COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

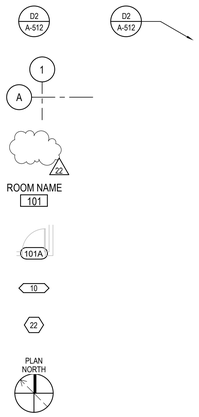
220 S LASSEN ST
SUSANVILLE, CA 96130

LASSEN COUNTY HISTORIC COURTHOUSE

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION
SEISMIC UPGRADE, ELEVATOR, AND ACCESSIBILITY IMPROVEMENTS
IMPROVEMENTS

100% CD OCTOBER 16 , 2020

ARCHITECTURAL SYMBOLS LEGEND



LIST OF ARCHITECTURAL ABBREVIATIONS

	SEE UNITED STATES NATIONAL CAD STANDARD FOR ANY ABBREVIATIONS NOT LISTED BELOW.
&	AND
@	AT
(E)	EXISTING
'	FOOT, FEET
"	INCH(ES)
#	NUMBER
ALUM	ALUMINUM
ARCH	ARCHITECTURAL
A/C UNIT	AIR CONDITIONING UNIT
A/E	ARCHITECT / ENGINEER
AB	ANCHOR BOLT
AC	ASPHALTIC CONCRETE
ACC	ACCESSIBLE
ACS DR	ACCESS DOOR
ACS PNL	ACCESS PANEL
ACST	ACOUSTIC
AD	AREA DRAIN
ADC	AUTOMATIC DOOR CLOSER
ADO	AUTOMATIC DOOR OPERATOR
ADDL	ADDITIONAL
ADJ SHV	ADJUSTABLE SHELVING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGGR	AGGREGATE
AHU	AIR HANDLING UNIT
ASSY	ASSEMBLY
BD	BOARD
BKG	BACKING
BLDG	BUILDING
BM	BEAM
BM	BENCHMARK
BOT	BOTTOM
BTWN	BETWEEN
BUR	BUILT-UP ROOFING
BW	BOTH WAYS
C	CHANNEL
CAB	CABINET
CB	CATCH BASIN
CBC	CALIFORNIA BUILDING CODE
CEM	CEMENT
CEM PLAS	CEM PLASTER
CFLG	COUNTERFLASHING
CFMF	COLD-FORMED METAL FRAMING
CG	CORNER GUARD
CI	CAST IRON
CJ	CONSTRUCTION JOINT / CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CNTR	COUNTER
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
CONSTR	CONSTRUCTION
CONT	CONTINUE / CONTINUOUS
COTG	CLEANOUT TO GRADE
CP	CONTROL PANEL
CPT	CARPET
CRS	COLD ROLLED STEEL
CSK	COUNTER SUNK
CSWK	CASEWORK
CT	CERAMIC TILE
CTR	CENTER
DBL	DOUBLE
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DHM	DETENTION HOLLOW METAL
DIA	DIAMETER
DIM	DIMENSION
DS	DOWNSPOUT
DSP	DRY STANDPIPE
DWG	DRAWING
DWR	DRAWER
EA	EACH
EGSB	EXTERIOR GYPSUM SHEATHING BOARD
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRIC / ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
EPB	ELECTRICAL PANEL BOARD
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXH	EXHAUST
EXST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FA	FIRE ALARM
FB	FLAT BAR
FD	FLOOR DRAIN
FDTN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FIN	FINISH
FLG	FLOORING
FLL	FLOW LINE
FLR	FLOOR
FOC	FACE OF CONCRETE/CURB
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FP	FIREPROOF
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET / FOOT
FTG	FOOTING
FURG	FURRING
FUT	FUTURE
G	GROUND; NATURAL GAS
GA	GAGE
GALV	GALVANIZED
GB	GRAB BAR
GI	GALVANIZED IRON
GLU LAM	GLUED LAMINATED WOOD
GYP	GYPSUM
HB	HOSE BIB
HC	HOLLOW CORE
HDBD	HARDBOARD
HDW	HARDWARE
HDWD	HARDWOOD
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
ID	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
JAN	JANITOR
KIT	KITCHEN
L	ANGLE
LAB	LABORATORY
LAV	LAVATORY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEMB	MEMBRANE
MFR	MANFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MR	MOISTURE RESISTANT
MTD	MOUNTED
MTL	METAL
MULL	MULLION
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
O/	OVER
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF/CI	OWNER FURNISHED / CONTRACTOR INSTALLED
OFF	OFFICE
OGL	OBSCURE GLASS
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
PAF	POWER ACTUATED FASTENER
PL	PROPERTY LINE; PLATE
PLAM	PLASTIC LAMINATE
PLB	PLUMB
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PAINT; PAINT
PTN	PARTITION
PV	PHOTOVOLTAIC
QT	QUARRY TILE
R	RADIUS; RISER
RD	ROOF DRAIN
REBAR	REINFORCING STEEL BAR
REF	REFERENCE
REF	REFRIGERATOR
REINF	REINFORCE / REINFORCING
REQD	REQUIRED
RESIL	RESILIENT
RM	ROOM
RO	ROUGH OPENING
RWD	REDWOOD
RWL	RAIN WATER LEADER
SAD	SEE ARCHITECTURAL DRAWINGS
SATC	SUSPENDED ACOUSTICAL TILE
SB	SPLASH BLOCK
SC	SOLID CORE
SCHED	SCHEDULE
SD	STORM DRAIN
SDST	SELF DRIVING, SELF TAPPING
SHT	SHEET
SHTHG	SHEATHING
SHV	SHELVING
SIM	SIMILAR
SLNT	SEALANT
SM	SHEET METAL
SPEC	SPECIFICATION
SQ	SQUARE
SS	SANITARY SEWER; SERVICE SINK
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP CLG	SUSPENDED CEILING
SV	SHEET VINYL
SYMM	SYMMETRICAL
SYS	SYSTEM
T	TREAD
T&G	TONGUE & GROOVE
TEL	TELEPHONE
THK	THICKNESS
TMH	TOP OF MANHOLE
TMPD	TEMPERED
TO	TOP OF
TOC	TOP OF CURB
TOF	TOP OF FRAME
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOPO	TOPOGRAPHY
TOS	TOP OF STEEL
TOW	TOP OF WALL
TV	TELEVISION
TYP	TYPICAL
UC	UNDER COUNTER/CABINET
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
UR	URINAL
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VWC	VINYL WALL COVERING
VWF	VINYL WALL FABRIC
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WH	WATER HEATER
WO	WHERE OCCURS
WP	WORKING POINT
WPM	WATERPROOF MEMBRANE
WSCT	WAINSCOT
WT	WEIGHT
WTR	WATER
WWR	WELDED WIRE REINFORCEMENT

SHEET INDEX

APPLICABLE CODES

APPLICABLE REQUIREMENTS OF CODES AND STANDARDS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

CALIFORNIA CODE OF REGULATIONS, TITLE 19
PUBLIC SAFETY, STATE FIRE MARSHALL REGULATIONS

CALIFORNIA CODE OF REGULATIONS, TITLE 24

PART 1	2019	BUILDING STANDARDS ADMINISTRATIVE CODE
PART 2	2019	CALIFORNIA BUILDING CODE VOLS. 1 & 2
PART 3	2019	CALIFORNIA ELECTRICAL CODE
PART 4	2019	CALIFORNIA MECHANICAL CODE
PART 5	2019	CALIFORNIA PLUMBING CODE
PART 6	2019	CALIFORNIA ENERGY CODE
PART 8	2019	CALIFORNIA HISTORICAL BUILDING CODE
PART 9	2019	CALIFORNIA FIRE CODE
PART 10	2019	CALIFORNIA EXISTING BUILDING CODE
PART 12	2019	CALIFORNIA REFERENCED STANDARDS CODE

UNIFORM CODE FOR THE ABATEMENT OF DANGEROUS BUILDINGS
UNIFORM SECURITY CODE

PARTIAL LIST OF APPLICABLE STANDARDS:

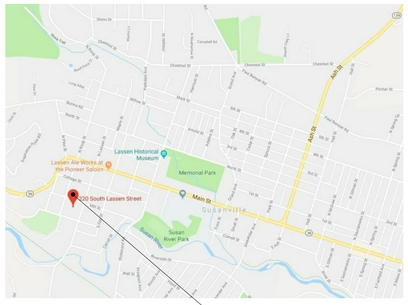
NFPA 70	NATIONAL ELECTRICAL CODE	2020 EDITION
NFPA 72	NATIONAL FIRE ALARM CODE (CA AMENDED)	2019 EDITION
NFPA 241	STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS	2019 EDITION
NFPA 914	CODE OF FIRE PROTECTION OF HISTORIC STRUCTURES	2019 EDITION

BUILDING CODE ANALYSIS

NOTE: AT THE COMPLETION OF THIS PHASE OF WORK THE BUILDING WILL REMAIN UNOCCUPIED FOR A PERIOD OF 18-24 MONTHS WHILE FIRE/LIFE/SAFETY IMPROVEMENTS WILL BE MADE AS WELL AS MECHANICAL, PLUMBING, AND ELECTRICAL SERVICE UPGRADES. ACCESSIBILITY IMPROVEMENTS INSIDE THE BUILDING WILL ALSO BE PERFORMED TO SUPPORT FUTURE COUNTY ADMINISTRATIVE OFFICE SPACES.

BUILDING FUNCTION:	OFFICE SPACE, ASSEMBLY AREA
OCCUPANCY GROUP:	B/A-3
SEPARATED USE:	PLANNED, BUT NOT CURRENTLY
CONSTRUCTION TYPE:	II-B
FIRE SPRINKLERS:	NONE CURRENTLY
BUILDING FLOOR AREA:	21,842 SQ. FT.
NUMBER OF STORIES:	4 STORIES, CONTAINING 1 BASEMENT LEVEL & 1 ATTIC SPACE
SQURE FOOTAGE BY LEVEL:	BASEMENT 6,795 SF LEVEL 1 6,688 SF LEVEL 2 6,688 SF ATTIC 1,671 SF

VICINITY MAP



SCOPE OF PROJECT

THE PROJECT CONSISTS OF SELECTIVE SEISMIC UPGRADES, THE ADDITION OF AN ELEVATOR, AND SITE ACCESSIBILITY IMPROVEMENTS TO THE EXISTING LASSEN COUNTY COURTHOUSE LOCATED AT 220 SOUTH LASSEN STREET IN SUSANVILLE, CALIFORNIA WHICH IS COMPOSED OF FOUR LEVELS, ONE OF WHICH IS A BASEMENT, TOTALING 21,842 GSF.

THE COURTHOUSE, DEDICATED IN 1917, SERVED THE COUNTY AND ITS RESIDENTS FOR ALMOST A CENTURY AS THE SEAT OF JUSTICE. IN 2012 THE SUPERIOR COURT OF LASSEN COUNTY MOVED TO A NEW FACILITY AND THE HISTORIC COURTHOUSE IS NOW SLATED FOR A LONG OVERDUE MODERNIZATION. THE HISTORIC COURTHOUSE IS ON THE NATIONAL REGISTRY OF HISTORIC PLACES AND A PHASED APPROACH IS PLANNED.

EXTENSIVE DEMOLITION AND HAZMAT REMOVAL WAS COMPLETED IN A PREVIOUS PHASE AND FURTHER TENANT IMPROVEMENTS WILL BE COMPLETED AFTER THE PLANNED SEISMIC, FIRE/LIFE SAFETY, AND ACCESSIBILITY UPGRADES IN THIS SUBMITTAL. THE WORK FOLLOWING THIS PHASE OF CONSTRUCTION WILL BE COMPLETED OVER THE COMING 24 MONTHS

DEMOLITION PACKAGE (PREVIOUSLY COMPLETED)
ONCE HISTORICALLY SIGNIFICANT FEATURES HAVE BEEN PROTECTED AND HAZARDOUS MATERIALS REMOVED OR ABATED, SELECTIVE DEMOLITON WILL TAKE PLACE. EXTERIOR WALL CAVITIES WILL BE EXPOSED SO THAT STRUCTURAL ENGINEERS CAN PREPARE A RETROFIT PLAN. THE RESULTING BUILDING WILL REMAIN UNOCCUPIED WHILE FUTURE IMPROVEMENTS ARE COMPLETED.

SEISMIC UPGRADE, ELEVATOR, AND ACCESSIBILITY IMPROVEMENTS (PART OF THIS SCOPE)
INSTALLATION OF SEISMIC IMPROVEMENTS AND AN EXTERIOR ELEVATOR WILL BE PROVIDED WITH AN ACCOMPANYING EGRESS STAIR TO SUPPORT THE FUTURE USE OF THE HISTORIC COURTROOM WHICH WILL THEN SERVE AS THE CHAMBER FOR THE COUNTY BOARD OF SUPERVISORS. EXTERIOR ACCESSIBILITY IMPROVEMENTS WILL ALSO BE PERFORMED. A NEW ELECTRICAL SERVICE WILL BE PROVIDED IN THE BASEMENT OF THE BUILDING, BUT SATELLITE ELECTRICAL ROOMS ON REMAINING FLOORS WILL BE PROVIDED IN THE NEXT PHASE OF WORK.

TENANT IMPROVEMENTS (NOT PART OF THIS SCOPE)
BUILDING-WIDE FIRE/LIFE/SAFETY IMPROVEMENTS WILL BE MADE AS WELL AS MECHANICAL, PLUMBING, AND ELECTRICAL SERVICE UPGRADES FOR THE BUILDING. ACCESSIBILITY IMPROVEMENTS WILL ALSO BE PERFORMED IN THE BUILDING TO SUPPORT FUTURE COUNTY ADMINISTRATIVE OFFICE SPACES.

DEFERRED SUBMITTALS

NONE

SPECIAL INSPECTIONS

NONE

PROJECT DIRECTORY

OWNER
COUNTY OF LASSEN
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707 NEVADA STREET, SUITE 4
SUSANVILLE, CA 96130
CONTACT: PETE HEIMBIGNER
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EMAIL: PHEIMBIGNER@CO.LASSEN.CA.US

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PHONE: 916.912.4476
EMAIL: GAUDREAU@PAGE-TURNBULL.COM

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CONTACT: NICK DOCOUS
PHONE: 916.558.1900
EMAIL: NICK.DOCOUS@LIONAKIS.COM

STRUCTURAL ENGINEER
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PHONE: 916.558.1900
EMAIL: DARRON.HUNTINGDALE@LIONAKIS.COM

ELECTRICAL ENGINEER
GLUMAC
910 GLENN DRIVE
FOLSOM, CA 95630
CONTACT: PAUL JOHNSON
PHONE: 916.934.5103
EMAIL: PJOHNSON@GLUMAC.COM

CIVIL ENGINEER
NST ENGINEERING
1495 RIVERSIDE DRIVE
SUSANVILLE CA 96130
CONTACT: JEFF MOORISH
PHONE: 530.257.5173
EMAIL: nst@frontiernet.net

ELEVATOR
SYSKA HENNESSY
425 CALIFORNIA STREET
SAN FRANCISCO CA 94101
CONTACT: JOHN MORAN
PHONE: 415.228.9061
MOBILE: 415.385.6755
EMAIL: jmoran@syska.com

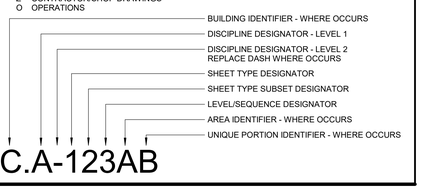
SHEET IDENTIFICATION LEGEND

DISCIPLINE DESIGNATORS - LEVEL 1

G	GENERAL
H	HAZARDOUS MATERIALS
V	SURVEY/MAPPING
B	GEOTECHNICAL
C	CIVIL
L	LANDSCAPE
S	STRUCTURAL
A	ARCHITECTURAL
I	INTERIORS
Q	EQUIPMENT
F	FIRE PROTECTION
P	PLUMBING
D	PROCESS
M	MECHANICAL
E	ELECTRICAL
W	DISTRIBUTED ENERGY
T	TELECOMMUNICATIONS
R	RESOURCE
X	OTHER DISCIPLINES
Z	CONTRACTOR/SHOP DRAWINGS
O	OPERATIONS

SHEET TYPE DESIGNATORS

0	GENERAL
1	PLANS
2	ELEVATIONS
3	SECTIONS
4	LARGE SCALE VIEWS
5	DETAILS
6	SCHEDULES & DIAGRAMS
7	USER DEFINED
8	USER DEFINED
9	3D REPRESENTATIONS



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CONSULTANT

SEAL

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:30 pm, Oct 27, 2020

TITLE
COVER SHEET

SHEET
G-001

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

0 1/4" 1/2" 1"

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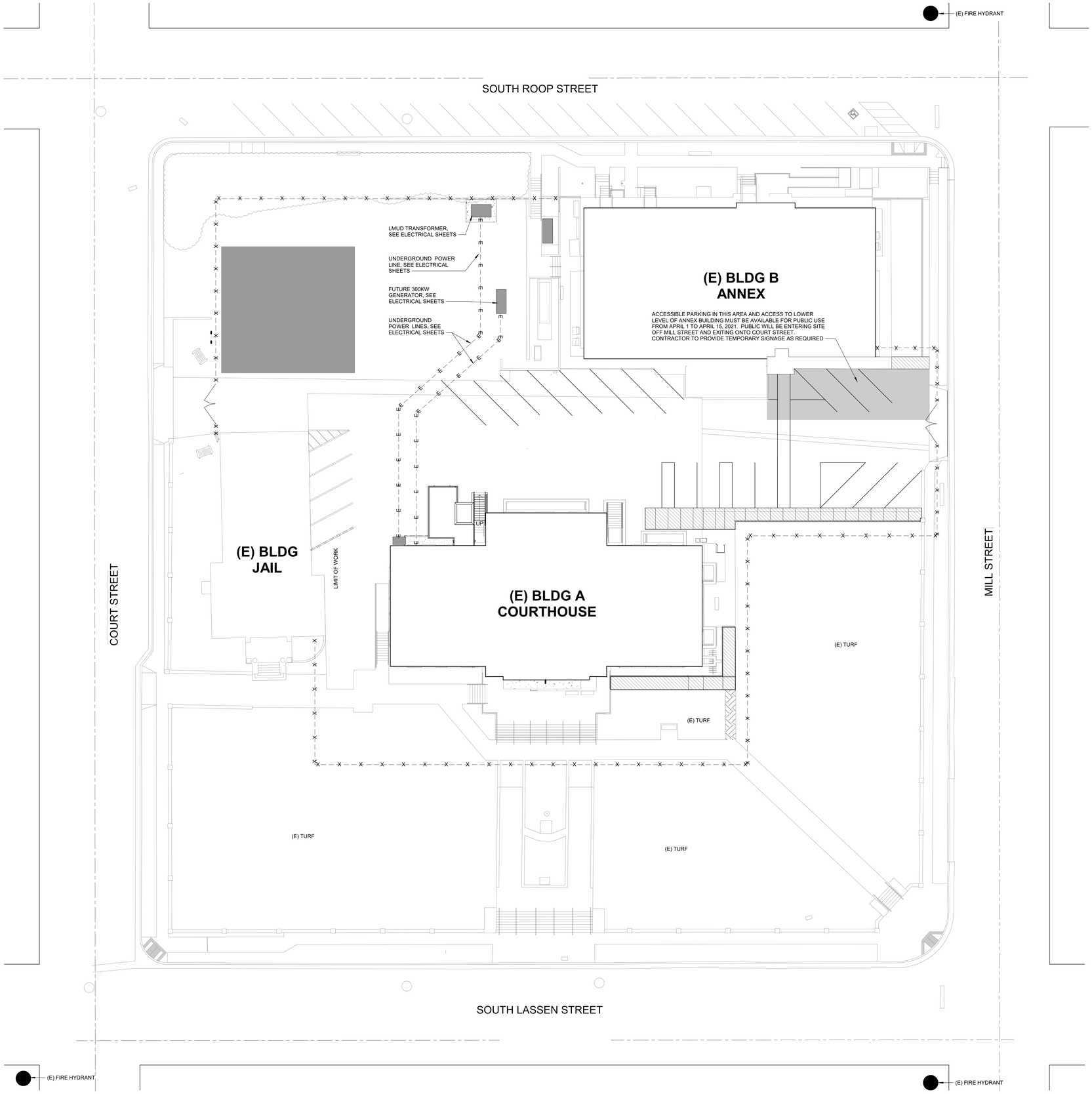

1 SITE LAYDOWN PLAN
1/16" = 1'-0"

PLAN LEGEND

TEMPORARY CONSTRUCTION FENCING

AVAILABLE CONTRACTOR LAYDOWN AREA

MAINTAIN TEMPORARY PUBLIC PARKING IN THIS AREA SEE NOTES FOR FURTHER INFORMATION

GENERAL NOTES

1. CONTRACTOR TO RESTORE ANY SURFACES, SYSTEMS, AND LANDSCAPING AFFECTED BY WORK, INCLUDING SITE LIGHTING, IRRIGATION SYSTEMS, SPRINKLER HEADS, ETC.

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SEAL
LICENSED ARCHITECT NICHOLAS DOCKER C18997 REN 02-28-21 STATE OF CALIFORNIA

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION
220 S LASSEN ST
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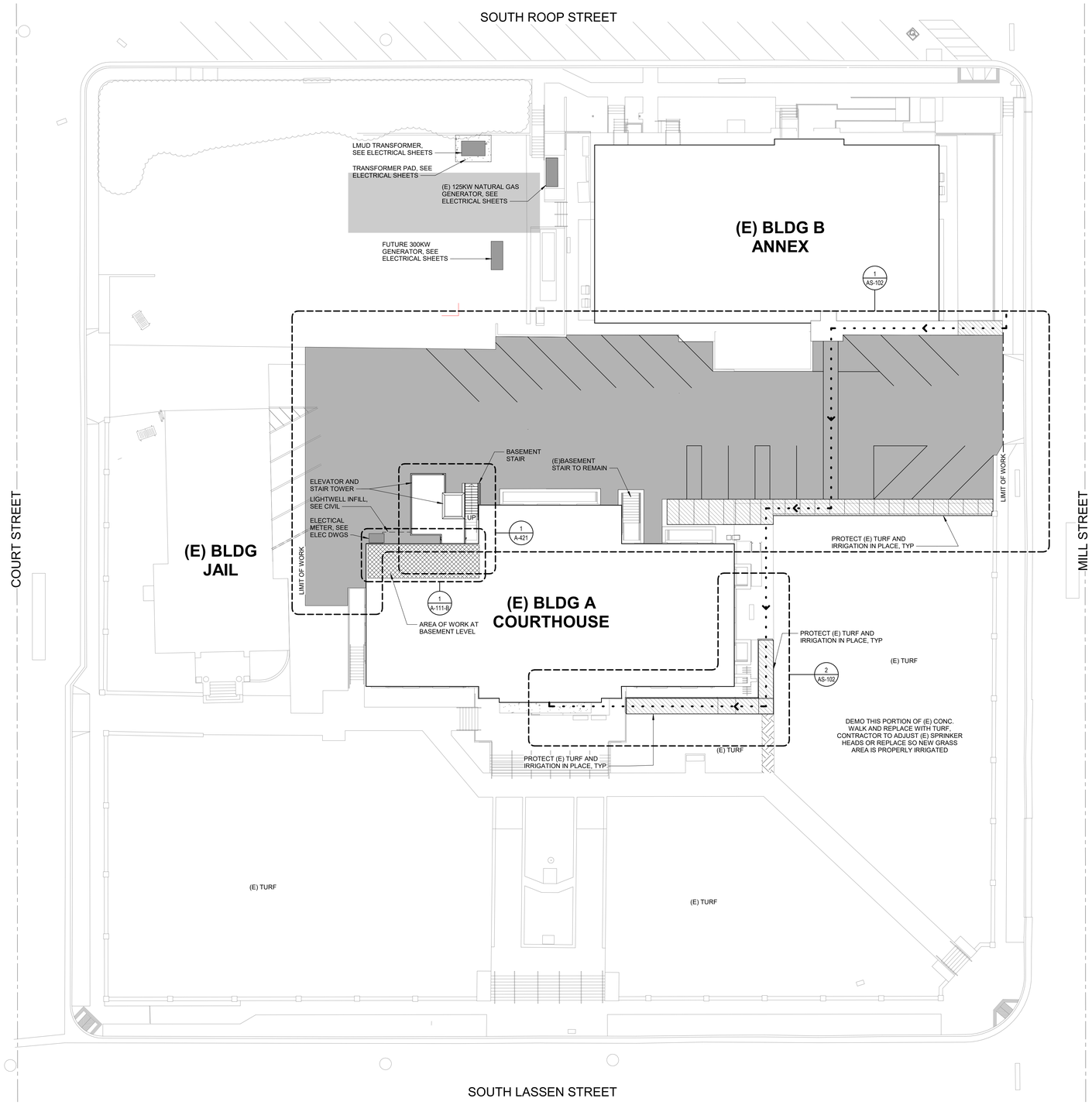
3:31 pm, Oct 27, 2020

TITLE
LAYDOWN PLAN

SHEET
AS-100



1 SITE PLAN
1/16" = 1'-0"

PLAN LEGEND

(BARRIER-FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAX. SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAX, AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM, AND SLIP RESISTANT. CROSS SLOPE DOES NOT EXCEED 1.5% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL BETWEEN 27" AND 80" ABOVE GRADE. SEE CIVIL DRAWINGS FOR NEW SIDEWALK AND PAVED ROAD LOCATIONS, TYP.)

(E) CONCRETE WALK TO REMAIN

(E) AC PAVING TO BE REPLACED, SEE CIVIL

(E) CONCRETE WALK AND RAMP TO BE REPLACED, SEE CIVIL

DEMO (E) CONC. WALK AND REPLACE WITH TURF

AREA OF WORK

GENERAL NOTES

1. FOR SYMBOLS LEGEND AND ARCHITECTURAL ABBREVIATIONS, SEE SHEET G-001
2. SEE CIVIL DRAWING FOR GRADING AND DRAINAGE
3. SEE CIVIL DRAWING FOR DETAILS OF IMPROVED FLATWORK AREAS NOTED ON THESE SHEETS
4. COORDINATE UTILITY INFORMATION WITH CIVIL DRAWINGS.
5. ALL ITEMS ARE CONSIDERED NEW UNLESS IDENTIFIED AS EXISTING, THESE NEW ITEMS SHOULD BE INCLUDED IN THE CONTRACT, UNO.

PARKING CALCULATIONS

REQUIRED PARKING (PER CBC TABLE 11B-208.2)
SHARED COURTHOUSE AND ANNEX BUILDING

TOTAL OF 20 PARKING SPACES PROVIDED WITHIN THE LIMIT OF WORK
5 ACCESSIBLE SPACES PROVIDED (1 OF WHICH IS VAN ACCESSIBLE PER CBC 11B-208.2.4)

15 STANDARD SPACES + 4 ACCESSIBLE SPACES +1 VAN ACCESSIBLE SPACE = 20 TOTAL SPACES

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SEAL
LICENSED ARCHITECT NICHOLAS DODSON C18997 REN 02-29-22 STATE OF CALIFORNIA

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

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SUSANVILLE, CA 96130

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707 NEVADA STREET SUITE 4
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ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

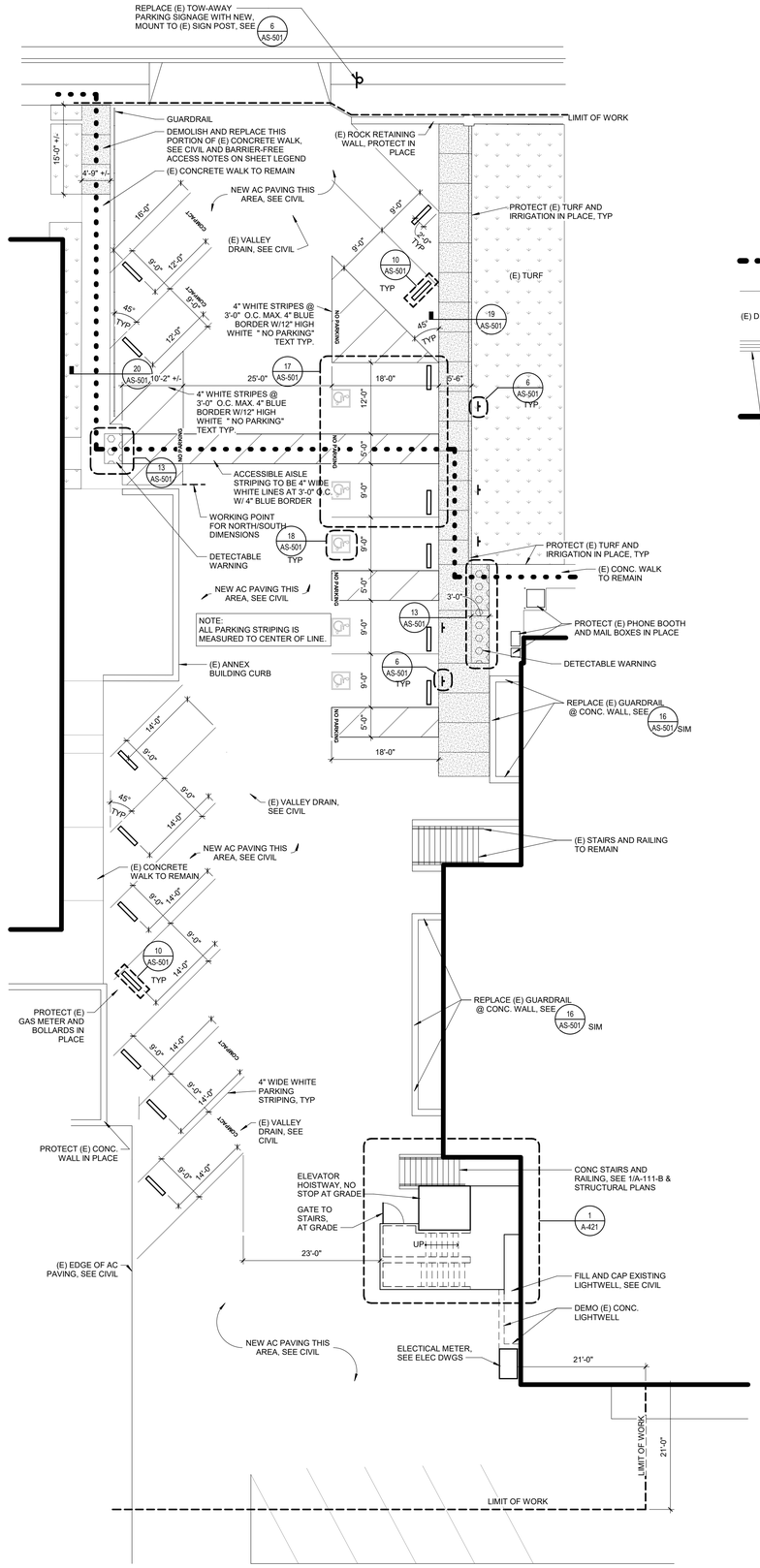
LIONAKIS PROJECT NO:	015437.05
CLIENT PROJECT NO:	
COPYRIGHT:	LIONAKIS 2018

AGENCY

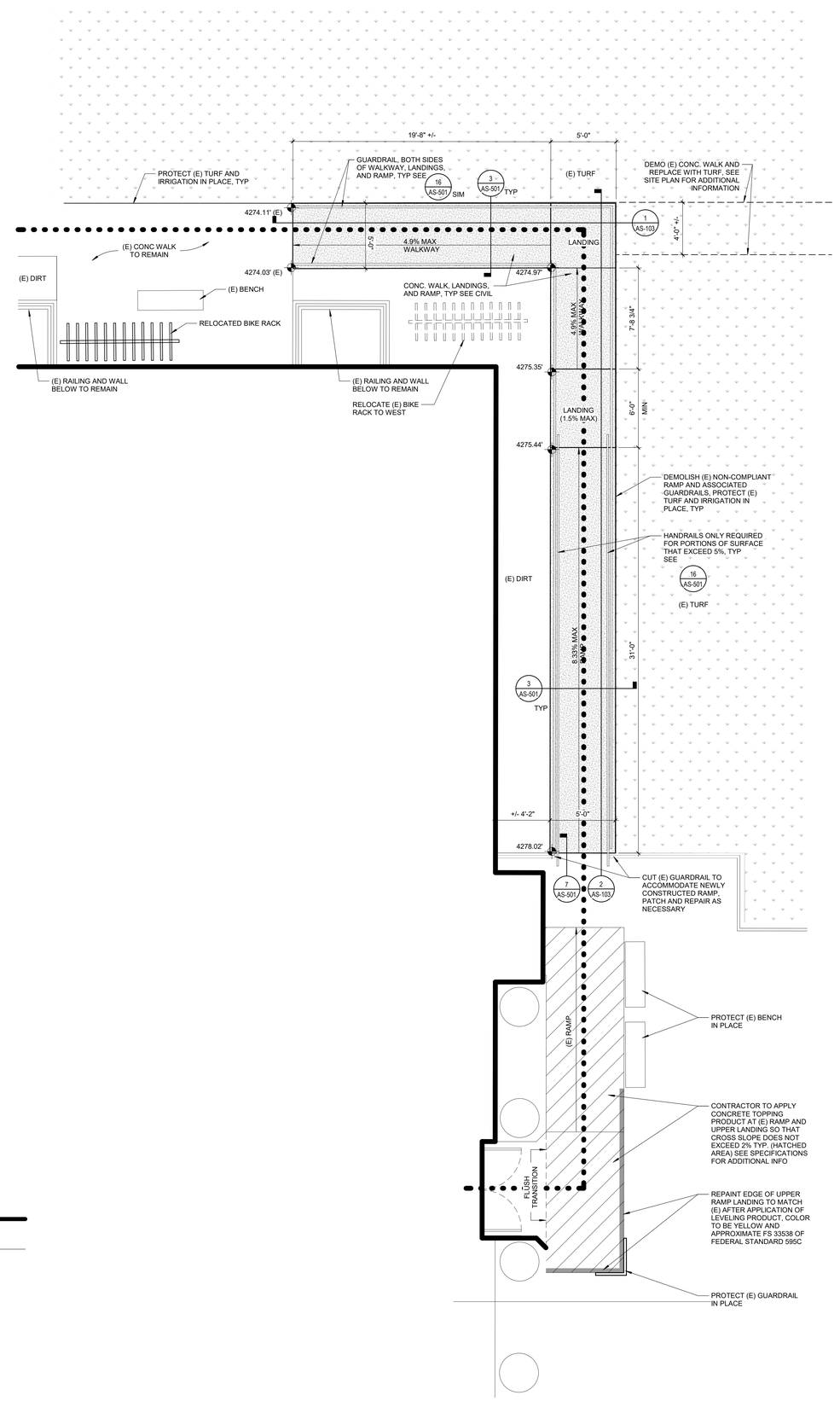
APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
SITE PLAN

SHEET
AS-101



1 SITE PLAN - ENLARGED PARKING
1" = 10'-0"



2 SITE - ENLARGED RAMP PLAN
1/4" = 1'-0"

GENERAL NOTES

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LEGEND

- (E) CONCRETE WALK TO REMAIN
- (E) CONCRETE WALK AND RAMP TO BE REPLACED, SEE CIVIL
- TRUNCATED DOMES
- (BARRIER-FREE ACCESS ROUTE WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BEVELED AT 1:2 MAX. SLOPE OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAX. AND AT LEAST 48" IN WIDTH. SURFACE IS STABLE, FIRM, AND SLIP RESISTANT. CROSS SLOPE DOES NOT EXCEED 1.5% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. ACCESSIBLE PATH OF TRAVEL SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL BETWEEN 27" AND 80" ABOVE GRADE. SEE CIVIL DRAWINGS FOR NEW SIDEWALK AND PAVED ROAD LOCATIONS, TYP.)

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CONSULTANT

SEAL
LICENSED ARCHITECT NICHOLAS DODSON C18997 REN 02-29-21 STATE OF CALIFORNIA

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO:	015437.05
CLIENT PROJECT NO:	
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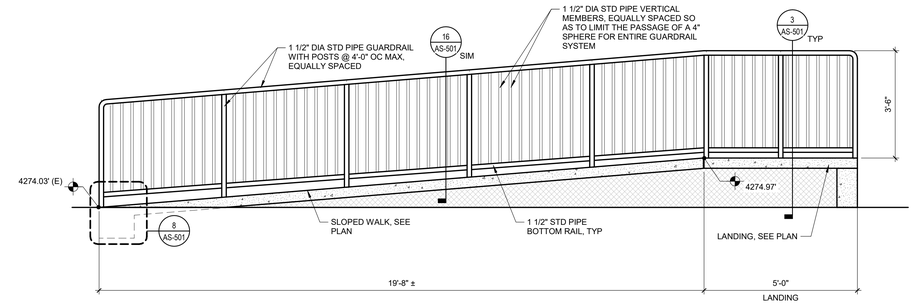
AGENCY

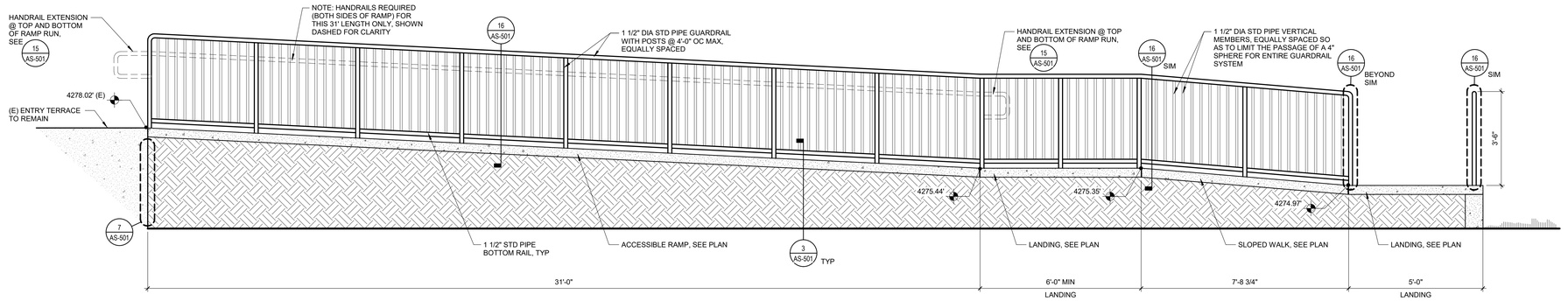
APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
ENLARGED PARKING AND RAMP PLAN

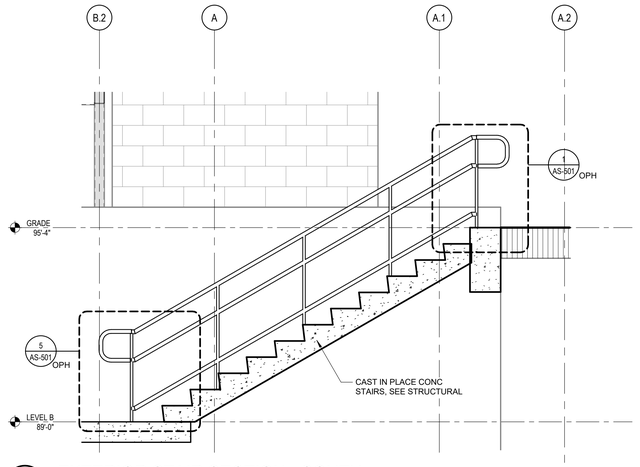
SHEET
AS-102



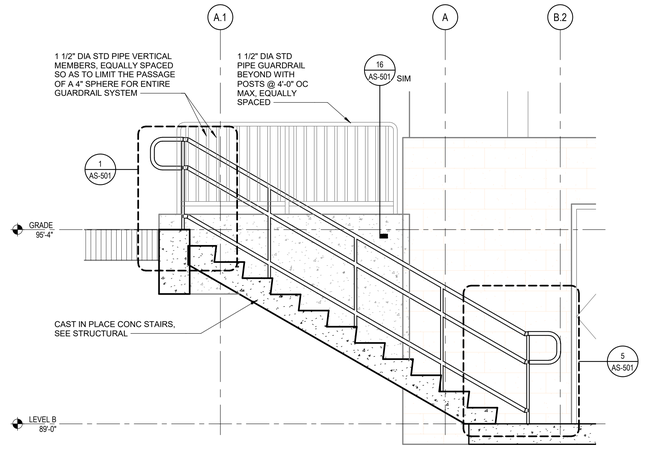
1 SLOPED WALK SECTION
SCALE 1/2" = 1'-0"



2 SLOPED WALK/RAMP SECTION
1/2" = 1'-0"



4 EXTERIOR STAIR SECTION - SOUTH
SCALE 1/2" = 1'-0"



3 EXTERIOR STAIR SECTION - NORTH
SCALE 1/2" = 1'-0"

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Sacramento CA 95811
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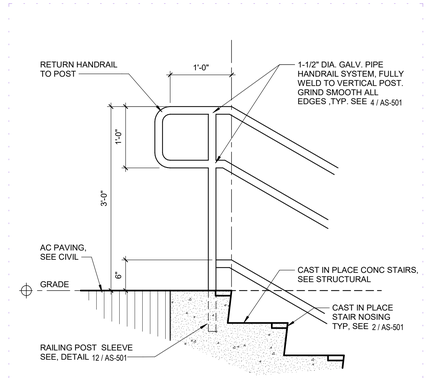
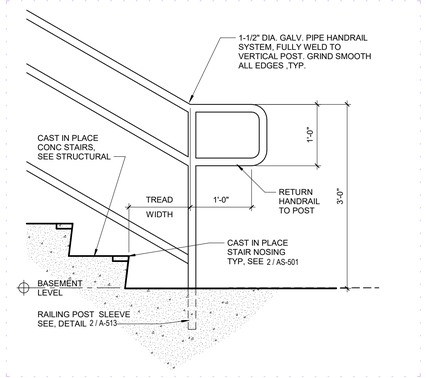
TITLE
SECTIONS - EXTERIOR RAMP & STAIRS

SHEET
AS-103



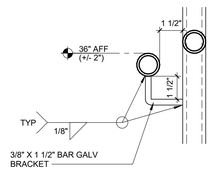
1 HANDRAIL - TOP OF STAIR

1" = 1'-0"



5 HANDRAIL - BOTTOM OF STAIR

1" = 1'-0"

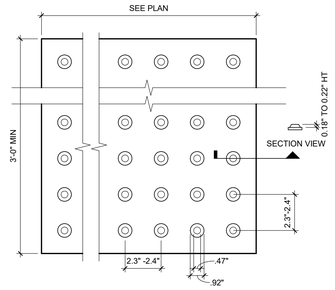


NOTE:
ALL RAILING TO BE GALV

9 HANDRAIL AT GUARDRAIL

3" = 1'-0"

AE_G_0500_008
Q1

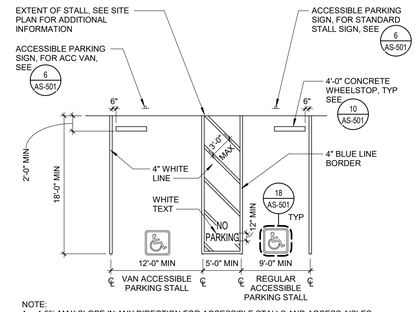


NOTES:
1. THE MATERIAL USED TO PROVIDE VISUAL CONTRAST SHALL BE AN INTEGRAL PART OF THE SURFACE.
2. DETECTABLE WARNING SURFACES SHALL BE YELLOW AND APPROXIMATE FS 33538 OF FEDERAL STANDARD 595C.
3. DETECTABLE WARNING SURFACES SHALL PROVIDE A 70% MIN VISUAL CONTRAST WITH ADJACENT WALKING SURFACES. IF VISUAL CONTRAST IS NOT AVAILABLE SEE 11B-705.1.1.3.2

13 DETECTABLE WARNINGS

3" = 1'-0"

AE_G_0500_012
Q1

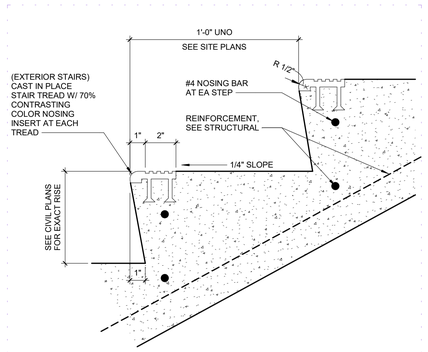


NOTE:
1. 1.5% MAX SLOPE IN ANY DIRECTION FOR ACCESSIBLE STALLS AND ACCESS AISLES
2. CENTERLINES INDICATED IN THIS DETAIL CORRESPOND TO LAYOUT DIMENSIONS SHOWN ON ENLARGED SITE PLAN

17 ACCESSIBLE PARKING STALLS

1/8" = 1'-0"

AE_G_0500_012
Q1



2 TYPICAL STAIR TREAD AND RISER WITH CIP METAL NOSING

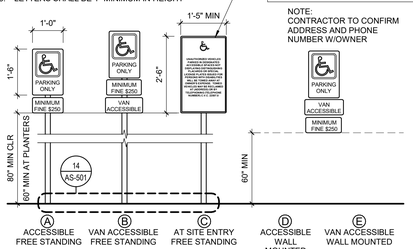
3" = 1'-0"

0500_3213_CONC STAIR CIP MTL NOSING_01

NOTES:
1. SIGNS SHALL HAVE A MINIMUM AREA OF 70 SQ INCHES
2. SIGNAGE TO BE INSTALLED CENTERED AT EACH PARKING SPACE
3. GALV/ THEFT PROOF BRACKETS, STL BOLTS, NUTS & WASHERS THROUGH SIGN AND POST
4. SIGN PANEL OF 0.08" MIN ALUM SHEET, ENAMEL PAINTED AFTER SMOOTHING WITH WHITE LETTERS, NUMBERS AND BORDER STRIPE
5. CHARACTERS TO BE WHITE ON A BLUE BACKGROUND
6. ALL SIGNS TO HAVE 1/2" RADIUS AT THE CORNERS
7. SIGN TO BE CENTERED AT INTERIOR END OF PARKING STALL
8. LETTERS SHALL BE 1" MINIMUM IN HEIGHT

TO BE DISPLAYED:
UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES WILL BE TOWED AWAY AT OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED AT (ADDRESS) OR BY TELEPHONING (TELEPHONE NUMBER) C.V.C. 22507.8

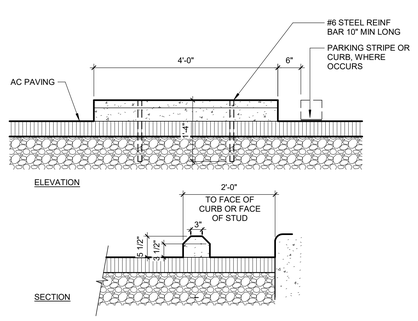
NOTE:
CONTRACTOR TO CONFIRM ADDRESS AND PHONE NUMBER W/OWNER



6 ACCESSIBLE PARKING SIGNAGE

1/2" = 1'-0"

AE_G_0500_003
?YYMMDD?.Q1

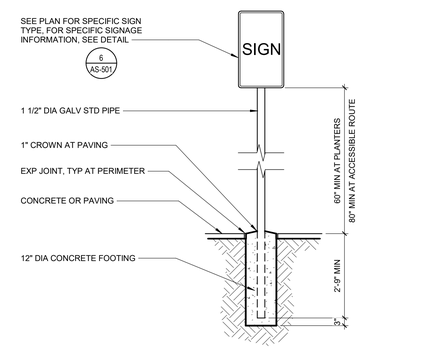


NOTE: WHEEL STOP TO BE PRECAST, AIR ENTRAINED CONCRETE WITH A MINIMUM COMPRESSIVE STRENTH OF 2,500 PSI. PROVIDE CHAMFERED CORNERS AND DRAINAGE SLOTS ON UNDERSIDE AND HOLES FOR ANCHORING TO SUBSTRATE

10 CONCRETE WHEEL STOP

3/4" = 1'-0"

AE_G_0500_014
Q1



14 TYP SIGN POLE & BASE SIGNS

1/2" = 1'-0"

AE_G_0500_013
?YYMMDD?.Q1

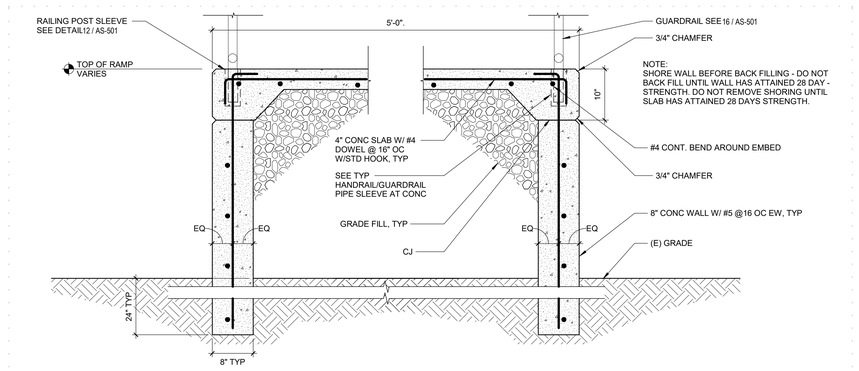
NOTES:
PAINT WITH TRAFFIC PAINT. SYMBOL TO BE WHITE FIGURE ON BLUE BACKGROUND (APPROX. FS 15090 IN FED. STANDARD 595C)

CENTERLINE OF SYMBOL OF ACCESSIBILITY SHALL BE A MAXIMUM OF 6" FROM THE CENTERLINE OF THE PARKING SPACE. ITS SIDES PARALLEL TO THE LENGTH OF THE PARKING SPACE AND ITS LOWER SIDE ALIGNED WITH THE END OF THE PARKING SPACE LENGTH.

18 INTERNATIONAL SYMBOL OF ACCESSIBILITY

1 1/2" = 1'-0"

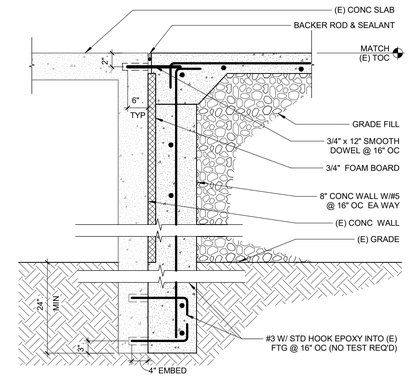
?YYMMDD?.Q1



3 RAMP FOOTING DETAIL

1" = 1'-0"

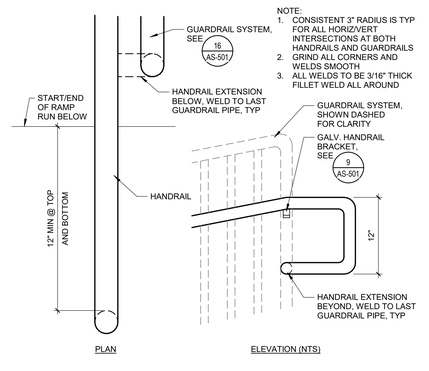
Q1



7 RAMP @ (E) CONCRETE

1" = 1'-0"

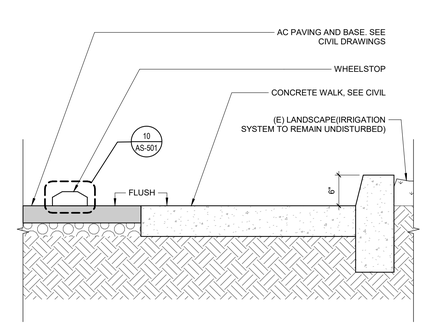
Q1



15 TYP HANDRAIL EXTENSION

3" = 1'-0"

Q1

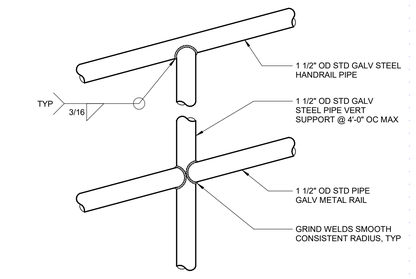


NOTE: SEE CIVIL PLANS FOR JOINT REQUIREMENTS, TYP.

19 AC PAVING @ NEW CONCRETE WALK

1" = 1'-0"

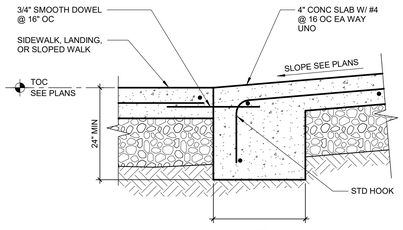
Q1



4 TYPICAL RAILING CONNECTION

3" = 1'-0"

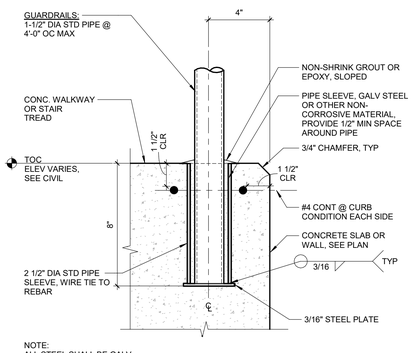
0500_0550_HNDRL TYP CONNECTION_01



8 RAMP TRANSITION SECTION

1 1/2" = 1'-0"

S-_033000_C2035A
140127. Q2

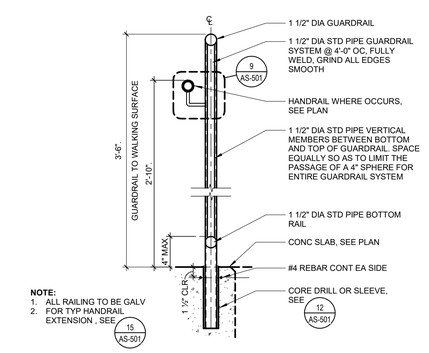


NOTE:
ALL STEEL SHALL BE GALV

12 RAILING POST SLEEVE DETAIL

3" = 1'-0"

Q1

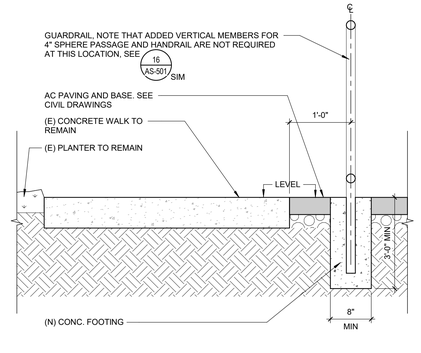


NOTE:
1. ALL RAILING TO BE GALV
2. FOR TYP HANDRAIL EXTENSION , SEE
15 AS-501

16 GUARDRAIL SECTION

1 1/2" = 1'-0"

Q1



20 AC PAVING @ (E) CONCRETE WALK

1" = 1'-0"

Q1

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3:31 pm, Oct 27, 2020

TITLE
DETAILS - SITE

SHEET
AS-501

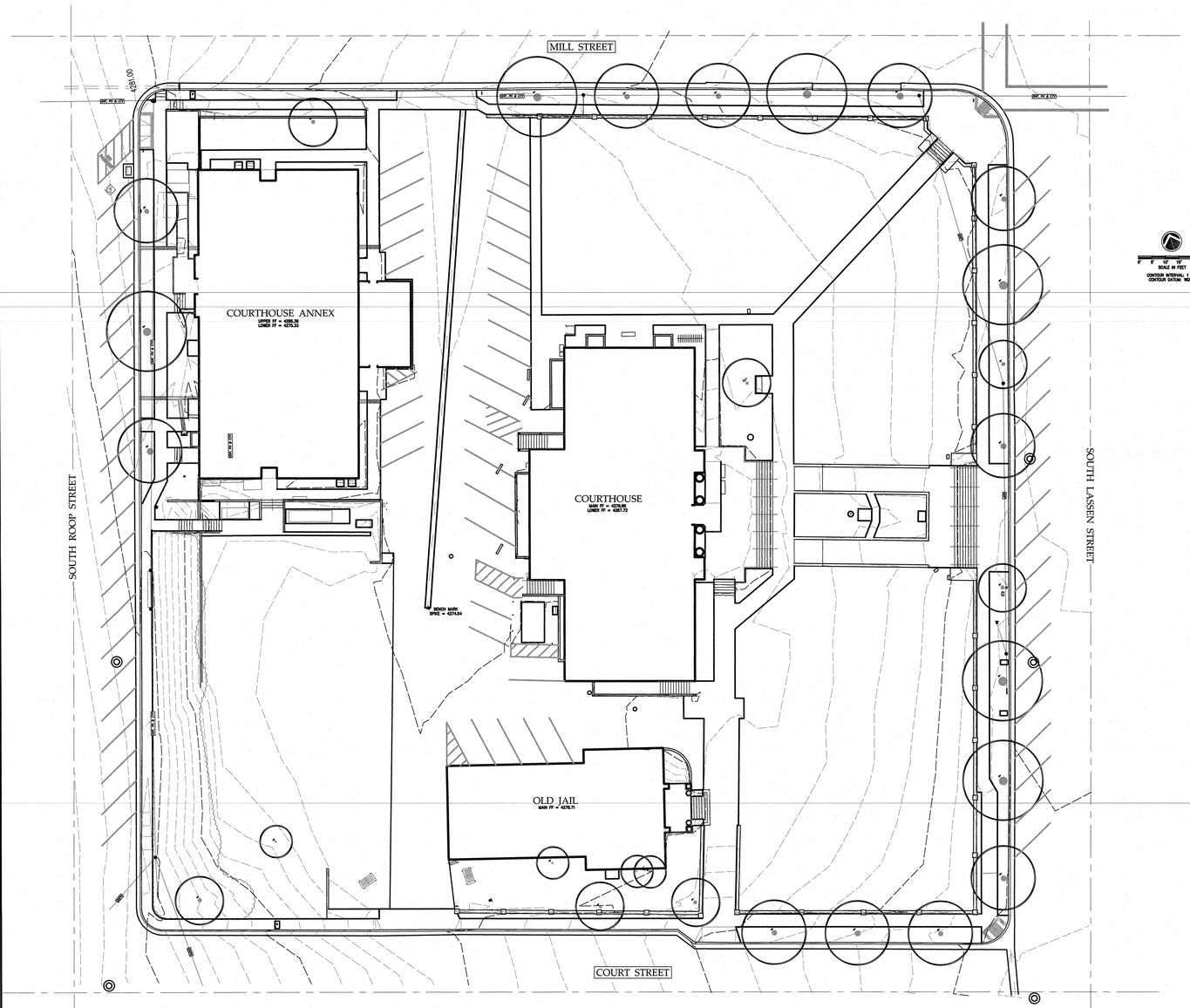
PROJECT PLANS FOR

LASSEN COURTHOUSE SQUARE ACCESSIBILITY IMPROVEMENTS

220 S LASSEN STREET, SUSANVILLE

FOR

COUNTY OF LASSEN



VICINITY MAP

SCOPE OF IMPROVEMENTS

1 REMOVE EXISTING NON-COMPLIANT RAMP
2 CONSTRUCT NEW ADA COMPLIANT RAMP
3 REMOVE AND REPLACE EXISTING CONCRETE SIDEWALK
4 REMOVE AND REPLACE EXISTING ASPHALT PAVING
5 INSTALL CONCRETE SWALE AS SHOWN ON PLANS
6 INSTALL UNDERGROUND CONDUIT FOR FUTURE UTILITIES
7 RESTRIPE AND SIGN ADA PARKING AREA (NEW AC PAVEMENT)

SHEET INDEX

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CONSULTANT

NST ENGINEERING, INC.
1495 Riverside Drive
Susanville, CA 96130
Phone: (530) 257-5173

SEAL

REGISTERED PROFESSIONAL ENGINEER
JEFFERY MORRIS
C 36929
EXP 3/30/22
CIVIL
STATE OF CALIFORNIA
Signed 10/14/20

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TITLE
CIVIL TITLE

SHEET
C1

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10/13/2020 2:59:32 PM

MILL STREET

COURTHOUSE ANNEX
UPPER FF = 4286.39
LOWER FF = 4275.33

COURTHOUSE
MAIN FF = 4278.86
LOWER FF = 4267.72

AC PAVEMENT
12,600 SF
SEE 3/C3

BEGIN TRANSITION TO MATCH EXISTING SIDEWALK. VERIFY GRADES IN FIELD.

REMOVE (E) SIDEWALK AND INSTALL (N) SIDEWALK WITH MAXIMUM 2% CROSS-SLOPE. TRANSITION TO MATCH EXISTING SIDEWALKS.

REMOVE (E) PAVEMENT AND INSTALL (N) AC PAVEMENT.

MATCH EXISTING GRADE AT SIDEWALK DRAINAGE.

MATCH EXISTING GRADE AT SIDEWALK DRAINAGE.

NEW CONCRETE SIDEWALK WITH LANDSCAPE CURB SEE 2/C3 4/C3

SEE ARCHITECTURAL DRAWING FOR PARKING PLAN DETAILS.

REMOVE EXISTING CONCRETE BOLLARDS.

SAW CUT – MATCH GRADES

SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

INSTALL 4" SCHEDULE 40 PVC PIPE FOR DRAINAGE.

RELOCATE BIKE RACK WEST. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

(E) PHONE BOOTH AND MAILBOXES TO REMAIN.

REMOVE AND REPLACE (E) ASPHALT CURB. SEE 5/C3

REMOVE (E) ADA SIGNS (4)

SAW CUT AND MATCH GRADES AT UTILITY LOCATIONS.

SEE ELECTRICAL SITE PLAN
INSTALL (N) 4" SCHEDULE 40 PVC CONDUITS FOR FIBER CONNECTION. SEE 6/C3 7/C3

REMOVE ABANDONED METER

SAW CUT AND MATCH GRADES AT UTILITY LOCATIONS.

REMOVE AND REPLACE (E) STAIRCASE AND CONCRETE LANDING

REMOVE AND REPLACE (E) ASPHALT CURB. SEE STRUCTURAL PLANS

SAW CUT, REMOVE, AND REPLACE 2' CONCRETE VALLEY DRAIN. MATCH EXISTING GRADES. SEE 1/C3

FUTURE GENERATOR

(e) U/G TELECOM FEED TO REMAIN VERIFY IN FIELD

U/G FEEDER TO MAIN SWITCHBOARD AT ANNEX VERIFY IN FIELD

TRANS. PAD

BENCH MARK SPIKE = 4274.64

ELEVATOR AND STAIR TOWER SEE ARCH. PLANS

LIGHTWELL TO BE INFILLED SEE 8/C3

REMOVE AND EXTEND 2' CONCRETE VALLEY DRAIN TO LIMIT OF WORK. MATCH GRADES.

SEE ELECTRICAL SITE PLAN FOR ELECTRICAL DETAILS

LIMIT OF WORK

SAW-CUT & MATCH GRADE

EXISTING CONCRETE WALK TO REMAIN

NO PARKING

OHP, PH & CTV

MATCH

SAW CUT

12.5'

10'

46'

14'

0' 5' 10' 15' 25'
SCALE IN FEET

CONTOUR INTERVAL: 1 FOOT
CONTOUR DATUM: WGS 84

LEGEND

NEW A.C. PAVEMENT

NEW CONCRETE WALKWAY

NOTES:

REMOVE EXISTING A.C. PAVING AND INSTALL 2.5" NEW A.C. PAVING OVER CLASS II BASE.

VERIFY DEPTH OF EXISTING CLASS II BASE, AND REPLACE AS NECESSARY TO INSURE A MINIMUM 6".

SEE ARCHITECTURAL DRAWINGS FOR PARKING PLAN AND STRIPING DETAILS, SIGNS, AND TRUNCATED DOME LOCATIONS.

SEE ARCHITECTURAL DRAWINGS FOR NEW CONCRETE SIDEWALK DETAILS.

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REGISTERED PROFESSIONAL ENGINEER JEFFERY MORRISON C 36929 EXP 6/30/22 CIVIL STATE OF CALIFORNIA
10/14/20

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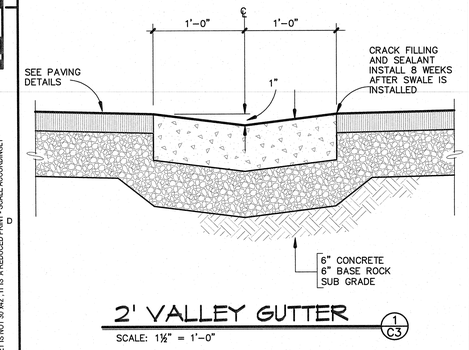
AGENCY

TITLE
GRADING & DRAINAGE

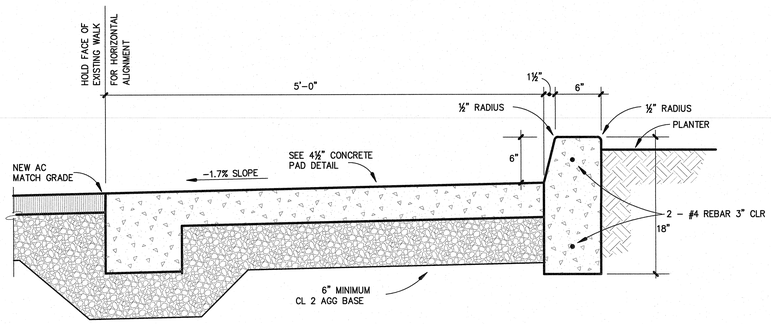
SHEET
C2



2' VALLEY GUTTER

SCALE: 1½" = 1'-0"

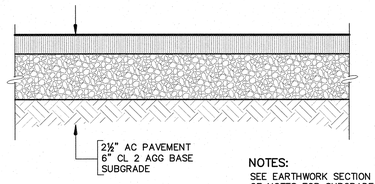
(1 / C3)



SIDEWALK & CURB

SCALE: 1½" = 1'-0"

(2 / C3)

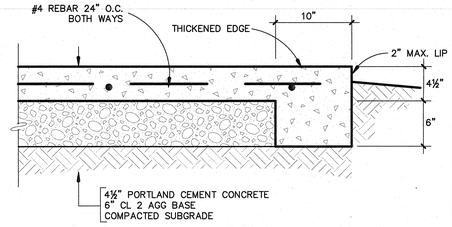


NOTES:
SEE EARTHWORK SECTION OF NOTES FOR SUBGRADE COMPACTION REQUIREMENTS.

AC PAVING SECTION

SCALE: 1½" = 1'-0"

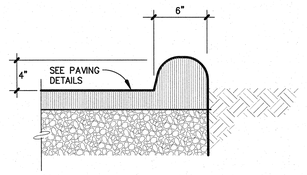
(3 / C3)



4 1/2" CONCRETE PAD

SCALE: 1½" = 1'-0"

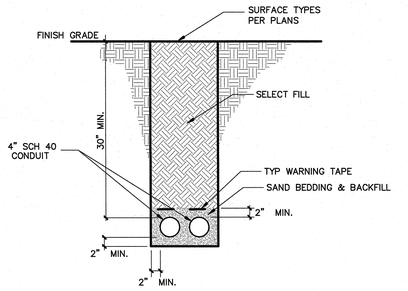
(4 / C3)



TYPICAL ASPHALT CURB DETAIL

SCALE: 1½" = 1'-0"

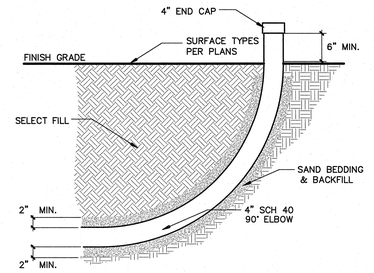
(5 / C3)



CONDUIT TRENCH

NOT TO SCALE — FOR FUTURE UTILITY EXTENSIONS

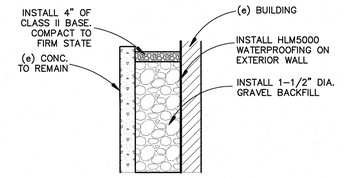
(6 / C3)



CONDUIT RISER

NOT TO SCALE — FOR FUTURE UTILITY EXTENSIONS

(7 / C3)



LIGHTWELL INFILL DETAIL

SCALE : ½" = 1'-0"

(8 / C3)

EARTHWORK

GENERAL

THE CONTRACTOR SHALL EXCAVATE ALL MATERIALS, REGARDLESS OF CHARACTER, TO THE DEPTHS INDICATED. THE CONTRACTOR SHOULD BE AWARE OF AND PLAN FOR ENCOUNTERING GROUND WATER DURING ANY CORING, DRILLING, OR EXCAVATING.

STANDARDS

MEET REQUIREMENTS AND RECOMMENDATIONS OF APPLICABLE PORTIONS OF STANDARDS LISTED, LATEST APPLICABLE EDITIONS:

1) CHAPTER 18 EXCAVATION AND GRADING – CALIFORNIA BUILDING CODE (CBC)
2) AMERICAN SOCIETY FOR TESTING AND MATERIALS. (ASTM)
3) CALIFORNIA STATE DEPARTMENT OF TRANSPORTATION. (CAL TRANS)
4) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES IN FEDERAL HIGHWAY PROJECTS, FP-03

PROTECTION

ADEQUATE PROTECTION MEASURES SHALL BE PROVIDED TO PROTECT WORKMEN AND PASSERSBY THE SITE. STREETS AND ADJACENT PROPERTY SHALL BE FULLY PROTECTED THROUGHOUT THE OPERATIONS.

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR WORKING CONDITIONS AT THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO WORKING HOURS.

ADJACENT STREETS AND SIDEWALKS SHALL BE KEPT FREE FROM MUD, DIRT OR SIMILAR NUISANCES RESULTING FROM EARTHWORK OPERATIONS.

THE SITE AND ADJACENT INFLUENCED AREAS SHALL BE WATERED AS REQUIRED TO SUPPRESS DUST NUISANCE.

CAREFULLY PROTECT EXISTING TREES TO REMAIN.

WHERE EXISTING UTILITIES ARE ENCOUNTERED, REGULATIONS GOVERNING THE RESPECTIVE UTILITIES SHALL BE OBSERVED IN EXECUTING ALL WORK AFFECTING SAME. ACTIVE UTILITIES SHOWN ON THE DRAWINGS SHALL BE ADEQUATELY PROTECTED FROM DAMAGE, AND REMOVED OR RELOCATED ONLY AS INDICATED OR SPECIFIED.

EXCAVATION & IMPORTED FILL

WHERE SOFT, WEAK, OR WET MATERIAL IS ENCOUNTERED AT THE BOTTOM OF STRUCTURE EXCAVATIONS, EXCAVATE TO FIRM, STABLE SOIL AND REPLACE WITH CLASS 2 A.B. OR APPROVED ENGINEERED FILL. COMPACT MATERIAL IN 6 INCH LIFTS TO 90% DENSITY OF ASTM 1557.

IN THE EVENT SUBSURFACE OBSTRUCTIONS NOT NORMALLY EXPECTED ARE ENCOUNTERED, AND NOT SHOWN ON THE PLANS, SUCH AS FOUNDATIONS, PILING, ELECTRICAL DUCTS, OR PIPING, THE OWNER'S REPRESENTATIVE SHALL BE NOTIFIED AT ONCE FOR INSTRUCTIONS BEFORE PROCEEDING. IMPORTED FILL: IMPORTED FILL SHALL BE A GRANULAR, NON-PLASTIC MATERIAL, 3" MAXIMUM GRADING, WITH LESS THAN 20% PASSING A 200 SIEVE. REGARDLESS OF ACHIEVED RESULTS, ALL STRUCTURAL FILL SHALL BE FIRM & STABLE ENOUGH TO SUPPORT CONSTRUCTION EQUIPMENT.

COMPACTION: FOR AREAS BENEATH PAVEMENT, STRUCTURES OR CONCRETE SLABS, THE SUB GRADE OF SOILS WITHIN EXCAVATION SHALL HAVE A DENSITY OF 90% OF ASTM 1557, TO A DEPTH OF 6". FOR AREAS BENEATH PAVEMENT, STRUCTURES OR CONCRETE SLABS, FILL SECTIONS SHALL BE COMPACTED TO 95% OF ASTM 1557. ANY FILL SECTION WITHIN 1 FOOT OF FINISH GRADE SHALL BE COMPACTED TO 95% OF ASTM 1557.
EACH LIFT SHALL BE 8" MAXIMUM AND MOISTURE CONDITIONED TO OPTIMUM PRIOR TO COMPACTION. SUB BASE PLACEMENT SHALL BE GRADED TO WITHIN ONE-TENTH OF A FOOT OF REQUIRED GRADE. ALL IMPORTED FILL IN NON-STRUCTURAL AREAS SHALL BE COMPACTED TO 90% OF ASTM 1557 @ 8" LIFTS UNLESS OTHERWISE STATED ABOVE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OFF-SITE REMOVAL AND DISPOSAL, IN ACCORDANCE WITH ALL REGULATIONS.

DEMOLITION

GENERAL

DEMOLITION SHALL INCLUDE ALL EXISTING MAN MADE IMPROVEMENTS NOT MEANT TO REMAIN. DEMOLITION SHALL INCLUDE AC PAVEMENT, CONCRETE PAD, BOLLARDS, AND SIDEWALK.

REMOVAL

ALL MATERIAL DEMOLISHED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE HIS/HER SOLE RESPONSIBILITY FOR REMOVAL AND OFF SITE DISPOSAL.

CONCRETE

GENERAL

THIS SECTION INCLUDES THE PLACEMENT OF CONCRETE AND INCIDENTAL WORK ASSOCIATED WITH THE PLACEMENT OF CONCRETE. THE SCOPE OF THIS SECTION IS THE PLACEMENT OF CONCRETE AS SHOWN ON CIVIL PLANS ONLY.

THE CONTRACTOR SHALL TAKE WHATEVER STEPS ARE NECESSARY TO INSURE THE CONCRETE IS NOT DAMAGED DUE TO WEATHER, VANDALISM, TRAFFIC OR OTHER PROBLEMS.

STANDARDS

THE CONTRACTOR SHALL MEET THE REQUIREMENTS AND RECOMMENDATIONS OF APPLICABLE PORTIONS OF STANDARDS LISTED – LATEST APPLICABLE ADDITIONS:

AMERICAN CONCRETE INSTITUTE. (ACI)
AMERICAN SOCIETY FOR TESTING AND MATERIALS. (ASTM)
CONCRETE REINFORCING STEEL INSTITUTE. (CRSI)
NATIONAL READY MIXED CONCRETE ASSOCIATION. (NRMCA)
UNITED STATES OF AMERICA STANDARDS INSTITUTE. (USASI)
CALIFORNIA BUILDING CODE, TITLE 24, PART 2 – ACCESSIBILITY REQUIREMENTS.
STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES IN FEDERAL HIGHWAY PROJECTS, FP-03

SUB GRADE

FOR PLACEMENT OF CONCRETE WITHIN VEHICULAR TRAFFIC WAYS OR VEHICULAR MANEUVERING AREAS, CONCRETE SUB BASE AND BASE STANDARDS SHALL MEET THE REQUIREMENTS WITHIN THE "EARTHWORKS" AND "PAVING" SPECIFICATIONS SECTIONS OF THESE PLANS.

SUB GRADE FOR CONCRETE CURB, GUTTER OR SIDEWALK CONSTRUCTION SHALL BE COMPACTED TO 90% OF ASTM 1557 (EXCEPT THAT THE FINAL 6" LIFT OF FILL SECTIONS SHALL BE COMPACTED TO 95% OF ASTM 1557).

MATERIALS

MATERIALS AND METHODS SHALL MEET REQUIREMENTS OF ACI 301 AND ASTM C-94.
COURSE AGGREGATE (ASTM C-33) MINIMUM SIZE 1" X NO. 4.
SAND (ASTM C-33)
CEMENT, TYPE II LOW ALKALI OR TYPE IP.

DESIGN SPECIFICATIONS

ALL CONCRETE MIX DESIGNS SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER. DESIGNS SHALL BE IN ACCORDANCE WITH ACI CODE 318, 301, 211 AND CBC SECTION 19 METHOD B OR C.

EXTERIOR CONCRETE FOR WALKS, SLABS, DRIVEWAYS, DRAINAGE STRUCTURES, AND GUTTERS, ETC., SHALL MEET THE REQUIRED BUILDING CODE DURABILITY SPECIFICATIONS OF A MAXIMUM 0.45 WATER-CEMENT RATIO AND 5000 PSI. EXTERIOR CONCRETE FOR VERTICAL CURBS, RETAINING WALLS, POSTS, COLUMNS, ETC., NOT SUBJECTED TO FREEZE-THAW CONDITIONS SHALL MEET A SPECIFIED STRENGTH OF 5000 PSI. THE OVER-DESIGN CRITERIA SHALL MEET ACI AND BUILDING CODE REQUIREMENTS OF FC (SPECIFIED STRENGTH) PLUS 1200 PSI. AGGREGATE TESTS, TRIAL BATCHES AND/OR MIX DESIGNS SHALL BE CURRENT AND SIGNED BY AN ENGINEER.

THE 28 DAY COMPRESSIVE STRENGTH REQUIREMENTS MAY BE EXTENDED TO 56 DAYS WHEN CEMENT TYPE 1P OR TYPE II MODIFIED WITH FLY ASH IS USED. IN NO EVENT SHALL WATER BE ADDED TO EXCEED THE SPECIFIED SLUMP. IF HIGHER SLUMPS ARE DESIRED, THE USE OF SUPERPLASTICIZER IS ACCEPTABLE.

CONCRETE CURING

REF. ACI 308. CONTINUOUSLY MOISTENED BURLAP FOR THE FIRST 7 DAYS OF CURING OR TWO COATS OF WHITE PIGMENTED CURING COMPOUND.

HOT & COLD WEATHER CONCRETING

PER ACI 305 AND 306

CONCRETE CONTINUED

CONCRETE PLACEMENT

REINFORCEMENT PLACEMENT ALONG WITH FORM DIMENSIONS, GRADES AND SLOPES SHALL BE VERIFIED PRIOR TO CONCRETE POUR. FORM WORK SHALL BE COATED WITH A RELEASE AGENT. ALL CONCRETE WITH REINFORCEMENT SHALL BE MACHINE VIBRATED FOR PROPER CONSOLIDATION. CONCRETE SHALL NOT BE "OVERWORKED" DURING PLACEMENT AND FINISHING. AT NO TIME WILL THE USE OF WATER BE ALLOWED TO AID IN THE FINISHING PROCESS. A "SURFACE RETARDER" SUCH AS CONFILM IS PERMITTED TO AID IN FINISHING IF NECESSARY.

EXPANSION JOINTS

JOINTS SHALL BE 1/2" ASPHALT SATURATED FIBERBOARD PLACED AROUND ALL PENETRATIONS AND EXISTING STRUCTURES.

FINISH

ALL CONCRETE SIDEWALKS SHALL HAVE A "LIGHT BROOM" FINISH APPLIED PERPENDICULAR TO PEDESTRIAN TRAFFIC FLOW. CURBS AND GUTTERS SHALL HAVE THE FINISH APPLIED PARALLEL TO GUTTER FLOWLINE. THE FINISH OF CONCRETE SLABS WITHIN VEHICULAR TRAVELED WAYS SHALL CONFORM TO SECTION 40-1.10, CAL TRANS STANDARD SPECIFICATIONS.

CONTRACTION JOINTS

CONCRETE WALKS:
HAND TROWELED JOINTS SHALL BE PLACED AT LENGTH TO WIDTH RATIO.

CONCRETE SLABS:
CONTRACTION JOINTS CAN EITHER BE HAND TROWELED OR SOFT CUT AT 8' O.C.

PAVING

STANDARDS

MEET REQUIREMENTS AND RECOMMENDATIONS OF APPLICABLE PORTIONS OF STANDARDS LISTED, LATEST APPLICABLE EDITIONS:

1) ASPHALT PAVING INSTITUTE. (API)
2) AMERICAN SOCIETY FOR TESTING AND MATERIALS. (ASTM)
3) CALIFORNIA STATE DEPARTMENT OF TRANSPORTATION. (CAL TRANS)
4) STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES IN FEDERAL HIGHWAY PROJECTS, FP-03

BASE COURSE

BASE COURSE SHALL BE MINERAL AGGREGATE CONFORMING TO AND INSTALLED IN ACCORDANCE WITH 26-1.02 A CLASS 2 AGGREGATE BASE (3/4" MAXIMUM) OF CAL TRANS STANDARD SPECIFICATIONS. CLASS 2 AGGREGATE BASE SHALL BE SPREAD WITH EQUIPMENT THAT WILL PROVIDE A UNIFORM AND MAXIMUM 6" LAYER CONFORMING TO THE PLANNED SECTION.

