

ADDENDUM NO. 3

DATE: January 25, 2021

BID NO. 2838

**CLOVIS EAST HIGH SCHOOL CTE FARM AND FOOD PRODUCT FACILITY
CLOVIS UNIFIED SCHOOL DISTRICT
CLOVIS, CALIFORNIA**

**FILE NO. 10-H3
APPL. NO. 02-118543**

G.A. PROJECT NO. 1739

NOTICE TO ALL CONTRACTORS SUBMITTING BIDS FOR THIS WORK AND TO ALL PLAN HOLDERS:

You are hereby notified of the following changes, clarifications or modifications to the original Contract Documents, Project Manual, Drawings, Specifications and subsequent Addenda. This Addendum shall supersede the original Contract Documents, and previous Addenda wherein it contradicts the same and shall take precedence over anything to the contrary therein. All other conditions remain unchanged.

INDEX OF ADDENDA TRANSMITTED HEREWITH

Addendum Item AD3-A01 thru AD3-A06

AD3-A01: ARCHITECTURAL DRAWINGS:

1. ACOUSTICAL CEILING TILE CLARIFICATION

Refer to Interior Finish Schedule, Sheet A7.1

Floral Lab Room #1: Provide and install ARMSTRONG “Fine Fissured #746 12”x12”x5/8” Ceiling Tiles” in lieu of the Type “V” indicated on the Interior Finish Schedule. Ceiling tiles shall be adhesively applied to the gypsum board per Specification Section 09-510, Part 2.03.

2. STAINLESS STEEL DUCT SHROUD

Refer to Sheet A4.2 Interior Elevations, Room 2

- a. At Room 2 Product Development, North Elevation, provide and install a stainless steel shroud around the Pro Smoker Duct, See attached Detail AD-2 for additional information.
- b. At Room 2 Demonstration Station Unit, North Elevation, provide and install a stainless steel shroud around the Range Hood Duct, See attached Detail AD-3 for additional information.

3. GEOTECHNICAL INVESTIGATION AND GEOHAZARDS STUDY REPORT

The Geotechnical Investigation and Geohazards Study Report is provided herein in Electronic PDF format only; or it can be requested through our office in Electronic PDF format as well.

4. ACCESSIBLE CHAIN LINK GATE HARDWARE CLARIFICATION

Refer to Sheet A1.4 Site Details, Detail 10- Accessible C.L. Gate

Use the following Panic Bar Exit Device and lock cylinders:

1-Von Duprin exit device CD-AX99L 626

1-Schlage cylinder 20-057 626

1-Schlage cylinder 20-061 626

5. METAL LOCKERS

Refer to Sheet A3.1, Exterior Elevations, Partial East and Spec. Section 10-501

Revise metal locker depth from 24" to 18".

6. VAPOR BARRIER AT SLAB CLARIFICATION

Refer to Sheet A5.1, Sections, Section 'A' and 'C';

The sand base occurs at all 7" thick paving areas.

The sand base and moisture barrier only occurs at the enclosed building areas.

AD3-A02: SPECIFICATIONS:

1. MODULAR CABINETWORK:

Refer to Spec. Section 06-412, Part 1.04, C.

Insert the following as Acceptable Manufactures or Suppliers:

- Freemont Millwork Co., Klamath Falls, OR, (541) 884-5554
- Pyramid Systems Inc., Hanford, CA, (559) 582-9345
- Westmark Products Inc., Tacoma, WA, (253) 531-3470
- Architectural Wood Design, Fresno, CA, (559) 292-9104

2. METAL DOORS AND FRAMES CLARIFICATION:

Refer to Spec. Section 08-100, Part 2.04, B, Item 9

Project has no Sound Doors; Delete Item 9.

3. METAL PANEL AND VAPOR BARRIER:

Refer to Specification Section 07-410 METAL PANELS, Part 2.0, H.

Clarification: Subject vapor barrier shall apply over wall and roofing plywood sheeting where metal panel components are shown.

4. PAINING:

Refer to Specification Section 09-900, Part 3.05, D.

Add third coat of finish to cement plaster paint type EP-2.

5. FOOD SERVICE EQUIPMENT:

Refer to Specification Section 11-40-00, Part 1.01 & 1.02.

- A. Replace 'Kitchen Contractor' reference with 'Food Service Equipment Contractor'.
- B. Replace 'Construction Manager' reference with 'General Contractor'.
- C. Add the following to Part 1.02, C, 1:

Mandatory Coordination and Shop Drawings:

- a. Prepare or have prepared high level detailed Shop Drawings in plan view and elevations, with cross sections as necessary, indicating the proposed installation plan for all Food Service Equipment including utility connections for the project. These Shop Drawings shall be provided to each Subcontractor for coordination. Any adjustments due to lack of coordination shall be at no additional cost to the District.
- b. Whereas the Design Drawings show only the general arrangement of equipment, Contractor shall be responsible for the fitting of materials and equipment to other parts of the structure.
- c. Resolve differences or disputes between subcontractors concerning coordination, interference, or extent of work between sections. The Contractor's decisions, if consistent with the Contract Documents, shall be final. The Architect and their Consultants are not required to coordinate work between subcontractors.
- d. Shop Drawings shall be submitted to the District's Representative for review and approval prior to commencement of fabrication or installation.

AD2-A03: STRUCTURAL ITEMS:

Incorporate into the project attached Brooks Ransom Associates Memorandum dated 1/21/2021 and corresponding (4) sheets.

AD2-A04: PLUMBING / MECHANICAL ITEMS:

Incorporate into the project attached Lawrence Engineering Group Memorandum dated 1/19/2021 and corresponding (4) sheets.

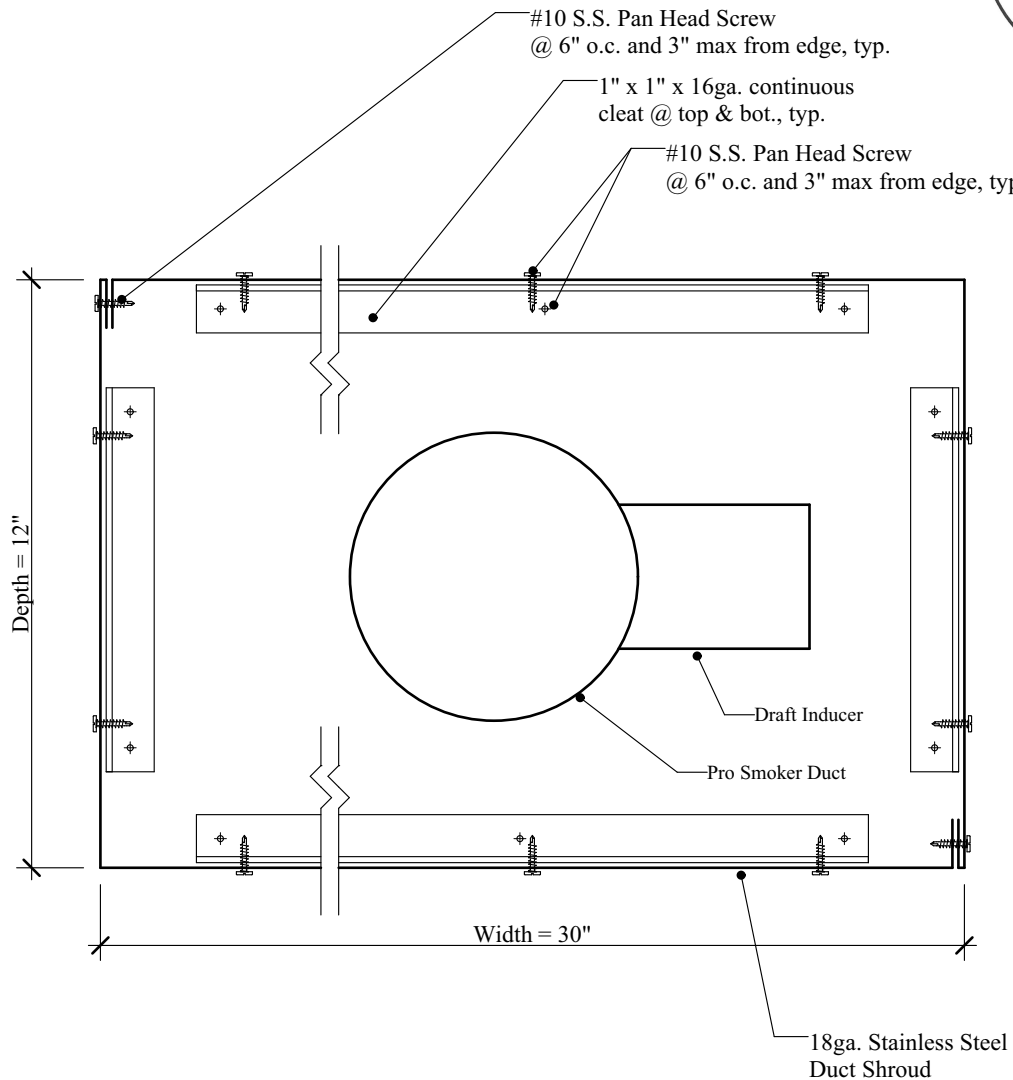
AD2-A05: ELECTRICAL ITEMS:

Incorporate into the project attached Hardin-Davidson Engineering Memorandum dated 1/22/2021 and corresponding (2) sheets.

AD2-A06: FIRE SPRINKLER ITEMS:

Incorporate into the project attached Lawrence Engineering Group Memorandum dated 1/22/2021.

END OF ADDENDUM



Shroud Dimensions:

Pro Smoker Duct Shroud = 30"wide x 12" deep x 24" +/- high

STAINLESS STEEL DUCT SHROUD AT PRO-SMOKER

SCALE: 3" = 1'-0"

CTE: FARM AND FOOD PRODUCT FACILITY
CLOVIS EAST HIGH SCHOOL
CLOVIS UNIFIED SCHOOL DISTRICT

PROJECT NO: 1739

DATE: 1/21/2021

SHEET TITLE:
S.S. DUCT SHROUD AT
PRO-SMOKER



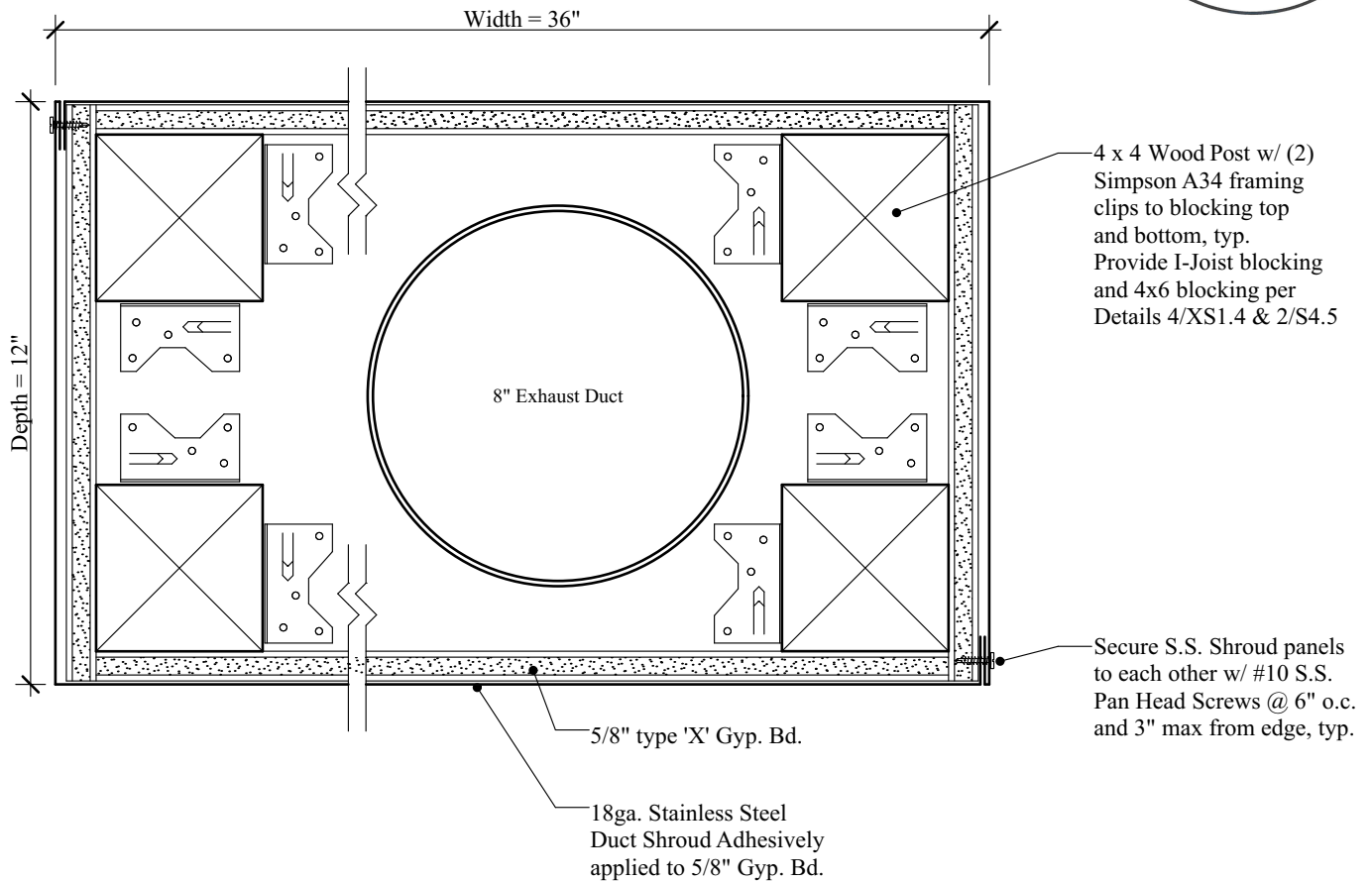
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TEL: 559-497-1542
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ARCHITECTURE PLANNING
JUAN M. GONZALEZ, A.I.A.

AD-2



Shroud Dimensions:

Demonstration Hood Duct Shroud = 36"wide x 12" deep x 10'-8" +/- high.
 Shape top of shroud to fit ceiling contour and notch for structural beam.

STAINLESS STEEL DUCT SHROUD AT DEMONSTRATION HOOD

SCALE: 3" = 1'-0"

CTE: FARM AND FOOD PRODUCT FACILITY
 CLOVIS EAST HIGH SCHOOL
 CLOVIS UNIFIED SCHOOL DISTRICT

PROJECT NO: 1739
 DATE: 1/21/2021

SHEET TITLE:
 S.S. DUCT SHROUD AT
 DEMONSTRATION HOOD

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AD-3



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January 21, 2021

Project No 20269

Juan Gonzales
Gonzales Architects

Subject: CTE: Farm and Food Product Facility - Clovis East H.S.

X/S1.4:

1.) Revised detail 4 to reflect Base Plate Schedule information.

X/S1.5:

1.) Revised detail 6 to reflect corner condition.

S3.1:

1.) Revised and clarified ledger information.

S4.3:

1.) Revised wall to reflect parapet condition and revised detail.

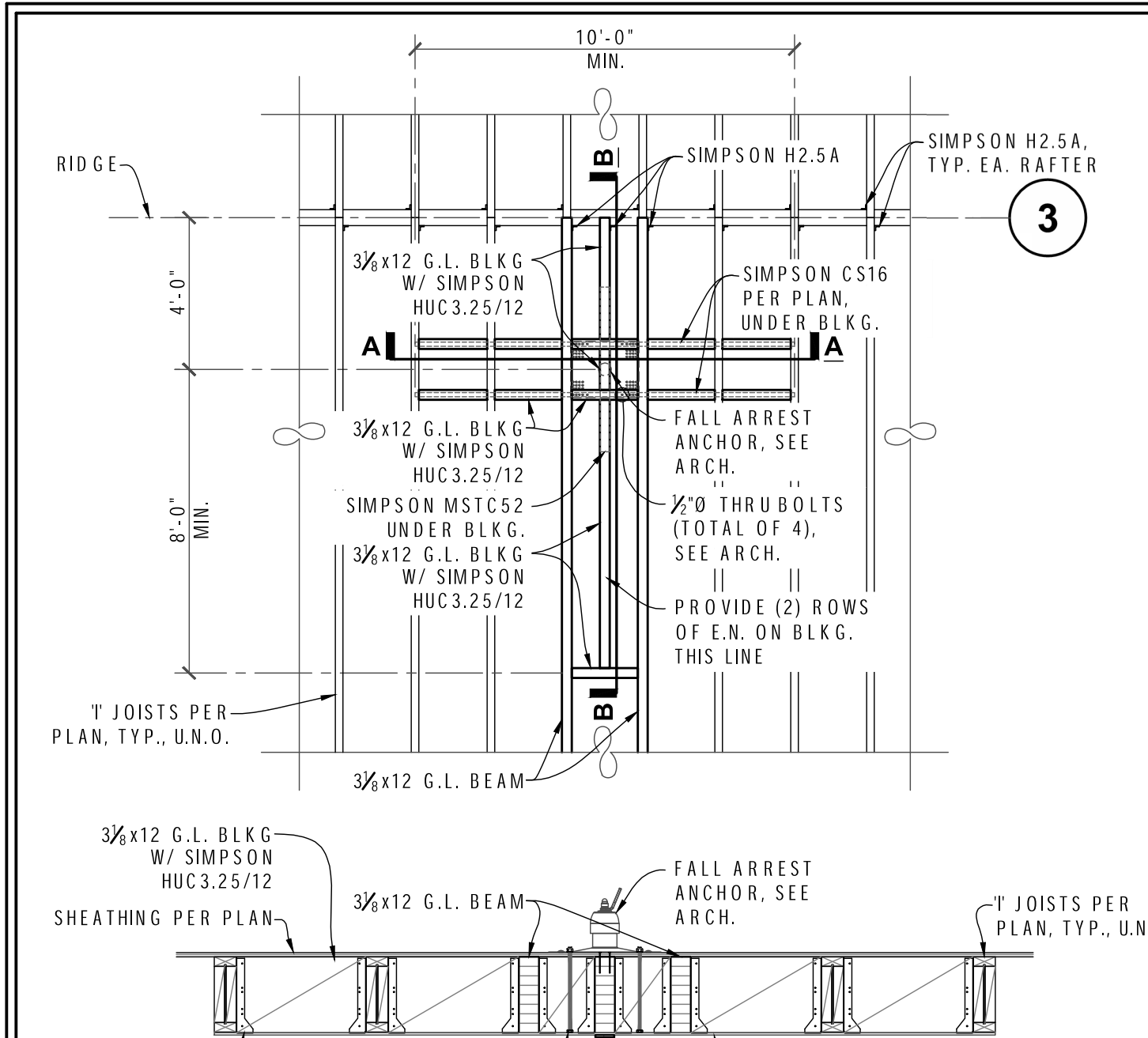
S4.4:

1.) Revised and clarified elevation to reflect the pipes thru sill plate.

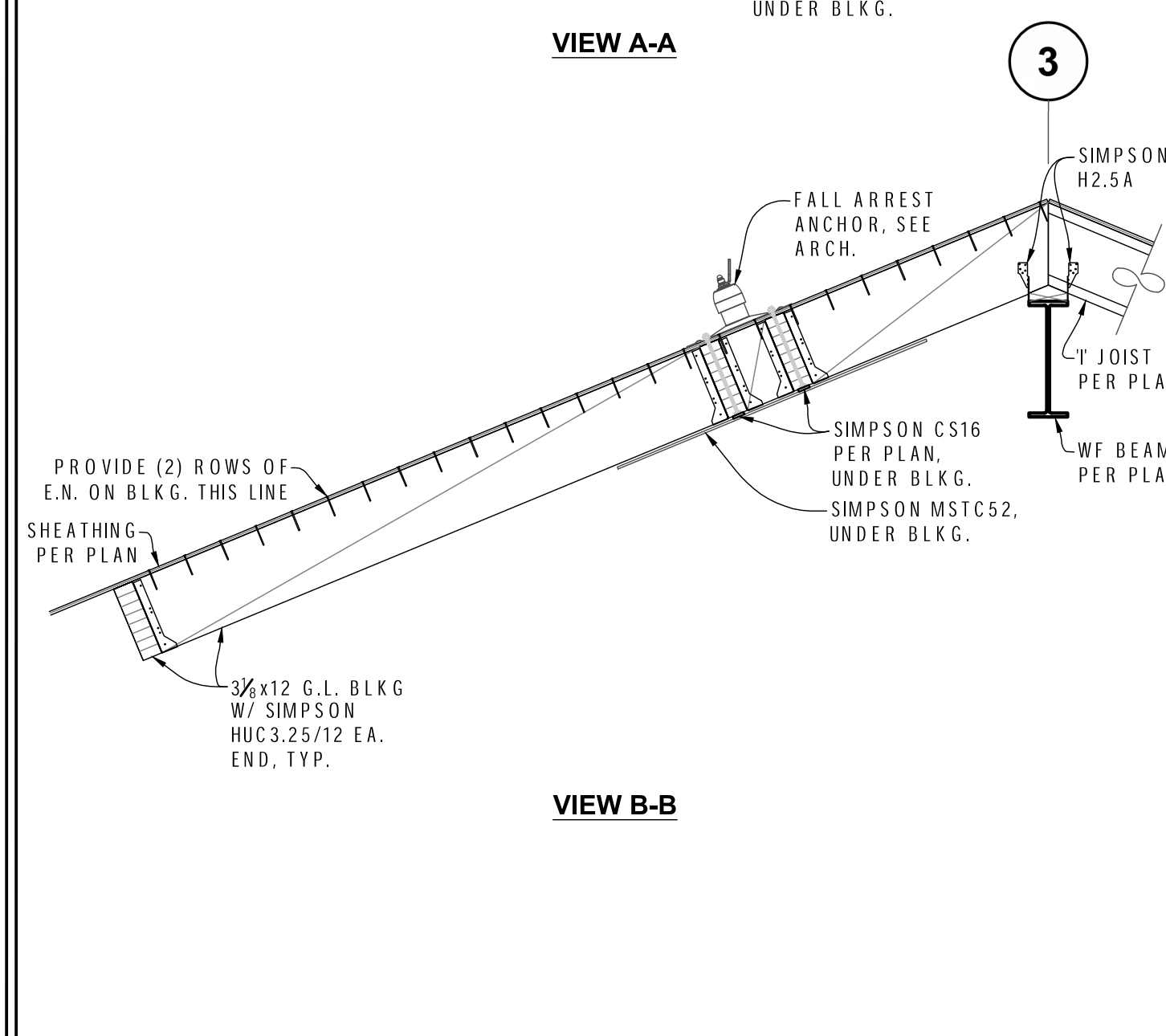
Respectfully Submitted,

Art Lopez
Principal

MEMBER:
STRUCTURAL ENGINEERS ASSOCIATION
AMERICAN COUNCIL OF ENGINEERING COMPANIES
AMERICAN SOCIETY OF CIVIL ENGINEERS
EARTHQUAKE ENGINEERING RESEARCH
INSTITUTE INTERNATIONAL CODE COUNCIL



3 BEAM PROFILE
SCALE: N.T.S.



11 FALL ARREST ANCHOR DETAIL
SCALE: N.T.S.

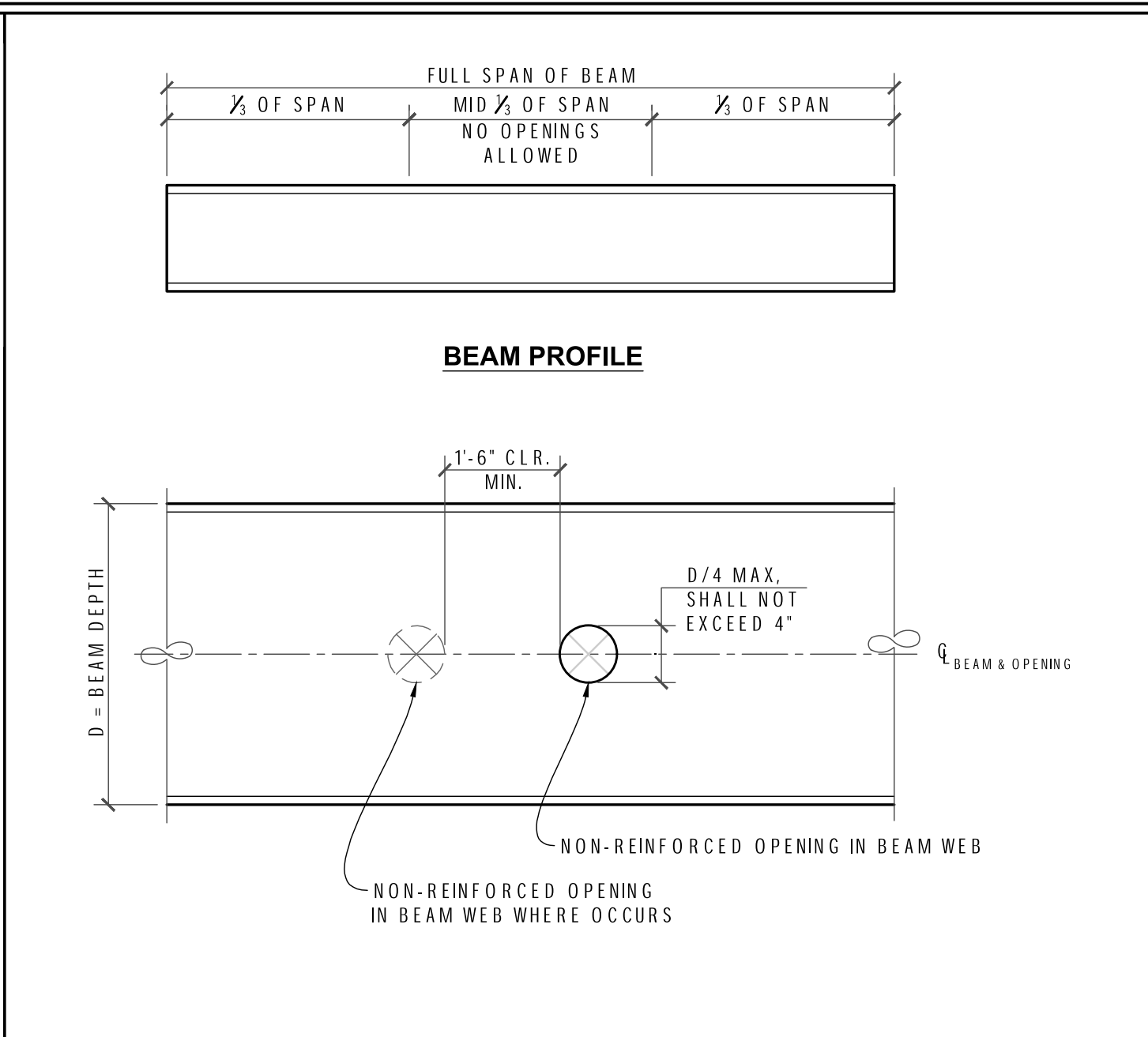
7 ROUND BEAM WEB OPENINGS
FOR WIDE FLANGES
SCALE: N.T.S.

4 COLUMN BASE PLATE SCHEDULE
SCALE: N.T.S.

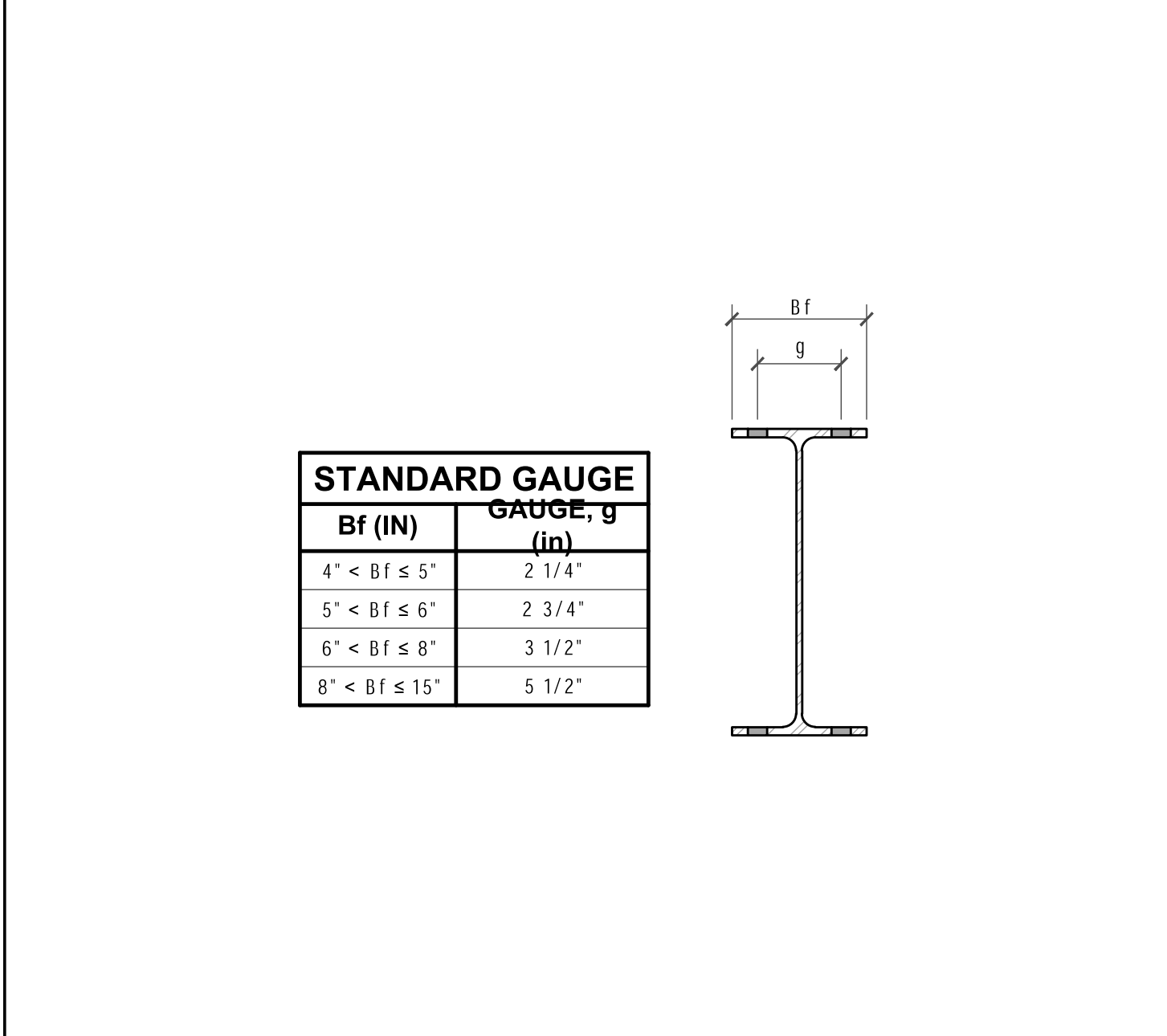
1 STEEL NOTES
SCALE: N.T.S.

2 BEAM SPLICE
SCALE: N.T.S.

3 GIRT CONNECTION
SCALE: N.T.S.



7 ROUND BEAM WEB OPENINGS
FOR WIDE FLANGES
SCALE: N.T.S.



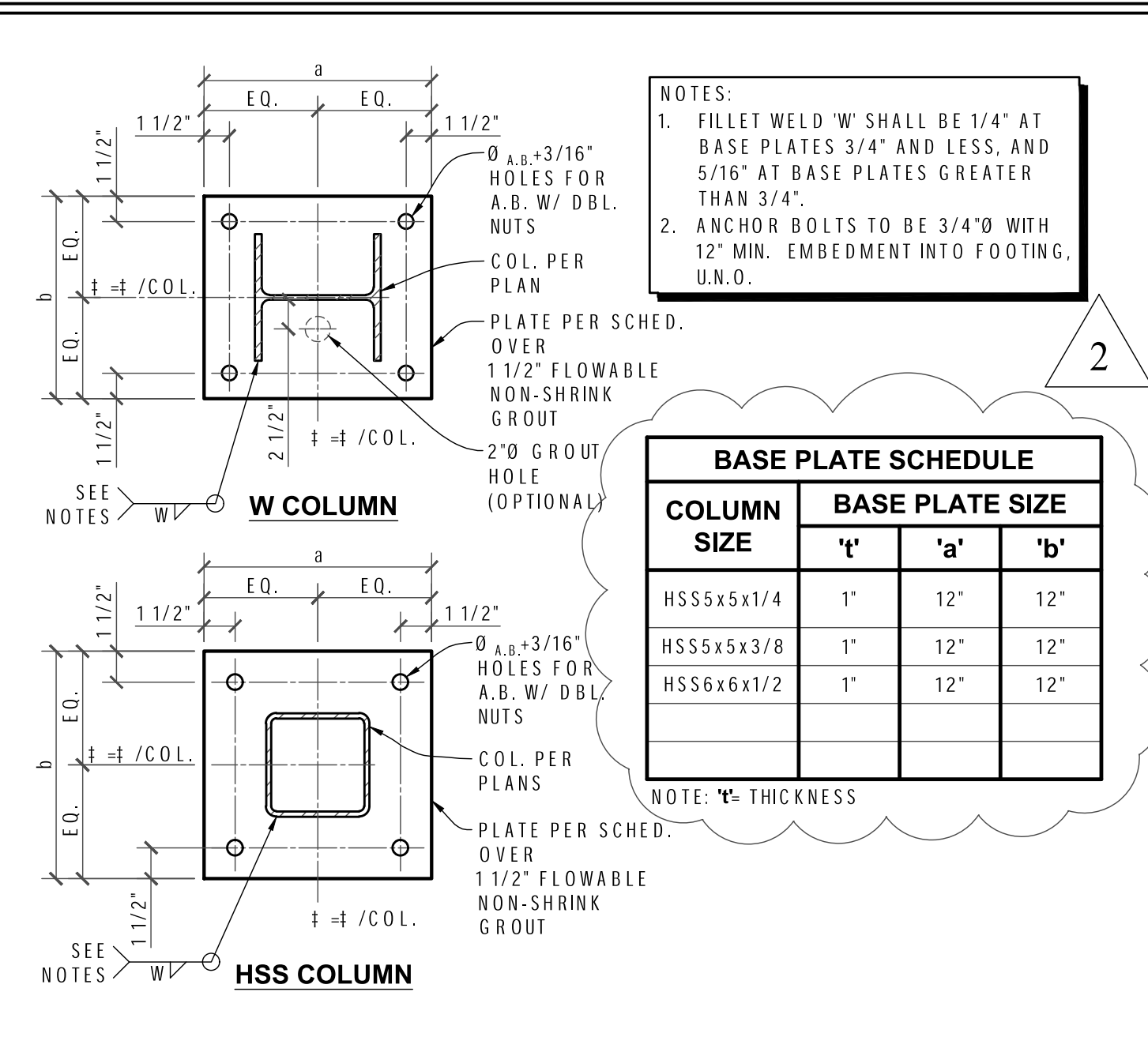
4 COLUMN BASE PLATE SCHEDULE
SCALE: N.T.S.

1 STEEL NOTES
SCALE: N.T.S.

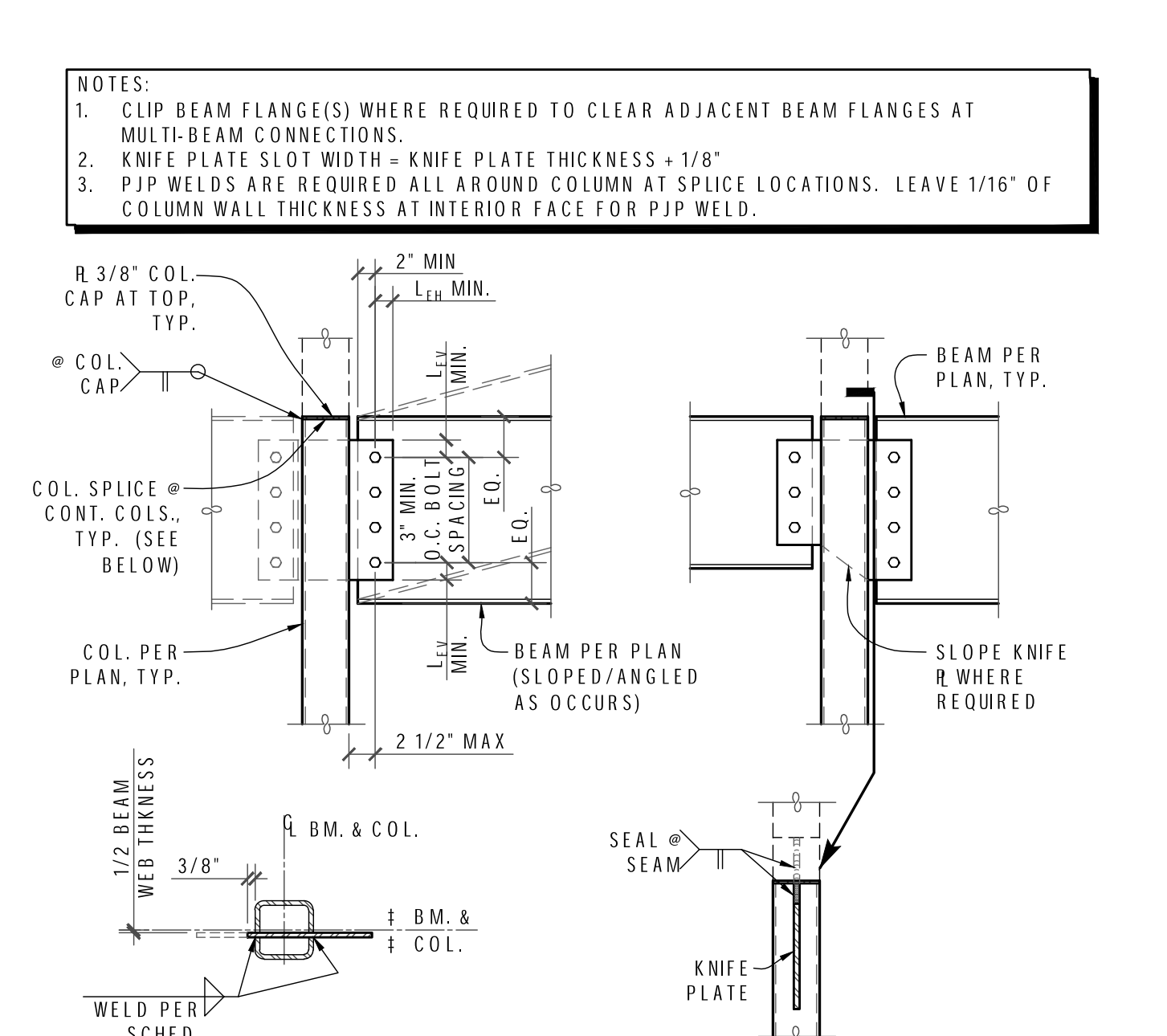
2 BEAM SPLICE
SCALE: N.T.S.

3 GIRT CONNECTION
SCALE: N.T.S.

9 ARCH'L EXPOSED STRUCT'L STEEL
SCALE: N.T.S.



6 KNIFE PLATE
CONNECTION SCHEDULE
SCALE: N.T.S.



8 STANDARD GAUGE FOR WF BEAM
SCALE: N.T.S.

9 ARCH'L EXPOSED STRUCT'L STEEL
SCALE: N.T.S.

6 KNIFE PLATE
CONNECTION SCHEDULE
SCALE: N.T.S.

3 GIRT CONNECTION
SCALE: N.T.S.

9 ARCH'L EXPOSED STRUCT'L STEEL
SCALE: N.T.S.

1 MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST EDITION OF THE "SPECIFICATION FOR STRUCTURAL STEEL BUILDING" PUBLISHED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (A.I.S.C. 360 & 341).

2 ALL BUTT WELDS SHALL BE COMPLETE JOINT PENETRATION WELDS.

3 ALL WELDING OF STRUCTURAL STEEL MEMBERS SHALL BE DONE BY CURRENTLY CERTIFIED WELDERS AND DONE IN CONFORMANCE WITH THE A.I.S.C. AND A.W.S. (D1.1 & D1.8) SPECIFICATIONS. WELDING IS NOT PERMITTED ON MEMBERS SUPPORTING LOADS.

4 WHERE THE CONTRACTOR REQUESTS WELDING TO BE USED IN LIEU OF BOLTED CONNECTIONS, SUCH WELDING SHALL BE DONE ONLY WITH THE ENGINEER'S PRIOR APPROVAL. WHERE EMBEDDED PLATES OCCUR WITH SHEAR TABS, CONTRACTOR HAS OPTION TO FIELD WELD STEEL BEAM TO SHEAR TAB TO FACILITATE ERECTION WITH APPROVAL FROM ENGINEER. EMBEDDED PLATE MAY BE OVERSIZED BY 1" IN EACH DIRECTION WITH APPROVAL FROM ENGINEER. ANY TESTING AND/OR INSPECTION THE ENGINEER MAY DEEM NECESSARY TO BE ASSURED OF THE QUALITY OF SUCH WELDING, SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.

5 A.S.T.M. A325 BOLTS SHALL BE USED UNLESS NOTED OTHERWISE. TWIST-OFF TYPE TENSION-CONTROL A.S.T.M. F1552 BOLT ASSEMBLIES MAY BE SUBSTITUTED FOR A.S.T.M. A325 BOLTS AT ANYTIME. WHERE A.S.T.M. A490 BOLTS ARE SPECIFIED ON THE PLANS TWIST-OFF TYPE TENSION-CONTROL A.S.T.M. F2280 BOLT ASSEMBLIES MAY BE SUBSTITUTED AT ANYTIME.

6 A.S.T.M. F1554 GRADE 36 ANCHOR BOLTS SHALL BE USED UNLESS NOTED OTHERWISE. A.S.T.M. F1554 GRADE 36 BOLTS MAY BE WELDED WHILE GRADE 55 MAY BE WELDED ONLY IF IT IS ORDERED WITH SUPPLEMENT S1 AND THE CARBON EQUIVALENT FORMULA SPECIFIED IN SECTION S1.5.2.1 OF THE A.S.T.M. GRADE 105 BOLTS MAY NOT BE WELDED.

7 A.S.T.M. A563 HEAVY-HEX NUTS SHALL BE USED UNLESS NOTED OTHERWISE. SEE A.S.T.M. A563 FOR THE APPROPRIATE GRADE AND FINISH OF THE NUTS WHICH VARY ACCORDING TO APPLICATION.

8 A.S.T.M. F436 WASHERS SHALL BE USED UNLESS NOTED OTHERWISE. AT SLIP CRITICAL CONNECTIONS A.S.T.M. F959 COMPRESSIBLE-WASHER-TYPE DIRECT TENSION INDICATORS SHALL BE USED UNLESS TWIST-OFF-TYPE TENSION-CONTROL BOLT ASSEMBLIES WITH A.S.T.M. F436 WASHERS ARE USED.

9 A.S.T.M. A108 SHEAR STUDS CONNECTORS SHALL BE USED UNLESS NOTED OTHERWISE. THE MECHANICAL REQUIREMENTS MUST MEET AWS D1.1 TABLE 7.1 FOR TYPE B SHEAR STUDS CONNECTORS. (Fy=60 ksi, Fu=65 ksi)

10 HOLES PUNCHED OR DRILLED IN BEAMS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE ON THE DRAWING: HOLES FOR BOLTS SHALL BE 1/16" LARGER THAN THE NOMINAL DIAMETER OF THE BOLT WHERE CONNECTION IS OF SHEAR TYPE, AND 3/16" LARGER WHERE CONNECTION IS OF BEARING TYPE ON CONCRETE OR MASONRY.

11 ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL SHALL RECEIVE ONE SHOP COAT OF RED OXIDE, ZINC CHROMATE OR APPROVED EQUAL BASE.

12 ALL STEEL MEMBERS AND THEIR CONNECTIONS, EXPOSED TO EARTH OR WEATHER SHALL BE HOT DIPPED GALVANIZED, UNLESS NOTED OTHERWISE. CAP ALL VENT HOLES AT ENCLOSED HSS STEEL SECTIONS AND SEAL HOLES TO A WATER TIGHT CONDITION.

13 ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO THE FOLLOWING A.I.S.C. STANDARDS:

- M (WIDE FLANGE) AND WT SHAPES SHALL BE A.S.T.M. A992 (Fy=50 ksi, Fu=65 ksi)
- M, MT, S AND ST SHAPES SHALL BE A.S.T.M. A992 (Fy=36 ksi, Fu=58 ksi)
- CHANNELS, ANGLES, PLATES 1/2" THICK OR LESS AND MISC. STEEL SHALL BE A.S.T.M. A36 (Fy=36 ksi, Fu=58 ksi)
- PLATES GREATER THAN 1/2" THK. SHALL BE A.S.T.M. A572 GR. 50. (Fy=50 ksi, Fu=65 ksi)
- HP SHAPES SHALL BE A.S.T.M. A572 (Fy=50 ksi, Fu=65 ksi)
- RECTANGULAR AND SQUARE HSS (HOLLOW STRUCTURAL SHAPES) SHALL BE A.S.T.M. A500 GRADE B (Fy=46 ksi, Fu=58 ksi)
- ROUND HSS (HOLLOW STRUCTURAL SHAPES) SHALL BE A.S.T.M. A500 GRADE B (Fy=42 ksi, Fu=58 ksi)
- PIPE SHALL CONFORM TO A.S.T.M. A53 GRADE B (Fy=35 ksi, Fu=60 ksi)

14 ALL ENDS OF EXPOSED STRUCTURAL SHAPES & HOLLOW STRUCTURAL SHAPED STEEL MEMBERS SHALL HAVE 1/4" CAP PLATE WITH PARTIAL PENETRATION WELDS, U.N.O., GRIND SMOOTH, A.E.S.S.

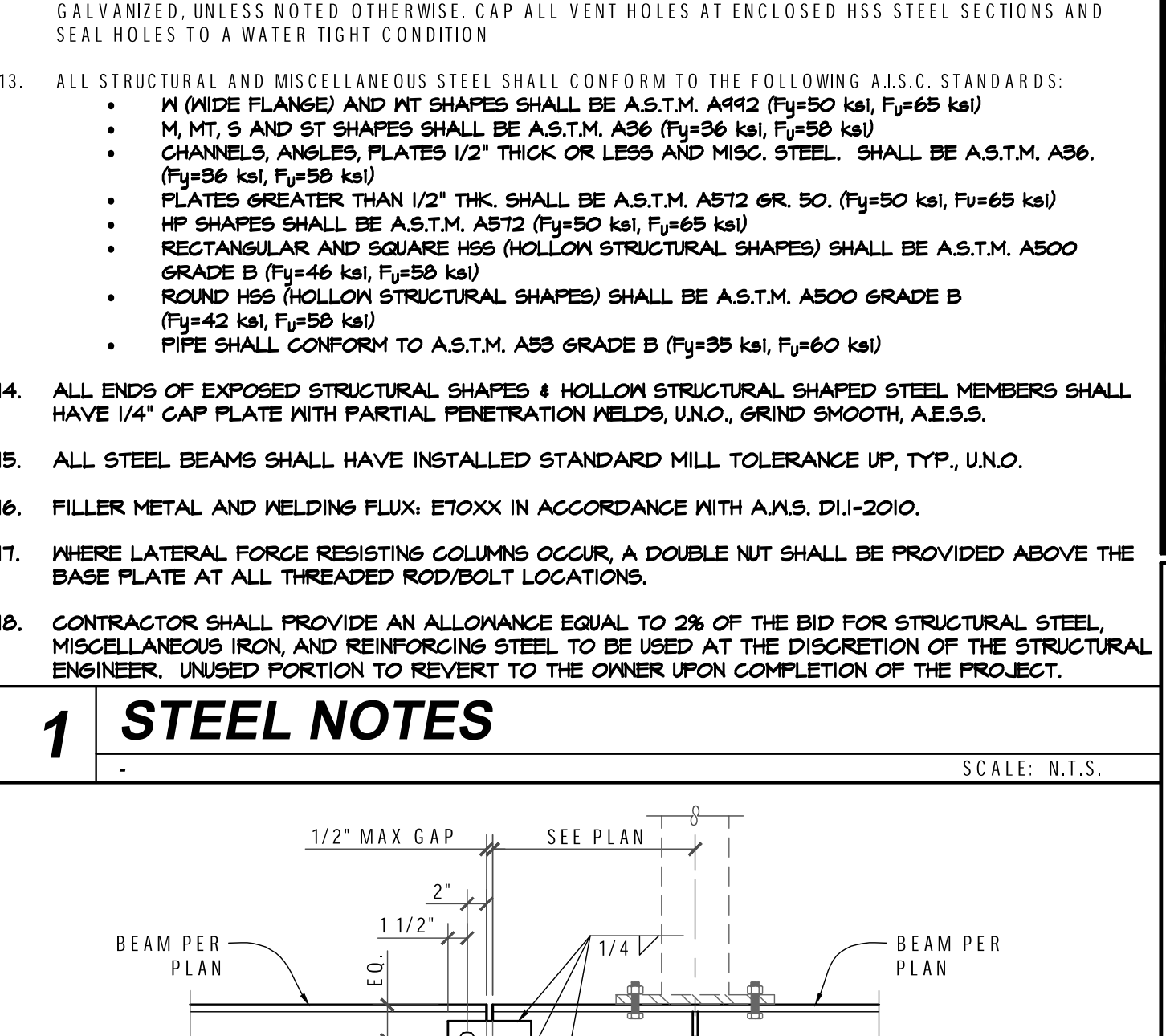
15 ALL STEEL BEAMS SHALL HAVE INSTALLED STANDARD MILL TOLERANCE UP, TYP., U.N.O.

16 FILLER METAL AND WELDING FLUX: ETOXX IN ACCORDANCE WITH A.M.S. D11-2010.

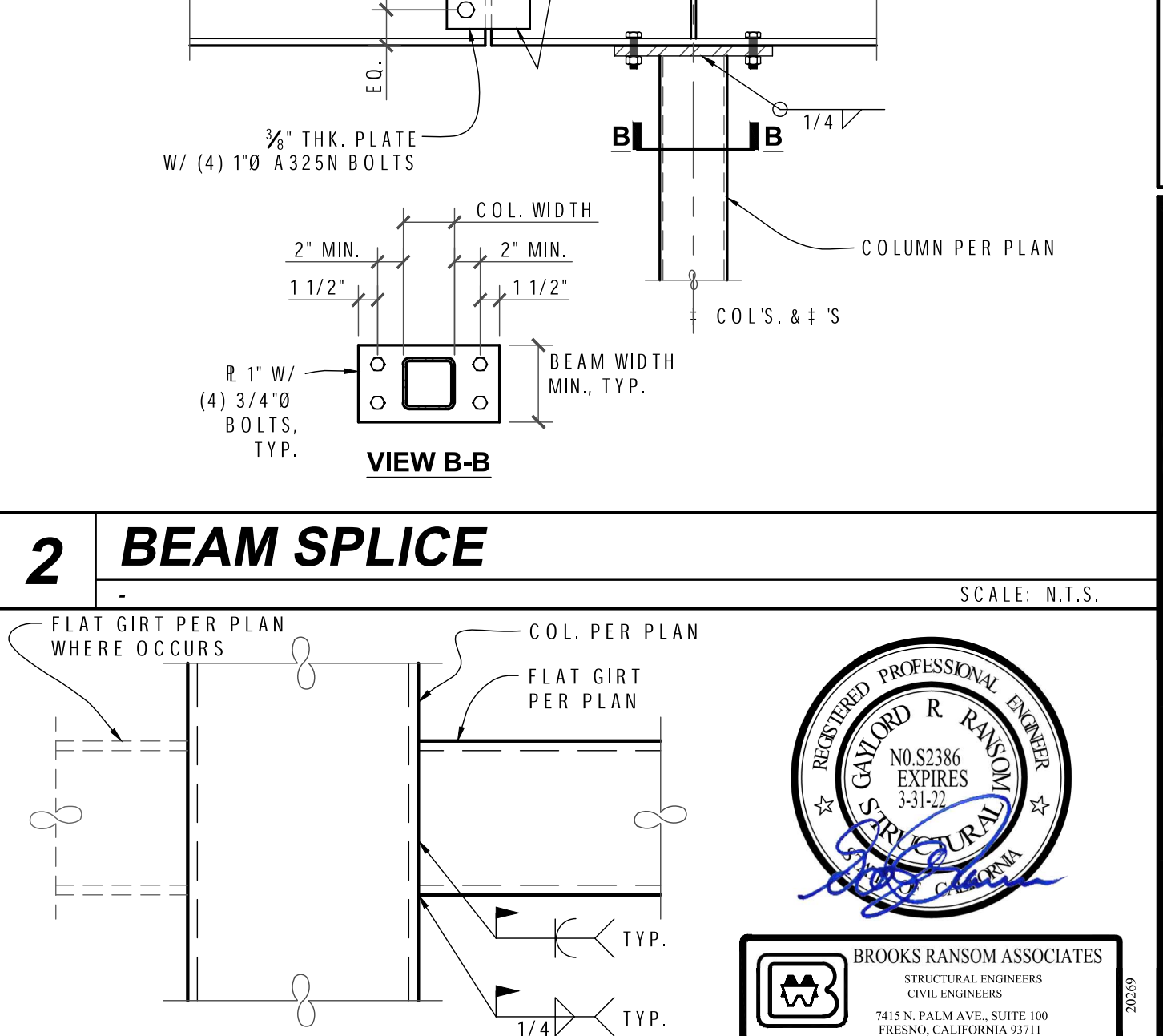
17 WHERE LATERAL FORCE RESISTING COLUMNS OCCUR, A DOUBLE NUT SHALL BE PROVIDED ABOVE THE BASE PLATE AT ALL THREADED ROD/BOLT LOCATIONS.

18 CONTRACTOR SHALL PROVIDE AN ALLOWANCE EQUAL TO 2% OF THE BID FOR STRUCTURAL STEEL, MISCELLANEOUS IRON, AND REINFORCING STEEL TO BE USED AT THE DISCRETION OF THE STRUCTURAL ENGINEER. UNUSED PORTION TO REVERT TO THE OWNER UPON COMPLETION OF THE PROJECT.

