DECK REQUIREMENTS.

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:

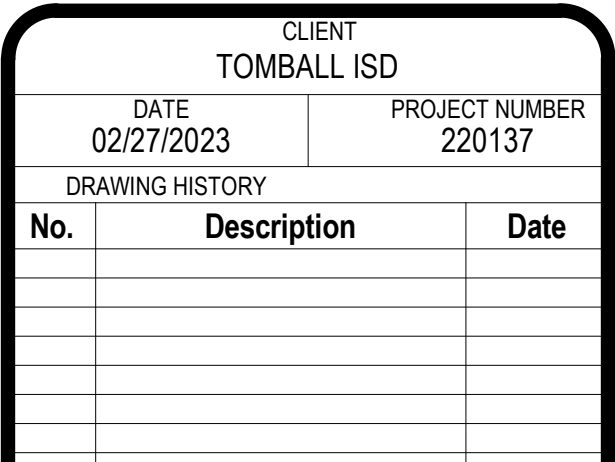
1. CL1 - XXXX POUNDS LOCATED X'-X" FROM THE FACE OF THE SUPPORTING PANEL ADJACENT TO HIGH ROOF.
2. CL2 - XXXX POUNDS LOCATED X'-X" FROM THE CENTERLINE OF THE SUPPORTING STEEL BEAM.



TYPICAL LOADING (UNO)		
DECK TYPE		
1" CSV	1 1/2" B DECK	3" NPA
TL=330 PLF	TL=270 PLF	TL=660 PLF
DL=210 PLF	DL=150 PLF	DL=420 PLF
LL=120 PLF	LL=120 PLF	LL=240 PLF

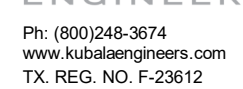


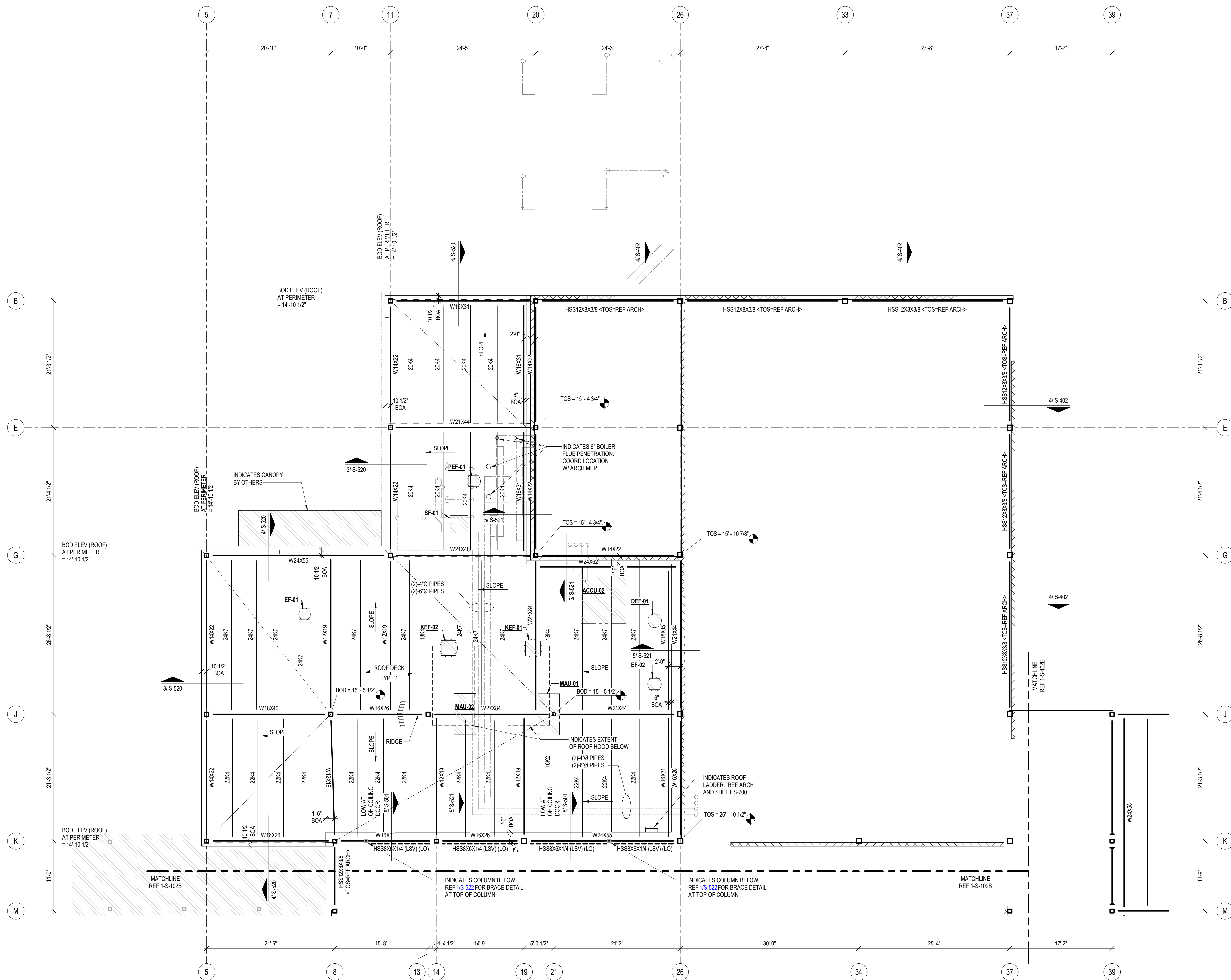
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TOMBALL, TX



LOW ROOF FRAMING PLAN - AREA B

S-102B





ROOF PLAN NOTES

2. REF ELEV FOR TOP OF SLAB ELEVATION.
3. ALL ELEVATIONS ARE BASED ON TOSG 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 MESH NOTE:
BRIDGING NOT SHOWN ON PLAN. MANUFACTURER SHALL PROVIDE STANDARD BRIDGING COMPLYING WITH SJI SPECIFICATIONS OF LATHES. TYPICAL: GRAVITY AND UPLIFT LOADS DISMYPRESSED ON ALL JOISTS. ADDITIONAL BRIDGING SHALL BE PROVIDED WHERE ADJACENT JOISTS INTERSECT AT BOTTOM CHORDS/RAILS UNLESS SHOWN OTHERWISE 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 AISC 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 UNDERCUT 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 VOID BRACE BEAM BOTTOM FLANGE BRACING PER 45-507, TYPE ALONG ENTIRE GRID AT ALL BRACE FRAMES. NOT SHOWN IN PLAN FOR CLARITY.
14. REF DETAIL 45-508 WHERE ROOF TOP EQUIPMENT REQUIRES A STRUCTURAL CURC JOISTS THAT ARE SUPPORTING ROOF TOP EQUIPMENT SHALL BE DESIGNED FOR AN ADDITIONAL COLUMN 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 S-04 SERIES DRAWINGS FOR GENERAL NOTES AND TYP DETAILS
17. REF S-44 SERIES DRAWINGS FOR CMU DETAILS.
18. REF S-54 SERIES DRAWINGS FOR STEEL FRAMING DETAILS.
19. REF S-6 SERIES DRAWINGS FOR STEEL BRACE ELEVATIONS AND DETAILS.
20. \ / _____ INDICATES COLUMN BRACING PER 45-502. TYPICAL AT COLUMNS UNBRACED BY

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:

ROOF DECK TYPE 2:

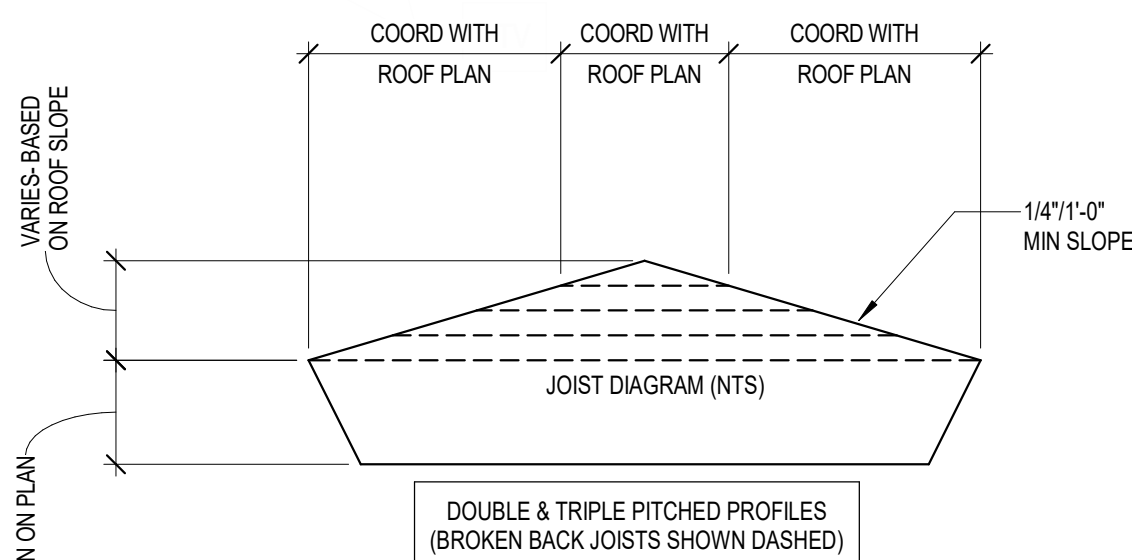
NOTES

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.

1. REF SLABS FORM DECK (AT FLOORS) GENERAL NOTE AND METAL DECK SCHEDULE ON SHEET S-504 FOR MORE INFORMATION REGARDING FLOOR DECK REQUIREMENTS.
2. REF METAL ROOF DECKING GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-506 FOR MORE INFORMATION REGARDING ROOF DECK REQUIREMENTS.

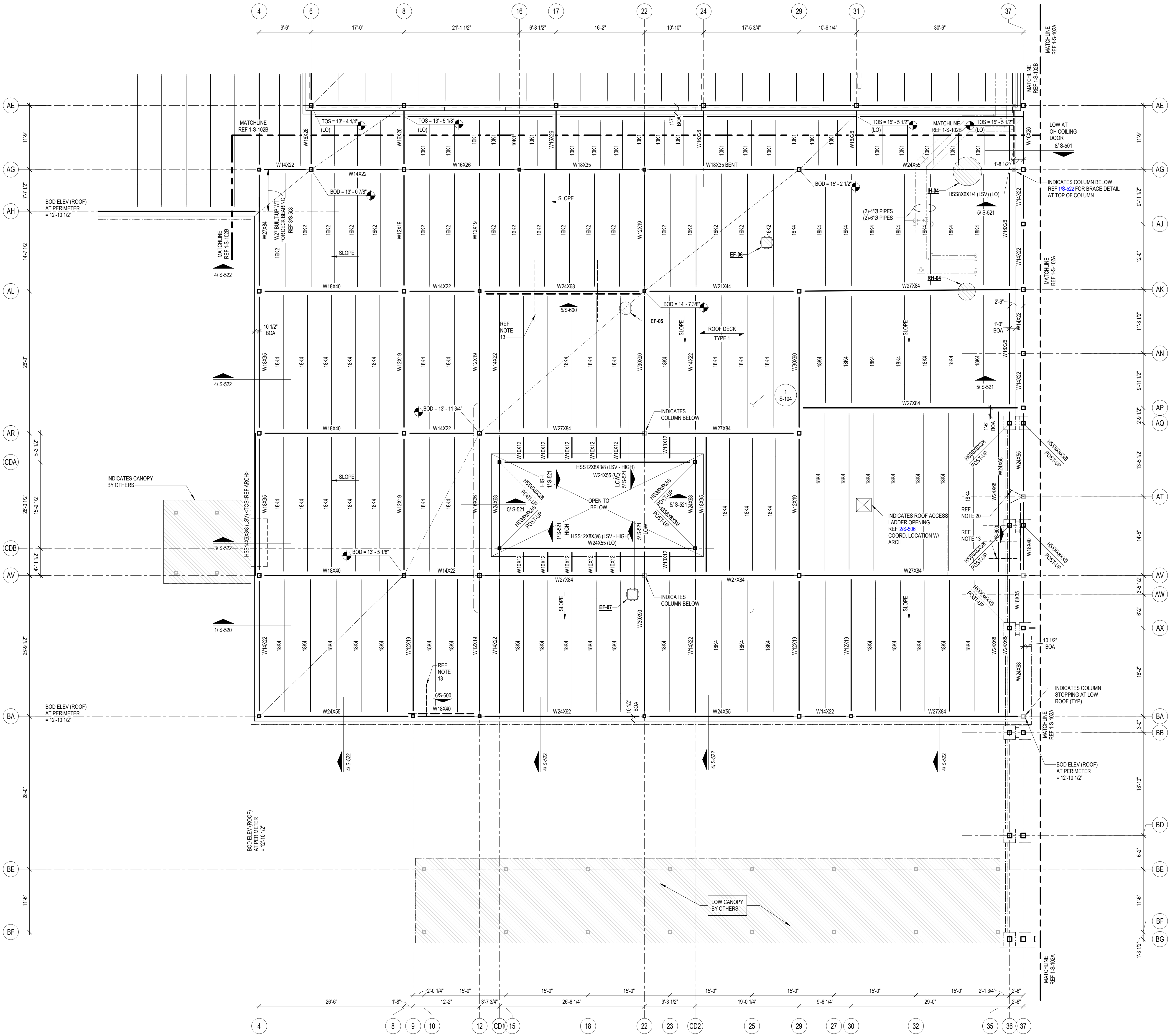
JOIST DESIGNATIONS, SHOWN ON THE FRAMING PLANS, FOLLOWED BY THE DESIGNATION "CL" SUPPORT A CONCENTRATED DEAD LOAD. THE JOIST SIZES DESIGNATED ON THE FRAMING PLANS DO NOT TAKE INTO ACCOUNT THIS CONCENTRATED DEAD LOAD. THE JOIST MANUFACTURER SHALL DESIGN SPECIAL JOISTS TO SUPPORT THIS CONCENTRATED DEAD LOAD IN ADDITION TO THE TOTAL LOAD CAPACITY PROVIDED IN THE 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 - XXXX POUNDS LOCATED X'-X" FROM THE FACE OF THE SUPPORTING PANEL ADJACENT TO HIGH ROOF
2. CL2 - XXXX POUNDS LOCATED X'-X" FROM THE CENTERLINE OF THE SUPPORTING STEEL BEAM.



JOIST PROFILE

TYPICAL LOADING (UNO)		
DECK TYPE		
1" CSV	1 1/2" B DECK	3" NPA
TL=330 PLF	TL=270 PLF	TL=660 PLF
DL=210 PLF	DL=150 PLF	DL=420 PLF
LL=120 PLF	LL=120 PLF	LL=240 PLF



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 405-507, TYP ALONG ENTIRE GRID AT ALL BRACE FRAMES. NOT SHOWN IN PLAN FOR CLARITY.

14. REF DETAIL 5S-506 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 54.xx SERIES DRAWINGS FOR CMU DETAILS.

18. REF 55.xx SERIES DRAWINGS FOR STEEL FRAMING DETAILS.

19. REF 56.xx SERIES DRAWINGS FOR STEEL BRACE ELEVATIONS AND DETAILS.

20. _____ INDICATES COLUMN BRACING PER 405-502, TYPICAL AT COLUMNS UNBRACED BY FRAMING MEMBER ABOUT THEIR LOCAL AXIS. NOT ALL SHOWN ON PLAN FOR CLARITY.

COMPOSITE FLOOR DECK AND METAL ROOF DECK LEGEND

COMPOSITE FLOOR DECK TYPES

FLOOR DECK TYPE 1:
4'-12" WVC ON 3" V1 20 GA (GALV) (500) COMPOSITE STEEL DECK (7 1/2" TOTAL SLAB THICKNESS). COMPOSITE SLAB SHALL BE REINFORCED WITH WWR 6#6-W2.5@22.5, U.N.C.

METAL ROOF DECK TYPES

ROOF DECK TYPE 1:
1.0 CSV 22 GA (GALV.) VENTED MTL DECK.

ROOF DECK TYPE 2:
1.5 WR 22 GA (GALV.) 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-506 FOR MORE INFORMATION REGARDING ROOF DECK REQUIREMENTS.

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 - XXXX POUNDS LOCATED X'-X" FROM THE FACE OF THE SUPPORTING PANEL ADJACENT TO HIGH ROOF.

2. CL2 - XXXX POUNDS LOCATED X'-X" FROM THE CENTERLINE OF THE SUPPORTING STEEL BEAM.

COORD WITH ROOF PLAN

COORD WITH ROOF PLAN

COORD WITH ROOF PLAN

1'-11 1/4" MIN SLOPE

JOIST DIAGRAM (NTS)

DOUBLE & TRIPLE PITCHED PROFILES (BROKEN BACK JOISTS SHOWN DASHED)

AS SHOWN ON PLAN - WARES-BASED ON ROOF SLOPE

JOIST PROFILE

TYPICAL LOADING (UNO)

DECK TYPE		
1" CSV	1 1/2" B DECK	3" NPA
TL=330 PLF	TL=270 PLF	TL=660 PLF
DL=210 PLF	DL=150 PLF	DL=420 PLF
LL=120 PLF	LL=120 PLF	LL=240 PLF

ARCHITECT

HOUSTON

11 Greenway Plaza, 22nd Floor

Houston, TX 77046

713-965-0808 P

713-961-4571 F

TX Firm BR 1608

PKB Architects, Inc.

PKB.com

OWNER

DISCIPLINE

PROJECT NUMBER

DATE

2/27/2023

CLIENT

TOMBALL ISD

PROJECT NUMBER

220137

DRAWING HISTORY

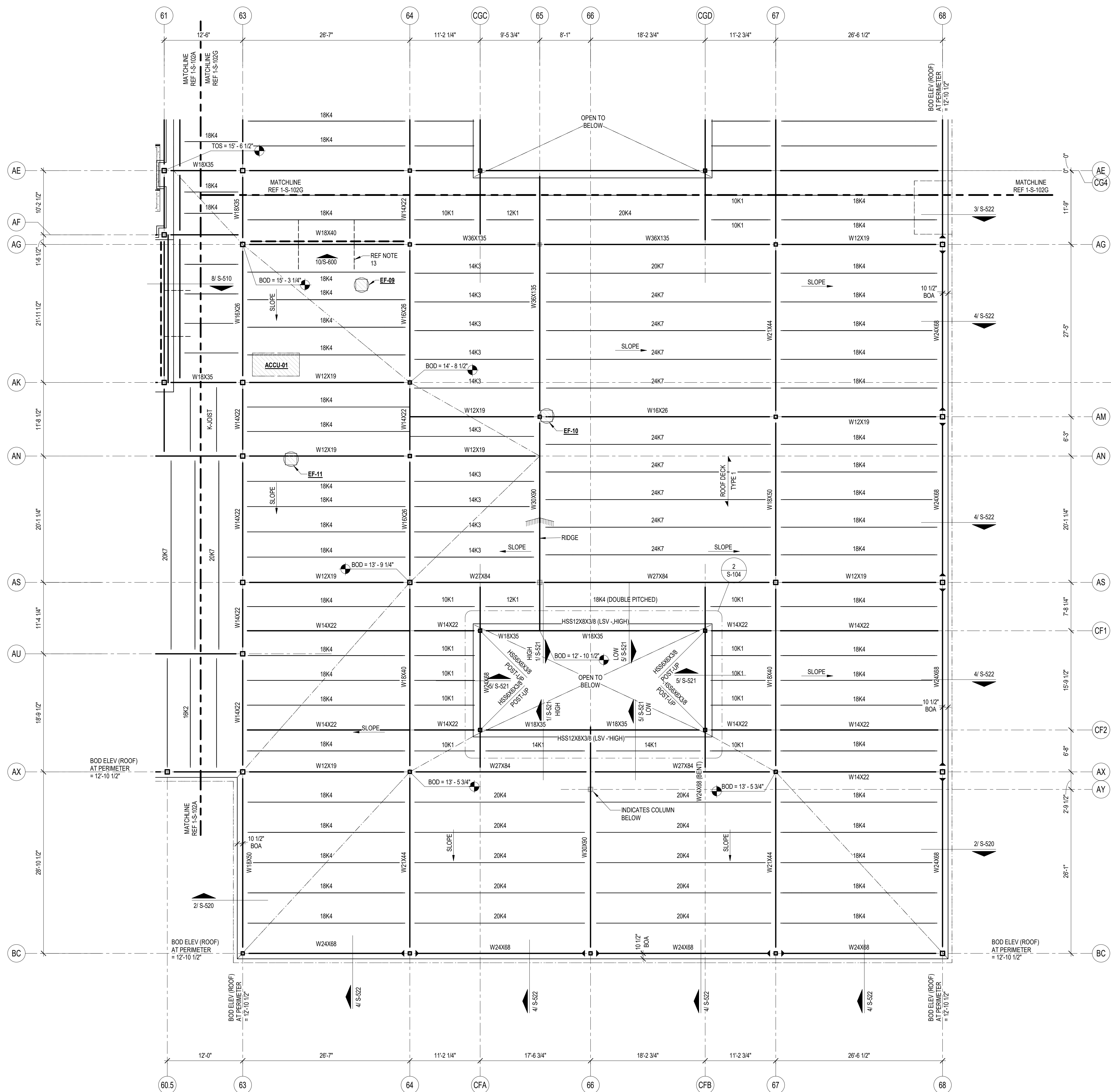
No.	Description	Date

ISSUE FOR PROPOSAL

BUILDING NUMBER

LOW ROOF FRAMING PLAN - AREA D

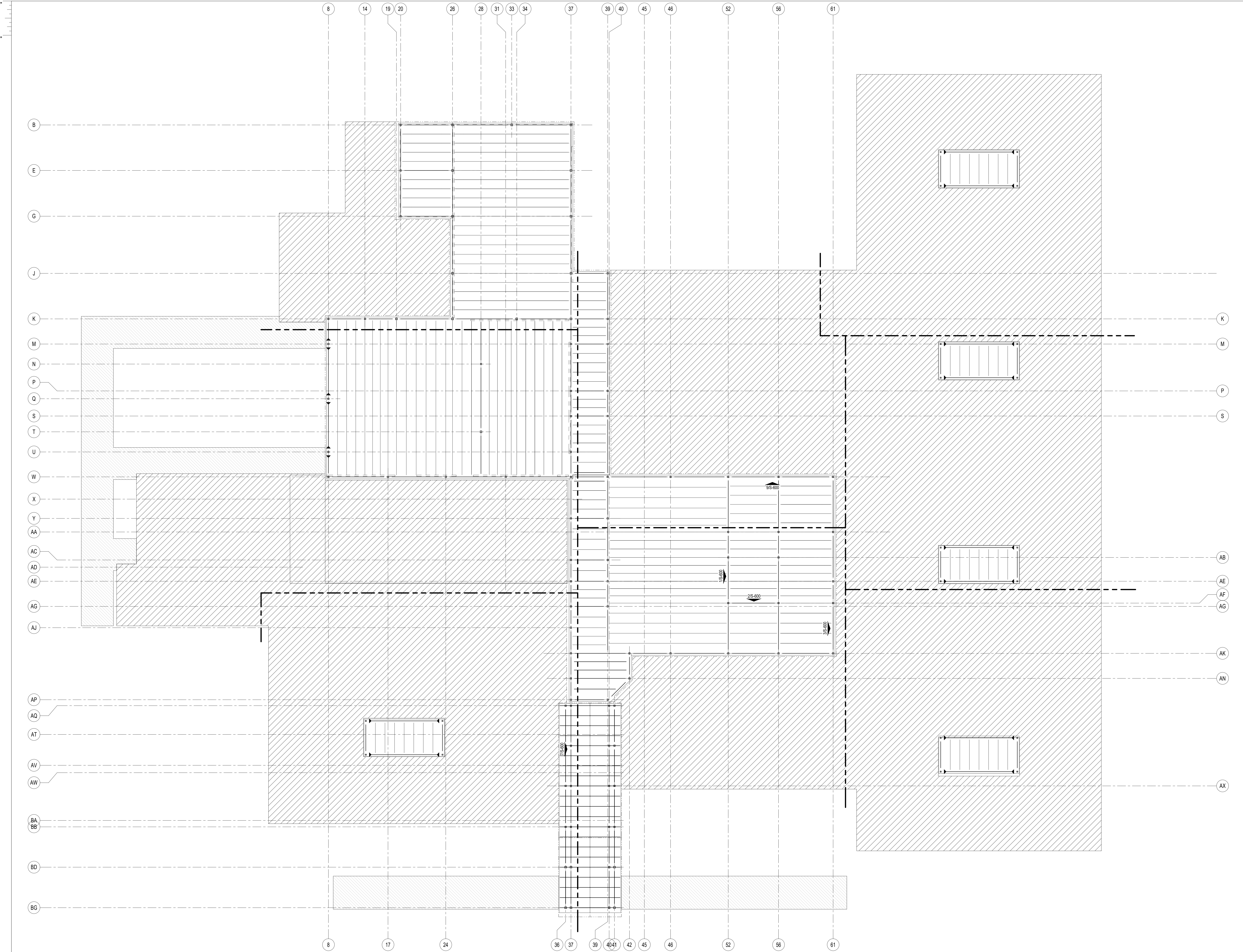
S-102D




1 LOW ROOF FRAMING PLAN - AREA F

Kubala
ENGINEERS

Ph: (800)248-3874
www.kutubaengineers.com
TX. REG. NO. F-23812





ARCHITECT
HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1688

PBK Architects, Inc.
PBK.com

OWNER
TOMBALL ISD
11111 Greenway Plaza
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1688

DESIGNER
TOMBALL ISD
11111 Greenway Plaza
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1688

ENGINEER
KUBALA ENGINEERS
11111 Greenway Plaza
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1688


LEAD ENGINEER
TOMBALL ISD
11111 Greenway Plaza
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1688

FOOD SERVICE
DESIGN PROFESSIONALS
11111 Greenway Plaza
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1688

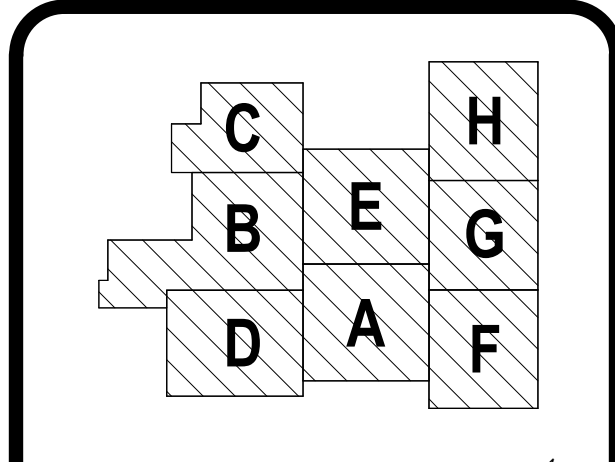
NEW JUERGEN ROAD ELEMENTARY SCHOOL

JUERGEN ROAD
TOMBALL, TX

ISSUE FOR PROPOSAL

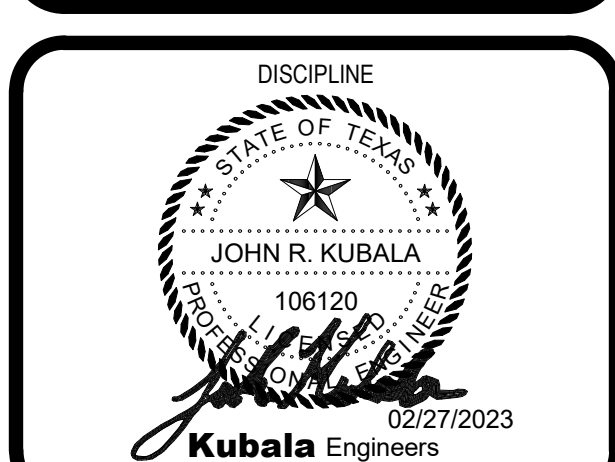


INDEPENDENT SCHOOL DISTRICT



KEY PLAN

NORTH: PLAN TRUE



DISCIPLINE
STATE OF TEXAS
JOHN R. KUBALA
106120
Kubala Engineers
F-23612

CLIENT
TOMBALL ISD

DATE
02/27/2023

PROJECT NUMBER
220137

DRAWING HISTORY

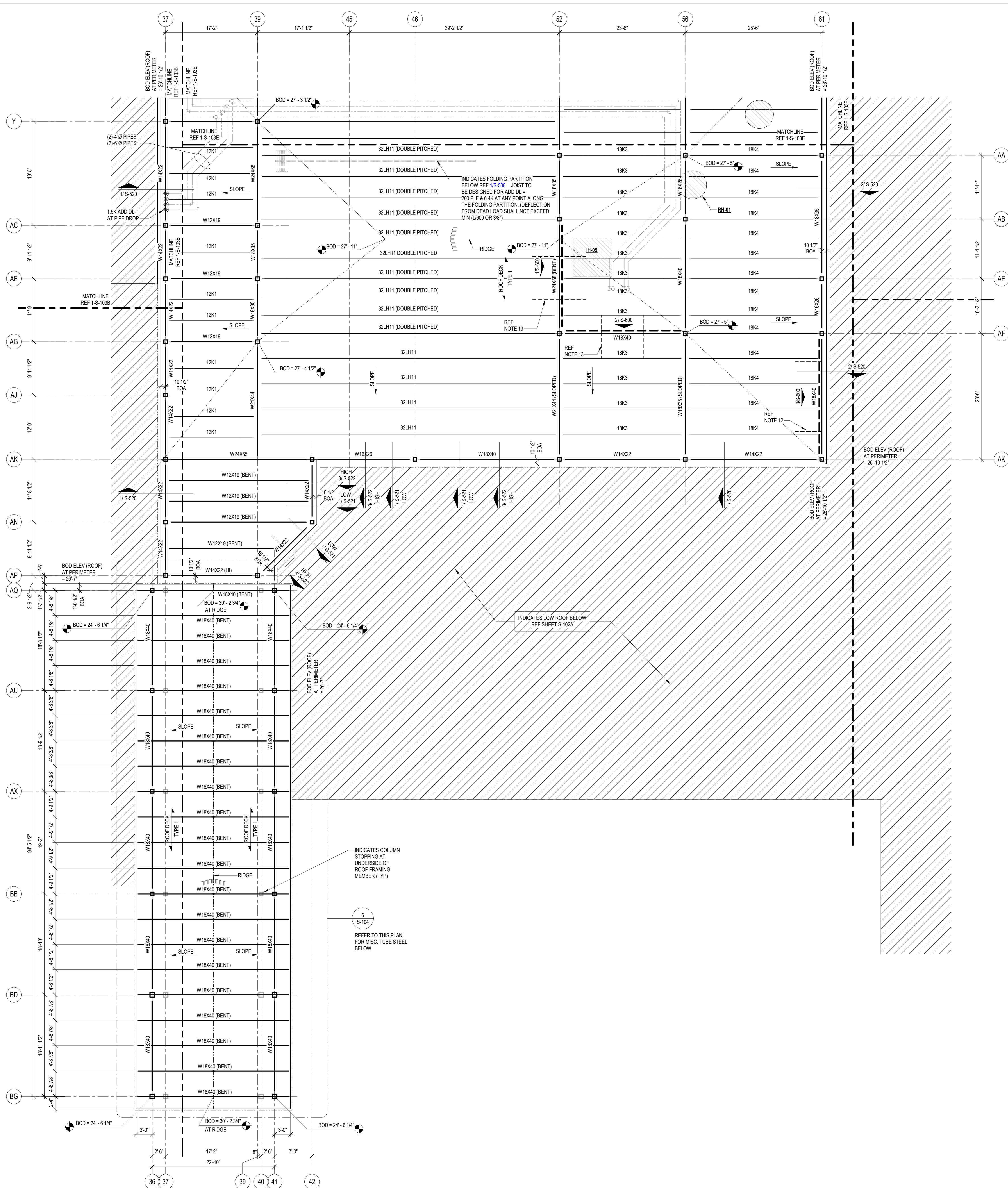
No.	Description	Date

ISSUE FOR PROPOSAL

BUILDING NUMBER

COMPOSITE HIGH
ROOF FRAMING PLAN

S-103



1 HIGH ROOF FRAMING PLAN - AREA A

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 OTHERWISE SHOWN OTHERWISE.
4. JOIST MFR NOTE:
BRIDGING SHOWN ON PLAN. MANUFACTURER SHALL PROVIDE STANDARD BRIDGING COMPLYING WITH SJI SPECIFICATIONS OF LATEST ADJUSTED. TYPICAL FOR GRAVITY AND UPLIFT LOADS SUPERIMPOSED ON ALL JOISTS. DIAGONAL BRIDGING SHALL BE PROVIDED BETWEEN ADJACENT JOISTS WHENEVER BOTH 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 CSAH DESIGN 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 PENETRATION REQUIREMENTS.
12. CONTRACTOR TO VERIFY ALL SLAB EDGE DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
13. INDICATES WIND BRACE BEAM BOTTOM FLANGE BRACING PER 415-507, TYP ALONG ENTIRE GRID AT WALL BRACES, NOT SHOWN IN PLAN DRAWING.
14. REF DETAIL 515-506 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 MECHANICAL, ARCHITECTURE AND EQUIPMENT CONTRACTORS FOR FINAL WEIGHTS, DIMENSIONS, LOCATION, ETC.
15. _____ INDICATES PIPING RUN. REF MEP DRAWINGS. GC SHALL COORDINATE GROUND/LOAD ON JOIST WITH MANUFACTURER. REF SHEET S-011.
16. REF S-0.x SERIES DRAWINGS FOR GENERAL NOTES AND TYP DETAILS
17. REF S-4.x SERIES DRAWINGS FOR CMU DETAILS
18. REF S-5.x SERIES DRAWINGS FOR STEEL FRAMING DETAILS.
19. REF S-6.x SERIES DRAWINGS FOR STEEL BRACE ELEVATIONS AND DETAILS.
20. / _____ INDICATES COLUMN BRACING PER 515-502. TYPICAL AT COLUMNS UNBRACED BY DIAPHRAGM MEMBER ABOUT THEIR LONG AXIS. NOT ALL COLUMNS ON PLAN FOR CLARITY.

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:
1.0 CSV 22 GA (GALV.) VENTED MTL DECK

ROOF DECK TYPE 2:
1.5 MPa (20.7 MPa)

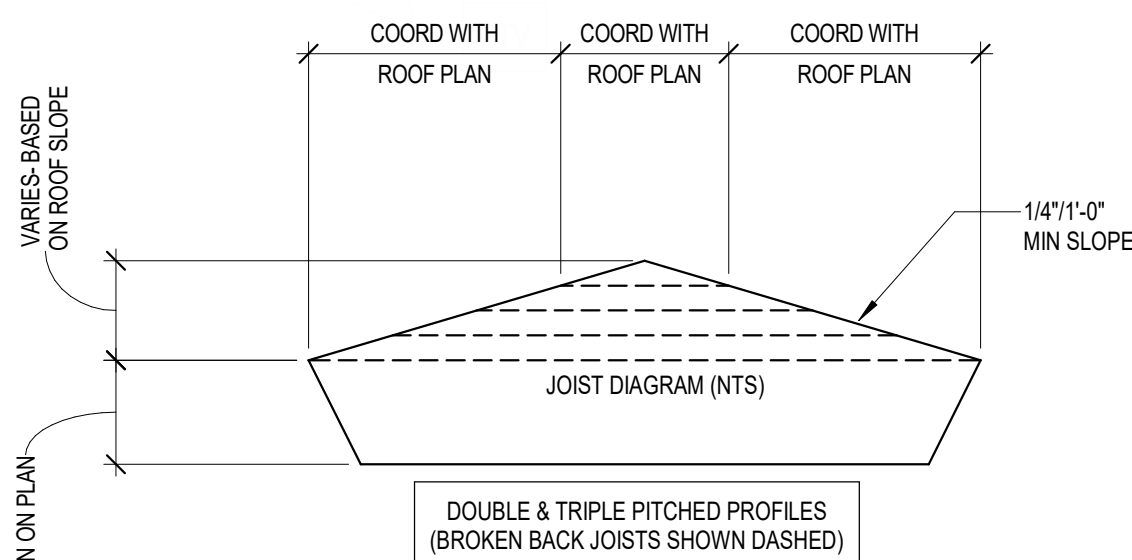
NOTES:

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.

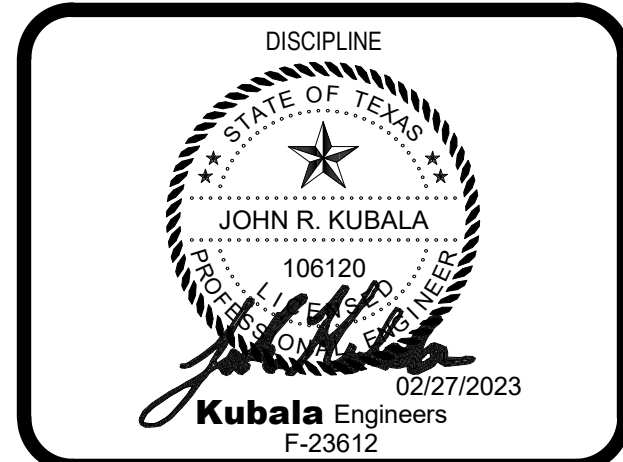
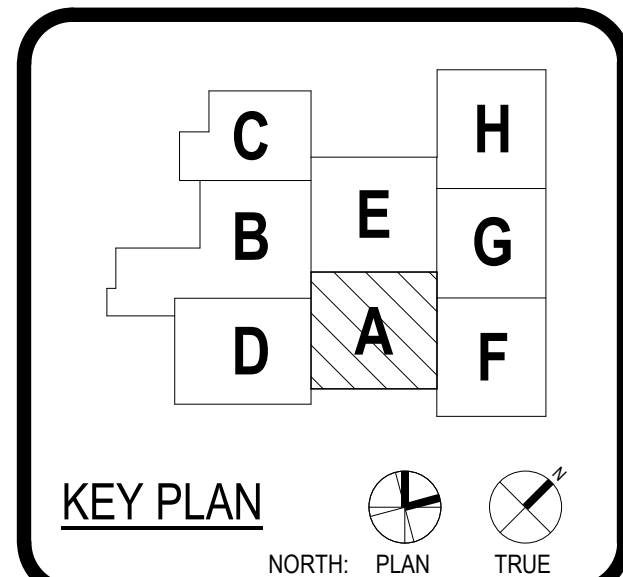
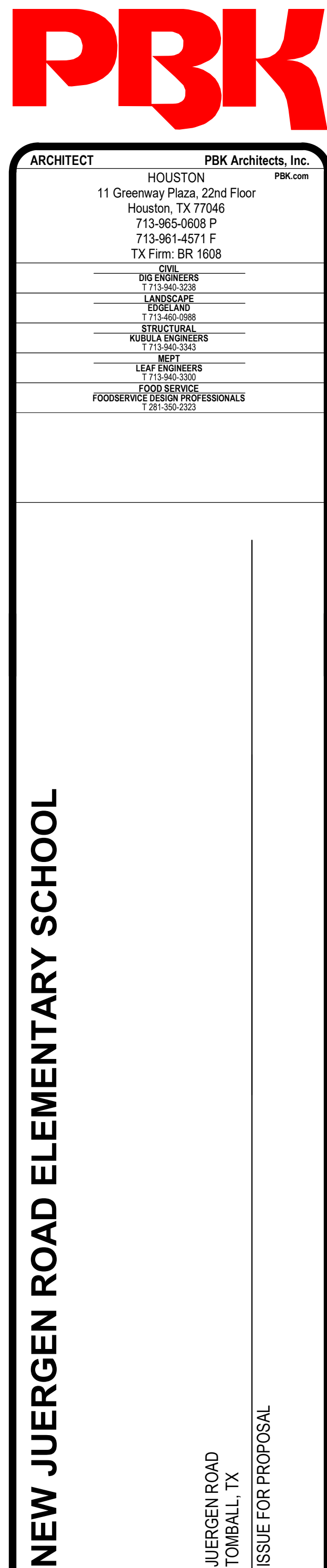
1. REF SLABS FORM DECK (AT FLOORS) GENERAL NOTE AND METAL DECK SCHEDULE ON SHEET S-504 FOR MORE INFORMATION REGARDING FLOOR DECK REQUIREMENTS.
2. REF METAL ROOF DECKING GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-506 FOR MORE INFORMATION REGARDING ROOF DECK REQUIREMENTS.

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 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:

2. CL2 - XXXX POUNDS LOCATED X'-X" FROM THE CENTERLINE OF THE SUPPORTING STEEL BEAM.



JOIST PROFILE		
TYPICAL LOADING (UNO)		
DECK TYPE		
1" CSV	1 1/2" B DECK	3" NPA
TL=330 PLF	TL=270 PLF	TL=660 PLF
DL=210 PLF	DL=150 PLF	DL=420 PLF
LL=120 PLF	LL=120 PLF	LL=240 PLF

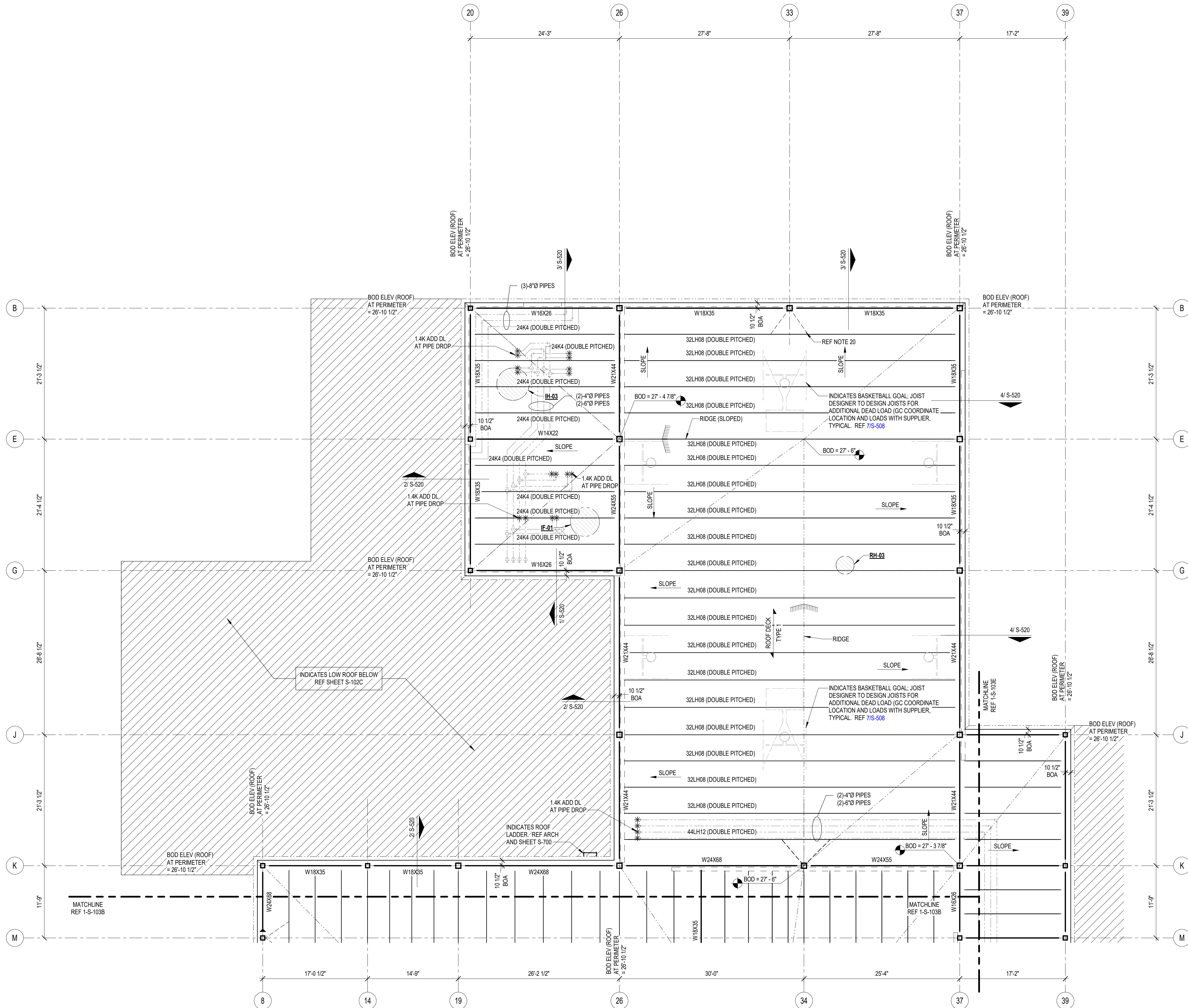
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ISSUE FOR PROPOSAL
BUILDING NUMBER

HIGH ROOF FRAMING PLAN - AREA A

Kubala
ENGINEERS
Ph: (800)248-3674
www.kubalengineers.com
TX. REG. NO. F-23812

S-103A



1 HIGH ROOF FRAMING PLAN - AREA C

ROOF PLAN NOTES

1. REF PLAN FOR TOP OF SLAB ELEVATION.
2. ALL ELEVATIONS ARE BASED ON TOSD $E = 0' + 0"$.
3. TOP OF ROOF STRUCTURE IS LOCATED FOR DRAINAGE. REF ELEVATIONS NOTED ON PLAN. SLOPES SHALL BE UNIFORM BETWEEN COLUMN CENTERLINES UNLESS SHOWN OTHERWISE.
4. JOIST MFR NOTE:
BRIDGING SHOWN ON PLAN. MANUFACTURER SHALL PROVIDE STANDARD BRIDGING COMPLYING WITH SJI SPECIFICATIONS OF LATERAL BRIDGING. TYPICAL FOR GRAVITY AND UPLIFT LOADS SUPERIMPOSED ON ALL JOISTS. DIAGONAL BRIDGING SHALL BE PROVIDED BETWEEN THE ROOF JOISTS WHENEVER BOTTOM CONNECTION 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 $E =$ 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 PENETRATION REQUIREMENTS.
12. CONTRACTOR TO VERIFY ALL SLAB EDGE DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
13. INDICATES WIND BRACE BEAM BOTTOM FLANGE BRACING PER 455-507, TYP. ALONG ENTIRE GRID AT WIND BRACES. NOT SHOWN IN PLAN FOR CLARITY.
14. REF DETAIL 455-508 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)
15. GC SHALL COORDINATE WITH ARCHITECTURE AND EQUIPMENT OUTLETINGS FOR FINAL WEIGHTED DIMENSIONS, LOCATION, ETC.
16. INDICATES PIPING RUN. REF MEP DRAWINGS. GC SHALL COORDINATE GIVEN LOAD WITH JOIST MANUFACTURER. REF SHEET S-011.
17. REF S-0xx SERIES DRAWINGS FOR GENERAL NOTES AND TYP DETAILS
18. REF S-4xx SERIES DRAWINGS FOR CMU DETAILS.
19. REF S-5xx SERIES DRAWINGS FOR STEEL FRAMING DETAILS.
20. REF S-6xx SERIES DRAWINGS FOR STEEL BRACE ELEVATIONS AND DETAILS.
21. / - INDICATES COLUMN BRACING PER 455-502. TYPICAL AT COLUMNS UNBRACED BY OTHER MEANS. NOT SHOWN FOR LOCAL AXES. NOT ALL COLUMNS ON PLAN FOR CLARITY.

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:
1.0 CSV 22 GA (GALV.) VENTED MTL DECK

ROOF DECK TYPE 2:

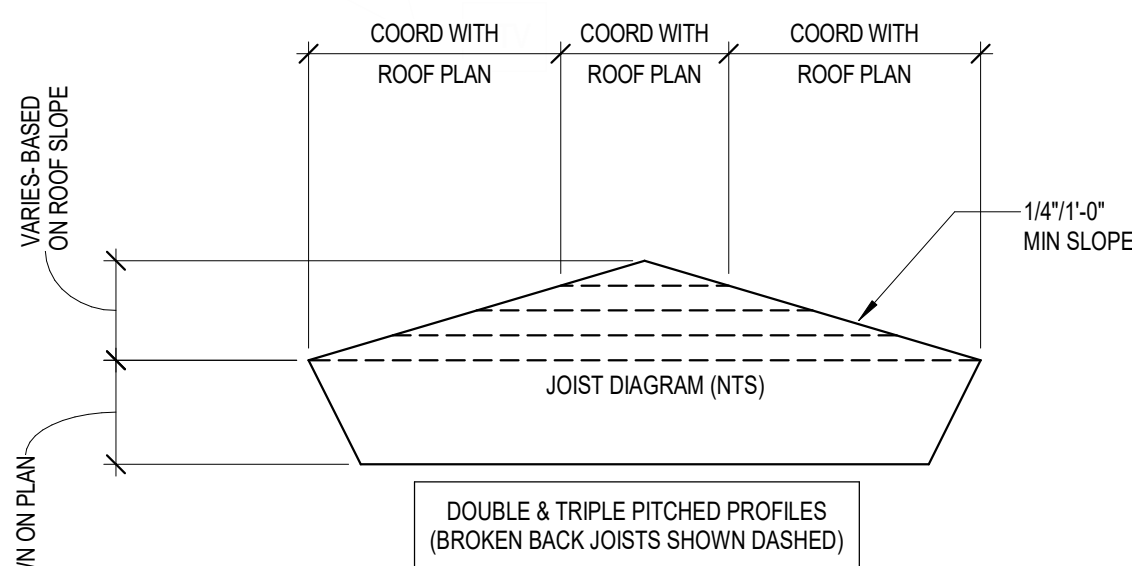
NOTES

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.

1. REF SLABS FORM DECK (AT FLOORS) GENERAL NOTE AND METAL DECK SCHEDULE ON SHEET S-504 FOR MORE INFORMATION REGARDING FLOOR DECK REQUIREMENTS.
2. REF METAL ROOF DECKING GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-506 FOR MORE INFORMATION REGARDING ROOF DECK REQUIREMENTS.

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 SJ 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 - XXXX POUNDS LOCATED X'-X" FROM THE FACE OF THE SUPPORTING PANEL ADJACENT TO HIGH ROOF.
2. CL2 - XXXX POUNDS LOCATED X'-X" FROM THE CENTERLINE OF THE SUPPORTING STEEL BEAM.



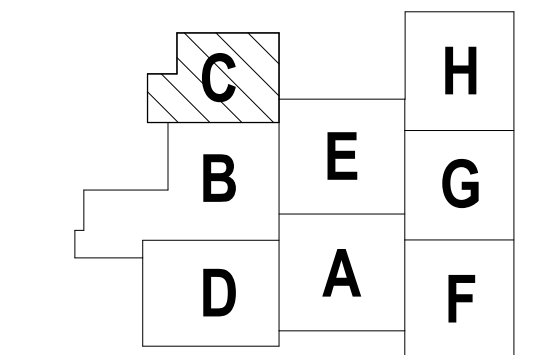
JOIST PROFILE		
TYPICAL LOADING (UNO)		
DECK TYPE		
1" CSV	1 1/2" B DECK	3" NPA
TL=330 PLF	TL=270 PLF	TL=660 PLF
DL=210 PLF	DL=150 PLF	DL=420 PLF
LL=120 PLF	LL=120 PLF	LL=240 PLF

PBIK


ARCHITECT	PBK Architects, Inc. PBK.com
HOUSTON 11 Greenway Plaza, 22nd Floor Houston, TX 77046 713-965-0608 P 713-961-4571 F TX Firm: BR 1608	
DIV.	
DIO ENGINEERS	
1 713-960-3238	
LANDSCAPE	
EDGE LAND	
1 713-960-0588	
STRUCTURAL	
KUBALA ENGINEERS	
1 713-960-1542	
MEET	
LEAF ENGINEERS	
1 713-960-3230	
FOOD SERVICE	
DESIGN PROFESSIONALS	
281-560-2223	

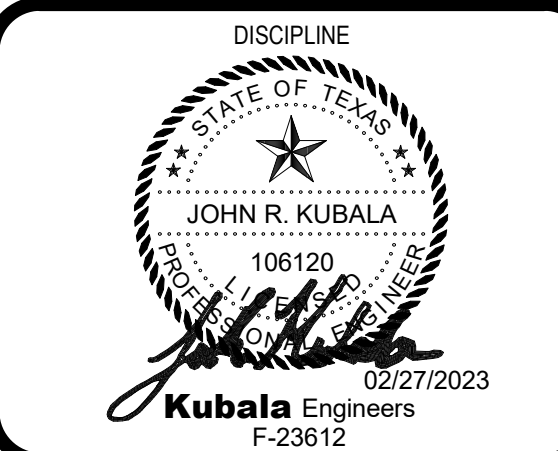
NEW JUERGEN ROAD ELEMENTARY SCHOOL

JUERGEN ROAD
TOMBALL, TX
ISSUE FOR PROPOSAL



KEY PLAN

NORTH:  **PLAN**  **TRUE**

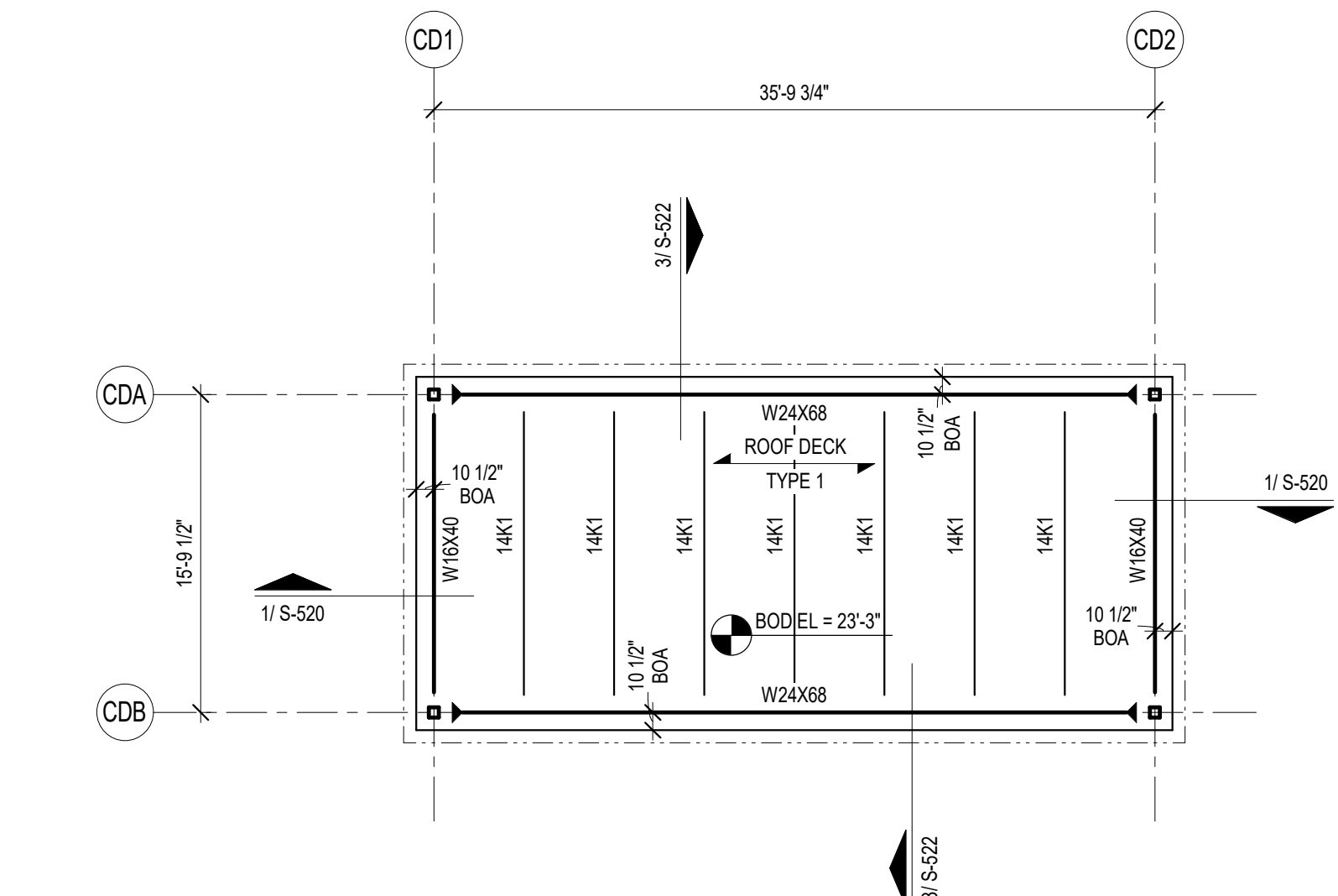
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ISSUE FOR PROPOSAL

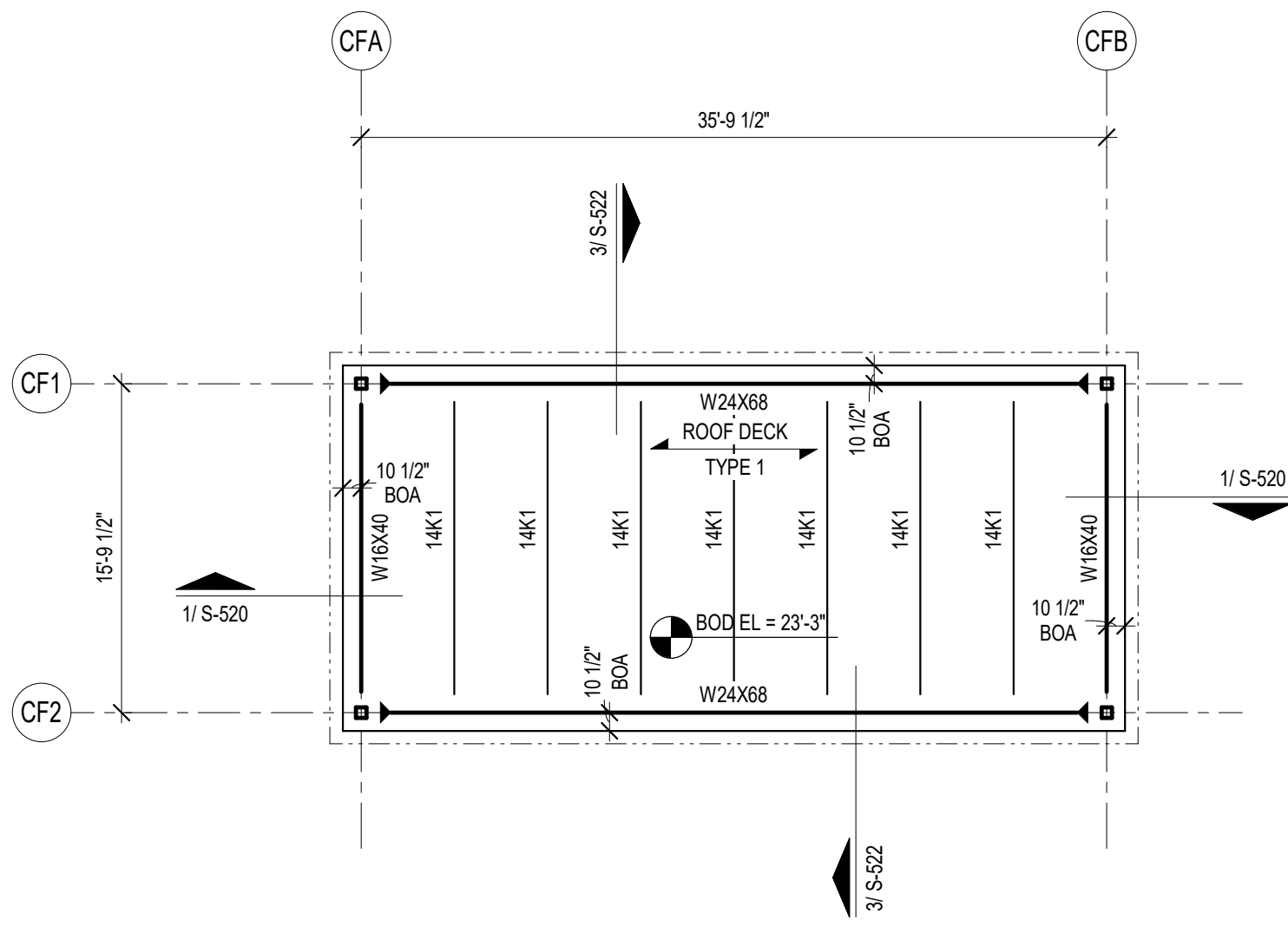
BUILDING NUMBER

HIGH ROOF FRAMING PLAN - AREA C

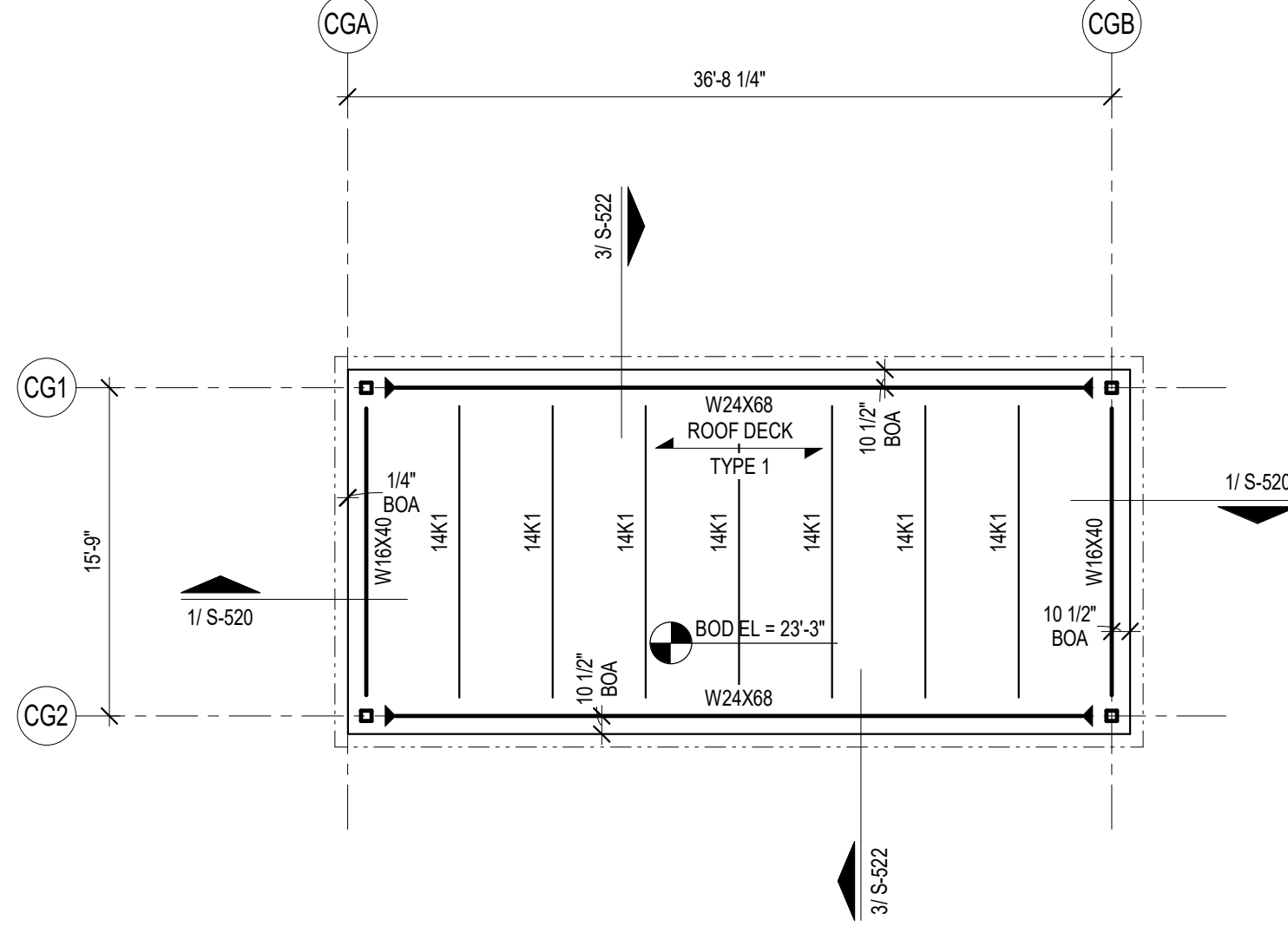
S-103C



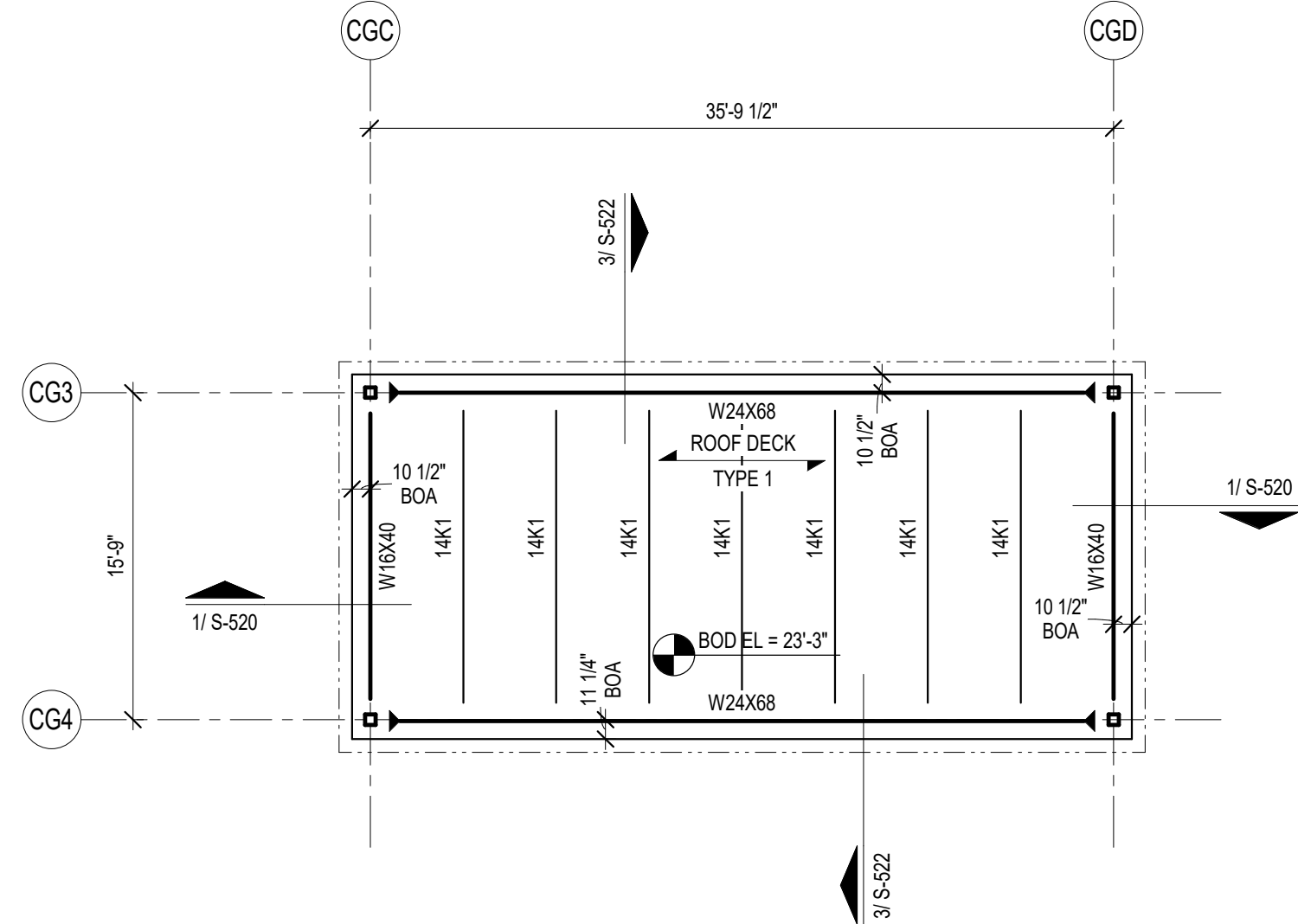
1 CLERESTORY ROOF FRAMING PLAN - AREA D
1/8" = 1'-0"