THE RELATIVE COMPACTION OF EACH 6" LAYER OF COMPACTED BASE MATERIAL SHALL NOT BE LESS THAN 95 PERCENT OF THAT DETERMINED BY TEST METHOD NO. CALIF. 216 OR ASTM 1557.

THE THICKNESS OF THE FINISHED BASE SHALL NOT VARY MORE THAN 0.03 FOOT FROM THE PLANNED THICKNESS AT ANY POINT. BASE WHICH DOES NOT CONFORM TO THE ABOVE REQUIREMENTS SHALL BE RESHAPED OR REWORKED, WATERED AND THOROUGHLY RECOMPACTED TO CONFORM TO THE SPECIFIED REQUIREMENTS.

TACK COAT

A TACK COAT SHALL BE PLACED BETWEEN NEW ASPHALT CONCRETE AND EXISTING ASPHALT CONCRETE AND CONCRETE SURFACES. THE EXISTING ASPHALT CONCRETE SURFACE SHALL BE SAW-CUT TO A SMOOTH FINISH PRIOR TO TACK COAT PLACEMENT. THE MATERIAL SHALL CONSIST OF EMULSIFIED ASPHALT AND CONFORM TO ASTM D-977, GRADE SS-1. THE TACK COAT SHALL BE APPLIED IN QUANTITIES OF NOT LESS THAN 0.05-GALLON NOR MORE THAN 0.15-GALLON PER SQUARE YARD OF PAVEMENT SURFACES.

CRACK/JOINT CLEANING

SOME CRACKS WILL RECEIVE MECHANICAL CLEANING, FINAL CLEANING SHALL USE HIGH PRESSURE 90 PSI MINIMUM COMPRESSED AIR TO REMOVE ANY REMAINING DEBRIS OR DUST.

BOTH SIDES OF THE CRACK JOINT SHALL BE CLEANED.

CRACKS LARGER THAN 1 1/2" WIDE SHALL BE PATCHED WITH ASPHALT CONCRETE BEFORE OVERLAYS.

ASPHALT CRACK FILLER AND SEALANT

CRAFCO "SUPERFLEX HT" OR "POLYFLEX TYPE 3" SHALL BE USED PER MANUFACTURE'S RECOMMENDATIONS.

ASPHALT SEAL COAT

SEAL COAT MATERIAL AND INSTALLATION SHALL BE PURSUANT TO CAL TRANS SPECIFICATIONS.

PAVING CONTINUED

ASPHALT CONCRETE

ASPHALT BITUMEN SHALL BE PG 64-28 PER CAL TRANS STANDARD SPECIFICATIONS. COARSE AND FINE AGGREGATE SHALL BE TYPE "B" MINERAL AGGREGATE AS SPECIFIED IN 39-2.02 AGGREGATE OF CAL TRANS STANDARD SPECIFICATIONS. AGGREGATE GRADING SHALL BE ½" MAXIMUM MEDIUM OR AS NOTED. SUBMIT MIX DESIGN TO ENGINEER FOR APPROVAL.

ALL PAVING MATERIAL SHALL BE DELIVERED, LAID, ROLLED AND FINISHED IN CONFORMITY WITH ALL PROVISIONS OF CAL TRANS STANDARD SPECIFICATIONS, SECTION 39 ASPHALT CONCRETE TYPE "B".

TEMPERATURE AT BREAKDOWN COMPACTION SHALL BE AT LEAST 250 DEGREES F. DO NOT PLACE ASPHALTIC CONCRETE WHEN ATMOSPHERIC TEMPERATURE IS BELOW 50 DEGREES F. NOR DURING FOG, RAIN, OR OTHER UNSUITABLE CONDITIONS.

COMPACTION EFFORT SHALL ACHIEVE 95% OF THE MIXTURE UNIT WEIGHT AS DETERMINED PER THE MARSHALL OR HVEEM DESIGN METHODS, OR 90% OF THE MAXIMUM THEORETICAL UNIT WEIGHT OF THE MIXTURE.

ASPHALT PLACEMENT OF 3-INCH THICKNESS OR LARGER SHALL BE IN TWO LIFTS.

UTILITIES AND STRUCTURES

ALL UTILITY COVERS, BOXES, CURBS, OR PENETRATIONS INTO THE EXISTING ASPHALT SURFACE SHALL BE LOCATED BY THE CONTRACTOR BEFORE EXCAVATIONS OR OVERLAYS.

NEW ASPHALT OR CONCRETE SURFACES MUST CONFORM TO THESE, EITHER BY GRINDING, SAW CUTTING OR RAISING.

DEEP PATCH AREAS

DEEP PATCH AREAS SHALL BE EXCAVATED 11" INCHES BELOW EXISTING GRADE. PLACE 3" INCHES ASPHALT CONCRETE OVER 8" AGGREGATE BASE. COMPACT AND TACK COAT AS PREVIOUSLY SPECIFIED.

STRIPING

CONTRACTOR TO REPLACE ALL ON-SITE STRIPING REMOVED DURING ASPHALT PAVEMENT REHABILITATION. IF STRIPING IS SHOWN DIFFERENTLY ON THESE PLANS, STRIPE AS SHOWN. APPLY STRIPING PAINT IN STRICT ACCORDANCE WITH MANUFACTURER'S PUBLISHED RECOMMENDATIONS, USING ALL MEANS NECESSARY TO PROTECT PAINTING SURFACES UNTIL DRY.

LIONAKIS
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Sacramento CA 95811
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CONSULTANT

NST ENGINEERING, INC.
1495 Riverside Drive
Susanville, CA 96130
Phone: (530) 257-5173

SEAL

REGISTERED PROFESSIONAL ENGINEER JEFFERY MORGAN C 36929 EXP 6/30/22 CIVIL STATE OF CALIFORNIA
Signed 10/14/20

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO:	015437.05
CLIENT PROJECT NO:	
COPYRIGHT:	LIONAKIS 2020

AGENCY

TITLE

CIVIL DETAILS AND NOTES

SHEET

C3

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

0 1/2" 1"

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10/13/2020 2:59:32 PM

STRUCTURAL ABBREVIATIONS LEGEND

S- 014213. N001A

SEE UNITED STATES NATIONAL CAD STANDARD FOR ANY ABBREVIATIONS NOT LISTED BELOW. SEE BUILDING CODE FOR REFERENCED DESIGN AND MATERIALS SYMBOLS, ACRONYMS & NOTATIONS.

&	AND	IR	INSIDE RADIUS
@	AT	JH	JOIST HANGER
(E)	EXISTING	JT	JOINT
'	FOOT, FEET	L	ANGLE, LONG, LENGTH
"	INCH, INCHES	LL	LIVE LOAD
#	NUMBER, POUND	LLH	LONG LEG HORIZONTAL
A/E	ARCHITECT / ENGINEER	LLV	LONG LEG VERTICAL
AB	ANCHOR BOLT	LONG	LONGITUDINAL
ABV	ABOVE	LS	LAG SCREW
ADDL	ADDITIONAL	LWC	LIGHT WEIGHT CONCRETE
AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MB	MACHINE BOLT
AFS	ABOVE FINISHED SLAB	MC	MISCELLANEOUS CHANNEL
ALT	ALTERNATE	MCJ	MASONRY CONTROL JOINT
ALUM	ALUMINUM	MDJ	MASONRY DOWEL JOINT
APPROX	APPROXIMATE	MECH	MECHANICAL
ARCH	ARCHITECT	MEJ	MASONRY EXPANSION JOINT
ATR	ALL THREAD ROD	MFR	MANUFACTURER
BFF	BELOW FINISH FLOOR	MIN	MINIMUM
BKG	BACKING	MISC	MISCELLANEOUS
BLDG	BUILDING	MKJ	MASONRY KEY JOINT
BLKG	BLOCKING	MRJ	MASONRY RAKE JOINT
BLW	BELOW	NA	NOT APPLICABLE
BM	BEAM	NF	NEAR FACE
BMU	BRICK MASONRY UNIT	NIC	NOT IN CONTRACT
BN	BOUNDARY NAIL	NTS	NOT TO SCALE
BOS	BOTTOM OF STEEL	NWC	NORMAL WEIGHT CONCRETE
BOT	BOTTOM	O/	OVER
BTWN	BETWEEN	OC	ON CENTER
C	CAMBER, CHANNEL	OD	OUTSIDE DIAMETER
CB	CARRIAGE BOLT	OPH	OPPOSITE HAND
CBC	CALIFORNIA BUILDING CODE	OPNG	OPENING
CFSF	COLD-FORMED STEEL FRAMING	OPP	OPPOSITE
CG	CENTER OF GRAVITY	OR	OUTSIDE RADIUS
CJ	CONSTRUCTION JOINT	PAF	POWER ACTUATED FASTENER
CJP	COMPLETE JOINT PENETRATION	PCC	PRECAST CONCRETE
CL	CENTER LINE	PCF	POUNDS PER CUBIC FOOT
CLR	CLEAR	PJP	PARTIAL JOINT PENETRATION
CMU	CONCRETE MASONRY UNIT	PL	PLATE, PROPERTY LINE
COL	COLUMN	PLF	POUNDS PER LINEAR FOOT
CONC	CONCRETE	PREFAB	PREFABRICATE
CONN	CONNECT, CONNECTION	PSF	POUNDS PER SQUARE FOOT
CONT	CONTINUE, CONTINUOUS	PSI	POUNDS PER SQUARE INCH
CRS	COLD ROLLED STEEL	PTW	PRESERVATIVE TREATED WOOD
CSK	COUNTER SUNK	QTY	QUANTITY
CTR	CENTER	R	RADIUS, RISER
D	PENNY (NAIL), DEEP, DEPTH	REBAR	REINFORCING STEEL BAR
DBL	DOUBLE	REINF	REINFORCE, REINFORCING
DOW	DEMAND CRITICAL WELD	REQ	REQUIRE, REQUIRED
DEG	DEGREE	RND	ROUND
DEMO	DEMOLITION	RO	ROUGH OPENING
DET	DETAIL	RS	ROUGH SAWN
DIA	DIAMETER	RWD	REDWOOD
DIAG	DIAGONAL	S	SPACED, SPACING, SPLICE, STEP
DIM	DIMENSION	SAD	SEE ARCHITECTURAL DRAWINGS
DJ	DOWEL JOINT	SCHED	SCHEDULE
DL	DEAD LOAD	SDST	SELF-DRILLING SELF-TAPPING
DO	DITTO, DO OVER	SE	STRUCTURAL ENGINEER
DOUG FIR	DOUGLAS FIR	SECT	SECTION
DWG	DRAWING	SFRS	SEISMIC FORCE RESISTING SYSTEM
DWL	DOWEL	SHTHG	SHEATHING
EA	EACH	SIM	SIMILAR
EE	EACH END	SJ	SHRINKAGE JOINT
EF	EACH FACE	SL	SNOW LOAD
EJ	EXPANSION JOINT	SP	STRUCTURAL PANEL
EL	ELEVATION	SPEC	SPECIFICATION
ELEC	ELECTRIC, ELECTRICAL	SQ	SQUARE
ELEV	ELEVATOR	SST	STAINLESS STEEL
EMBED	EMBEDMENT	STAG	STAGGERED
EN	EDGE NAIL	STD	STANDARD
EOS	EDGE OF SLAB	STIF	STIFFENER
EQ	EQUAL, EQUALLY	STIR	STIRRUP
ES	EACH SIDE	STL	STEEL
EW	EACH WAY	STRUCT	STRUCTURAL
EXT	EXTERIOR	SYMM	SYMMETRICAL
F/F	FACE TO FACE	T	TREAD, THICKNESS
FA	FRAMING ANGLE	T&B	TOP & BOTTOM
FB	FLAT BAR	T&G	TONGUE & GROOVE
FDTN	FOUNDATION	THK	THICKNESS
FIN	FINISH	THRU	THROUGH
FLG	FLANGE	TJ	TOOL JOINT
FLR	FLOOR	TN	TOE NAIL
FN	FIELD NAIL	TOB	TOP OF BEAM
FOC	FACE OF CONCRETE/CURB	TOC	TOP OF CURB/CONCRETE
FOF	FACE OF FINISH	TOF	TOP OF FRAMING/FOOTING/FLOOR
FOM	FACE OF MASONRY	TOJ	TOP OF JOIST
FOS	FACE OF STUD	TOM	TOP OF MASONRY
FOW	FACE OF WALL	TOP	TOP OF PARAPET
FRMG	FRAMING	TOS	TOP OF STEEL
FRTW	FIRE RETARDANT TREATED WOOD	TOSP	TOP OF STRUCTURAL PANEL
FS	FAR SIDE	TOT	TOP OF TRUSS
FT	FEET, FOOT	TOW	TOP OF WALL
FTG	FOOTING	TS	TUBE STEEL
FURG	FURRING	TYP	TYPICAL
GA	GAGE	UC	UNDERCUT
GALV	GALVANIZED	UNO	UNLESS NOTED OTHERWISE
GLB	GLUED LAMINATED BEAM	UON	UNLESS OTHERWISE NOTED
GR	GRADE	VERT	VERTICAL
H	HIGH, HEIGHT	VIF	VERIFY IN FIELD
HCT	HOLLOW CLAY TILE	VR	VAPOR RETARDER
HDR	HEADER	W	WIDE, WIDTH, WELD, W-SHAPE
HGR	HANGER	W/	WITH
HLDN	HOLDDOWN	W/O	WITHOUT
HORIZ	HORIZONTAL	WF	WIDE FLANGE
HS	HIGH STRENGTH	WHS	WELDED HEADED STUD
HSB	HIGH STRENGTH BOLT	WL	WIND LOAD
HSS	HOLLOW STRUCTURAL SECTION	WO	WHERE OCCURS
HT	HEIGHT	WP	WORKING POINT
ICC	INTERNATIONAL CODE COUNCIL	WT	WEIGHT, W TEE-SHAPE
ID	INSIDE DIAMETER	WTS	WELDED THREADED STUD
IJ	ISOLATION JOINT	WWR	WELDED WIRE REINFORCEMENT
INFO	INFORMATION	XS	EXTRA STRONG
INT	INTERIOR	XXS	DOUBLE EXTRA STRONG

STRUCTURAL SYMBOLS LEGEND

SN011000-004

DETAIL INDICATOR - REFERENCE & DETAIL INDICATOR - ITEM

DETAIL INDICATOR - SECTION & DETAIL INDICATOR - SECTION ITEM

SECTION INDICATOR - PARTIAL BUILDING/WALL DETAIL INDICATOR - AREA

SECTION INDICATOR - BUILDING

ELEVATION INDICATOR - EXTERIOR

ELEVATION INDICATOR - INTERIOR, SINGLE & MULTIPLE VIEW

MATCH LINE INDICATOR

REFERENCE GRID WITH REFERENCE GRID LINES

REVISION INDICATOR & REVISION CLOUD

ELEVATION INDICATOR - LEVEL & SPOT

KEYNOTE INDICATOR

PLAN NORTH & TRUE NORTH INDICATOR

MATERIAL SYMBOL LEGEND

S- 011000. N006A
170125. Q2

EARTH

EARTH, COMPACT FILL

EARTH, ROCK

GRAVEL, ROCK FILL

SAND, MORTAR, GROUT

CONCRETE, CAST IN PLACE

CONCRETE, PRE-CAST OR TILT UP

MASONRY, TERRACOTTA

MASONRY, GRANITE

STEEL

ALUMINUM

WOOD BLOCKING OR SHIM

WOOD FRAMING CONTINUOUS

WOOD

STRUCTURAL GENERAL NOTES

S- 014100. N004A
190626. Q2

1. THE STRUCTURAL NOTES AND TYPICAL DETAILS, WHETHER SPECIFICALLY REFERENCED OR NOT, ARE GENERAL AND APPLY TO ALL CONSTRUCTION DOCUMENTS. PROVIDE ALL STRUCTURAL ELEMENTS INDICATED IN THE STRUCTURAL NOTES AND TYPICAL DETAILS AS REQUIRED TO CONFORM TO THE FINISHED PROJECT AS INDICATED IN OTHER CONSTRUCTION DOCUMENTS. PROVIDE ALL STRUCTURAL ELEMENTS INDICATED IN OTHER CONSTRUCTION DOCUMENTS. STRUCTURAL CONSTRUCTION DOCUMENTS SHALL BE USED IN CONJUNCTION WITH ALL OTHER CONSTRUCTION DOCUMENTS. SEE OTHER CONSTRUCTION DOCUMENTS FOR COMPLETE PROJECT REQUIREMENTS.

2. REFERENCES TO CONSTRUCTION DOCUMENTS ARE TO THE ENFORCEMENT AGENCY APPROVED DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT. SUPPLEMENTAL DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ADDENDA, REVISED DRAWINGS, FIELD INSTRUCTIONS AND MODIFICATIONS PRODUCED FOR THIS PROJECT, SHALL ALSO BE CONSIDERED A CONSTRUCTION DOCUMENT. ALL REQUIREMENTS OF THE INITIALLY APPROVED CONSTRUCTION DOCUMENTS SHALL APPLY TO ANY SUPPLEMENTAL DOCUMENTS.

3. WHERE THE CONSTRUCTION DOCUMENTS INDICATE TO NOTIFY THE STRUCTURAL ENGINEER, SUCH NOTIFICATION SHALL BE SUBMITTED IN WRITING WITH SUFFICIENT ALLOWANCE FOR A REASONABLE TIME PERIOD FOR REVIEW, DESIGN, ENFORCEMENT AGENCY APPROVAL AS REQUIRED AND WRITTEN RESPONSE SO AS NOT TO AFFECT THE CONSTRUCTION SCHEDULE. OBTAIN WRITTEN RESPONSE BEFORE PROCEEDING WITH THE AFFECTED WORK.

4. CAREFULLY EXAMINE THE CONSTRUCTION DOCUMENTS AND NOTIFY THE STRUCTURAL ENGINEER OF ANY CONFLICTS OR DISCREPANCIES WITHIN THE STRUCTURAL CONSTRUCTION DOCUMENTS AND BETWEEN ALL OTHER CONSTRUCTION DOCUMENTS. DEVIATIONS SHALL NOT BE MADE TO THE REQUIREMENTS INDICATED IN THE STRUCTURAL CONSTRUCTION DOCUMENTS.

5. PORTIONS OF THESE CONSTRUCTION DOCUMENTS ARE DIAGRAMMATIC ONLY. ITEMS INCLUDING, BUT NOT LIMITED TO, LOCATIONS, SIZES, QUANTITIES, ACCESSORIES AND CONNECTIONS ARE INDICATED IN A REPRESENTATIONAL MANNER AND MAY NOT BE COMPLETELY SHOWN. PROVIDE ALL WORK AND MATERIALS NECESSARY TO COMPLETE THE PROJECT AS REPRESENTED IN THE CONSTRUCTION DOCUMENTS.

6. DIMENSIONS AND ELEVATIONS INDICATED ARE FOR STRUCTURAL ELEMENTS ONLY. ELEVATIONS SHOWN ARE BASED ON A REFERENCE ELEVATION. COORDINATE REFERENCE ELEVATIONS WITH ACTUAL ELEVATIONS. COORDINATE WITH ALL OTHER CONSTRUCTION DOCUMENTS FOR DIMENSIONS AND ELEVATIONS NOT INDICATED ON THE STRUCTURAL CONSTRUCTION DOCUMENTS. DO NOT SCALE DRAWINGS.

7. CONSTRUCTION SHALL COMPLY WITH ALL BUILDING, HEALTH AND SAFETY STANDARDS, CODES AND REGULATIONS APPLICABLE TO THIS PROJECT. NOTHING IN THE CONSTRUCTION DOCUMENTS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE STANDARDS, CODES AND REGULATIONS.

8. REFERENCES TO STANDARDS, CODES AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, ICC, IBC, CBC, ACI, ASTM, ASCE, ANSI, AWS, AISI, AITC AND AISC SHALL BE TO THE LATEST EDITION AS ADOPTED BY THE ENFORCEMENT AGENCY.

9. FEATURES OF CONSTRUCTION INDICATED ARE TYPICAL. WHERE FEATURES ARE NOT FULLY OR SPECIFICALLY INDICATED BY THE CONSTRUCTION DOCUMENTS, THEIR CONSTRUCTION SHALL BE AS INDICATED FOR IDENTICAL OR SIMILAR FEATURES ELSEWHERE IN THE CONSTRUCTION DOCUMENTS. IF ANY CONDITIONS REQUIRE CONSTRUCTION DIFFERENT THAN THAT INDICATED ON THE CONSTRUCTION DOCUMENTS, NOTIFY THE STRUCTURAL ENGINEER.

10. STRUCTURAL ELEMENTS SHALL NOT BE REMOVED OR MODIFIED UNLESS INDICATED IN THE STRUCTURAL CONSTRUCTION DOCUMENTS. IF STRUCTURAL ELEMENTS INTERFERE WITH THE WORK INDICATED IN ANY OTHER CONSTRUCTION DOCUMENTS, NOTIFY THE STRUCTURAL ENGINEER.

11. THE CONSTRUCTION DOCUMENTS AND THE DESIGNS INCORPORATED THEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT.

12. STRUCTURAL ELEMENTS REPRESENTED IN THE CONSTRUCTION DOCUMENTS ARE INDICATED IN THEIR RECOMPLETED CONFIGURATION. THE CONSTRUCTION DOCUMENTS DO NOT INDICATE MEANS, METHODS OR SEQUENCES OF CONSTRUCTION UNLESS SPECIFICALLY NOTED OTHERWISE. PROVIDE ALL MEASURES NECESSARY AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY AND TO ASSURE THE CORRECT AND ACCURATE STRUCTURE GEOMETRY AND STABILITY DURING CONSTRUCTION. MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, PROVIDING ADEQUATE FORMING, SHORING AND BRACING. MEASURES SHALL REMAIN IN PLACE UNTIL THE STRUCTURAL ELEMENTS AND ALL OTHER STRUCTURAL ELEMENTS USED TO SUPPORT THEM HAVE BEEN COMPLETED AND HAVE ATTAINED THEIR REQUIRED DESIGN STRENGTHS.

13. PROTECT ALL ELEMENTS, WHETHER CONCEALED OR NOT, INCLUDING, BUT NOT LIMITED TO, PROPERTIES, STRUCTURES, FINISHES, STREETS, LANDSCAPING AND UTILITIES ADJACENT TO OR ON THIS SITE DURING THE CONSTRUCTION OF THIS PROJECT. SHOULD DAMAGE OCCUR TO ANY ELEMENTS, THEY SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER. CONTROL ITEMS SUCH AS, BUT NOT LIMITED TO, DUST, DIRT, WATER, FUMES, SMOKE, TRASH, NOISE AND VIBRATION CREATED AS A RESULT OF ANY OPERATIONS DURING CONSTRUCTION IN CONFORMANCE WITH APPLICABLE STANDARDS, CODES AND REGULATIONS.

14. STRUCTURAL DESIGN LOADS, STRENGTHS, CAPACITIES AND CRITERIA INDICATED ON THE CONSTRUCTION DOCUMENTS ARE FOR THE COMPLETED STRUCTURE ONLY. THE USE OF ANY PART OR PARTS OF THE INCOMPLETE OR COMPLETED STRUCTURE FOR THE SUPPORT OF CONSTRUCTION ITEMS INCLUDING, BUT NOT LIMITED TO, OTHER PORTIONS OF THE STRUCTURE, PERSONNEL, MATERIALS AND EQUIPMENT IS LIMITED TO THE SAFE CAPACITY OF THE STRUCTURE AT THE TIME IT IS TO BE USED FOR SUCH SUPPORT. PROVIDE ALL MEASURES NECESSARY AS REQUIRED TO PREVENT OVERLOADING, EXCESSIVE MOVEMENT AND DAMAGE TO ANY PART OR PARTS OF THE STRUCTURE.

15. IF SUBSTITUTIONS ARE REQUESTED FOR STRUCTURAL ELEMENTS INDICATED IN THE CONSTRUCTION DOCUMENTS, NOTIFY THE STRUCTURAL ENGINEER. SUBMIT DATA AND DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, COMPARATIVE QUALITY, SUITABILITY, PERFORMANCE, STRUCTURAL CAPACITY, ICC APPROVAL AND ENFORCEMENT AGENCY ACCEPTABILITY SUBSTANTIATING THE COMPLETE COMPLIANCE OF EACH PROPOSED SUBSTITUTION WITH THE CONSTRUCTION DOCUMENTS. ONLY ONE REQUEST FOR SUBSTITUTION WILL BE ALLOWED FOR EACH STRUCTURAL ELEMENT. SUBSTITUTIONS WILL NOT BE CONSIDERED WHEN SUBMITTALS ARE INCOMPLETE OR ACCEPTANCE WOULD REQUIRE REVISIONS TO THE CONSTRUCTION DOCUMENTS. PROVIDE OWNER REIMBURSEMENT FOR SERVICES REQUIRED TO OBTAIN ENFORCEMENT AGENCY APPROVAL OF SUBSTITUTIONS. IF A PROPOSED SUBSTITUTION SUBMITTAL IS NOT COMPLETE, NOT ACCEPTABLE TO THE STRUCTURAL ENGINEER, OR NOT APPROVED BY THE ENFORCEMENT AGENCY PROVIDE THE SPECIFIED ITEM AS INDICATED IN THE CONSTRUCTION DOCUMENTS. THE STRUCTURAL ENGINEER WILL BE THE SOLE JUDGE OF THE ACCEPTABILITY OF THE PROPOSED SUBSTITUTION VERSUS THE SPECIFIED ITEM. ACCEPTANCE OF A SUBSTITUTION SHALL NOT BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS.

16. SCHEDULES, LEGENDS, ABBREVIATIONS, TYPICAL NOTES AND TYPICAL DETAILS ON THE STRUCTURAL CONSTRUCTION DOCUMENTS MAY REFERENCE STRUCTURAL ELEMENTS OR REQUIREMENTS NOT SPECIFICALLY INDICATED OR REQUIRED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS.

17. THE STRUCTURAL CONSTRUCTION DOCUMENTS ARE NOT COMPLETE AND READY FOR CONSTRUCTION UNTIL THEY ARE APPROVED BY THE ENFORCEMENT AGENCY AND SIGNED BY THE STRUCTURAL ENGINEER.

EXISTING CONSTRUCTION

S- 020000. N001A
170125. Q2

1. CAREFULLY EXAMINE THE CONSTRUCTION DOCUMENTS AND NOTIFY THE STRUCTURAL ENGINEER OF ANY CONFLICTS OR DISCREPANCIES WITHIN THE STRUCTURAL CONSTRUCTION DOCUMENTS AND BETWEEN ALL OTHER CONSTRUCTION DOCUMENTS AND THE EXISTING CONSTRUCTION.

2. EXISTING CONSTRUCTION INDICATED IN THE CONSTRUCTION DOCUMENTS IS BASED UPON INFORMATION SHOWN ON AVAILABLE EXISTING DRAWINGS AND/OR LIMITED VISUAL OBSERVATIONS. THE EXISTING CONSTRUCTION MAY VARY FROM THAT INDICATED ON THE CONSTRUCTION DOCUMENTS. PROVIDE ALL WORK AND MATERIALS NECESSARY TO COMPLETE THE PROJECT AS REPRESENTED IN THE CONSTRUCTION DOCUMENTS.

3. VERIFY ALL DIMENSIONS AND ELEVATIONS OF THE EXISTING CONSTRUCTION PRIOR TO STARTING CONSTRUCTION OR FABRICATION. DO NOT SCALE EXISTING DRAWINGS.

4. PROVIDE AND MAINTAIN A COMPLETE AND LEGIBLE COPY OF THE EXISTING CONSTRUCTION DOCUMENTS AND MAKE THEM AVAILABLE FOR USE ON THE JOB SITE.

5. EXISTING STRUCTURAL ELEMENTS SHALL NOT BE REMOVED OR MODIFIED UNLESS INDICATED IN THE STRUCTURAL CONSTRUCTION DOCUMENTS. IF EXISTING STRUCTURAL ELEMENTS INTERFERE WITH THE WORK INDICATED IN ANY CONSTRUCTION DOCUMENT, OR IF UNCERTAIN THAT AN ELEMENT IS STRUCTURAL, NOTIFY THE STRUCTURAL ENGINEER.

6. PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF THE EXISTING STRUCTURE AND SITE DURING DEMOLITION AND CONSTRUCTION. MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, PROVIDING ADEQUATE SHORING, BRACING, WEATHER PROTECTION AND DUST PROTECTION. THE REMOVAL OR MODIFICATION OF EXISTING STRUCTURAL ELEMENTS SHALL BE PERFORMED IN A MANNER TO PREVENT DAMAGE TO THOSE ELEMENTS TO REMAIN. SHOULD DAMAGE OCCUR TO ANY EXISTING ELEMENTS, THEY SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.

7. EXISTING FOUNDATIONS THAT MAY BE AFFECTED BY ANY EXCAVATIONS REQUIRED FOR THIS PROJECT SHALL BE UNDERPINNED, SHORED OR SUPPORTED ADEQUATELY TO PREVENT SETTLEMENT AND LATERAL MOVEMENT.

8. IF EXISTING STRUCTURAL ELEMENTS NOT INDICATED FOR REPLACEMENT OR REPAIR ARE DISCOVERED TO BE DAMAGED OR DIFFERENT THAN INDICATED ON THE CONSTRUCTION DOCUMENTS, NOTIFY THE STRUCTURAL ENGINEER. SUCH DAMAGE OR DIFFERENCE SHALL INCLUDE, BUT NOT BE LIMITED TO, DRY-ROT, WATER DAMAGE, INSECT DAMAGE, POOR WORKMANSHIP OR FIT-UP, BUCKLING, EXCESSIVE DEFLECTION, SAGGING, TWISTING, WARPING, AND DIFFERENT SIZE, ORIENTATION, GRADE, QUALITY OR MATERIAL.

9. WHEN DRILLING/CORING HOLES AT EXISTING CONCRETE OR MASONRY, DO NOT DAMAGE EXISTING REINFORCING (REBAR OR PRE/POST- TENSIONED STRANDS) UNLESS SPECIFICALLY NOTED OTHERWISE. LOCATE ALL EXISTING REINFORCING AT AFFECTED AREAS USING NON-DESTRUCTIVE MEANS PRIOR TO DRILLING/CORING HOLES. MAINTAIN A MINIMUM CLEARANCE OF TWO INCHES BETWEEN THE REINFORCEMENT AND THE HOLE.

10. WHEN SAW-CUTTING EXISTING STRUCTURAL ELEMENTS, DO NOT OVERCUT. INTERSECTING SAW-CUTS SHALL NOT OVERLAP. SAW-CUTS MAY INTERSECT AT SMALL DIAMETER CORED/DRILLED HOLES. SAW-CUTS SHALL BE TANGENT TO AND SHALL NOT EXTEND BEYOND CORED/DRILLED HOLES. CAREFULLY REMOVE REMAINING MATERIAL TO EDGE OF SAW-CUT LINE.

11. ALL CONSTRUCTION INDICATED IS NEW UNLESS SPECIFICALLY DENOTED AS EXISTING.

STRUCTURAL DESIGN CRITERIA

S- 014100. N003A
170125. Q2

BUILDING CODE: 2019 CBC

ENFORCEMENT AGENCY: LASSEN COUNTY BUILDING DEPARTMENT

A. VERTICAL DESIGN CRITERIA (UNLESS OTHERWISE SHOWN OR NOTED)

ROOF LIVE LOADS:
- TYP ROOF AREA — 20 PSF (REDUCIBLE)

FLOOR LIVE LOADS:
- CORRIDORS ABOVE FIRST FLOOR — 80 PSF (REDUCIBLE)

GROUND SNOW LOAD: 86 PSF

B. LATERAL DESIGN CRITERIA

SEISMIC SITE CRITERIA: SS=0.96, S1=0.33, SDS=0.76, SD1=0.44, SITE CLASS: D

BUILDING CRITERIA: SEISMIC RETROFIT OF EXISTING BUILDING
SEISMIC:
- RISK CATEGORY= II
- IMPORTANCE FACTOR, I=1.00
- SEISMIC DESIGN CATEGORY = D
- SEISMIC FORCE RESISTING SYSTEM: SPECIAL REINFORCED CONCRETE WALLS
- RESPONSE MODIFICATION FACTOR, R = 6
- DESIGN BASE SHEAR: V = 0.13W
- SEISMIC RESPONSE COEFFICIENT, Cs=0.13
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE
- HORIZONTAL IRREGULARITIES: N/A
- VERTICAL IRREGULARITIES: N/A

BUILDING DISPLACEMENT (AMPLIFIED):

LEVEL	STORY DRIFT	TOTAL DISPLACEMENT
GROUND	0.00 IN	0.00 IN
1ST FLOOR	0.05 IN	0.05 IN
2ND FLOOR	0.07 IN	0.12 IN
ATTIC FLOOR	0.10IN	0.22 N
MAIN ROOF	0.10IN	0.22IN
ATTIC ROOF	0.30IN	0.47IN

BUILDING CRITERIA: STAIR / ELEVATOR
SEISMIC:
- RISK CATEGORY= II
- IMPORTANCE FACTOR, I=1.00
- SEISMIC DESIGN CATEGORY = D
- SEISMIC FORCE RESISTING SYSTEM: SPECIAL REINFORCED MASONRY SHEAR WALL
- RESPONSE MODIFICATION FACTOR, R = 5
- DESIGN BASE SHEAR: V = 0.16W
- SEISMIC RESPONSE COEFFICIENT, Cs=0.16
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE
- HORIZONTAL IRREGULARITIES: N/A
- VERTICAL IRREGULARITIES: N/A

WIND:
ULTIMATE DESIGN WIND SPEED, V(ULT) = 95 MPH
NOMINAL DESIGN WIND SPEED, V(ASD) = 85 MPH
RISK CATEGORY = II
WIND EXPOSURE = C
GCPI = +/- 0.18
COMPONENTS AND CLADDING WIND PRESSURES TO BE DETERMINED PER ASCE 7-16

C. SOIL DESIGN CRITERIA

SOIL INFO IS BASED ON GEOTECHNICAL REPORT BY:
NOVA GEOTECHNICAL & INSPECTION SERVICES / RG-20-050, BLAKE CARTER, PE
DATED: AUGUST 28, 2020

SPREAD FOUNDATIONS:
- ALLOWABLE BEARING PRESSURE:
  DL + LL = 3000 PSF
  DL + LL + LATERAL = 4000 PSF
- COEFFICIENT OF FRICTION = 0.42
- ALLOWABLE PASSIVE PRESSURE = 406 PCF
- IF FRICTIONAL RESISTANCE AND PASSIVE PRESSURE ARE COMBINED, FRICTION IS REDUCED BY 0%

RETAINING WALLS:
- AT-REST EARTH PRESSURE = 59 PCF
- ACTIVE EARTH PRESSURE = 38 PCF
- INCREMENTAL SEISMIC ACTIVE EARTH PRESSURE = 14 PCF ACTING AT 0.60 TIMES THE RETAINING WALL HEIGHT

STRUCTURAL DEFERRED SUBMITTALS

S- 013300. N001A
171002. Q2

1. THE FOLLOWING ITEMS SHALL BE SUBMITTED FOR DEFERRED APPROVAL BY THE ENFORCEMENT AGENCY PRIOR TO FABRICATION OR INSTALLATION.

2. SEE THE SPECIFICATIONS AND STRUCTURAL DESIGN CRITERIA FOR REQUIRED PERFORMANCE AND LOADING CRITERIA.

3. DEFERRED SUBMITTALS ARE SUBJECT TO ALL THE REQUIREMENTS OF OTHER SUBMITTALS.

4. SUBMITTAL DOCUMENTS AND SUPPORTING DESIGN CALCULATIONS SHALL BE STAMPED AND SIGNED BY A CALIFORNIA REGISTERED PROFESSIONAL ENGINEER.

5. DOCUMENTS AND CALCULATIONS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW FOR GENERAL CONFORMANCE WITH THE DESIGN OF THE PROJECT PRIOR TO SUBMITTAL TO THE ENFORCEMENT AGENCY.

6. DEFERRED SUBMITTAL ITEMS SHALL NOT BE FABRICATED OR INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE ENFORCEMENT AGENCY.

LIST OF DEFERRED SUBMITTALS:
1. ELEVATOR GUIDE RAILS AND SUPPORTS

PROJECT DIRECTORY

S- 011000. N006A
170125. Q2

OWNER
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET, SUITE 4
SUSANVILLE, CA 96130
CONTACT: PETE HEIMBIGNER
PHONE: 530.251.8299
EMAIL: PHEIMBIGNER@CO.LASSEN.CA.US

HISTORICAL PRESERVATION
PAGE & TURNBULL
2401 C STREET, SUITE B
SACRAMENTO, CA 95816
CONTACT: MELISSA GAUDREAU
PHONE: 916.912.4476
EMAIL: GAUDREAU@PAGE-TURNBULL.COM

ARCHITECT
LIONAKIS
1919 19TH STREET
SACRAMENTO, CA 95811
CONTACT: NICK DOCOUS
PHONE: 916.558.1900
EMAIL: NICK.DOCOUS@LIONAKIS.COM

STRUCTURAL ENGINEER
LIONAKIS
1919 19TH STREET
SACRAMENTO, CA 95811
CONTACT: DARRON HUNTINGDALE
PHONE: 916.558.1900
EMAIL: DARRON.HUNTINGDALE@LIONAKIS.COM

ELECTRICAL ENGINEER
GLUMAC
910 GLENN DRIVE
FOLSOM, CA 95630
CONTACT: PAUL JOHNSON
PHONE: 916.934.5103
EMAIL: PJOHNSON@GLUMAC.COM

CIVIL ENGINEER
NST ENGINEERING
1495 RIVERSIDE DRIVE
SUSANVILLE CA 96130
CONTACT: JEFF MOORISH
PHONE: 530.257.5173
EMAIL: nst@frontiernet.net

ELEVATOR
SYSKA HENNESSY
425 CALIFORNIA STREET
SAN FRANCISCO CA 94101
CONTACT: JOHN MORAN
PHONE: 415.228.9061
MOBILE: 415.385.6755
EMAIL: jmoran@syska.com

STRUCTURAL SHEET INDEX

SN011000-001

SHEET NUMBER	SHEET NAME
S-001	GENERAL NOTES
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S-012	TYPICAL NOTES
S-013	TYPICAL NOTES
S-014	STATEMENT OF SPECIAL INSPECTIONS
S-111B	RETROFIT FOUNDATION PLAN - LEVEL B
S-111	RETROFIT FLOOR PLAN - LEVEL 1
S-112	RETROFIT FLOOR PLAN - LEVEL 2
S-113	RETROFIT ROOF/FLOOR PLAN - LOW ROOF/LEVEL 3
S-114	RETROFIT ROOF PLAN - HIGH ROOF
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S-536	DETAILS - CONCRETE
S-537	DETAILS - CONCRETE
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S-551	DETAILS - STRUCTURAL STEEL
S-552	DETAILS - STRUCTURAL STEEL
S-571	DETAILS - TYPICAL STEEL DECKING

SHEET COUNT: 35

LIONAKIS

1919 Nineteenth Street
Sacramento CA 95811
P 916.558.1900 F 916.558.1919
www.lionakis.com

CONSULTANT

SEAL

REGISTERED PROFESSIONAL ENGINEER
DARRON E HUNTINGDALE
No. S4788
STATE OF CALIFORNIA
10/27/2020

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:
COPYRIGHT: LIONAKIS 2020

AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
GENERAL NOTES

SHEET
S-001

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

10/16/2020 4:03:35 PM
D:_Revit Local Files\015437.05_BIM_A-MASTER_R20_CENTRAL_Patty.Braun.RVT
BLUEBEAM CORRECTIONS MADE 10/27/2020

0 1/4" 1/2" 1" 2"

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

STRUCTURAL SUBMITTALS

S- 013300_N002A
170125. Q2

1. SUBMITTALS INCLUDE, BUT ARE NOT LIMITED TO, SHOP DRAWINGS, FABRICATION DRAWINGS, PLACEMENT DRAWINGS, CALCULATIONS, DESIGNS, TEST DATA, PRODUCT DATA, SAMPLES, CERTIFICATIONS AND REPORTS AS REQUIRED BY THE CONSTRUCTION DOCUMENTS.
2. SUBMITTALS, AS A MINIMUM, SHALL CONSIST OF TWO (2) COPIES OF EACH SHEET.
3. SUBMITTALS SHALL NOT CONTAIN NOR CONSIST OF REPRODUCTIONS OF THE CONSTRUCTION DOCUMENTS. SUBMITTALS CONTAINING REPRODUCTIONS OF ANY PORTION OF THE CONSTRUCTION DOCUMENTS ARE SUBJECT TO REJECTION.
4. EACH SUBMITTAL SHALL HAVE A COVER SHEET IDENTIFYING THE CONTENTS BY SPECIFICATION SECTION AND LISTING EACH ITEM AND SHEET NUMBER. EACH SUBMITTAL SHALL HAVE A UNIQUE IDENTIFICATION NUMBER.
5. PRIOR TO SUBMISSION TO THE STRUCTURAL ENGINEER, STAMP SUBMITTALS INDICATING THEY HAVE BEEN REVIEWED AND APPROVED FOR COMPLETENESS AND CONFORMANCE WITH THE INTENT OF THE CONSTRUCTION DOCUMENTS. SUBMITTALS THAT ARE DETERMINED TO BE INCOMPLETE, IN THE JUDGMENT OF THE STRUCTURAL ENGINEER, WILL BE RETURNED WITHOUT REVIEW SO THEY CAN BE COMPLETED. THE STRUCTURAL ENGINEER SHALL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
6. PRIOR TO SUBMISSION TO THE STRUCTURAL ENGINEER, THE OWNER'S TESTING LABORATORY SHALL STAMP THE FOLLOWING MARKED SUBMITTALS INDICATING THEY HAVE BEEN REVIEWED AND APPROVED FOR COMPLETENESS AND CONFORMANCE WITH THE INTENT OF THE CONSTRUCTION DOCUMENTS:
   - ■ CONCRETE MIX DESIGNS AND SUBSTANTIATING TEST DATA
   - ■ MASONRY GROUT MIX DESIGNS AND SUBSTANTIATING TEST DATA
   - ■ WELDING PROCEDURE SPECIFICATIONS
7. SUBMITTALS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO UTILIZATION, INSTALLATION, FABRICATION OR CONSTRUCTION OF ITEMS CONTAINED WITHIN THE SUBMITTALS.
8. SUBMITTALS SHALL BE DELIVERED TO THE STRUCTURAL ENGINEER TO ALLOW SUFFICIENT TIME, IN THE STRUCTURAL ENGINEER'S JUDGMENT, FOR A REASONABLE PERIOD FOR ADEQUATE REVIEW, ENFORCEMENT AGENCY APPROVAL AS REQUIRED AND RESPONSE SO AS NOT TO AFFECT THE CONSTRUCTION SCHEDULE. ALLOW THE STRUCTURAL ENGINEER THE GREATER SUBMITTAL REVIEW PERIOD OF: TEN (10) WORK DAYS; OR FIVE (5) WORK DAYS FOR EACH 100 SHEETS, OR PORTION THEREOF, FOR EACH SUBMITTAL. SUBMITTAL REVIEW PERIOD COMMENCES THE NEXT WORK DAY AFTER SUBMITTAL RECEIPT BY THE STRUCTURAL ENGINEER. CONCURRENT SUBMITTALS OF MULTIPLE PORTIONS OF THE SAME SUBMITTAL ITEM WILL BE REVIEWED IN THEIR ENTIRETY AS ONE SUBMITTAL SUBJECT TO THE REVIEW PERIOD LIMITATION ABOVE. SCHEDULE SUBMITTAL REVIEWS AND CONSTRUCTION ACCORDINGLY.
9. REVIEW OF SUBMITTALS BY THE STRUCTURAL ENGINEER WILL INCLUDE CHECKING FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONSTRUCTION DOCUMENTS. IT WILL NOT INCLUDE REVIEW OF THE ACCURACY OR COMPLETENESS OF ITEMS SUCH AS QUANTITIES, DIMENSIONS, WEIGHTS OR GAUGES, FABRICATION PROCESSES, CONSTRUCTION MEANS OR METHODS, COORDINATION WITH THE WORK OF OTHER TRADES, OR CONSTRUCTION SAFETY PRECAUTIONS. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE THAT THE STRUCTURAL ENGINEER HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT BROUGHT TO THE STRUCTURAL ENGINEER'S ATTENTION IN WRITING.
10. SUBMITTALS PROCESSED BY THE STRUCTURAL ENGINEER ARE NOT CHANGE ORDERS.
11. SUBMITTALS THAT WILL REQUIRE ADDITIONAL REVIEW, IN THE STRUCTURAL ENGINEER'S JUDGMENT, WILL BE MARKED "RESUBMIT". THE SUBMITTAL SHALL BE REVISED AND RESUBMITTED FOR RE-REVIEW AND IS SUBJECT TO ALL THE REQUIREMENTS OF THE INITIAL SUBMITTAL. PROVIDE OWNER REIMBURSEMENT FOR STRUCTURAL ENGINEER COSTS INCURRED TO RE-REVIEW SUBMITTALS.
12. SUBMITTALS THAT HAVE BEEN REVIEWED AND RETURNED BY THE STRUCTURAL ENGINEER, REGARDLESS OF MARKINGS ON THE SUBMITTALS, SHALL NOT BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS.
13. THE MINIMUM REQUIRED STRUCTURAL SUBMITTALS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING MARKED ITEMS:
   - □ PILE FABRICATION DRAWINGS AND CALCULATIONS
   - ■ CONCRETE MIX DESIGNS AND SUBSTANTIATING TEST DATA
   - ■ CONCRETE REINFORCING PLACEMENT DRAWINGS
   - ■ CONCRETE PRODUCT CERTIFICATION AND DATA SHEETS
   - □ CONCRETE SLAB JOINT LAYOUT
   - ■ MASONRY REINFORCING PLACEMENT DRAWINGS
   - ■ MASONRY GROUT MIX DESIGNS AND SUBSTANTIATING TEST DATA
   - ■ MASONRY MORTAR MIX DESIGNS
   - ■ MASONRY PRODUCT CERTIFICATION AND DATA SHEETS
   - ■ STRUCTURAL STEEL SHOP DRAWINGS
   - ■ STEEL DECK PLACEMENT DRAWINGS AND DATA SHEETS
   - ■ WELDING PROCEDURE SPECIFICATIONS
   - □ METAL-PLATE-CONNECTED WOOD TRUSS PLACEMENT DRAWINGS AND CALCULATIONS
   - □ WOOD I-JOIST PLACEMENT DRAWINGS AND CALCULATIONS
   - □ METAL WEB WOOD JOIST PLACEMENT DRAWINGS AND CALCULATIONS
   - □ GLUED-LAMINATED TIMBER FABRICATION AND PLACEMENT DRAWINGS AND CERTIFICATIONS
   - □ PRE-ENGINEERED LUMBER CERTIFICATIONS AND DATASHEETS
   - □ OPEN WEB STEEL JOIST PLACEMENT DRAWINGS AND CALCULATIONS
   - □ PRE-ENGINEERED STEEL STAIR SHOP DRAWINGS AND CALCULATIONS
   - □ COLD-FORMED STEEL FRAMING PRODUCTS, ACCESSORIES, DATA SHEETS AND CALCULATIONS

STRUCTURAL OBSERVATION

S- 014500_N001A
170125. Q2

1. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY THE STRUCTURAL OBSERVER (THE STRUCTURAL ENGINEER OR OWNER'S DESIGNATED REPRESENTATIVE) FOR GENERAL CONFORMANCE TO THE ENFORCEMENT AGENCY APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM.
2. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED BY THE ENFORCEMENT AGENCY OR BY OTHER SECTIONS OF THE BUILDING CODE. REQUIRED INSPECTIONS DO NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR STRUCTURAL OBSERVATION.
3. STRUCTURAL OBSERVATION DOES NOT INCLUDE THE SUPERVISION OF CONSTRUCTION FOR PROPER EXECUTION OF THE WORK SHOWN IN THE CONSTRUCTION DOCUMENTS.
4. THE FOLLOWING COMPLETED CONSTRUCTION STAGES MARKED ARE SUBJECT TO STRUCTURAL OBSERVATION IF DEEMED NECESSARY DURING CONSTRUCTION BY THE STRUCTURAL OBSERVER:
   - ■ FOUNDATION EXCAVATIONS AND REINFORCEMENT PRIOR TO CONCRETE PLACEMENT
   - ■ FORMWORK CONSTRUCTION AND REINFORCEMENT PRIOR TO CONCRETE PLACEMENT
   - □ CONCRETE TILT-UP PANEL INSTALLATION
   - □ CONCRETE PRE-CAST ELEMENT PANEL INSTALLATION
   - ■ MASONRY INSTALLATION AND REINFORCEMENT PRIOR TO GROUT PLACEMENT
   - ■ STEEL FRAMING ERECTION
   - □ STEEL DECK INSTALLATION AND REINFORCEMENT PRIOR TO CONCRETE FILL PLACEMENT
   - ■ STEEL DECK INSTALLATION ON FRAMING
   - □ WOOD FRAMING ERECTION
   - □ WOOD STRUCTURAL PANEL INSTALLATION ON FRAMING
   - □ WOOD HARDWARE AND CONNECTOR INSTALLATION ON STRUCTURAL FRAMING
   - □ COLD-FORMED STEEL FRAMING ERECTION
   - ■ PRE-FABRICATED STRUCTURAL ELEMENT INSTALLATION
   - □ PRIOR TO THE CLOSING OF ANY PHASE
   - ■ STRUCTURAL SYSTEM COMPLETION
5. NOTIFY THE STRUCTURAL OBSERVER 48 HOURS MINIMUM IN ADVANCE OF THE COMPLETION OF THE ABOVE CONSTRUCTION STAGES TO FACILITATE STRUCTURAL OBSERVATIONS BY THE STRUCTURAL OBSERVER. COORDINATE WITH THE STRUCTURAL OBSERVER SO THAT THE WORK FOR THE CONSTRUCTION STAGES NOTED ABOVE IS ACCESSIBLE AND EXPOSED FOR STRUCTURAL OBSERVATION PURPOSES. REMOVE AND/OR REPLACE MATERIALS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER TO ALLOW STRUCTURAL OBSERVATION.
6. DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOTED DURING STRUCTURAL OBSERVATIONS SHALL BE CORRECTED AT NO ADDITIONAL COST TO THE OWNER.
7. PROVIDE OWNER REIMBURSEMENT FOR DESIGN PROFESSIONAL COSTS INCURRED TO CORRECT DEVIATIONS AND TO MAKE REVISIONS TO THE CONSTRUCTION DOCUMENTS, INCLUDING OBTAINMENT OF ENFORCEMENT AGENCY APPROVAL AS REQUIRED.
8. CORRECTIVE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE ENFORCEMENT AGENCY APPROVED CONSTRUCTION DOCUMENTS AND THE BUILDING CODE.
9. AT THE COMPLETION OF THE WORK INCLUDED IN THE CONSTRUCTION DOCUMENTS, THE STRUCTURAL OBSERVER SHALL SUBMIT TO THE ENFORCEMENT AGENCY A WRITTEN STATEMENT THAT THE STRUCTURAL OBSERVATIONS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES THAT, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

FOUNDATION AND EARTHWORK

S- 033000_N003A
170125. Q2

1. ALL FOUNDATION AND EARTHWORK INCLUDING, BUT NOT LIMITED TO, EXCAVATION, GRADING, FILLING, SUB-GRADE PREPARATION, SOIL TREATMENT, ASSOCIATED SITE WORK, TRENCHING AND BACKFILLING SHALL BE PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
2. THE GEOTECHNICAL INFORMATION PROVIDED IS BASED UPON A GEOTECHNICAL REPORT PROVIDED BY THE OWNER FOR THIS PROJECT. THE GEOTECHNICAL REPORT WAS USED FOR THE DESIGN INDICATED IN THESE CONSTRUCTION DOCUMENTS. THE GEOTECHNICAL REPORT AND THE RECOMMENDATIONS CONTAINED THEREIN SHALL BE USED IN CONJUNCTION WITH THE CONSTRUCTION DOCUMENTS. COMPLY WITH THE REQUIREMENTS AND RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT.
3. THE GEOTECHNICAL INFORMATION PROVIDED IS NOT A WARRANTY OF THE SITE OR SUBSURFACE CONDITIONS. PRIOR TO BIDDING AND AT NO COST TO THE OWNER, SITE VISITS TO INVESTIGATE OR TO PERFORM ADDITIONAL SUBSURFACE INVESTIGATIONS MAY BE MADE TO DETERMINE THE EXISTING CONDITIONS. SUCH INVESTIGATIONS MAY BE PERFORMED ONLY UNDER TIME SCHEDULES AND ARRANGEMENTS APPROVED BY THE OWNER IN ADVANCE.
4. AN OWNER-RETAINED SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER SHALL PROVIDE TESTING AND INSPECTION SERVICES DURING ALL FOUNDATION AND EARTHWORK. PRIOR TO REQUESTING AN ENFORCEMENT AGENCY FOUNDATION INSPECTION, OBTAIN WRITTEN DOCUMENTATION FROM THE SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER THAT THE FOUNDATION AND EARTHWORK IS IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS.
5. NOTIFY THE SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER 48 HOURS IN ADVANCE OF THE TIME WHEN THE FOUNDATION EXCAVATIONS AND EARTHWORK WILL BE COMPLETE AND READY FOR FORMS OR REINFORCING PLACEMENT. NO FORMS OR REINFORCING SHALL BE PLACED IN ANY FOUNDATION UNTIL THE EXCAVATION HAS BEEN INSPECTED AND APPROVED BY THE SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER.
6. FOUNDATIONS SHALL EXTEND INTO FIRM BEARING IN UNDISTURBED SOIL, OR WHERE REQUIRED, IN COMPACTED FILL MATERIAL OR CONTROLLED LOW-STRENGTH MATERIAL PER THE CONSTRUCTION DOCUMENTS. FOUNDATION DEPTHS SHOWN ON THE CONSTRUCTION DOCUMENTS ARE MINIMUM DEPTHS ONLY. FOUNDATION EXCAVATIONS MAY BE REQUIRED TO BE OVER-EXCAVATED TO REACH SUITABLE BEARING MATERIAL. WHERE THE SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER HAS DETERMINED OVER-EXCAVATION IS REQUIRED, THE REMOVED MATERIAL MAY BE REPLACED WITH COMPACTED FILL MATERIAL OR CONTROLLED LOW-STRENGTH MATERIAL PER THE CONSTRUCTION DOCUMENTS.
7. FOUNDATIONS BELOW GRADE SHALL BE FORMED UNLESS WRITTEN DOCUMENTATION PERMITTING UNFORMED FOOTINGS IS OBTAINED FROM THE SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER. FORWARD WRITTEN DOCUMENTATION TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO THE START OF FOUNDATION EXCAVATIONS. THE SIDES OF UNFORMED FOUNDATION EXCAVATIONS MUST BE ABLE TO STAND WITHOUT CAVING OR SLOUGHING. PROVIDE FORMS OR PROTECTION AS REQUIRED TO PREVENT SLOUGHING OF SOIL INTO EXCAVATIONS. WHERE UNFORMED FOUNDATIONS ARE USED, COORDINATE AND COMPLY WITH THE CONCRETE PROTECTION REQUIREMENTS FOR REINFORCEMENT PLACED ADJACENT TO EARTH. FOUNDATIONS ABOVE GRADE SHALL BE FORMED. ALL FORMS SHALL BE REMOVED ABOVE OR BELOW GRADE, UNLESS OTHERWISE NOTED.
8. THE TOP SURFACE OF FOUNDATIONS SHALL BE LEVEL. THE BOTTOM SURFACE OF FOUNDATIONS IS PERMITTED TO HAVE A SLOPE NOT EXCEEDING ONE UNIT VERTICAL IN TEN UNITS HORIZONTAL. FOOTINGS SHALL BE STEPPED WHERE IT IS NECESSARY TO CHANGE THE ELEVATION OF THE TOP SURFACE OF THE FOOTING OR WHERE THE SURFACE OF THE GROUND AND/OR BOTTOM SURFACE OF THE FOOTINGS SLOPES MORE THAN ONE UNIT VERTICAL IN TEN UNITS HORIZONTAL. STEP FOOTINGS AS REQUIRED PER TYPICAL DETAILS.
9. THE TOP OF EXTERIOR FOOTINGS SHALL BE LOCATED 4 INCHES MINIMUM BELOW LOWEST ADJACENT EXTERIOR FINISHED GRADE OR SURFACE, UNLESS OTHERWISE NOTED. WHERE ADJACENT EXTERIOR FINISHED GRADE OR SURFACE SLOPES DOWN AND AWAY FROM THE FOUNDATION, THE TOP OF EXTERIOR FOOTINGS SHALL BE NO HIGHER THAN THE ELEVATION OF THE FINISHED GRADE OR SURFACE LOCATED 18 INCHES FROM THE FACE OF SUCH FOOTING, UNLESS OTHERWISE NOTED. STEP FOOTINGS AS REQUIRED PER TYPICAL DETAILS TO OBTAIN THE MINIMUM DIMENSIONS REQUIRED.
10. FOUNDATION DEPTHS SHOWN ON THE CONSTRUCTION DOCUMENTS ARE MINIMUM DEPTHS ONLY AND DO NOT NECESSARILY ACCOUNT FOR ALL PIPES, CONDUITS, UTILITIES AND TRENCHES ADJACENT TO OR CROSSING FOOTINGS AS REQUIRED BY ALL OTHER CONSTRUCTION DOCUMENTS. STEP FOOTINGS TO COMPLY WITH THE REQUIREMENTS OF TYPICAL DETAILS FOR PIPES AND CONDUITS AT FOOTINGS.
11. FOR DAMP-PROOFING, WATER-PROOFING AND DRAINAGE SYSTEMS ADJACENT TO FOUNDATIONS, SEE ALL OTHER CONSTRUCTION DOCUMENTS.
12. FOUNDATION ELEMENTS SHOWN ARE INDICATED IN THEIR COMPLETED LOCATION AND CONDITION. FILL AROUND FOUNDATION ELEMENTS SHALL BE PLACED IN LIFTS AND COMPACTED IN A MANNER THAT DOES NOT DAMAGE OR MOVE THE FOUNDATION, WATER-PROOFING OR DAMP-PROOFING. SHORE AND ADEQUATELY SUPPORT FOUNDATION ELEMENTS WHILE PLACING FILL UNTIL THE FOUNDATION ELEMENTS AND THEIR SUPPORTING STRUCTURAL ELEMENTS HAVE BEEN COMPLETED AND ATTAINED THEIR REQUIRED DESIGN STRENGTHS.
13. FOUNDATION EXCAVATIONS SHALL BE CLEANED OF DEBRIS, LOOSE SOIL AND STANDING WATER DURING CONSTRUCTION AND IMMEDIATELY PRIOR TO CONCRETE PLACEMENT. PROVIDE FOR DE-WATERING IF WATER IS PRESENT IN THE EXCAVATIONS DUE TO ANY SOURCE.
14. FOUNDATION EXCAVATIONS SHALL BE MADE TO THE SIZES AND SHAPES REQUIRED BY THE CONSTRUCTION DOCUMENTS. NO MATERIAL IS TO BE EXCAVATED UNNECESSARILY.
15. EXTERIOR FINISHED GRADES OR SURFACES SHALL HAVE POSITIVE DRAINAGE AWAY FROM FOUNDATIONS. GROUND SURFACES WITHIN TEN FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 5%. PAVED SURFACES WITHIN TEN FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 2%. PLANTERS SHALL HAVE ADEQUATE SURFACE DRAINAGE TO PREVENT STANDING WATER ADJACENT TO THE FOUNDATIONS.
16. WHERE EXCAVATIONS OCCUR ADJACENT TO EXISTING STRUCTURES, PROVIDE ADEQUATE UNDERPINNING, SHORING OR SUPPORT TO PREVENT SETTLEMENT AND LATERAL MOVEMENT OF THE EXISTING FOUNDATIONS. FOUNDATIONS ADJACENT TO EXISTING FOUNDATIONS SHALL PENETRATE A MINIMUM OF THE SAME DEPTH AS EXISTING, UNLESS OTHERWISE NOTED.
17. FOUNDATION SIZES SHALL BE AS REQUIRED ON THE CONSTRUCTION DOCUMENTS. THE MINIMUM DEPTH NOTED SHALL BE BELOW THE ADJACENT UNDISTURBED GROUND SURFACE. THE MINIMUM DEPTH SHALL ALSO EXTEND BELOW THE FROST LINE OF THE LOCALITY. FOOTINGS SHALL NOT BEAR ON FROZEN SOIL.

CONTROLLED LOW STRENGTH MATERIAL (CLSM)

S- 033000_N004A
200203. Q2

1. CLSM SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH BETWEEN 50 PSI AND 150 PSI AS TESTED PER ASTM D4832.
2. CLSM MATERIALS SHALL MEET THE RECOMMENDATIONS OF ACI 229R.
3. CLSM SHALL HAVE A MINIMUM SLUMP OF 10".
4. TESTING LAB SHALL FIELD VERIFY STRENGTH OF CLSM, WITH A MINIMUM FREQUENCY OF ONE TEST PER DAY.

REINFORCED MASONRY

S- 042200_N001A
190805. Q2

1. MASONRY WORK, MATERIALS, CONSTRUCTION, AND QUALITY SHALL COMPLY WITH THE REQUIREMENTS OF THE BUILDING CODE, TMS 402/ACI 530/ASCE 5 AND TMS 602/ACI 530.1/ASCE 6.
2. COMPLETED MASONRY ASSEMBLIES SHALL ATTAIN A 28 DAY COMPRESSIVE STRENGTH (F'M) OF 2,000 PSI MINIMUM. COMPRESSIVE STRENGTH SHALL BE VERIFIED BY THE UNIT STRENGTH METHOD.
3. HOLLOW AND SOLID CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 WITH A MAXIMUM OVEN DRY DENSITY OF 135 PCF. UNITS SHALL HAVE A NET AREA COMPRESSIVE STRENGTH OF 2,000 PSI MINIMUM.
4. MORTAR SHALL CONFORM TO ASTM C270-TYPE S.
5. MASONRY UNITS AND MORTAR SHALL CONFORM TO THE COLOR AND STYLE SPECIFIED BY THE ARCHITECT.
6. GROUT SHALL CONFORM TO ASTM C476 OR BE PROPORTIONED TO ATTAIN A 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI MINIMUM AS TESTED PER ASTM C1019. THOROUGHLY MIX GROUT MATERIALS AND WATER TO PROVIDE ADEQUATE FLUIDITY FOR PLACEMENT WITHOUT SEGREGATION OR SEPARATION. MIX GROUT TO A CONSISTENCY THAT HAS A SLUMP BETWEEN 8 AND 11 INCHES. GROUT PROVIDED FOR POURS OVER 5'-4" IN HEIGHT SHALL CONTAIN AN ADMIXTURE OF THE TYPE THAT REDUCES EARLY WATER LOSS TO THE MASONRY UNITS AND PRODUCES AN EXPANSIVE ACTION IN THE PLASTIC GROUT SUFFICIENT TO OFFSET INITIAL SHRINKAGE AND PROMOTE BONDING OF THE GROUT TO ALL INTERIOR SURFACES OF THE MASONRY UNITS.
7. ADDITIVES AND ADMIXTURES SHALL NOT BE USED FOR MORTAR OR GROUT UNLESS ACCEPTABLE TO THE ENFORCEMENT AGENCY. ADDITIVES AND ADMIXTURES SHALL BE USED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND EVALUATION REPORTS. EVALUATION REPORTS SHALL HAVE A CURRENT AND VALID LISTING ISSUED BY AN ACCEPTABLE EVALUATION AGENCY. ANTI-FREEZE OR AIR ENTRAINMENT SUBSTANCES SHALL NOT BE USED.
8. REINFORCING BARS SHALL CONFORM TO ASTM A615-GRADE 60 OR ASTM A706-GRADE 60. THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS SHALL NOT EXCEED 1.3 TIMES THE SPECIFIED YIELD STRENGTH.
9. JOINT REINFORCEMENT SHALL CONFORM TO ASTM A951.
10. WIRE TIES/ANCHORS SHALL CONFORM TO ASTM A82.
11. SHEET METAL ANCHORS/TIES SHALL CONFORM TO ASTM A1008.
12. JOINT REINFORCEMENT, WIRE TIES/ANCHORS, AND SHEET METAL ANCHORS/TIES SHALL BE HOT-DIP GALVANIZED TO CONFORM TO ASTM A153.
13. ANCHOR BOLTS SHALL HAVE HEX HEADS AND CONFORM TO ASTM A307-GRADE A OR ASTM F1554-GRADE 36. ANCHOR RODS SHALL CONFORM TO ASTM F1554-GRADE 36 OR ASTM A36 WITH THREADED ENDS AND DOUBLE NUTS AT THE ANCHORED END. NUTS FOR BOLTS OR RODS SHALL CONFORM TO ASTM A563-GRADE A-HEX.
14. ROUGHEN CONCRETE BEARING SURFACES BY EXPOSING CLEAN AGGREGATE SOLIDLY EMBEDDED IN THE CEMENT MATRIX. BEFORE PLACING MASONRY UNITS CLEAN BEARING SURFACES AND HORIZONTAL CONSTRUCTION JOINTS OF ALL LOOSE MATERIAL, DEBRIS AND MORTAR DROPPINGS.
15. HOLLOW-UNIT MASONRY SHALL BE BUILT TO MAINTAIN THE CLEAR AND UNOBSTRUCTED CONTINUITY OF THE VERTICAL AND HORIZONTAL CELLS TO BE GROUTED. USE TWO-CORE SINGLE OPEN END UNITS ARRANGED SO THAT CLOSED ENDS OF ADJACENT UNITS DO NOT ABUT UNO. WHERE STACK BOND PATTERN IS NOTED, USE TWO-CORE DOUBLE OPEN END UNITS.
16. MULTI-WYTHE MASONRY SHALL BE BUILT WITH SOLID UNITS IN THE OUTER WYTHES TO MAINTAIN THE CLEAR AND UNOBSTRUCTED CONTINUITY OF THE SPACE TO BE GROUTED. THE TWO WYTHES SHALL BE BONDED TOGETHER WITH NO 9 WIRE RECTANGULAR WALL TIES 4" WIDE BY LENGTH EQUAL TO 2" LESS THAN OVERALL WALL THICKNESS. KINKS, WATER DRIPS, OR DEFORMATIONS ARE NOT PERMITTED IN THE WALL TIES. WALL TIES SHALL BE SPACED AT 36" OC MAX HORIZONTALLY AND 24" OC MAX VERTICALLY.
17. CONSTRUCT MASONRY IN RUNNING BOND PATTERN UNO. MAINTAIN BOND PATTERNS AT CORNERS, INTERSECTIONS AND SURFACES USING FULL UNITS. PROVIDE SPECIALTY OR CUT MASONRY UNITS WHEN REQUIRED. GROUTED SPACES SHALL NOT BE VISIBLE AT EXPOSED MASONRY SURFACES. TOOTHING OF MASONRY WALLS IS PROHIBITED. RAKING IS TO BE HELD TO A MINIMUM.
18. PLACE UNITS AND MORTAR TO PROVIDE CONSISTENT THICKNESS BED AND HEAD JOINTS UNO. TOOL MORTAR JOINTS CONCAVE UNO. REMOVE MORTAR PROTRUSIONS EXTENDING MORE THAN 1/2" INTO GROUTED SPACES. DURING PLACEMENT, REMOVE MORTAR DROPPINGS FROM HORIZONTAL CONSTRUCTION JOINTS, INTERIOR MASONRY SURFACES AND REINFORCING STEEL.
19. PLACE MORTAR AND MASONRY UNITS TO SOLIDLY FILL JOINTS AS FOLLOWS: BED JOINTS AT HOLLOW-UNIT FACE SHELLS, END WEBS, AND FULL HEIGHT CROSS WEBS; HEAD AND END JOINTS AT OPEN ENDS OF HOLLOW-UNITS FOR A MINIMUM DISTANCE FROM EACH FACE EQUAL TO THE FACE SHELL THICKNESS OF THE UNIT; HEAD AND END JOINTS AT CLOSED ENDS OF HOLLOW-UNITS; JOINT LOCATIONS NECESSARY TO CONFINE GROUT; BED, HEAD AND 3/4" OR LESS COLLAR JOINTS AT SOLID UNITS.
20. PLACE JOINT REINFORCEMENT SO THAT LONGITUDINAL WIRES ARE EMBEDDED IN MORTAR JOINTS WITH MINIMUM 6" LAP SPLICES. STAGGER ADJACENT LAP SPLICES WITH NO OVERLAP.PROVIDE MINIMUM MORTAR COVER OF 1/2" FROM INTERIOR SURFACES AND 5/8" FROM EXTERNAL SURFACES.
21. MINIMUM REBAR COVER FROM EXTERNAL MASONRY SURFACES EXPOSED TO EARTH OR WEATHER SHALL BE 2" FOR #6 REBAR AND LARGER, AND 1 1/2" FOR #5 REBAR AND SMALLER, UNO. MINIMUM REBAR COVER FROM EXTERNAL MASONRY SURFACES NOT EXPOSED TO EARTH OR WEATHER SHALL BE 1 1/2", UNO.
22. MINIMUM REBAR CLEARANCE TO INTERNAL MASONRY SURFACES SHALL BE THE GREATER OF ONE REBAR DIAMETER OR 1/2". HORIZONTAL REBAR CAN BEAR ON THE CROSS WEBS OF BOND BEAM UNITS. REBAR WITH HOOKS OR BENDS SHALL BE SKEWED WITHIN CELLS TO MAINTAIN REQUIRED CLEARANCE. CONSTRUCT MASONRY AND CUT UNITS TO MAINTAIN REQUIRED CLEARANCE.
23. THE MINIMUM CLEAR DISTANCE BETWEEN PARALLEL REBAR SHALL BE THE GREATER OF ONE REBAR DIAMETER OR 1". IN COLUMNS AND PILASTERS THE MINIMUM CLEAR DISTANCE BETWEEN VERTICAL REBAR SHALL BE THE GREATER OF ONE AND ONE-HALF REBAR DIAMETERS OR 1 1/2". THE SAME LIMITATIONS SHALL APPLY TO THE CLEAR DISTANCE BETWEEN A REBAR SPLICE AND ADJACENT SPLICES OR REBAR.
24. HOLD REINFORCING IN PLACE USING WIRE TIES OR SPACING/POSITIONER DEVICES. VERTICAL REINFORCING SHALL BE HELD IN POSITION AT TOP AND BOTTOM OF EACH GROUT POUR AND AT INTERVALS NOT TO EXCEED 192 REBAR DIAMETERS. HORIZONTAL REINFORCING SHALL BE HELD IN POSITION AT EACH END AND AT INTERVALS NOT TO EXCEED 192 REBAR DIAMETERS.
25. SPLICE VERTICAL REBAR WITH FOUNDATION DOWELS THAT MATCH GRADE, QUANTITY, SIZE AND SPACING. EXTEND DOWELS INTO FOOTINGS AND TERMINATE WITH A STANDARD HOOK 3" ABOVE BOTTOM OF FOOTING UNO. DOWELS SHALL BE STRAIGHT AND PLUMB.
26. PLACE VERTICAL REBAR IN CONTINUOUS VERTICAL CELLS. PLACE HORIZONTAL REBAR IN CONTINUOUS HORIZONTAL BOND BEAM UNITS. CONSTRUCT MASONRY AND CUT UNITS TO MAINTAIN THE CLEAR AND UNOBSTRUCTED CONTINUITY OF THE REINFORCED VERTICAL AND HORIZONTAL CELLS.
27. REBAR BENDS AND HOOKS SHALL COMPLY WITH TYPICAL DETAILS UNO. HAIR PINS AND 180 DEGREE HOOKS SHALL COMPLY WITH TYPICAL DETAIL FOR STIRRUPS, HOOPS AND TIES. DO NOT BEND REBAR AFTER IT IS EMBEDDED IN GROUT OR MORTAR.
28. REBAR SPLICES SHALL BE MADE BY FULL CONTACT LAP SPLICES. SPLICES FOR DIFFERENT REBAR SIZES SHALL BE THE LENGTH REQUIRED FOR THE LARGER REBAR. AT LOCATIONS OTHER THAN FOUNDATION DOWELS, STAGGER ADJACENT LAP SPLICES WITH NO OVERLAP. REBAR SHALL BE LAP SPLICED AS FOLLOWS UNO:
    #3 REBAR - 40 DIA = 15"
    #4 REBAR - 48 DIA = 24"
    #5 REBAR - 56 DIA = 35"
    #6 REBAR - 72 DIA = 54"
    #7 REBAR - 72 DIA = 63"
    #8 REBAR - 72 DIA = 72"
29. REINFORCEMENT AND EMBEDDED ITEMS SHALL BE PLACED AND ANCHORED TO PREVENT MOVEMENT PRIOR TO GROUTING. BOLTS SHALL BE SET WITH TEMPLATES OR EQUIVALENT MEANS. WHERE EMBEDDED ITEMS PASS THROUGH MASONRY SURFACES CUT A CLEAN HOLE TO PROVIDE A MINIMUM OF 1/2" GROUT ALL AROUND EMBEDDED ITEM.
30. LOW-LIFT AND HIGH-LIFT GROUTED CONSTRUCTION SHALL CONFORM TO BUILDING CODE REQUIREMENTS AND THE METHODS USED SHALL BE ACCEPTABLE TO THE ENFORCEMENT AGENCY. HIGH-LIFT GROUTING FOR GROUT POURS OVER 5'-4" IN HEIGHT MAY BE USED WHERE GROUT SPACE DIMENSIONS, OPENINGS, UNIT PATTERN ARRANGEMENTS, REINFORCING, AND EMBEDDED ITEMS DO NOT PREVENT THE FREE FLOW OF GROUT OR INHIBIT THE MECHANICAL CONSOLIDATION OF THE GROUT.
31. BEFORE GROUTING CLEAN SPACES TO BE GROUTED. REMOVE OVERHANGING MORTAR, MORTAR DROPPINGS, OBSTRUCTIONS AND DEBRIS FROM INSIDE OF SPACES TO BE GROUTED.
32. PROVIDE CLEANOUT OPENINGS IN THE BOTTOM COURSE OF MASONRY FOR EACH GROUT POUR OVER 5'-4" IN HEIGHT. CONSTRUCT OPENINGS OF SUFFICIENT SIZE AND SPACING TO PERMIT CLEANING OF GROUT SPACES, REMOVAL OF DEBRIS AND INSPECTION. AFTER CLEANING AND INSPECTION, CLOSE CLEANOUTS WITH MORTARED MASONRY BRACED TO RESIST GROUTING PRESSURES.
33. GROUT SHALL BE PLACED SUCH THAT SPACES TO BE GROUTED DO NOT CONTAIN VOIDS. SPACES TO BE GROUTED INCLUDE ALL CELLS, BOND BEAMS, VOIDS AND SPACES CREATED BY THE MASONRY CONSTRUCTION. SPACES TO BE GROUTED SHALL BE FILLED SOLIDLY WITH GROUT UNO. PARTIAL GROUTING IS NOT PERMITTED UNLESS SPECIFICALLY NOTED. GROUTING SHALL BE PERFORMED UNDER THE CONTINUOUS OBSERVATION OF A QUALIFIED INSPECTOR.
34. THE GROUTING OF ANY SECTION OF WALL SHALL BE COMPLETED IN ONE DAY WITH NO INTERRUPTIONS GREATER THAN ONE HOUR. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER PROVIDE HORIZONTAL GROUT CONSTRUCTION JOINTS. DO NOT FORM HORIZONTAL GROUT CONSTRUCTION JOINTS IN BEAMS OR LINTELS.
35. THE SECTION OF WALL TO BE GROUTED IN ANY ONE POUR IS LIMITED TO A LENGTH IN WHICH SUCCESSIVE LIFTS CAN BE PLACED WITHIN ONE HOUR OF THE PRECEDING LIFTS. CONSTRUCT FULL-HEIGHT VERTICAL GROUT BARRIERS BETWEEN POUR SECTIONS TO CONTROL THE HORIZONTAL FLOW OF GROUT.
36. GROUT SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION DURING PLACEMENT BEFORE LOSS OF PLASTICITY IN A MANNER TO FILL THE GROUT SPACE. GROUT POURS GREATER THAN 12" IN HEIGHT SHALL BE RECONSOLIDATED BY MECHANICAL VIBRATION TO MINIMIZE VOIDS DUE TO WATER LOSS. GROUT RECONSOLIDATION SHALL OCCUR AFTER EXCESS MOISTURE HAS BEEN ABSORBED BUT BEFORE WORKABILITY HAS BEEN LOST.
37. PREPARE, CONSTRUCT AND PROTECT MASONRY WORK FROM THE WEATHER UNTIL GROUTED AND CURED. IMPLEMENT COLD WEATHER CONSTRUCTION PROCEDURES WHEN THE AIR TEMPERATURE FALLS BELOW 40 DEG F. IMPLEMENT HOT WEATHER CONSTRUCTION PROCEDURES WHEN THE AIR TEMPERATURE EXCEEDS 90 DEG F.
38. CLEAN EXPOSED MASONRY SURFACES TO REMOVE STAINS, EFFLORESCENCE, MORTAR OR GROUT DROPPINGS, AND DEBRIS.