1 STEEL NOTES
SCALE: N.T.S.



2 BEAM SPLICE
SCALE: N.T.S.



3 GIRT CONNECTION
SCALE: N.T.S.

FILE NO.: 16-03 APPL. NO.: 02-118543

JUAN M. GONZALEZ
No. C-12865
RENEWAL DATE 12/31/2021
STATE OF CALIFORNIA

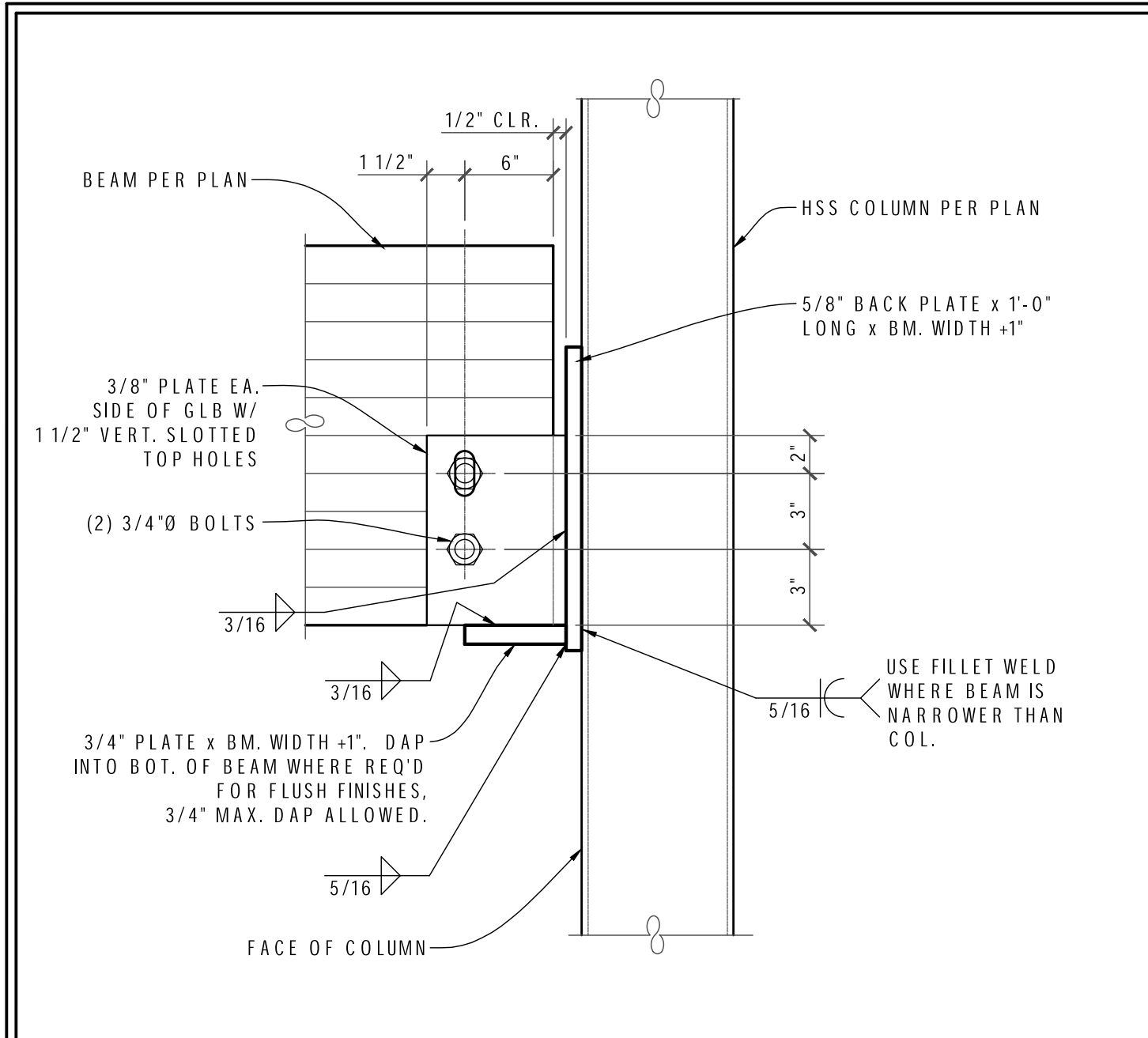
MARK	DATE	DESCRIPTION
1	1/13/2021	ADDENDUM #2
2	1/19/2021	ADDENDUM #3

CTE: FARM AND FOOD PRODUCT FACILITY
CLOVIS EAST HIGH SCHOOL
CLOVIS UNIFIED SCHOOL DISTRICT

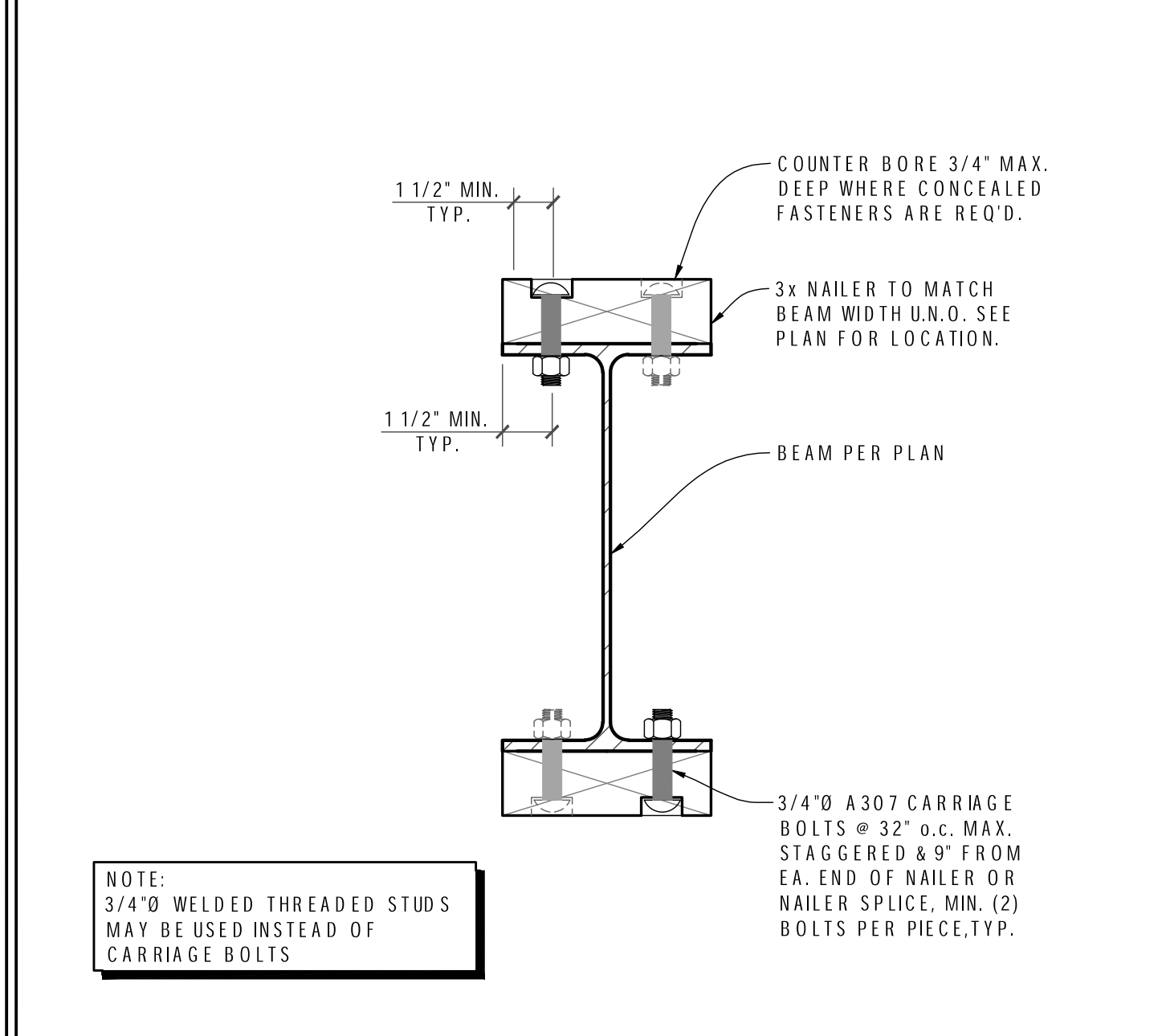
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PROJECT NO: 1739
DATE: 8/31/2020
SHEET TITLE: TYPICAL DETAILS
X/S1.4

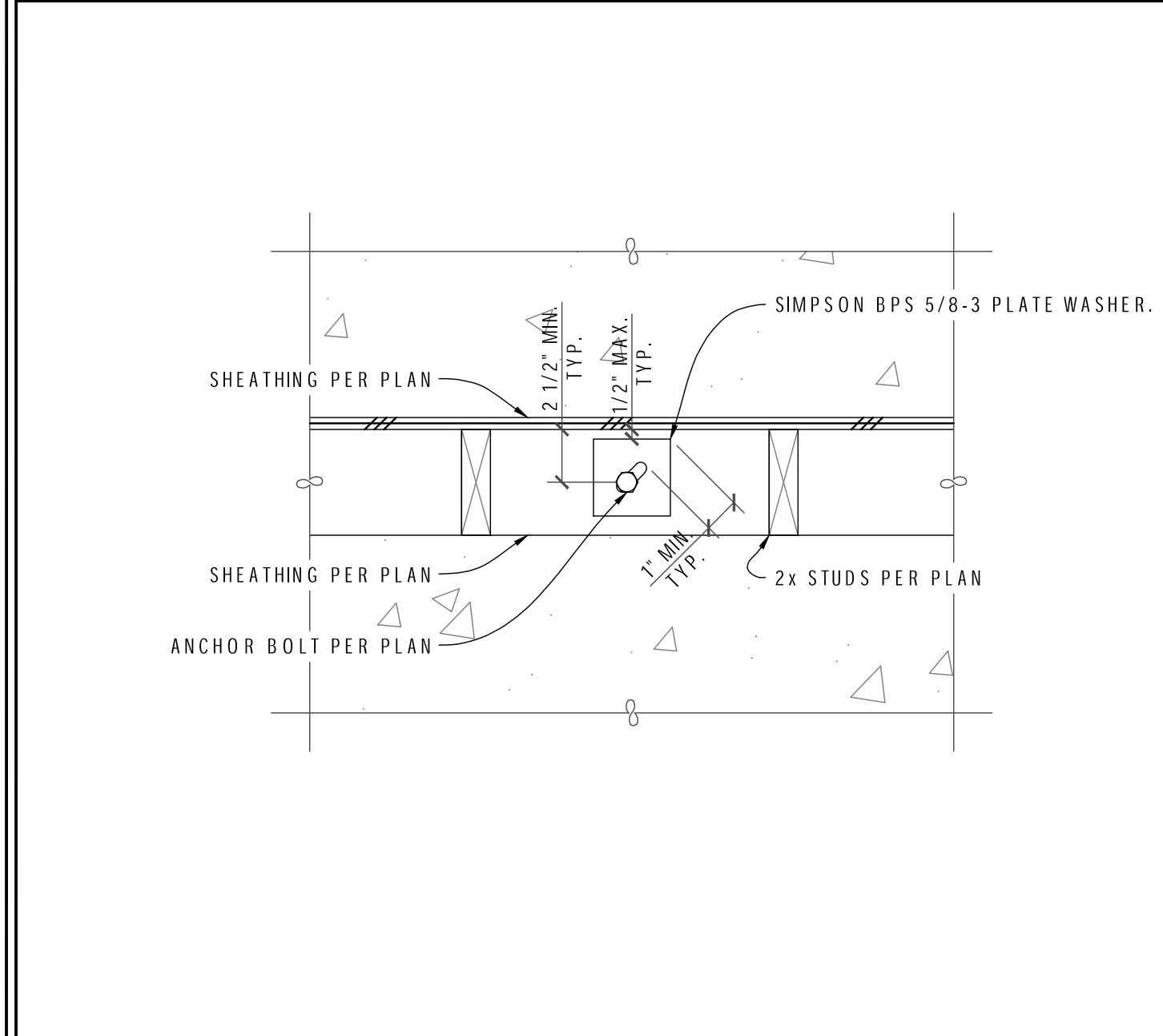
BROOKS RANSOM ASSOCIATES
STRUCTURAL ENGINEERS
CIVIL ENGINEERS
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10 WOOD BEAM TO STEEL COLUMN
SIDE MOUNTED SCALE: N.T.S.



11 WOOD NAILERS ON 'W' BEAMS
SCALE: N.T.S.



12 SLOTTED PLATE WASHER
SCALE: N.T.S.

#	CONNECTION	FASTENING ^{a,q}	LOCATION	
1.	JOIST TO SILL OR GIRDER	3 - 8d	TOENAIL	
2.	BRIDGING TO JOIST	2 - 8d	TOENAIL EACH END	
3.	1"x6" SUBFLOOR OR LESS TO EACH JOIST	2 - 8d	FACE NAIL	
4.	1"x6" SUBFLOOR OR GREATER TO EACH JOIST	3 - 8d	FACE NAIL	
5.	2" SUBFLOOR TO JOIST OR GIRDER	2 - 16d	BLIND & FACE NAIL	
6.	SOLE PLATE TO JOIST OR BLOCKING	16d @ 16" o.c.	TYPICAL FACE NAIL	
7.	SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANEL	3 - 16d @ 16" o.c.	BRACED WALL PANELS	
8.	TOP PLATE TO STUD	2 - 16d	END NAIL	
9.	STUD TO SOLE PLATE	4 - 8d 2 - 16d SIMPSON A34	TOENAIL END NAIL END FASTENER	
10.	DOUBLE STUDS	16d @ 24" o.c.	FACE NAIL	
11.	DOUBLE 2x TOP PLATE	16d @ 16" o.c. 8 - 16d	FACE NAIL LAP SPLICE	
12.	3x TOP PLATE OVER 2x PLATE	20d @ 16" o.c. 20d	FACE NAIL LAP SPLICE	
13.	BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	3 - 8d	TOENAIL	
14.	RIM JOIST TO TOP PLATE	8d @ 6" o.c.	TOENAIL	
15.	TOP PLATES, LAPS & INTERSECTIONS	2 - 16d	FACE NAIL	
16.	CONTINUOUS HEADER, TWO PIECES	16d	16" O.C. @ EDGE	
17.	CEILING JOISTS TO PLATE	3 - 8d	TOENAIL	
18.	CONTINUOUS HEADER TO STUD	4 - 8d	TOENAIL	
19.	CEILING JOISTS LAPS OVER PARTITIONS	3 - 16d MIN. TABLE 2308.10.4.1	FACE NAIL	
20.	CEILING JOISTS TO PARALLEL RAFTERS	3 - 16d TABLE 2308.10.4.1	FACE NAIL	
21.	RAFTER TO PLATE	3 - 8d	TOENAIL	
22.	1" DIAGONAL BRACE EACH STUD AND PLATE	2 - 8d	FACE NAIL	
23.	1"x8" SHEATHING TO EA. BEARING	3 - 8d	FACE NAIL	
24.	WIDER THAN 1"x8" SHEATHING TO EACH BEARING	3 - 8d	FACE NAIL	
25.	BUILT-UP CORNER STUDS	16d	24" O.C.	
26.	BUILT-UP GIRDER AND BEAMS	20d @ 32" o.c.	FACE NAIL @ TOP AND BOT. STAG. ON OPPOSITE SIDES	
27.	2" PLANKS	16d	FACE NAIL @ ENDS AND @ EA. SPLICE	
28.	COLLAR TIE TO RAFTER	3 - 10d	@ EACH BEARING	
29.	JACK RAFTER TO HIP	3 - 10d 2 - 16d	FACE NAIL	
30.	ROOF RAFTER TO 2x RIDGE BEAM	2 - 16d 2 - 16d	TOENAIL FACE NAIL	
31.	JOIST TO BAND JOIST	3 - 16d	FACE NAIL	
32.	LEDGER STRIP	3 - 16d	FACE NAIL	
33.	WOOD STRUCTURAL PANELS AND PARTICLEBOARD, SUBFLOOR, ROOF AND WALL SHEATHING (TO FRAMING) ^b	1/2" & LESS 19/32" to 3/4" 7/8" to 1" 1 1/8" to 1 1/4"	6d ^f 8d, 6d 8d 10d, 8d	
34.	SINGLE FLOOR (COMBINATION SUBFLOOR-UNDERLAYMENT TO FRAMING) ^b	3/4" & LESS 7/8" to 1" 1 1/8" to 1 1/4"	8d 8d 10d / 8d	
35.	PANEL SIDING (TO FRAMING)	1/2" & LESS 5/8"	6d ^e 8d ^e	
36.	FIBERBOARD SHEATHING ^d	1/2" 25/32"	6d 8d	
37.	INTERIOR PANELING ^e	1/4" to 3/8"	6d	

a. COMMON NAILS ARE REQUIRED TO BE USED U.N.O. COMMON NAIL PROPERTIES ARE AS FOLLOWS:
 6d = 0.113"Ø x 2" LONG
 8d = 0.131"Ø x 2 1/2" LONG
 10d = 0.148"Ø x 3" LONG
 16d = 0.162"Ø x 3 1/2" LONG
 20d = 0.192"Ø x 4" LONG

b. NAILS SPACED AT 6" O.C. AT EDGES, 12" AT INTERMEDIATE SUPPORTS EXCEPT 6" AT SUPPORTS WHERE SPANS ARE 48" OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLEBOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO SECTION 2305.

c. CORROSION-RESISTANT SIDING (6d - 1 7/8"x0.106"; 8d - 2 3/8"x0.128") OR CASING (6d - 2"x0.099"; 8d - 2 1/2"x0.113") NAIL.

d. FASTENERS SPACED 3" O.C. AT EXTERIOR EDGES AND 6" O.C. AT INTERMEDIATE SUPPORTS, WHEN USED AS STRUCTURAL SHEATHING. SPACING SHALL BE 6" O.C. E.N. & 12" O.C. F.N. FOR NONSTRUCTURAL APPLICATIONS.

e. NAILS SPACED 6" ON PANEL EDGES, 12" AT INTERMEDIATE SUPPORTS. ROOF SHEATHING APPLICATIONS, 8d ARE THE MINIMUM REQUIRED FOR WOOD STRUCTURAL PANELS.

f. NAILING DRIVEN INTO PRESERVATIVE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED OR EQUIVALENT.

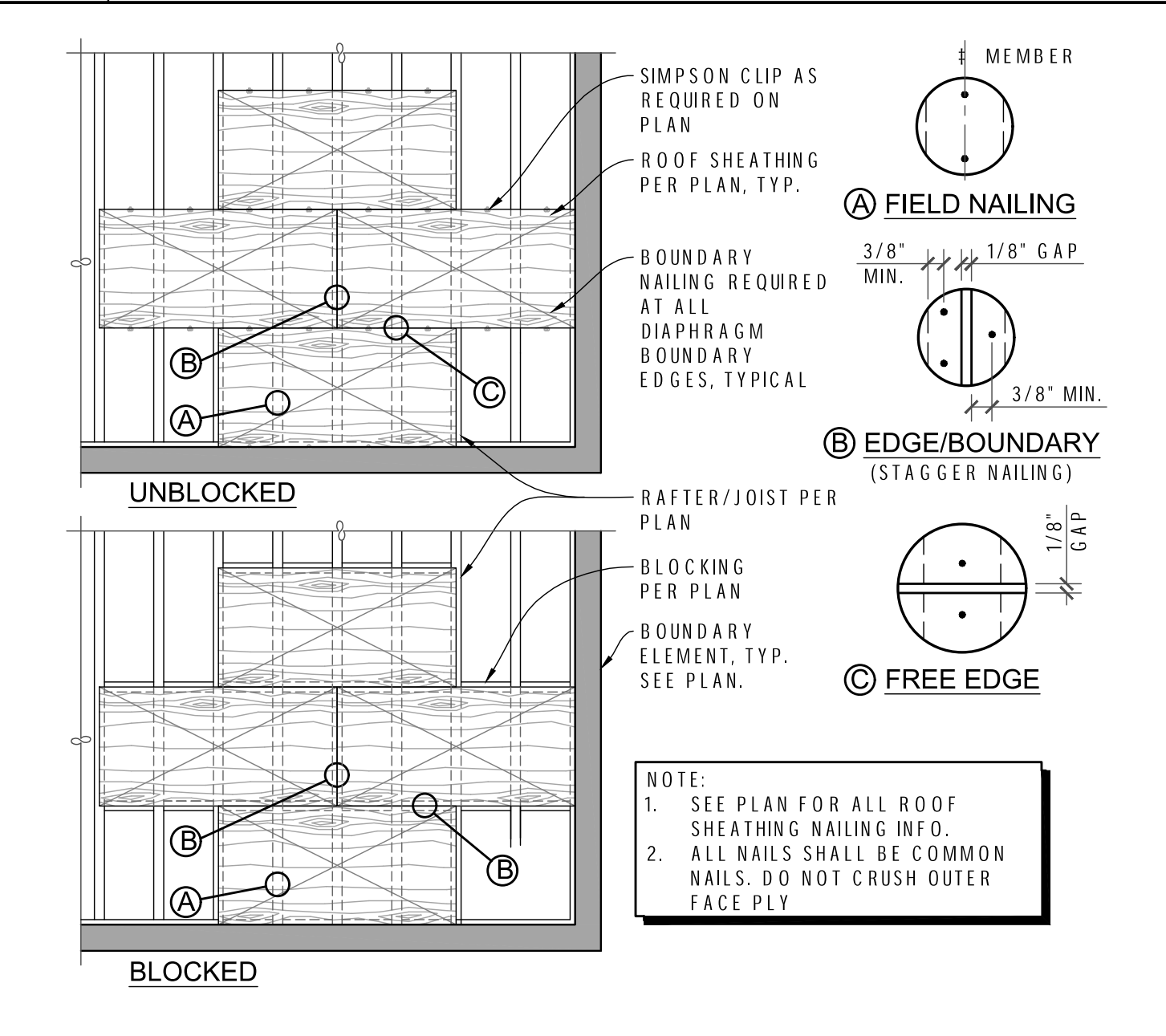
g. THIS SCHEDULE WILL GOVERN UNLESS NOTED OTHERWISE ON PLANS.

h. FASTENERS USED FOR THE ATTACHMENT OF EXTERIOR WALL COVERINGS SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, WITH COATING PER A.S.T.M. A153.

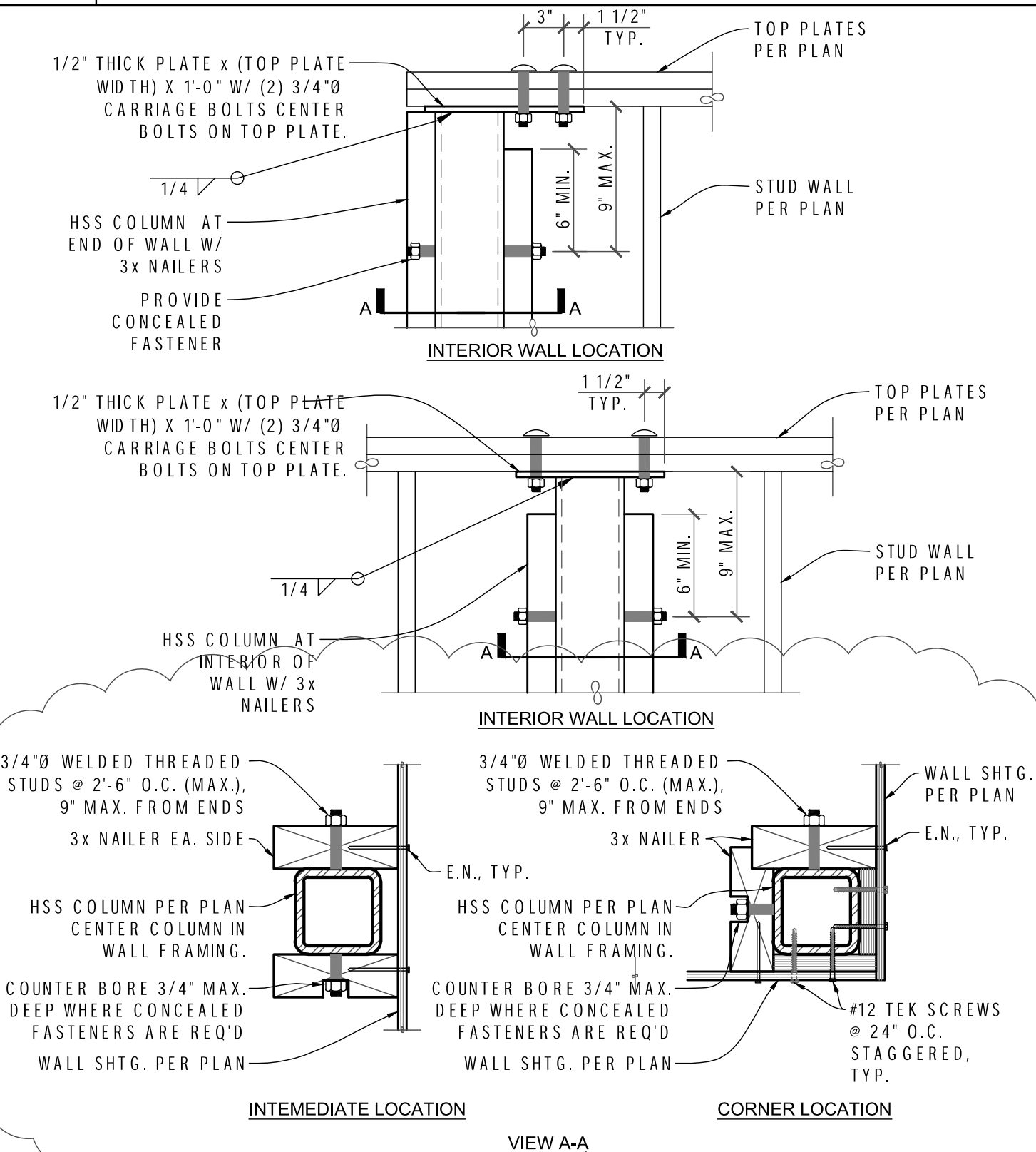
9 NAILING SCHEDULE
PER CBC TABLE 2304.9.1 SCALE: N.T.S.

- ALL LVL TO BE 'REDFRAM' AS MANUFACTURED BY REDBUILT, OR EQUIVALENT. SEE STRUCTURAL PLANS FOR SPECIFIC INFORMATION ON THE LVL'S BEING USED ON THIS PROJECT. SUBSTITUTE LVL'S MUST BE SUBMITTED AND APPROVED BY D.S.A./O.S.H.P.D. AS A CHANGE ORDER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL BEAR ALL COSTS OF OBTAINING APPROVAL OF SUBSTITUTES, WITH NO GUARANTEE THAT THE SUBSTITUTE WILL BE ACCEPTED.
- DESIGN AND FABRICATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2019 C.B.C. AND I.C.C.E.S. REPORT E.S.R.-2993.
- ALLOWABLE STRESS INCREASES FOR LOAD DURATION SHALL BE:
 • WIND OR SEISMIC 1.6
 • ROOF AND SNOW 1.15
 • FLOOR 1.0
- ALLOWABLE STRESS INCREASES FOR REPETITIVE MEMBERS SHALL NOT BE TAKEN AS GREATER THAN 1.0 PER N.D.S.-15 SECTION 8.3.7.
- NO HOLES OR NOTCHES OF ANY KIND ARE ALLOWED IN ANY LVL'S, UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
- THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS WITH ARCHITECTURAL DRAWINGS, AND THEN VERIFY IN FIELD WALL LAYOUT DIMENSIONS. NOTIFY THE ENGINEER AND ARCHITECT PRIOR TO PROCEEDING IF ANY DISCREPANCIES EXIST.
- LVL MEMBERS SHALL MEET THE MINIMUM PROPERTIES SHOWN BELOW:
 • F_b = 2,700 PSI
 • F_v = 285 PSI
 • F_c (PERPENDICULAR) = 1750 PSI
 • F_c (PARALLEL) = 2510 PSI
 • E = 2,000,000 PSI
 • E_{min} = 465,710 PSI

4 LVL NOTES
LAMINATED VENEER LUMBER SCALE: N.T.S.



5 ROOF SHEATHING
FOR WOOD DIAPHRAGMS SCALE: N.T.S.



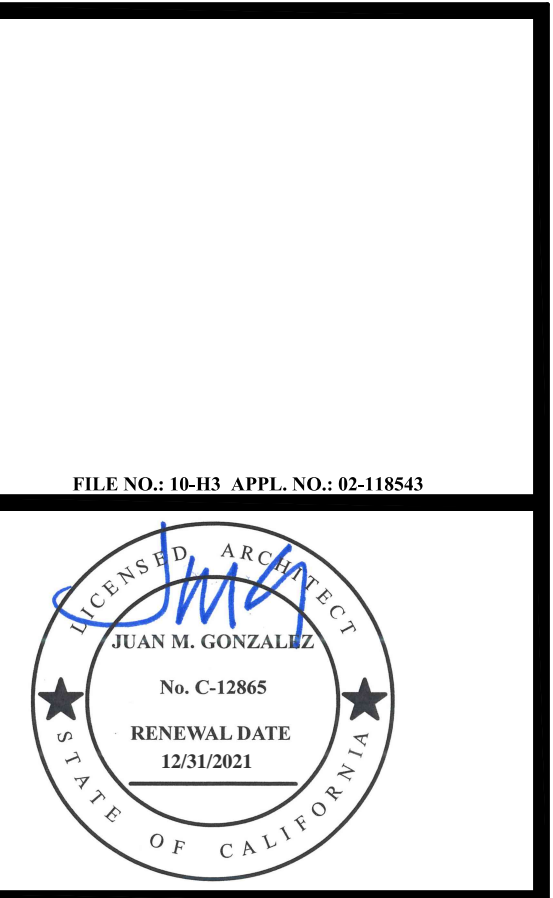
6 STEEL COLUMN WITH NAILERS
IN WOOD FRAMING SCALE: N.T.S.

- ALL BOLTS SHALL BE MACHINE MADE TYPE F1554 GRADE 36 U.N.O.
- BOLT HOLES IN WOOD SHALL BE OVSIZED BY NOT MORE THAN 1/32".
- ALL BOLTS AND LAG SCREWS SHALL BE PROVIDED WITH STANDARD STEEL WASHERS UNDER HEAD AND NUTS WHICH BEAR ON WOOD ACCORDING TO THE WASHER SCHEDULE BELOW, U.N.O.

WASHER SCHEDULE			
BOLT SIZE	STEEL PLATE SQUARE	MALLEABLE IRON ROUND	STANDARD CUT WASHER
1/2"Ø	2 x 2 x 1/4"	2 1/2"Ø x 1/4"	1 3/8"Ø x 7/64"
5/8"Ø	2 1/2 x 2 1/2 x 1/4"	2 3/4"Ø x 5/16"	1 3/4"Ø x 1/8"
3/4"Ø	3 x 3 x 5/16"	3"Ø x 3/8"	2"Ø x 5/32"
7/8"Ø	3 1/2 x 3 1/2 x 5/8"	3 1/2"Ø x 7/16"	2 1/4"Ø x 11/64"
1"Ø	3 3/4 x 3 3/4 x 7/16"	4"Ø x 1/2"	2 1/2"Ø x 11/64"
1 1/8"Ø	4 x 4 x 7/16"	4 1/2"Ø x 9/16"	2 3/4"Ø x 11/64"
1 1/2"Ø	4 1/4 x 4 1/4 x 1/2"	5"Ø x 5/8"	3 1/2"Ø x 3/16"

- BOLTS AND SCREWS SHALL BE TIGHTENED AT TIME OF ERECTION AND RETIGHTENED BEFORE CLOSING IN OR AT COMPLETION OF JOB.
- ANCHOR AND/OR SILL BOLTS WITH UPSET THREADS ARE NOT PERMITTED.
- ALL SILL PLATES SHALL BE BEDDED ON 1/2" CEMENT GROUT EXCEPT FOR NON-BEARING INTERIOR WALLS ON TRUE AND LEVEL FLOORS.
- SILL PLATES UNDER ALL EXTERIOR WALLS, BEARING WALLS AND SHEAR WALLS SHALL BE BOLTED TO MASONRY OR CONCRETE WITH 3/4"Ø x 12" BOLTS SPACED NOT MORE THAN 6'-0" ON CENTER, WITH A MIN. OF 2 BOLTS FOR EACH PIECE OF SILL PLATE, U.N.O. SHEAR WALLS ABOVE 2 STORIES SHALL HAVE BOLTS SPACED NOT MORE THAN 4'-0" O.C., U.N.O. ALL SILL PLATE ANCHOR BOLTS SHALL HAVE 3" SO. x 1/4" SLOTTED PLATE WASHERS (OR SIMPSON BPS) WITH A STANDARD CUT WASHER PLACED BETWEEN THE PLATE WASHER AND THE NUT, U.N.O. THE PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) WITH SHEATHING.
- ALL ANCHOR BOLTS IN WOOD SHALL BE SPACED 4 INCH MINIMUM AND 12 INCH MAXIMUM FROM END OF THE SILL PLATE, AND HAVE 7 INCH MINIMUM EMBEDMENT INTO CONCRETE OR MASONRY. ANY LOCATION WHERE A HOLE OR NOTCH LARGER THAN THE SILL PLATE THICKNESS OCCURS, SHALL HAVE ADDITIONAL ANCHOR BOLTS PLACED 4 INCHES TO 12 INCHES ON EACH SIDE OF THE HOLE OR NOTCH.
- SILL PLATES AT ALL EXTERIOR WALLS AND INTERIOR WALLS THAT ARE COVERED WITH STRUCTURAL PLYWOOD (SHEAR PANEL) SHALL BE PRESERVATIVE-TREATED D.F. 3x THICK WITH THE SAME WIDTH AS STUDS, U.N.O. ALL OTHER WALLS THE SAME EXCEPT SILL PLATES MAY BE 2x THICK. ALL PRESERVATIVE-TREATED D.F. SHALL BEAR THE AMPB QUALITY MARK. ALL CUTS OR HOLES SHALL BE PRE-TREATED PRIOR TO INSTALLATION.
- NO SILL PLATE PIECE SHALL END WITHIN THE LENGTH OF SHEAR PANEL UNLESS SPECIFICALLY SHOWN AND DETAILED ON THE PLANS.
- ALL EXPOSED FASTENERS SHALL HAVE ZINC-COATING CORROSION RESISTANCE.
- ALL FASTENERS AND HARDWARE IN CONTACT WITH PRESERVATIVE-TREATED OR FIRE RETARDANT WOOD SHALL BE HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. THE COATING WEIGHT FOR ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH A.S.T.M. A 153. EXCEPTION: FASTENERS OTHER THAN NAILS, TIMBER BIRTS, WOOD SCREWS AND LAG SCREWS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH A.S.T.M. B 695, CLASS 55 MIN.
- BEARING WALLS AND PARTITIONS SHALL HAVE DOUBLE TOP PLATES.
- ALL FASCIA BOARDS MUST BE CONTINUOUS WITH NO SPLICES ALLOWED WITHIN 12'-0" MINIMUM FROM FRAMING CORNERS, UNLESS NOTED OTHERWISE.
- PLYWOOD NOTES:
 • IN HORIZONTAL PLYWOOD DIAPHRAGMS, NO PANEL LESS THAN 24" WIDE SHALL BE USED. IN VERTICAL PLYWOOD SHEAR WALLS, NO PANEL LESS THAN 12" WIDE SHALL BE USED. PLYWOOD SHEETS SHALL NOT BE LESS THAN 8 SQUARE FEET AT ANY LOCATION. PROVIDE FULL SHEETS OF PLYWOOD WHEREVER POSSIBLE.
 • ANY PIECE OF PLYWOOD SPANNING ACROSS FEWER THAN 3 SUPPORTS SHALL BE BLOCKED ON ALL EDGES.
 • SHEAR WALL PLYWOOD SHALL BE BLOCKED AT ALL EDGES.
 • DIAPHRAGM AND SHEAR WALL NAILING SHALL CONFORM TO TABLE 2304.2/3 OF CBC 2016.
 • NAILS SHALL NOT BE OVER DRIVEN AS TO CAUSE CRUSHING OF FACEPLY.
 • WHERE GLUING OF PLYWOOD IS REQUIRED, INSURE THAT CONTACT SURFACES ARE FREE OF DIRT, DUST, STANDING WATER OR OTHER DELETERIOUS MATTER. APPLY A BEAD OF GLUE ABOUT 1/4" IN DIAMETER TO ALL CONTACT/ BEARING SURFACES. ON WIDE AREAS, APPLY GLUE IN SERPENTINE PATTERN. APPLY TWO BEADS OF GLUE ON JOISTS WHERE PANEL ENDS BUT TO EACH OTHER. APPLY GLUE PROGRESSIVELY TO BUTTING EDGES OF PANELS AND INTO THE GROOVED EDGES OF TONGUE AND GROOVE PANELS AS WORK PROGRESSES. ADHESIVE SHALL CONFORM TO A.P.A. SPEC AFG-01.
- ALL STRUCTURAL WOOD SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS:
 • DOUGLAS FIR - LARCH WCLIB OR WPPA RULES
 • PLYWOOD U.S. PRODUCT STANDARD PS1-09 FOR SOFTWOOD PLYWOOD
- MINIMUM GRADES SHALL BE AS FOLLOWS U.N.O. ON DRAWINGS:
 • STRUCTURAL FRAMING DF NO. 1 OR BETTER
 • 4x AND LARGER AND POST DF NO. 1 OR BETTER
 • STRUCTURAL PLYWOOD PLYWOOD SHEATHING, GROUP 1, EXP. 1, U.N.O.
- PREDRILL HOLES WHERE WOOD TENDS TO SPLIT.
- WHERE LAG SCREWS ARE INDICATED, PROVIDE A FULL BODY DIAMETER LAG SCREW. THE SHANK SHALL EXTEND BEYOND THE ADJOINING MEMBER PLANE, U.N.O. LAG SCREWS SHALL NOT HAVE UPSET THREADS OR REDUCED BODY.
- FOR LAG SCREWS, LEAD HOLE FOR THE UNTHREADED PORTION SHALL HAVE A DIAMETER EQUAL TO THE SHANK DIAMETER AND THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 65% OF THE SHANK DIAMETER. MIN. PENETRATION (NOT INCLUDING THE LENGTH OF TAPERED TIP) OF THE LAG SCREW INTO MAIN MEMBER SHALL BE EIGHT TIMES THE DIAMETER. LEAD HOLES ARE NOT REQUIRED FOR 3/8" DIAMETER LAG SCREWS PROVIDED THAT EDGE DISTANCES, END DISTANCES, AND SPACING ARE SUFFICIENT TO PREVENT UNUSUAL SPLITTING.
- SEE 9.1 FOR MINIMUM NAILING REQUIREMENTS.
- USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOB SITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL BY THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER AND D.S.A./O.S.H.P.D. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. MACHINE NAILING WILL NOT BE APPROVED IN 5/16" PLYWOOD. IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MIN. ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.

3 WOOD NOTES
SCALE: N.T.S.



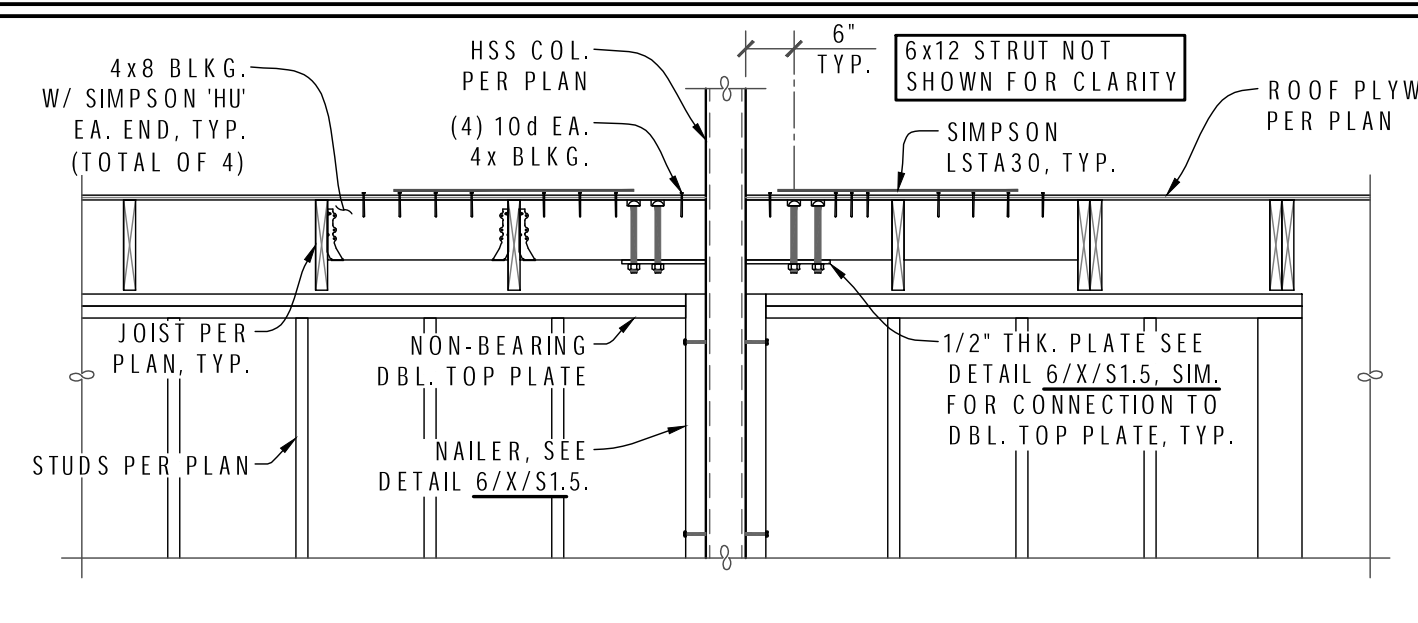
MARK	DATE	DESCRIPTION
1	1/13/2021	ADDENDUM #2
2	1/19/2021	ADDENDUM #3

CITE: FARM AND FOOD PRODUCT FACILITY
 CLOVIS EAST HIGH SCHOOL
 CLOVIS UNIFIED SCHOOL DISTRICT

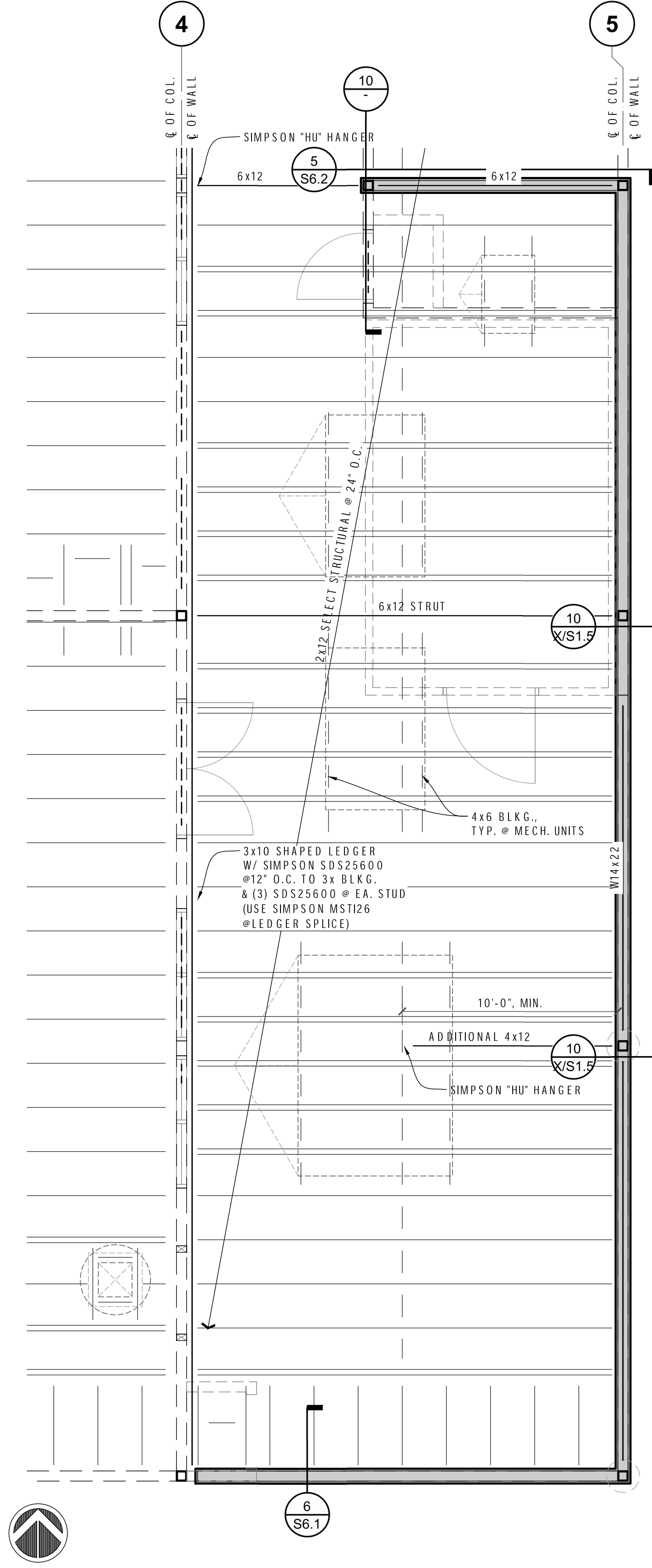
JUAN M. GONZALEZ ARCHITECTS
 ARCHITECTURE PLANNING
 TEL: 559-497-1542
 FAX: 559-497-1549
 7545 N. DEL MAR AVENUE, SUITE 203
 FRESNO CALIFORNIA 93711

PROJECT NO: 1739
 DATE: 8/31/2020
 SHEET TITLE:
 TYPICAL DETAILS

X/S1.5



10 DETAIL
SCALE: 1/2"=1'-0"



7 FRAMING PLAN
FOR WOOD CONSTRUCTION
SCALE: N/A

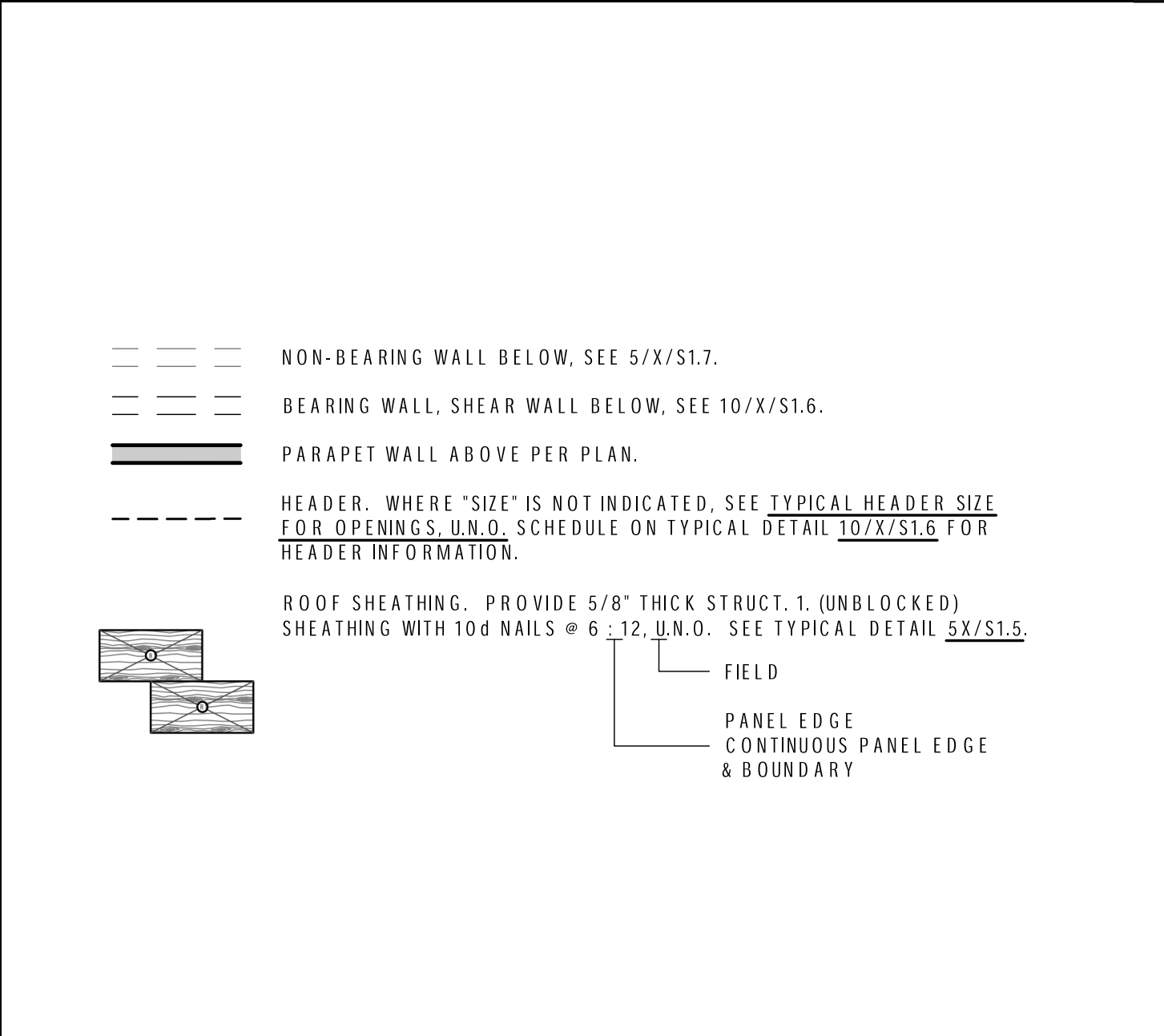
- SEE TYPICAL SHEETS FOR ALL GENERAL AND MATERIAL NOTES, AND ALL TYPICAL SCHEDULES AND DETAILS. THE INFORMATION ON THE TYPICAL SHEETS APPLY TO THE PROJECT AND ARE NOT SPECIFICALLY REFERENCED ON PLAN WORK, UNLESS NOTED OTHERWISE. IF TYPICAL DETAILS ARE SPECIFIED ON PLANS OR NOTES, THEY WILL BE REFERENCED WITH THE WORD 'TYPICAL' FOLLOWED BY **BOLD AND UNDERLINED** TEXT STATING THE TITLE OF THE TYPICAL DETAIL OR NOTE.
- ALL UNCLEAR AND/OR MISSING DETAILS SHALL BE BROUGHT TO THE STRUCTURAL ENGINEER'S ATTENTION BEFORE PROCEEDING WITH CONSTRUCTION.
- ALL EXTERIOR WALLS AND EXTERIOR SOFFITS SHALL HAVE 15/32" SHEATHING WITH 10d @ 6" O.C. E.N. AND 10d @ 12" O.C. F.N., UNLESS NOTED OTHERWISE. SEE TYPICAL DETAIL 3/X/S1.5 FOR SHEATHING MATERIAL.
- ALL TOP OF FRAMING ABOVE FINISH SLAB VARIES, SEE PLAN FOR INFORMATION.
- VERIFY ROOF SLOPE(S) WITH ARCHITECTURAL PLANS.
- SEE TYPICAL DETAIL 10/X/S1.7 FOR ROOF MOUNTED EQUIPMENT. CONTRACTOR SHALL VERIFY AND COORDINATE WEIGHTS AND LOCATIONS OF ALL ROOF SUPPORTED MECHANICAL AND ELECTRICAL UNITS, AND NOTIFY THE STRUCTURAL ENGINEER OF RECORD IF ANY DISCREPANCIES ARE DETERMINED.
- AT OPENINGS IN DIAPHRAGM OR WALL SHEATHING SEE TYPICAL DETAIL 9/X/S1.2 FOR INFORMATION, UNLESS NOTED OTHERWISE.
- TOP PLATE SPLICES SHALL BE NAILED PER THE TYPICAL DETAIL 11/X/S1.6.
- FOR ALL STEEL TO STEEL CONNECTIONS SEE TYPICAL DETAIL 9/X/S1.4 AND 6/X/S1.4 SCHEDULES.
- WHERE FRAMING MEMBERS ARE BUILT UP OF MULTIPLE MEMBERS, SEE TYPICAL DETAIL 4/X/S1.7 DETAIL FOR FASTENER INFORMATION.
- ALL FRAMING SHALL BE TYPE D.F. #1 OR BETTER, UNLESS OTHERWISE NOTED. SEE TYPICAL DETAIL 3/X/S1.5 FOR ADDITIONAL INFORMATION.
- COORDINATE WITH ARCHITECTURAL IF ADDITIONAL FRAMING BLOCKING IS REQUIRED FOR SUSPENDED CEILING, SOFFITS AND FINISHES.
- DIAPHRAGM SHEATHING SHALL BE BOUNDARY NAILED TO ALL BLOCKING, BEAM AND RAFTERS THAT ARE IN LINE WITH SHEAR WALLS.
- WHERE HEADERS ARE NOT SPECIFICALLY NOTED ON PLAN, SEE TYPICAL HEADER SIZE FOR OPENINGS, U.N.O. SCHEDULE ON TYPICAL DETAIL 10/X/S1.6 FOR HEADER INFORMATION.
- ALL STRUT/COLLECTORS SHALL RECEIVE 2 LINES OF E.N.

7 FRAMING PLAN
FOR WOOD CONSTRUCTION
SCALE: N/A

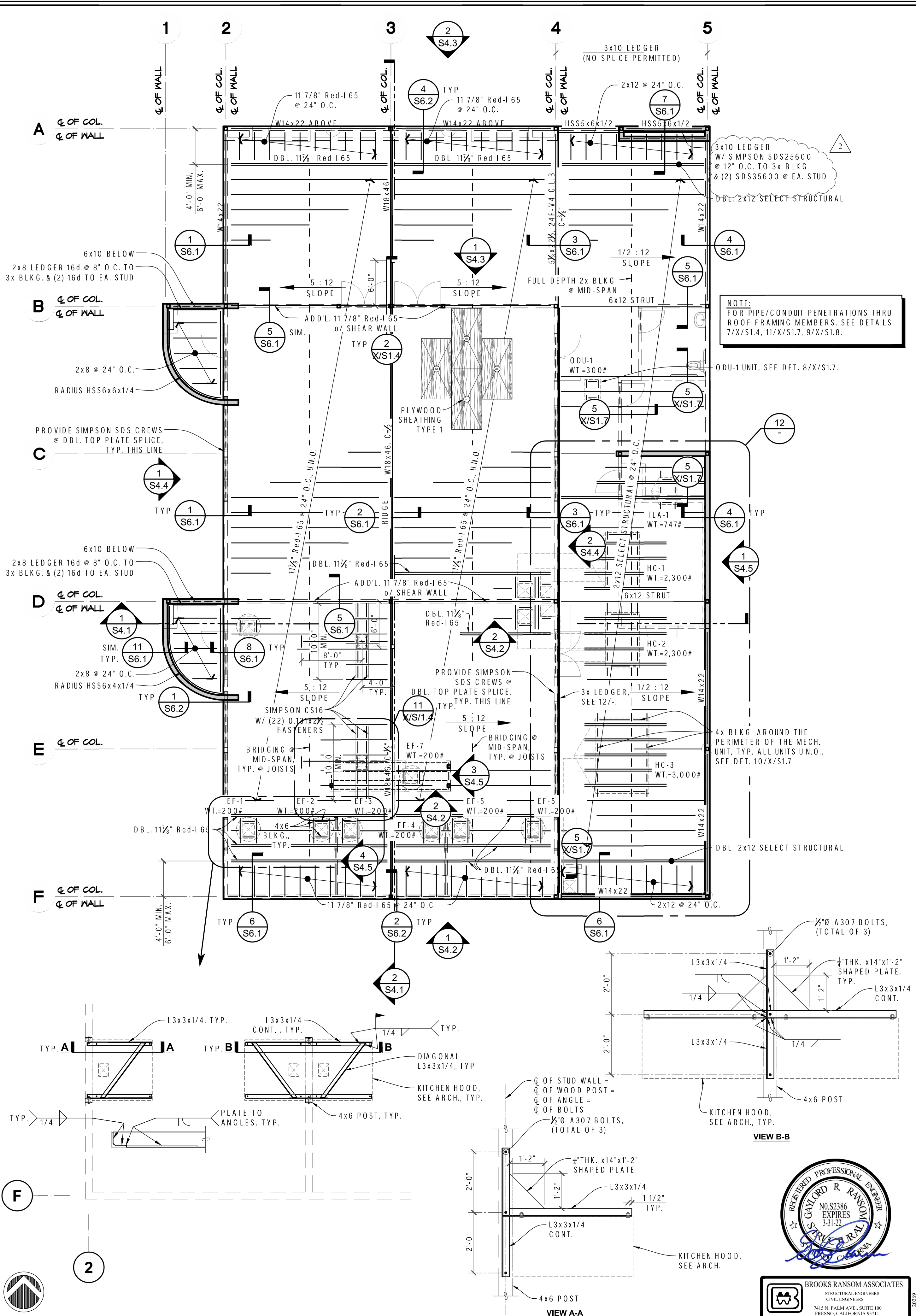
HANGER SCHEDULE	
MEMBER SIZE	SIMPSON HANGAER
2x6	LUS26 or JB26
2-2x6	LUS26-2 OR HUS26-2TF
2x10, 2x12	U210
2-2x10	U210-2
6x	HUC
1 1/2"x11 1/2" RedLam LVL	HB

- NOTES:**
- USE 10d x 1 1/2" NAILS TYP. U.N.O.
 - USE SKEWED/SLOPED HANGERS AS INDICATED & REQUIRED.
 - HANGERS BASED ON 'SIMPSON' C-C-2019 CATALOG.
 - SEE SECTIONS FOR ALTERNATE HANGER REQUIREMENTS.
 - FILL ALL NAIL HOLES.

8 HANGER SCHEDULE
SCALE: N/A



9 LEGEND
FOR WOOD CONSTRUCTION
SCALE: N/A



6 ROOF FRAMING PLAN
SCALE: 1/8"=1'-0"

FILE NO.: 16-HS APPL. NO.: 02-118543

MARK	DATE	DESCRIPTION
1	1/13/2021	ADDENDUM #2
2	1/19/2021	ADDENDUM #3

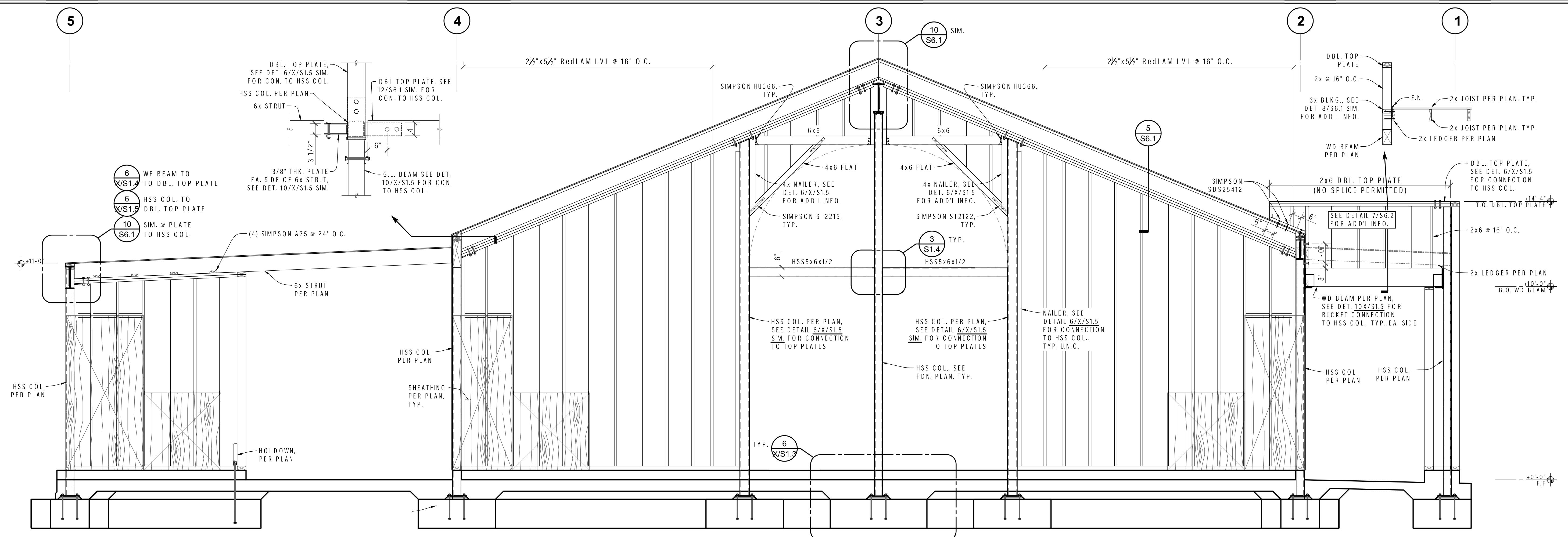
CITE: FARM AND FOOD PRODUCT FACILITY
CLOVIS EAST HIGH SCHOOL
CLOVIS UNIFIED SCHOOL DISTRICT

GONZALEZ ARCHITECTS
ARCHITECTURE PLANNING
JUAN M. GONZALEZ, A.I.A.
7545 N. DEL MAR AVENUE, SUITE 203
FRESNO CALIFORNIA 93711
TEL: 559-497-1542
FAX: 559-497-1549

PROJECT NO: 1739
DATE: 8/31/2020
SHEET TITLE:
ROOF FRAMING PLAN

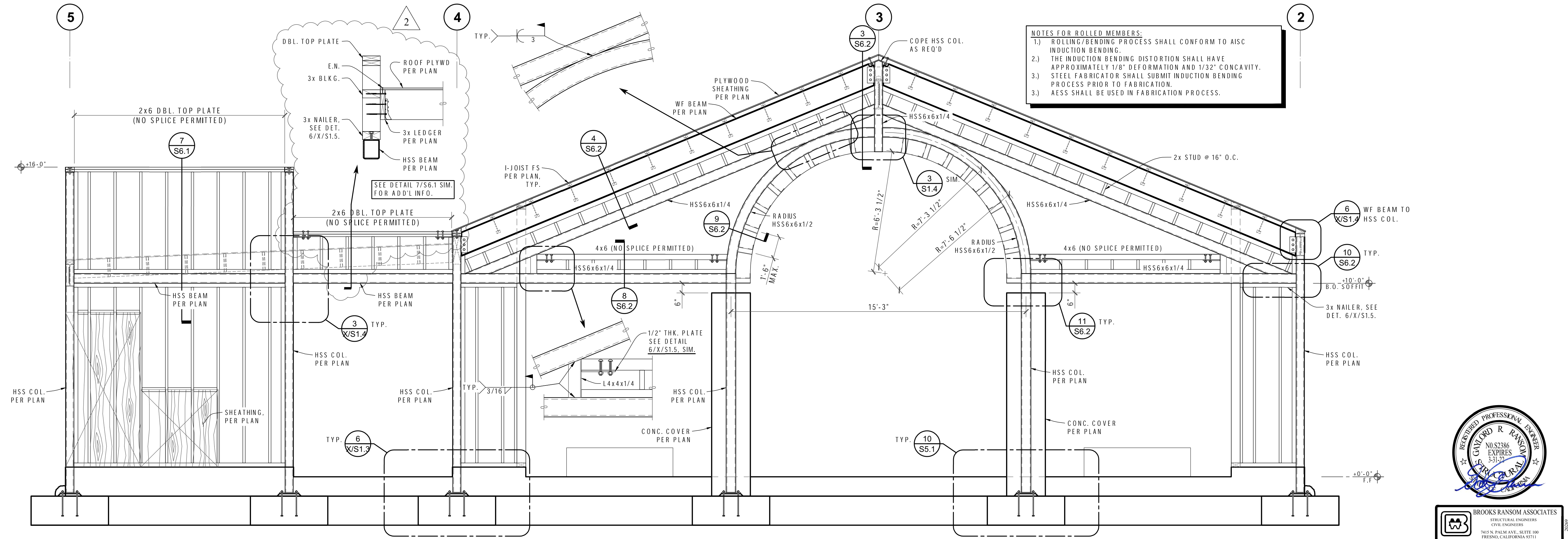
S3.1

BROOKS RANSOO ASSOCIATES
STRUCTURAL ENGINEERS
CIVIL ENGINEERS
7416 N. WALNUT AVE., SUITE 100
FRESNO, CALIFORNIA 93711



1 WALL ELEVATION @ WALL LINE B

SCALE: 3/8"=1'-0"



NOTES FOR ROLLED MEMBERS:
 1.) ROLLING/BENDING PROCESS SHALL CONFORM TO AISC INDUCTION BENDING.
 2.) THE INDUCTION BENDING DISTORTION SHALL HAVE APPROXIMATELY 1/8\"/>

2 WALL ELEVATION @ WALL LINE A

SCALE: 3/8"=1'-0"

FILE NO.: 16-H3 APPL. NO.: 02-118543

MARK	DATE	DESCRIPTION
1	1/13/2021	ADDENDUM #2
2	1/19/2021	ADDENDUM #3

CITE: FARM AND FOOD PRODUCT FACILITY
 CLOVIS EAST HIGH SCHOOL
 CLOVIS UNIFIED SCHOOL DISTRICT

GONZALEZ ARCHITECTS
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 JUAN M. GONZALEZ, A.I.A.