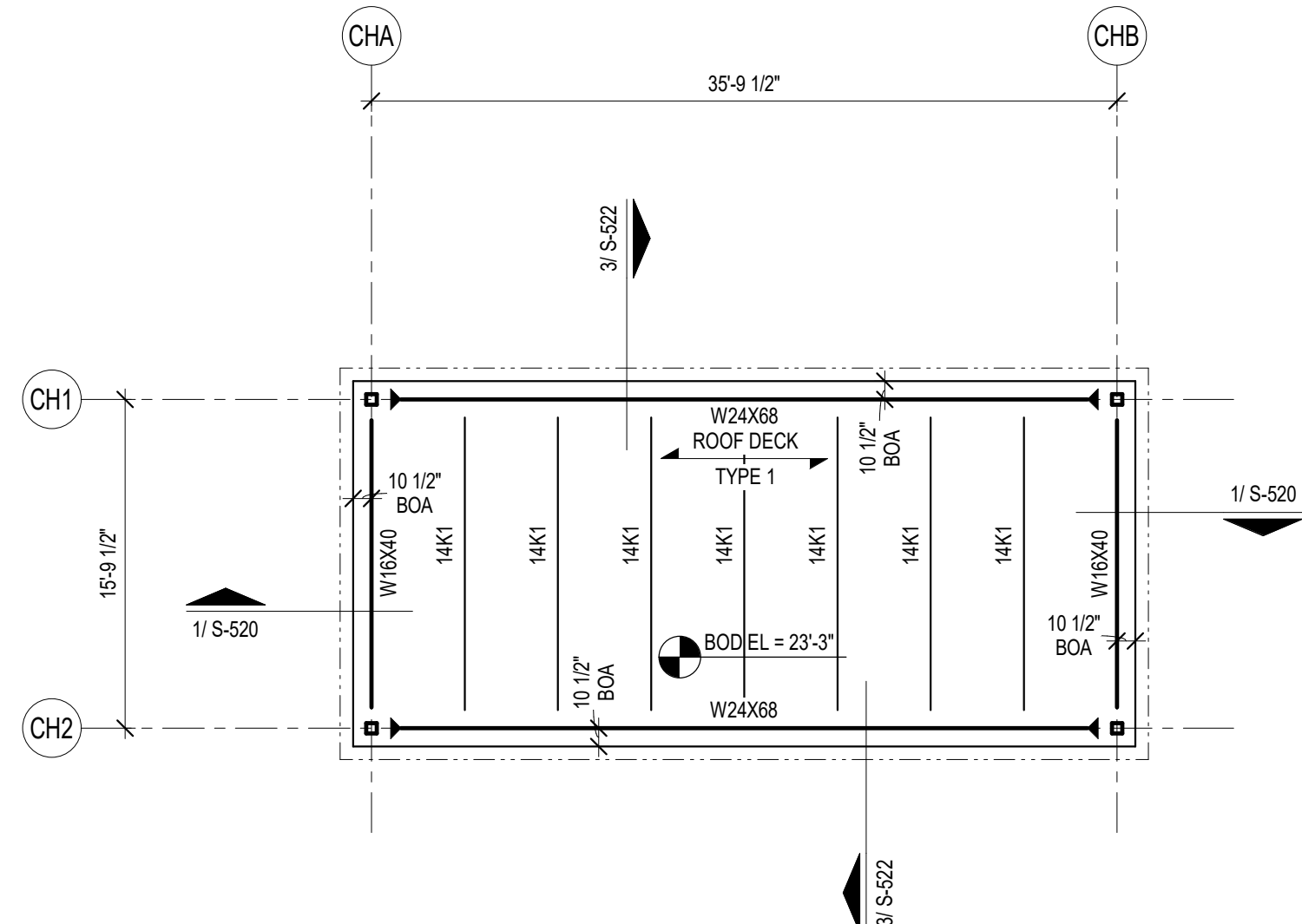
2 CLERESTORY ROOF FRAMING PLAN - AREA F
1/8" = 1'-0"



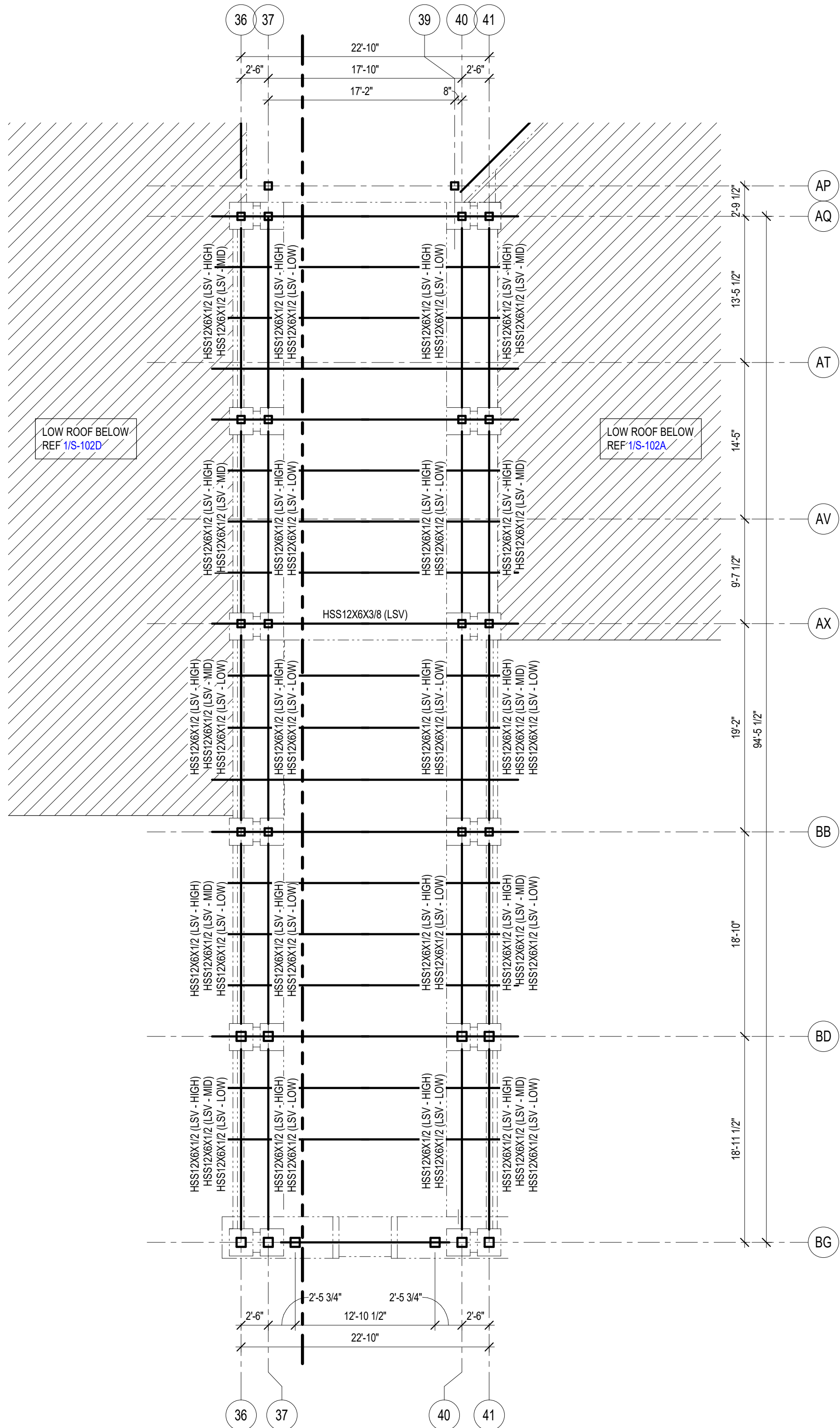
3 CLERESTORY ROOF FRAMING PLAN - AREA G
1/8" = 1'-0"



4 CLERESTORY ROOF FRAMING PLAN - AREA H
1/8" = 1'-0"



5 CLERESTORY ROOF FRAMING PLAN - AREA I
1/8" = 1'-0"



6 ENTRY CANOPY MISC STEEL
1/8" = 1'-0"

ROOF PLAN NOTES

- REF PLAN FOR TOP OF SLAB ELEVATION.
- ALL ELEVATIONS ARE BASED ON TOSC EL = 0'-0".
- TOP OF ROOF STRUCTURE IS SLOPED FOR DRAINAGE. REF ELEVATIONS NOTED ON PLAN. SLOPES SHALL BE UNIFORM BETWEEN COLUMN CENTERLINES UNLESS SHOWN OTHERWISE.
- 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 SLOPES. DIAGONAL BRIDGING SHALL BE PROVIDED BETWEEN ADJACENT JOISTS WHENEVER BOTTOM CHORD HORIZONTAL BRIDGING IS CONTINUOUS.
- REFER TO THE ROOF DIAPHRAGM CONNECTION SCHEDULE FOR DECK ATTACHMENT TO ROOF FRAMING MEMBERS AND DECK FASTENER TYPE, SIZE AND SPACING.
- REF ARCH FOR TOP OF WALL ELEVATIONS.
- DETAILING OF ALL MEMBER CONNECTIONS TO THE SUPPORTS SHALL BE PERFORMED TO SATISFY LATEST OSHA ERECTION REQUIREMENTS.
- TOS EL = BOTTOM OF DECK.
- UNLESS SHOWN OTHERWISE, STEEL BEAMS OR JOISTS ARE CENTERED ON AND EQUALLY SPACED BETWEEN COLUMN CENTERLINES.
- ALL STRUCTURAL STEEL THAT IS PERMANENTLY EXPOSED TO THE EXTERIOR OR IS PERMANENTLY IN UNCONDITIONED SPACE SHALL BE HOT-DIPPED GALVANIZED.
- COORDINATE ALL PENETRATIONS AND UNDERGROUND UTILITIES WITH MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS. REFER TO TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT REQUIREMENTS.
- CONTRACTOR TO VERIFY ALL SLAB EDGE DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
- INDICATES WIND BRACE BEAM BOTTOM FLANGE BRACING PER 415-507, TYP ALONG ENTIRE GRID AT ALL BRACE FRAMES. NOT SHOWN IN PLAN FOR CLARITY.
- INDICATES PIPING RUN, REF MEP DRAWINGS; GC SHALL COORDINATE GIVEN LOAD WITH JOIST MANUFACTURER. REF SHEET S-011.
- REF S0.xx SERIES DRAWINGS FOR GENERAL NOTES AND TYP DETAILS.
- REF S4.xx SERIES DRAWINGS FOR CMU DETAILS.
- REF S5.xx SERIES DRAWINGS FOR STEEL FRAMING DETAILS.
- REF S6.xx SERIES DRAWINGS FOR STEEL BRACE ELEVATIONS AND DETAILS.
- INDICATES COLUMN BRACING PER 415-502, TYPICAL AT COLUMNS UNBRACED BY FRAMING MEMBER ABOUT THEIR LOCAL AXIS. NOT ALL SHOWN ON PLAN FOR CLARITY.

COMPOSITE FLOOR DECK AND METAL ROOF DECK LEGEND

COMPOSITE FLOOR DECK TYPES

FLOOR DECK TYPE 1:
4'-12" WMC ON 3'x12' 20 GA (GALV) (S90) COMPOSITE STEEL DECK (7 1/2" TOTAL SLAB THICKNESS). COMPOSITE SLAB SHALL BE REINFORCED WITH WWR 6#6-W2.5W2.5, U.N.C.

METAL ROOF DECK TYPES

ROOF DECK TYPE 1:
1.0 CSV 22 GA (GALV.) VENTED MTL DECK.

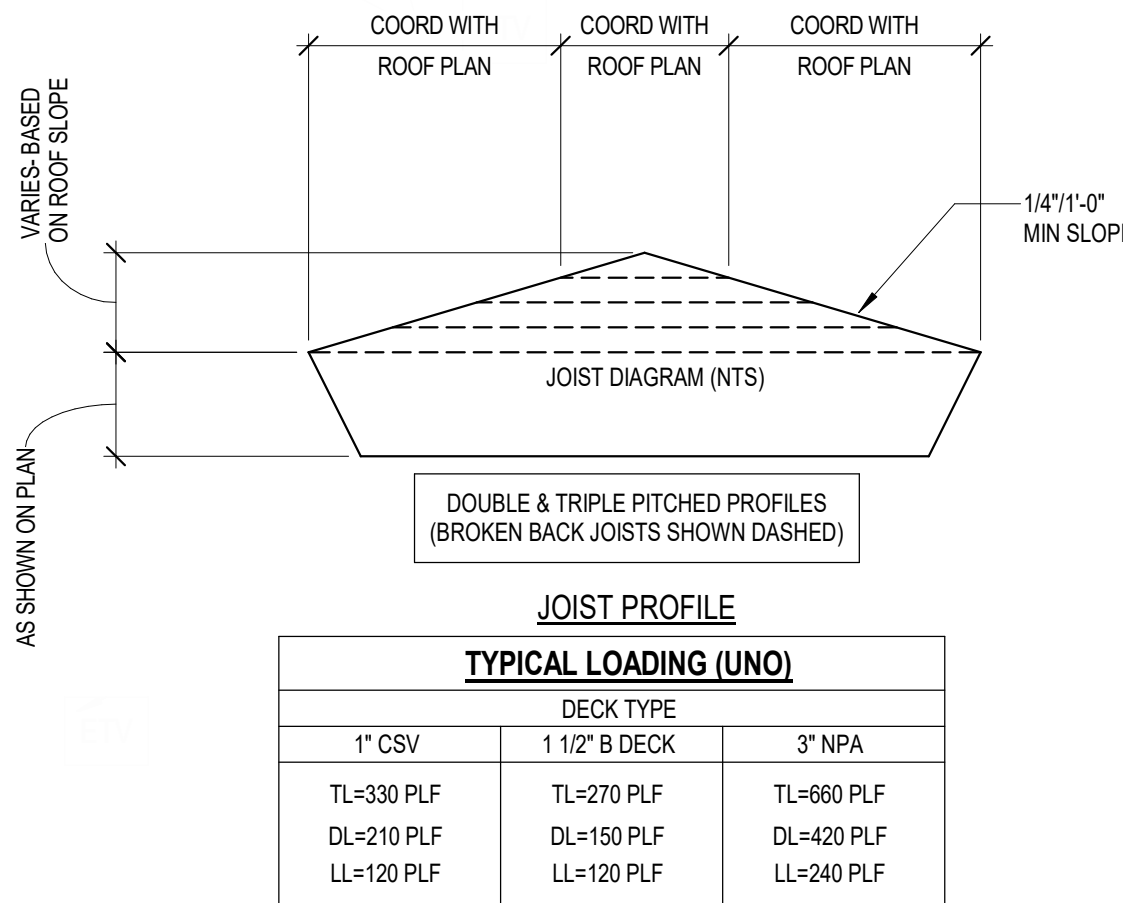
ROOF DECK TYPE 2:
1.5 WR 22 GA (GALV.) MTL DECK.

NOTES

- STEEL DECK SHALL BE PLACED WITH TWO-SPAN CONDITION MINIMUM. NO SINGLE SPANS ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER-OF-RECORD.
- REF SLABS FORM DECK (AT FLOORS) GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-504 FOR MORE INFORMATION REGARDING FLOOR DECK REQUIREMENTS.
- REF METAL ROOF DECKING GENERAL NOTES AND METAL DECK SCHEDULE ON SHEET S-506 FOR MORE INFORMATION REGARDING ROOF DECK REQUIREMENTS.

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:

- CL1 - XXXX POUNDS LOCATED X'-X" FROM THE FACE OF THE SUPPORTING PANEL ADJACENT TO HIGH ROOF.
- CL2 - XXXX POUNDS LOCATED X'-X" FROM THE CENTERLINE OF THE SUPPORTING STEEL BEAM.



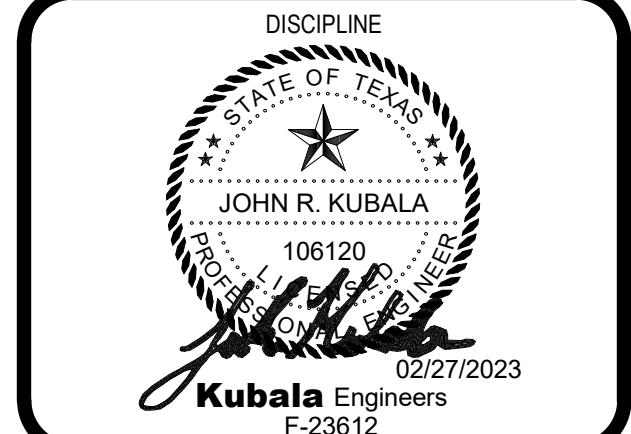
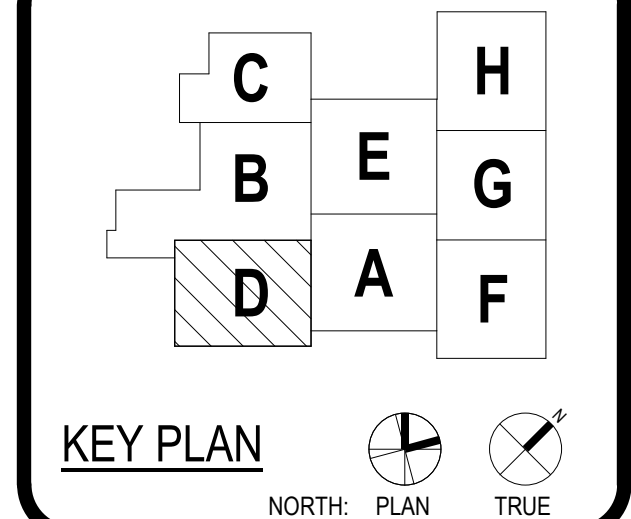
ARCHITECT
HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0888 P
713-961-4571 F
TX Firm BR 1688

ENGINEER
HOUSTON
11111 Katy Road, Suite 100
Houston, TX 77054
713-965-0888 P
713-961-4571 F
TX Firm BR 1688

LEAD ENGINEER
HOUSTON
11111 Katy Road, Suite 100
Houston, TX 77054
713-965-0888 P
713-961-4571 F
TX Firm BR 1688

FOODSERVICE DESIGN PROFESSIONALS
HOUSTON
11111 Katy Road, Suite 100
Houston, TX 77054
713-965-0888 P
713-961-4571 F
TX Firm BR 1688

NEW JUERGEN ROAD ELEMENTARY SCHOOL



CLIENT		
TOMBALL ISD		
DATE	PROJECT NUMBER	
02/27/2023	220137	
DRAWING HISTORY		
No.	Description	Date

ISSUE FOR PROPOSAL

BUILDING NUMBER

CLERESTORY ROOF AND MISC FRAMING PLANS

S-104

Kubala
ENGINEERS

PH: (800) 248-3674
WWW.KUBALAEENGINEERS.COM
TX REG. NO. F-23612

GEO-FOAM WITH CONCRETE TOPPING:

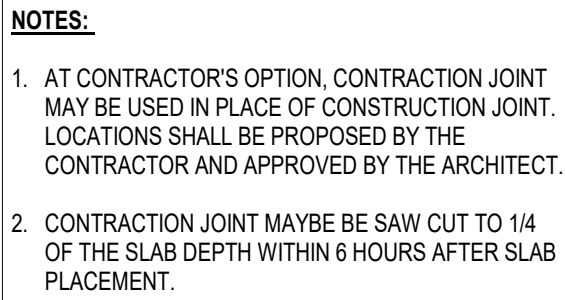
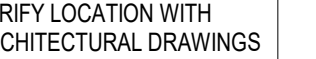
- ## 4 FLOOR DRAIN DETAIL



5 TYPICAL SLAB RECESS AT RESTROOM DRAIN



10 TYPICAL TRENCH DRAIN AT SLAB-ON-GRADE



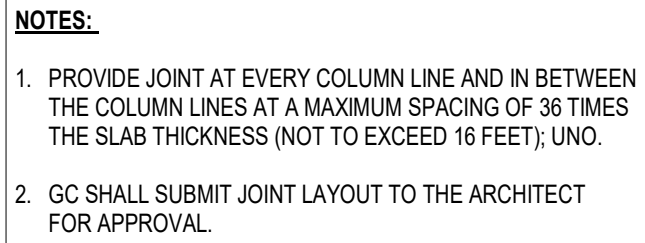
1 SLAB CONSTRUCTION JOINT



6 TYPICAL SLAB DEPRESSION DETAILS



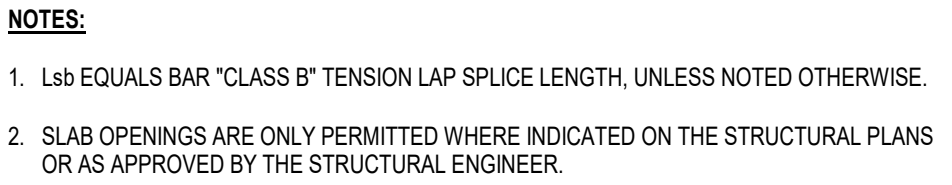
1 1 TYPICAL VOLLEYBALL POLE INSERT
NO SCALE



2 CONTRACTION (CONTROL) JOINT



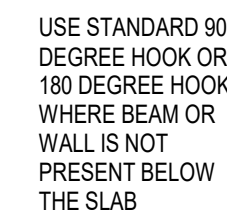
3 DRAIN TROUGH DETAIL



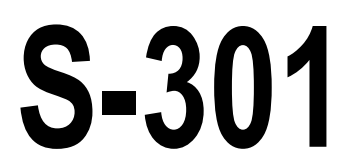
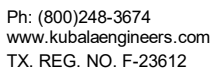
8 TYPICAL SLAB OPENING REINFORCEMENT



9 TYPICAL RE-ENTRANT CORNER BARS DETAIL

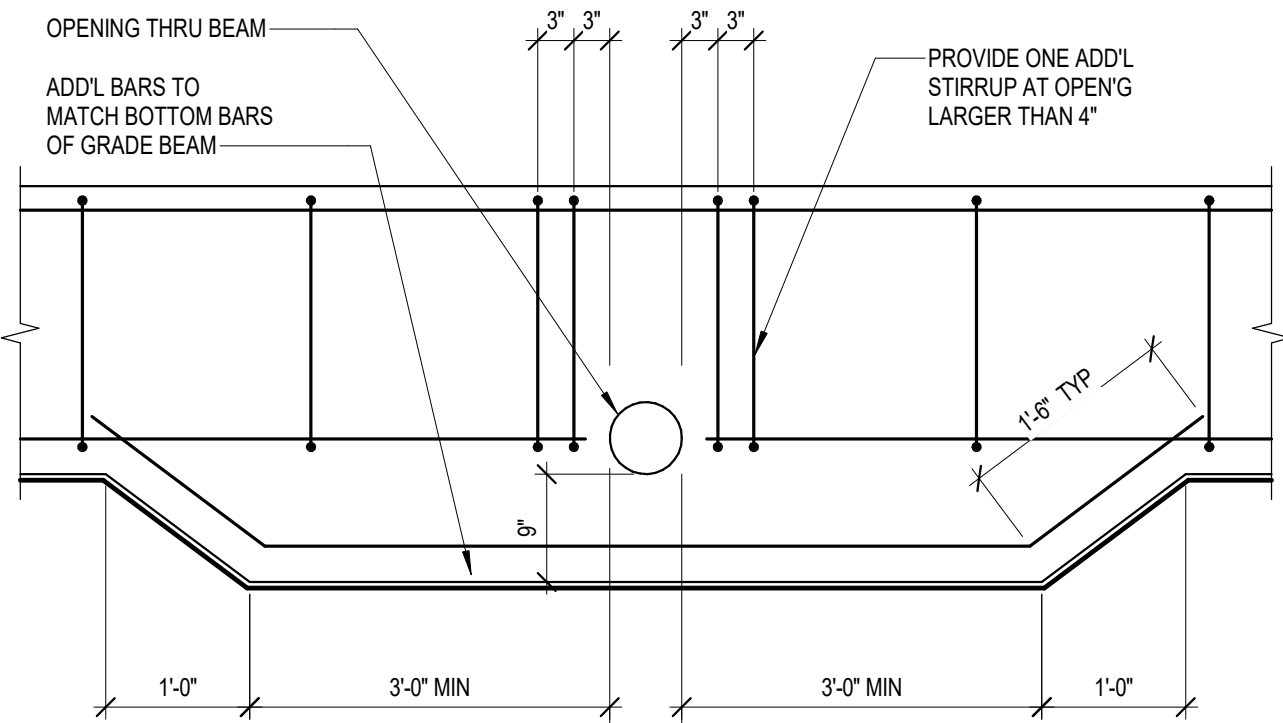


13 TYPICAL SLAB DOWEL



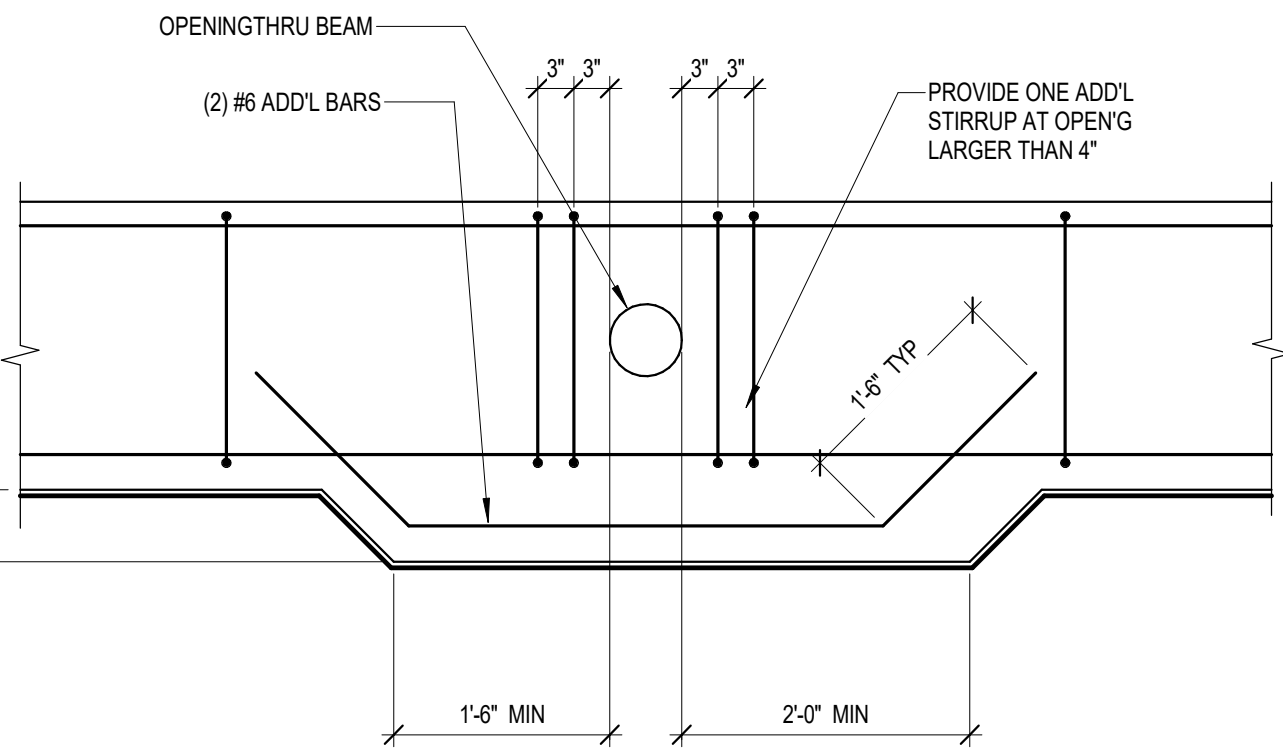
GRADE BEAM:

- 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 PORTION OF THE BEAM/S LAB THAT EXTENDS ABOVE GRADE/ EXPOSED IS BOARD FORMED. THE WALLS MUST NOT SLOUGH OFF MORE THAN 1/2" 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.
- GRADE BEAMS SHALL BE POURED MONOLITHICALLY AROUND CORNERS AND AT INTERSECTIONS. SEE TYPICAL GRADE BEAM CONSTRUCTION JOINT DETAIL FOR ACCEPTABLE CONSTRUCTION JOINT LOCATIONS.
- 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.



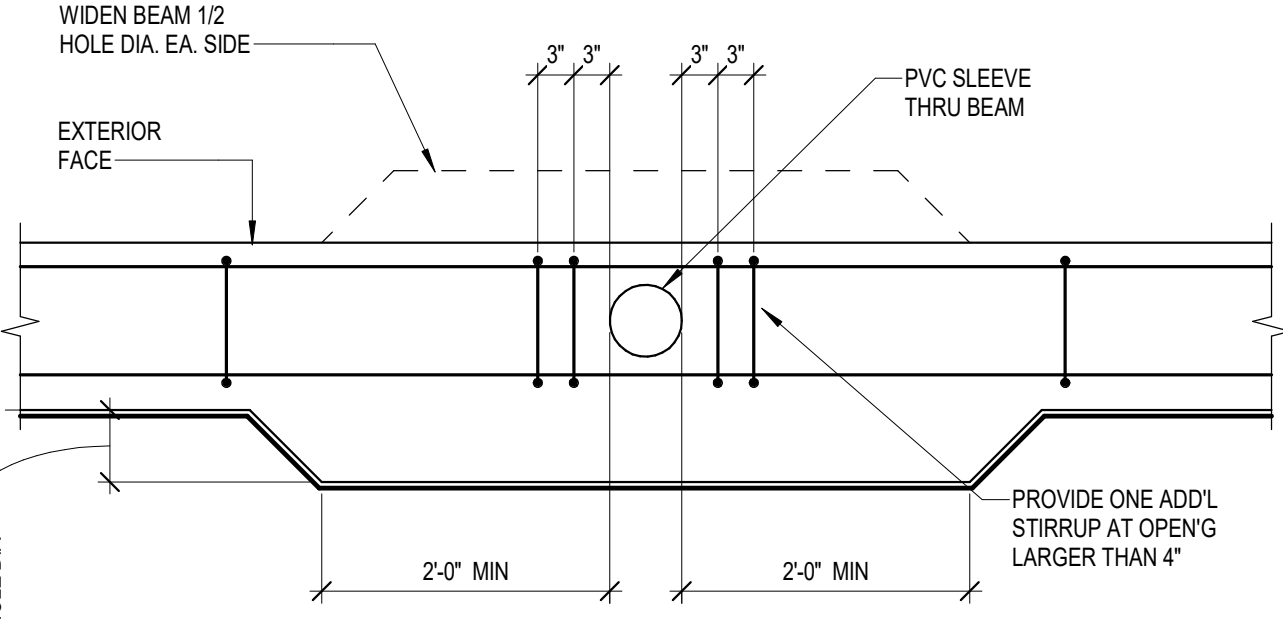
ELEVATION VIEW

TO BE USED WHERE OPENING CONFLICTS WITH BOTTOM BAR REINFORCEMENT



ELEVATION VIEW

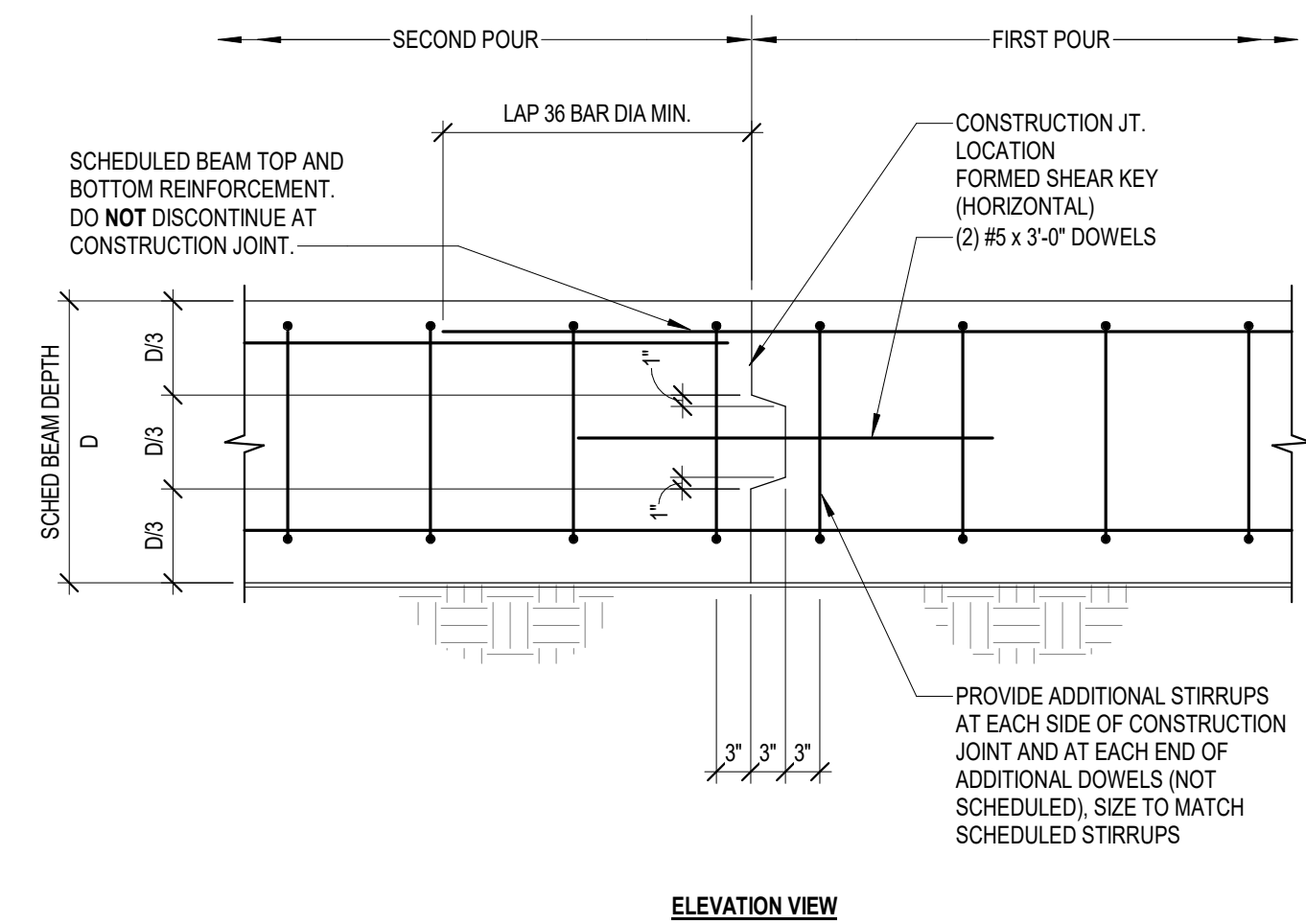
TYPICAL HORIZONTAL HOLE THROUGH GRADE BEAM LARGER THAN 4" DIA



PLAN VIEW

TYPICAL VERTICAL HOLE THROUGH GRADE BEAM LARGER THAN 4" DIA

4 TYPICAL GRADE BEAM PENETRATION DETAILS
NO SCALE



ELEVATION VIEW

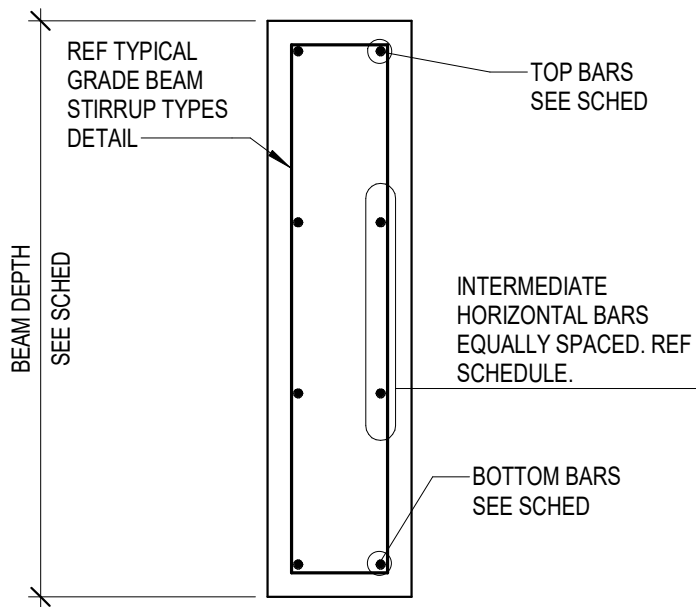
NOTES:

- LOCATE JOINTS IN MIDDLE THIRD OF BEAM SPAN BETWEEN SUPPORTS.
- ACCEPTABLE JOINT LOCATIONS ARE AS FOLLOWS:
 - FOR BEAMS NOT SUPPORTING INTERSECTING BEAMS, PLACE JOINT WITHIN MIDDLE THIRD OF SPAN.
 - FOR BEAMS SUPPORTING INTERSECTING BEAMS, CHECK WITH STRUCTURAL ENGINEER FOR JOINT LOCATIONS AND DOWEL REQUIREMENTS.
- FOR JOINT LOCATIONS OTHER THAN WITHIN MIDDLE THIRD OF SPAN, CONTRACTOR SHALL COORDINATE REQUIRED ADDITIONAL REINFORCEMENT WITH THE ENGINEER ON THE SHOP DRAWINGS.
- JOINTS MAY NOT OCCUR IN THE FIRST SPAN OF A BEAM LINE OR IN ANY SPAN WHICH IS LESS THAN 8 FEET.
- 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

GRADE BEAM SCHEDULE

MARK	SIZE		REINFORCING			TIES		REMARKS
	WIDTH	DEPTH	TOP	BOTTOM	MIDDLE	SIZE	SPACING	
GB1	2'-0"	3'-0"	3#3	3#3	4#3	#4 S1	1#2", R @ 10"; 1#2", R @ 6" @ CANTI	-
GB2	2'-0"	3'-0"	4#3	4#3	4#3	#4 S1	1#2", R @ 10"; 1#2", R @ 6" @ CANTI	-
GB3	2'-10"	3'-0"	5#3	5#3	4#3	#4 S1	1#2", R @ 10"; 1#2", R @ 6" @ CANTI	-
GB4	3'-0"	3'-0"	6#3	6#3	4#3	#4 D1	1#2", R @ 10"; 1#2", R @ 6" @ CANTI	-

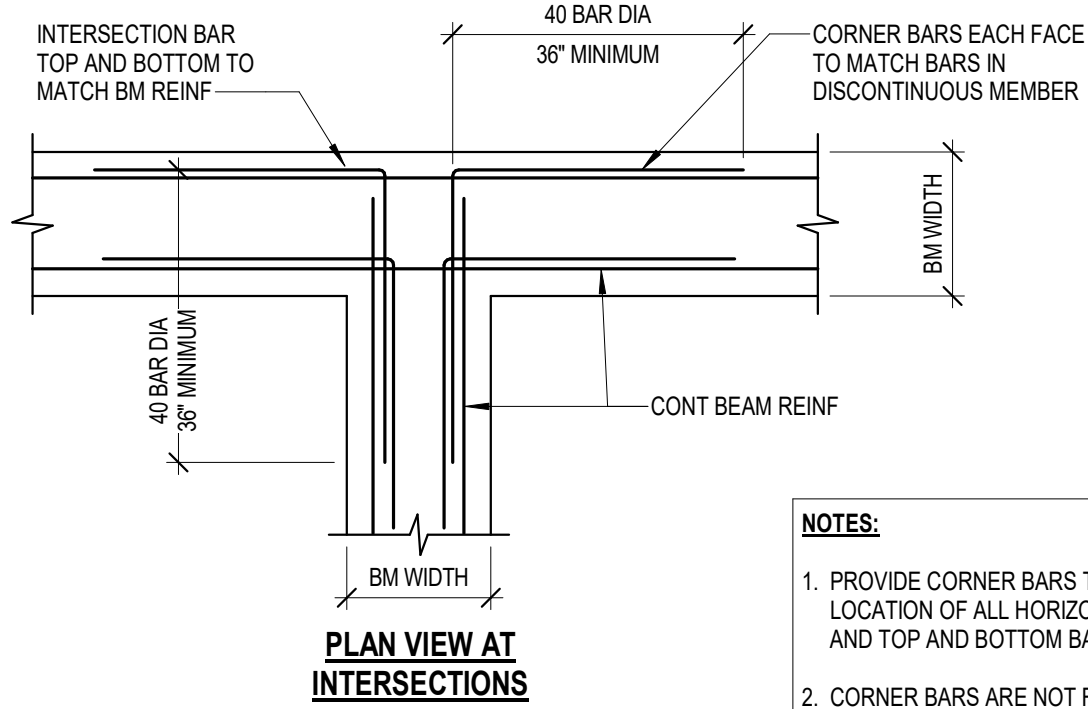


1 GRADE BEAM SCHEDULE
NO SCALE

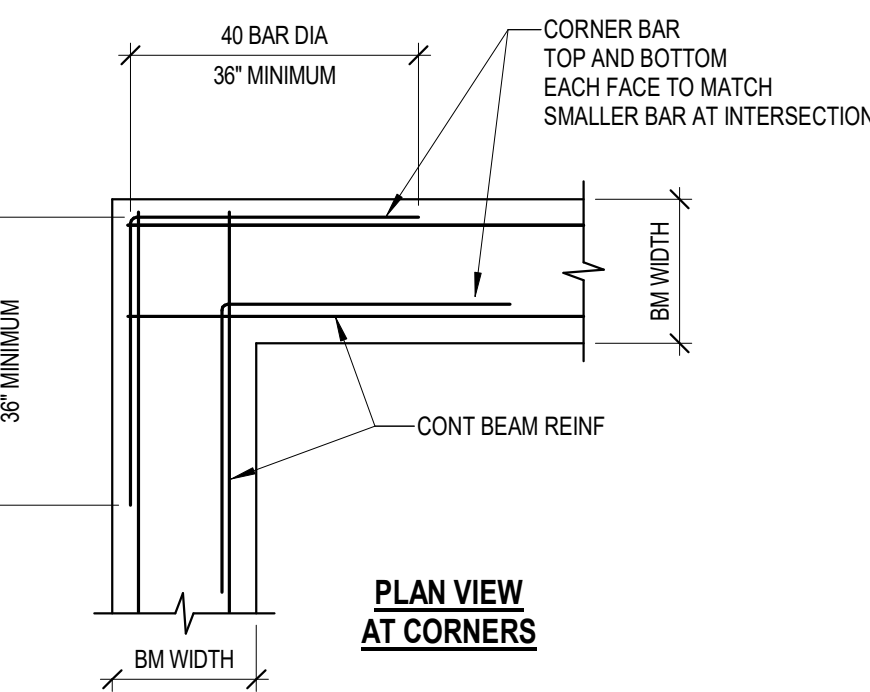
INTERMEDIATE BAR SCHEDULE

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



PLAN VIEW AT INTERSECTIONS

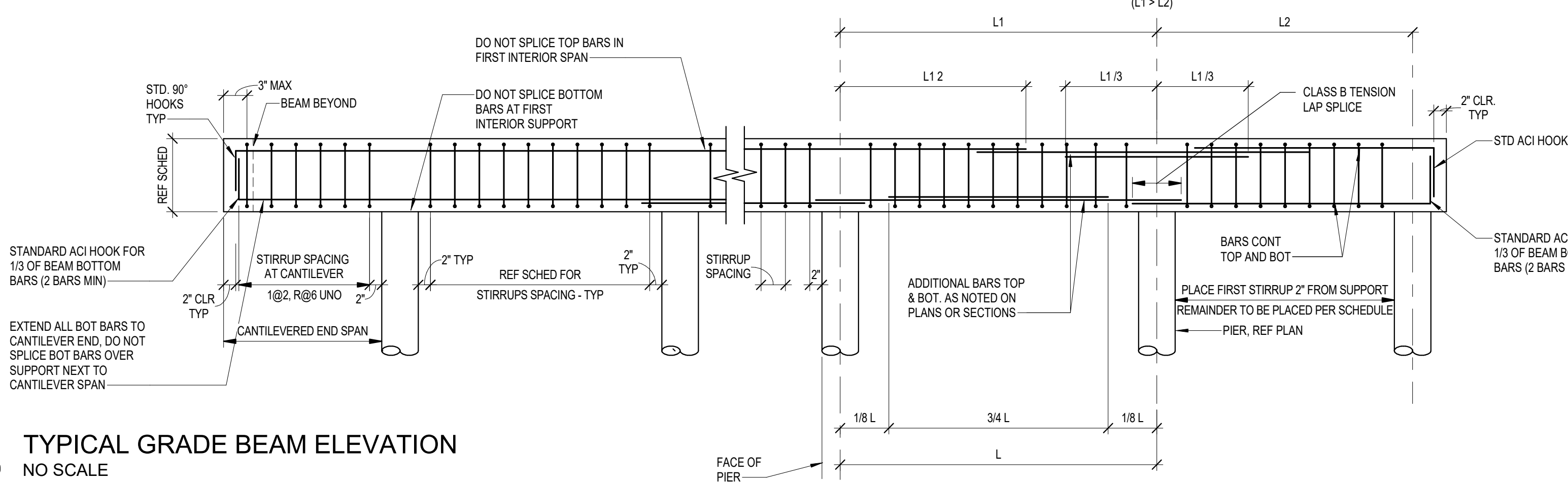


PLAN VIEW AT CORNERS

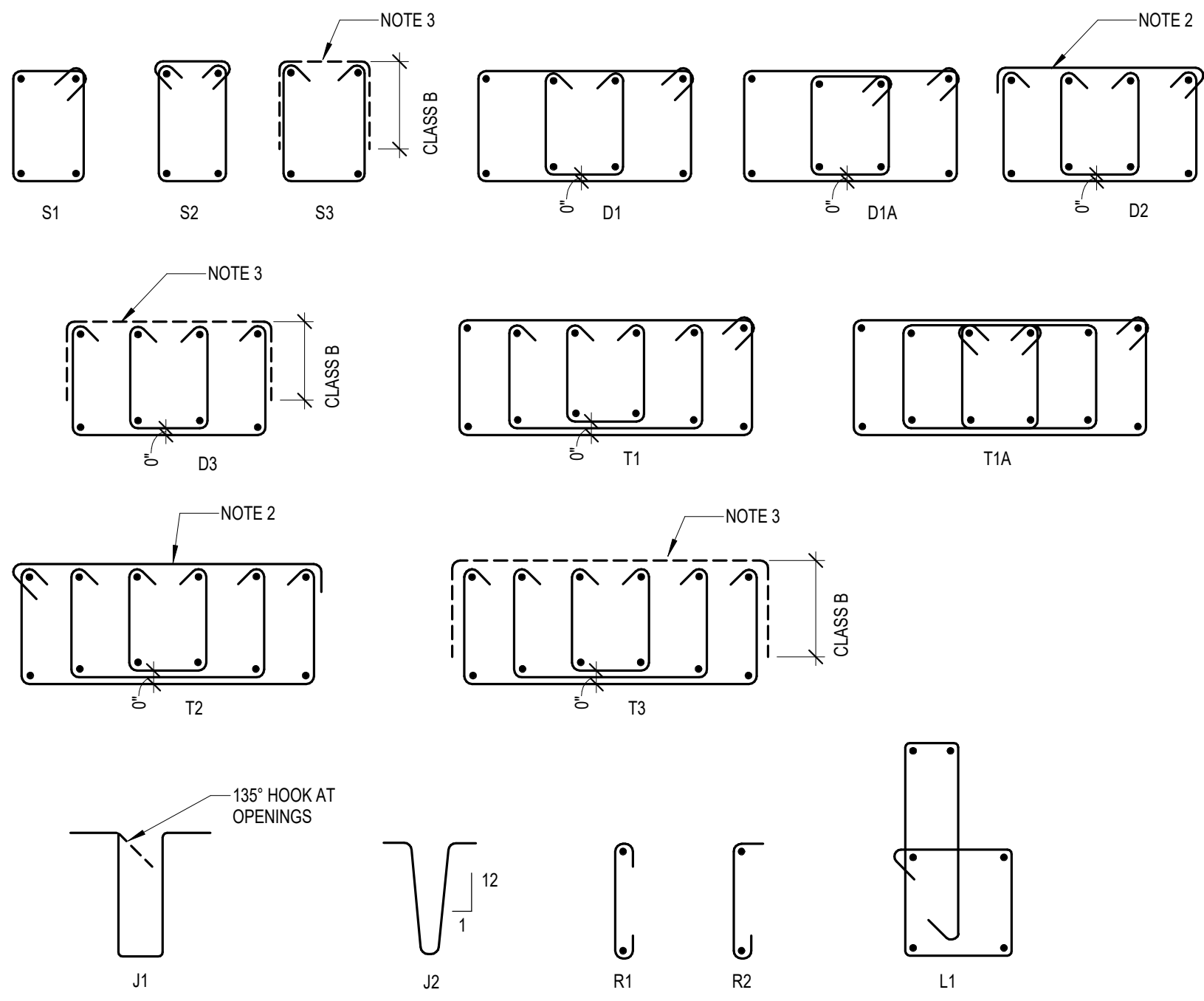
5 TYPICAL CORNER BAR DETAILS
NO SCALE

NOTES:

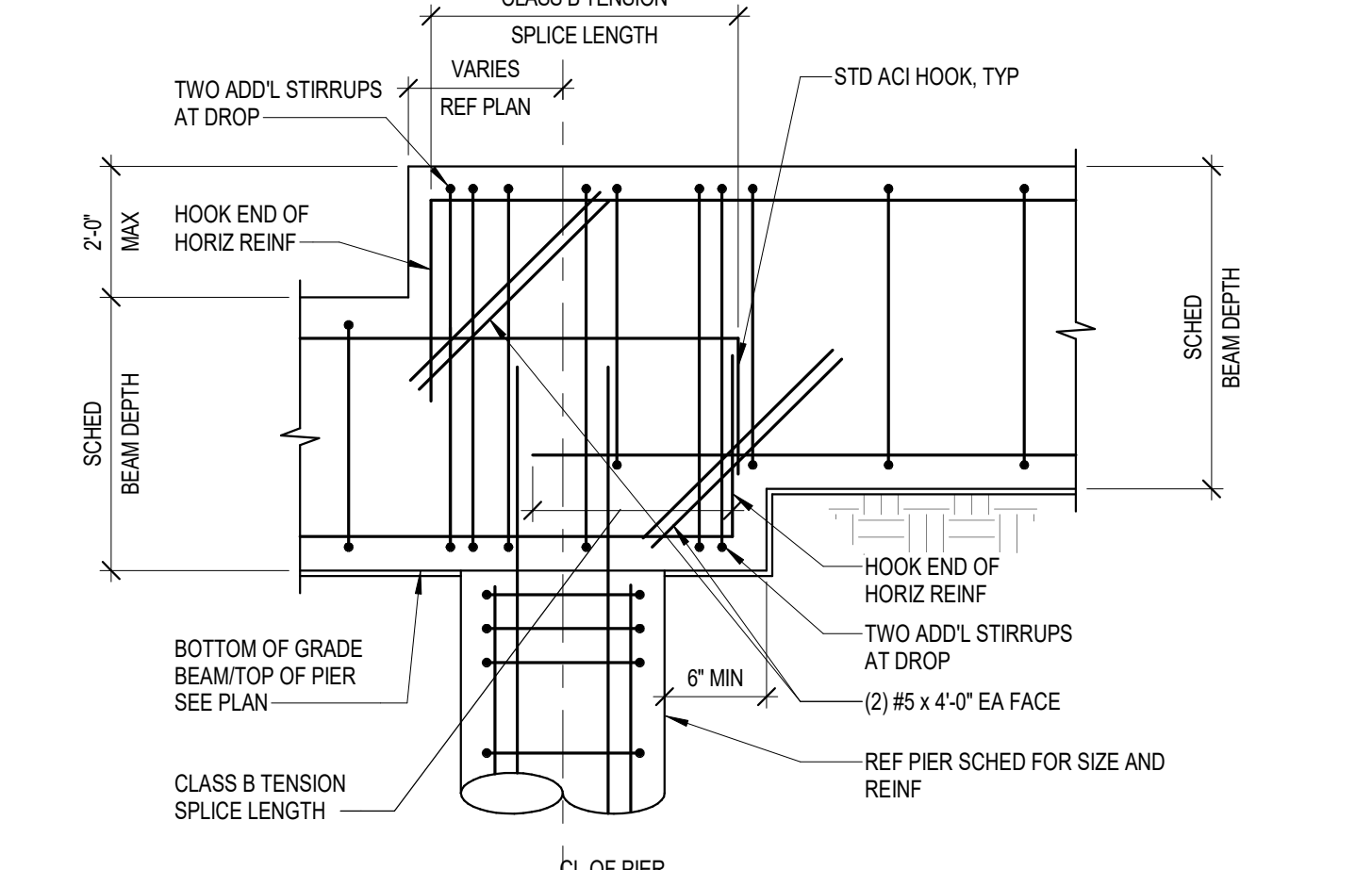
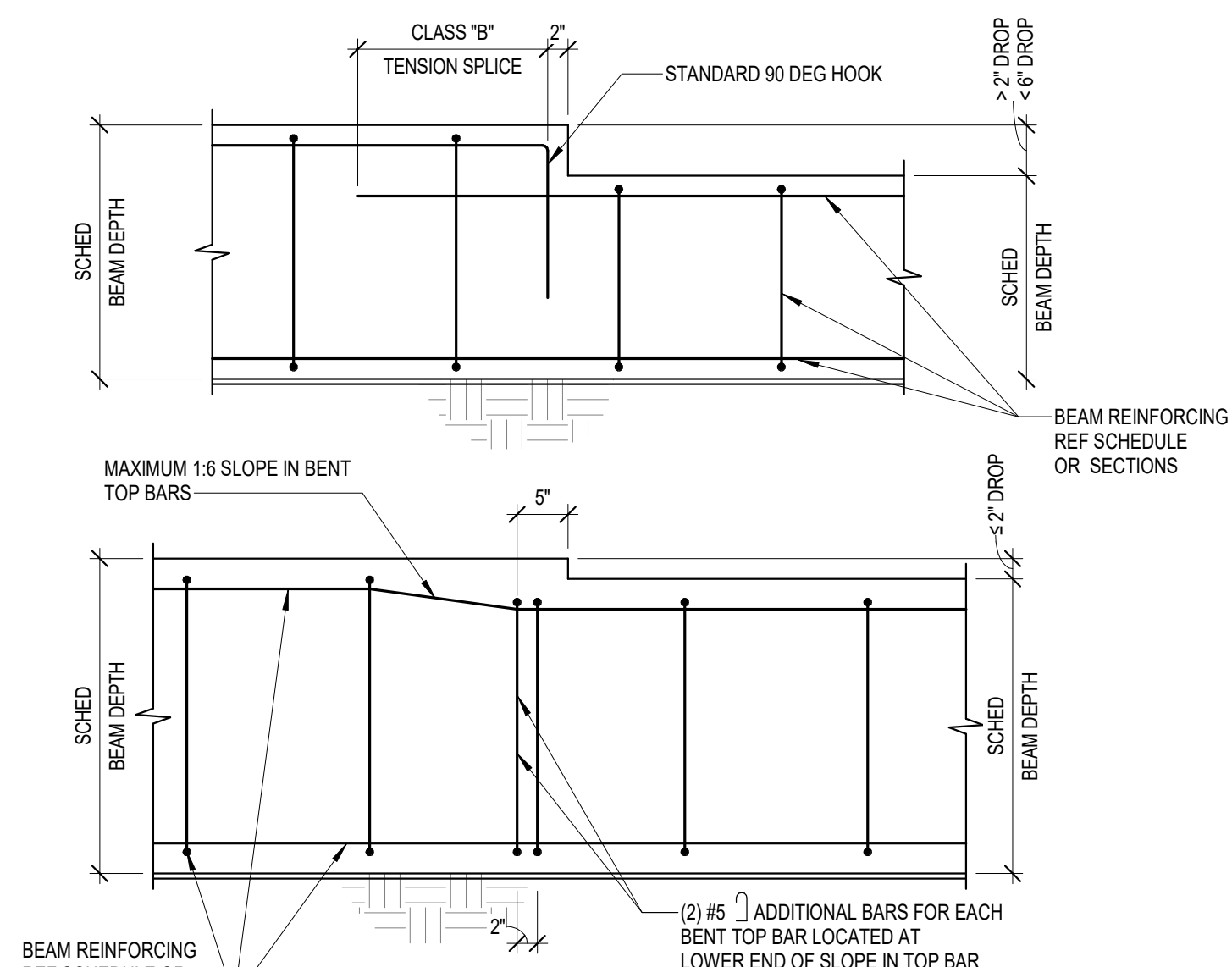
- TOP CONT BARS MAY BE SPICED AT MID-SPAN OF BEAM ONLY. EXCEPT AT CANTILEVER SPANS, SPANS ADJACENT TO CANTILEVER SPANS AND SPANS WITH LENGTH NOT GREATER THAN ONE HALF OF THE ADJACENT SPAN LENGTH.
- ALL HOOKS SHOWN ARE STANDARD HOOKS (90° OR 180°).
- SPICES IN SCHEDULED BARS LESS THAN 60" LENGTH ARE ONLY PERMITTED AT THE SPECIFIED LOCATIONS SHOWN. SPICES IN SCHEDULED BARS MORE THAN 60" LENGTH SHALL BE REFERRED TO ENGINEER FOR APPROVAL.
- BEAMS WITH DEPTH OF 30" OR LESS, DO NOT NEED INTERMEDIATE BARS UNLESS REQUIRED BY BEAM SCHEDULE, REF 1/8-302
- REF TO DETAIL 6/8-302 FOR DROP IN TOP OR BOTTOM OF GRADE BEAM.