REINFORCED CONCRETE

S- 033000_N002A
180809. Q2

1. CONCRETE MATERIALS, QUALITY CONTROL AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318.
2. SEE CONCRETE MIX DESIGN TABLE FOR REQUIRED CONCRETE PROPERTIES.
3. PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE II AND TYPE V AT EXTERIOR EXPOSED CONDITIONS.
4. AGGREGATES SHALL CONFORM TO ASTM C33 FOR NORMAL-WEIGHT AND ASTM C330 FOR LIGHTWEIGHT CONCRETE. MAXIMUM AGGREGATE SIZE USED IN MIXES SHALL BE APPROPRIATE FOR FORM AND REBAR CLEARANCES TO BE ENCOUNTERED.
5. REINFORCING STEEL SHALL CONFORM TO ASTM A706, GRADE 60. REINFORCING STEEL CONFORMING TO ASTM A615 MAY BE USED IF THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED THE SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI AND THE RATIO OF THE ACTUAL TENSILE STRENGTH TO THE ACTUAL YIELD STRENGTH IS NOT LESS THAN 1.25.
6. REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706, GRADE 60. WELD FILLER METAL FOR REINFORCING STEEL SHALL COMPLY WITH AWS D1.4, Fu=80 KSI. WELDING SHALL CONFORM WITH AWS D1.4.
7. WELDED WIRE REINFORCEMENT SHALL BE COMPOSED OF FLAT SHEETS AND CONFORM TO ASTM A1064.
8. DIMENSIONS LOCATING REINFORCING STEEL ARE TO THE FACE OF REINFORCING STEEL AND DENOTE CLEAR COVERAGE. MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS, UNO:
   A. CONCRETE CAST AGAINST EARTH (EXCEPT SLAB ON GRADE) - 3"
      - SLAB ON GRADE - CENTER REINF IN SLAB, UNO
   B. CONCRETE FORMED & EXPOSED TO EARTH OR WEATHER:
      - #6 THRU #18 BARS - 2"
      - #5 BAR, W31 OR D31 WIRE, & SMALLER - 1 1/2"
   C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND:
      - BEAMS & COLUMNS - 1 1/2"
      - SLABS & WALLS: #14 & #18 BARS - 1 1/2", #11 BAR & SMALLER - 3/4"
9. SPLICES IN CONTINUOUS REINFORCING SHALL BE LAPPED AS NOTED IN THE TYPICAL DETAIL, UNO. SPLICES IN ADJACENT BARS SHALL BE STAGGERED SO THERE IS NO OVERLAP. LAP SPLICES OF #14 & #18 REBAR IS NOT PERMITTED AND BARS SHALL BE CONTINUOUS ONE PIECE FOR THE FULL LENGTH SHOWN. LAP SPLICES OF REBAR IN A BUNDLE SHALL BE EQUAL TO THE LAP SPLICE LENGTH REQUIRED FOR THE INDIVIDUAL BARS WITHIN THE BUNDLE MULTIPLIED BY 1.33. INDIVIDUAL BAR SPLICES WITHIN A BUNDLE SHALL NOT OVERLAP. ENTIRE BUNDLES SHALL NOT BE LAP SPLICED.
10. UNLESS DETAILED OTHERWISE: REINFORCING IN CONTINUOUS BEAMS AND SPANDRELS SHALL HAVE THE TOP BARS SPLICED AT MID-SPAN AND THE BOTTOM BARS SPLICED AT THE CENTERLINE OF SUPPORTS. REINFORCING IN CONTINUOUS SOIL-BEARING GRADE BEAMS OR FOOTINGS SHALL HAVE THE TOP BARS SPLICED AT CENTERLINE OF COLUMN SUPPORTS AND THE BOTTOM BARS SPLICED AT MID-SPAN. AT DISCONTINUOUS ENDS, THE BARS SHALL BE TERMINATED WITH A STANDARD HOOK EXTENDED TO THE FAR FACE OF THE SUPPORT OR BEAM.
11. PROVIDE FOUNDATION DOWELS TO MATCH GRADE, QUANTITY, SIZE & SPACING OF WALL/COLUMN REINFORCEMENT. EXTEND DOWELS INTO FOOTINGS AND TERMINATE WITH A STANDARD HOOK 3" ABOVE BOTTOM OF FOOTING, UNO. PROVIDE STANDARD LAP AT DOWELS TO EACH WALL/COLUMN REBAR.
12. HOOKS SHALL BE STANDARD HOOKS, UNO.
13. ITEMS TO BE EMBEDDED IN CONCRETE, SUCH AS REINFORCING, DOWELS, BOLTS, ANCHORS, SLEEVES, ETC SHALL BE SECURELY TIED AND SUPPORTED PRIOR TO PLACING CONCRETE.
14. THE LOCATION OF SLAB ON GRADE JOINTS SHALL BE AS INDICATED ON THE DRAWINGS. SLAB ON GRADE JOINT SPACINGS ARE NOT TO EXCEED 12'-0" IN EITHER DIRECTION, UNO. SUBMIT LOCATION PLAN FOR ALL PROPOSED JOINTS FOR REVIEW.
15. SURFACE OF CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED. IMMEDIATELY BEFORE CONCRETE IS PLACED, CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED. CONSTRUCTION JOINT SURFACES SHALL BE ROUGHENED TO A 1/4" MINIMUM AMPLITUDE, UNO.
16. FORM 3/4" CHAMFER AT ALL EXPOSED WALL AND COLUMN EDGES AND CORNERS, UNO.
17. EXTERIOR SLABS INCLUDING SIDEWALKS SHALL BE 4" MIN THICKNESS AND HAVE 6x6-W1.4xW1.4 WWR IN CENTER OF SLAB, UNO.
18. NO CONDUIT, PIPE, OR SLEEVES LARGER THAN 1" OD SHALL BE PLACED IN OR THROUGH CONCRETE BEAMS OR SLABS UNLESS SPECIFICALLY DETAILED AND APPROVED BY THE STRUCTURAL ENGINEER. CONDUIT OR PIPES 1" OD AND SMALLER SHALL BE SPACED & POSITIONED SUCH THAT THE EFFECTIVENESS OF THE REBAR IS NOT REDUCED.

CONCRETE MIX DESIGN

S- 033000_N002B
190225. Q2

MIX DESIGN TABLE

LOCATION	REQ SCM (% BY WEIGHT OF TOTAL CEMENTITIOUS MATERIALS)	REQ EARLY COMPRESSIVE STRENGH (PSI)	REQ 28 DAY COMPRESSIVE STRENGH (PSI)	AIR CONTENT	MAX W/C RATIO	MAX AIR-DRY WEIGHT (LBS/FT³)	ACI EXPOSURE CLASS
INT BELOW GRADE CONCRETE AND SLAB (FTGS, GRADE BEAMS)	15	2500 PRIOR TO LOADING	3000	NONE	0.50	145	F0, S0, W0, C1
INTERIOR WALLS, ELEVATED BEAMS AND COLUMNS	15	-	5000	NONE	0.45	145	F0, S0, W0, C1
EXTERIOR EXPOSED SITE CONC (PAVEMENTS, CURBS, GUTTERS, FTGS, AND WALLS) UNLESS OTHERWISE SPECIFIED	15	3000 PRIOR TO BACKFILL AT WALLS	5000	6.0	0.40	145	F3, S2, W2, C2

* 3 PERCENT MAX AIR AT STEEL TROWELED CONCRETE UNLESS CONTRACTOR CAN ASSURE THAT DELAMINATION WILL NOT OCCUR. PROTECT SLABS FROM FREEZE-THAW UNTIL SPACE IS CONDITIONED IF AIR CONTENT IS LESS THAN 4.5 PERCENT.

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CONSULTANT

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REGISTERED PROFESSIONAL ENGINEER
DARRON E. HUNTINGDALE
No. S4788
STRUCTURAL
STATE OF CALIFORNIA
10/15/2020

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE

TYPICAL NOTES

SHEET

S-011

D:_RevitLocalFiles\015437.05_BIM_A-MASTER_R20_CENTRAL_Patty.Braun.RVT
10/15/2020 4:02:37 PM

COLD-FORMED STEEL FRAMING

S- 054000_N001A
170828_02

1. THE DESIGN, INSTALLATION AND CONSTRUCTION OF COLD-FORMED STEEL FRAMING SHALL BE IN ACCORDANCE WITH THE FOLLOWING AISI NORTH AMERICAN STANDARDS:
   S100 - SPECIFICATION FOR THE DESIGN OF STRUCTURAL MEMBERS
   S200 - GENERAL PROVISIONS
   S210 - FLOOR AND ROOF SYSTEM DESIGN
   S211 - WALL STUD DESIGN
   S212 - HEADER DESIGN
   S213 - LATERAL DESIGN
   S214 - TRUSS DESIGN
2. ALL PRODUCTS SHALL POSSESS DIMENSIONS, SECTION PROPERTIES AND MATERIALS IN COMPLIANCE WITH THE AISI D100 MANUAL OF COLD-FORMED STEEL DESIGN AND BE MANUFACTURED BY A CURRENT MEMBER OF THE "STEEL STUD MANUFACTURERS ASSOCIATION" (SSMA) OR "STEEL FRAMING INDUSTRY ASSOCIATION" (SFIA).
3. PROVIDE ALL ACCESSORIES INCLUDING, BUT NOT LIMITED TO, TRACKS, CLIPS, WEB STIFFENERS, ANCHORS, FASTENING DEVICES, RESILIENT CLIPS, AND OTHER ACCESSORIES REQUIRED FOR A COMPLETE AND PROPER INSTALLATION, AND AS RECOMMENDED BY THE MANUFACTURER FOR THE STEEL MEMBERS USED.
4. STEEL MEMBERS AND COMPONENTS SHALL BE GALVANIZED ZINC-COATED PER ASTM A653 WITH COATING WEIGHTS AS FOLLOWS UNO: NON-STRUCTURAL MEMBERS G40, STRUCTURAL MEMBERS G60, ALL MEMBERS PERMANENTLY EXPOSED TO UN-CONDITIONED AIR G90, ALL MEMBERS USED IN MARINE ENVIRONMENTS G185.
5. STEEL MEMBERS 18 GA OR LIGHTER SHALL BE MANUFACTURED PER A1003 STRUCTURAL GRADE 33 TYPE H (ST33H), AND 16 GA OR HEAVIER PER A1003 STRUCTURAL GRADE 50, TYPE H (ST50H).
6. THE MINIMUM UNCOATED STEEL THICKNESS AS DELIVERED TO THE JOBSITE SHALL BE: 25 GA = 0.018", 22 GA = 0.027", 20 GA = 0.033", 18 GA = 0.043", 16 GA = 0.054". 14 GA = 0.068", 12 GA = 0.097".
7. STUDS/JOISTS SHALL HAVE 1 5/8" WIDE FLANGES, TYP UNO.
8. STUDS/JOISTS SHALL HAVE WEB PUNCH-OUTS AT 24" OC AT MID-DEPTH. PUNCH-OUTS SHALL NOT EXCEED 1 1/2" IN WIDTH, AND 4" IN LENGTH. NO OTHER OPENINGS IN STUDS/JOISTS ARE PERMITTED UNLESS SPECIFICALLY DETAILED.
9. TRACK SHALL MATCH STUD/JOIST DEPTH & GAGE, AND FLANGE WIDTH SHALL BE 1 1/4", TYP, UNO. ALL TRACKS TO BE UNPUNCHED WITH SOLID WEBS.
10. FASTENING OF FRAMING COMPONENTS SHALL BE WITH SELF-DRILLING SELF-TAPPING SCREWS OR WELDING. WHERE DETAILS CALL FOR SCREWS, THE MINIMUM SIZES SHALL BE AS FOLLOWS: #6 FOR 22 GA OR LIGHTER MATERIAL, #8 FOR 20 GA MATERIAL, #10 FOR 18 & 16 GA MATERIAL, & # 12 FOR 14 GA OR HEAVIER MATERIAL, TYP UNO. SCREW SIZE IS DETERMINED BY THE GA OF THE THICKEST PART BEING JOINED UNO. INSTALL SCREWS WITH THE HEAD IN CONTACT WITH THE THINNEST PART BEING JOINED UNO. AS AN ALTERNATE, STEEL MEMBERS 18 GA OR HEAVIER MAY BE WELDED WITH A 1/2" LONG WELD (FILLET OR FLARE GROOVE) INSTEAD OF EACH SCREW, TYP UNO.
11. SCREW SPACING SHALL NOT BE LESS THAN 3 TIMES THE NOMINAL SCREW DIAMETER. SCREW EDGE DISTANCE SHALL NOT BE LESS THAN 1.5 TIMES THE NOMINAL SCREW DIAMETER. PENETRATION OF SCREWS THROUGH JOINED MATERIALS SHALL NOT BE LESS THAN 3 EXPOSED THREADS. SCREW HEADS SHALL BE LOW-PROFILE TYPE.
12. SCREWS SHALL CONFORM WITH ASTM C1513 AND HAVE A CORROSION-RESISTANT COATING.
13. BOLTS SHALL BE INSTALLED IN STANDARD SIZE HOLES, UNO. STANDARD SIZE HOLES SHALL BE BOLT DIA + 1/32" FOR BOLTS SMALLER THAN 1/2" DIA, AND BOLT DIA + 1/16" AT 1/2" DIA AND LARGER BOLTS.
14. WELDING SHALL CONFORM WITH AWS D1.3. WELDING TO STRUCTURAL STEEL SHALL ALSO CONFORM WITH AWS D1.1. THE ELECTRODES USED FOR WELDING SHALL HAVE A MINIMUM YIELD STRENGTH OF 60 KSI. WELDS OF GALVANIZED STEEL SHALL BE COATED WITH A ZINC-RICH PAINT.
15. FASTENING OF SHEATHING SHALL BE WITH SELF-DRILLING SELF-TAPPING SCREWS. #6 MIN FOR GYPSUM BOARD & #8 MIN FOR STRUCTURAL PANELS. SCREW HEADS SHALL BE COUNTER SUNK FLAT-PROFILE TYPE.
16. NON-STRUCTURAL INTERIOR WALLS SUPPORTED AT THE BASE AND EXTENDING TO THE BOTTOM OF STRUCTURE ABOVE SHALL HAVE SLIP TRACKS AT THE TOP, UNO.
17. FRAME INDIVIDUAL MEMBERS AND EACH ELEMENT OF BUILT-UP MEMBERS, CONTINUOUS ONE PIECE BETWEEN SUPPORTS. SPLICE ONLY WHERE SPECIFICALLY NOTED.

STEEL DECKING

S- 053100_N001A
200401_02

1. STEEL DECKING WORK, MATERIALS, CONSTRUCTION AND QUALITY SHALL BE IN ACCORDANCE WITH THE BUILDING CODE.
2. PRODUCTS SHALL POSSESS CURRENT EVALUATION AGENCY APPROVALS WITH SECTION DIMENSIONS, PROPERTIES AND MATERIALS IN COMPLIANCE WITH THE THE TYPICAL DETAILS. SEE CONSTRUCTION DOCUMENTS FOR STEEL DECK TYPE AND GAGE.
3. WELDING MATERIALS AND PROCEDURES SHALL CONFORM TO AWS D1.3. WELDING TO STRUCTURAL STEEL SHALL ALSO CONFORM TO AWS D1.1. ELECTRODES USED FOR WELDING SHALL HAVE A MINIMUM 60KSI FILLER METAL YIELD STRENGTH.
4. BARE STEEL DECK SHALL BE MANUFACTURED BY:
   - "ASC STEEL DECK" PER IAPMO ER 0161
5. SHEET STEEL ACCESSORIES SHALL BE FABRICATED FROM THE SAME GAUGE AND MATERIALS AS ADJACENT STEEL DECK, UNO.
6. STEEL DECK SHALL BE FABRICATED FROM GALVANIZED SHEET STEEL CONFORMING TO ASTM A653, STRUCTURAL STEEL (SS) DESIGNATION, MINIMUM GRADE AS INDICATED IN EVALUATION AGENCY REPORT.
7. STEEL DECK AND ACCESSORIES SHALL BE GALVANIZED ZINC-COATED IN CONFORMANCE WITH ASTM A653 WITH COATING WEIGHTS AS FOLLOWS UNO:
   STANDARD DECK COATING SHALL BE G60, DECK COATING AT EXTERIOR PERMANENTLY EXPOSED LOCATIONS SHALL BE G90, DECK COATING IN MARINE ENVIRONMENTS SHALL BE G185.
8. STEEL DECK SHALL BE CONTINUOUS OVER MULTIPLE SPANS WHERE FRAMING PERMITS. LAYOUT STEEL DECK TO PROVIDE TWO SPANS MINIMUM AND THREE SPANS OR GREATER WHERE POSSIBLE. SINGLE SPANS SHALL OCCUR ONLY WHERE CONTINUITY CANNOT BE MADE ONTO ADJACENT SPANS.
9. STEEL DECK SHALL BE INSTALLED WITH A MINIMUM INTERMEDIATE AND END BEARING OF 2" OVER STRUCTURAL SUPPORTS. STEEL DECK SPLICES SHALL BE BUTTED WITH RIBS ALIGNED, UNO. BARE STEEL DECK MAY BE LAP SPLICED WITH A MINIMUM LAP OF 2" PROVIDED THE DECK ENDS ARE DIE SET, UNO.
10. STEEL DECK SPLICES SHALL BE CENTERED OVER A COMMON MEMBER.
11. ARC SPOT WELDS SHALL HAVE A MINIMUM 1/2" DIAMETER EFFECTIVE SIZE. ARC SPOT WELD MINIMUM DECK EDGE DISTANCE SHALL BE 1.5 TIMES THE VISIBLE WELD DIAMETER MEASURED FROM THE CENTER OF THE WELD.
12. ARC SEAM WELDS MAY BE SUBSTITUTED FOR ARC SPOT WELDS. ARC SEAM WELDS SHALL HAVE A MINIMUM 3/8" WIDE BY 1" LONG EFFECTIVE SIZE. ARC SEAM WELD MINIMUM DECK EDGE DISTANCE SHALL BE 1.5 TIMES THE VISIBLE WELD DIAMETER MEASURED FROM THE LONGITUDINAL AXIS OR FROM THE CENTER OF THE END RADIUS OF THE WELD.
13. THE MINIMUM CLEAR DISTANCE BETWEEN ADJACENT WELDS AND BETWEEN A WELD AND THE DECK EDGE SHALL BE NO LESS THAN THE VISIBLE WELD DIAMETER.
14. FILLET WELDS SHALL HAVE A MINIMUM LEG SIZE EQUAL TO THE THICKNESS OF THE THINNEST SHEET STEEL BEING ATTACHED. FILLET WELDS SHALL HAVE A MINIMUM LENGTH OF 3/4".
15. FLARE GROOVE WELDS SHALL HAVE A MINIMUM WELD THROAT SIZE EQUAL TO THE THICKNESS OF THE THINNEST SHEET STEEL BEING ATTACHED. FLARE GROOVE WELDS SHALL HAVE A MINIMUM LENGTH OF 3/4".
16. STEEL DECK PANELS AT CANTILEVERED CONDITIONS AND AT PARTIAL WIDTH PANELS SHALL HAVE CONNECTIONS FOR THE ENTIRE LENGTH OF THE DECK PANEL AS FOLLOWS:
    CONNECTIONS TO EACH STRUCTURAL SUPPORT AT EACH LOW FLUTE AND SIDE SEAM CONNECTIONS AT ENDS AND 12" ON CENTER MAXIMUM.
17. ACCESSORIES SHALL BE FASTENED TO SUPPORTING STEEL DECK AND STRUCTURAL MEMBERS BY CONNECTIONS SPACED AT 12" MAXIMUM ON CENTER AND AT EACH END.
18. PROVIDE EDGE FORMS, FLASHING, CLOSURE PLATES, AND SUPPLEMENTARY SUPPORTS FOR DECK EDGES AT BUILDING PERIMETER, AT OPENINGS AND AT PENETRATIONS THROUGH DECK.
19. DO NOT SUSPEND OR ATTACH SUPPORTS FOR NONSTRUCTURAL COMPONENTS FROM BARE STEEL DECK, EXCEPT FOR COMPONENTS WEIGHING LESS THAN 100 LBS OR HANGER WIRE SUSPENDED ACOUSTIC OR SINGLE-LAYER GYPSUM BOARD CEILINGS (MAXIMUM CEILING SYSTEM WEIGHT OF 4 PSF) INCLUDING THEIR INTEGRALLY SUPPORTED LIGHT FIXTURES, TERMINALS AND DEVICES. COORDINATE HANGER WIRE SUPPORT DETAILS WITH STEEL DECK INSTALLATION.
20. SUPPORTS OR ANCHORS FOR ITEMS NOT PERMITTED TO BE ATTACHED TO STEEL DECK SHALL BE SUPPORTED BY STRUCTURAL FRAMING. PROVIDE ADDITIONAL TRAPEZE HANGERS OR SUPPLEMENTARY FRAMING AS NECESSARY.

STRUCTURAL STEEL

S- 051200_N001A
190805_02

1. THE DESIGN, FABRICATION AND ERECTION OF STEEL SHALL BE IN ACCORDANCE WITH AISC 360 AND AISC 341 INCLUDING ANY ENFORCEMENT AGENCY AMENDMENTS.
2. STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING, UNO:

STEEL PRODUCT	ASTM SPECIFICATION, UNO	COMMENTS
W & WT SHAPES	A992, GRADE 50	Fy = 50ksi
HP SHAPES	A572, GRADE 50	Fy = 50ksi
M, MT, S & ST SHAPES	A36	Fy = 36ksi
CHANNELS (C & MC)	A36	Fy = 36ksi
ANGLES	A36	Fy = 36ksi
PLATES & BARS	A36,TYP, UNO	Fy = 36ksi
	A572, GRADE 50	Fy = 50ksi
RODS, PLAIN & ALL-THREADED	A36	Fy = 36ksi
RAISED-PATTERN FLOOR PLATE	A786, MEETING ASTM A36	Fy = 36ksi
PIPES	A53, GRADE B	Fy = 35ksi
ROUND HSS	A500, GRADE C	Fy = 46ksi
RECTANGULAR & SQUARE HSS	A500, GRADE C	Fy = 50ksi
BOLTS	A307, GRADE A, HEX	Fy = 60ksi
WASHERS	F844	
PLATE WASHERS	A36	Fy = 36ksi
NUTS FOR BOLTS & RODS	A563, HEAVY HEX, GRADE A TYP, UNO GRADE DH IF GALVANIZED GRADE DH W/ F1554 GRADE 105 BOLTS	
ANCHOR BOLTS & RODS (HEADED OR THREADED & NUTTED)	F1554, CLASS 2A, S3 GRADE 36 TYP, UNO	Fy = 36ksi
WELDED HEADED STUDS, SHEAR STUDS, & WELDED THREADED STUDS	A108, GRADES 1010 - 1020	
DEFORMED BAR ANCHORS	A496	Fy = 75ksi
WELD FILLER METAL	AWS D1.1	Fy = 70ksi

3. EXPOSED INTERIOR STEEL SHALL RECEIVE ONE COAT OF PRIMER PAINT, UNO. DO NOT PAINT SURFACES IN DIRECT CONTACT WITH CONCRETE OR MASONRY, WHERE FIELD WELDING IS REQUIRED, WHERE FIRE-PROOFING IS REQUIRED OR CONTACT SURFACES OF STEEL-TO-STEEL, AND DECK-TO-STEEL CONNECTIONS. CONCEALED STEEL DOES NOT REQUIRE PAINT, UNO.
4. EXPOSED EXTERIOR STEEL & FASTENERS SHALL BE HOT DIP GALVANIZED, UNO. PROVIDE FILL AND VENT HOLES AT ENCLOSED SPACES OF HOLLOW PIECES. SEAL HOLES WATER-TIGHT AFTER GALVANIZING. PROVIDE DRAIN HOLES AS REQUIRED AT SOLID PIECES. HOLE SIZES AND LOCATIONS SHALL NOT DETRIMENTALLY AFFECT THE PIECES STRUCTURAL CAPACITY AND ARE SUBJECT TO THE STRUCTURAL ENGINEERS REVIEW.
5. EXPOSED STRUCTURAL STEEL MEMBERS AND CONNECTIONS VISIBLE TO THE PUBLIC AND BUILDING OCCUPANTS (OTHER THAN MAINTENANCE AREAS) SHALL MEET THE FOLLOWING CRITERIA:
   A. FABRICATION, HANDLING, AND SHIPPING SHALL EMPLOY SPECIAL CARE TO ENSURE ACCEPTABLE FINISHED APPEARANCE.
   B. WELDS SHALL BE GROUND SMOOTH. GROOVE WELDS SHALL BE MADE FLUSH (+ 1/16", -0"). OVERSIZE WELDS AS REQUIRED.
   C. FIELD-WELDING AIDS AND ERECTION AIDS SHALL BE REMOVED AND STEEL SHALL BE REPAIRED AND GROUND SMOOTH.
   D. SHOP PIECE MARKS AND MILL MARKS SHALL BE LOCATED SUCH THAT THEY ARE FULLY HIDDEN IN THE FINAL STRUCTURE OR ARE MADE WITH SUCH MEDIA TO PERMIT FULL REMOVAL AFTER ERECTION.
   E. GRIND EDGES OF SHEARED, PUNCHED OR FLAME CUT STEEL IN AREAS WITHIN REACH TO TOUCH BY THE PUBLIC AND BUILDING OCCUPANTS.
   F. ALIGN AND ORIENT BOLTED CONNECTIONS TO BE UNIFORM AND CONSISTENT.
6. PROVIDE CONCRETE / MASONRY COVER AT STEEL BELOW GRADE. STEEL EMBEDDED IN CONCRETE CAST AGAINST EARTH SHALL HAVE 3" MIN COVER. STEEL EMBEDDED IN FORMED CONCRETE OR MASONRY SHALL HAVE 2" MIN COVER.
7. WELDING MATERIALS & PROCEDURES SHALL CONFORM WITH AWS D1.1. AND AWS D1.8 WHERE APPLICABLE.
8. MINIMUM SIZE OF FILLET WELDS: 1/8" FOR MATERIAL 1/8" TO 1/4" THICK, 3/16" FOR MATERIAL OVER 1/4" TO 1/2" THICK, 1/4" FOR MATERIAL OVER 1/2" TO 3/4" THICK, AND 5/16" FOR MATERIAL OVER 3/4" THICK. MATERIAL THICKNESS IS FOR THINNER PART JOINED. SINGLE PASS WELDS MUST BE USED FOR SIZES SHOWN. SIZE OF WELD IS LEG DIMENSION OF FILLET. MINIMUM EFFECTIVE LENGTH OF FILLET WELDS SHALL BE NOT LESS THAN FOUR TIMES THE FILLET SIZE. MINIMUM EFFECTIVE LENGTH OF INTERMITTENT FILLET WELDS SHALL BE 1 1/2".
9. GROOVE WELDS SHALL BE COMPLETE JOINT PENETRATION WELDS, UNO. GROOVE WELDS SHALL BE TERMINATED AT THE END OF JOINTS IN A MANNER THAT WILL ENSURE SOUND WELDS. USE WELD TABS AND BACKING BARS ALIGNED TO PROVIDE AN EXTENSION OF THE JOINT PREPARATION. REMOVE EXTENSIONS UPON COMPLETION & COOLING OF THE WELD. GRIND ENDS OF THE WELD SMOOTH AND FLUSH WITH THE EDGES OF THE ABUTTING PARTS.
10. WHERE "ALL AROUND" FILLET WELDS ARE INDICATED AT CONCEALED/NON-EXPOSED SQUARE OR RECTANGULAR HSS CONNECTIONS TO PLATES, FILLET WELDS ARE NOT REQUIRED AT RADIUSED CORNERS , UNO.
11. BOLTS FOR STEEL-TO-STEEL CONNECTIONS SHALL BE PLACED IN STANDARD SIZE HOLES, TYP UNO. BOLTS FOR STEEL-TO-CONCRETE/MASONRY CONNECTIONS SHALL BE PLACED IN ANCHOR ROD HOLES, TYP UNO. USE STANDARD AISC PITCH & GAGE FOR BOLTED CONNECTIONS, UNO.
12. BOLTS AND RODS SHALL BE CUT-THREAD TYPE WITH FULL DIAMETER BODY STYLE MEETING REQUIREMENTS OF ASME B18.2.1. THE BODY DIAMETER SHALL NOT BE LESS THAN THE MINIMUM MAJOR DIAMETER WHEN THREADS ARE CUT. REDUCED DIAMETER BODY STYLE ROLLED THREAD BOLTS OR RODS ARE NOT PERMITTED.
13. BOLT HEADS, NUTS OR "DTI'S OF BOLTED STEEL-TO-STEEL AND STEEL-TO-CONCRETE/ MASONRY CONNECTIONS BEARING ON SLOPING SURFACES SHALL USE A BEVELED HARDENED WASHER IN THE BOLT ASSEMBLY AT THAT SURFACE.

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CONSULTANT

SEAL

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT

COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE

TYPICAL NOTES

SHEET

S-012

ADHESIVE ANCHORS IN CONCRETE

S- 056000_N004A
190805. Q2

1. REFERENCES TO "EPOXY" OR "CHEMICAL" ANCHORS EMBEDDED IN CONCRETE SHALL REFER TO THESE NOTES.
2. ACCEPTABLE ADHESIVE PRODUCTS ARE:
   - "HILTI" HIT-RE 500 V3 (ICC ESR-3814)
   - "HILTI" HIT-HY-200 (ICC ESR-3187)
   - "SIMPSON" SET-XP (ICC ESR-2508)
   - "SIMPSON" SET-3G (ICC ESR-4057)
   - "SIMPSON" AT-XP (IAPMO ER-263)
   - "DEWALT" PURE 110+ (ICC ESR-3298)
   - "DEWALT" AC200+ GOLD (ICC ER-4027)
3. THREADED ROD AND REBAR USED W/ ADHESIVE ANCHORS SHALL MEET THE REQUIREMENTS OF THE EVALUATION AGENCY REPORT.
4. EMBEDMENT DEPTHS SHALL BE 8 TIMES THE NOMINAL DIAMETER OF ANCHOR, UNO.
5. CONCRETE SHALL MEET THE SPECIFIED DESIGN STRENGTH PRIOR TO INSTALLATION, AND SHALL HAVE A MINIMUM AGE OF 21 DAYS, UNO.
6. TEST LOADS SHALL BE AS INDICATED IN DRAWINGS. IF NO TEST LOAD IS SPECIFIED, TEST LOAD SHALL BE 1000 LBS.

SCREW ANCHORS IN CONCRETE

S- 056000_N004A
181128. Q2

1. EMBEDMENT SHALL BE AS INDICATED IN THE TABLE BELOW, TYP UNO. ALL EMBEDMENTS SPECIFIED ARE NOMINAL EMBEDMENT DEPTHS REQUIRED.

"HILTI" KWIK HUS-EZ (KH-EZ) / KWIK HUS-EZ1 (KH-EZ1) INSTALLED IN NORMAL WEIGHT OR LIGHT WEIGHT CONCRETE (f'c = 3000 PSI MIN) (ICC REPORT ESR 3027)

	GENERAL CONCRETE & TOPSIDE OF CONC O/ STL DECK					UNDERSIDE OF CONC OVER STEEL DECK LOWER FLUTE			UPPER FLUTE		
ANCHOR DIA	1/4"	3/8"	1/2"	5/8"	3/4"	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"
STD EMBED, Hnom TYP UNO	1 5/8"	1 5/8"	3"	5"	6 1/4"	1 5/8"	2 1/2"	3"	1 5/8"	1 5/8"	2 1/4"
MIN CONC THICKNESS, T	* 3 1/4"	3 1/4"	4 3/4"	7"	8 1/4"	SEE DIAGRAM BELOW T = 3 1/4" MIN, C = 1 1/4" MIN					
MAX INSTALLATION TORQUE (LB-FT)	18	40	45	85	115	18	40	45	18	40	45
TORQUE TEST LOAD (LB-FT)	9	20	23	43	58	9	20	23	9	20	23

* T= 2 1/2" AT TOPSIDE OF CONC O/ STEEL DECK

"SIMPSON" TITEN HD INSTALLED IN NORMAL WEIGHT OR LIGHT WEIGHT CONCRETE (f'c = 3000 PSI MIN) (ICC REPORT ESR 2713)

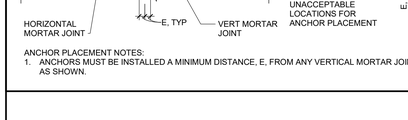
	GENERAL CONCRETE & TOPSIDE OF CONC O/ STL DECK					UNDERSIDE OF CONC OVER STEEL DECK LOWER FLUTE			UPPER FLUTE		
ANCHOR DIA	1/4"	3/8"	1/2"	5/8"	3/4"	1/4"	3/8"	1/2"	1/4"	3/8"	1/2"
STD EMBED, Hnom TYP UNO	1 5/8"	2 1/2"	3 1/4"	4"	5 1/2"	1 5/8"	2 1/2"	3 1/2"	1 5/8"	1 7/8"	2"
MIN CONC THICKNESS, T	3 1/4"	* 4"	5"	6"	8 3/4"	SEE DIAGRAM BELOW T = 1 1/2" MIN IN LOWER FLUTE T = 3 1/4" MIN IN UPPER FLUTE C = 3/4" MIN					
MAX INSTALLATION TORQUE (LB-FT)	24	50	65	100	150	24	50	65	24	50	65
TORQUE TEST LOAD (LB-FT)	12	25	33	50	75	12	25	33	12	25	33

* T= 3 1/4" AT TOPSIDE OF CONC O/ STEEL DECK

"DEWALT" SCREWBOLT+ INSTALLED IN NORMAL WEIGHT OR LIGHT WEIGHT CONCRETE (f'c = 3000 PSI MIN) (ICC REPORT ESR 3889)

	GENERAL CONCRETE & TOPSIDE OF CONC O/ STL DECK					UNDERSIDE OF CONC OVER STEEL DECK LOWER FLUTE			UPPER FLUTE		
ANCHOR DIA	1/4"	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"		3/8"	1/2"
STD EMBED, Hnom TYP UNO	1 5/8"	2"	3"	4"	4 1/4"	2"	3"	4"		2"	2 1/2"
MIN CONC THICKNESS, T	3 1/4"*	3 1/2"*	5 1/4"	6"	6"	SEE DIAGRAM BELOW T = 2 1/2" MIN IN LOWER FLUTE T = 3 1/4" MIN IN UPPER FLUTE C = 3/4" MIN					
MAX INSTALLATION TORQUE (LB-FT)	19	25	45	60	70	25	45	60		25	45
TORQUE TEST LOAD (LB-FT)	9	12	25	30	35	12	25	30		12	25

* T= 2 1/2" AT TOPSIDE OF CONC O/ STEEL DECK



* UNLESS LARGER OFFSET PERMITTED BY EVALUATION AGENCY REPORT

GENERAL CONC | TOPSIDE OF CONC O/ STEEL DECK | UNDERSIDE OF CONC O/ STEEL DECK

EXPANSION ANCHORS IN CONCRETE

S- 056000_N003A
190805. Q2

1. EMBEDMENT SHALL BE AS INDICATED IN THE TABLE BELOW, TYP UNO. ALL EMBEDMENTS SPECIFIED ARE NOMINAL EMBEDMENT DEPTHS. REFER TO EVALUATION AGENCY REPORT FOR EFFECTIVE EMBEDMENTS.

"HILTI" KWIK BOLT-TZ INSTALLED IN NORMAL WEIGHT OR LIGHT WEIGHT CONCRETE (f'c = 3000 PSI MIN) (ICC REPORT ESR 1917)

	GENERAL CONCRETE & TOPSIDE OF CONC O/ STEEL DECK					UNDERSIDE OF CONC O/ STEEL DECK				
ANCHOR DIA		3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"		
STD EMBED, Hnom TYP UNO		2 5/16"	** 3 5/8"	4 1/2"	5 5/8"	2 3/8"	2 3/8"	3 5/8"		
MIN CONC THICKNESS, T		* 4"	* 6"	6"	8"	SEE DIAGRAM BELOW T = 1 1/2" MIN, C = 5/8" MIN				
TORQUE TEST LOAD (LB-FT)		25	40	60	110	25	40	60		

* T = 3 1/4" MIN AT TOPSIDE OF CONC O/ STEEL DECK
** STD EMBED = 2 3/8" AT TOPSIDE OF CONC O/ STEEL DECK

"SIMPSON" STRONG-BOLT 2 INSTALLED IN NORMAL WEIGHT OR LIGHT WEIGHT CONCRETE (f'c = 3000 PSI MIN) (ICC REPORT ESR 3037)

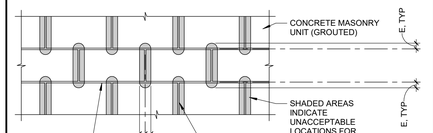
	GENERAL CONCRETE & TOPSIDE OF CONC O/ STEEL DECK					UNDERSIDE OF CONC O/ STEEL DECK				
ANCHOR DIA	1/4"	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"		
STD EMBED, Hnom TYP UNO	1 3/4"	1 7/8"	**3 7/8"	3 3/8"	4 1/8"	2"	2 3/4"	3 3/8"		
MIN CONC THICKNESS, T	3 1/4"	3 1/4"	* 6"	5 1/2"	6 3/4"	SEE DIAGRAM BELOW T = 1 1/2" MIN, C = 1/2" MIN				
TORQUE TEST LOAD (LB-FT)	4	30	60	90	150	30	60	90		

* T = 3 1/4" MIN AT TOPSIDE OF CONC O/ STEEL DECK
** STD EMBED = 2 3/4" AT TOPSIDE OF CONC O/ STEEL DECK

"DEWALT" POWER-STUD+ SD2 INSTALLED IN NORMAL WEIGHT OR LIGHT WEIGHT CONCRETE (f'c = 3000 PSI MIN) (ICC REPORT ESR 2502)

	GENERAL CONCRETE & TOPSIDE OF CONC O/ STEEL DECK					UNDERSIDE OF CONC O/ STEEL DECK				
ANCHOR DIA		3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"	3/4"	
STD EMBED, Hnom TYP UNO		**2 3/8"	**3 3/4"	4 7/8"	5 3/4"	2 3/8"	2 1/2"	3 5/8"	4 1/2"	
MIN CONC THICKNESS, T		* 4"	*5 3/4"	6 1/2"	10"	SEE DIAGRAM BELOW T = 3 1/4" MIN, C = 3/4" MIN				
TORQUE TEST LOAD (LB-FT)		20	40	60	110	25	40	60	110	

* T = 2 1/2" MIN AT TOPSIDE OF CONC O/ STEEL DECK
** STD EMBED = 2 1/2" AT TOPSIDE OF CONC O/ STEEL DECK



* UNLESS LARGER OFFSET PERMITTED BY EVALUATION AGENCY REPORT

GENERAL CONC | TOPSIDE OF CONC O/ STEEL DECK | UNDERSIDE OF CONC O/ STEEL DECK

POST INSTALLED ANCHORS

S- 056000_N002A
170127. Q2

THESE NOTES SHALL APPLY TO THE INSTALLATION, INSPECTION, AND TESTING OF EXPANSION, ADHESIVE, AND SCREW ANCHORS. USE SPECIFIC PRODUCTS WHERE INDICATED. IF A SPECIFIC PRODUCT / MANUFACTURER IS NOT NOTED, SELECT ANCHOR FROM THE PROVIDED TABLES BASED ON ANCHOR TYPE, DIAMETER AND BASE MATERIAL. POST-INSTALLED ANCHORS / REINFORCING ARE NOT PERMITTED TO REPLACE CAST-IN ANCHORS/REINFORCING UNLESS SPECIFICALLY NOTED.

INSTALLATION

1. INSTALL PER REQUIREMENTS OF THE EVALUATION AGENCY REPORT & MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS FOR THE SPECIFIC ANCHOR.
2. INSTALLATION OF ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATIONS RESISTING SUSTAINED TENSION LOADS (AS SPECIFICALLY NOTED ON DETAILS) SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY AN APPLICABLE CERTIFICATION PROGRAM. CERTIFICATION SHALL INCLUDE A WRITTEN TEST AND PERFORMANCE TEST IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM, OR EQUIVALENT. CERTIFICATION PROGRAM SHALL BE SUBMITTED TO STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
3. ANCHOR INSTALLATION SHALL MEET THE MINIMUM EMBEDMENT, EDGE DISTANCE, SPACING, AND BASE MATERIAL THICKNESS CRITERIA ESTABLISHED BY THE RELEVANT EVALUATION AGENCY REPORT & MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.
4. ANCHOR INSTALLATION & CURE TEMPERATURES SHALL FOLLOW EVALUATION AGENCY REPORT & MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.
5. WHEN INSTALLING ANCHORS IN CONCRETE OR MASONRY, DO NOT DAMAGE REINFORCING (REBAR AND/OR PRE/POST TENSIONED STRANDS). LOCATE ALL REINFORCING AT AFFECTED AREAS USING NON-DESTRUCTIVE MEANS PRIOR TO INSTALLING ANCHORS. MAINTAIN A MINIMUM CLEARANCE OF TWO INCHES BETWEEN THE REINFORCEMENT AND THE ANCHOR.

INSPECTION

1. PROVIDE SPECIAL INSPECTION AS REQUIRED BY THE EVALUATION AGENCY REPORT AND ENFORCEMENT AGENCY. WHERE EVALUATION AGENCY REPORT PERMITS EITHER PERIODIC OR CONTINUOUS INSPECTION, USE PERIODIC.
2. ADHESIVE ANCHORS INSTALLED IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATIONS RESISTING SUSTAINED TENSION LOADS (AS SPECIFICALLY NOTED ON DETAILS) SHALL BE CONTINUOUSLY INSPECTED BY AN INSPECTOR SPECIALLY APPROVED FOR THAT PURPOSE BY THE ENFORCEMENT AGENCY.

TESTING

1. TEST ANCHORS IN ACCORDANCE WITH THE EVALUATION AGENCY REPORT AND ENFORCEMENT AGENCY REQUIREMENTS FOR THE SPECIFIC ANCHOR AND IN ACCORDANCE WITH THE FREQUENCIES AND TEST METHODS LISTED BELOW.
2. TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE PROJECT INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY AND STRUCTURAL ENGINEER.
3. REACTION LOADS FROM TEST FIXTURE(S) MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED BY THE FIXTURE(S) FROM WITHDRAWING.
4. TEST METHOD SHALL BE AS NOTED FOR SPECIFIC ANCHOR TYPES AND THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
   - HYDRAULIC RAM METHOD (TENSION TESTING): THE ANCHOR SHALL MAINTAIN THE TEST LOAD FOR 15 SECONDS AND SHALL HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE.
   - TORQUE WRENCH METHOD (TORQUE TESTING):
     - THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS:
     - ONE-HALF (1/2) TURN OF THE NUT, TYP UNO.
     - ONE-QUARTER (1/4) TURN OF THE NUT FOR THE 3/8" SLEEVE ANCHOR ONLY.
     - ONE-QUARTER (1/4) TURN OF THE SCREW AFTER INITIAL SEATING OF THE SCREW HEAD FOR SCREW ANCHORS.
5. TESTING FREQUENCIES SHALL BE AS INDICATED IN THE TABLE BELOW. WHEN MULTIPLE ANCHORS ARE USED IN A SINGLE GROUP OR CONNECTION, THE PERCENT OF ANCHORS TESTED AT EACH LOCATION SHALL BE AS INDICATED BELOW.
6. IF ANY ANCHOR FAILS TESTING, ALL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED SHALL BE TESTED UNTIL 10 CONSECUTIVE ANCHORS PASS, THEN THE INITIAL TESTING FREQUENCY SHALL BE RESUMED.

TESTING FREQUENCY

APPLICATION	PERCENT OF ALL ANCHORS
SILL PLATE BOLTING AND REBAR AT SLAB ON GRADE, UNO	5 PERCENT
STRUCTURAL EXCLUDING SILL PLATE BOLTING	20 PERCENT
NON-STRUCTURAL INCLUDING EQUIPMENT ANCHORAGE	10 PERCENT

ADHESIVE ANCHORS IN MASONRY

S- 056000_N008A
181001. Q2

1. REFERENCES TO "EPOXY" OR "CHEMICAL" ANCHORS EMBEDDED IN MASONRY SHALL REFER TO THESE NOTES.
2. THREADED ROD AND REBAR USED W/ ADHESIVE ANCHORS SHALL MEET THE REQUIREMENTS OF THE EVALUATION AGENCY REPORT.
3. WHEN REBAR IS EMBEDDED USING AN ADHESIVE, ANCHOR DIA SHALL BE THE NOMINAL BAR DIAMETER.
4. EMBEDMENT SHALL BE AS INDICATED IN THE TABLE BELOW, TYP UNO.

ATR & REBAR WITH "HILTI" HIT HY-270 INSTALLED IN GROUT FILLED CONCRETE MASONRY (f'm = 1500 PSI MIN) (ICC REPORT ESR 4143)

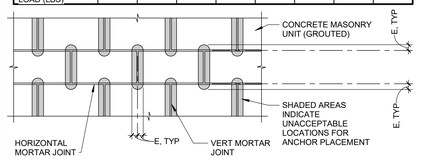
	IN FACE OF WALL (E= 0" ANCHORS MAY BE INSTALLED IN VERTICAL MORTAR JOINTS)				IN TOP OF WALL (INSTALL IN GROUT ONLY)		
ANCHOR DIA		3/8"	1/2"	5/8"	3/4"	1/2"	5/8"	
STD EMBED, Hnom (Hef = Hnom)		3 3/8"	4 1/2"	5 5/8"	6 3/4"	4 1/2"	5 5/8"	
TENSION TEST LOAD (LBS)		2480	4070	5680	7620	3250	3180	

ATR & REBAR WITH "SIMPSON" SET-XP INSTALLED IN GROUT FILLED CONCRETE MASONRY (f'm = 1500 PSI MIN) (IAPMO REPORT ER 265)

	IN FACE OF WALL (E = 1 1/2")				IN TOP OF WALL (INSTALL IN GROUT ONLY)		
ANCHOR DIA		3/8"	1/2"	5/8"	3/4"	1/2"	5/8"	7/8"
STD EMBED, Hnom (Hef = Hnom)		3 3/8"	4 1/2"	5 5/8"	6 3/4"	4 1/2"	5 5/8"	7 7/8"
TENSION TEST LOAD (LBS)		2980	3650	3790	3790	2970	3400	3220

ATR & REBAR WITH "DEWALT" AC100+ GOLD INSTALLED IN GROUT FILLED CONCRETE MASONRY (f'm = 1500 PSI MIN) (ICC REPORT ESR 3200)

	IN FACE OF WALL (E= 1 1/2")					IN TOP OF WALL (INSTALL IN GROUT ONLY)		
ANCHOR DIA		3/8"	1/2"	5/8"	3/4"	1/2"	5/8"	3/4"
STD EMBED, Hnom (Hef = Hnom)		3"	4"	5"	6"	4"	5"	6"
TENSION TEST LOAD (LBS)		1230	1920	2190	2320	1040	1490	2520



ANCHOR PLACEMENT NOTES:
1. ANCHORS MUST BE INSTALLED A MINIMUM DISTANCE, E, FROM ANY VERTICAL MORTAR JOINT AS SHOWN.
2. ANCHOR LOCATIONS ARE LIMITED TO ONE PER MASONRY CELL WITH A MINIMUM SPACING OF 8" ON CENTER.

SCREW ANCHORS IN MASONRY

Q1

1. EMBEDMENT SHALL BE AS INDICATED IN THE TABLE BELOW, TYP UNO.

"HILTI" HUS-EZ (KH-EZ) INSTALLED IN GROUT-FILLED MASONRY WALLS (f'm = 1500 PSI MIN) (ICC REPORT ESR 3056)

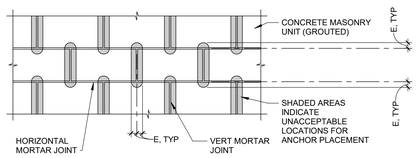
	IN FACE OF WALL (E = 1 1/4")					IN TOP OF WALL		
ANCHOR DIA	1/4"	3/8"	1/2"	5/8"	3/4"		1/2"	5/8"
STD EMBED TYP UNO	1 5/8"	1 5/8"	2 1/4"	3 1/4"	4"		4 1/4"	5"

"SIMPSON" TITEN HD INSTALLED IN GROUT-FILLED MASONRY WALLS (f'm = 1500 PSI MIN) (ICC REPORT ESR 1056)

	IN FACE OF WALL (E = 1 1/4")					IN TOP OF WALL	
ANCHOR DIA		3/8"	1/2"	5/8"	3/4"	1/2"	5/8"
STD EMBED TYP UNO		2 3/4"	3 1/2"	4 1/2"	5 1/2"	4 1/2"	4 1/2"

"DEWALT" SCREWBOLT+ INSTALLED IN GROUT-FILLED MASONRY WALLS (f'm = 1500 PSI MIN) (ICC REPORT ESR 4042)

	IN FACE OF WALL (E = 1 1/4")					IN TOP OF WALL		
ANCHOR DIA	1/4"	3/8"	1/2"	5/8"	3/4"	1/2"	5/8"	3/4"
STD EMBED TYP UNO	1 5/8"	2"	2 1/2"	3 1/4"	4"	4 1/4"	5"	6 1/4"



ANCHOR PLACEMENT NOTES:
1. ANCHORS MUST BE INSTALLED A MINIMUM DISTANCE, E, FROM ANY VERTICAL MORTAR JOINT AS SHOWN.

EXPANSION ANCHORS IN MASONRY

S- 056000_N006A
170127. Q2

1. EMBEDMENT SHALL BE AS INDICATED IN THE TABLE BELOW, TYP UNO.

"HILTI" KWIK BOLT-3 INSTALLED IN GROUT-FILLED MASONRY WALLS (f'm = 1500 PSI MIN) (ICC REPORT ESR 1385)

	IN FACE OF WALL (E = 1 3/8")					IN TOP OF WALL		
ANCHOR DIA	1/4"	3/8"	1/2"	5/8"	3/4"		1/2"	5/8"
STD EMBED TYP UNO	2"	2 1/2"	3 1/2"	4"	4 3/8"		3"	3 1/2"
TORQUE TEST LOAD (LB-FT)	4	15	25	65	120		25	65

"SIMPSON" STRONG-BOLT 2 INSTALLED IN GROUT-FILLED MASONRY WALLS (f'm = 1500 PSI MIN) (IAPMO REPORT ER 240)

	IN FACE OF WALL (E = 1 1/4")					IN TOP OF WALL		
ANCHOR DIA	1/4"	3/8"	1/2"	5/8"	3/4"		1/2"	5/8"
STD EMBED TYP UNO	1 3/4"	2 5/8"	3 1/2"	4 3/8"	5 1/4"		3 1/2"	4 3/8"
TORQUE TEST LOAD (LB-FT)	4	20	35	55	100		35	55

"DEWALT" POWER-STUD+ SD1 INSTALLED IN GROUT-FILLED MASONRY WALLS (f'm = 1500 PSI MIN) (ICC REPORT ESR 2966)

	IN FACE OF WALL (E = 1 3/8")				IN TOP OF WALL		
ANCHOR DIA		3/8"	1/2"	5/8"		3/8"	1/2"	5/8"
STD EMBED TYP UNO		2 3/8"	2 1/2"	3 3/8"		2 3/8"	2 1/2"	3 3/8"
TORQUE TEST LOAD (LB-FT)		20	40	50		20	40	50

ANCHOR PLACEMENT NOTES:
1. ANCHORS MUST BE INSTALLED A MINIMUM DISTANCE, E, FROM ANY VERTICAL MORTAR JOINT AS SHOWN.
2. ANCHOR LOCATIONS ARE LIMITED TO ONE PER MASONRY CELL WITH A MINIMUM SPACING OF 8" ON CENTER.

POWER ACTUATED FASTENERS

S- 056000_N001A
190225. Q2

1. POWER ACTUATED FASTENERS SHALL BE "HILTI" X-U (ICC ESR 2269), "SIMPSON" PDPA (ICC ESR 2138), OR "DEWALT" POWER DRIVEN FASTENERS (ICC ESR 2024), TYP UNO.
2. INSTALLATION OF FASTENERS SHALL BE IN ACCORDANCE WITH THE EVALUATION AGENCY REPORT. INSTALL FASTENERS WITH SUFFICIENT EDGE DISTANCE AND SPACING TO ACHIEVE FULL CAPACITY, UNO.
3. FASTENERS TO CONCRETE OR MASONRY SHALL HAVE 1" MIN EMBEDMENT (1 1/4" MIN FOR "SIMPSON" PDPA IN MASONRY), TYP UNO.
4. FASTENERS TO STRUCTURAL STEEL SHALL HAVE MIN EMBEDMENT TO STEEL PER MANUFACTURER, TYP UNO.
5. FASTENERS MAY NOT BE USED FOR TENSION LOADS EXCEPT FOR THE FOLLOW CONDITIONS:
   - VERTICAL SUSPENSION WIRES FOR ACOUSTICAL TILE OR LAY-IN CEILINGS
   - VERTICAL SUPPORTS OF MECH DUCTS, CONDUITS, ETC WHERE THE SERVICE LOAD ON EACH ANCHOR DOES NOT EXCEED 90 LBS FOR FASTENERS IN CONCRETE OR 250 LBS FOR FASTENERS IN STRUCTURAL STEEL.
   - FASTENERS ARE NOT PERMITTED AT SEISMIC BRACING ATTACHMENTS.
6. WHEN INSTALLING FASTENERS IN PRE/POST-TENSIONED CONCRETE DO NOT DAMAGE STRANDS. LOCATE STRANDS AT AFFECTED AREAS USING NON-DESTRUCTIVE MEANS PRIOR TO INSTALLING FASTENERS. MAINTAIN A MINIMUM CLEARANCE OF 2" BETWEEN THE STRANDS AND THE FASTENERS.

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CONSULTANT

SEAL

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
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ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
TYPICAL NOTES

SHEET
S-013

WIND

WS- 000000 N000A
180625. Q2

WIND REQUIREMENTS (SECTION 1704.3.3)

1. DESCRIPTION OF MAIN WIND-FORCE-RESISTING SYSTEM AND DESIGNATED WIND RESISTING COMPONENTS SUBJECT TO SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.11:
   A. (E) BUILDING RETROFIT- BUILDING FRAME SYSTEM - SPECIAL REINFORCED CONCRETE SHEAR WALL
   B. STAIR AND ELEVATOR - BEARING WALL SYSTEM - SPECIAL REINFORCED MASONRY SHEAR WALLS
2. THE EXTENT OF THE MAIN WIND-FORCE-RESISTING SYSTEM AND WIND RESISTING COMPONENTS IS DEFINED IN MORE DETAIL IN THE CONSTRUCTION DOCUMENTS.

SPECIAL INSPECTION FOR WIND REQUIREMENTS

VERIFICATION AND INSPECTION	C	P	REFERENCED STANDARD	CBC REFERENCE
1. STRUCTURAL WOOD				
□ INSPECT FIELD GLUING OPERATIONS OF ELEMENTS OF THE MAIN WIND-FORCE-RESISTING SYSTEM.	X	---	---	1705.11.1
□ INSPECT NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITHIN THE MAIN WIND-FORCE-RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, COLLECTORS (DRAG STRUTS), BRACES AND HOLD-DOWNS.	---	X		
2. COLD-FORMED STEEL FRAMING				
□ WELDING OF ELEMENTS OF THE MAIN WIND-FORCE-RESISTING SYSTEM.	---	X	---	1705.11.2
□ INSPECTION OF SCREW ATTACHMENTS, BOLTING, ANCHORING, AND OTHER FASTENING OF COMPONENTS WITHIN THE MAIN WIND-FORCE-RESISTING SYSTEM INCLUDING SHEAR WALLS, BRACES, DIAPHRAGMS, COLLECTORS (DRAG STRUTS) AND HOLD-DOWNS.	---	X		
3. WIND-RESISTING COMPONENTS				
■ ROOF CLADDING.	---	X	---	1705.11.3
■ WALL CLADDING.	---	X		

SEISMIC

WS- 000000 N000A
180625. Q2

SEISMIC REQUIREMENTS (SECTION 1704.3.2)

1. DESCRIPTION OF SEISMIC-FORCE-RESISTING SYSTEM AND DESIGNATED SEISMIC SYSTEMS SUBJECT TO SPECIAL INSPECTIONS AS PER SECTION 1705.12 AND 1705.13:
   A. (E) BUILDING RETROFIT- BUILDING FRAME SYSTEM - SPECIAL REINFORCED CONCRETE SHEAR WALL
   B. STAIR AND ELEVATOR - BEARING WALL SYSTEM - SPECIAL REINFORCED MASONRY SHEAR WALLS
2. THE EXTENT OF THE SEISMIC-FORCE-RESISTING SYSTEM IS DEFINED IN MORE DETAIL IN THE CONSTRUCTION DOCUMENTS.

SPECIAL INSPECTION FOR SEISMIC RESISTANCE

VERIFICATION AND INSPECTION	C	P	REFERENCED STANDARD	CBC REFERENCE
1. □ SPECIAL INSPECTION FOR WELDING IN ACCORDANCE WITH THE QUALITY ASSURANCE PLAN REQUIREMENTS OF AISC 341.	X	---		1705.12.1
2. STRUCTURAL WOOD				
□ INSPECT FIELD GLUING OPERATIONS OF ELEMENTS OF THE SEISMIC-FORCE-RESISTING SYSTEM.	X	---		1705.12.2
□ INSPECT NAILING, BOLTING, ANCHORING, AND OTHER FASTENING OF COMPONENTS WITHIN THE SEISMIC FORCE-RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS, COLLECTORS (DRAG STRUTS), BRACES, SHEAR PANELS AND HOLD-DOWNS.	---	X		
3. COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION				
□ WELDING OF ELEMENTS OF THE SEISMIC-FORCE-RESISTING SYSTEM.	---	X		1705.12.3
□ INSPECTION OF SCREW ATTACHMENTS, BOLTING, ANCHORING, AND OTHER FASTENING OF COMPONENTS WITHIN THE SEISMIC-FORCE-RESISTING SYSTEM INCLUDING SHEAR WALLS, BRACES, DIAPHRAGMS, COLLECTORS (DRAG STRUTS) AND HOLD-DOWNS.	---	X		
4. STORAGE RACKS AND ACCESS FLOORS				
□ ANCHORAGE OF STORAGE RACKS 8 FEET OR GREATER IN HEIGHT AND ACCESS FLOORS.	---	X		1705.12.7
5. ARCHITECTURAL COMPONENTS				
□ INSPECT ERECTION AND FASTENING OF EXTERIOR CLADDING WEIGHING MORE THAN 5 PSF AND HIGHER THAN 30 FEET ABOVE GRADE OR WALKING SURFACE.	---	X	---	1705.12.5
□ INSPECT ERECTION AND FASTENING OF VENEER WEIGHING MORE THAN 5 PSF AND HIGHER THAN 30 FEET ABOVE GRADE OR WALKING SURFACE.	---	X		
□ INSPECT ERECTION AND FASTENING OF ALL EXTERIOR NON-BEARING WALLS HIGHER THAN 30 FEET ABOVE GRADE OR WALKING SURFACE.	---	X		
□ INSPECT ERECTION AND FASTENING OF ALL INTERIOR NON-BEARING WALLS WEIGHING MORE THAN 15 PSF AND HIGHER THAN 30 FEET ABOVE GRADE OR WALKING SURFACE.	---	X		
6. MECHANICAL AND ELECTRICAL COMPONENTS				
■ INSPECT ANCHORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY OR STAND-BY POWER SYSTEMS.	---	X	---	1705.12.6
■ INSPECT ANCHORAGE OF NON-EMERGENCY ELECTRICAL EQUIPMENT.	---	X		
□ INSPECT INSTALLATION OF PIPING SYSTEMS AND ASSOCIATED MECHANICAL UNITS CARRYING FLAMMABLE, COMBUSTIBLE, OR HIGHLY TOXIC CONTENTS.	---	X		
□ INSPECT INSTALLATION OF HVAC DUCTWORK THAT CONTAINS HAZARDOUS MATERIALS.	---	X		
□ INSPECT INSTALLATION OF VIBRATION ISOLATION SYSTEMS WHERE REQUIRED BY SECTION 1707.7.	---	X		
7. □ VERIFY THAT THE EQUIPMENT LABEL AND ANCHORAGE OR MOUNTING CONFORMS TO THE CERTIFICATE OF COMPLIANCE WHEN MECHANICAL AND ELECTRICAL EQUIPMENT MUST BE SEISMICALLY QUALIFIED.	---	---	---	1705.12.4
8. □ SEISMIC ISOLATION SYSTEM: INSPECTION OF ISOLATION SYSTEM PER ASCE 7 - SECTION 17.8.	---	X	---	1705.12.8
9. ■ OBTAIN MILL CERTIFICATES FOR REINFORCING STEEL, VERIFY COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS, AND VERIFY STEEL SUPPLIED CORRESPONDS TO CERTIFICATE.	---	---	---	1704.5
10. □ STRUCTURAL STEEL: INVOKE THE QAP QUALITY ASSURANCE REQUIREMENTS IN AISC 341.	---	---	---	1705.13.1
11. □ OBTAIN CERTIFICATE THAT EQUIPMENT HAS BEEN SEISMICALLY QUALIFIED.	---	---	---	1704.5
12. □ OBTAIN SYSTEM TESTS AS REQUIRED BY ASCE 7 SECTION 17.8.	---	---	---	

SOIL

WS- 000000 N000A
180625. Q2

REQUIRED VERIFICATION AND INSPECTION OF SOIL

VERIFICATION AND INSPECTION	C	P	REFERENCED STANDARD	CBC REFERENCE
1. ■ VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIRED BEARING CAPACITY.	---	X	---	TABLE 1705.6
2. ■ VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	---	X		
3. □ PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	---	X		
4. ■ VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	---		
5. □ PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	---	X		

CONCRETE

WS- 000000 N000A
180625. Q2

INSPECTION OF CONCRETE

VERIFICATION AND INSPECTION	C	P	REFERENCED STANDARD	CBC REFERENCE
1. ■ INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS AND PLACEMENT.	---	X	ACI 318-14, CH 20, 25.2, 25.3, 26.6.6.1-26.6.3	1908.4
2. □ INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1704.3 ITEM 5B.	---	x	AWS D1.4 ACI 318 -14 26.6.4	---
3. ■ INSPECTION OF BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE	---	X	ACI 318-14 17.8.2	
4. ■ INSPECTION OF ANCHORS INSTALLED IN HARDENED CONCRETE.	X	---	ACI 318-14 17.8.2.4, 17.8.2	
5. ■ VERIFYING USE OF REQUIRED DESIGN MIX.	---	X	ACI 318-14 CH19 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. ■ AT TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---	ASTM C 172 ASTM C 31 ACI 318-14 26.4, 26.12	1908.10
7. ■ INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	---	ACI 318-14 26.5	1908.6, 1908.7, 1908.8
8. ■ INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X	ACI 318-14 26.5.3-26.5.5	1908.9
9. INSPECTION OF PRESTRESSED CONCRETE:				
□ APPLICATION OF PRESTRESSING FORCES.	X	---	ACI 318-14 26.10	---
□ GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE-RESISTING SYSTEM.	X	---	ACI 318-14 26.10	
10. □ ERECTION OF PRECAST CONCRETE MEMBERS.	---	X	ACI 318-14 26.8	---
11 □ VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POSTTENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	---	X	ACI 318-14 26.11.2	---
12. ■ INSPECT FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X	ACI 318-14 26.11.1.2(b)	---

MASONRY

WS- 000000 N000A
180625. Q2

INSPECTION OF LEVEL 1 MASONRY

VERIFICATION AND INSPECTION	C	P	CBC SECTION	TMS 402/ ACI 530/ ASCE5	TMS 402/ ACI 530/ ASCE6
1. ■ COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED.	---	X	1705.4	---	ART. 1.5
2. ■ VERIFICATION OF F'M AND F'AAC PRIOR TO CONSTRUCTION EXCEPT WHERE SPECIFICALLY EXEMPTED BY THIS CODE.	---	X	---	---	ART. 1.4B
3. ■ VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO THE SITE FOR SELF CONSOLIDATING GROUT.	X	---	---	---	ART. 1.5B.1.B.3
4. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:					
■ PROPORTIONS OF SITE-PREPARED MORTAR.	---	X	---	---	ART 2.1, 2.6A
□ CONSTRUCTION OF MORTAR JOINTS.	---	X	---	---	ART 3.3B
□ GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES.	---	X	---	---	ART. 2.4B, 2.4H
■ LOCATION OF REINFORCEMENT, CONNECTORS, PRESTRESSING TENDONS AND ANCHORAGES.	X	---	---	SEC 6.1, 6.2.1, 6.2.6, 6.2.7	ART 3.2, 3.4, 3.6A
□ PRESTRESSING TECHNIQUE.	---	X	---	---	ART 3.6B
5. PRIOR TO GROUTING THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:					
■ GROUT SPACE.	---	X	---	---	ART 3.2D, 3.2F
■ GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES.	---	X	---	SEC 6.1	ART 2.4, 3.4
■ PLACEMENT OF REINFORCEMENT AND CONNECTORS AND PRESTRESSING TENDONS AND ANCHORAGES.	---	X	---	SEC 6.1, 6.2.1, 6.2.6, 6.2.7	ART 3.2E, 3.4, 3.6A
■ PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS.	---	X	---	---	ART. 2.6B, 2.4G.1.b
■ CONSTRUCTION OF MORTAR JOINTS.	---	X	---	---	ART 3.3B
6. DURING CONSTRUCTION THE INSPECTION PROGRAM SHALL VERIFY:					
■ SIZE AND LOCATION OF STRUCTURAL ELEMENTS.	---	X	---	---	ART 3.3F
■ TYPE, SIZE, AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.	---	X	---	SEC 1.2.2 (e) 1.16.1	---
□ WELDING OF REINFORCING BARS.	X	---	---	SEC 8.1.6.7.2, 9.3.3.4(c), 11.3.3.4(b)	---
■ PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 DEGREES F) OR HOT WEATHER (TEMPERATURE ABOVE 90 DEGREES F).	---	X		---	ART. 1.8C, 1.8D
□ APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE.	X	---	---	---	ART 3.6B
■ PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE.	X	---			ART 3.5, 3.6C
7. ■ OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS.	---	X			ART 1.4B.2.a.3, 1.4B.2.b.3 1.4B.2.c.3 1.4B.3, 1.4B.4
8. REQUIREMENTS FOR RISK CATEGORY IV					
□ VERIFICATION OF PROPORTIONS OF MATERIALS IN PREMIXED OR PREBLENDED MORTAR AND GROUT AS DELIVERED TO THE SITE.	---	X	1705.4	---	ART. 1.5
□ PROPORTIONS OF SITE-PREPARED GROUT, AND PRESTRESSING GROUT FOR BONDED TENDONS	X	---	---	---	ART 2.1, 2.6B, 2.6C, 2.4G.1.b
□ PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS.	---	X	---	---	ART 3.3B
□ GROUT SPACE PRIOR TO GROUTING	X	---	---	---	ART 3.2D, 3.2F
□ PLACEMENT OF GROUT AND PLACEMENT OF PRESTRESSING FOR BONDED TENDONS	X	---	---	---	ART 3.5, 3.6C

STEEL

WS- 000000 N000A
180625. Q2

INSPECTION OF STEEL

VERIFICATION AND INSPECTION	C	P	REFERENCED STANDARD	CBC REFERENCE
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS.				
■ IDENTIFICATION MARKING TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	---	X	AISC 360: A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS	1705.2.1
■ INSPECT FABRICATOR'S FABRICATION AND QUALITY CONTROL PROCEDURES.	---	X	AISC 360: N5	---
2. INSPECTION OF HIGH-STRENGTH BOLTING:				
□ SNUG-TIGHT JOINTS.	---	X	AISC 360: M2.5, N5	1705.2.1
□ PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	---	X		
□ PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION.	---	X		
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD-FORMED STEEL DECK.				
□ FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360.	---	X	AISC 360: A3.1	1705.2.2
□ FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	---	X	APPLICABLE ASTM MATERIAL STANDARDS	
□ MANUFACTURER'S CERTIFIED TEST REPORTS.	---	X		
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
■ IDENTIFICATION MARKING TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	---	X	AISC 360: A3.5 AND APPLICABLE AWS A5 DOCUMENTS	---
■ MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	---	X	---	---
5. INSPECTION OF WELDING:				
A. STRUCTURAL STEEL AND COLD-FORMED STEEL DECK:				
■ COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.	X	---	AWS D1.1 AWS D1.8	
■ MULTIPASS FILLET WELDS.	X	---		
■ SINGLE-PASS FILLET WELDS > 5/16"	X	---		
■ PLUG AND SLOT WELDS.	X	---		
■ SINGLE-PASS FILLET WELDS <= 5/16"	---	X		
■ FLOOR AND ROOF DECK WELDS.	---	X	AWS D1.3	
B. REINFORCING STEEL				
■ VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706	---	X	AWS D1.4 AND ACI 318-14:26.6.4.1. 18.2.5.25.5.7.4	1705.3.1
■ REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	X	---		
■ SHEAR REINFORCEMENT.	X	---		
□ OTHER REINFORCING STEEL.	---	X		
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:				
□ DETAILS SUCH AS BRACING AND STIFFENING.	---	X	AISC 360: 16.2	1705.2.1
□ MEMBER LOCATIONS.	---	X		
□ APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	---	X		

WELDING

WS- 000000 N000A
180625. Q2

INSPECTION OF WELDING

VERIFICATION AND INSPECTION	C	P	REFERENCED STANDARD	CBC REFERENCE
1. □ WELDED STUDS WHEN USED FOR STRUCTURAL DIAPHRAGMS.	---	X	AWS D1.4	---
2. □ WELDING OF COLD-FORMED STEEL FRAMING MEMBERS.	---	X		
3. ■ WELDING OF STAIRS AND RAILING SYSTEMS.	---	X		

MISCELLANEOUS

WS- 000000 N000A
Q1

MISCELLANEOUS

VERIFICATION AND INSPECTION	C	P	REFERENCED STANDARD	CBC REFERENCE
5. SEISMIC RESISTANCE				
□ SUSPENDED CEILING SYSTEMS AND THEIR ANCHORAGE.	---	---	---	1705.13.2
6. WIND RESISTANCE				
□ ROOF CLADDING AND ROOF FRAMING CONNECTIONS.	---	---	---	
□ WALL CONNECTIONS TO ROOF AND FLOOR DIAPHRAGMS AND FRAMING.	---	---	---	
□ ROOF AND FLOOR DIAPHRAGM SYSTEMS, INCLUDING COLLECTORS, DRAG STRUTS AND BOUNDARY ELEMENTS.	---	---	---	
□ VERTICAL WIND-FORCE-RESISTING SYSTEMS, INCLUDING BRACED FRAMES, MOMENT FRAMES, AND SHEAR WALLS.	---	---	---	
□ WIND-FORCE-RESISTING SYSTEM CONNECTIONS TO THE FOUNDATION.	---	---	---	
□ FABRICATION AND INSTALLATION OF SYSTEMS OR COMPONENTS REQUIRED TO MEET THE IMPACT RESISTANCE REQUIREMENTS OF SECTION 1609.1.2.	---	---	---	

FABRICATORS

WS- 000000 N000A
Q1

INSPECTION OF FABRICATORS

VERIFICATION AND INSPECTION	C	P	REFERENCED STANDARD	CBC REFERENCE
1. ■ INSPECT FABRICATOR'S FABRICATION AND QUALITY CONTROL PROCEDURES.	---	---	---	1704.2.5

STATEMENT OF SPECIAL INSPECTIONS

WS- 000000 N000A
180625. Q1

1. SPECIAL INSPECTIONS AND TESTING WILL BE PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS, THIS STATEMENT AND 2013 CBC SECTIONS 1704, 1705, 1706, 1707, AND 1708. INTERIM REPORTS WILL BE SUBMITTED TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH CBC SECTION 1704.1.2.
2. A FINAL REPORT OF SPECIAL INSPECTIONS DOCUMENTING REQUIRED SPECIAL INSPECTIONS, TESTING AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED PRIOR TO ISSUANCE OF A CERTIFICATE OF USE AND OCCUPANCY (SECTION 1704.1.2). THE FINAL REPORT WILL DOCUMENT:
   - REQUIRED SPECIAL INSPECTIONS.
   - CORRECTION OF DISCREPANCIES NOTED IN INSPECTIONS.
3. THE OWNER RECOGNIZES HIS OR HER OBLIGATION TO ENSURE THAT THE CONSTRUCTION COMPLIES WITH THE APPROVED PERMIT DOCUMENTS AND TO IMPLEMENT THIS PROGRAM OF SPECIAL INSPECTIONS. IN PARTIAL FULFILLMENT OF THESE OBLIGATIONS, THE OWNER WILL RETAIN AND DIRECTLY PAY FOR THE SPECIAL INSPECTIONS AS REQUIRED IN CBC SECTION 1704.1.
4. THIS PLAN HAS BEEN PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN CHARGE AND DEVELOPED WITH THE UNDERSTANDING THAT THE BUILDING OFFICIAL WILL:
   - REVIEW AND APPROVE THE QUALIFICATIONS OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE INSPECTIONS.
   - MONITOR SPECIAL INSPECTION ACTIVITIES ON THE JOB SITE TO ASSURE THAT THE SPECIAL INSPECTORS ARE QUALIFIED AND ARE PERFORMING THEIR DUTIES AS CALLED FOR IN THIS STATEMENT OF SPECIAL INSPECTION.
   - REVIEW SUBMITTED INSPECTION REPORTS.
5. PERFORM INSPECTIONS AS REQUIRED BY THE LOCAL BUILDING CODE
6. VERIFICATION AND INSPECTION CRITERIA FOR ITEMS NOTED ON THIS SHEET WITH FILLED-iN CHECK BOXES SHALL BE REQUIRED.
7. TERMINOLOGY USED FOR VERIFICATION AND INSPECTION CRITERIA SHALL INCLUDE:
   C INDICATES CONTINUOUS INSPECTION
   P INDICATES PERIODIC INSPECTION
   X PLACED IN BOX INDICATES EITHER CONTINUOUS OR PERIODIC INSPECTION IS REQUIRED.
   --- PLACED IN A BOX INDICATES AN ACTIVITY THAT IS EITHER A ONE-TIME ACTIVITY OR ONE WHOSE FREQUENCY IS DEFINED IN SOME OTHER MANNER.

STRUCTURAL TESTING & INSPECTION

S- 014500 N002A
170125. Q2

1. SPECIAL INSPECTION IS DEFINED AS THE INSPECTION OF THE MATERIALS, INSTALLATION, FABRICATION, ERECTION OR PLACEMENT OF COMPONENTS AND CONNECTIONS REQUIRING SPECIAL EXPERTISE TO ENSURE COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS.
2. THE OWNER SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK MARKED IN THE LIST BELOW IN CONFORMANCE WITH THE ENFORCEMENT AGENCY REGULATORY REQUIREMENTS. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS REQUIRED BY THE ENFORCEMENT AGENCY.
   A. TESTING
      ■ COMPACTED FILL
      ■ CONCRETE
      ■ MASONRY
      ■ MORTAR & GROUT
      ■ EXPANSION, EPOXY, SCREW ANCHORS
      □ SHOT-IN ANCHORS

   B. SPECIAL INSPECTIONS
      ■ EXCAVATION, GRADING & FILLING FOR ALL FOUNDATION WORK
      □ PILE DRIVING & TESTING
      ■ PLACEMENT OF CONCRETE & REINFORCEMENT
      ■ PLACEMENT OF MASONRY & REINFORCEMENT & DURING GROUTING OPERATIONS
      ■ SHOP WELDS NOT DONE IN FABRICATOR'S SHOP REGISTERED & APPROVED BY THE BUILDING OFFICIAL
      ■ FIELD WELDING
      □ HIGH-STRENGTH BOLTING
      ■ EXPANSION, EPOXY, SCREW ANCHORS
      □ SPRAY-APPLIED FIRE PROOFING
      ■ SHOTCRETE
      □ GLU-LAM FABRICATION
      □ I-JOIST FABRICATION
      □ WELDED SHEAR STUDS
3. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE ENFORCEMENT AGENCY AND THE ARCHITECT/STRUCTURAL ENGINEER, FOR THE INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
4. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE ENFORCEMENT AGENCY, OWNER, CONTRACTOR AND ARCHITECT/STRUCTURAL ENGINEER. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS.
5. DISCREPANCIES IN THE INSPECTED WORK SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENFORCEMENT AGENCY, OWNER, CONTRACTOR AND ARCHITECT/STRUCTURAL ENGINEER PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
6. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE ENFORCEMENT AGENCY, OWNER, CONTRACTOR AND ARCHITECT/STRUCTURAL ENGINEER AT THE COMPLETION OF THE WORK INCLUDED IN THE CONSTRUCTION DOCUMENTS.
7. SCHEDULE AND COORDINATE ALL STRUCTURAL TESTS AND SPECIAL INSPECTIONS. NOTIFY THE SPECIAL INSPECTOR 48 HOURS MINIMUM PRIOR TO PERFORMING ANY WORK REQUIRING THE SPECIAL INSPECTOR'S PRESENCE. COORDINATE WITH THE SPECIAL INSPECTOR SO THAT THE WORK REQUIRING THE TESTS AND INSPECTIONS NOTED ABOVE IS ACCESSIBLE AND EXPOSED FOR TESTING AND INSPECTION PURPOSES. REMOVE AND/OR REPLACE MATERIALS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER TO ALLOW TESTS AND INSPECTIONS.

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CONSULTANT

SEAL

REGISTERED PROFESSIONAL ENGINEER DARRON E. HUNTINGDALE No. S4788 STRUCTURAL STATE OF CALIFORNIA
10/15/2020

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT
LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

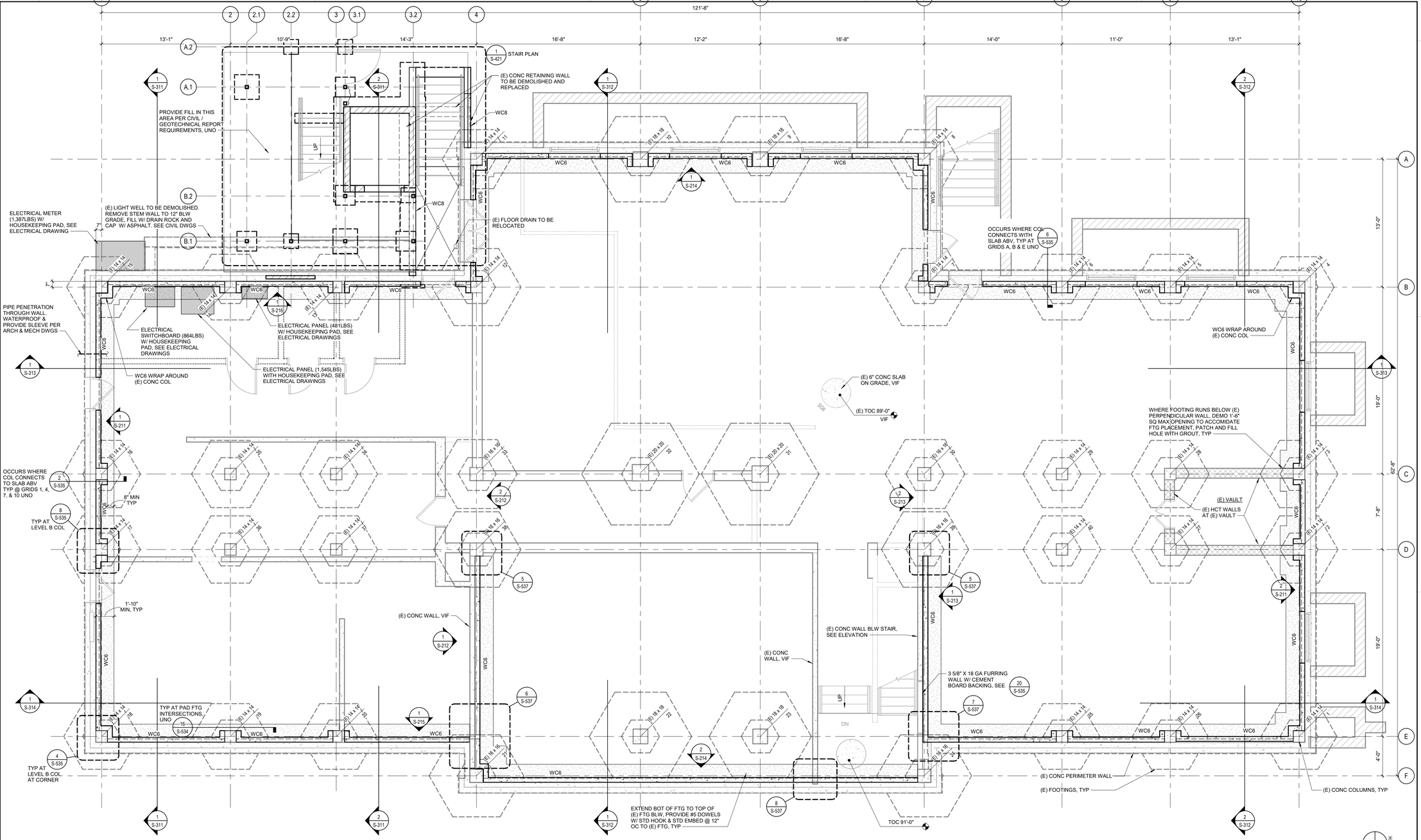
APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
STATEMENT OF SPECIAL INSPECTIONS

SHEET
S-014

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

10/15/2020 4:02:45 PM



1 RETROFIT FOUNDATION PLAN - LEVEL B

SCALE 1/4" = 1'-0"

WALL SCHEDULE

TYPE	WALL THICKNESS	MIN VERT REINF	MIN HORIZ REINF	NOTES
WC4	4"	#5 @ 12" OC	#5 @ 12" OC	SEE TYP DETAILS, SHEET S-533, CENTER VERT REINF IN WALL, UNO
WC6	6"	#5 @ 12" OC	#5 @ 12" OC	
WC8	8"	#5 @ 12" OC	#5 @ 12" OC	
WC10	10"	(2) #6 @ 12" OC	(2) #4 @ 12" OC	

FOUNDATION NOTES

1. SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
2. SEE S-200 SERIES SHEETS FOR WALL ELEVATIONS.
3. DIMENSIONS ARE TO FOS OR CENTERLINE OF COLUMNS/POSTS, UNO. SEE SECTIONS & DETAILS FOR FOC LOCATIONS RELATIVE TO FOS.
4. SEE ARCH & OTHER CONSULTANT DWGS FOR DIMENSIONS & LOCATIONS OF WALL OPENINGS.
5. SEE ARCH DWGS FOR DIMENSIONS OF SLAB DEPRESSIONS & SLOPED SLABS.
6. SEE ARCH & OTHER CONSULTANT DWGS FOR FLOOR PENETRATIONS NOT SHOWN. SAWCUT OR CORE DRILL CLEAN HOLES WITH NO OVERCUTTING. COMPLY WITH TYPICAL DETAILS.
7. SEE CIVIL DRAWINGS AND SPECIFICATIONS FOR ENGINEERED FILL.
8. EXTERIOR CONCRETE FLATWORK IS NOT SHOWN, SEE CIVIL & ARCH DWGS.
9. CONTINUOUS WALL FOOTINGS TO BE CENTERED UNDER WALLS AND PAD FOOTINGS TO BE CENTERED UNDER COLUMNS, TYP UNO.
10. TOP OF FOOTINGS SHALL MATCH BASEMENT FINISHED FLOOR, VIF (TOF 89'-0"), TYP UNO. SEE ARCH & OTHER CONSULTANT DRAWINGS FOR UTILITIES THAT WILL AFFECT FOOTINGS AND COMPLY WITH TYPICAL DETAILS.
11. CONTINUOUS FOOTING SIZE & REINF ARE AS SHOWN ON DETAILS, TYP UNO.
12. SEE ELECTRICAL DRAWINGS AND DETAILS FOR LOCATIONS OF ELECTRICAL EQUIPMENT AND HOUSEKEEPING PADS.