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 TEL: 559-497-1542
 FAX: 559-497-1549

PROJECT NO: 1739
 DATE: 8/31/2020
 SHEET TITLE:
WALL ELEVATIONS

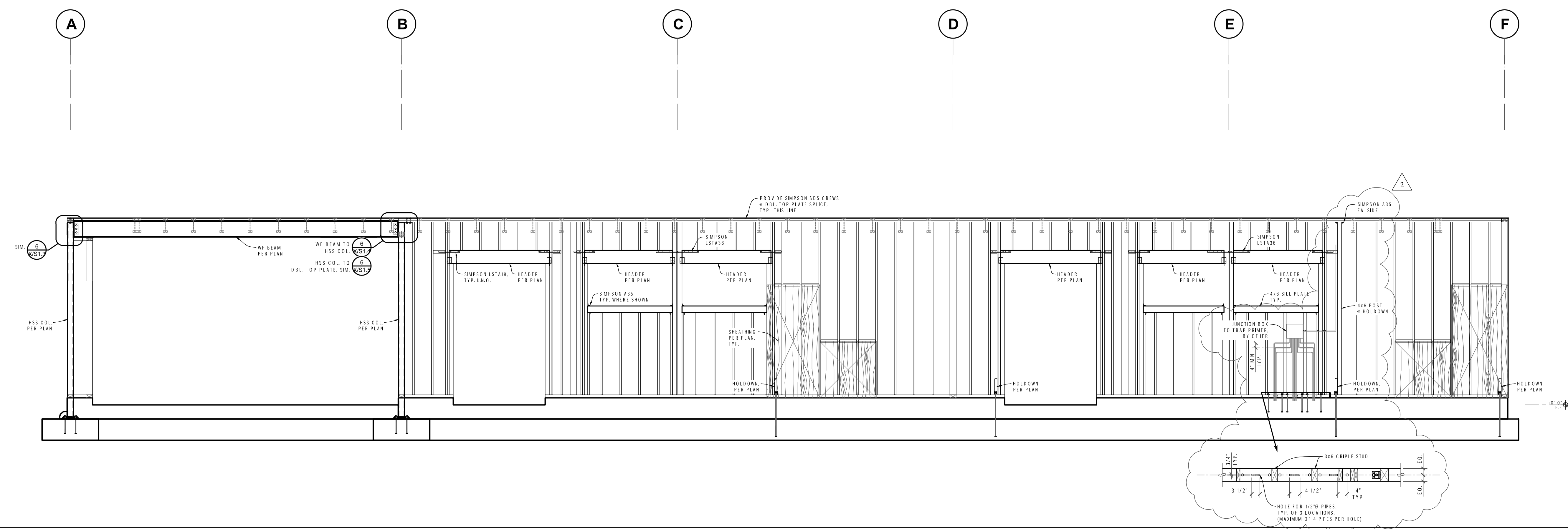
S4.3

BROOKS RANSOM ASSOCIATES
 STRUCTURAL ENGINEERS
 CIVIL ENGINEERS
 740 N. BIRMINGHAM AVE., SUITE 400
 FRESNO, CALIFORNIA 93711

FILE NO.: 16-H3 APPL. NO.: 02-118543

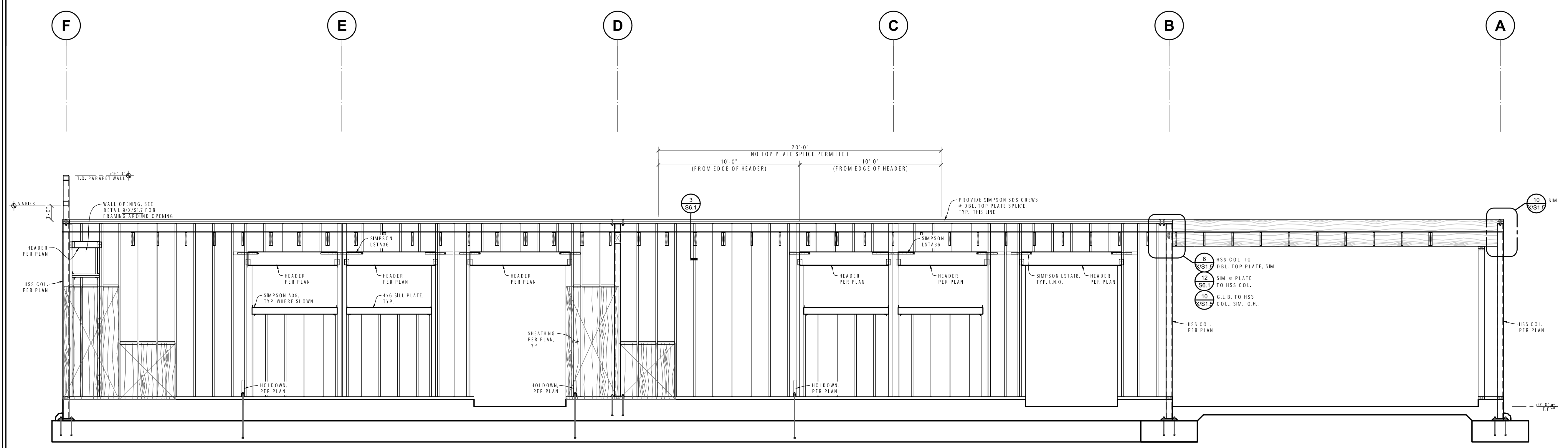


MARK	DATE	DESCRIPTION
1	1/13/2021	ADDENDUM #2
2	1/19/2021	ADDENDUM #3



1 WALL ELEVATION @ WALL LINE 2

SCALE: 1/4"=1'-0"



2 WALL ELEVATION @ WALL LINE 4



BROOKS RANSOM ASSOCIATES
 STRUCTURAL ENGINEERS
 CIVIL ENGINEERS
 740 N. BIRNEY AVE., SUITE 100
 FRESNO, CALIFORNIA 93711

SCALE: 1/4"=1'-0"

CITE: FARM AND FOOD PRODUCT FACILITY
 CLOVIS EAST HIGH SCHOOL
 CLOVIS UNIFIED SCHOOL DISTRICT

JUAN M. GONZALEZ ARCHITECTS
 ARCHITECTURE PLANNING
 JUAN M. GONZALEZ, A.I.A.
 7545 N. DEL MAR AVENUE, SUITE 203
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 TEL: 559-497-1542
 FAX: 559-497-1549

PROJECT NO: 1739
 DATE: 8/31/2020
 SHEET TITLE:
 WALL ELEVATIONS

S4.4

January 19, 2021

Mr. Jason Knod
Gonzalez Architects
7545 N. Del Mar Avenue, Suite 203
Fresno, CA 93711

20075

Subject: CTE: Farm and Food Product Facility
Clovis East High School
Addendum #3
Gonzalez Project No. 1739

Dear Mr. Knod:

Please issue the following items for Addendum #3:

PLUMBING:

1. **Refer to drawing sheet P2:**

- A. Replace sheet P2 with the herein attached Sheet P2-AD3.
 - 1. Sinks S-4 and S-5 on this sheet revised to only cold water. Hot water roughed in but not connected.
 - 2. Revised 3/4" cold and hot water sizes at sinks to 1/2".

2. **Refer to drawing sheet P3:**

- A. Replace sheet P3 with the herein attached Sheet P3-AD3.
 - 1. Sinks S-1 on this sheet revised to only cold water. Hot water roughed in but not connected.
 - 2. Revised 3/4" cold and hot water sizes at sinks to 1/2".
 - 3. Revised trap primer location from east wall (south end) to the west wall above 3-compartment sink. Revised routing of associated underground trap primer water lines and minor adjustments to plumbing in the area.

3. **Refer to drawing sheet P1:**

- A. In the note about the PG&E meter replacement, delete the text "CONTRACTOR TO ARRANGE FOR AND PAY ALL COSTS", and add the text "ALL COSTS ASSOCIATED WITH PG&E METER UPGRADE SHALL BE PAID DIRECTLY BY OWNER. CONTRACTOR SHALL RECONNECT GAS HEADER TO NEW METER ON HOUSE SIDE."

MECHANICAL:

1. Refer to drawing sheet M3:

- A. Replace sheet M3 with the herein attached Sheet M3-AD3.
 - 1. Grille Schedule added.

2. Refer to drawing sheet M4:

- A. Replace sheet M4 with the herein attached Sheet M4-AD3.
 - 1. Revised detail C/M4 structural attachment to 6/S3.1.

SPECIFICATIONS:

1. Refer to Section 23 00 00, paragraph 1.4 “Coordination of Work”:

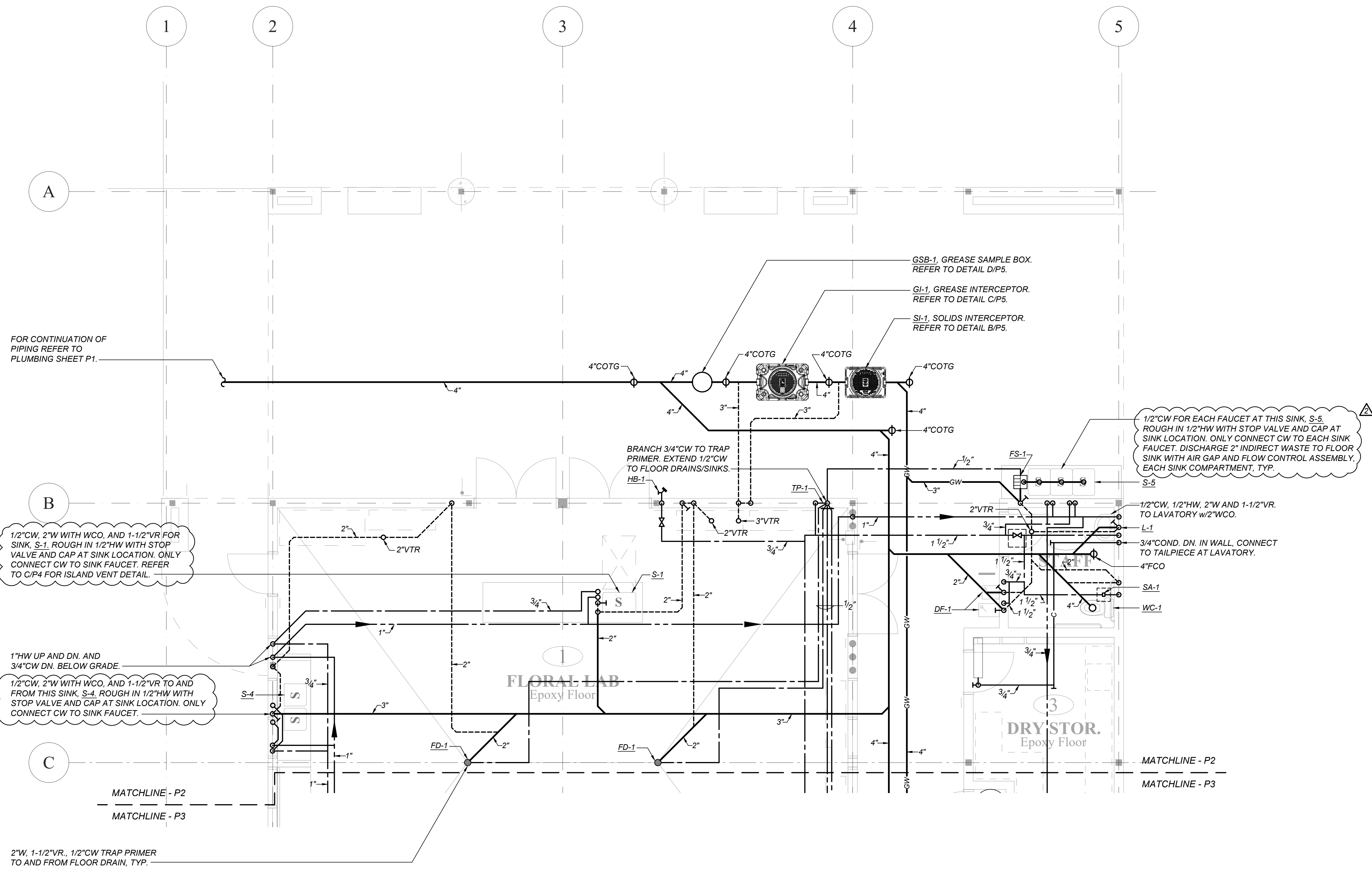
- A. Add new paragraph ‘B’ as follows:
 - B. Mandatory Coordination and Shop Drawings:
 - 1. Prepare or have prepared high level detailed Shop Drawings in plan view, with cross-sections as necessary, indicating the proposed installation plan for all HVAC, mechanical, fire sprinkler, and plumbing installations for the project. These Drawings should depict actual elevations and linear dimensions, as well as all routing changes, transitions, major offsets, deck and structural attachments deemed necessary to accomplish the installation. Individual Shop Drawings may be prepared for each trade working within the designated space or area; however, the coordination of the consolidated installation shall remain the responsibility of the Contractor. These Shop Drawings shall be provided to each Subcontractor having Work in each area for coordination. Any fittings, offsets or other changes due to coordination shall be at no additional cost to District.
 - 2. Whereas the Drawings are diagrammatic, showing only the general arrangement of the systems, Contractor shall have responsibility for the fitting of materials and equipment to other parts of the equipment and structure, and to make adjustments as necessary or required to resolve space problems, preserve service room, and avoid architectural and structural elements and the Work of other trades. Contractor may be required to identify certain areas to relocate installations within the spaces depicted on the Drawings, e.g., ductwork and/or piping may be shifted within the space shown to accommodate other systems. Such functional relocations shall not be deemed a change to the requirements of the Contract. In the event a major re-routing of a system appears necessary, Contractor shall prepare and submit for approval, Shop Drawings of the proposed rearrangement.
 - 3. Because of the diagrammatic nature and small scale of the Drawings, all necessary offsets, adjustments, and transitions required for the complete installation are not shown. Contractor shall carefully investigate the conditions affecting all the Work and shall arrange such Work accordingly, furnishing such fittings, equipment, valves, accessories, etc., as may be required to meet such conditions, at no additional cost to the District.
 - 4. Resolve differences or disputes between subcontractors and materials suppliers concerning coordination, interference, or extent of work between sections. The Contractor's decisions, if consistent with the Contract Documents, shall be final. The Architect and their Consultants are not required to coordinate work between sections and will not do so. Any changes required that affect the design intent shall be presented to and approved by the Architect and Engineer of Record.
 - 5. The coordinated Shop Drawings must be signed off by HVAC, Plumbing, Fire Sprinkler, Electrical, Framing, Ceiling Installation, and Data and Low Voltage Subcontractors.

6. The signed off Shop Drawings shall be submitted to the District's Representative for review and approval prior to commencement of installation.
7. Provide reviewed Shop Drawings to each Subcontractor having Work in each area.

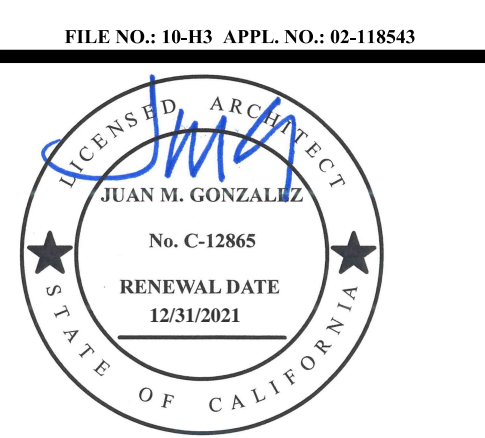
Sincerely,
LAWRENCE ENGINEERING GROUP

A handwritten signature in black ink, appearing to read "Paul Xiong". The signature is fluid and cursive, with the first name "Paul" and the last name "Xiong" clearly distinguishable.

Paul Xiong
Mechanical Engineer



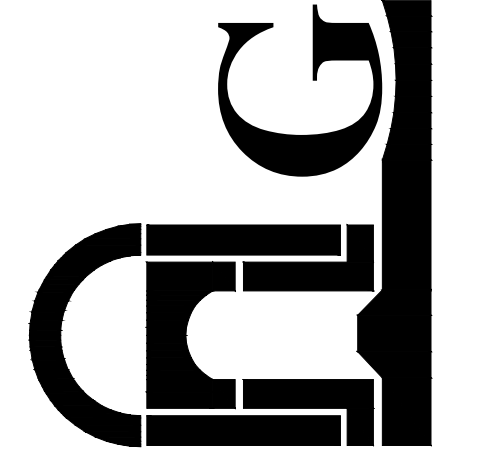
I:\SERVER\Company\Gonzalez Architects\Educational\Clovis East HS CTE2\Working Draw Phase\WD_CTE Clovis East.pln



MARK	DATE	DESCRIPTION
△	1/19/2021	ADDENDUM #3

CTE: FARM AND FOOD PRODUCT FACILITY
 CLOVIS EAST HIGH SCHOOL
 CLOVIS UNIFIED SCHOOL DISTRICT

GONZALEZ ARCHITECTS
 7545 N. DEL MAR AVENUE, SUITE 203
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 TEL: 559-497-1542
 FAX: 559-497-1549
 ARCHITECTURE PLANNING
 JUAN M. GONZALEZ, A.I.A.



PROJECT NO: 1739
DATE: 5/12/2020
SHEET TITLE: ENLARGED PLUMBING PLAN

P2-AD3

ENLARGED PLUMBING PLAN
 SCALE: 1/4"=1'-0"

WALL LEGEND	
	STUD WALL
	1 HOUR FIRE BARRIER WALL
	STEEL COLUMN

REFER TO ARCH. AND STRUCT'L PLANS FOR ADDITIONAL INFO.

LAWRENCE ENGINEERING GROUP
 7084 N. Maple Ave., Suite 101
 (559) 431-0101 20075 Fresno, CA 93720
 FAX (559) 431-1362



MARK	DATE	DESCRIPTION
△	1/19/2021	ADDENDUM #3

CTE: FARM AND FOOD PRODUCT FACILITY
 CLOVIS EAST HIGH SCHOOL
 CLOVIS UNIFIED SCHOOL DISTRICT

GONZALEZ ARCHITECTS
 7545 N. DEL MAR AVENUE, SUITE 203
 FRESNO CALIFORNIA 93711
 TEL: 559-497-1542
 FAX: 559-497-1549
 ARCHITECTURE PLANNING
 JUAN M. GONZALEZ, A.I.A.

PROJECT NO: 1739
 DATE: 5/12/2020
 SHEET TITLE:
 ENLARGED PLUMBING PLAN

P3-AD3

MATCHLINE - P2
 MATCHLINE - P3
 WH-1, MV-1, TET-1, AND CP-1.
 REFER TO DETAIL H/P4.
 2" GAS DN. TO WATER HEATER,
 399 MBH.

1" COND. DN. IN WALL. ELBOW OUT
 AND TURN DOWN WITH 1" AIR GAP
 TO FLOOR SINK.

CONNECT CONDENSATE DRAIN
 PIPING TO H/C UNIT ON ROOF WITH
 TRAP. REFER TO DETAIL F/P4, TYP.

3/4" CW UP THRU ROOF TO HB-2
 @ +12" ABV. FIN. ROOF.

GAS UP THRU ROOF AND CONNECT TO
 H/C UNIT WITH DIRT LEG AND PLUG
 VALVE. REFER TO DETAIL D/P4, TYP.

GAS AND CONDENSATE PIPING LOCATED
 IN BETWEEN RAFTER SPACE. REFER TO
 STRUCTURAL DETAIL 11/X/S1.7 FOR
 HOLES THRU 2x12 WOOD JOISTS. TYP.

3/4" CW DN. IN WALL. ELBOW OUT
 TO S.O.V. AND CONNECT TO WF-1
 FILTRATION UNIT MOUNTED ON
 WALL ABOVE ICE MAKER. ALLOW 3"
 MIN. CLEARANCE BELOW FILTER.
 PROVIDE ESCUTCHEON AND UNION
 AT WALL PENETRATIONS. TYP.
 EXTEND 1/2" CW FROM WATER
 FILTER, PROVIDE S.O.V. AND BFP ON
 DOWNSTREAM SIDE OF FILTER
 SHUT-OFF VALVE. CONNECT TO ICE
 MAKER. PIPE DRAIN LINE FROM BFP
 TO FLOOR SINK W/ 1" AIR GAP.

HR-1, CONNECT 1" CW TO HOSE
 REEL WITH SOV. REFER TO DETAIL
 E/P5 FOR MOUNTING.

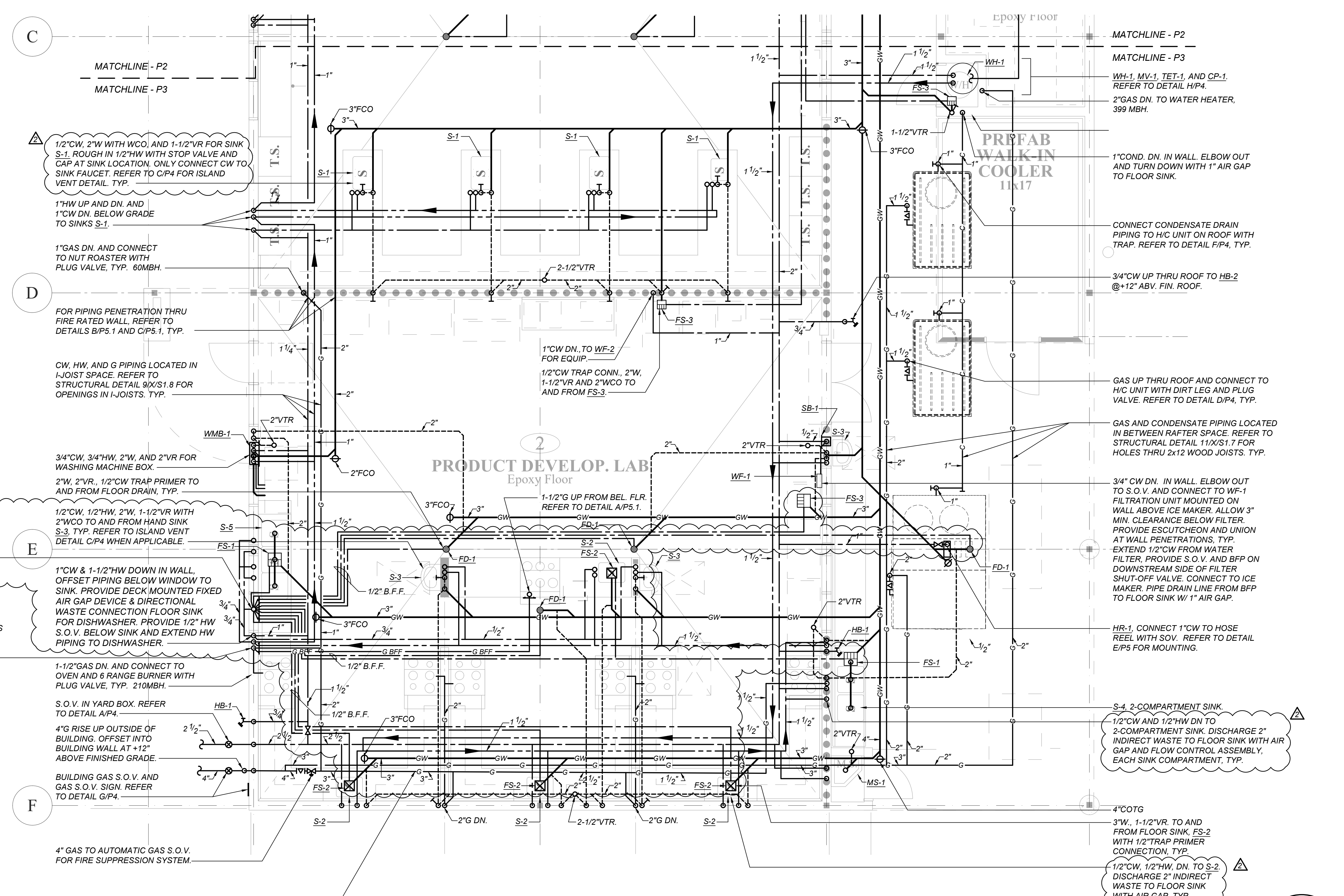
S-4, 2-COMPARTMENT SINK.
 1/2" CW AND 1/2" HW DN TO
 2-COMPARTMENT SINK. DISCHARGE 2"
 INDIRECT WASTE TO FLOOR SINK WITH AIR
 GAP AND FLOW CONTROL ASSEMBLY,
 EACH SINK COMPARTMENT, TYP.

4" COTG
 3"W., 1-1/2" VTR. TO AND
 FROM FLOOR SINK. FS-2
 WITH 1/2" TRAP PRIMER
 CONNECTION. TYP.

1/2" CW, 1/2" HW, DN TO S-2
 DISCHARGE 2" INDIRECT
 WASTE TO FLOOR SINK
 WITH AIR GAP, TYP.

WALL LEGEND	
	STUD WALL
	1 HOUR FIRE BARRIER WALL
	STEEL COLUMN

REFER TO ARCH. AND STRUCT'L PLANS FOR ADDITIONAL INFO.



1/2" CW, 2" W WITH WCO, AND 1-1/2" VTR FOR SINK
 S-1. ROUGH IN 1/2" HW WITH STOP VALVE AND
 CAP AT SINK LOCATION. ONLY CONNECT CW TO
 SINK FAUCET. REFER TO C/P4 FOR ISLAND
 VENT DETAIL. TYP.

1" HW UP AND DN. AND
 1" CW DN. BELOW GRADE
 TO SINKS S-1.

1" GAS DN. AND CONNECT
 TO NUT ROASTER WITH
 PLUG VALVE. TYP. 60MBH.

FOR PIPING PENETRATION THRU
 FIRE RATED WALL, REFER TO
 DETAILS B/P5.1 AND C/P5.1, TYP.

CW, HW, AND G PIPING LOCATED IN
 I-JOIST SPACE. REFER TO
 STRUCTURAL DETAIL 9/X/S1.8 FOR
 OPENINGS IN I-JOISTS. TYP.

3/4" CW, 3/4" HW, 2" W, AND 2" VTR FOR
 WASHING MACHINE BOX.

2" W, 2" VTR., 1/2" CW TRAP PRIMER TO
 AND FROM FLOOR DRAIN, TYP.

BRANCH 3/4" CW IN WALL TO TRAP
 PRIMER TP-1. EXTEND 1/2" CW
 BELOW GRADE TO FLOOR
 DRAIN/SINKS. OFFSET CW DROPS
 IN WALL AND DISTRIBUTE DROPS
 EVENLY ACROSS 3 STUD BAYS.

1/2" CW, 1/2" HW, 2" W, 1-1/2" VTR WITH
 2" WCO TO AND FROM HAND SINK
 S-3. TYP. REFER TO ISLAND VENT
 DETAIL C/P4 WHEN APPLICABLE.

1" CW & 1-1/2" HW DOWN IN WALL,
 OFFSET PIPING BELOW WINDOW TO
 SINK. PROVIDE DECK MOUNTED FIXED
 AIR GAP DEVICE & DIRECTIONAL
 WASTE CONNECTION FLOOR SINK
 FOR DISHWASHER. PROVIDE 1/2" HW
 S.O.V. BELOW SINK AND EXTEND HW
 PIPING TO DISHWASHER.

1-1/2" GAS DN. AND CONNECT TO
 OVEN AND 6 RANGE BURNER WITH
 PLUG VALVE. TYP. 210MBH.

S.O.V. IN YARD BOX. REFER
 TO DETAIL A/P4.

4" G RISE UP OUTSIDE OF
 BUILDING. OFFSET INTO
 BUILDING WALL AT +12"
 ABOVE FINISHED GRADE.

BUILDING GAS S.O.V. AND
 GAS S.O.V. SIGN. REFER
 TO DETAIL G/P4.

4" GAS TO AUTOMATIC GAS S.O.V.
 FOR FIRE SUPPRESSION SYSTEM.

REFER TO SHEETS P5.2 THRU P5.4
 FOR SEISMIC DETAILS. TYP.

REFER TO SHEETS P5.2 THRU P5.4
 FOR SEISMIC DETAILS. TYP.

REFER TO SHEETS P5.2 THRU P5.4
 FOR SEISMIC DETAILS. TYP.

REFER TO SHEETS P5.2 THRU P5.4
 FOR SEISMIC DETAILS. TYP.

REFER TO SHEETS P5.2 THRU P5.4
 FOR SEISMIC DETAILS. TYP.

REFER TO SHEETS P5.2 THRU P5.4
 FOR SEISMIC DETAILS. TYP.

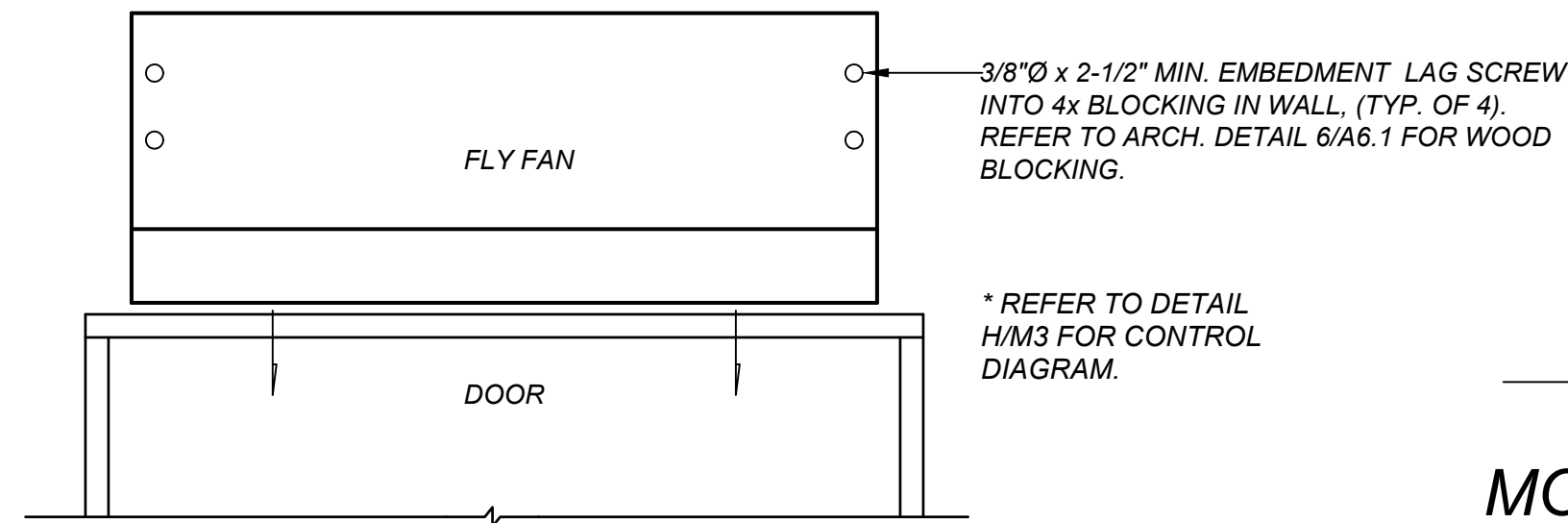
REFER TO SHEETS P5.2 THRU P5.4
 FOR SEISMIC DETAILS. TYP.

REFER TO SHEETS P5.2 THRU P5.4
 FOR SEISMIC DETAILS. TYP.

REFER TO SHEETS P5.2 THRU P5.4
 FOR SEISMIC DETAILS. TYP.

USBER/ER/Company/Consulting/Architect/Educational/Clovis Unified/1739 Clovis East HS CTE/Working Dwg/Phase/WD_CTE Clovis East.gn

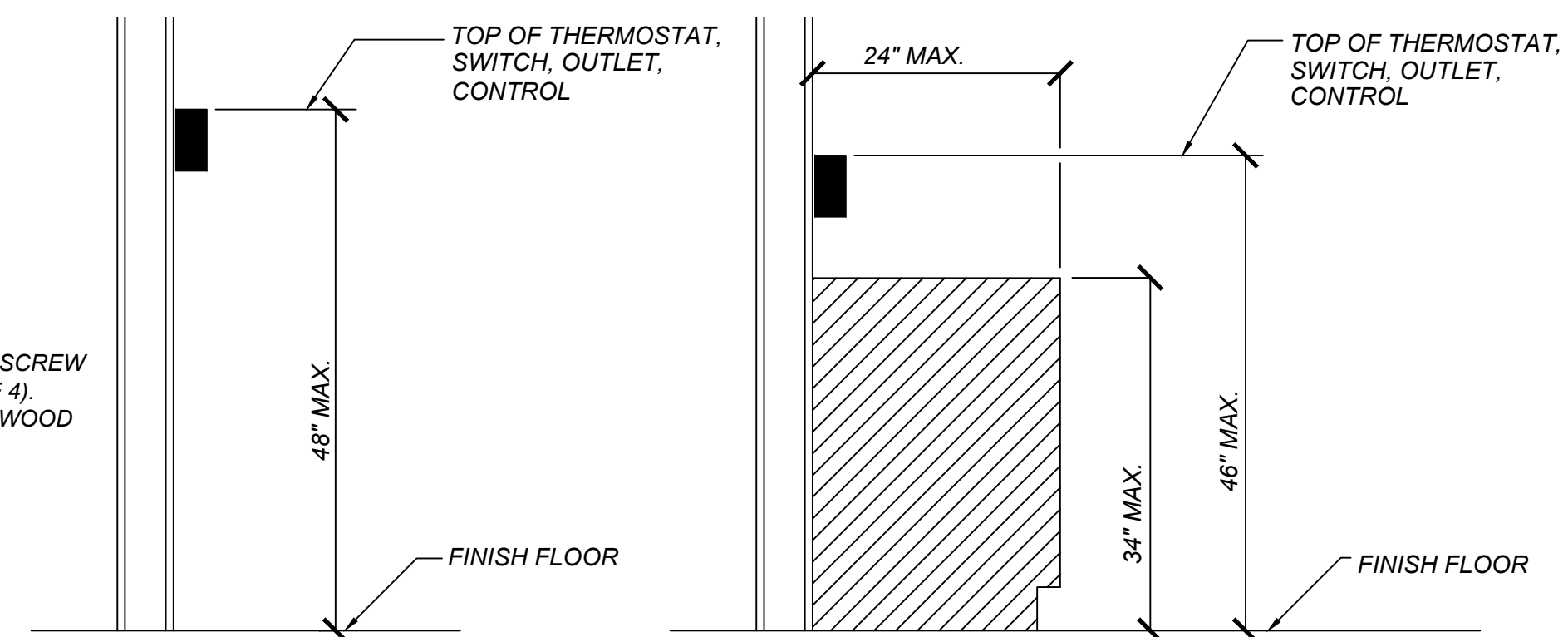




FLY FAN MOUNTING

SCALE: NONE

G
M3



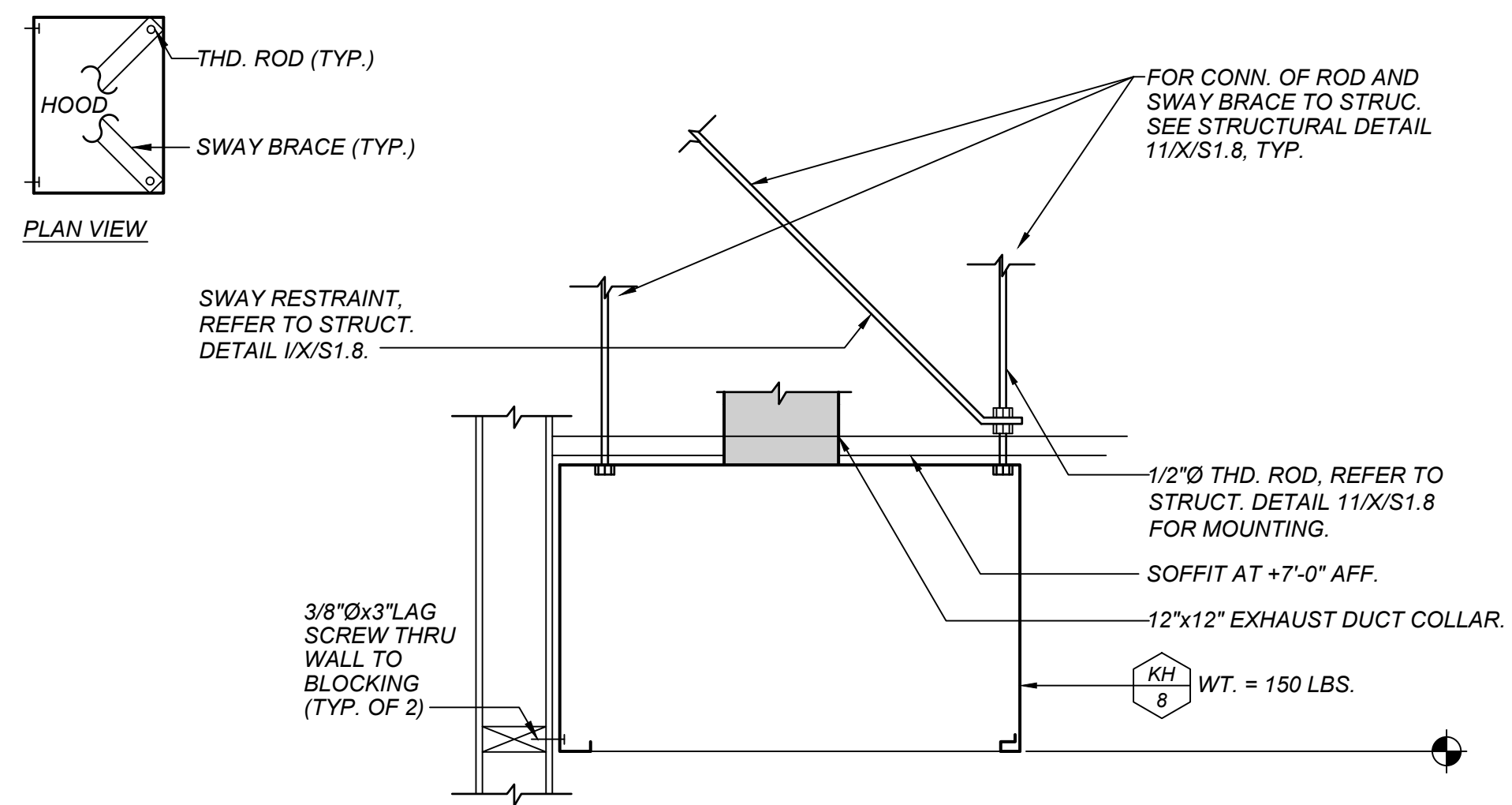
MOUNTING HEIGHT

OVER OBSTRUCTION

THERMOSTAT MOUNTING

SCALE: NONE

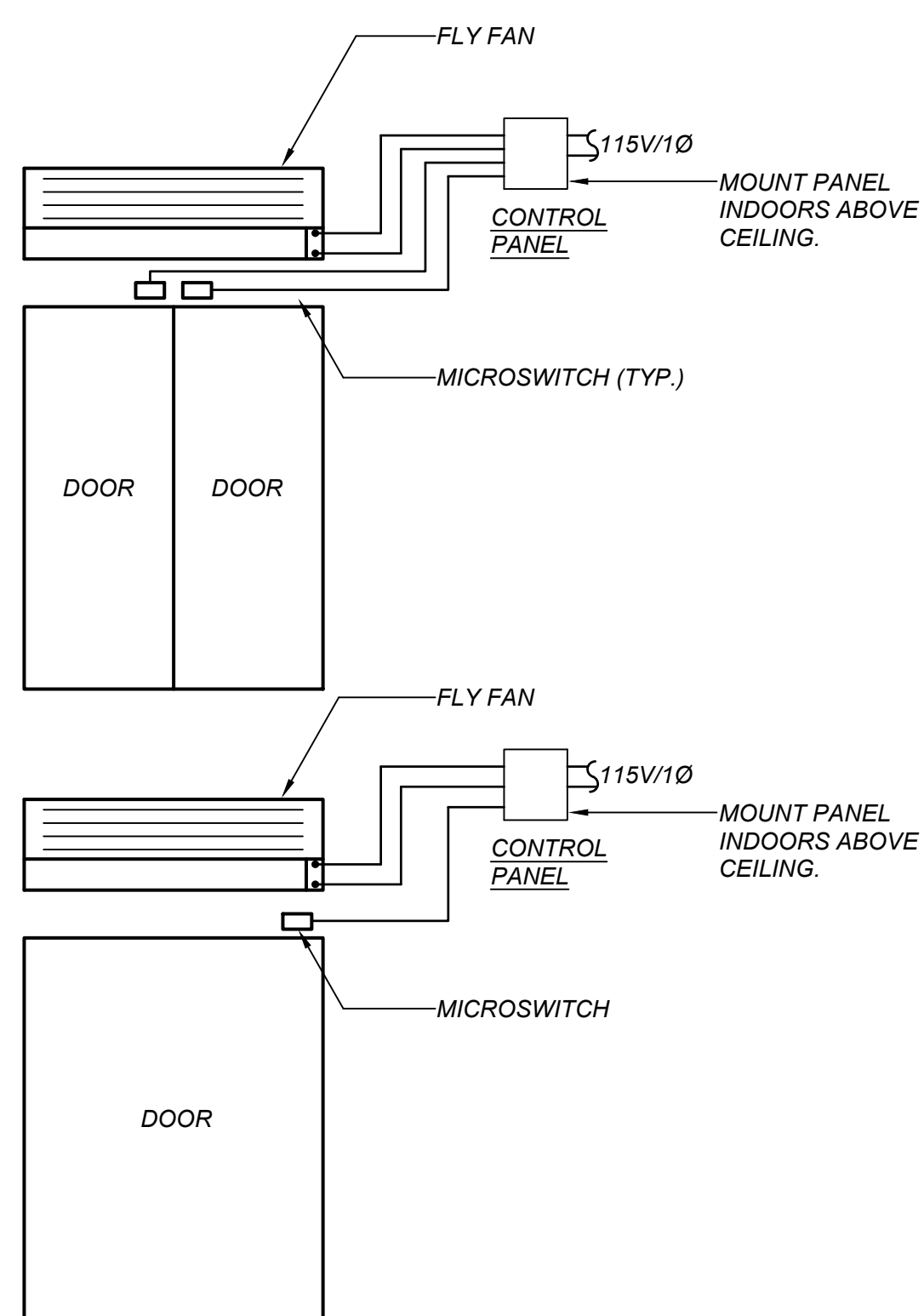
D
M3



TYPE II HOOD MOUNTING DETAIL

SCALE: NONE

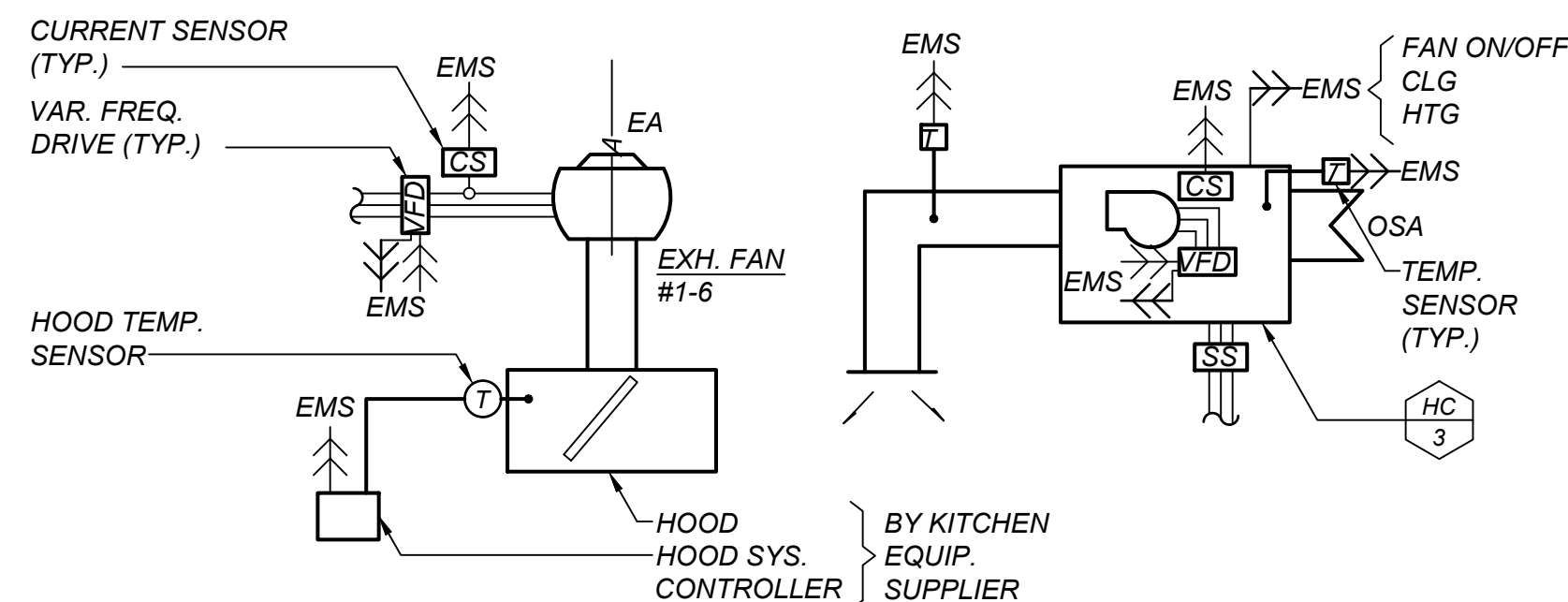
A
M3



FLY FAN CONTROL DIAGRAM

SCALE: NONE

H
M3



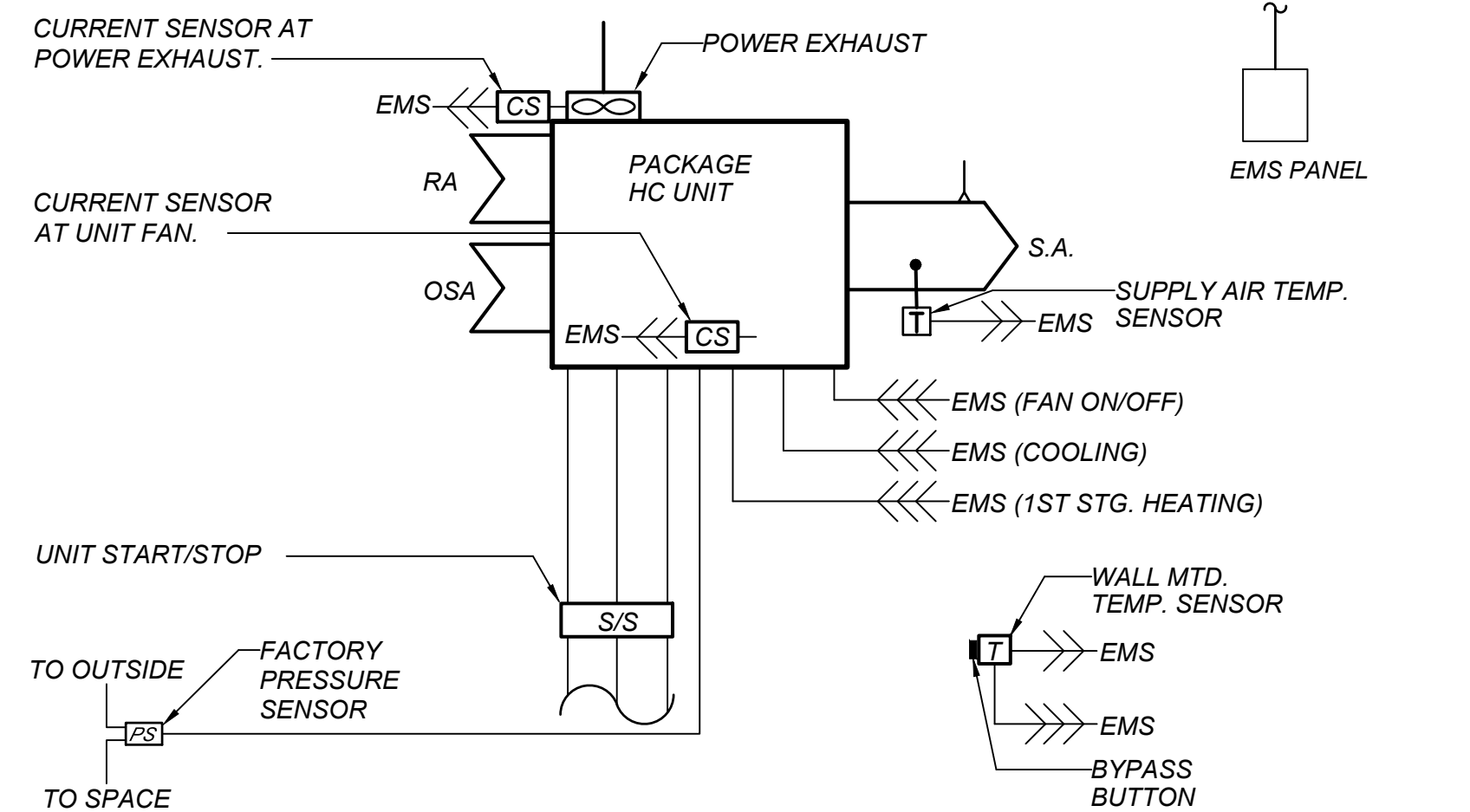
- NOTES:**
- EMS SHALL ENABLE SYSTEM.
 - HOOD SYS. CONTROLLER SHALL START/STOP SYSTEM WHEN ENABLED BY EMS.
 - VFD'S ARE FOR AIR BAL. ONLY.