8 TYPICAL GRADE BEAM ELEVATION
NO SCALE



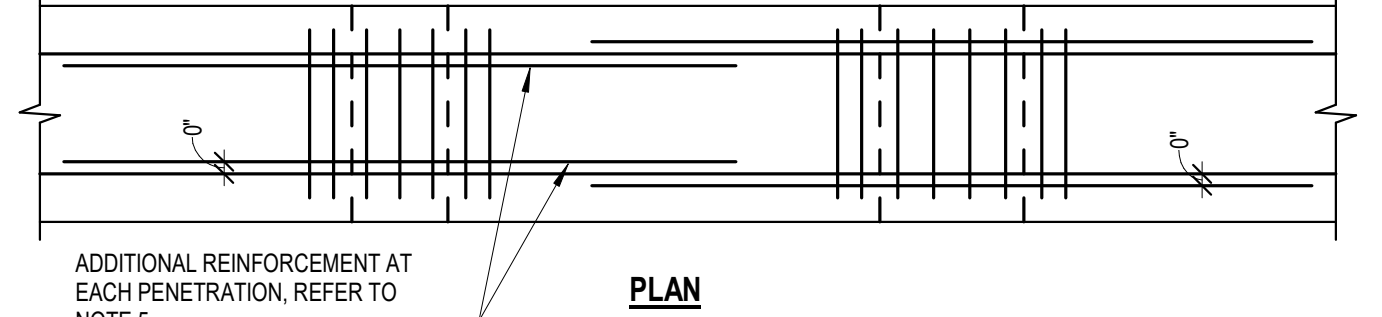
2 TYPICAL GRADE BEAM STIRRUP TYPES
3/4" = 1'-0"



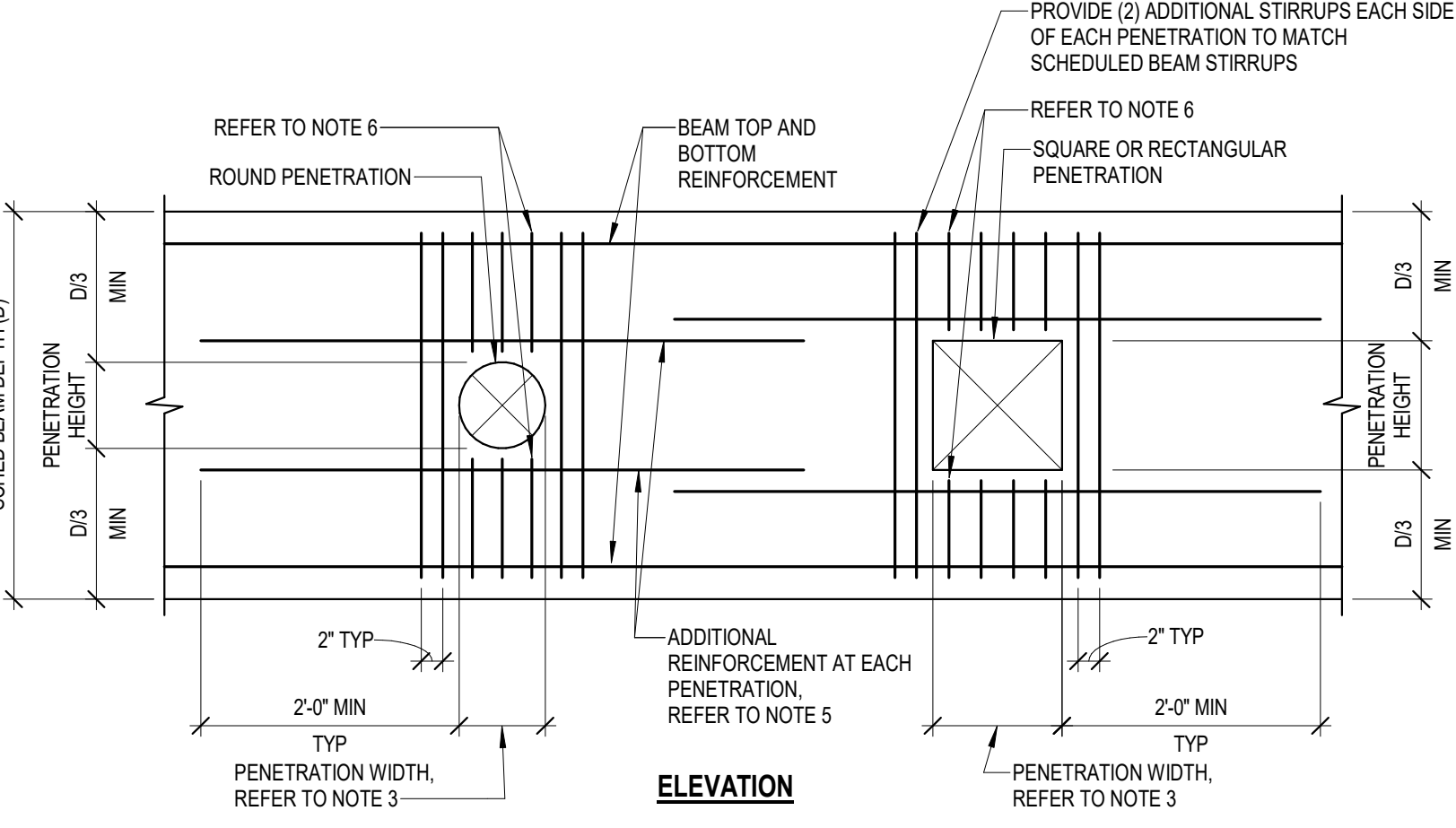
6 TYPICAL GRADE BEAM STEPDOWN DETAIL
NO SCALE

NOTES:

- CLEAR SPACING BETWEEN PENETRATIONS SHALL BE 24" MINIMUM UNLESS NOTED OTHERWISE BY THE STRUCTURAL ENGINEER.
- PENETRATIONS SHALL BE LOCATED ACCORDING TO THE FOLLOWING CRITERIA:
 - FOR BEAMS NOT SUPPORTING INTERSECTING BEAMS LOCATE PENETRATIONS WITHIN TWO FEET EITHER SIDE OF BEAM MIDSPAN.
 - FOR BEAMS SUPPORTING INTERSECTING BEAMS CHECK WITH STRUCTURAL ENGINEER.
- PENETRATION WIDTH MUST NOT EXCEED PENETRATION HEIGHT, UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS.
- 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.
- 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 4-LEG STIRRUPS.
 - 4-#5 TOP AND BOTTOM AT BEAMS WITH 4-LEG STIRRUPS.
 - N-#5 TOP AND BOTTOM AT BEAMS WITH N-LEG STIRRUPS.
- 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.
- SCHEDULED BEAM STIRRUPS NOT SHOWN FOR CLARITY.



PLAN

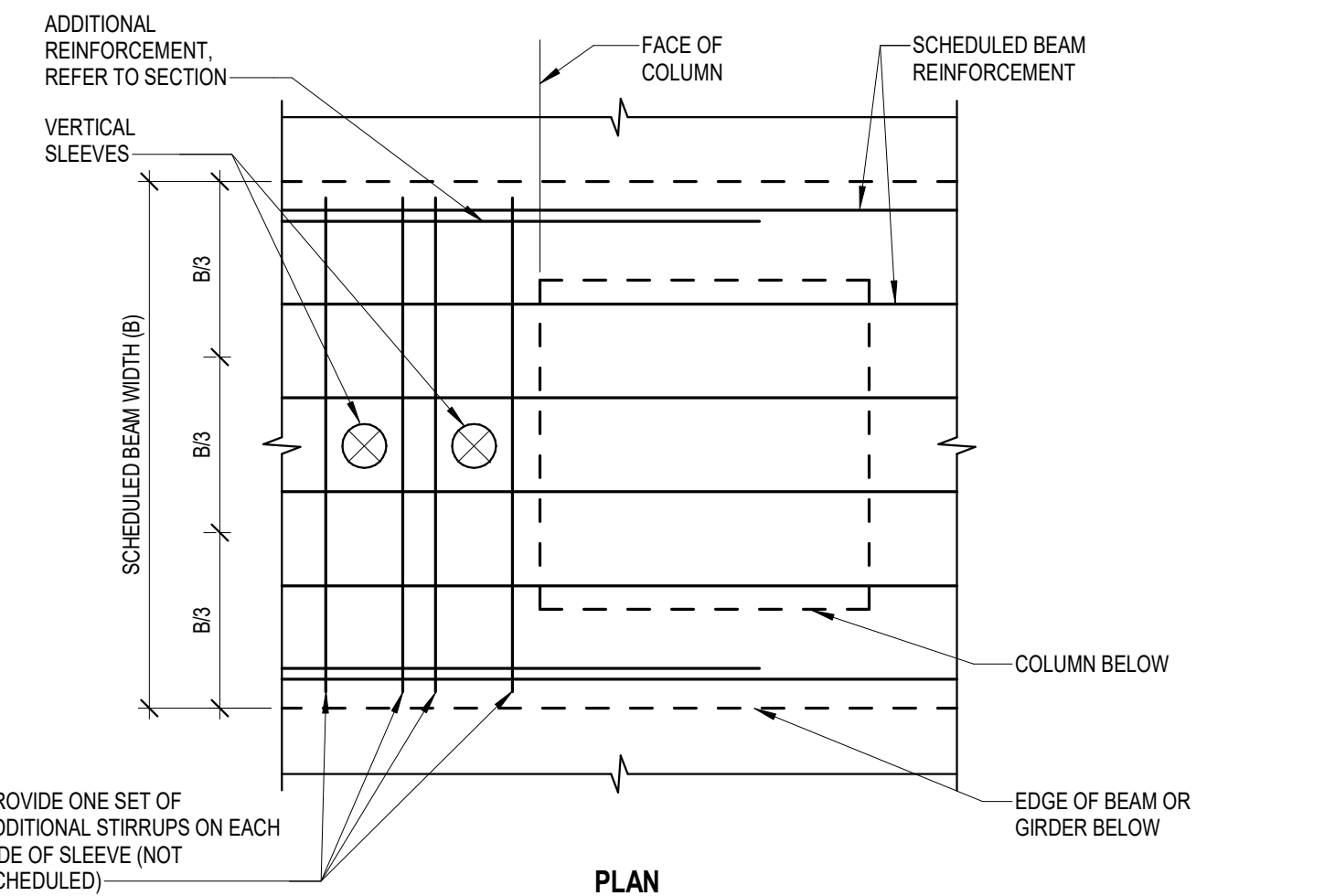


ELEVATION

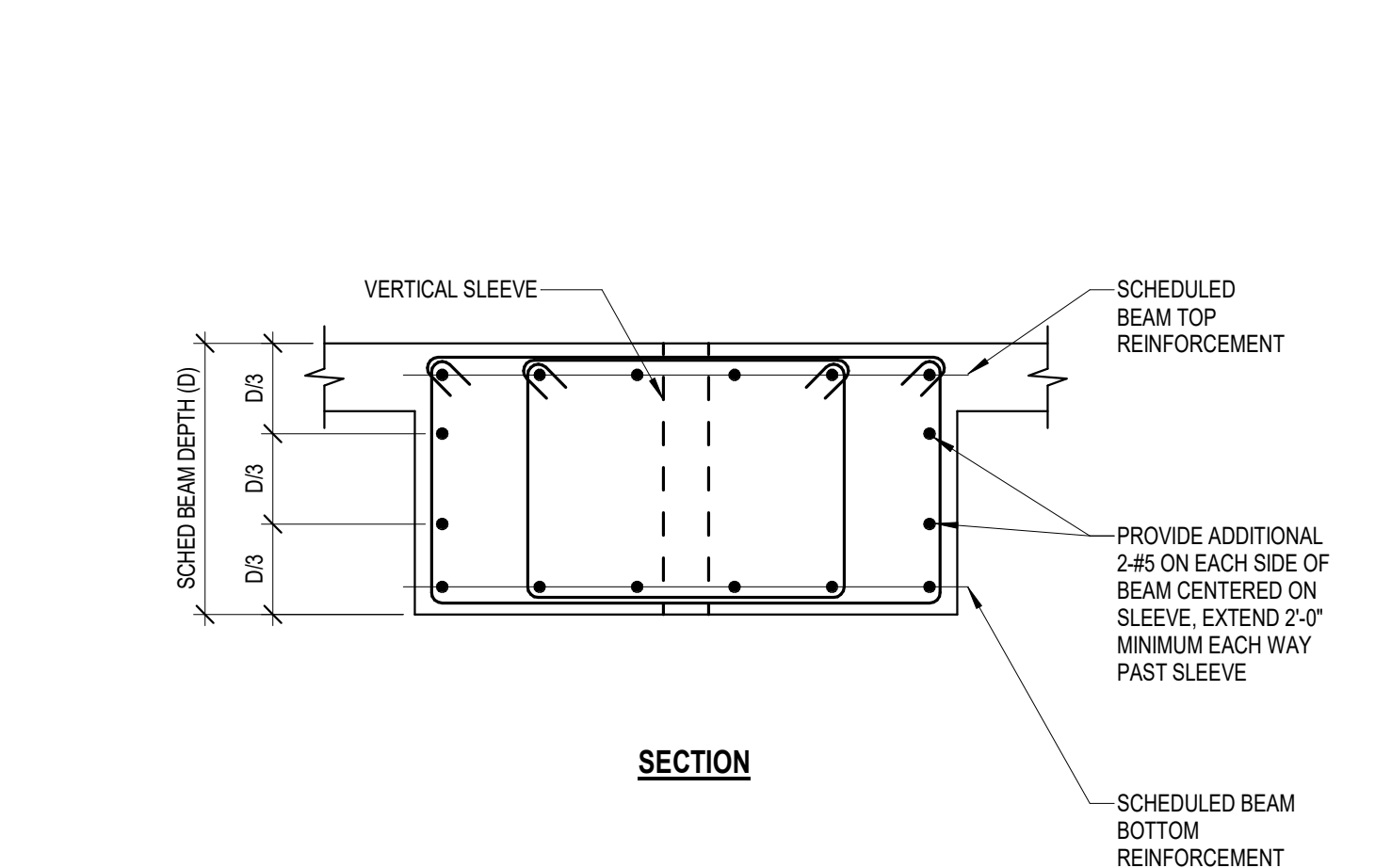
3 TYPICAL HORIZONTAL PENETRATION IN CONCRETE BEAM
NO SCALE

NOTES:

- 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.
- SLEEVES SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF THE SCHEDULED BEAM WIDTH.
- 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.
- SLEEVES OCCURRING ON OPPOSITE SIDES OF A COLUMN MUST BE IN LINE.
- THE OUTSIDE DIAMETER OF A SLEEVE MAY NOT EXCEED 15% OF THE SCHEDULED WIDTH OF THE BEAM THROUGH WHICH IT MUST PASS.
- THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD WHEN A SLEEVE SIZE OR LOCATION DOES NOT MEET THE ABOVE CONDITIONS.
- SCHEDULED BEAM STIRRUPS NOT SHOWN FOR CLARITY.



PLAN



SECTION

9 TYPICAL VERTICAL PENETRATION IN CONCRETE BEAM
NO SCALE

Kubala
ENGINEERS



ARCHITECT
HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0688 P
713-961-4571 F
TX Firm: BR 1608

OWNER
DISCIPLINE
LANDSCAPE
DESIGN
ARCHITECT
KUBALA ENGINEERS
1111 N. 10th St.
HOUSTON, TX 77002
LEAD ARCHITECT
1111 N. 10th St.
HOUSTON, TX 77002
FOOD SERVICE
DESIGN PROFESSIONALS
1111 N. 10th St.

NEW JUERGEN ROAD ELEMENTARY SCHOOL

TOMBALL
INDEPENDENT SCHOOL DISTRICT

DISCIPLINE
STATE OF TEXAS
JOHN R. KUBALA
106120
Kubala Engineers
F-23612

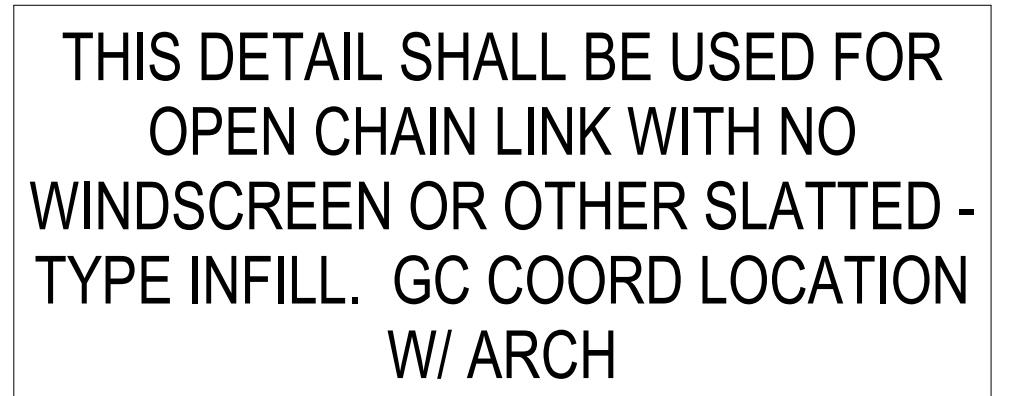
CLIENT
TOMBALL ISD
DATE
02/27/2023
PROJECT NUMBER
220137
DRAWING HISTORY
No. Description Date

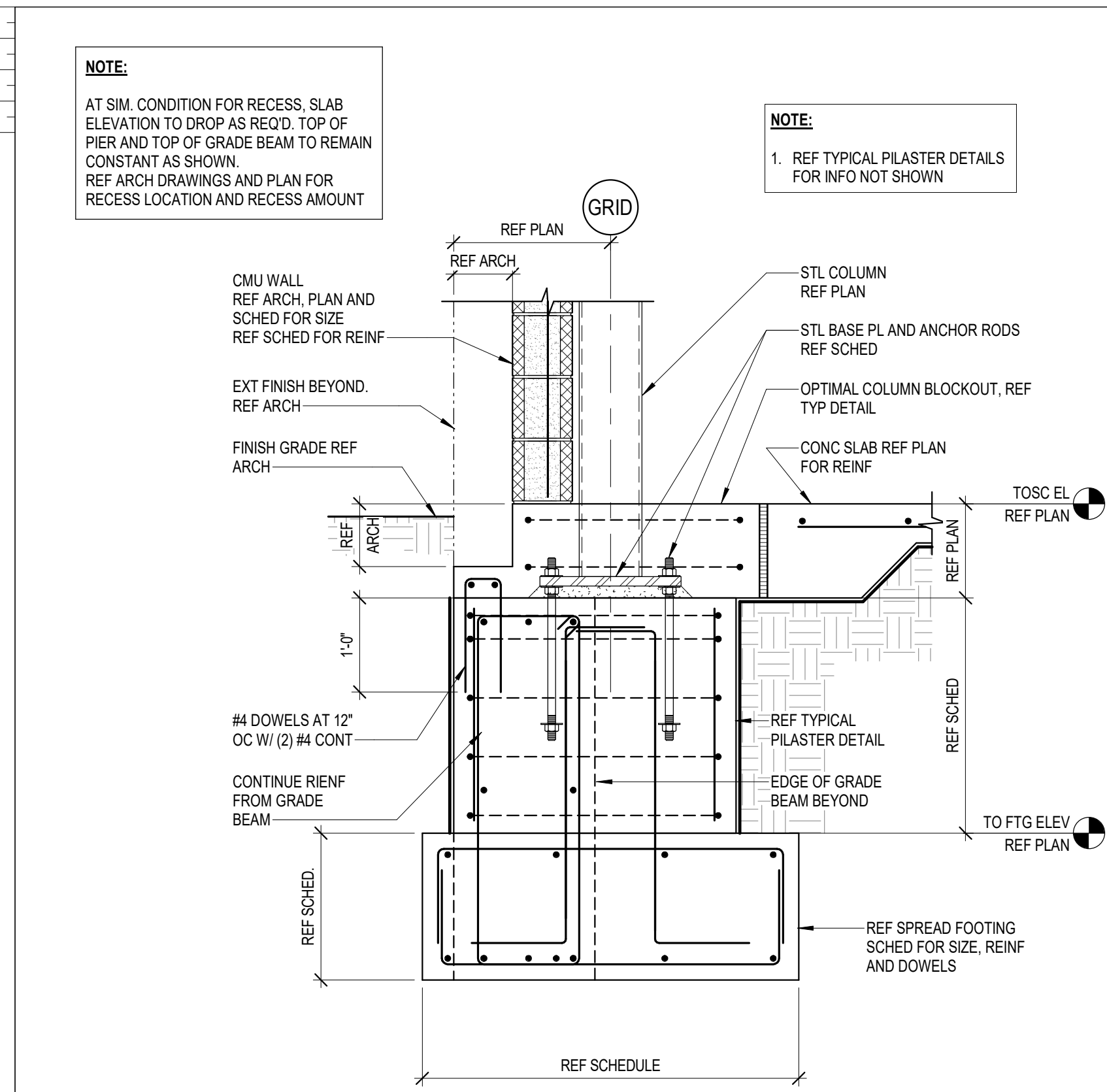
ISSUE FOR PROPOSAL
BUILDING NUMBER
GENERAL GRADE
BEAM NOTES AND
TYP DETAILS

S-302

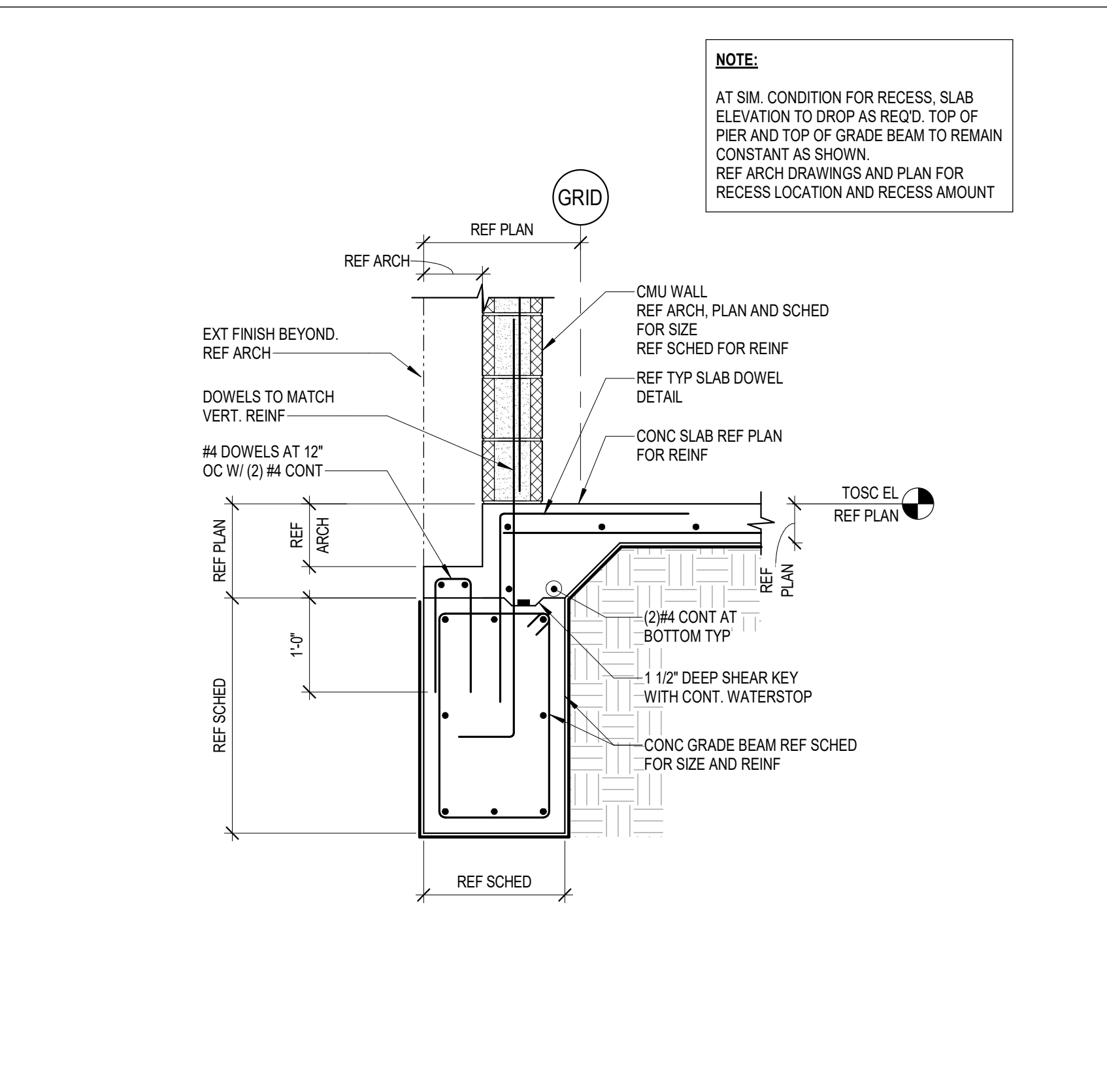


LIGHT POLE BASE SCHEDULE

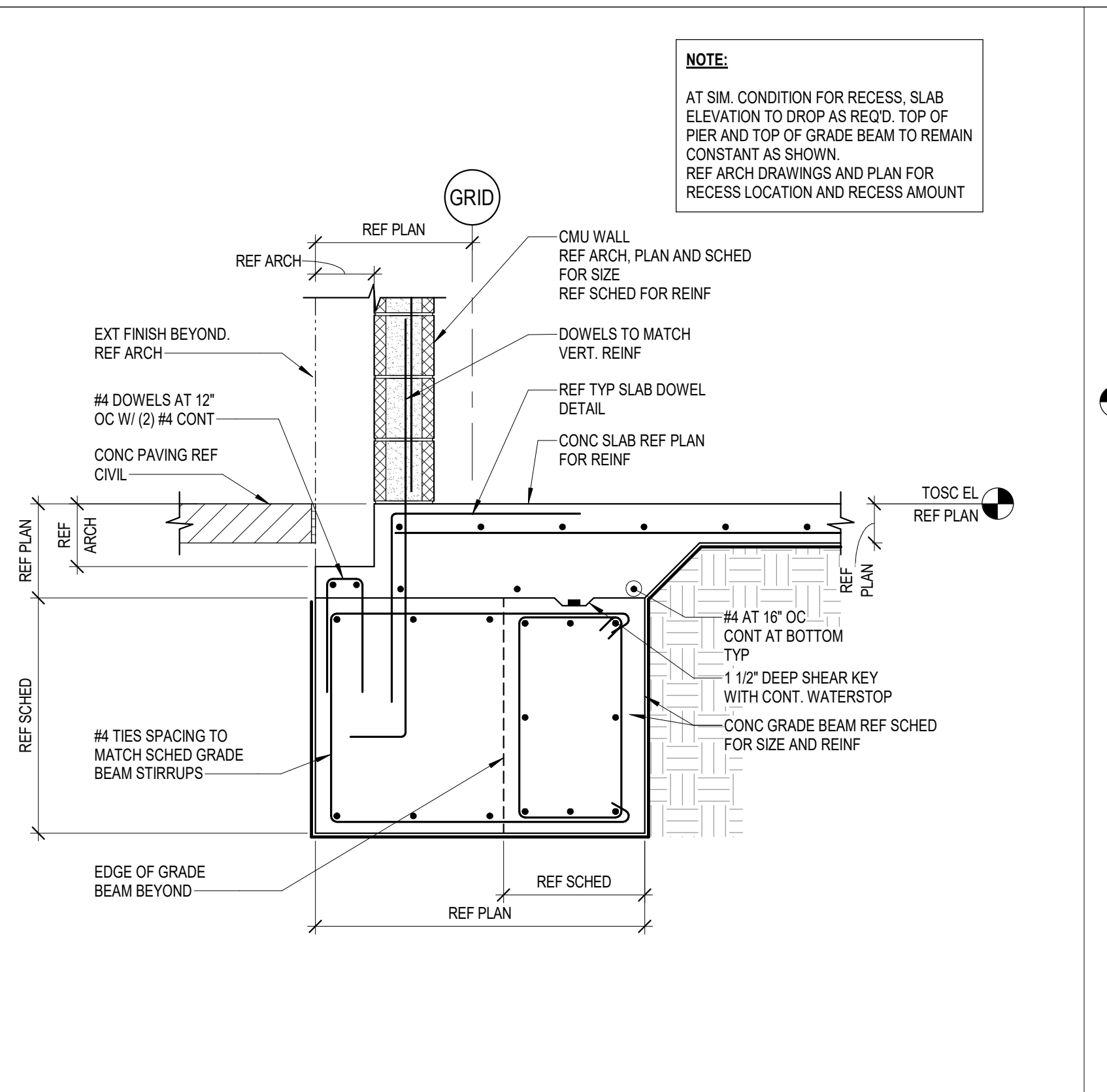




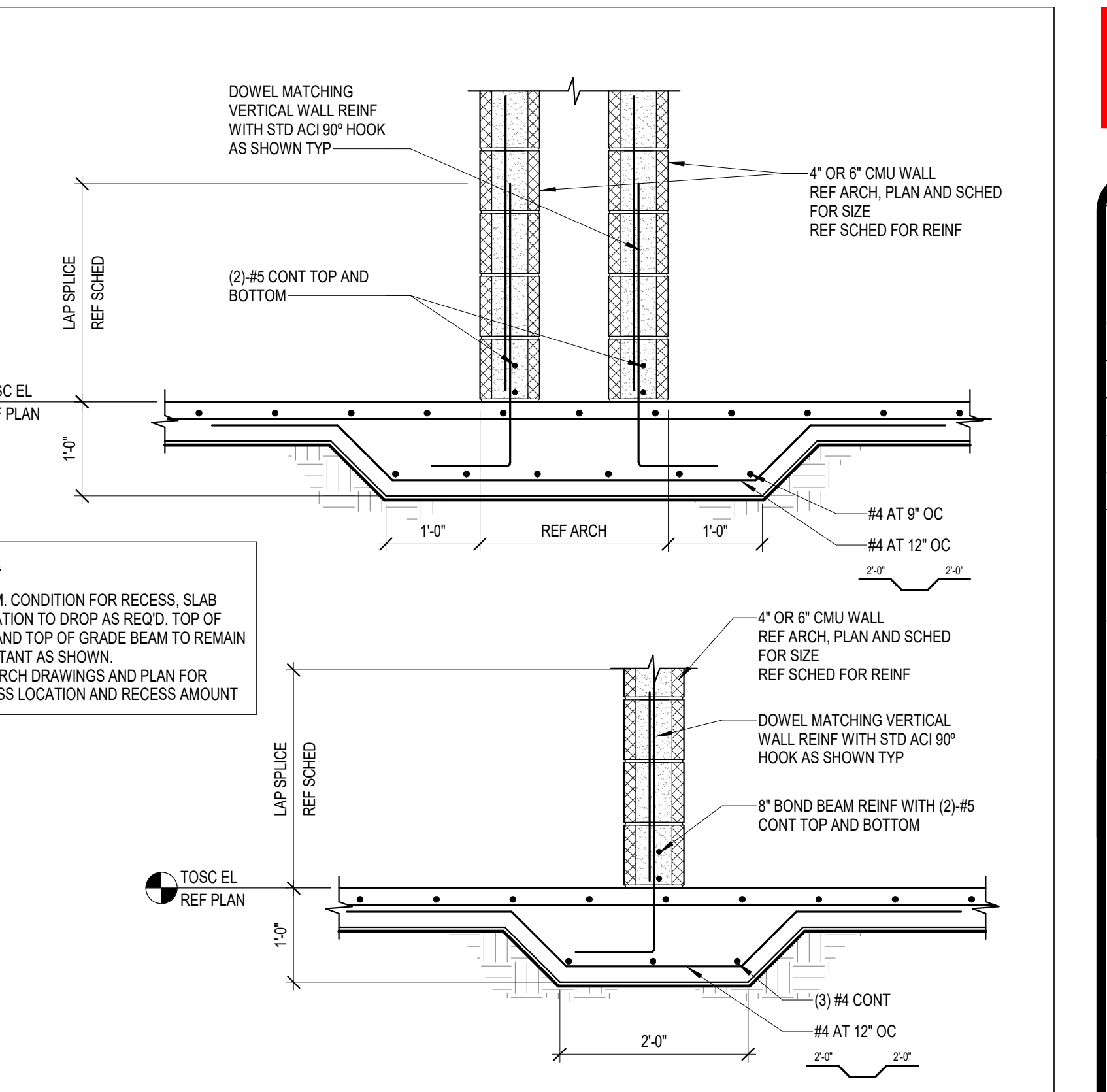
1 EXTERIOR PILASTER AT COLUMN
3/4" = 1'-0"



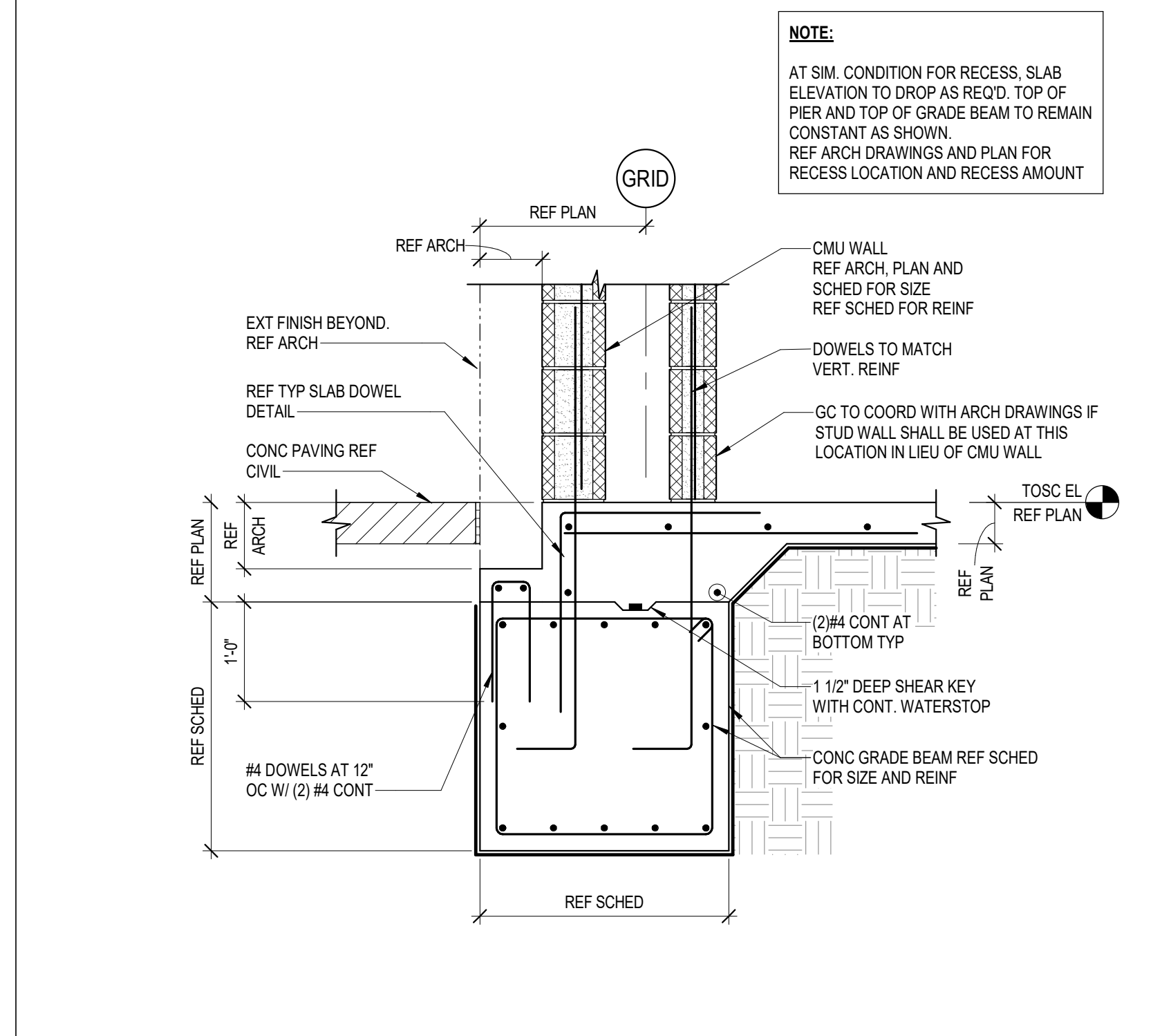
2 EXTERIOR GRADE BEAM AT CMU WALL
3/4" = 1'-0"



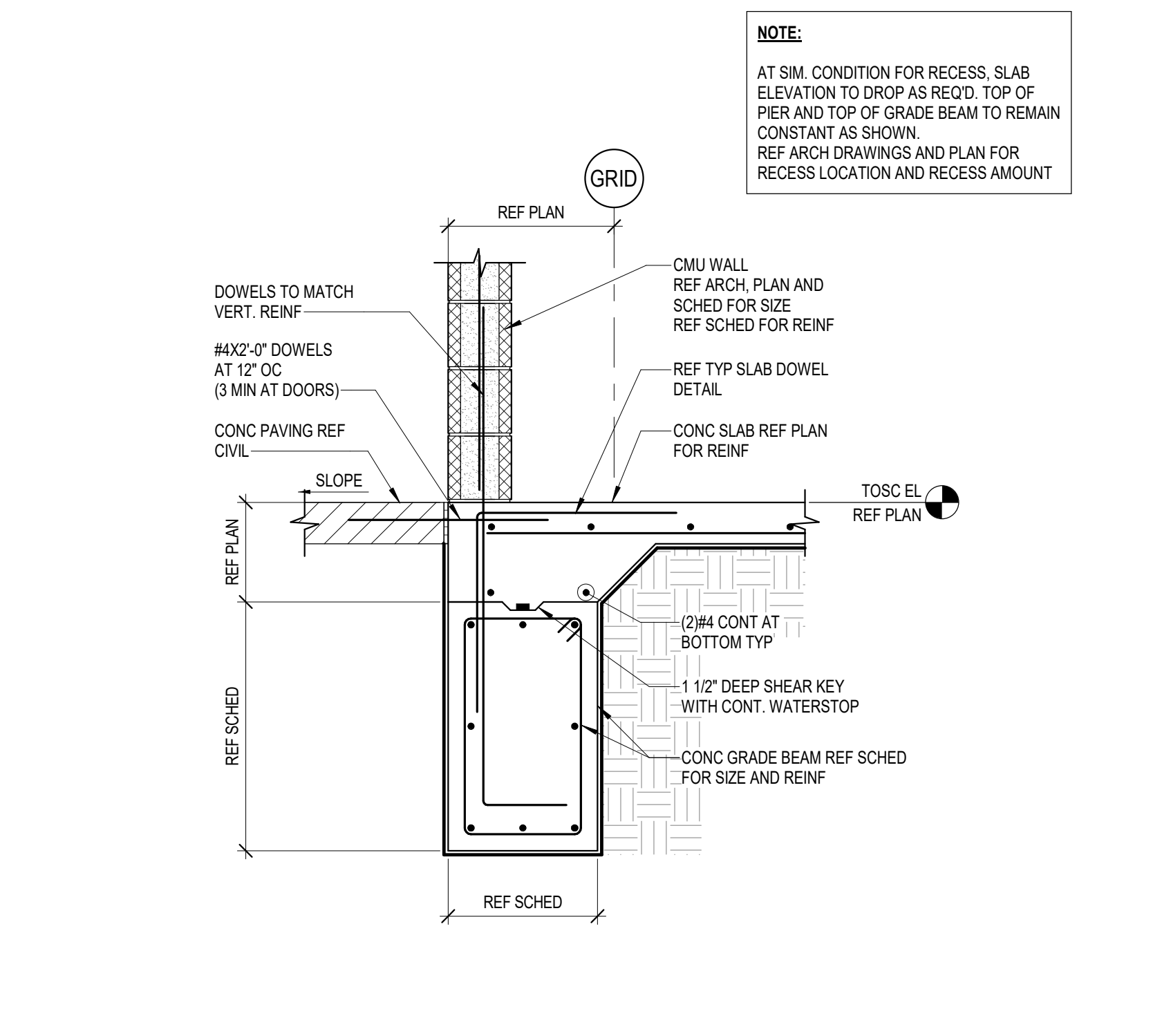
3 EXTERIOR WIDENED GRADE BEAM
3/4" = 1'-0"



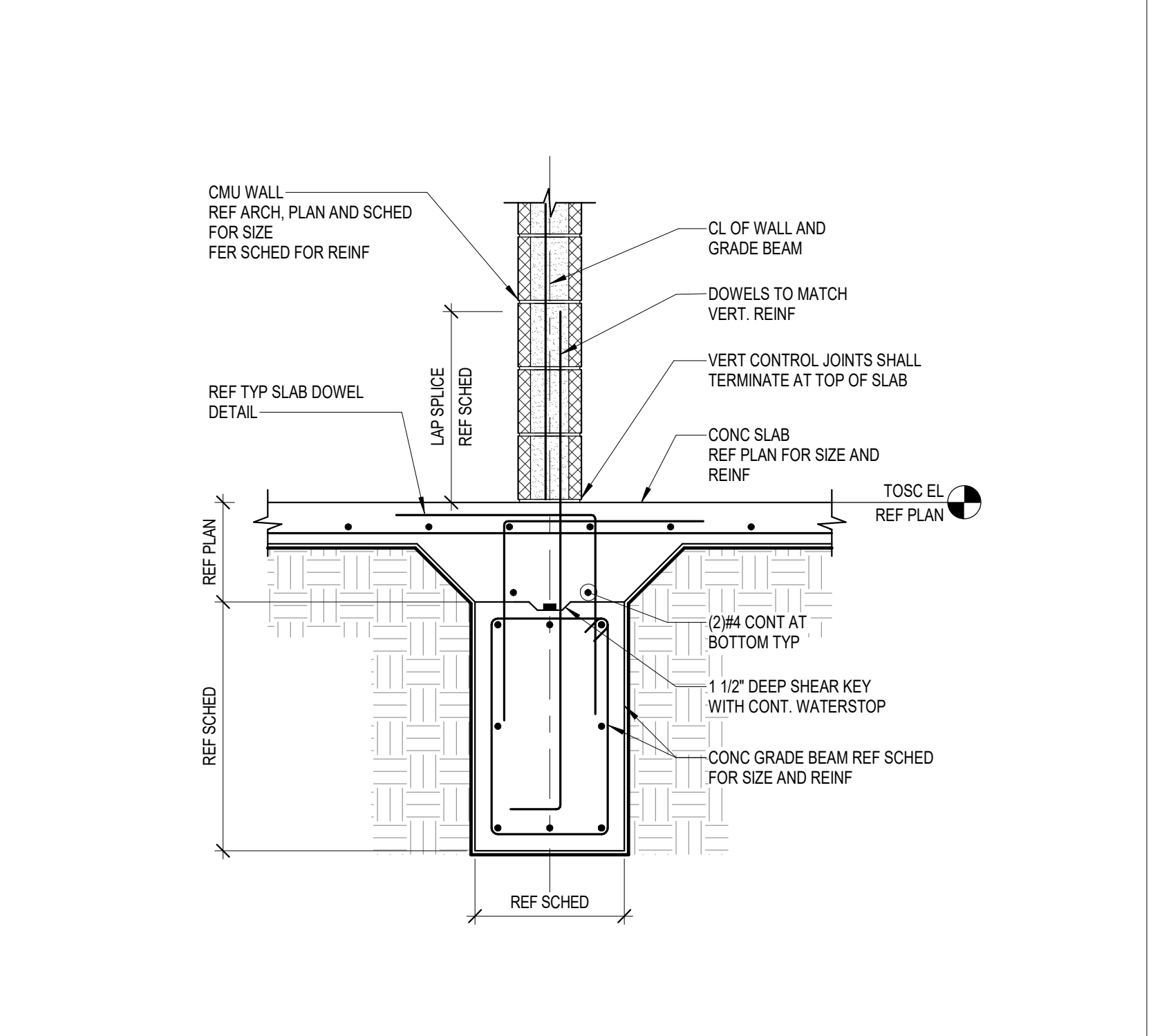
4 TYPICAL INTERIOR CMU ON SLAB-ON-GRADE
3/4" = 1'-0"



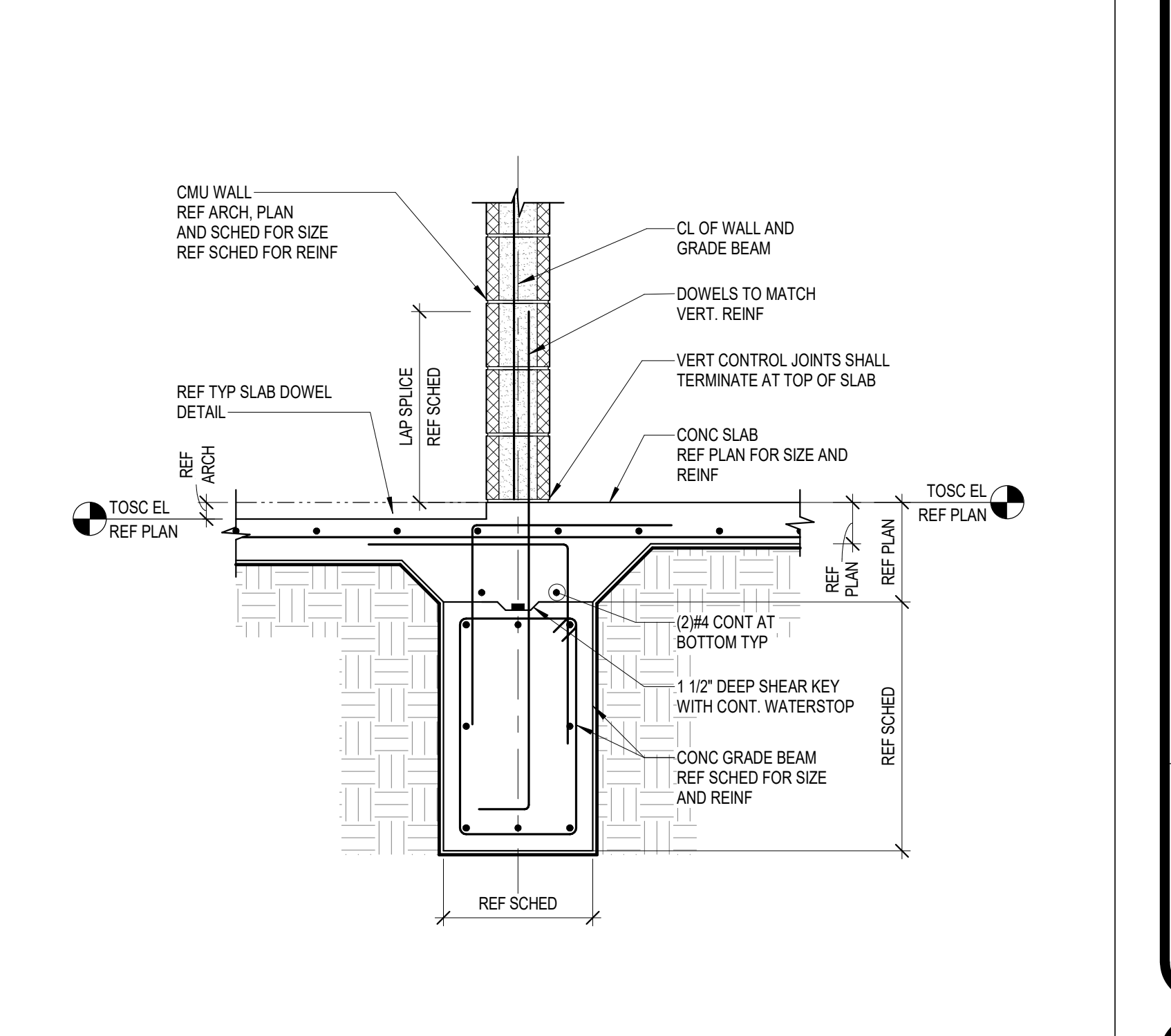
5 EXTERIOR GRADE BEAM AT DOUBLE CMU WALLS
3/4" = 1'-0"



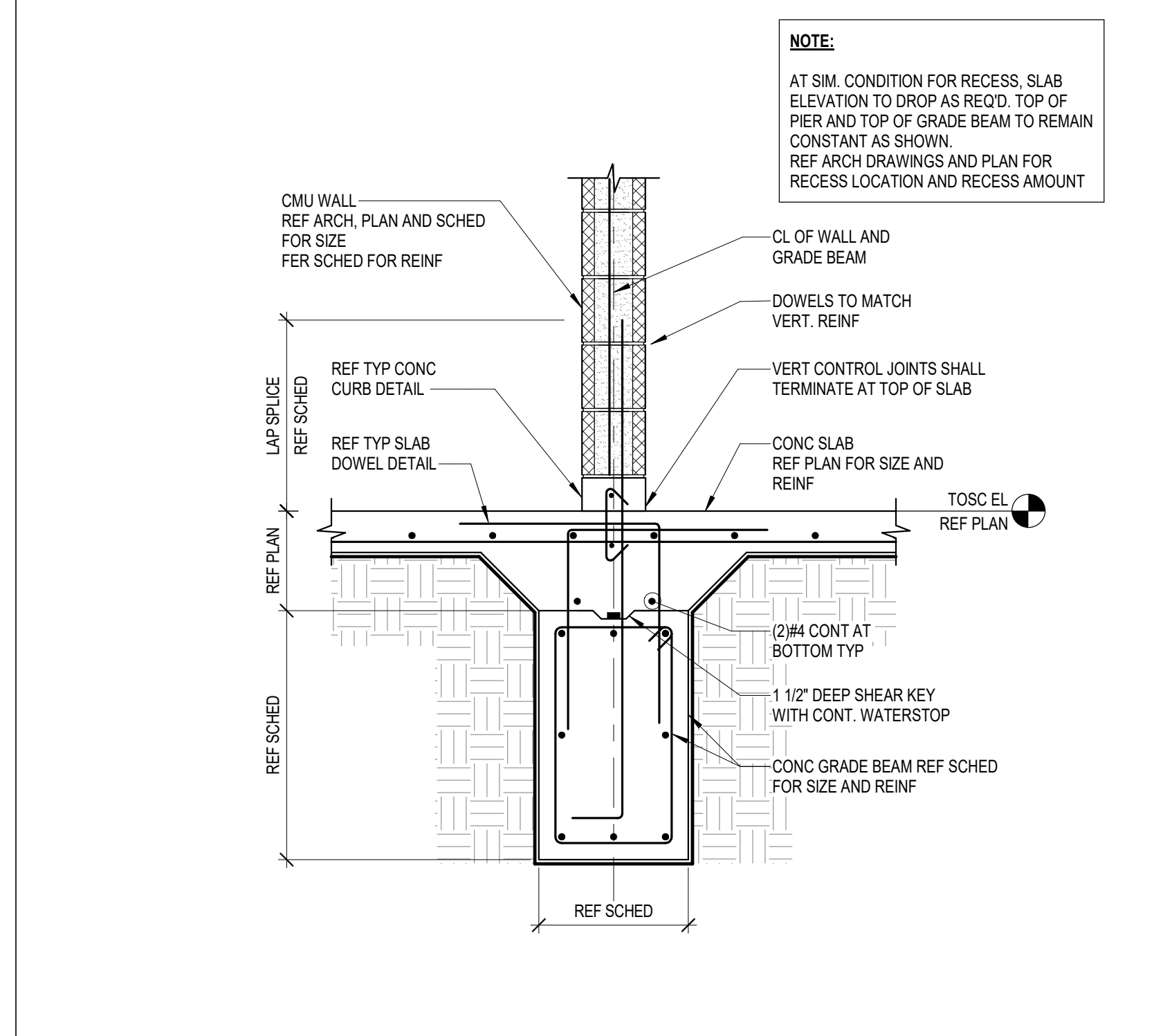
6 EXTERIOR GRADE BEAM
3/4" = 1'-0"



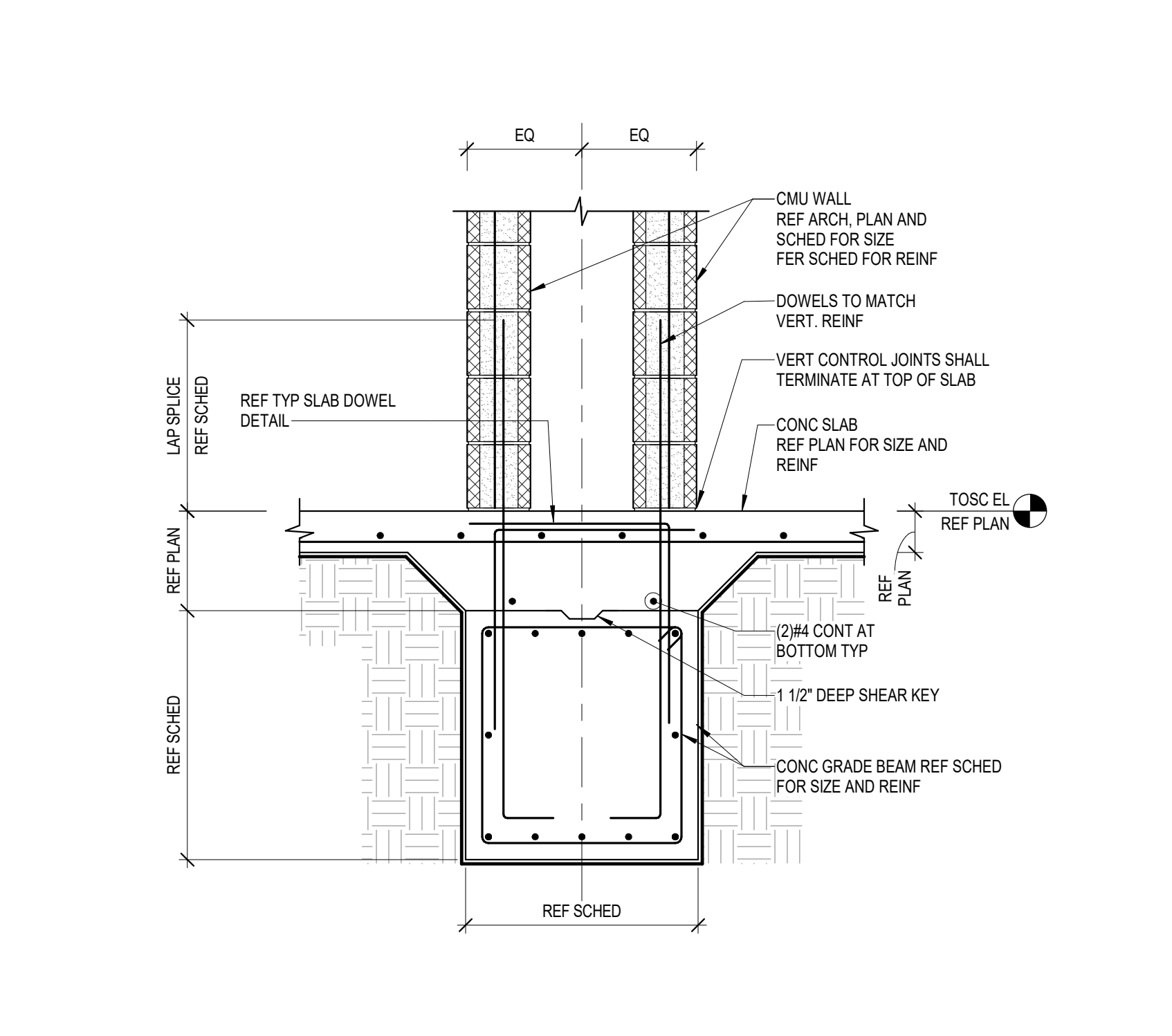
7 INTERIOR CMU WALL AT INTERIOR GRADE BEAM
3/4" = 1'-0"



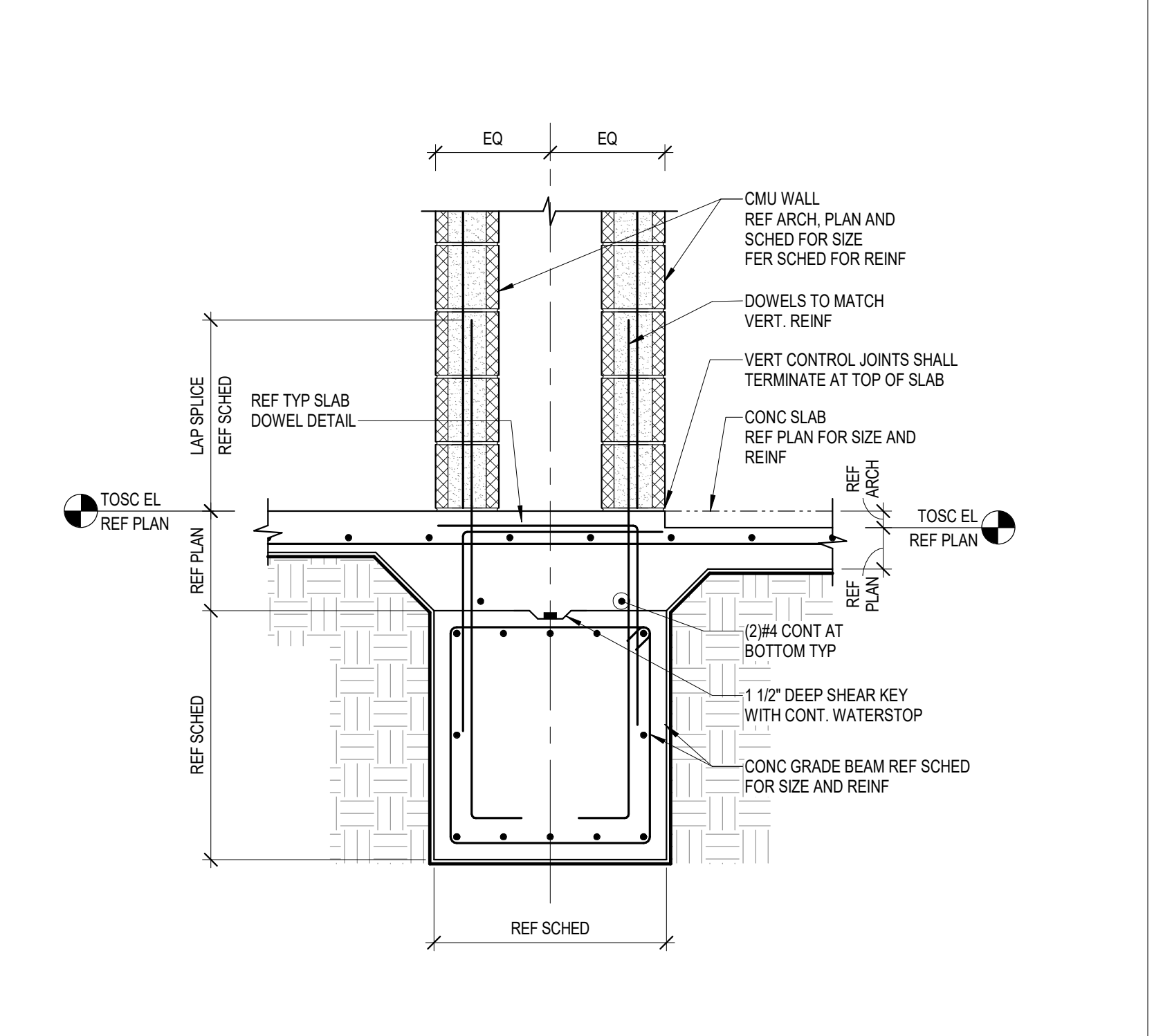
8 INTERIOR CMU WALL AT INTERIOR GRADE BEAM W/RECESS
3/4" = 1'-0"



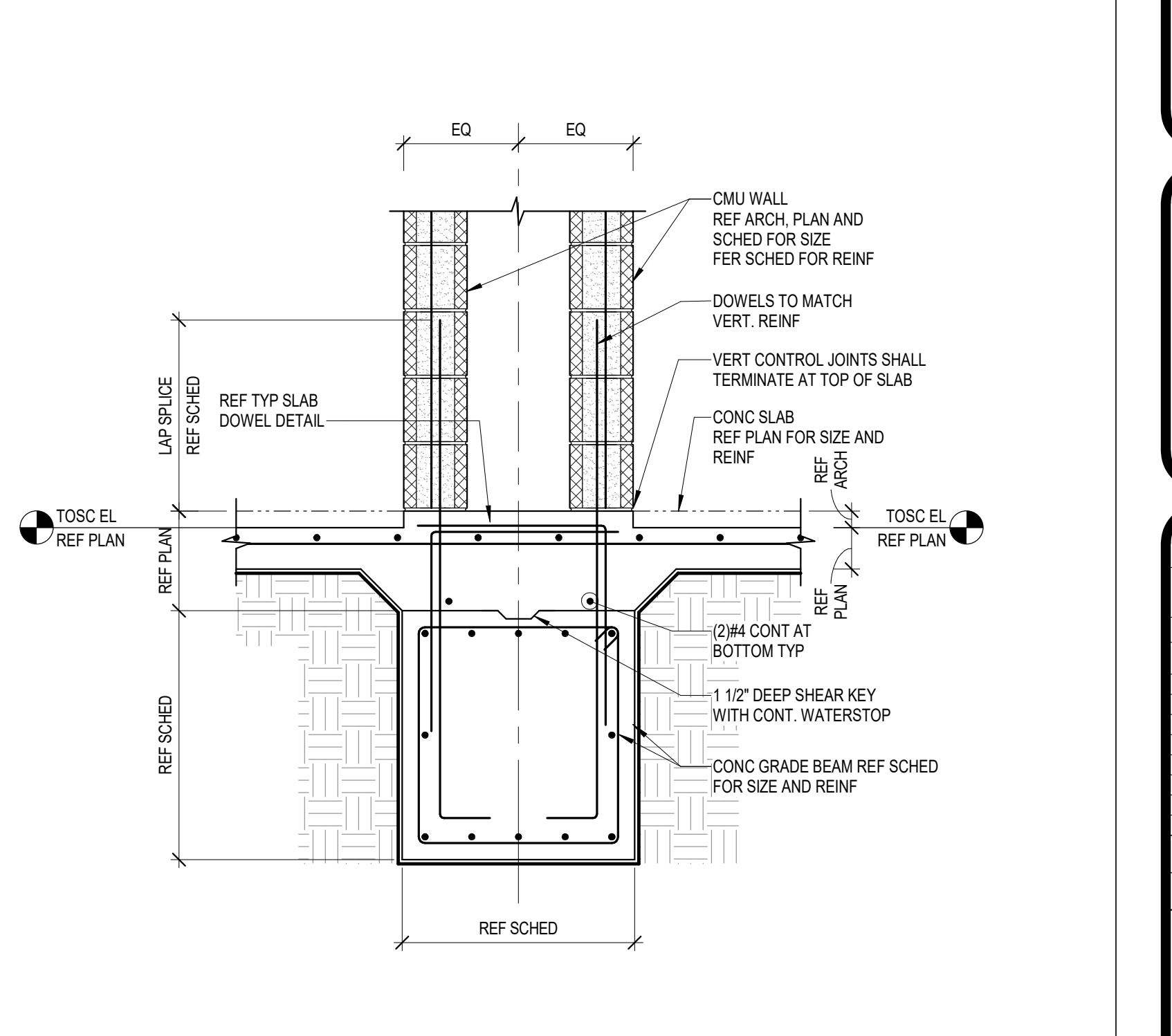
9 INTERIOR CMU WALL AT INTERIOR GRADE BEAM W/CONC CURB
3/4" = 1'-0"



10 INTERIOR GRADE BEAM AT DOUBLE CMU WALLS
3/4" = 1'-0"



11 INTERIOR GRADE BEAM AT DOUBLE CMU WALLS W/ RECESS ON ONE SIDE
3/4" = 1'-0"



12 INTERIOR GRADE BEAM AT DOUBLE CMU WALLS W/RECESS ON BOTH SIDES
3/4" = 1'-0"

ARCHITECT

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608

PKB Architects, Inc.
PKB.com

ENGINEER

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608

PKB Architects, Inc.
PKB.com

LANDSCAPE

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608

PKB Architects, Inc.
PKB.com

LEAD ENGINEER

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608

PKB Architects, Inc.
PKB.com

DESIGN PROFESSIONALS

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608

PKB Architects, Inc.
PKB.com

NEW JUERGEN ROAD ELEMENTARY SCHOOL

JUERGEN ROAD
TOMBALL, TX

ISSUE FOR PROPOSAL

TOMBALL

INDEPENDENT SCHOOL DISTRICT

DISCIPLINE

STATE OF TEXAS

JOHN R. KUBALA

106120

02/27/2023

Kubala Engineers

F-23612

CLIENT

TOMBALL ISD

DATE

02/27/2023

PROJECT NUMBER

220137

DRAWING HISTORY

No.