PLAN LEGEND

170828. Q1

- (E) ELEMENTS SHOWN FADED - LINETYPE AND PATTERN/HATCHING AS NOTED FOR NEW CONSTRUCTION
- STRUCTURAL WALL
- STRUCTURAL WALL BLW
- NON-STRUCTURAL WALL
- DEPRESSED SLAB AREA
- SAD FOR EXTENTS
- HOUSEKEEPING PAD OR CURB
- -2" — SLAB STEP SYMBOL; ELEVATION RELATIVE TO TOC
- SOG — CONC SLAB / STEEL DECK TYPE AND SPAN DIRECTION
- COL SIZE — COLUMN WITH CALLOUT
- WC6 — CONCRETE WALL TAG, SEE SCHEDULE
- FOOTING
- FOOTING AND SLAB INFILL, SEE DETAILS

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CONSULTANT

SEAL

REGISTERED PROFESSIONAL ENGINEER GARRON E. HUNTINGTON No. S4788 STRUCTURAL ENGINEER STATE OF CALIFORNIA
10/15/2020

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
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AGENCY

APPROVED BY: Willdan Engineering
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3:31 pm, Oct 27, 2020

TITLE

RETROFIT FOUNDATION PLAN - LEVEL B

SHEET

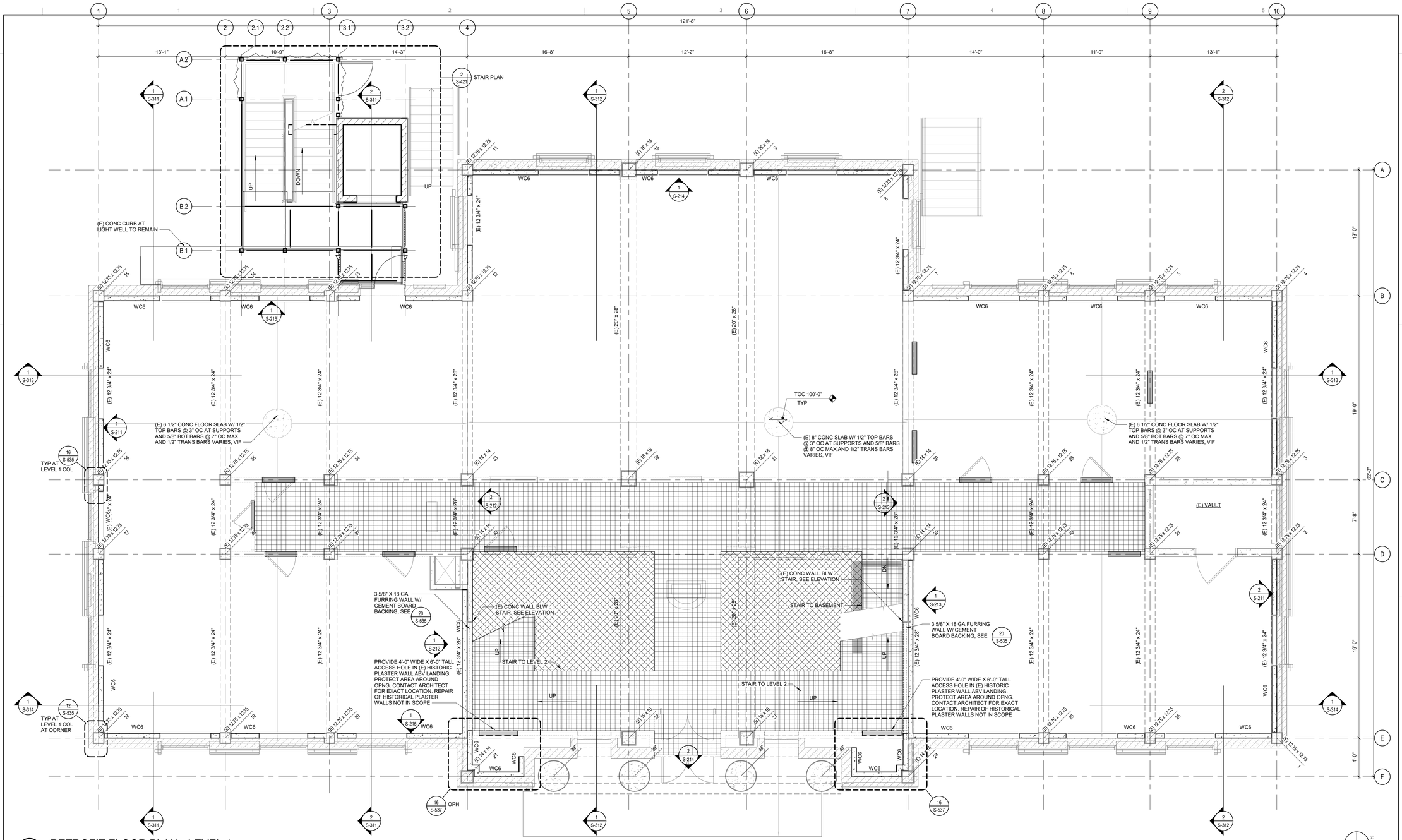
S-111B

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

0 1/4" 1/2" 1"

D:_RevitLocalFiles\015437.05_BIM_A-MASTER_R20_CENTRAL_Patty.Braun.RVT

10/15/2020 4:02:54 PM



1 RETROFIT FLOOR PLAN - LEVEL 1

SCALE 1/4" = 1'-0"

WALL SCHEDULE

TYPE	WALL THICKNESS	MIN VERT REINF	MIN HORIZ REINF	NOTES
WC4	4"	#5 @ 12" OC	#5 @ 12" OC	SEE TYP DETAILS, SHEET S-533, CENTER VERT REINF IN WALL, UNO
WC6	6"	#5 @ 12" OC	#5 @ 12" OC	
WC8	8"	#5 @ 12" OC	#5 @ 12" OC	
WC10	10"	(2) #6 @ 12" OC	(2) #4 @ 12" OC	

FLOOR FRAMING NOTES

170828. Q1

1. SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
2. SEE S-200 SERIES SHEETS FOR WALL & FRAMING ELEVATIONS.
3. DIMENSIONS ARE TO FOS OR CENTERLINE OF COLUMNS/POSTS, UNO. SEE SECTIONS & DETAILS FOR FOC LOCATIONS RELATIVE TO FOS.
4. SEE ARCH & OTHER CONSULTANT DWGS FOR DIMENSIONS & LOCATIONS OF WALL OPENINGS. SEE TYPICAL DETAILS FOR FRAMING AT OPENINGS.
5. SEE ARCH & OTHER CONSULTANT DWGS FOR FLOOR PENETRATIONS NOT SHOWN.PROVIDE FRAMING AROUND OPENINGS PER TYPICAL DETAILS. SAWCUT OR CORE DRILL CLEAN HOLES WITH NO OVERCUTTING. CONFORM WITH TYPICAL DETAILS.
6. REPAIR OF HISTORIC PLASTER NOT IN SCOPE.

PLAN LEGEND

170828. Q1

- (E) ELEMENTS SHOWN FADED - LINETYPE AND PATTERN/HATCHING AS NOTED FOR NEW CONSTRUCTION
- STRUCTURAL WALL
- PARAPET BRACING
- STRUCTURAL WALL BLW
- NON-STRUCTURAL WALL
- DEPRESSED SLAB AREA
- SAD FOR EXTENTS
- HOUSEKEEPING PAD OR CURB
- SLAB STEP SYMBOL
- -2" ELEVATION RELATIVE TO TOC
- SF CONC SLAB / STEEL DECK TYPE AND SPAN DIRECTION
- COL SIZE COLUMN WITH CALLOUT
- WC6 CONCRETE WALL TAG, SEE SCHEDULE
- (E) HISTORIC MARBLE THRESHOLD TO BE PROTECTED
- HISTORIC AREA THAT SHALL BE PROTECTED FROM DAMAGE. REFER TO HISTORIC SPECIFICATIONS FOR PROTECTION. WORK WITHIN THIS AREA SHALL BE LIMITED TO SCOPE SPECIFICALLY IDENTIFIED IN THIS ROOM
- CONTRACTOR PATH OF TRAVEL AND WORK AREA WITHIN THE HISTORIC COURTROOM AREA. PROTECT FINISHES PER HISTORIC SPECIFICATION

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www.lionakis.com
CONSULTANT

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10/15/2020

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TITLE
RETROFIT FLOOR PLAN - LEVEL 1

SHEET
S-111

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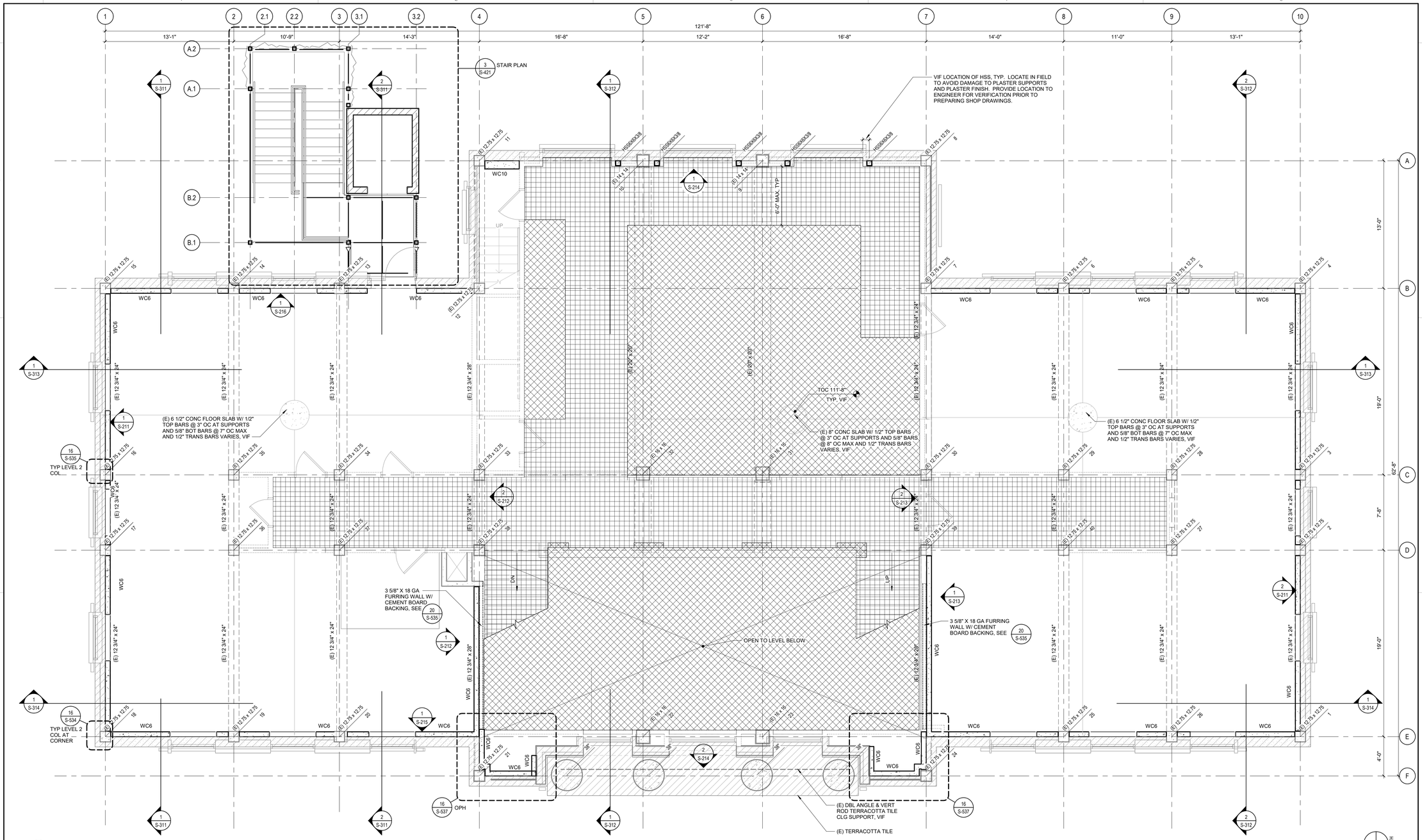

1 RETROFIT FLOOR PLAN - LEVEL 2

SCALE 1/4" = 1'-0"

WALL SCHEDULE

TYPE	WALL THICKNESS	MIN VERT REINF	MIN HORIZ REINF	NOTES
WC4	4"	#5 @ 12" OC	#5 @ 12" OC	SEE TYP DETAILS, SHEET S-533, CENTER VERT REINF IN WALL, UNO
WC6	6"	#5 @ 12" OC	#5 @ 12" OC	
WC8	8"	#5 @ 12" OC	#5 @ 12" OC	
WC10	10"	(2) #6 @ 12" OC	(2) #4 @ 12" OC	

FLOOR FRAMING NOTES

170828. Q1

1. SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
2. SEE S-200 SERIES SHEETS FOR WALL & FRAMING ELEVATIONS.
3. DIMENSIONS ARE TO FOS OR CENTERLINE OF COLUMNS/POSTS, UNO. SEE SECTIONS & DETAILS FOR FOC LOCATIONS RELATIVE TO FOS.
4. SEE ARCH & OTHER CONSULTANT DWGS FOR DIMENSIONS & LOCATIONS OF WALL OPENINGS. SEE TYPICAL DETAILS FOR FRAMING AT OPENINGS.
5. SEE ARCH & OTHER CONSULTANT DWGS FOR FLOOR PENETRATIONS NOT SHOWN.PROVIDE FRAMING AROUND OPENINGS PER TYPICAL DETAILS. SAWCUT OR CORE DRILL CLEAN HOLES WITH NO OVERCUTTING. CONFORM WITH TYPICAL DETAILS.
6. REPAIR OF HISTORIC PLASTER NOT IN SCOPE.

PLAN LEGEND

170828. Q1

- (E) ELEMENTS SHOWN FADED - LINETYPE AND PATTERN/HATCHING AS NOTED FOR NEW CONSTRUCTION
- STRUCTURAL WALL
- PARAPET BRACING
- STRUCTURAL WALL BLW
- NON-STRUCTURAL WALL
- DEPRESSED SLAB AREA
- SAD FOR EXTENTS
- HOUSEKEEPING PAD OR CURB
- SLAB STEP SYMBOL
- -2"
- ELEVATION RELATIVE TO TOC
- S1
- CONC SLAB / STEEL DECK TYPE AND SPAN DIRECTION
- COL SIZE
- COLUMN WITH CALLOUT
- WC6
- CONCRETE WALL TAG, SEE SCHEDULE
- (E) HISTORIC MARBLE THRESHOLD TO BE PROTECTED
- HISTORIC AREA THAT SHALL BE PROTECTED FROM DAMAGE. REFER TO HISTORIC SPECIFICATIONS FOR PROTECTION. WORK WITHIN THIS AREA SHALL BE LIMITED TO SCOPE SPECIFICALLY IDENTIFIED IN THIS ROOM
- CONTRACTOR PATH OF TRAVEL AND WORK AREA WITHIN THE HISTORIC COURTROOM AREA. PROTECT FINISHES PER HISTORIC SPECIFICATION

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TITLE

RETROFIT FLOOR PLAN - LEVEL 2

SHEET

S-112

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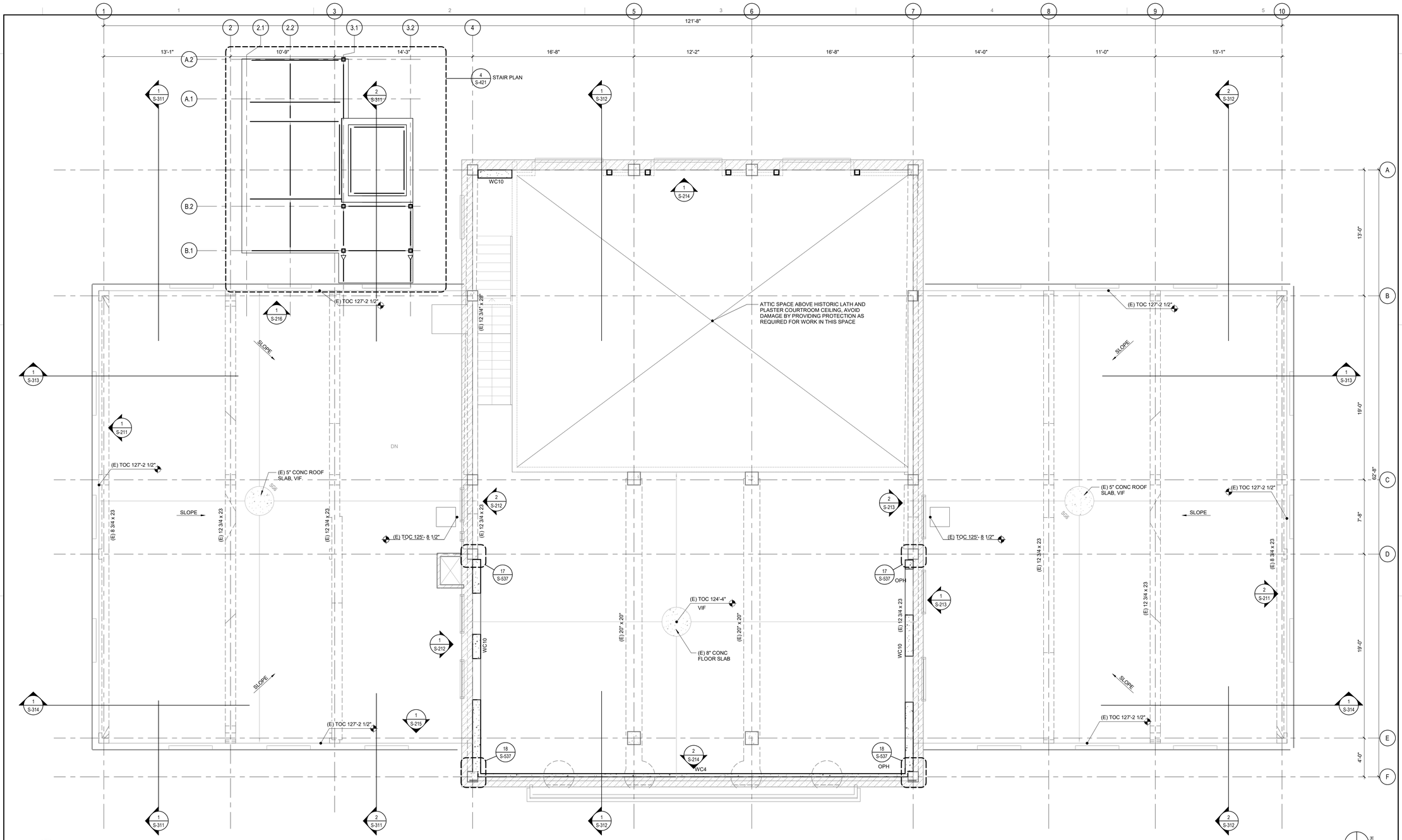

1 RETROFIT ROO/FLOOR PLAN - LOW ROOF/LEVEL 3

SCALE 1/4" = 1'-0"

NORTH

WALL SCHEDULE				
TYPE	WALL THICKNESS	MIN VERT REINF	MIN HORIZ REINF	NOTES
WC4	4"	#5 @ 12" OC	#5 @ 12" OC	SEE TYP DETAILS, SHEET S-533, CENTER VERT REINF IN WALL, UNO
WC6	6"	#5 @ 12" OC	#5 @ 12" OC	
WC8	8"	#5 @ 12" OC	#5 @ 12" OC	
WC10	10"	(2) #6 @ 12" OC	(2) #4 @ 12" OC	

FLOOR FRAMING NOTES

170828. Q1

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2. SEE S-200 SERIES SHEETS FOR WALL & FRAMING ELEVATIONS.
3. DIMENSIONS ARE TO FOS OR CENTERLINE OF COLUMNS/POSTS, UNO. SEE SECTIONS & DETAILS FOR FOC LOCATIONS RELATIVE TO FOS.
4. SEE ARCH & OTHER CONSULTANT DWGS FOR DIMENSIONS & LOCATIONS OF WALL OPENINGS. SEE TYPICAL DETAILS FOR FRAMING AT OPENINGS.
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6. REPAIR OF HISTORIC PLASTER NOT IN SCOPE.

PLAN LEGEND

170828. Q1

- (E) ELEMENTS SHOWN FADED - LINETYPE AND PATTERN/HATCHING AS NOTED FOR NEW CONSTRUCTION
- STRUCTURAL WALL
- PARAPET BRACING
- STRUCTURAL WALL BLW
- NON-STRUCTURAL WALL
- DEPRESSED SLAB AREA
- SAD FOR EXTENTS
- HOUSEKEEPING PAD OR CURB
- -2" SLAB STEP SYMBOL
- ELEVATION RELATIVE TO TOC
- SX CONC SLAB / STEEL DECK TYPE AND SPAN DIRECTION
- COL SIZE COLUMN WITH CALLOUT
- WC6 CONCRETE WALL TAG, SEE SCHEDULE
- (E) HISTORIC MARBLE THRESHOLD TO BE PROTECTED
- HISTORIC AREA THAT SHALL BE PROTECTED FROM DAMAGE. REFER TO HISTORIC SPECIFICATIONS FOR PROTECTION. WORK WITHIN THIS AREA SHALL BE LIMITED TO SCOPE SPECIFICALLY IDENTIFIED IN THIS ROOM
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10/15/2020

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TITLE

RETROFIT ROOF/FLOOR PLAN - LOW ROOF/LEVEL 3

SHEET

S-113

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0 1/4" 1/2" 1" 2"

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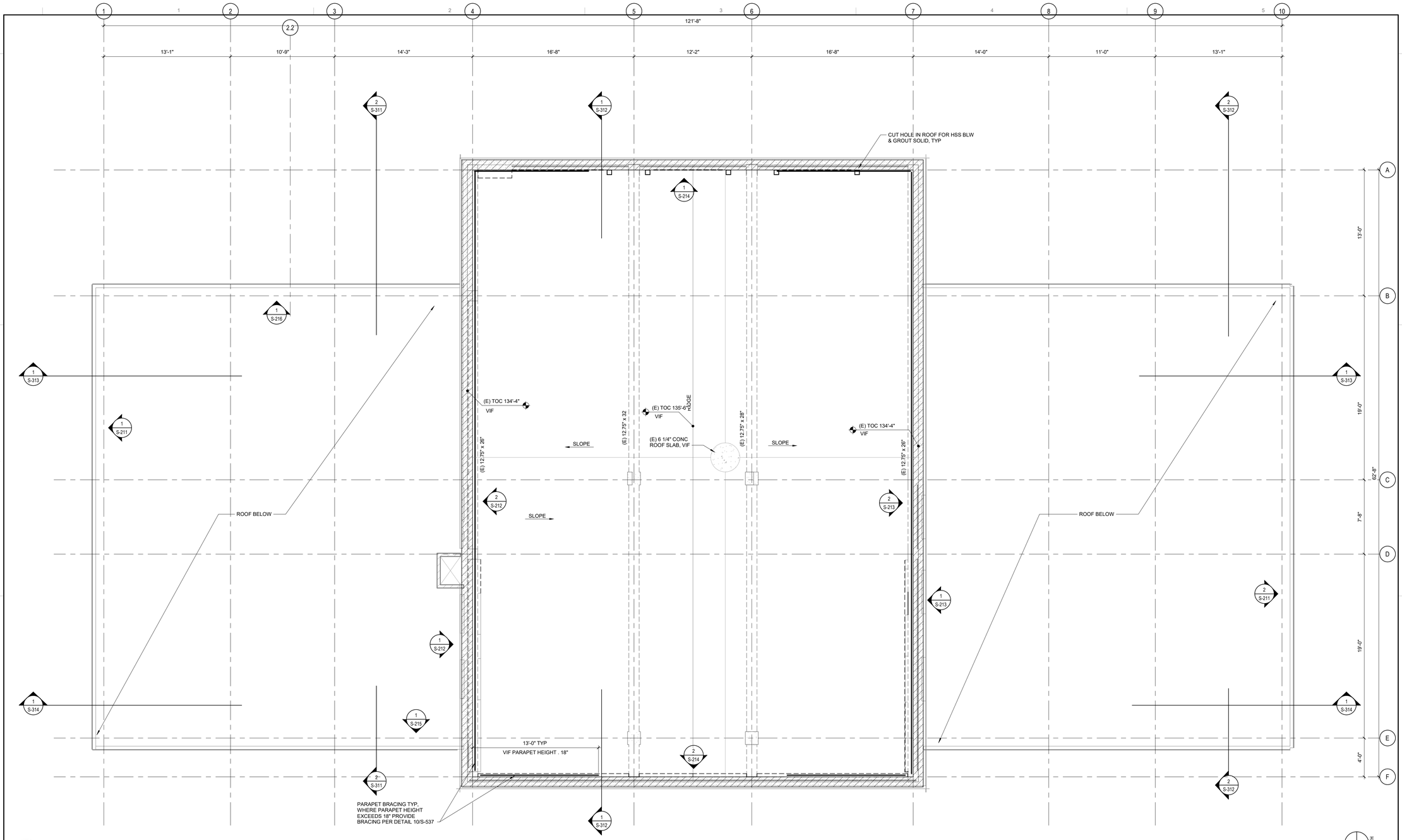

1 RETROFIT ROOF PLAN - HIGH ROOF

SCALE 1/4" = 1'-0"

WALL SCHEDULE

TYPE	WALL THICKNESS	MIN VERT REINF	MIN HORIZ REINF	NOTES
WC4	4"	#5 @ 12" OC	#5 @ 12" OC	SEE TYP DETAILS, SHEET S-533, CENTER VERT REINF IN WALL, UNO
WC6	6"	#5 @ 12" OC	#5 @ 12" OC	
WC8	8"	#5 @ 12" OC	#5 @ 12" OC	
WC10	10"	(2) #6 @ 12" OC	(2) #4 @ 12" OC	

FLOOR FRAMING NOTES

170828. Q1

1. SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
2. SEE S-200 SERIES SHEETS FOR WALL & FRAMING ELEVATIONS.
3. DIMENSIONS ARE TO FOS OR CENTERLINE OF COLUMNS/POSTS, UNO. SEE SECTIONS & DETAILS FOR FOC LOCATIONS RELATIVE TO FOS.
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6. REPAIR OF HISTORIC PLASTER NOT IN SCOPE.

PLAN LEGEND

170828. Q1

- (E) ELEMENTS SHOWN FADED - LINETYPE AND PATTERN/HATCHING AS NOTED FOR NEW CONSTRUCTION
- STRUCTURAL WALL
- PARAPET BRACING
- STRUCTURAL WALL BLW
- NON-STRUCTURAL WALL
- DEPRESSED SLAB AREA
- SAD FOR EXTENTS
- HOUSEKEEPING PAD OR CURB
- SLAB STEP SYMBOL
- -2" ELEVATION RELATIVE TO TOC
- S1 CONC SLAB / STEEL DECK TYPE AND SPAN DIRECTION
- COL SIZE COLUMN WITH CALLOUT
- WC6 CONCRETE WALL TAG, SEE SCHEDULE
- (E) HISTORIC MARBLE THRESHOLD TO BE PROTECTED
- HISTORIC AREA THAT SHALL BE PROTECTED FROM DAMAGE. REFER TO HISTORIC SPECIFICATIONS FOR PROTECTION. WORK WITHIN THIS AREA SHALL BE LIMITED TO SCOPE SPECIFICALLY IDENTIFIED IN THIS ROOM
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TITLE

RETROFIT ROOF PLAN - HIGH ROOF

SHEET

S-114

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0 1/4" 1/2" 1"

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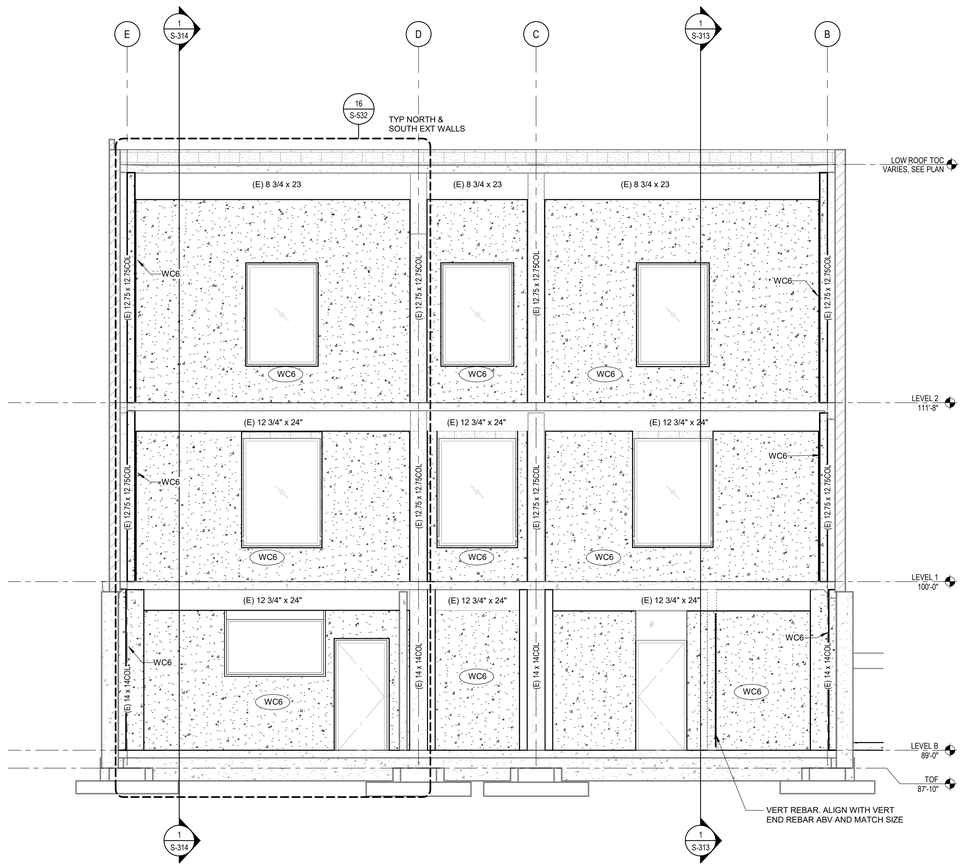
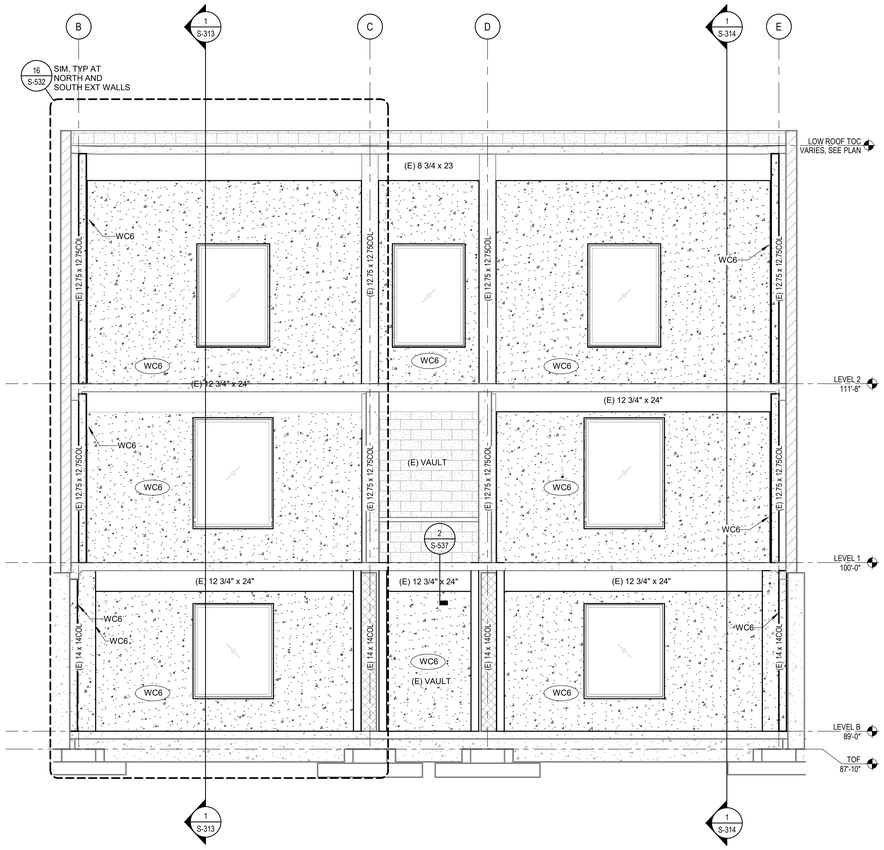


1 ELEVATION AT GRID 1
SCALE 1/4" = 1'-0"



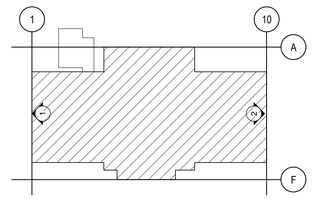
2 ELEVATION AT GRID 10
SCALE 1/4" = 1'-0"

ELEVATION NOTES

170828. Q1

1. SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
2. CONCRETE WALLS SHALL BE ANCHORED TO (E) EXTERIOR MASONRY AND (E) CONCRETE BASEMENT WALL @ 48" OC MAX, VERT & HORIZ, UNO. SEE DETAIL 5/S-533.
3. SEE PLANS FOR DETAILS PROVIDING SIZE AND SPACING OF VERTICAL WALL REINFORCING AT END OF WALLS, COLUMNS AND OPENINGS.

KEY PLAN



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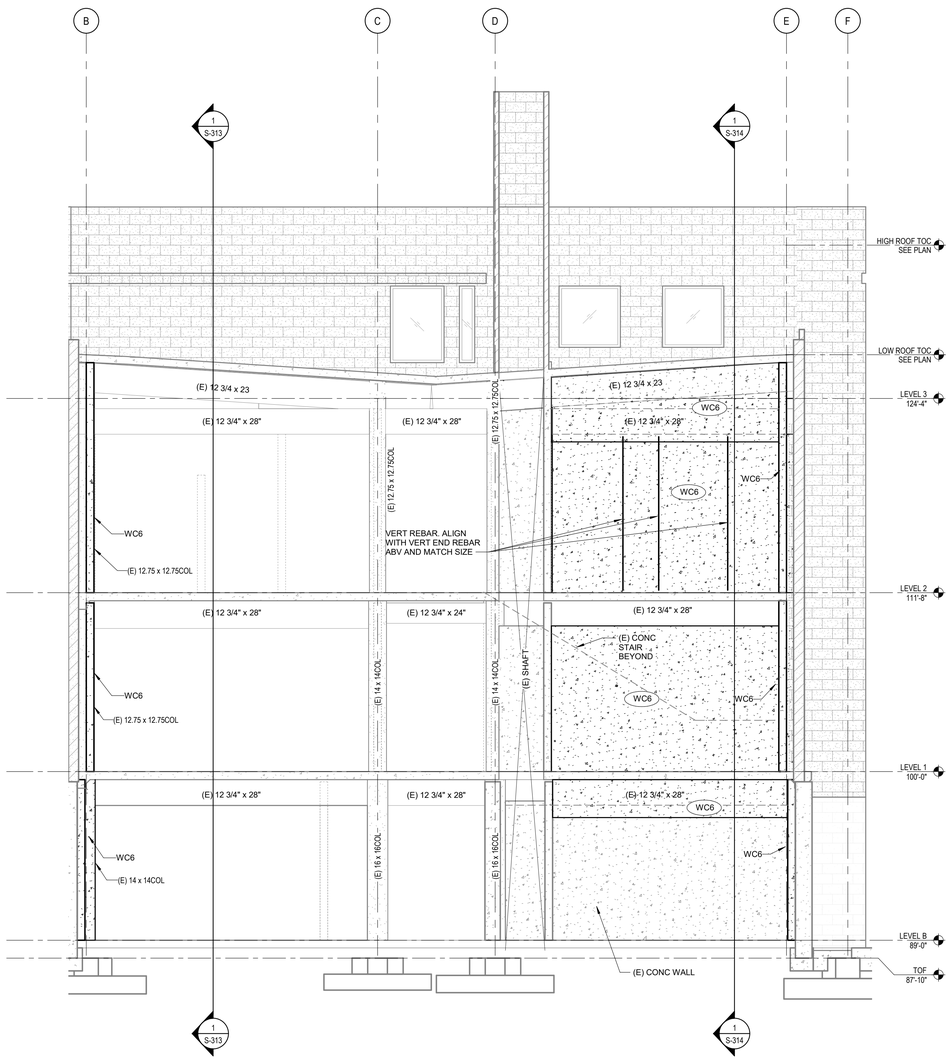
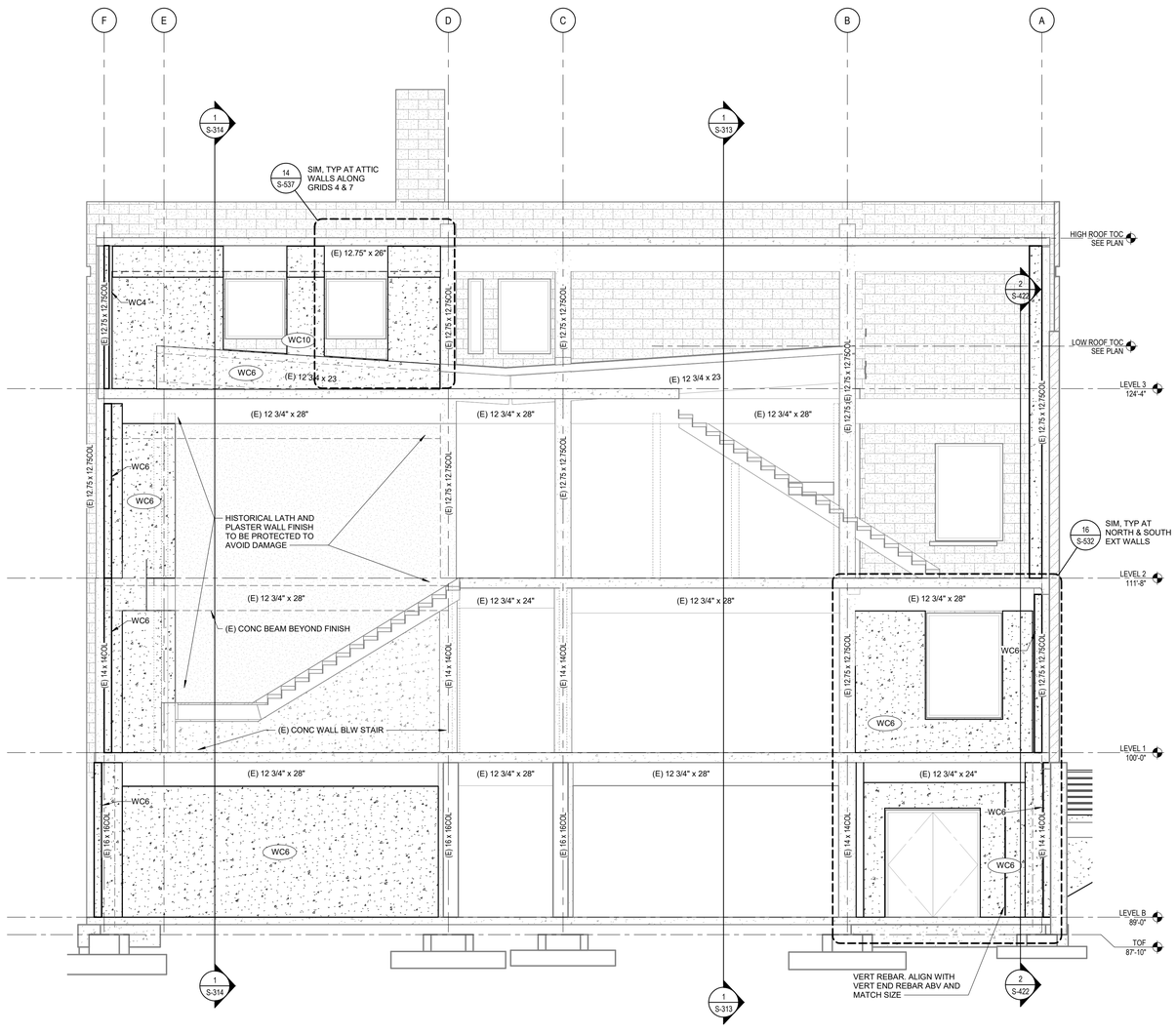
TITLE
ELEVATIONS

SHEET
S-211



1 ELEVATION AT GRID 4 LOOKING NORTH

SCALE 1/4" = 1'-0"



2 ELEVATION AT GRID 4 LOOKING SOUTH

SCALE 1/4" = 1'-0"

ELEVATION NOTES

170828. Q1

1. SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
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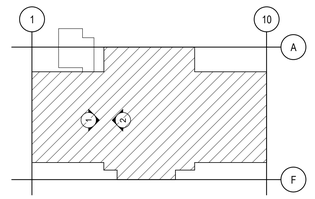
3. SEE PLANS FOR DETAILS PROVIDING SIZE AND SPACING OF VERTICAL WALL REINFORCING AT END OF WALLS, COLUMNS AND OPENINGS.

KEY PLAN



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TITLE

ELEVATIONS

SHEET

S-212

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0 1/4" 1/2" 1"

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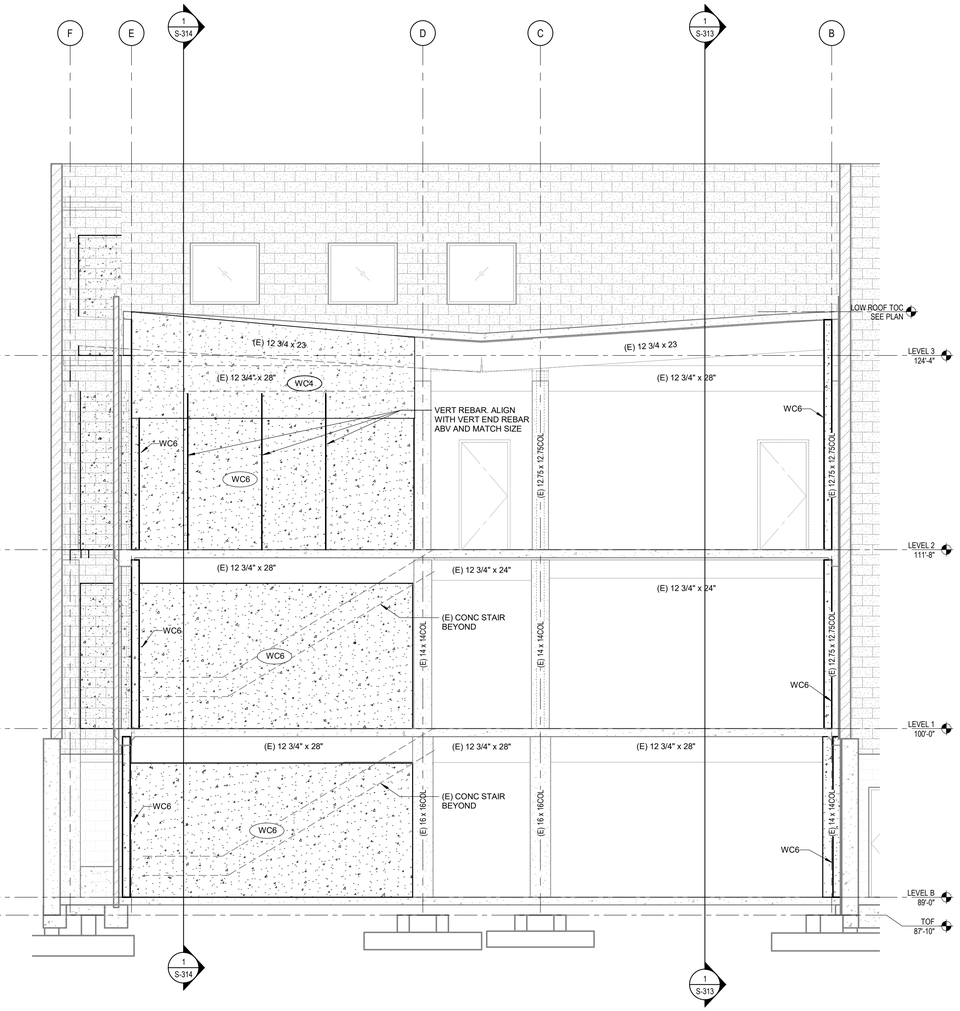
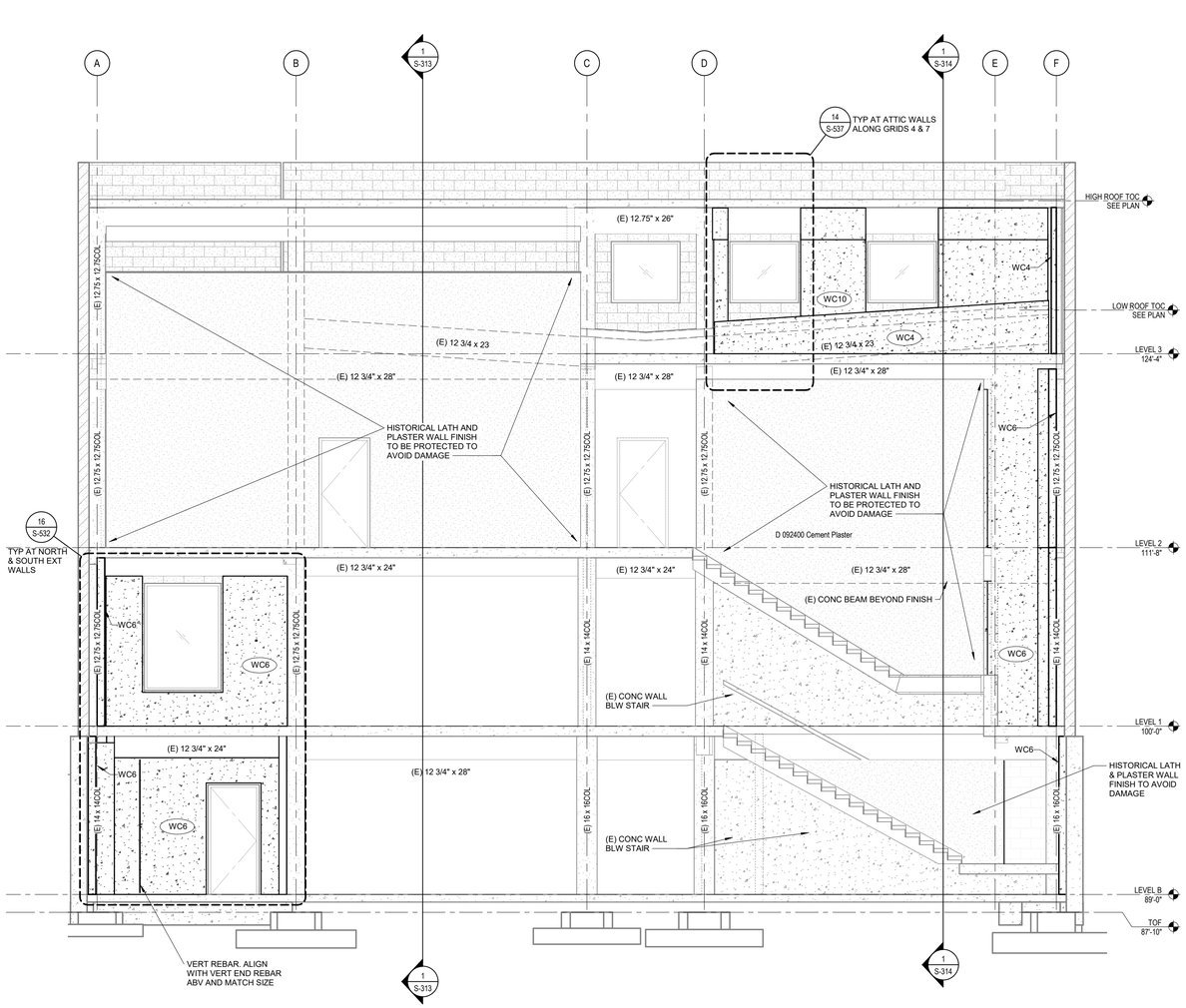


1 ELEVATION AT GRID 7 LOOKING SOUTH

SCALE 1/4" = 1'-0"



2 ELEVATION AT GRID 7 LOOKING NORTH

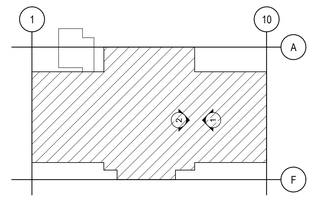
SCALE 1/4" = 1'-0"

ELEVATION NOTES

170828. Q1

1. SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
2. CONCRETE WALLS SHALL BE ANCHORED TO (E) EXTERIOR MASONRY AND (E) CONCRETE BASEMENT WALL @ 48" OC MAX, VERT & HORIZ, UNO. SEE DETAIL 5/S-533.
3. SEE PLANS FOR DETAILS PROVIDING SIZE AND SPACING OF VERTICAL WALL REINFORCING AT END OF WALLS, COLUMNS AND OPENINGS.

KEY PLAN



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CONSULTANT

SEAL

REGISTERED PROFESSIONAL ENGINEER GARRON E. HUNTINGDON No. S4788 STATE OF CALIFORNIA
10/15/2020

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
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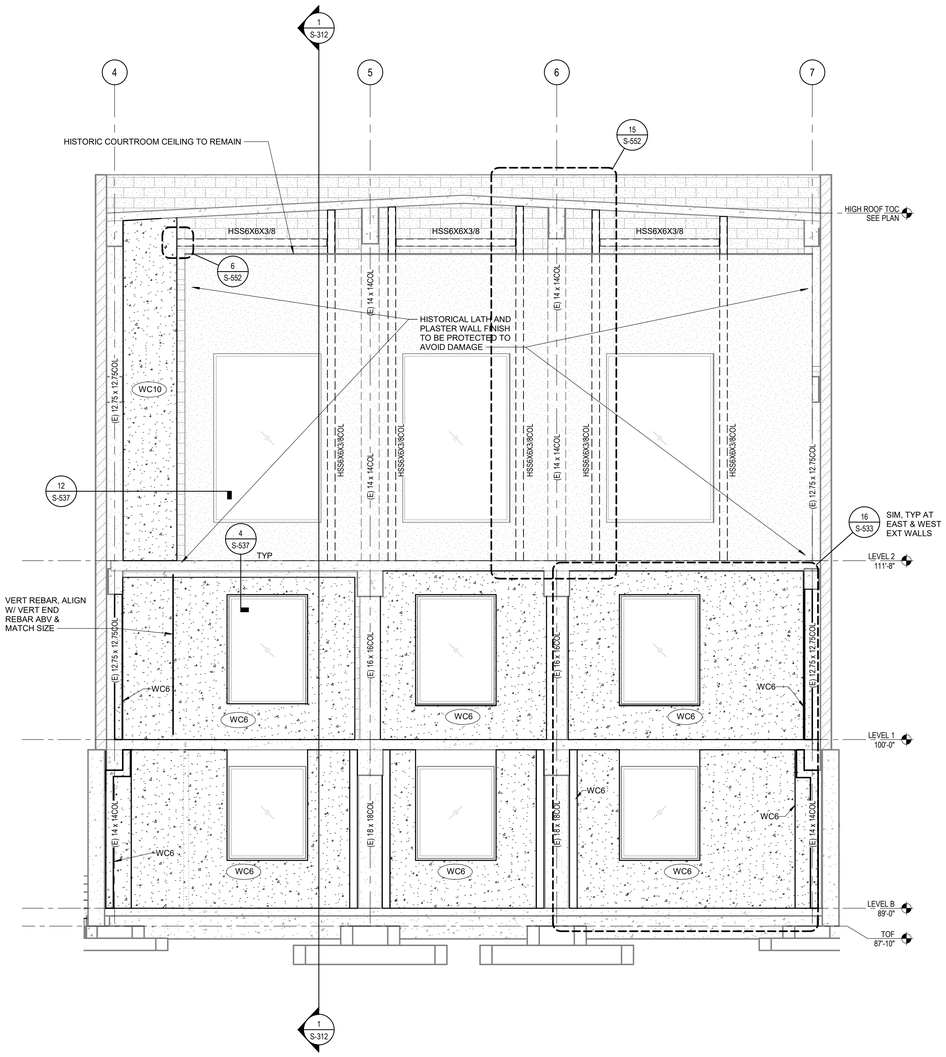
3:31 pm, Oct 27, 2020

TITLE

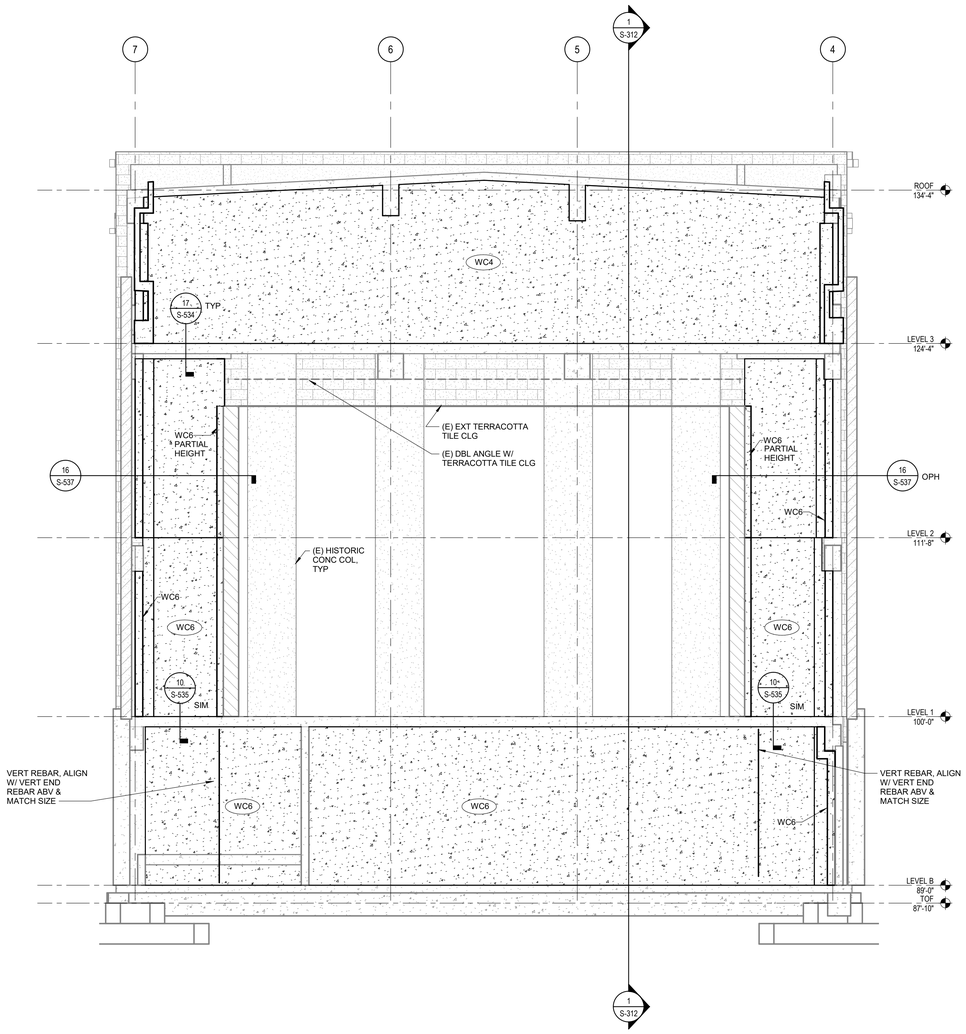
ELEVATIONS

SHEET

S-213



1 ELEVATION AT GRID A
SCALE 1/4" = 1'-0"



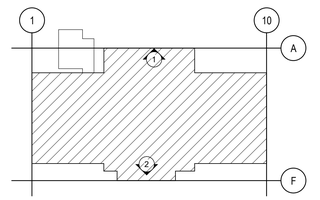
2 ELEVATION AT GRID F
SCALE 1/4" = 1'-0"

ELEVATION NOTES

170828. Q1

1. SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
2. CONCRETE WALLS SHALL BE ANCHORED TO (E) EXTERIOR MASONRY AND (E) CONCRETE BASEMENT WALL @ 48" OC MAX, VERT & HORIZ, UNO. SEE DETAIL 5/S-533.
3. SEE PLANS FOR DETAILS PROVIDING SIZE AND SPACING OF VERTICAL WALL REINFORCING AT END OF WALLS, COLUMNS AND OPENINGS.

KEY PLAN



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REGISTERED PROFESSIONAL ENGINEER GARRON E. HUNTINGTON No. S4788 STATE OF CALIFORNIA
10/15/2020

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

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MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

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TITLE
ELEVATIONS

SHEET
S-214

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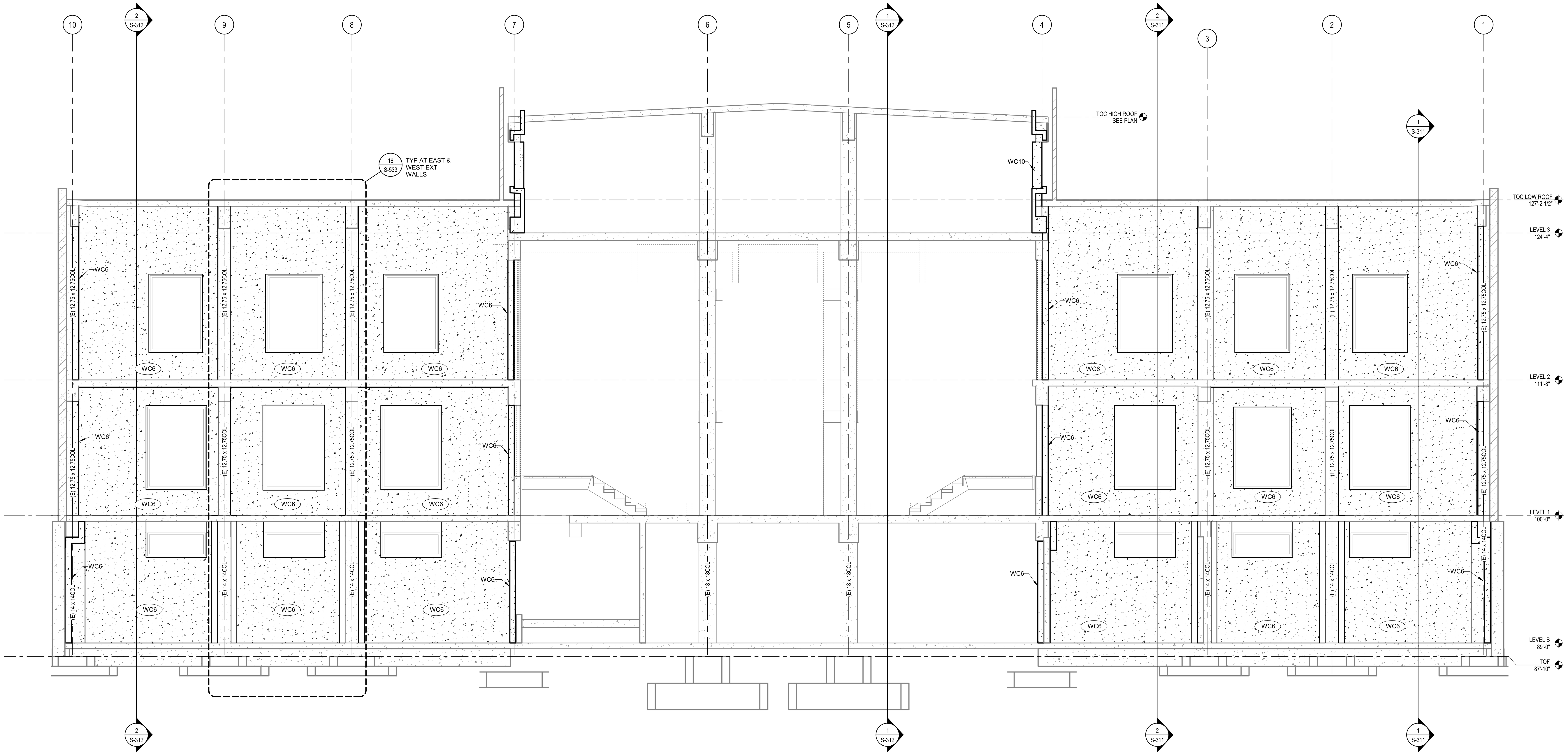

1 ELEVATION AT GRID E

SCALE 1/4" = 1'-0"

ELEVATION NOTES

170828. Q1

1. SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
2. CONCRETE WALLS SHALL BE ANCHORED TO (E) EXTERIOR MASONRY AND (E) CONCRETE BASEMENT WALL @ 48" OC MAX, VERT & HORIZ, UNO. SEE DETAIL 5/S-533.
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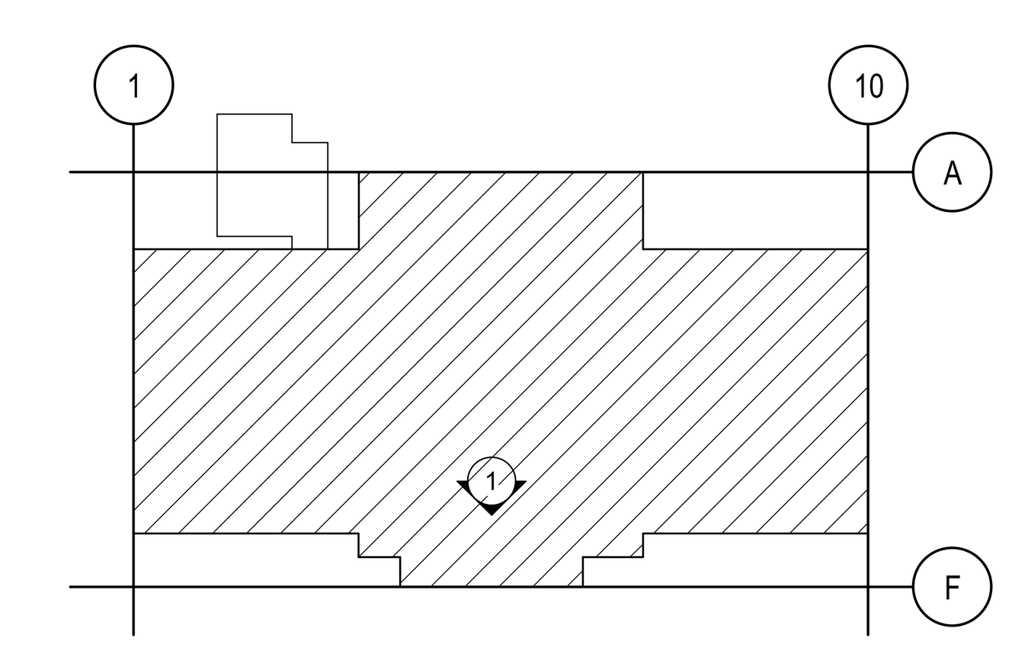
KEY PLAN



SEAL

No. S4783
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PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

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TITLE
ELEVATIONS

SHEET
S-215

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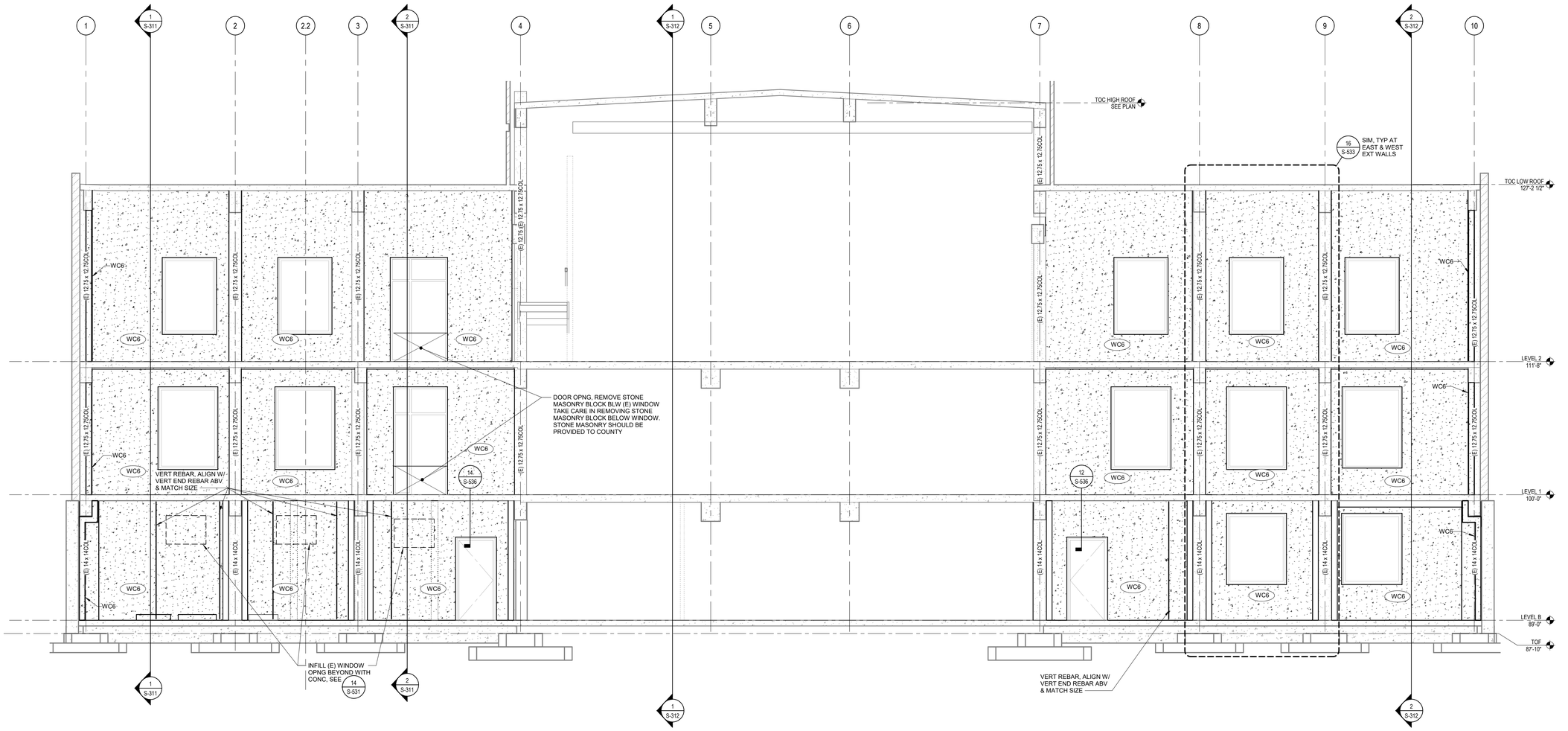
10/15/2020 4:03:19 PM



1 ELEVATION AT GRID B

SCALE 1/4" = 1'-0"

ELEVATION NOTES

170828. Q1

1. SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
2. CONCRETE WALLS SHALL BE ANCHORED TO (E) EXTERIOR MASONRY AND (E) CONCRETE BASEMENT WALL @ 48" OC MAX, VERT & HORIZ, UNO. SEE DETAIL 5/S-533.
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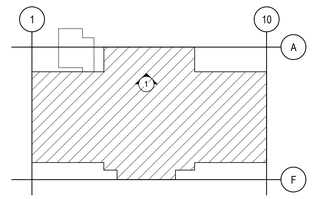
KEY PLAN



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REGISTERED PROFESSIONAL ENGINEER GARDNER E. HUNTINGTON No. S4788 CIVIL STATE OF CALIFORNIA
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PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
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CLIENT COUNTY OF LASSEN
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TITLE

ELEVATIONS

SHEET

S-216

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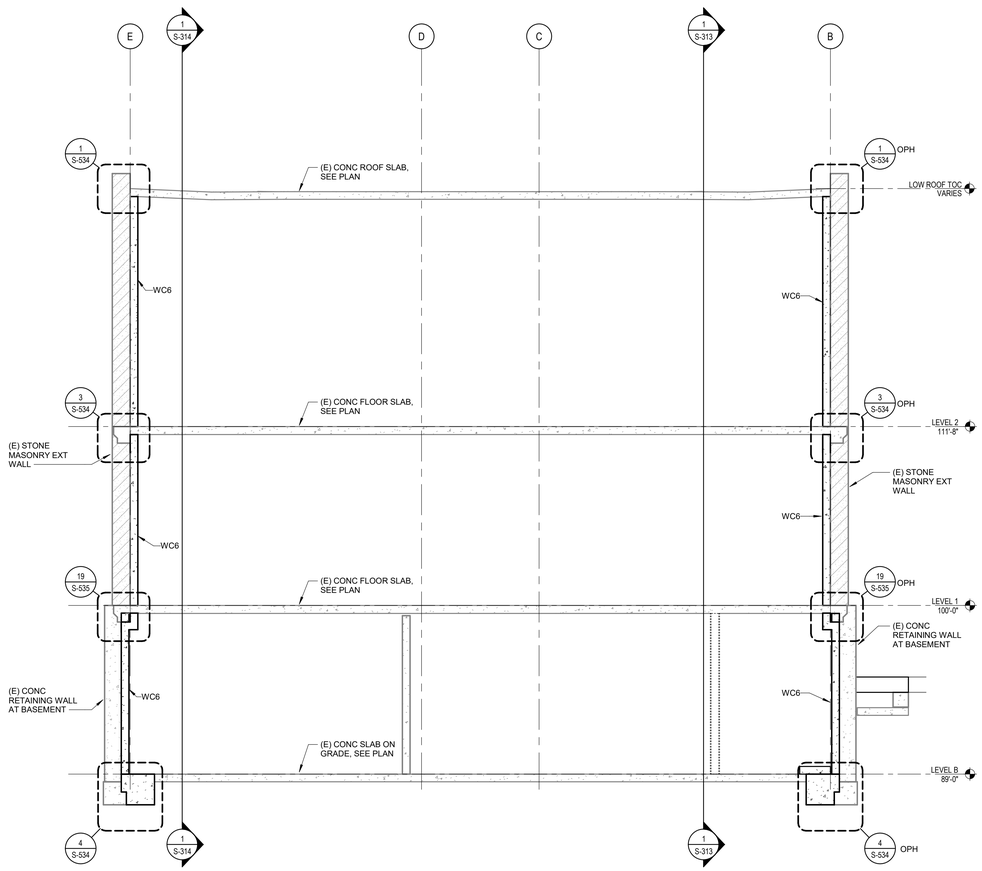

1 SECTION
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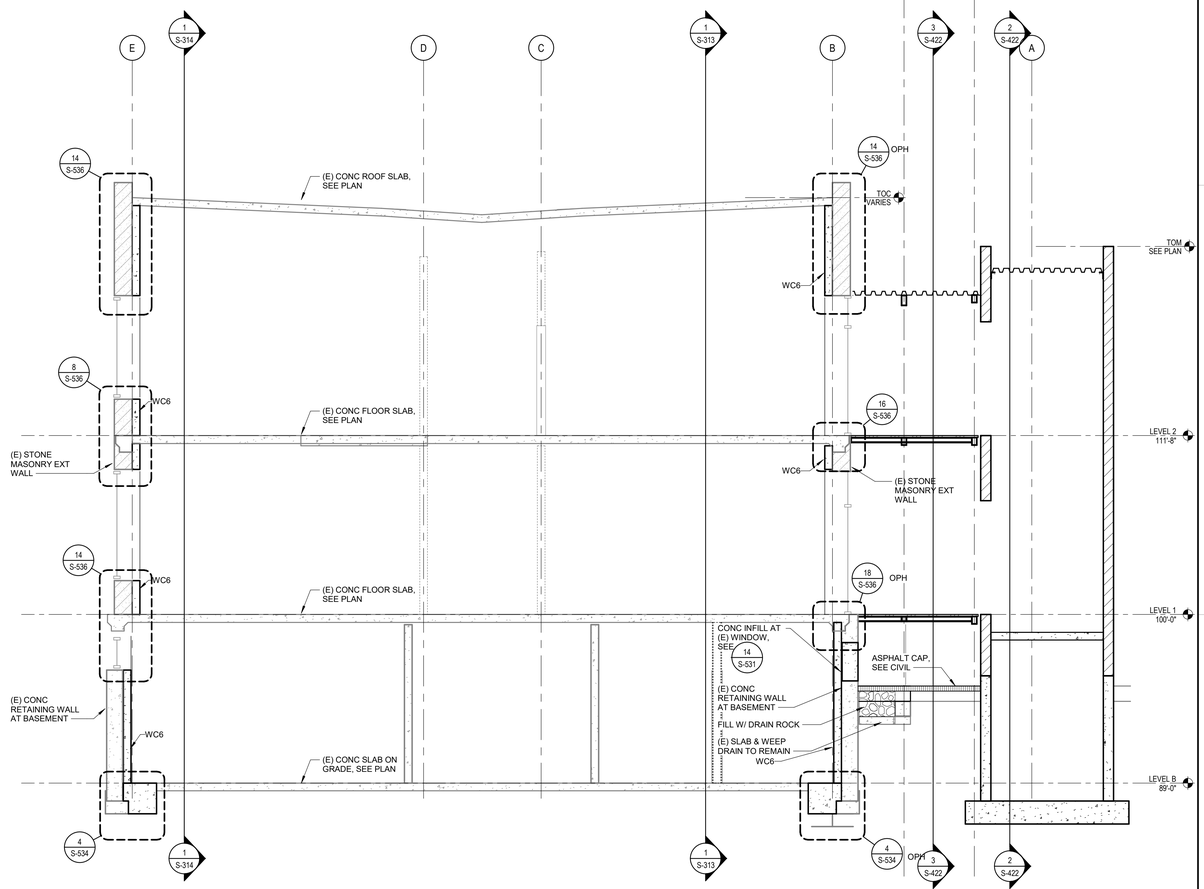
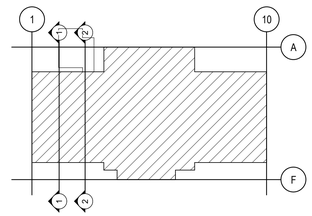


2 SECTION
SCALE 1/4" = 1'-0"

KEY PLAN



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GARRON E. HUNTINGTON
No. S4788
STRUCTURAL
OF CALIFORNIA
10/15/2020

PROJECT
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TITLE
SECTIONS

SHEET
S-311

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT. SCALE ACCORDINGLY
0 1/4" 1/2" 1"
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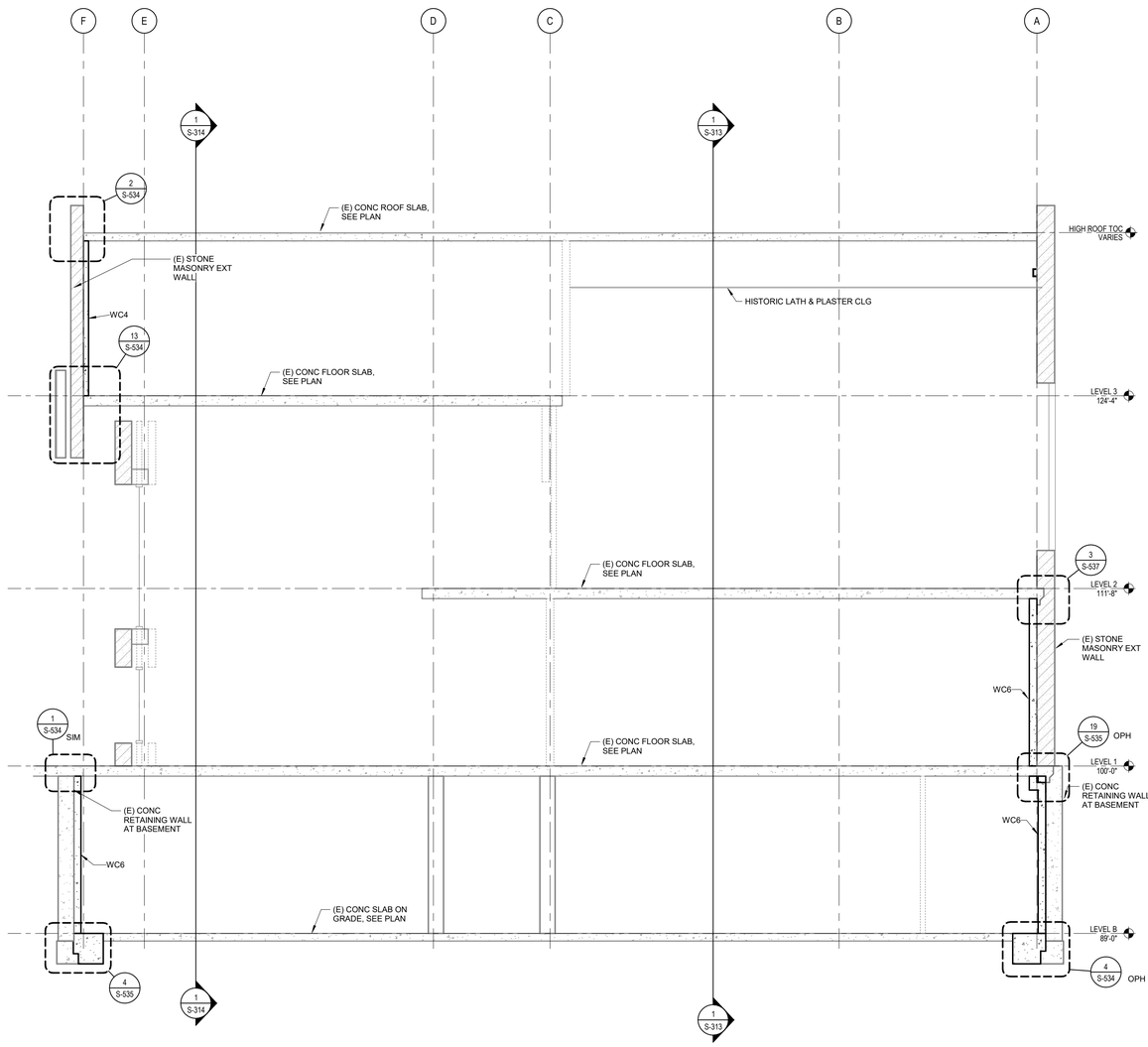
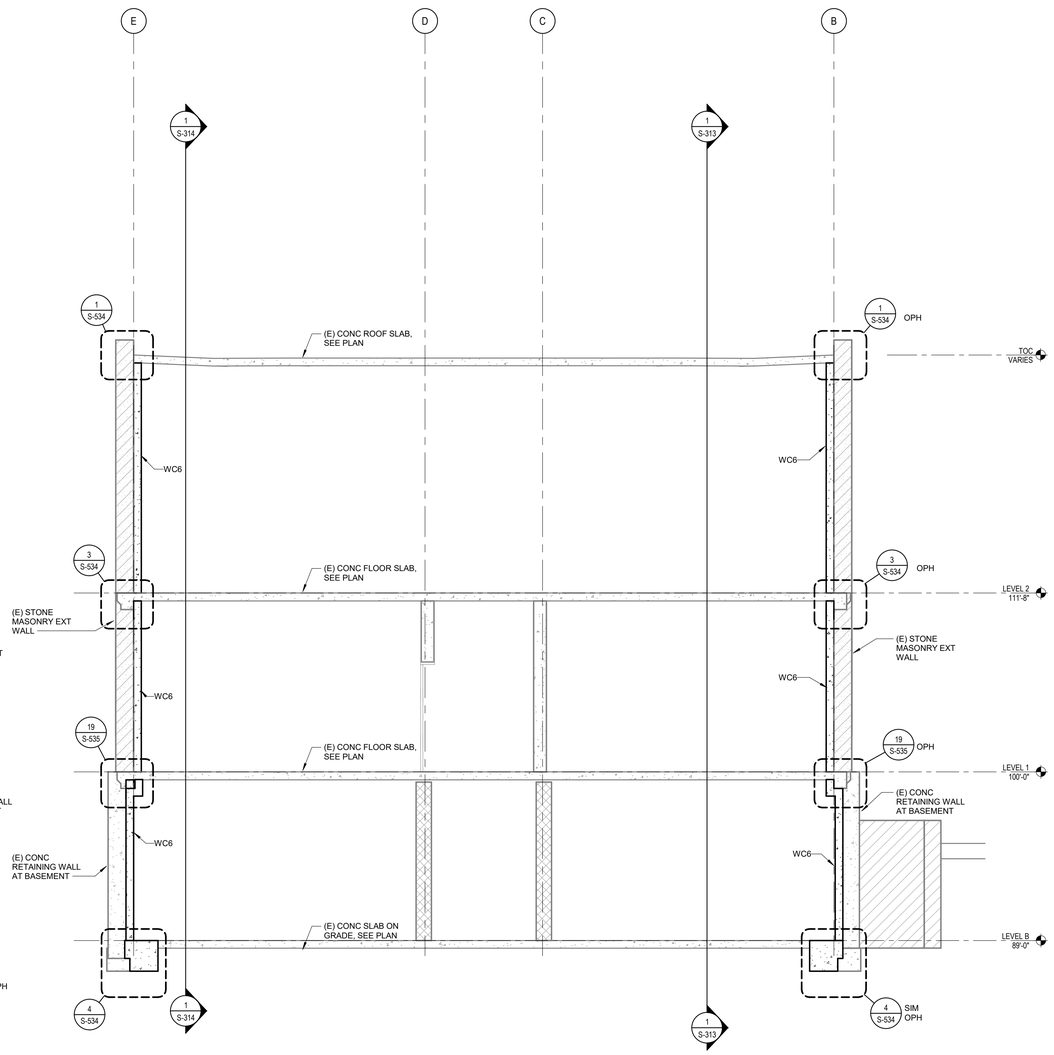
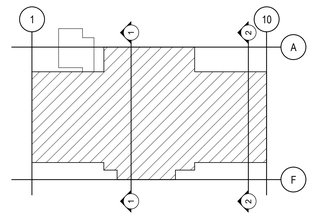