KITCHEN HOOD SYSTEM DIAGRAM

SCALE: DIAGRAMMATIC

MC143

E
M3

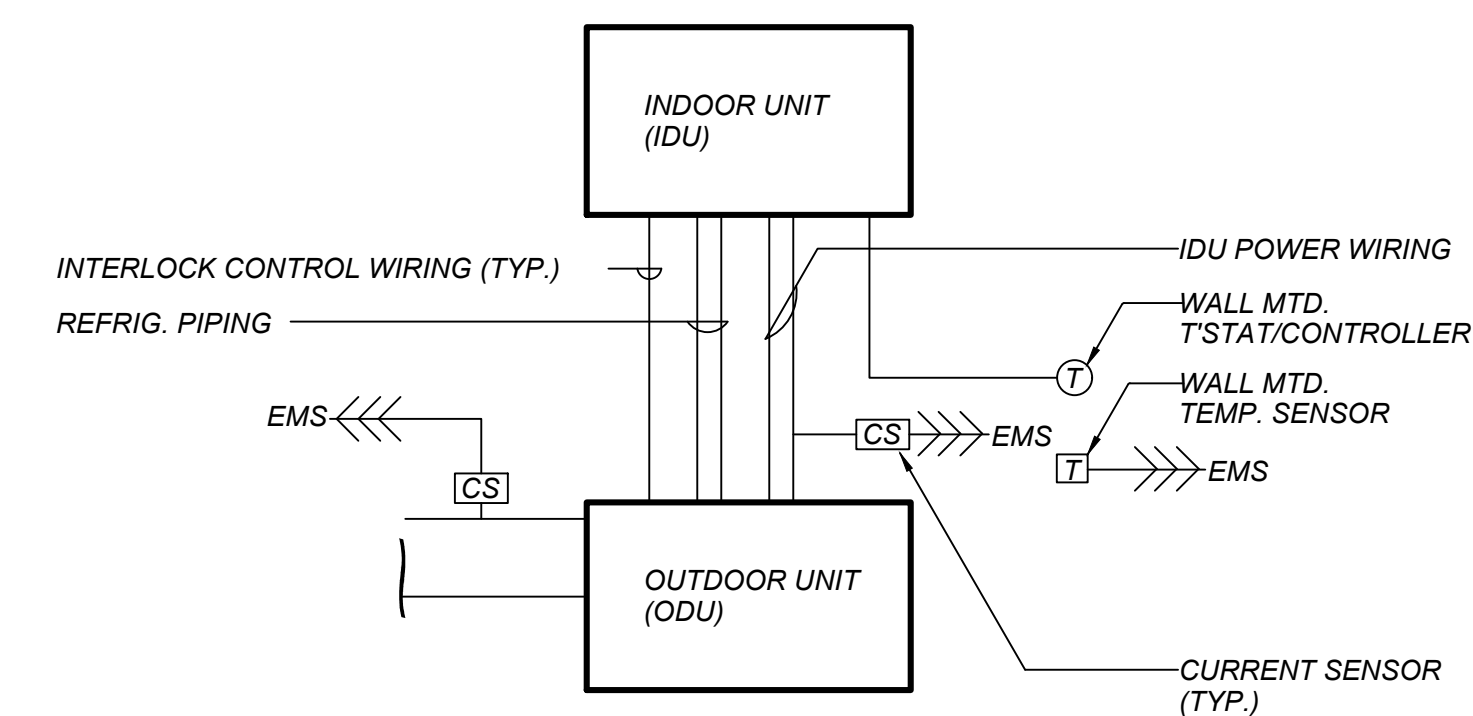


PACKAGE HC UNIT DIAGRAM

SCALE: NONE

MC090

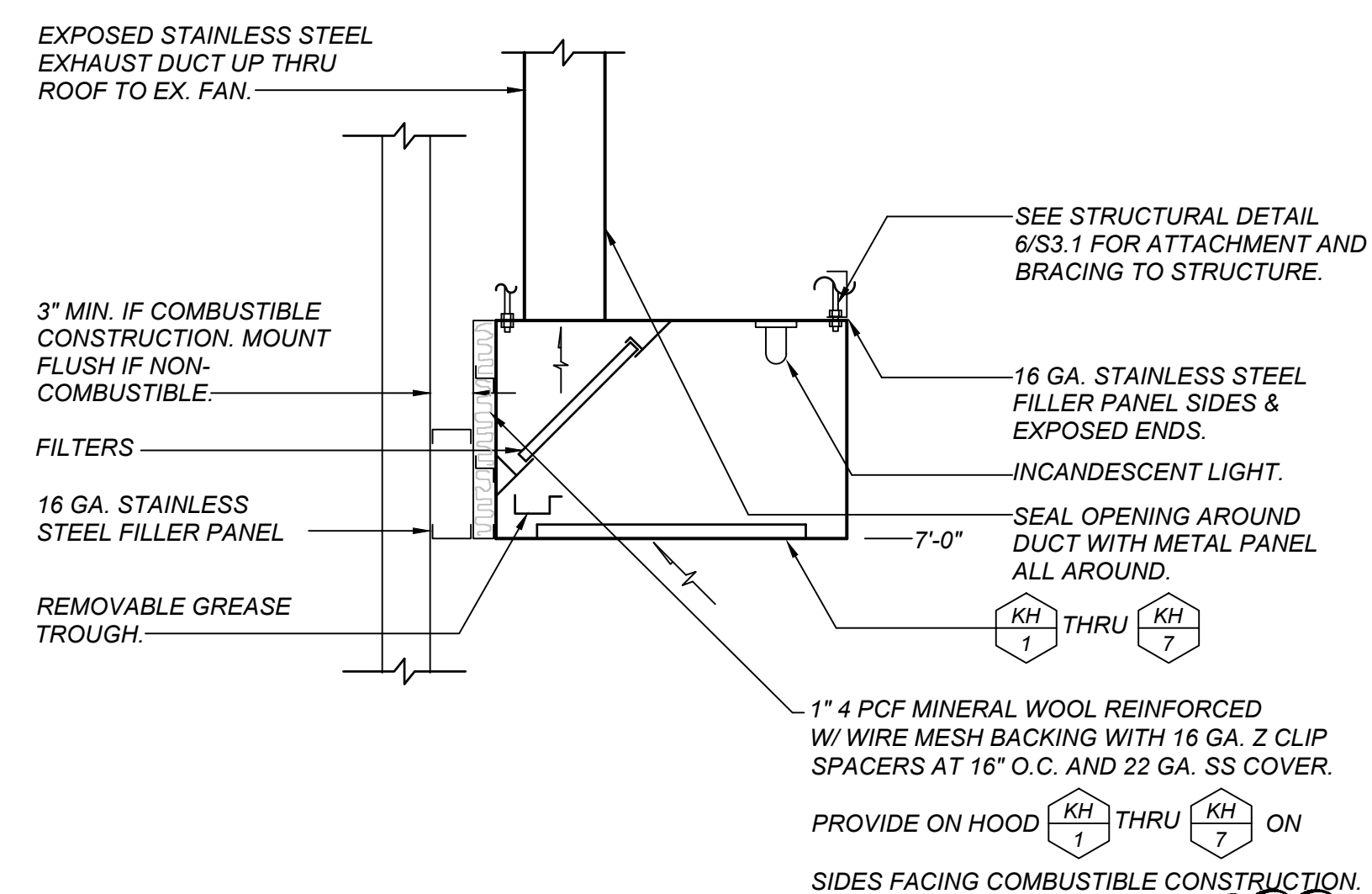
F
M3



SPLIT SYSTEM DIAGRAM

SCALE: NONE

B
M3



TYPE I HOOD MOUNTING DETAIL

SCALE: NONE

C
M3

CITE: FARM AND FOOD PRODUCT FACILITY
CLOVIS EAST HIGH SCHOOL
CLOVIS UNIFIED SCHOOL DISTRICT

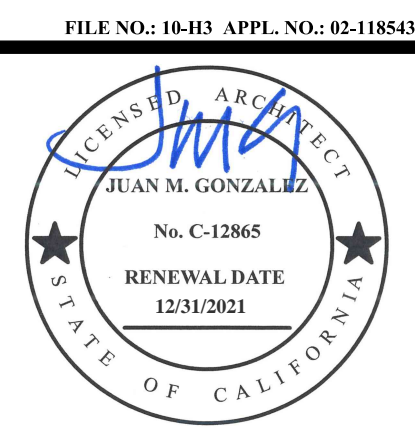
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PROJECT NO: 1739
DATE: 5/12/2020

SHEET TITLE:
MECHANICAL
DETAILS

M3-AD3

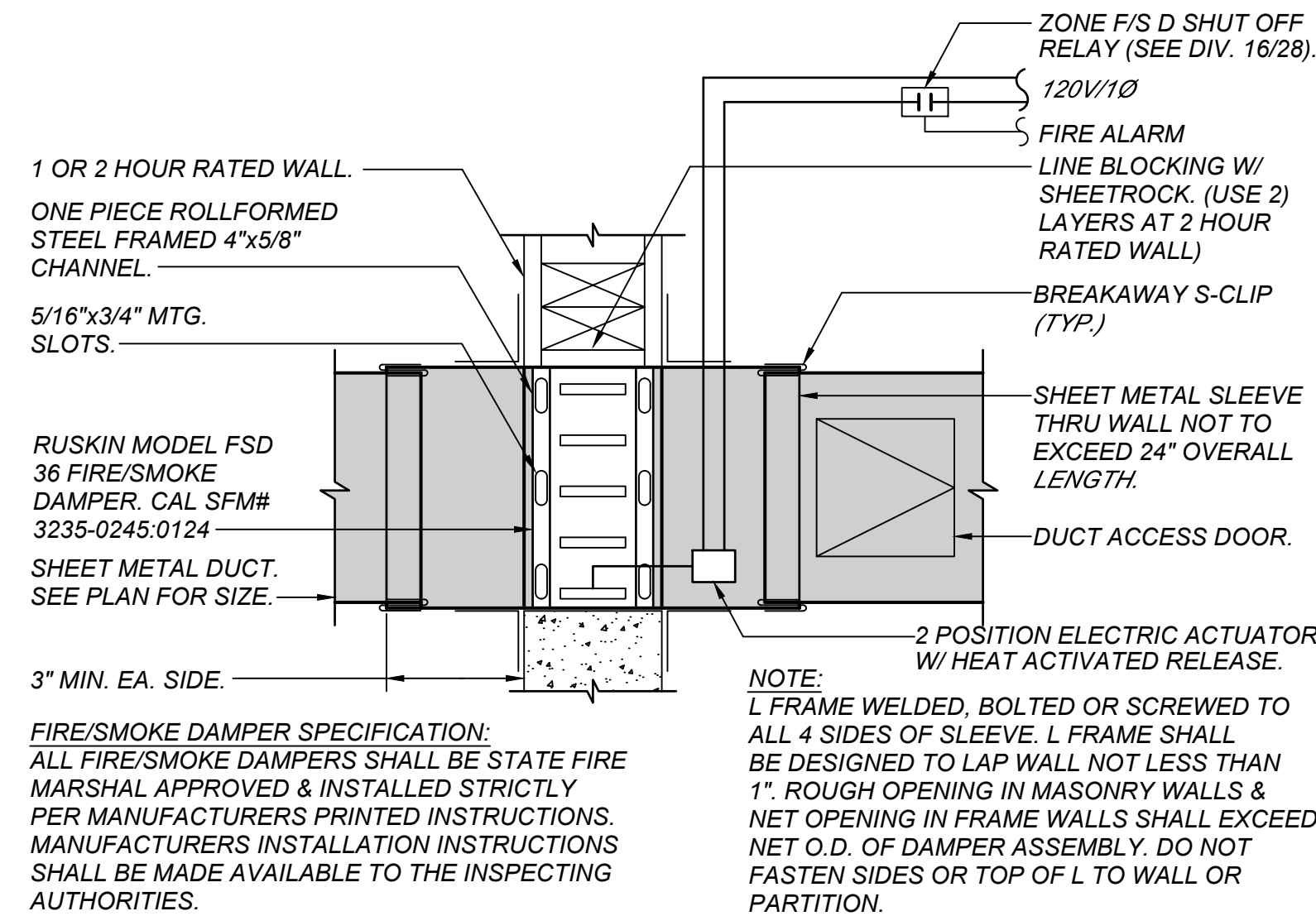
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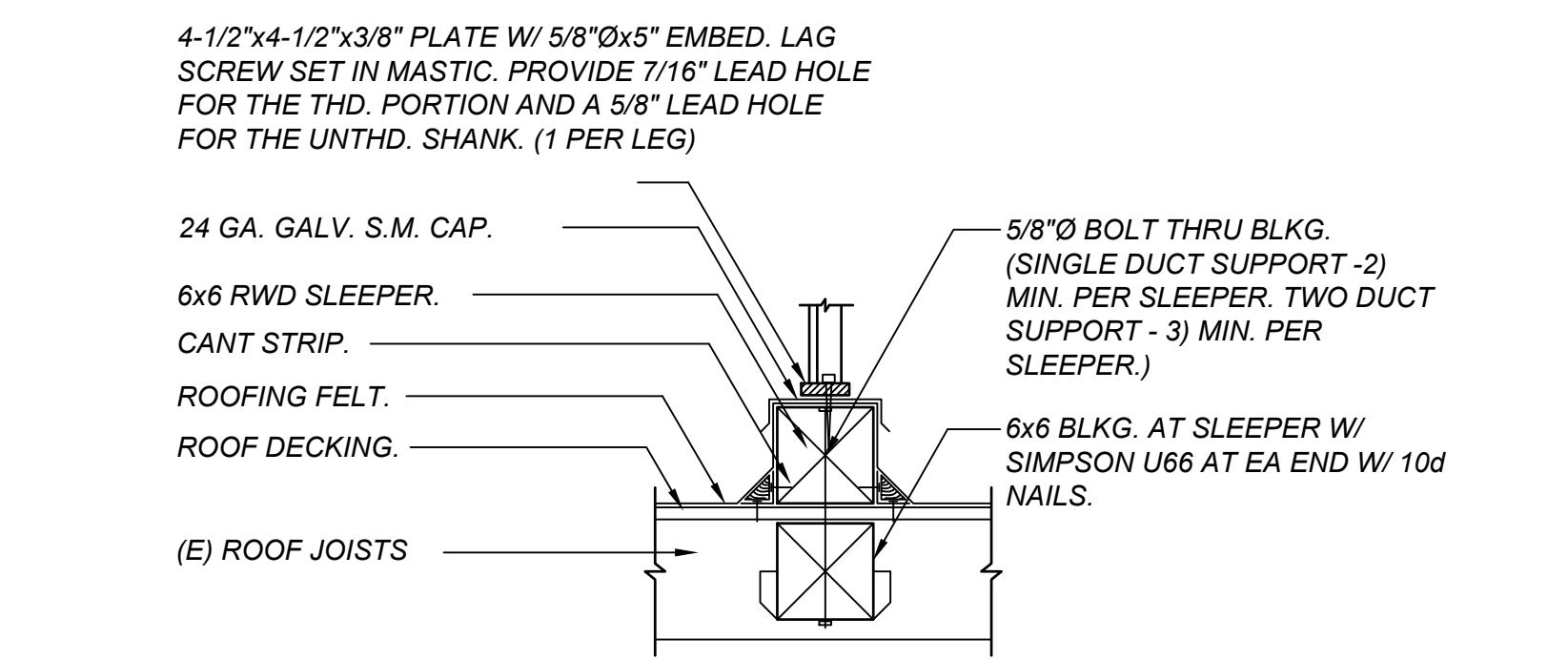
GRILLE SCHEDULE		
MARK	DUTY	DESCRIPTION
A	WALL SUPPLY	TITUS MODEL 1707 REGISTER WITH REMOVABLE CORE, 5 DEGREE UPWARD DEFLECTION AND NO. 26 WHITE FINISH.
B	WALL RETURN	TITUS MODEL 350RL STEEL RETURN GRILLE WITH 35° DEFLECTION BLADES AT 3/4" SPACING AND NO. 26 WHITE FINISH.
C	COMBINATION LOUVER	RUSKIN ELBD 813 COMBINATION STATIONARY LOUVER W/ BACKDRAFT DAMPER. EXTRUDED ALUMINUM CONSTRUCTION. REMOVABLE 1/2" MESH SCREEN ON INSIDE FACE. PRIME COAT FOR PAINTING.

FLY FAN SCHEDULE		
DESIGNATION	FF 1	FF 2
CFM	2899	5803
HP/WATTS	3/4 / -	(3) / -
VOLTS/PHASE	120 / 1	120 / 1
DRIVE	DIRECT	DIRECT
MOUNTING	WALL	WALL
MANUFACTURER	POWERED AIR	POWERED AIR
TYPE	CENTRIFUGAL	CENTRIFUGAL
MODEL NUMBER	BCT-1-36	BCT-2-72
CONTROL	①	①
SERVICE	RM #2	RM #2
OPER. WT. (LBS)	100 LBS	190 LBS
ACCESSORIES	② ④	② ④

- ① FACTORY MAGNETIC DOOR SWITCH, ONE PER DOOR.
- ② OPTIONAL 1/2" CLEANABLE FILTER.
- ③ TWO MOTORS 3/4 HP, 8.0 AMPS EACH.
- ④ FOR UNIT CONTROL, REFER TO H/M3.



FIRE/SMOKE DAMPER AT WALL DETAIL
SCALE: NONE FIRE/SMOKE DAMPER DETAIL FOR REFERENCE ONLY. MF037 **A M4**



DUCT ON ROOF DETAIL
SCALE: NONE MD082 **B M4**

EXHAUST FAN SCHEDULE			
DESIGNATION	EF 1 THRU EF 7	EF 8	EF 9
CFM	860	525	100
ESP (IN WC)	1.5	1.0	.8
HP/WATTS	0.75/-	0.33/-	- / 37
VOLTS/PHASE	115/1	115/1	115/1
RPM	1725	1725	880
TIP SPEED/SONES	-	-	-
DRIVE	DIRECT	DIRECT	DIRECT
MOUNTING	ROOF	ROOF	ROOF
MANUFACTURER	ACCUREX	ACCUREX	GREENHECK
TYPE	UPBLAST	UPBLAST	CEILING
MODEL NUMBER	XRUD-099-VG	XRUD-099-VG	SP-A390-VG
CONTROL	SEE GEN. NOTES	WALL SWITCH	-
SERVICE	SEE PLANS	EF-8	SEE PLANS
OPER. WT. (LBS)	200	200	40
ACCESSORIES	① ② ③	② ③	④

- ① EF-1 THRU EF-6 TO OPERATE IN UNISON.
- ② PROVIDE ELECTRICAL DISCONNECT, FACTORY EXHAUST FAN CURB.
- ③ PROVIDE ON / OFF WALL SWITCH, REFER TO DETAIL D/M3.
- ④ INTERLOCK WITH LIGHTS WITH TIME DELAY SWITCH, 15 MIN. ADJUSTABLE.

INDOOR UNIT SCHEDULE	
DESIGNATION	IDU 1
CFM	705
ESP (IN WC)	-
MIN OSA	-
HP/AMPS	0.04 / 0.67
VOLTS/PHASE	208-230 / 1Ø
RPM	-
DRIVE	DIRECT
SENSIBLE (MBH)	18.3
TOTAL (MBH)	23.6
EADB/EAWB (°F)	80 / 67
REFRIGERANT	R410A
CAPACITY (MBH)	15.8
QUANTITY/SIZE	FACTORY
TYPE	WASHABLE
MANUFACTURER	MITSUBISHI
TYPE	HIGH WALL
MODEL NUMBER	PKS-AZ4KA7
SERVICE	SEE PLANS
OPER WT (LBS)	100
ACCESSORIES	① ② ③ ④

- ① WALL MOUNTED CONTROLLER.
- ② CONDENSATE LIFT PUMP.
- ③ POWERED FROM ODU-1.
- ④ REFER TO DETAIL C/M2 FOR MOUNTING.

OUTDOOR UNIT SCHEDULE	
DESIGNATION	ODU 1
NAMEPLATE AMPS	19
VOLTS/PHASE	208-230 / 1Ø
SEER/COP AT ARI	21.2
COOLING CAP (MBH)	23.6
HEATING CAP (MBH)	15.8
AMBIENT (°F)	105
REFRIGERANT	R-410A
MANUFACTURER	MITSUBISHI
TYPE	HEAT PUMP
MODEL NUMBER	PUZ-A24NHA7
SERVICE	SEE PLANS
OPER WT (LBS)	300
ACCESSORIES	① ②

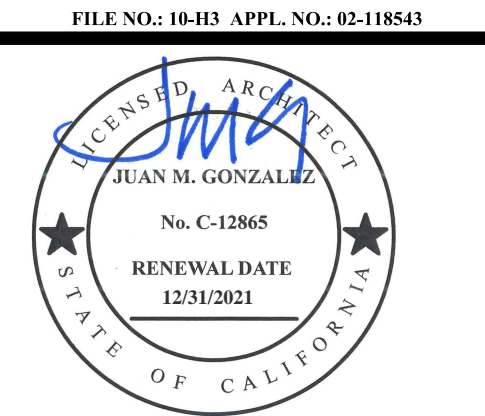
- ① REFER TO DETAIL B/M2 FOR MOUNTING.
- ② REFER TO DETAIL B/M3, FOR EMS INTEGRATION.

PACKAGE AIR CONDITIONING UNIT SCHEDULE			
DESIGNATION	HC 1 THRU HC 2	HC 3	HC 3
NAMEPLATE AMPS	-	-	-
MCA	20	42.0	42.0
MAX FUSE SIZE	25.0	50.0	50.0
VOLTS/PHASE	460 / 3	460 / 3	460 / 3
EER/SEER AT ARI	12.6 / 15.0	13.0 / 17.2	13.0 / 17.2
CFM	3000	3545	3545
DUCT SP (IN WC)	0.81	0.80	0.80
MIN. OSA (CFM)	625	3545	3545
HP/SPEED	2.75/-	5.0 / -	5.0 / -
DRIVE	DIRECT	DIRECT	DIRECT
SENSIBLE (MBH)	68.11	186	186
TOTAL (MBH)	80.98	194	194
EADB/EAWB (°F)	80 / 64	105 / 72	105 / 72
AMBIENT (°F)	105	105	105
REFRIGERANT	R-410	R-410	R-410
INPUT (MBH)	120.0	350	350
OUTPUT (MBH)	96.0	280	280
FUEL	NATURAL GAS	NATURAL GAS	NATURAL GAS
QUANTITY/SIZE	4 / 20"x25"x2"	12 / 20"x20"x2"	12 / 20"x20"x2"
TYPE	MERV 13	MERV 13	MERV 13
PD (IN WC)	-	-	-
MANUFACTURER	TRANE	TRANE	TRANE
TYPE	GAS / ELECTRIC	GAS / ELECTRIC	GAS / ELECTRIC
MODEL NUMBER	YHC092F	YHD210	YHD210
SERVICE	SEE PLANS	SEE PLANS	SEE PLANS
OPER. WT. (LBS)	2,300	3,000	3,000
ACCESSORIES	① ② ③ ⑤	② ③ ④	② ③ ④

- ① MODULATING POWERED EXHAUST, 1HP, 460V/3PH, 3.5 MCA, 6.3 MOCP, AND ECONOMIZER. PROVIDED DEDICATED ELECTRICAL DISCONNECT.
- ② DUCT OR COIL MOUNTED AIR IONIZATION GENERATING DEVICE
- ③ BACnet CARD, INTEGRATE WITH CAMPUS EMS.
- ④ INTERLOCK OPERATION WITH EF-1 THRU EF-6, REFER TO DETAIL E/M3.
- ⑤ REFER TO DETAIL F/M3, FOR CONTROL

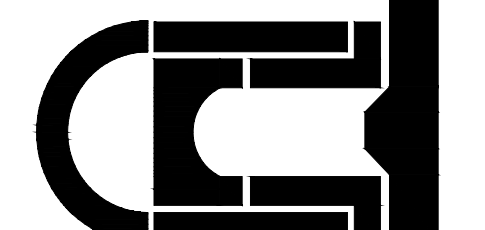
KITCHEN HOOD SCHEDULE			
DESIGNATION	KH 1 THRU KH 6	KH 7	KH 8
DIMENSIONS	48"Lx48"Wx24"H	60"Lx48"Wx24"H	36"Lx36"Wx24"H
HOOD MATERIAL	430 SS	430 SS	300 SS
CFM	860	860	525
DUCT CONN. NO./SIZE	8"x10"	8"x10"	12"x18"
FILTER QUANTITY	3	3	1
FILTER SIZE	16"x20"	16"x20"	-
TYPE	X-TRACTOR	X-TRACTOR	MESH
PRESSURE DROP (IN WC)	0.528	0.528	0.077
MANUFACTURER	ACCUREX	ACCUREX	ACCUREX
TYPE	TYPE I	TYPE I	TYPE II
MODEL NUMBER	XXDW-48-S	XXDW-48-S	XD1-36-S
SERVICE	SEE PLANS	SEE PLANS	SEE PLANS
OPER. WT. (LB.)	200	200	120
ACCESSORIES	① ② ③ ④	③ ④	-

- ① REMOTE MOUNTED FACTORY FIRE SUPPRESSION ANSUL R102 CABINET, REFER TO SHEET M1 FOR LOCATIONS.
- ② ONE REMOTE MOUNTED FACTORY CONTROL CABINET AND INTERFACE FOR EF-1 THRU EF-6, REFER TO SHEET M1 FOR LOCATIONS. FACTORY CONTROLLER TO ENABLE EF-1 THRU EF-6 TOGETHER.
- ③ INTERGRAL FIRE SUPPRESSION ANSUL R102, CONTROL AND INTERFACE.
- ④ PROVIDE INSTALL MANUFACTURE APPROVED LIGHT BULB.



MARK	DATE	DESCRIPTION
A	1/19/2021	ADDENDUM #3

CTE: FARM AND FOOD PRODUCT FACILITY
CLOVIS EAST HIGH SCHOOL
CLOVIS UNIFIED SCHOOL DISTRICT



PROJECT NO: 1739
DATE: 5/12/2020
SHEET TITLE:
MECHANICAL SCHEDULES
AND DETAILS

M4-AD3

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ARCHITECTURE PLANNING
JUAN M. GONZALEZ, A.I.A.



HARDIN-DAVIDSON ENGINEERING

356 Pollasky Ave. • Suite 200 • Clovis, CA 93612
559.323.4995 tel • 559.323.4928 fax

Date: January 22, 2021

To: Gonzalez Architects
7545 N. Del Mar Ave., Suite 203
Fresno, CA 93711

Re: CTE: FARM AND FOOD PRODUCT FACILITY
Clovis East High School
Clovis Unified School District

Addendum 3

Please issue the following items as part of the addendum:

Refer to sheet E1.03

1. Revised Panel Grounding Detail 2.

Refer to sheet E5.02

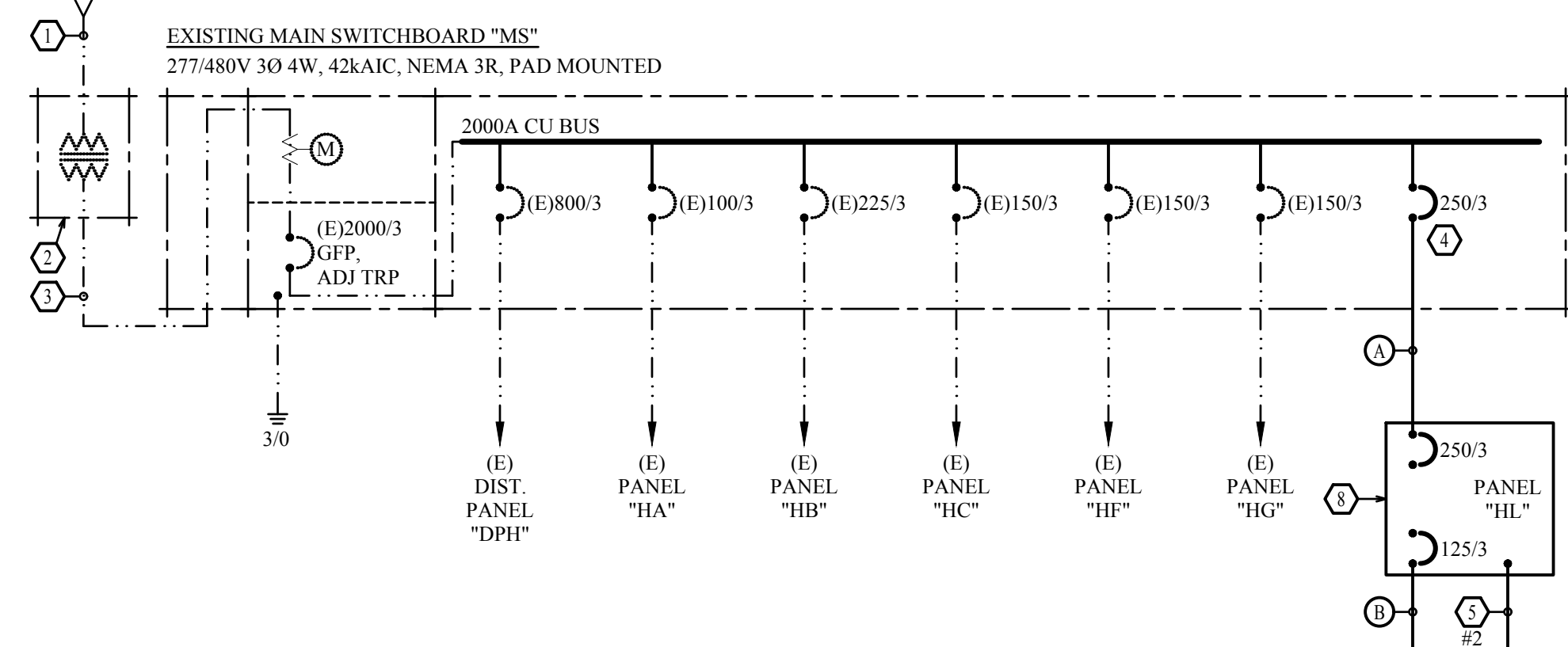
1. Relocated the Trap Primer TP-1 from east side to west side at Product Develop. Lab.

Refer to specification section 283100

1. The existing Ag Farm fire alarm system is a Gamewell-FCI E3 series system as shown in the drawings.
2. A Gamewell-FCI factory-trained and authorized technician is required in lieu of Notifier.

Sincerely,

C. Scott Davidson, P.E.

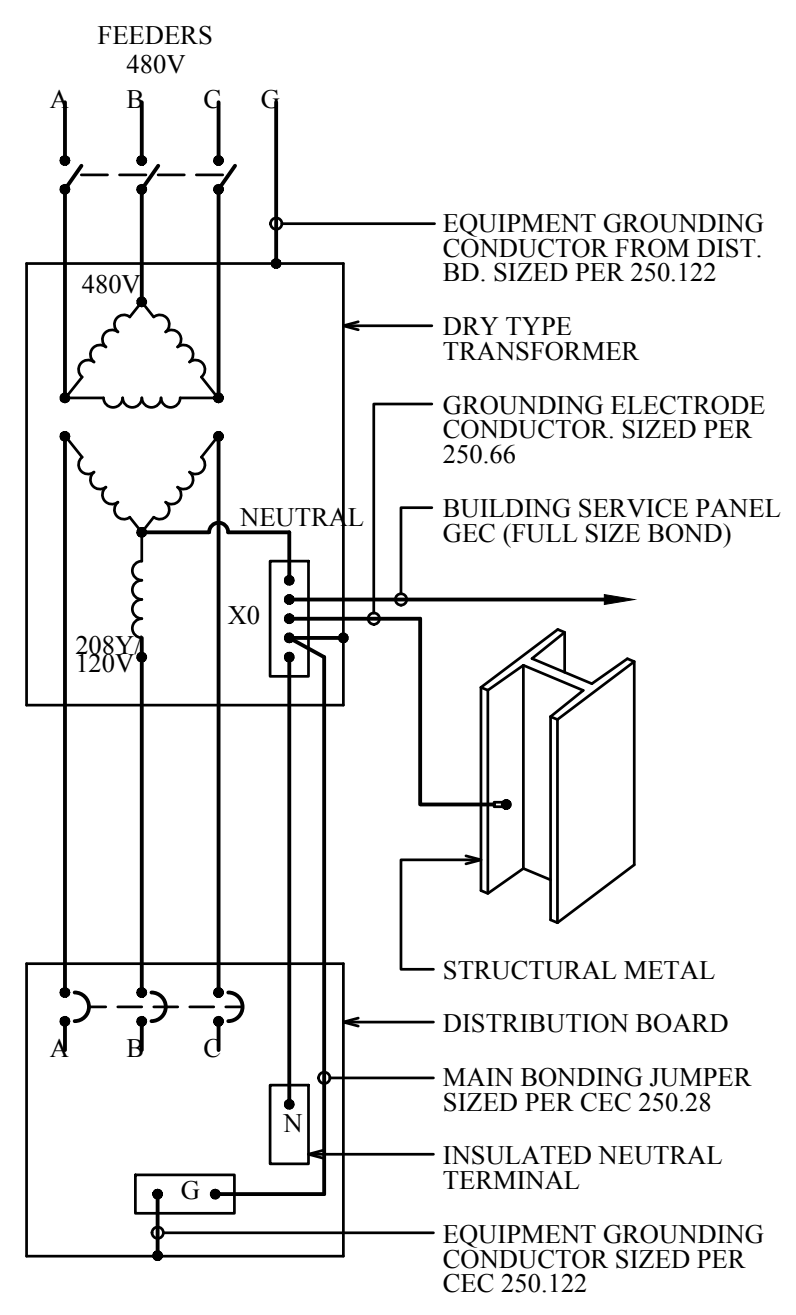


KEY NOTES

- EXISTING 4" UTILITY PRIMARY
- EXISTING UTILITY TRANSFORMER
- EXISTING (7) 5" UTILITY SECONDARY
- ADD NEW CIRCUIT BREAKER AND MOUNTING HARDWARE
- COPPER GROUNDING ELECTRODE PER CEC 250. GROUNDING ELECTRODE CONDUCTOR SIZE NOTED. GROUND PER DETAIL 2/E1.03 AND DIVISION 26 SPECIFICATIONS.
- COPPER GROUNDING ELECTRODE PER CEC 250. GROUNDING ELECTRODE CONDUCTOR SIZE NOTED. GROUND PER DETAIL 3/E1.03 AND DIVISION 26 SPECIFICATIONS.
- ROOF MOUNTED TRANSFORMER. INSTALL VARMINIT SCREENS AND WEATHER SHIELDS. REFER TO STRUCTURAL FOR MOUNTING.
- MOUNT PANEL PER DETAIL 1/E1.04.

FEEDERS

- 3" C. 4#250kCMIL, 1#2G.
- 1-1/4" C. 3#2, 1#6G.
- 3" C. 4#250kCMIL, 1#2G.
- 2" C. 4#1/0, 1#6G.



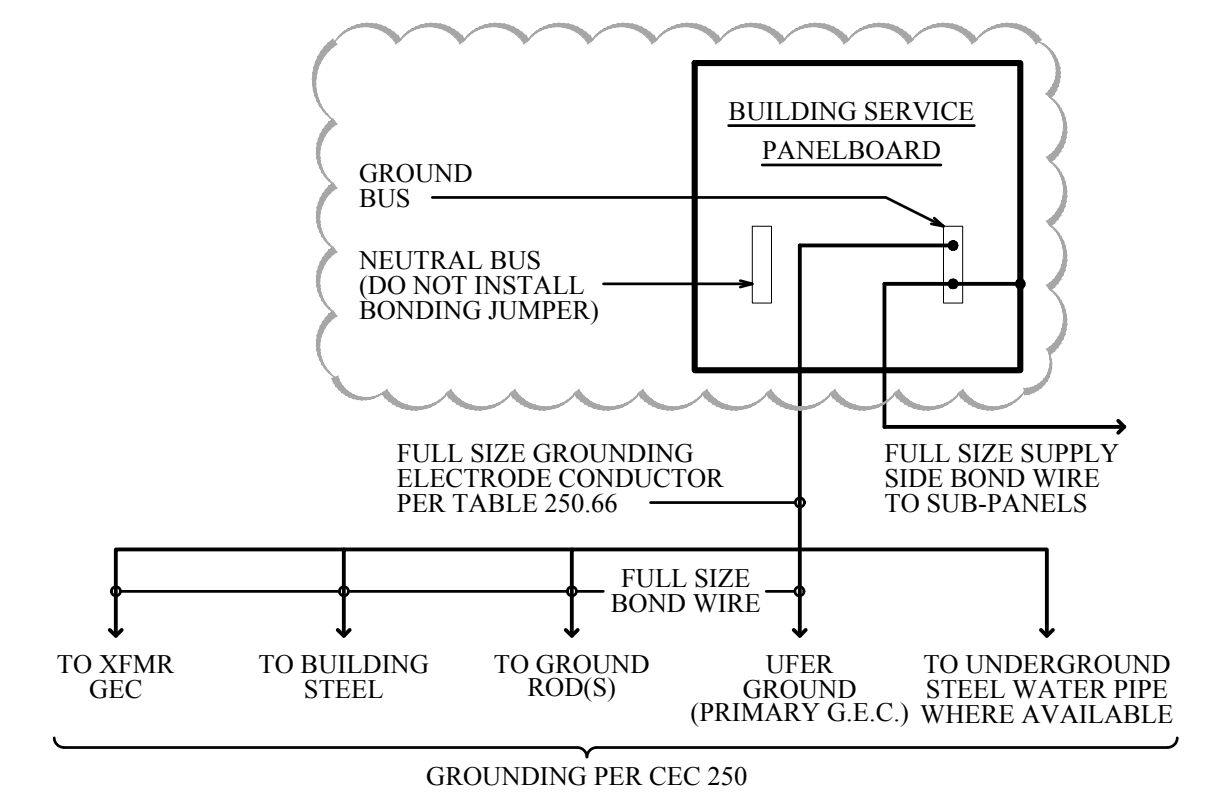
A GROUNDING ARRANGEMENT FOR A SEPARATELY DERIVED SYSTEM WHERE THE GROUNDING ELECTRODE CONDUCTOR CONNECTION IS MADE AT THE TRANSFORMER.

XFMR GROUNDING DETAIL

NO SCALE

POWER SINGLE LINE DIAGRAM

NO SCALE



PANEL GROUNDING DETAIL

NO SCALE

VOLTAGE DROP CALCULATIONS

No.	Feeder Origin	Feeder Destination	Potential at Origin (P _i) (Volts)	System	Design Current (Amps)	Raceway Type	Sets of Cond.	Conductor Trade Size	Conductor Cross-Sectional Area (CM)	Conductor Material	DC Conductor Material Constant (K)	Q	Distance (ft)	Voltage Drop (VD) (Volts)	Potential at Load (P _l) (Volts)	Percent Voltage Drop (%VD)
1	MS	Panel HL	480.0	AC 3-Phase	151	PVC	1	250 kCMIL	250000	CU	12.9	1.0097	835	11.38	468.6	2.37
2	Panel HL	Transformer TLL	468.6	AC 3-Phase	90	PVC	1	2	66360	CU	12.9	1.0000	25	0.76	467.9	2.53
3	Transformer TLL	Panel LLA	208.0	AC 3-Phase	183	PVC	1	250 kCMIL	250000	CU	12.9	1.0097	25	0.41	207.6	0.20
4	Panel LLA	Panel LLB	207.6	AC 3-Phase	104	PVC	1	1/0	105600	CU	12.9	1.0000	5	0.11	207.5	0.25

Formulae

- VD (three phase) = $\sqrt{3} \times K \times Q \times l \times D / CM$
- VD (single phase) = $2 \times K \times Q \times l \times D / CM$
- VD (DC) = $2 \times K \times I \times D / CM$
- %VD = $VD / P_l \times 100$

Definitions

- VD = Voltage Drop (Volts)
- K = DC Conductor Material Constant (12.9 for Copper, 21.2 for Aluminum)
- Q = AC Adjustment Factor for conductors sized #2/0 AWG and larger (R_{ac} / R_{dc})
- I = Current (Amps)
- D = Distance to Load (ft)
- CM = Conductor Cross-Sectional Area (Circular Mils)
- P = Potential (Volts)

PANEL "HL" SCHEDULE

277/480V 3Ø 4W INDOOR/SURFACE

CKT. NO.	DESCRIPTION	BREAKER AMPS POLE(S)	VA	Ø	VA	BREAKER AMPS POLE(S)	DESCRIPTION	CKT. NO.
1	LIGHTS - FLORAL LAB	15 1	1081	A	5817	40 3	AC UNIT HC-1	2
3	LIGHTS - PRODUCT DEVELOPMENT LAB	15 1	813	B	5817	-- --		4
5	LIGHTS - EXTERIOR / LCP	15 1	609	C	5817	-- --		6
7	LIGHTS - STAFF, DRY STORAGE	15 1	75	A	5817	40 3	AC UNIT HC-2	8
9	LIGHTS - SITE	15 1	190	B	5817	-- --		10
11	SPARE	15 1		C	5817	-- --		12
13	DISHWASHER	15 3	2576	A	10858	50 3	AC UNIT HC-3	14
15	----	-- --	2576	B	10858	-- --		16
17	----	-- --	2576	C	10858	-- --		18
19	SPACE ONLY			A			SPACE ONLY	20
21	SPACE ONLY			B			SPACE ONLY	22
23	SPACE ONLY			C			SPACE ONLY	24
25	SPACE ONLY			A	26522	125 3	XFMR "TLA" / PANEL "LA"	26
27	SPACE ONLY			B	28624	-- --		28
29	SPACE ONLY			C	27430	-- --		30

LOAD SUMMARY: Ø A 52747 VA Ø B 54696 VA Ø C 53107 VA

CONNECTED LOAD: 160.6 kVA

LOAD CALC. CURRENT: 151 A

BUSING: 400A CU MAIN: 250A SCCR: 42,000A FULLY RATED TYPE: SQUARE D NF

PANEL "LLA" SCHEDULE

120/208V 3Ø 4W INDOOR / SURFACE

CKT. NO.	DESCRIPTION	BREAKER AMPS POLE(S)	VA	Ø	VA	BREAKER AMPS POLE(S)	DESCRIPTION	CKT. NO.
1	** DRYER OUTLET - PROD DEV	30 2	2500	A	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	2
3	----	-- --	2500	B	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	4
5	** WASHER OUTLET - PROD DEV	20 1	1000	C	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	6
7	** 208V OUTLET - DRY CURING CHAMBER - PRO	30 2	1500	A	360	20 1	** STUD. COUNTER OUTLET - PROD DEV	8
9	----	-- --	1500	B	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	10
11	** 208V OUTLET - DEHYDRATOR - PROD DEV	30 2	2400	C	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	12
13	----	-- --	2400	A	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	14
15	** 208V OUTLET - FOOD CUTTER - PROD DEV	15 2	960	B	360	20 1	** STUD. COUNTER OUTLET - PROD DEV	16
17	----	-- --	960	C	360	20 1	** STUD. COUNTER OUTLET - PROD DEV	18
19	** 208V OUTLET - FRUIT PULPER - PROD DEV	60 2	1875	A	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	20
21	----	-- --	1875	B	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	22
23	** 208V OUTLET - PRO SMOKER - PROD DEV	30 2	1750	C	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	24
25	----	-- --	1750	A	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	26
27	** NUT ROASTING OUTLET - PROD DEV	20 1	780	B	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	28
29	** OUTLETS - PROD DEV	20 1	360	C	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	30
31	** OUTLET - ICE MAKER - PROD DEV	20 1	600	A	360	20 1	** STUD. COUNTER OUTLET - PROD DEV	32
33	** OUTLET - HOME FREEZE DRYER - PROD DEV	20 1	180	B	360	20 1	** STUD. COUNTER OUTLET - PROD DEV	34
35	** OUTLET - VACUUM TUMBLER - PROD DEV	20 1	1440	C	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	36
37	** 208V OUTLET - GRINDER/MIXER - PROD DEV	50 3	3036	A	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	38
39	----	-- --	3036	B	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	40
41	----	-- --	3036	C	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	42
43	** FREEZER OUTLET - PROD DEV	20 1	1152	A	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	44
45	** REFRIGERATOR OUTLET - PROD DEV	20 1	1680	B	180	20 1	** STUD. COUNTER OUTLET - PROD DEV	46
47	HOOD CONTROL PANEL	20 1	180	C	360	20 1	** STUD. COUNTER OUTLET - PROD DEV	48
49	SPARE	20 1		A	9909	150 3	PANEL "LLB"	50
51	SPARE	20 1		B	14313	-- --		52
53	SPARE	20 1		C	14504	-- --		54

LOAD SUMMARY: Ø A 26522 VA Ø B 28624 VA Ø C 27430 VA

CONNECTED LOAD: 82.6 kVA

LOAD CALC. CURRENT: 183 A

BUSING: 400A CU MAIN: 275A SCCR: 35,000A FULLY RATED TYPE: SQUARE D NQ

** PROVIDE GFI CIRCUIT BREAKER.

PANEL "LLB" SCHEDULE

120/208V 3Ø 4W INDOOR / SURFACE

CKT. NO.	DESCRIPTION	BREAKER AMPS POLE(S)	VA	Ø	VA	BREAKER AMPS POLE(S)	DESCRIPTION	CKT. NO.
1	** STUD. COUNTER OUTLET - FLORAL LAB	20 1	180	A	360	20 1	OUTLETS - FARM MARKET AREA	2
3	** STUD. COUNTER OUTLET - FLORAL LAB	20 1	180	B	360	20 1	OUTLETS - FARM MARKET AREA	4
5	** STUD. COUNTER OUTLET - FLORAL LAB	20 1	180	C	360	20 1	OUTLETS - FARM MARKET AREA	6
7	** STUD. COUNTER OUTLET - FLORAL LAB	20 1	180	A	360	20 1	OUTLETS - FARM MARKET AREA	8
9	** STUD. COUNTER OUTLET - FLORAL LAB	20 1	180	B	180	20 1	** OUTLET - FLORAL LAB	10
11	** STUD. COUNTER OUTLET - FLORAL LAB	20 1	180	C	750	20 1	** OUTLET - COOLER - FLORAL LAB	12
13	** STUD. COUNTER OUTLET - FLORAL LAB	20 1	180	A	750	20 1	** OUTLET - COOLER - FLORAL LAB	14
15	** STUD. COUNTER OUTLET - FLORAL LAB	20 1	180	B	750	20 1	** OUTLET - COOLER - FLORAL LAB	16
17	** DEMO. DESK OUTLET - PROD DEV	20 1	180	C	750	20 1	** OUTLET - COOLER - FLORAL LAB	18
19	** DEMO. DESK OUTLET - PROD DEV	20 1	180	A	180	20 1	** OUTLETS - FLORAL LAB	20
21	** DEMO. DESK OUTLET - PROD DEV	20 1	180	B	180	20 1	** DEMO DESK OUTLET - FLORAL LAB	22
23	** DEMO. DESK OUTLET - PROD DEV	20 1	180	C	180	20 1	** DEMO DESK OUTLET - FLORAL LAB	24
25	FLY FAN - PROD DEV (EAST)	25 1	1920	A	180	20 1	** DEMO DESK OUTLET - FLORAL LAB	26
27	FLY FAN - PROD DEV (WEST)	20 1	960	B	360	20 1	OUTLETS - BACKBOARD	28
29	OUTLETS - RESTROOM, STOR., H2O HEATER	20 1	540	C	360	20 1	OUTLETS - BACKBOARD	30
31	** CORD REEL	20 1	276	A	360	20 1	OUTLETS - BACKBOARD	32
33	** CORD REEL	30 2	2600	B	360	20 1	OUTLETS - BACKBOARD	34
35	----	-- --	2600	C	180	20 1	* FIRE ALARM PANEL	36
37	SPARE	20 1		A	60	20 1	* FIRE ALARM RISER BELL & FSD	38
39	SPARE	20 1		B	864	15 1	EXHAUST FAN EF-8	40
41	SPARE	20 1		C	1656	25 1	EXHAUST FAN EF-7	42
43	WALK-IN COOLER LIGHTS & HEAT CABLE	20 1	500	A	1656	25 1	EXHAUST FAN EF-1	44
45	WALK-IN COOLER COMPRESSOR & EVAP	35 2	2736	B	1656	25 1	EXHAUST FAN EF-2	46
47	----	-- --	2736	C	1656	25 1	EXHAUST FAN EF-3	48
49	INDOOR/OUTDOOR UNIT - IDU-1/ODU-1	25 2	931	A	1656	25 1	EXHAUST FAN EF-4	50
51	----	-- --	931	B	1656	25 1	EXHAUST FAN EF-5	52
53	OUTLETS - ROOF	20 1	360	C	1656	25 1	EXHAUST FAN EF-6	54

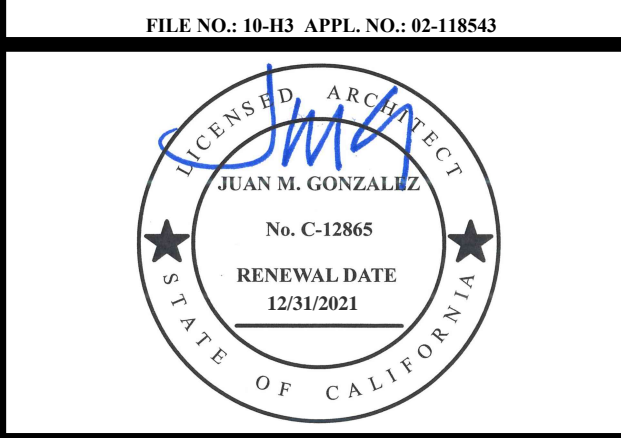
LOAD SUMMARY: Ø A 9909 VA Ø B 14313 VA Ø C 14504 VA

CONNECTED LOAD: 38.7 kVA

LOAD CALC. CURRENT: 104 A

BUSING: 200A CU MAIN: LUGS ONLY SCCR: 35,000A FULLY RATED TYPE: SQUARE D NQ

* PROVIDE RED HANDLE C.B. W/ INTEGRAL LOCK-ON DEVICE ** PROVIDE GFI CIRCUIT BREAKER.



MARK	DATE	DESCRIPTION

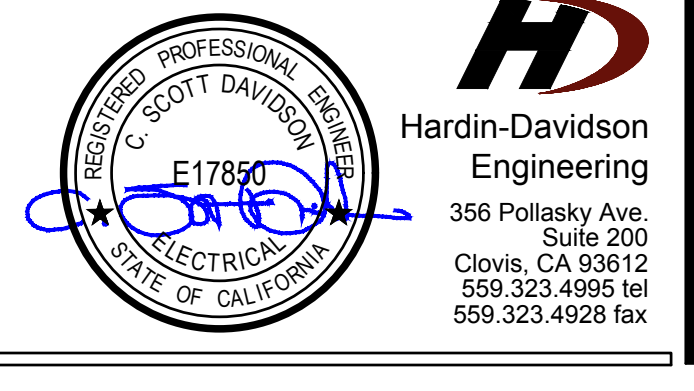
CTE: FARM AND FOOD PRODUCT FACILITY
CLOVIS EAST HIGH SCHOOL
CLOVIS UNIFIED SCHOOL DISTRICT

JUAN M. GONZALEZ ARCHITECTS
ARCHITECTURE PLANNING
7545 N. DEL MAR AVENUE, SUITE 203
FRESNO CALIFORNIA 93711
TEL: 559-497-1542
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PROJECT NO: 1739
DATE: 9/2/2020

SHEET TITLE:
ELECTRICAL DIAGRAMS AND DETAILS

E1.03



Hardin-Davidson Engineering
356 Pollasky Ave.
Suite 200
Clovis, CA 93612
559-323-4995 tel
559-323-4928 fax

January 22, 2021

Jason Knod
Gonzalez Architects
7545 North Del Mar Avenue
Suite 203
Fresno, CA 93711

20075

Subject: Clovis East High School CTE Farm and Food Product Facility
Fire Sprinkler Addendum No. 3 Items
G.A. Project No. 1739

Dear Mr. Knod,

Please include the following items in your next published Addendum:

FIRE PROTECTION:

- 1. Refer to drawing sheet F3.01, detail A.**
 - a. Add note to detail: ***“Contractor to weatherproof around pipe at exterior wall penetration with non-rigid insulation and sealant. Sprinkler contractor shall furnish metal chrome escutcheon at wall penetration.”***
- 2. Refer to drawing sheet F3.01, detail B.**
 - a. Revise note #2, replace ***“a secure location”*** to ***“the janitor closet”***.
- 3. Refer to drawing sheet F3.01, detail D.**
 - a. Add installation note to detail: ***“Fire sprinkler system air vent connection to plumbing vent shall be minimum 15’-0” A.F.F.”***

Sincerely,



Balt Burns
Fire Protection Designer
Lawrence Engineering Group



August 12, 2020

Project No. 20G-0328-0

Mr. Nick Mele
Clovis Unified School District
1470 Herndon Avenue
Clovis, California 93611

Subject: Final Geotechnical Investigation and Geohazards Study Report
Clovis East High School CTE Farm and Food Product Facility
2940 Leonard Avenue
Clovis, California 93619

Dear Mr. Mele:

In accordance with your request, we have performed a geohazards study for the subject project. This work was performed in accordance with Section 1803A.6 of the 2019 California Building Code (CBC). The results of our geohazards study are presented in the accompanying report, which includes a description of site conditions and potential geologic hazards, conclusions, and recommendations.

We appreciate this opportunity to be of service to you. If you have any questions regarding this report, please do not hesitate to contact us at your convenience.

Respectfully submitted,

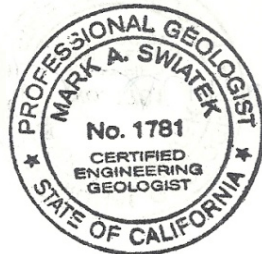
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GE 2904



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President
EG 1781



Distribution: Addressee (1 Original and a pdf copy to NickMele@clovisusd.k12.ca.us)
Mr. Juan Gonzalez, Gonzalez Architects (3 Originals and pdf to juang@gonzalez-architecture.com)



GEOTECHNICAL CONSULTANTS

**FINAL GEOTECHNICAL INVESTIGATION AND GEOHAZARDS STUDY REPORT
Clovis East High School CTE Farm and Food Product Facility
2940 Leonard Avenue
Clovis, California 93619**

for

Clovis Unified School District
1470 Herndon Avenue
Clovis, California 93611

August 12, 2020

Project No. 20G-0328-0

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FIGURES

Figure 1	Site Vicinity Map
Figure 2	USGS Contour Map
Figure 3a	Regional Geologic Map
Figure 3b	Legend for Regional Geologic Map
Figure 4a	Fault Activity Map
Figure 4b	Legend for Fault Activity Map
Figure 5	Boring Location Map
Figure 6	Cross Section A to A'

APPENDICES

Appendix A	Field Investigation
Appendix B	Laboratory Tests
Appendix C	Liquefaction/Seismic Settlement Analysis
Appendix D	References

1.00 INTRODUCTION

1.01 Purpose

A geotechnical investigation and geohazards study has been completed for the planned Career Technology Education (CTE) Farm and Food Product building at Clovis East High School, which is located at 2940 Leonard Avenue in Clovis, California. The purpose of the investigation was to summarize geotechnical and geologic conditions at the site, to assess their potential impact on the proposed development, and to develop geotechnical engineering design parameters for the project.

1.02 Scope of the Investigation

The general scope of this investigation included the following:

- Review of published and unpublished geologic, seismic, groundwater and geotechnical literature.
- Examination of aerial photographs and topographic maps.
- Contacting of Underground Service Alert to locate onsite utility lines.
- Logging, sampling, and backfilling of two exploratory borings drilled with a CME-75: one to a depth of 51 feet and one to a depth of 21 feet.
- Laboratory testing of representative soil samples.
- Geotechnical evaluation of the compiled data.
- Preparation of this report presenting our findings, conclusions and preliminary recommendations.

As part of the geohazards study associated with our geotechnical investigation, our scope of services included addressing applicable items in California Geological Survey – Note 48, Checklist for the review of engineering Geology and Seismology Reports for California Public School, Hospitals, and Essential Service Buildings, October 2013.

Our scope of work did not include a preliminary site assessment for the potential of hazardous materials onsite.

1.03 Site Location and Description

The project site lies within the existing Clovis East High School in Clovis, California, which was constructed by 2000. The location of the site relative to nearby streets is indicated on Figure 1, Site Vicinity Map. Its geographic position is 36.8008° north latitude and 119.6412° west longitude. The existing ground surface is relatively flat and the elevation above mean sea level at the project site is approximately 375-377 feet according to the USGS Clovis 7.5 Minute Quadrangle (see Figure 2). The planned CTE building will be located in an empty field east of the current agriculture and livestock facilities on the north side of the campus.



Photo of the area where the new CTE building will be constructed. Photo taken on June 11, 2020.

1.04 Planned Improvements

Based on our review of information provided, we understand that the project will consist of the construction of a new CTE building (see Figure 5). It is anticipated that the structure will consist of a light metal frame with a concrete slab-on-grade floor and shallow reinforced concrete foundations. Maximum wall and column loads (dead plus live, not including wind or seismic loads) are anticipated to be less than 3.0 kips per foot and 100 kips, respectively. Appurtenant improvements are anticipated to be various underground utilities, new concrete flatwork, and landscaping (see Figure 5).

1.05 Investigation Methods

Our investigation consisted of office research, review of the compiled data, and preparation of this report. It has been performed in a manner consistent with generally accepted engineering and geologic principles and practices and has incorporated applicable requirements of California Building Code. Definitions of technical terms and symbols used in this report include those of the ASTM International, the California Building Code, and commonly used geologic nomenclature. Technical supporting data are presented in the attached appendices. Appendix A presents a description of the methods and equipment used in performing the field exploration and logs of our subsurface exploration. Appendix B presents a description of our laboratory testing and the test results. Results of our liquefaction and seismic settlement analysis are provided in Appendix C. Finally, references are presented in Appendix D.

2.00 FINDINGS

2.01 Geologic Setting

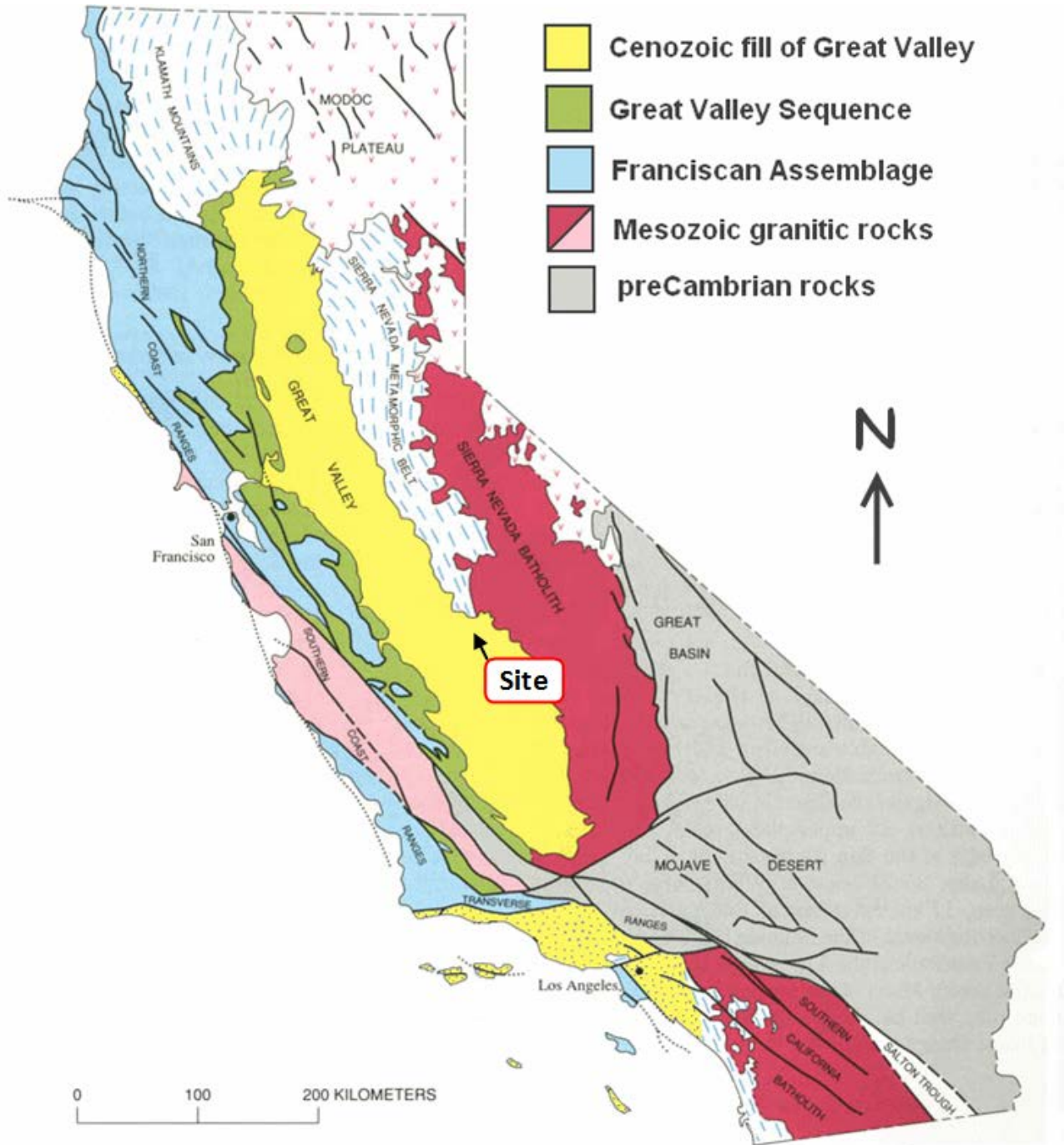
The subject site is located in the east-central San Joaquin Valley, which comprises the southern half of the Great Valley geomorphic province. The valley is a westward-titling trough which forms a broad alluvial fan, approximately 200 miles long and 50 to 70 miles wide, where the eastern flank is broad and gently inclined, as opposed to the western flank which is relatively narrow (Bartow, 1991; Page, 1968). The Central Valley consists of the Great Valley Sequence, overlain by Cenozoic alluvium. Underlying the Great Valley Sequence are the Franciscan Assemblage to the west and the Sierra Nevada batholith to the east (Bailey, Irwin, and Jones, 1964).

The Franciscan Assemblage, made up of deformed and high pressure and low temperature metamorphosed mafic and ultramafic rocks, was formed around the Late Jurassic through the Miocene (160 to about 20 million years ago) by the offscraping of rocks from a subducting plate dipping to the east (Wakabayashi, 1992; Wakabayashi, 2010).

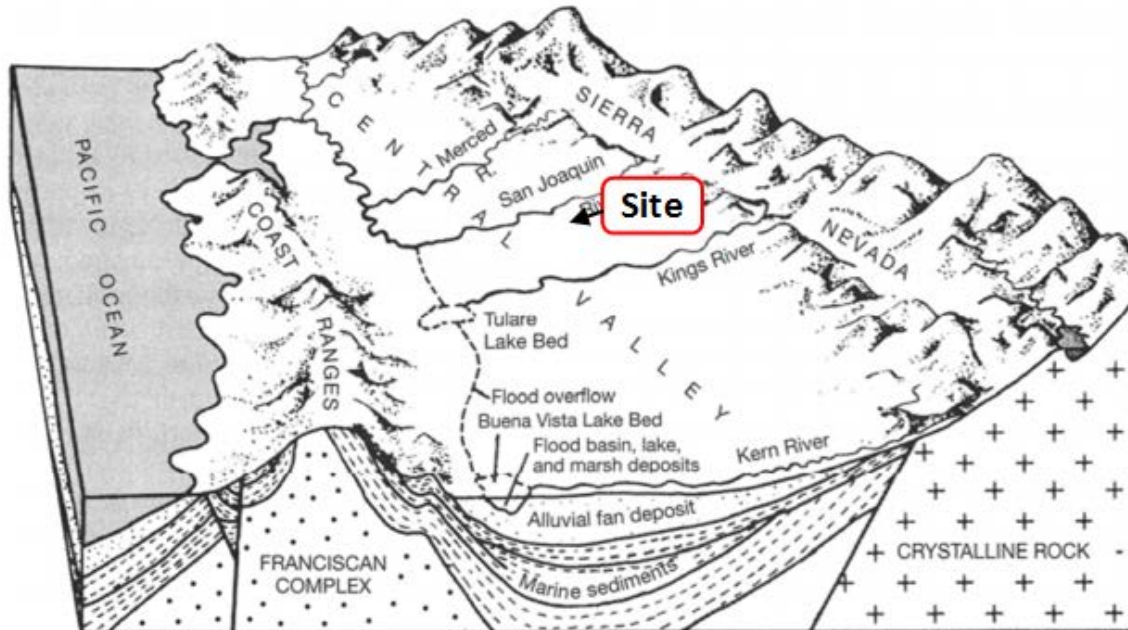
The Sierra Nevada started to form during the Early Jurassic (around 200 million years ago) when the Farallon Plate began subducting under the North American Plate. This subduction resulted in several orogenies, or mountain building events, that created the granitic Sierra Nevada Batholith deep below the surface. During the Miocene (around 10 million years ago), vertical movement along the Sierra Nevada Frontal Fault Zone (part of the Eastern California Shear Zone) began to uplift the Sierra Nevada. This uplift and erosion exposed the

batholiths to the surface. From the Pleistocene (commonly known as the most recent Ice Age) to the present, glaciers have been carving out many parts of the Sierras. The current uplift of the Sierra Nevada is 1 - 2mm per year (Hammond, et al. 2012).