Description

Date

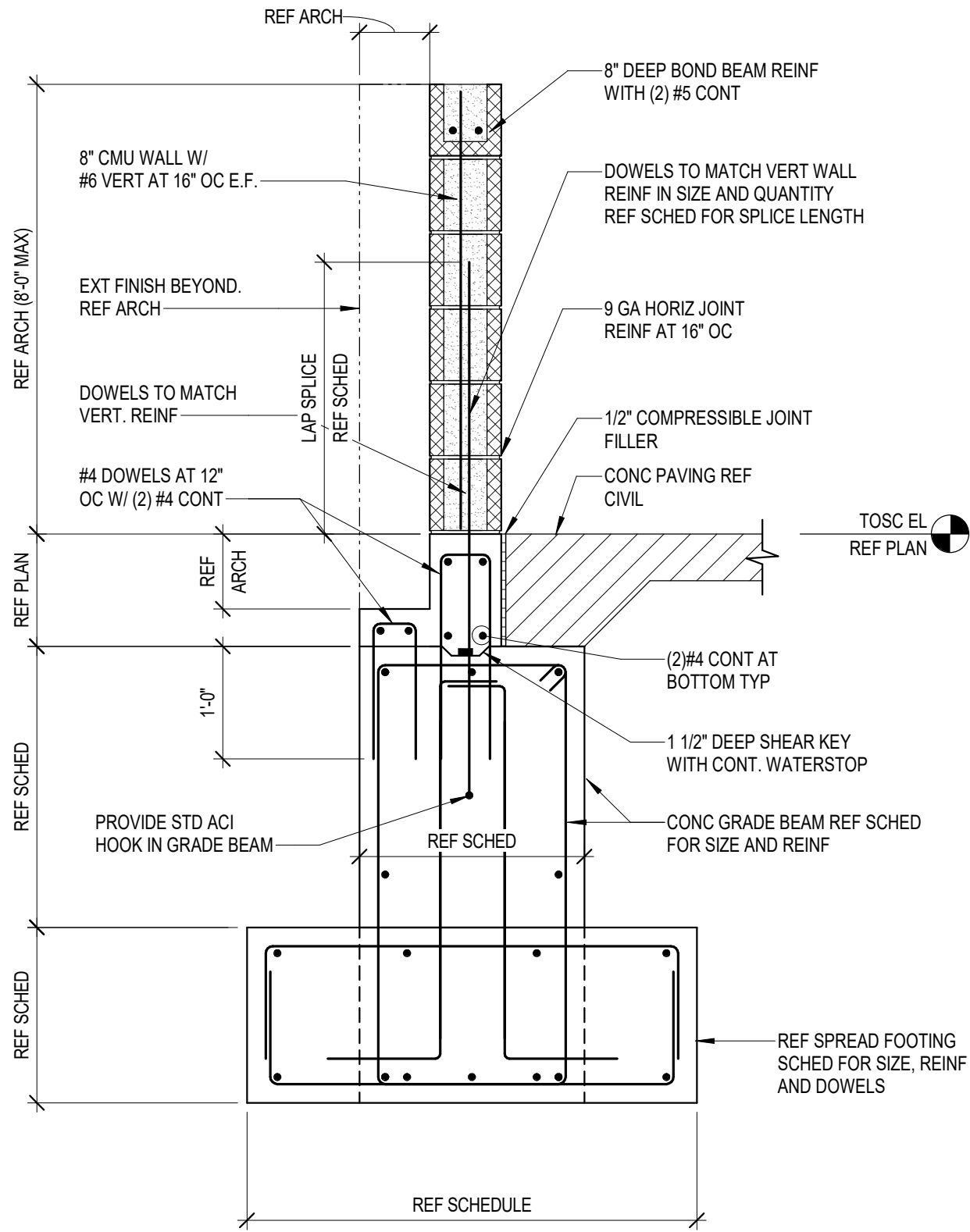
ISSUE FOR PROPOSAL

BUILDING NUMBER

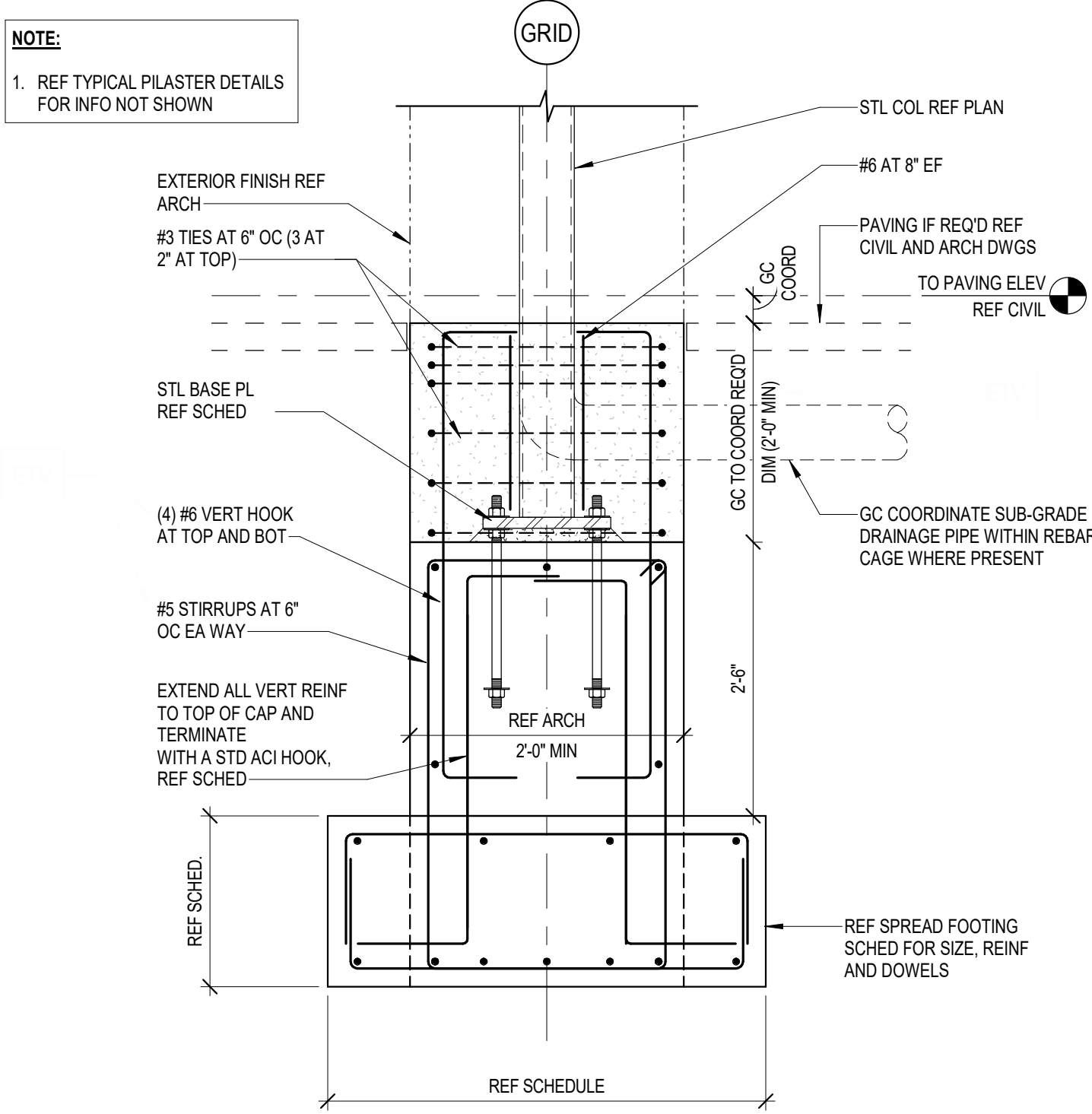
FOUNDATION DETAILS (CMU)

S-312

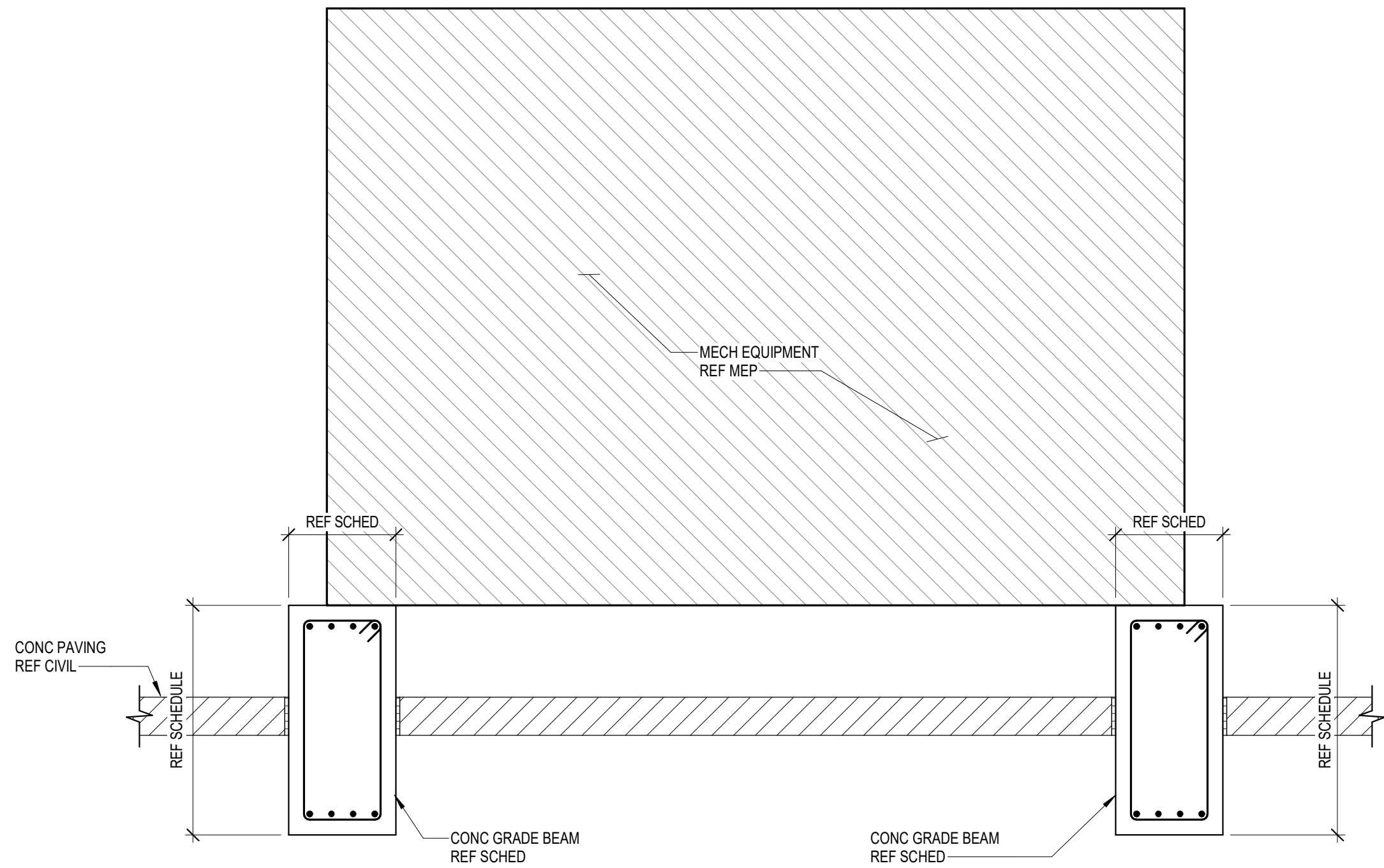
1 SCREEN WALL AT MECH YARD
3/4" = 1'-0"



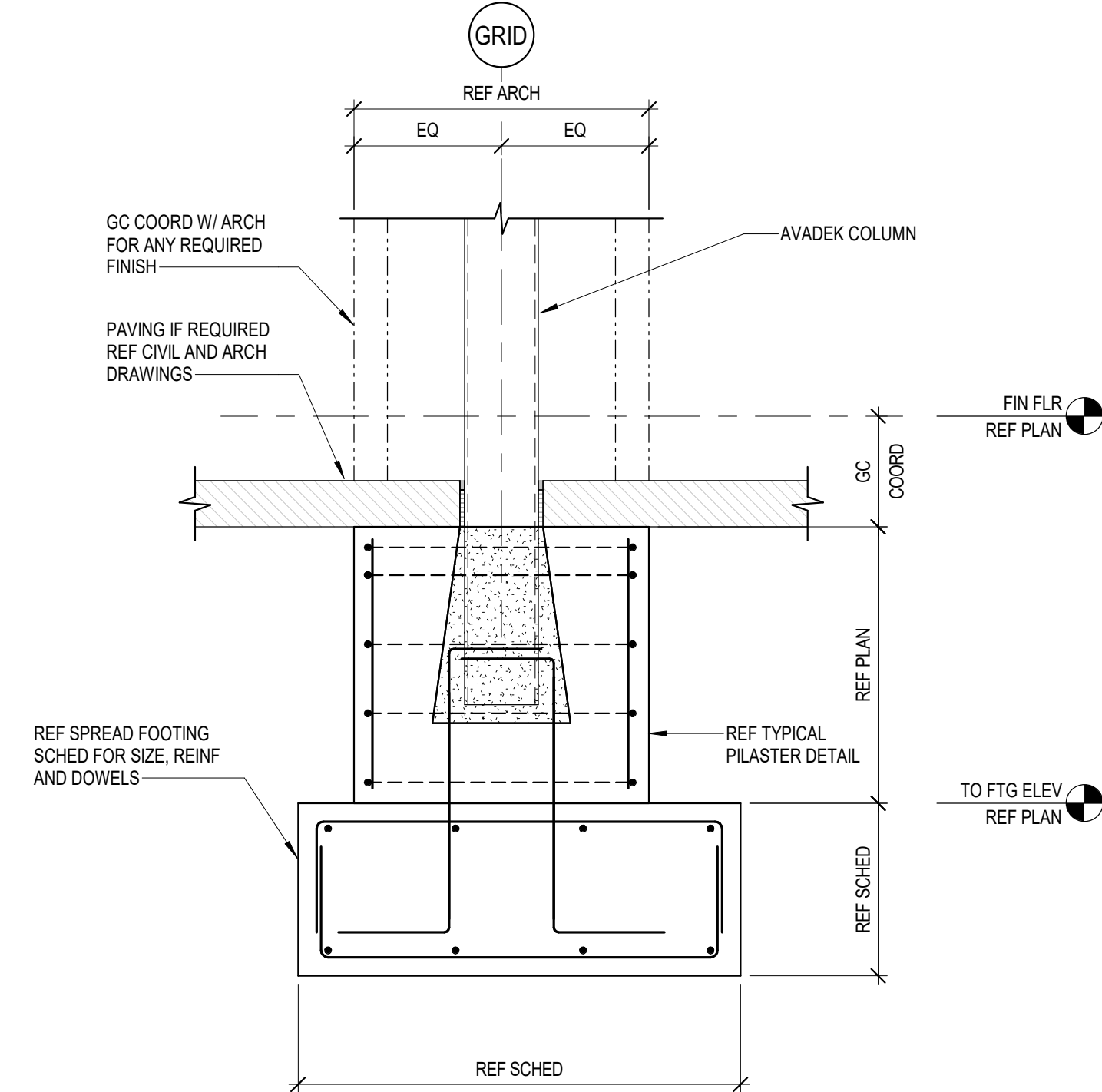
2 CANOPY COLUMN FOUNDATION
3/4" = 1'-0"



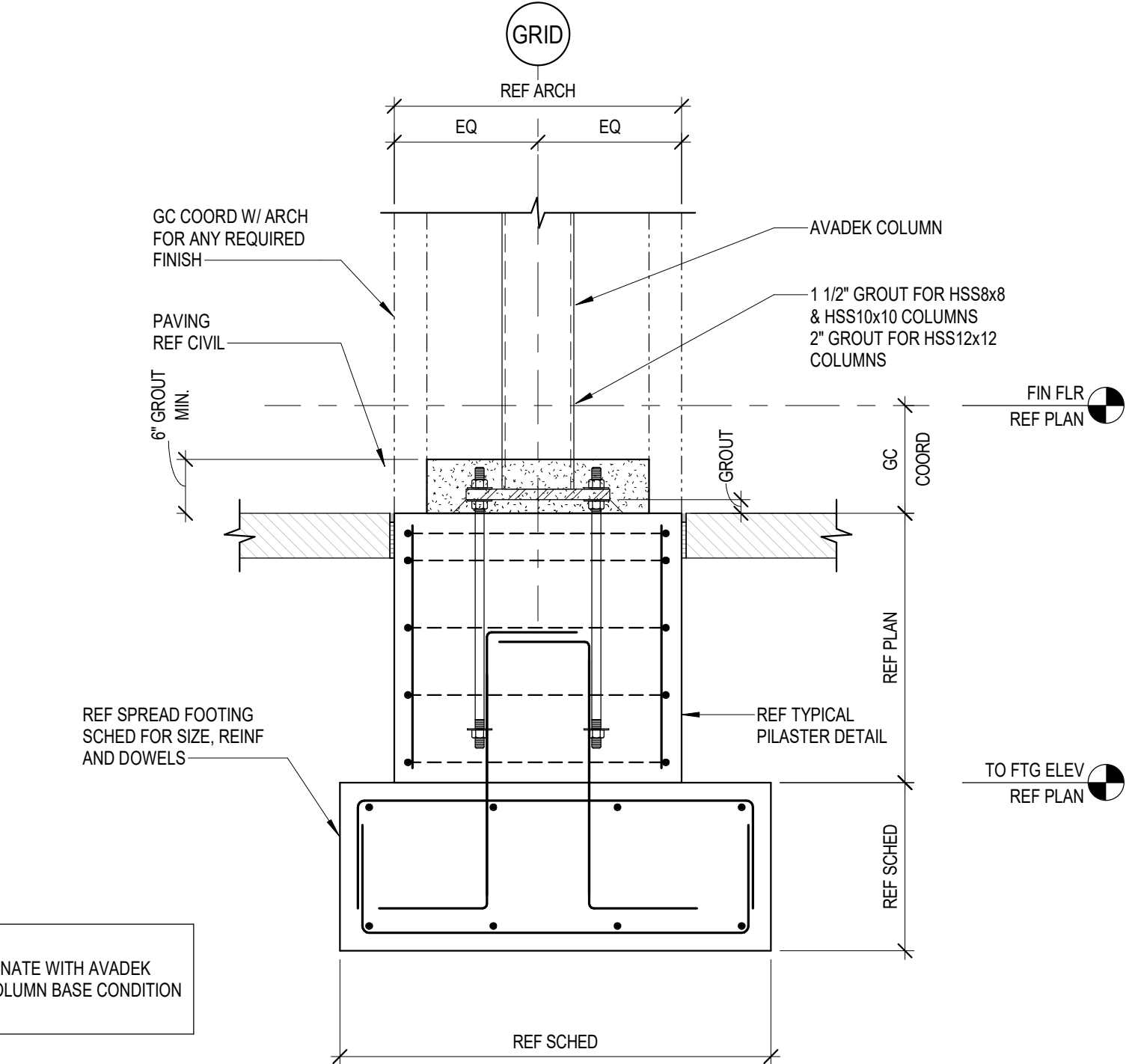
3 MECH EQUIPMENT SUPPORT
3/4" = 1'-0"



4 TYP AVADEK CANOPY COLUMN DETAIL
3/4" = 1'-0"



NOTE:
GC SHALL COORDINATE WITH AVADEK
FOR REQUIRED COLUMN BASE CONDITION
(TYP)



1 FOUNDATION PLAN - SIGNAGE OPTION

2 TOP OF MARQUEE PLAN

3 MARQUEE SECTION

4 MARQUEE SECTION

5 MARQUEE SECTION

6 MARQUEE ELEVATION

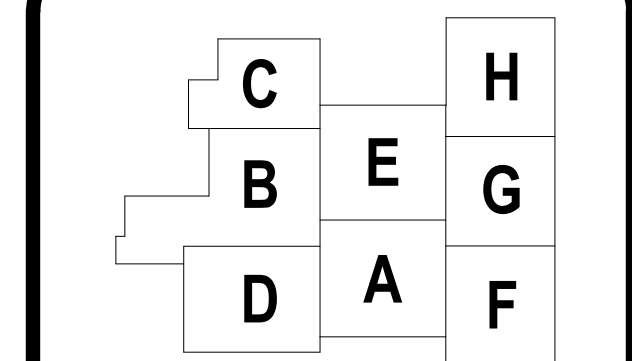


ARCHITECT	PKB Architects, Inc. PKB.com
HOUSTON	
11 Greenway Plaza, 22nd Floor	
Houston, TX 77046	
713-965-0608 P	
713-961-4571 F	
TX Firm: BR 1608	
DIV.	
DIV ENGINEERS	
713-940-3230	
LANDSCAPE	
EDGE LAND	
713-940-0988	
STRUCTURAL	
KUBELA ENGINEERS	
713-940-3343	
MEET	
LEAF ENGINEERS	
713-940-3230	
FOOD SERVICE	
FOODSERVICE DESIGN PROFESSIONALS	
281-560-2232	

NEW JUERGEN ROAD ELEMENTARY SCHOOL

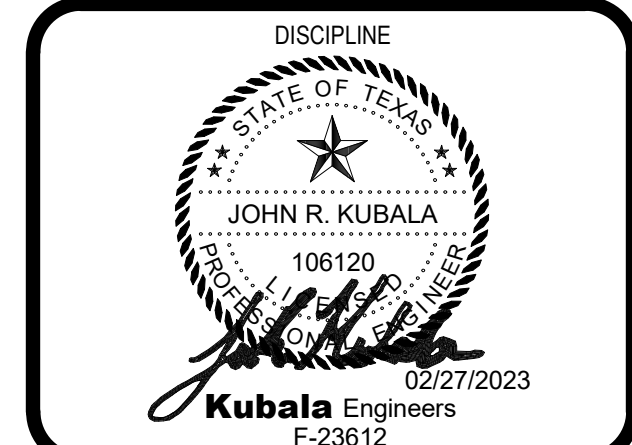
JUERGEN ROAD
TOMBALL, TX

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KEY PLAN

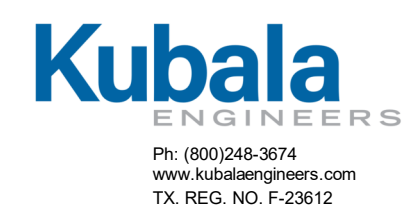
NORTH:  PLAN  TRUE 

[illegible]

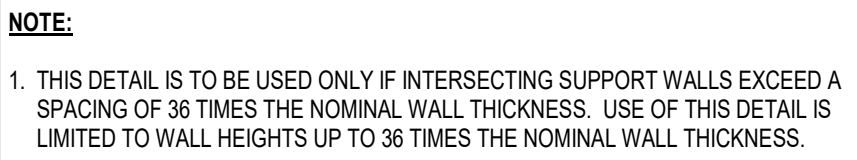
ISSUE FOR PROPOSAL
BUILDING NUMBER

TYPICAL MARQUEE SIGN PLANS & DETAILS

S-321



Ph: (800)248-3674
www.kubalengineers.com
TX. REG. NO. F-23812

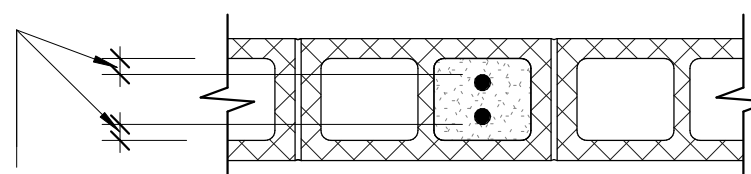


1

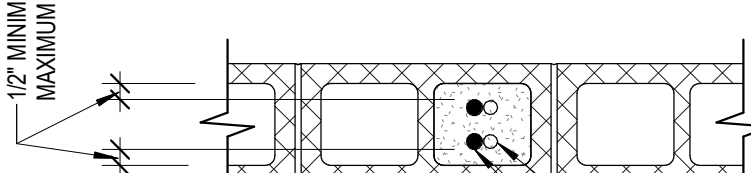
TYPE A (FLOOR)



ONE BAR IN CELL - SPLICE



TWO BARS IN CELL



TWO BARS IN CELL - SPLICE

2

TYPE D (FLOOR / ROOF)



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



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.

OPENINGS
LESS THAN 5'-0"



3



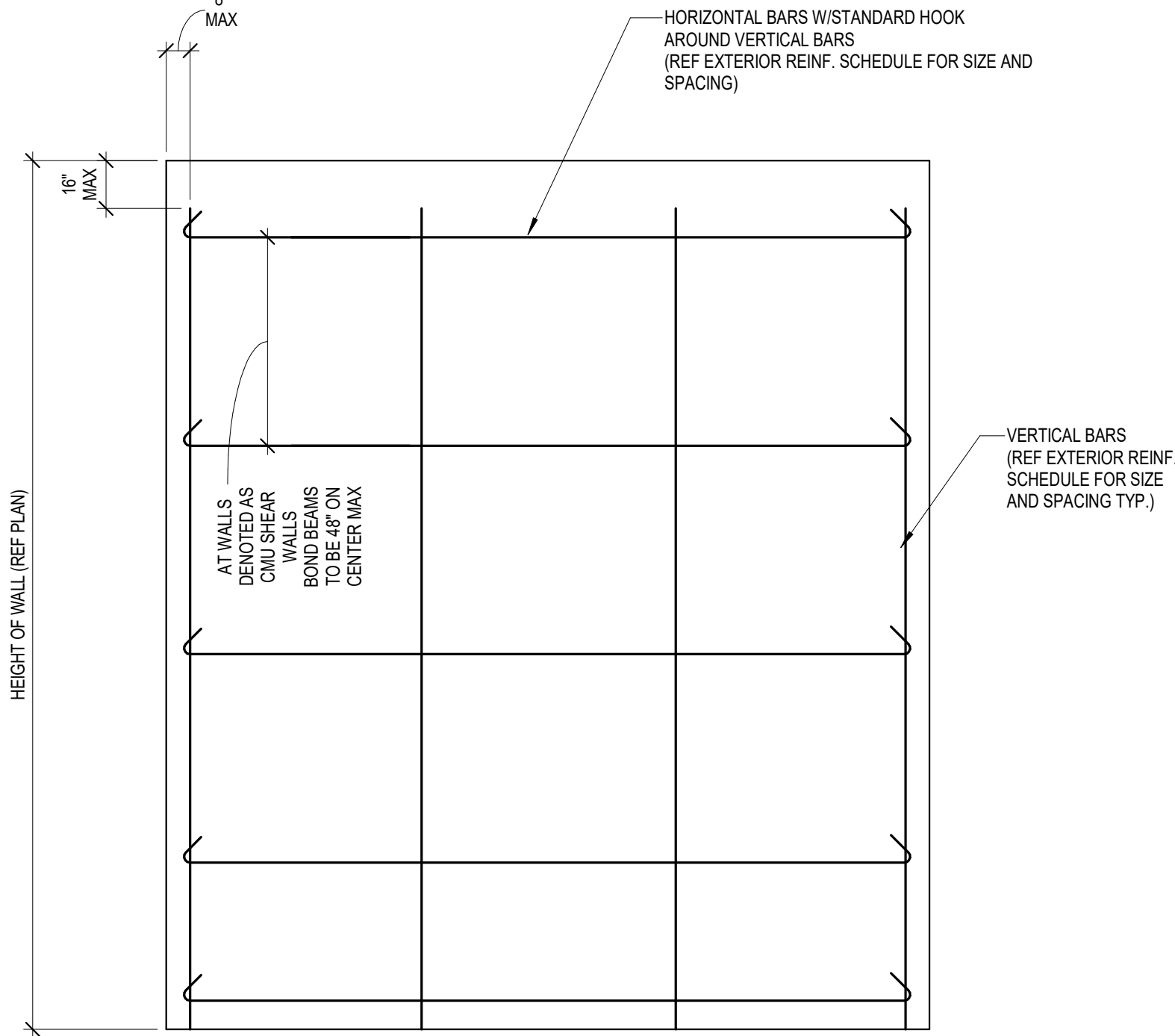
NOTES:

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.

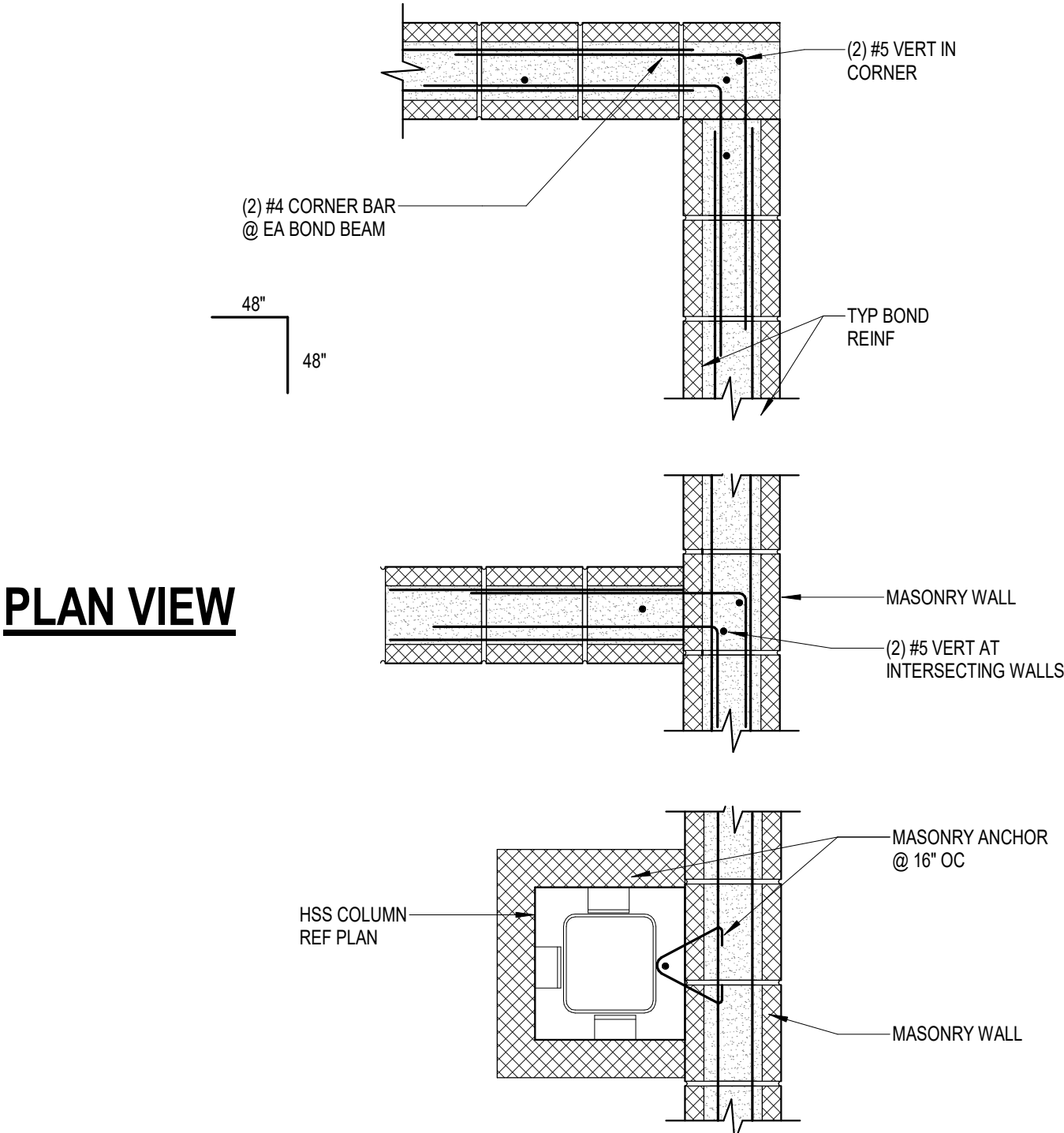
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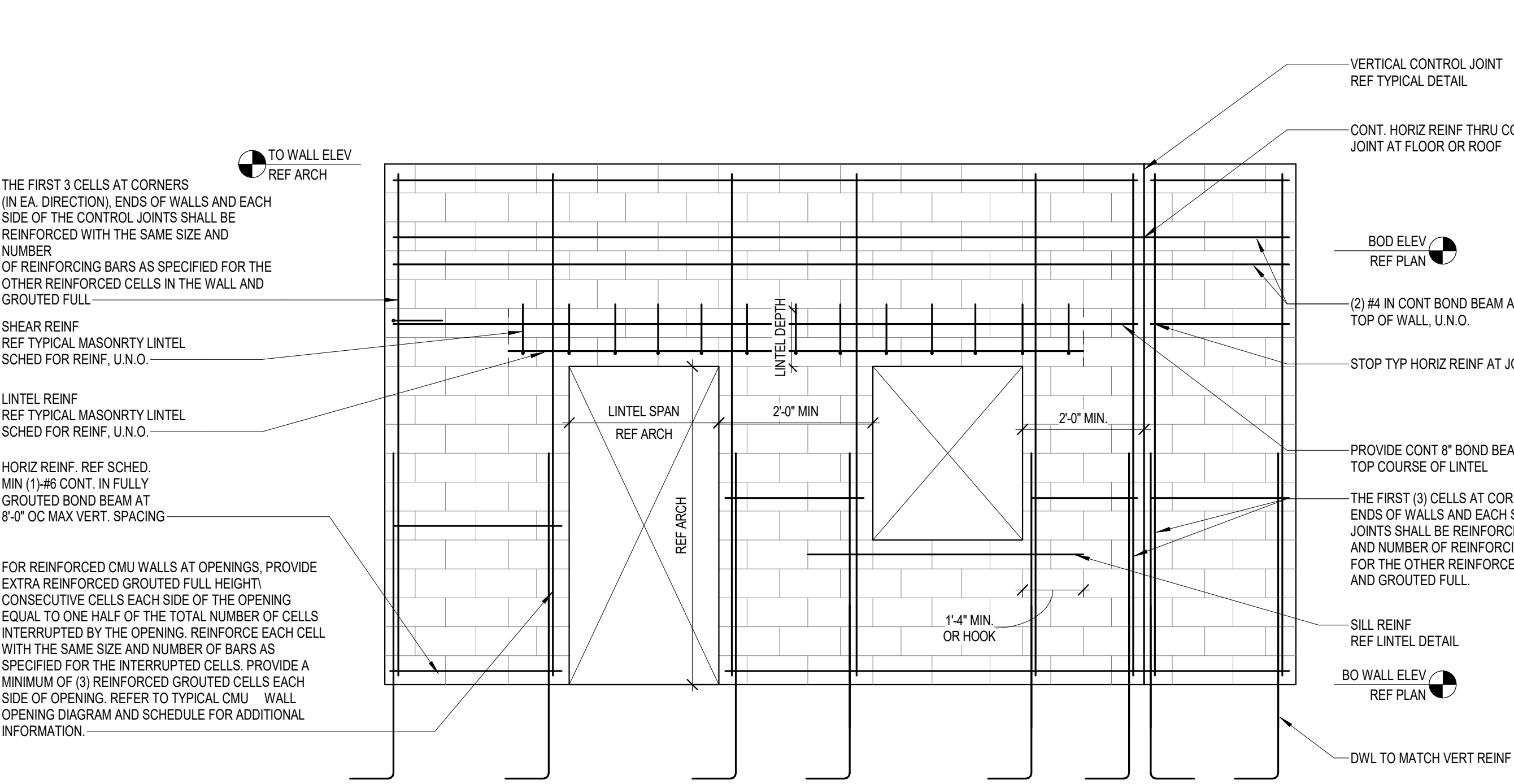
6



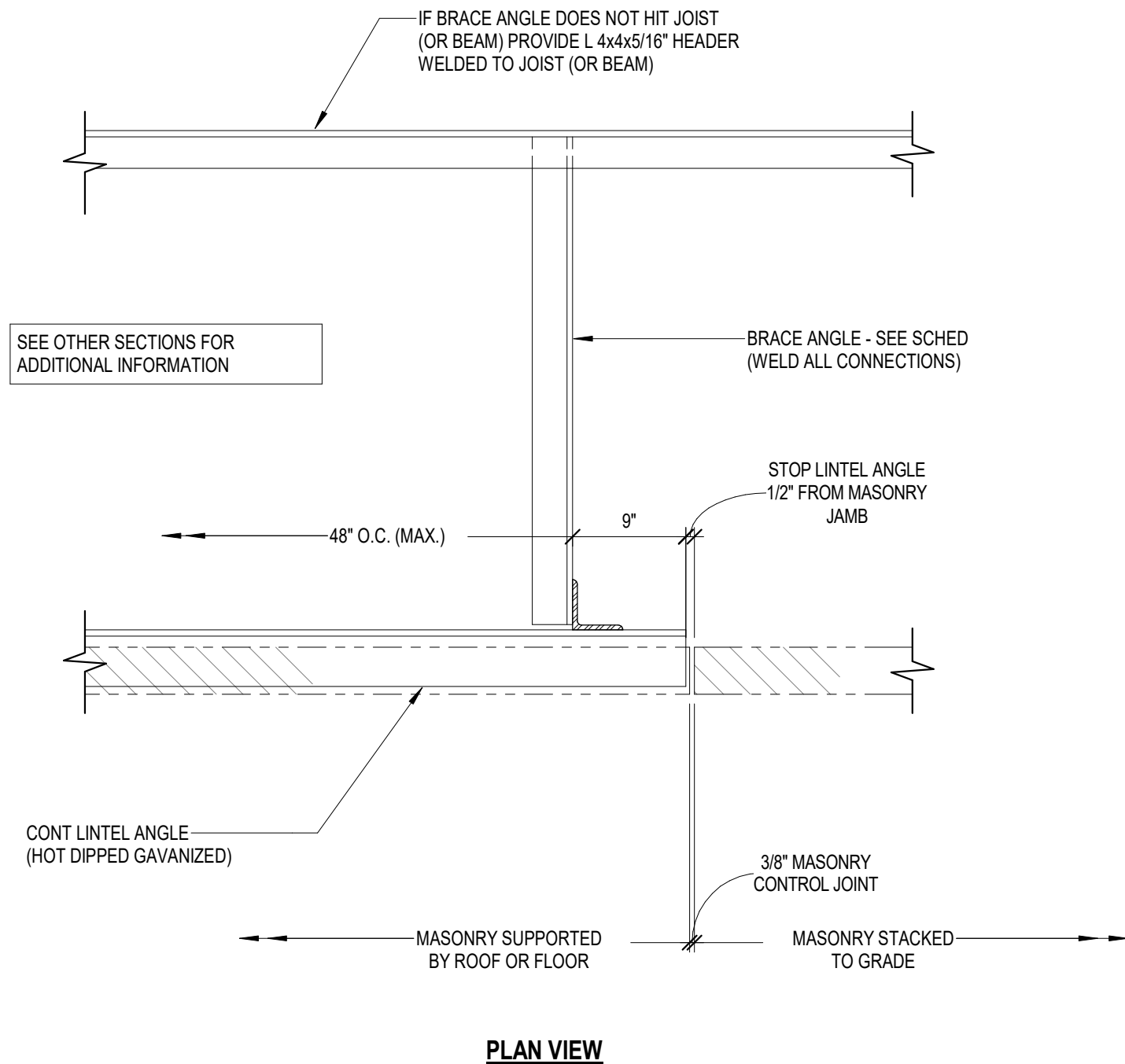
1 EXTERIOR MASONRY WALL REINF. ELEVATION
NO SCALE



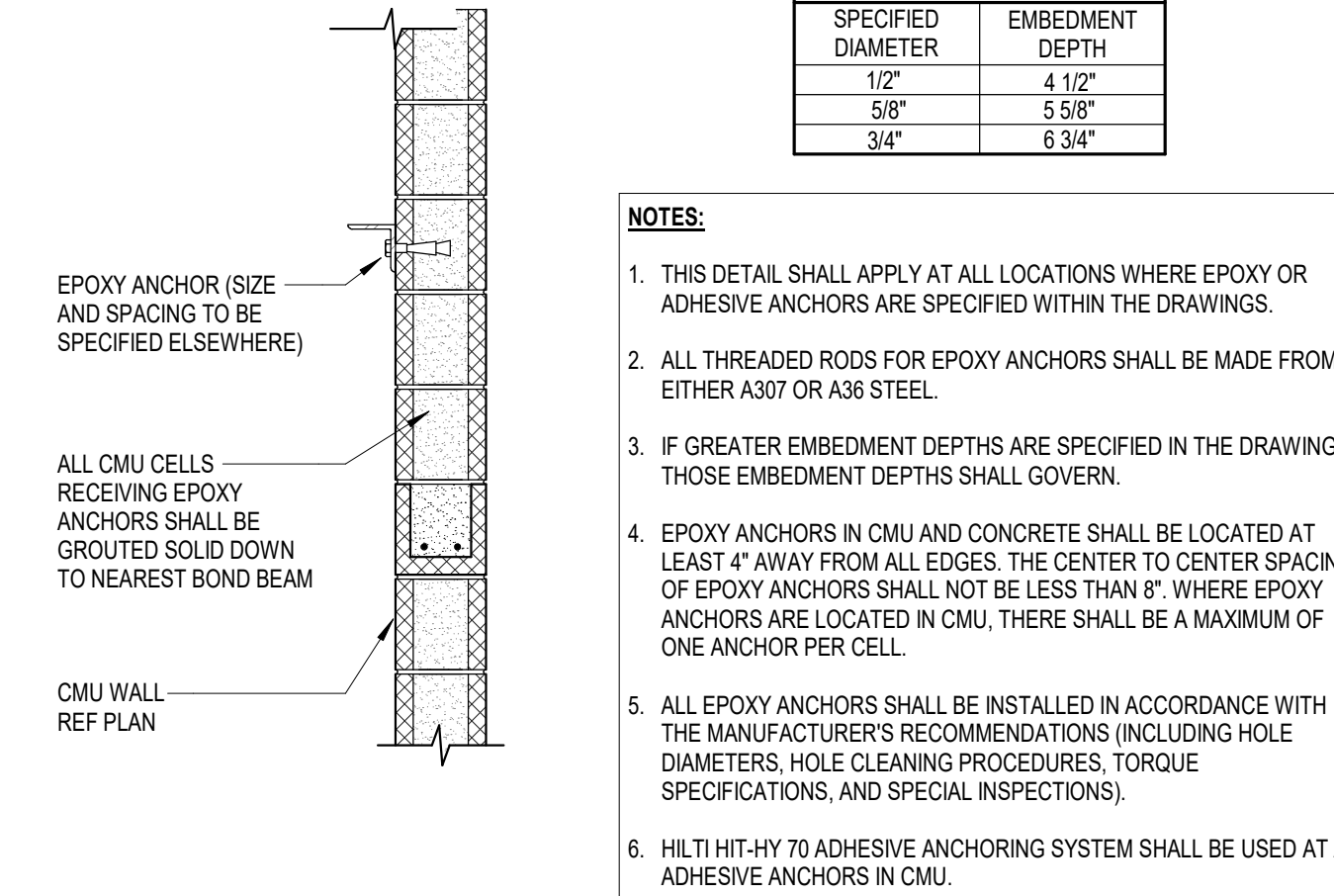
2 TYPICAL NON-STRUCTURAL MASONRY WALL REINF. SCHEDULE
NO SCALE



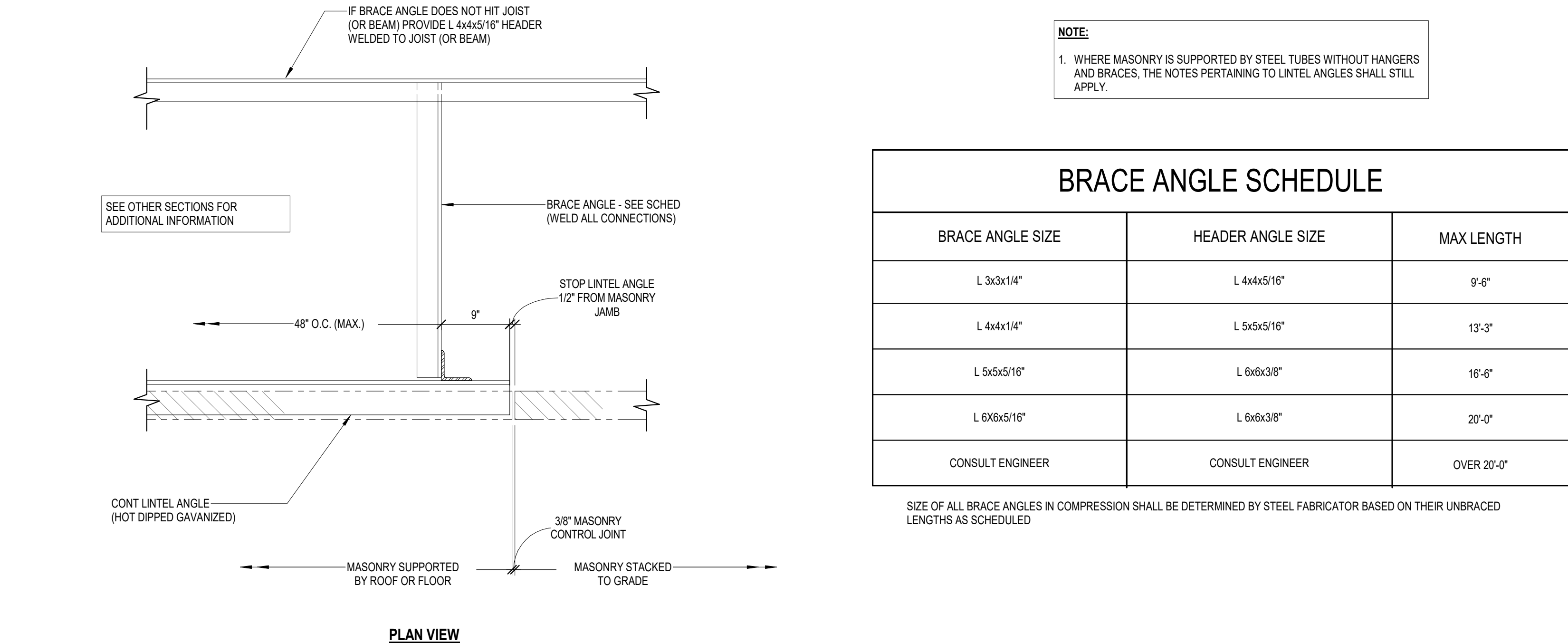
3 TYPICAL MASONRY WALL ELEVATION
NO SCALE



4 MASONRY WALL BRACING/REINF. DETAIL
NO SCALE



5 TYPICAL HEADER DETAIL AT OVERHEAD DOORS
NO SCALE



6 HANGER BRACE SCHEDULE
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 @ 18" OC EF	#5 @ 32" OC	(2) #6 PER CELL IN FIRST 3 CELLS
EXTERIOR WALL	SW2	12"	16'-0"	#6 @ 40" OC EF	#5 @ 32" OC	(2) #6 PER CELL IN FIRST 3 CELLS
			>16'-0" 28'-0"	#6 @ 18" 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 @ 18" OC EF	#5 @ 32" OC	(2) #6 PER CELL IN FIRST 3 CELLS

- NOTES:
- UNLESS NOTED OTHERWISE, REFER TO THE SCHEDULE ABOVE FOR VERTICAL WALL REINFORCING REQUIREMENTS AT ALL STRUCTURAL CMU WALLS.
 - 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.
 - 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.
 - 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.
 - HOLD VERTICAL REINFORCING IN POSITION AT TOP AND BOTTOM AND AT 8'-0" OC MAXIMUM.
 - REFER TO GENERAL NOTES, SPECIFICATIONS AND SECTIONS/DETAILS FOR INFORMATION NOT SHOWN.
 - 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.

9 TYPICAL STRUCTURAL MASONRY SHEAR WALL REINF. SCHEDULE
NO SCALE

- NOTES:
- REFER TO ARCH AND MECH DRAWINGS FOR SIZE AND LOCATION OF OPENINGS.
 - REFER TO SCHEDULES FOR LINTEL AND JAMB REINFORCING UNLESS DETAILED OTHERWISE.
 - SPLICES IN VERT REINF REF CMU WALL REINF DIAGRAM.
 - CMU WALL STARTS ABOVE FLOOR.
 - 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.
 - 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.
 - CONTINUE VERT WALL REINF OVER OPENING. ANCHOR VERT REINF INTO LINTEL BEAM WITH STANDARD ACI 90° HOOK.
 - ALL VERT BARS AT DOOR JAMBS TO BE FULL HEIGHT.
 - #5 SILL REINF. SOLID GROUT SILL.
 - WHERE HORIZONTAL REINF IS TERMINATED BY OPENING OR CONTROL JOINT PROVIDE STANDARD ACI HOOK WITH VERT WALL REINF IN THE END CELL.
 - CONTINUOUS BOND BEAM REF CMU WALL REINF DIAGRAM.

ARCHITECT

PKB Architects, Inc.
HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0688 P
TX Firm BR 1688
PKB.com

DISCIPLINE

LANDSCAPE
1-713-965-0289
FLOOR PLAN
1-713-965-0688
KUBALA ENGINEERS
1-713-965-0289
REF
1-713-965-0289
FOOD SERVICE DESIGN PROFESSIONALS
1-817-358-2231

NEW JUERGEN ROAD ELEMENTARY SCHOOL

JUERGEN ROAD
TOMBALL, TX

ISSUE FOR PROPOSAL

TOMBALL

INDEPENDENT SCHOOL DISTRICT

DISCIPLINE

JOHN R. KUBALA
106120
Kubala Engineers
02/27/2023
F-23612

CLIENT

TOMBALL ISD

DATE
02/27/2023

PROJECT NUMBER
220137

DRAWING HISTORY

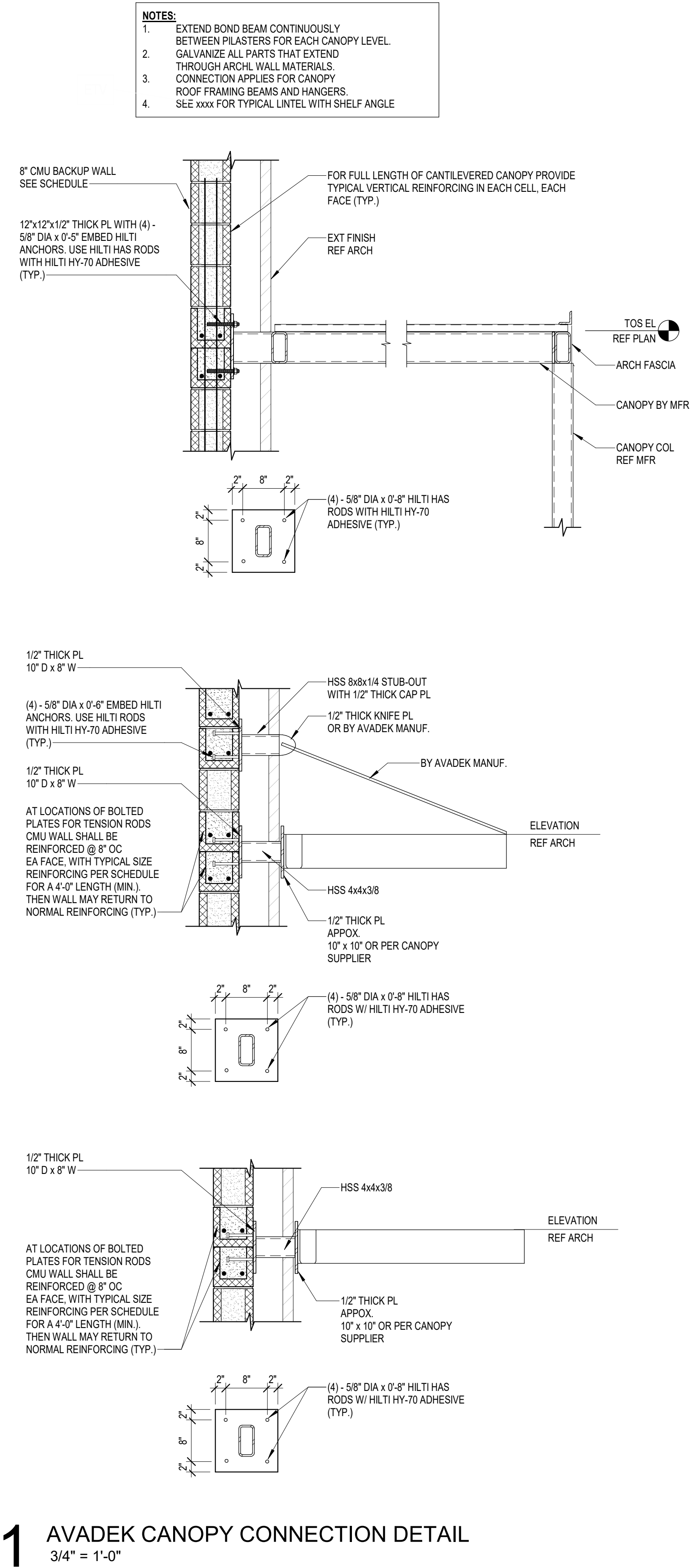
No.	Description	Date

ISSUE FOR PROPOSAL

BUILDING NUMBER

GENERAL CMU
NOTES AND TYP
DETAILS

S-401



PBK

ARCHITECT PBK Architects, Inc. PBK.com

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0608 P
713-961-4571 F
TX Firm BR 1606

OWNER
LANDSCAPE
DESIGN
ARCHITECT
KUBALA ENGINEERS
1111 1st St
HOUSTON, TX 77002

LEAD ARCHITECTS
1111 1st St
HOUSTON, TX 77002

FOODSERVICE DESIGN PROFESSIONALS
1111 1st St
HOUSTON, TX 77002

NEW JUERGEN ROAD ELEMENTARY SCHOOL

JUERGEN ROAD
TOMBALL, TX

ISSUE FOR PROPOSAL

TOMBALL
INDEPENDENT SCHOOL DISTRICT

DISCIPLINE
STATE OF TEXAS
JOHN R. KUBALA
106120
02/27/2023
Kubala Engineers
F-23612

CLIENT
TOMBALL ISD

DATE
02/27/2023

PROJECT NUMBER
220137

DRAWING HISTORY

Table with 3 columns: No., Description, Date

ISSUE FOR PROPOSAL

BUILDING NUMBER

MISC CMU DETAILS

S-403

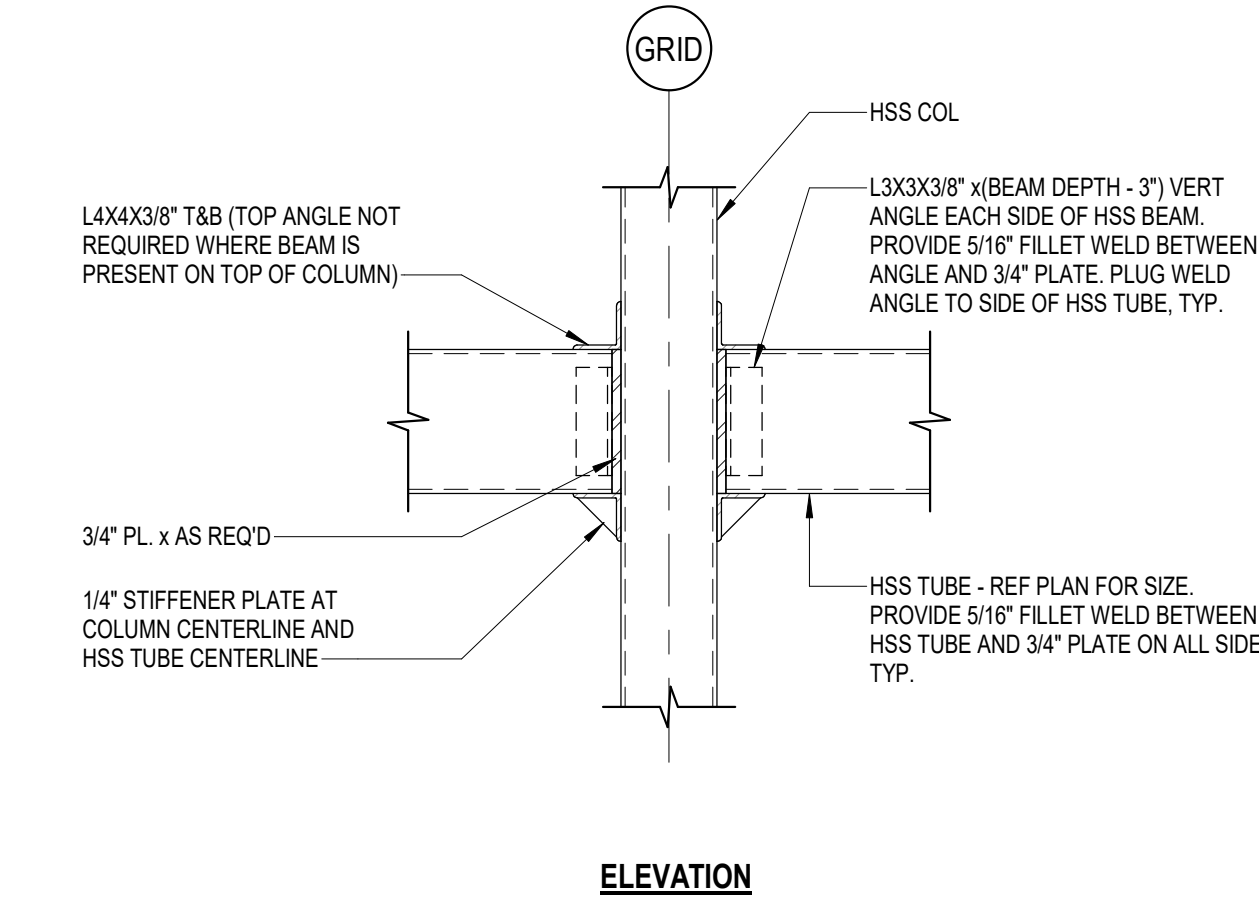
GENERAL INFO.:

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 SHALL BE AUTOMATICALLY END WELDED WITHIN 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 SPICED COLUMNS ARE REQUIRED, THE STEEL COLUMNS MUST BE SPICED AT A MINIMUM OF 4'-0" ABOVE THE FINISH FLOOR. COLUMNS SHALL BE SPICED 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", C7x8.8, 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 MINIMUM HOST 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.

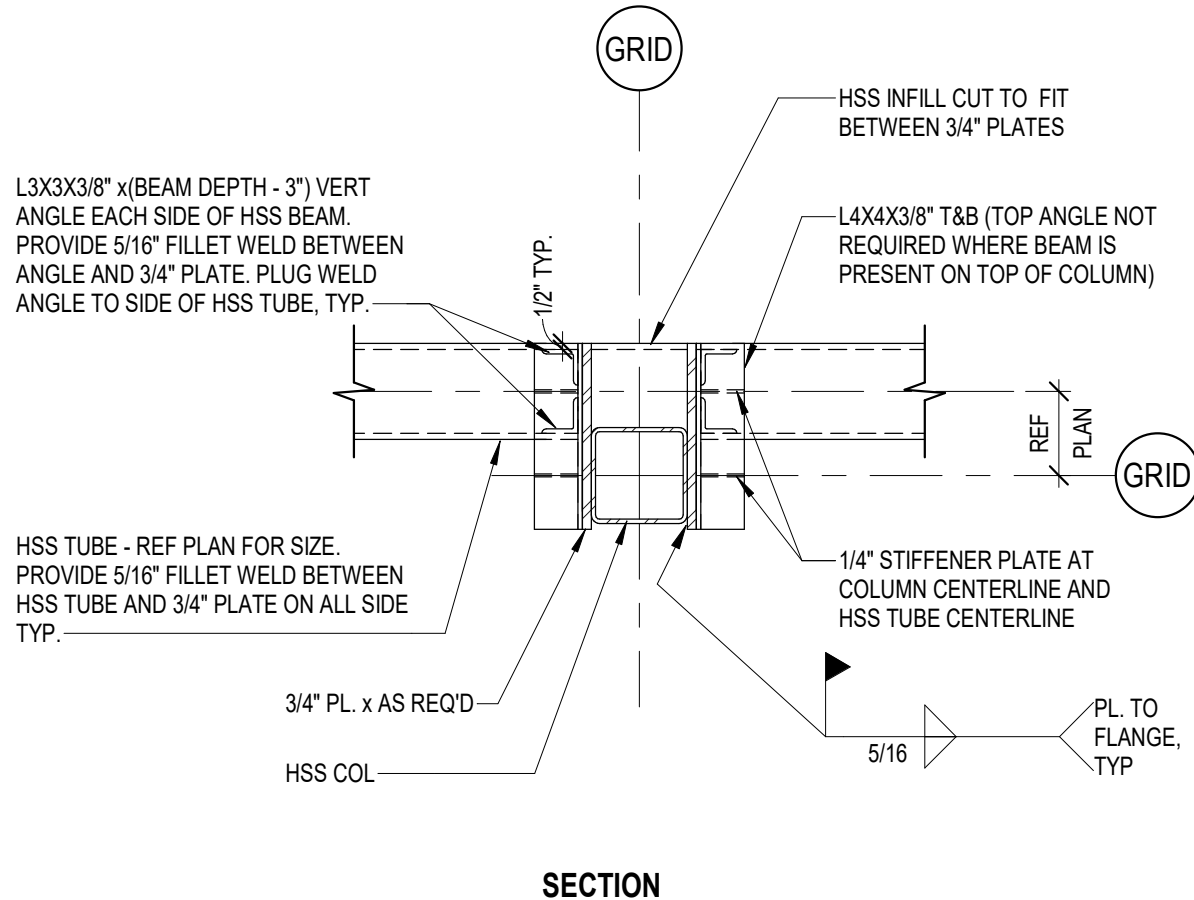
IMPORTANT NOTE TO PROPOSERS:

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" DIAMETER X 18" LONG
 - E. EPOXY ANCHORS: 1/2" DIAMETER AT 45" OC MAX SPACING
 - F. WIDE FLANGE BEAMS: W24X55
 - G. WIDE FLANGE COLUMNS: W12X79
 - H. HSS COLUMNS AND BEAMS: HSS8X8X3/8THE 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.