1 SECTION
1/4" = 1'-0"



2 SECTION
1/4" = 1'-0"

KEY PLAN



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GARRON E. HUNTINGTON
No. S4798
STRUCTURAL
OF CALIFORNIA
10/15/2020

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
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CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

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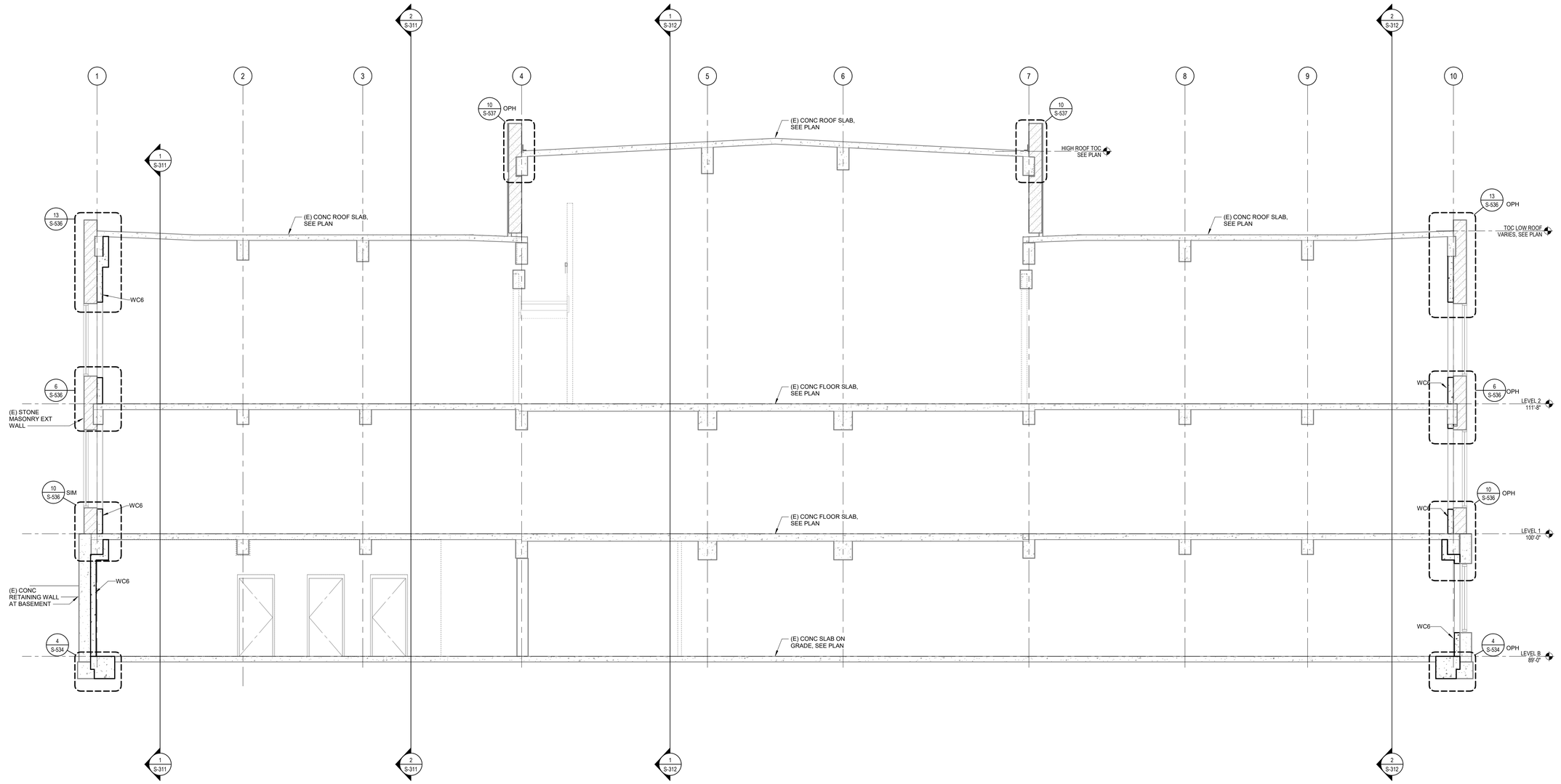
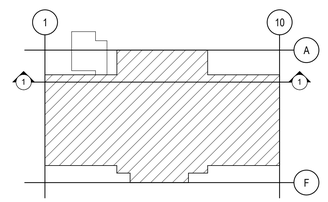
TITLE
SECTIONS

SHEET
S-312



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

KEY PLAN



NORTH

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REGISTERED PROFESSIONAL ENGINEER
GARRON E. HUNTINGTON
No. S-4788
CIVIL
STATE OF CALIFORNIA
10/15/2020

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
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CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
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TITLE
SECTIONS

SHEET
S-313

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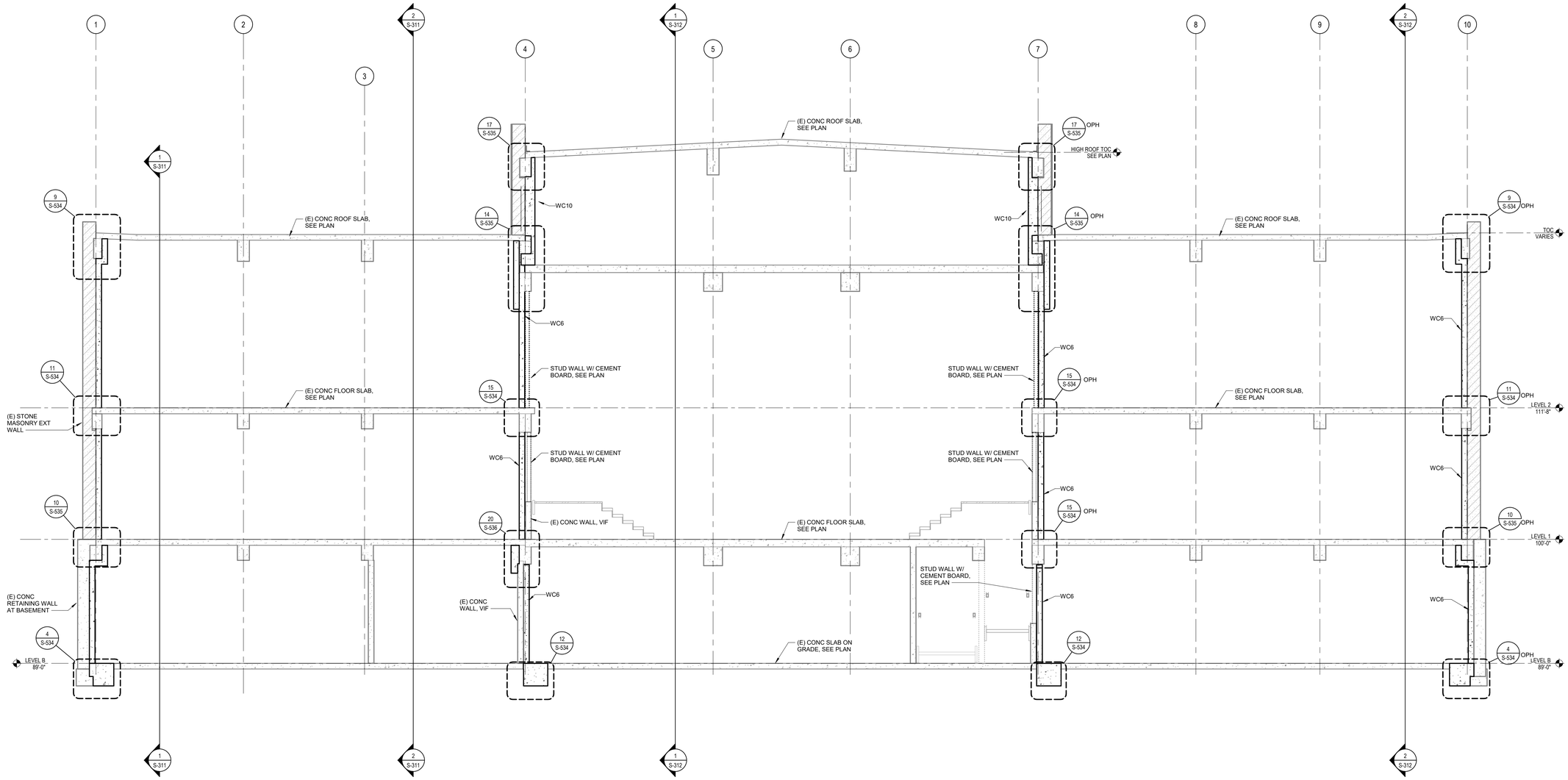
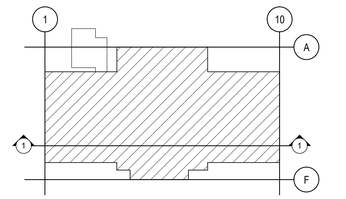
10/15/2020 4:03:26 PM



1 SECTION

SCALE 1/4" = 1'-0"

KEY PLAN



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CONSULTANT

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REGISTERED PROFESSIONAL ENGINEER
DARRON E. HUNTINGTON
No. S4788
ELECTRICAL
STATE OF CALIFORNIA
10/15/2020

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
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DEPARTMENT OF PUBLIC WORKS

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MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

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TITLE

SECTIONS

SHEET

S-314

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT. SCALE ACCORDINGLY
0 1/4" 1/2" 1"
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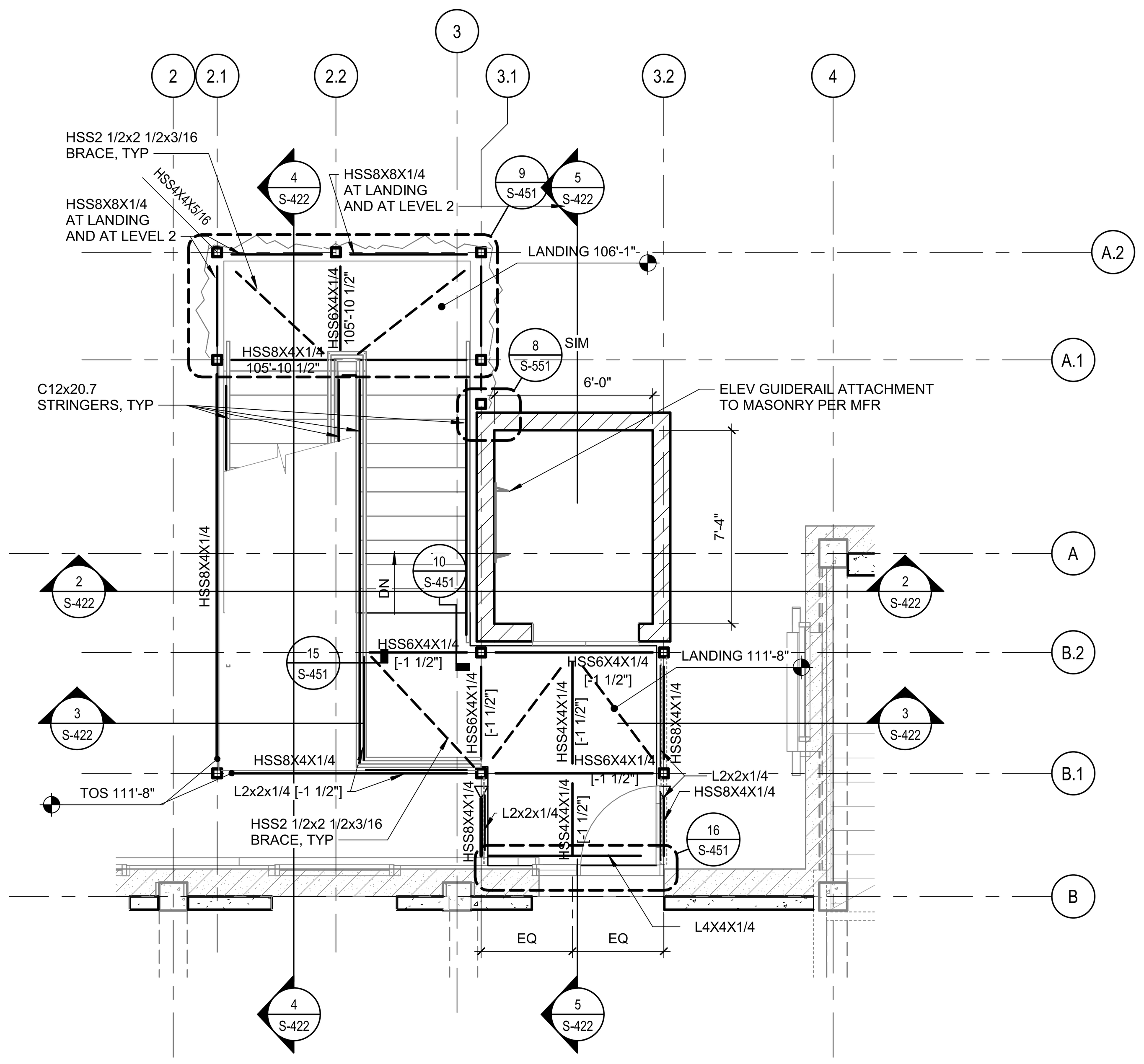
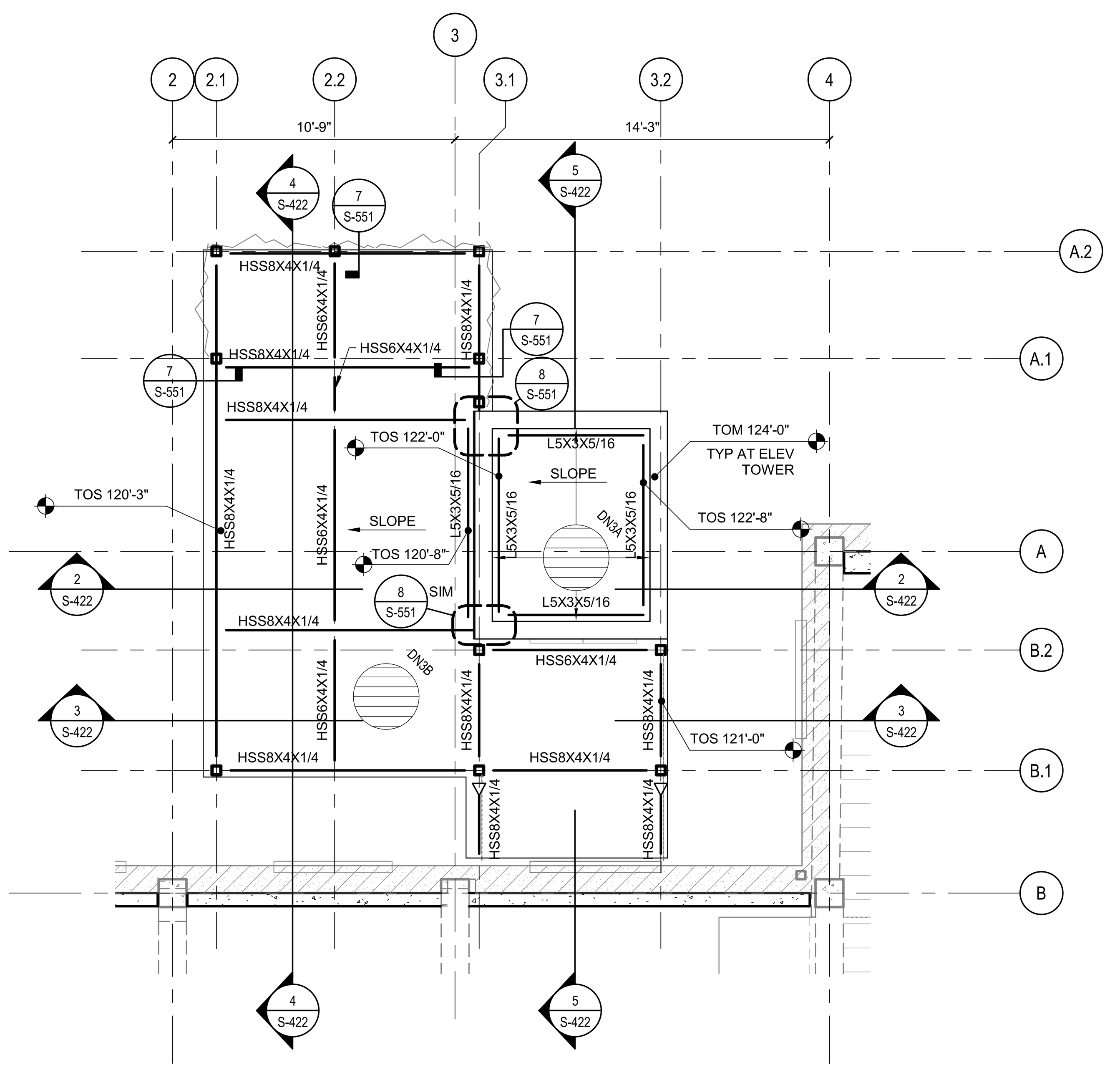
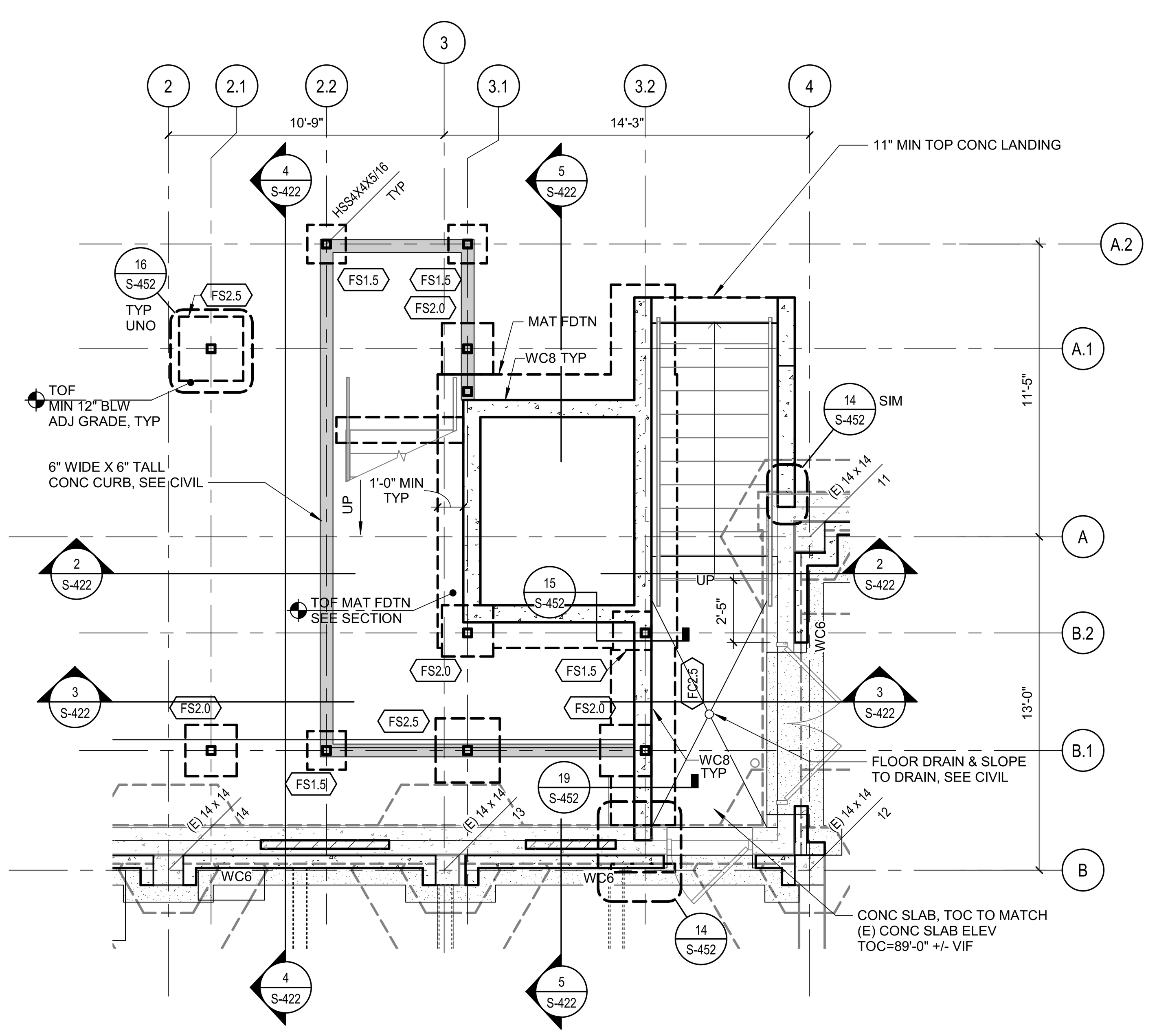
10/15/2020 4:03:26 PM



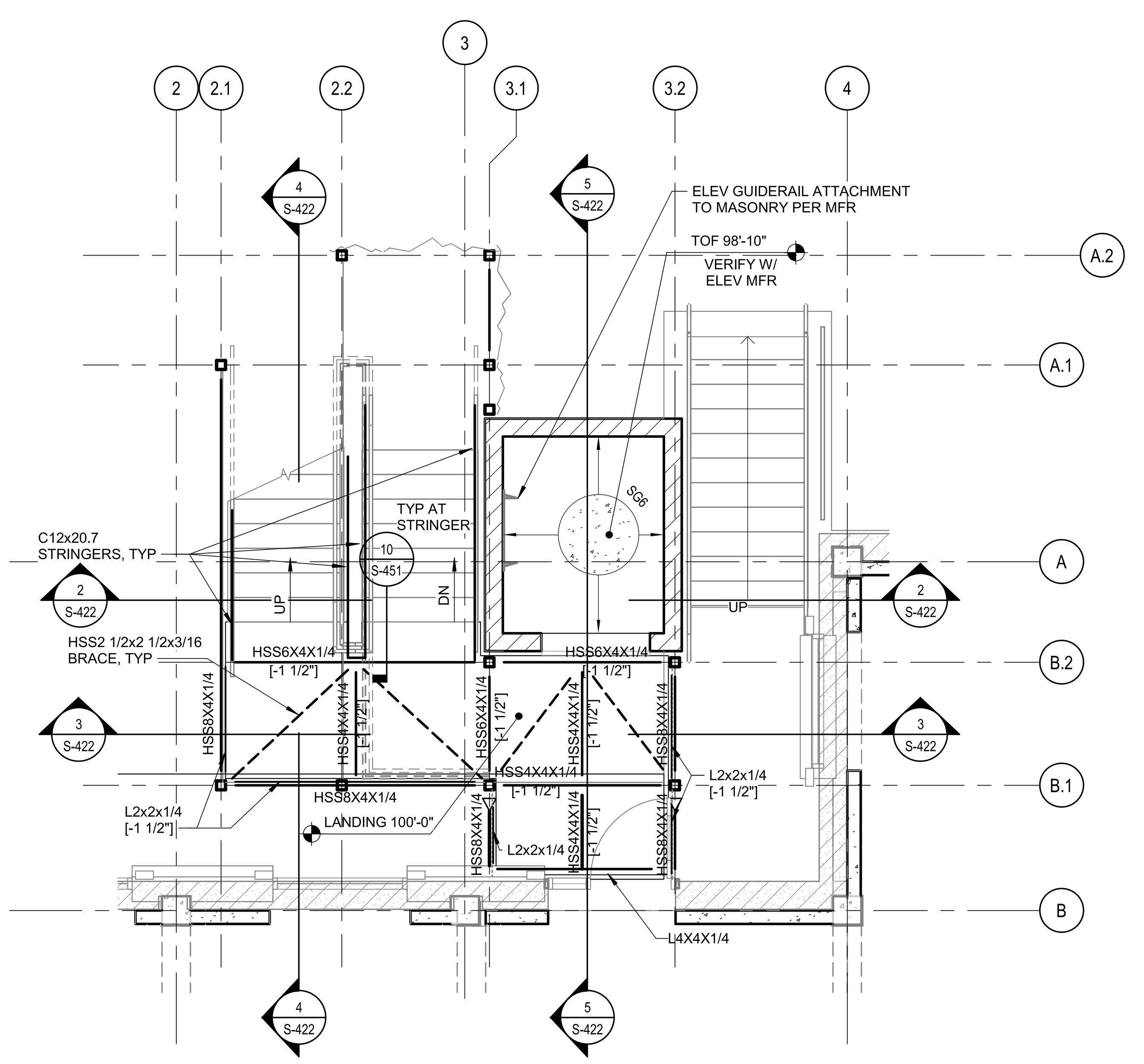
3 ENLARGED FRAMING PLAN - LEVEL 2 - STAIR
1/4" = 1'-0"



4 ENLARGED ROOF FRAMING PLAN - LEVEL 3 - STAIR
1/4" = 1'-0"



1 ENLARGED FOUNDATION PLAN - LEVEL B - STAIR
SCALE 1/4" = 1'-0"



2 ENLARGED FRAMING PLAN - LEVEL 1 - STAIR
1/4" = 1'-0"

SCHEDULES

WALL SCHEDULE

TYPE	WALL THICKNESS	MIN VERT REINF	MIN HORIZ REINF	NOTES
WC8	8"	#5 @ 12" OC	#5 @ 12" OC	
WM8	8"			SEE DETAIL 19/S-541

CONTINUOUS FOOTING SCHEDULE

TYPE	WIDTH	DEPTH	REINFORCEMENT
FC2.5	2'-6"	1'-6"	(4) #5 CONT AT BOT & (2) #5 AT TOP W/ #4 TRANS BARS @ 12" OC

SPREAD FOOTING SCHEDULE

TYPE	SIZE	DEPTH	REINFORCEMENT
FS1.5	1'-6"x1'-6"	1'-6"	(3) #5 EW AT BOT
FS2.0	2'-0"x2'-0"	1'-6"	(4) #5 EW AT BOT
FS2.5	2'-6"x2'-6"	1'-6"	(5) #5 EW AT BOT

MAT SLAB SCHEDULE

DEPTH	DESCRIPTION
1'-6"	#7 BARS W/ STD HOOK AT ENDS, EA WAY, TOP & BOT @10" OC

DECK SCHEDULE

TYPE	DESCRIPTION
DN3A	3" x 18 GA TYPE "N" STEEL DECK
DN3B	EXPOSED 3" TYPE "N" STEEL DECK,NVERTED W/ NESTED SIDE LAP, 18 GA MIN W/ G90 FINISH

SLAB SCHEDULE

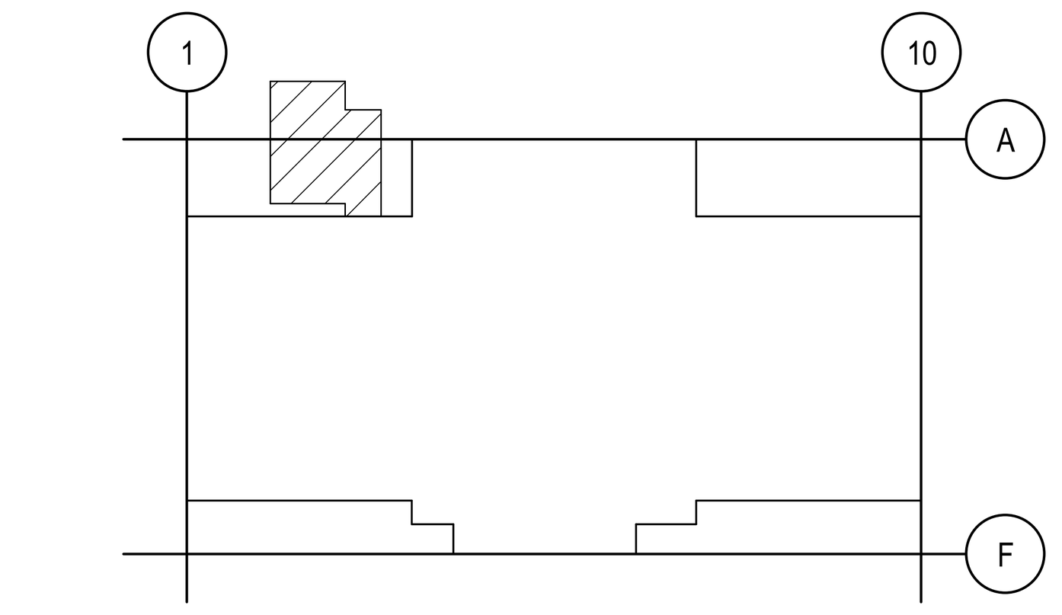
TYPE	DESCRIPTION
SG6	6" THICK CONC SLAB ON GRADE W/ #4 @ 12" OC EW O/ CLSM

PLAN LEGEND

170828. Q1

- (E) ELEMENTS SHOWN FADED - LINETYPE AND PATTERN/HATCHING AS NOTED FOR NEW CONSTRUCTION
- STRUCTURAL WALL
- STRUCTURAL WALL BLW
- NON-STRUCTURAL WALL
- DEPRESSED SLAB AREA / SAD FOR EXTENTS
- HOUSEKEEPING PAD OR CURB
- SLAB STEP SYMBOL (-2") / ELEVATION RELATIVE TO TOC
- CONC SLAB / STEEL DECK TYPE AND SPAN DIRECTION (SX)
- COLUMN WITH CALLOUT (COL SIZE)
- CONCRETE WALL TAG, SEE SCHEDULE (WC6) / CONTINUOUS FOOTING TAG (FCX.X)
- SPREAD FOOTING TAG (FSX.X)
- FOOTING
- FOOTING AND SLAB INFILL, SEE DETAILS
- BEAM SIZE (W12x40)
- BEAM ELEVATION RELATIVE TO TOS ([-2"])
- NON-FRAME MOMENT CONNECTION, SEE 6/S-551
- TYP EXPOSED BEAM TO COL CONNECTION, SEE 2/S-551
- TYP EXPOSED BEAM TO BEAM CONNECTION, SEE 1/S-551

KEY PLAN



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CONSULTANT

SEAL

REGISTERED PROFESSIONAL ENGINEER DARRON E. HUNTINGDALE No. S4738 STRUCTURAL STATE OF CALIFORNIA
10/15/2020

PROJECT
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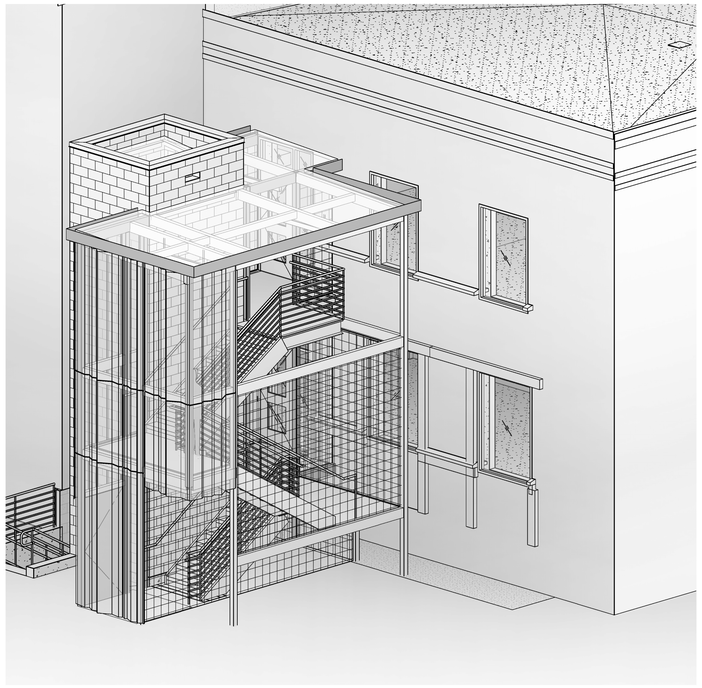
TITLE
PLANS - STAIRS

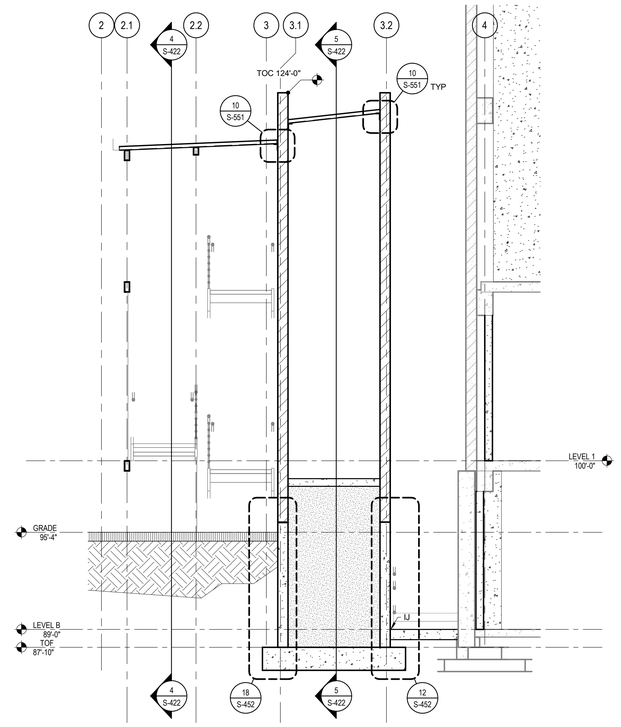
SHEET
S-421

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

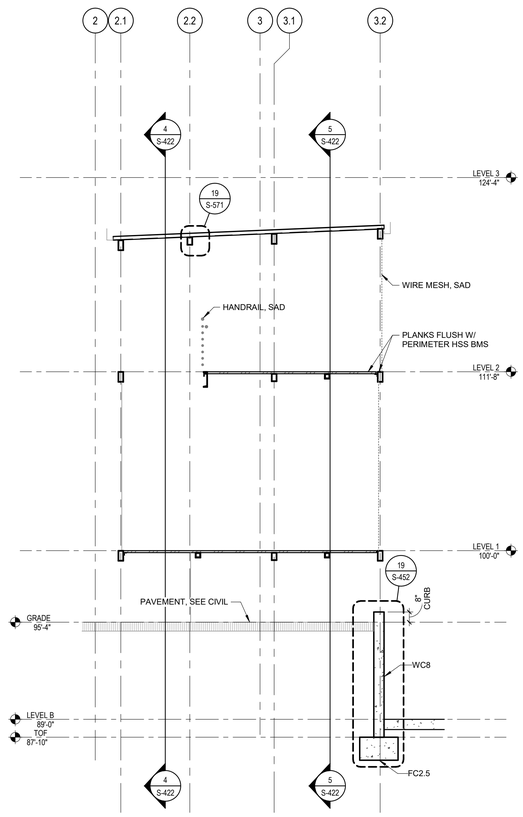
0 1/4" 1/2" 1"



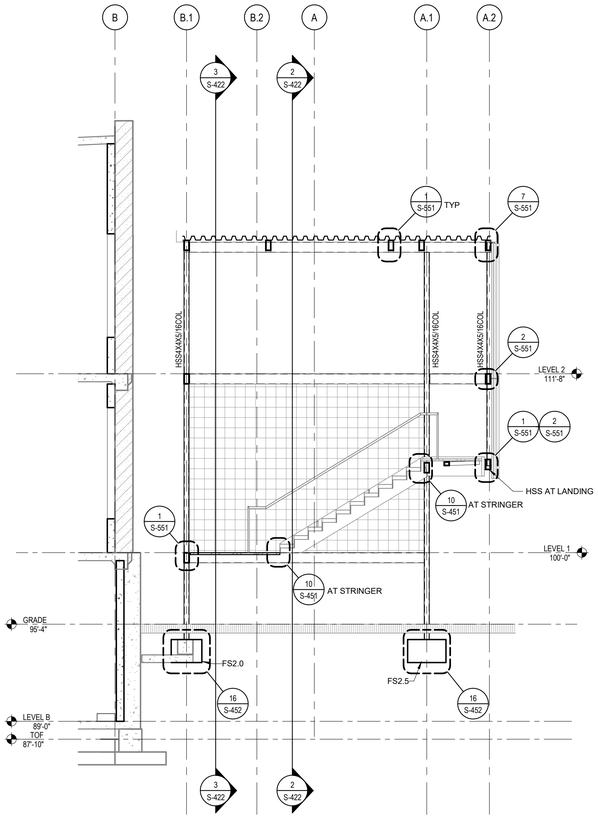
1 3D VIEW OF STAIR
SCALE



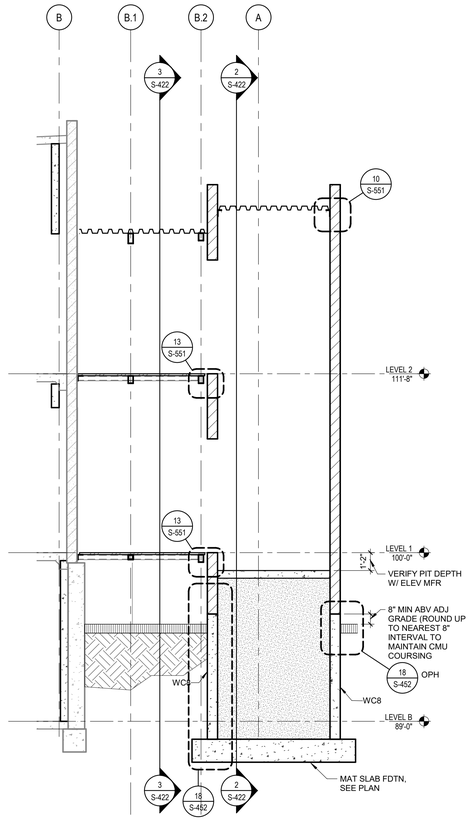
2 SECTION
SCALE 1/4" = 1'-0"



3 SECTION
SCALE 1/4" = 1'-0"

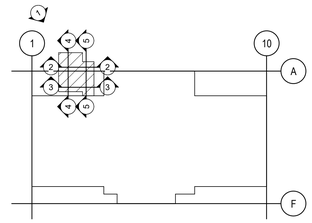


4 SECTION
SCALE 1/4" = 1'-0"



5 SECTION
SCALE 1/4" = 1'-0"

KEY PLAN



LIONAKIS

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CONSULTANT

SEAL

REGISTERED PROFESSIONAL ENGINEER
GARRON E. HUNTINGTON
No. S4788
CIVIL
STATE OF CALIFORNIA
10/15/2020

PROJECT
LASSEN COUNTY HISTORIC
COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:
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AGENCY

APPROVED BY: Willdan Engineering
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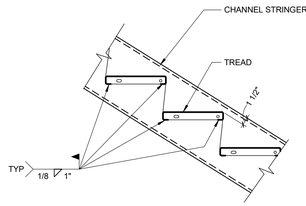
3:31 pm, Oct 27, 2020

TITLE
SECTIONS - STAIRS

SHEET
S-422

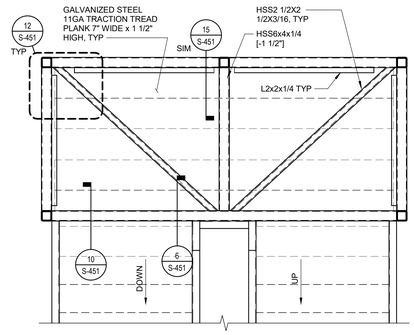
D:_Revit Local Files\015437.05_BIM_A-MASTER_R20_CENTRAL_Patty Braun.RVT

10/15/2020 4:03:44 PM



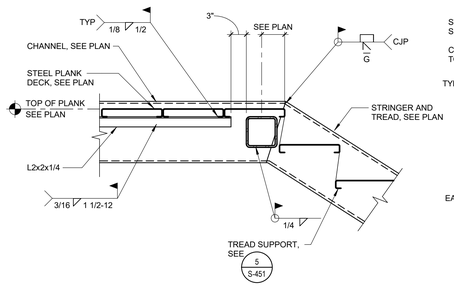
5 TREAD AND RISER TO STRINGER

1" = 1'-0" S-425/05



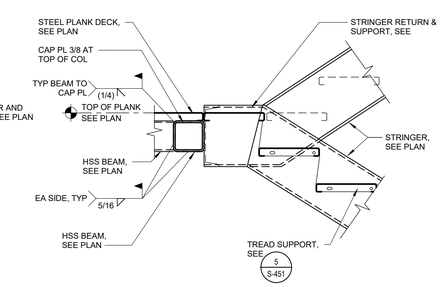
9 TYPICAL LANDING PLAN

1/2" = 1'-0" S-425/09



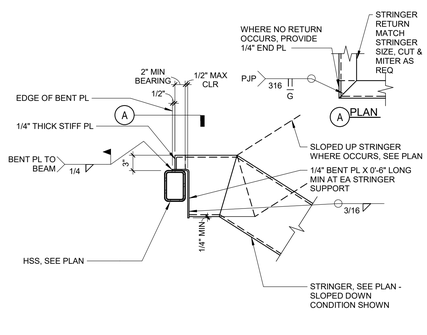
2 STRINGER DOWN AT LANDING

1" = 1'-0" S-425/02



6 CENTER STRINGER AT LANDING

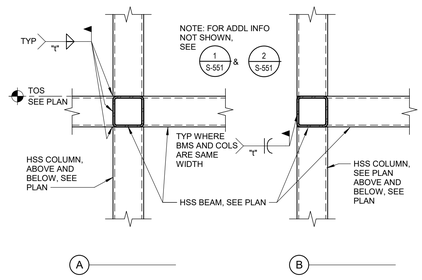
1" = 1'-0" S-425/06



NOTES:
1. STEEL DECK & TREADS NOT SHOWN FOR CLARITY, SEE OTHER DETAILS.

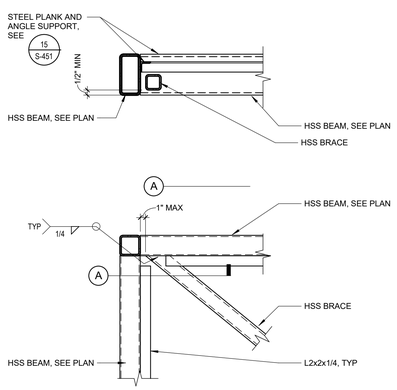
10 STRINGER BEARING SUPPORT

1" = 1'-0" S-_055100_C011A 160107. Q1

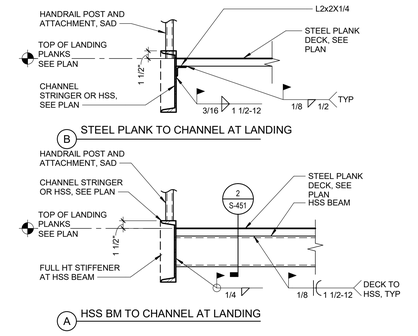


7 HSS BEAM TO HSS COLUMN

1" = 1'-0" S-425/07

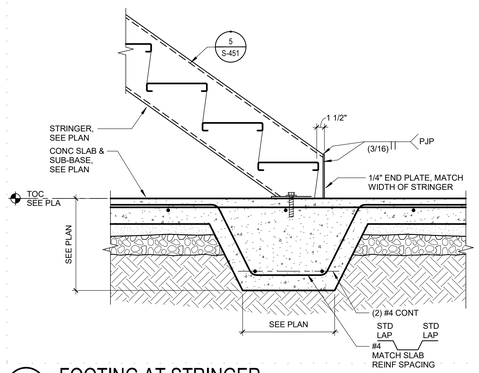


BRACING CONNECTION AT BACK OF LANDING



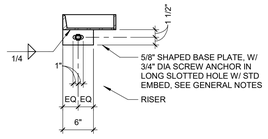
15 DETAIL

1" = 1'-0" S-425/15

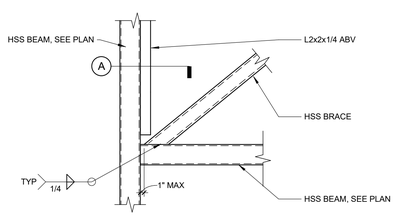


4 FOOTING AT STRINGER

1" = 1'-0" S-_055100_C002A 140127. Q1



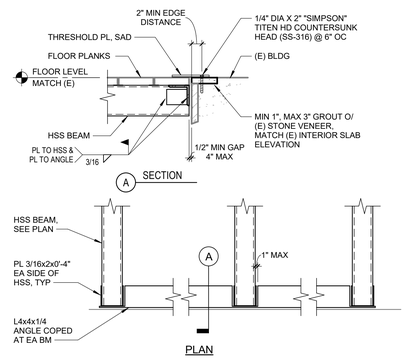
PLAN



BRACING CONNECTION AT STRINGER SIDE OF LANDING

12 BRACING AT LANDING CORNERS

1" = 1'-0" S-425/12



PLAN

NOTE: CONTRACTOR OPTION TO WELD HSS TO ANGLE DIRECTLY WITHOUT PLATES.

16 DETAIL

1" = 1'-0"

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CONSULTANT

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PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
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707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:
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AGENCY

APPROVED BY: Willdan Engineering
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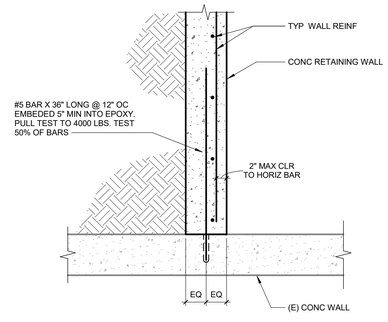
3:31 pm, Oct 27, 2020

TITLE
DETAILS - EXTERIOR STAIR

SHEET
S-451

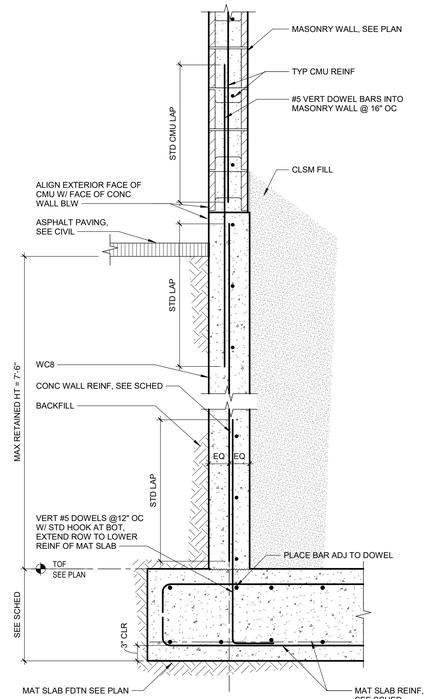
IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

0 1/4" 1/2" 1"

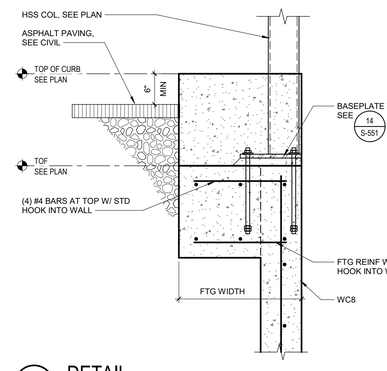


PLAN

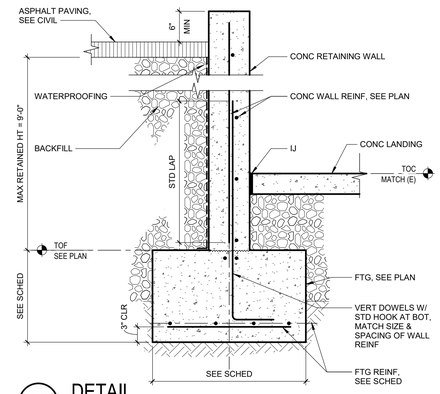
14 DETAIL
1" = 1'-0"



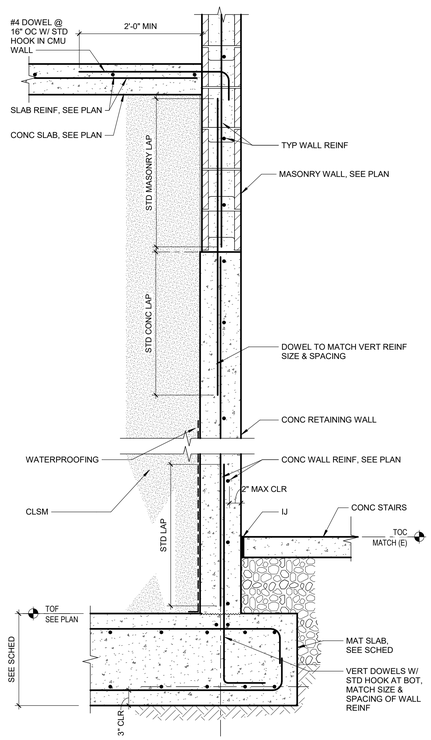
18 DETAIL
1" = 1'-0"



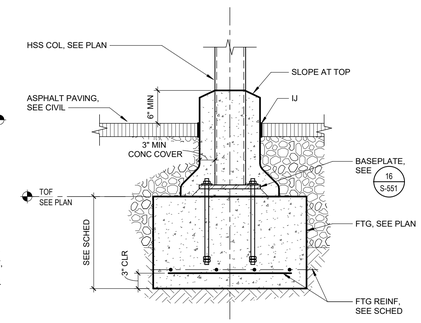
15 DETAIL
1" = 1'-0"



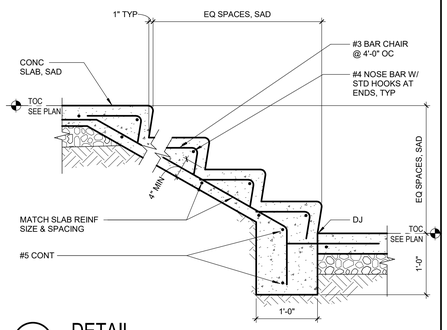
19 DETAIL
1" = 1'-0"



12 DETAIL
1" = 1'-0"



16 DETAIL
1" = 1'-0"



20 DETAIL
1" = 1'-0"

S-_033000_C036A
140127_Q2

D:_Revit\Local Files\015437-05_BIM_A.MASTER_R20_CENTRAL_Patty.Braun.RVT
10/15/2020 4:03:49 PM
BLUEBEAM CORRECTIONS MADE 10/27/2020

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CONSULTANT

SEAL

REGISTERED PROFESSIONAL ENGINEER DARWIN E HUNTINGDON No. S4788 OF CALIFORNIA
10/27/2020

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

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MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
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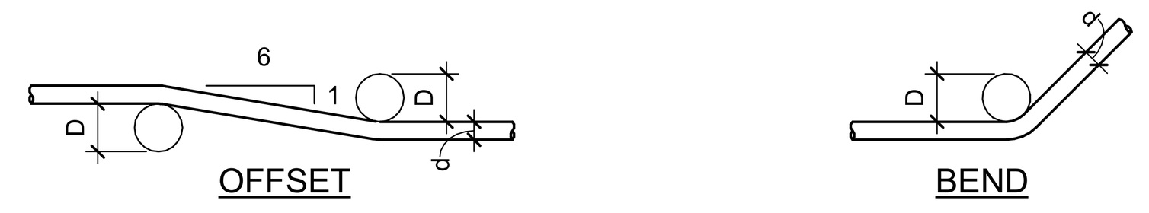
TITLE

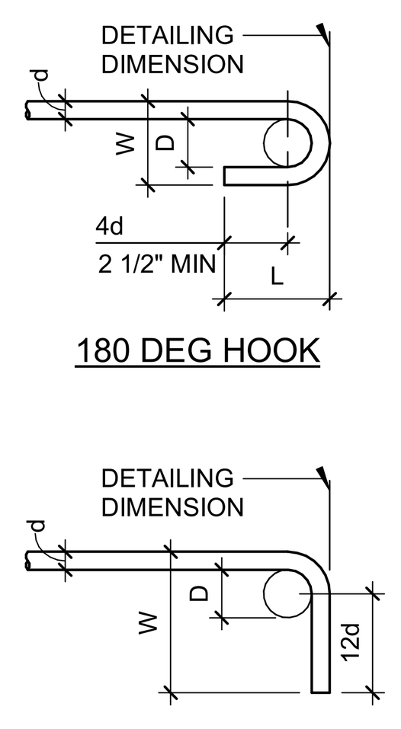
DETAILS - EXTERIOR STAIR

SHEET

S-452



REBAR SIZE	DIA D	180 DEG HOOK		90 DEG HOOK
		W (TOL +/-)	L (TOL +/-)	W (TOL +/-)
#3	6xd	3" (1/2")	4" (1/2")	6" (1")
#4	6xd	4" (1/2")	4 1/2" (1/2")	8" (1")
#5	6xd	5" (1/2")	5" (1/2")	10" (1")
#6	6xd	6" (1/2")	6" (1/2")	12" (1")
#7	6xd	7" (1/2")	7" (1/2")	14" (1")
#8	6xd	8" (1/2")	8" (1/2")	16" (1")
#9	8xd	12" (1/2")	11" (1/2")	20" (1")
#10	8xd	13" (1/2")	12" (1/2")	22" (1")
#11	8xd	14" (1/2")	13" (1/2")	24" (1")
#14	10xd	21" (1 1/2")	17" (1 1/2")	31" (2 1/2")
#18	10xd	27" (2")	23" (2")	41" (3 1/2")

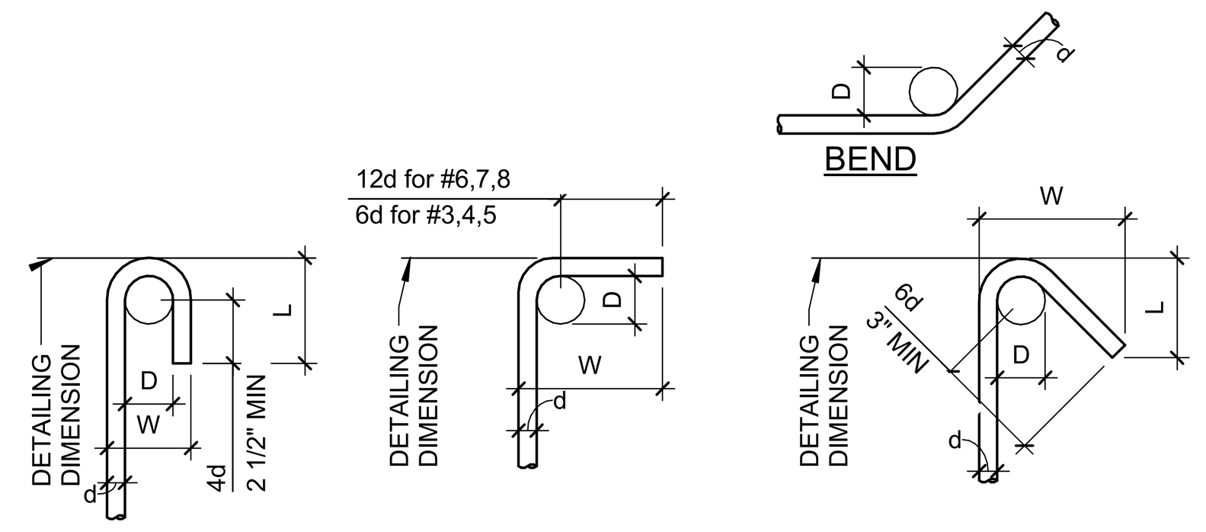


NOTES:
1. D = MINIMUM FINISHED INSIDE BEND DIA, d = NOMINAL REBAR DIAMETER
2. TOL = TOLERANCE (PER ACI 117)

1 TYP REBAR BENDS AND HOOKS

SCALE: NTS
S-_032000_T001A
140127

REBAR SIZE	DIA D	180 DEG HOOK		90 DEG HOOK	135 DEG HOOK	
		W (TOL +/-)	L (TOL +/-)	W (TOL +/-)	W (TOL +/-)	L (TOL +/-)
#3	4xd	2 1/4" (1/2")	3 3/4" (1/2")	3 1/2" (1")	4" (1/2")	3" (1/2")
#4	4xd	3" (1/2")	4" (1/2")	4 1/2" (1")	5" (1/2")	3" (1/2")
#5	4xd	3 3/4" (1/2")	4 1/2" (1/2")	5 3/4" (1")	6" (1/2")	4" (1/2")
#6	6xd	6" (1/2")	6" (1/2")	12" (1")	9" (1/2")	5 1/4" (1/2")
#7	6xd	7" (1/2")	7" (1/2")	14" (1")	10" (1/2")	6" (1/2")
#8	6xd	8" (1/2")	8" (1/2")	16" (1")	11" (1/2")	7" (1/2")



NOTES:
1. D = MINIMUM FINISHED INSIDE BEND DIA, d = NOMINAL REBAR DIAMETER
2. TOL = TOLERANCE (PER ACI 117)

2 TYP REBAR HOOP, STIRRUP, TIE HOOKS & BENDS

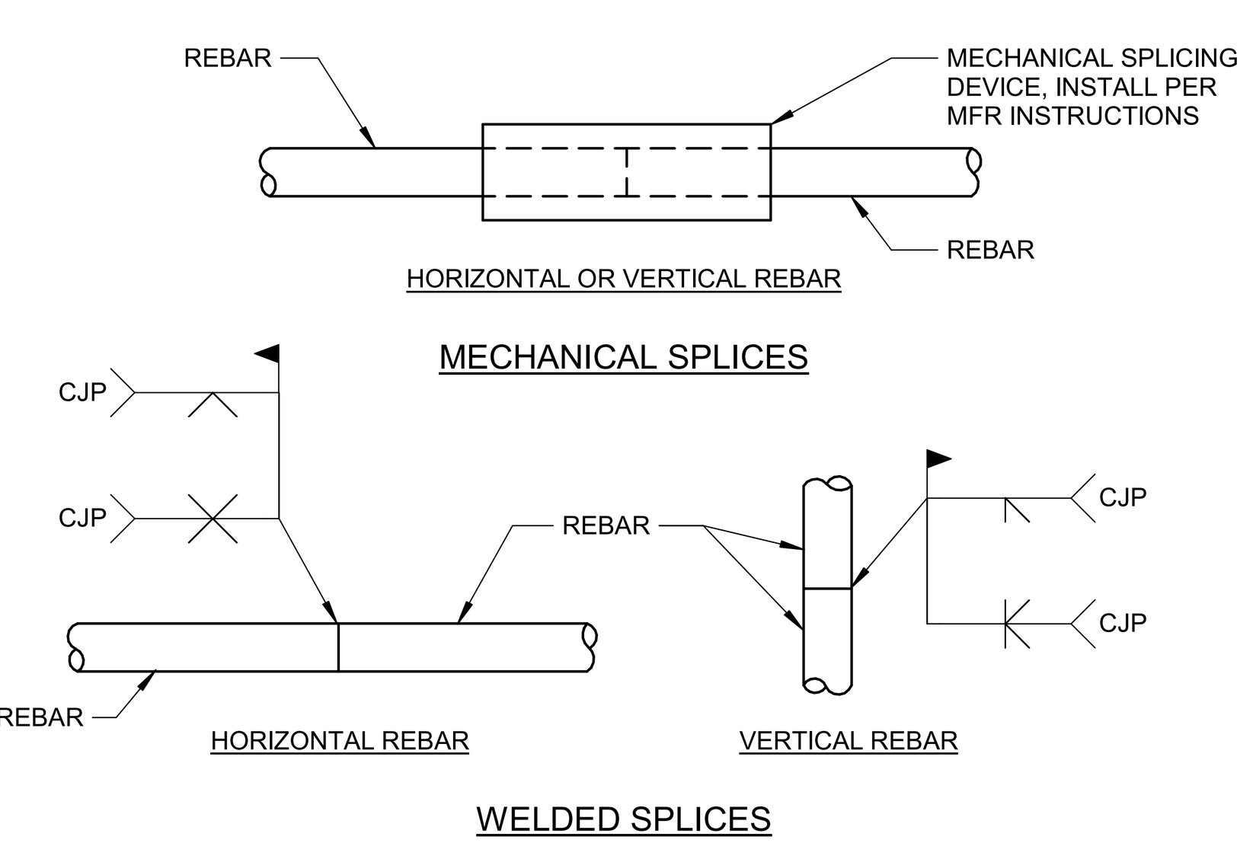
SCALE: NTS
S-_032000_T002A
140127

f'c (psi)		#3		#4		#5		#6		#7		#8		#9		#10		#11	
		NWC	LWC	NWC	LWC	NWC	LWC	NWC	LWC	NWC	LWC	NWC	LWC	NWC	LWC	NWC	LWC	NWC	LWC
3,000	TOP	28	38	38	50	47	62	56	75	81	108	93	124	105	140	118	157	131	175
	BOT	22	29	29	38	36	48	43	57	63	84	72	95	81	108	91	121	101	134
5,000	TOP	22	29	29	39	36	48	44	58	63	84	72	96	81	108	92	122	102	135
	BOT	17	23	23	30	28	37	34	45	49	65	56	74	63	83	71	94	78	104

NOTES:
1. ALL LAP SPLICES SHALL BE FULL CONTACT SPLICES, UNO.
2. ADJACENT REINFORCING BEING LAP SPLICED MUST MEET ONE OF THE FOLLOWING CONDITIONS:
   A. CASE 1: THE CLEAR SPACING OF THE BARS IS NOT LESS THAN ONE BAR DIAMETER, CLEAR COVER IS NOT LESS THAN ONE BAR DIAMETER, AND STIRRUPS OR TIES THROUGHOUT THE SPLICE LENGTH.
   B. CASE 2: THE CLEAR SPACING OF THE BARS IS NOT LESS THAN TWO BAR DIAMETERS AND THE CLEAR COVER IS NOT LESS THAN ONE BAR DIAMETER.
   C. FOR ALL OTHER CASES, MULTIPLY THE SPLICES SHOWN BY 1.5.
3. THE ABOVE VALUES ARE FOR: UNCOATED REINFORCEMENT, GRADE 60 REBAR, CLASS B.
4. TOP BARS ARE HORIZONTAL REINFORCEMENT WITH MORE THAN 12" OF NEW CONCRETE PLACED BELOW THE BAR. BOTTOM BARS ARE ALL OTHER HORIZONTAL OR VERTICAL REINFORCEMENT.

3 TYP CONCRETE REBAR LAP SPLICE LENGTHS (INCHES)

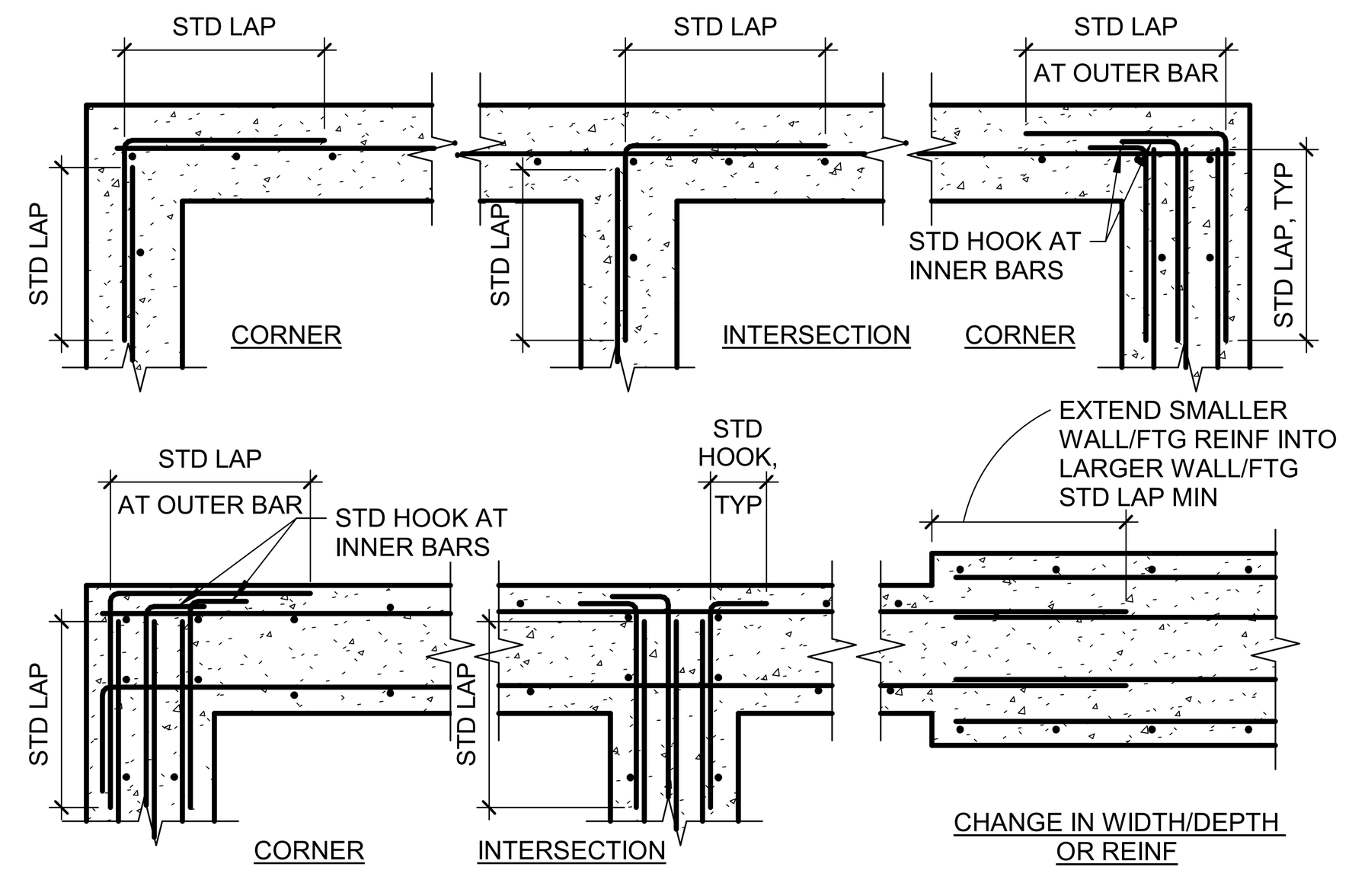
SCALE: NTS
S-_032000_T003A
190926. Q2



NOTES:
1. SPECIAL INSPECTION OF NON-LAP SPLICE FABRICATION AND INSTALLATION IS REQUIRED.
2. NON-LAP SPLICES SHALL BE CAPABLE OF DEVELOPING 125 PERCENT OF THE SPECIFIED YIELD STRENGTH OF THE REBAR IN BOTH TENSION AND COMPRESSION.
3. SUBMIT CURRENT ICC REPORT FOR MECHANICAL SPLICES FOR REVIEW PRIOR TO INSTALLATION.

4 TYP REBAR NON-LAP SPLICES

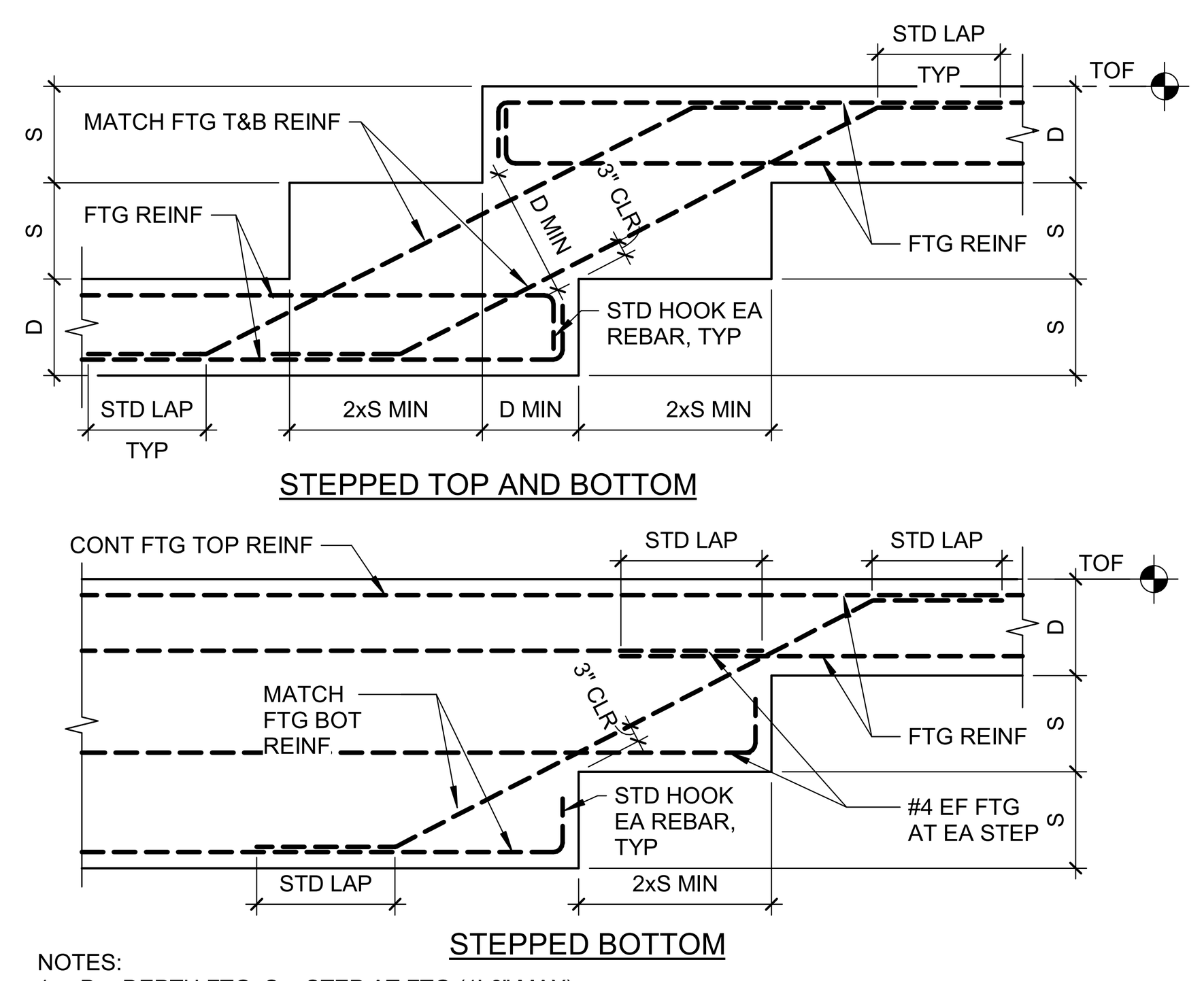
SCALE: NTS
S-_032000_T004A
140127



NOTES:
1. CORNER/INTERSECTION BARS SHALL MATCH CONT FOOTING SIZE/LOCATION. WHERE BAR SIZES AT INTERSECTING FOOTINGS ARE DIFFERENT, BAR SIZE SHALL MATCH SMALLER OF BARS.
2. IT IS ACCEPTABLE TO PROVIDE CONT BAR AROUND CORNERS/INTERSECTIONS IN LIEU OF STD LAP.
3. REINFORCING SHALL BE CONTINOUS THROUGH PAD FTGS, COLS, UNO.
4. CONDITIONS SHOWN ARE SIMILAR FOR OTHER BAR QUANTITIES.

5 TYP CONC FTG / WALL REINF AT CORNERS AND INTERSECTIONS

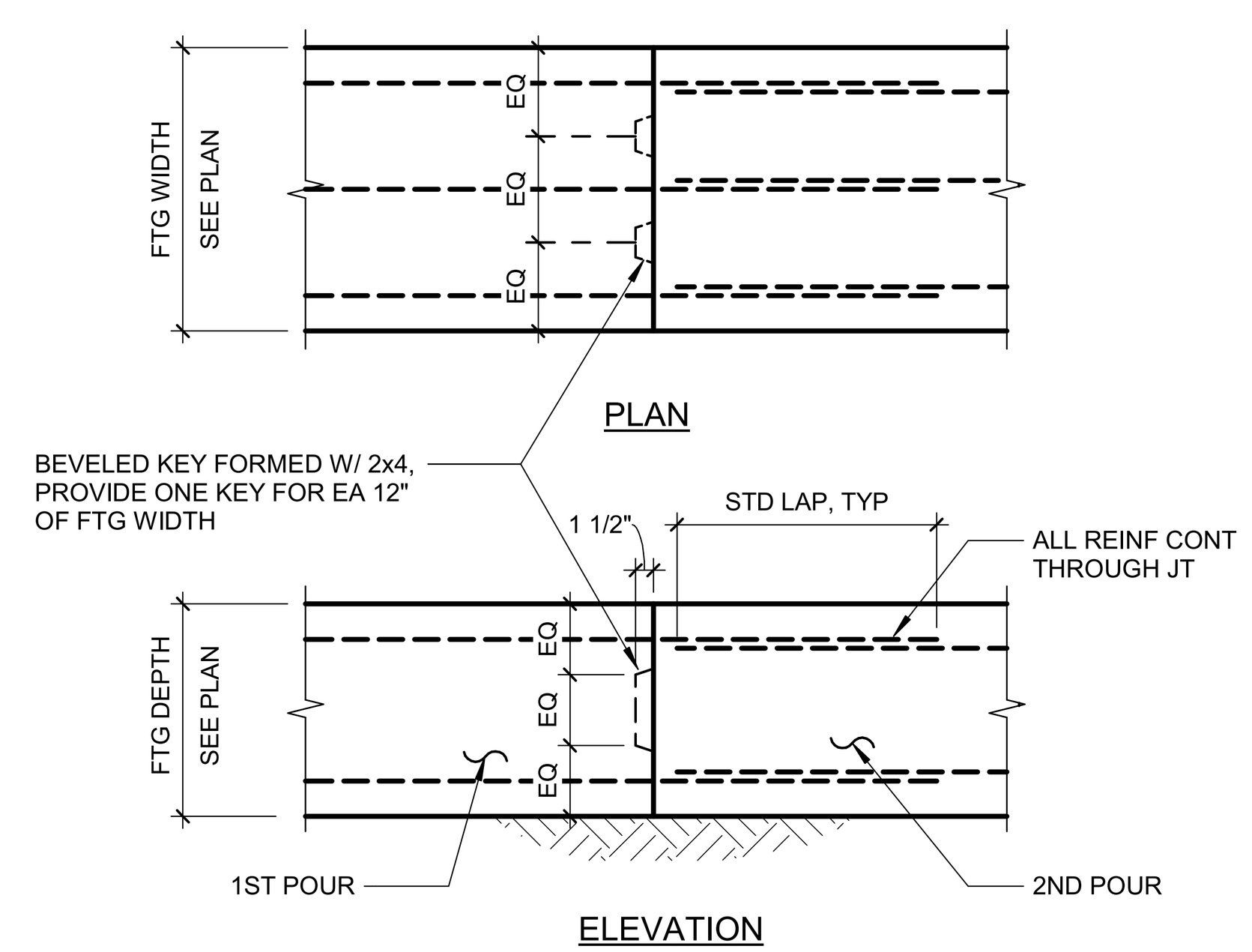
SCALE: NTS
S-_033000_T002A
200304



NOTES:
1. D = DEPTH FTG, S = STEP AT FTG (1'-6" MAX).
2. TWO STEPS SHOWN. SINGLE STEPS OR MULTIPLE STEPS SIMILAR.
3. SEE PLANS FOR FOOTING SIZE AND REINFORCING.
4. VERT / TIE / DOWEL REINF NOT SHOWN FOR CLARITY. PROVIDE TYP TO BOT OF FOOTING & STEP.