The Great Valley Sequence is a 40,000 foot sequence of marine shale, sandstone, and conglomerate beds, deposited in a deep marine environment during the Late Jurassic through the Cretaceous (150 – 65 million years ago). Overlying the Great Valley Sequence is several thousand feet of Cenozoic alluvium, deposited by: streams and rivers draining from the mountains and creating alluvial fans; by lakes that covered parts of the valley floor from time to time; flooding; and marsh environments (Page, 1986). In some places, it is thousands of feet thick, and more than half of this thickness is composed of fine grained fluvial and lacustrine deposits. Holocene deposition consists mainly of episodic deposition of alluvial sediments (Bartow, 1991; Page, 1986). A generalized geologic map for the State of California is shown below and Figure 3A illustrates the geologic setting within the regional area of the project site. As shown on Figure 3A, the project site is situated on Quaternary deposits of "older alluvium" that are estimated to be several hundred feet deep.



Geologic map showing the locations of Cenozoic alluvium/fill (yellow) overlying the Great Valley Sequence (green), the Franciscan Assemblage (blue), and the Sierra Nevada Batholith (red). Modified from: Irwin (1990).



Geologic block diagram of California. From: Harden (2004). Not to scale.

2.02 Earth Materials

The soils encountered in our test borings consisted of fill and native soils. The fill consisted of approximately 3.5 feet of fine to medium silty sand. The native soils included layers of silty sand, sandy silt with clay, and relatively clean sand to the maximum depth explored of approximately 51 feet below ground surface. These layers varied in thicknesses and appear to be fairly horizontally continuous across the project site. The granular soils generally had a relative consistency of medium dense to very dense with the fine grained soils had a relative consistency of hard. As indicated above, the soils encountered in the test borings are related to deep alluvial deposits that have been deposited over the past several thousand years.

A Boring Location Map showing the locations of the referenced test borings is presented as Figure 5. The logs of our recent exploratory borings are presented in Appendix A, which provide more detailed information of the soils that were encountered to a depth of 51 feet at the project site.

2.03 Expansive Soils

Our field exploration and expansion index test results indicate that the near surface soils at the project site have a very low expansion potential (Expansion Index, EI, of 10). Results of the current EI test are presented in Appendices B.

2.04 Surface and Groundwater Conditions

No areas of ponding or standing water were present at the time of our study. Further, no springs or areas of natural seepage were observed at the project site. In addition, no groundwater was encountered in the test borings within the maximum depth explored of 51 feet.

According to the Groundwater Information Center Interactive Map Application for fall 2018, the depth to groundwater in the vicinity of the project site is approximately 78 feet. Historical data derived from wells (State Well Number 13S21E14R001M, 13S21E24J001M, 13S22E07R001M, and 13S22E07J001M) located approximately 0.50 miles southwest, 1.26 miles southeast, 1.66 miles northeast, and 1.82 miles northeast, respectively, of the project site indicates the depth to ground water on average was approximately 8 feet deep in February of 1983 and gradually declined to a depth of approximately 38.5 feet by the 1990's. Over the subsequent years, the data indicates that the groundwater elevation has declined approximately 40 feet.

Since the 1950's (the earliest well data available), the depth to groundwater has increased significantly, falling approximately 50 feet in 70 years. Some recovery in the groundwater could occur, especially following a period of wet years. However, in consideration of the demand for groundwater related to domestic and agricultural purposes, it is highly unlikely that the groundwater table will recover much above the levels observed during, or prior to, the 1990's. Thus, although the "historical high" groundwater table is approximately 8 feet at the project site, a design "high" groundwater table of 40 feet is recommended for Civil Engineering purposes.

2.05 Faults

The site is not located within the boundaries of an Earthquake Fault Zone for fault-rupture hazard as defined by the Alquist-Priolo Earthquake Fault Zoning Act and no faults are known to pass through the property. The nearest active earthquake fault zones are the Nunez Fault and the Ortigalita Fault Zone located approximately 60.3 miles southwest and 68 miles west, respectively, of the project site. The location of the project site relative to these and other fault zones is illustrated on Figure 4a.

Our research of regional geologic and seismic data did not reveal any known instances of ground failure in the vicinity of the site associated with regional seismic activity. Seismic design parameters relative to the requirements of the 2019 California Building Code (CBC) are presented in Section 3.10.

2.06 Historic Seismicity

According to the California Historical Earthquakes Online Database maintained by the California Geological Survey, there have been no historic earthquakes with a magnitude greater than or equal to 5.5 epicentered within 50 miles of the site. Large historic earthquakes in California with an epicenter of less than 100 miles away from the site are summarized in the table below.

Large Historic Earthquakes

Event	Year	Magnitude	Distance from Site (Miles)
Fort Tejon	1857	7.9	76
Lone Pine	1872	7.4	87
Lone Pine	1872	6.8	80
Lone Pine	1872	6.8	80
Parkfield	1922	6.3	79
Mammoth Lakes	1980	6.3	70
Mammoth Lakes	1980	6.0	69
Coalinga	1983	6.4	55

2.07 Flooding Potential

According to the Federal Emergency Management Agency (Flood Insurance Rate Map #06019C1595H, effective February 18, 2009), the site is located within an unshaded area of Flood Zone X, which is an “area of minimal flood hazard, determined to be outside the 500-year flood and protected by levee from a 100-year flood.”

Controlling surface runoff originating from within and outside of the site must be included in design of the project in accordance with the 2019 CBC.

2.08 Landslides

Since there are no natural or manmade slopes in the vicinity of the project site, landsliding is not a hazard at this site.

2.09 Other Geologic Hazards

California Geologic Survey Note 48 (2011) identifies a number of exceptional geologic hazards that can occur at individual sites, but do not occur statewide. Evaluation of these exceptional conditions is referred as a conditional geologic assessment by Note 48. Specific assessment items listed in Note 48 are addressed in the table below.

Conditional Geologic Assessment

Hazard	Assessment	Reference
Methane gas, hydrogen-sulfide gas, tar seeps	Not applicable; site is not located within an oil field identified as a high risk area for hazardous gas accumulations.	See Section 1.03.
Volcanic eruption	Not applicable; site is not located in a known hazard area for volcanic eruptions.	Miller, 1989 (U.S.G.S. Bulletin 1847)
Flooding	The proposed development area is not located within the boundaries of a 100-year or 500-year flood zone.	See Section 2.07.
Tsunami and seiches inundation	Not applicable.	See Section 3.12.
Radon-222 gas	Not applicable; typically a concern in the California Coast Ranges.	See Section 2.01 and CGS Note 48.
Naturally occurring asbestos	Not applicable; site is not located in an area likely to contain naturally occurring asbestos.	Churchill and Hill, 2000 (DMG OFR 2000-19)
Hydrocollapse due to anthropic use of water	Due to the density of the underlying soils, hydrocollapse due to anthropic use of water is unlikely.	See Sections 2.01, 2.02, and Appendix A.
Regional land subsidence	The site is not identified in an area of large historic subsidence within the California Central Valley (although there is major subsidence 45 miles to the northwest and south). Control of subsidence will dependent upon proper jurisdictional management of groundwater resources.	City of Clovis Master Environmental Impact Report, 2014; County of Fresno General Plan Background Report, October, 2000; and Borches and Carpenter, 2014.
Clays and cyclic softening	Soils within the upper 50 feet of the ground surface are primarily granular rather than clays. Expansive properties of near-surface soils have been considered in foundation design.	See Sections 3.04 and 3.11.

3.00 CONCLUSIONS AND RECOMMENDATIONS

3.01 General Conclusions

Based on specific data and information contained in this report, our understanding of the project, and our geotechnical engineering experience, it is our professional judgment that the proposed development is geologically and geotechnically feasible. Our review of geological literature and the field exploration performed for this project did not indicate any unusual conditions at the site that would entail special design considerations or construction procedures. Specific geotechnical recommendations and guidelines are presented below to provide information for other members of the design team that can be used to prepare the project plans and specifications for the planned improvements to the administration building.

3.02 General Earthwork and Grading

All grading should be performed in accordance with the recommendations provided below, the project plans and specifications, Appendix J of the 2019 California Building Code and all applicable governmental agency requirements. In the event of conflicts between this report and the other referenced documents, this report shall govern. It should be noted that all references to maximum dry density, optimum moisture content, and relative compaction are based on ASTM D 1557 laboratory test procedures.

3.03 Rippability and Rock Disposal

Exploratory borings that have been done at the project site were advanced without difficulty and no oversize materials were encountered. Accordingly, we expect that all earth materials will be rippable with conventional grading equipment and oversized materials are not expected.

3.04 Earthwork Recommendations

All vegetation, organic rich soils (soils containing more than 2 percent organics by weight), trash, debris, existing pavement sections and underground utilities, should be cleared from the grading area and removed from the site. After the removal of deleterious materials and the stripping of organic-rich soils, the following over-excavation must be done within the area of the planned improvements:

- Within the area of the planned building improvements plus at least 3 feet horizontally beyond the perimeter of these improvements, the subgrade must be over-excavated at least 12 inches below the stripped subgrade surface or at least to the bottom of footings, whichever is lower. The bottom of the over-excavation within each building area must be level and at a uniform depth below the finished pad elevation.
- Outside of the “building pad” area indicated above, no over-excavation should be required unless loose or unstable soils are present that will require some over-excavation prior to the scarification, moisture conditioning, and compaction as recommended below.

Following the over-excavation indicated above, a designated representative for the Project Geotechnical Engineer must review the exposed ground surface and determine if any additional over-excavation is required.

The over-excavated ground surface in all areas determined to be satisfactory for the support of fills must be scarified to a minimum depth of 8 inches. Scarification should continue until the soils are broken down and free from lumps or clods and until the scarified zone is uniform. The moisture content of the scarified zone shall be adjusted to at least optimum moisture content. The scarified zone must then be uniformly compacted to at least 90 percent relative compaction within the building pad area and concrete flatwork and to at least 95% within paved areas that will be subject to vehicular traffic.

Removed and/or over-excavated soils, free of organics and other deleterious material, may be used as engineered fill. Fill material should be placed in nearly horizontal layers, uniformly moisture conditioned to at least optimum moisture content, and then compacted in layers that do not exceed approximately 8 inches in thickness. Thicker lifts may be placed if testing indicates the compaction procedures are such that the required compaction is being achieved and the geotechnical consultant approves their use. Each layer shall be spread evenly and shall be thoroughly mixed during the spreading to insure uniformity of material in each layer. Engineered fill must be compacted to achieve a relative compaction of at least 90 percent, except for the upper 12 inches of subgrade below asphalt or concrete pavement sections subject to vehicular traffic. Based on our observations of the existing field conditions and lab testing data, a shrinkage factor (decrease in volume of soil upon removal and recompaction) in the range of 5 to 10 percent is considered applicable for this project.

The above recommendations are based on the assumption that soils encountered during field exploration are representative of soils throughout the site. However, there can be unforeseen and unanticipated variations in soils between points of subsurface exploration. Hence, over-excavation depths must be verified, and adjusted if necessary, at the time of grading. In addition, any contaminated soils within three (3) feet of the finished subgrade surface, must be removed and properly disposed of outside the area the planned improvements.

3.05 Imported Fill Material

If required, imported fill materials that will be placed within building or concrete flatwork areas must be non-hazardous and be obtained from a single, uniform source that meets the following criteria:

Gradation	
Sieve Size	Percent Passing
3-inch	100%
3/4-inch	90% - 100%
#4	60% - 100%
#200	20% - 50%

Maximum Expansion Index		Maximum Plasticity Index	
20		10	
Minimum R-Value (in paved areas)			
40			
Maximum Organic Content			
< 2% by weight			
Corrosivity			
pH	Minimum Resistivity (ohm-cm)	Soluble Sulfates (mg/kg)	Soluble Chlorides (mg/kg)
6.0 to 8.5	> 1,000	< 1,000	< 200

3.06 Temporary Slopes and Shoring

Our geotechnical investigation indicates that excavations less than 4 feet in depth may generally be constructed with vertical sidewalls without shoring or shielding. Temporary excavations in existing alluvial soils that are deeper than 4 feet may be safely made at an inclination of 1:1 or flatter. If vertical sidewalls are required in excavations greater than 4 feet in depth, the use of cantilevered or braced shoring is recommended. The following geotechnical parameters can be used to design a shoring system:

- Moist Unit Weight of Soils: 130 pcf
- Angle of Internal Friction (ϕ): 30°
- Cohesion: 200 psf

Unless vehicles, equipment, materials, etc., are kept a minimum distance equal to the height of the excavation away from the edge of the excavation, a surcharge load equal to a uniform lateral pressure of 72 psf should be assumed to act on the shoring in addition to the earth pressure calculated using the above geotechnical parameters.

Vehicles, equipment, materials, etc. should be set back a minimum distance of 10 feet from the top edge of sloped or vertical excavations. Surface waters should be diverted away from temporary excavations and prevented from draining over the top of the excavation and down the slope face. During periods of heavy rain, the slope face should be protected with sandbags to prevent drainage over the edge of the slope, and a visqueen liner placed on the slope face to prevent erosion of the slope face.

Periodic observations of the excavations should be made by the geotechnical consultant to verify that the soil conditions have not varied from those anticipated and to monitor the overall condition of the temporary excavations over time. If at any time during construction conditions are encountered which differ from those anticipated, the geotechnical consultant should be contacted and allowed to analyze the field conditions prior to

commencing work within the excavation. In any case, Cal/OSHA construction safety orders should be observed during all underground work.

3.07 Fill and Cut Slopes

Due to the low gradient of the property, it appears that construction of cut and fill slopes will not be required. If such slopes are proposed, they should be inclined no steeper than 2 horizontal to 1 vertical. In addition, appropriate landscaping measures should be taken to protect the face of slopes from erosion.

3.08 Utility Trench Backfill

The existing onsite soils will generally not be suitable for use as pipe bedding for buried utilities. All pipes should be bedded in sand or other suitable material as specified by the Project Civil Engineer and/or as specified by the pipe/conduit manufacturer. We recommend the bedding material have a Sand Equivalent (SE) of at least 30 and have less than 8 percent, by weight, passing the #200 Sieve. The geotechnical consultant should review and approve proposed bedding materials prior to use. Bedding materials should be compacted to at least 90% relative compaction (ASTM D1557) by mechanical methods.

The on-site soils are expected to be suitable as trench backfill provided they are screened of organic matter and other deleterious material. Trench backfill must be compacted to at least 90% relative compaction (ASTM D1557) and the upper 12 inches of trench backfill beneath pavement sections should be compacted to at least 95% relative compaction. Trench backfill should be compacted using mechanical methods; no jetting of backfill should be allowed. A minimum trench width of 24 inches or 18 inches plus the diameter of the utility line, whichever is greater, should be provided to permit uniform compaction on both sides of utility line and allow for a technician to perform in-place density tests. If narrower trenches are desired, a sand-cement slurry should be used to backfill the trenches to within 8 inches of the top of trench. The sand-cement slurry should contain at least 2 sacks of cement per yard of mix and have a 4- to 6-inch slump. In addition, slurry should be consolidated using a suitable vibratory or mechanical method.

All utility trench backfill within street right of ways, utility easements, under or adjacent to sidewalks, driveways, or building pads should be observed and tested by the geotechnical consultant to verify proper compaction. Trenches excavated adjacent to foundations should not extend within the footing influence zone defined as the area within a line projected at a 1:1 drawn from the bottom edge of the footing. Trenches crossing perpendicular to foundations should be excavated and backfilled prior to the construction of the foundations. The excavations should be backfilled in the presence of the geotechnical engineer and tested to verify adequate compaction beneath the proposed footing. Where utility crossings are located within 12 inches of bottoms of footings, conduits should be wrapped with polystyrene foam or other suitable material with a minimum thickness of one inch. Conduits extending through footings shall be "sleeved" as determined by the Project Structural Engineer.

3.09 Faulting

Since the site is not located within the boundaries of an Earthquake Fault Zone and no faults are known to pass through or near the property, surface fault rupture within the site is considered unlikely.

3.10 Seismic Design Parameters

Seismic design parameters have been developed in accordance with Section 1613A of the 2019 California Building Code (CBC) using the online U.S. Geological Survey Seismic Design Maps Calculator (Version 3.1.0, ASCE 7-16 Standard) and a site location based on latitude and longitude. The calculator generates probabilistic and deterministic maximum considered earthquake spectral parameters represented by a 5-percent damped acceleration response spectrum having a 2-percent probability of exceedance in 50 years. The deterministic response accelerations are calculated as 150 percent of the largest median 5-percent damped spectral response acceleration computed on active faults within a region, where the deterministic values govern. The calculator does not, however, produce separate probabilistic and deterministic results. The parameters generated for the subject site are presented below:

2019 California Building Code (CBC) Seismic Parameters

Parameter	Value
Site Location	Latitude = 36.8008 degrees Longitude = -119.6412 degrees
Site Class	Site Class = D* Soil Profile Name = Stiff Soil
Mapped Spectral Accelerations	S_5 (0.2-second period) = 0.525g S_1 (1-second period) = 0.211g
Site Coefficients (Site Class D)	F_a = 1.380 F_v = Null - Section 11.4.8
Maximum Considered Earthquake Spectral Accelerations (Site Class D)	S_{MS} (0.2-second period) = 0.725g S_{M1} (1-second period) = Null - Section 11.4.8
Design Earthquake Spectral Accelerations (Site Class D)	S_{DS} (0.2-second period) = 0.483g S_{D1} (1-second period) = Null - Section 11.4.8

*As defined in Chapter 20 of ASCE 7-16, a Site Class D is applicable to predominantly cohesionless soils with an **average** standard penetration resistance of 15 to 50 within the upper 100 feet. Based on the geologic setting, our 50-foot deep test boring (see Appendix A), and other historical geotechnical data (see Section 1.02), the soil profile at the project site meets these criteria.

As the Site Class is D and the S_1 value is greater than 0.20g, then per ASCE 7-16 Section 11.4.8 a site-specific ground motions procedure is required with several exceptions. We assume that Exception 2 is applicable to this site, and hence the seismic parameters indicated in the table above have been calculated. If Exception 2 does not apply, the structural engineer should contact us so we develop the site-specific seismic parameters.

The above table shows that the mapped spectral response acceleration parameter for a 1-second period (S_1) is less than 0.75g and the spectral response acceleration parameter (S_{DS}) is greater than 0.50g. Therefore, the Seismic Design Category using 2019 CBC Tables 1613.2.5(1) and 1613.2.5(2) is D for all Occupancy Categories (2019 CBC Section 1613.2.5). Consequently, as required for Seismic Design Categories C through F by CBC Section 1803.5.12, slope instability, liquefaction, total and differential settlement, and surface displacement by faulting or seismically lateral spreading or lateral flow have been evaluated.

Peak earthquake ground acceleration adjusted for site class effects (PGA_M) has been determined in accordance with ASCE 7-16 Section 11.8.3 as follows: $PGA_M = F_{PGA} \times PGA = 1.373 \times 0.227 = 0.312g$.

3.11 Liquefaction and Secondary Earthquake Hazards

Potential secondary seismic hazards that can affect land development projects include liquefaction, tsunamis, seiches, and seismically induced settlement.

Liquefaction

Liquefaction is a phenomenon where earthquake-induced ground vibrations increase the pore pressure in saturated, granular soils until it is equal to the confining, overburden pressure. When this occurs, the soil can completely lose its shear strength and enter a liquefied state. The possibility of liquefaction is dependent upon grain size, relative density, confining pressure, saturation of the soils, and intensity and duration of ground shaking. In order for liquefaction to occur, three criteria must be met: "low density", coarse-grained (sandy) soils, a groundwater depth of less than about 50 feet, and a potential for seismic shaking from nearby large-magnitude earthquake.

Research has shown that saturated, loose sands with a silt content less than about 25 percent are most susceptible to liquefaction, whereas other soil types are generally considered to have a low susceptibility. According to the California Geologic Survey (CGS) Special Publication SP-117A (2008), "Guidelines for Evaluating and Mitigating Seismic Hazards in California," any materials with a PI > 12 and moisture content < 85% of the liquid limit were considered not subject to liquefaction. Liquefaction susceptibility is related to numerous factors, and the following conditions must exist for liquefaction to occur:

- Sediments must be relatively young in age and must not have developed large amounts of cementation
- Sediments must consist mainly of cohesionless sands and silts
- The sediment must not have a high relative density
- Free groundwater must exist in the sediment; and
- The site must be exposed to seismic events of a magnitude large enough to induce straining of soils particles

The soils in the upper 50 feet at the project site consist primarily of silty sand, sandy silt, and relatively clean sand. In addition, the corrected SPT value $[(N_1)_{60}]$ was less than 20 in a silty sand fill surface layer that extends to

a depth of approximately 3 feet, a silty sand layer between a depth of approximately 7.5 and 12.5 feet, a silty sand layer between a depth of 27.5 and 33.5 feet in Boring B-1. Based on this, a liquefaction analysis was performed using the sampler blowcount and soil data from the deep boring that was performed at the project site (Boring B-1). The analysis was performed using LiquefyPro Version 5 (2015 edition) for two groundwater conditions: at a depth of 8 feet (historical high groundwater condition as required by CGS) and at a depth of 40 feet (representative of a recommended design "high groundwater condition" based on historical DWR data in the past 30 years). The analysis also took into account that the (PGA_M) is 0.312g and the Modal Magnitude (M_M) for the design level earthquake is 5.5 (based on the PSH Deaggregation tool on the USGS website at <https://earthquake.usgs.gov/hazards/interactive/>) for a 2-percent probability for exceedance in 50 years (a return period of 2,475 years). A summary of the input data and the results of this liquefaction analysis are provided in Appendix C of this report. Based on this analysis, there appears to be a very low risk of liquefaction occurring at the project site during a design level earthquake (Factor-of-Safety against liquefaction is greater than 1.2).

It should be noted that the California Geological Survey has not yet prepared a Seismic Hazard Zone Map of potential liquefaction hazards for the quadrangle in which the site is located. In addition, there are no liquefaction hazard zones near the site according to the City of Clovis and the County of Fresno General Plans. Because there are no mapped liquefaction hazard zones near the site, a map depicting such a zone relative to the site has not been prepared.

Tsunamis and Seiches

Tsunamis are sea waves that are generated in response to large-magnitude earthquakes. When these waves reach shorelines, they sometimes produce coastal flooding. Seiches are the oscillation of large bodies of standing water, such as lakes, that can occur in response to ground shaking. Tsunamis and seiches do not pose hazards due to the inland location of the site and lack of nearby bodies of standing water.

Seismically Induced Settlement

Seismically induced settlement occurs most frequently in areas underlain by loose, granular sediments. Damage as a result of seismically induced settlement is most dramatic when differential settlement occurs in areas with large variations in the thickness of underlying sediments. Settlement caused by ground shaking is often non-uniformly distributed, which can result in differential settlement.

A seismic settlement analysis was performed using LiquefyPro Version 5 (2015 edition) in conjunction with the liquefaction analysis that was performed for this project as indicated above. A summary of the input data and the results of the seismic settlement analysis are provided in Appendix C of this report. Based on this analysis, a seismic settlement of less than 1/4 inch is expected to occur at the project site during a design level earthquake.

Seismically Induced Flooding

Neither the City of Clovis nor the County of Fresno General Plans indicate the site is located within a potential dam inundation area. In addition, there are no upgradient water reservoirs or dams located in close proximity of the site. Consequently, seismically induced flooding at the site is unlikely.

Seismically Induced Landsliding

There are no cut or fill slopes that currently exist or are planned at the project site; therefore, the potential for seismically induced landsliding is nil.

3.12 Foundations

Isolated spread footings and/or continuous wall footings are recommended to support the proposed new building. New footings should be embedded at least 12 inches below the lowest adjacent grade and must be constructed on properly compacted fill as recommended in Section 3.04 of this report. Continuous and isolated spread footings with a minimum width of 12 and 24 inches, respectively, may be designed using an allowable bearing capacity of 2,000 pounds per square foot (psf). This allowable bearing capacity represents an allowable net increase in soil pressure over existing soil pressure and may be increased by one-third for short-term wind or seismic loads. The maximum expected settlement of footings is expected to be less than 3/4 inch with a differential settlement of less than 1/4 inch between similarly sized and loaded footings or less than 1/4 inch over a distance of 30 feet for continuous footings. This assumes that the maximum column and wall loads (dead plus live, not including wind or seismic) associated with new building improvements will not exceed 40 kips and 2.0 kips per foot, respectively.

Our lab testing indicates that the upper 5 feet of soils at the site should have a very low expansion potential. The type and dimensions of concrete, and the size and location of reinforcing steel, used in foundations should be specified by the Project Structural Engineer. As a minimum, reinforcement for continuous footings should include at least one #4 bar located near both the top and bottom of continuous footings.

It will be very important for all footing excavations to be observed by the geotechnical engineer to verify that they have been excavated into the recommended bearing material. Where zones of relatively loose or disturbed soils are present at the bottom of foundation excavations, these soils should be properly compacted to provide a uniform bearing surface that meets the approval of the geotechnical engineer (refer to Section 3.04).

3.13 Lateral Load Resistance and Earth Pressures

Lateral loads may be resisted by soil friction and the passive resistance of the soil. The following parameters are recommended.

- Allowable Passive Earth Pressure = 350 psf (equivalent fluid weight, includes a factor of safety = 2.0)
- Allowable Coefficient of Friction (soil to footing) = 0.35 (includes a factor of safety = 1.5)

- Retaining structures should be designed to resist a lateral active earth pressure of 35 pcf (equivalent fluid weight) for a level, non-expansive granular backfill with drainage provided.

The active earth pressure provided above is only applicable if the retained earth is allowed to strain sufficiently to achieve the active state. The required minimum horizontal strain to achieve the active state is approximately 0.0025H. Retaining structures should be designed to resist an at-rest lateral earth pressure of 55 pcf (equivalent fluid weight) if this horizontal strain cannot be achieved.

The Mononobe-Okabe method is commonly utilized for calculating seismically induced active and passive lateral earth pressures and is based on the limit equilibrium Coulomb theory for static stress conditions. This method entails three fundamental assumptions (e.g., Seed and Whitman, 1970): Wall movement is sufficient to ensure either active or passive conditions, the driving soil wedge inducing the lateral earth pressures is formed by a planar failure surface starting at the heel of the wall and extending to the free surface of the backfill, and the driving soil wedge and the retaining structure act as rigid bodies, and therefore, experiences uniform accelerations throughout the respective bodies (U.S. Army Corps of Engineers, 2003, Engineering and Design - Stability Analysis of Concrete Structures).

- Seismic Lateral Earth Pressure for level backfill = 18 pcf (equivalent fluid weight)

The seismic lateral earth pressure given above is a triangular distribution increasing with depth, and the resultant of this pressure is an increment of force which should be applied to the back of the wall at 1/3 of the wall height from the wall base. The seismic increment of earth pressure should be added to the static active pressure. Even for the at-rest (K_0) condition, the seismic increment of earth pressure should be added to the static active soil pressure, not to the at-rest (SEAOC Seismology Committee 2019). Per CBC Section 1803.5.12 dynamic seismic lateral earth pressures shall be applied to foundation walls and retaining walls supporting more than 6 feet of backfill. Dynamic seismic lateral earth pressures may also be applied to shorter walls at the discretion of the structural engineer.

3.14 Interior Slabs on Grade

Concrete floors with a minimum thickness of 4 inches are recommended for interior slabs on grade. Existing on-site soils within 5 feet of the ground surface may be considered to have a very low expansion potential for design purposes (Expansion Index of < 20). However, to reduce the potential for excessive cracks as a result of differential movement, consideration should be given to reinforcing concrete slab-on-grade floors with at least #3 bars spaced 24 inches on-center in both directions. Reinforcement consisting of welded or woven wire mesh should not be used, due to the difficulty of keeping it centered in the slab during the construction process. If heavy concentrated or moving loads are anticipated, slabs should be designed using a modulus of subgrade reaction (k) of 180 pci. The concrete mix, reinforcement of slabs, and the location of construction and control joints should be specified by the Design Engineer.

Special care should be taken on floors slabs to be covered with thin-set tile or other inflexible coverings. These areas should have suitable reinforcement that is placed at the mid-height of the slab, to mitigate drying

shrinkage cracks. Alternatively, inflexible flooring may be installed with unbonded fabric or liners to prevent reflection of slab cracks through the flooring.

A moisture vapor retarder/barrier is recommended beneath all slabs-on-grade that will be covered by moisture-sensitive flooring materials such as vinyl, linoleum, wood, carpet, rubber, rubber-backed carpet, tile, impermeable floor coatings, adhesives, or where moisture-sensitive equipment, products, or environments will exist. We recommend that design and construction of the moisture vapor retarder/barrier conform to Section 1805 of the 2019 California Building Code and pertinent sections of American Concrete Institute (ACI) guidance documents 302.1R-04, 302.2R-06 and 360R-10.

The moisture vapor retarder/barrier should consist of a minimum 10 mils thick polyethylene with a maximum perm rating of 0.3 in accordance with ASTM E 1745. Seams in the moisture vapor retarder/barrier should be overlapped no less than 6 inches or in accordance with the manufacturer's recommendations. Joints and penetrations should be sealed with the manufacturer's recommended adhesives, pressure-sensitive tape, or both. The contractor must avoid damaging or puncturing the moisture vapor retarder/barrier and repair any punctures with additional polyethylene properly lapped and sealed.

The moisture vapor retarder/barrier may be placed directly beneath the floor slab with no intermediate granular fill layer. The vapor barrier should be placed directly on a smooth compacted subgrade surface consistent with the recommendations provided in Section 3.02 of this report. This method of construction will provide improved curing of the slab bottom and will eliminate potential problems caused by water being trapped in a granular fill layer. However, concrete slabs poured directly on a moisture vapor retarder/barrier can experience shrinkage cracking and curling due to differential rates of curing through the thickness of the slab. Therefore, for concrete placed directly on the moisture vapor retarder/barrier, we recommend a maximum water to cement ratio of 0.45 and the use of water-reducing admixtures to increase workability and decrease bleeding.

Alternatively, the slabs may be constructed over 2 inches of sand that is placed on the moisture vapor retarder/barrier. Granular fill should consist of clean, fine-graded materials with 100% passing the No. 4 sieve, 10% to 30% passing the No. 100 sieve, and less than 5% passing the No. 200 sieve. The granular layer should be moist but not saturated and uniformly compacted by making at least one pass with a vibratory base compactor or some other mechanical method that is approved by the Project Geotechnical Engineer. If uneven, the surface of the sand should be trimmed to provide the full design thickness of the proposed slab. The granular fill layer should not be left exposed to rain or other sources of water such as wet-grinding, power washing, pipe leaks or other processes, and should be damp but not saturated at the time of concrete placement. Granular fill layers that become saturated should be removed and replaced prior to concrete placement.

3.15 Miscellaneous Concrete Flatwork

Miscellaneous concrete flatwork and walkways may be designed with a minimum thickness of 4 inches. Large slabs (greater than 6 feet in width) should be reinforced with a minimum of #3 rebar placed 24 inches on-center in both directions. The reinforcement must be placed at mid-height in the slab. Control joints should be

constructed to create squares or rectangles with a maximum spacing of 12 feet. The Project Civil Engineer should provide design details and specifications for all exterior concrete flatwork include walkways. In addition, walkways should be separated from foundations with a thick expansion joint filler.

The subgrade beneath all miscellaneous concrete flatwork and equipment pads should be constructed in accordance with Section 3.04 of this report. The geotechnical engineer should monitor the moisture conditioning and compaction of the subgrade soils in order to verify compliance with our recommendations.

3.16 Footing Excavations and Concrete Subgrade

All footing excavations should be observed by the geotechnical consultant to verify that they have been excavated into competent soils. The foundation excavations should be observed prior to the placement of forms, reinforcement steel, or concrete. These excavations should be evenly trimmed and level. Prior to concrete placement, any loose or soft soils should be removed. Excavated soils should not be placed within slab or footing areas unless properly compacted (see Section 3.04).

Prior to the placement of the moisture barrier and sand, the subgrade soils underlying the slab should be observed by the geotechnical consultant to verify that all under-slab utility trenches have been properly backfilled and compacted, that no loose or soft soils are present, and that the slab subgrade has been properly compacted to a minimum of 90 percent relative compaction within the upper 12 inches.

Footings may experience an overall loss in bearing capacity or an increased potential to settle where located in close proximity to existing or future utility trenches. Furthermore, stresses imposed by the footings on the utility lines may cause cracking, collapse and/or a loss of serviceability. To reduce this risk, footings should extend below a 1:1 plane projected upward from the closest bottom of a parallel utility trench.

The subgrade below slabs on grade and walkways should be brought to a minimum of 0% and a maximum of 4% above the optimum moisture content for a depth of 6 inches prior to the placement of concrete or a moisture barrier. The geotechnical consultant should perform insitu moisture tests to verify that the appropriate moisture content has been achieved a maximum of 72 hours prior to the placement of concrete or moisture barriers.

3.17 Drainage and Moisture Proofing

Surface drainage should be directed away from the proposed improvements into suitable drainage devices (see Section 1804.4 of the 2019 CBC). Neither excess irrigation nor rainwater should be allowed to collect or pond against building foundations or within low-lying or level areas of the lot. Surface waters should be diverted away from the tops of slopes and prevented from draining over the top of slopes and down the slope face.

Walls and portions thereof that retain soil and enclose interior spaces and floors below grade should be waterproofed and damp-proofed in accordance with Section 1805 of the 2019 CBC.

Retaining structures should be drained to prevent the accumulation of subsurface water behind the walls. Backdrains should be installed behind all retaining walls exceeding 3 feet in height. All backdrains should be outlet to suitable drainage devices. Retaining walls less than 3 feet in height should be provided with backdrains or weep holes. Damp-proofing and/or waterproofing should also be provided on all retaining walls exceeding 3 feet in height.

3.18 Cement Type and Corrosion Potential

Soluble sulfate tests performed on a near-surface soil sample indicate soluble sulfate content of 411.0 mg/kg (0.0411 percent by weight). Thus, below-grade concrete at the subject site should have a negligible exposure to water-soluble sulfate in the soil. Our recommendations for concrete exposed to sulfate-containing soils are presented in the table below.

Recommendations for Concrete exposed to Sulfate-containing Soils

Sulfate Exposure	Water Soluble Sulfate (SO ₄) in Soil (% by Weight)	Sulfate (SO ₄) in Water (ppm)	Cement Type (ASTM C150)	Maximum Water-Cement Ratio (by Weight)	Minimum Compressive Strength (psi)
Negligible	0.00 - 0.10	0-150	--	--	2,500
Moderate	0.10 - 0.20	150-1,500	II	0.50	4,000
Severe	0.20 - 2.00	1,500-10,000	V	0.45	4,500
Very Severe	Over 2.00	Over 10,000	V plus pozzolan or slag	0.45	4,500

Use of alternate combinations of cementitious materials may be permitted if the combinations meet design recommendations contained in American Concrete Institute guideline ACI 318-11.

Our testing also indicates that there is a high concentration of soluble chloride (202.0 mg/kg) in the onsite soils.

The soils were also tested for soil reactivity (pH) and electrical resistivity (ohm-cm). The test results indicate that the on-site soils have a pH of 6.43 and a minimum electrical resistivity of 490 ohm-cm. A neutral or non-corrosive soil has a value ranging from 5.5 to 8.5. Thus, the onsite soils are pH neutral. Generally, soils that could be considered moderately corrosive to ferrous metals have minimum resistivity values of about 3,000 ohm-cm to 10,000 ohm-cm. Soils with resistivity values less than 3,000 ohm-cm can be considered corrosive and soils with resistivity values less than 1,000 ohm-cm can be considered extremely corrosive. In any case, buried metal conduits should have a protective coating in accordance with the manufacturer’s specifications. A corrosion specialist should be consulted if more detailed recommendations are required.

3.19 Plan Review

Once formal grading and foundation plans are prepared for the subject project, this office should review the plans from a geotechnical viewpoint, comment on changes from the plan used during preparation of this report and revise the recommendations of this report where necessary.

3.20 Geotechnical Observation and Testing During Grading

The geotechnical engineer should be contacted to provide observation and testing during the following stages of grading:

- During the clearing and grubbing of the site.
- During the demolition of any existing structures, buried utilities or other existing improvements.
- During excavation and over-excavation of existing subgrade.
- During all phases of grading including ground preparation and filling operations.
- When any unusual conditions are encountered during grading.

A grading and compaction report summarizing conditions encountered during grading and the in-place density testing that was performed should be submitted upon completion of the earthwork construction.

3.21 Post-Grading Geotechnical Observation and Testing

After the completion of grading the geotechnical engineer should be contacted to provide additional observation and testing during the following construction activities:

- During trenching and backfilling operations of buried improvements and utilities to verify proper backfill and compaction of the utility trenches.
- After excavation and prior to placement of reinforcing steel or concrete within footing excavations to verify that footings are properly founded in competent materials.
- During fine or precise grading involving the placement of any fills underlying driveways, sidewalks, walkways, or other miscellaneous concrete flatwork to verify proper placement, mixing and compaction of fills.
- When any unusual ground or soil conditions are encountered during construction.

4.00 CLOSURE

The findings, conclusions and recommendations in this report were prepared in accordance with generally accepted engineering and geologic principles and practices. No other warranty, either expressed or implied, is made. This report has been prepared for the Clovis Unified School District and other members of the design team to be used for the design and construction of improvements at the project site. Anyone using this report for any other purpose must draw their own conclusions regarding required construction procedures and subsurface conditions.

RMA GeoScience should be retained during the earthwork and foundation phases of construction to monitor compliance with the design concepts and recommendations and to provide additional recommendations as needed. Should subsurface conditions be encountered during construction that are different from those described in this report, this office should be notified immediately so that our recommendations may be re-evaluated.



GEOTECHNICAL CONSULTANTS

FIGURES

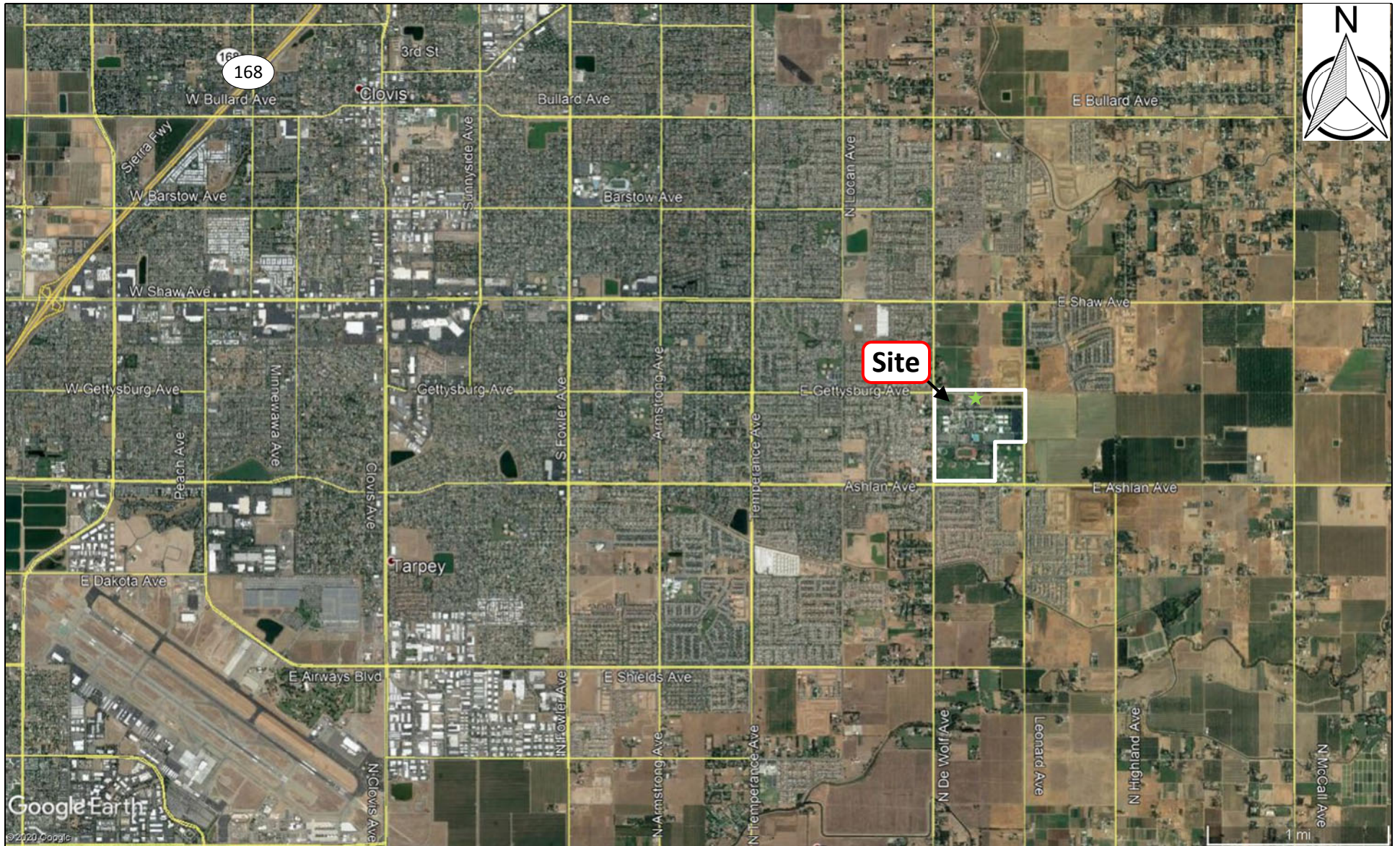
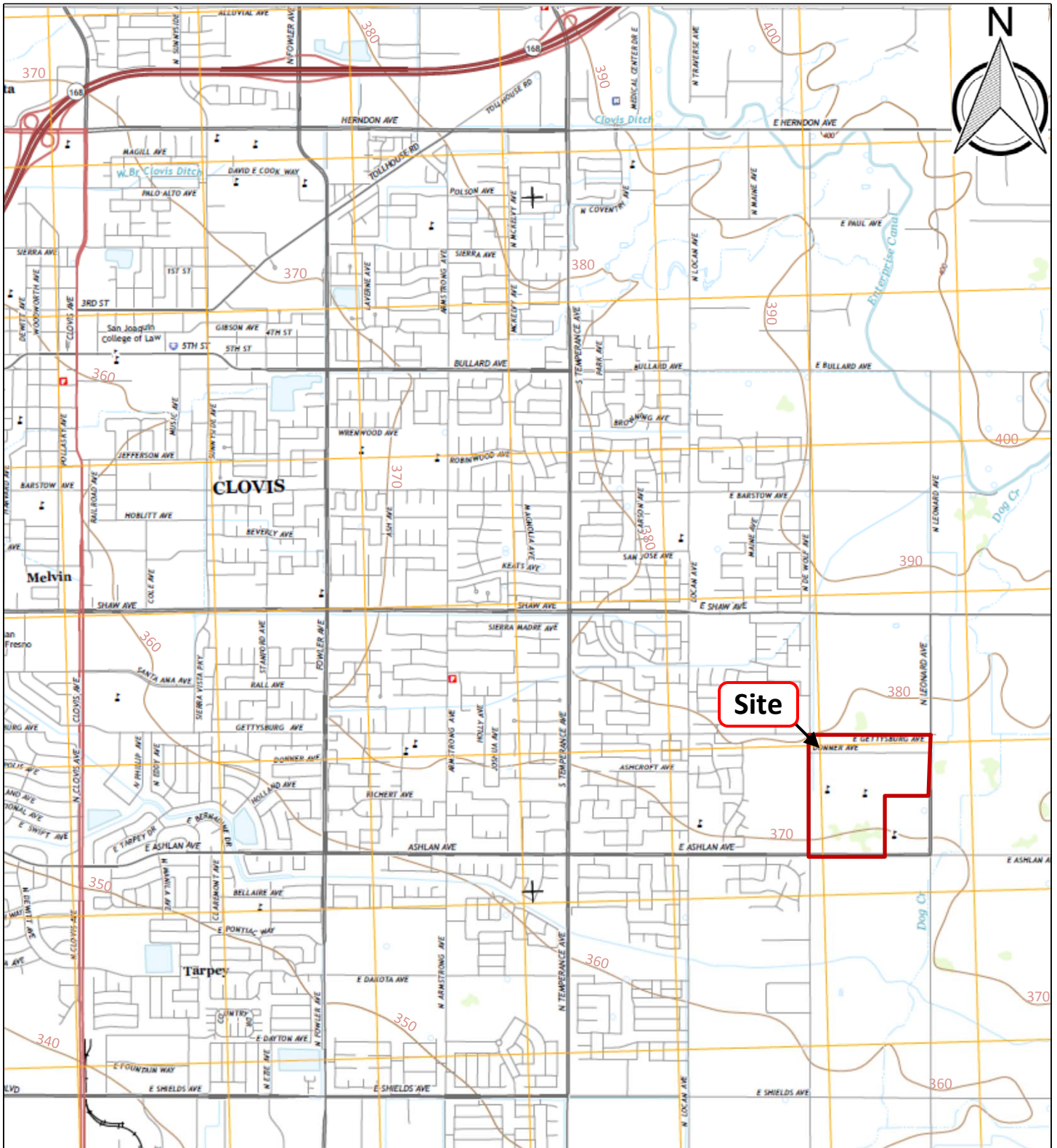


FIGURE 1

SITE VICINITY MAP

Clovis East High School CTE Farm and Food Product Facility
 2940 Leonard Avenue
 Clovis, California 93619
 Project #20G-0328-0



Reference: USGS Clovis
 Quadrangle, California
 7.5-Minute Series, 2015

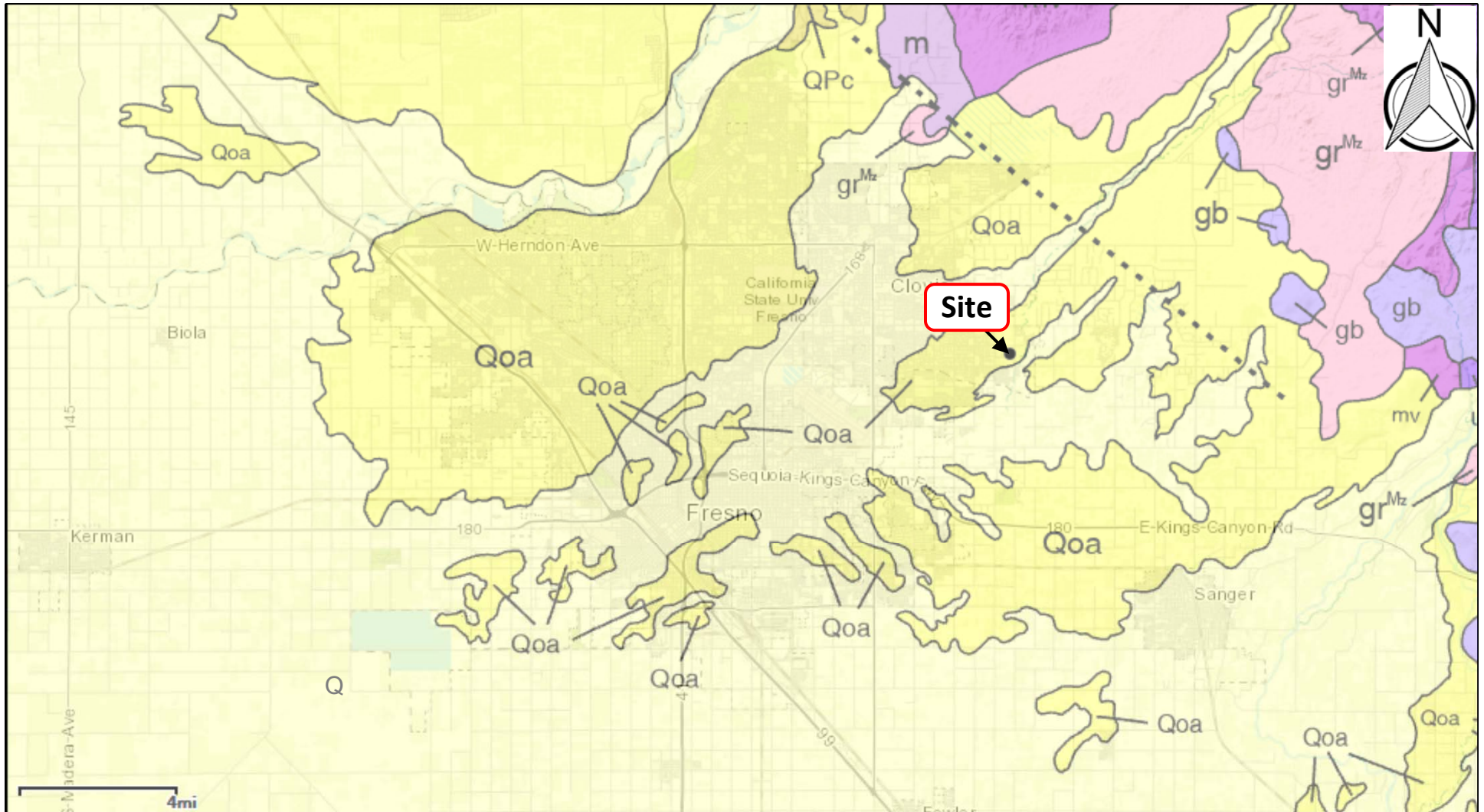
Scale: 1" ≈ 0.6 miles

FIGURE 2

USGS CONTOUR MAP

Clovis East High School CTE Farm and Food Product Facility

2940 Leonard Avenue
 Clovis, California 93619
 Project #20G-0328-0

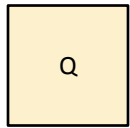


Source: Gutierrez, et al., 2010, Geologic Map of California, California Geologic Survey Map No. 2

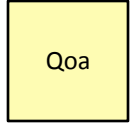
FIGURE 3A

REGIONAL GEOLOGIC MAP

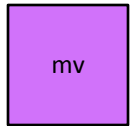
Clovis East High School CTE Farm and Food Product Facility
 2940 Leonard Avenue
 Clovis, California 93619
 Project #20G-0328-0



Alluvium, lake, playa, and terrace deposits;
consolidated and unconsolidated



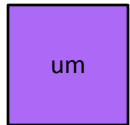
Older alluvium, lake, playa, and terrace deposits



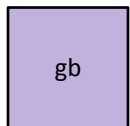
Undivided pre-Cenozoic metavolcanic rocks. Includes latite, dacite, tuff, and
greenstone; commonly schistose



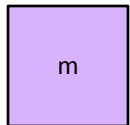
Mesozoic granite, quartz monzonite, granodiorite, and quartz diorite



Ultramafic rocks, mostly serpentine. Minor peridotite, gabbro, and diabase; chiefly
Mesozoic



Gabbro and dark dioritic rocks; chiefly Mesozoic.



Undivided pre-Cenozoic metasedimentary and metavolcanic rocks of great variety.
Mostly slate, quartzite, hornfels, chert, phyllite, mylonite, schist, gneiss, and minor
marble

Source: Gutierrez, et al., 2010, Geologic Map of
California, California Geologic Survey Map No. 2

FIGURE 3B

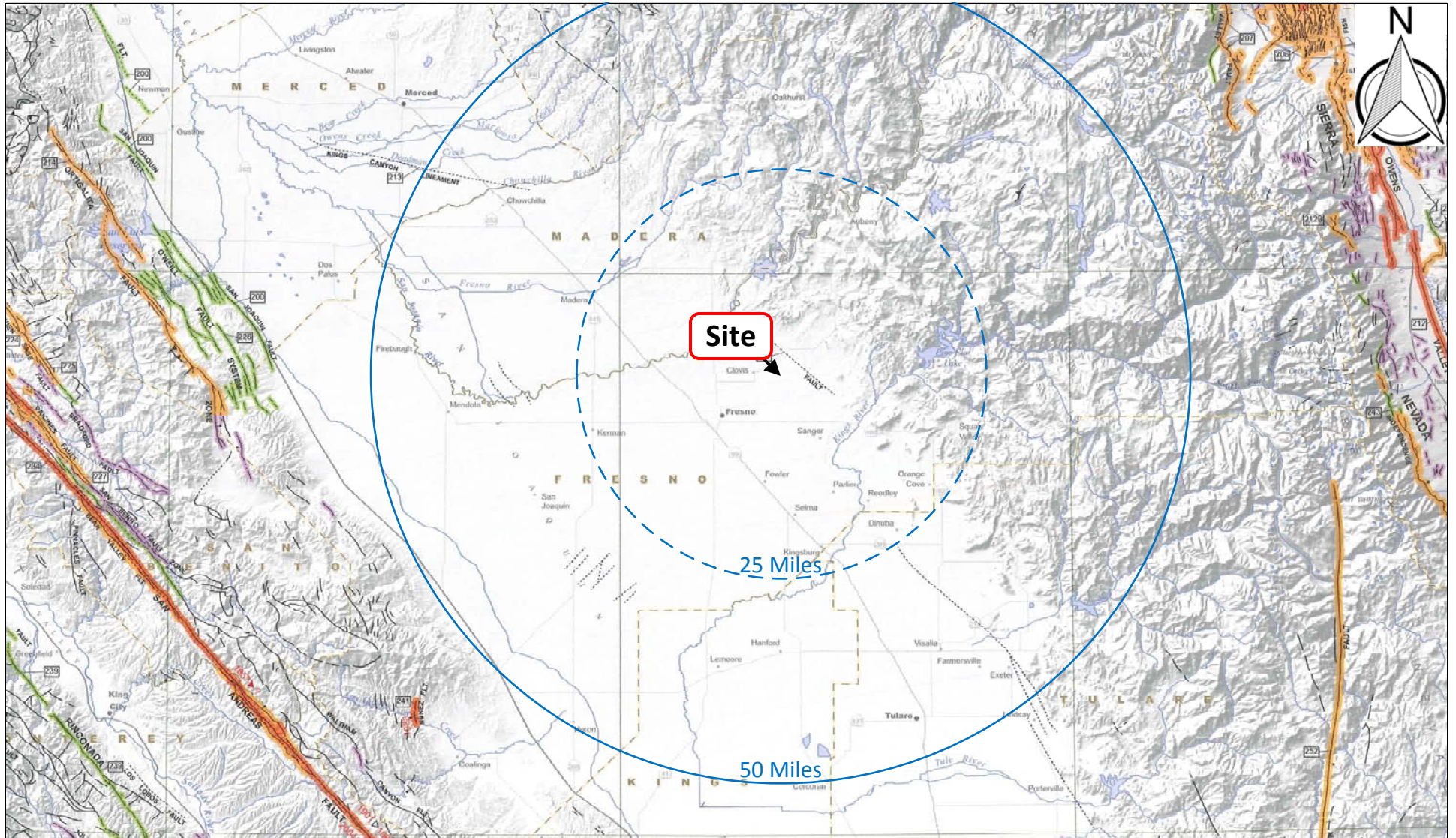
LEGEND FOR REGIONAL GEOLOGIC MAP

Clovis East High School CTE Farm and Food Product Facility

2940 East Leonard Avenue

Clovis, California 93619

Project #20G-0328-0



Source: Jennings, C. W., and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey, Geologic Data Map No. 6.

Scale: 1" ≈ 18 miles

FIGURE 4A

FAULT ACTIVITY MAP

Clovis East High School CTE Farm and Food Product Facility
 2940 Leonard Avenue
 Clovis, California 93619
 Project #20G-0328-0

Geologic Time Scale			Years Before Present (Approx.)	Fault Symbol	Recency of Movement	DESCRIPTION	
						ON LAND	OFFSHORE
Quaternary	Late Quaternary	Historic				Displacement during historic time (e.g. San Andreas fault 1906). Includes areas of known fault creep.	
		Holocene	200			Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
	Pleistocene		11,700			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
		Early Quaternary	700,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary		1,600,000					
			4.5 billion (Age of Earth)			Faults without recognized Quaternary displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.

* Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in this map were established using the previous 1.6 Ma criterion.

Source: Jennings, C. W., and Bryant, W. A., 2010, Fault Activity Map of California, California Geologic Survey, Geologic Data Map No. 6.