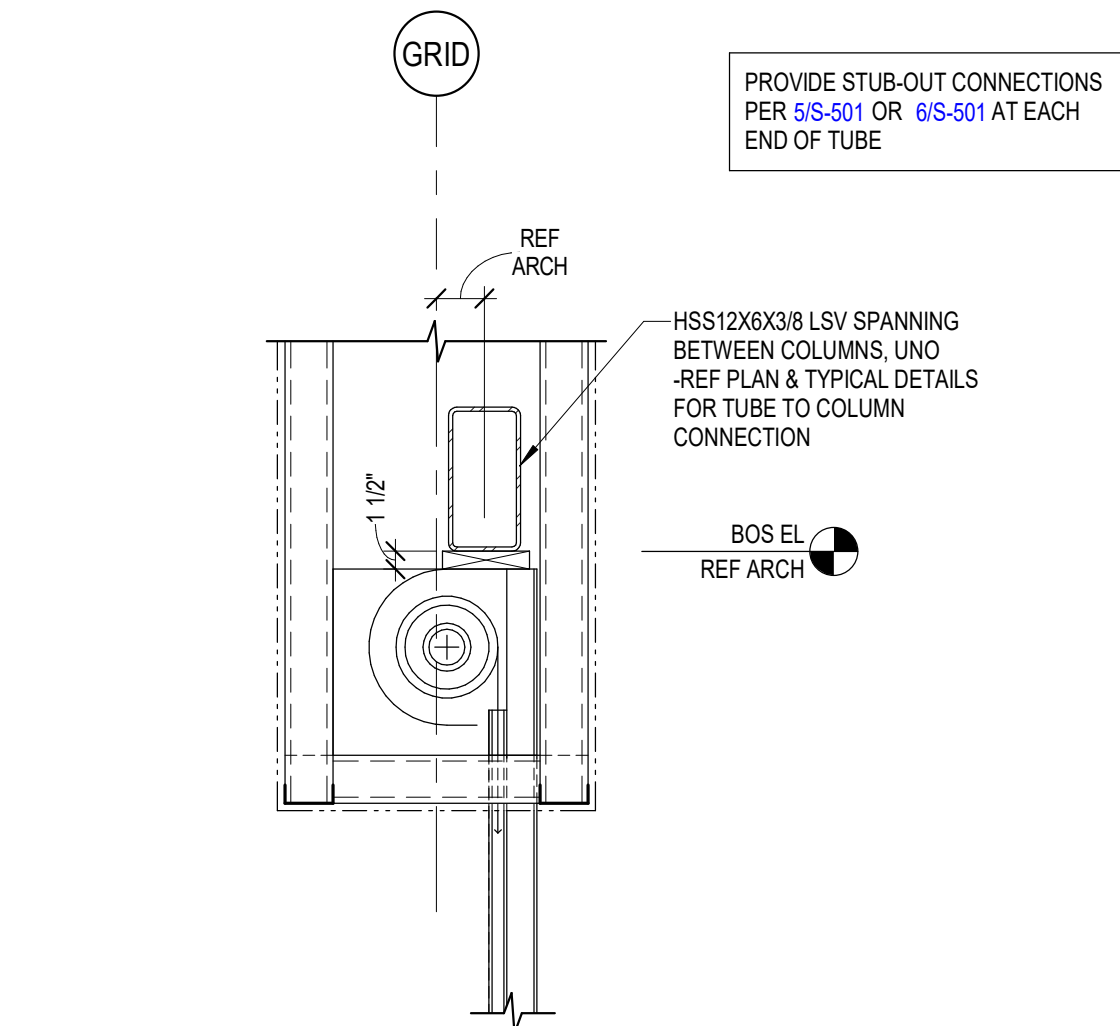
1 TYPICAL HANGER DETAIL
NO SCALE



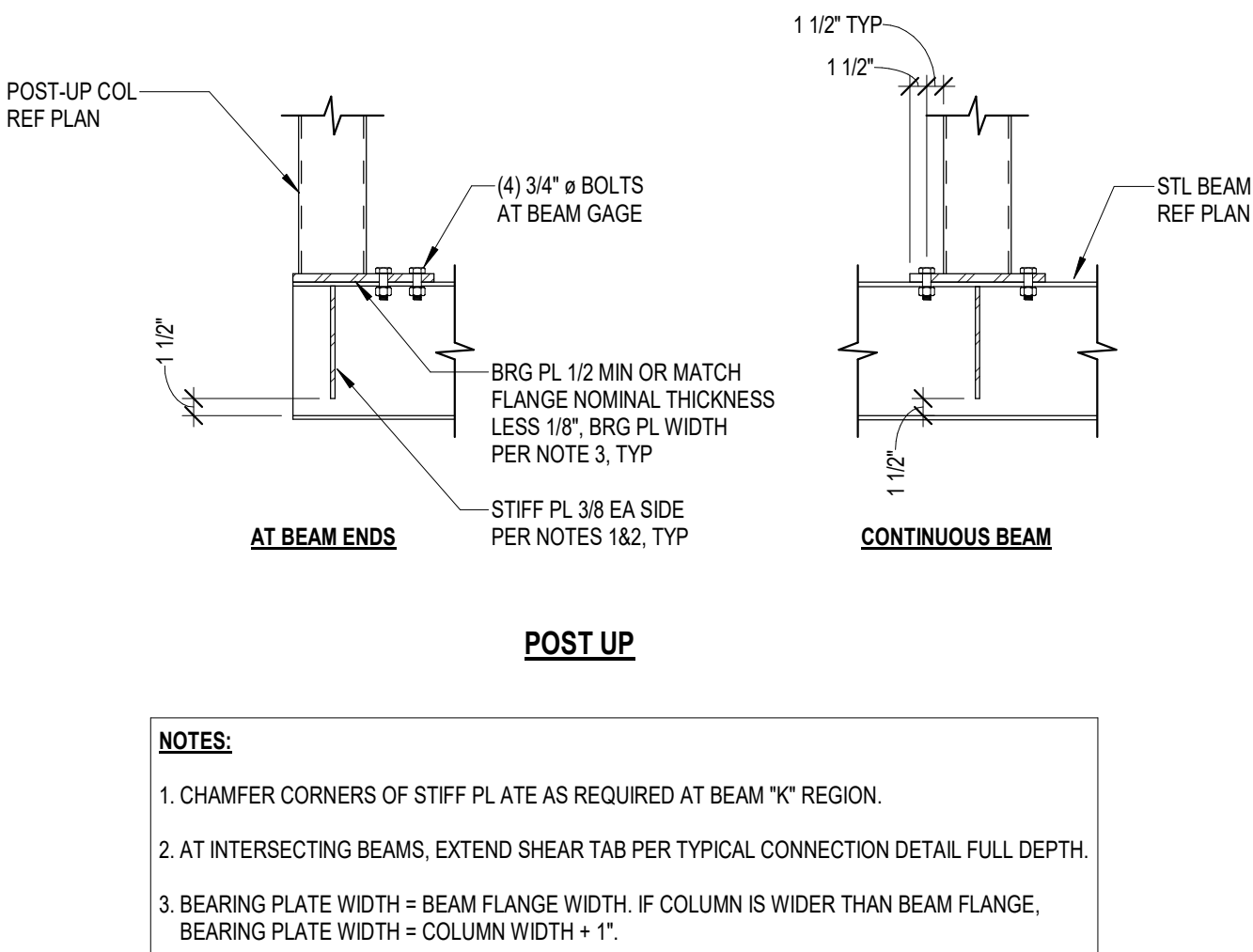
2 TYPICAL OUTRIGGER DETAIL
NO SCALE



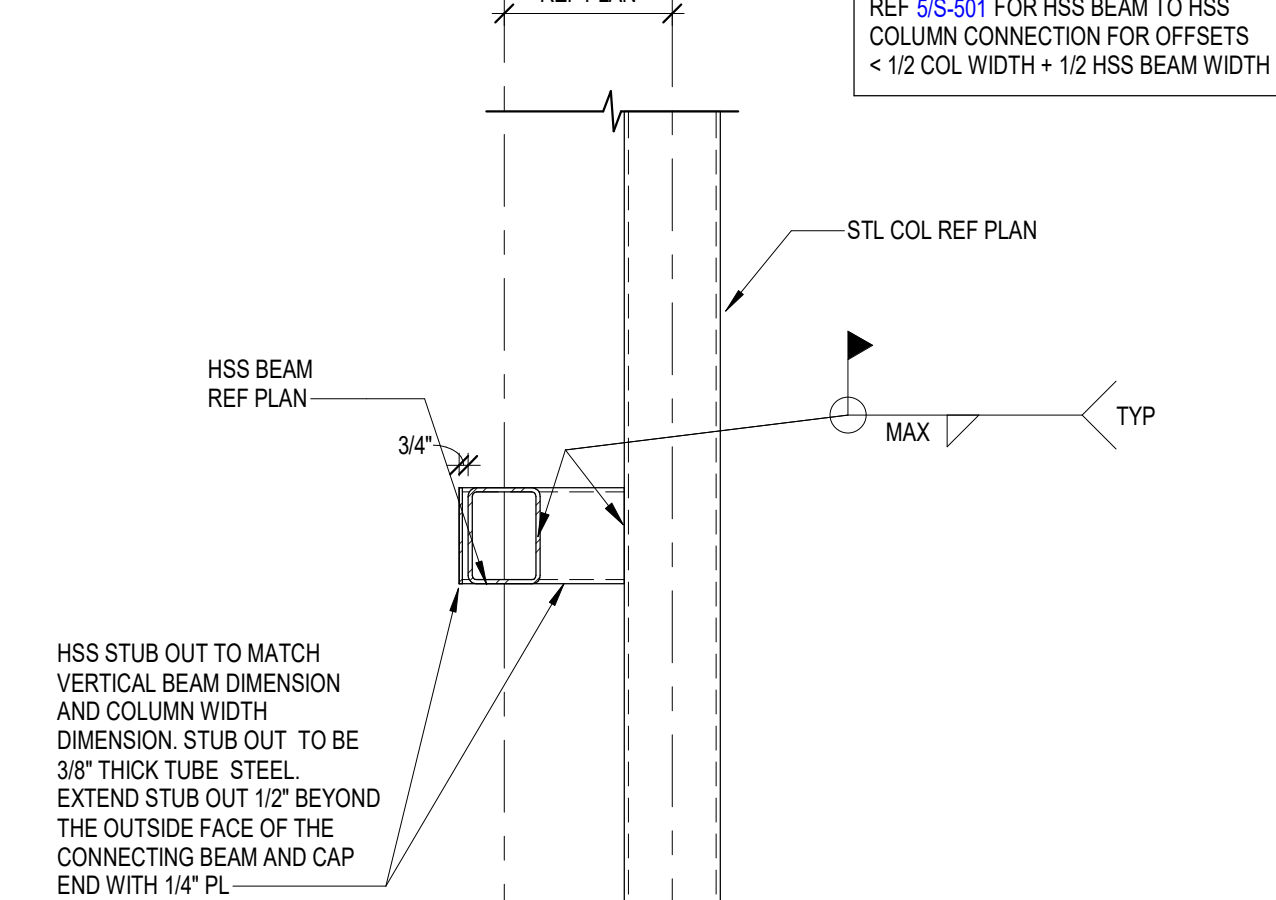
5 TYPICAL HSS BEAM TO HSS COLUMN CONNECTION FOR OFFSETS < 1/2 COL WIDTH + 1/2 HSS BEAM WIDTH
NO SCALE



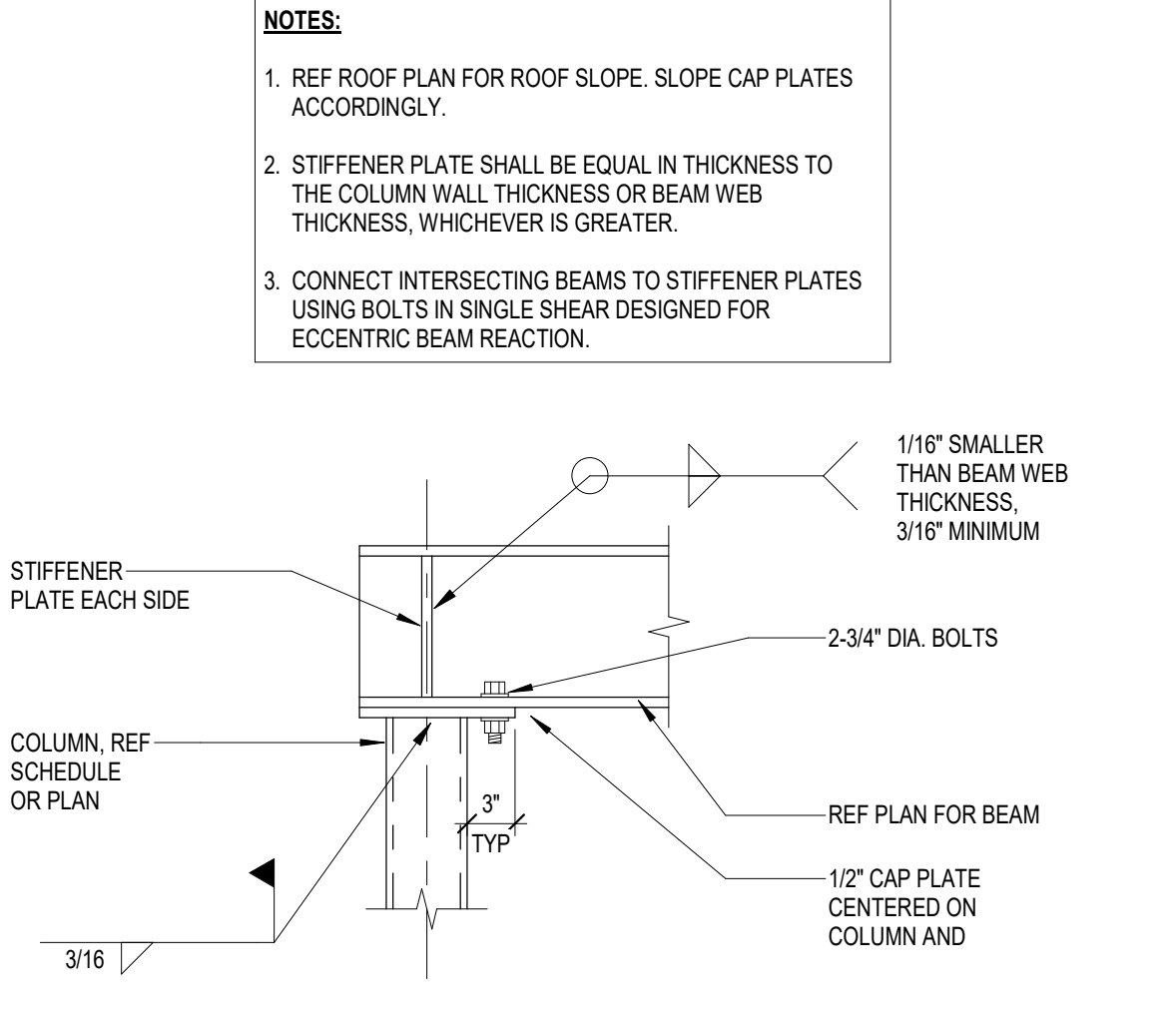
8 OVERHEAD COILING DOOR SUPPORT
3/4" = 1'-0"



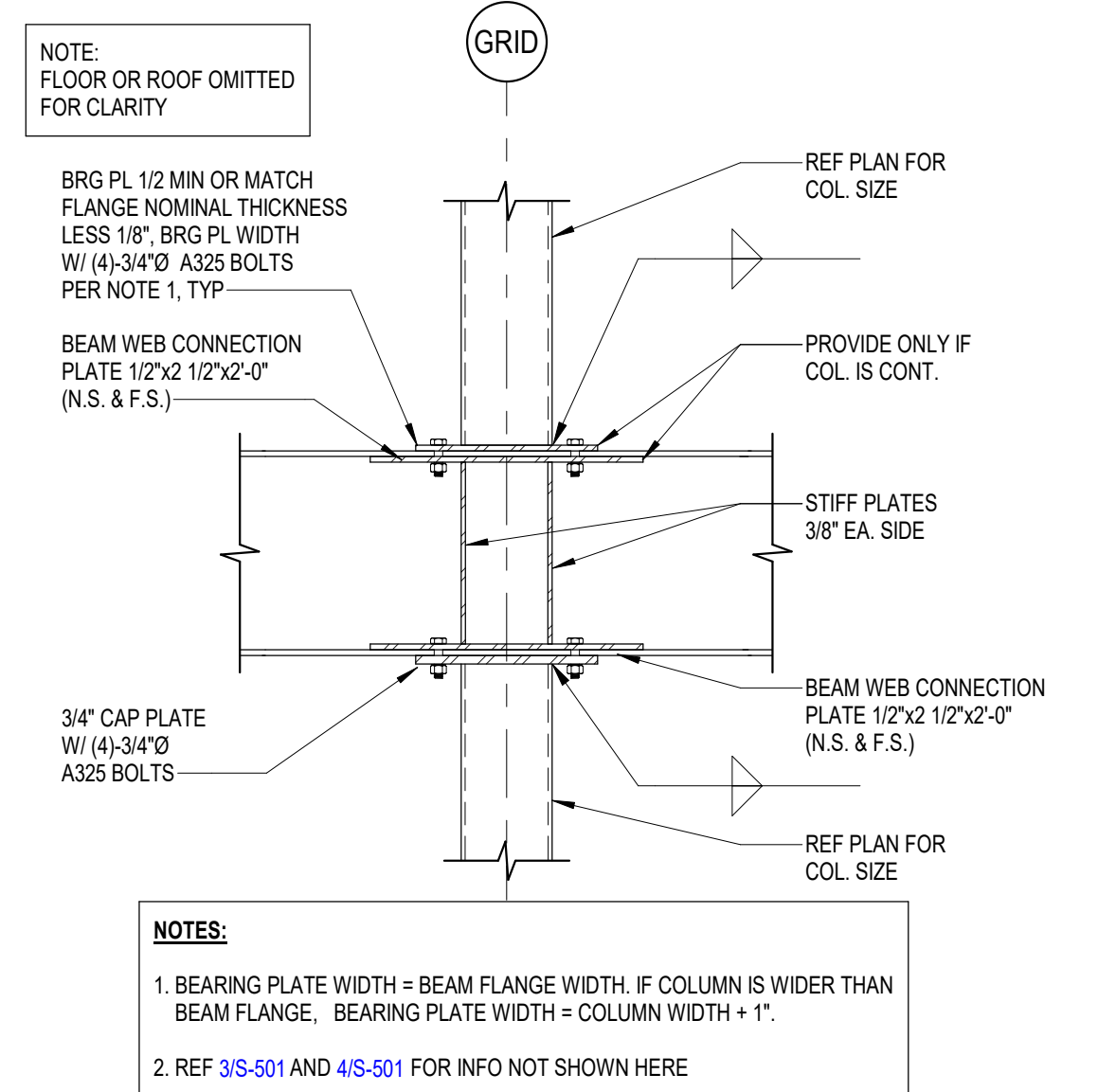
3 TYPICAL POST-UP DETAIL
NO SCALE



6 TYPICAL HSS BEAM TO HSS COLUMN CONNECTION FOR OFFSETS > 1/2 COL WIDTH + 1/2 HSS BEAM WIDTH
3/4" = 1'-0"



4 TYPICAL CAP PLATE - BOLTED CONNECTION DETAIL
NO SCALE



7 TYPICAL OFFSET HSS BEAM TO HSS COLUMN CONNECTION
3/4" = 1'-0"

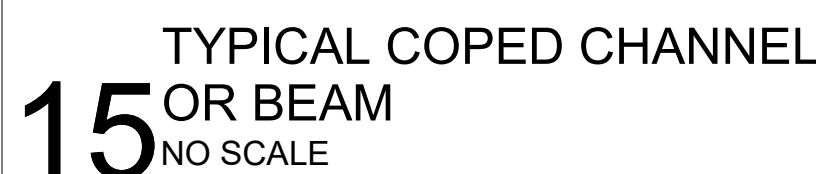
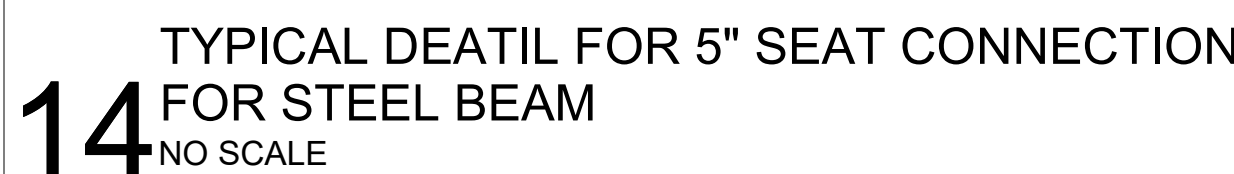
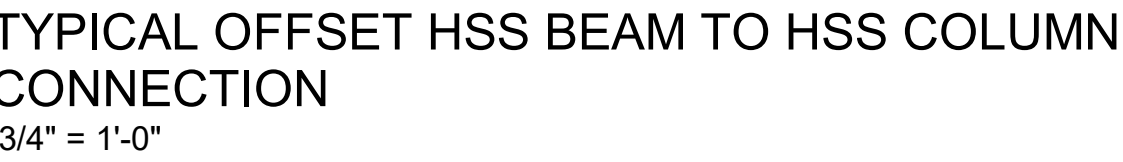
PBK
ARCHITECT PBK Architects, Inc.
HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0688 P
713-961-4571 F
TX Firm BR 1608
DESIGNER
1713-960-3258
LANDSCAPE
1713-960-3258
STRUCTURAL
KUBALA ENGINEERS
1713-960-3258
REF
LEARNER
1713-960-3258
FOOD SERVICE
DESIGN PROFESSIONALS
817-350-2231
NEW JUERGEN ROAD ELEMENTARY SCHOOL
JUERGEN ROAD
TOMBALL, TX
ISSUE FOR PROPOSAL

TOMBALL
INDEPENDENT SCHOOL DISTRICT

DISCIPLINE
STATE OF TEXAS
JOHN R. KUBALA
106120
02/27/2023
Kubala Engineers
F-23612

CLIENT
TOMBALL ISD
DATE
02/27/2023
PROJECT NUMBER
220137
DRAWING HISTORY
No. Description Date
ISSUE FOR PROPOSAL
BUILDING NUMBER

GENERAL STEEL
NOTES AND TYP
DETAILS





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:

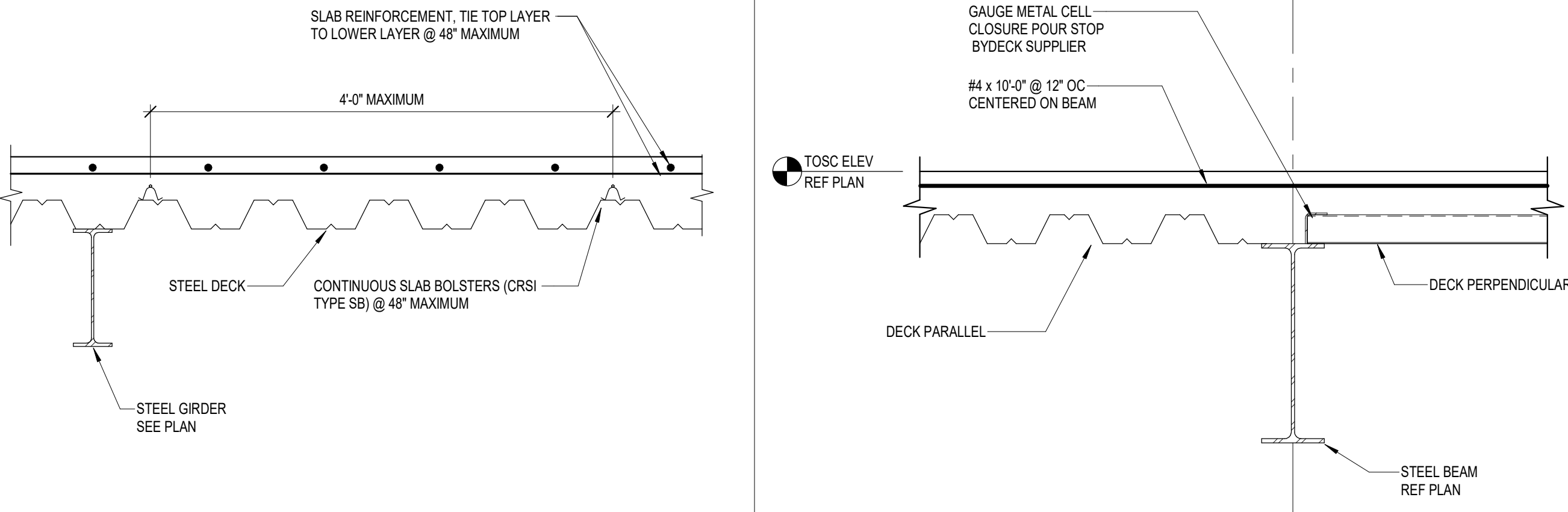
METAL DECK SCHEDULE											METAL DECK CONNECTION SCHEDULE		
DECK DESIGNATION ON PLAN	DECK DESIGNATION	DECK GAUGE	SDI DECK TYPE	DECK DEPTH (IN)	Id+ (IN4)	Id- (IN4)	Se+ (IN3)	Se- (IN3)	Fy (KSI)	ATTACHMENT PATTERN (WIN)	SUPPORT FASTENERS	SIDELAP FASTENERS	
TYPE 1	3.0 VLI	20	COMPOSITE	3.0	0.919	0.921	0.512	0.539	50	364	3/4" PUDDLE WELD	1 1/2" TOP SEAM WELD AT 12" OC	
TYPE 2	2.0 VLI	20	COMPOSITE	2.0	0.409	0.407	0.326	0.337	50	364	3/4" PUDDLE WELD	1 1/2" TOP SEAM WELD AT 12" OC	

Id: POSITIVE MOMENT OF INERTIA
Id: NEGATIVE MOMENT OF INERTIA
Se: POSITIVE SECTION MODULUS
Se: NEGATIVE SECTION MODULUS
Fy: YIELD STRENGTH
WIN: 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:

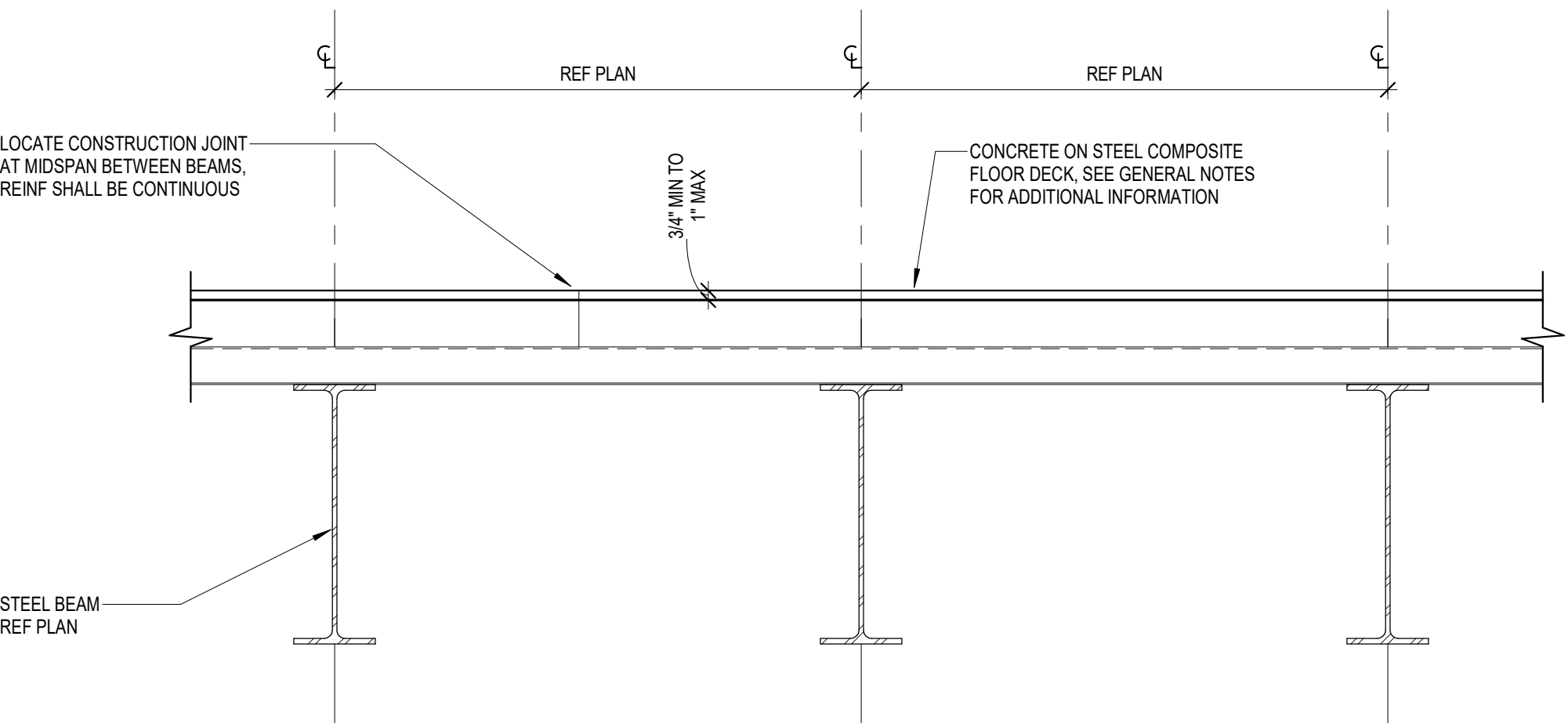
DECK THICKNESS	TOTAL SLAB THICKNESS	SHEAR STUDS
3"	5.5"	3/4" DIA. X 5"
3"	6.5"	3/4" DIA. X 5"
3"	7.5"	3/4" DIA. X 5"
2"	5.5"	3/4" DIA. X 5"
2"	6.5"	3/4" DIA. X 5"

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 PARS 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 5/16" LONG SHALL BE WITHIN A TOLERANCE OF -1/16" TO +1/16" FROM AMOUNT SPECIFIED. FOR MEMBERS GREATER THAN 5/16" LONG, BOTH POSITIVE AND NEGATIVE TOLERANCE MAY INCREASE 1/16" 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 8'-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 DIFFERENTIAL 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 A624.

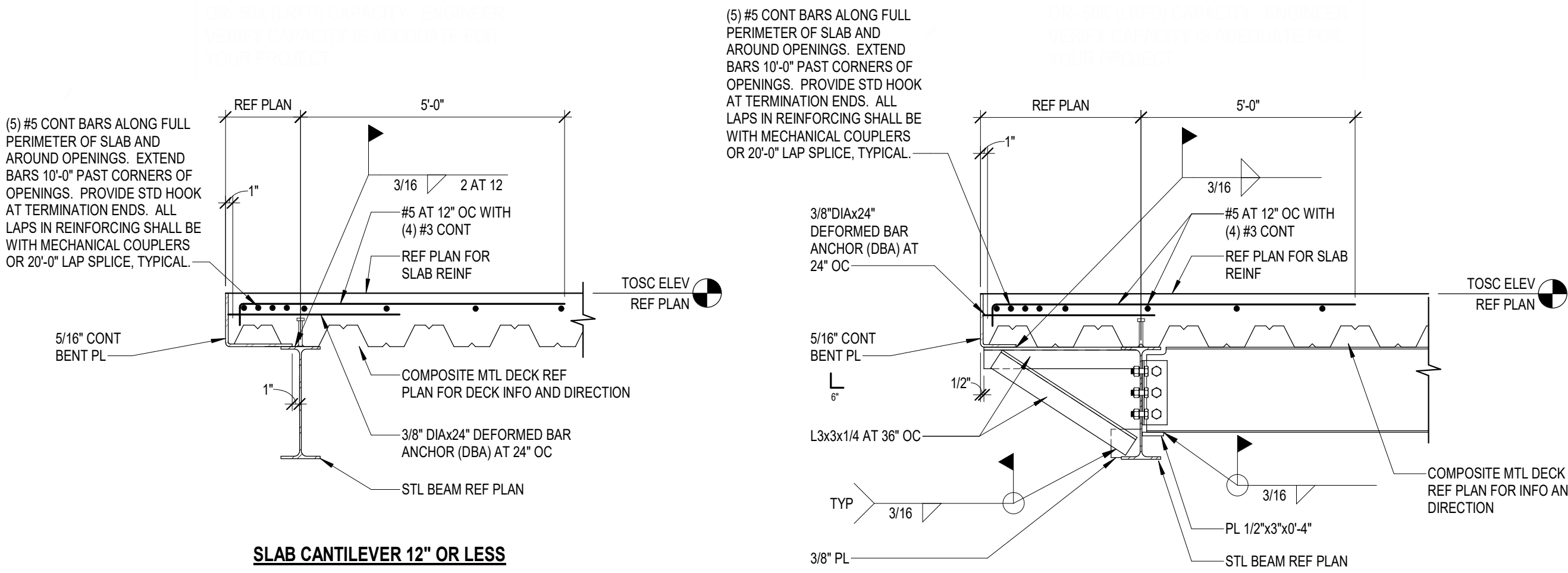


3 TYPICAL DETAIL REINF PLACEMENT FOR COMPOSITE SLABS NO SCALE

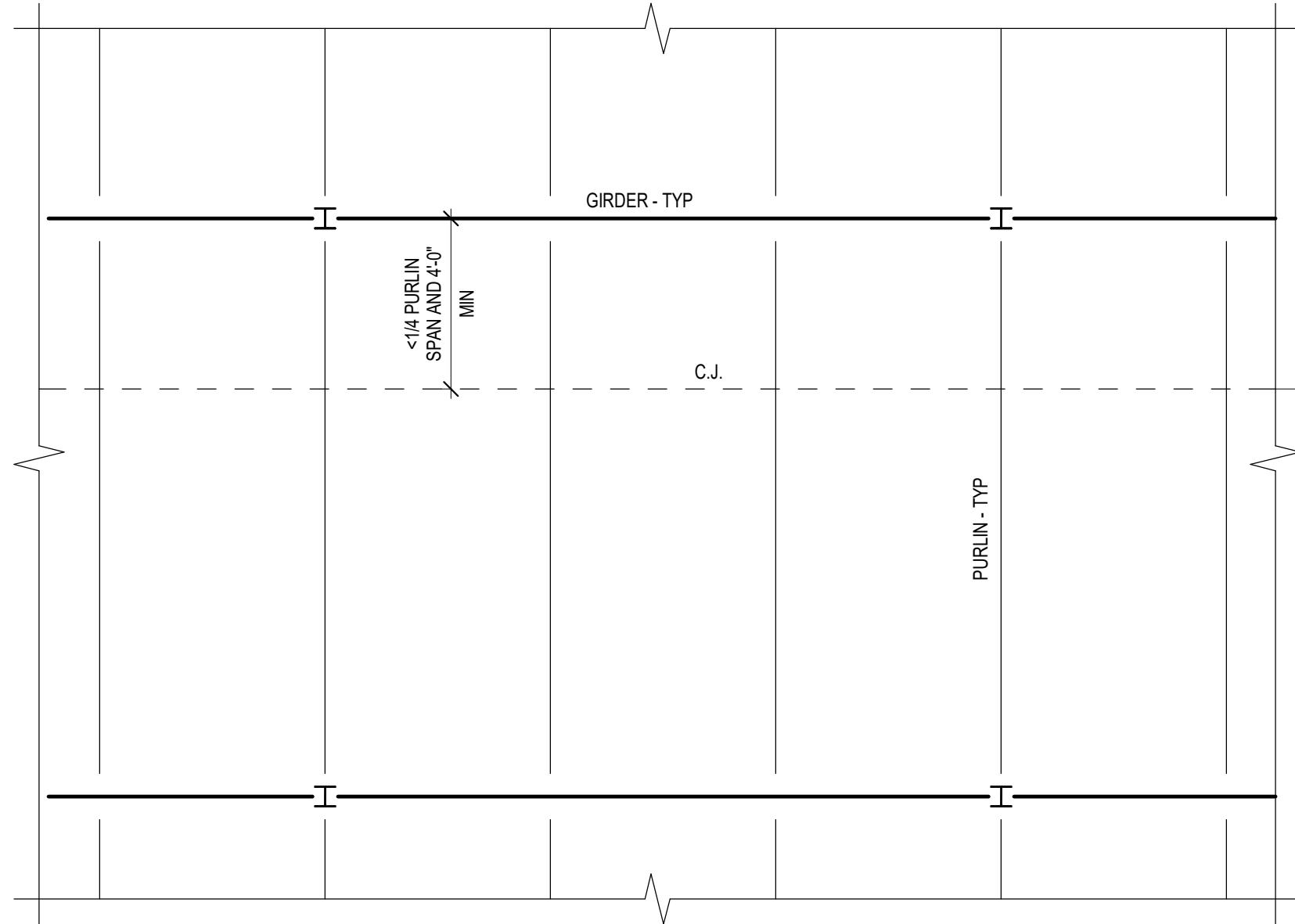
4 TYPICAL DECKING DIRECTION CHANGE NO SCALE



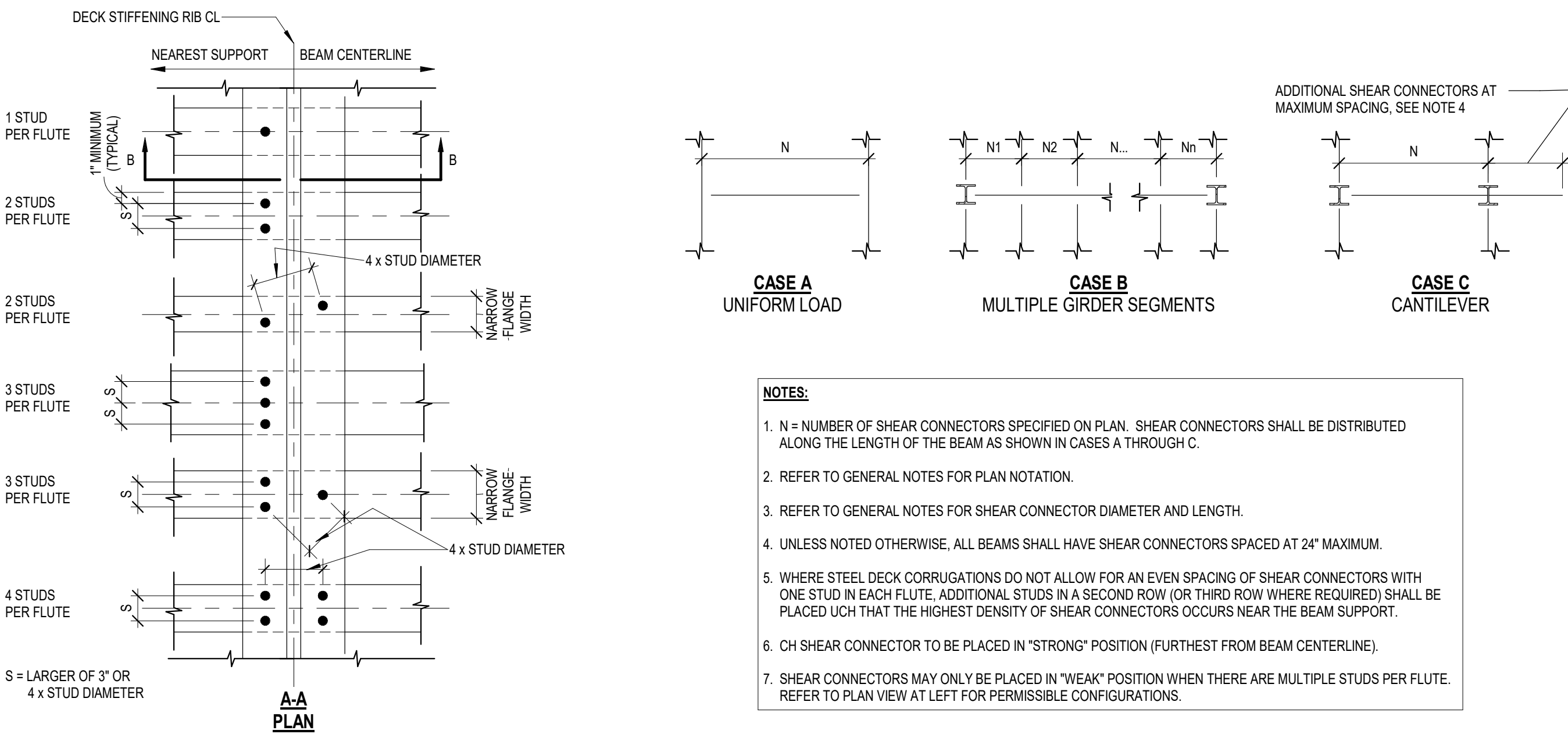
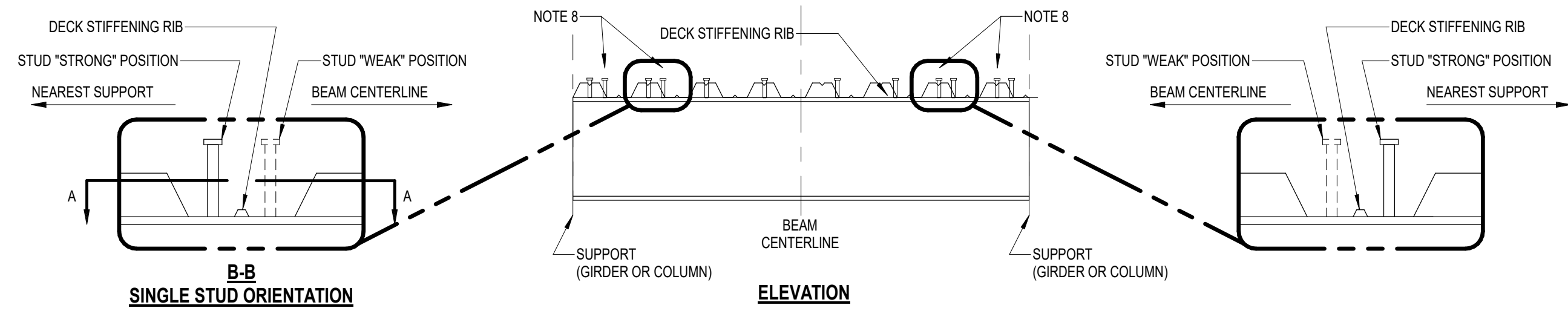
6 TYPICAL COMPOSITE SLAB REINFORCEMENT NO SCALE



1 TYPICAL COMPOSITE SLAB EDGE DETAIL NO SCALE



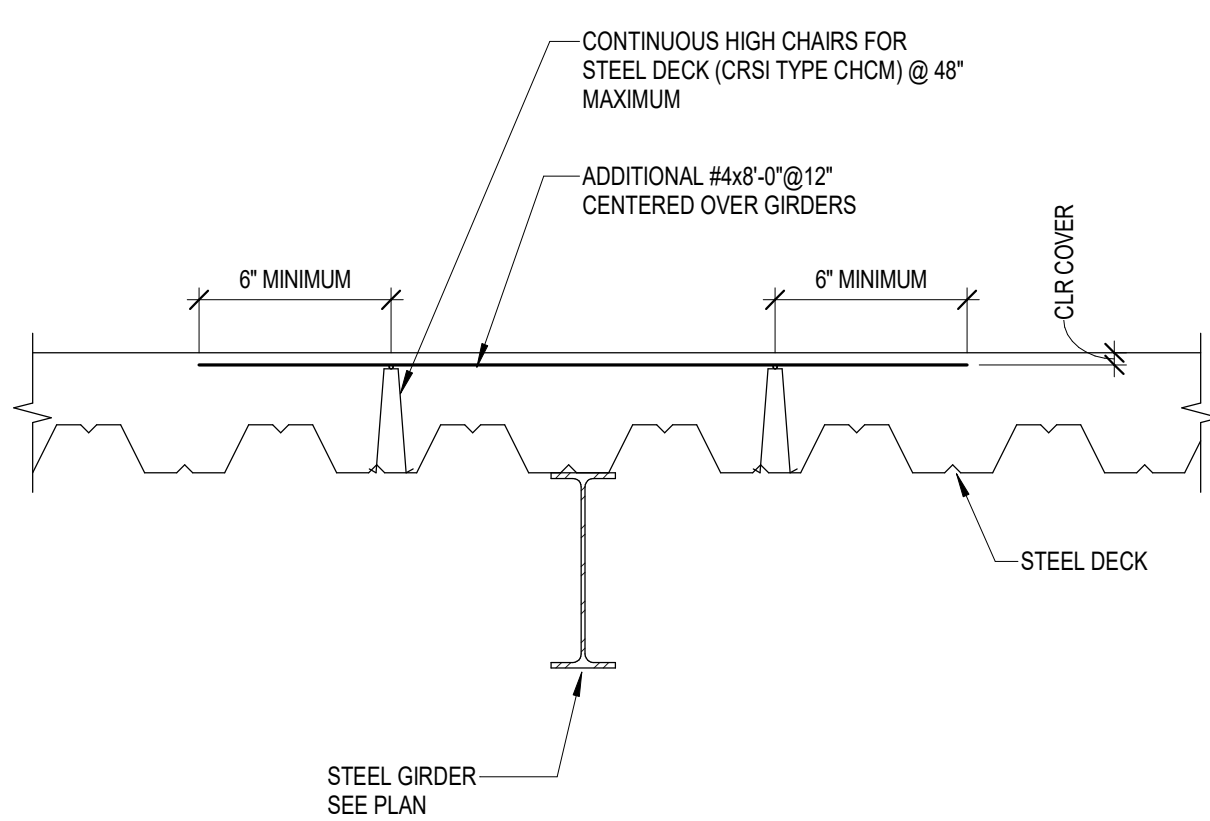
5 TYPICAL DETAIL FOR COMPOSITE SLAB CONSTRUCTION JOINTS NO SCALE



- 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.

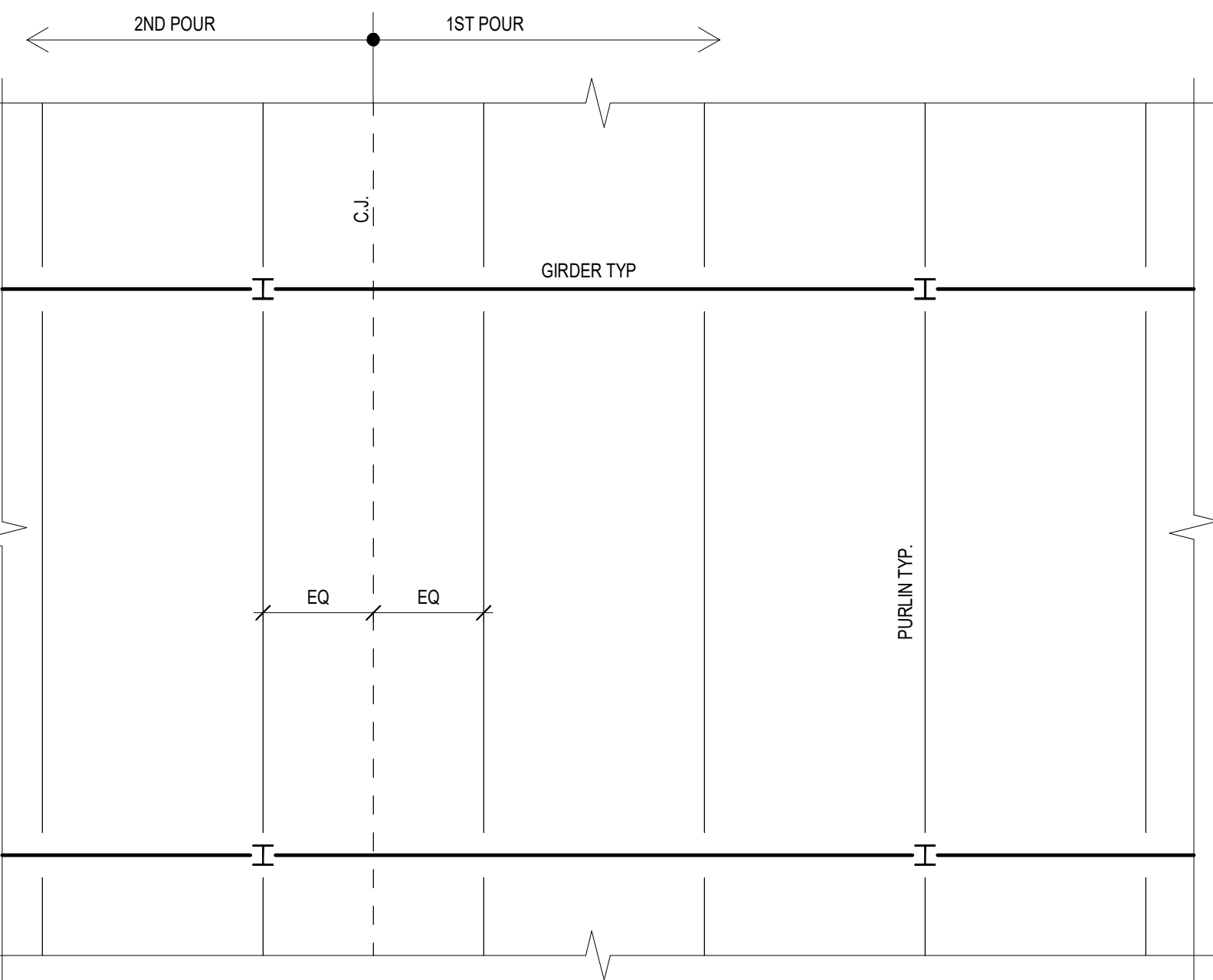
SHEAR CONNECTORS HAVE HIGHEST CAPACITIES WHEN PLACED AS SHOWN. IF STUDS ARE NOT PLACED PER THIS DETAIL, 25% MORE STUDS MUST BE INSTALLED. EQUALLY SPACE ADDITIONAL STUDS ALONG THE BEAM.

7 TYPICAL SHEAR CONNECTOR PLACEMENT DIAGRAM - IN STUDS "STRONG" POSITION NO SCALE



- 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



CONSTRUCTION JOINT - PARALLEL TO PURLINS

CONSTRUCTION JOINT - PARALLEL TO GIRDER

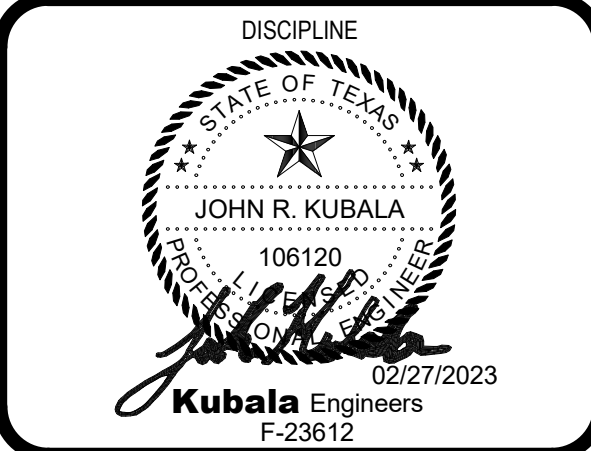


ARCHITECT	PBK Architects, Inc.
HOUSTON	11 Greenway Plaza, 22nd Floor
Houston, TX 77046	713-965-0808 P
	713-961-4571 F
	TX Firm BR 1608
OWNER	NEW JUERGEN ROAD ELEMENTARY SCHOOL
DESIGNER	1111111111
ENGINEER	1111111111
ARCHITECT	1111111111
LEAD ENGINEER	1111111111
DESIGNER	1111111111
FOOD SERVICE	1111111111
FOODSERVICE DESIGN PROFESSIONALS	1111111111

NEW JUERGEN ROAD ELEMENTARY SCHOOL

JUERGEN ROAD
TOMBALL, TX

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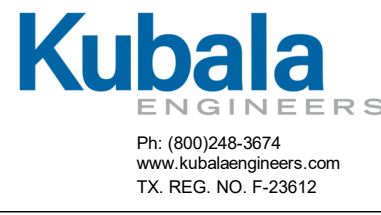
CLIENT TOMBALL ISD		
DATE 02/27/2023		PROJECT NUMBER 220137
DRAWING HISTORY		
No.	Description	Date

ISSUE FOR PROPOSAL

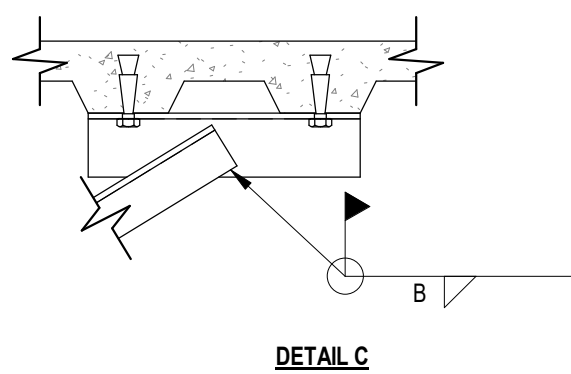
BUILDING NUMBER

GENERAL COMPOSITE STEEL NOTES AND TYP DETAILS

S-504



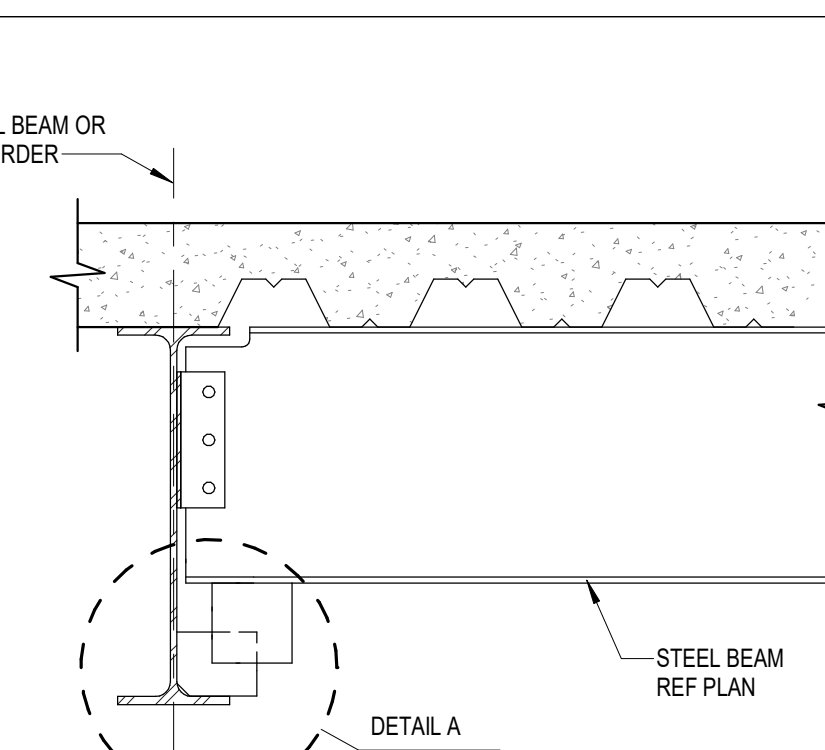
PH: (800) 248-3674
WWW.KUBALAEENGINEERS.COM
TX REG. NO. F-23612



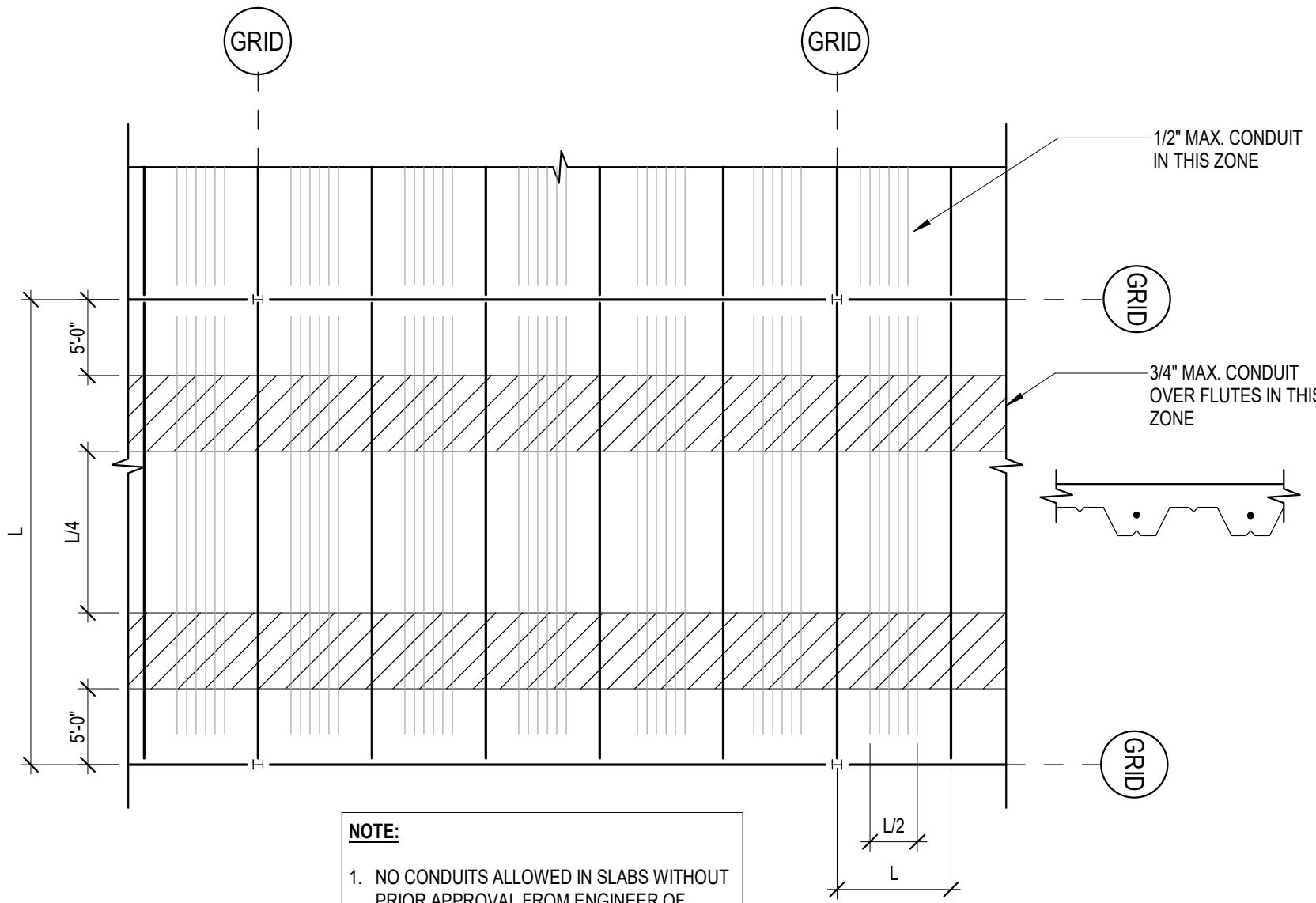
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CONNECTION SCHEDULE			
BRACE SIZE	PLATES A & B	WELDS A & B	CONNECTION ANGLE
L2x2x1/4	4x4x1/4	3/16	L3x3x1/4
L3x3x1/4	4x4x1/4	3/16	L4x4x1/4
L4x4x1/4	5x5x1/4	3/16	N/A
L5x5x1/6	6x6x3/8	1/4	N/A

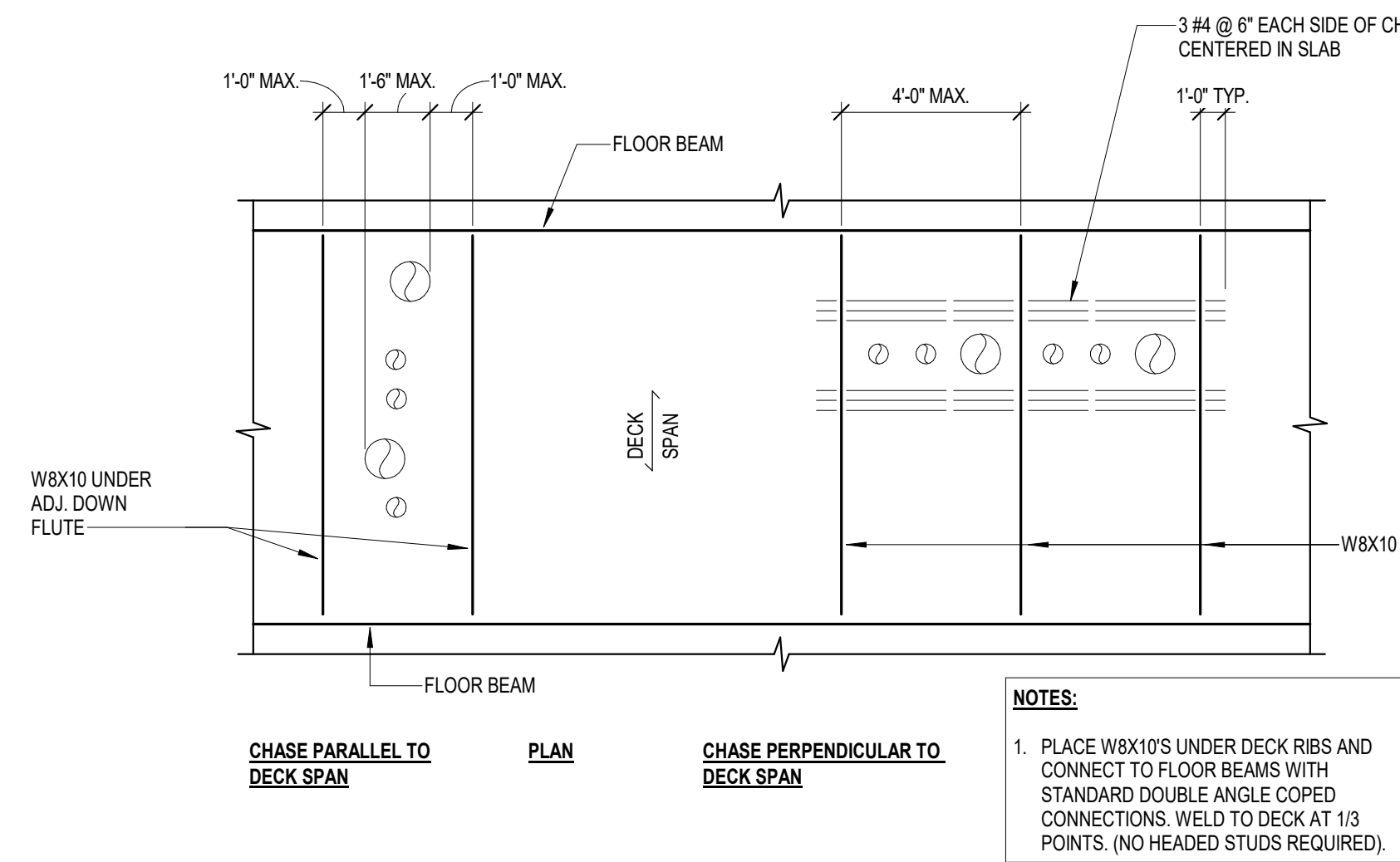
- NOTES:**
1. REFER TO PLAN FOR LOCATIONS OF ANGLE BRACES.
 2. IF NOT SHOWN ON PLAN OR DETAILS, BRACE SIZE SHALL BE L3x3x1/4.
 3. FIELD WELDING OF CONNECTION PLATES SHALL BE AT FABRICATOR'S OPTION.