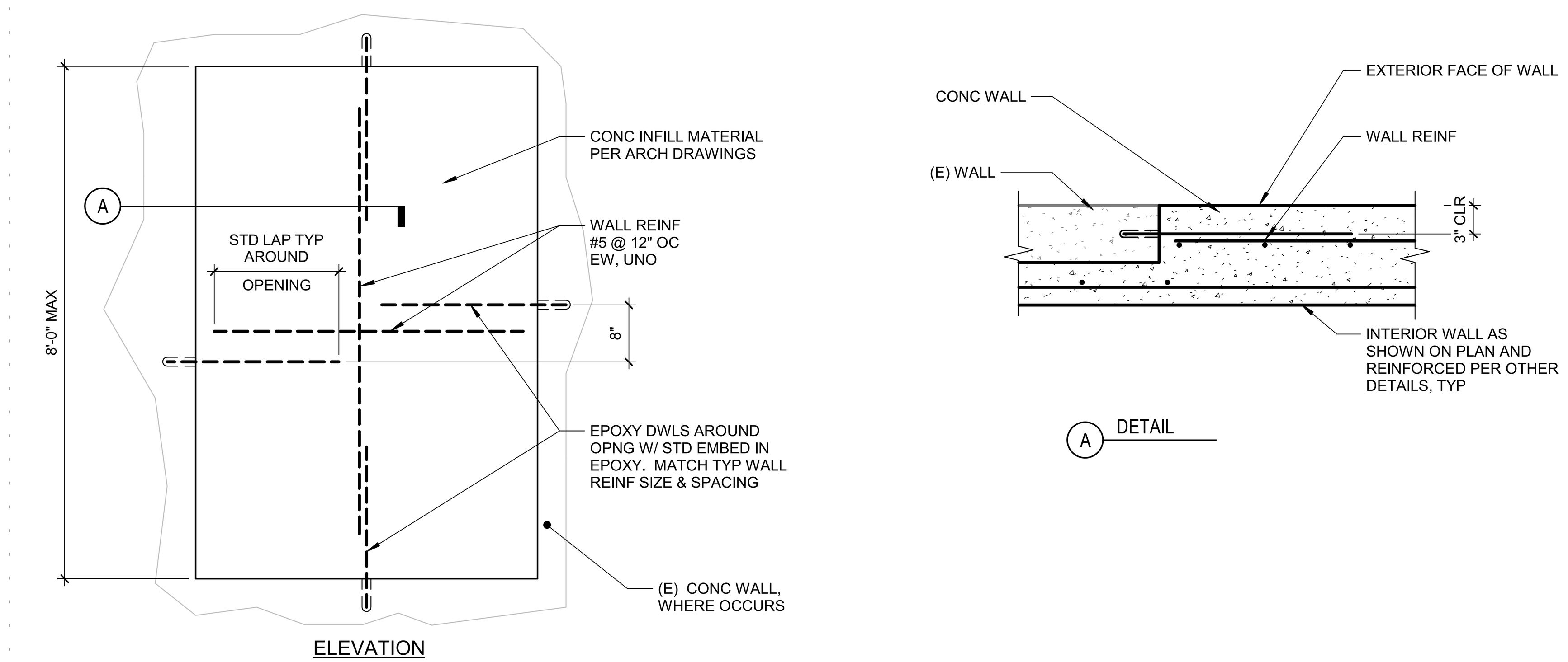
6 TYP STEPPED FOOTING

SCALE: NTS
S-_033000_T003A
150630



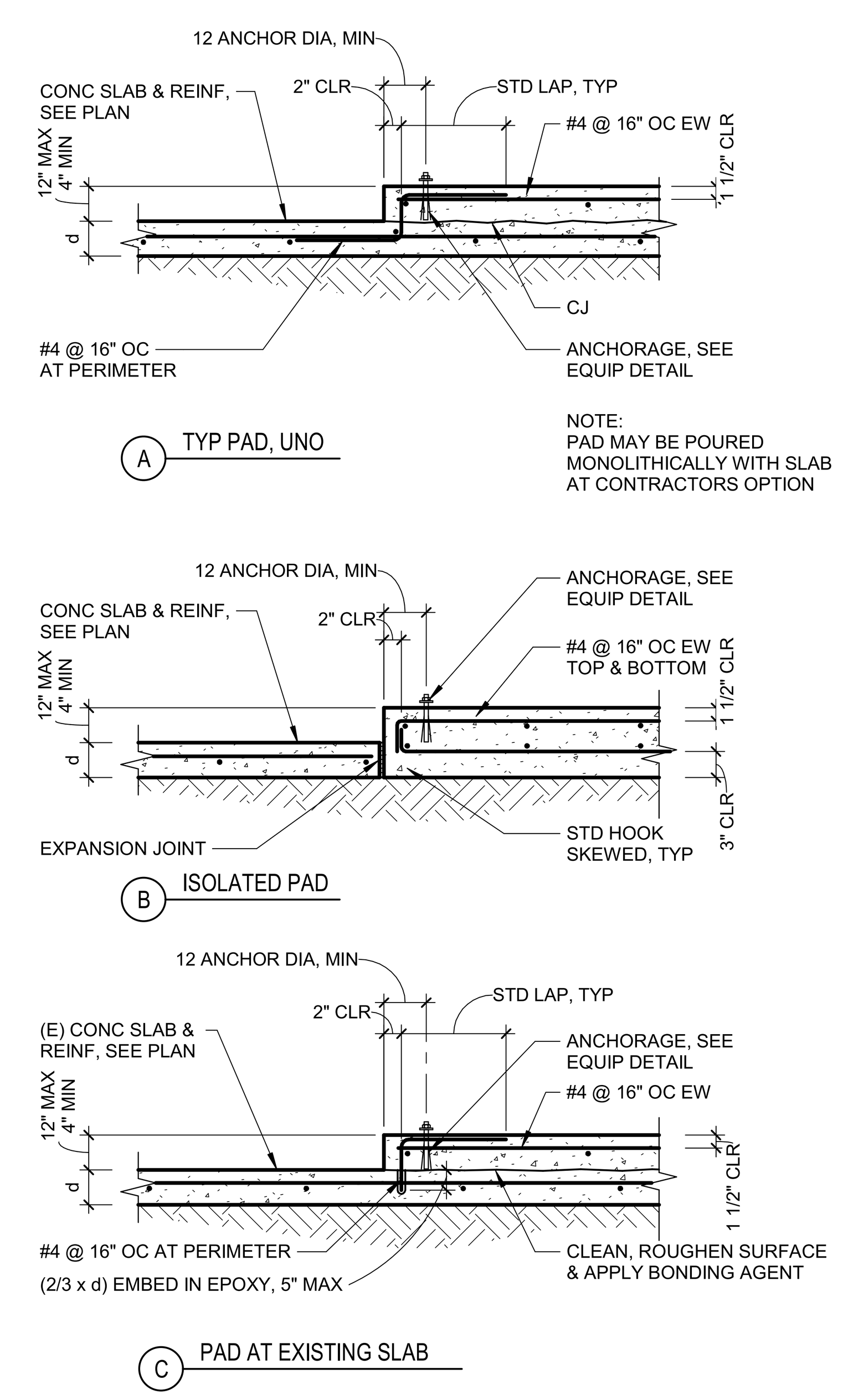
7 TYP CONSTRUCTION JOINT AT GRADE BEAM/CONTINUOUS FOOTING

SCALE: NTS
S-_033000_T001A
140127



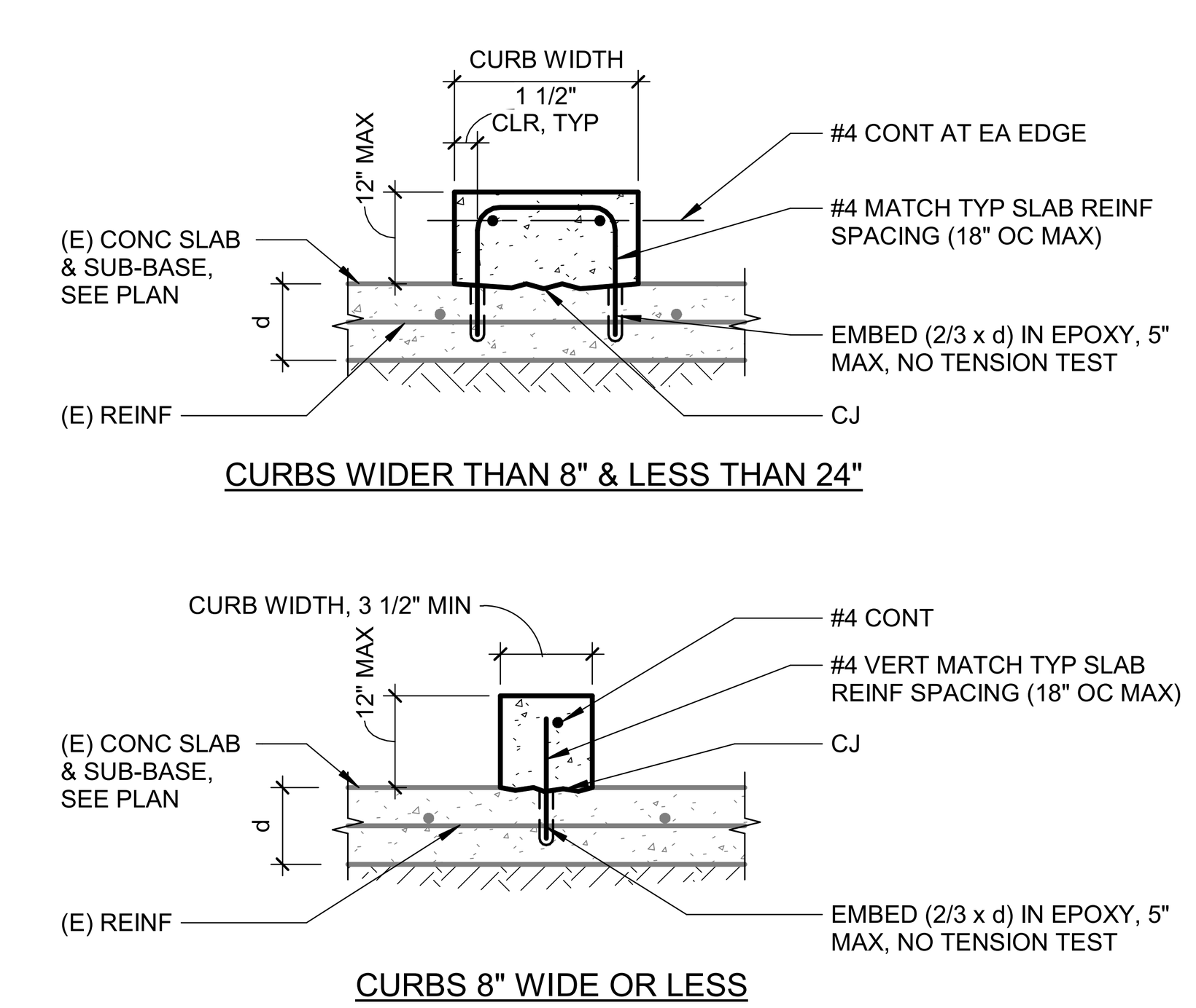
14 TYP INFILL OF OPENING IN (E) CONC / MASONRY WALL

3/4" = 1'-0"
S-_033000_T038A
140127. Q2



16 TYP HOUSEKEEPING PADS

SCALE: NTS
S-_033000_T022A
140127



NOTES:
1. SEE CONSTRUCTION DOCUMENTS FOR CURB LOCATIONS, DIMENSIONS, INSERTS & SHAPES.
2. SEE TYPICAL DETAILS FOR CURB DIMENSIONS RELATIVE TO STUD WALLS.

20 TYP CURB AT (E) CONC SLAB

SCALE: NTS
S-_033000_T007A
150107. Q2

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PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
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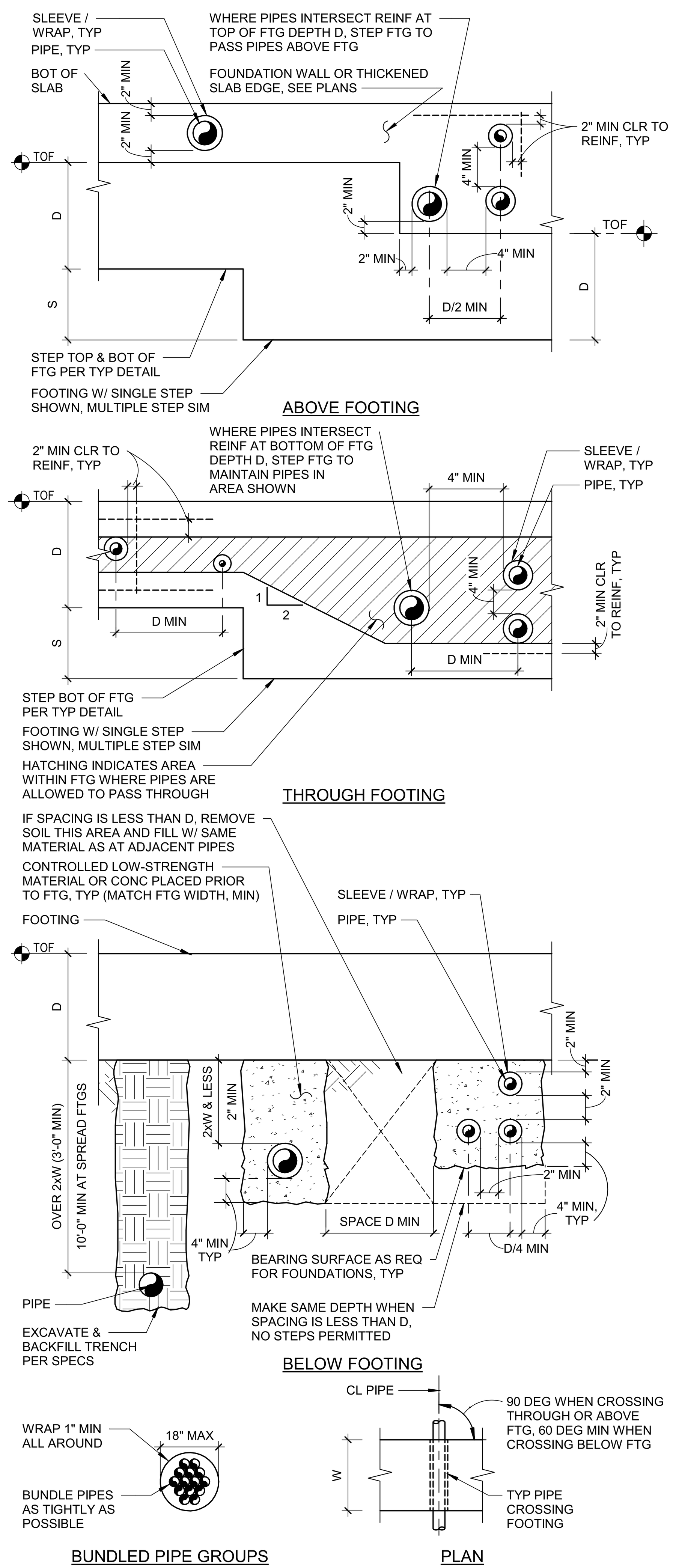
3:31 pm, Oct 27, 2020

TITLE
DETAILS - TYPICAL CONCRETE

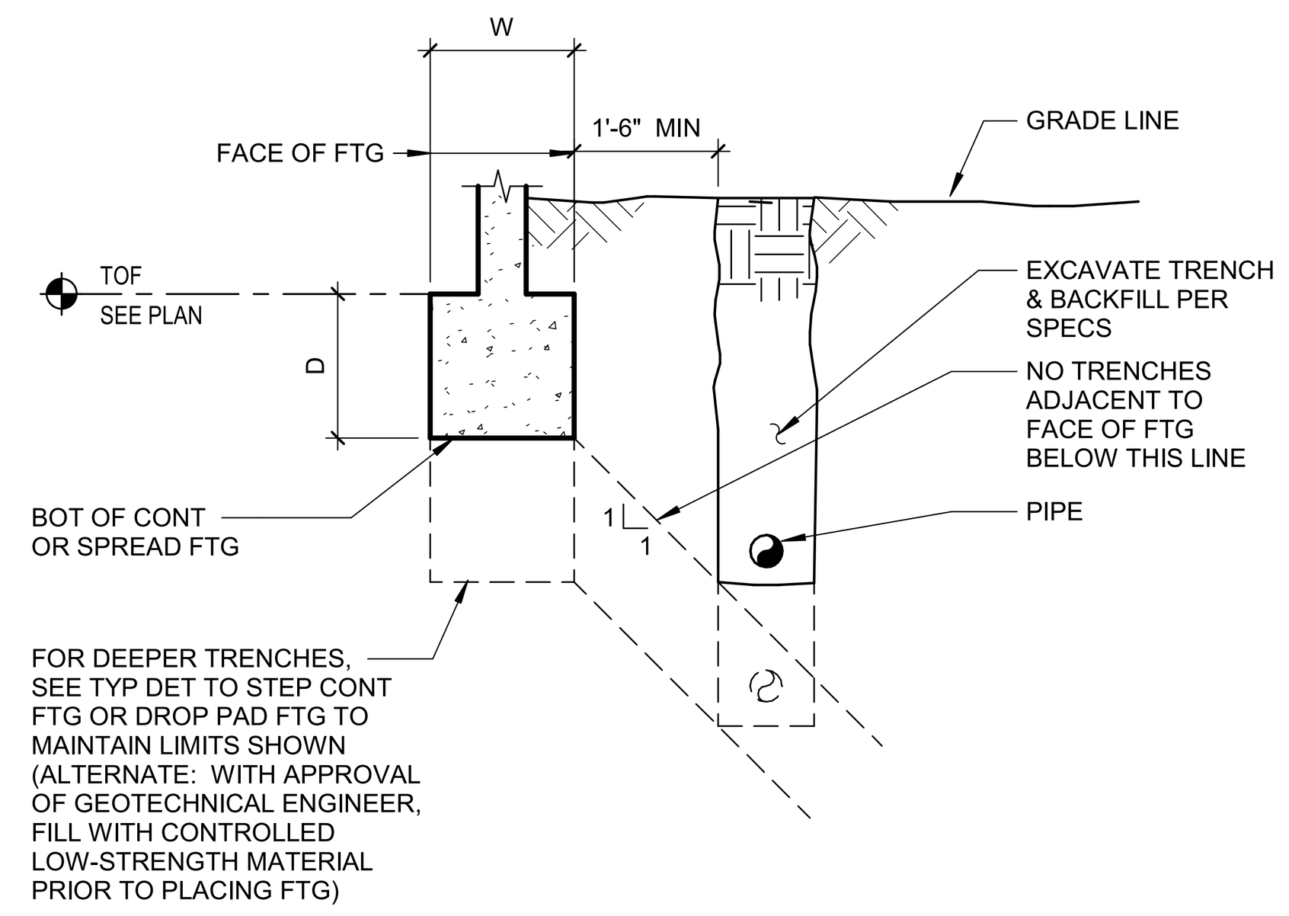
SHEET
S-531



NOTES:
1. D = DEPTH FOOTING, W = WIDTH FOOTING, S = STEP AT FOOTING.
2. PIPE AS NOTED SHALL REFER TO: PIPES, DUCTS, CONDUITS, ETC. ELECTRICAL CONDUITS 1" DIA OR LESS NEED NOT BE SLEEVED / WRAPPED.
3. THIS DETAIL APPLIES AT ALL 18" DIA PIPE & SMALLER.
4. THIS DETAIL SHALL APPLY IN ALL CASES WHERE A PIPE MUST CROSS A FOOTING. COORDINATE ELEVATIONS AND LOCATIONS OF ALL PIPES & FOOTINGS ACCORDINGLY. CONSULT STRUCTURAL ENGINEER FOR CONDITIONS NOT COVERED.
5. PIPES SHALL BE SLEEVED OR WRAPPED AS SHOWN. SLEEVE INSIDE DIAMETERS SHALL BE MIN 2" (4" FOR SPRINKLER PIPES 4" & LARGER) LARGER THAN PIPE OUTSIDE DIAMETER. CENTER PIPES WITHIN SLEEVE. PIPES IN PLACE PRIOR TO PLACING CONC MAY BE WRAPPED W/ 1" (2" FOR SPRINKLER PIPES 4" & LARGER) THICK COMPRESSIBLE FOAM INSTEAD OF SLEEVE.
6. SLEEVE / WRAP SHALL EXTEND THE FULL WIDTH OF FOOTING. SEAL ENDS OF SLEEVE / WRAP AS REQUIRED TO PREVENT WATER PENETRATION.
7. MULTIPLE PIPES SHALL COMPLY WITH THE HORIZONTAL AND VERTICAL SPACING SHOWN OR BE GROUPED INTO ONE LARGE BUNDLE WITHIN THE LIMITATIONS SHOWN. MULTIPLE BUNDLED PIPE GROUPS SHALL BE SPACED 4xD MIN OC.
8. PIPES AND SLEEVE / WRAP SHALL BE ADEQUATELY SUPPORTED AND SECURED AGAINST DISPLACEMENT BEFORE AND DURING CONCRETE PLACEMENT.
9. COORDINATE PIPE LOCATIONS SO THAT FOOTING REINFORCING IS NOT DISPLACED. MOVE PIPES TO MAINTAIN 2" CLR FROM REINFORCING TO SLEEVE / WRAP.
10. PIPES NEXT TO BUT NOT CROSSING FOOTING SHALL COMPLY WITH TYPICAL DETAIL FOR PIPE ADJACENT TO FOOTINGS.

3 TYP PIPE CROSSING FOOTINGS

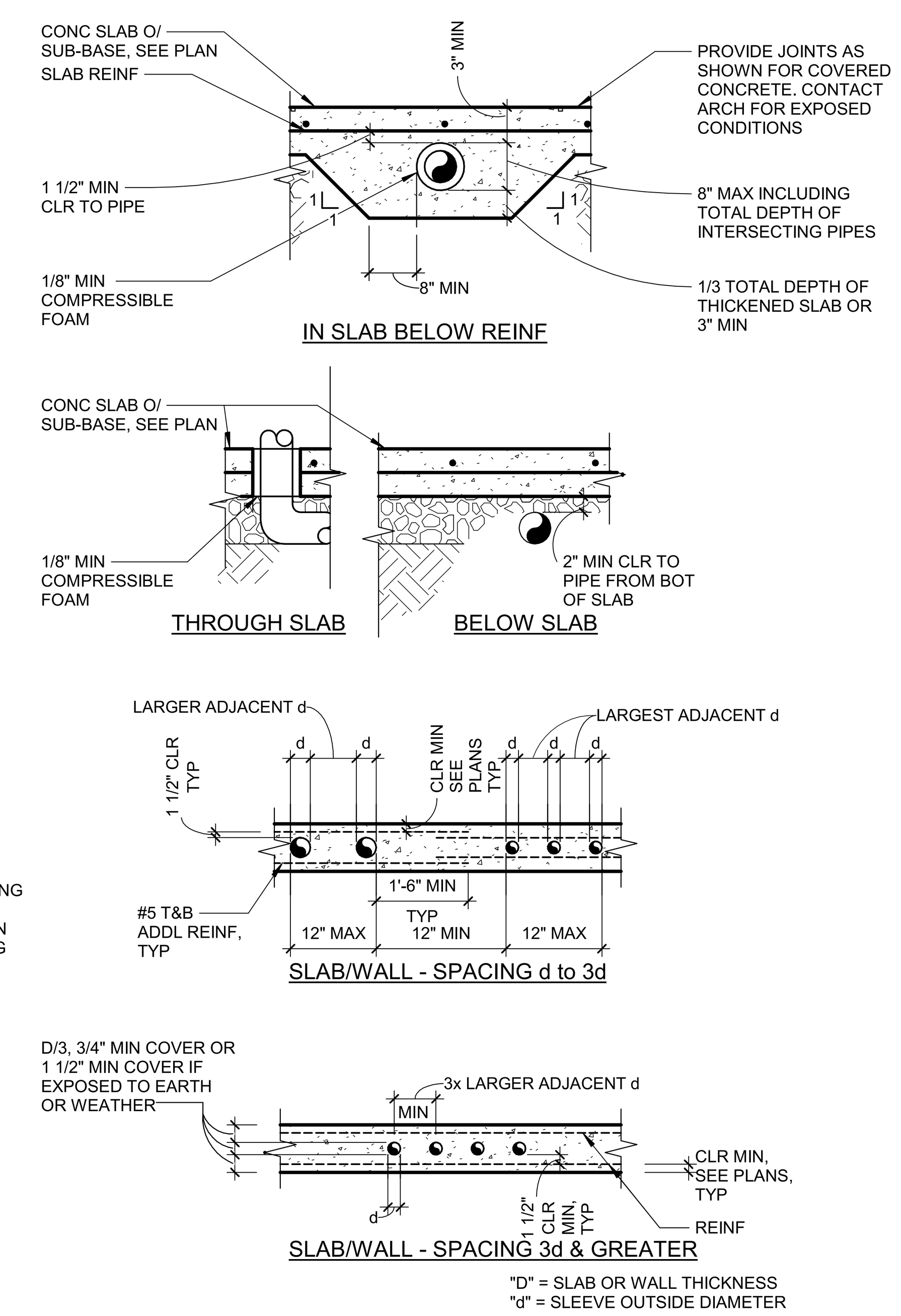
SCALE: NTS — S-_033000_T016A 191114



NOTES:
1. W = WIDTH FTG, D = DEPTH FTG.
2. TRENCHING LIMITATIONS ARE SAME FOR BOTH FACES OF FOOTING.
3. MAINTAIN LIMITS SHOWN FOR WIDER OR SHALLOWER FTG BEYOND, WHERE OCCURS.
4. PIPE AS NOTED SHALL REFER TO: PIPES, DUCTS, CONDUITS, ETC.

5 TYP PIPE ADJACENT TO FOOTING

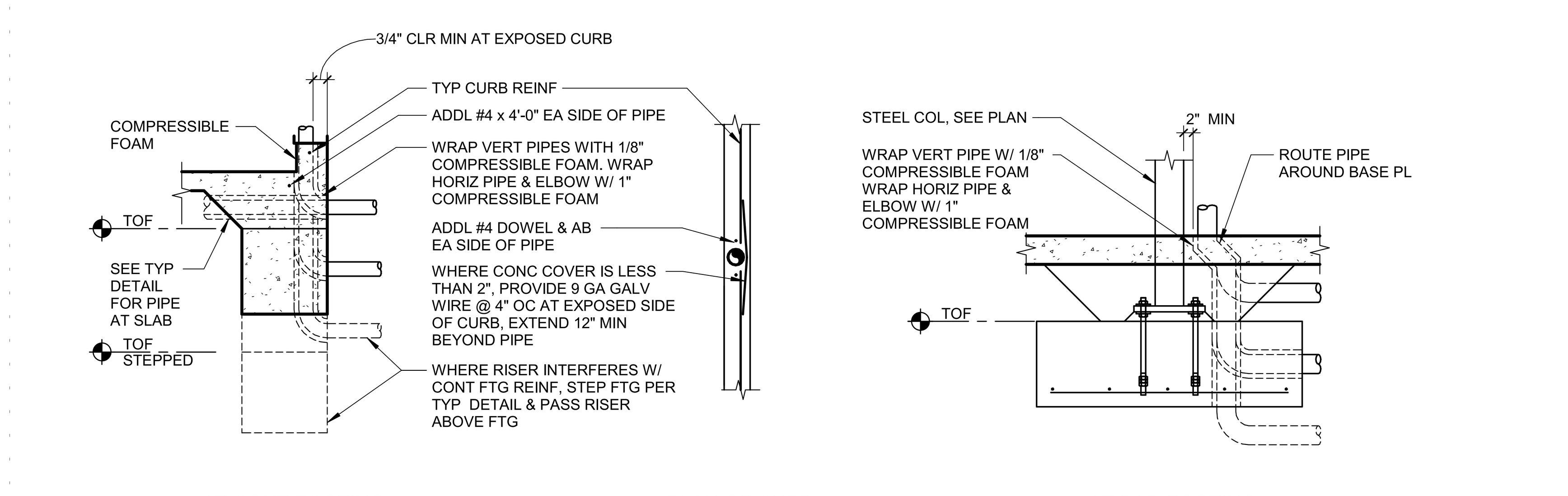
SCALE: NTS — S-_033000_T015B 150630



NOTES:
1. PIPE AS NOTED SHALL REFER TO: PIPES, DUCTS, CONDUITS, ETC. ELECTRICAL CONDUITS 1" DIA OR LESS NEED NOT BE SLEEVED
2. PIPES SHALL BE INSTALLED SUCH THAT CUTTING, BENDING OR DISPLACEMENT OF REINFORCEMENT FROM ITS PROPER LOCATION WILL NOT BE REQUIRED.
3. PIPES EMBEDDED IN SLABS & WALLS SHALL BE 2" MAX DIA & MIN SCHEDULE 40.

7 TYP PIPE AT SLABS / WALLS

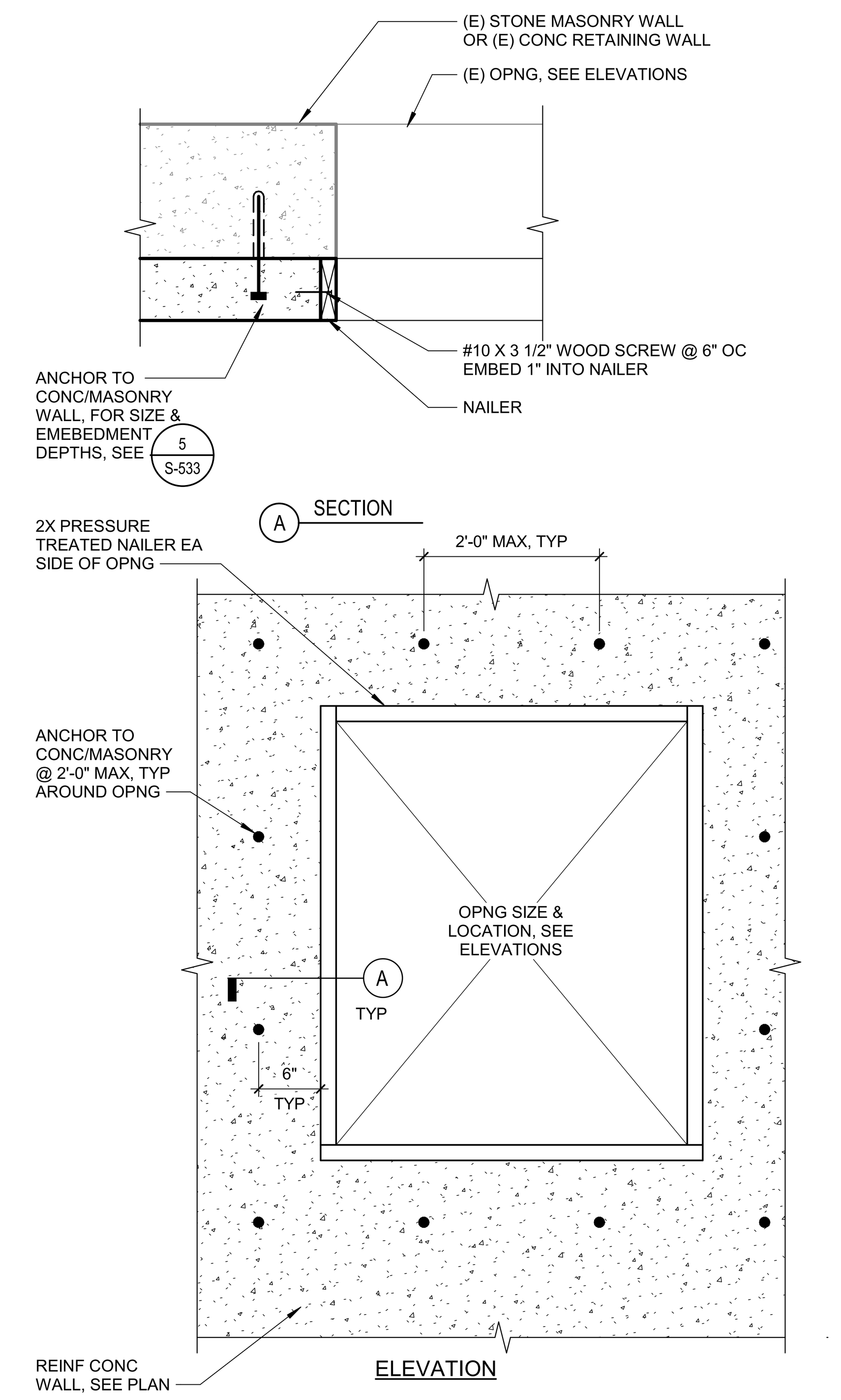
SCALE: NTS — S-_033000_T026A 140127



NOTES:
1. PIPE AS NOTED SHALL REFER TO: DUCTS, CONDUITS, ETC. ELECTRICAL CONDUITS 1" DIA OR LESS NEED NOT BE WRAPPED.
2. SEE TYP SILL PL DETAILS FOR ADDL REQUIREMENTS AT SILL PL PENETRATIONS.

4 TYP PIPE RISERS AT FOOTINGS

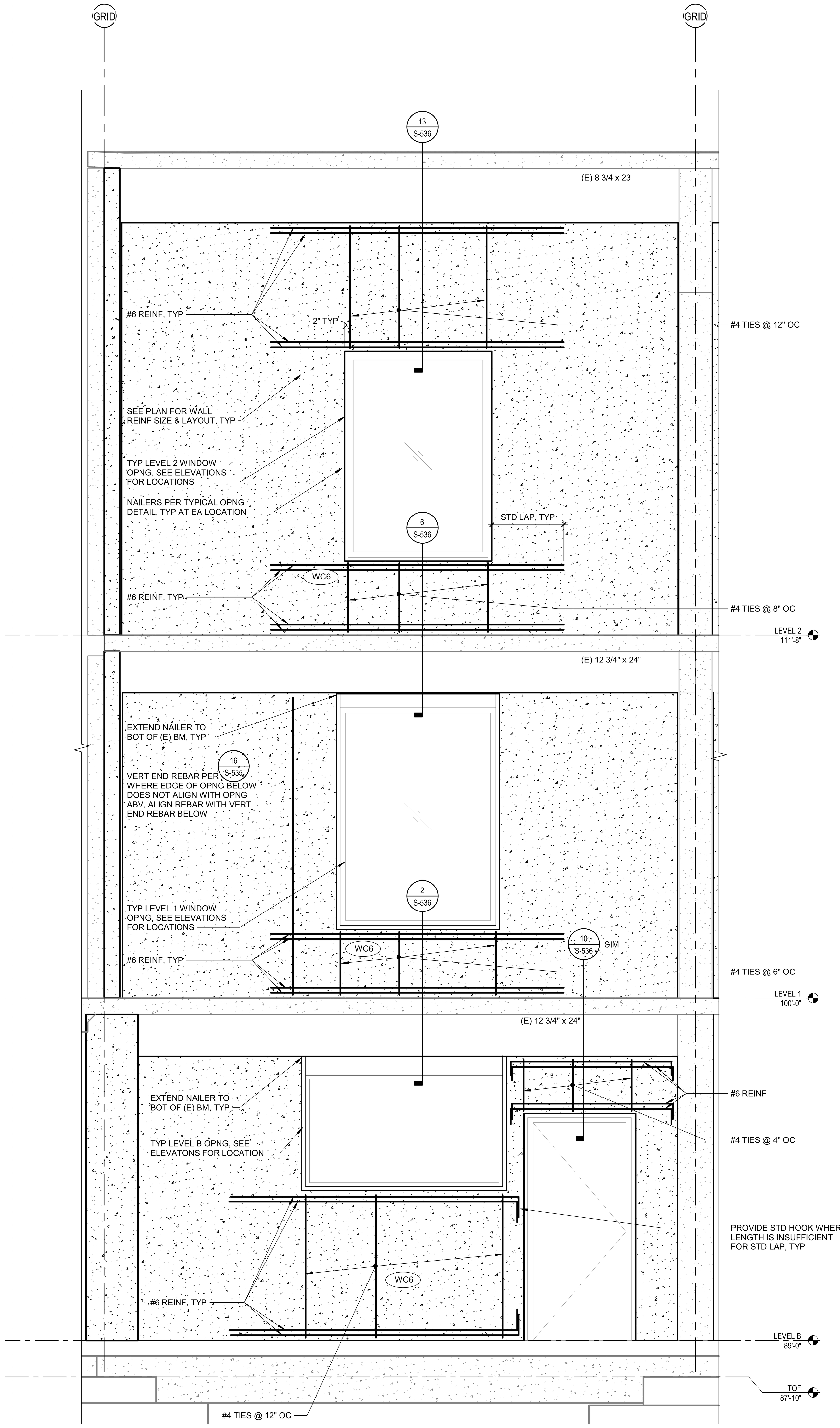
SCALE: NTS — S-_033000_T014B 191114, Q1



NOTE:
1. FOR TYP WALL REINF AT OPENINGS, SEE 3 S-533

10 TYP OPENING IN CONC WALL

1" = 1'-0"



NOTE:
1. FOR ADDITIONAL INFORMATION, SEE 3 S-533

16 TYP REINF AT OPNGS / COLS AT GRIDS 1&10

SCALE: NTS

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PROJECT
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MANAGEMENT

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CLIENT PROJECT NO:	
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TITLE
DETAILS - TYPICAL CONCRETE

SHEET
S-532

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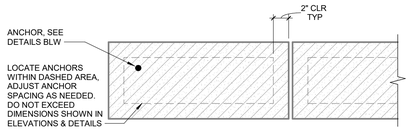
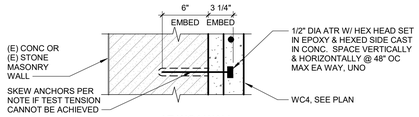
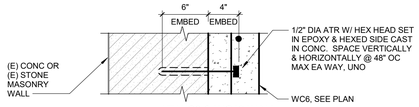


STONE MASONRY BLOCK ELEVATION



AT WC4 WALL

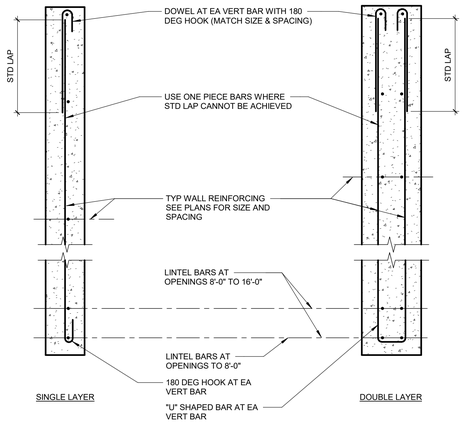


AT WC6 & WC10 WALL

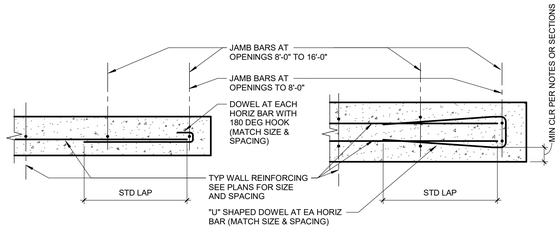
NOTE:
1. TENSION TEST ANCHORS, TENSION LOAD = 2000 LBS
2. SKEW ANCHORS AT 22.5 DEGREES IF TENSION TEST CAN'T BE ACHIEVED.

5 TYP TIE-BACK AT (E) CONC WALL

1 1/2" = 1'-0"



SECTION AT HEADER BEAM

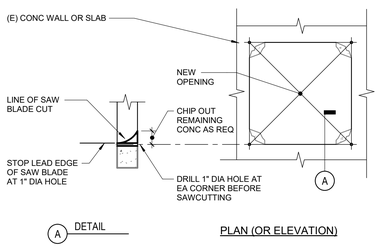


PLAN AT JAMBS

3 TYP CONCRETE WALL REINF AT OPENINGS

SCALE: NTS

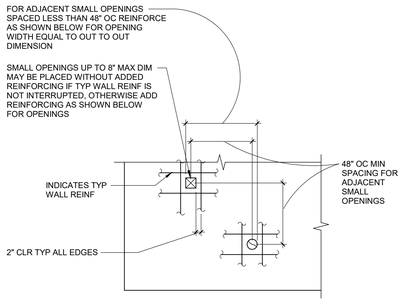
S-_033000_T036B
140127. Q2



4 TYP SAWCUT OF OPENING IN (E) CONC SLAB / WALL

SCALE: NTS

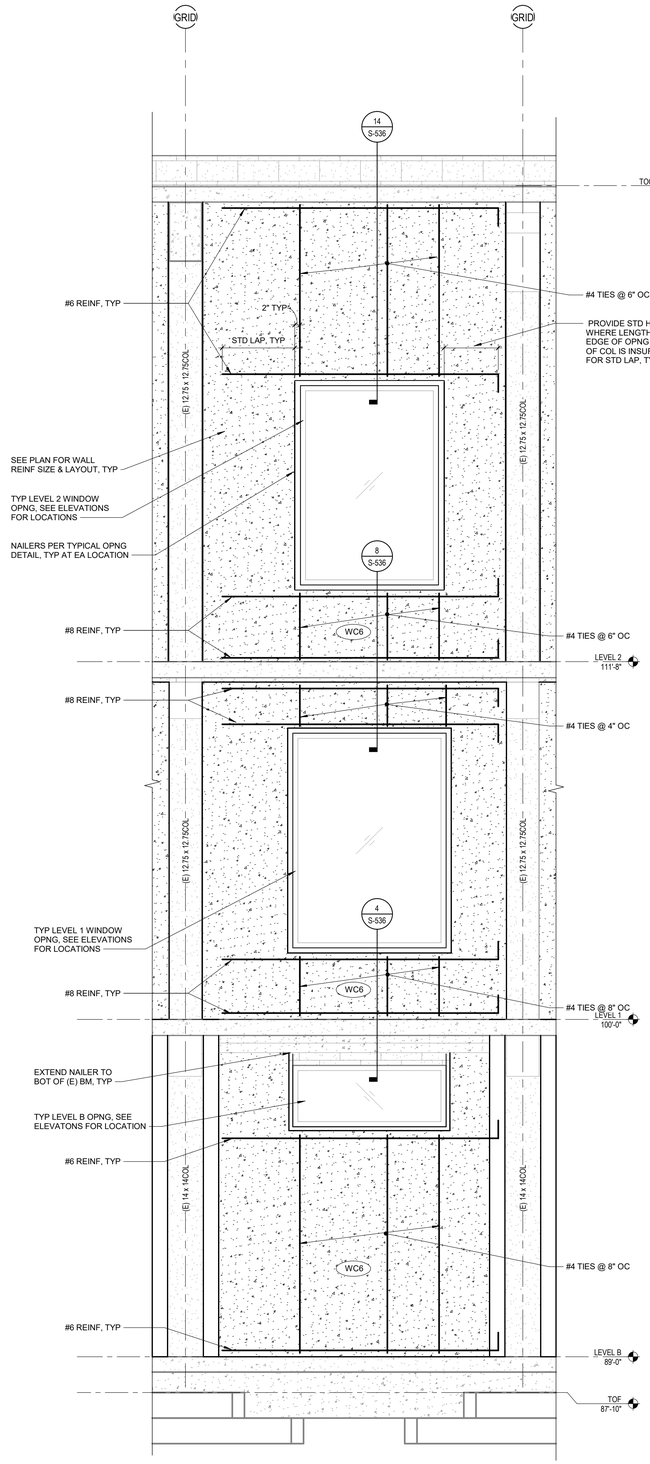
S-_033000_T035A
140127. Q2



8 TYP CONCRETE WALL REINF AT SMALL OPENINGS

SCALE: NTS

S-_033000_T036A
140127. Q2



NOTE:
1. FOR ADDITIONAL INFORMATION, SEE 3 / S-533

16 TYP REINF AT OPNGS / COLS AT GRIDS B&E

SCALE: NTS

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TITLE

DETAILS - TYPICAL CONCRETE

SHEET

S-533

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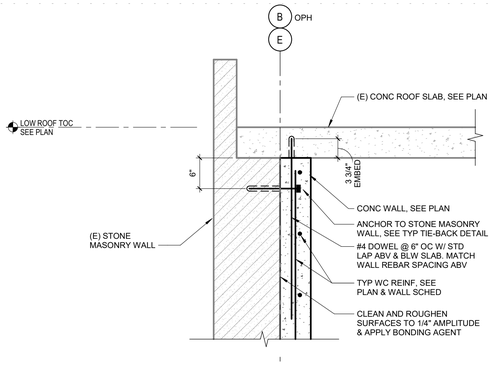
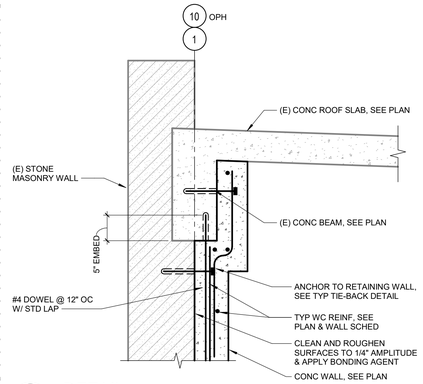


1 DETAIL
1" = 1'-0"



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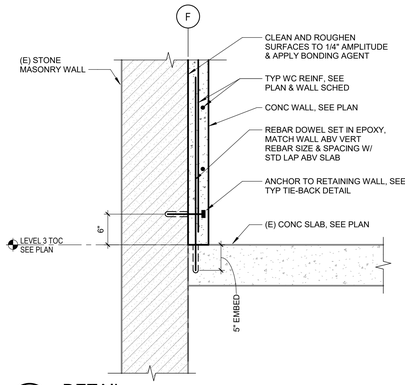

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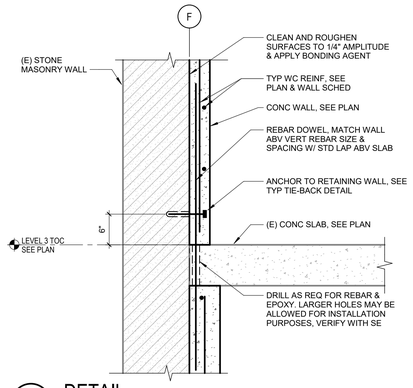

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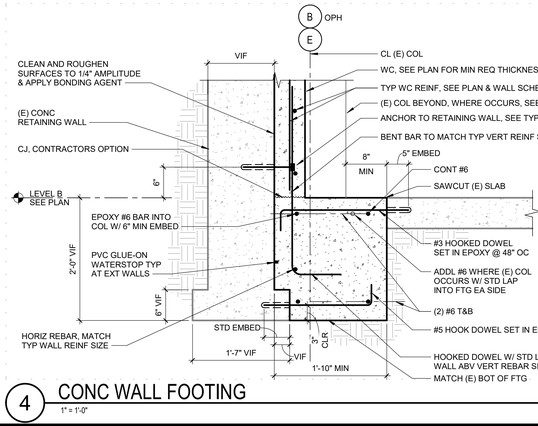

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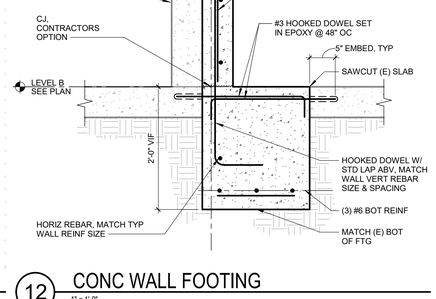

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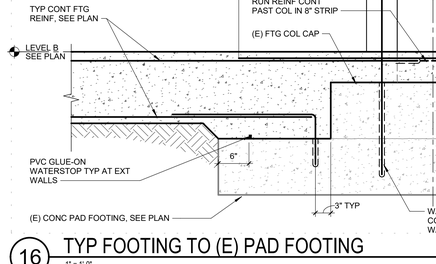

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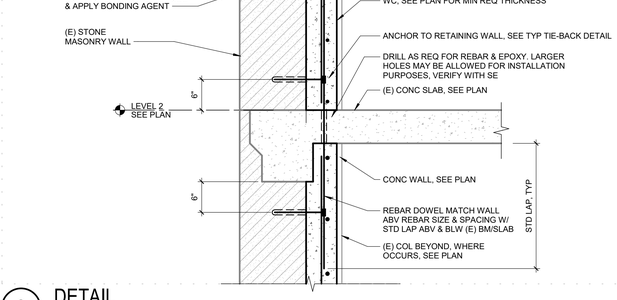

3 DETAIL
1" = 1'-0"

4 CONC WALL FOOTING
1" = 1'-0"

12 CONC WALL FOOTING
1" = 1'-0"

16 TYP FOOTING TO (E) PAD FOOTING
1" = 1'-0"

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TITLE
DETAILS - CONCRETE

SHEET
S-534

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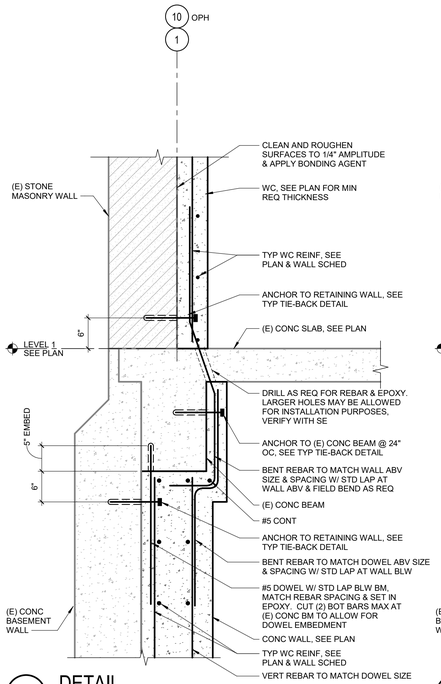

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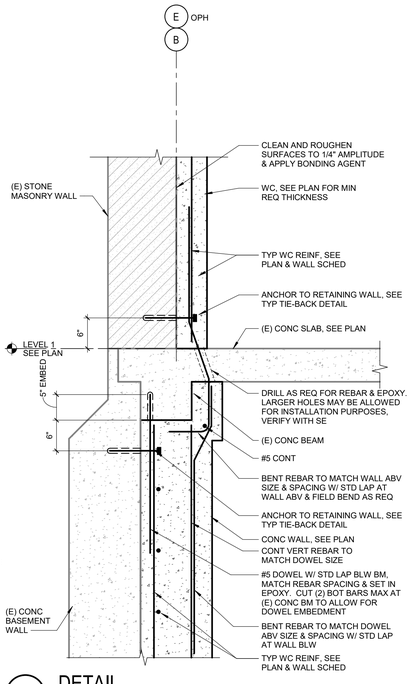

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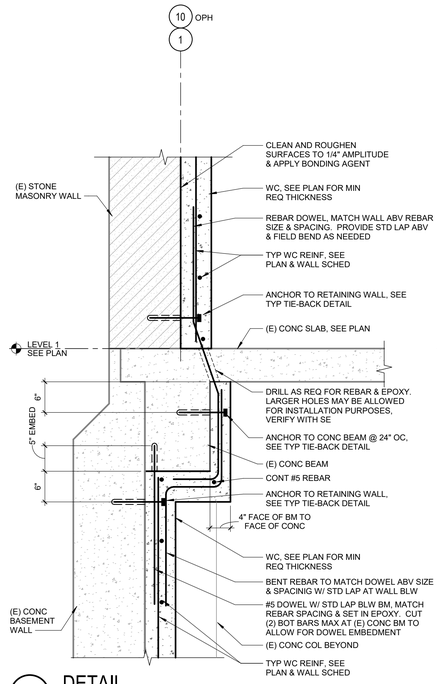

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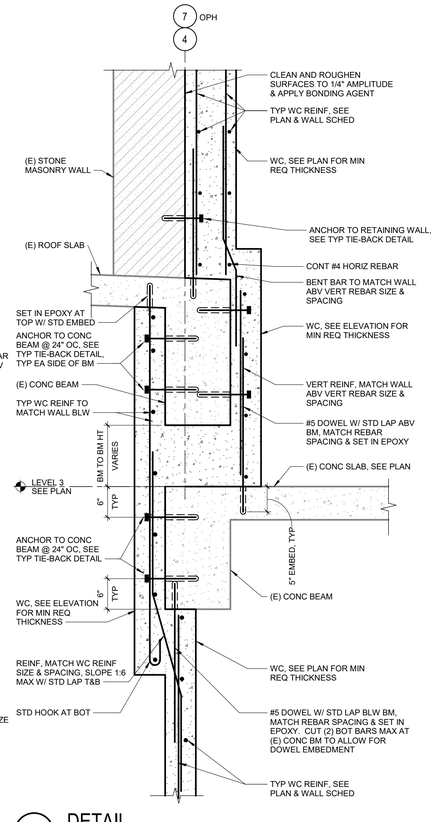

14 DETAIL
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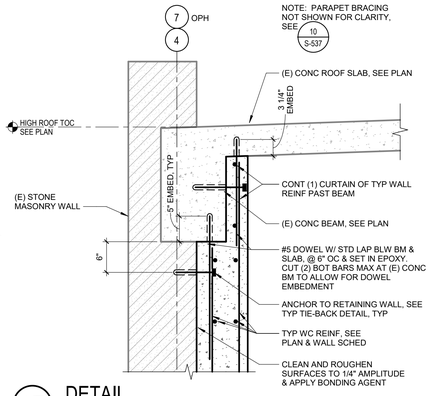

17 DETAIL
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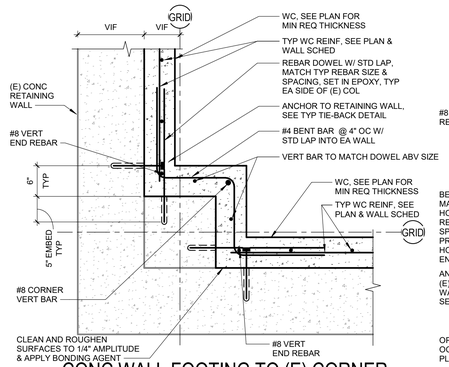
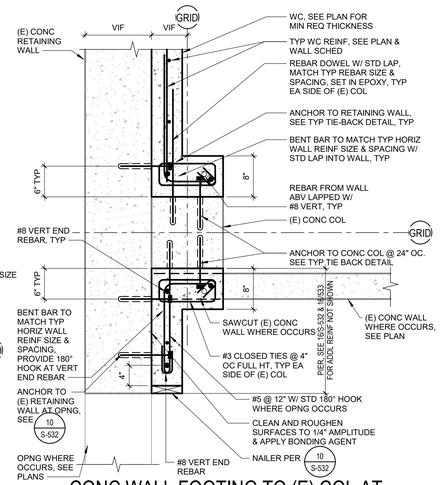


4 CONC WALL FOOTING TO (E) CORNER COL AT BASEMENT
1" = 1'-0"



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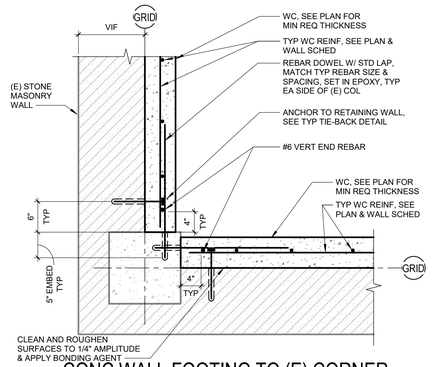
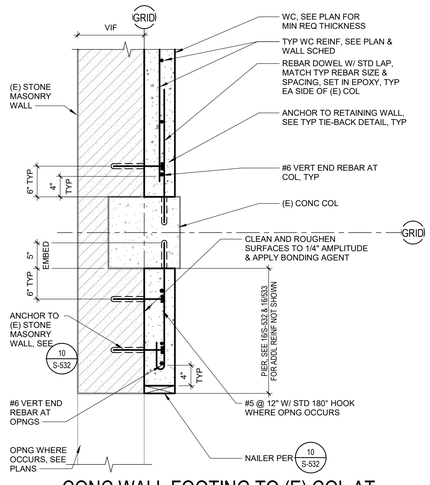
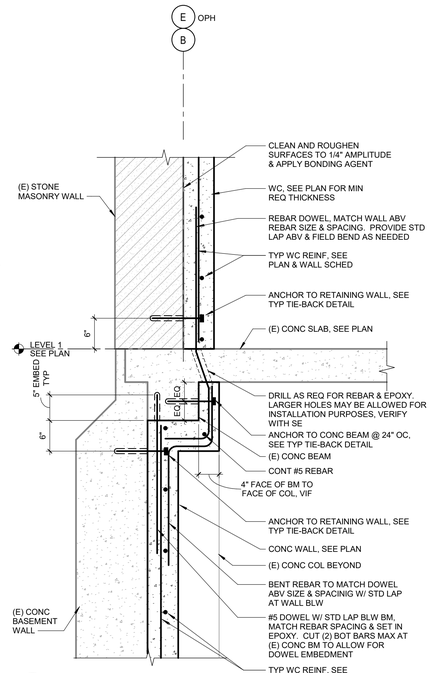
1" = 1'-0"



12 CONC WALL FOOTING TO (E) CORNER COL AT LEVELS 1&2
1" = 1'-0"



16 CONC WALL FOOTING TO (E) COL AT LEVELS 1&2
1" = 1'-0"



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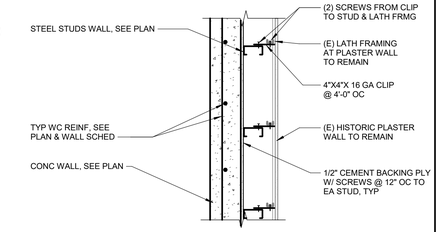

20 DETAIL
1" = 1'-0"

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CONSULTANT

SEAL

REGISTERED PROFESSIONAL ENGINEER
GARRON E. HUNTINGTON
No. S4788
STATE OF CALIFORNIA
10/15/2020

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

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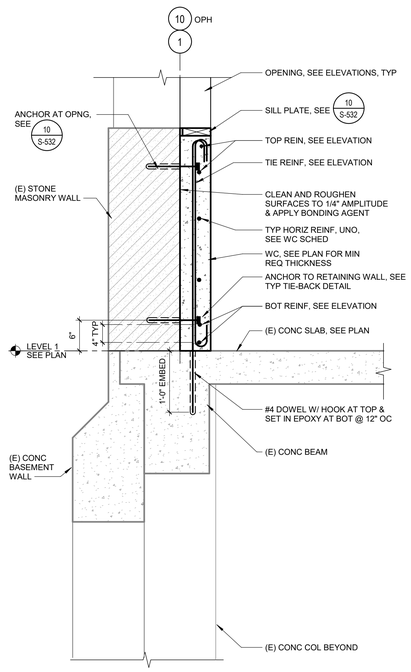
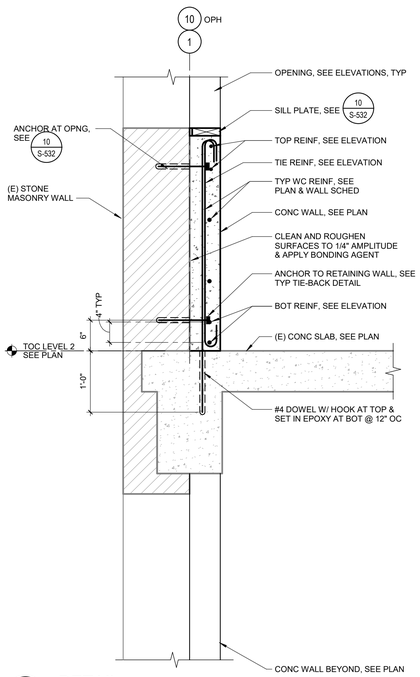
TITLE
DETAILS - CONCRETE

SHEET
S-535



2 DETAIL
1" = 1'-0"



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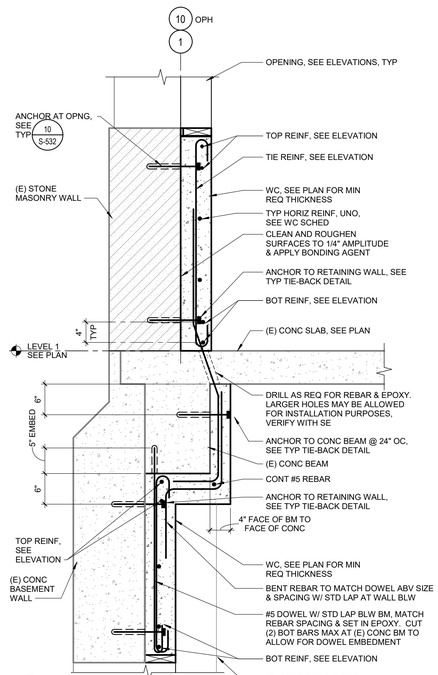

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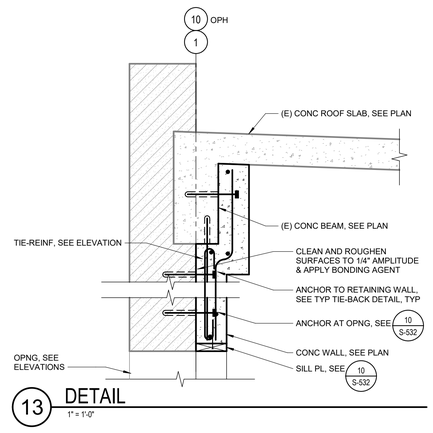

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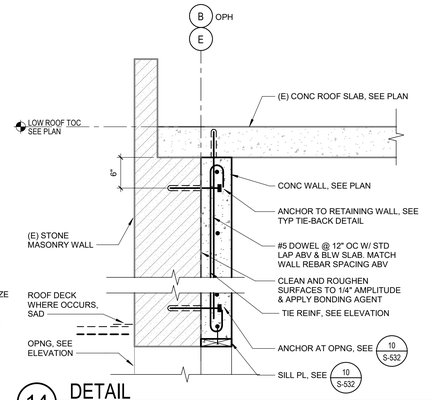

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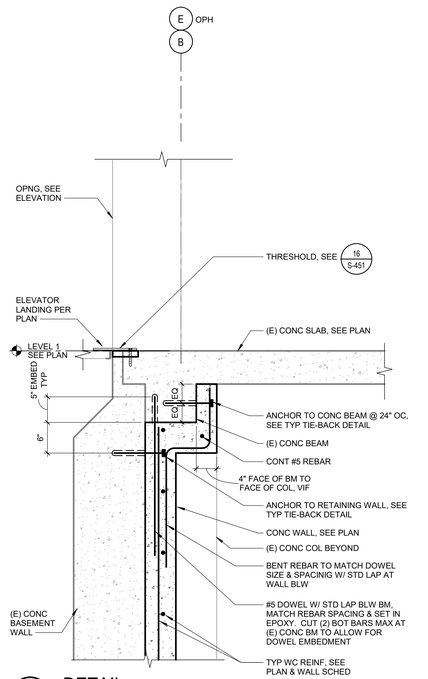

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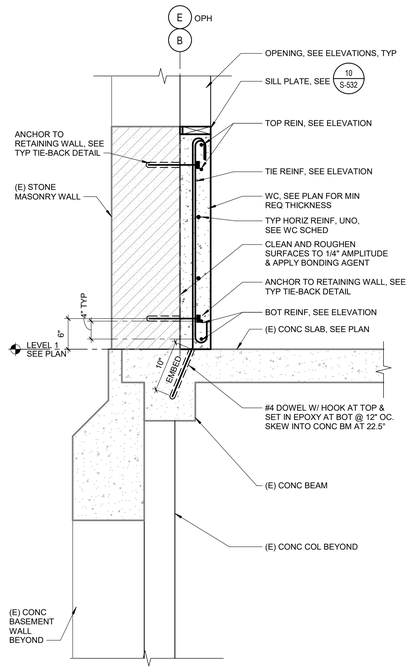

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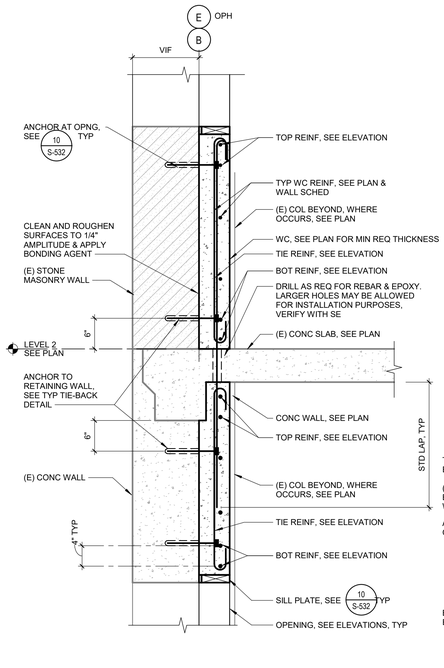

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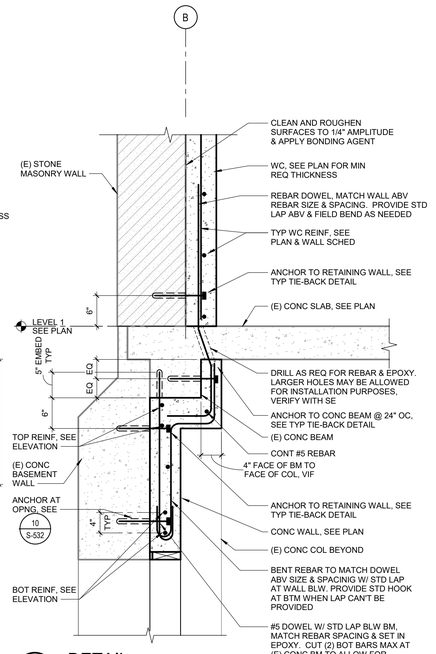

12 DETAIL
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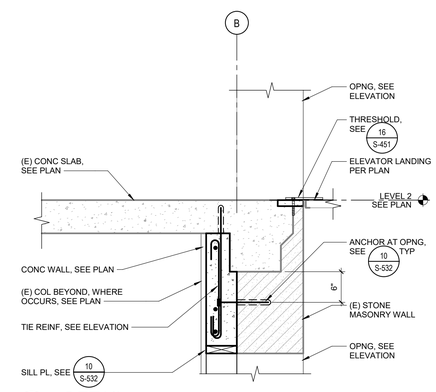

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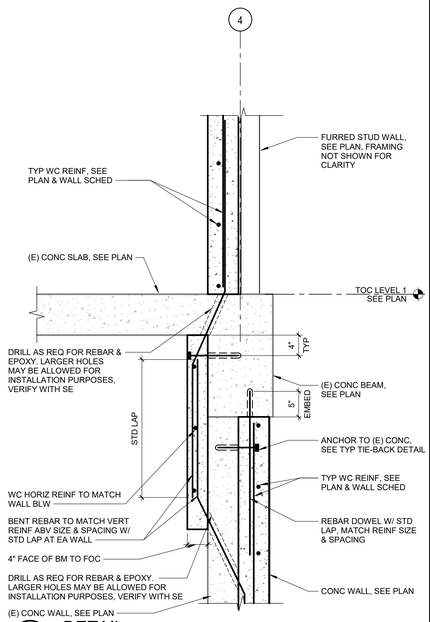

20 DETAIL
1" = 1'-0"

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SEAL

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:
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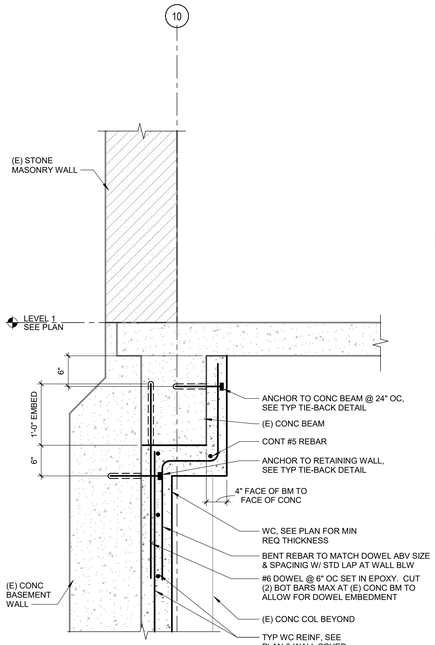
AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
DETAILS - CONCRETE

SHEET
S-536



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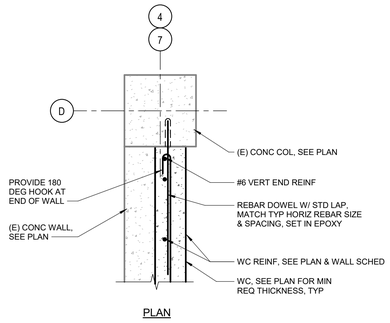

PLAN

5 DETAIL
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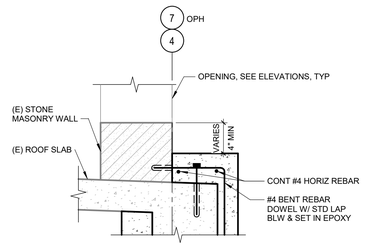

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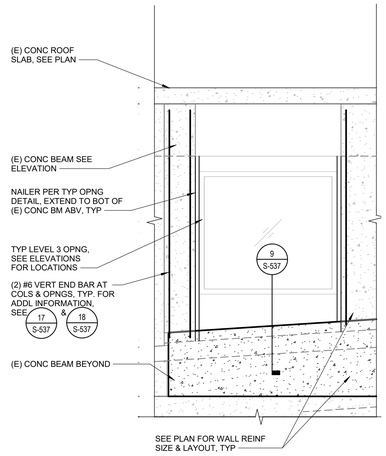

14 ELEVATION
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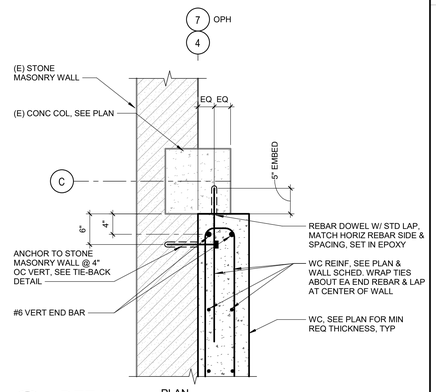

PLAN

17 DETAIL
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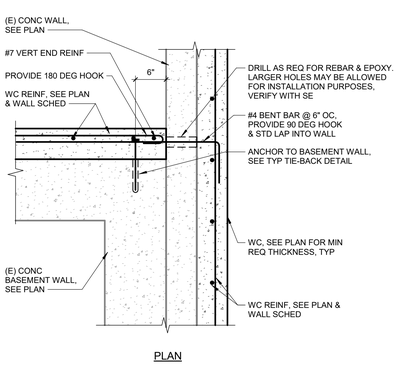

PLAN

6 DETAIL
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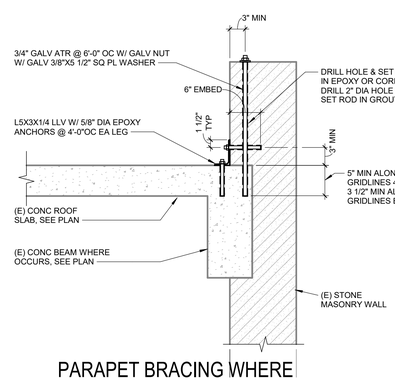
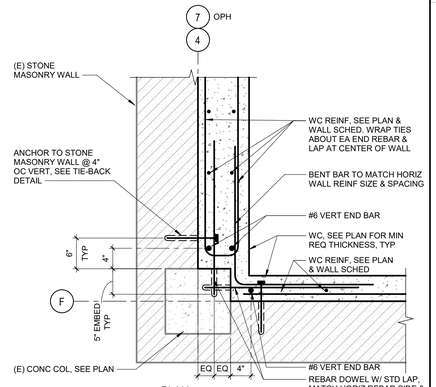


PARAPET BRACING WHERE PARAPET HT IS > 18"
SCALE: NTS

10 DETAIL
1" = 1'-0"



PLAN

18 DETAIL
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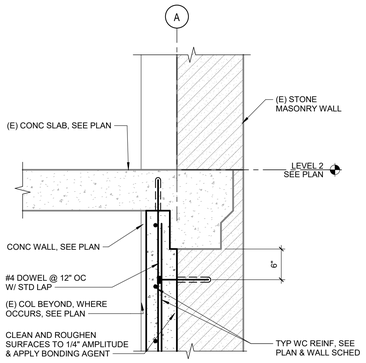

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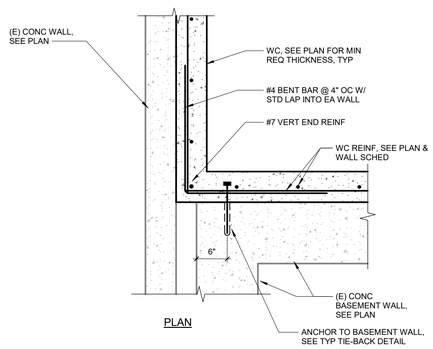

PLAN

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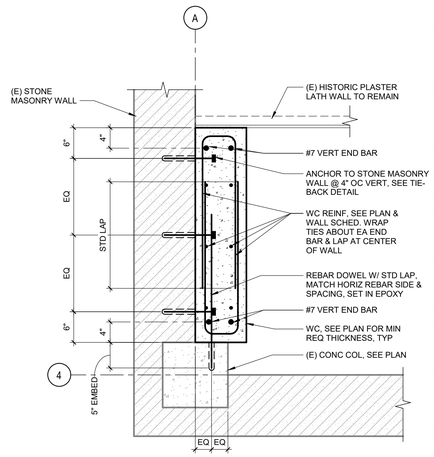

PLAN

12 DETAIL
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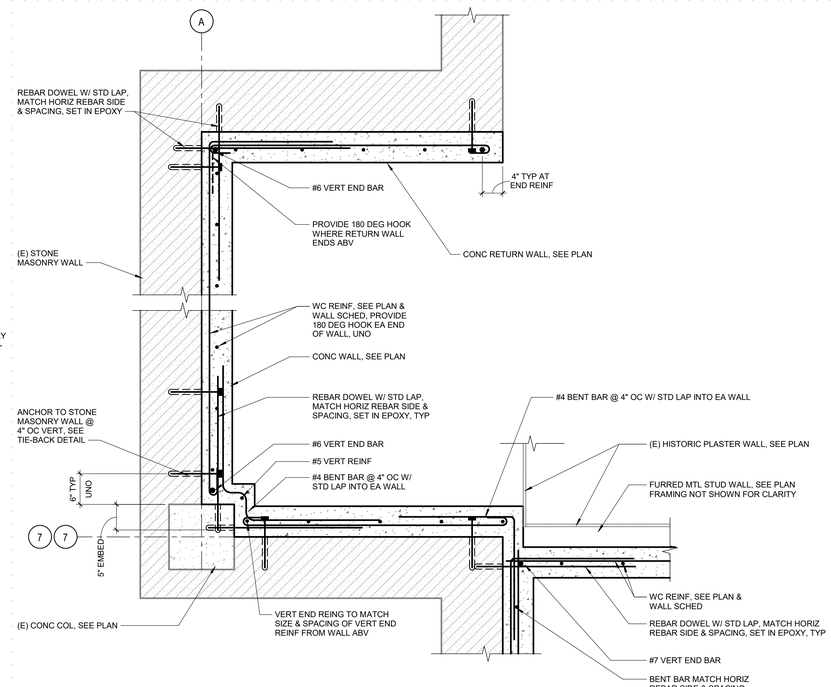

PLAN

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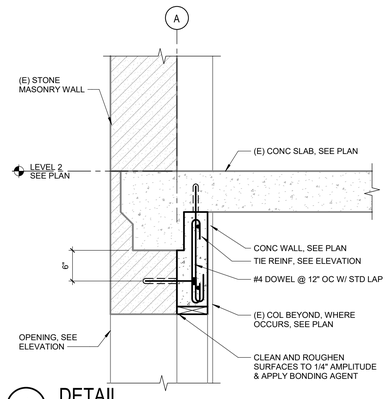

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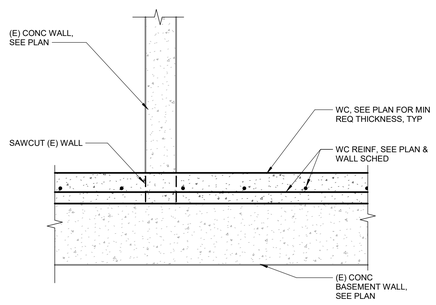

PLAN

8 DETAIL
1" = 1'-0"

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PROJECT
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SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO:	015437.05
CLIENT PROJECT NO:	
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AGENCY

APPROVED BY: Willdan Engineering
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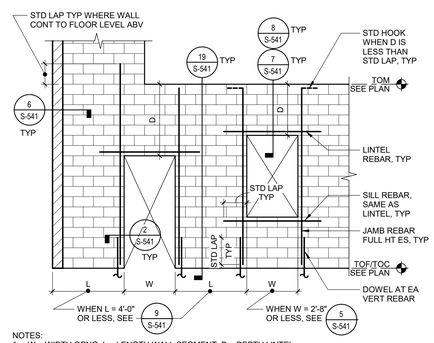
3:31 pm, Oct 27, 2020

TITLE
DETAILS - CONCRETE

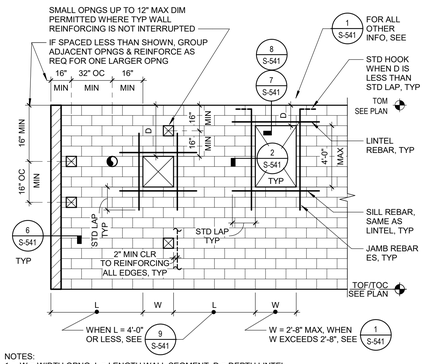
SHEET
S-537



NOTES:
1. W = WIDTH OPNG, L = LENGTH WALL SEGMENT, D = DEPTH LINTEL.
2. PROVIDE TYP REINFORCING FOR REMAINDER OF WALL.

1 TYP MASONRY LARGE OPNGS

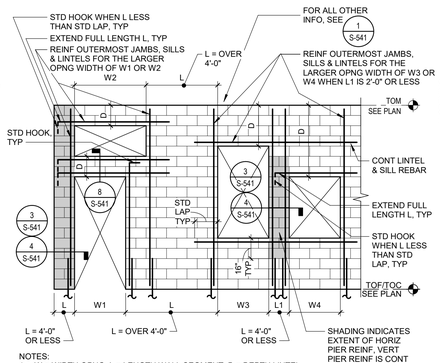
1/4" = 1'-0" S-_048200_T020B 150427



NOTES:
1. W = WIDTH OPNG, L = LENGTH WALL SEGMENT, D = DEPTH LINTEL.
2. PROVIDE TYP REINFORCING FOR REMAINDER OF WALL.

5 TYP MASONRY SMALL OPNGS

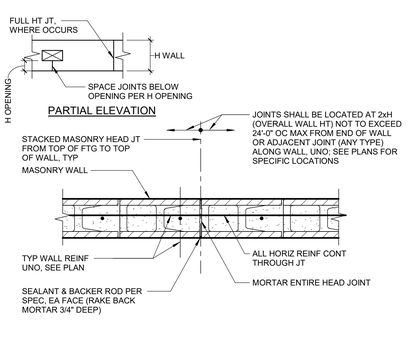
1/4" = 1'-0" S-_048200_T020C 150427



NOTES:
1. W = WIDTH OPNG, L = LENGTH WALL SEGMENT, D = DEPTH LINTEL.
2. PROVIDE TYP REINFORCING FOR REMAINDER OF WALL.

9 TYP MASONRY ADJACENT OPNGS

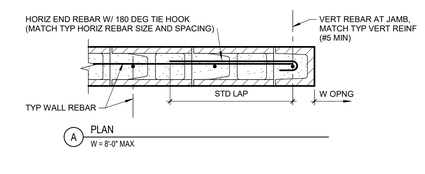
1/4" = 1'-0" S-_048200_T020D 150427



NOTES:
1. SEE PLANS AND DETAILS FOR WALL SIZE AND REINFORCING.

13 TYP MASONRY RAKE JOINT

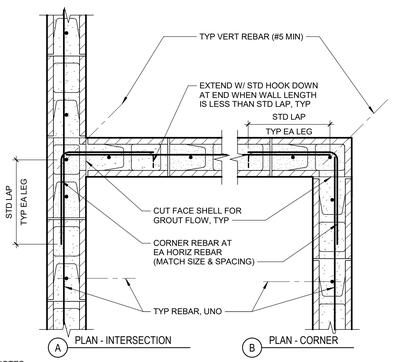
SCALE: NTS S-_048200_T010A 150427



NOTES:
1. W = WIDTH OPNG, L = LENGTH WALL SEGMENT
2. VERT REBAR SHALL HAVE MATCHING DOWELS AT FTG W/ STD LAP, TYP.
3. HORIZ END REBAR NOT REQ AT SITE WALLS.

2 TYP MASONRY JAMB / END

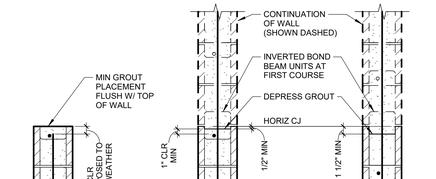
1" = 1'-0" S-_048200_T052A 180809



NOTES:
1. VERT REBAR SHALL HAVE MATCHING DOWELS AT FTG W/ STD LAP, TYP.