FIGURE 4B

Legend for Fault Activity Map

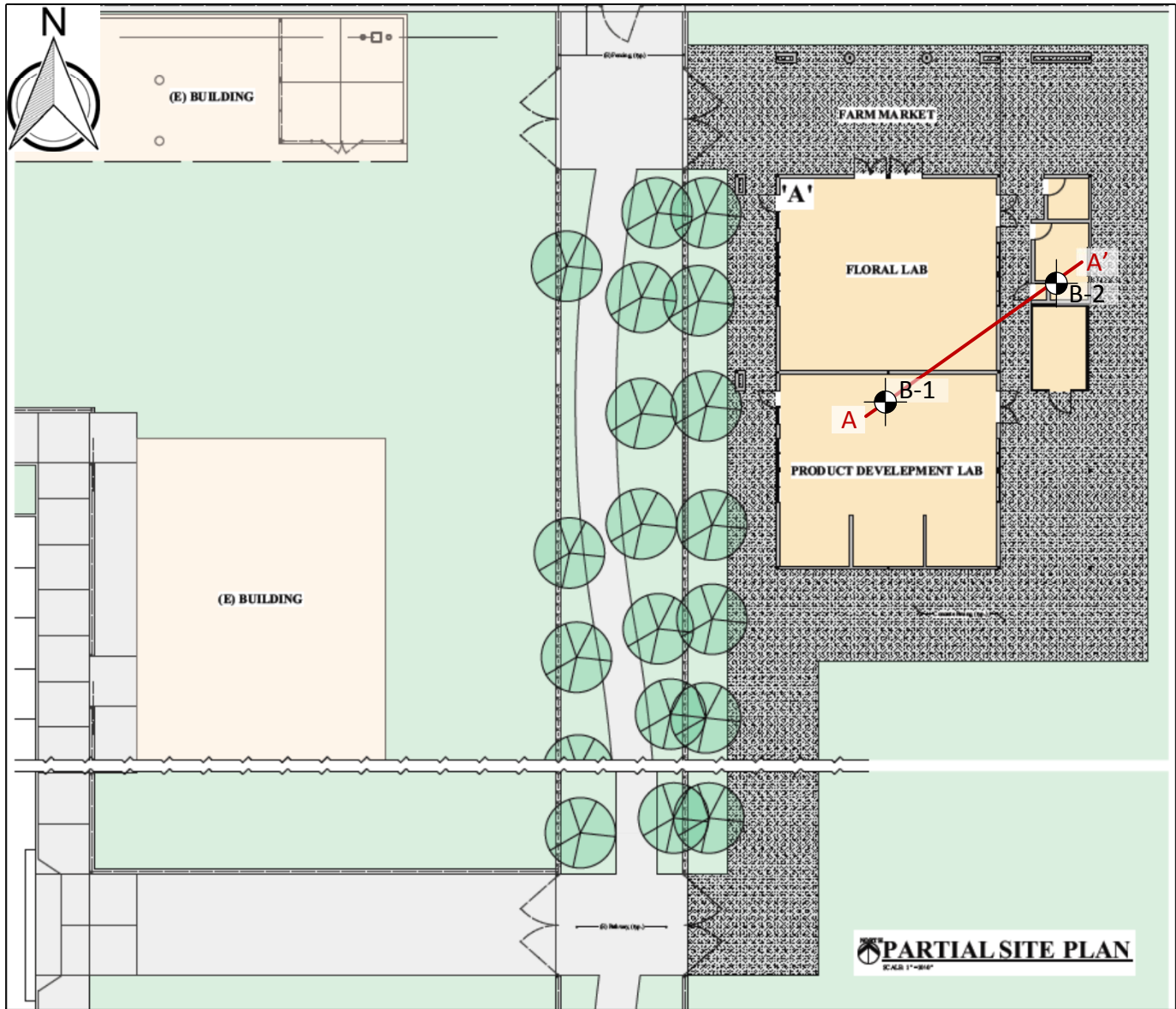
Clovis East High School CTE Farm and Food Product Facility

2940 Leonard Avenue

Clovis, California 93619

Project #20G-0328-0





Site Plan prepared by: Gonzalez Architects
dated 5/7/2020

FIGURE 5

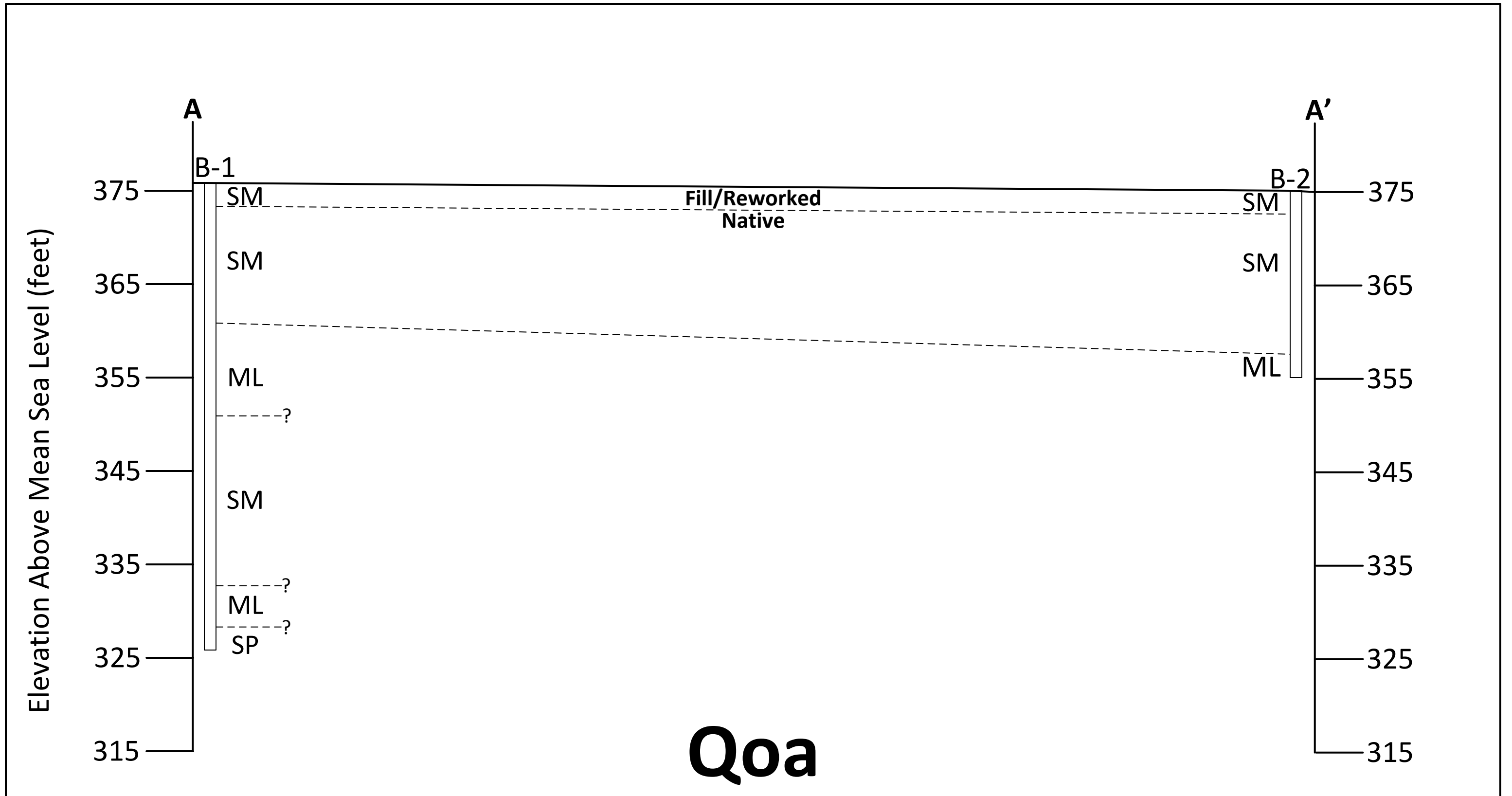
Scale: 1" ≈ 50'

BORING LOCATION MAP

Clovis East High School CTE
Farm and Food Product Facility
2940 Leonard Avenue
Clovis, California 93619
Project #20G-0328-0

B-2 Approximate Boring
Locations

A ——— A' Cross Section Line



Horizontal Scale: 1" = 5'
Vertical Scale: 1" = 10'

FIGURE 6

CROSS SECTION A TO A'

Clovis East High School CTE Farm and Food Product Facility
2940 Leonard Avenue
Clovis, California 93619
Project #20G-0328-0



N43E →



GEOTECHNICAL CONSULTANTS

APPENDIX A

FIELD INVESTIGATION

APPENDIX A

FIELD INVESTIGATION

A-1.00 FIELD EXPLORATION

A-1.01 Number of Borings

Our subsurface investigation consisted of excavating two test borings to a maximum depth of 51 feet below existing grade. The test borings were excavated with a CME 75 drill rig equipped with a 7-inch hollow stem auger and a 140-pound auto-hammer on June 11, 2020.

A-1.02 Location of Borings

The approximate locations of the borings are shown on Figure 5, Boring Location Map. GPS coordinates indicated on the logs are based on information provided by Dioptra Version 1.0.10 running on a Samsung Galaxy S10+ with Android Version 10.

A-1.03 Logging Borings

Boring logs were prepared by one of our staff and are included in this appendix. The log contains factual information and interpretation of subsurface conditions between samples. The stratum indicated on the boring logs represents the approximate boundary between earth units and the transition may be gradual. The logs show subsurface conditions at the dates and locations indicated and may not be representative of subsurface conditions at other locations and times.

Identification of the soils encountered during the subsurface exploration was made using the field identification procedure of the Unified Soils Classification System (ASTM D2488). A legend defining the terms used in describing the relative compaction, consistency or firmness of the soil, and moisture level is provided on the following page. Bag, ring, or tube samples of the major earth units were obtained for laboratory inspection and testing.

I. SOIL STRENGTH/DENSITY

BASED ON STANDARD PENETRATION TESTS

Compactness of sand		Consistency of clay	
Penetration Resistance N (blows/Ft)	Compactness	Penetration Resistance N (blows/ft)	Consistency
0-4	Very Loose	<2	Very Soft
4-10	Loose	2-4	Soft
10-30	Medium Dense	4-8	Medium Stiff
30-50	Dense	8-15	Stiff
>50	Very Dense	15-30	Very Stiff
		>30	Hard

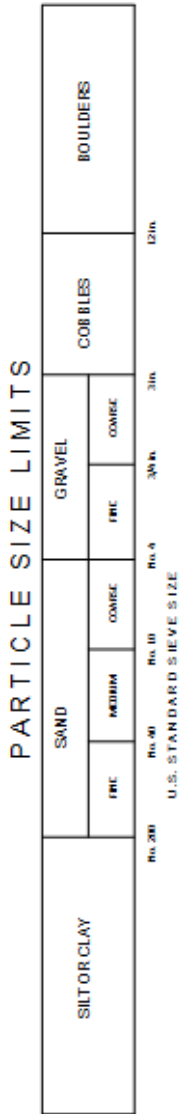
N = Number of blows of 140 lb. weight falling 30 in. to drive 2-in OD sampler 1 ft. (corrected)

BASED ON RELATIVE COMPACTION

Compactness of sand		Consistency of clay	
% Compaction	Compactness	% Compaction	Consistency
<75	Loose	<80	Soft
75-83	Medium Dense	80-85	Medium Stiff
83-90	Dense	85-90	Stiff
>90	Very Dense	>90	Very Stiff

II. SOIL MOISTURE

Moisture of sands		Moisture of clays	
% Moisture	Description	% Moisture	Description
<5%	Dry	<12%	Dry
5-12%	Moist	12-20%	Moist
>12%	Very Moist, wet	>20%	Very Moist, wet



MAJOR DIVISIONS		GROUP SYMBOLS		TYPICAL NAMES
COARSE GRAINED SOILS <small>(More than 50% of coarse fraction is LARGER than the No. 200 sieve size)</small>	GRAVELS <small>(More than 50% of coarse fraction is LARGER than the No. 4 sieve size)</small>	CLEAN GRAVELS <small>(Little or no fines)</small>	GW	Well graded gravel, gravel-sand mixtures, little or no fines.
			GP	Poorly graded gravel or gravelsand mixtures, little or no fines.
		GRAVELS WITH FINES <small>(Appreciable amt. of fines)</small>	GM	Silty gravels, gravel-sand-silt mixtures.
			GC	Clayey gravels, gravelsand-clay mixtures.
	SANDS <small>(More than 50% of coarse fraction is SMALLER than the No. 4 sieve size)</small>	CLEAN SANDS <small>(Little or no fines)</small>	SW	Well graded sands, gravelly sands, little or no fines.
			SP	Poorly graded sands or gravelly sands, little or no fines.
		SANDS WITH FINES <small>(Appreciable amount of fines)</small>	SM	Silty sands, sand-silt mixtures.
			SC	Clayey sands, sand-clay mixtures.
FINE GRAINED SOILS <small>(More than 50% of material is SMALLER than No. 200 sieve size)</small>	SILTS AND CLAYS <small>(Liquid limit LESS than 50)</small>	ML	Inorganic silts and very fine sands, rock flour silty or clayey fine sands or clayey silts with slight plasticity.	
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.	
		OL	Organic silts and organic silty clays of low plasticity.	
	SILTS AND CLAYS <small>(Liquid limit GREATER than 50)</small>	MH	Inorganic silts, micaceous or detritaceous fine sandy or silty soils, elastic silts.	
		CH	Inorganic clays of high plasticity, fat clays.	
		OH	Organic clays of medium to high plasticity, organic silts.	
HIGHLY ORGANIC SOILS		Pt	Peat and other highly organic soils.	

BOUNDARY CLASSIFICATIONS: Soils possessing characteristics of two groups are designated by combinations of group symbols.

Exploratory Boring Log

Boring No. B-1
Sheet 1 of 2

Date Drilled: June 11th, 2020

Drilling Equipment: CME 75, Hollow Stem Auger

Logged By: BKM






Borehole Diameter: 7"

Location: See Boring Location Map

Drive Weights: 140 lbs. (Autohammer)

Geographic Position: 36.800717°, -119.641277°





Drop Height: 30"

Depth (ft)	Samples			Moisture Content (%)	Dry Density (pcf)	USCS	Graphic Symbol	Material Description
	Sample Type	Blows (blows/ft)	Bulk Sample					
5	R	9		11.2	124.2	SM		FILL/REWORKED: brown, fine to medium SILTY SAND, moist, loose
5	R	73		12.8	121.1			NATIVE: brown, fine to coarse SILTY SAND with CLAY, moist, very dense
10	S	17				SM		... light brown, fine to medium grained, medium dense
15	R	59		17.4	116.3			... light yellow brown, very dense
20	S	77				ML		Light brown, fine SANDY SILT with CLAY, moist, hard
25	R	50/3"		12.5	119.6			... increasing SAND content
30	S	18				SM		Light brown, fine to medium SILTY SAND, moist, medium dense
35	R	65		9.6	117.6			... with CLAY, increasing SILT content, very dense



***Note**

All blow counts associated with Modified California Sample are uncorrected. The sampler dimensions are as follows:
ID = 2.5" OD = 3"

Sample Types:

-  - SPT Sample
-  - Bulk Sample
-  - Modified California Tube Sample
-  - Modified California Ring Sample

Symbols:

-  - Groundwater
-  - End of Boring

Exploratory Boring Log

Boring No. B-1
Sheet 2 of 2

Date Drilled: June 11th, 2020

Drilling Equipment: CME 75, Hollow Stem Auger

Logged By: BKM

Borehole Diameter: 7"

Location: See Boring Location Map

Drive Weights: 140 lbs. (Autohammer)

Geographic Position: 36.800717°, -119.641277°

Drop Height: 30"

Depth (ft)	Samples			Moisture Content (%)	Dry Density (pcf)	USCS	Graphic Symbol	Material Description
	Sample Type	Blows (blows/ft)	Bulk Sample					
45	[S]	63		18.7	97.1	SM		Yellow brown with orange staining, fine SANDY SILT with CLAY, moist, hard
45	[R]	79				ML		
50	[S]	37				SP		
55							Notes: 1. Boring terminated at approximately 51' 2. No Groundwater Encountered 3. Boring backfilled with soil cuttings	
60								
65								
70								
75								

***Note**

All blow counts associated with Modified California Sample are uncorrected. The sampler dimensions are as follows:
ID = 2.5" OD = 3"

Sample Types:

- [S] - SPT Sample
- [] - Bulk Sample
- [T] - Modified California Tube Sample
- [R] - Modified California Ring Sample

Symbols:

- Groundwater
- End of Boring

Exploratory Boring Log

Boring No. B-2
Sheet 1 of 1

Date Drilled: June 11th, 2020

Drilling Equipment: CME 75, Hollow Stem Auger

Logged By: BKM








Borehole Diameter: 7"

Location: See Boring Location Map

Drive Weights: 140 lbs. (Autohammer)

Geographic Position: 36.800855°, -119.641114°





Drop Height: 30"

Depth (ft)	Samples			Moisture Content (%)	Dry Density (pcf)	USCS	Graphic Symbol	Material Description
	Sample Type	Blows (blows/ft)	Bulk Sample					
5	[R]	19		10.5	119.2	SM		FILL/REWORKED: brown, fine to medium SILTY SAND, moist, medium dense
5	[S]	21						NATIVE: brown, fine to coarse SILTY SAND with CLAY, moist, medium dense
10	[R]	40		14.2	119.4	SM		...red brown, fine to medium grained, dense
15	[S]	36						...dense
20	[S]	32				ML		Light brown, fine SANDY SILT with CLAY, moist, hard
25								Notes: 1. Boring terminated at approximately 21' 2. No Groundwater Encountered 3. Boring backfilled with soil cuttings
30								
35								



***Note**

All blow counts associated with Modified California Sample are uncorrected. The sampler dimensions are as follows:
ID = 2.5" OD = 3"

Sample Types:

-  - SPT Sample
-  - Bulk Sample
-  - Modified California Tube Sample
-  - Modified California Ring Sample

Symbols:

-  - Groundwater
-  - End of Boring



GEOTECHNICAL CONSULTANTS

APPENDIX B

LABORATORY TESTS

APPENDIX B

B-1.00 LABORATORY TESTS

B-1.01 Moisture Determination

The moisture content of tube and ring samples obtained from the test borings was determined in accordance with ASTM D2216, the standard method for determining the water content of soil using a drying oven. The mass of material remaining after oven drying is used as the mass of the solid particles. The results of these tests are provided on the boring logs in Appendix A.

B-1.02 Density of Split-Barrel Samples

The densities of ring and tube samples, which were obtained using a split-barrel sampler, were determined in accordance with ASTM D2937. The results of these tests are provided on the boring logs in Appendix A.

B-1.03 Soluble Sulfates and Chlorides

Tests were performed in accordance with California Test Methods 417 and 422 on one near-surface soil sample obtained during the field exploration. These tests were performed by Dellavalle Laboratory, Inc. located in Fresno, California (see Table B1 for results).

B-1.04 Soil Reactivity (pH) and Minimum Electrical Resistivity

One near-surface soil sample was tested for soil reactivity (pH) and minimum electrical resistivity using California Test Method 643 (see Table B1). The pH measurement determines the degree of acidity or alkalinity in the soils. The minimum electrical resistivity is used as an indicator of how corrosive the soil is relative to buried metallic items.

TABLE B1: SUMMARY OF CORROSIVITY TESTS

Sample Location	Soluble Sulfates (mg/kg)	Soluble Chlorides (mg/kg)	pH	Minimum Resistivity (ohm-cm)
B- @ 1' - 3'	411.0	202.0	6.43	490

B-1.05 Percent Passing #200 Sieve

Three soil samples were tested in accordance with ASTM D1140 to determine the percent passing the #200 sieve (see Table B2). This represents the amount of silt and clay that is present in the soil.

TABLE B2: PERCENT PASSING #200 SIEVE TEST RESULTS

Sample Location	Dry Weight Before Wash (grams)	Dry Weight After Wash (grams)	Percent Passing #200 Sieve
B-1 @ 19.5' – 21'	266.5	13.6	49
B-1 @ 35.5'	274.6	200.8	27
B-2 @ 4.5' – 6'	267.9	165.8	38

B-1.06 Atterberg Limits

The liquid limit, plastic limit, and the plasticity index of a near-surface soil sample were determined using the standard test methods of ASTM D4318 (See Figure B1).

B-1.07 Expansion Index

Expansion index testing was performed on one near-surface sample of the on-site soils in accordance with the standard test methods of ASTM D4829. The results of this test are shown on Figure B2.

B-1.08 Direct Shear

One 3-point direct shear test was performed on a representative near-surface sample of soil using the standard test method of ASTM D3080 (consolidated and drained). The shear test was performed on a direct shear machine of the strain-controlled type by RMA GeoScience, Inc. To simulate possible adverse field conditions, the samples were saturated prior to shearing. Three soil specimens were sheared at varying normal loads for the test and the results plotted to establish the angle of the internal friction and cohesion of the tested sample. The results of this test are shown on Figure B3.

B-1.09 One-Dimensional Consolidation Properties

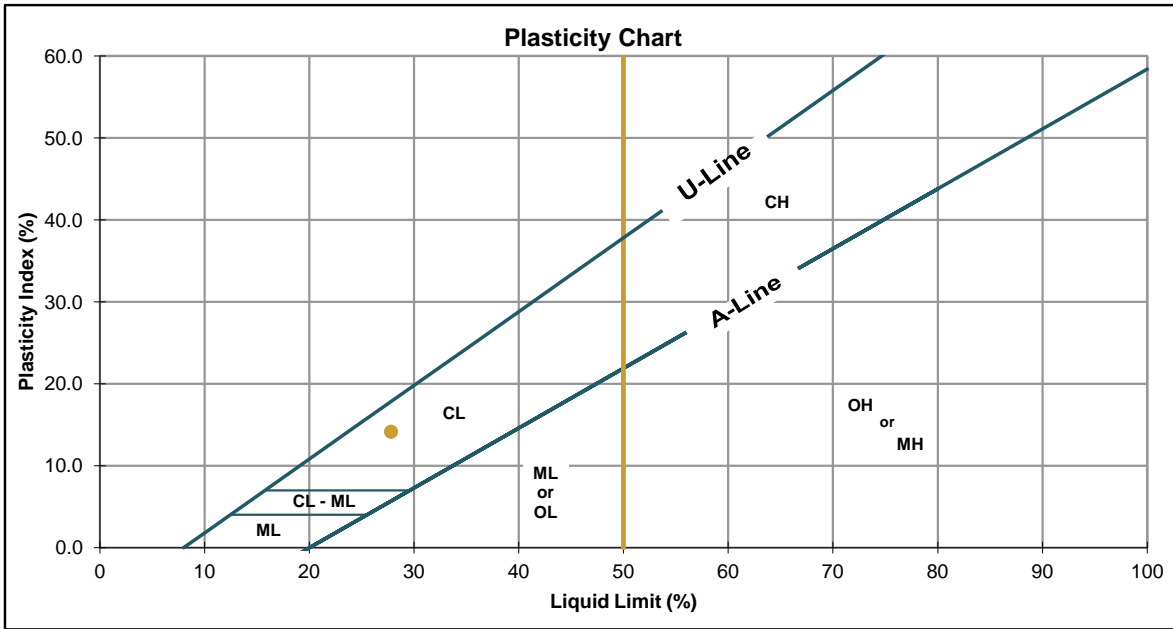
The magnitude and rate of consolidation of soils obtained from test borings, when it is restrained laterally and drained axially while subjected to incrementally applied controlled-stress loading, was determined using the standard test methods of ASTM D2435 (See Table B3). The results of these tests are shown on Figure B4.

Project Number: 20G-0328-0 /01
 Project Name: Clovis East HS CTE - Farm & Food Product Facility
 Sampled By: Bryce M.
 Sample Date: 6/11/2020
 Sample Location: B-1 @ 1'-3'
 Sample Description: Silty CLAY

Lab ID: 20-004417
 Date Tested: 6/22/2020
 Tested By: Antonio M.

Plasticity Index Results

Liquid Limit:	28
Average Plastic Limit :	14
Plasticity Index:	14

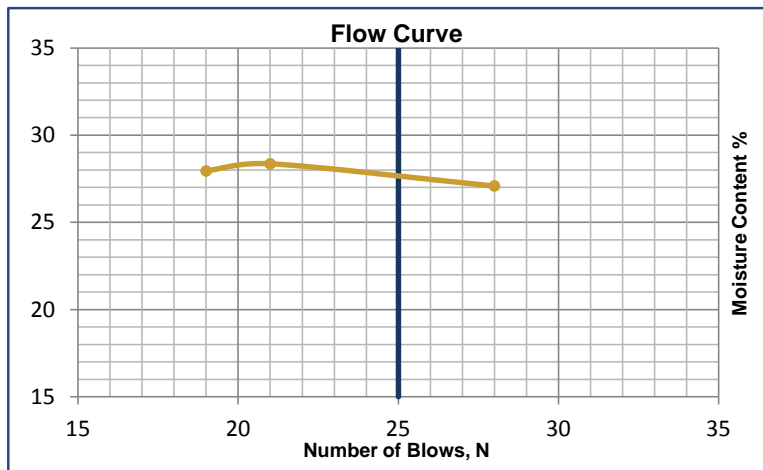


Liquid Limit Data

	Trial 1	Trial 2	Trial 3
Wet Weight (gm.)	48.28	46.45	46.35
Dry Weight (gm.)	45.20	43.68	43.60
Tare Weight (gm.)	33.83	33.91	33.76
Number of Blows	28	21	19
Moisture Content (%)	27.1	28.4	27.9

Plastic Limit Data

	Trial 1	Trial 2
Wet Weight (gm.)	36.69	36.81
Dry Weight (gm.)	35.68	35.79
Tare Weight (gm.)	28.41	28.18
Moisture Content (%)	13.9	13.4



Results relate only to the items inspected or tested (Statement required per ASTM E329-18 Section 12.1.10) Report shall not be reproduced except in full without the prior written approval of the agency



Figure
 Laboratory Test Form | ASTM D4829
 Expansion Index of Soils

Project Number: 20G-0328-0 /02 Lab ID: 20-004425
 Project Name: Clovis East HS CTE- Farm and Food Product Facility Date Sampled: 6/11/2020
 Sampled By: Bryce M. Date Tested: 6/15/2020
 Tested By: Antonio M.
 Sample Location: B-2 @ 1'-3'
 Sample Description: Silty SAND with clay, fine to medium grained, brown

Expansion Readings

Initial Sample Height (in): 1.0000
 Final Sample Height (in): 1.0096
Expansion (in): 0.0096

Expansion Index, EI: 10

Classification of Expansive Soil

EI	Potential Expansion
0 - 20	Very Low
21 - 50	Low
51 - 90	Medium
91 - 130	High
>130	Very High

Expansion Index Data

Initial Set-Up Data	Final Data
Sample + Tare Weight (gm): <u>781.9</u>	Sample + Tare Weight (gm): <u>813.5</u>
Tare Weight (gm): <u>366.0</u>	Tare Weight (gm): <u>366.0</u>
Initial Gauge Reading (in): <u>0.0000</u>	Final Gauge Reading (in): <u>0.0096</u>

Moisture Content And Density Data

Wet Weight + Tare (gm): <u>100.0</u>	Wet Weight + Tare (gm): <u>813.5</u>
Dry Weight + Tare (gm): <u>91.6</u>	Dry Weight + Tare (gm): <u>747.0</u>
Tare Weight (gm): <u>0</u>	Tare Weight (gm): <u>366.0</u>
Moisture Content: <u>9.2%</u>	Moisture Content: <u>17.5%</u>
Initial Volume (ft ³): <u>0.007345</u>	Final Volume (ft ³): <u>0.007342</u>
Remolded Wet Density (pcf): <u>124.8</u>	Final Wet Density (pcf): <u>134.4</u>
Remolded Dry Density (pcf): <u>114.3</u>	Final Dry Density (pcf): <u>114.4</u>
Degree of Saturation: <u>52</u>	Assumed Specific Gravity: <u>2.7</u>

Figure B3
Laboratory Test Form | ASTM D3080
Direct Shear Test

Project ID: 20G-0328-0

Sample ID: 20-004426

Location: B-2

Depth: 2 feet

Soil Description: Silty Sand with trace clay

Remolded or Undisturbed: Undisturbed

Initial Dry Density (pcf) = 121.1

Initial Moisture Content (%) = 12.8%

Final Moisture Content (%) = 16.3%

Diameter (in)	2.41
Area of sample (in ²)	4.56
Load Ring Constant (lb/in)	4,010

Load Applied (g)	Normal Pressure (psf)	Peak		Residual	
		Dial Reading	Shear Resist (psf)	Dial Reading	Shear Resist (psf)
16,615	1,160	0.0127	1,610	0.0076	962
32,600	2,270	0.0177	2,240	0.0132	1,671
48,674	3,390	0.0281	3,560	0.0224	2,836
64,681	4,500	0.0316	4,000	0.0251	3,177

	<u>Peak</u>	<u>Residual</u>
Cohesion (psf) =	690	180
Friction Angle (deg) =	37	35

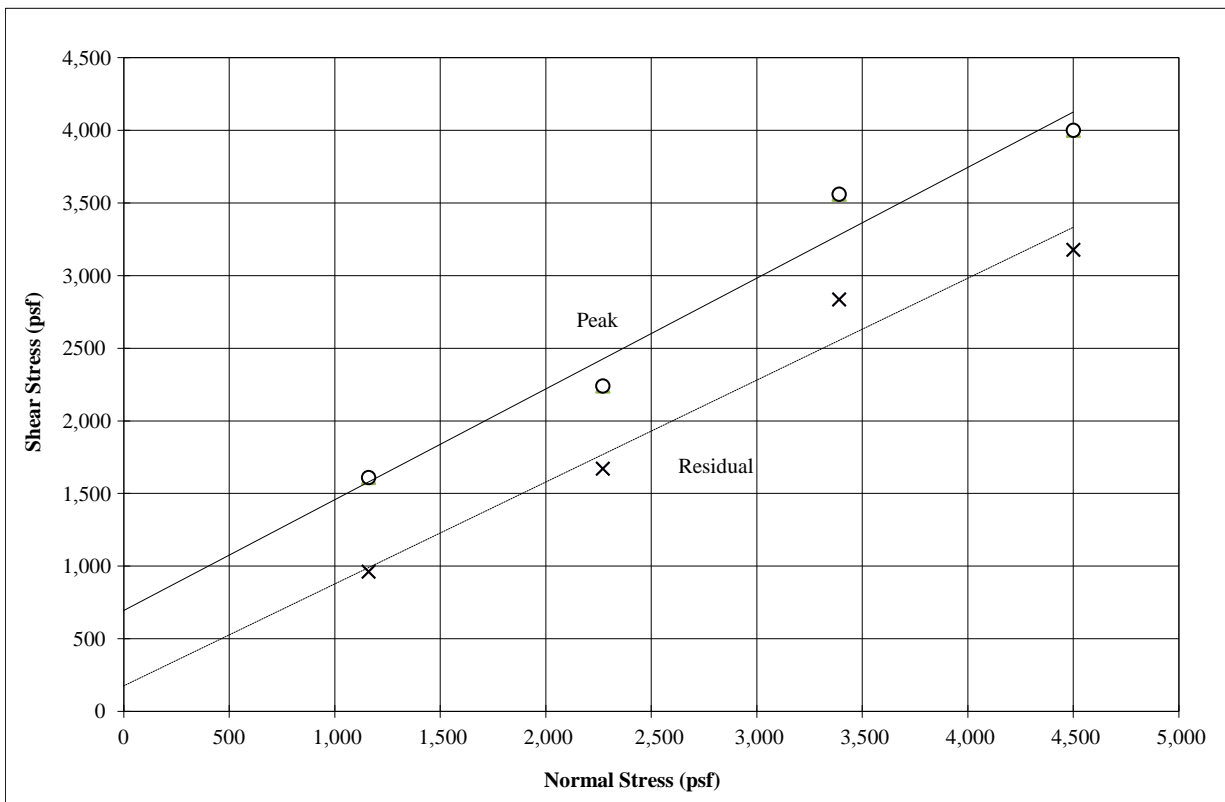


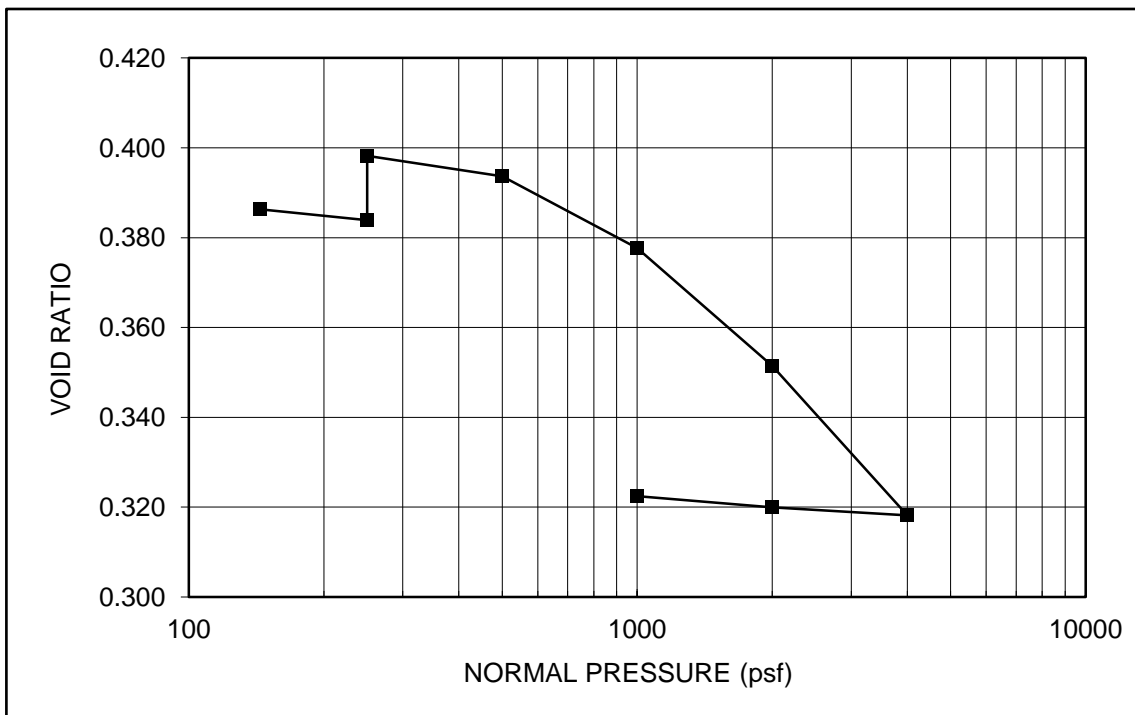
Figure B4
Laboratory Test Form | ASTM D2435
One-Dimensional Consolidation

Project ID: 20G-0328-0
Location: B-2
Depth: 2 feet
Soil Description: Silty Sand with clay

Dry Unit Weight (pcf): 119.2
Initial Moisture: 10.5%
Final Moisture: 14.9%
Initial Saturation: 71.9%
Final Saturation: 99.0%

Initial Dial Reading: 0.2000 inch
Initial Specimen Height: 1.0000 inch
Initial Void Ratio: 0.387
Final Void Ratio: 0.322
Specific Gravity : 2.65

Moisture Condition	Load (psf)	Final Dial Reading (inches)	Sample Height (inches)	Void Ratio	Strain (%)	ΔStrain (%)
In Situ	144	0.2007	0.9993	0.386	0.07	0.07
	250	0.2024	0.9976	0.384	0.24	0.17
Water	250	0.1921	1.0079	0.398	-0.79	-1.03
	500	0.1954	1.0046	0.394	-0.46	0.33
	1,000	0.2069	0.9931	0.378	0.69	1.15
	2,000	0.2258	0.9742	0.351	2.58	1.89
	4,000	0.2498	0.9502	0.318	4.98	2.40
	2,000	0.2485	0.9515	0.320	4.85	-0.13
	1,000	0.2467	0.9533	0.322	4.67	-0.18



APPENDIX C

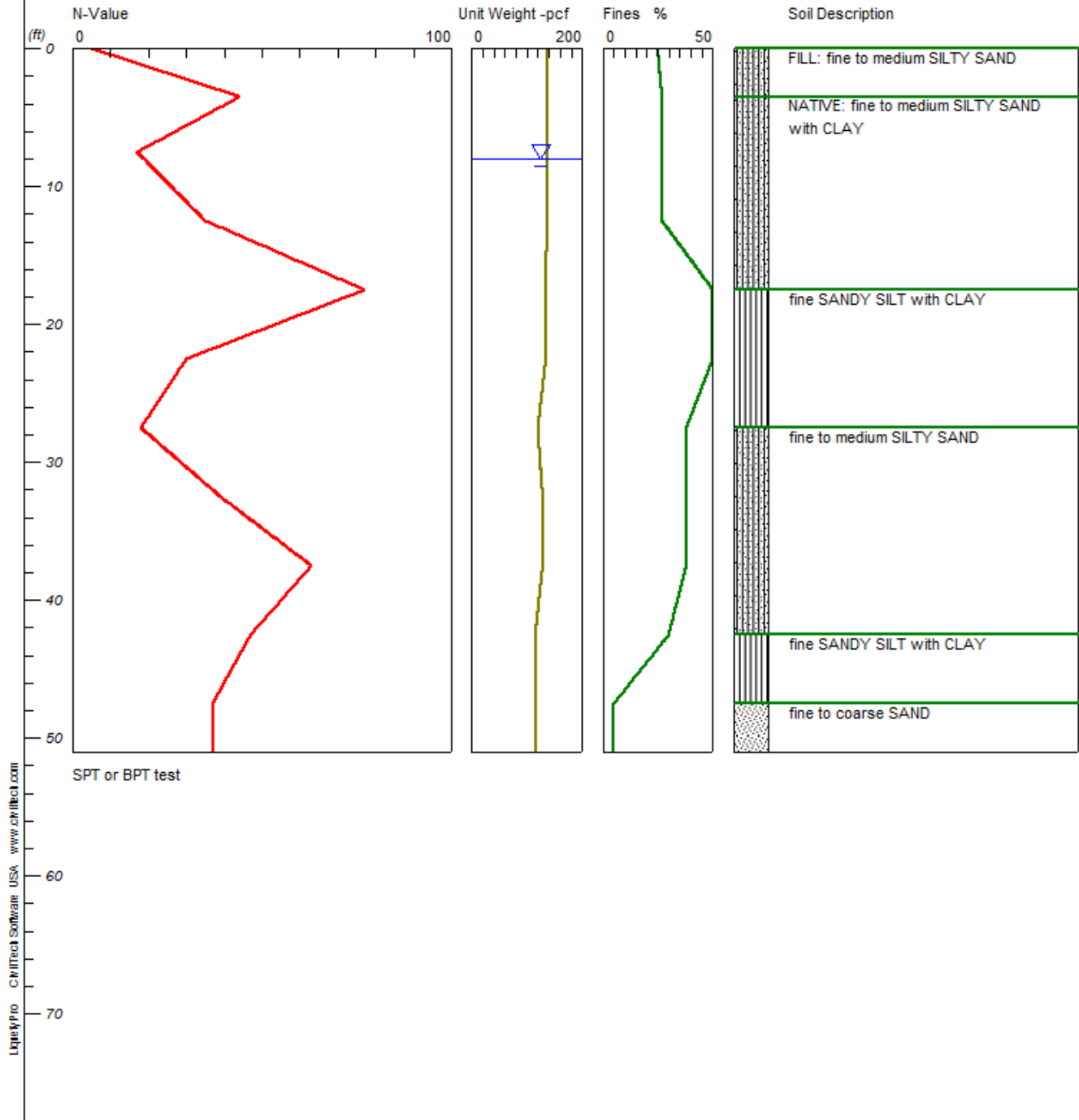
**LIQUIFACTION AND SEISMIC SETTLEMENT ANALYSIS
(Figures and Analysis Summary)**

LIQUEFACTION ANALYSIS

Clovis East High School CTE Farm and Food Product

Hole No.=B-1 Water Depth=8 ft Surface Elev.=376

**Magnitude=5.5
Acceleration=0.312g**

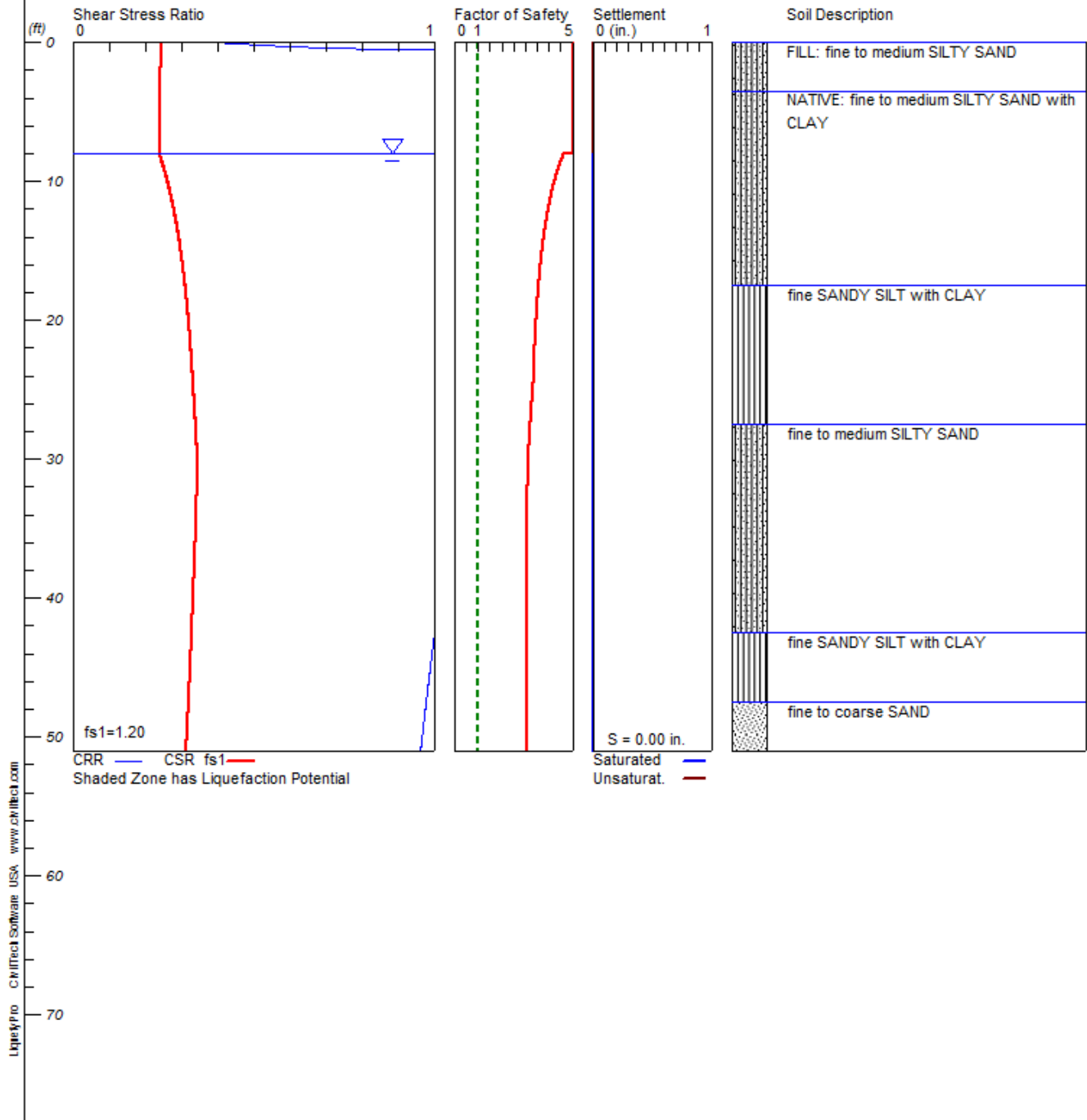


LIQUEFACTION ANALYSIS

Clovis East High School CTE Farm and Food Product

Hole No.=B-1 Water Depth=8 ft Surface Elev.=376

**Magnitude=5.5
Acceleration=0.312g**



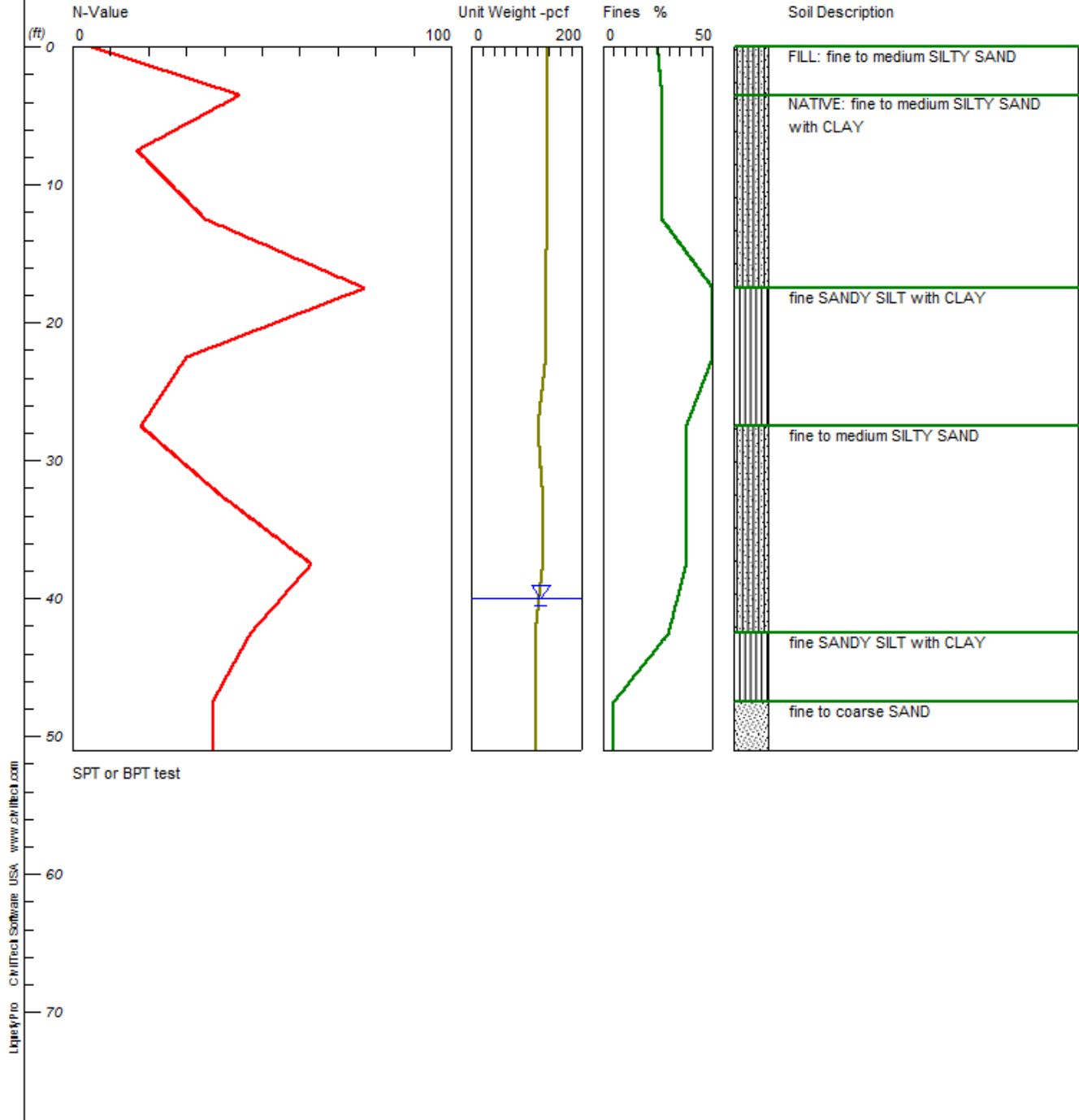
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

Clovis East High School CTE Farm and Food Product

Hole No.=B-1 Water Depth=40 ft Surface Elev.=376

**Magnitude=5.5
Acceleration=0.312g**

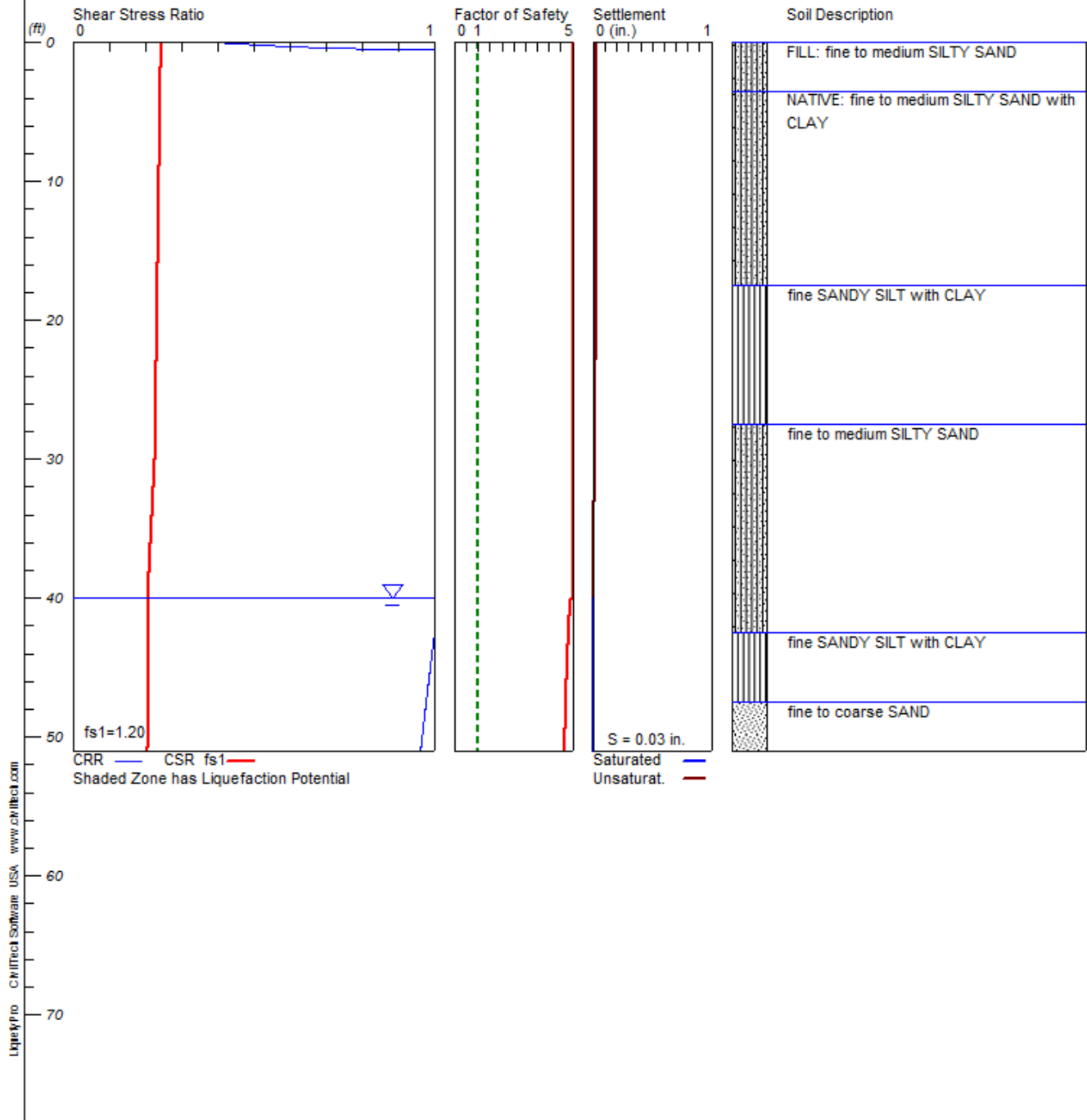


LIQUEFACTION ANALYSIS

Clovis East High School CTE Farm and Food Product

Hole No.=B-1 Water Depth=40 ft Surface Elev.=376

**Magnitude=5.5
Acceleration=0.312g**



LIQUEFACTION ANALYSIS SUMMARY
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Input File Name: \\192.168.88.8\g_Projects\2020\20G-0328\Originals\Liquifaction Analysis\20G-0328-0.liq
Title: Clovis East High School CTE Farm and Food Product
Subtitle: 20G-0328-0

Surface Elev.=376
Hole No.=B-1
Depth of Hole= 51.00 ft
Water Table during Earthquake= 8.00 ft
Water Table during In-Situ Testing= 78.00 ft
Max. Acceleration= 0.31 g
Earthquake Magnitude= 5.50

Input Data:

Surface Elev.=376
Hole No.=B-1
Depth of Hole=51.00 ft
Water Table during Earthquake= 8.00 ft
Water Table during In-Situ Testing= 78.00 ft
Max. Acceleration=0.31 g
Earthquake Magnitude=5.50
No-Liquefiable Soils: Based on Analysis

1. SPT or BPT Calculation.
 2. Settlement Analysis Method: Tokimatsu, M-correction
 3. Fines Correction for Liquefaction: Stark/Olson et al.*
 4. Fine Correction for Settlement: During Liquefaction*
 5. Settlement Calculation in: All zones*
 6. Hammer Energy Ratio, Ce = 1.5
 7. Borehole Diameter, Cb= 1.05
 8. Sampling Method, Cs= 1.2
 9. User request factor of safety (apply to CSR) , User= 1.2
Plot one CSR curve (fs1=User)
 10. Use Curve Smoothing: Yes*
- * Recommended Options

In-Situ Test Data:

Depth	SPT gamma	Fines
ft	pcf	%

0.00	5.00	138.10	25.00
3.50	44.00	136.60	27.00

7.50	17.00	136.40	27.00
12.50	35.00	136.50	27.00
17.50	77.00	134.60	50.00
22.50	30.00	134.60	50.00
27.50	18.00	120.00	38.00
32.50	39.00	128.90	38.00
37.50	63.00	128.90	38.00
42.50	47.00	115.30	30.00
47.50	37.00	115.00	5.00

Output Results:

Settlement of Saturated Sands=0.00 in.
Settlement of Unsaturated Sands=0.00 in.
Total Settlement of Saturated and Unsaturated Sands=0.00 in.
Differential Settlement=0.001 to 0.002 in.