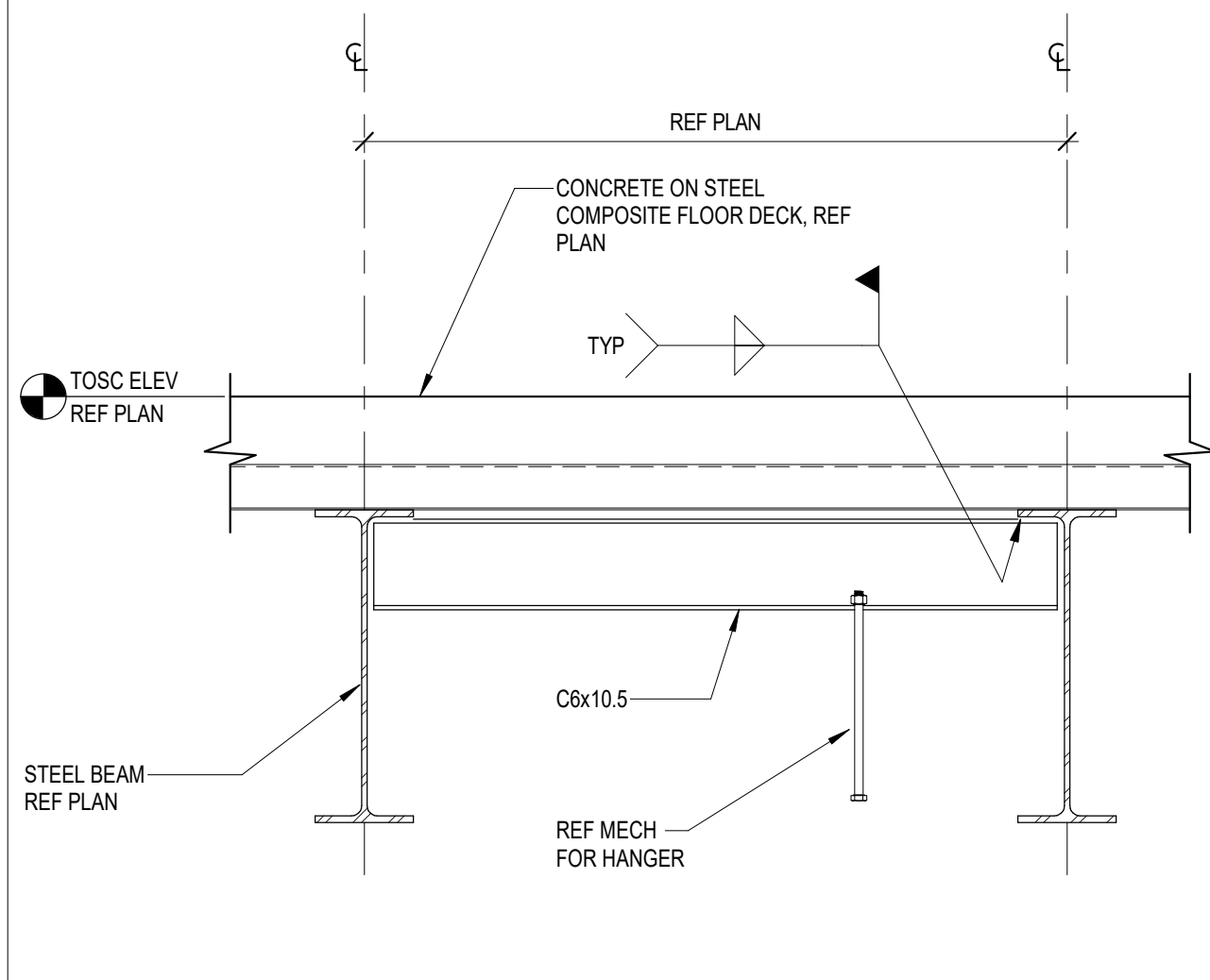
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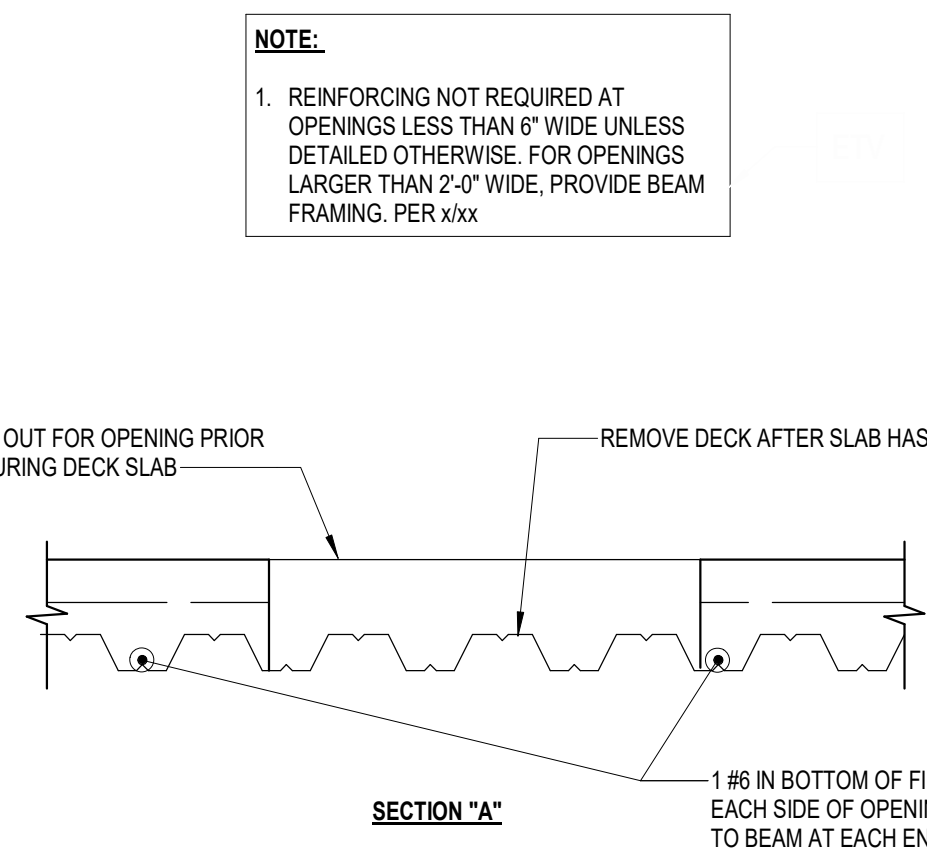
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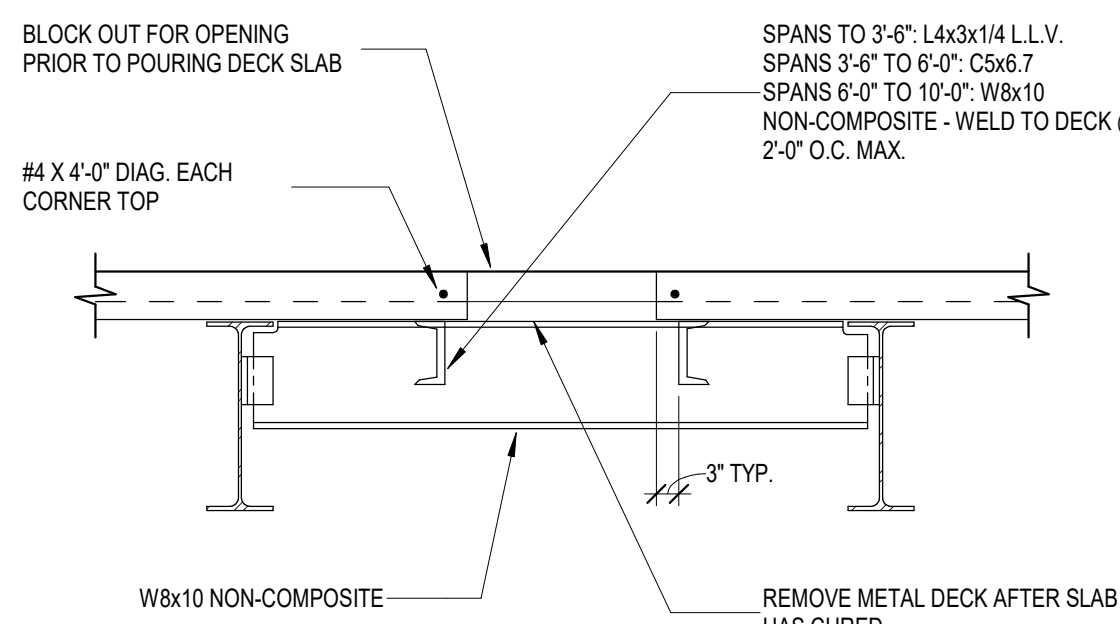
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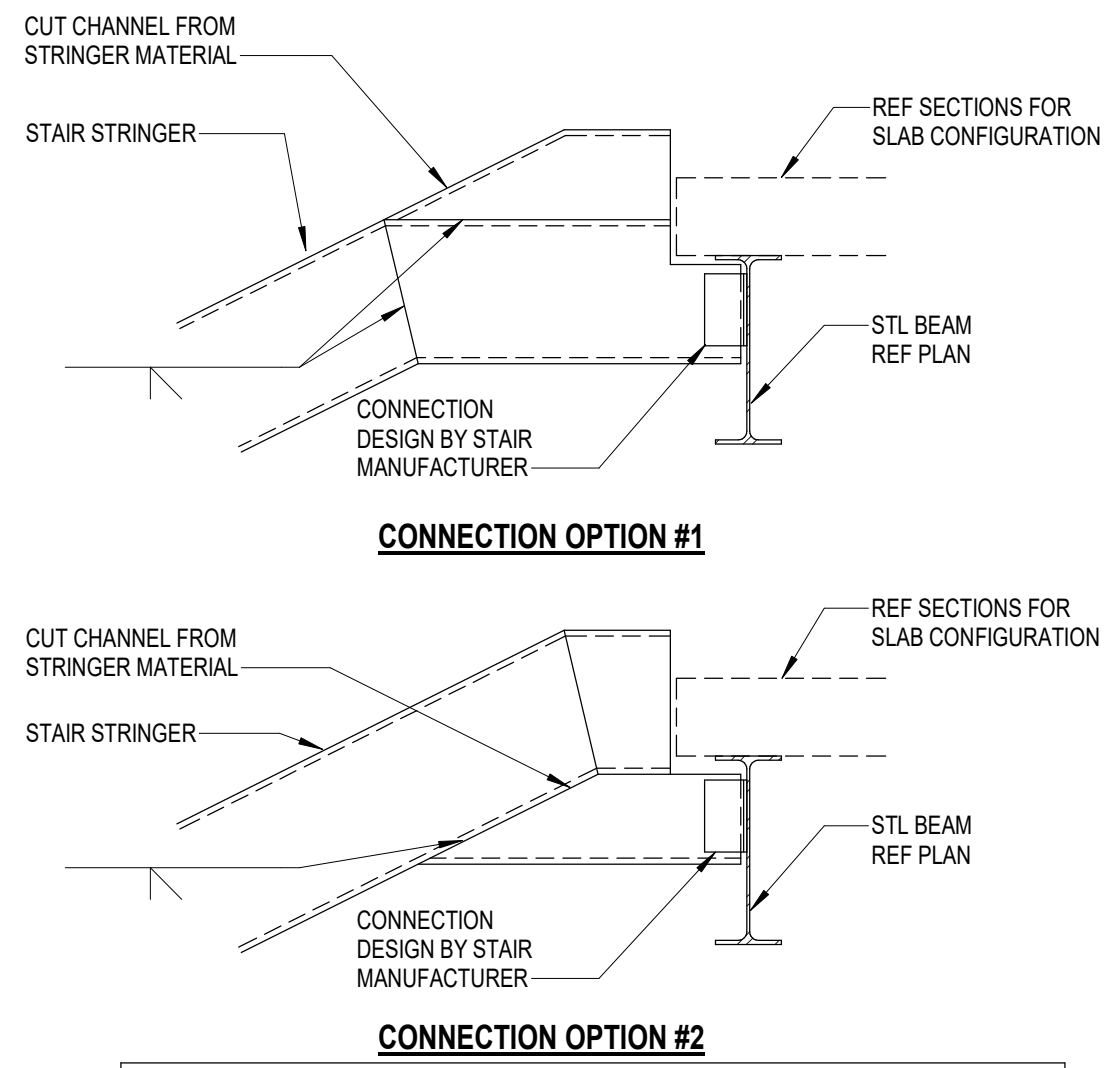
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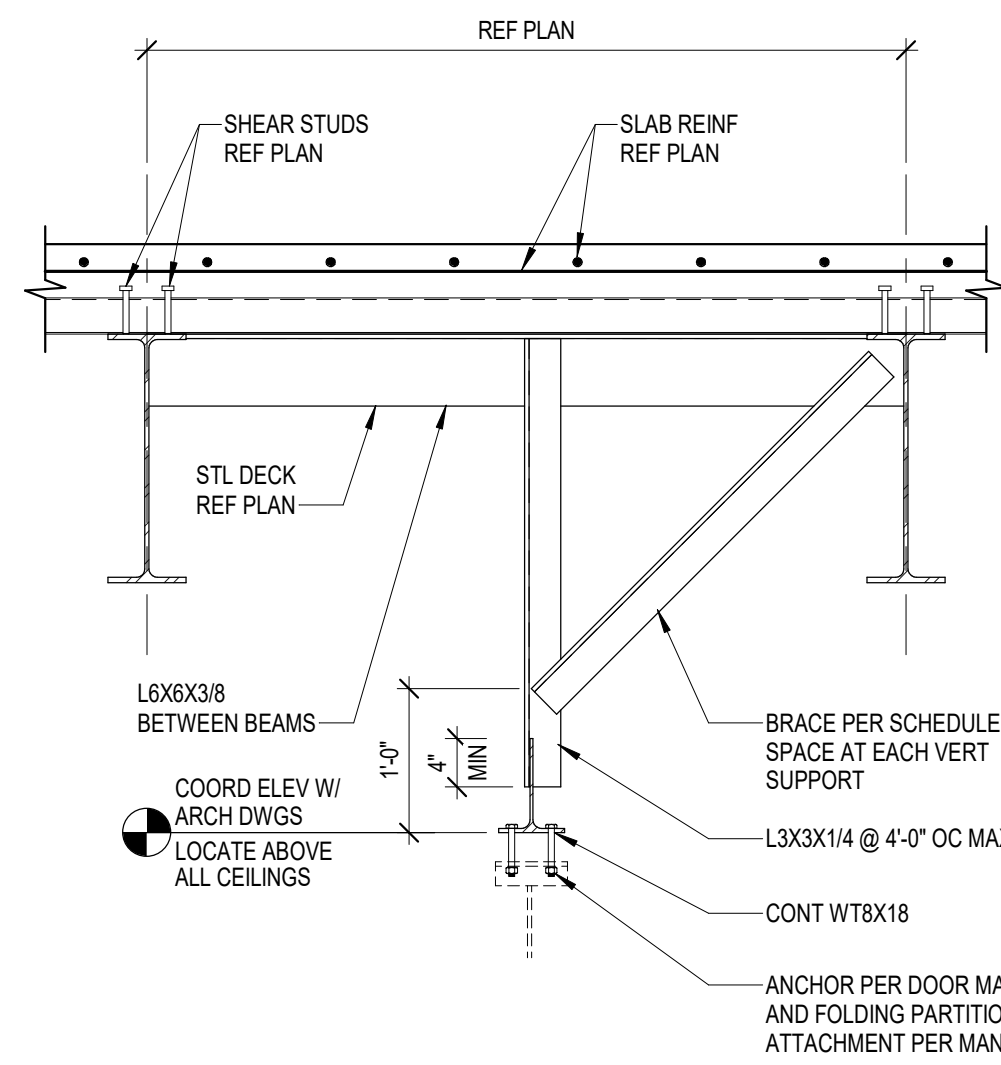
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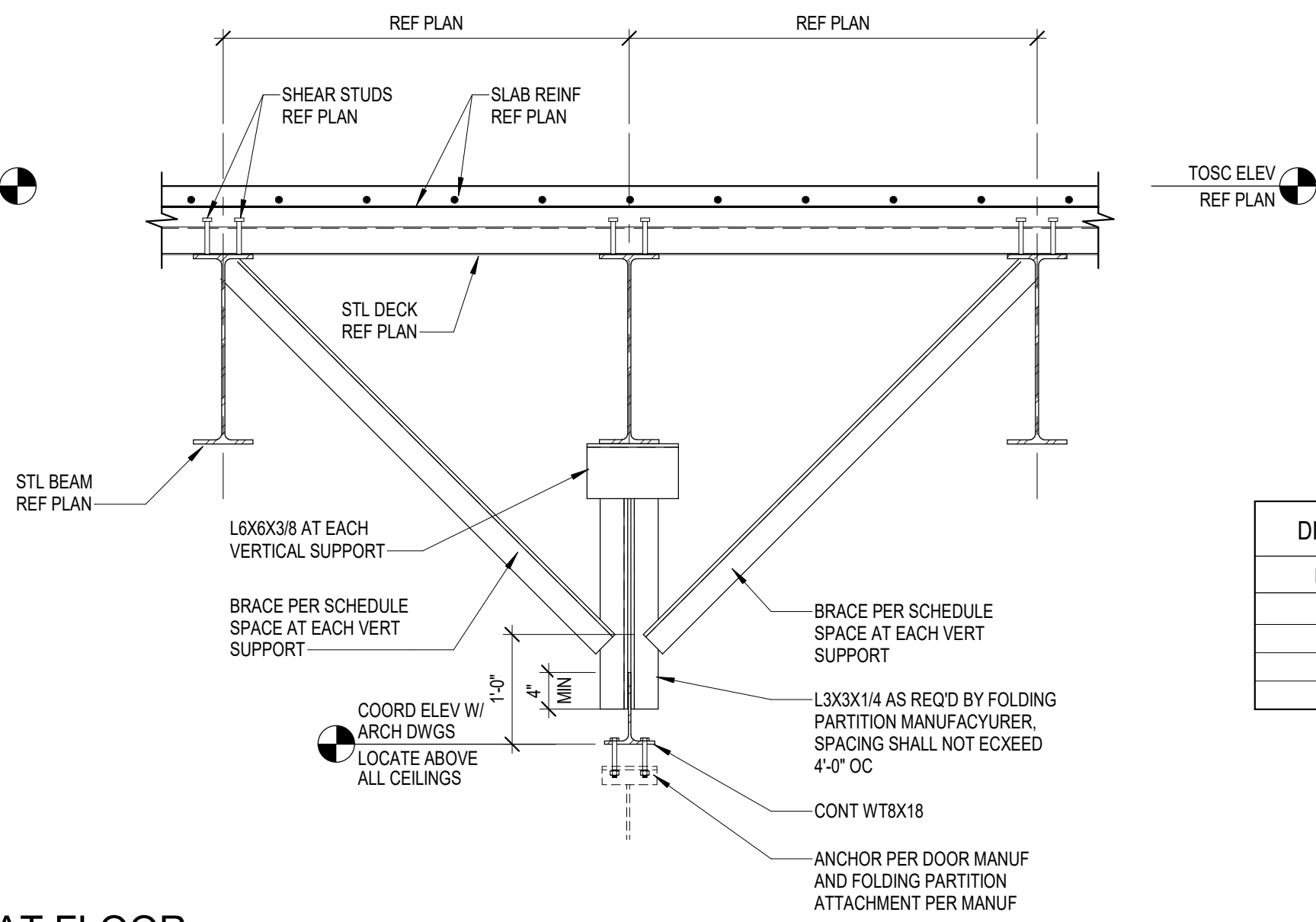
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9

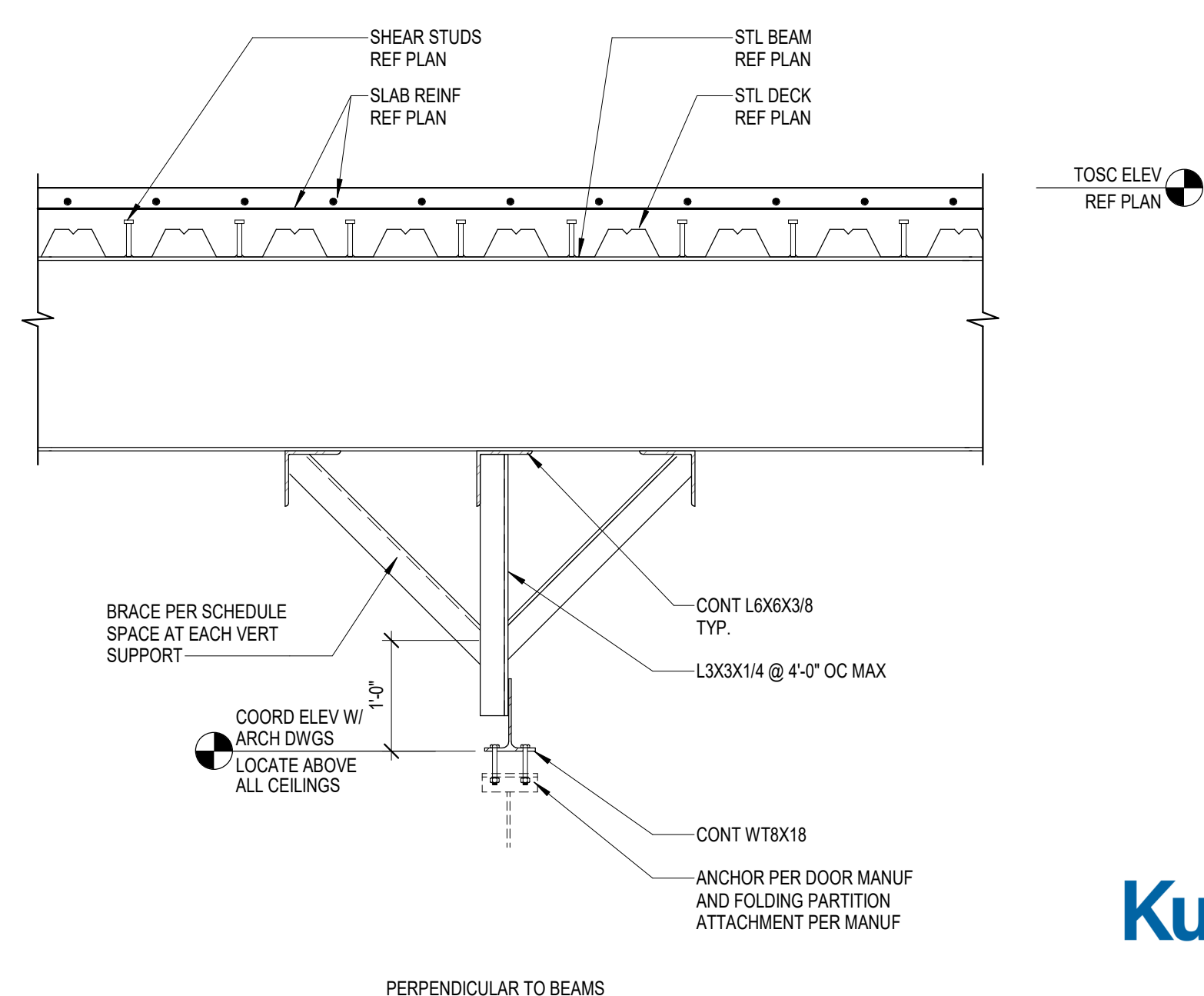


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1

DIAGONAL BRACE SCHEDULE	
LENGTH	BRACE SIZE
< 10'-0"	L3x3x1/4



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 8 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 ORDERS 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:

7.1. ALL K SERIES:
7.2. LH SERIES WITH JOIST SECTION NUMBER LESS THAN 18:
7.3. ALL DLH SERIES JOIST AND LH SERIES JOIST WITH SECTION NUMBER GREATER THAN 18:
7.4. WHERE JOISTS WITH DIFFERENT SEAT TOPS 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.

2 1/2" DEEP
5" DEEP
7 1/2" DEEP
8. 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 30 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.
9. JOISTS SHALL BE DESIGNED TO RESIST THE NET UPLIFTS TABULATED IN THE "DESIGN LOADS" GENERAL NOTES. PROVIDE EXTRA BRIDGING, WHERE REQUIRED, TO BRACE THE BOTTOM CHORD IN COMPRESSION.
10. 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.
11. 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 ENDS LAPS ALWAYS OCCUR OVER JOISTS. JOISTS ON COLUMN LINES MUST STILL BRACE COLUMNS WITH EXTENDED BOTTOM CHORDS.
12. JOIST MANUFACTURER SHALL DESIGN JOIST TOP CHORD EXTENSIONS FOR A UNIFORM TOTAL LOAD OF 300 PLF, OF WHICH 180 IS LIVE LOAD. LIMIT DEFLECTION OF JOIST TOP CHORD EXTENSIONS TO 1/120 FOR TOTAL LOAD AND 1/180 FOR LIVE LOAD, BUT IN NO CASE SHALL THE DIFFERENTIAL DEFLECTION BETWEEN ADJACENT JOISTS EXCEED 3/8" FOR TOTAL LOAD. "L" IS THE CANTILEVER LENGTH OF THE TOP CHORD EXTENSION.
13. 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.
14. 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.
15. 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.
16. 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.
17. 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.
18. ROOF MOUNTED MECHANICAL UNIT LOCATIONS AND DESIGN WEIGHTS ARE SHOWN ON THE ROOF FRAMING PLANS. JOIST MANUFACTURER SHALL DESIGN JOISTS TO SUPPORT THIS ADDITIONAL LOAD. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ACTUAL SIZES, WEIGHTS, OR LOCATIONS DIFFER FROM THOSE 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

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		SIDELAP FASTENERS
DECK DESIGNATION ON PLAN	DECK DESIGNATION	DECK GAUGE	SDI DECK TYPE	DECK DEPTH (IN)	Ip (IN4)	In (IN4)	Sp (IN3)	Sn (IN3)	Fy (KSI)	ATTACHMENT PATTERN (WV)	SUPPORT FASTENERS	SIDELAP FASTENERS
REF DECK PLAN LEGEND	1.0 CSV	22	CONFORM	1.0	0.073	0.073	0.130	0.134	60	334	5/8" PUDDLE WELD	10#10 TEK SCREWS
REF DECK PLAN LEGEND	1.5 WR	22	WIDE RIB	1.5	0.155	0.183	0.186	0.192	33	367	5/8" PUDDLE WELD	7#10 TEK SCREWS
Ip: POSITIVE MOMENT OF INERTIA In: NEGATIVE MOMENT OF INERTIA Sp: POSITIVE SECTION MODULUS Sn: NEGATIVE SECTION MODULUS Fy: YIELD STRENGTH W: IN. SHEET WIDTH / NUMBER OF CONNECTIONS EACH SHEET												

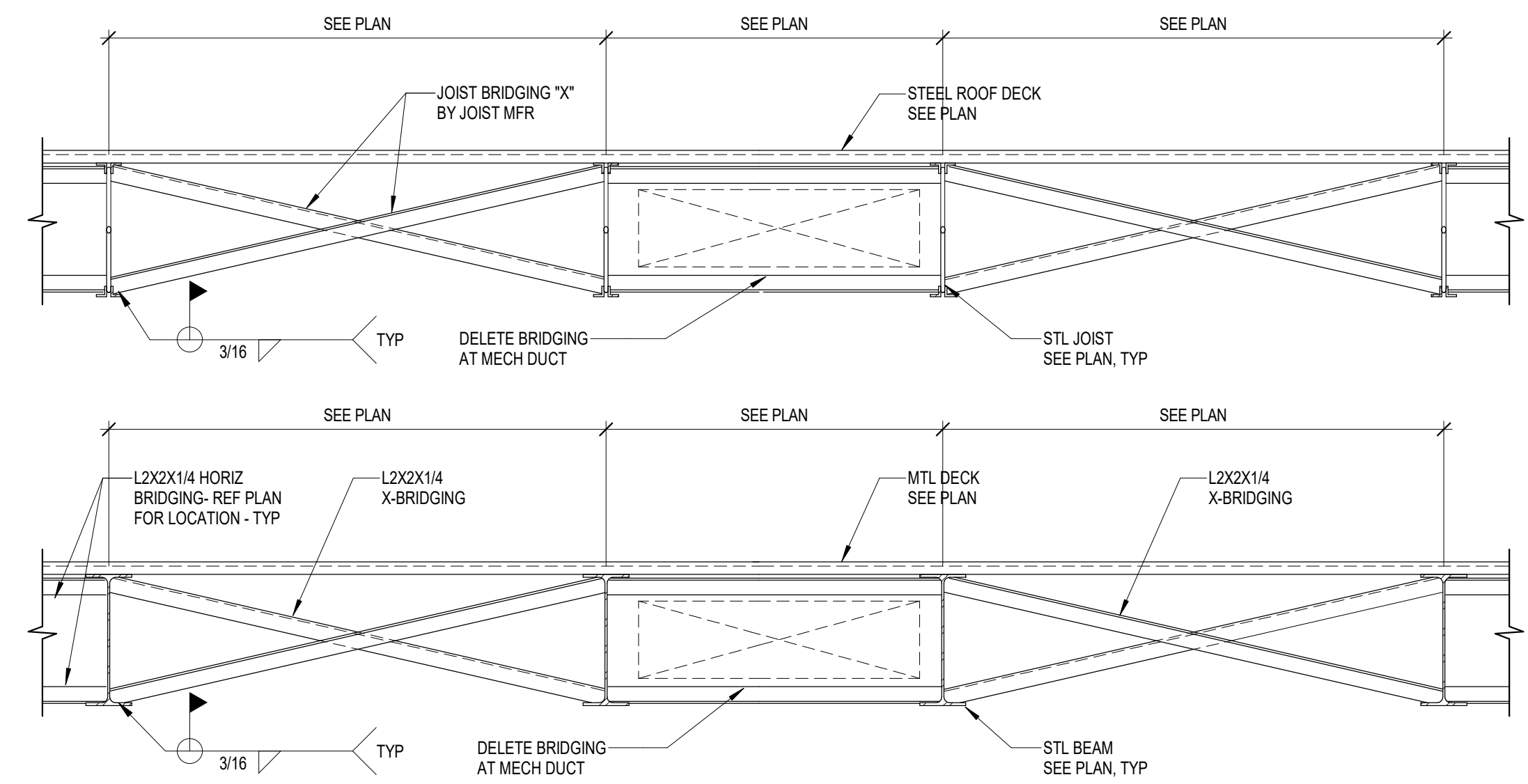
2. SEE ROOF FRAMING PLAN FOR ROOF DECK SIZES.
3. THE METAL ROOF DECK ON THIS PROJECT IS REQUIRED TO PERFORM AS A STRUCTURAL DIAPHRAGM. ALL WELDS AND SCREWS ARE CRITICAL TO THE SUCCESSFUL PERFORMANCE OF THE DIAPHRAGM.
4. STEEL ROOF DECK (WITH RIGID INSULATION BOARD):

4.1. ROOF DECK SHALL BE 1 1/2" DEEP, 22 GAUGE, WIDE RIB, TYPE B DECK CONFORMING TO ASTM A611 OR A653-99 WITH Fy=33 KSI. DECK SHALL BE GALVANIZED, CONFORMING TO ASTM A653, WITH A MINIMUM ZINC COATING CLASS OF 580 PER ASTM A653-99. DECK SHALL HAVE A MINIMUM MOMENT OF INERTIA OF 0.165 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 (Fy) OF 200 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 A653, WITH A MINIMUM ZINC COATING CLASS OF G90 PER ASTM A653-99. DECK SHALL BE 22 GAUGE 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 INSURE 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 SHOREN 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.



1 TYPICAL BRIDGING NO SCALE

1. 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.

WOOD BLOCKING OR STEEL ANGLES AS DETAILED ON ARCHITECTURAL

OPENING - REF ARCH

DO NOT CUT DECK UNTIL OPENING NEEDED

14x4x1/8 HEADER W/ 14x4x5/16x10'-0" CLIP EA END, EA SIDE OF OPENING

3/16x1/8 TWO SIDES OF OPENING

STL JST REF PAN

NOTE:

1. PROVIDE 13x3x1/4" FRAME FOR ROOF DRAIN SUPPORT (MIN) UNLESS NOTED OTHERWISE IN ARCHITECTURAL DRAWINGS

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"

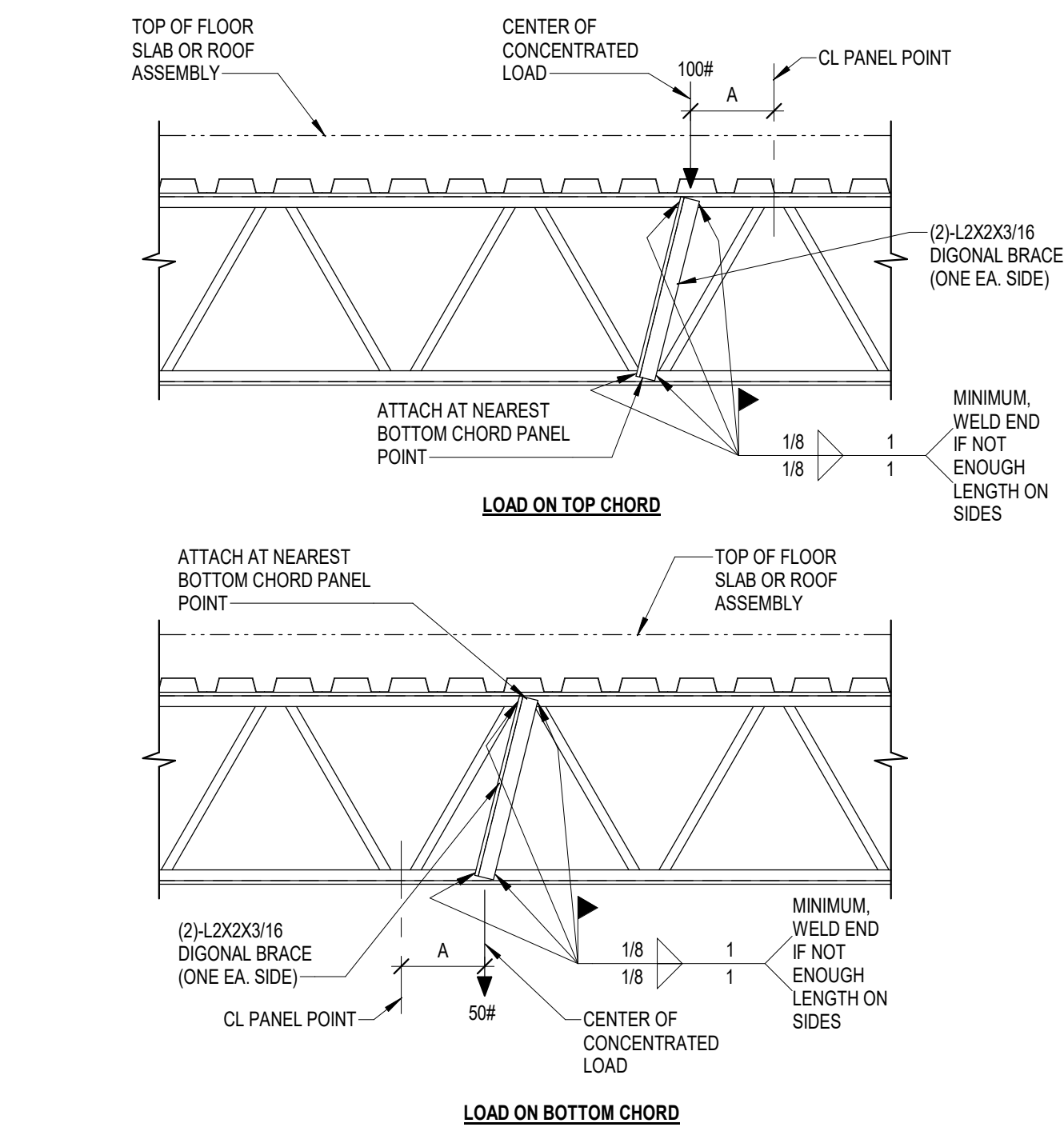
ROOF DECK NOT SHOWN FOR CLARITY

X-BRIDGING ALONG BEAM SPAN BETWEEN EACH W/8 BEAM - SEE TABLE FOR SIZE. WELD TO PLATE WITH 3/16" FILLET WELD ALL AROUND

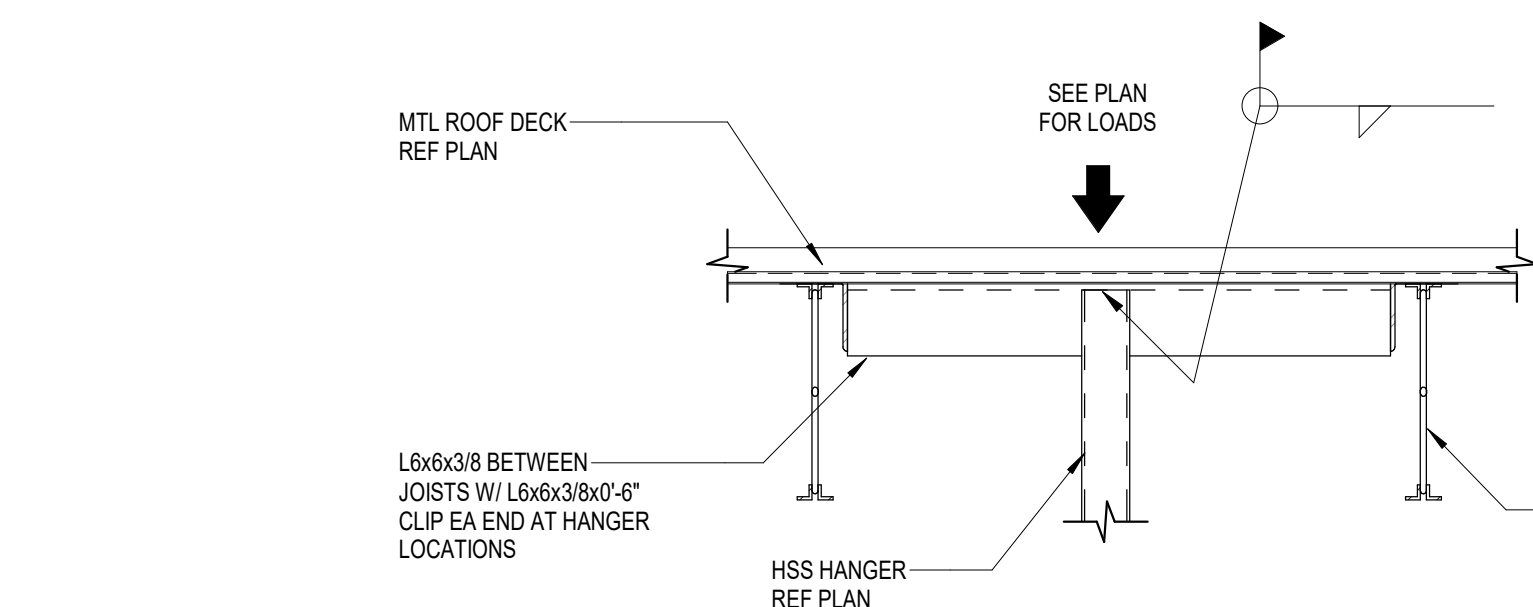
WIDE FLANGE ROOF BEAMS

3/8" PLATE TO RECEIVE ANGLE

3 TYPICAL UPLIFT BRIDGING DETAIL 3/4" = 1'-0"

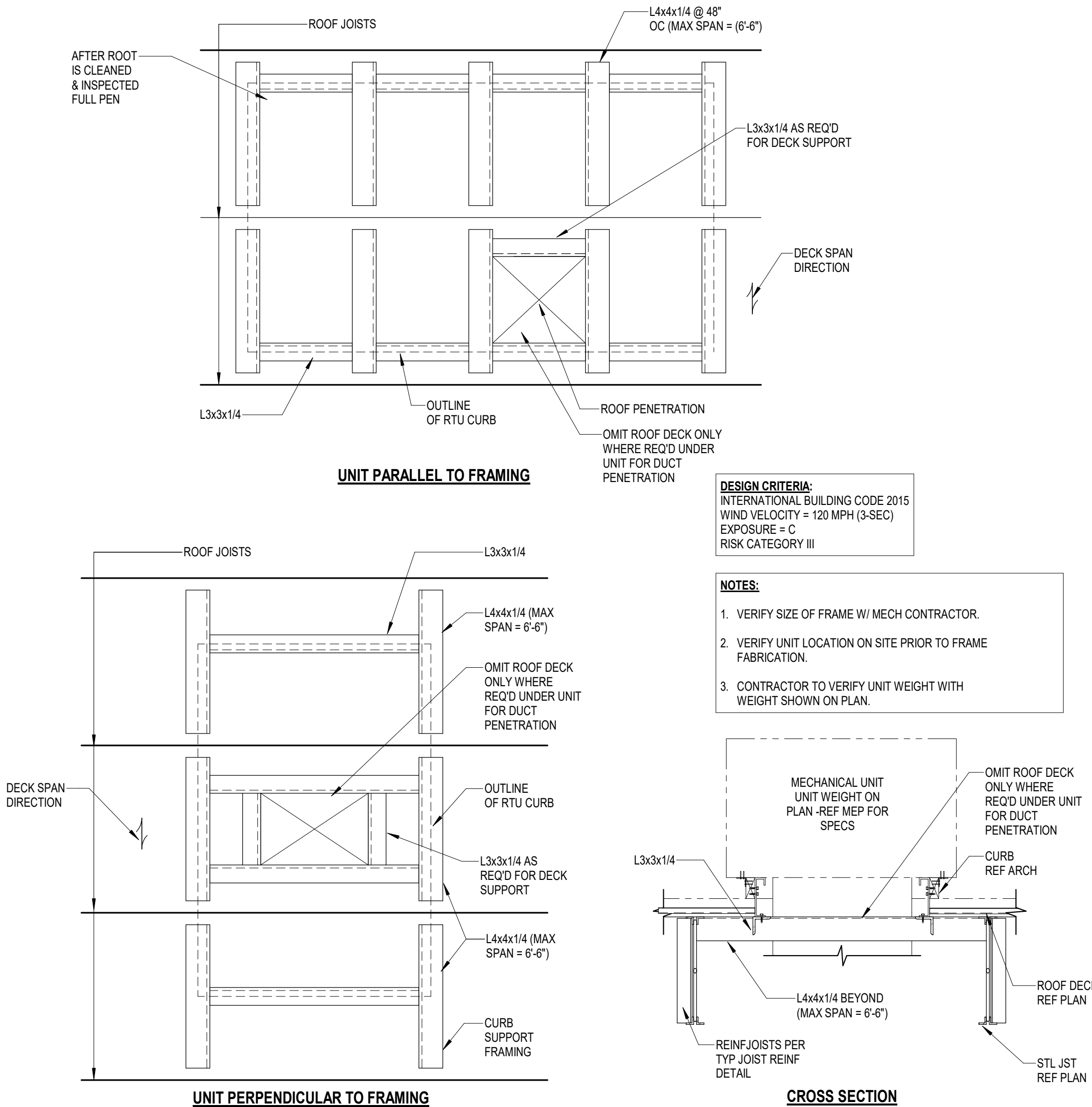


4 TYPICAL HANGING LOADS DETAIL NO SCALE

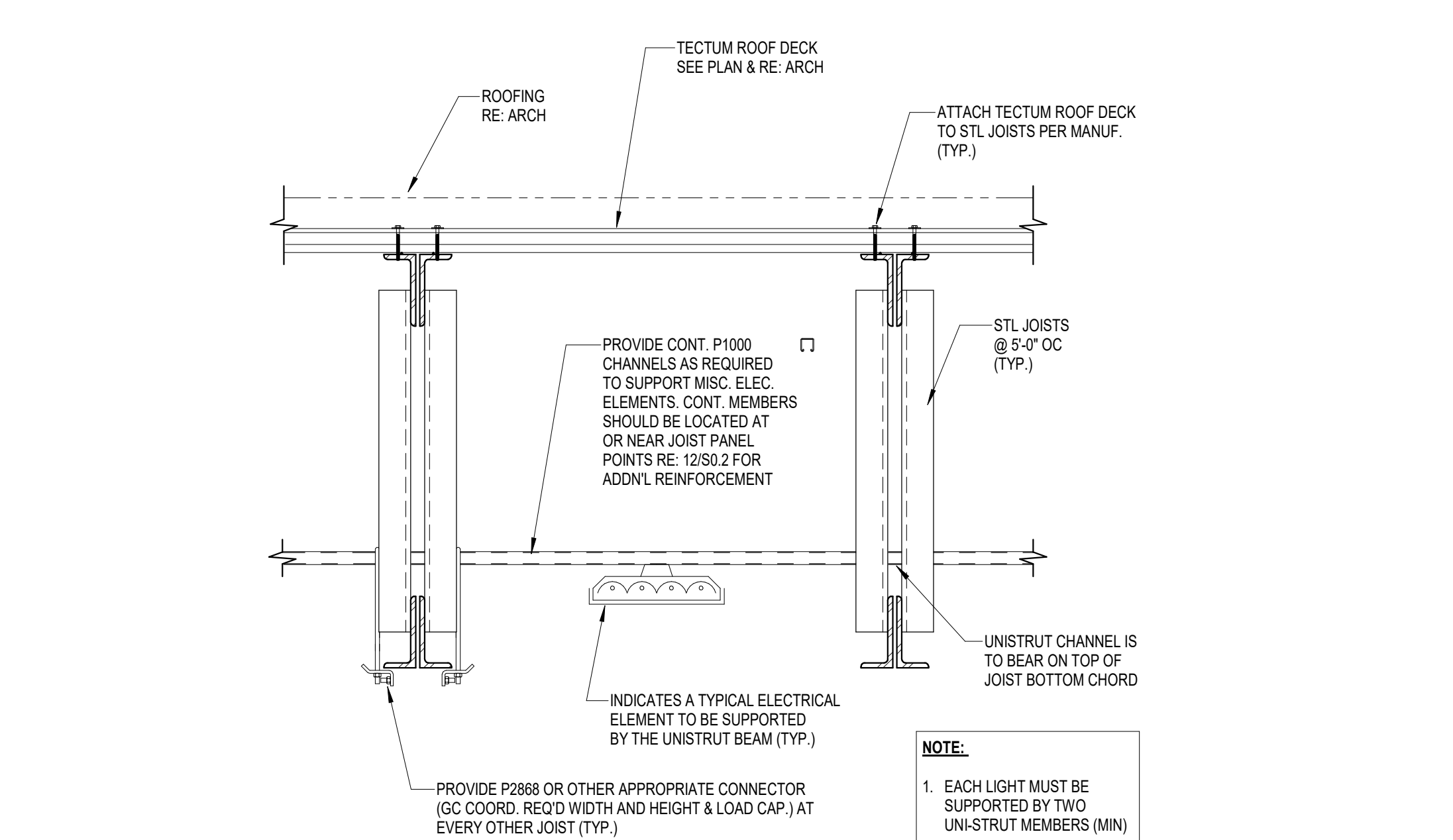


6 DETAIL AT ROOF HANGER SUPPORT NO SCALE

2 TYPICAL ROOF OPENING DETAIL NO SCALE



5 TYPICAL SUPPORT AT MECHANICAL UNIT DETAIL NO SCALE



7 UNISTRUT DETAIL FOR ELECTRICAL SUPPORT NO SCALE

PBK

ARCHITECT PBK Architects, Inc.
HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608
PBK.com

OWNER
NEW JUERGEN ROAD ELEMENTARY SCHOOL
11111 GREENWAY PLAZA, 22ND FLOOR
HOUSTON, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608
PBK.com

DESIGNER
NEW JUERGEN ROAD ELEMENTARY SCHOOL
11111 GREENWAY PLAZA, 22ND FLOOR
HOUSTON, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608
PBK.com

PREPARED BY
NEW JUERGEN ROAD ELEMENTARY SCHOOL
11111 GREENWAY PLAZA, 22ND FLOOR
HOUSTON, TX 77046
713-965-0808 P
713-961-4571 F
TX Firm BR 1608
PBK.com

FOR SERVICE
FOODSERVICE DESIGN PROFESSIONALS
F-23612

NEW JUERGEN ROAD ELEMENTARY SCHOOL

JUERGEN ROAD
TOMBALL, TX

ISSUE FOR PROPOSAL

TOMBALL

INDEPENDENT SCHOOL DISTRICT

DISCIPLINE

JOHN R. KUBALA

106120

02/27/2023

Kubala Engineers

F-23612

CLIENT

TOMBALL ISD

DATE 02/27/2023

PROJECT NUMBER 220137

DRAWING HISTORY

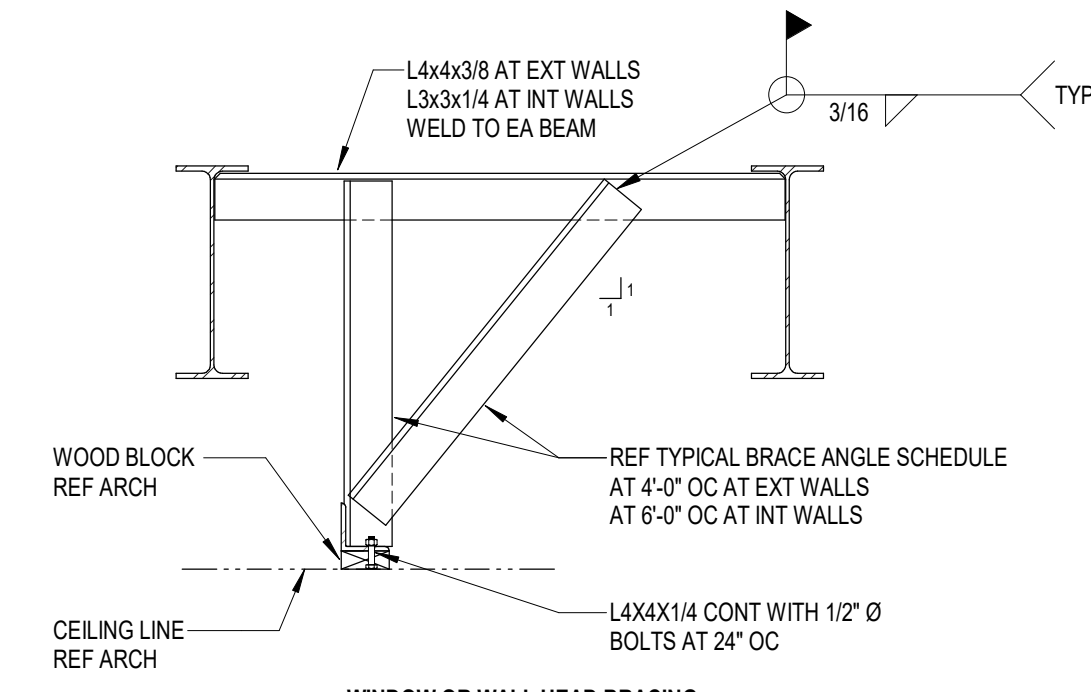
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ISSUE FOR PROPOSAL

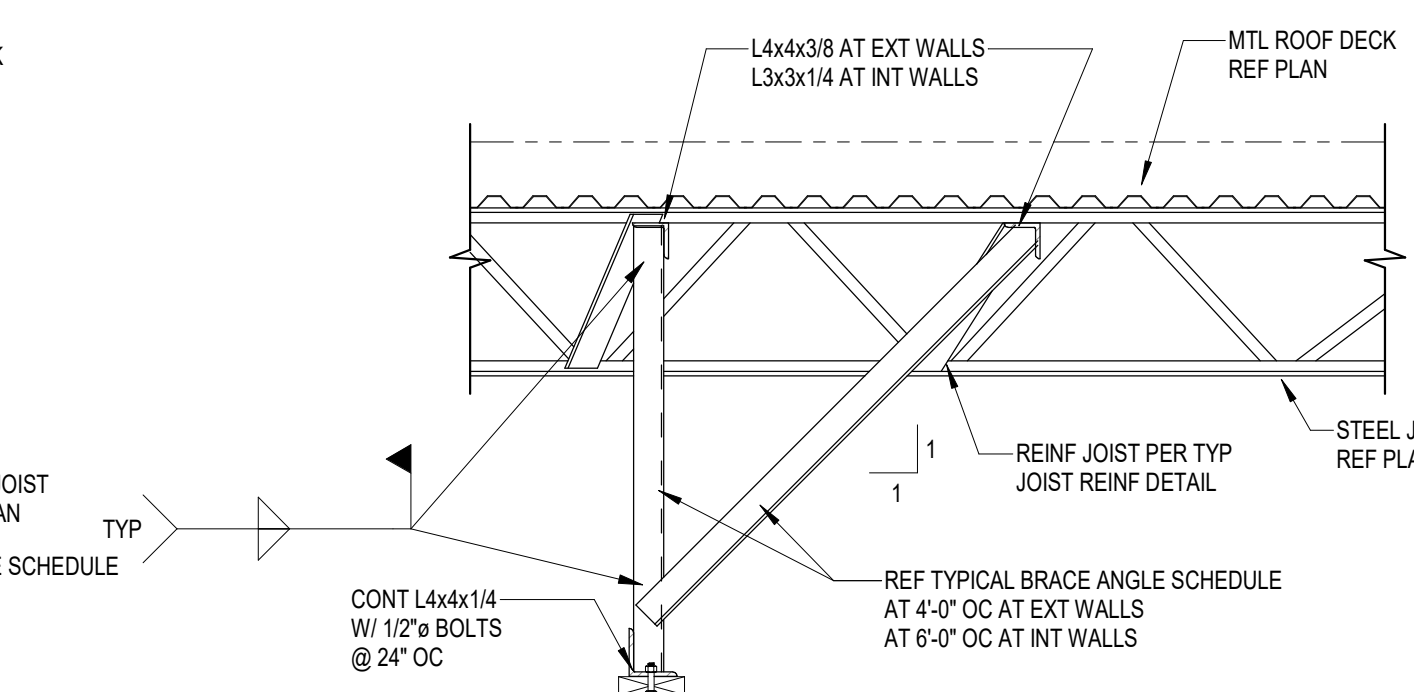
BUILDING NUMBER

GENERAL STEEL NOTES AND TYP DETAILS

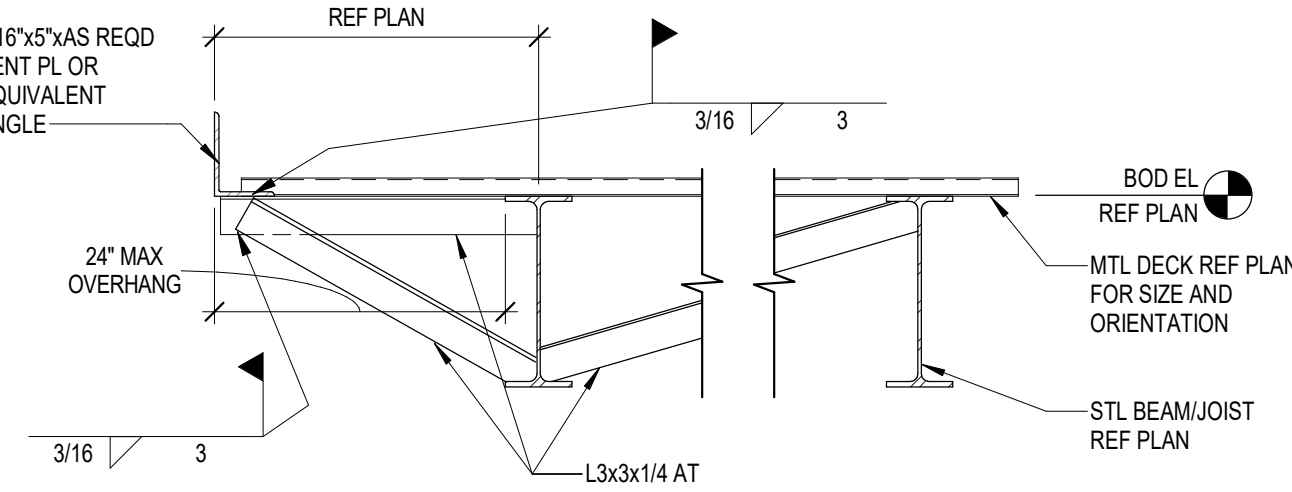
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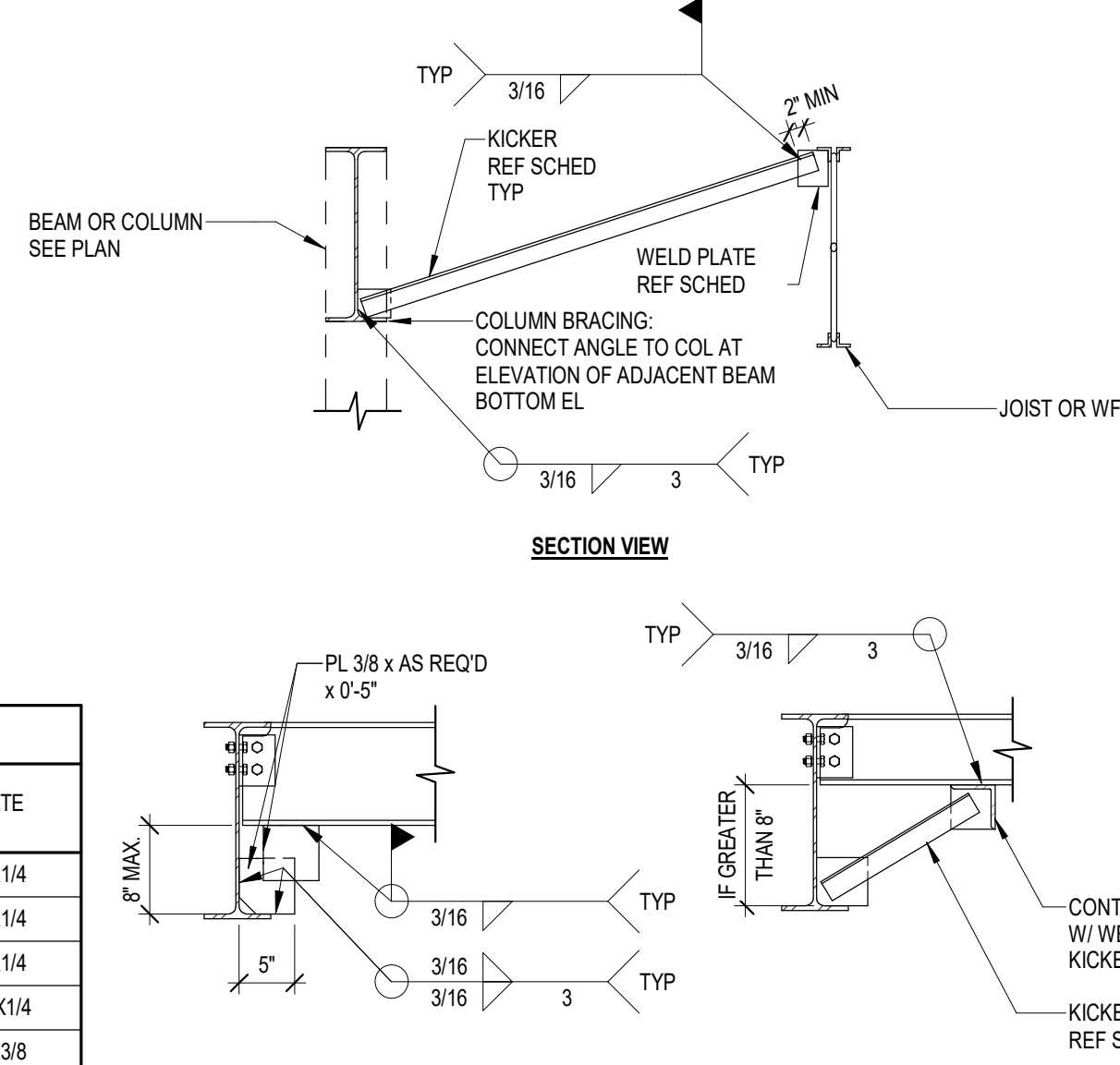
1 TYPICAL WINDOW OR WALL HEAD BRACING AT BEAMS