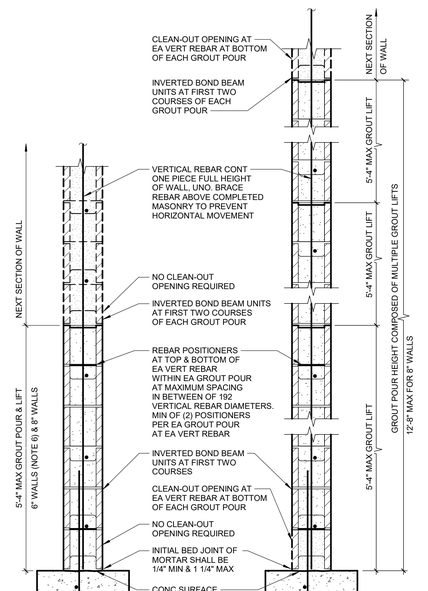
6 TYP MASONRY INTERSECTIONS

1" = 1'-0" S-_048200_T021B 180425



10 TYP MASONRY GROUT CJ

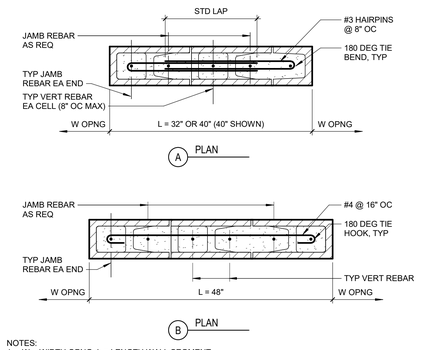
SCALE: NTS S-_048200_T006A 150706



NOTES:
1. WALLS MAY BE CONSTRUCTED USING LOW-LIFT OR HIGH-LIFT GROUTING METHOD.
2. DO NOT PLACE GROUT UNTIL ALL MASONRY UNITS, TIES, REBAR, BOLTS, EMBEDDED ITEMS & CLEAN-OUT CLOSURES ARE IN PLACE & SECURED IN POSITION TO THE TOP OF EACH GROUT POUR. GROUT ALL CELLS SOLID.
3. PROVIDE GROUT CONSTRUCTION JOINT AT TOP OF EACH GROUT POUR, SEE TYP DETAIL.
4. AFTER LOWER SECTION IS GROUTED AND PROPERLY CURED, LAY-UP & GROUT NEXT SECTION OF WALL TO GROUT POUR HEIGHT LIMITATIONS NOTED.
5. GROUT LIFT AND GROUT POUR HEIGHTS SHALL NOT EXCEED THE CLEAR GROUT SPACE LIMITATIONS OF THE BUILDING CODE OR THE MAXIMUM HEIGHTS INDICATED. PRIOR TO MASONRY CONSTRUCTION PROVIDE GROUT DEMONSTRATION PANELS FOR ALTERNATE GROUT SPACES OR HEIGHTS.
6. FOR 6" WALLS THE MAXIMUM GROUT LIFT AND GROUT POUR HEIGHT IS PERMITTED IF ALL OVERHANGING MORTAR PROTRUSIONS ARE REMOVED. OTHERWISE THE MAXIMUM GROUT LIFT AND GROUT POUR HEIGHT IS 1'-0".

18 TYP MASONRY GROUTING

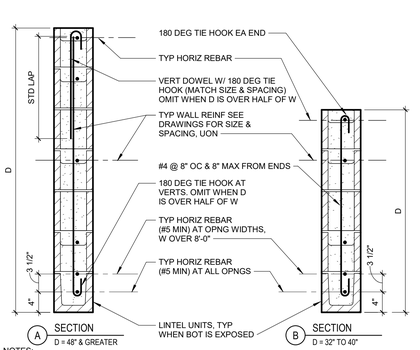
SCALE: NTS S-_048200_T017A 150427



NOTES:
1. W = WIDTH OPNG, L = LENGTH WALL SEGMENT
2. MASONRY DIMENSIONS SHOWN ARE NOMINAL.
3. SEE TYPICAL DETAILS & PLANS FOR TYP VERT / JAMB REBAR.

3 TYP MASONRY LONG PIER

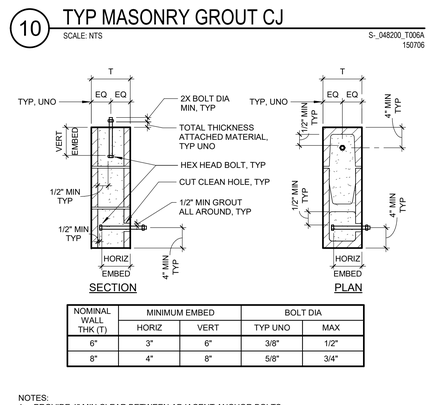
1" = 1'-0" S-_048200_T051A 190425



NOTES:
1. W = WIDTH OPNG, D = DEPTH LINTEL.
2. MASONRY DIMENSIONS SHOWN ARE NOMINAL.

7 TYP MASONRY LINTEL

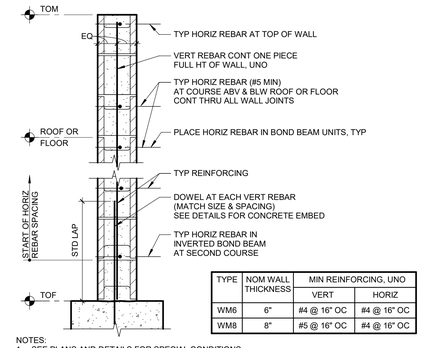
1" = 1'-0" S-_048200_T054A 180425



NOTES:
1. W = WIDTH OPNG, D = DEPTH LINTEL.
2. MASONRY DIMENSIONS SHOWN ARE NOMINAL.

8 TYP MASONRY SHALLOW LINTEL

1" = 1'-0" S-_048200_T055A 190506

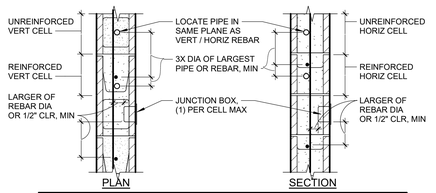


NOMINAL WALL THK (T)	MINIMUM EMBED		BOLT DIA	
	HORIZ	VERT	TYP UNO	MAX
6"	3"	6"	3/8"	1/2"
8"	4"	8"	5/8"	3/4"

NOTES:
1. PROVIDE 1" MIN CLEAR BETWEEN ADJACENT ANCHOR BOLTS.
2. REINFORCING NOT SHOWN FOR CLARITY.
3. TOTAL THICKNESS ATTACHED MATERIAL INCLUDES WASHERS & GROUT OR DRYPACK.

11 TYP BOLT EMBED IN MASONRY

SCALE: NTS S-_048200_T004A 190506

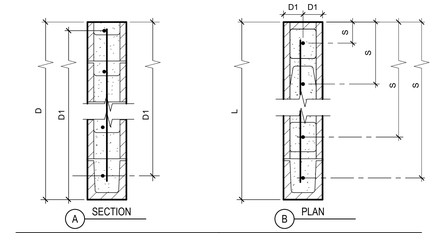


NOMINAL WALL THICKNESS	MAX QUANTITY OF PIPES PER CELL										COMMENTS
	1/2" DIA		3/4" DIA		1" DIA		1 1/4" DIA		1 1/2" DIA		
	R	U	R	U	R	U	R	U	R	U	
6"	1	2	-	1	-	-	-	-	-	-	R = REINFORCED CELL U = UNREINFORCED CELL
8"	2	3	1	2	-	1	-	-	-	-	

NOTES:
1. PIPE AS NOTED SHALL REFER TO: PIPES, CONDUITS OR SLEEVES.
2. ONLY RIGID PIPES ARE PERMITTED. NO ALUMINUM PERMITTED. DO NOT CROSS PIPES.
3. PIPES SHALL NOT BE EMBEDDED THAT WILL CONTAIN LIQUID, GAS, OR VAPORS: AT TEMPERATURES HIGHER THAN 150°F, UNDER PRESSURES IN EXCESS OF 55 PSI, OR SUBJECT TO FREEZING.
4. WRAP PIPE SWEEPS & FITTINGS W/ 1/8" MIN THICK FOAM TAPE.
5. WHEN POSSIBLE LOCATE PIPES & JUNCTION BOXES IN CELLS THAT ARE UNREINFORCED. WHERE SPACING OR CLEARANCE CANNOT BE MAINTAINED OR REBAR IS INTERRUPTED, PROVIDE REINF AS REQ FOR TYPICAL MASONRY OPENING.
6. PLACE PIPE & FOAM TAPE 1/2" MIN CLR FROM INTERIOR MASONRY SURFACES.
7. EMBEDDED PIPES SHALL NOT CROSS MASONRY DOWEL, CONTROL, KEY OR RAKE JOINTS.

12 TYP PIPE EMBED IN MASONRY

SCALE: NTS S-_048200_T003A 150427



TYPE	NOM WALL THICKNESS	MIN REINFORCING, UNO	
		VERT	HORIZ
WM6	6"	#4 @ 16" OC	#4 @ 16" OC
WM8	8"	#5 @ 16" OC	#4 @ 16" OC

NOTES:
1. SEE PLANS AND DETAILS FOR SPECIAL CONDITIONS.
2. AT 4" HIGH UNITS, PROVIDE INVERTED BOND BEAM UNITS ABOVE ALL HORIZ REBAR.
3. LOCATE REBAR LAPS, SPLICES & DOWELS IN SAME PLANE AS PRIMARY REINFORCING.

19 TYP MASONRY WALL REINF

SCALE: NTS S-_048200_T024B 190506

PLACEMENT TOLERANCE D1		PLACEMENT TOLERANCE S	
D1 EQUALS 8" OR LESS	+/- 1/2"	L EQUALS 8" OR LESS	+/- 1/2"
D1 OVER 8" UP TO 24"	+/- 1"	L OVER 8" UP TO 24"	+/- 1"
D1 OVER 24"	+/- 1 1/4"	L OVER 24"	+/- 2"

NOTES:
1. L = LENGTH WALL SEGMENT, D = DEPTH LINTEL, S = SPACING OF REINF, D1 = DEPTH TO REINF.
2. D1 IS THE LARGEST DISTANCE FROM REINFORCEMENT TO FOM.
3. TOLERANCE LIMITS APPLY TO WALLS, PILASTERS, COLUMNS, BEAMS AND LINTELS.
4. PLACEMENT OF DOWELS SHALL BE HELD TO THE SAME TOLERANCE.
5. SEE LINTEL, PIER AND JAMB DETAILS FOR REBAR BENDS NOT SHOWN.

20 TYP MASONRY REINF TOLERANCE

SCALE: NTS S-_048200_T023B 150706

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PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

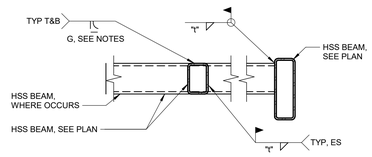
AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
DETAILS - TYPICAL MASONRY

SHEET
S-541

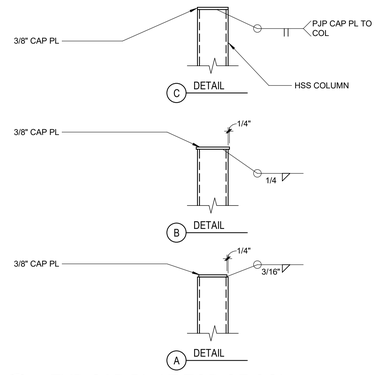
IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY
0 1/4" 1/2" 1"
D:_Revit Local Files\015437.05_BIM_A-MASTER_R20_CENTRAL_Patty.Braun.RVT
10/15/2020 4:04:12 PM



NOTES:
1. SEE STRUCTURAL STEEL NOTES FOR CRITERIA WHERE CONNECTIONS ARE EXPOSED AND VISIBLE TO THE PUBLIC AND BUILDING OCCUPANTS (OTHER THAN MAINTENANCE AREAS).
2. "t" SHALL BE THE LESSER OF THE THINNEST HSS BEAM WALL THICKNESS OR 5/16" TYP, UNO.

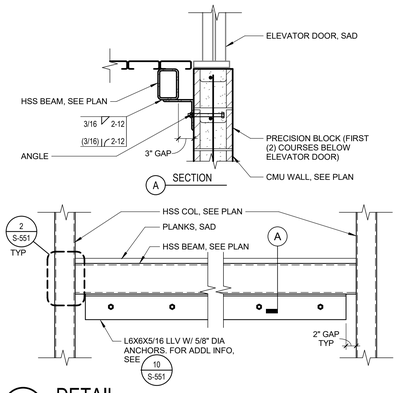
1 TYP EXPOSED HSS BM TO HSS BM

SCALE: NTS — S:_051200_T042A 160107



5 TYP CAP PL AT TOP OF COL

SCALE: NTS — S:_051200_T0094 180723



13 DETAIL

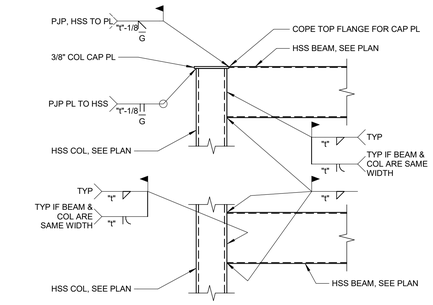
1" = 1'-0"

TYP BEAM CONNECTION SCHEDULE			
NOMINAL BEAM OR CHANNEL DEPTH	HIGH STRENGTH BOLTS (QUANTITY) DIA	SINGLE ROW OF BOLTS	
		WELD SIZE W	SHEAR TAB THICKNESS T
8, 9, 10	(2) 7/8"	3/16"	1/4"
12, 13, 14	(3) 7/8"	1/4"	3/8"
15, 16, 18	(4) 7/8"	1/4"	3/8"
20, 21	(5) 7/8"	1/4"	3/8"
24	(6) 7/8"	1/4"	3/8"
27	(7) 7/8"	1/4"	3/8"
30	(8) 7/8"	1/4"	3/8"
33	(9) 7/8"	1/4"	3/8"
36	(10) 1"	5/16"	7/16"
40	(11) 1"	5/16"	7/16"
44	(12) 1"	5/16"	7/16"

NOTES:
1. USE SUPPORTED BEAM DEPTH WITH SCHEDULE. CONNECTION INFORMATION TO BE BASED ON SUPPORTED BEAM DEPTH.
2. FOR BEAMS LESS THAN 8" DEEP, SEE DETAIL

17 TYP BEAM CONNECTION SCHEDULE

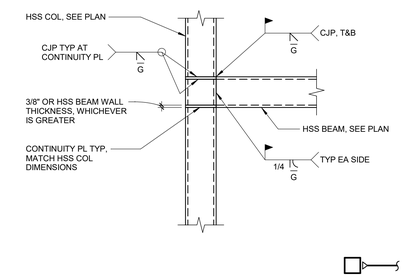
SCALE: NTS — S:_051200_T084 180723. Q1



NOTES:
1. "t" SHALL BE THE LESSER OF THE HSS BEAM/COLUMN WALL THICKNESS OR 5/16", TYP UNO
2. GRIND SMOOTH ALL ARCHITECTURALLY EXPOSED WELDED CONNECTIONS
3. REMOVE ERECTION TABS THAT MAY BE REQUIRED
4. IF BEAM IS WIDER THAN COLUMN, CAP END OF BEAM SIM TO COLUMN CAP PLATE

2 TYP EXPOSED HSS BM TO HSS COL

SCALE: NTS — S:_051200_T043A 140127

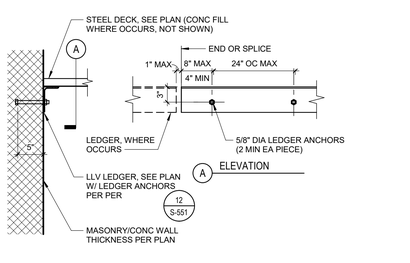


AS DENOTED ON PLAN

NOTES:
1. CONTINUITY PL TO BE ASTM A572, GR50 W/ ROLLED DIRECTION PARALLEL TO BM SPAN.

6 TYP HSS BEAM TO HSS COL MOMENT CONN

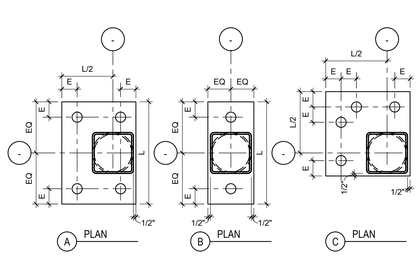
SCALE: NTS — S:_051200_T049A 140127



NOTES:
1. WHERE LEDGER ANCHORS ALIGN WITH BOLTS ON THE OTHER SIDE OF WALL, USE ATR THRU BOLTS IN LIEU OF HEADED BOLTS.

10 TYP ANGLE LEDGER FOR DECK SUPPORT

SCALE: NTS — S:_051200_T024A 190320. Q2



NOTES:
1. SEE TYP HSS COL BASE PLATE DETAIL FOR ALL OTHER INFORMATION.

14 TYP HSS COL OFFSET BASE PLATE

SCALE: NTS — S:_051200_T001D 141215

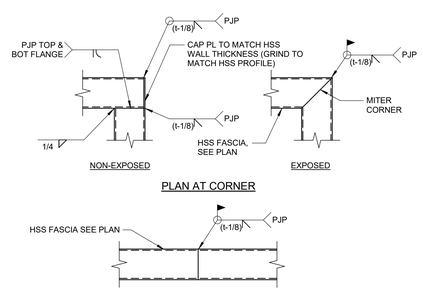
HOLE DIMENSIONS AT STEEL TO STEEL CONNECTIONS				
BOLT DIA, D	STANDARD (DIA)	OVERSIZED (DIA)	SHORT SLOT (WIDTH X LENGTH)	LONG SLOT (WIDTH X LENGTH)
1/2"	9/16"	5/8"	9/16"X11/16"	9/16"X1 1/4"
5/8"	11/16"	13/16"	11/16"X7/8"	11/16"X1 9/16"
3/4"	13/16"	15/16"	13/16"X1"	13/16"X1 7/8"
7/8"	15/16"	1 1/16"	15/16"X1 1/8"	15/16"X2 3/16"
1"	1 1/16"	1 1/4"	1 1/16"X1 5/16"	1 1/16"X2 1/2"
1 1/8" & GREATER	D + 1/16"	D + 5/16"	(D + 1/16")x(D + 3/8")	(D + 1/16")x(2.5 x D)

HOLE DIMENSIONS AT STEEL TO CONCRETE / MASONRY CONNECTIONS			
BOLT DIA	ANCHOR ROD HOLE DIA	BOLT DIA	ANCHOR ROD HOLE DIA
1/2"	15/16"	1 1/4"	2 1/16"
5/8"	1 1/16"	1 1/2"	2 5/16"
3/4"	1 5/16"	1 3/4"	2 3/4"
7/8"	1 9/16"	2"	3 1/4"
1"	1 13/16"	2 1/2"	3 3/4"

PLATE WASHER SCHEDULE (WITH STANDARD HOLE AT CENTER)			
BOLT DIA	STEEL PLATE SIZE	BOLT DIA	STEEL PLATE SIZE
1/2"	3/16"X1 1/2" SQ	1 1/4"	1/2"X3 1/2" SQ
5/8"	1 /4"X1 3/4" SQ	1 1/2"	1/2"X4" SQ
3/4"	1 /4"X2" SQ	1 3/4"	5/8"X4 1/2" SQ
7/8"	5/16"X2 1/2" SQ	2"	3/4"X5" SQ
1"	3/8"X3" SQ	2 1/2"	7/8"X6" SQ

18 TYP BOLT HOLE & PLATE WASHER SCHEDULE

SCALE: NTS — S:_051200_T100 180723. Q1



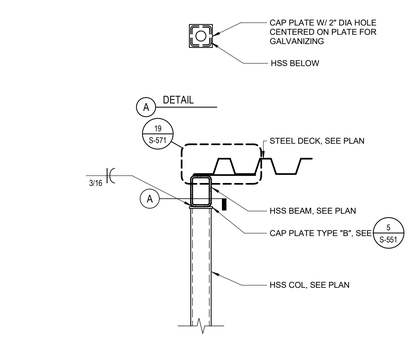
PLAN AT CORNER

PLAN AT SPLICE

NOTES:
1. SEE STRUCTURAL STEEL NOTES FOR CRITERIA WHERE CONNECTIONS ARE EXPOSED AND VISIBLE TO THE PUBLIC AND BUILDING OCCUPANTS (OTHER THAN MAINTENANCE AREAS).
2. "t" IS THE HSS WALL THICKNESS

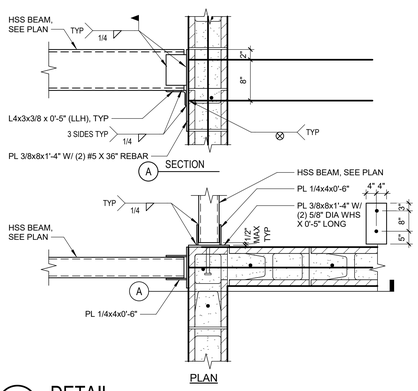
3 TYP HSS CORNER & SPLICE

SCALE: NTS — S:_051200_T045A 160107



7 DETAIL

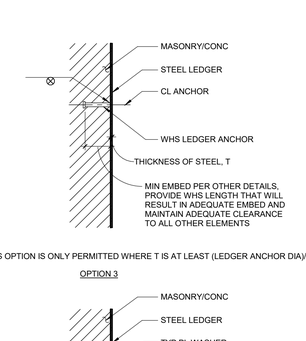
SCALE: NTS



PLAN

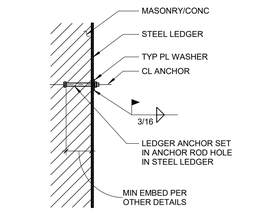
8 DETAIL

SCALE: NTS

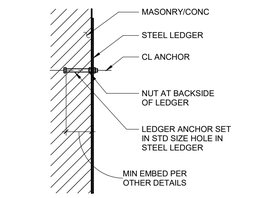


NOTE: THIS OPTION IS ONLY PERMITTED WHERE T IS AT LEAST (LEDGER ANCHOR DIA)/3.

OPTION 3



OPTION 2

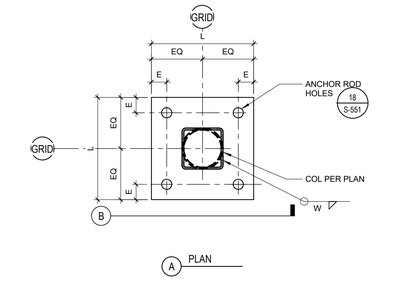


OPTION 1

NOTES:
1. ANY OPTION IS ACCEPTABLE FOR USE BASED ON DESIRED CONSTRUCTION METHOD.

12 TYP LEDGER ANCHOR

SCALE: NTS — S:_051200_T025A 190926

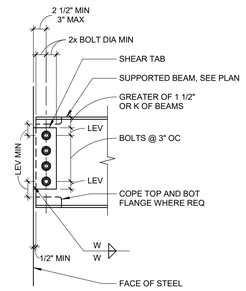


HSS COLUMN BASE PLATE SCHEDULE					
COLUMN SIZE	ANCHOR ROD DIA	BASE PLATE DIMENSIONS			WELD SIZE W
		T	E	L	
HSS4	3/4"	3/4"	1 1/2"	10"	1/4"
HSS5	3/4"	3/4"	1 1/2"	11"	1/4"
HSS6	3/4"	3/4"	1 1/2"	12"	1/4"
HSS7	3/4"	3/4"	1 1/2"	13"	1/4"
HSS8	1"	1"	2"	16"	5/16"
HSS10	1"	1"	2"	18"	5/16"
HSS12	1"	1"	2"	20"	5/16"

NOTES:
1. APPLIES TO SQUARE, RECTANGULAR (2 to 1 MAX DEPTH TO WIDTH RATIO), PIPE & ROUND HSS.
2. WELD NOT REQUIRED AT RADIUS CORNERS OF SQUARE OR RECTANGULAR HSS.
3. AT RECTANGULAR HSS, USE LARGER HSS DIMENSION.

16 TYP HSS COL BASE PLATE

SCALE: NTS — S:_051200_T001A 180723



NOTES:
1. SHEAR TABS SHALL BE CONDITION (A) TYP, UNO.
2. FOR BOLT SIZE & QUANTITY, SHEAR TAB THICKNESS "T" AND WELD SIZE "W" SEE 17 S-551 USING NOMINAL DEPTH OF SUPPORTED BEAM.
3. FOR K DIMENSION SEE AISC.
4. ALL BOLTS SHALL BE IN STANDARD HOLES OR HORIZONTAL SHORT SLOTTED HOLES, TYP UNO.
5. LEV = 1 1/2" MIN AT 7/8" DIA BOLTS AND 1 3/4" MIN AT 1" DIA BOLTS.

19 TYP SHEAR TAB

SCALE: NTS — S:_051200_T085 191114

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PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED		
MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

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TITLE
DETAILS - STRUCTURAL STEEL

SHEET
S-551

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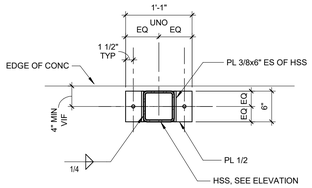
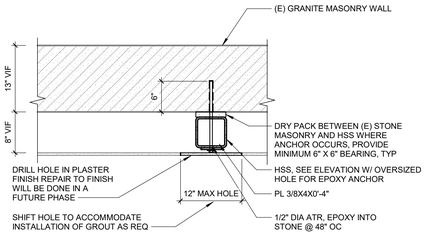
10/15/2020 4:04:17 PM

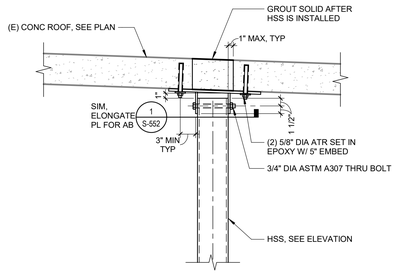


PLAN

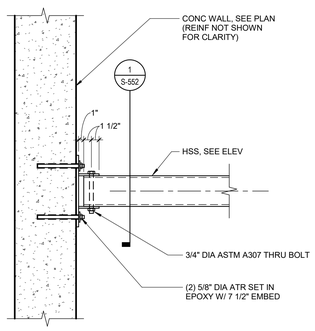


STONE MASONRY ANCHOR

1 DETAIL
1" = 1'-0"

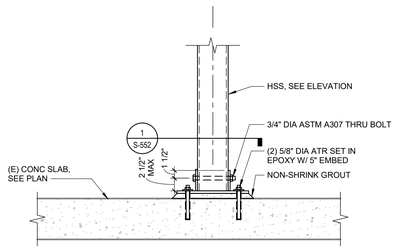


5 COURTROOM WALL
1" = 1'-0"

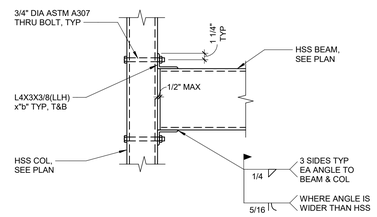


2 DETAIL
1" = 1'-0"

6 DETAIL
1" = 1'-0"



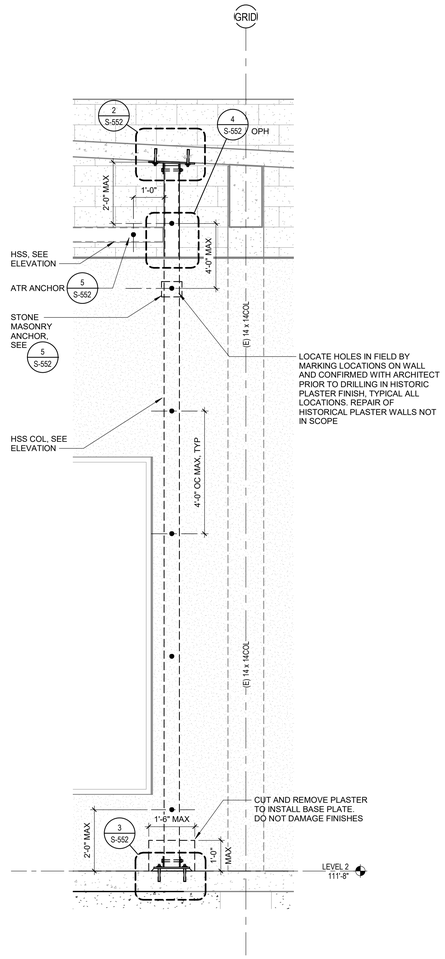
3 DETAIL
1" = 1'-0"



NOTES:
1. "b" SHALL BE THE LESSER OF THE BEAM/COL WIDTH -1" BUT NOT LESS THAN 3"
2. "t" SHALL BE THE LESSER OF THE HSS BEAM/COL WALL THICKNESS OR 5/16", TYP UNO

4 TYP HSS BEAM TO HSS COLUMN
1" = 1'-0"

S:_051200_T036A
140127



15 ELEVATION
1/2" = 1'-0"

Q1

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REGISTERED PROFESSIONAL ENGINEER GARRON E. HUNTINGTON No. S4788 PROJECT ENGINEER STATE OF CALIFORNIA
10/15/2020

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

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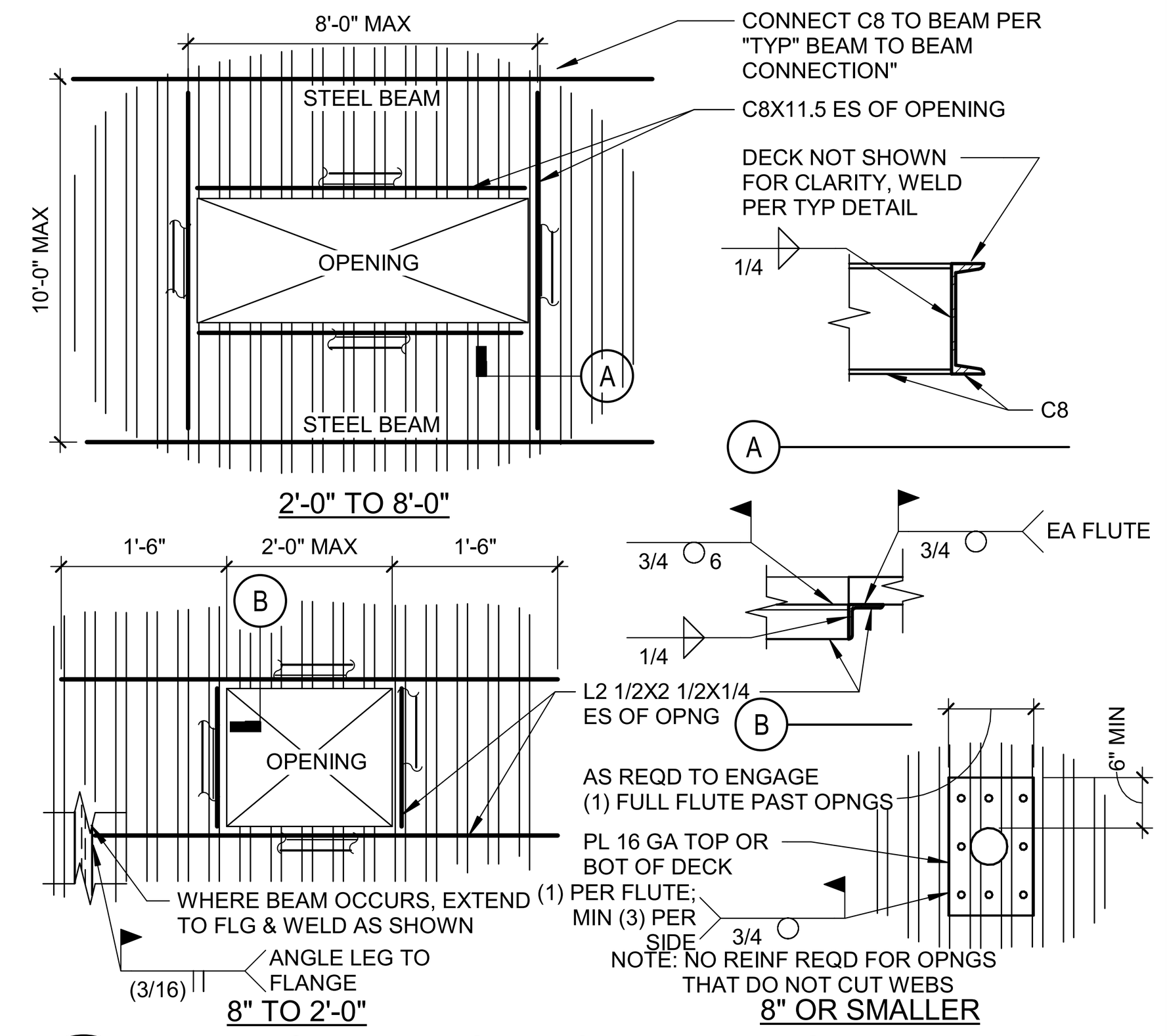
TITLE
DETAILS - STRUCTURAL STEEL

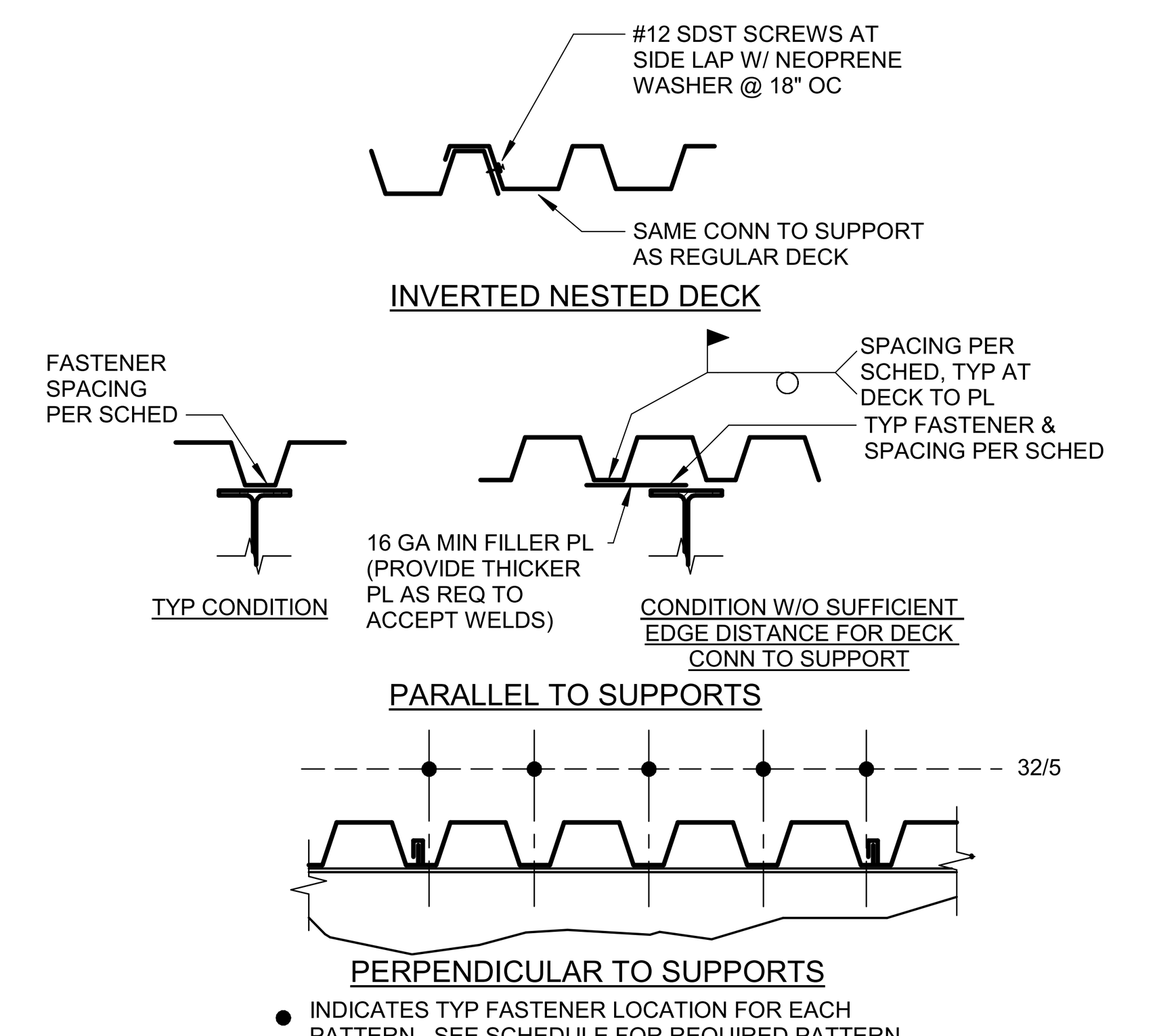
SHEET
S-552



17 TYP OPENING IN STEEL DECK

1" = 1'-0"

S-_053100_T008A
171002. Q2



● INDICATES TYP FASTENER LOCATION FOR EACH PATTERN. SEE SCHEDULE FOR REQUIRED PATTERN

ATTACHMENT ZONE	TYP FASTENER	FASTENER PATTERN	SIDE SEAM CONN	PARALLEL CONN SPACING
ZONE 1 (TYP UNO)	1/2" DIA (EFFECTIVE) PUDDLE WELDS	32/5	DELTAGRIP @ 24" OC	18" OC

STEEL DECK PROPERTIES						
TYPE	GA	Ie+ (in^4/ft)	Ie- (in^4/ft)	Se+ (in^3/ft)	Se- (in^3/ft)	Fy MIN (KSI)
N	18	1.219	1.275	0.661	0.715	50

19 TYP 3" TYPE 'N' NON-COMPOSITE STEEL DECK ATTACHMENT

SCALE: NTS

S-_053100_T027A
200304. Q2

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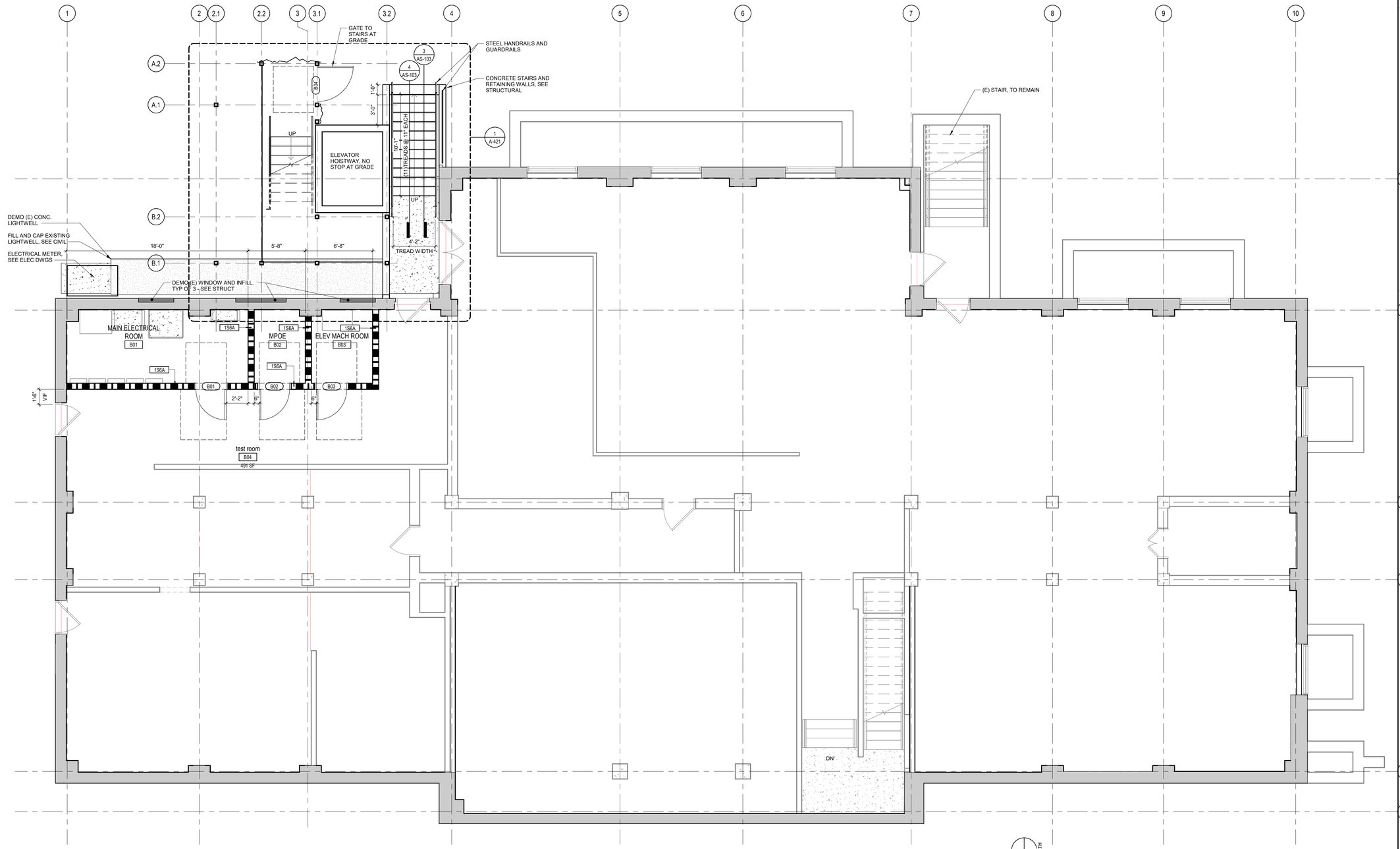
AGENCY

TITLE

DETAILS - TYPICAL STEEL DECKING

SHEET

S-571



1 FLOOR PLAN - BASEMENT

SCALE 1/4" = 1'-0"

FLOOR PLAN LEGEND

- 101 / sq ft — ROOM IDENTIFIER
- 22 — KEYNOTE INDICATOR
- 234 — WINDOW IDENTIFIER
- 101A — DOOR IDENTIFIER - SEE HISTORIC DWGS FOR SCHEDULE
- PLAN NORTH — PLAN NORTH & TRUE NORTH INDICATOR
- (E) WALL TO REMAIN
- (E) WALL TO BE DEMOLISHED IN ITS ENTIRETY, SEE HISTORICAL PRESERVATION DRAWINGS
- (E) DOOR TO REMAIN
- (E) DOOR TO BE REMOVED, SEE HISTORICAL PRESERVATION DRAWINGS

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LICENSED ARCHITECT NICHOLAS DODGE C18997 REN 02-29-21 STATE OF CALIFORNIA

PROJECT

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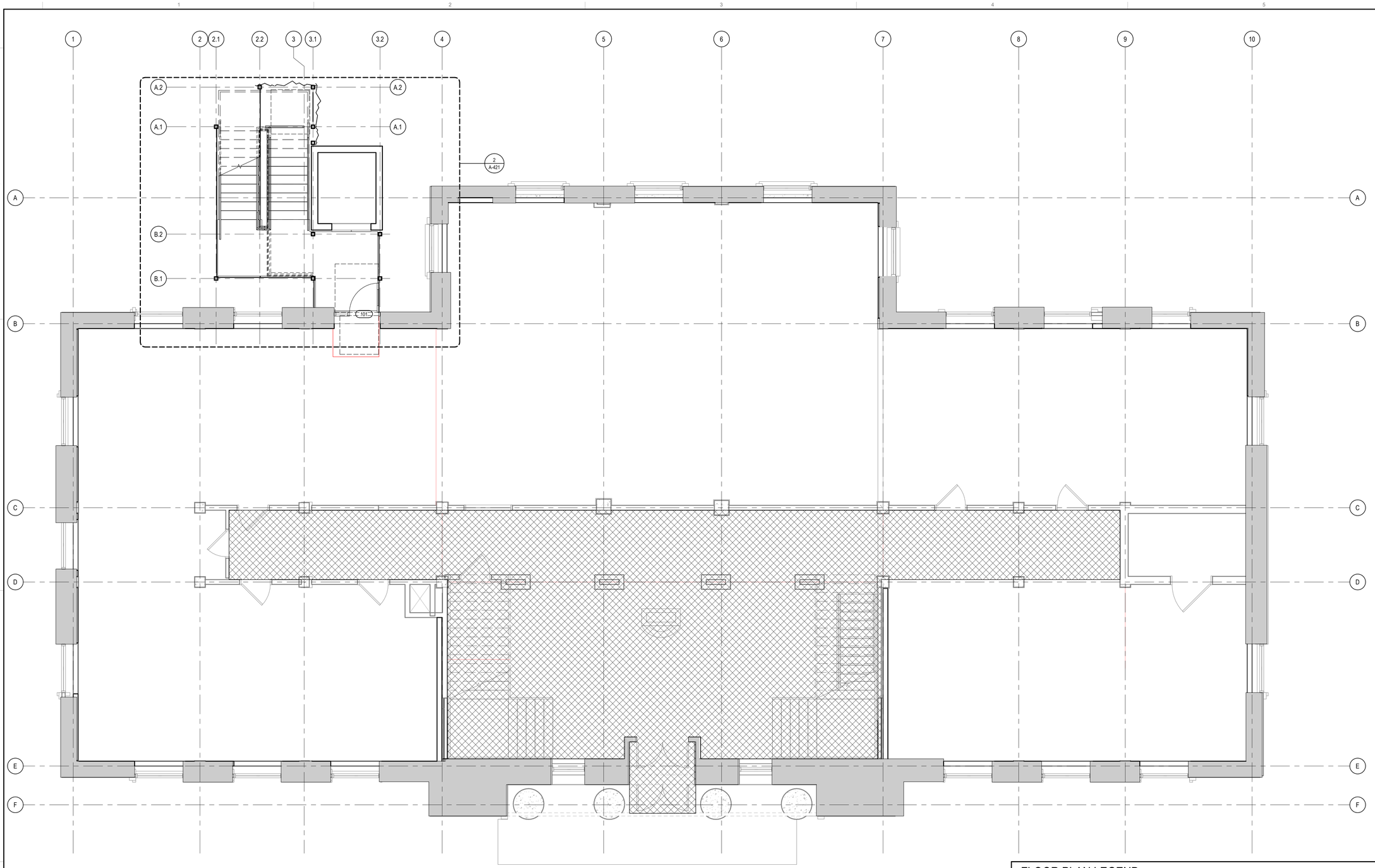
3:31 pm, Oct 27, 2020

TITLE

FLOOR PLAN - BASEMENT

SHEET

A-111-B



1 FLOOR PLAN - LEVEL 1

SCALE 1/4" = 1'-0"

NORTH

FLOOR PLAN LEGEND

101 sq ft	ROOM IDENTIFIER
22	KEYNOTE INDICATOR
234	WINDOW IDENTIFIER
101A	DOOR IDENTIFIER - SEE HISTORIC DWGS FOR SCHEDULE
PLAN NORTH	PLAN NORTH & TRUE NORTH INDICATOR
	(E) WALL TO REMAIN
	(E) WALL TO BE DEMOLISHED IN ITS ENTIRETY, SEE HISTORICAL PRESERVATION DRAWINGS
	(E) DOOR TO REMAIN
	(E) DOOR TO BE REMOVED, SEE HISTORICAL PRESERVATION DRAWINGS

PROTECT THE FOLLOWING HISTORIC ITEMS IN THESE AREAS: TERRRAZZO FLOORING, MARBLE TREADS & RISERS, TERRA COTTA RAILING, TERRA COTTA BALUSTRADE, TERRA COTTA DRINKING FOUNTAIN, METAL PIPE STAIR RAILING, DECORATIVE PLASTER DOOR SURROUND, ASHLAR SCORED PLASTER WALLS WITH PLASTER ORNAMENTAL DETAILS AND MOLDINGS, MARBLE BASE, MARBLE THRESHOLDS, METAL DOOR TRIM, METAL CLAD DOORS AND HARDWARE, RADIATORS AND STATE SEAL. SEE SECTION 01 35 91 IN PROJECT SPECIFICATIONS FOR FURTHER INFORMATION IN THIS AREA.

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CONSULTANT

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LICENSED ARCHITECT NICHOLAS DODDS C18997 RENEWAL 02-28-21 STATE OF CALIFORNIA

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
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TITLE

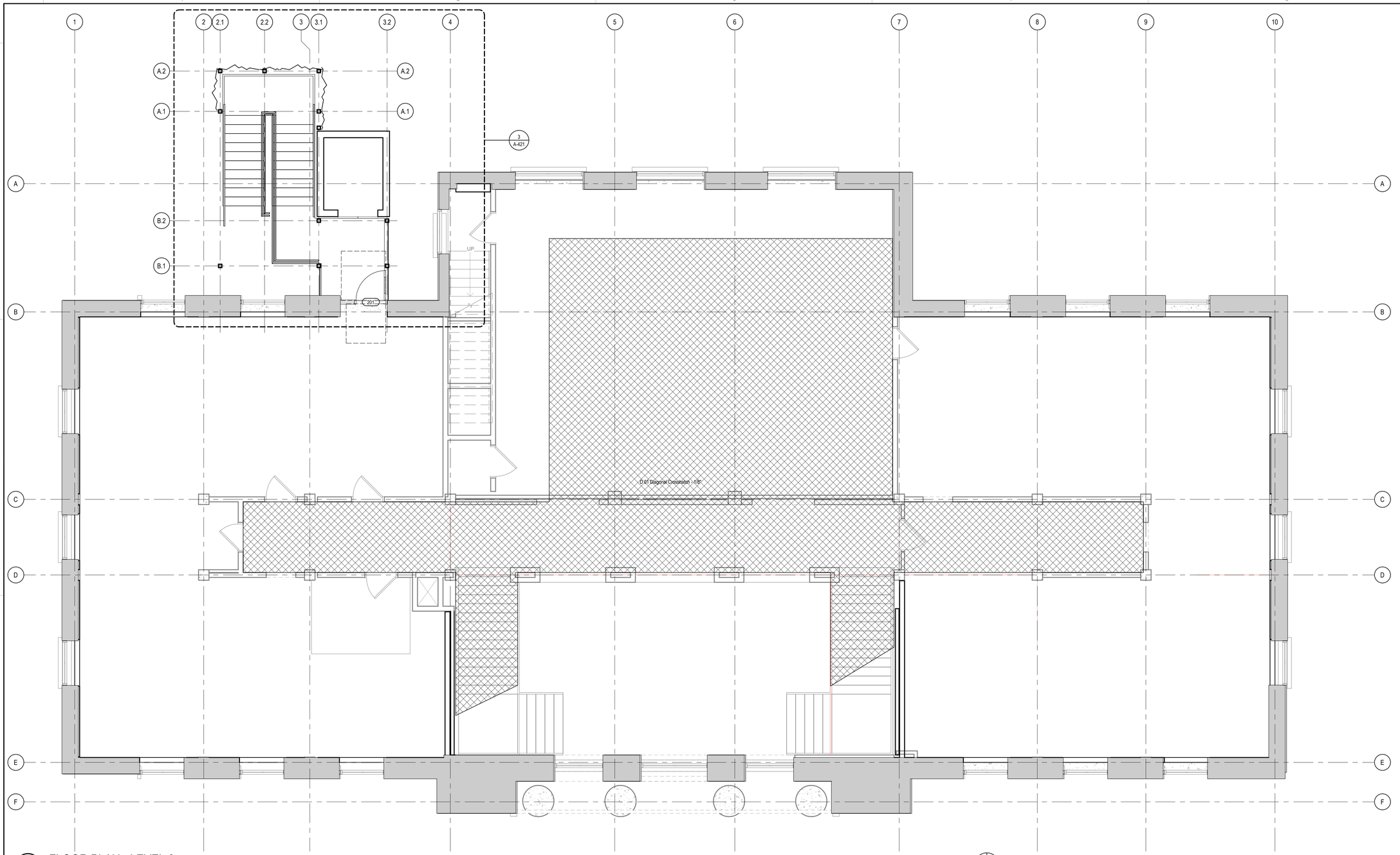
FLOOR PLAN - LEVEL 1

SHEET

A-111

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

0 1/4" 1/2" 1"



1 FLOOR PLAN - LEVEL 2
SCALE 1/4" = 1'-0"

NORTH

FLOOR PLAN LEGEND

101 sq ft	ROOM IDENTIFIER
22	KEYNOTE INDICATOR
234	WINDOW IDENTIFIER
101A	DOOR IDENTIFIER - SEE HISTORIC DWGS FOR SCHEDULE
PLAN NORTH	PLAN NORTH & TRUE NORTH INDICATOR
	(E) WALL TO REMAIN
	(E) WALL TO BE DEMOLISHED IN ITS ENTIRETY, SEE HISTORICAL PRESERVATION DRAWINGS
	(E) DOOR TO REMAIN
	(E) DOOR TO BE REMOVED, SEE HISTORICAL PRESERVATION DRAWINGS

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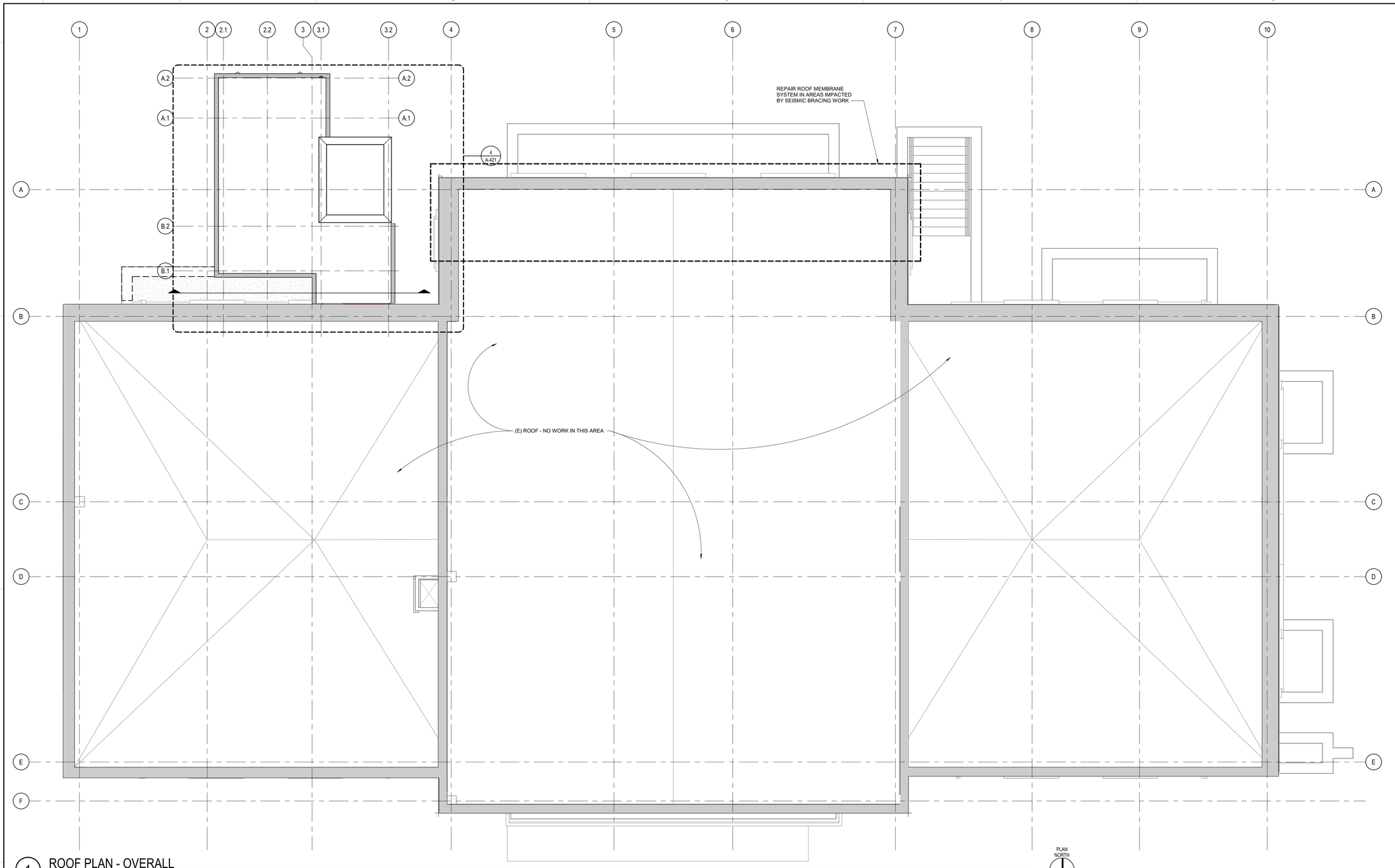
TITLE

FLOOR PLAN - LEVEL 2

SHEET

A-112



1 ROOF PLAN - OVERALL
SCALE 1/4" = 1'-0"

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

C:\Users\michael.hodges\Documents_Revit Local Files\015437-05_BIM_A_MASTER_R20_CENTRAL_michael.hodges.RVT

10/15/2020 1:42:38 PM

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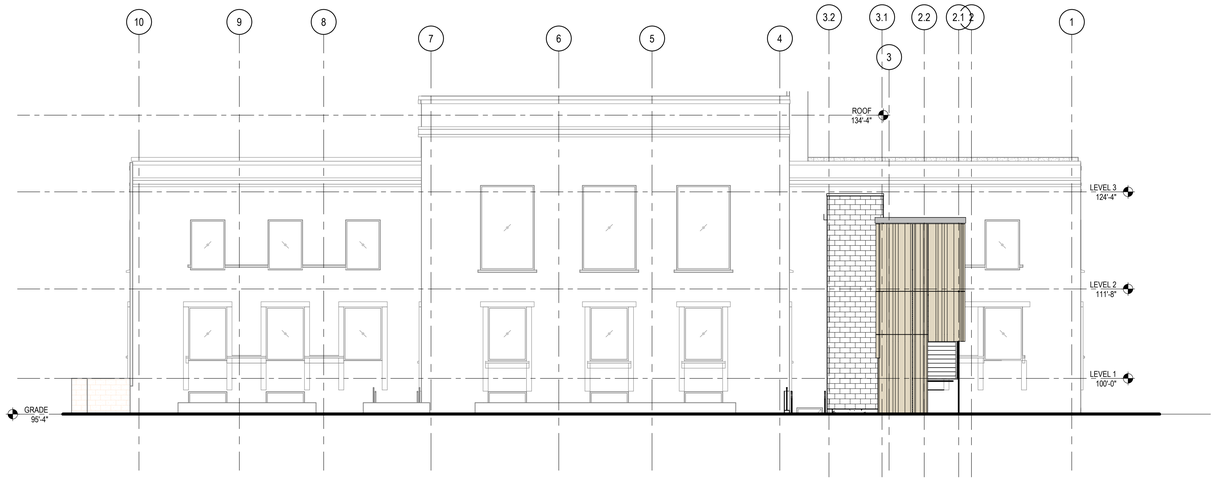
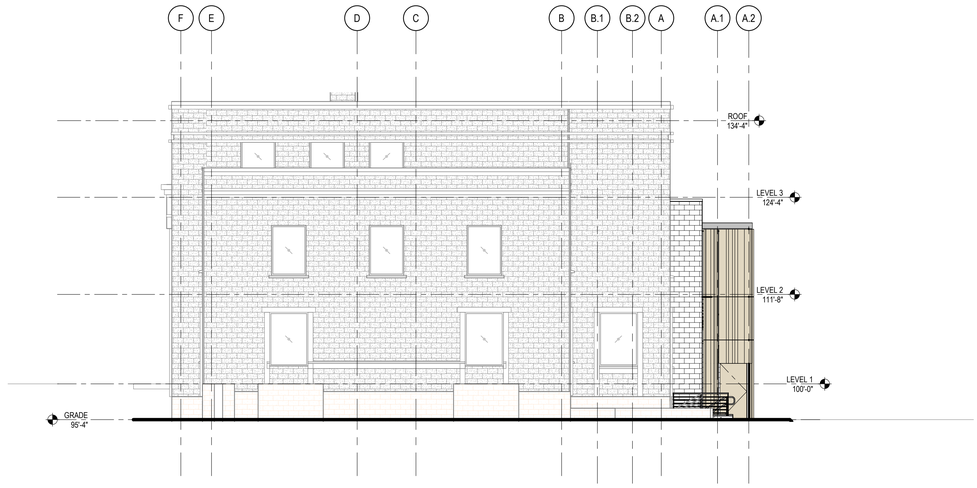
TITLE
ROOF PLAN

SHEET
A-134



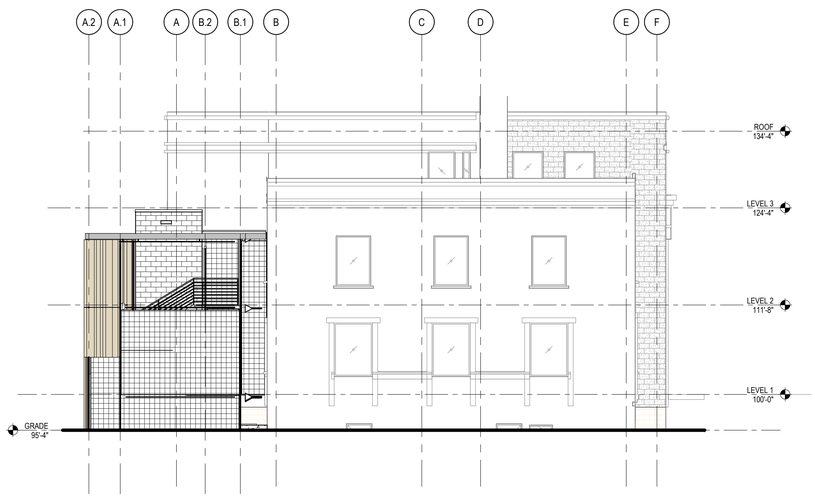
1 NORTH EXTERIOR ELEVATION

SCALE 1/8" = 1'-0"



2 EAST EXTERIOR ELEVATION

SCALE 1/8" = 1'-0"



3 WEST EXTERIOR ELEVATION

SCALE 1/8" = 1'-0"

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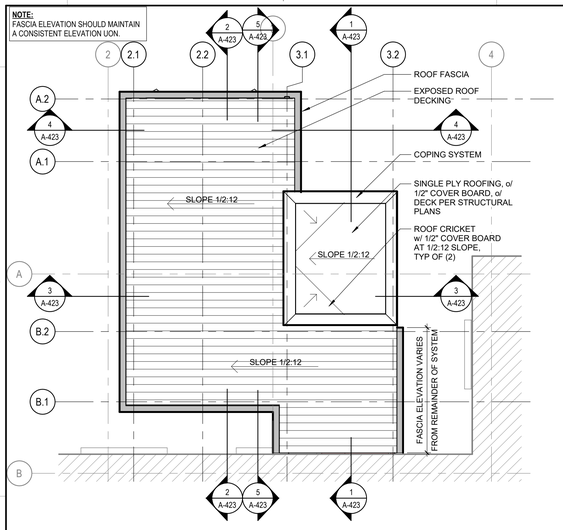
TITLE

EXTERIOR ELEVATIONS

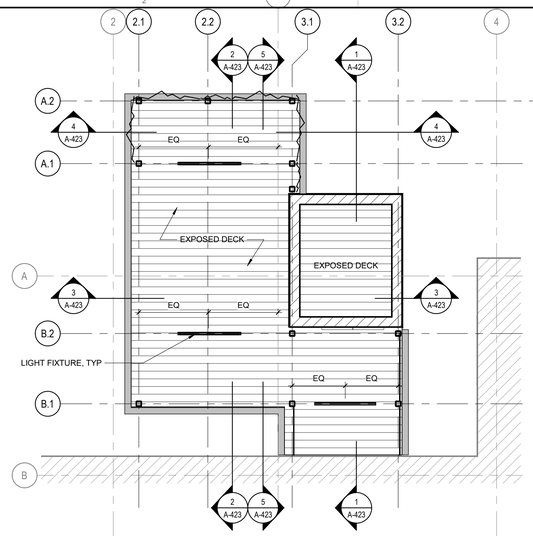
SHEET

A-211



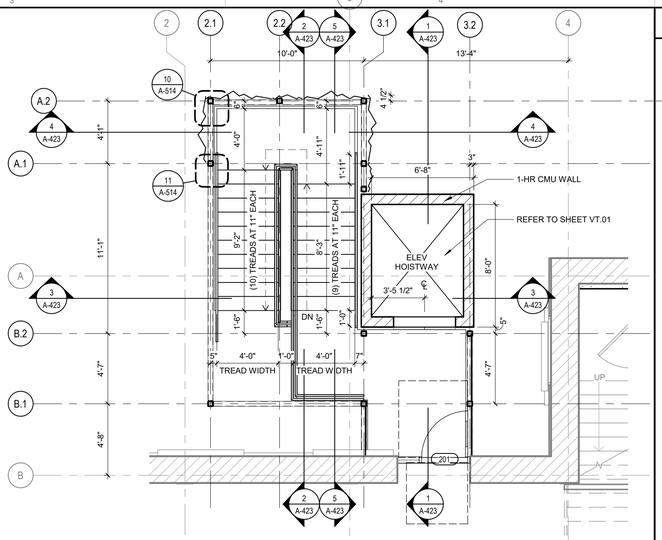
4 ROOF PLAN - STAIR/ELEVATOR

SCALE 1/4" = 1'-0"



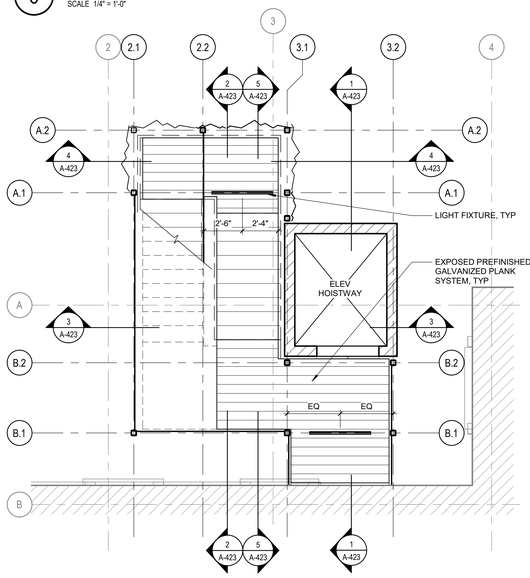
6 LEVEL 2 - STAIR/ELEVATOR RCP

SCALE 1/4" = 1'-0"



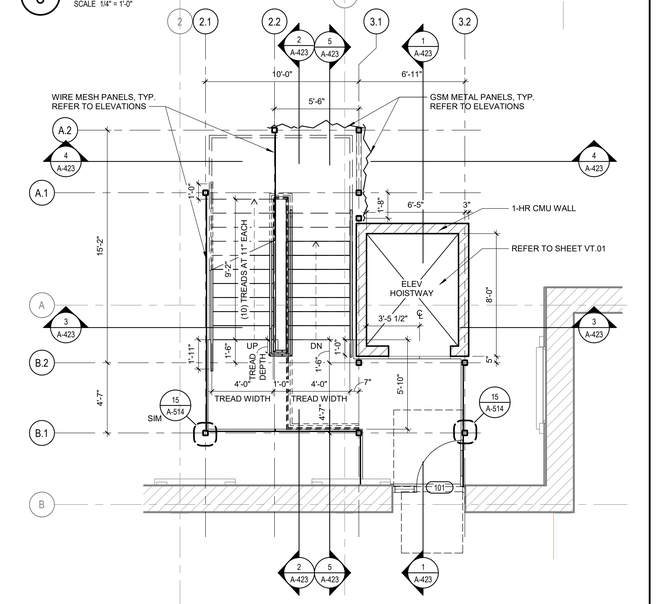
3 LEVEL 2 - STAIR/ELEVATOR PLAN

SCALE 1/4" = 1'-0"



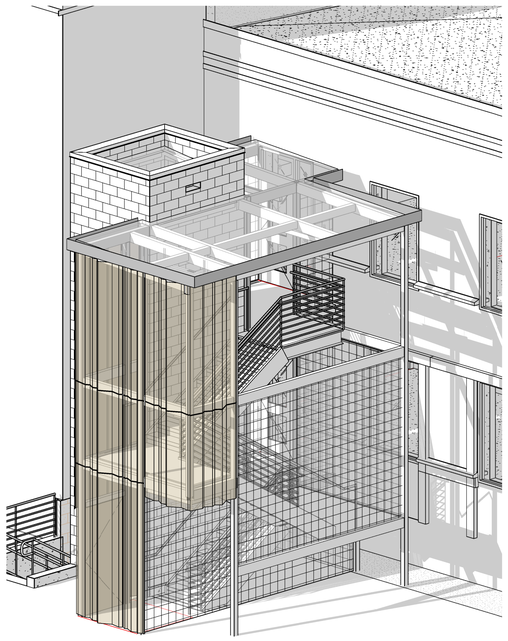
5 LEVEL 1 - STAIR/ELEVATOR RCP

SCALE 1/4" = 1'-0"



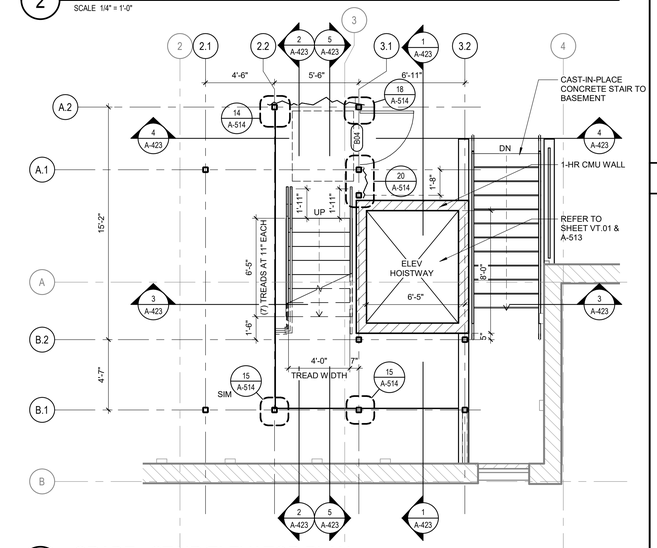
2 LEVEL 1 - STAIR/ELEVATOR PLAN

SCALE 1/4" = 1'-0"



8 STAIR AND ELEVATOR ISOMETRIC

SCALE



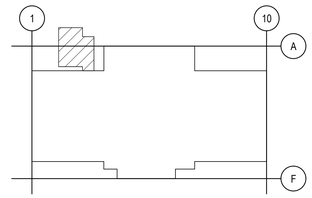
1 GRADE - STAIR/ELEVATOR PLAN

SCALE 1/4" = 1'-0"

GENERAL NOTES

1. ALL WALL DIMENSIONS ARE MEASURED FROM FACE OF STUDS, UNO.
2. DIMENSIONS NOTED "CLEAR" OR "CLR" ARE TO FACE OF FINISH.
3. FIELD VERIFY DIMENSIONS PRIOR TO FABRICATION AND INSTALLATION OF METAL PANELS.
4. FIELD VERIFY EXTERIOR DOOR DIMENSIONS TO REMAIN IN EXISTING WINDOW LOCATION.
5.
6.

KEY PLAN



PLAN NORTH

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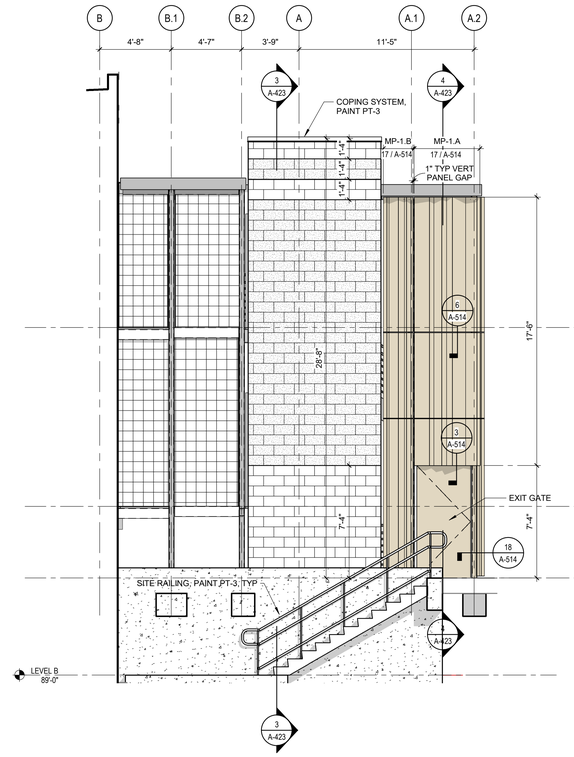
TITLE

VERTICAL CIRCULATION - PLANS

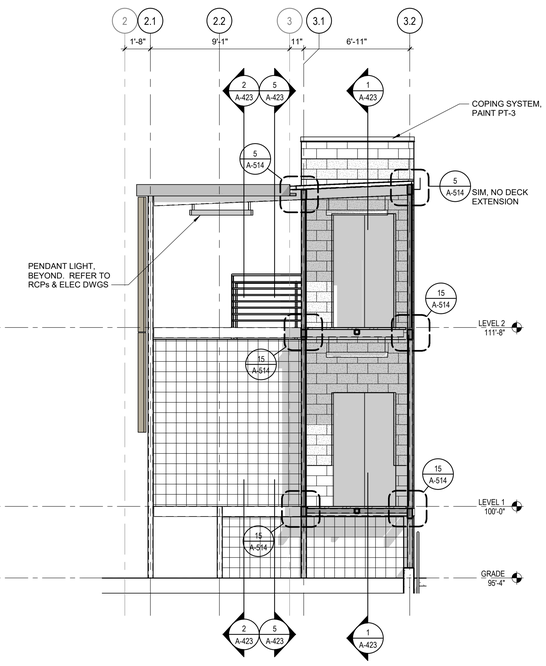
SHEET

A-421



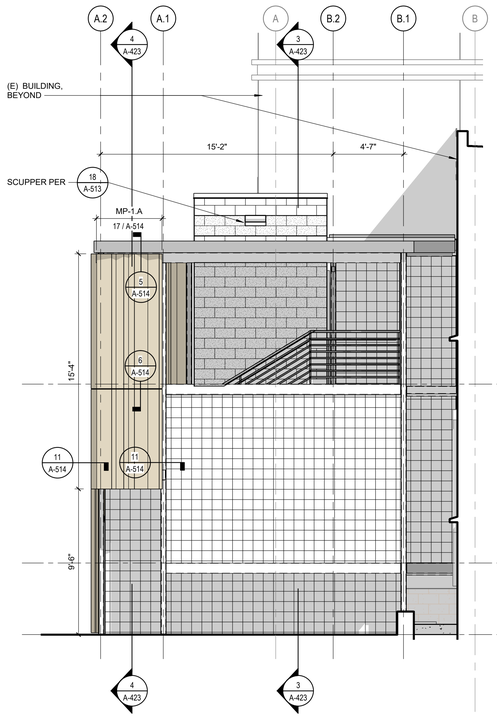
3 STAIR - NORTH ELEVATION

1/4" = 1'-0"



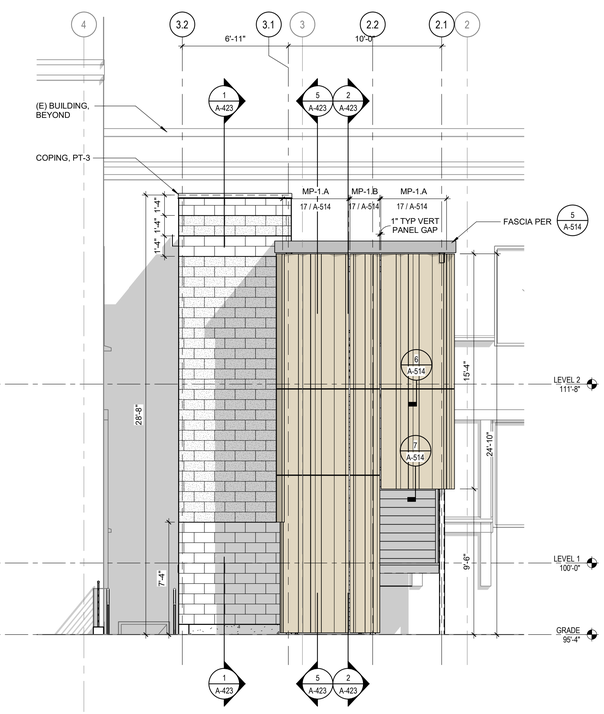
2 STAIR - EAST ELEVATION

1/4" = 1'-0"



1 SOUTH ELEVATION

1/4" = 1'-0"



4 STAIR - WEST ELEVATION

1/4" = 1'-0"

ELEVATION LEGEND

- CMU, BASALITE NATURAL PRECISION OR APPROVED EQUAL
- CMU, BASALITE NATURAL SPLIT-FACE OR APPROVED EQUAL
- GALVANIZED STRUCTURAL STEEL, PAINTED PT-1
- GALVANIZED SHEET METAL, PAINTED PT-2
- WIRE MESH, PAINTED PT-1

GLASS

GL-1 - SOLARBAN 70XL - CLEAR

PAINT COLORS

PT-1 - SW 7066

PT-2 - SW 9508

PT-3 - SW 7662

PT-4 - SW 7007

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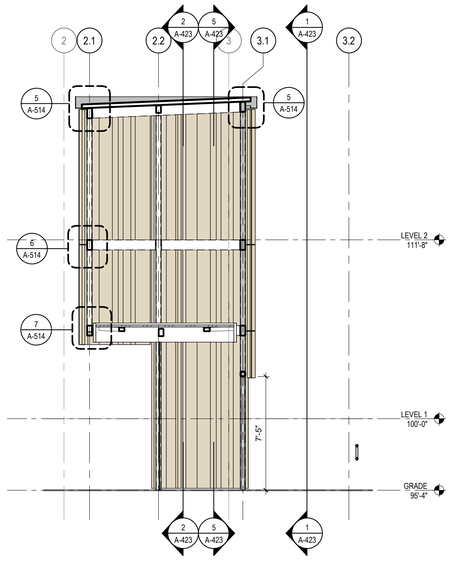
TITLE

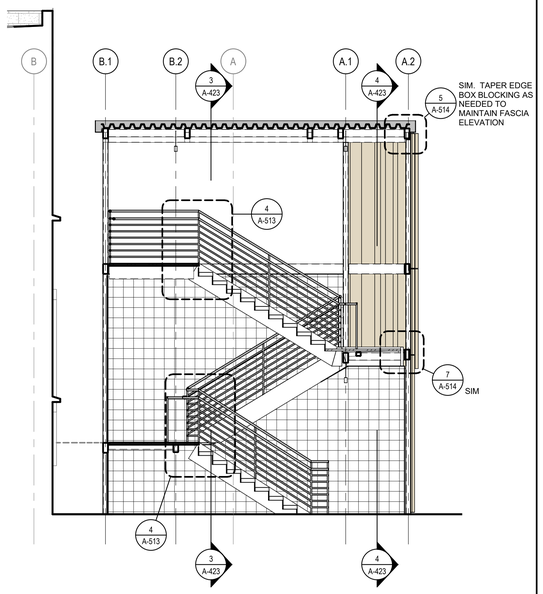
VERTICAL CIRCULATION - ELEVATIONS

SHEET

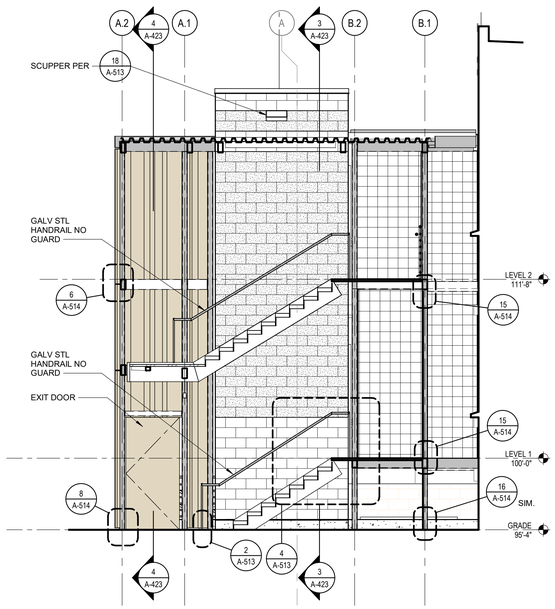
A-422



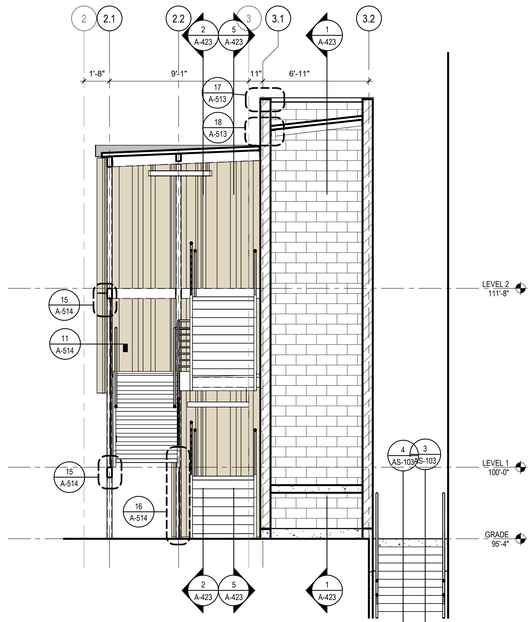
4 STAIR - SECTION NORTH/SOUTH 2
1/4" = 1'-0"



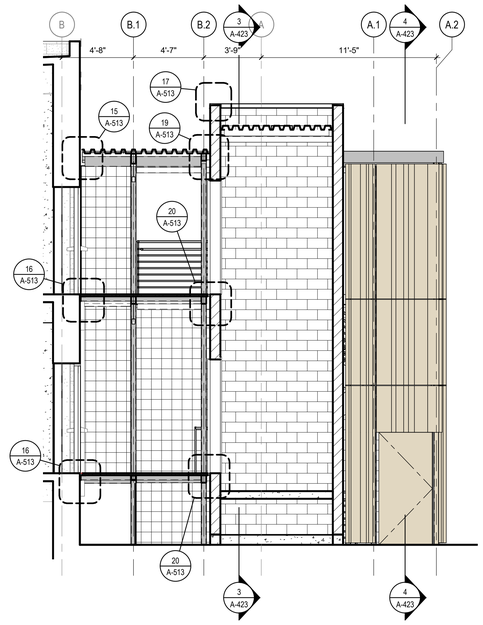
2 STAIR - SECTION EAST/WEST 1
1/4" = 1'-0"



5 STAIR - SECTION EAST/WEST 3
1/4" = 1'-0"



3 STAIR - SECTION NORTH/SOUTH 1
1/4" = 1'-0"



1 STAIR - SECTION EAST/WEST 2
1/4" = 1'-0"

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CLIENT PROJECT NO:

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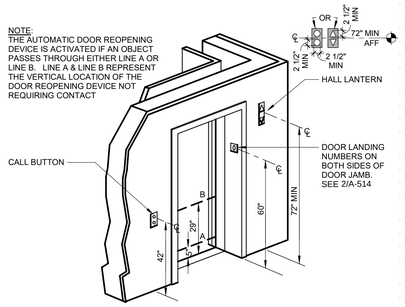
TITLE

VERTICAL CIRCULATION - SECTIONS

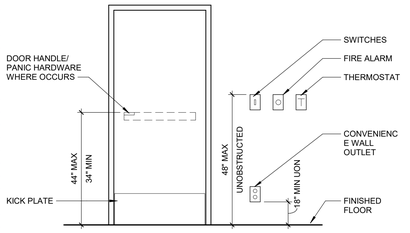
SHEET

A-423



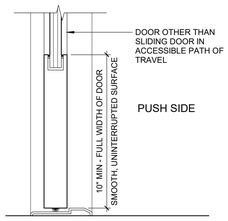
1 ELEVATOR MOUNTING HEIGHT DETAIL

1/2" = 1'-0" 0500_0100_ACC MOUNTING HEIGHT ELEV_01



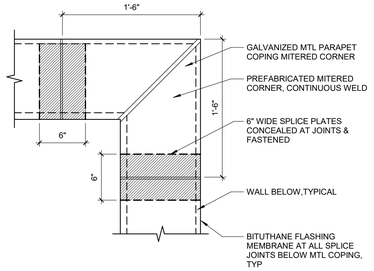
5 ACCESSIBLE MOUNTING HEIGHT REQUIREMENTS

1/2" = 1'-0" 0500_0100_ACC MOUNTING HEIGHT REQ DOOR_01 ?YYMMDD?