Depth ft	CRRm	CSRfs in.	F.S. in.	S_sat. in.	S_dry	S_all
0.00	0.40	0.24	5.00	0.00	0.00	0.00
0.05	0.43	0.24	5.00	0.00	0.00	0.00
0.10	0.47	0.24	5.00	0.00	0.00	0.00
0.15	0.50	0.24	5.00	0.00	0.00	0.00
0.20	0.54	0.24	5.00	0.00	0.00	0.00
0.25	0.58	0.24	5.00	0.00	0.00	0.00
0.30	0.62	0.24	5.00	0.00	0.00	0.00
0.35	0.68	0.24	5.00	0.00	0.00	0.00
0.40	0.74	0.24	5.00	0.00	0.00	0.00
0.45	0.83	0.24	5.00	0.00	0.00	0.00
0.50	1.11	0.24	5.00	0.00	0.00	0.00
0.55	1.11	0.24	5.00	0.00	0.00	0.00
0.60	1.11	0.24	5.00	0.00	0.00	0.00
0.65	1.11	0.24	5.00	0.00	0.00	0.00
0.70	1.11	0.24	5.00	0.00	0.00	0.00
0.75	1.11	0.24	5.00	0.00	0.00	0.00
0.80	1.11	0.24	5.00	0.00	0.00	0.00
0.85	1.11	0.24	5.00	0.00	0.00	0.00
0.90	1.11	0.24	5.00	0.00	0.00	0.00
0.95	1.11	0.24	5.00	0.00	0.00	0.00
1.00	1.11	0.24	5.00	0.00	0.00	0.00
1.05	1.11	0.24	5.00	0.00	0.00	0.00
1.10	1.11	0.24	5.00	0.00	0.00	0.00
1.15	1.11	0.24	5.00	0.00	0.00	0.00
1.20	1.11	0.24	5.00	0.00	0.00	0.00
1.25	1.11	0.24	5.00	0.00	0.00	0.00
1.30	1.11	0.24	5.00	0.00	0.00	0.00
1.35	1.11	0.24	5.00	0.00	0.00	0.00
1.40	1.11	0.24	5.00	0.00	0.00	0.00
1.45	1.11	0.24	5.00	0.00	0.00	0.00
1.50	1.11	0.24	5.00	0.00	0.00	0.00
1.55	1.11	0.24	5.00	0.00	0.00	0.00
1.60	1.11	0.24	5.00	0.00	0.00	0.00
1.65	1.11	0.24	5.00	0.00	0.00	0.00

1.70 1.11 0.24 5.00 0.00 0.00 0.00
1.75 1.11 0.24 5.00 0.00 0.00 0.00
1.80 1.11 0.24 5.00 0.00 0.00 0.00
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2.10 1.11 0.24 5.00 0.00 0.00 0.00
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5.90 1.11 0.24 5.00 0.00 0.00 0.00
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8.80 1.11 0.25 4.45 0.00 0.00 0.00
8.85 1.11 0.25 4.44 0.00 0.00 0.00
8.90 1.11 0.25 4.43 0.00 0.00 0.00
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9.65 1.11 0.26 4.29 0.00 0.00 0.00
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10.45 1.11 0.27 4.16 0.00 0.00 0.00
10.50 1.11 0.27 4.15 0.00 0.00 0.00
10.55 1.11 0.27 4.14 0.00 0.00 0.00
10.60 1.11 0.27 4.14 0.00 0.00 0.00
10.65 1.11 0.27 4.13 0.00 0.00 0.00
10.70 1.11 0.27 4.12 0.00 0.00 0.00
10.75 1.11 0.27 4.12 0.00 0.00 0.00
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10.85 1.11 0.27 4.10 0.00 0.00 0.00
10.90 1.11 0.27 4.10 0.00 0.00 0.00
10.95 1.11 0.27 4.09 0.00 0.00 0.00
11.00 1.11 0.27 4.08 0.00 0.00 0.00
11.05 1.11 0.27 4.08 0.00 0.00 0.00
11.10 1.11 0.27 4.07 0.00 0.00 0.00
11.15 1.11 0.27 4.06 0.00 0.00 0.00
11.20 1.11 0.27 4.06 0.00 0.00 0.00
11.25 1.11 0.27 4.05 0.00 0.00 0.00
11.30 1.11 0.27 4.04 0.00 0.00 0.00
11.35 1.11 0.27 4.04 0.00 0.00 0.00
11.40 1.11 0.27 4.03 0.00 0.00 0.00
11.45 1.11 0.27 4.03 0.00 0.00 0.00
11.50 1.11 0.28 4.02 0.00 0.00 0.00
11.55 1.11 0.28 4.01 0.00 0.00 0.00
11.60 1.11 0.28 4.01 0.00 0.00 0.00
11.65 1.11 0.28 4.00 0.00 0.00 0.00
11.70 1.11 0.28 4.00 0.00 0.00 0.00
11.75 1.11 0.28 3.99 0.00 0.00 0.00
11.80 1.11 0.28 3.99 0.00 0.00 0.00
11.85 1.11 0.28 3.98 0.00 0.00 0.00
11.90 1.11 0.28 3.97 0.00 0.00 0.00
11.95 1.11 0.28 3.97 0.00 0.00 0.00
12.00 1.11 0.28 3.96 0.00 0.00 0.00
12.05 1.11 0.28 3.96 0.00 0.00 0.00
12.10 1.11 0.28 3.95 0.00 0.00 0.00
12.15 1.11 0.28 3.95 0.00 0.00 0.00
12.20 1.11 0.28 3.94 0.00 0.00 0.00
12.25 1.11 0.28 3.94 0.00 0.00 0.00
12.30 1.11 0.28 3.93 0.00 0.00 0.00
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12.40 1.11 0.28 3.92 0.00 0.00 0.00
12.45 1.11 0.28 3.92 0.00 0.00 0.00

12.50	1.11	0.28	3.91	0.00	0.00	0.00
12.55	1.11	0.28	3.91	0.00	0.00	0.00
12.60	1.11	0.28	3.90	0.00	0.00	0.00
12.65	1.11	0.28	3.90	0.00	0.00	0.00
12.70	1.11	0.28	3.89	0.00	0.00	0.00
12.75	1.11	0.28	3.89	0.00	0.00	0.00
12.80	1.11	0.28	3.88	0.00	0.00	0.00
12.85	1.11	0.29	3.88	0.00	0.00	0.00
12.90	1.11	0.29	3.87	0.00	0.00	0.00
12.95	1.11	0.29	3.87	0.00	0.00	0.00
13.00	1.11	0.29	3.86	0.00	0.00	0.00
13.05	1.11	0.29	3.86	0.00	0.00	0.00
13.10	1.11	0.29	3.85	0.00	0.00	0.00
13.15	1.11	0.29	3.85	0.00	0.00	0.00
13.20	1.11	0.29	3.84	0.00	0.00	0.00
13.25	1.11	0.29	3.84	0.00	0.00	0.00
13.30	1.11	0.29	3.84	0.00	0.00	0.00
13.35	1.11	0.29	3.83	0.00	0.00	0.00
13.40	1.11	0.29	3.83	0.00	0.00	0.00
13.45	1.11	0.29	3.82	0.00	0.00	0.00
13.50	1.11	0.29	3.82	0.00	0.00	0.00
13.55	1.11	0.29	3.81	0.00	0.00	0.00
13.60	1.11	0.29	3.81	0.00	0.00	0.00
13.65	1.11	0.29	3.81	0.00	0.00	0.00
13.70	1.11	0.29	3.80	0.00	0.00	0.00
13.75	1.11	0.29	3.80	0.00	0.00	0.00
13.80	1.11	0.29	3.79	0.00	0.00	0.00
13.85	1.11	0.29	3.79	0.00	0.00	0.00
13.90	1.11	0.29	3.79	0.00	0.00	0.00
13.95	1.11	0.29	3.78	0.00	0.00	0.00
14.00	1.11	0.29	3.78	0.00	0.00	0.00
14.05	1.11	0.29	3.77	0.00	0.00	0.00
14.10	1.11	0.29	3.77	0.00	0.00	0.00
14.15	1.11	0.29	3.77	0.00	0.00	0.00
14.20	1.11	0.29	3.76	0.00	0.00	0.00
14.25	1.11	0.29	3.76	0.00	0.00	0.00
14.30	1.11	0.29	3.75	0.00	0.00	0.00
14.35	1.11	0.29	3.75	0.00	0.00	0.00
14.40	1.11	0.30	3.75	0.00	0.00	0.00
14.45	1.11	0.30	3.74	0.00	0.00	0.00
14.50	1.11	0.30	3.74	0.00	0.00	0.00
14.55	1.11	0.30	3.74	0.00	0.00	0.00
14.60	1.11	0.30	3.73	0.00	0.00	0.00
14.65	1.11	0.30	3.73	0.00	0.00	0.00
14.70	1.11	0.30	3.73	0.00	0.00	0.00
14.75	1.11	0.30	3.72	0.00	0.00	0.00
14.80	1.11	0.30	3.72	0.00	0.00	0.00
14.85	1.11	0.30	3.71	0.00	0.00	0.00
14.90	1.11	0.30	3.71	0.00	0.00	0.00
14.95	1.11	0.30	3.71	0.00	0.00	0.00
15.00	1.11	0.30	3.70	0.00	0.00	0.00
15.05	1.11	0.30	3.70	0.00	0.00	0.00
15.10	1.11	0.30	3.70	0.00	0.00	0.00
15.15	1.11	0.30	3.69	0.00	0.00	0.00

15.20	1.11	0.30	3.69	0.00	0.00	0.00
15.25	1.11	0.30	3.69	0.00	0.00	0.00
15.30	1.11	0.30	3.68	0.00	0.00	0.00
15.35	1.11	0.30	3.68	0.00	0.00	0.00
15.40	1.11	0.30	3.68	0.00	0.00	0.00
15.45	1.11	0.30	3.67	0.00	0.00	0.00
15.50	1.11	0.30	3.67	0.00	0.00	0.00
15.55	1.11	0.30	3.67	0.00	0.00	0.00
15.60	1.11	0.30	3.67	0.00	0.00	0.00
15.65	1.11	0.30	3.66	0.00	0.00	0.00
15.70	1.11	0.30	3.66	0.00	0.00	0.00
15.75	1.11	0.30	3.66	0.00	0.00	0.00
15.80	1.11	0.30	3.65	0.00	0.00	0.00
15.85	1.11	0.30	3.65	0.00	0.00	0.00
15.90	1.11	0.30	3.65	0.00	0.00	0.00
15.95	1.11	0.30	3.64	0.00	0.00	0.00
16.00	1.11	0.30	3.64	0.00	0.00	0.00
16.05	1.11	0.30	3.64	0.00	0.00	0.00
16.10	1.11	0.30	3.64	0.00	0.00	0.00
16.15	1.11	0.30	3.63	0.00	0.00	0.00
16.20	1.11	0.30	3.63	0.00	0.00	0.00
16.25	1.11	0.30	3.63	0.00	0.00	0.00
16.30	1.11	0.31	3.62	0.00	0.00	0.00
16.35	1.11	0.31	3.62	0.00	0.00	0.00
16.40	1.11	0.31	3.62	0.00	0.00	0.00
16.45	1.11	0.31	3.62	0.00	0.00	0.00
16.50	1.11	0.31	3.61	0.00	0.00	0.00
16.55	1.11	0.31	3.61	0.00	0.00	0.00
16.60	1.11	0.31	3.61	0.00	0.00	0.00
16.65	1.11	0.31	3.60	0.00	0.00	0.00
16.70	1.11	0.31	3.60	0.00	0.00	0.00
16.75	1.11	0.31	3.60	0.00	0.00	0.00
16.80	1.11	0.31	3.60	0.00	0.00	0.00
16.85	1.11	0.31	3.59	0.00	0.00	0.00
16.90	1.11	0.31	3.59	0.00	0.00	0.00
16.95	1.11	0.31	3.59	0.00	0.00	0.00
17.00	1.11	0.31	3.59	0.00	0.00	0.00
17.05	1.11	0.31	3.58	0.00	0.00	0.00
17.10	1.11	0.31	3.58	0.00	0.00	0.00
17.15	1.11	0.31	3.58	0.00	0.00	0.00
17.20	1.11	0.31	3.58	0.00	0.00	0.00
17.25	1.11	0.31	3.57	0.00	0.00	0.00
17.30	1.11	0.31	3.57	0.00	0.00	0.00
17.35	1.11	0.31	3.57	0.00	0.00	0.00
17.40	1.11	0.31	3.57	0.00	0.00	0.00
17.45	1.11	0.31	3.56	0.00	0.00	0.00
17.50	1.11	0.31	3.56	0.00	0.00	0.00
17.55	1.11	0.31	3.56	0.00	0.00	0.00
17.60	1.11	0.31	3.56	0.00	0.00	0.00
17.65	1.11	0.31	3.55	0.00	0.00	0.00
17.70	1.11	0.31	3.55	0.00	0.00	0.00
17.75	1.11	0.31	3.55	0.00	0.00	0.00
17.80	1.11	0.31	3.55	0.00	0.00	0.00
17.85	1.11	0.31	3.54	0.00	0.00	0.00

17.90	1.11	0.31	3.54	0.00	0.00	0.00
17.95	1.11	0.31	3.54	0.00	0.00	0.00
18.00	1.11	0.31	3.54	0.00	0.00	0.00
18.05	1.11	0.31	3.53	0.00	0.00	0.00
18.10	1.11	0.31	3.53	0.00	0.00	0.00
18.15	1.11	0.31	3.53	0.00	0.00	0.00
18.20	1.11	0.31	3.53	0.00	0.00	0.00
18.25	1.11	0.31	3.53	0.00	0.00	0.00
18.30	1.11	0.31	3.52	0.00	0.00	0.00
18.35	1.11	0.31	3.52	0.00	0.00	0.00
18.40	1.11	0.31	3.52	0.00	0.00	0.00
18.45	1.11	0.31	3.52	0.00	0.00	0.00
18.50	1.11	0.31	3.51	0.00	0.00	0.00
18.55	1.11	0.31	3.51	0.00	0.00	0.00
18.60	1.11	0.32	3.51	0.00	0.00	0.00
18.65	1.11	0.32	3.51	0.00	0.00	0.00
18.70	1.11	0.32	3.51	0.00	0.00	0.00
18.75	1.11	0.32	3.50	0.00	0.00	0.00
18.80	1.11	0.32	3.50	0.00	0.00	0.00
18.85	1.11	0.32	3.50	0.00	0.00	0.00
18.90	1.11	0.32	3.50	0.00	0.00	0.00
18.95	1.11	0.32	3.50	0.00	0.00	0.00
19.00	1.11	0.32	3.49	0.00	0.00	0.00
19.05	1.11	0.32	3.49	0.00	0.00	0.00
19.10	1.11	0.32	3.49	0.00	0.00	0.00
19.15	1.11	0.32	3.49	0.00	0.00	0.00
19.20	1.11	0.32	3.49	0.00	0.00	0.00
19.25	1.11	0.32	3.48	0.00	0.00	0.00
19.30	1.11	0.32	3.48	0.00	0.00	0.00
19.35	1.11	0.32	3.48	0.00	0.00	0.00
19.40	1.11	0.32	3.48	0.00	0.00	0.00
19.45	1.11	0.32	3.48	0.00	0.00	0.00
19.50	1.11	0.32	3.47	0.00	0.00	0.00
19.55	1.11	0.32	3.47	0.00	0.00	0.00
19.60	1.11	0.32	3.47	0.00	0.00	0.00
19.65	1.11	0.32	3.47	0.00	0.00	0.00
19.70	1.11	0.32	3.47	0.00	0.00	0.00
19.75	1.11	0.32	3.46	0.00	0.00	0.00
19.80	1.11	0.32	3.46	0.00	0.00	0.00
19.85	1.11	0.32	3.46	0.00	0.00	0.00
19.90	1.11	0.32	3.46	0.00	0.00	0.00
19.95	1.11	0.32	3.46	0.00	0.00	0.00
20.00	1.11	0.32	3.46	0.00	0.00	0.00
20.05	1.11	0.32	3.45	0.00	0.00	0.00
20.10	1.11	0.32	3.45	0.00	0.00	0.00
20.15	1.11	0.32	3.45	0.00	0.00	0.00
20.20	1.11	0.32	3.45	0.00	0.00	0.00
20.25	1.11	0.32	3.45	0.00	0.00	0.00
20.30	1.11	0.32	3.44	0.00	0.00	0.00
20.35	1.11	0.32	3.44	0.00	0.00	0.00
20.40	1.11	0.32	3.44	0.00	0.00	0.00
20.45	1.11	0.32	3.44	0.00	0.00	0.00
20.50	1.11	0.32	3.44	0.00	0.00	0.00
20.55	1.11	0.32	3.44	0.00	0.00	0.00

20.60	1.11	0.32	3.43	0.00	0.00	0.00
20.65	1.11	0.32	3.43	0.00	0.00	0.00
20.70	1.11	0.32	3.43	0.00	0.00	0.00
20.75	1.11	0.32	3.43	0.00	0.00	0.00
20.80	1.11	0.32	3.43	0.00	0.00	0.00
20.85	1.11	0.32	3.43	0.00	0.00	0.00
20.90	1.11	0.32	3.42	0.00	0.00	0.00
20.95	1.11	0.32	3.42	0.00	0.00	0.00
21.00	1.11	0.32	3.42	0.00	0.00	0.00
21.05	1.11	0.32	3.42	0.00	0.00	0.00
21.10	1.11	0.32	3.42	0.00	0.00	0.00
21.15	1.11	0.32	3.42	0.00	0.00	0.00
21.20	1.11	0.32	3.42	0.00	0.00	0.00
21.25	1.11	0.32	3.41	0.00	0.00	0.00
21.30	1.11	0.32	3.41	0.00	0.00	0.00
21.35	1.11	0.32	3.41	0.00	0.00	0.00
21.40	1.11	0.32	3.41	0.00	0.00	0.00
21.45	1.11	0.32	3.41	0.00	0.00	0.00
21.50	1.11	0.32	3.41	0.00	0.00	0.00
21.55	1.11	0.32	3.40	0.00	0.00	0.00
21.60	1.11	0.32	3.40	0.00	0.00	0.00
21.65	1.11	0.33	3.40	0.00	0.00	0.00
21.70	1.11	0.33	3.40	0.00	0.00	0.00
21.75	1.11	0.33	3.40	0.00	0.00	0.00
21.80	1.11	0.33	3.40	0.00	0.00	0.00
21.85	1.11	0.33	3.40	0.00	0.00	0.00
21.90	1.11	0.33	3.39	0.00	0.00	0.00
21.95	1.11	0.33	3.39	0.00	0.00	0.00
22.00	1.11	0.33	3.39	0.00	0.00	0.00
22.05	1.11	0.33	3.39	0.00	0.00	0.00
22.10	1.11	0.33	3.39	0.00	0.00	0.00
22.15	1.11	0.33	3.39	0.00	0.00	0.00
22.20	1.11	0.33	3.39	0.00	0.00	0.00
22.25	1.11	0.33	3.38	0.00	0.00	0.00
22.30	1.11	0.33	3.38	0.00	0.00	0.00
22.35	1.11	0.33	3.38	0.00	0.00	0.00
22.40	1.11	0.33	3.38	0.00	0.00	0.00
22.45	1.11	0.33	3.38	0.00	0.00	0.00
22.50	1.11	0.33	3.38	0.00	0.00	0.00
22.55	1.11	0.33	3.38	0.00	0.00	0.00
22.60	1.11	0.33	3.37	0.00	0.00	0.00
22.65	1.11	0.33	3.37	0.00	0.00	0.00
22.70	1.11	0.33	3.37	0.00	0.00	0.00
22.75	1.11	0.33	3.37	0.00	0.00	0.00
22.80	1.11	0.33	3.37	0.00	0.00	0.00
22.85	1.11	0.33	3.37	0.00	0.00	0.00
22.90	1.11	0.33	3.37	0.00	0.00	0.00
22.95	1.11	0.33	3.37	0.00	0.00	0.00
23.00	1.11	0.33	3.36	0.00	0.00	0.00
23.05	1.11	0.33	3.36	0.00	0.00	0.00
23.10	1.11	0.33	3.36	0.00	0.00	0.00
23.15	1.11	0.33	3.36	0.00	0.00	0.00
23.20	1.11	0.33	3.36	0.00	0.00	0.00
23.25	1.11	0.33	3.36	0.00	0.00	0.00

23.30	1.11	0.33	3.36	0.00	0.00	0.00
23.35	1.11	0.33	3.35	0.00	0.00	0.00
23.40	1.11	0.33	3.35	0.00	0.00	0.00
23.45	1.11	0.33	3.35	0.00	0.00	0.00
23.50	1.11	0.33	3.35	0.00	0.00	0.00
23.55	1.11	0.33	3.35	0.00	0.00	0.00
23.60	1.11	0.33	3.35	0.00	0.00	0.00
23.65	1.11	0.33	3.35	0.00	0.00	0.00
23.70	1.11	0.33	3.35	0.00	0.00	0.00
23.75	1.11	0.33	3.34	0.00	0.00	0.00
23.80	1.11	0.33	3.34	0.00	0.00	0.00
23.85	1.11	0.33	3.34	0.00	0.00	0.00
23.90	1.11	0.33	3.34	0.00	0.00	0.00
23.95	1.11	0.33	3.34	0.00	0.00	0.00
24.00	1.11	0.33	3.36	0.00	0.00	0.00
24.05	1.11	0.33	3.36	0.00	0.00	0.00
24.10	1.11	0.33	3.35	0.00	0.00	0.00
24.15	1.11	0.33	3.35	0.00	0.00	0.00
24.20	1.11	0.33	3.35	0.00	0.00	0.00
24.25	1.11	0.33	3.35	0.00	0.00	0.00
24.30	1.11	0.33	3.34	0.00	0.00	0.00
24.35	1.11	0.33	3.34	0.00	0.00	0.00
24.40	1.11	0.33	3.34	0.00	0.00	0.00
24.45	1.11	0.33	3.34	0.00	0.00	0.00
24.50	1.11	0.33	3.34	0.00	0.00	0.00
24.55	1.11	0.33	3.33	0.00	0.00	0.00
24.60	1.11	0.33	3.33	0.00	0.00	0.00
24.65	1.11	0.33	3.33	0.00	0.00	0.00
24.70	1.11	0.33	3.33	0.00	0.00	0.00
24.75	1.11	0.33	3.32	0.00	0.00	0.00
24.80	1.11	0.33	3.32	0.00	0.00	0.00
24.85	1.11	0.33	3.32	0.00	0.00	0.00
24.90	1.11	0.33	3.32	0.00	0.00	0.00
24.95	1.11	0.33	3.32	0.00	0.00	0.00
25.00	1.11	0.33	3.31	0.00	0.00	0.00
25.05	1.11	0.33	3.31	0.00	0.00	0.00
25.10	1.10	0.33	3.31	0.00	0.00	0.00
25.15	1.10	0.33	3.31	0.00	0.00	0.00
25.20	1.10	0.33	3.30	0.00	0.00	0.00
25.25	1.10	0.33	3.30	0.00	0.00	0.00
25.30	1.10	0.33	3.30	0.00	0.00	0.00
25.35	1.10	0.33	3.30	0.00	0.00	0.00
25.40	1.10	0.33	3.30	0.00	0.00	0.00
25.45	1.10	0.33	3.29	0.00	0.00	0.00
25.50	1.10	0.33	3.29	0.00	0.00	0.00
25.55	1.10	0.33	3.29	0.00	0.00	0.00
25.60	1.10	0.34	3.29	0.00	0.00	0.00
25.65	1.10	0.34	3.28	0.00	0.00	0.00
25.70	1.10	0.34	3.28	0.00	0.00	0.00
25.75	1.10	0.34	3.28	0.00	0.00	0.00
25.80	1.10	0.34	3.28	0.00	0.00	0.00
25.85	1.10	0.34	3.28	0.00	0.00	0.00
25.90	1.10	0.34	3.27	0.00	0.00	0.00
25.95	1.10	0.34	3.27	0.00	0.00	0.00

26.00	1.10	0.34	3.27	0.00	0.00	0.00
26.05	1.10	0.34	3.27	0.00	0.00	0.00
26.10	1.10	0.34	3.27	0.00	0.00	0.00
26.15	1.10	0.34	3.26	0.00	0.00	0.00
26.20	1.10	0.34	3.26	0.00	0.00	0.00
26.25	1.10	0.34	3.26	0.00	0.00	0.00
26.30	1.10	0.34	3.26	0.00	0.00	0.00
26.35	1.10	0.34	3.26	0.00	0.00	0.00
26.40	1.10	0.34	3.25	0.00	0.00	0.00
26.45	1.10	0.34	3.25	0.00	0.00	0.00
26.50	1.10	0.34	3.25	0.00	0.00	0.00
26.55	1.10	0.34	3.25	0.00	0.00	0.00
26.60	1.09	0.34	3.24	0.00	0.00	0.00
26.65	1.09	0.34	3.24	0.00	0.00	0.00
26.70	1.09	0.34	3.24	0.00	0.00	0.00
26.75	1.09	0.34	3.24	0.00	0.00	0.00
26.80	1.09	0.34	3.24	0.00	0.00	0.00
26.85	1.09	0.34	3.23	0.00	0.00	0.00
26.90	1.09	0.34	3.23	0.00	0.00	0.00
26.95	1.09	0.34	3.23	0.00	0.00	0.00
27.00	1.09	0.34	3.23	0.00	0.00	0.00
27.05	1.09	0.34	3.23	0.00	0.00	0.00
27.10	1.09	0.34	3.22	0.00	0.00	0.00
27.15	1.09	0.34	3.22	0.00	0.00	0.00
27.20	1.09	0.34	3.22	0.00	0.00	0.00
27.25	1.09	0.34	3.22	0.00	0.00	0.00
27.30	1.09	0.34	3.22	0.00	0.00	0.00
27.35	1.09	0.34	3.21	0.00	0.00	0.00
27.40	1.09	0.34	3.21	0.00	0.00	0.00
27.45	1.09	0.34	3.21	0.00	0.00	0.00
27.50	1.09	0.34	3.21	0.00	0.00	0.00
27.55	1.09	0.34	3.21	0.00	0.00	0.00
27.60	1.09	0.34	3.20	0.00	0.00	0.00
27.65	1.09	0.34	3.20	0.00	0.00	0.00
27.70	1.09	0.34	3.20	0.00	0.00	0.00
27.75	1.09	0.34	3.20	0.00	0.00	0.00
27.80	1.09	0.34	3.20	0.00	0.00	0.00
27.85	1.09	0.34	3.19	0.00	0.00	0.00
27.90	1.09	0.34	3.19	0.00	0.00	0.00
27.95	1.09	0.34	3.19	0.00	0.00	0.00
28.00	1.09	0.34	3.19	0.00	0.00	0.00
28.05	1.09	0.34	3.19	0.00	0.00	0.00
28.10	1.09	0.34	3.18	0.00	0.00	0.00
28.15	1.09	0.34	3.18	0.00	0.00	0.00
28.20	1.08	0.34	3.18	0.00	0.00	0.00
28.25	1.08	0.34	3.18	0.00	0.00	0.00
28.30	1.08	0.34	3.18	0.00	0.00	0.00
28.35	1.08	0.34	3.17	0.00	0.00	0.00
28.40	1.08	0.34	3.17	0.00	0.00	0.00
28.45	1.08	0.34	3.17	0.00	0.00	0.00
28.50	1.08	0.34	3.17	0.00	0.00	0.00
28.55	1.08	0.34	3.17	0.00	0.00	0.00
28.60	1.08	0.34	3.17	0.00	0.00	0.00
28.65	1.08	0.34	3.16	0.00	0.00	0.00

28.70	1.08	0.34	3.16	0.00	0.00	0.00
28.75	1.08	0.34	3.16	0.00	0.00	0.00
28.80	1.08	0.34	3.16	0.00	0.00	0.00
28.85	1.08	0.34	3.16	0.00	0.00	0.00
28.90	1.08	0.34	3.15	0.00	0.00	0.00
28.95	1.08	0.34	3.15	0.00	0.00	0.00
29.00	1.08	0.34	3.15	0.00	0.00	0.00
29.05	1.08	0.34	3.15	0.00	0.00	0.00
29.10	1.08	0.34	3.15	0.00	0.00	0.00
29.15	1.08	0.34	3.15	0.00	0.00	0.00
29.20	1.08	0.34	3.14	0.00	0.00	0.00
29.25	1.08	0.34	3.14	0.00	0.00	0.00
29.30	1.08	0.34	3.14	0.00	0.00	0.00
29.35	1.08	0.34	3.14	0.00	0.00	0.00
29.40	1.08	0.34	3.14	0.00	0.00	0.00
29.45	1.08	0.34	3.14	0.00	0.00	0.00
29.50	1.08	0.34	3.13	0.00	0.00	0.00
29.55	1.08	0.34	3.13	0.00	0.00	0.00
29.60	1.08	0.34	3.13	0.00	0.00	0.00
29.65	1.08	0.34	3.13	0.00	0.00	0.00
29.70	1.08	0.34	3.13	0.00	0.00	0.00
29.75	1.08	0.34	3.12	0.00	0.00	0.00
29.80	1.07	0.34	3.12	0.00	0.00	0.00
29.85	1.07	0.34	3.12	0.00	0.00	0.00
29.90	1.07	0.34	3.12	0.00	0.00	0.00
29.95	1.07	0.34	3.12	0.00	0.00	0.00
30.00	1.07	0.34	3.12	0.00	0.00	0.00
30.05	1.07	0.34	3.12	0.00	0.00	0.00
30.10	1.07	0.34	3.12	0.00	0.00	0.00
30.15	1.07	0.34	3.11	0.00	0.00	0.00
30.20	1.07	0.34	3.11	0.00	0.00	0.00
30.25	1.07	0.34	3.11	0.00	0.00	0.00
30.30	1.07	0.34	3.11	0.00	0.00	0.00
30.35	1.07	0.34	3.11	0.00	0.00	0.00
30.40	1.07	0.34	3.11	0.00	0.00	0.00
30.45	1.07	0.34	3.11	0.00	0.00	0.00
30.50	1.07	0.34	3.11	0.00	0.00	0.00
30.55	1.07	0.34	3.11	0.00	0.00	0.00
30.60	1.07	0.34	3.11	0.00	0.00	0.00
30.65	1.07	0.34	3.11	0.00	0.00	0.00
30.70	1.07	0.34	3.11	0.00	0.00	0.00
30.75	1.07	0.34	3.11	0.00	0.00	0.00
30.80	1.07	0.34	3.11	0.00	0.00	0.00
30.85	1.07	0.34	3.11	0.00	0.00	0.00
30.90	1.07	0.34	3.10	0.00	0.00	0.00
30.95	1.07	0.34	3.10	0.00	0.00	0.00
31.00	1.07	0.34	3.10	0.00	0.00	0.00
31.05	1.07	0.34	3.10	0.00	0.00	0.00
31.10	1.07	0.34	3.10	0.00	0.00	0.00
31.15	1.07	0.34	3.10	0.00	0.00	0.00
31.20	1.07	0.34	3.10	0.00	0.00	0.00
31.25	1.07	0.34	3.10	0.00	0.00	0.00
31.30	1.07	0.34	3.10	0.00	0.00	0.00
31.35	1.07	0.34	3.10	0.00	0.00	0.00

31.40	1.06	0.34	3.10	0.00	0.00	0.00
31.45	1.06	0.34	3.10	0.00	0.00	0.00
31.50	1.06	0.34	3.10	0.00	0.00	0.00
31.55	1.06	0.34	3.10	0.00	0.00	0.00
31.60	1.06	0.34	3.10	0.00	0.00	0.00
31.65	1.06	0.34	3.10	0.00	0.00	0.00
31.70	1.06	0.34	3.10	0.00	0.00	0.00
31.75	1.06	0.34	3.10	0.00	0.00	0.00
31.80	1.06	0.34	3.09	0.00	0.00	0.00
31.85	1.06	0.34	3.09	0.00	0.00	0.00
31.90	1.06	0.34	3.09	0.00	0.00	0.00
31.95	1.06	0.34	3.09	0.00	0.00	0.00
32.00	1.06	0.34	3.09	0.00	0.00	0.00
32.05	1.06	0.34	3.09	0.00	0.00	0.00
32.10	1.06	0.34	3.09	0.00	0.00	0.00
32.15	1.06	0.34	3.09	0.00	0.00	0.00
32.20	1.06	0.34	3.09	0.00	0.00	0.00
32.25	1.06	0.34	3.09	0.00	0.00	0.00
32.30	1.06	0.34	3.09	0.00	0.00	0.00
32.35	1.06	0.34	3.09	0.00	0.00	0.00
32.40	1.06	0.34	3.09	0.00	0.00	0.00
32.45	1.06	0.34	3.09	0.00	0.00	0.00
32.50	1.06	0.34	3.09	0.00	0.00	0.00
32.55	1.06	0.34	3.09	0.00	0.00	0.00
32.60	1.06	0.34	3.09	0.00	0.00	0.00
32.65	1.06	0.34	3.09	0.00	0.00	0.00
32.70	1.06	0.34	3.09	0.00	0.00	0.00
32.75	1.06	0.34	3.09	0.00	0.00	0.00
32.80	1.06	0.34	3.08	0.00	0.00	0.00
32.85	1.06	0.34	3.08	0.00	0.00	0.00
32.90	1.06	0.34	3.08	0.00	0.00	0.00
32.95	1.06	0.34	3.08	0.00	0.00	0.00
33.00	1.05	0.34	3.08	0.00	0.00	0.00
33.05	1.05	0.34	3.08	0.00	0.00	0.00
33.10	1.05	0.34	3.08	0.00	0.00	0.00
33.15	1.05	0.34	3.08	0.00	0.00	0.00
33.20	1.05	0.34	3.08	0.00	0.00	0.00
33.25	1.05	0.34	3.08	0.00	0.00	0.00
33.30	1.05	0.34	3.08	0.00	0.00	0.00
33.35	1.05	0.34	3.08	0.00	0.00	0.00
33.40	1.05	0.34	3.08	0.00	0.00	0.00
33.45	1.05	0.34	3.08	0.00	0.00	0.00
33.50	1.05	0.34	3.08	0.00	0.00	0.00
33.55	1.05	0.34	3.08	0.00	0.00	0.00
33.60	1.05	0.34	3.08	0.00	0.00	0.00
33.65	1.05	0.34	3.08	0.00	0.00	0.00
33.70	1.05	0.34	3.08	0.00	0.00	0.00
33.75	1.05	0.34	3.08	0.00	0.00	0.00
33.80	1.05	0.34	3.08	0.00	0.00	0.00
33.85	1.05	0.34	3.08	0.00	0.00	0.00
33.90	1.05	0.34	3.08	0.00	0.00	0.00
33.95	1.05	0.34	3.08	0.00	0.00	0.00
34.00	1.05	0.34	3.08	0.00	0.00	0.00
34.05	1.05	0.34	3.08	0.00	0.00	0.00

34.10	1.05	0.34	3.07	0.00	0.00	0.00
34.15	1.05	0.34	3.07	0.00	0.00	0.00
34.20	1.05	0.34	3.07	0.00	0.00	0.00
34.25	1.05	0.34	3.07	0.00	0.00	0.00
34.30	1.05	0.34	3.07	0.00	0.00	0.00
34.35	1.05	0.34	3.07	0.00	0.00	0.00
34.40	1.05	0.34	3.07	0.00	0.00	0.00
34.45	1.05	0.34	3.07	0.00	0.00	0.00
34.50	1.05	0.34	3.07	0.00	0.00	0.00
34.55	1.05	0.34	3.07	0.00	0.00	0.00
34.60	1.05	0.34	3.07	0.00	0.00	0.00
34.65	1.04	0.34	3.07	0.00	0.00	0.00
34.70	1.04	0.34	3.07	0.00	0.00	0.00
34.75	1.04	0.34	3.07	0.00	0.00	0.00
34.80	1.04	0.34	3.07	0.00	0.00	0.00
34.85	1.04	0.34	3.07	0.00	0.00	0.00
34.90	1.04	0.34	3.07	0.00	0.00	0.00
34.95	1.04	0.34	3.07	0.00	0.00	0.00
35.00	1.04	0.34	3.07	0.00	0.00	0.00
35.05	1.04	0.34	3.07	0.00	0.00	0.00
35.10	1.04	0.34	3.07	0.00	0.00	0.00
35.15	1.04	0.34	3.07	0.00	0.00	0.00
35.20	1.04	0.34	3.07	0.00	0.00	0.00
35.25	1.04	0.34	3.07	0.00	0.00	0.00
35.30	1.04	0.34	3.07	0.00	0.00	0.00
35.35	1.04	0.34	3.07	0.00	0.00	0.00
35.40	1.04	0.34	3.07	0.00	0.00	0.00
35.45	1.04	0.34	3.07	0.00	0.00	0.00
35.50	1.04	0.34	3.07	0.00	0.00	0.00
35.55	1.04	0.34	3.07	0.00	0.00	0.00
35.60	1.04	0.34	3.07	0.00	0.00	0.00
35.65	1.04	0.34	3.07	0.00	0.00	0.00
35.70	1.04	0.34	3.07	0.00	0.00	0.00
35.75	1.04	0.34	3.06	0.00	0.00	0.00
35.80	1.04	0.34	3.06	0.00	0.00	0.00
35.85	1.04	0.34	3.06	0.00	0.00	0.00
35.90	1.04	0.34	3.06	0.00	0.00	0.00
35.95	1.04	0.34	3.06	0.00	0.00	0.00
36.00	1.04	0.34	3.06	0.00	0.00	0.00
36.05	1.04	0.34	3.06	0.00	0.00	0.00
36.10	1.04	0.34	3.06	0.00	0.00	0.00
36.15	1.04	0.34	3.06	0.00	0.00	0.00
36.20	1.04	0.34	3.06	0.00	0.00	0.00
36.25	1.04	0.34	3.06	0.00	0.00	0.00
36.30	1.03	0.34	3.06	0.00	0.00	0.00
36.35	1.03	0.34	3.06	0.00	0.00	0.00
36.40	1.03	0.34	3.06	0.00	0.00	0.00
36.45	1.03	0.34	3.06	0.00	0.00	0.00
36.50	1.03	0.34	3.06	0.00	0.00	0.00
36.55	1.03	0.34	3.06	0.00	0.00	0.00
36.60	1.03	0.34	3.06	0.00	0.00	0.00
36.65	1.03	0.34	3.06	0.00	0.00	0.00
36.70	1.03	0.34	3.06	0.00	0.00	0.00
36.75	1.03	0.34	3.06	0.00	0.00	0.00

36.80	1.03	0.34	3.06	0.00	0.00	0.00
36.85	1.03	0.34	3.06	0.00	0.00	0.00
36.90	1.03	0.34	3.06	0.00	0.00	0.00
36.95	1.03	0.34	3.06	0.00	0.00	0.00
37.00	1.03	0.34	3.06	0.00	0.00	0.00
37.05	1.03	0.34	3.06	0.00	0.00	0.00
37.10	1.03	0.34	3.06	0.00	0.00	0.00
37.15	1.03	0.34	3.06	0.00	0.00	0.00
37.20	1.03	0.34	3.06	0.00	0.00	0.00
37.25	1.03	0.34	3.06	0.00	0.00	0.00
37.30	1.03	0.34	3.06	0.00	0.00	0.00
37.35	1.03	0.34	3.06	0.00	0.00	0.00
37.40	1.03	0.34	3.06	0.00	0.00	0.00
37.45	1.03	0.34	3.06	0.00	0.00	0.00
37.50	1.03	0.34	3.06	0.00	0.00	0.00
37.55	1.03	0.34	3.06	0.00	0.00	0.00
37.60	1.03	0.34	3.06	0.00	0.00	0.00
37.65	1.03	0.34	3.06	0.00	0.00	0.00
37.70	1.03	0.34	3.06	0.00	0.00	0.00
37.75	1.03	0.34	3.06	0.00	0.00	0.00
37.80	1.03	0.34	3.06	0.00	0.00	0.00
37.85	1.03	0.34	3.06	0.00	0.00	0.00
37.90	1.03	0.34	3.06	0.00	0.00	0.00
37.95	1.03	0.34	3.06	0.00	0.00	0.00
38.00	1.02	0.34	3.06	0.00	0.00	0.00
38.05	1.02	0.34	3.06	0.00	0.00	0.00
38.10	1.02	0.34	3.06	0.00	0.00	0.00
38.15	1.02	0.34	3.06	0.00	0.00	0.00
38.20	1.02	0.33	3.06	0.00	0.00	0.00
38.25	1.02	0.33	3.06	0.00	0.00	0.00
38.30	1.02	0.33	3.06	0.00	0.00	0.00
38.35	1.02	0.33	3.06	0.00	0.00	0.00
38.40	1.02	0.33	3.06	0.00	0.00	0.00
38.45	1.02	0.33	3.06	0.00	0.00	0.00
38.50	1.02	0.33	3.06	0.00	0.00	0.00
38.55	1.02	0.33	3.06	0.00	0.00	0.00
38.60	1.02	0.33	3.06	0.00	0.00	0.00
38.65	1.02	0.33	3.06	0.00	0.00	0.00
38.70	1.02	0.33	3.05	0.00	0.00	0.00
38.75	1.02	0.33	3.05	0.00	0.00	0.00
38.80	1.02	0.33	3.05	0.00	0.00	0.00
38.85	1.02	0.33	3.05	0.00	0.00	0.00
38.90	1.02	0.33	3.05	0.00	0.00	0.00
38.95	1.02	0.33	3.05	0.00	0.00	0.00
39.00	1.02	0.33	3.05	0.00	0.00	0.00
39.05	1.02	0.33	3.05	0.00	0.00	0.00
39.10	1.02	0.33	3.05	0.00	0.00	0.00
39.15	1.02	0.33	3.05	0.00	0.00	0.00
39.20	1.02	0.33	3.05	0.00	0.00	0.00
39.25	1.02	0.33	3.05	0.00	0.00	0.00
39.30	1.02	0.33	3.05	0.00	0.00	0.00
39.35	1.02	0.33	3.05	0.00	0.00	0.00
39.40	1.02	0.33	3.05	0.00	0.00	0.00
39.45	1.02	0.33	3.05	0.00	0.00	0.00

39.50	1.02	0.33	3.05	0.00	0.00	0.00
39.55	1.02	0.33	3.05	0.00	0.00	0.00
39.60	1.02	0.33	3.05	0.00	0.00	0.00
39.65	1.02	0.33	3.05	0.00	0.00	0.00
39.70	1.02	0.33	3.05	0.00	0.00	0.00
39.75	1.02	0.33	3.05	0.00	0.00	0.00
39.80	1.01	0.33	3.05	0.00	0.00	0.00
39.85	1.01	0.33	3.05	0.00	0.00	0.00
39.90	1.01	0.33	3.05	0.00	0.00	0.00
39.95	1.01	0.33	3.05	0.00	0.00	0.00
40.00	1.01	0.33	3.05	0.00	0.00	0.00
40.05	1.01	0.33	3.05	0.00	0.00	0.00
40.10	1.01	0.33	3.05	0.00	0.00	0.00
40.15	1.01	0.33	3.05	0.00	0.00	0.00
40.20	1.01	0.33	3.05	0.00	0.00	0.00
40.25	1.01	0.33	3.05	0.00	0.00	0.00
40.30	1.01	0.33	3.05	0.00	0.00	0.00
40.35	1.01	0.33	3.05	0.00	0.00	0.00
40.40	1.01	0.33	3.05	0.00	0.00	0.00
40.45	1.01	0.33	3.05	0.00	0.00	0.00
40.50	1.01	0.33	3.05	0.00	0.00	0.00
40.55	1.01	0.33	3.05	0.00	0.00	0.00
40.60	1.01	0.33	3.05	0.00	0.00	0.00
40.65	1.01	0.33	3.05	0.00	0.00	0.00
40.70	1.01	0.33	3.05	0.00	0.00	0.00
40.75	1.01	0.33	3.05	0.00	0.00	0.00
40.80	1.01	0.33	3.05	0.00	0.00	0.00
40.85	1.01	0.33	3.05	0.00	0.00	0.00
40.90	1.01	0.33	3.05	0.00	0.00	0.00
40.95	1.01	0.33	3.05	0.00	0.00	0.00
41.00	1.01	0.33	3.05	0.00	0.00	0.00
41.05	1.01	0.33	3.05	0.00	0.00	0.00
41.10	1.01	0.33	3.05	0.00	0.00	0.00
41.15	1.01	0.33	3.05	0.00	0.00	0.00
41.20	1.01	0.33	3.05	0.00	0.00	0.00
41.25	1.01	0.33	3.05	0.00	0.00	0.00
41.30	1.01	0.33	3.05	0.00	0.00	0.00
41.35	1.01	0.33	3.05	0.00	0.00	0.00
41.40	1.01	0.33	3.05	0.00	0.00	0.00
41.45	1.01	0.33	3.05	0.00	0.00	0.00
41.50	1.01	0.33	3.05	0.00	0.00	0.00
41.55	1.01	0.33	3.05	0.00	0.00	0.00
41.60	1.01	0.33	3.05	0.00	0.00	0.00
41.65	1.01	0.33	3.05	0.00	0.00	0.00
41.70	1.01	0.33	3.05	0.00	0.00	0.00
41.75	1.00	0.33	3.05	0.00	0.00	0.00
41.80	1.00	0.33	3.05	0.00	0.00	0.00
41.85	1.00	0.33	3.05	0.00	0.00	0.00
41.90	1.00	0.33	3.05	0.00	0.00	0.00
41.95	1.00	0.33	3.05	0.00	0.00	0.00
42.00	1.00	0.33	3.05	0.00	0.00	0.00
42.05	1.00	0.33	3.05	0.00	0.00	0.00
42.10	1.00	0.33	3.05	0.00	0.00	0.00
42.15	1.00	0.33	3.05	0.00	0.00	0.00

42.20	1.00	0.33	3.05	0.00	0.00	0.00
42.25	1.00	0.33	3.05	0.00	0.00	0.00
42.30	1.00	0.33	3.05	0.00	0.00	0.00
42.35	1.00	0.33	3.05	0.00	0.00	0.00
42.40	1.00	0.33	3.05	0.00	0.00	0.00
42.45	1.00	0.33	3.05	0.00	0.00	0.00
42.50	1.00	0.33	3.05	0.00	0.00	0.00
42.55	1.00	0.33	3.05	0.00	0.00	0.00
42.60	1.00	0.33	3.05	0.00	0.00	0.00
42.65	1.00	0.33	3.05	0.00	0.00	0.00
42.70	1.00	0.33	3.05	0.00	0.00	0.00
42.75	1.00	0.33	3.05	0.00	0.00	0.00
42.80	1.00	0.33	3.05	0.00	0.00	0.00
42.85	1.00	0.33	3.05	0.00	0.00	0.00
42.90	1.00	0.33	3.05	0.00	0.00	0.00
42.95	1.00	0.33	3.05	0.00	0.00	0.00
43.00	1.00	0.33	3.05	0.00	0.00	0.00
43.05	1.00	0.33	3.05	0.00	0.00	0.00
43.10	1.00	0.33	3.05	0.00	0.00	0.00
43.15	1.00	0.33	3.05	0.00	0.00	0.00
43.20	1.00	0.33	3.05	0.00	0.00	0.00
43.25	1.00	0.33	3.05	0.00	0.00	0.00
43.30	1.00	0.33	3.05	0.00	0.00	0.00
43.35	1.00	0.33	3.05	0.00	0.00	0.00
43.40	1.00	0.33	3.05	0.00	0.00	0.00
43.45	1.00	0.33	3.05	0.00	0.00	0.00
43.50	1.00	0.33	3.05	0.00	0.00	0.00
43.55	1.00	0.33	3.05	0.00	0.00	0.00
43.60	1.00	0.33	3.05	0.00	0.00	0.00
43.65	1.00	0.33	3.05	0.00	0.00	0.00
43.70	1.00	0.33	3.05	0.00	0.00	0.00
43.75	1.00	0.33	3.05	0.00	0.00	0.00
43.80	0.99	0.33	3.05	0.00	0.00	0.00
43.85	0.99	0.33	3.05	0.00	0.00	0.00
43.90	0.99	0.33	3.05	0.00	0.00	0.00
43.95	0.99	0.33	3.05	0.00	0.00	0.00
44.00	0.99	0.33	3.05	0.00	0.00	0.00
44.05	0.99	0.33	3.05	0.00	0.00	0.00
44.10	0.99	0.33	3.05	0.00	0.00	0.00
44.15	0.99	0.33	3.05	0.00	0.00	0.00
44.20	0.99	0.33	3.05	0.00	0.00	0.00
44.25	0.99	0.33	3.05	0.00	0.00	0.00
44.30	0.99	0.33	3.05	0.00	0.00	0.00
44.35	0.99	0.33	3.05	0.00	0.00	0.00
44.40	0.99	0.33	3.05	0.00	0.00	0.00
44.45	0.99	0.33	3.05	0.00	0.00	0.00
44.50	0.99	0.33	3.05	0.00	0.00	0.00
44.55	0.99	0.33	3.05	0.00	0.00	0.00
44.60	0.99	0.33	3.05	0.00	0.00	0.00
44.65	0.99	0.32	3.05	0.00	0.00	0.00
44.70	0.99	0.32	3.05	0.00	0.00	0.00
44.75	0.99	0.32	3.05	0.00	0.00	0.00
44.80	0.99	0.32	3.05	0.00	0.00	0.00
44.85	0.99	0.32	3.05	0.00	0.00	0.00

44.90	0.99	0.32	3.05	0.00	0.00	0.00
44.95	0.99	0.32	3.05	0.00	0.00	0.00
45.00	0.99	0.32	3.05	0.00	0.00	0.00
45.05	0.99	0.32	3.05	0.00	0.00	0.00
45.10	0.99	0.32	3.05	0.00	0.00	0.00
45.15	0.99	0.32	3.05	0.00	0.00	0.00
45.20	0.99	0.32	3.05	0.00	0.00	0.00
45.25	0.99	0.32	3.05	0.00	0.00	0.00
45.30	0.99	0.32	3.05	0.00	0.00	0.00
45.35	0.99	0.32	3.05	0.00	0.00	0.00
45.40	0.99	0.32	3.05	0.00	0.00	0.00
45.45	0.99	0.32	3.05	0.00	0.00	0.00
45.50	0.99	0.32	3.05	0.00	0.00	0.00
45.55	0.99	0.32	3.05	0.00	0.00	0.00
45.60	0.99	0.32	3.05	0.00	0.00	0.00
45.65	0.99	0.32	3.05	0.00	0.00	0.00
45.70	0.99	0.32	3.05	0.00	0.00	0.00
45.75	0.99	0.32	3.05	0.00	0.00	0.00
45.80	0.99	0.32	3.05	0.00	0.00	0.00
45.85	0.99	0.32	3.05	0.00	0.00	0.00
45.90	0.99	0.32	3.05	0.00	0.00	0.00
45.95	0.98	0.32	3.05	0.00	0.00	0.00
46.00	0.98	0.32	3.05	0.00	0.00	0.00
46.05	0.98	0.32	3.05	0.00	0.00	0.00
46.10	0.98	0.32	3.05	0.00	0.00	0.00
46.15	0.98	0.32	3.05	0.00	0.00	0.00
46.20	0.98	0.32	3.05	0.00	0.00	0.00
46.25	0.98	0.32	3.05	0.00	0.00	0.00
46.30	0.98	0.32	3.05	0.00	0.00	0.00
46.35	0.98	0.32	3.05	0.00	0.00	0.00
46.40	0.98	0.32	3.05	0.00	0.00	0.00
46.45	0.98	0.32	3.05	0.00	0.00	0.00
46.50	0.98	0.32	3.05	0.00	0.00	0.00
46.55	0.98	0.32	3.05	0.00	0.00	0.00
46.60	0.98	0.32	3.05	0.00	0.00	0.00
46.65	0.98	0.32	3.05	0.00	0.00	0.00
46.70	0.98	0.32	3.05	0.00	0.00	0.00
46.75	0.98	0.32	3.05	0.00	0.00	0.00
46.80	0.98	0.32	3.05	0.00	0.00	0.00
46.85	0.98	0.32	3.06	0.00	0.00	0.00
46.90	0.98	0.32	3.06	0.00	0.00	0.00
46.95	0.98	0.32	3.06	0.00	0.00	0.00
47.00	0.98	0.32	3.06	0.00	0.00	0.00
47.05	0.98	0.32	3.06	0.00	0.00	0.00
47.10	0.98	0.32	3.06	0.00	0.00	0.00
47.15	0.98	0.32	3.06	0.00	0.00	0.00
47.20	0.98	0.32	3.06	0.00	0.00	0.00
47.25	0.98	0.32	3.06	0.00	0.00	0.00
47.30	0.98	0.32	3.06	0.00	0.00	0.00
47.35	0.98	0.32	3.06	0.00	0.00	0.00
47.40	0.98	0.32	3.06	0.00	0.00	0.00
47.45	0.98	0.32	3.06	0.00	0.00	0.00
47.50	0.98	0.32	3.06	0.00	0.00	0.00
47.55	0.98	0.32	3.06	0.00	0.00	0.00

47.60	0.98	0.32	3.06	0.00	0.00	0.00
47.65	0.98	0.32	3.06	0.00	0.00	0.00
47.70	0.98	0.32	3.06	0.00	0.00	0.00
47.75	0.98	0.32	3.06	0.00	0.00	0.00
47.80	0.98	0.32	3.06	0.00	0.00	0.00
47.85	0.98	0.32	3.06	0.00	0.00	0.00
47.90	0.98	0.32	3.06	0.00	0.00	0.00
47.95	0.98	0.32	3.06	0.00	0.00	0.00
48.00	0.98	0.32	3.06	0.00	0.00	0.00
48.05	0.98	0.32	3.06	0.00	0.00	0.00
48.10	0.98	0.32	3.06	0.00	0.00	0.00
48.15	0.97	0.32	3.06	0.00	0.00	0.00
48.20	0.97	0.32	3.06	0.00	0.00	0.00
48.25	0.97	0.32	3.06	0.00	0.00	0.00
48.30	0.97	0.32	3.06	0.00	0.00	0.00
48.35	0.97	0.32	3.06	0.00	0.00	0.00
48.40	0.97	0.32	3.06	0.00	0.00	0.00
48.45	0.97	0.32	3.06	0.00	0.00	0.00
48.50	0.97	0.32	3.06	0.00	0.00	0.00
48.55	0.97	0.32	3.06	0.00	0.00	0.00
48.60	0.97	0.32	3.06	0.00	0.00	0.00
48.65	0.97	0.32	3.06	0.00	0.00	0.00
48.70	0.97	0.32	3.06	0.00	0.00	0.00
48.75	0.97	0.32	3.06	0.00	0.00	0.00
48.80	0.97	0.32	3.06	0.00	0.00	0.00
48.85	0.97	0.32	3.06	0.00	0.00	0.00
48.90	0.97	0.32	3.06	0.00	0.00	0.00
48.95	0.97	0.32	3.06	0.00	0.00	0.00
49.00	0.97	0.32	3.06	0.00	0.00	0.00
49.05	0.97	0.32	3.06	0.00	0.00	0.00
49.10	0.97	0.32	3.06	0.00	0.00	0.00
49.15	0.97	0.32	3.07	0.00	0.00	0.00
49.20	0.97	0.32	3.07	0.00	0.00	0.00
49.25	0.97	0.32	3.07	0.00	0.00	0.00
49.30	0.97	0.32	3.07	0.00	0.00	0.00
49.35	0.97	0.32	3.07	0.00	0.00	0.00
49.40	0.97	0.32	3.07	0.00	0.00	0.00
49.45	0.97	0.32	3.07	0.00	0.00	0.00
49.50	0.97	0.32	3.07	0.00	0.00	0.00
49.55	0.97	0.32	3.07	0.00	0.00	0.00
49.60	0.97	0.32	3.07	0.00	0.00	0.00
49.65	0.97	0.32	3.07	0.00	0.00	0.00
49.70	0.97	0.32	3.07	0.00	0.00	0.00
49.75	0.97	0.32	3.07	0.00	0.00	0.00
49.80	0.97	0.32	3.07	0.00	0.00	0.00
49.85	0.97	0.32	3.07	0.00	0.00	0.00
49.90	0.97	0.32	3.07	0.00	0.00	0.00
49.95	0.97	0.31	3.07	0.00	0.00	0.00
50.00	0.97	0.31	3.07	0.00	0.00	0.00
50.05	0.97	0.31	3.07	0.00	0.00	0.00
50.10	0.97	0.31	3.07	0.00	0.00	0.00
50.15	0.97	0.31	3.07	0.00	0.00	0.00
50.20	0.97	0.31	3.07	0.00	0.00	0.00
50.25	0.97	0.31	3.07	0.00	0.00	0.00

50.30	0.97	0.31	3.07	0.00	0.00	0.00
50.35	0.97	0.31	3.07	0.00	0.00	0.00
50.40	0.96	0.31	3.07	0.00	0.00	0.00
50.45	0.96	0.31	3.07	0.00	0.00	0.00
50.50	0.96	0.31	3.07	0.00	0.00	0.00
50.55	0.96	0.31	3.07	0.00	0.00	0.00
50.60	0.96	0.31	3.07	0.00	0.00	0.00
50.65	0.96	0.31	3.07	0.00	0.00	0.00
50.70	0.96	0.31	3.07	0.00	0.00	0.00
50.75	0.96	0.31	3.07	0.00	0.00	0.00
50.80	0.96	0.31	3.08	0.00	0.00	0.00
50.85	0.96	0.31	3.08	0.00	0.00	0.00
50.90	0.96	0.31	3.08	0.00	0.00	0.00
50.95	0.96	0.31	3.08	0.00	0.00	0.00
51.00	0.96	0.31	3.08	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone

(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units: Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight = pcf; Depth = ft; Settlement = in.

1 atm (atmosphere) = 1 tsf (ton/ft²)

CRRm Cyclic resistance ratio from soils

CSRsf Cyclic stress ratio induced by a given earthquake (with user request factor of safety)

F.S. Factor of Safety against liquefaction, F.S.=CRRm/CSRsf

S_sat Settlement from saturated sands

S_dry Settlement from Unsaturated Sands

S_all Total Settlement from Saturated and Unsaturated Sands

NoLiq No-Liquefy Soils

LIQUEFACTION ANALYSIS SUMMARY
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Input File Name: \\192.168.88.8\g_Projects\2020\20G-0328\Originals\Liquifaction Analysis\20G-0328-0.liq
Title: Clovis East High School CTE Farm and Food Product
Subtitle: 20G-0328-0

Surface Elev.=376
Hole No.=B-1
Depth of Hole= 51.00 ft
Water Table during Earthquake= 40.00 ft
Water Table during In-Situ Testing= 78.00 ft
Max. Acceleration= 0.31 g
Earthquake Magnitude= 5.50

Input Data:

Surface Elev.=376
Hole No.=B-1
Depth of Hole=51.00 ft
Water Table during Earthquake= 40.00 ft
Water Table during In-Situ Testing= 78.00 ft
Max. Acceleration=0.31 g
Earthquake Magnitude=5.50
No-Liquefiable Soils: Based on Analysis

1. SPT or BPT Calculation.
 2. Settlement Analysis Method: Tokimatsu, M-correction
 3. Fines Correction for Liquefaction: Stark/Olson et al.*
 4. Fine Correction for Settlement: During Liquefaction*
 5. Settlement Calculation in: All zones*
 6. Hammer Energy Ratio, Ce = 1.5
 7. Borehole Diameter, Cb= 1.05
 8. Sampling Method, Cs= 1.2
 9. User request factor of safety (apply to CSR) , User= 1.2
Plot one CSR curve (fs1=User)
 10. Use Curve Smoothing: Yes*
- * Recommended Options

In-Situ Test Data:

Depth	SPT gamma	Fines
ft	pcf %	%

0.00	5.00	138.10	25.00
3.50	44.00	136.60	27.00

7.50	17.00	136.40	27.00
12.50	35.00	136.50	27.00
17.50	77.00	134.60	50.00
22.50	30.00	134.60	50.00
27.50	18.00	120.00	38.00
32.50	39.00	128.90	38.00
37.50	63.00	128.90	38.00
42.50	47.00	115.30	30.00
47.50	37.00	115.00	5.00

Output Results:

Settlement of Saturated Sands=0.00 in.
Settlement of Unsaturated Sands=0.03 in.
Total Settlement of Saturated and Unsaturated Sands=0.03 in.
Differential Settlement=0.015 to 0.020 in.