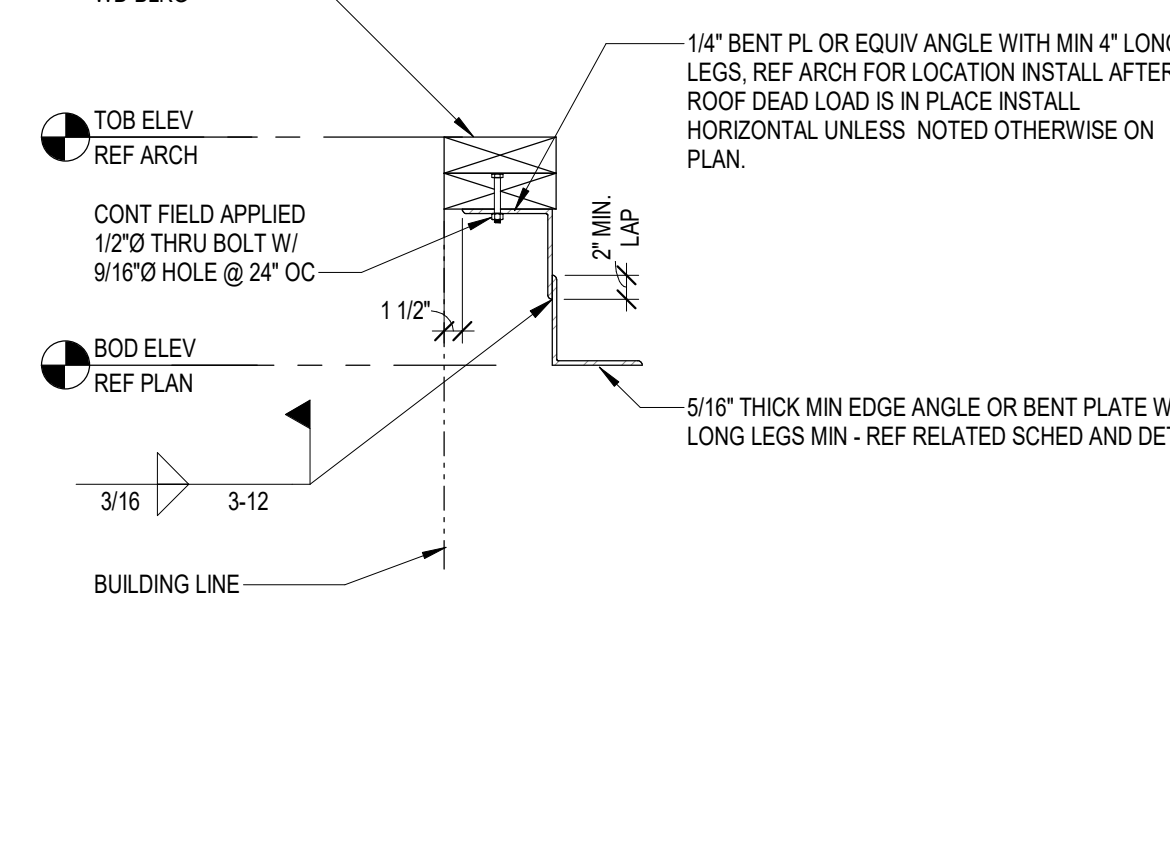
2 TYPICAL WINDOW OR WALL HEAD BRACING AT BEAMS AT JOISTS



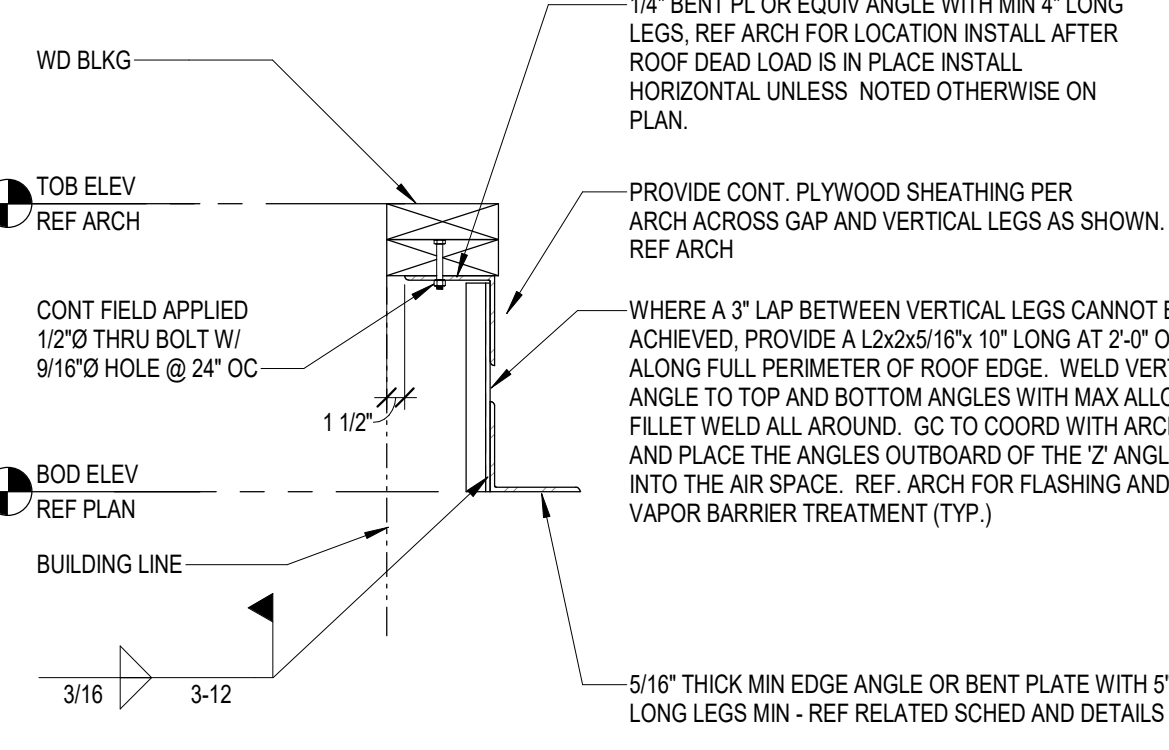
3 TYPICAL ROOF EDGE DETAIL



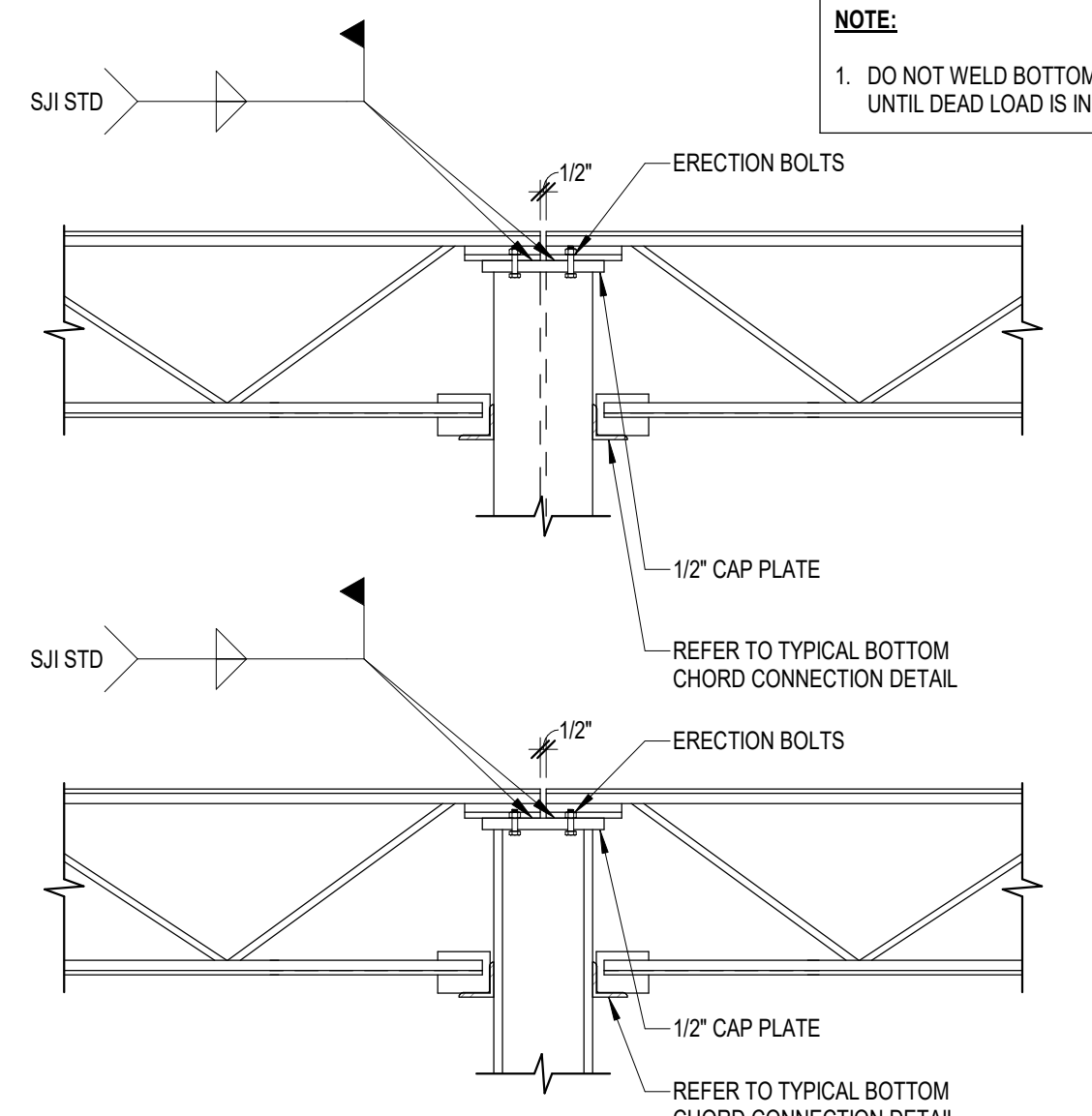
4 TYPICAL BEAM/JOIST BOTTOM FLANGE BRACE



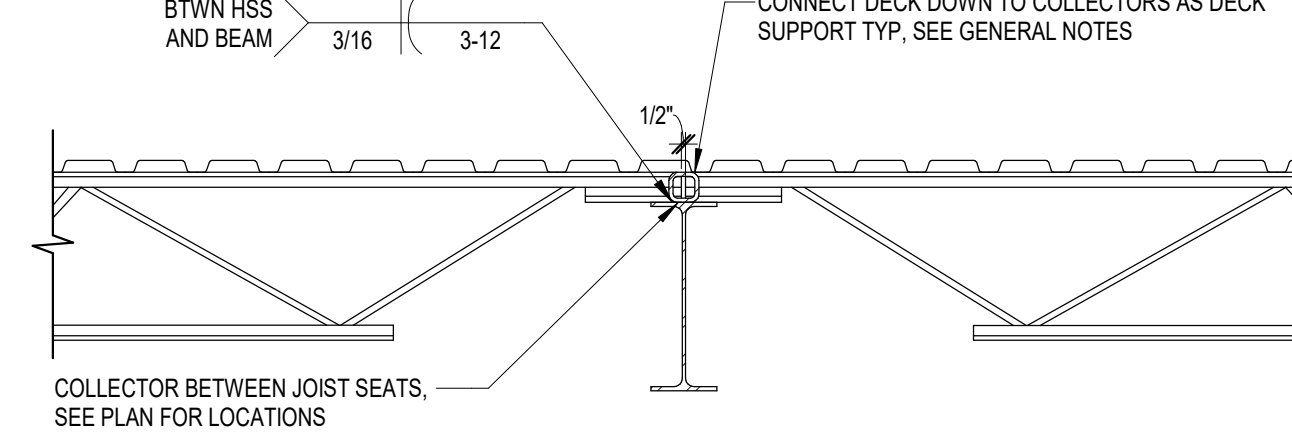
5 TYPICAL ROOF EDGE ANGLE



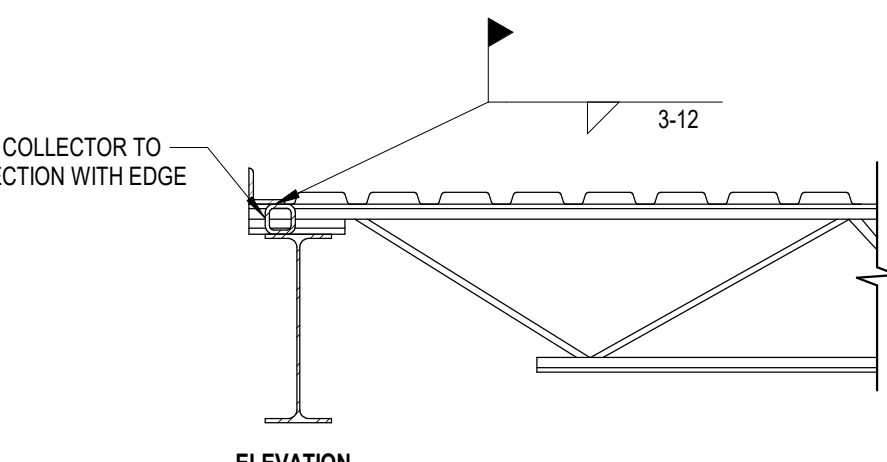
6 TYPICAL ROOF EDGE ANGLE



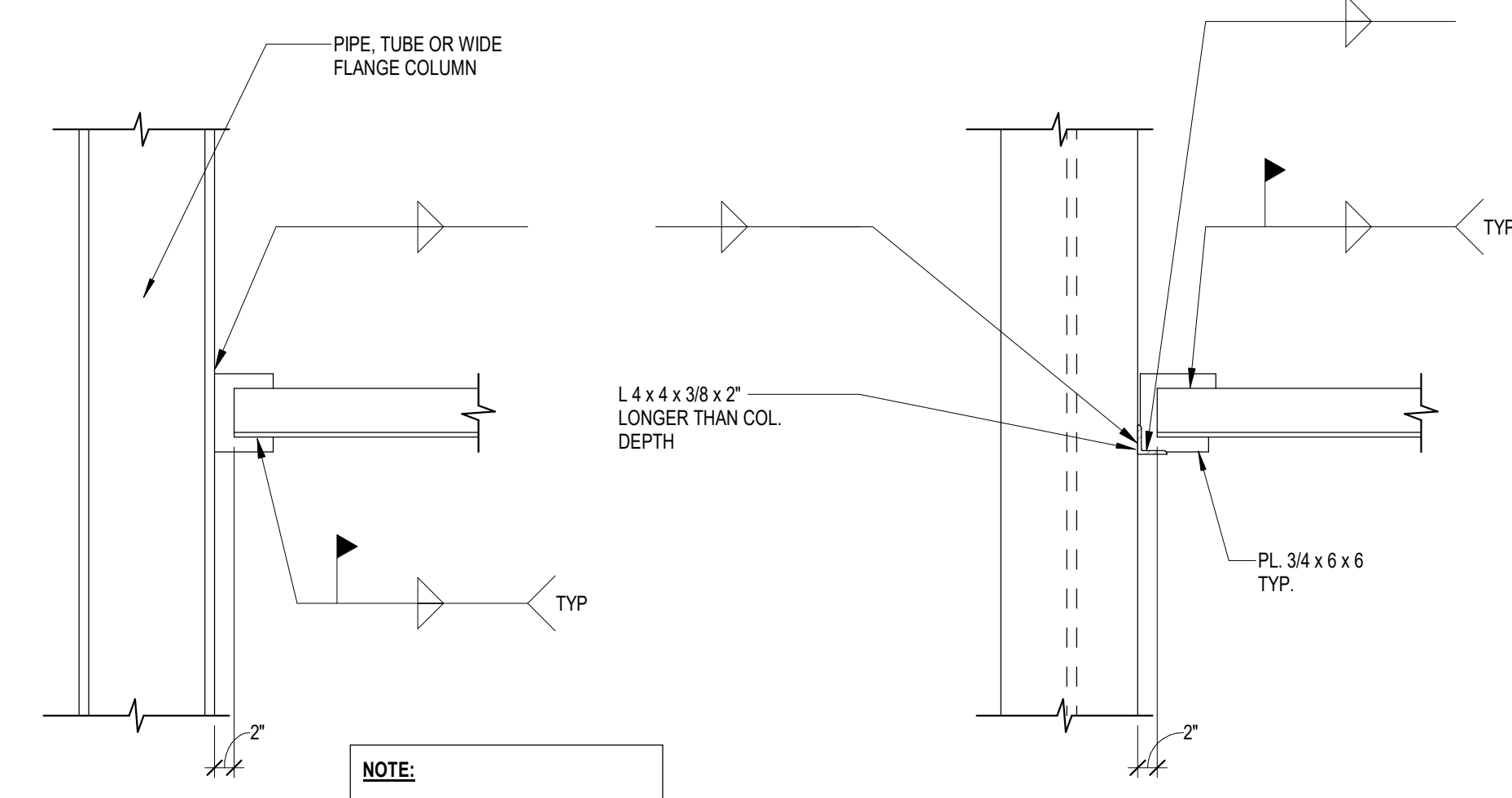
7 TYPICAL JOIST CONNECTION AT COLUMN



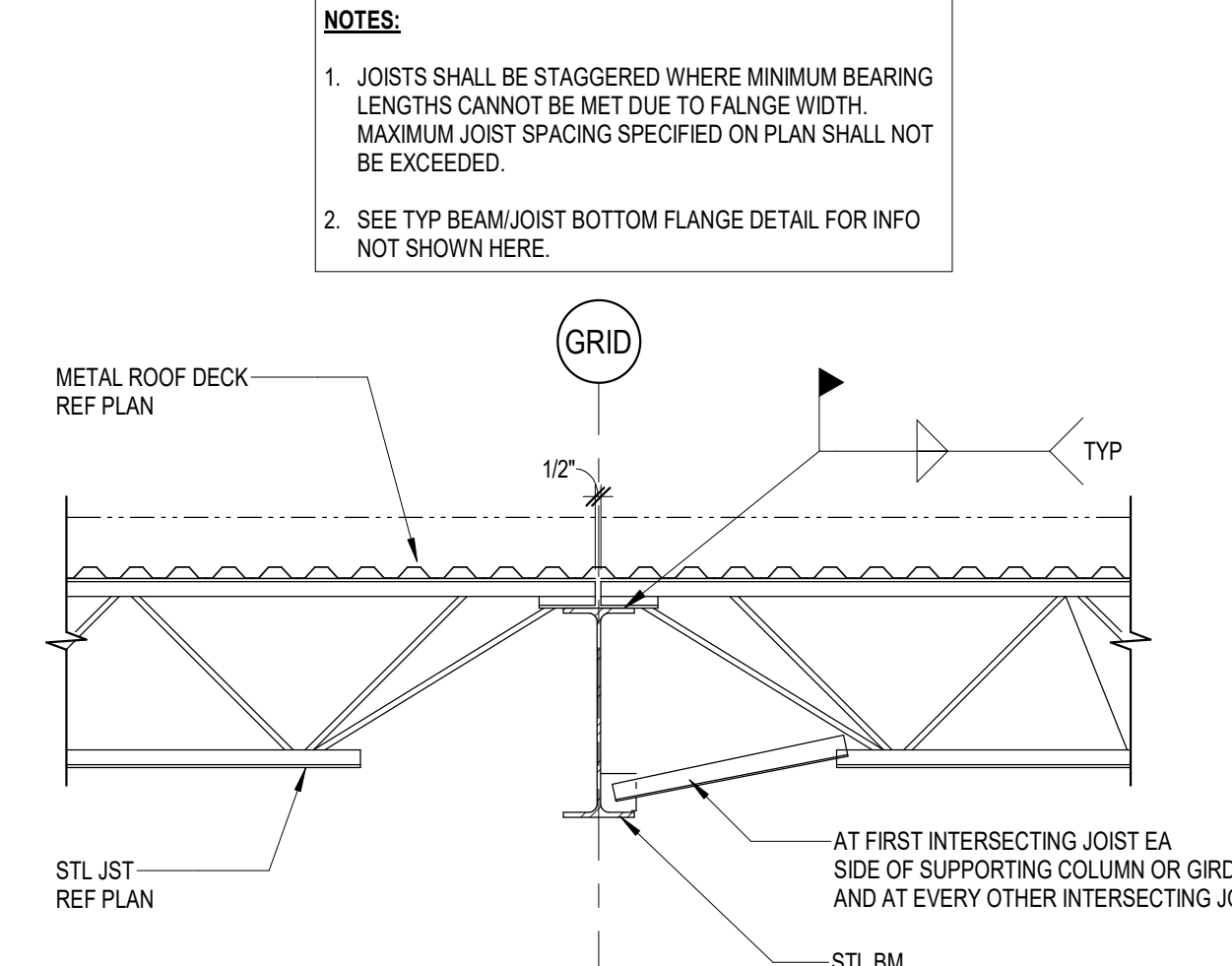
8 TYPICAL DIAPHRAGM SHEAR COLLECTOR AT STEEL BEAM
NO SCALE



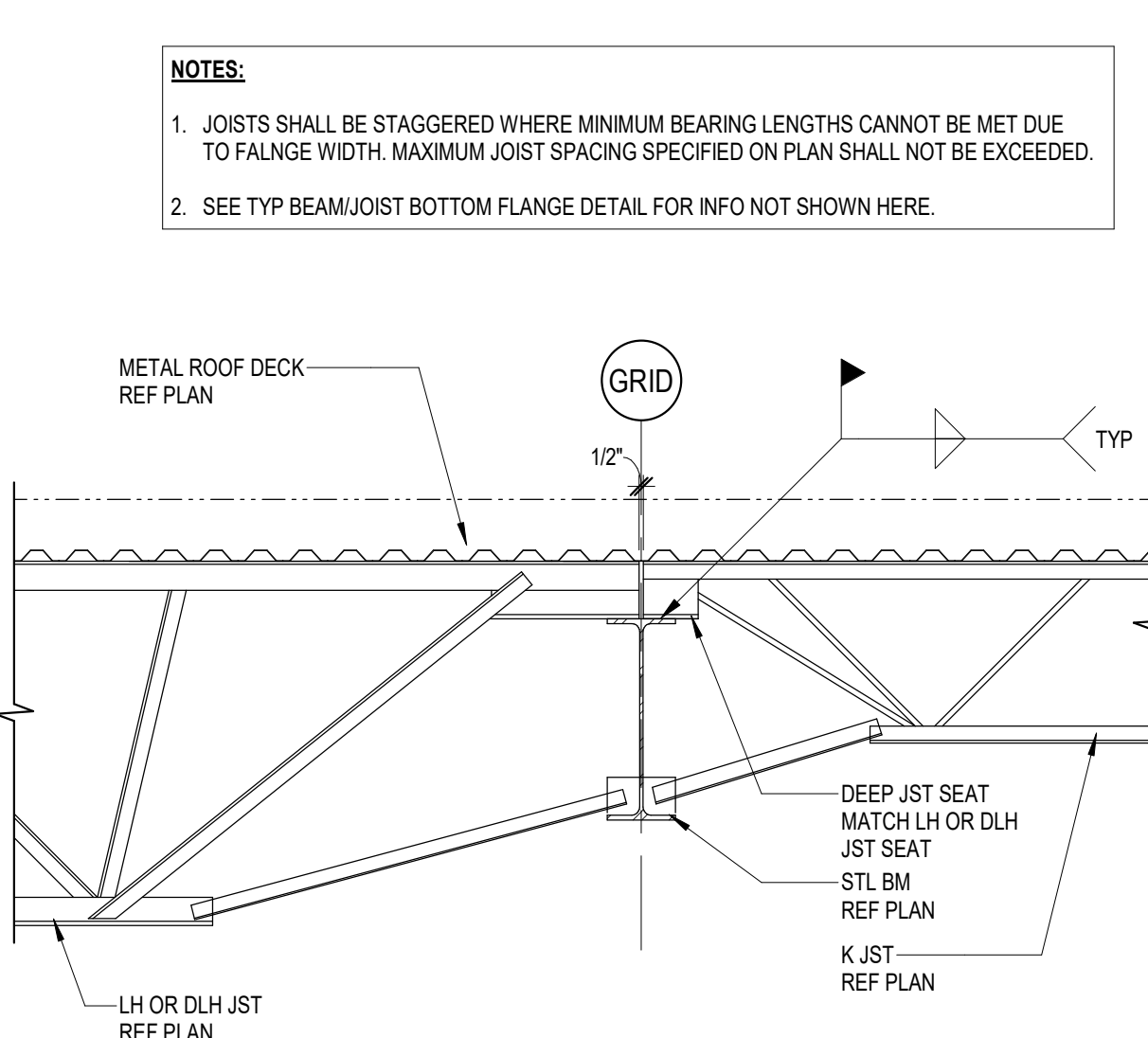
JOIST SEAT DEPTH	COLLECTOR SIZE
2 1/2	HSS 2 1/2 x 2 1/2 x 1/4
3	HSS 3 x 3 x 1/4
3 1/2	HSS 3 1/2 x 2 1/2 x 1/4
4	HSS 4 x 4 x 1/4
5	HSS 5X3X1/4
6	C 6 x 8.2
8	C 8 x 11.5



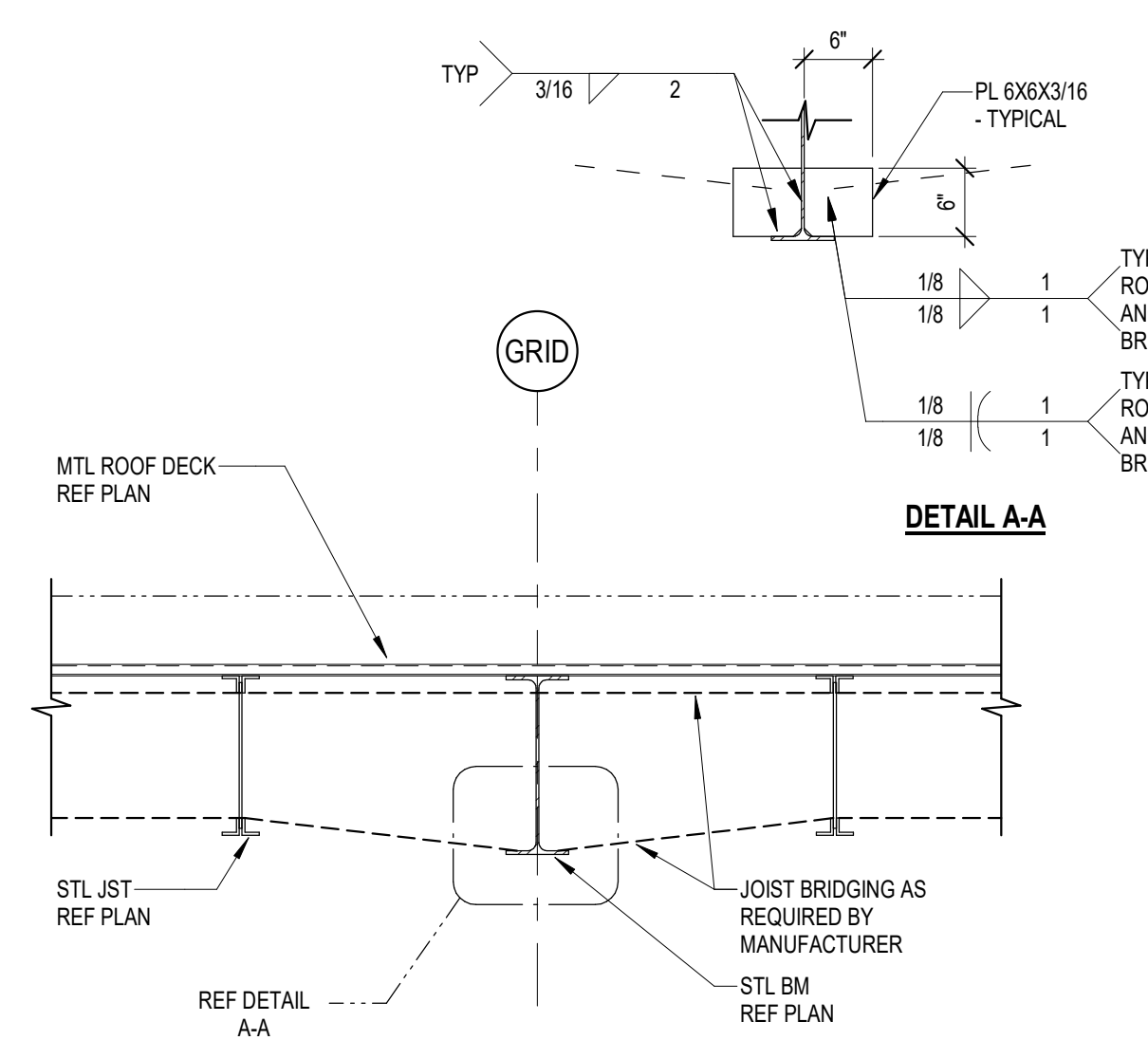
9 TYPICAL JOIST BOTTOM CHORD CONNECTION AT COLUMN
NO SCALE



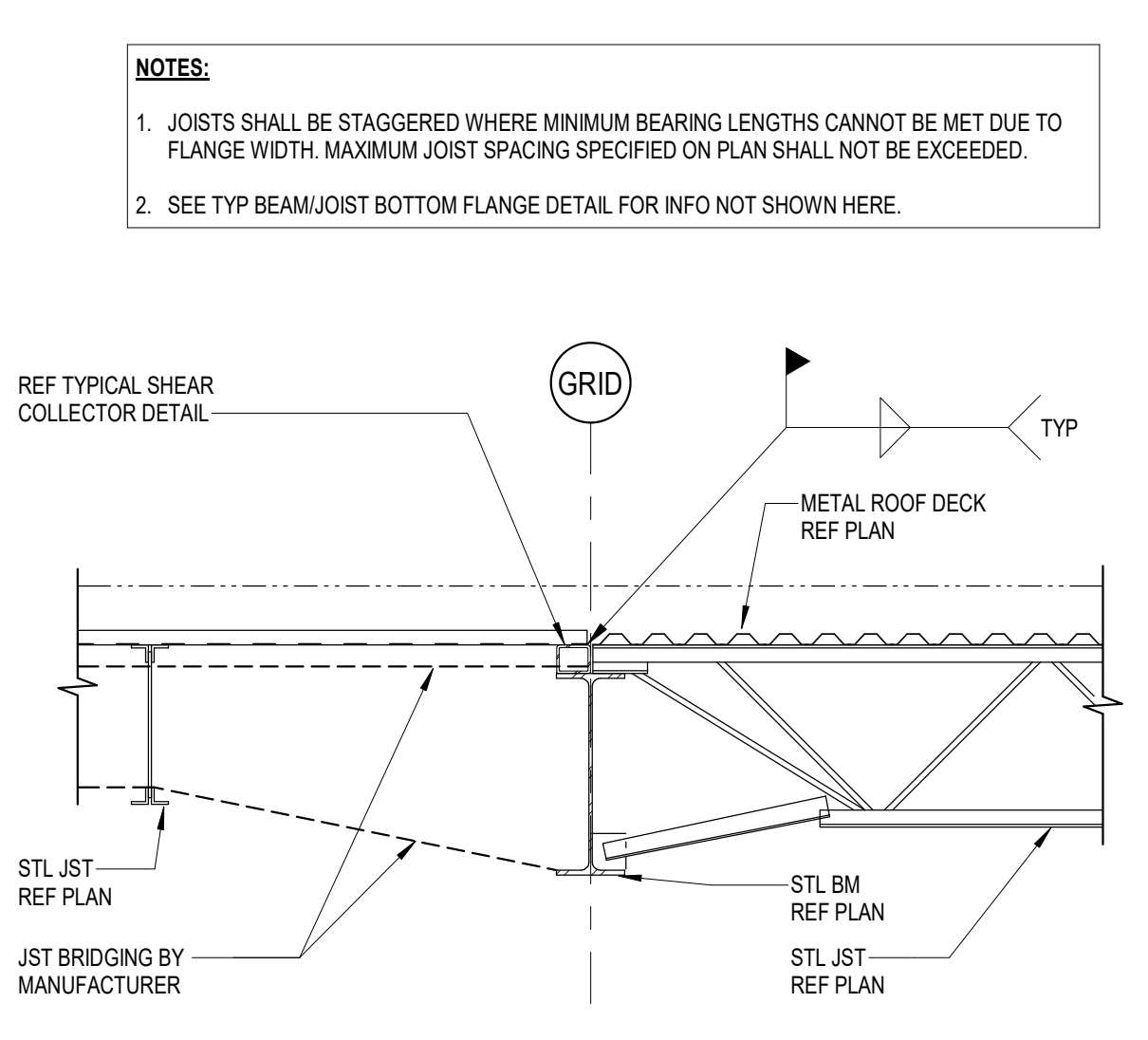
10 TYPICAL INTERIOR DETAIL AT K JOIST BEARING
NO SCALE



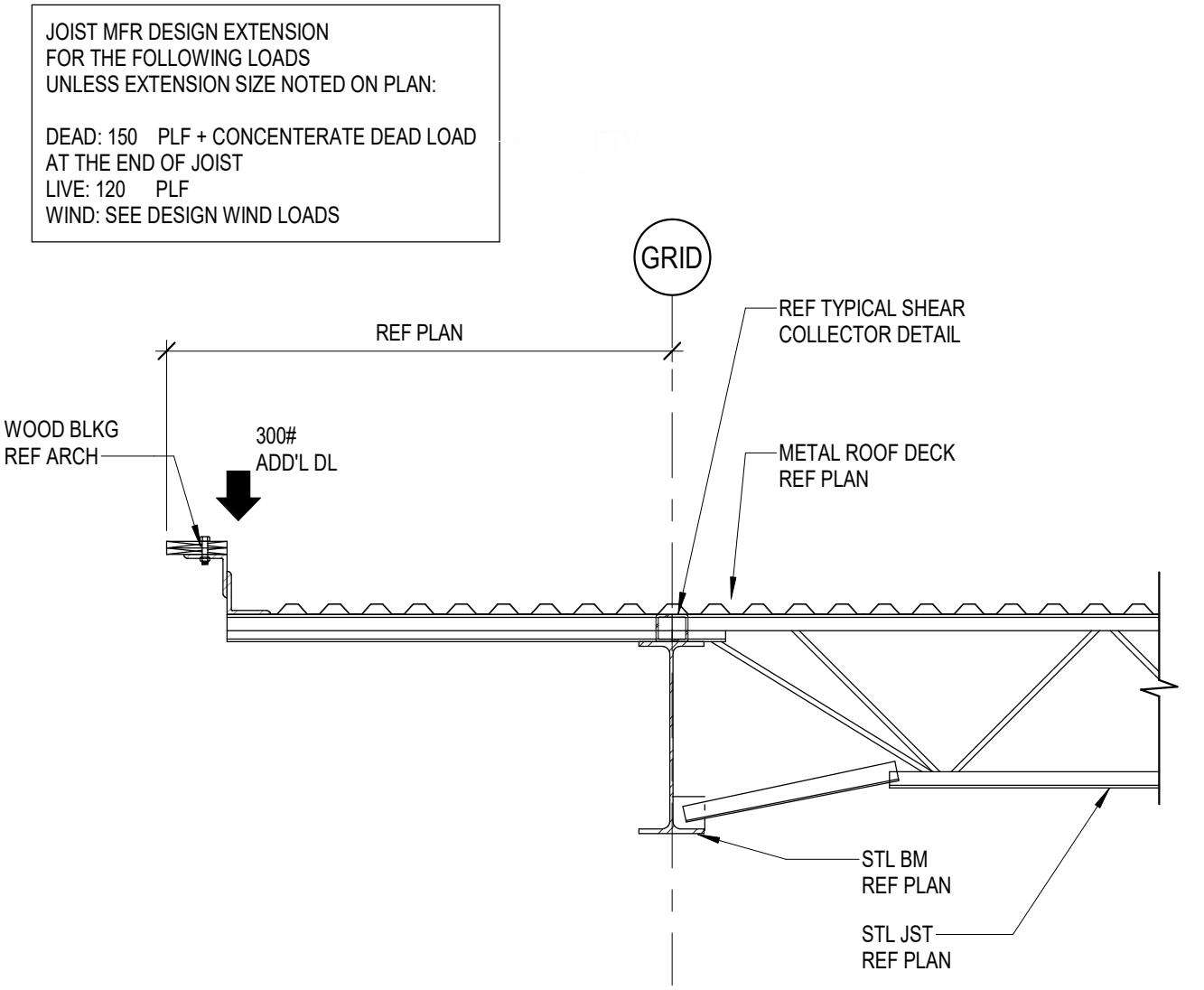
11 JOIST BEARING
NO SCALE



12 TYPICAL JOIST BRIDGING CONNECTION TO INTERIOR STEEL BEAM
NO SCALE

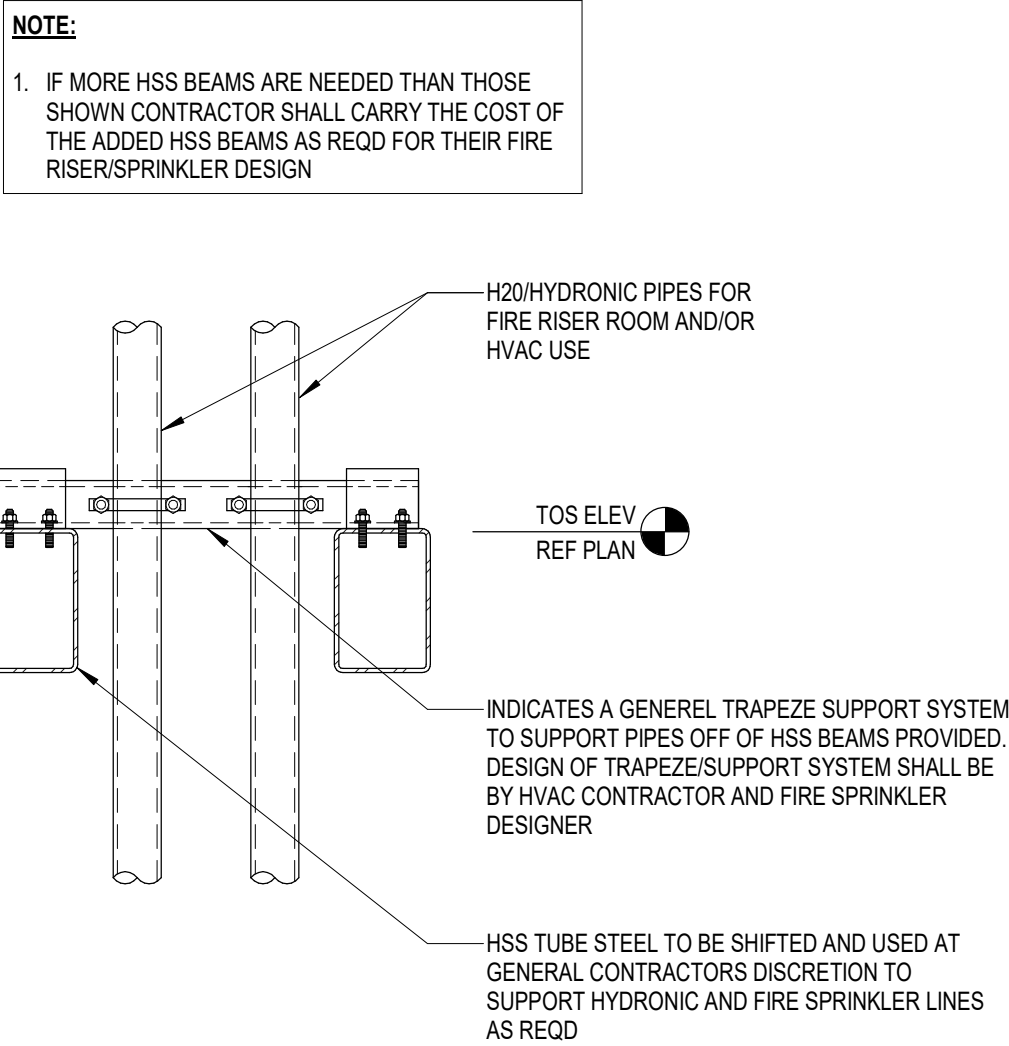
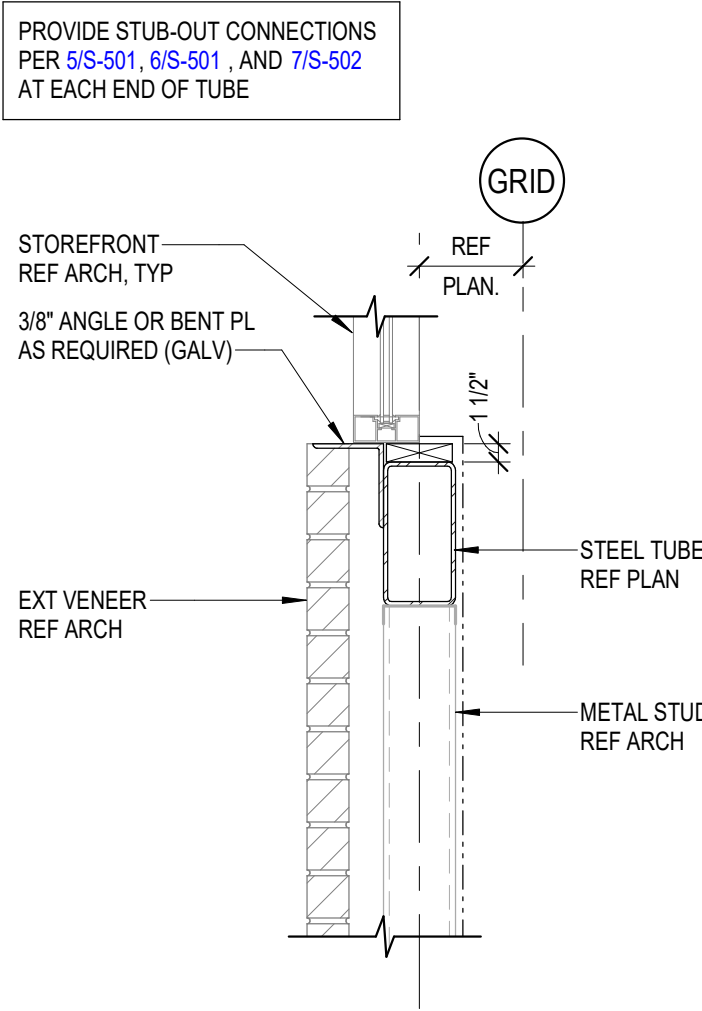


13 STEEL BEAM
NO SCALE



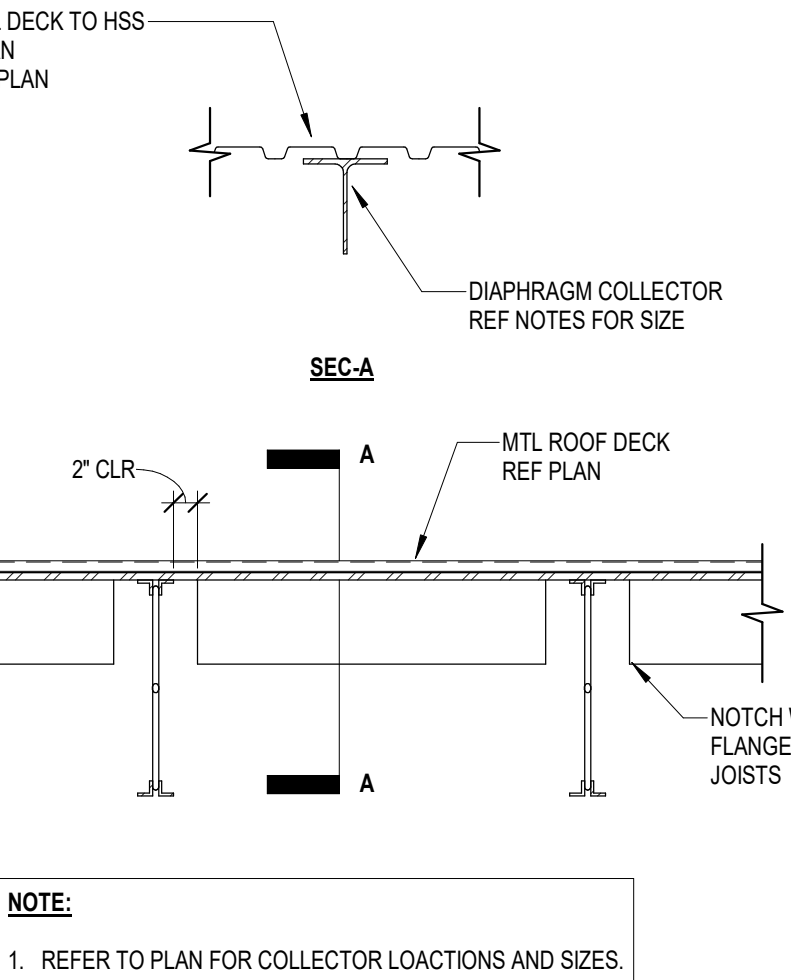
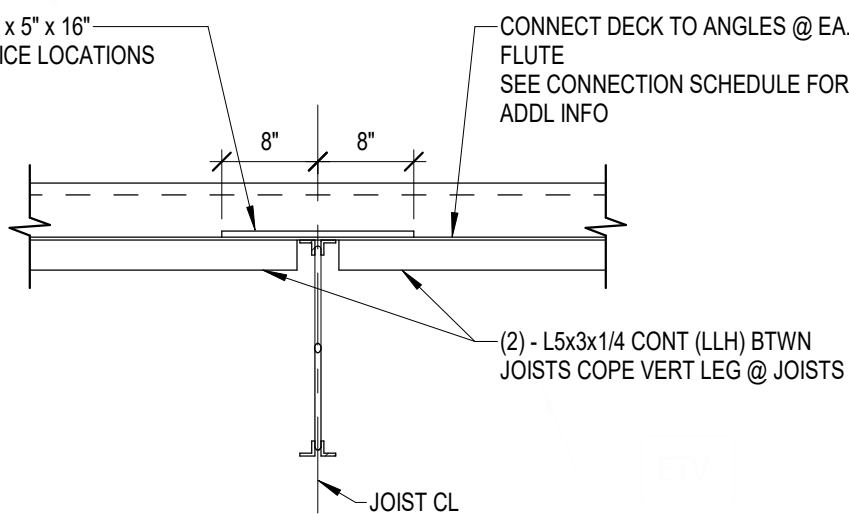
14 TYPICAL ROOF JOIST EXTENTION

1 HSS HEADER DETAIL
3/4" = 1'-0"



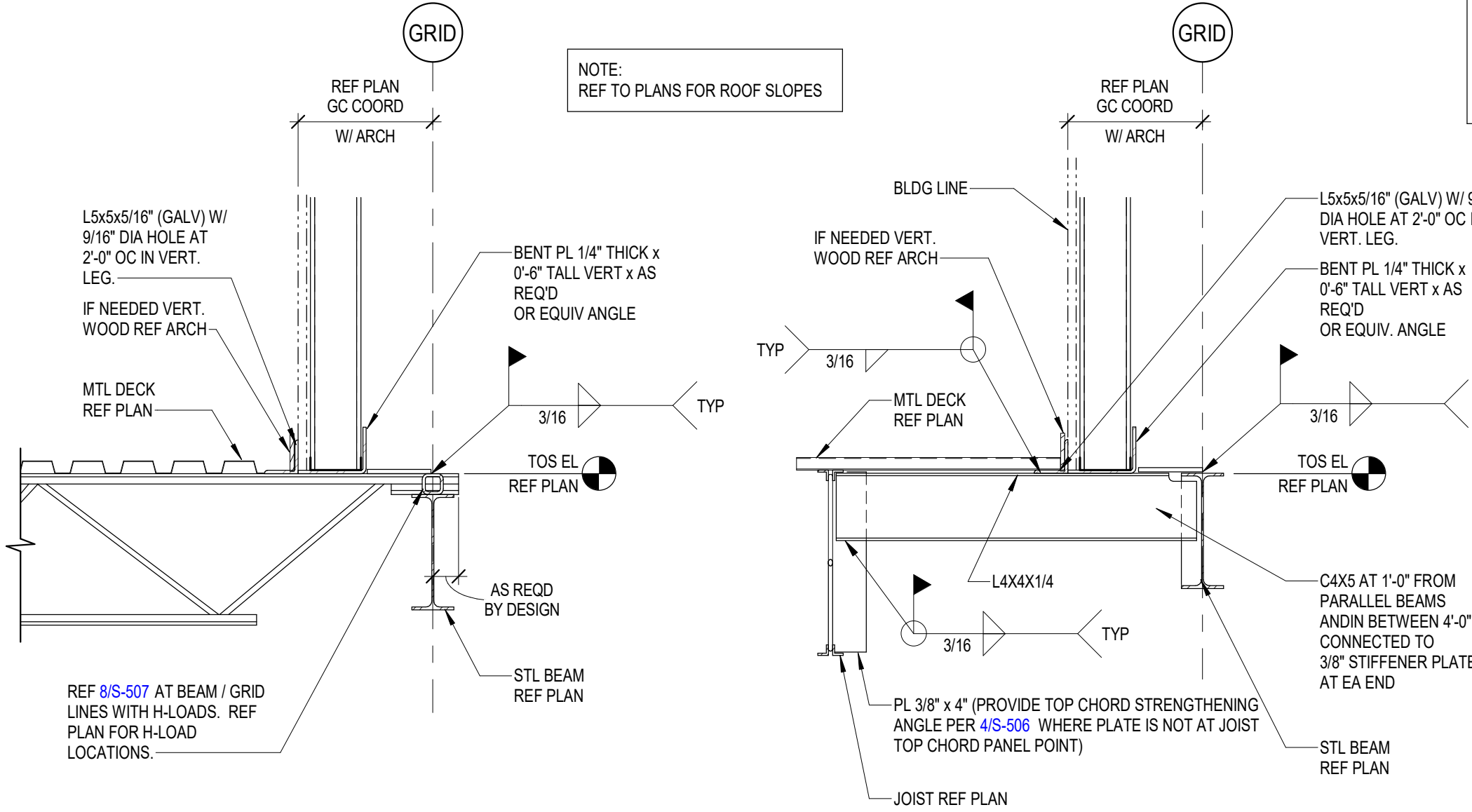
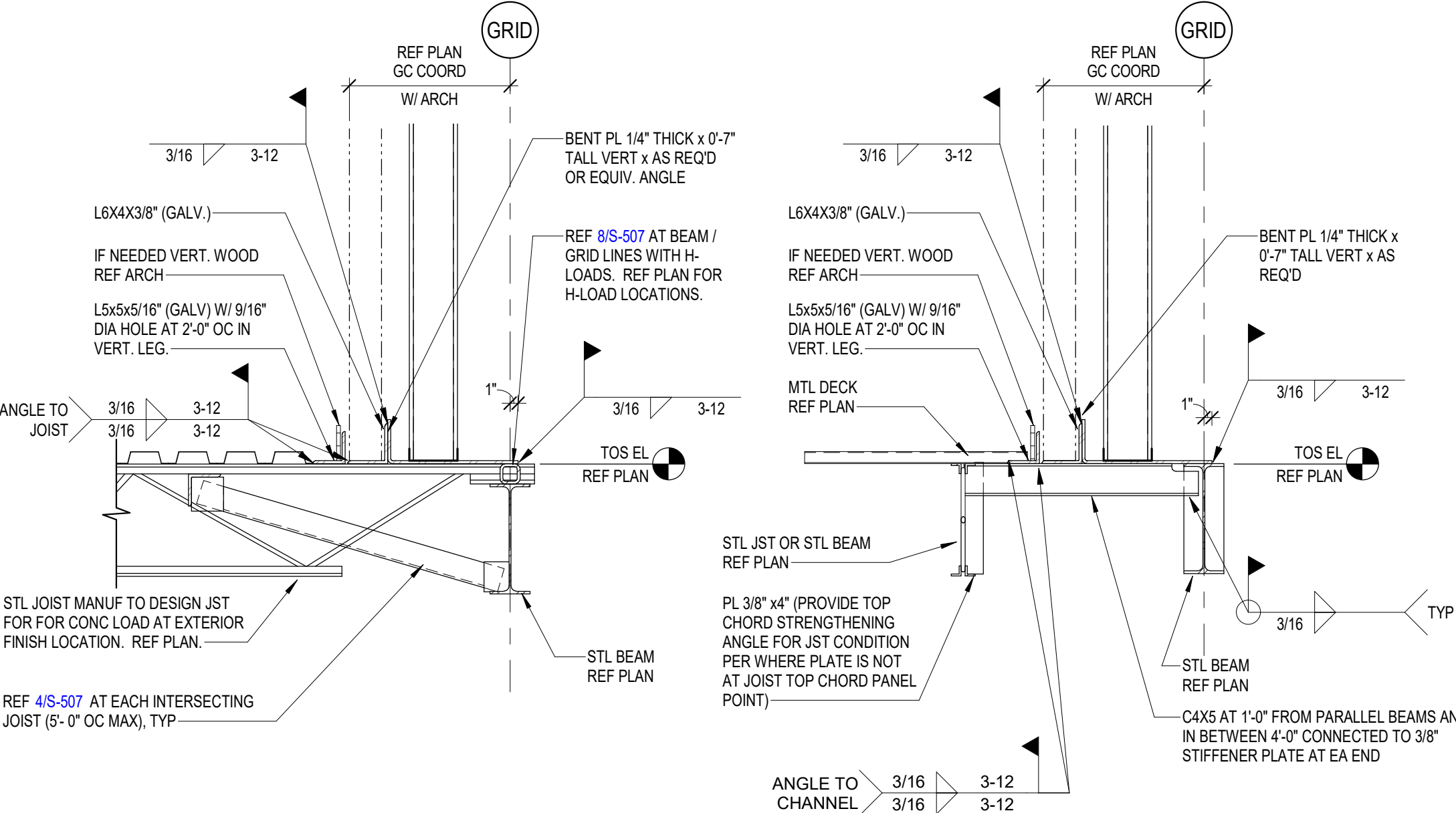
2 FIRE/SPRINKLER SUPPORT
3/4" = 1'-0"

3 TYPICAL DETAIL
3/4" = 1'-0"



4 DIAPHRAGM COLLECTOR PERP TO JOISTS
3/4" = 1'-0"

5 TYP. EXTERIOR FINISH SUPPORT AT HIGH/LOW ROOF TRANSITIONS
3/4" = 1'-0"



6 TYP. METAL PANEL FINISH SUPPORT AT HIGH/LOW ROOF TRANSITIONS
3/4" = 1'-0"

ARCHITECT

HOUSTON
11 Greenway Plaza, 22nd Floor
Houston, TX 77046
713-965-0608 P
713-961-4571 F
TX Firm: BR 1608