Depth ft	CRRm	CSRfs in.	F.S. in.	S_sat. in.	S_dry	S_all
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0.00	0.40	0.24	5.00	0.00	0.03	0.03
0.05	0.43	0.24	5.00	0.00	0.03	0.03
0.10	0.47	0.24	5.00	0.00	0.03	0.03
0.15	0.50	0.24	5.00	0.00	0.03	0.03
0.20	0.54	0.24	5.00	0.00	0.03	0.03
0.25	0.58	0.24	5.00	0.00	0.03	0.03
0.30	0.62	0.24	5.00	0.00	0.03	0.03
0.35	0.68	0.24	5.00	0.00	0.03	0.03
0.40	0.74	0.24	5.00	0.00	0.03	0.03
0.45	0.83	0.24	5.00	0.00	0.03	0.03
0.50	1.11	0.24	5.00	0.00	0.03	0.03
0.55	1.11	0.24	5.00	0.00	0.03	0.03
0.60	1.11	0.24	5.00	0.00	0.03	0.03
0.65	1.11	0.24	5.00	0.00	0.03	0.03
0.70	1.11	0.24	5.00	0.00	0.03	0.03
0.75	1.11	0.24	5.00	0.00	0.03	0.03
0.80	1.11	0.24	5.00	0.00	0.03	0.03
0.85	1.11	0.24	5.00	0.00	0.03	0.03
0.90	1.11	0.24	5.00	0.00	0.03	0.03
0.95	1.11	0.24	5.00	0.00	0.03	0.03
1.00	1.11	0.24	5.00	0.00	0.03	0.03
1.05	1.11	0.24	5.00	0.00	0.03	0.03
1.10	1.11	0.24	5.00	0.00	0.03	0.03
1.15	1.11	0.24	5.00	0.00	0.03	0.03
1.20	1.11	0.24	5.00	0.00	0.03	0.03
1.25	1.11	0.24	5.00	0.00	0.03	0.03
1.30	1.11	0.24	5.00	0.00	0.03	0.03
1.35	1.11	0.24	5.00	0.00	0.03	0.03
1.40	1.11	0.24	5.00	0.00	0.03	0.03
1.45	1.11	0.24	5.00	0.00	0.03	0.03
1.50	1.11	0.24	5.00	0.00	0.03	0.03
1.55	1.11	0.24	5.00	0.00	0.03	0.03
1.60	1.11	0.24	5.00	0.00	0.03	0.03
1.65	1.11	0.24	5.00	0.00	0.03	0.03

1.70 1.11 0.24 5.00 0.00 0.03 0.03
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12.45 1.11 0.24 5.00 0.00 0.02 0.02

12.50	1.11	0.24	5.00	0.00	0.02	0.02
12.55	1.11	0.24	5.00	0.00	0.02	0.02
12.60	1.11	0.24	5.00	0.00	0.02	0.02
12.65	1.11	0.24	5.00	0.00	0.02	0.02
12.70	1.11	0.24	5.00	0.00	0.02	0.02
12.75	1.11	0.24	5.00	0.00	0.02	0.02
12.80	1.11	0.24	5.00	0.00	0.02	0.02
12.85	1.11	0.24	5.00	0.00	0.02	0.02
12.90	1.11	0.24	5.00	0.00	0.02	0.02
12.95	1.11	0.24	5.00	0.00	0.02	0.02
13.00	1.11	0.24	5.00	0.00	0.02	0.02
13.05	1.11	0.24	5.00	0.00	0.02	0.02
13.10	1.11	0.24	5.00	0.00	0.02	0.02
13.15	1.11	0.24	5.00	0.00	0.02	0.02
13.20	1.11	0.24	5.00	0.00	0.02	0.02
13.25	1.11	0.24	5.00	0.00	0.02	0.02
13.30	1.11	0.24	5.00	0.00	0.02	0.02
13.35	1.11	0.24	5.00	0.00	0.02	0.02
13.40	1.11	0.24	5.00	0.00	0.02	0.02
13.45	1.11	0.24	5.00	0.00	0.02	0.02
13.50	1.11	0.24	5.00	0.00	0.02	0.02
13.55	1.11	0.24	5.00	0.00	0.02	0.02
13.60	1.11	0.24	5.00	0.00	0.02	0.02
13.65	1.11	0.24	5.00	0.00	0.02	0.02
13.70	1.11	0.24	5.00	0.00	0.02	0.02
13.75	1.11	0.24	5.00	0.00	0.02	0.02
13.80	1.11	0.24	5.00	0.00	0.02	0.02
13.85	1.11	0.24	5.00	0.00	0.02	0.02
13.90	1.11	0.24	5.00	0.00	0.02	0.02
13.95	1.11	0.24	5.00	0.00	0.02	0.02
14.00	1.11	0.24	5.00	0.00	0.02	0.02
14.05	1.11	0.24	5.00	0.00	0.02	0.02
14.10	1.11	0.24	5.00	0.00	0.02	0.02
14.15	1.11	0.24	5.00	0.00	0.02	0.02
14.20	1.11	0.24	5.00	0.00	0.02	0.02
14.25	1.11	0.24	5.00	0.00	0.02	0.02
14.30	1.11	0.24	5.00	0.00	0.02	0.02
14.35	1.11	0.24	5.00	0.00	0.02	0.02
14.40	1.11	0.24	5.00	0.00	0.02	0.02
14.45	1.11	0.24	5.00	0.00	0.02	0.02
14.50	1.11	0.24	5.00	0.00	0.02	0.02
14.55	1.11	0.24	5.00	0.00	0.02	0.02
14.60	1.11	0.24	5.00	0.00	0.02	0.02
14.65	1.11	0.24	5.00	0.00	0.02	0.02
14.70	1.11	0.24	5.00	0.00	0.02	0.02
14.75	1.11	0.23	5.00	0.00	0.02	0.02
14.80	1.11	0.23	5.00	0.00	0.02	0.02
14.85	1.11	0.23	5.00	0.00	0.02	0.02
14.90	1.11	0.23	5.00	0.00	0.02	0.02
14.95	1.11	0.23	5.00	0.00	0.02	0.02
15.00	1.11	0.23	5.00	0.00	0.02	0.02
15.05	1.11	0.23	5.00	0.00	0.02	0.02
15.10	1.11	0.23	5.00	0.00	0.02	0.02
15.15	1.11	0.23	5.00	0.00	0.02	0.02

15.20	1.11	0.23	5.00	0.00	0.02	0.02
15.25	1.11	0.23	5.00	0.00	0.02	0.02
15.30	1.11	0.23	5.00	0.00	0.02	0.02
15.35	1.11	0.23	5.00	0.00	0.02	0.02
15.40	1.11	0.23	5.00	0.00	0.02	0.02
15.45	1.11	0.23	5.00	0.00	0.02	0.02
15.50	1.11	0.23	5.00	0.00	0.02	0.02
15.55	1.11	0.23	5.00	0.00	0.02	0.02
15.60	1.11	0.23	5.00	0.00	0.02	0.02
15.65	1.11	0.23	5.00	0.00	0.02	0.02
15.70	1.11	0.23	5.00	0.00	0.02	0.02
15.75	1.11	0.23	5.00	0.00	0.02	0.02
15.80	1.11	0.23	5.00	0.00	0.02	0.02
15.85	1.11	0.23	5.00	0.00	0.02	0.02
15.90	1.11	0.23	5.00	0.00	0.02	0.02
15.95	1.11	0.23	5.00	0.00	0.02	0.02
16.00	1.11	0.23	5.00	0.00	0.02	0.02
16.05	1.11	0.23	5.00	0.00	0.02	0.02
16.10	1.11	0.23	5.00	0.00	0.02	0.02
16.15	1.11	0.23	5.00	0.00	0.02	0.02
16.20	1.11	0.23	5.00	0.00	0.02	0.02
16.25	1.11	0.23	5.00	0.00	0.02	0.02
16.30	1.11	0.23	5.00	0.00	0.02	0.02
16.35	1.11	0.23	5.00	0.00	0.02	0.02
16.40	1.11	0.23	5.00	0.00	0.02	0.02
16.45	1.11	0.23	5.00	0.00	0.02	0.02
16.50	1.11	0.23	5.00	0.00	0.02	0.02
16.55	1.11	0.23	5.00	0.00	0.02	0.02
16.60	1.11	0.23	5.00	0.00	0.02	0.02
16.65	1.11	0.23	5.00	0.00	0.02	0.02
16.70	1.11	0.23	5.00	0.00	0.02	0.02
16.75	1.11	0.23	5.00	0.00	0.02	0.02
16.80	1.11	0.23	5.00	0.00	0.02	0.02
16.85	1.11	0.23	5.00	0.00	0.02	0.02
16.90	1.11	0.23	5.00	0.00	0.02	0.02
16.95	1.11	0.23	5.00	0.00	0.02	0.02
17.00	1.11	0.23	5.00	0.00	0.02	0.02
17.05	1.11	0.23	5.00	0.00	0.02	0.02
17.10	1.11	0.23	5.00	0.00	0.02	0.02
17.15	1.11	0.23	5.00	0.00	0.02	0.02
17.20	1.11	0.23	5.00	0.00	0.02	0.02
17.25	1.11	0.23	5.00	0.00	0.02	0.02
17.30	1.11	0.23	5.00	0.00	0.02	0.02
17.35	1.11	0.23	5.00	0.00	0.02	0.02
17.40	1.11	0.23	5.00	0.00	0.02	0.02
17.45	1.11	0.23	5.00	0.00	0.02	0.02
17.50	1.11	0.23	5.00	0.00	0.02	0.02
17.55	1.11	0.23	5.00	0.00	0.02	0.02
17.60	1.11	0.23	5.00	0.00	0.02	0.02
17.65	1.11	0.23	5.00	0.00	0.02	0.02
17.70	1.11	0.23	5.00	0.00	0.02	0.02
17.75	1.11	0.23	5.00	0.00	0.02	0.02
17.80	1.11	0.23	5.00	0.00	0.02	0.02
17.85	1.11	0.23	5.00	0.00	0.02	0.02

17.90	1.11	0.23	5.00	0.00	0.02	0.02
17.95	1.11	0.23	5.00	0.00	0.02	0.02
18.00	1.11	0.23	5.00	0.00	0.02	0.02
18.05	1.11	0.23	5.00	0.00	0.02	0.02
18.10	1.11	0.23	5.00	0.00	0.02	0.02
18.15	1.11	0.23	5.00	0.00	0.02	0.02
18.20	1.11	0.23	5.00	0.00	0.02	0.02
18.25	1.11	0.23	5.00	0.00	0.02	0.02
18.30	1.11	0.23	5.00	0.00	0.02	0.02
18.35	1.11	0.23	5.00	0.00	0.02	0.02
18.40	1.11	0.23	5.00	0.00	0.02	0.02
18.45	1.11	0.23	5.00	0.00	0.02	0.02
18.50	1.11	0.23	5.00	0.00	0.02	0.02
18.55	1.11	0.23	5.00	0.00	0.02	0.02
18.60	1.11	0.23	5.00	0.00	0.02	0.02
18.65	1.11	0.23	5.00	0.00	0.02	0.02
18.70	1.11	0.23	5.00	0.00	0.02	0.02
18.75	1.11	0.23	5.00	0.00	0.02	0.02
18.80	1.11	0.23	5.00	0.00	0.02	0.02
18.85	1.11	0.23	5.00	0.00	0.02	0.02
18.90	1.11	0.23	5.00	0.00	0.02	0.02
18.95	1.11	0.23	5.00	0.00	0.02	0.02
19.00	1.11	0.23	5.00	0.00	0.02	0.02
19.05	1.11	0.23	5.00	0.00	0.02	0.02
19.10	1.11	0.23	5.00	0.00	0.02	0.02
19.15	1.11	0.23	5.00	0.00	0.02	0.02
19.20	1.11	0.23	5.00	0.00	0.02	0.02
19.25	1.11	0.23	5.00	0.00	0.02	0.02
19.30	1.11	0.23	5.00	0.00	0.02	0.02
19.35	1.11	0.23	5.00	0.00	0.02	0.02
19.40	1.11	0.23	5.00	0.00	0.02	0.02
19.45	1.11	0.23	5.00	0.00	0.02	0.02
19.50	1.11	0.23	5.00	0.00	0.02	0.02
19.55	1.11	0.23	5.00	0.00	0.02	0.02
19.60	1.11	0.23	5.00	0.00	0.02	0.02
19.65	1.11	0.23	5.00	0.00	0.02	0.02
19.70	1.11	0.23	5.00	0.00	0.02	0.02
19.75	1.11	0.23	5.00	0.00	0.02	0.02
19.80	1.11	0.23	5.00	0.00	0.02	0.02
19.85	1.11	0.23	5.00	0.00	0.02	0.02
19.90	1.11	0.23	5.00	0.00	0.02	0.02
19.95	1.11	0.23	5.00	0.00	0.02	0.02
20.00	1.11	0.23	5.00	0.00	0.02	0.02
20.05	1.11	0.23	5.00	0.00	0.02	0.02
20.10	1.11	0.23	5.00	0.00	0.02	0.02
20.15	1.11	0.23	5.00	0.00	0.02	0.02
20.20	1.11	0.23	5.00	0.00	0.02	0.02
20.25	1.11	0.23	5.00	0.00	0.02	0.02
20.30	1.11	0.23	5.00	0.00	0.02	0.02
20.35	1.11	0.23	5.00	0.00	0.02	0.02
20.40	1.11	0.23	5.00	0.00	0.02	0.02
20.45	1.11	0.23	5.00	0.00	0.02	0.02
20.50	1.11	0.23	5.00	0.00	0.02	0.02
20.55	1.11	0.23	5.00	0.00	0.02	0.02

20.60	1.11	0.23	5.00	0.00	0.02	0.02
20.65	1.11	0.23	5.00	0.00	0.02	0.02
20.70	1.11	0.23	5.00	0.00	0.02	0.02
20.75	1.11	0.23	5.00	0.00	0.02	0.02
20.80	1.11	0.23	5.00	0.00	0.02	0.02
20.85	1.11	0.23	5.00	0.00	0.02	0.02
20.90	1.11	0.23	5.00	0.00	0.02	0.02
20.95	1.11	0.23	5.00	0.00	0.02	0.02
21.00	1.11	0.23	5.00	0.00	0.02	0.02
21.05	1.11	0.23	5.00	0.00	0.02	0.02
21.10	1.11	0.23	5.00	0.00	0.02	0.02
21.15	1.11	0.23	5.00	0.00	0.02	0.02
21.20	1.11	0.23	5.00	0.00	0.02	0.02
21.25	1.11	0.23	5.00	0.00	0.02	0.02
21.30	1.11	0.23	5.00	0.00	0.02	0.02
21.35	1.11	0.23	5.00	0.00	0.02	0.02
21.40	1.11	0.23	5.00	0.00	0.02	0.02
21.45	1.11	0.23	5.00	0.00	0.02	0.02
21.50	1.11	0.23	5.00	0.00	0.02	0.02
21.55	1.11	0.23	5.00	0.00	0.02	0.02
21.60	1.11	0.23	5.00	0.00	0.02	0.02
21.65	1.11	0.23	5.00	0.00	0.02	0.02
21.70	1.11	0.23	5.00	0.00	0.02	0.02
21.75	1.11	0.23	5.00	0.00	0.02	0.02
21.80	1.11	0.23	5.00	0.00	0.02	0.02
21.85	1.11	0.23	5.00	0.00	0.02	0.02
21.90	1.11	0.23	5.00	0.00	0.02	0.02
21.95	1.11	0.23	5.00	0.00	0.02	0.02
22.00	1.11	0.23	5.00	0.00	0.02	0.02
22.05	1.11	0.23	5.00	0.00	0.02	0.02
22.10	1.11	0.23	5.00	0.00	0.02	0.02
22.15	1.11	0.23	5.00	0.00	0.02	0.02
22.20	1.11	0.23	5.00	0.00	0.02	0.02
22.25	1.11	0.23	5.00	0.00	0.02	0.02
22.30	1.11	0.23	5.00	0.00	0.02	0.02
22.35	1.11	0.23	5.00	0.00	0.02	0.02
22.40	1.11	0.23	5.00	0.00	0.02	0.02
22.45	1.11	0.23	5.00	0.00	0.02	0.02
22.50	1.11	0.23	5.00	0.00	0.02	0.02
22.55	1.11	0.23	5.00	0.00	0.02	0.02
22.60	1.11	0.23	5.00	0.00	0.02	0.02
22.65	1.11	0.23	5.00	0.00	0.02	0.02
22.70	1.11	0.23	5.00	0.00	0.02	0.02
22.75	1.11	0.23	5.00	0.00	0.02	0.02
22.80	1.11	0.23	5.00	0.00	0.02	0.02
22.85	1.11	0.23	5.00	0.00	0.02	0.02
22.90	1.11	0.23	5.00	0.00	0.02	0.02
22.95	1.11	0.23	5.00	0.00	0.02	0.02
23.00	1.11	0.23	5.00	0.00	0.02	0.02
23.05	1.11	0.23	5.00	0.00	0.02	0.02
23.10	1.11	0.23	5.00	0.00	0.02	0.02
23.15	1.11	0.23	5.00	0.00	0.02	0.02
23.20	1.11	0.23	5.00	0.00	0.02	0.02
23.25	1.11	0.23	5.00	0.00	0.02	0.02

23.30	1.11	0.23	5.00	0.00	0.02	0.02
23.35	1.11	0.23	5.00	0.00	0.02	0.02
23.40	1.11	0.23	5.00	0.00	0.02	0.02
23.45	1.11	0.23	5.00	0.00	0.02	0.02
23.50	1.11	0.23	5.00	0.00	0.02	0.02
23.55	1.11	0.23	5.00	0.00	0.02	0.02
23.60	1.11	0.23	5.00	0.00	0.02	0.02
23.65	1.11	0.23	5.00	0.00	0.02	0.02
23.70	1.11	0.23	5.00	0.00	0.02	0.02
23.75	1.11	0.23	5.00	0.00	0.02	0.02
23.80	1.11	0.23	5.00	0.00	0.02	0.02
23.85	1.11	0.23	5.00	0.00	0.02	0.02
23.90	1.11	0.23	5.00	0.00	0.02	0.02
23.95	1.11	0.23	5.00	0.00	0.02	0.02
24.00	1.11	0.23	5.00	0.00	0.02	0.02
24.05	1.11	0.23	5.00	0.00	0.02	0.02
24.10	1.11	0.23	5.00	0.00	0.02	0.02
24.15	1.11	0.23	5.00	0.00	0.02	0.02
24.20	1.11	0.23	5.00	0.00	0.02	0.02
24.25	1.11	0.23	5.00	0.00	0.02	0.02
24.30	1.11	0.23	5.00	0.00	0.02	0.02
24.35	1.11	0.23	5.00	0.00	0.02	0.02
24.40	1.11	0.23	5.00	0.00	0.02	0.02
24.45	1.11	0.23	5.00	0.00	0.02	0.02
24.50	1.11	0.23	5.00	0.00	0.02	0.02
24.55	1.11	0.23	5.00	0.00	0.02	0.02
24.60	1.11	0.23	5.00	0.00	0.02	0.02
24.65	1.11	0.23	5.00	0.00	0.02	0.02
24.70	1.11	0.23	5.00	0.00	0.02	0.02
24.75	1.11	0.23	5.00	0.00	0.02	0.02
24.80	1.11	0.23	5.00	0.00	0.02	0.02
24.85	1.11	0.23	5.00	0.00	0.02	0.02
24.90	1.11	0.23	5.00	0.00	0.02	0.02
24.95	1.11	0.23	5.00	0.00	0.02	0.02
25.00	1.11	0.23	5.00	0.00	0.02	0.02
25.05	1.11	0.23	5.00	0.00	0.02	0.02
25.10	1.10	0.23	5.00	0.00	0.02	0.02
25.15	1.10	0.23	5.00	0.00	0.02	0.02
25.20	1.10	0.23	5.00	0.00	0.02	0.02
25.25	1.10	0.23	5.00	0.00	0.02	0.02
25.30	1.10	0.23	5.00	0.00	0.02	0.02
25.35	1.10	0.23	5.00	0.00	0.02	0.02
25.40	1.10	0.23	5.00	0.00	0.02	0.02
25.45	1.10	0.23	5.00	0.00	0.02	0.02
25.50	1.10	0.23	5.00	0.00	0.02	0.02
25.55	1.10	0.23	5.00	0.00	0.02	0.02
25.60	1.10	0.23	5.00	0.00	0.02	0.02
25.65	1.10	0.23	5.00	0.00	0.02	0.02
25.70	1.10	0.23	5.00	0.00	0.02	0.02
25.75	1.10	0.23	5.00	0.00	0.02	0.02
25.80	1.10	0.23	5.00	0.00	0.02	0.02
25.85	1.10	0.23	5.00	0.00	0.02	0.02
25.90	1.10	0.23	5.00	0.00	0.02	0.02
25.95	1.10	0.23	5.00	0.00	0.02	0.02

26.00	1.10	0.23	5.00	0.00	0.02	0.02
26.05	1.10	0.23	5.00	0.00	0.02	0.02
26.10	1.10	0.23	5.00	0.00	0.01	0.01
26.15	1.10	0.23	5.00	0.00	0.01	0.01
26.20	1.10	0.23	5.00	0.00	0.01	0.01
26.25	1.10	0.23	5.00	0.00	0.01	0.01
26.30	1.10	0.23	5.00	0.00	0.01	0.01
26.35	1.10	0.23	5.00	0.00	0.01	0.01
26.40	1.10	0.23	5.00	0.00	0.01	0.01
26.45	1.10	0.23	5.00	0.00	0.01	0.01
26.50	1.10	0.23	5.00	0.00	0.01	0.01
26.55	1.10	0.23	5.00	0.00	0.01	0.01
26.60	1.09	0.23	5.00	0.00	0.01	0.01
26.65	1.09	0.23	5.00	0.00	0.01	0.01
26.70	1.09	0.23	5.00	0.00	0.01	0.01
26.75	1.09	0.23	5.00	0.00	0.01	0.01
26.80	1.09	0.23	5.00	0.00	0.01	0.01
26.85	1.09	0.23	5.00	0.00	0.01	0.01
26.90	1.09	0.23	5.00	0.00	0.01	0.01
26.95	1.09	0.23	5.00	0.00	0.01	0.01
27.00	1.09	0.23	5.00	0.00	0.01	0.01
27.05	1.09	0.23	5.00	0.00	0.01	0.01
27.10	1.09	0.23	5.00	0.00	0.01	0.01
27.15	1.09	0.23	5.00	0.00	0.01	0.01
27.20	1.09	0.23	5.00	0.00	0.01	0.01
27.25	1.09	0.23	5.00	0.00	0.01	0.01
27.30	1.09	0.23	5.00	0.00	0.01	0.01
27.35	1.09	0.23	5.00	0.00	0.01	0.01
27.40	1.09	0.23	5.00	0.00	0.01	0.01
27.45	1.09	0.23	5.00	0.00	0.01	0.01
27.50	1.09	0.23	5.00	0.00	0.01	0.01
27.55	1.09	0.23	5.00	0.00	0.01	0.01
27.60	1.09	0.23	5.00	0.00	0.01	0.01
27.65	1.09	0.23	5.00	0.00	0.01	0.01
27.70	1.09	0.23	5.00	0.00	0.01	0.01
27.75	1.09	0.23	5.00	0.00	0.01	0.01
27.80	1.09	0.23	5.00	0.00	0.01	0.01
27.85	1.09	0.23	5.00	0.00	0.01	0.01
27.90	1.09	0.23	5.00	0.00	0.01	0.01
27.95	1.09	0.23	5.00	0.00	0.01	0.01
28.00	1.09	0.23	5.00	0.00	0.01	0.01
28.05	1.09	0.23	5.00	0.00	0.01	0.01
28.10	1.09	0.23	5.00	0.00	0.01	0.01
28.15	1.09	0.23	5.00	0.00	0.01	0.01
28.20	1.08	0.23	5.00	0.00	0.01	0.01
28.25	1.08	0.23	5.00	0.00	0.01	0.01
28.30	1.08	0.23	5.00	0.00	0.01	0.01
28.35	1.08	0.23	5.00	0.00	0.01	0.01
28.40	1.08	0.23	5.00	0.00	0.01	0.01
28.45	1.08	0.23	5.00	0.00	0.01	0.01
28.50	1.08	0.23	5.00	0.00	0.01	0.01
28.55	1.08	0.23	5.00	0.00	0.01	0.01
28.60	1.08	0.23	5.00	0.00	0.01	0.01
28.65	1.08	0.23	5.00	0.00	0.01	0.01

28.70	1.08	0.23	5.00	0.00	0.01	0.01
28.75	1.08	0.23	5.00	0.00	0.01	0.01
28.80	1.08	0.23	5.00	0.00	0.01	0.01
28.85	1.08	0.23	5.00	0.00	0.01	0.01
28.90	1.08	0.23	5.00	0.00	0.01	0.01
28.95	1.08	0.23	5.00	0.00	0.01	0.01
29.00	1.08	0.23	5.00	0.00	0.01	0.01
29.05	1.08	0.23	5.00	0.00	0.01	0.01
29.10	1.08	0.23	5.00	0.00	0.01	0.01
29.15	1.08	0.23	5.00	0.00	0.01	0.01
29.20	1.08	0.23	5.00	0.00	0.01	0.01
29.25	1.08	0.23	5.00	0.00	0.01	0.01
29.30	1.08	0.23	5.00	0.00	0.01	0.01
29.35	1.08	0.23	5.00	0.00	0.01	0.01
29.40	1.08	0.23	5.00	0.00	0.01	0.01
29.45	1.08	0.23	5.00	0.00	0.01	0.01
29.50	1.08	0.23	5.00	0.00	0.01	0.01
29.55	1.08	0.23	5.00	0.00	0.01	0.01
29.60	1.08	0.23	5.00	0.00	0.01	0.01
29.65	1.08	0.23	5.00	0.00	0.01	0.01
29.70	1.08	0.23	5.00	0.00	0.01	0.01
29.75	1.08	0.23	5.00	0.00	0.01	0.01
29.80	1.07	0.23	5.00	0.00	0.01	0.01
29.85	1.07	0.23	5.00	0.00	0.01	0.01
29.90	1.07	0.23	5.00	0.00	0.01	0.01
29.95	1.07	0.23	5.00	0.00	0.01	0.01
30.00	1.07	0.23	5.00	0.00	0.01	0.01
30.05	1.07	0.23	5.00	0.00	0.01	0.01
30.10	1.07	0.23	5.00	0.00	0.01	0.01
30.15	1.07	0.23	5.00	0.00	0.01	0.01
30.20	1.07	0.23	5.00	0.00	0.01	0.01
30.25	1.07	0.23	5.00	0.00	0.01	0.01
30.30	1.07	0.23	5.00	0.00	0.01	0.01
30.35	1.07	0.23	5.00	0.00	0.01	0.01
30.40	1.07	0.23	5.00	0.00	0.01	0.01
30.45	1.07	0.23	5.00	0.00	0.01	0.01
30.50	1.07	0.23	5.00	0.00	0.01	0.01
30.55	1.07	0.23	5.00	0.00	0.01	0.01
30.60	1.07	0.23	5.00	0.00	0.01	0.01
30.65	1.07	0.23	5.00	0.00	0.01	0.01
30.70	1.07	0.22	5.00	0.00	0.01	0.01
30.75	1.07	0.22	5.00	0.00	0.01	0.01
30.80	1.07	0.22	5.00	0.00	0.01	0.01
30.85	1.07	0.22	5.00	0.00	0.01	0.01
30.90	1.07	0.22	5.00	0.00	0.01	0.01
30.95	1.07	0.22	5.00	0.00	0.01	0.01
31.00	1.07	0.22	5.00	0.00	0.01	0.01
31.05	1.07	0.22	5.00	0.00	0.01	0.01
31.10	1.07	0.22	5.00	0.00	0.01	0.01
31.15	1.07	0.22	5.00	0.00	0.01	0.01
31.20	1.07	0.22	5.00	0.00	0.01	0.01
31.25	1.07	0.22	5.00	0.00	0.01	0.01
31.30	1.07	0.22	5.00	0.00	0.01	0.01
31.35	1.07	0.22	5.00	0.00	0.01	0.01

31.40	1.06	0.22	5.00	0.00	0.01	0.01
31.45	1.06	0.22	5.00	0.00	0.01	0.01
31.50	1.06	0.22	5.00	0.00	0.01	0.01
31.55	1.06	0.22	5.00	0.00	0.01	0.01
31.60	1.06	0.22	5.00	0.00	0.01	0.01
31.65	1.06	0.22	5.00	0.00	0.01	0.01
31.70	1.06	0.22	5.00	0.00	0.01	0.01
31.75	1.06	0.22	5.00	0.00	0.01	0.01
31.80	1.06	0.22	5.00	0.00	0.01	0.01
31.85	1.06	0.22	5.00	0.00	0.01	0.01
31.90	1.06	0.22	5.00	0.00	0.01	0.01
31.95	1.06	0.22	5.00	0.00	0.01	0.01
32.00	1.06	0.22	5.00	0.00	0.01	0.01
32.05	1.06	0.22	5.00	0.00	0.01	0.01
32.10	1.06	0.22	5.00	0.00	0.01	0.01
32.15	1.06	0.22	5.00	0.00	0.01	0.01
32.20	1.06	0.22	5.00	0.00	0.01	0.01
32.25	1.06	0.22	5.00	0.00	0.01	0.01
32.30	1.06	0.22	5.00	0.00	0.01	0.01
32.35	1.06	0.22	5.00	0.00	0.01	0.01
32.40	1.06	0.22	5.00	0.00	0.01	0.01
32.45	1.06	0.22	5.00	0.00	0.01	0.01
32.50	1.06	0.22	5.00	0.00	0.01	0.01
32.55	1.06	0.22	5.00	0.00	0.01	0.01
32.60	1.06	0.22	5.00	0.00	0.01	0.01
32.65	1.06	0.22	5.00	0.00	0.01	0.01
32.70	1.06	0.22	5.00	0.00	0.01	0.01
32.75	1.06	0.22	5.00	0.00	0.01	0.01
32.80	1.06	0.22	5.00	0.00	0.01	0.01
32.85	1.06	0.22	5.00	0.00	0.01	0.01
32.90	1.06	0.22	5.00	0.00	0.01	0.01
32.95	1.06	0.22	5.00	0.00	0.01	0.01
33.00	1.05	0.22	5.00	0.00	0.01	0.01
33.05	1.05	0.22	5.00	0.00	0.01	0.01
33.10	1.05	0.22	5.00	0.00	0.01	0.01
33.15	1.05	0.22	5.00	0.00	0.01	0.01
33.20	1.05	0.22	5.00	0.00	0.01	0.01
33.25	1.05	0.22	5.00	0.00	0.01	0.01
33.30	1.05	0.22	5.00	0.00	0.01	0.01
33.35	1.05	0.22	5.00	0.00	0.01	0.01
33.40	1.05	0.22	5.00	0.00	0.01	0.01
33.45	1.05	0.22	5.00	0.00	0.01	0.01
33.50	1.05	0.22	5.00	0.00	0.01	0.01
33.55	1.05	0.22	5.00	0.00	0.01	0.01
33.60	1.05	0.22	5.00	0.00	0.01	0.01
33.65	1.05	0.22	5.00	0.00	0.01	0.01
33.70	1.05	0.22	5.00	0.00	0.01	0.01
33.75	1.05	0.22	5.00	0.00	0.01	0.01
33.80	1.05	0.22	5.00	0.00	0.01	0.01
33.85	1.05	0.22	5.00	0.00	0.01	0.01
33.90	1.05	0.22	5.00	0.00	0.01	0.01
33.95	1.05	0.22	5.00	0.00	0.01	0.01
34.00	1.05	0.22	5.00	0.00	0.01	0.01
34.05	1.05	0.22	5.00	0.00	0.01	0.01

34.10	1.05	0.22	5.00	0.00	0.00	0.00
34.15	1.05	0.22	5.00	0.00	0.00	0.00
34.20	1.05	0.22	5.00	0.00	0.00	0.00
34.25	1.05	0.22	5.00	0.00	0.00	0.00
34.30	1.05	0.22	5.00	0.00	0.00	0.00
34.35	1.05	0.22	5.00	0.00	0.00	0.00
34.40	1.05	0.22	5.00	0.00	0.00	0.00
34.45	1.05	0.22	5.00	0.00	0.00	0.00
34.50	1.05	0.22	5.00	0.00	0.00	0.00
34.55	1.05	0.22	5.00	0.00	0.00	0.00
34.60	1.05	0.22	5.00	0.00	0.00	0.00
34.65	1.04	0.22	5.00	0.00	0.00	0.00
34.70	1.04	0.22	5.00	0.00	0.00	0.00
34.75	1.04	0.22	5.00	0.00	0.00	0.00
34.80	1.04	0.22	5.00	0.00	0.00	0.00
34.85	1.04	0.22	5.00	0.00	0.00	0.00
34.90	1.04	0.22	5.00	0.00	0.00	0.00
34.95	1.04	0.22	5.00	0.00	0.00	0.00
35.00	1.04	0.22	5.00	0.00	0.00	0.00
35.05	1.04	0.22	5.00	0.00	0.00	0.00
35.10	1.04	0.22	5.00	0.00	0.00	0.00
35.15	1.04	0.22	5.00	0.00	0.00	0.00
35.20	1.04	0.22	5.00	0.00	0.00	0.00
35.25	1.04	0.22	5.00	0.00	0.00	0.00
35.30	1.04	0.22	5.00	0.00	0.00	0.00
35.35	1.04	0.22	5.00	0.00	0.00	0.00
35.40	1.04	0.22	5.00	0.00	0.00	0.00
35.45	1.04	0.22	5.00	0.00	0.00	0.00
35.50	1.04	0.22	5.00	0.00	0.00	0.00
35.55	1.04	0.22	5.00	0.00	0.00	0.00
35.60	1.04	0.22	5.00	0.00	0.00	0.00
35.65	1.04	0.22	5.00	0.00	0.00	0.00
35.70	1.04	0.22	5.00	0.00	0.00	0.00
35.75	1.04	0.21	5.00	0.00	0.00	0.00
35.80	1.04	0.21	5.00	0.00	0.00	0.00
35.85	1.04	0.21	5.00	0.00	0.00	0.00
35.90	1.04	0.21	5.00	0.00	0.00	0.00
35.95	1.04	0.21	5.00	0.00	0.00	0.00
36.00	1.04	0.21	5.00	0.00	0.00	0.00
36.05	1.04	0.21	5.00	0.00	0.00	0.00
36.10	1.04	0.21	5.00	0.00	0.00	0.00
36.15	1.04	0.21	5.00	0.00	0.00	0.00
36.20	1.04	0.21	5.00	0.00	0.00	0.00
36.25	1.04	0.21	5.00	0.00	0.00	0.00
36.30	1.03	0.21	5.00	0.00	0.00	0.00
36.35	1.03	0.21	5.00	0.00	0.00	0.00
36.40	1.03	0.21	5.00	0.00	0.00	0.00
36.45	1.03	0.21	5.00	0.00	0.00	0.00
36.50	1.03	0.21	5.00	0.00	0.00	0.00
36.55	1.03	0.21	5.00	0.00	0.00	0.00
36.60	1.03	0.21	5.00	0.00	0.00	0.00
36.65	1.03	0.21	5.00	0.00	0.00	0.00
36.70	1.03	0.21	5.00	0.00	0.00	0.00
36.75	1.03	0.21	5.00	0.00	0.00	0.00

36.80	1.03	0.21	5.00	0.00	0.00	0.00
36.85	1.03	0.21	5.00	0.00	0.00	0.00
36.90	1.03	0.21	5.00	0.00	0.00	0.00
36.95	1.03	0.21	5.00	0.00	0.00	0.00
37.00	1.03	0.21	5.00	0.00	0.00	0.00
37.05	1.03	0.21	5.00	0.00	0.00	0.00
37.10	1.03	0.21	5.00	0.00	0.00	0.00
37.15	1.03	0.21	5.00	0.00	0.00	0.00
37.20	1.03	0.21	5.00	0.00	0.00	0.00
37.25	1.03	0.21	5.00	0.00	0.00	0.00
37.30	1.03	0.21	5.00	0.00	0.00	0.00
37.35	1.03	0.21	5.00	0.00	0.00	0.00
37.40	1.03	0.21	5.00	0.00	0.00	0.00
37.45	1.03	0.21	5.00	0.00	0.00	0.00
37.50	1.03	0.21	5.00	0.00	0.00	0.00
37.55	1.03	0.21	5.00	0.00	0.00	0.00
37.60	1.03	0.21	5.00	0.00	0.00	0.00
37.65	1.03	0.21	5.00	0.00	0.00	0.00
37.70	1.03	0.21	5.00	0.00	0.00	0.00
37.75	1.03	0.21	5.00	0.00	0.00	0.00
37.80	1.03	0.21	5.00	0.00	0.00	0.00
37.85	1.03	0.21	5.00	0.00	0.00	0.00
37.90	1.03	0.21	5.00	0.00	0.00	0.00
37.95	1.03	0.21	5.00	0.00	0.00	0.00
38.00	1.02	0.21	5.00	0.00	0.00	0.00
38.05	1.02	0.21	5.00	0.00	0.00	0.00
38.10	1.02	0.21	5.00	0.00	0.00	0.00
38.15	1.02	0.21	5.00	0.00	0.00	0.00
38.20	1.02	0.21	5.00	0.00	0.00	0.00
38.25	1.02	0.21	5.00	0.00	0.00	0.00
38.30	1.02	0.21	5.00	0.00	0.00	0.00
38.35	1.02	0.21	5.00	0.00	0.00	0.00
38.40	1.02	0.21	5.00	0.00	0.00	0.00
38.45	1.02	0.21	5.00	0.00	0.00	0.00
38.50	1.02	0.21	5.00	0.00	0.00	0.00
38.55	1.02	0.21	5.00	0.00	0.00	0.00
38.60	1.02	0.21	5.00	0.00	0.00	0.00
38.65	1.02	0.21	5.00	0.00	0.00	0.00
38.70	1.02	0.21	5.00	0.00	0.00	0.00
38.75	1.02	0.21	5.00	0.00	0.00	0.00
38.80	1.02	0.21	5.00	0.00	0.00	0.00
38.85	1.02	0.21	5.00	0.00	0.00	0.00
38.90	1.02	0.21	5.00	0.00	0.00	0.00
38.95	1.02	0.21	5.00	0.00	0.00	0.00
39.00	1.02	0.21	5.00	0.00	0.00	0.00
39.05	1.02	0.21	5.00	0.00	0.00	0.00
39.10	1.02	0.21	5.00	0.00	0.00	0.00
39.15	1.02	0.21	5.00	0.00	0.00	0.00
39.20	1.02	0.21	5.00	0.00	0.00	0.00
39.25	1.02	0.21	5.00	0.00	0.00	0.00
39.30	1.02	0.21	5.00	0.00	0.00	0.00
39.35	1.02	0.21	5.00	0.00	0.00	0.00
39.40	1.02	0.21	5.00	0.00	0.00	0.00
39.45	1.02	0.21	5.00	0.00	0.00	0.00

39.50	1.02	0.21	5.00	0.00	0.00	0.00	0.00
39.55	1.02	0.21	5.00	0.00	0.00	0.00	0.00
39.60	1.02	0.21	5.00	0.00	0.00	0.00	0.00
39.65	1.02	0.21	5.00	0.00	0.00	0.00	0.00
39.70	1.02	0.21	5.00	0.00	0.00	0.00	0.00
39.75	1.02	0.21	5.00	0.00	0.00	0.00	0.00
39.80	1.01	0.21	5.00	0.00	0.00	0.00	0.00
39.85	1.01	0.21	5.00	0.00	0.00	0.00	0.00
39.90	1.01	0.21	5.00	0.00	0.00	0.00	0.00
39.95	1.01	0.21	5.00	0.00	0.00	0.00	0.00
40.00	1.01	0.21	5.00	0.00	0.00	0.00	0.00
40.05	1.01	0.21	4.91	0.00	0.00	0.00	0.00
40.10	1.01	0.21	4.91	0.00	0.00	0.00	0.00
40.15	1.01	0.21	4.91	0.00	0.00	0.00	0.00
40.20	1.01	0.21	4.91	0.00	0.00	0.00	0.00
40.25	1.01	0.21	4.90	0.00	0.00	0.00	0.00
40.30	1.01	0.21	4.90	0.00	0.00	0.00	0.00
40.35	1.01	0.21	4.90	0.00	0.00	0.00	0.00
40.40	1.01	0.21	4.90	0.00	0.00	0.00	0.00
40.45	1.01	0.21	4.90	0.00	0.00	0.00	0.00
40.50	1.01	0.21	4.90	0.00	0.00	0.00	0.00
40.55	1.01	0.21	4.89	0.00	0.00	0.00	0.00
40.60	1.01	0.21	4.89	0.00	0.00	0.00	0.00
40.65	1.01	0.21	4.89	0.00	0.00	0.00	0.00
40.70	1.01	0.21	4.89	0.00	0.00	0.00	0.00
40.75	1.01	0.21	4.89	0.00	0.00	0.00	0.00
40.80	1.01	0.21	4.88	0.00	0.00	0.00	0.00
40.85	1.01	0.21	4.88	0.00	0.00	0.00	0.00
40.90	1.01	0.21	4.88	0.00	0.00	0.00	0.00
40.95	1.01	0.21	4.88	0.00	0.00	0.00	0.00
41.00	1.01	0.21	4.88	0.00	0.00	0.00	0.00
41.05	1.01	0.21	4.88	0.00	0.00	0.00	0.00
41.10	1.01	0.21	4.87	0.00	0.00	0.00	0.00
41.15	1.01	0.21	4.87	0.00	0.00	0.00	0.00
41.20	1.01	0.21	4.87	0.00	0.00	0.00	0.00
41.25	1.01	0.21	4.87	0.00	0.00	0.00	0.00
41.30	1.01	0.21	4.87	0.00	0.00	0.00	0.00
41.35	1.01	0.21	4.87	0.00	0.00	0.00	0.00
41.40	1.01	0.21	4.87	0.00	0.00	0.00	0.00
41.45	1.01	0.21	4.86	0.00	0.00	0.00	0.00
41.50	1.01	0.21	4.86	0.00	0.00	0.00	0.00
41.55	1.01	0.21	4.86	0.00	0.00	0.00	0.00
41.60	1.01	0.21	4.86	0.00	0.00	0.00	0.00
41.65	1.01	0.21	4.86	0.00	0.00	0.00	0.00
41.70	1.01	0.21	4.86	0.00	0.00	0.00	0.00
41.75	1.00	0.21	4.85	0.00	0.00	0.00	0.00
41.80	1.00	0.21	4.85	0.00	0.00	0.00	0.00
41.85	1.00	0.21	4.85	0.00	0.00	0.00	0.00
41.90	1.00	0.21	4.85	0.00	0.00	0.00	0.00
41.95	1.00	0.21	4.85	0.00	0.00	0.00	0.00
42.00	1.00	0.21	4.85	0.00	0.00	0.00	0.00
42.05	1.00	0.21	4.84	0.00	0.00	0.00	0.00
42.10	1.00	0.21	4.84	0.00	0.00	0.00	0.00
42.15	1.00	0.21	4.84	0.00	0.00	0.00	0.00

42.20	1.00	0.21	4.84	0.00	0.00	0.00
42.25	1.00	0.21	4.84	0.00	0.00	0.00
42.30	1.00	0.21	4.84	0.00	0.00	0.00
42.35	1.00	0.21	4.84	0.00	0.00	0.00
42.40	1.00	0.21	4.83	0.00	0.00	0.00
42.45	1.00	0.21	4.83	0.00	0.00	0.00
42.50	1.00	0.21	4.83	0.00	0.00	0.00
42.55	1.00	0.21	4.83	0.00	0.00	0.00
42.60	1.00	0.21	4.83	0.00	0.00	0.00
42.65	1.00	0.21	4.83	0.00	0.00	0.00
42.70	1.00	0.21	4.83	0.00	0.00	0.00
42.75	1.00	0.21	4.82	0.00	0.00	0.00
42.80	1.00	0.21	4.82	0.00	0.00	0.00
42.85	1.00	0.21	4.82	0.00	0.00	0.00
42.90	1.00	0.21	4.82	0.00	0.00	0.00
42.95	1.00	0.21	4.82	0.00	0.00	0.00
43.00	1.00	0.21	4.82	0.00	0.00	0.00
43.05	1.00	0.21	4.82	0.00	0.00	0.00
43.10	1.00	0.21	4.81	0.00	0.00	0.00
43.15	1.00	0.21	4.81	0.00	0.00	0.00
43.20	1.00	0.21	4.81	0.00	0.00	0.00
43.25	1.00	0.21	4.81	0.00	0.00	0.00
43.30	1.00	0.21	4.81	0.00	0.00	0.00
43.35	1.00	0.21	4.81	0.00	0.00	0.00
43.40	1.00	0.21	4.81	0.00	0.00	0.00
43.45	1.00	0.21	4.81	0.00	0.00	0.00
43.50	1.00	0.21	4.80	0.00	0.00	0.00
43.55	1.00	0.21	4.80	0.00	0.00	0.00
43.60	1.00	0.21	4.80	0.00	0.00	0.00
43.65	1.00	0.21	4.80	0.00	0.00	0.00
43.70	1.00	0.21	4.80	0.00	0.00	0.00
43.75	1.00	0.21	4.80	0.00	0.00	0.00
43.80	0.99	0.21	4.80	0.00	0.00	0.00
43.85	0.99	0.21	4.80	0.00	0.00	0.00
43.90	0.99	0.21	4.79	0.00	0.00	0.00
43.95	0.99	0.21	4.79	0.00	0.00	0.00
44.00	0.99	0.21	4.79	0.00	0.00	0.00
44.05	0.99	0.21	4.79	0.00	0.00	0.00
44.10	0.99	0.21	4.79	0.00	0.00	0.00
44.15	0.99	0.21	4.79	0.00	0.00	0.00
44.20	0.99	0.21	4.79	0.00	0.00	0.00
44.25	0.99	0.21	4.79	0.00	0.00	0.00
44.30	0.99	0.21	4.78	0.00	0.00	0.00
44.35	0.99	0.21	4.78	0.00	0.00	0.00
44.40	0.99	0.21	4.78	0.00	0.00	0.00
44.45	0.99	0.21	4.78	0.00	0.00	0.00
44.50	0.99	0.21	4.78	0.00	0.00	0.00
44.55	0.99	0.21	4.78	0.00	0.00	0.00
44.60	0.99	0.21	4.78	0.00	0.00	0.00
44.65	0.99	0.21	4.78	0.00	0.00	0.00
44.70	0.99	0.21	4.77	0.00	0.00	0.00
44.75	0.99	0.21	4.77	0.00	0.00	0.00
44.80	0.99	0.21	4.77	0.00	0.00	0.00
44.85	0.99	0.21	4.77	0.00	0.00	0.00

44.90	0.99	0.21	4.77	0.00	0.00	0.00
44.95	0.99	0.21	4.77	0.00	0.00	0.00
45.00	0.99	0.21	4.77	0.00	0.00	0.00
45.05	0.99	0.21	4.77	0.00	0.00	0.00
45.10	0.99	0.21	4.76	0.00	0.00	0.00
45.15	0.99	0.21	4.76	0.00	0.00	0.00
45.20	0.99	0.21	4.76	0.00	0.00	0.00
45.25	0.99	0.21	4.76	0.00	0.00	0.00
45.30	0.99	0.21	4.76	0.00	0.00	0.00
45.35	0.99	0.21	4.76	0.00	0.00	0.00
45.40	0.99	0.21	4.76	0.00	0.00	0.00
45.45	0.99	0.21	4.76	0.00	0.00	0.00
45.50	0.99	0.21	4.76	0.00	0.00	0.00
45.55	0.99	0.21	4.76	0.00	0.00	0.00
45.60	0.99	0.21	4.75	0.00	0.00	0.00
45.65	0.99	0.21	4.75	0.00	0.00	0.00
45.70	0.99	0.21	4.75	0.00	0.00	0.00
45.75	0.99	0.21	4.75	0.00	0.00	0.00
45.80	0.99	0.21	4.75	0.00	0.00	0.00
45.85	0.99	0.21	4.75	0.00	0.00	0.00
45.90	0.99	0.21	4.75	0.00	0.00	0.00
45.95	0.98	0.21	4.75	0.00	0.00	0.00
46.00	0.98	0.21	4.75	0.00	0.00	0.00
46.05	0.98	0.21	4.74	0.00	0.00	0.00
46.10	0.98	0.21	4.74	0.00	0.00	0.00
46.15	0.98	0.21	4.74	0.00	0.00	0.00
46.20	0.98	0.21	4.74	0.00	0.00	0.00
46.25	0.98	0.21	4.74	0.00	0.00	0.00
46.30	0.98	0.21	4.74	0.00	0.00	0.00
46.35	0.98	0.21	4.74	0.00	0.00	0.00
46.40	0.98	0.21	4.74	0.00	0.00	0.00
46.45	0.98	0.21	4.74	0.00	0.00	0.00
46.50	0.98	0.21	4.74	0.00	0.00	0.00
46.55	0.98	0.21	4.73	0.00	0.00	0.00
46.60	0.98	0.21	4.73	0.00	0.00	0.00
46.65	0.98	0.21	4.73	0.00	0.00	0.00
46.70	0.98	0.21	4.73	0.00	0.00	0.00
46.75	0.98	0.21	4.73	0.00	0.00	0.00
46.80	0.98	0.21	4.73	0.00	0.00	0.00
46.85	0.98	0.21	4.73	0.00	0.00	0.00
46.90	0.98	0.21	4.73	0.00	0.00	0.00
46.95	0.98	0.21	4.73	0.00	0.00	0.00
47.00	0.98	0.21	4.73	0.00	0.00	0.00
47.05	0.98	0.21	4.72	0.00	0.00	0.00
47.10	0.98	0.21	4.72	0.00	0.00	0.00
47.15	0.98	0.21	4.72	0.00	0.00	0.00
47.20	0.98	0.21	4.72	0.00	0.00	0.00
47.25	0.98	0.21	4.72	0.00	0.00	0.00
47.30	0.98	0.21	4.72	0.00	0.00	0.00
47.35	0.98	0.21	4.72	0.00	0.00	0.00
47.40	0.98	0.21	4.72	0.00	0.00	0.00
47.45	0.98	0.21	4.72	0.00	0.00	0.00
47.50	0.98	0.21	4.72	0.00	0.00	0.00
47.55	0.98	0.21	4.72	0.00	0.00	0.00

47.60	0.98	0.21	4.71	0.00	0.00	0.00
47.65	0.98	0.21	4.71	0.00	0.00	0.00
47.70	0.98	0.21	4.71	0.00	0.00	0.00
47.75	0.98	0.21	4.71	0.00	0.00	0.00
47.80	0.98	0.21	4.71	0.00	0.00	0.00
47.85	0.98	0.21	4.71	0.00	0.00	0.00
47.90	0.98	0.21	4.71	0.00	0.00	0.00
47.95	0.98	0.21	4.71	0.00	0.00	0.00
48.00	0.98	0.21	4.71	0.00	0.00	0.00
48.05	0.98	0.21	4.71	0.00	0.00	0.00
48.10	0.98	0.21	4.71	0.00	0.00	0.00
48.15	0.97	0.21	4.71	0.00	0.00	0.00
48.20	0.97	0.21	4.70	0.00	0.00	0.00
48.25	0.97	0.21	4.70	0.00	0.00	0.00
48.30	0.97	0.21	4.70	0.00	0.00	0.00
48.35	0.97	0.21	4.70	0.00	0.00	0.00
48.40	0.97	0.21	4.70	0.00	0.00	0.00
48.45	0.97	0.21	4.70	0.00	0.00	0.00
48.50	0.97	0.21	4.70	0.00	0.00	0.00
48.55	0.97	0.21	4.70	0.00	0.00	0.00
48.60	0.97	0.21	4.70	0.00	0.00	0.00
48.65	0.97	0.21	4.70	0.00	0.00	0.00
48.70	0.97	0.21	4.70	0.00	0.00	0.00
48.75	0.97	0.21	4.70	0.00	0.00	0.00
48.80	0.97	0.21	4.70	0.00	0.00	0.00
48.85	0.97	0.21	4.69	0.00	0.00	0.00
48.90	0.97	0.21	4.69	0.00	0.00	0.00
48.95	0.97	0.21	4.69	0.00	0.00	0.00
49.00	0.97	0.21	4.69	0.00	0.00	0.00
49.05	0.97	0.21	4.69	0.00	0.00	0.00
49.10	0.97	0.21	4.69	0.00	0.00	0.00
49.15	0.97	0.21	4.69	0.00	0.00	0.00
49.20	0.97	0.21	4.69	0.00	0.00	0.00
49.25	0.97	0.21	4.69	0.00	0.00	0.00
49.30	0.97	0.21	4.69	0.00	0.00	0.00
49.35	0.97	0.21	4.69	0.00	0.00	0.00
49.40	0.97	0.21	4.69	0.00	0.00	0.00
49.45	0.97	0.21	4.69	0.00	0.00	0.00
49.50	0.97	0.21	4.69	0.00	0.00	0.00
49.55	0.97	0.21	4.68	0.00	0.00	0.00
49.60	0.97	0.21	4.68	0.00	0.00	0.00
49.65	0.97	0.21	4.68	0.00	0.00	0.00
49.70	0.97	0.21	4.68	0.00	0.00	0.00
49.75	0.97	0.21	4.68	0.00	0.00	0.00
49.80	0.97	0.21	4.68	0.00	0.00	0.00
49.85	0.97	0.21	4.68	0.00	0.00	0.00
49.90	0.97	0.21	4.68	0.00	0.00	0.00
49.95	0.97	0.21	4.68	0.00	0.00	0.00
50.00	0.97	0.21	4.68	0.00	0.00	0.00
50.05	0.97	0.21	4.68	0.00	0.00	0.00
50.10	0.97	0.21	4.68	0.00	0.00	0.00
50.15	0.97	0.21	4.68	0.00	0.00	0.00
50.20	0.97	0.21	4.68	0.00	0.00	0.00
50.25	0.97	0.21	4.68	0.00	0.00	0.00

50.30	0.97	0.21	4.68	0.00	0.00	0.00
50.35	0.97	0.21	4.67	0.00	0.00	0.00
50.40	0.96	0.21	4.67	0.00	0.00	0.00
50.45	0.96	0.21	4.67	0.00	0.00	0.00
50.50	0.96	0.21	4.67	0.00	0.00	0.00
50.55	0.96	0.21	4.67	0.00	0.00	0.00
50.60	0.96	0.21	4.67	0.00	0.00	0.00
50.65	0.96	0.21	4.67	0.00	0.00	0.00
50.70	0.96	0.21	4.67	0.00	0.00	0.00
50.75	0.96	0.21	4.67	0.00	0.00	0.00
50.80	0.96	0.21	4.67	0.00	0.00	0.00
50.85	0.96	0.21	4.67	0.00	0.00	0.00
50.90	0.96	0.21	4.67	0.00	0.00	0.00
50.95	0.96	0.21	4.67	0.00	0.00	0.00
51.00	0.96	0.21	4.67	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units: Unit: qc, fs, Stress or Pressure = atm (1.0581tsf); Unit Weight = pcf; Depth = ft; Settlement = in.

1 atm (atmosphere) = 1 tsf (ton/ft²)

CRRm	Cyclic resistance ratio from soils
CSRsf	Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S.	Factor of Safety against liquefaction, F.S.=CRRm/CSRsf
S_sat	Settlement from saturated sands
S_dry	Settlement from Unsaturated Sands
S_all	Total Settlement from Saturated and Unsaturated Sands
NoLiq	No-Liquefy Soils



GEOTECHNICAL CONSULTANTS

APPENDIX D

REFERENCES

APPENDIX D

REFERENCES

1. ASCE/SEI 7-16, 2019, Minimum Design Loads for Buildings and Other Structures.
2. Bartow, J. A., 1991, The Cenozoic Evolution of the San Joaquin Valley, California, USGS Professional Paper 1501.
3. Borches, J. W. and Carpenter, M., 2014, Land Subsidence from Groundwater Use in California: Luhdorff and Scalimanni Consulting Engineers.
4. Bailey, E. H., Irwin, W. P., and Jones, D. L. (1964). *Franciscan and related rocks and their significance in the geology of western California* (Vol. 183). California Division of Mines and Geology.
5. Branum, D. and others, 2008, Earthquake Shaking Potential for California: California Geological Survey Map Sheet 48.
6. Bryant, W. A. and Hart, E. W., 2007, Fault-Rupture Hazard Zones in California: California Department of Conservation, Division of Mines and Geology Special Publication 42, Interim Revision 2007 and online updates.
7. California Building Standards Commission, 2019 California Building Code.
8. California Department of Conservation, Division of Mines and Geology, 2008, Guidelines for Evaluating and Mitigating Seismic Hazards in California, Special Publication, 117.
9. California Department of Water Resources, Groundwater Information Center Interactive Map Application <https://gis.water.ca.gov/app/gicima/> and Groundwater Level Monitoring Website: http://www.water.ca.gov/groundwater/data_and_monitoring/levels.cfm
10. California Geologic Survey, 2014, California Historic Earthquakes Online Database (www.conservation.ca.gov/cgs/rghm/quakes/Pages/eq_chron.aspx)
11. California Geological Survey, 2011, Checklist for the Review of Engineering Geology and Seismology Reports for California Public Schools, Hospitals, and Essential Services Buildings, Note 48.
12. Churchill, R. K. and Hill, R. L., 2000, A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos: Department of Conservation, Division of Mines and Geology Open-File Report 2000-19.
13. City of Clovis Master Environmental Impact Report, June, 2014, Chapter 5.6, Geology and Soils (<https://cityofclovis.com/wp-content/uploads/2018/10/Chapter-05-06-Geology-and-Soils.pdf>).
14. Federal Emergency Management Agency, Flood Insurance Rate Map (FIRM) #06019C1595H Effective on February 18, 2009 (<https://msc.fema.gov/portal>).
15. Fresno County, October 3, 2000, General Plan Background Report.

16. Galloway, D. L., Hudnut, K. W., Ingebritsen, S. E., Phillips, S. P., Peltzer, G., Rogez, F., & Rosen, P. A. (1998). Detection of aquifer system compaction and land subsidence using interferometric synthetic aperture radar, Antelope Valley, Mojave Desert, California. *Water Resources Research*, 34(10), 2573-2585.
17. Gutierrez, C. and others, 2010, Geologic Map of California: California Geological Survey Map No. 2.
18. Harden, D. R. 2004. *California Geology*. 2nd ed. Pearson-Prentice Hall.
19. Hammond, W. C., Blewitt, G., Li, Z., Plag, H. P., & Kreemer, C. (2012). Contemporary uplift of the Sierra Nevada, western United States, from GPS and InSAR measurements. *Geology*, 40(7), 667-670.
20. Irwin, W. P. (1990). Geology and plate-tectonic development. *The San Andreas Fault System, California, 1515*, 61-80.
21. Jennings, C. W., and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey, Geologic Data Map No. 6.
22. Martin, G. R. and Lew, M., 1999, Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction Hazards in California, Southern California Earthquake Center publication.
23. Miller, D. C., 1989, Potential Hazards from Future Volcanic Eruptions in California: U.S. Geological Survey Bulletin 1847.
24. Page, R. W. (1986). *Geology of the fresh ground-water basin of the Central Valley, California: with texture maps and sections*. US Government Printing Office.
25. Seed, H.B. and Whitman, R.V., 1970, "Design of Earth Retaining Structures for Dynamic Loads" Proceedings, ASCE Specialty Conference on lateral stresses in the ground and design of earth retaining structures, ASCE, pp 103-147
26. Structural Engineers Association of California and California Office of Statewide Planning and Development, 2020, Seismic Design Maps, ASCE 7-16 Standard, <https://seismicmaps.org/>
27. Structural Engineers Association of California Seismology Committee (2019), "Seismically Induced Lateral Earth Pressures on Retaining Structures and Basement Walls," August 2019, *The SEAOC Blue Book: Seismic Design Recommendations*, Structural Engineers Association of California, Sacramento, CA.
28. Wakabayashi, J. (1992). Nappes, tectonics of oblique plate convergence, and metamorphic evolution related to 140 million years of continuous subduction, Franciscan Complex, California. *The Journal of Geology*, 100(1), 19-40.
29. Wakabayashi, J. (2011). Mélanges of the Franciscan Complex, California: Diverse structural settings, evidence for sedimentary mixing, and their connection to subduction processes. *Geological Society of America Special Papers*, 480, 117-141.