PKB Architects, Inc.
PKB.com

OWNER

DISCIPLINE

DESIGNER

DATE

PROJECT NUMBER

CLIENT

TOMBALL ISD

DATE

02/27/2023

PROJECT NUMBER

220137

DRAWING HISTORY

No.	Description	Date

ISSUE FOR PROPOSAL

BUILDING NUMBER

ROOF FRAMING
DETAILS

S-521

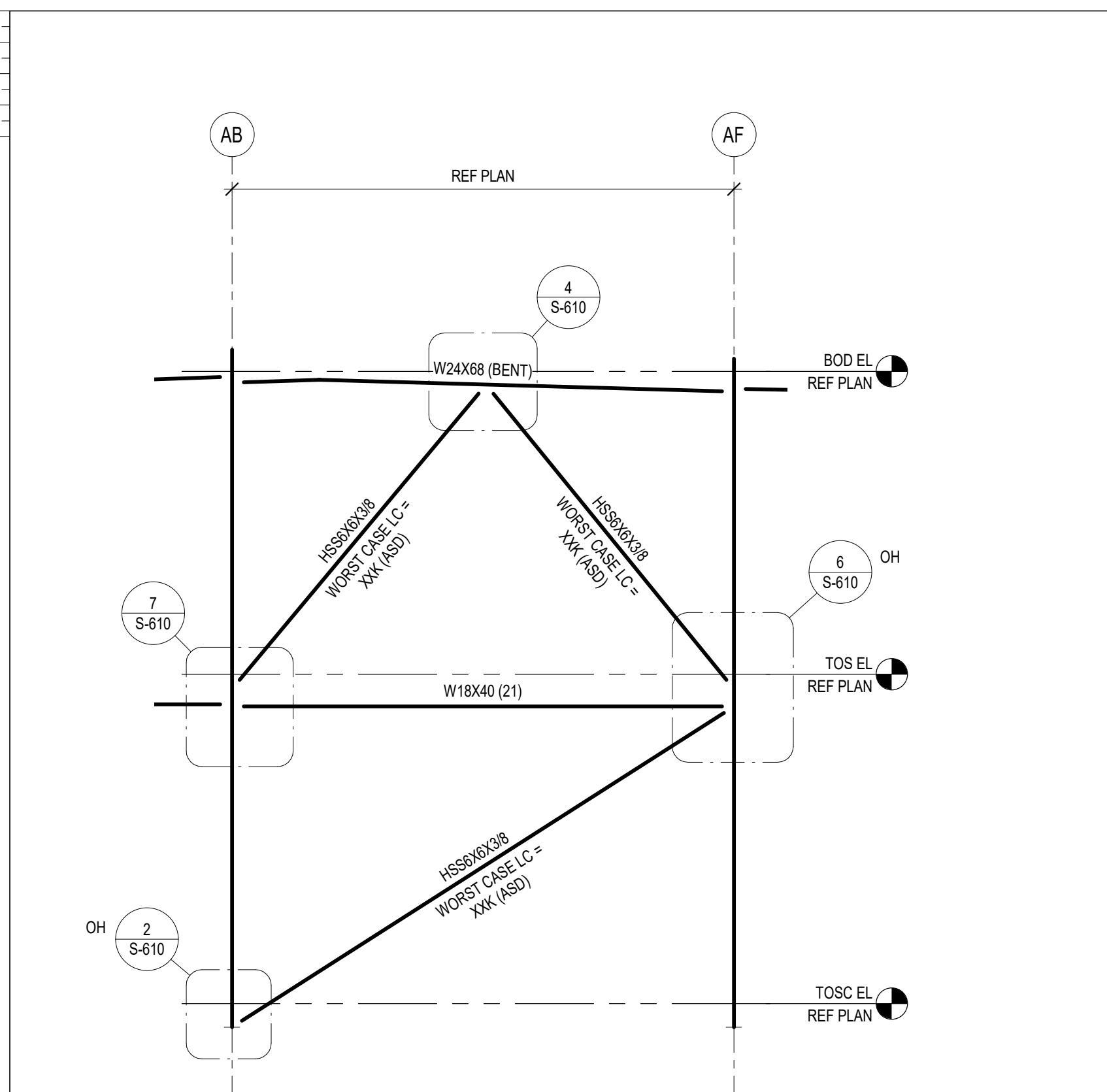
NEW JUERGEN ROAD ELEMENTARY SCHOOL

JUERGEN ROAD
TOMBALL, TX

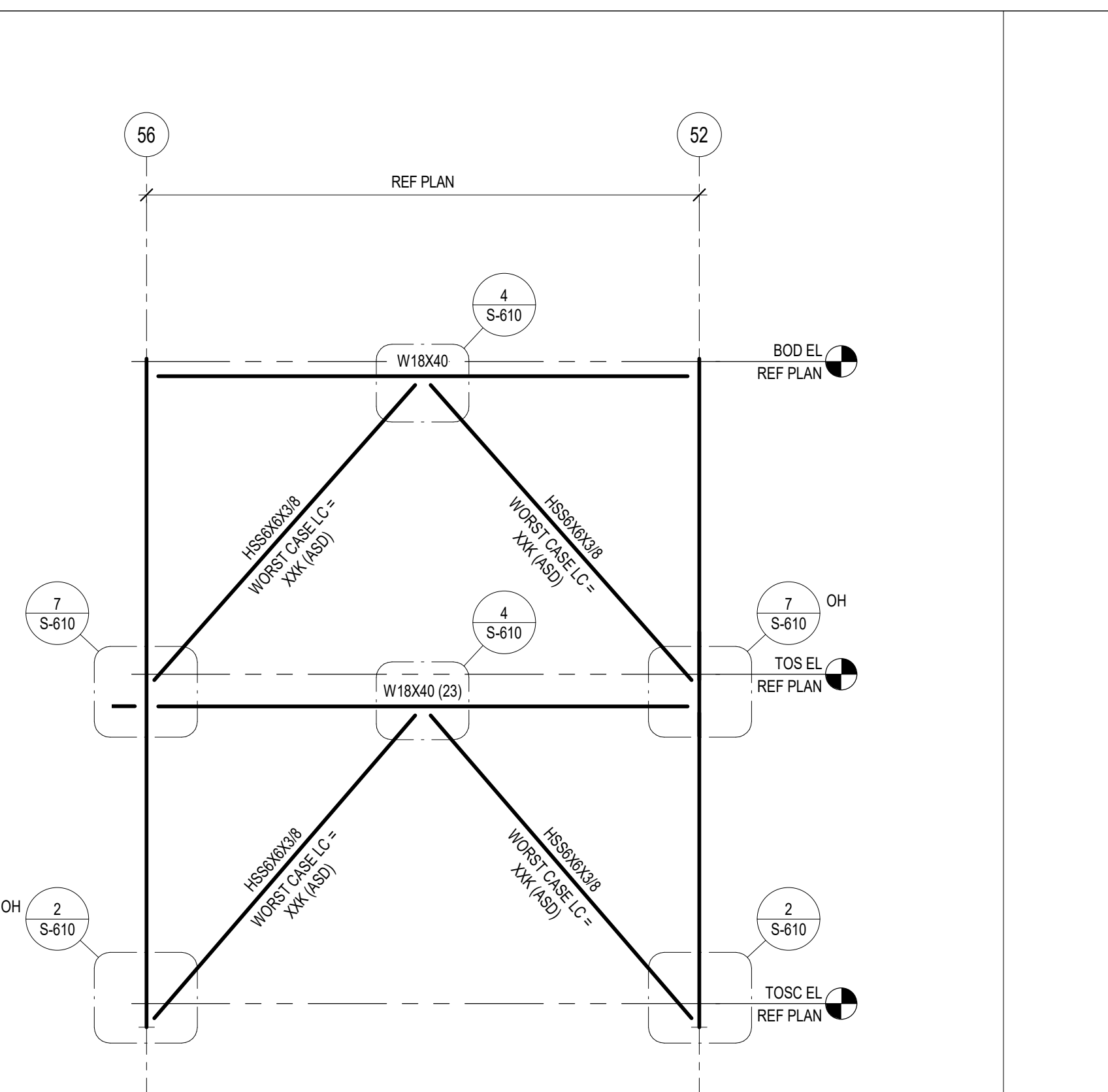
ISSUE FOR PROPOSAL

TOMBALL

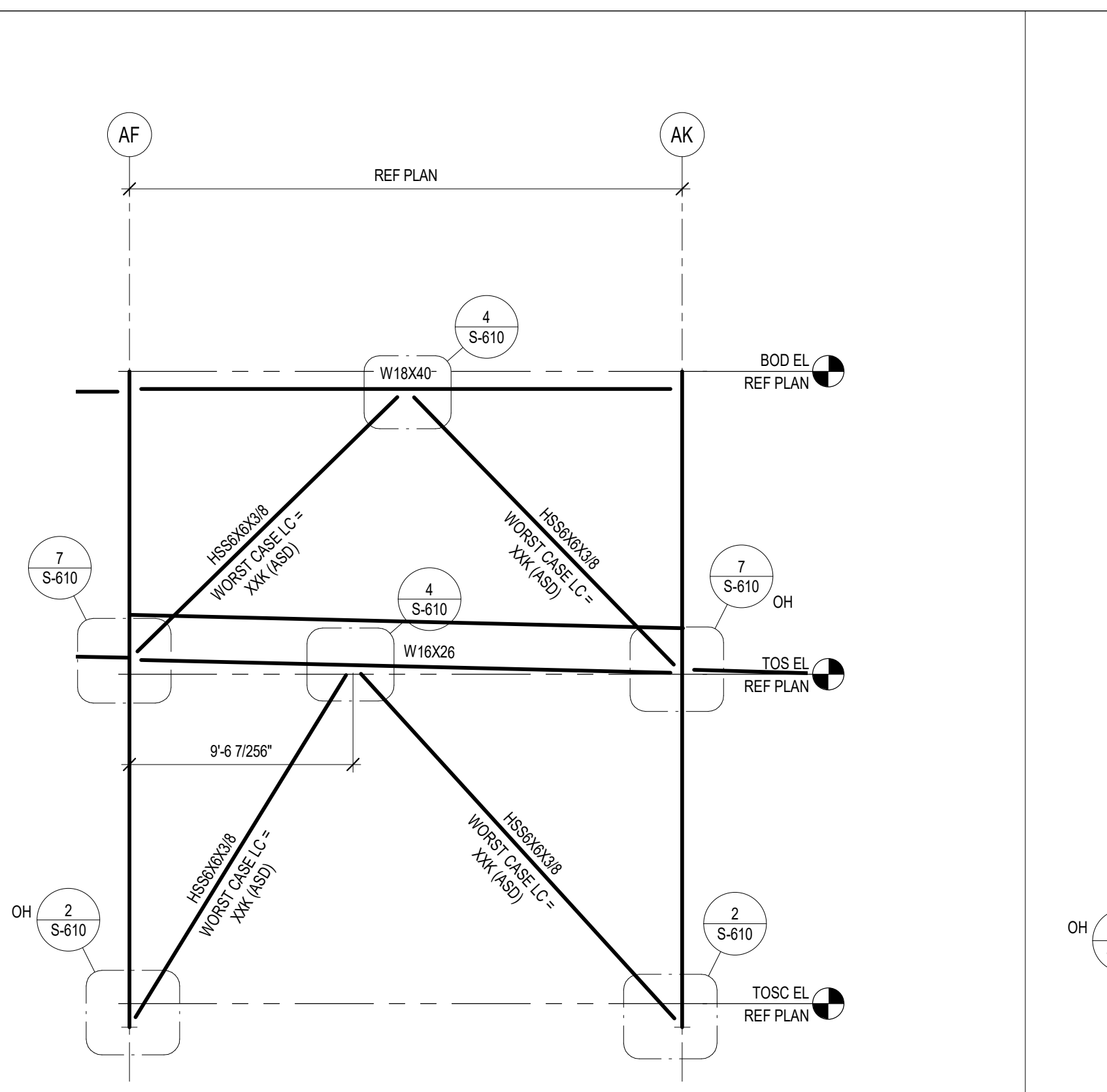
INDEPENDENT SCHOOL DISTRICT



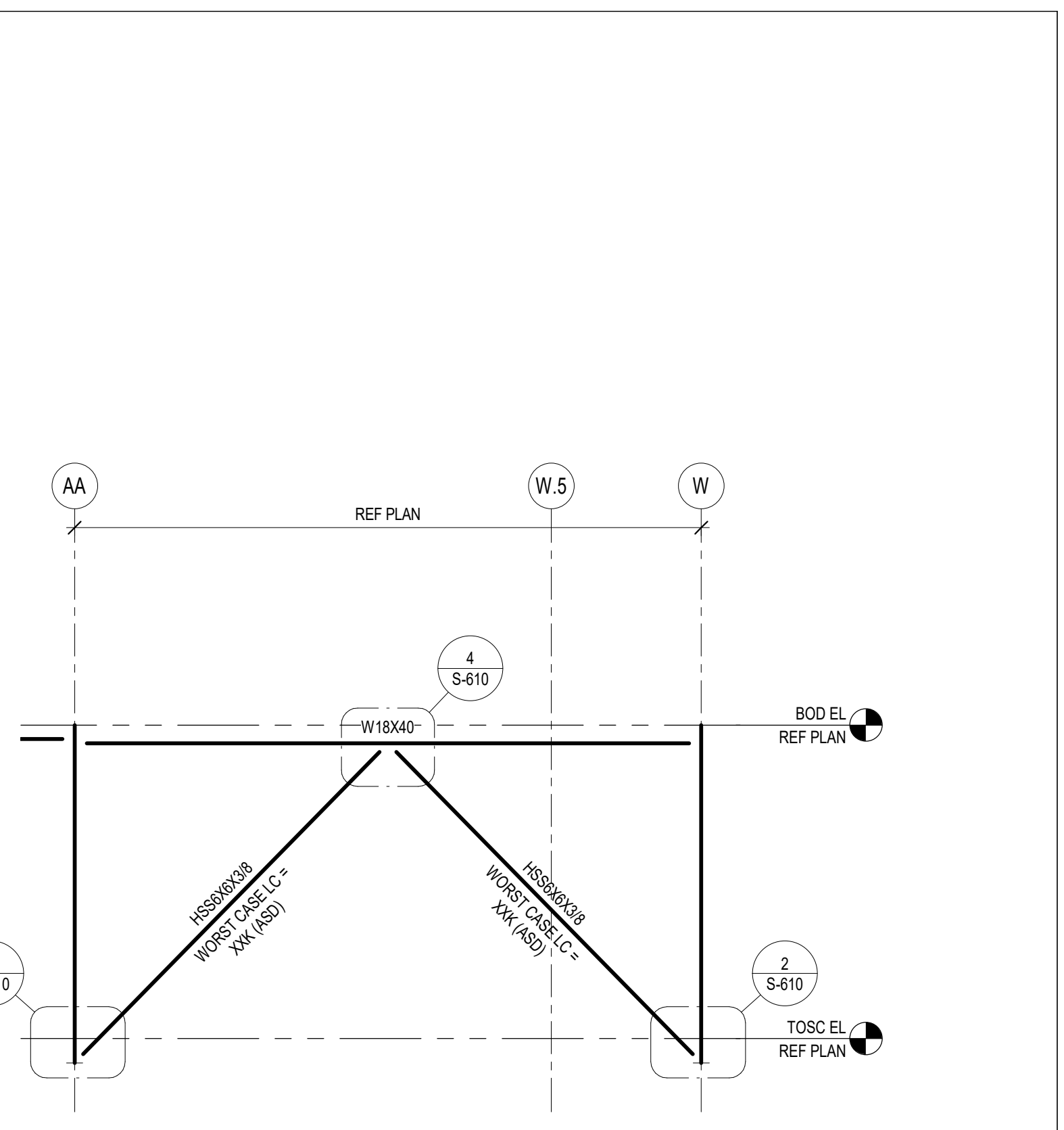
1 BRACE ELEVATION



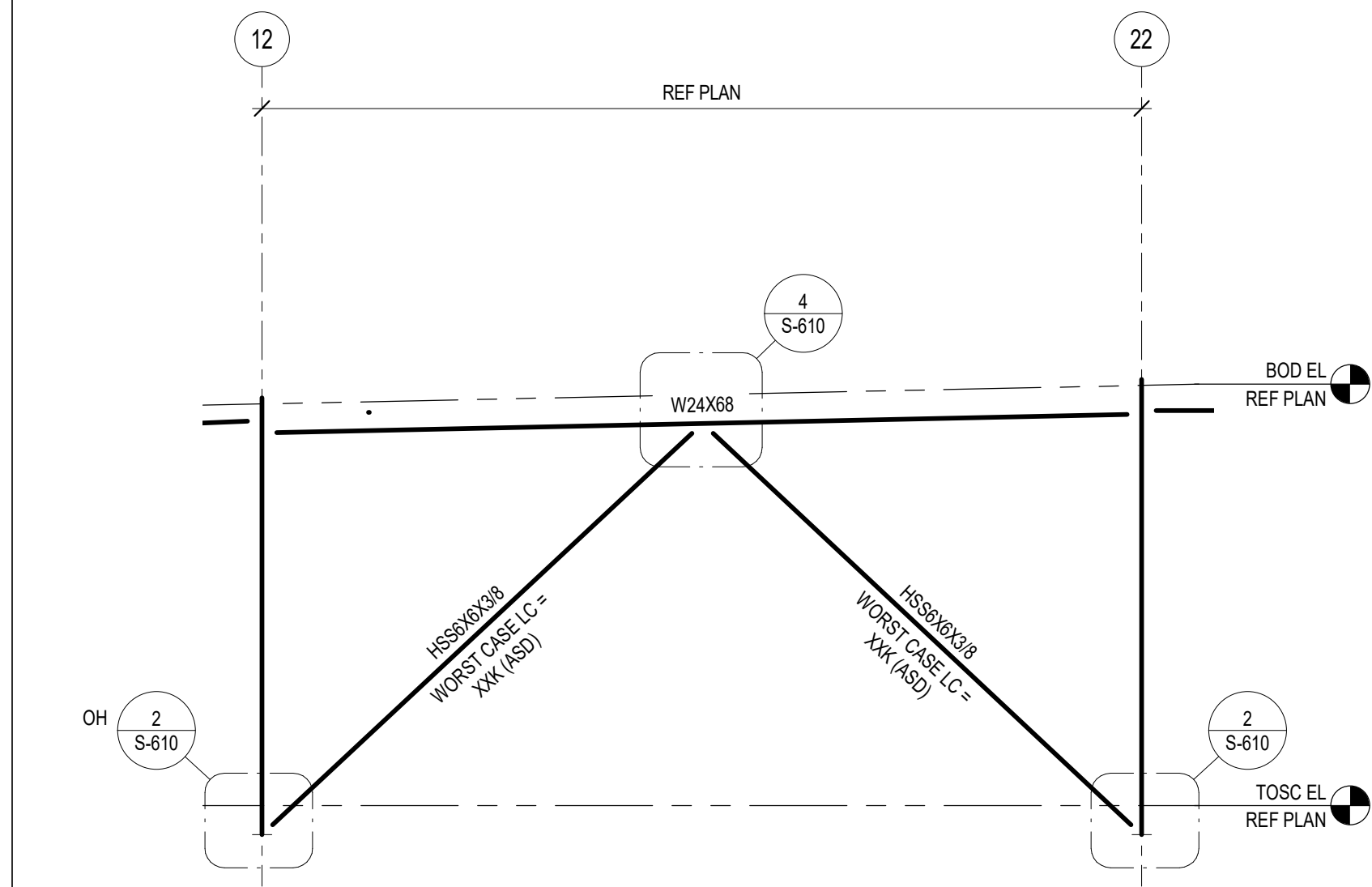
2 BRACE ELEVATION



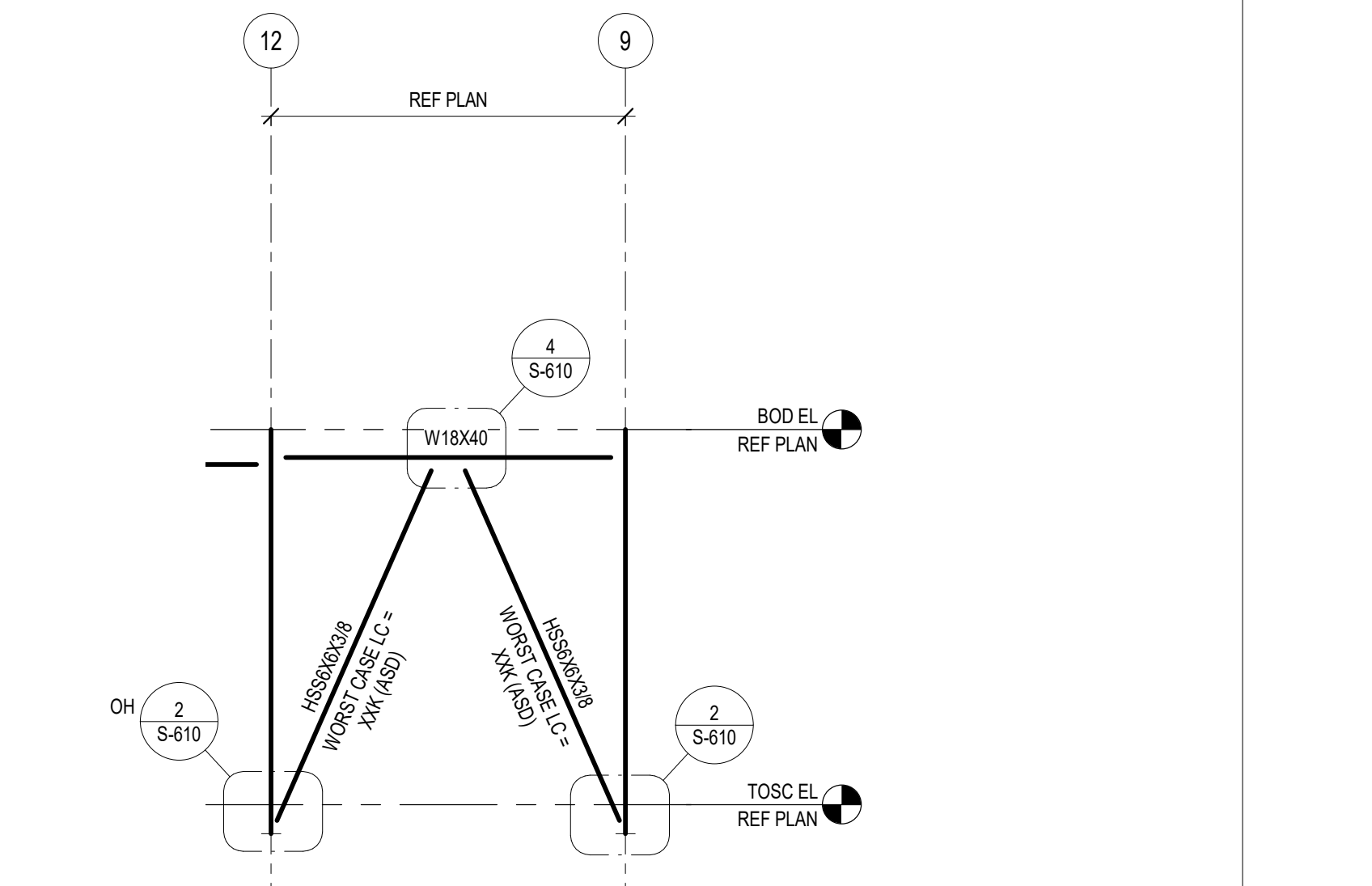
3 BRACE ELEVATION



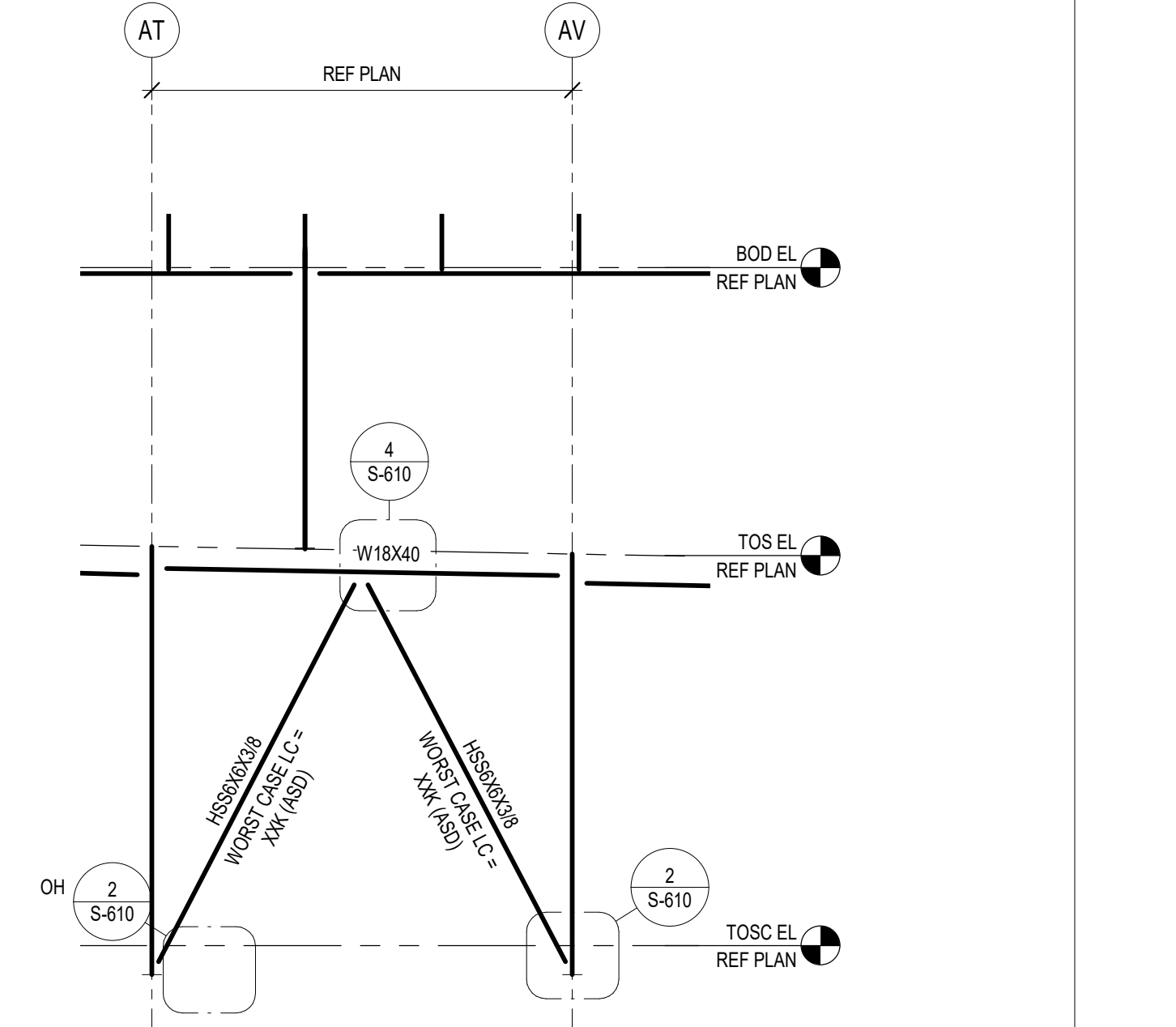
4 BRACE ELEVATION



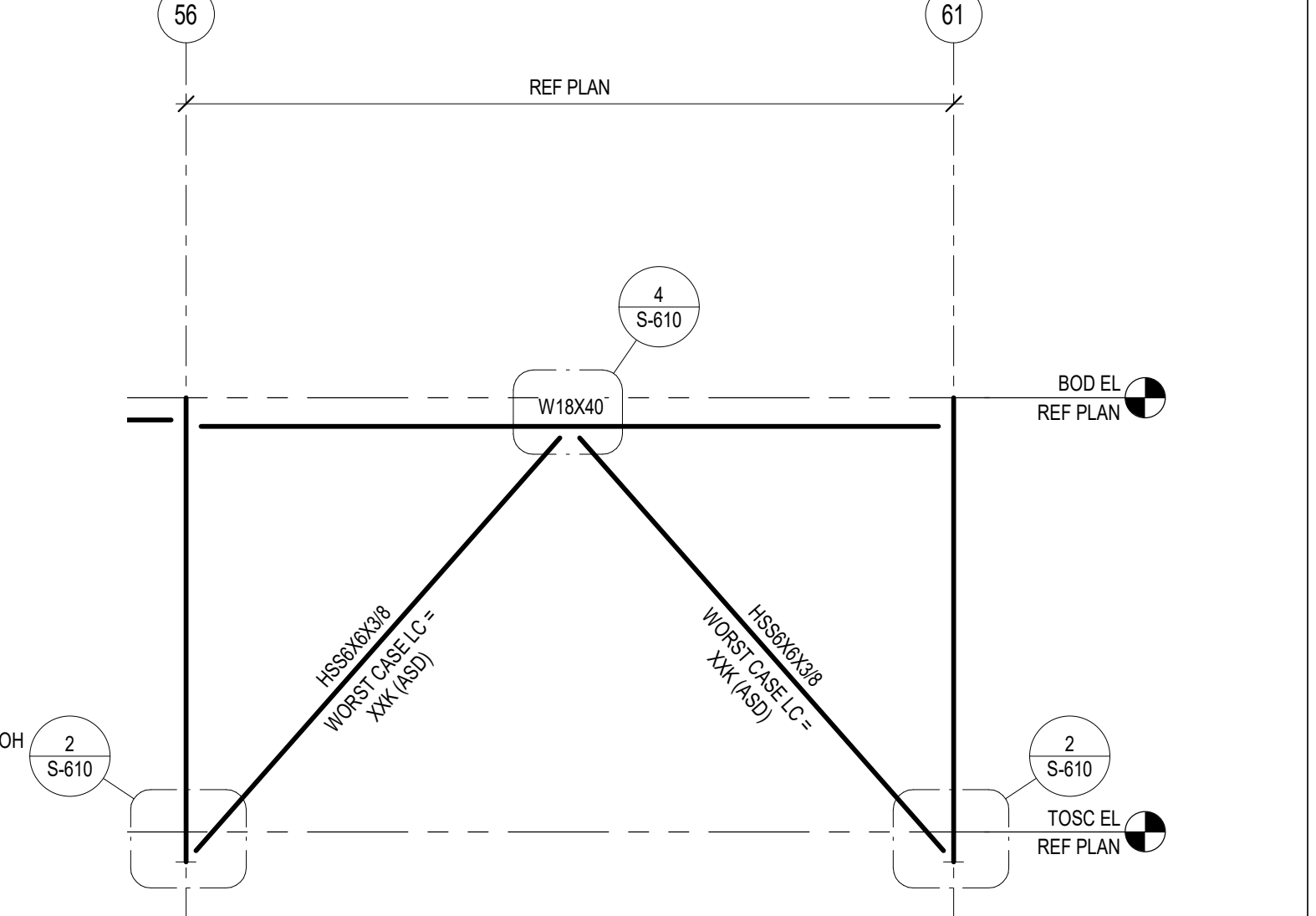
5 BRACE ELEVATION



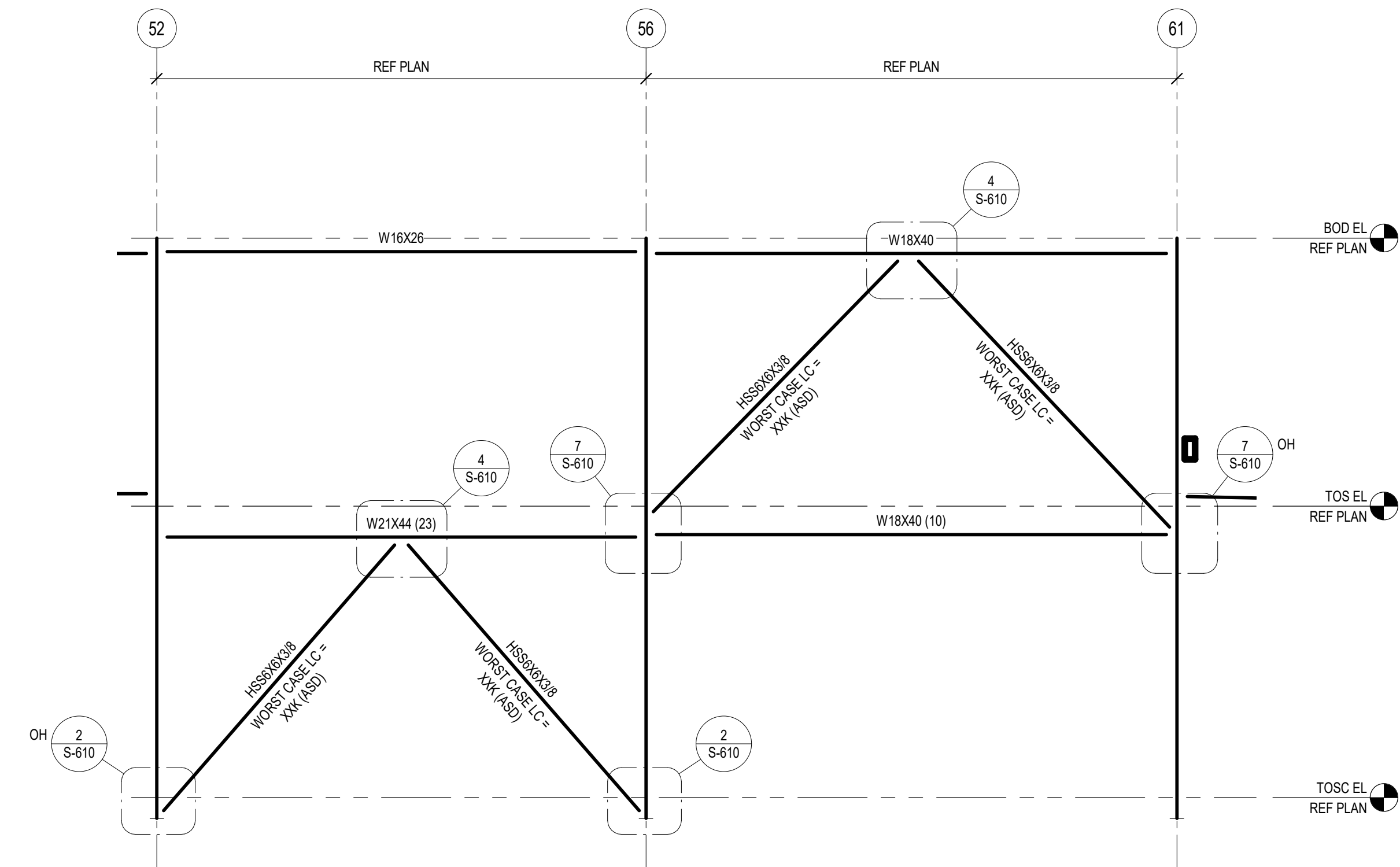
6 BRACE ELEVATION



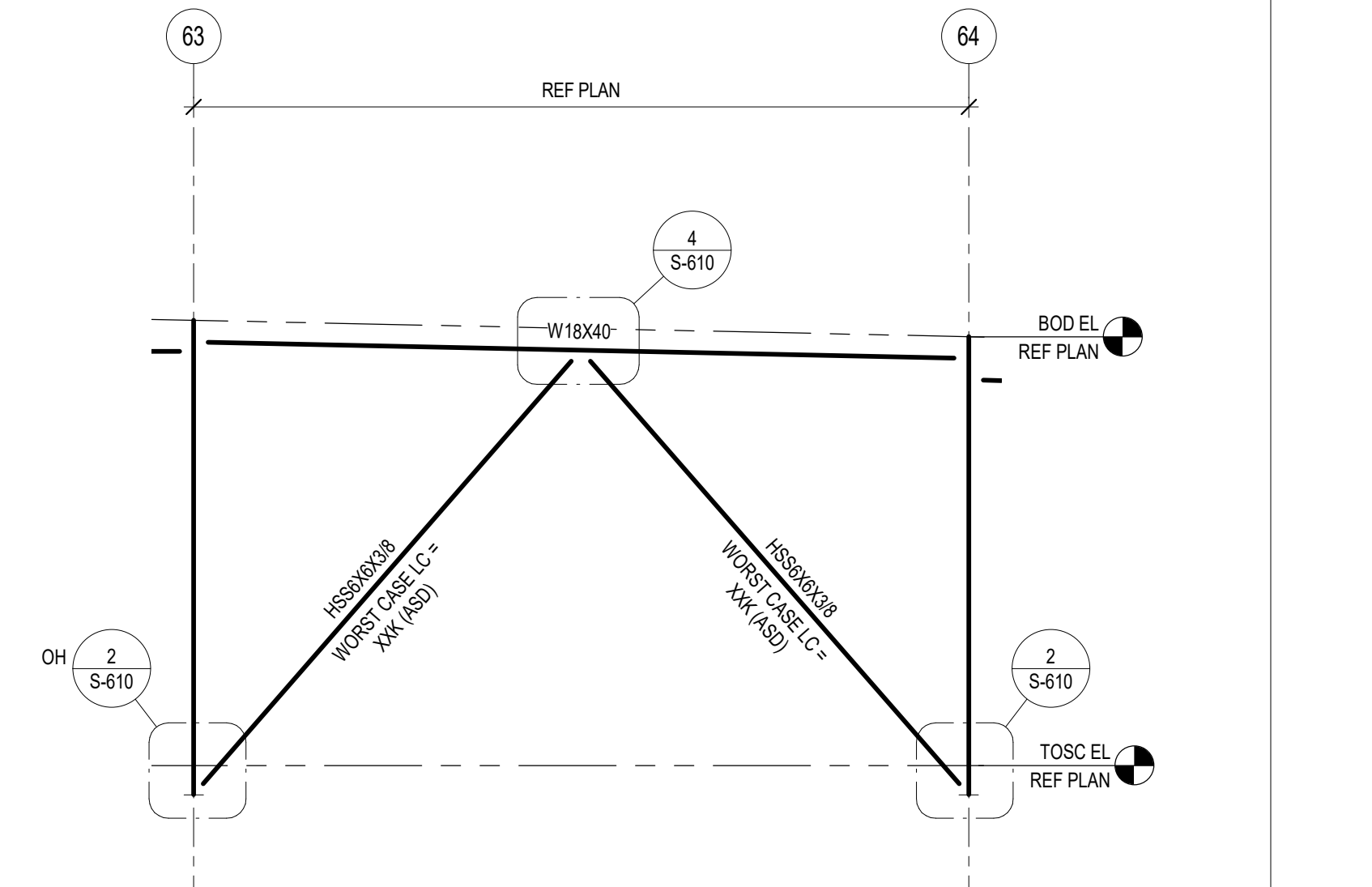
7 BRACE ELEVATION



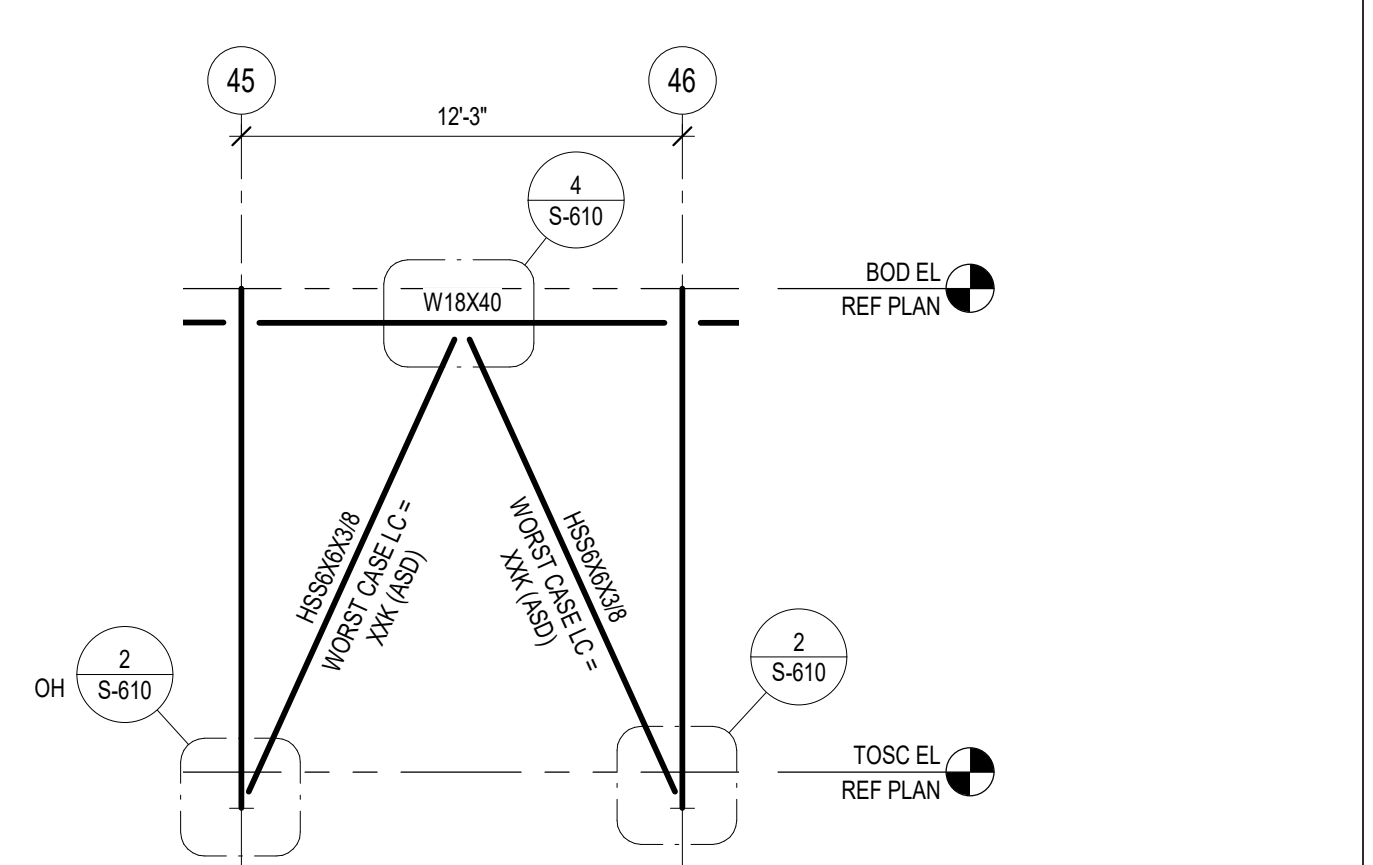
8 BRACE ELEVATION
3/16" = 1'-0"



9 BRACE ELEVATION

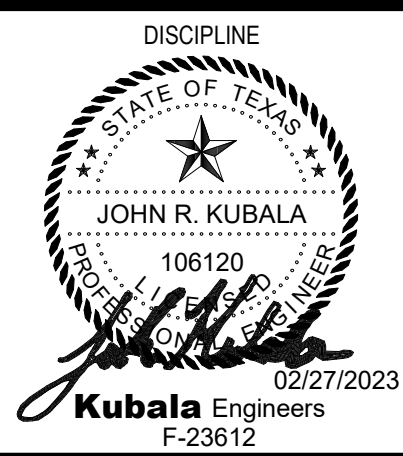


10 BRACE ELEVATION



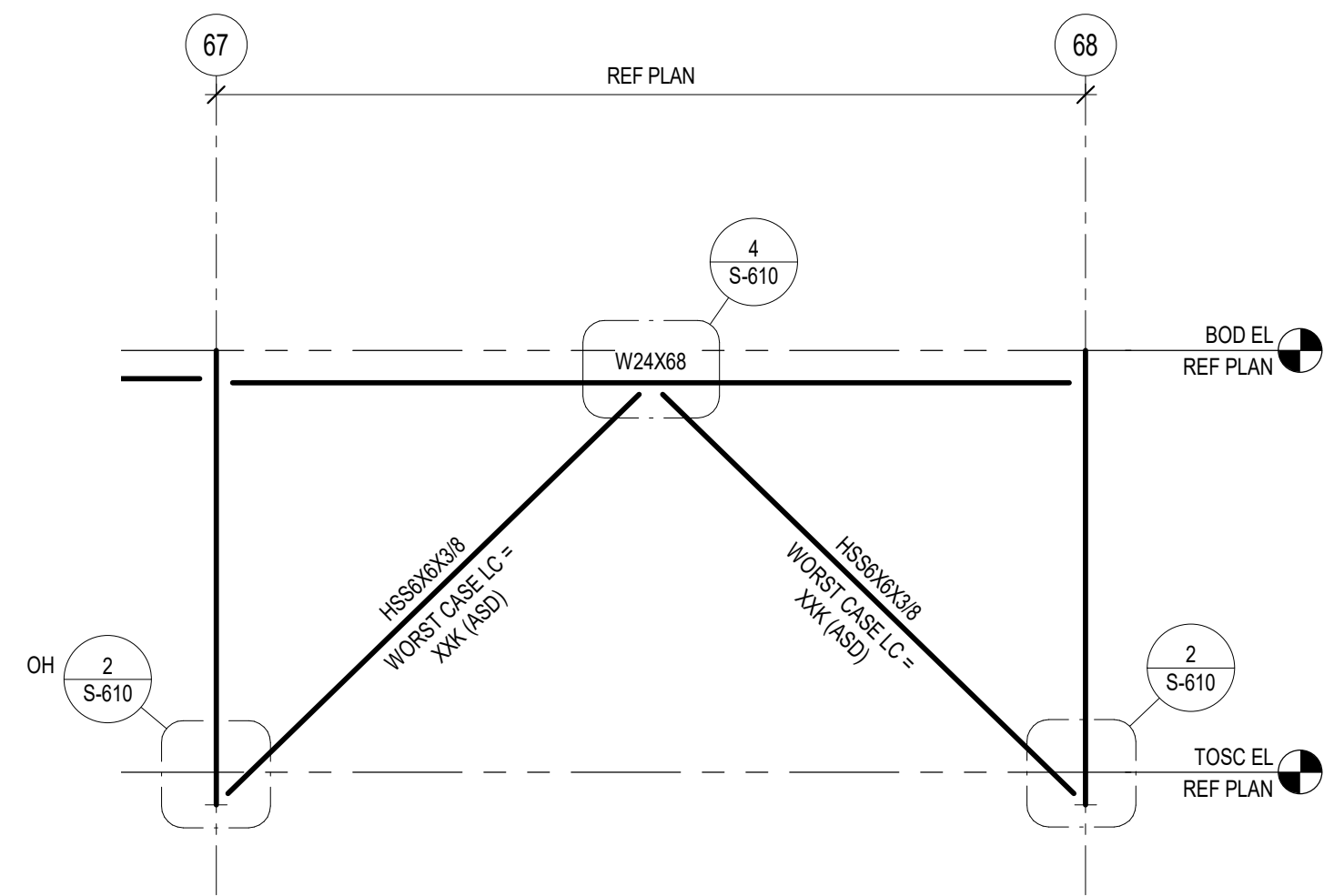
11 BRACE ELEVATION
3/16" = 1'-0"

JUERGEN ROAD
TOMBALL, TX
ISSUE FOR PROPOSAL

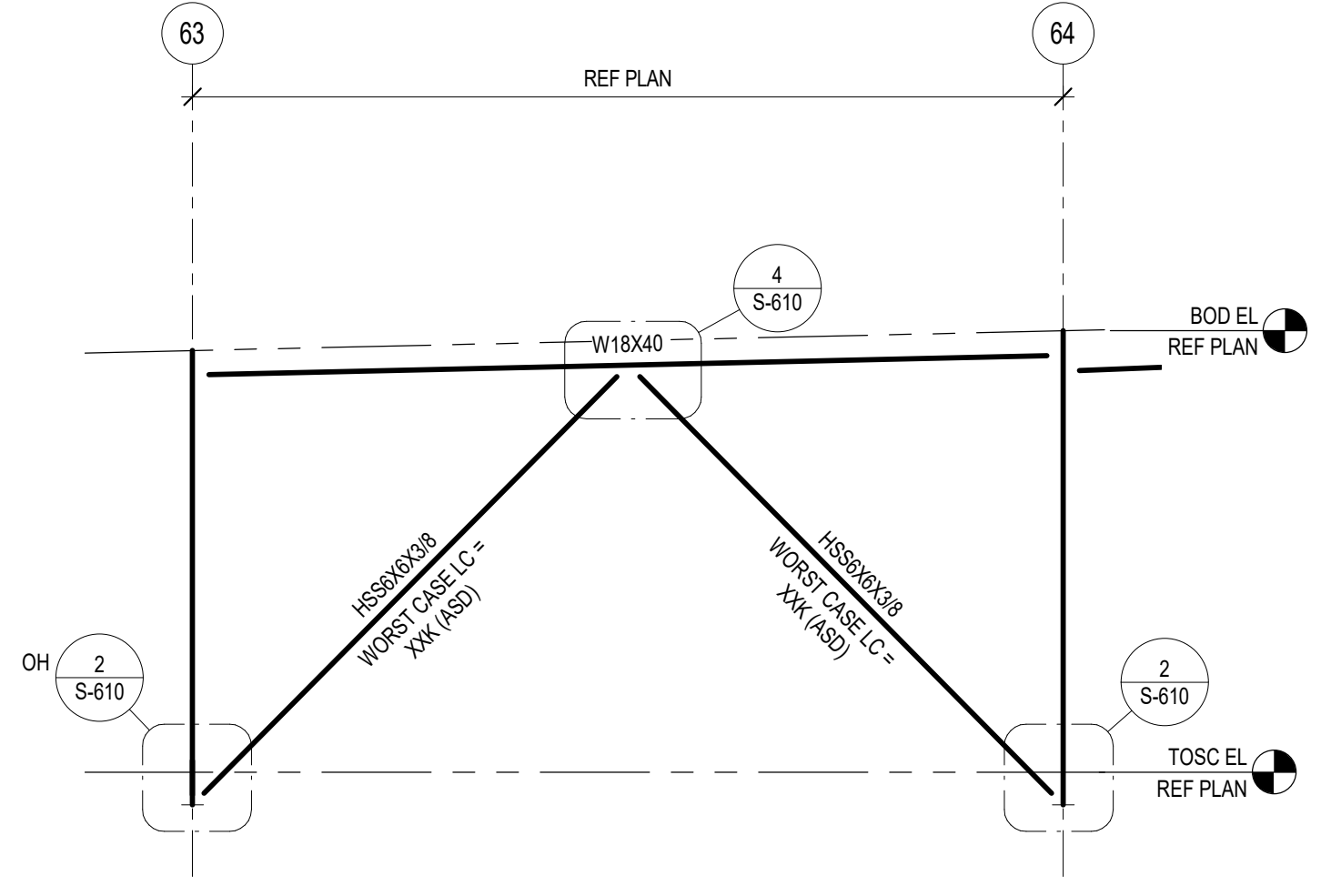
[illegible]

TYPICAL WIND BRACING ELEVATIONS

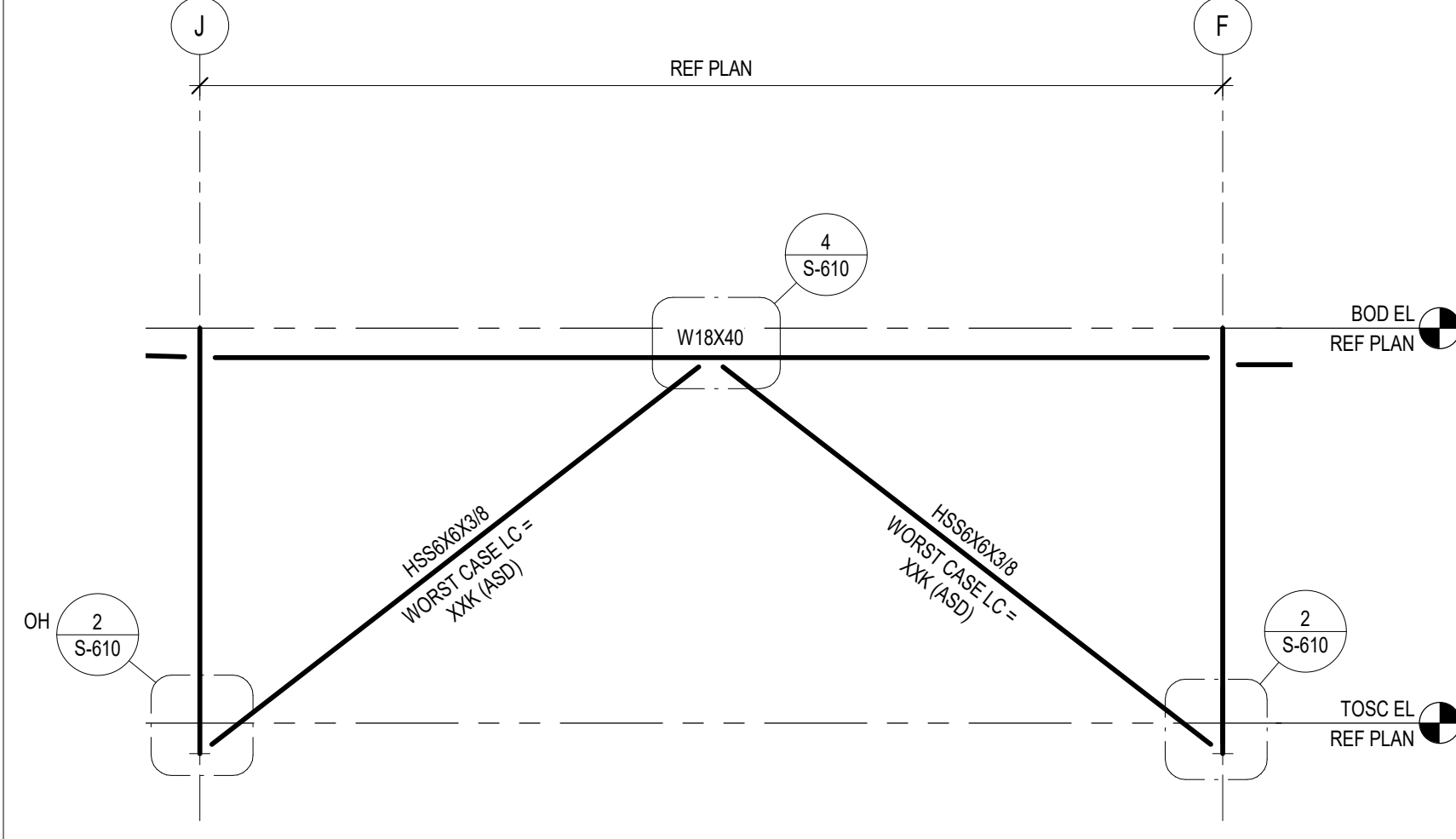
S-601



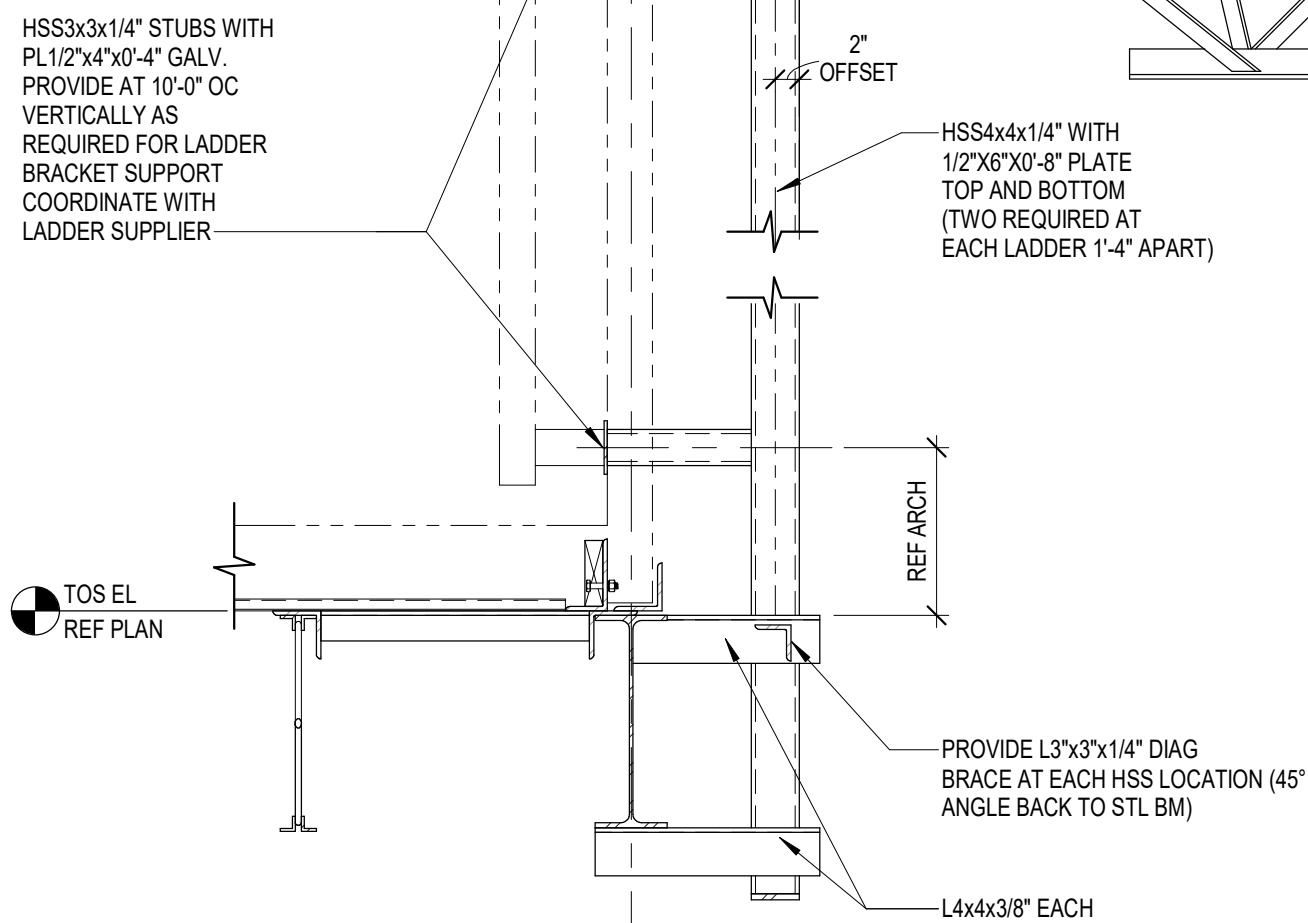
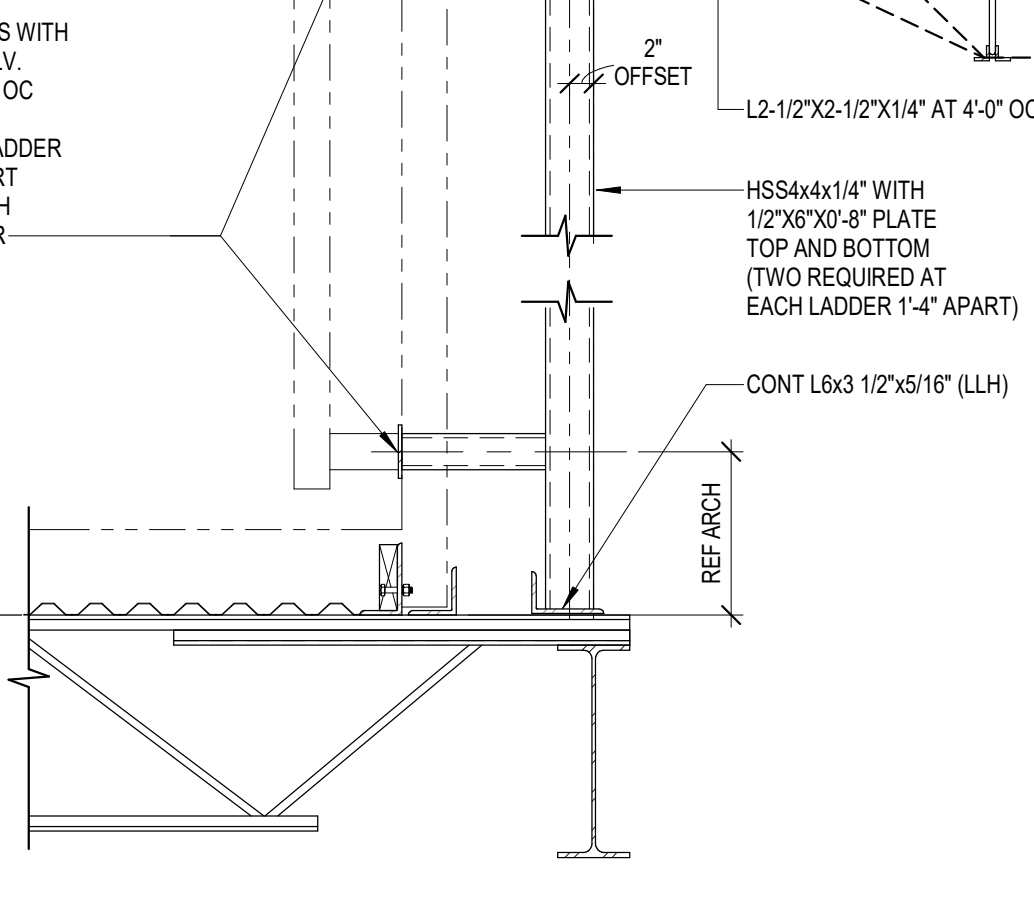
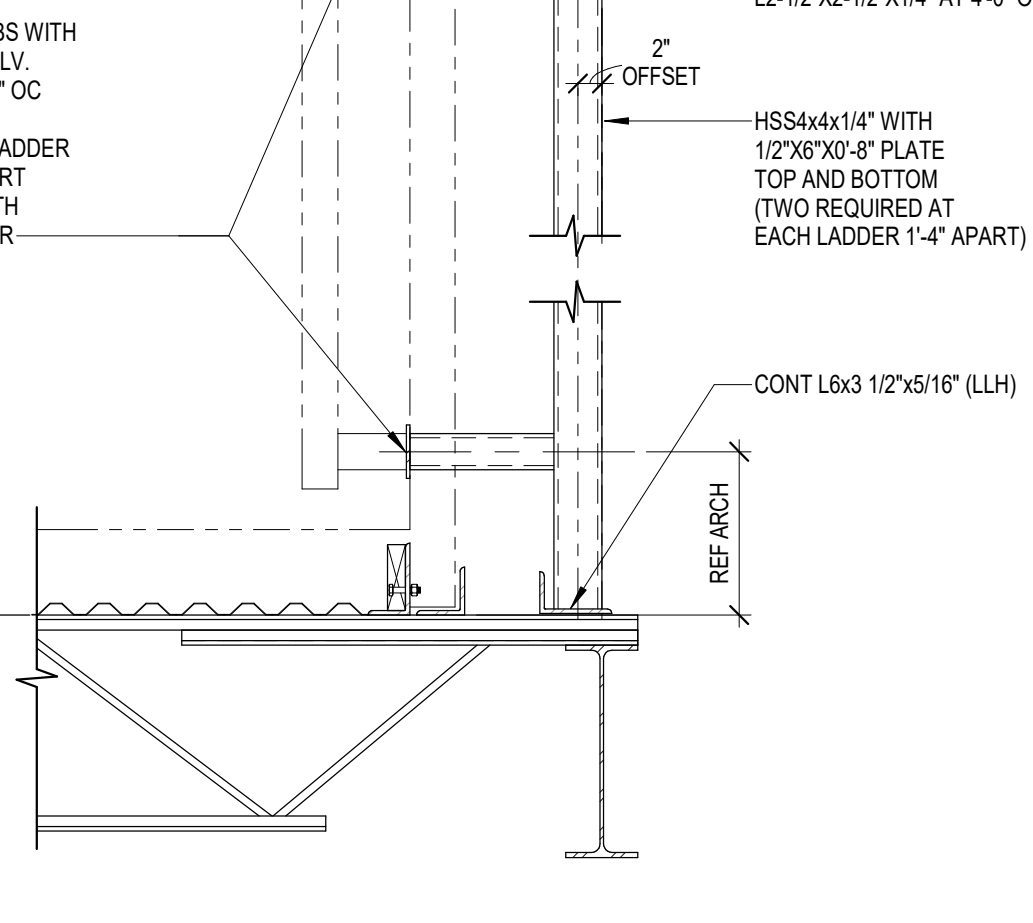
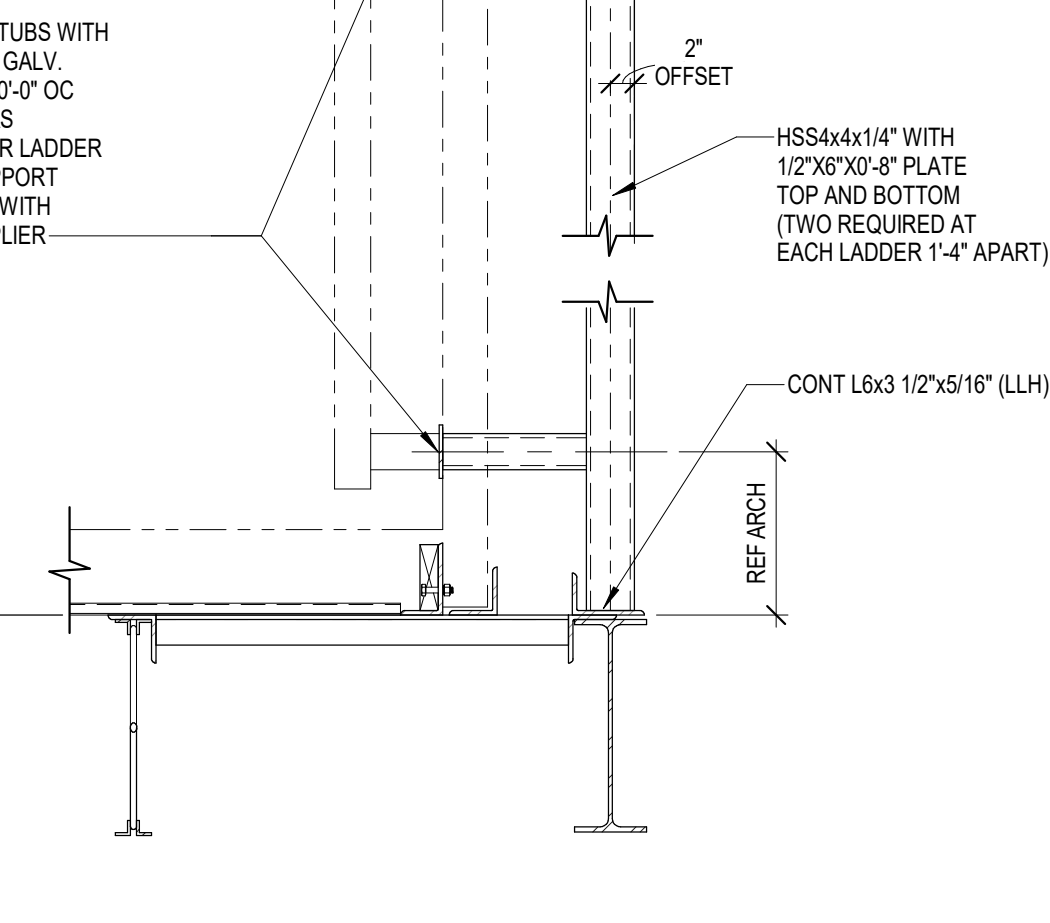
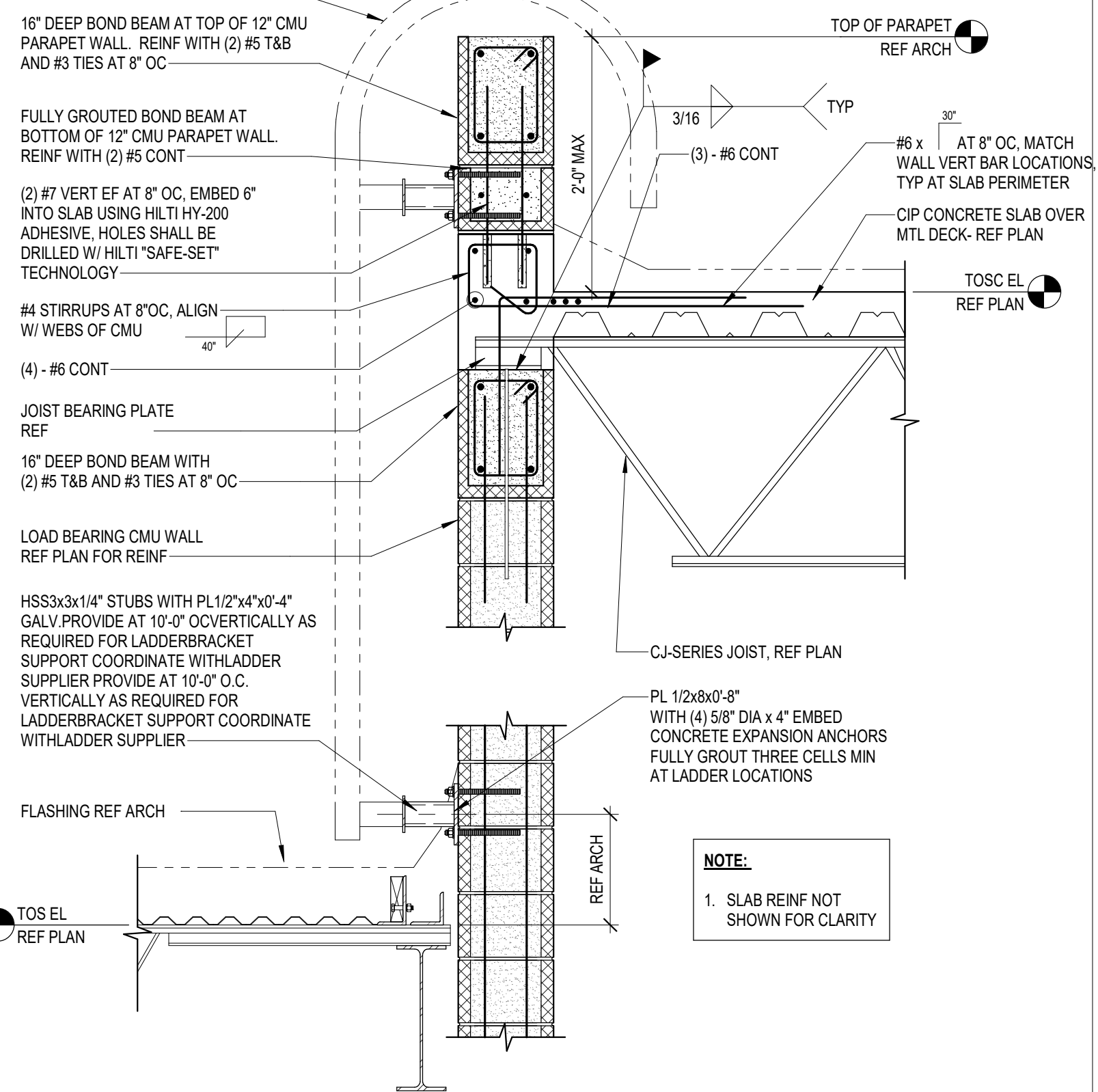
1 BRACE ELEVATION



2 BRACE ELEVATION



3 BRACE ELEVATION


$$\frac{3}{4}'' = 1'-0''$$

$$3/4'' = 1'-0''$$

$$3/4" = 1'-0"$$

$$3/4'' = 1'-0$$

$$3/4" = 1'-0"$$

NOTE:

1. SLAB REINF NOT
SHOWN FOR CLARITY