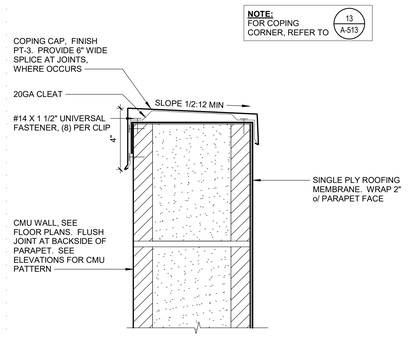
9 ACCESSIBLE DOOR SURFACE REQUIREMENT

3" = 1'-0" 0500_0100_ACC DOOR SURFACE REQ_01



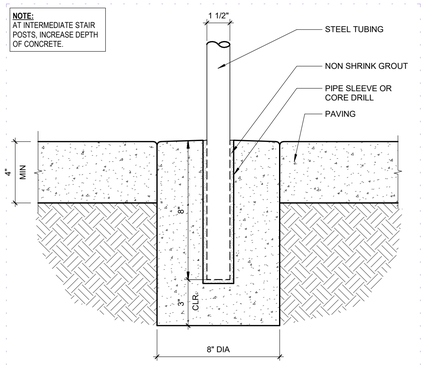
13 PARAPET CAP MITERED CORNER

1 1/2" = 1'-0" 0515_XXXX_ROOF PAR CAP MIT CNR_01



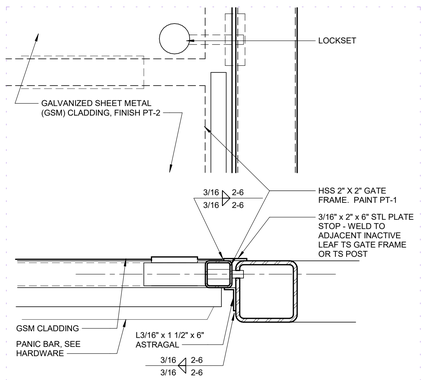
17 SCUPPER

3" = 1'-0"



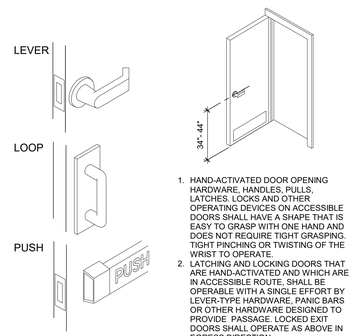
2 HANDRAIL TO SLAB

3" = 1'-0" 0500_0550_STAINLESS TUBING TO SLAB_01



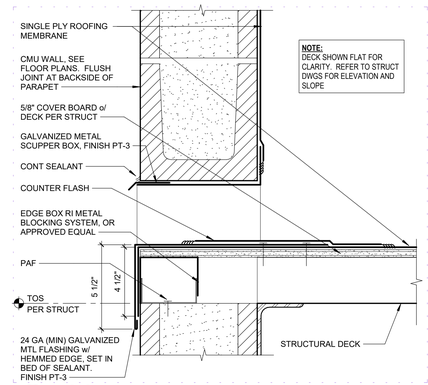
6 METAL GATE HARDWARE BOX

3" = 1'-0" 0500_3231_GATE HDW BOX_01



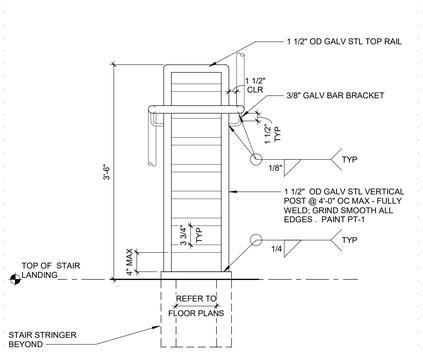
10 ACCESSIBLE DOOR HARDWARE REQUIREMENTS

1" = 1'-0" 0500_0100_ACC DOOR HARDWARE REQ_01



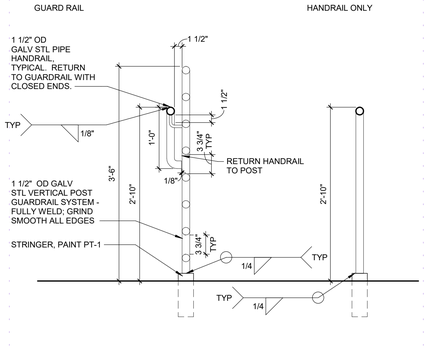
18 SCUPPER

3" = 1'-0"



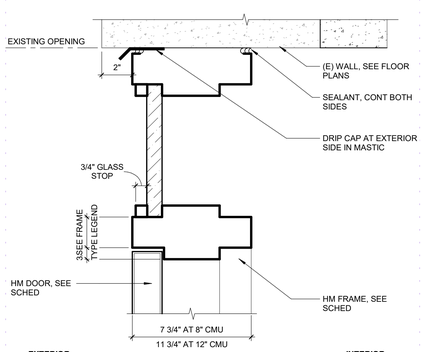
3 CENTER RAILING AT LANDING

1" = 1'-0" 0420_0551_RAILING STAIR CENTER_01



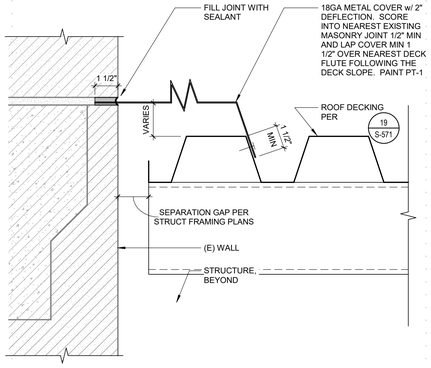
7 RAILING SECTION

1" = 1'-0"



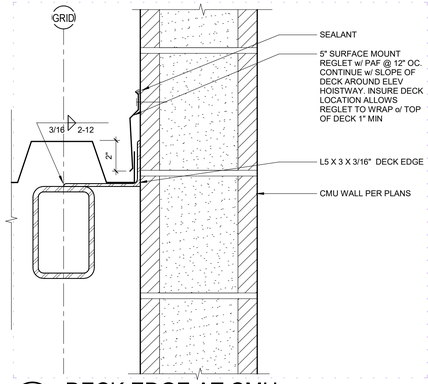
11 DOOR HEAD AT (E) MASONRY

3" = 1'-0" 0540_0811_DR HEAD CMU_01



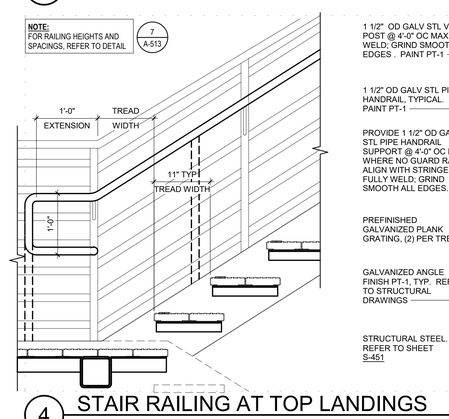
15 SEISMIC JOINT DETAIL

3" = 1'-0" 0510_0795_ SEISMIC JOINT_01



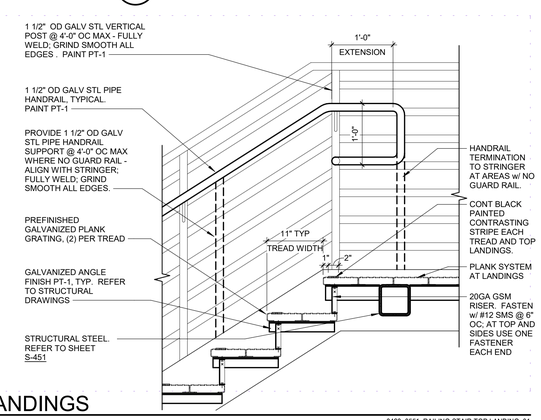
19 DECK EDGE AT CMU

3" = 1'-0"



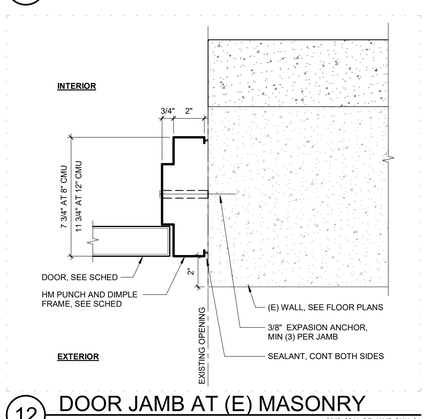
4 STAIR RAILING AT TOP LANDINGS

1" = 1'-0"



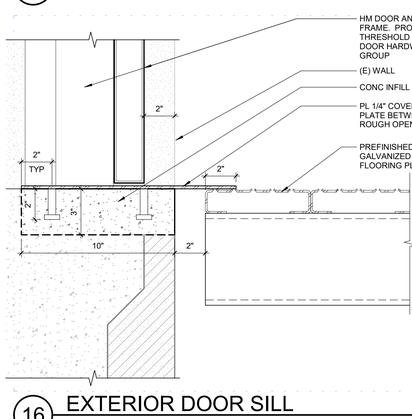
8 STAIR RAILING AT TOP LANDINGS

1" = 1'-0" 0420_0551_RAILING STAIR TOP LANDING_01



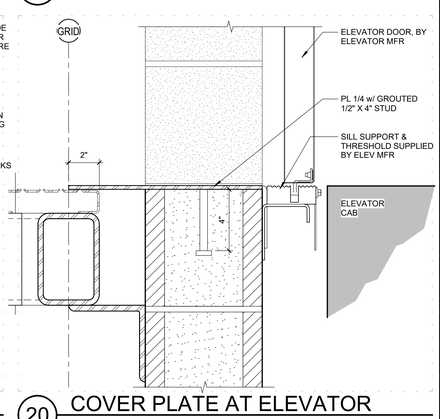
12 DOOR JAMB AT (E) MASONRY

3" = 1'-0" 0540_0811_DR JAMB CMU_01



16 EXTERIOR DOOR SILL

3" = 1'-0"

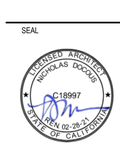


20 COVER PLATE AT ELEVATOR

3" = 1'-0"

LIONAKIS
1919 Nineteenth Street
Sacramento CA 95811
P 916.558.1900 F 916.558.1919
www.lionakis.com
CONSULTANT

SEAL



PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

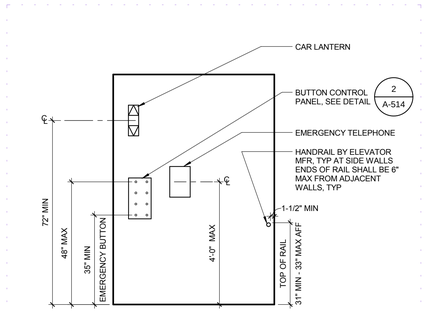
APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE

DETAILS

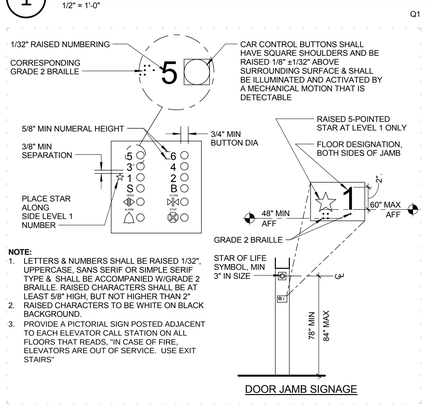
SHEET

A-513



1 ELEVATOR CONTROL MOUNTING HEIGHTS

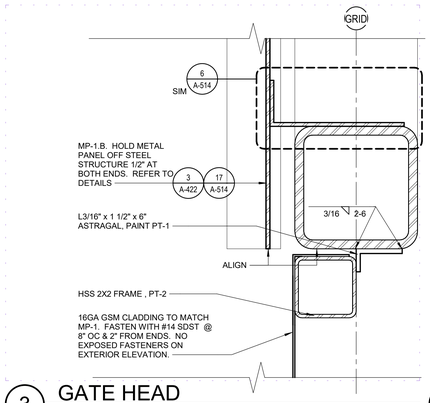
1/2" = 1'-0"



NOTE:
1. LETTERS & NUMBERS SHALL BE RAISED 1/32", UPPERCASE, SANS SERIF OR SIMPLE SERIF TYPE & SHALL BE ACCOMPANIED W/GRADE 2 BRAILLE. RAISED CHARACTERS SHALL BE AT LEAST 5/8" HIGH, BUT NOT HIGHER THAN 2".
2. RAISED CHARACTERS TO BE WHITE ON BLACK BACKGROUND.
3. PROVIDE A PICTORIAL SIGN POSTED ADJACENT TO EACH ELEVATOR CALL STATION ON ALL FLOORS THAT READS, "IN CASE OF FIRE, ELEVATORS ARE OUT OF SERVICE. USE EXIT STAIRS"

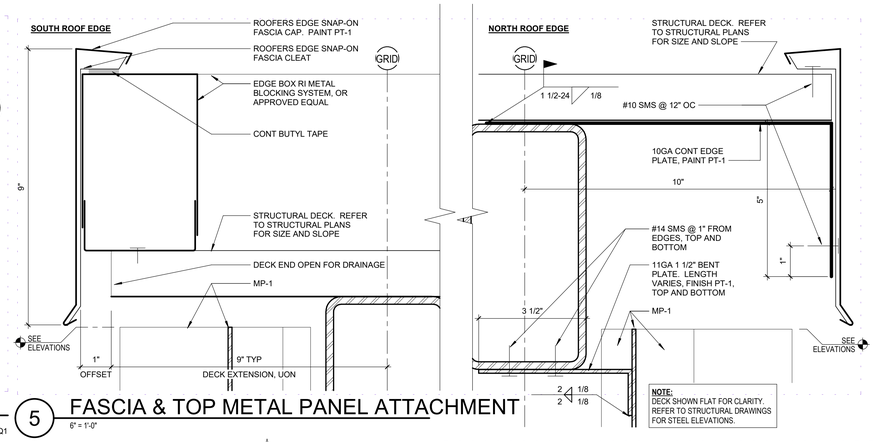
2 ELEVATOR CONTROL PANEL

1/4" = 1'-0"



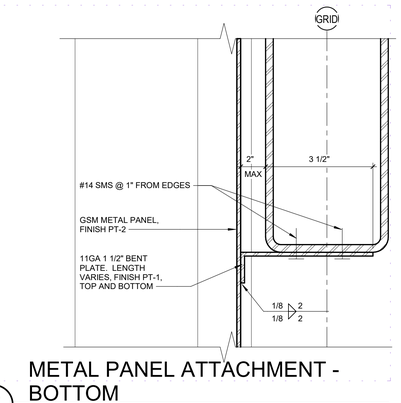
3 GATE HEAD

6" = 1'-0"



5 FASCIA & TOP METAL PANEL ATTACHMENT

6" = 1'-0"

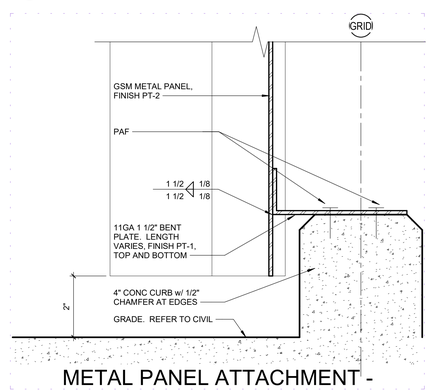


6 METAL PANEL ATTACHMENT - INTERMEDIATE

6" = 1'-0"

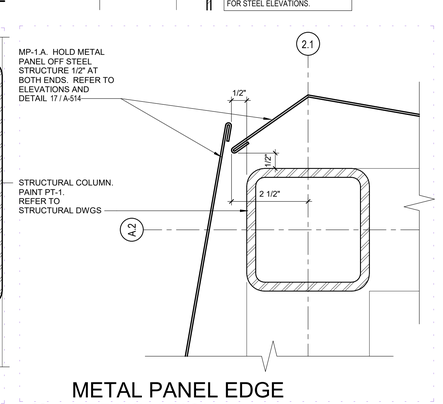
7 METAL PANEL ATTACHMENT - BOTTOM

6" = 1'-0"



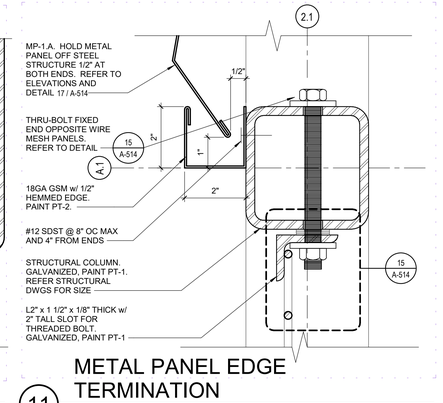
8 METAL PANEL ATTACHMENT - CURB

6" = 1'-0"



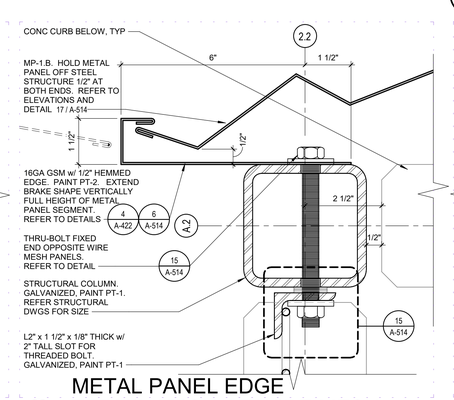
10 METAL PANEL EDGE TERMINATION

6" = 1'-0"



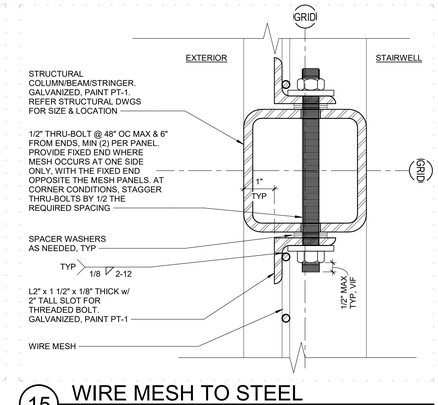
11 METAL PANEL EDGE TERMINATION

6" = 1'-0"



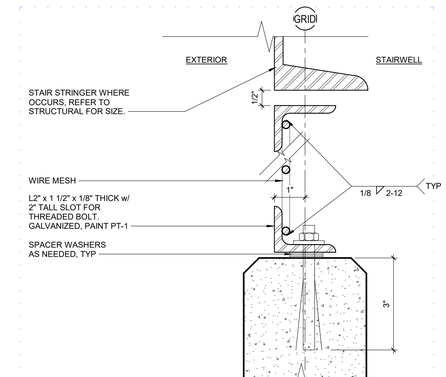
14 METAL PANEL EDGE TERMINATION AT WIRE MESH

6" = 1'-0"



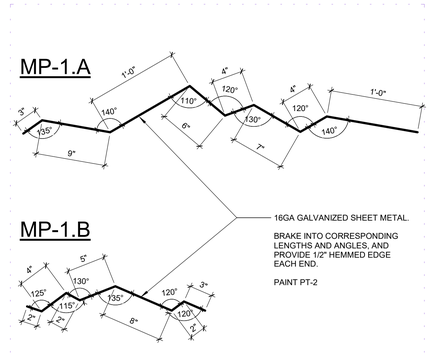
15 WIRE MESH TO STEEL

6" = 1'-0"



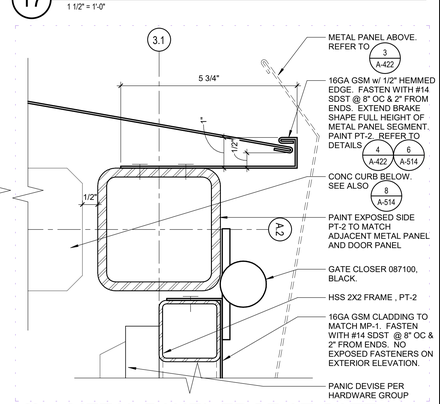
16 WIRE MESH TO CURB

6" = 1'-0"



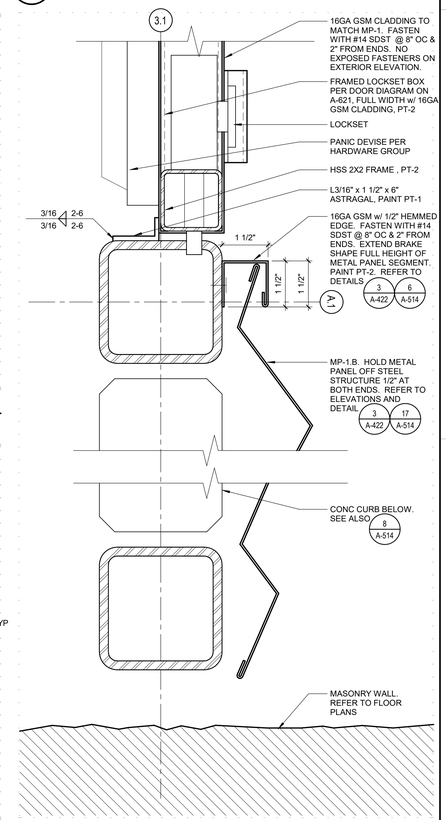
17 METAL PANEL BRAKE LAYOUT

1 1/2" = 1'-0"



18 METAL PANEL EDGE AT GATE

6" = 1'-0"



20 METAL PANEL EDGE AT GATE

6" = 1'-0"

LIONAKIS
1919 Nineteenth Street
Sacramento CA 95811
P 916.558.1900 F 916.558.1919
www.lionakis.com
CONSULTANT

SEAL

LICENSED ARCHITECT NICHOLAS DODGE C18997 REN 02-29-22 STATE OF CALIFORNIA

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
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TITLE

DETAILS

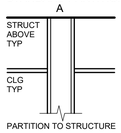
SHEET

A-514

PARTITION CONFIGURATION DIAGRAMS (FOURTH CHARACTER DESIGNATOR)

STANDARD PARTITION CONFIGURATIONS

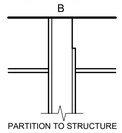
A



PARTITION TO STRUCTURE

SINGLE GYP BD BOTH SIDES TO STRUCTURE

B

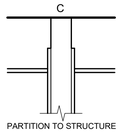


PARTITION TO STRUCTURE

SINGLE GYP BD ONE SIDE TO STRUCTURE

SINGLE GYP BD ONE SIDE 6" ABOVE CEILING

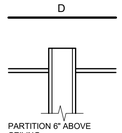
C



PARTITION TO STRUCTURE

SINGLE GYP BD BOTH SIDES, 6" ABOVE CEILING

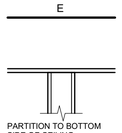
D



PARTITION 6" ABOVE CEILING

SINGLE GYP BD BOTH SIDES, 6" ABOVE CEILING

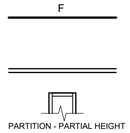
E



PARTITION TO BOTTOM SIDE OF CEILING

SINGLE GYP BD BOTH SIDES TO BOTTOM SIDE OF CEILING

F

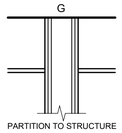


PARTITION - PARTIAL HEIGHT

SINGLE GYP BD BOTH SIDES TO TOP OF PARTITION

SEE ELEVATIONS

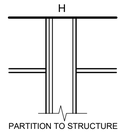
G



PARTITION TO STRUCTURE

DOUBLE GYP BD BOTH SIDES TO STRUCTURE

H

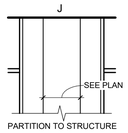


PARTITION TO STRUCTURE

DOUBLE GYP BD ONE SIDE TO STRUCTURE

SINGLE GYP BD ONE SIDE TO STRUCTURE

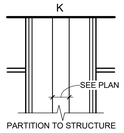
J



PARTITION TO STRUCTURE

SINGLE GYP BD BOTH SIDES TO STRUCTURE

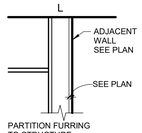
K



PARTITION TO STRUCTURE

DOUBLE GYP BD BOTH SIDES TO STRUCTURE

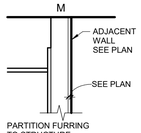
L



PARTITION FURRING TO STRUCTURE

SINGLE GYP BD ONE SIDE TO STRUCTURE

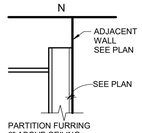
M



PARTITION FURRING TO STRUCTURE

SINGLE GYP BD ONE SIDE 6" ABOVE CEILING

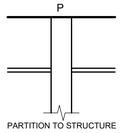
N



PARTITION FURRING 6" ABOVE CEILING

SINGLE GYP BD ONE SIDE 6" ABOVE CEILING

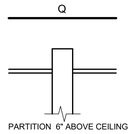
P



PARTITION TO STRUCTURE

NO GYP BD

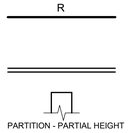
Q



PARTITION 6" ABOVE CEILING

NO GYP BD

R

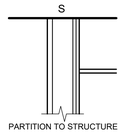


PARTITION - PARTIAL HEIGHT

NO GYP BD

SEE ELEVATIONS

S

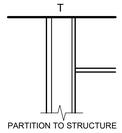


PARTITION TO STRUCTURE

SHAFT LINER ONE SIDE TO STRUCTURE

DOUBLE GYP BD ONE SIDE TO STRUCTURE

T

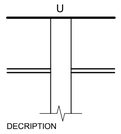


PARTITION TO STRUCTURE

SHAFT LINER ONE SIDE TO STRUCTURE

SINGLE GYP BD ONE SIDE TO STRUCTURE

U



DECRIPTION

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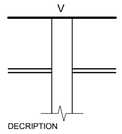

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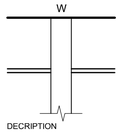

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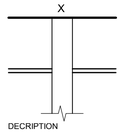

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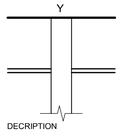

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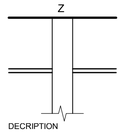

DECRIPTION

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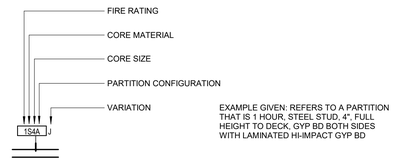
PARTITION TYPE SYMBOL KEY



PARTITION SYMBOL DESIGNATORS

FIRST CHARACTER 1S4A J

DESIGNATOR	FIRE RATING
0	NON-RATED
1	1 HR
2	2 HR
3	3 HR
4	4 HR

SECOND CHARACTER 1S4A J

DESIGNATOR	CORE MATERIAL
C	CONCRETE
D	DETENTION WALL
E	EXISTING
F	FURRING - WOOD
H	STEEL HAT CHANNELS
M	MASONRY
S	STEEL STUD
T	SHAFTWALL STUD
W	WOOD STUD
Z	STEEL ZEE CHANNELS

THIRD CHARACTER 1S4A J

	DESIGNATOR	CORE MATERIAL SIZE C	D	F	H	M	S	T	W	Z	--	--
SIDES	1			3/4"	3/4"		1 5/8"			7/8"		
	2		2"	1 1/2"	1 1/2"		2 1/2"			1 1/2"		
	3			2 1/2"	2 1/2"		3 5/8"	2 1/2"				
	4	4"					4"	4"	3 1/2"			
	6	6"				5 5/8"	6"	6"	5 1/2"			
	8	8"				7 5/8"	8"		7 1/4"			
	10	10"				9 5/8"	10"		9 1/4"			
	12	12"				11 5/8"	12"		11 1/4"			

FOURTH CHARACTER 1S4A J

SEE PARTITION CONFIGURATION DIAGRAMS AT LEFT

FIFTH CHARACTER 1S4A J

DESIGNATOR	VARIATION MATERIAL
A	MOISTURE RESISTANT GYP BD
B	CEMENTITIOUS BACKER BD
C	GYP BD, ADDITIONAL LAYER
D	REMOVE GYP BD
E	SOUND DAMPENING GYP BD
F	HI-IMPACT GYP BD
G	PLYWOOD
H	LEAD BACKED GYP BD
J	LAMINATED HI-IMPACT GYP BD
K	RIGID INSULATION
L	BULLET RESISTANT COMPOSITE PANELS
M	WITHOUT ACOUSTIC INSULATION
P	PARTITION
S	SMOKE
W	FIRE

PARTITION TYPE GENERAL NOTES

1. REFER TO THE FLOOR PLANS FOR PARTITION TYPE SYMBOLS. A PARTITION TYPE IS INDICATED BY A SYMBOL CONTAINING THE PARTITION IDENTIFICATION WHICH REFERS TO A SPECIFIC ASSEMBLY INDICATED ON THIS SHEET.

2. THE CONSTRUCTION OF EXTERIOR WALLS ARE SHOWN ON WALL SECTIONS & CORRESPONDING DETAILS. PARTITION SYMBOLS ARE ONLY USED TO SHOW INTERIOR CONDITIONS, INCLUDING INTERIOR FURRING OF EXTERIOR WALLS.

3. PARTITION TYPES AS NOTED BY THE SYMBOL CONTINUE BETWEEN ROOM/SPACE CORNERS OR ANY INTERSECTING PARTITION.

4. SEE PLANS FOR STRUCTURE ABOVE NOTED IN PARTITION CONFIGURATION DIAGRAMS.

5. THE PARTITION TYPE ABOVE OR BELOW ANY OPENING IS TO BE THE SAME AS THAT SCHEDULED FOR EITHER SIDE OF THE OPENING, UNO.

6. DIFFERING PARTITION TYPES SHALL ALIGN SO THAT PARTITION FINISH PLANES CONTINUE UNBROKEN WITHIN AND/OR ACROSS SPACES.

7. IN CASES WHERE TWO DIFFERENT CEILING HEIGHTS ABUT PARTITIONS, THE PARTITION SHALL EXTEND ABOVE THE HIGHEST CEILING INDICATED.

8. GYPSUM BOARD SHALL BE FIRE RESISTANT, TYPE 'X' UNO. FIRE RATED PARTITIONS SHALL BE CONSTRUCTED PER CBC, TABLE 720.1(2).

9. PROVIDE MOISTURE RESISTANT GYP BOARD AT PARTITIONS IN WET AREAS (FLOOR TO FINISH CEILING) INCLUDING BUT NOT LIMITED TO THE FOLLOWING ROOMS

   A. TOILET ROOMS
   B. JANITOR CLOSETS
   C. OUTSIDE AIR SHAFTS
   D. MECHANICAL ROOMS
   E. DRINKING FOUNTAIN ALCOVES
   F. KITCHENS
   G. LOCKERS

PROVIDE CEMENTITIOUS BACKER BOARD AT WET AREAS SCHEDULED WITH TILE FINISH.

10. PROVIDE ACOUSTICAL TREATMENT AT PARTITIONS WITH ACOUSTIC INSULATION.

FILL STUD CAVITIES & RUN INSULATION CONTINUOUS AROUND COLUMNS & OTHER OBSTRUCTIONS TO FORM A CONTINUOUS ACOUSTIC BARRIER.

   A. INSTALL ACOUSTIC BATT INSULATION, FULL WIDTH, DEPTH, AND HEIGHT.

INSTALL ACOUSTICAL SEALANT AT PARTITION HEAD, SILL & JAMB TRANSITIONS, AS WELL AS AT PENETRATIONS THROUGH THE GYPSUM BOARD MEMBRANE INCLUDING PENETRATIONS AT MOUNTING FASTENERS. FIRE STOPPING REQUIREMENTS SHALL SUPERCEDE ACOUSTIC TREATMENT.

GYPSUM BOARD SILL & JAMB EDGES TERMINATING AT DISSIMILAR MATERIAL (CMU, CONCRETE, METAL PANEL, ETC) SHALL ALLOW 1/4" CONTINUOUS GAP AND BE SEALED AIRTIGHT WITH AN ACOUSTIC SEALANT.

THE BACK AND SIDES OF DUPLEX ELECTRICAL OUTLETS, TELEPHONE OUTLETS, CABLE TV OUTLETS, FIRE ALARM DEVICES, THERMOSTATS, ETC, SHALL BE SEALED WITH FIRE STOP PUTTY PADS AS SPECIFIED FOR FIRE RATED ASSEMBLIES. ELSEWHERE, BACK-TO-BACK OUTLET BOXES TO BE SEPARATED BY ONE EMPTY STUD SPACE AND A MINIMUM OF 16 INCHES.

11. PARTITIONS INDICATED AS FIRE OR SMOKE RATED FORM A SEPARATION THAT SHALL BE CONTINUOUS FROM FLOOR TO STRUCTURE ABOVE WITH NO BREAKS AT CONCEALED SPACES, COLUMNS, TRANSITIONS OR OTHER OBSTRUCTIONS.

12. PENETRATIONS THROUGH RATED PARTITIONS SHALL BE SEALED WITH UL LISTED FIRE/SMOKE STOP ASSEMBLY.

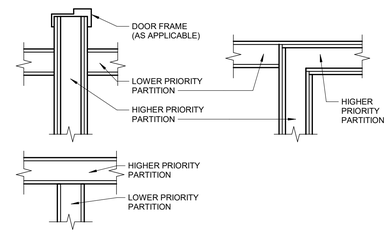
13. SEE PARTITION PRIORITY LEGEND FOR PRIORITIZATION OF INTERSECTING PARTITIONS.

PARTITION TYPE SCHEDULE

PARTITION TYPE	VARIATION	UL ASSEMBLY	STC RATING	HEAD	SILL	HEAD	SILL	REMARKS
0S3M								
1S6A		U419, HW-D-0042, BW-S-0001		15/A-532	16/A-532			SEE SHEET A-661 FOR UL ASSEMBLIES

PARTITION TYPE SHEET NOTES

PARTITION PRIORITY LEGEND



PARTITION PRIORITY LEGEND

FOUR HOUR FIRE AND/OR SMOKE PARTITION	PRIORITY 1 (HIGHEST)
THREE HOUR FIRE AND/OR SMOKE PARTITION	PRIORITY 2
TWO HOUR FIRE AND/OR SMOKE PARTITION	PRIORITY 3
TWO HOUR FIRE PARTITION	PRIORITY 4
TWO HOUR SHAFTWALL	
ONE HOUR FIRE AND/OR SMOKE PARTITION	PRIORITY 5
ONE HOUR FIRE PARTITION	PRIORITY 6
NON-RATED PARTITION	PRIORITY 7 (LOWEST)

NOTE:
1. ALL PARTITIONS MAY NOT BE USED. SEE PLANS.
2. PARTITIONS WITH HIGHER ASSIGNED PRIORITY SHALL BE CONTINUOUS THROUGH INTERSECTIONS.

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CONSULTANT

SEAL

LICENSED ARCHITECT NICHOLAS DOCOSS C18997 STATE OF CALIFORNIA

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS

707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

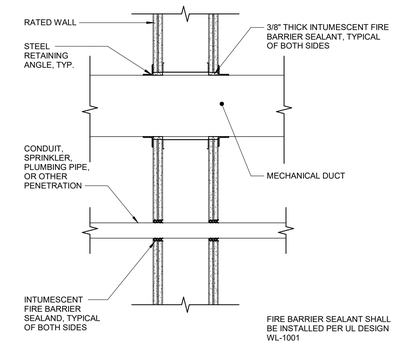
APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE

PARTITION TYPES & SCHEDULE

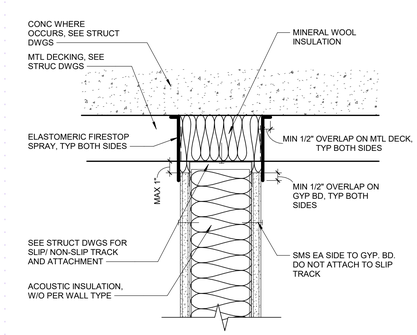
SHEET

A-531

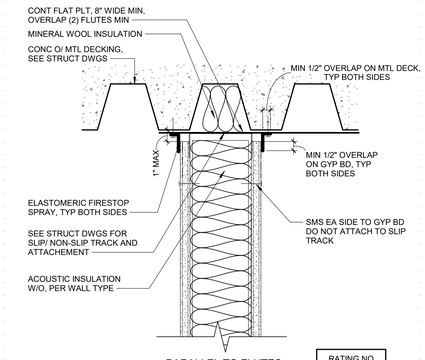


17 RATED WALL PENETRATION

1 1/2" = 1'-0" 0530_XXXX_WL PENETRATION RATED_01



PERPENDICULAR TO FLUTES

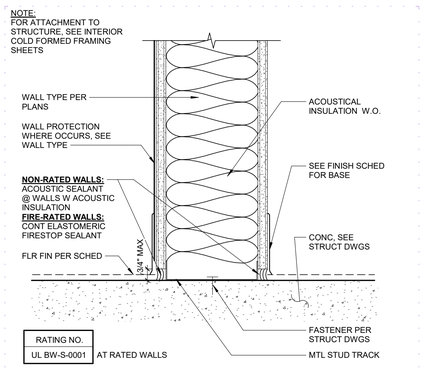


PARALLEL TO FLUTES

RATING NO.
UL HW-D-0042

15 1-HR RATED WALL HEAD

3" = 1'-0" 0530_XXXX_HEAD 1HR CONC OVER MTL DECK_01

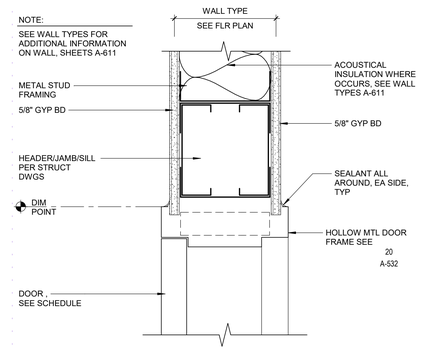


RATING NO.
UL BW-S-0001

AT RATED WALLS

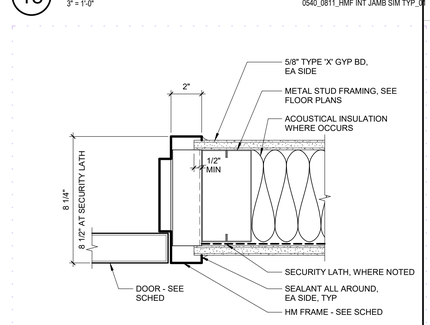
16 MTL STUD WALL - BASE

3" = 1'-0" 0530_0330_BASE AT CONC MTD STUD WL_01



18 TYP INT HMF HEAD (JAMB SIM)

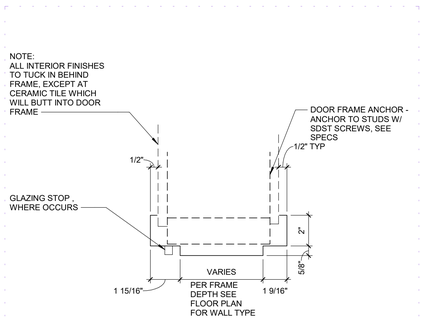
3" = 1'-0" 0540_0811_HMF INT JAMB SIM TYP_01



NOTE:
OMIT SECURITY LATH AT ADMINISTRATION AREAS

19 JAMB IN METAL STUD WALL

3" = 1'-0" 0540_0811_JAMB IN CFMF_01



20 TYP INT HOLLOW MTL FRAME

3" = 1'-0" 0540_0811_HMF INT TYP_01

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CONSULTANT

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LICENSED ARCHITECT NICHOLAS DOCOUX C18997 REN 02-29-21 STATE OF CALIFORNIA

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MARK	DATE	DESCRIPTION
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CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
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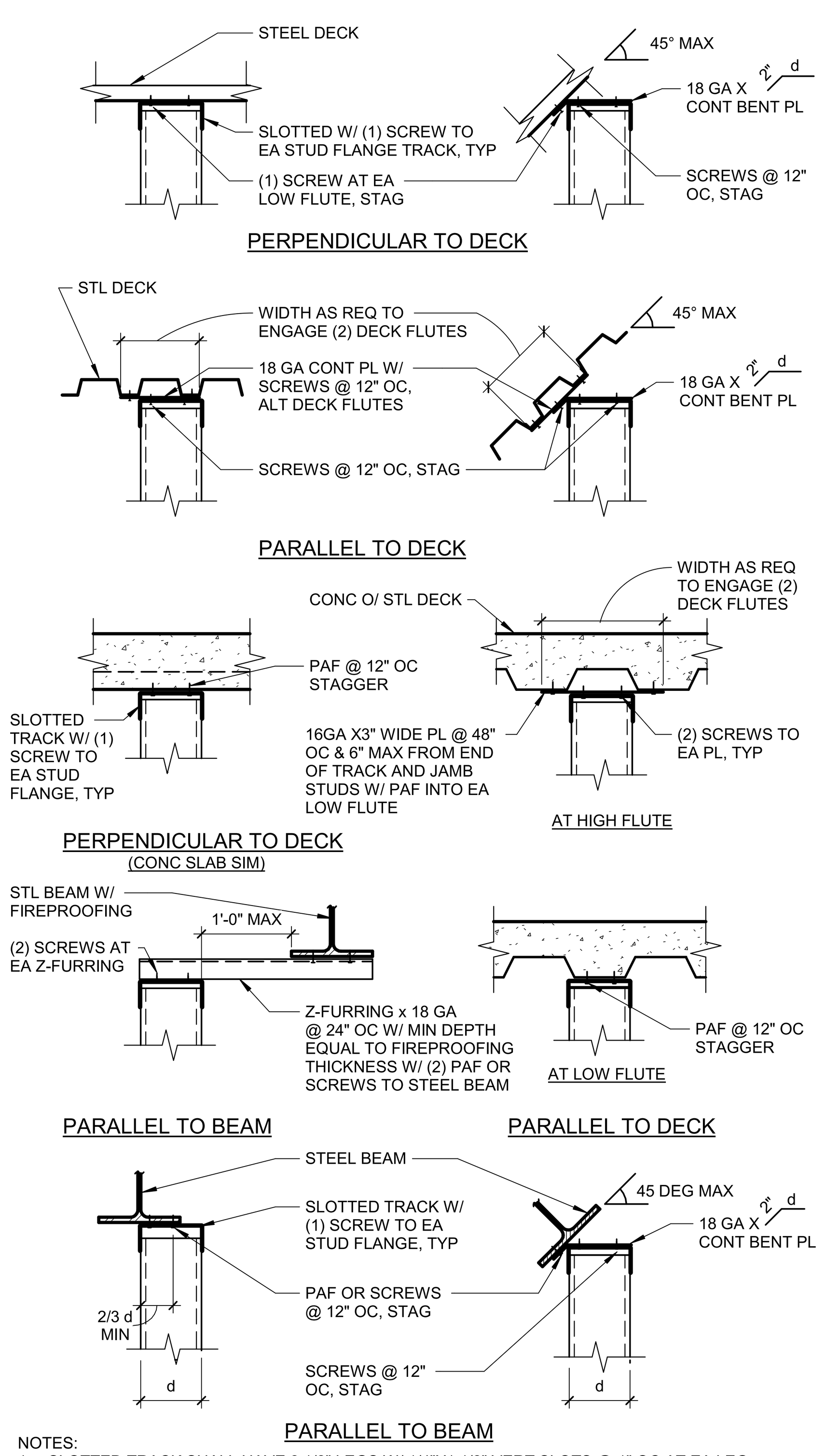
3:31 pm, Oct 27, 2020

TITLE

DETAILS - INTERIOR

SHEET

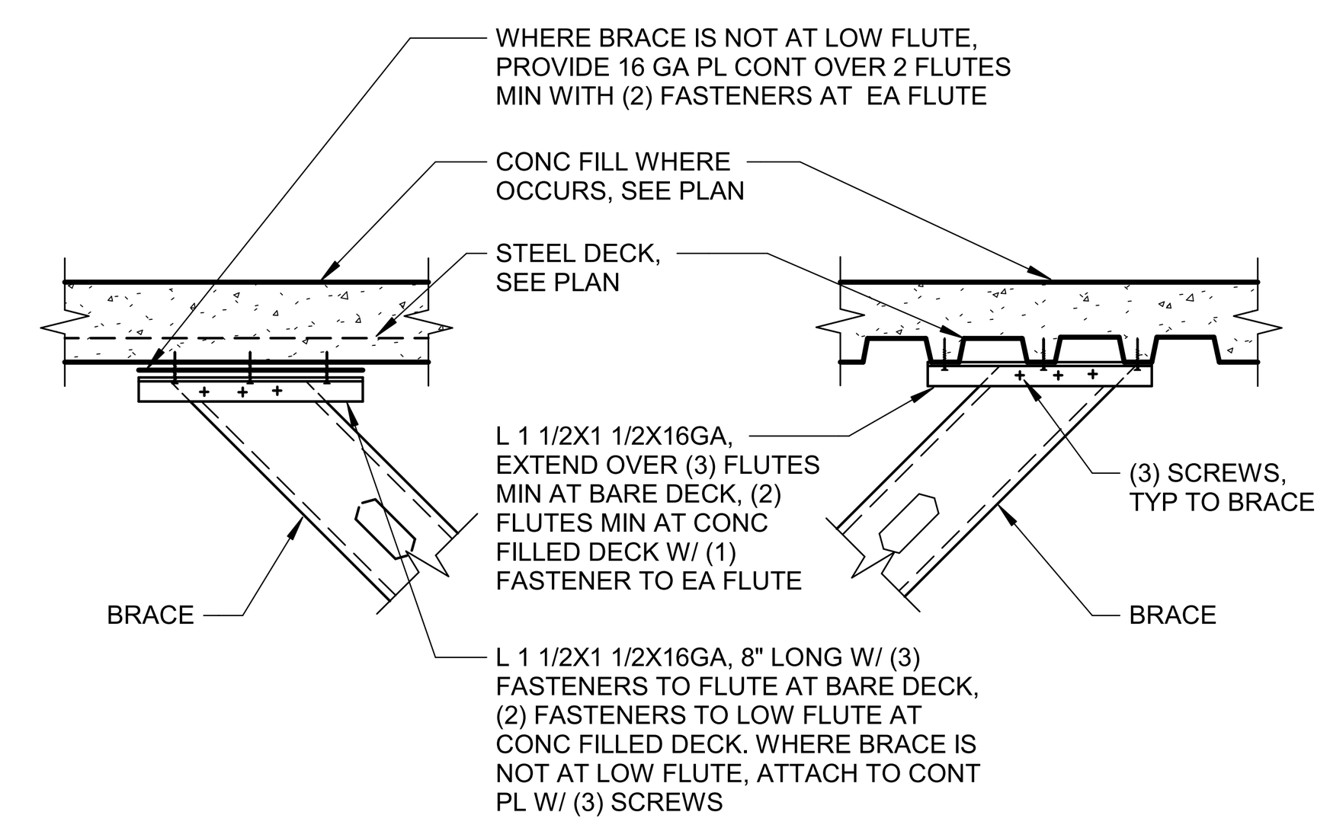
A-532



NOTES:
1. SLOTTED TRACK SHALL HAVE 2 1/2" LEGS W/ 1/4"X1 1/2" VERT SLOTS @ 1" OC AT EA LEG. (ICC ESR-2012 OR EQUIV)
2. SLOTTED TRACK TO BE 20GA MIN. (FOR WALLS W/ H GREATER THAN 9'-6", USE I8 GA MIN)
3. TOP OF STUD TO BE 3/4" CLEAR FROM SLOTTED TRACK WEB.
4. PROVIDE (1) SCREW TO EA STUD FLANGE, LOCATE SCREW AT CENTER OF SLOT.
5. NO ATTACHMENT OF SHEATHING OR FINISHES IS PERMITTED TO FRAMING WITHIN 4" OF THE TOP OF THE SLOTTED TRACK.

2 TYP CFSF WALL CONN AT TOP

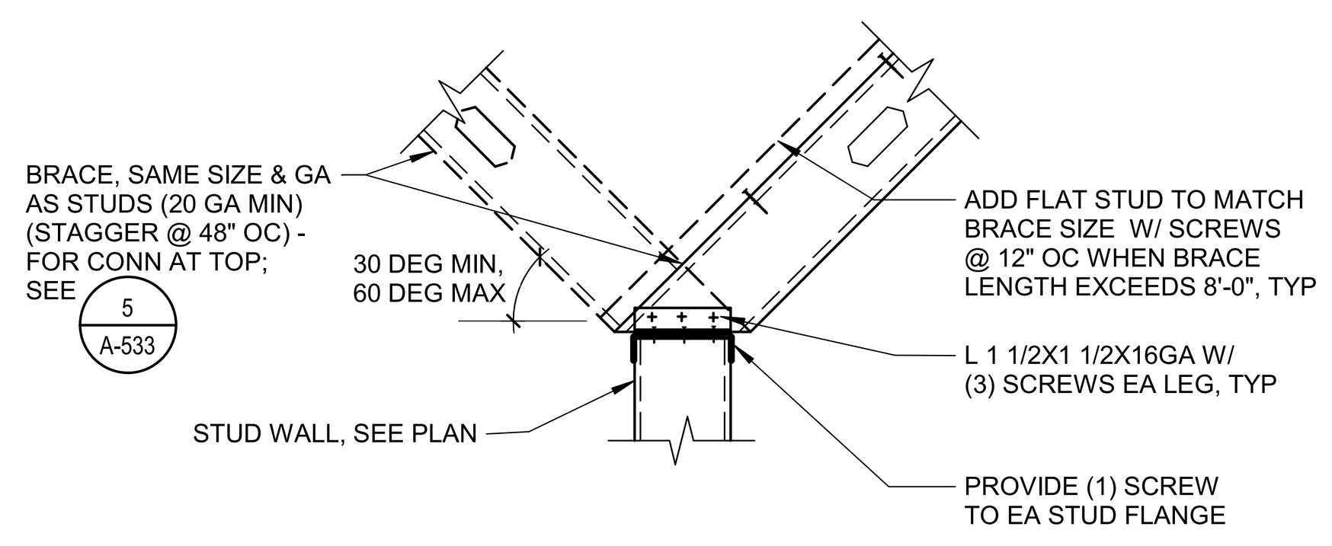
SCALE: NTS — S-_092216_T037A 170626. Q2



NOTES:
1. FASTENERS SHALL BE:
AT BARE DECK: TYP SCREW
AT CONC-FILLED DECK: 3/8" DIA "HILTI" KB-TZ W/ 2 3/8" EMBED, 3/8" DIA "SIMPSON" STRONG-BOLT 2 W/ 2" EMBED, OR 3/8" DIA "DEWALT" POWER-STUD+ SD2 W/ 2 3/8" EMBED.
2. DECK MAY SLOPE, SEE PLANS

5 TYP BRACE CONN TO DECK

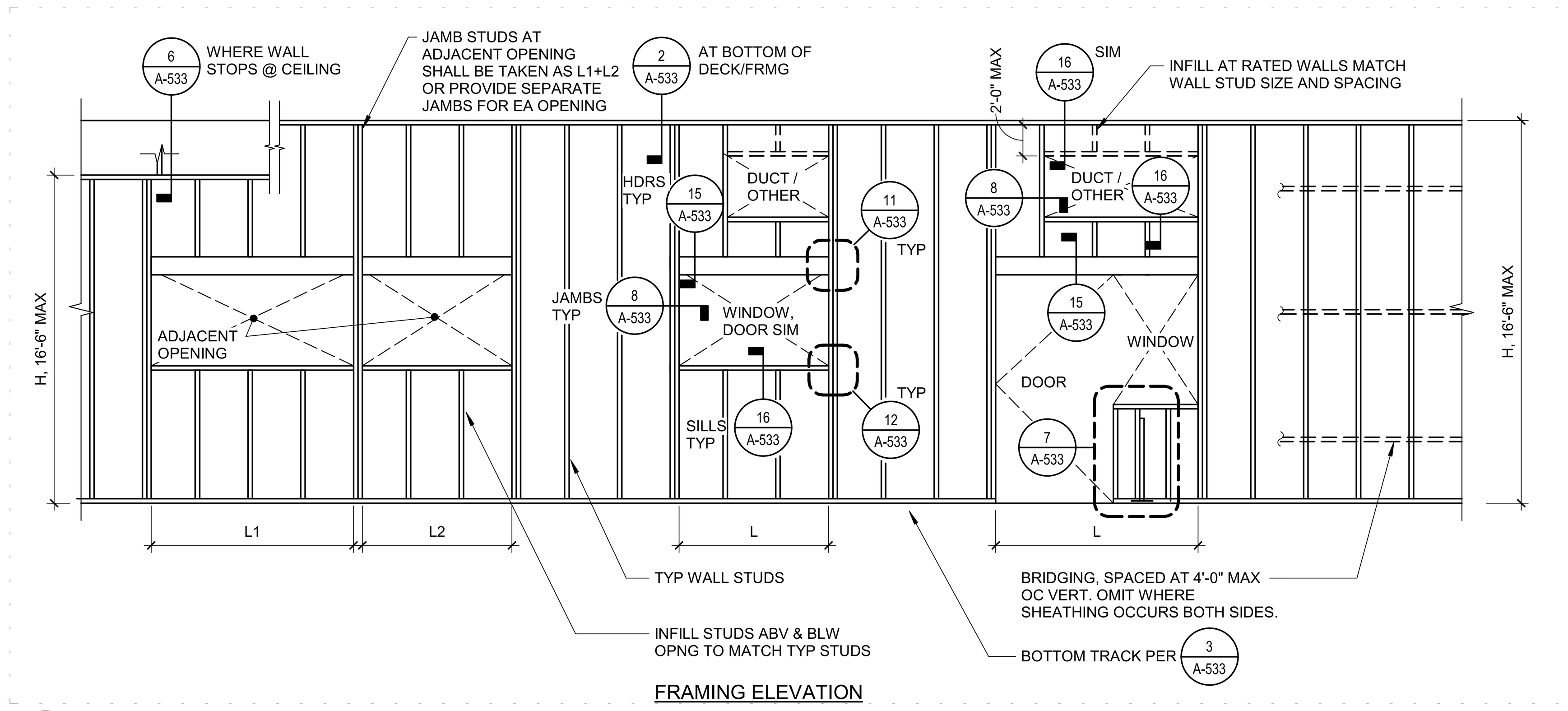
SCALE: NTS — S-_092216_T026A 200302. Q2



NOTE:
1. FOR OPENINGS WIDER THAN 4'-0", PROVIDE ADDL BRACE AT EA JAMB.

6 TYP CEILING HEIGHT CFSF WALL BRACING

SCALE: NTS — S-_092216_T025A 180809. Q2

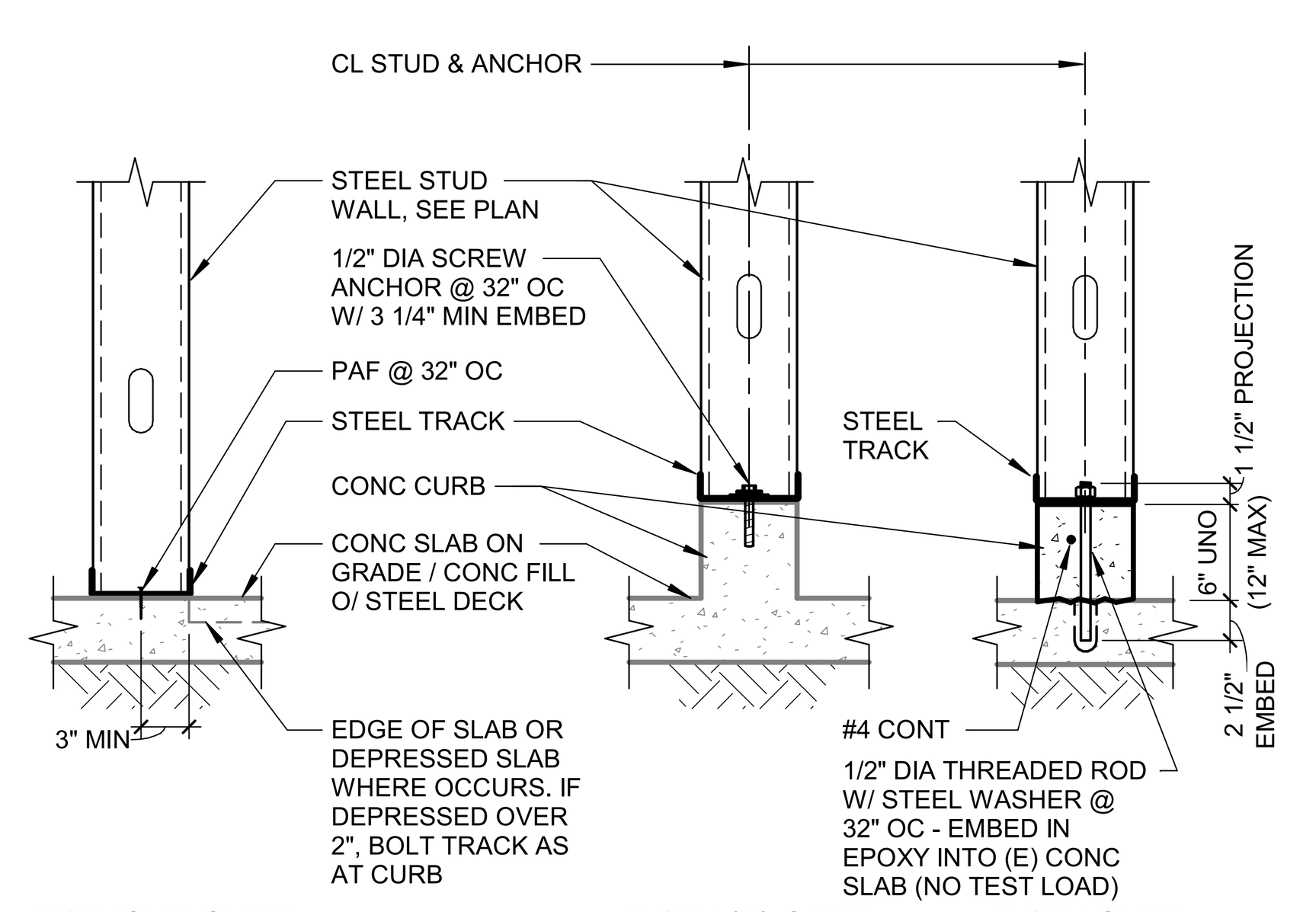


NOMINAL SIZE	SSMA DESIGNATION
3 5/8"X20GA	362S137-33
3 5/8"X18GA	362S137-43
3 5/8"X16GA	362S137-54
4"X20GA	400S137-33
4"X18GA	400S137-43
4"X16GA	400S137-54
6"X20GA	600S137-33
6"X18GA	600S137-43
6"X16GA	600S137-54
8"X18GA	800S137-43
8"X16GA	800S137-54
10"X16GA	1000S162-54

NOTES:
1. SEE ADJACENT TABLE FOR SSMA DESIGNATION OF MEMBERS REFERENCED IN PLANS / DETAILS
2. STUDS SHALL BE SPACED AT 24" OC MAX EXCEPT WHERE NOTED OTHERWISE. FOR WALLS WHERE "H" EXCEEDS 9'-6": 3 5/8"X20GA STUDS SHALL BE SPACED @ 16" OC MAX
3. DETAILS AND MEMBER SIZES SHOWN ASSUME WALL WT OF 8 PSF AND DEFLECTION LIMITED TO H/120.
4. WALLS SUPPORTING TILE OR OTHER BRITTLE FINISHES WHERE DEFLECTION IS LIMITED TO H/240 SHALL BE THE FOLLOWING AT A MINIMUM:
H = 9'-6" MAX: 3 5/8"X20GA MIN @ 16" OC MAX
H = 16'-6" MAX: 3 5/8"X18GA MIN @ 16" OC MAX
5. WHERE DETAILS INDICATE SUPPORT OF CEILING / CASEWORK, THIS ASSUMES CASEWORK IN ADDITION TO CEILING FRAMING W/ A 12'-0" MAX SPAN EACH SIDE OF WALL. ASSUMED CEILING LOAD IS:
DL = 10PSF; LL = 10PSF.
ASSUMED CASEWORK LOAD IS: 100 PLF.
6. STUDS SUPPORTING CEILINGS OR WALL MOUNTED CASEWORK / EQUIPMENT SHALL BE 20GA MIN.

10 TYP CFSF STUD WALL

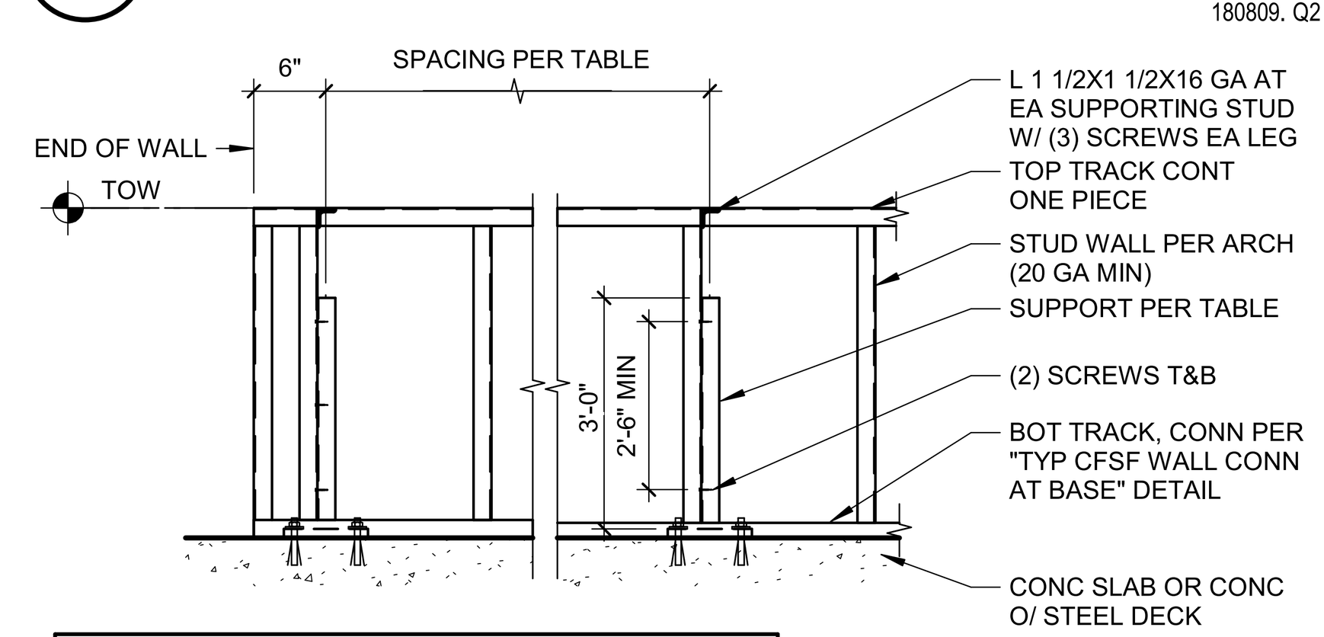
SCALE: NTS — S-_092216_T011A 190926. Q2



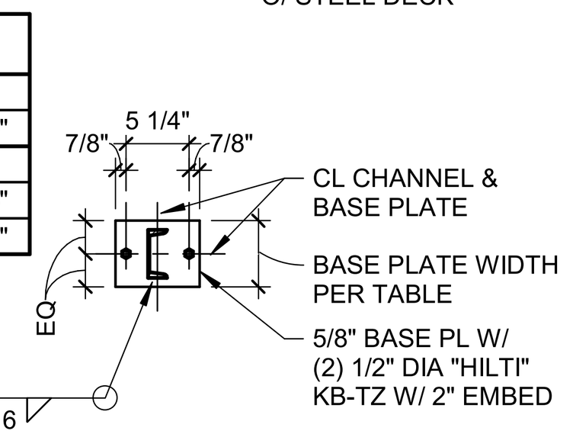
NOTES:
1. TWO ANCHORS MIN FOR EA PIECE OF TRACK, LOCATED 4" MIN, 12" MAX FROM ENDS OF TRACK (8" MIN TO END OF CONC CURB).
2. PROVIDE ADDITIONAL ANCHOR 4" MIN, 12" MAX FROM EA SIDE OF ANY SPLICES, HOLES OR NOTCHES IN TRACK GREATER THAN 1/3 THE TRACK WIDTH.
3. PROVIDE (1) SCREW FROM TRACK TO EA STUD FLANGE.
4. SCREW ANCHORS SHALL BE "SIMPSON" TITEN HD (ICC ESR 2713) OR "HILTI" KH-EZ (ICC ESR 3027).
5. EPOXY SHALL BE "SIMPSON" SET-XP (IAPMO ER 263) OR "HILTI" HY-200 (ICC ESR 3187).

3 TYP CFSF WALL CONN AT BASE

SCALE: NTS — S-_092216_T019C 200720. Q2



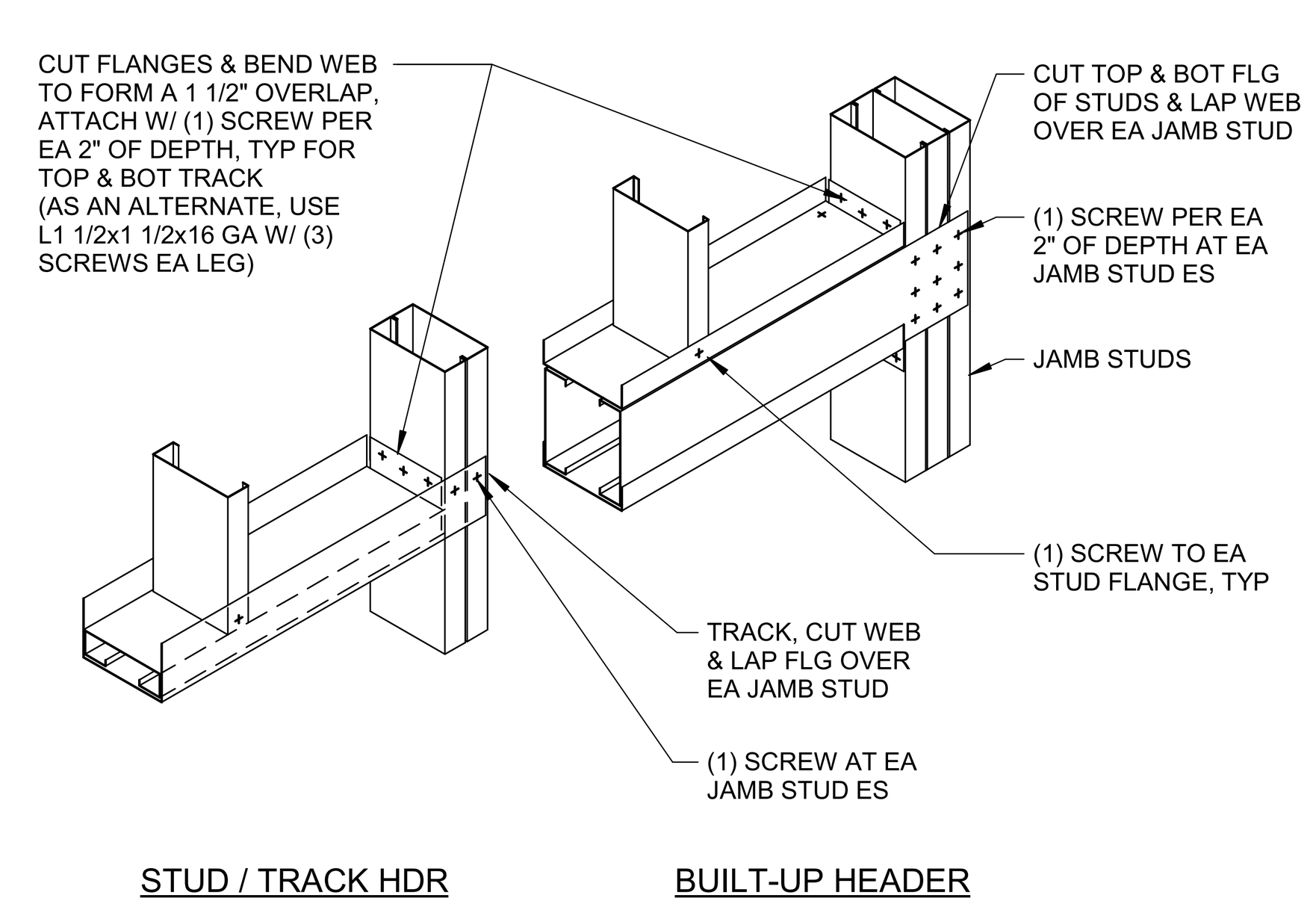
MAXIMUM SPACING OF SUPPORTS						
STUD WALL	SUPPORT SIZE	BASE PL WIDTH	MAX WALL HEIGHT			
			4'-0"	5'-0"	6'-0"	8'-0"
3 5/8"	C3x3.5	3 1/2"	6'-8"	4'-0"	-	-
6"	C4x4.5	5 1/2"	8'-0"	6'-8"	4'-0"	2'-8"
8"	C4x4.5	7"	-	8'-0"	6'-8"	4'-0"



NOTES:
1. EXPANSION ANCHORS MUST BE INSTALLED WITH SPECIAL INSPECTION
2. DO NOT USE THIS DETAIL FOR WALLS USED AS GUARDRAILS OR WALLS WITH GRAB BARS

7 TYP CFSF PARTIAL HEIGHT WALL CONN

SCALE: NTS — S-_092216_T009A 170626



11 TYP CFSF HEADER CONN TO JAMBS

SCALE: NTS — S-_092216_T023A 140314. Q2

OPENING WIDTH, L	4' MAX	8' MAX	12' MAX
TYP HDR	TYP STUD; 18 GA MIN TRACK W/ 2 1/2" FLANGE	TYP TRACK; TYP STUD; TYP TRACK	18 GA MIN TRACK; 600S137-43; 18 GA MIN TRACK
	HA1	HA2	HA3
HDR SUPPORTING CEILING / CASEWORK	TYP TRACK; 600S137-33; TYP TRACK	TYP TRACK; 600S137-54; TYP TRACK	18 GA MIN TRACK; 1000S162-54; 18 GA MIN TRACK
	HAC1	HAC2	HAC3

NOTES:
1. PROVIDE FASTENERS SPACED @ 12" OC WHERE SHOWN.
2. ALL MATERIAL IN HEADERS TO BE 20GA MIN, UNO.

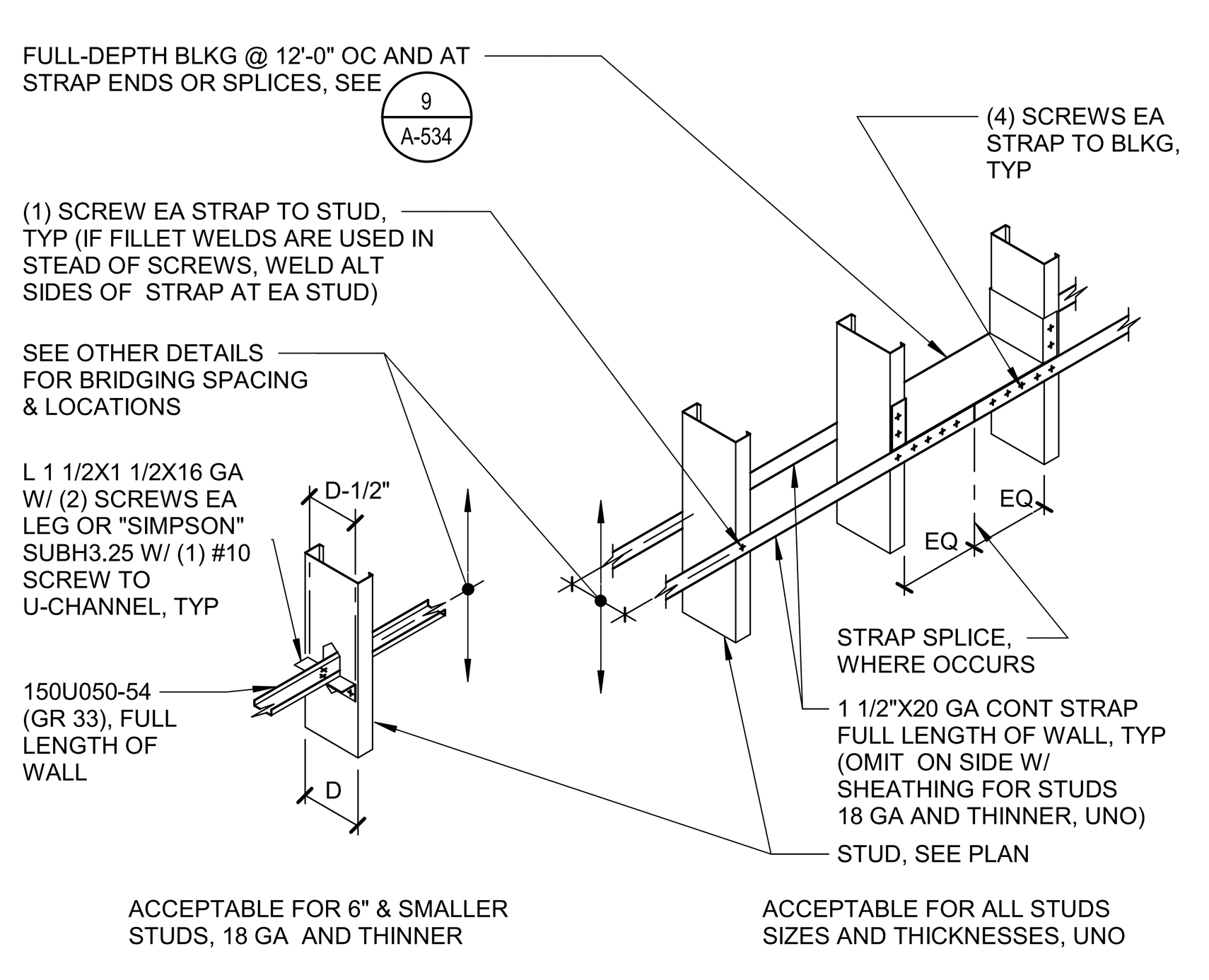
15 TYP CFSF HEADERS

SCALE: NTS — S-_092216_T013A 190926. Q2

COLD-FORMED STEEL FRAMING

S-_092216_N001A 190926. Q2

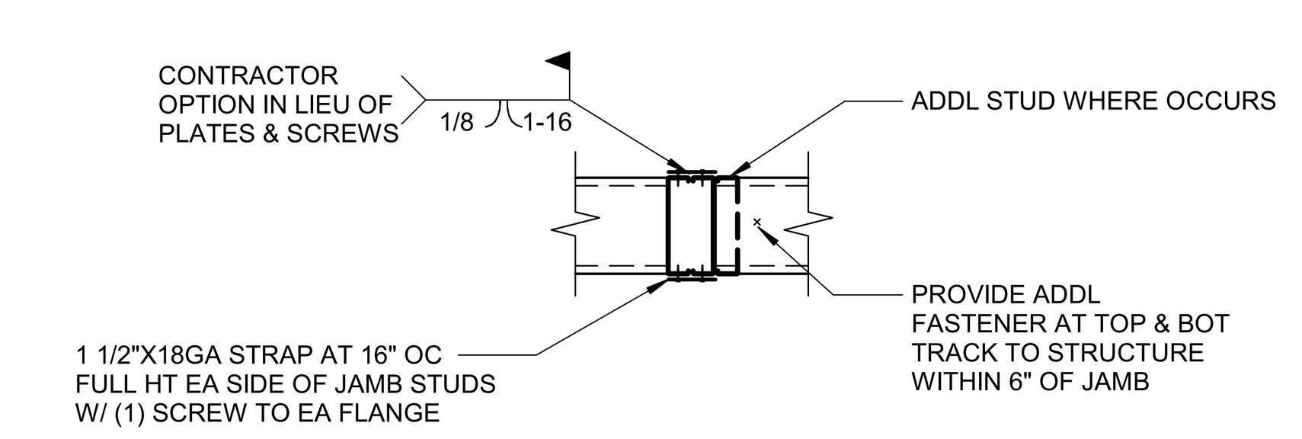
1. THE DESIGN, INSTALLATION AND CONSTRUCTION OF COLD-FORMED STEEL FRAMING SHALL BE IN ACCORDANCE WITH THE FOLLOWING AISI NORTH AMERICAN STANDARDS:
S100 - SPECIFICATION FOR THE DESIGN OF STRUCTURAL MEMBERS
S200 - GENERAL PROVISIONS
S211 - WALL STUD DESIGN
S212 - HEADER DESIGN
2. ALL PRODUCTS SHALL BE MANUFACTURED BY A CURRENT MEMBER OF THE "STEEL STUD MANUFACTURERS ASSOCIATION" (SSMA) OR "STEEL FRAMING INDUSTRY ASSOCIATION" (SFIA) WITH DIMENSIONS, SECTION PROPERTIES AND MATERIALS IN COMPLIANCE WITH THE AISI D100 MANUAL OF COLD-FORMED STEEL DESIGN.
3. PROVIDE ALL ACCESSORIES INCLUDING, BUT NOT LIMITED TO, TRACKS, CLIPS, WEB STIFFENERS, ANCHORS, FASTENING DEVICES, RESILIENT CLIPS, AND OTHER ACCESSORIES REQUIRED FOR A COMPLETE AND PROPER INSTALLATION, AND AS RECOMMENDED BY THE MANUFACTURER FOR THE STEEL MEMBERS USED.
4. STEEL MEMBERS AND COMPONENTS SHALL BE GALVANIZED ZINC-COATED PER ASTM A653 WITH G40 COATING WEIGHTS UNO.
5. STEEL MEMBERS 20 GA (0.033" THICKNESS) AND 18 GA SHALL BE MANUFACTURED PER A1003 STRUCTURAL GRADE 33, TYPE H (ST33H) AND 16 GA OR HEAVIER PER A1003 STRUCTURAL GRADE 50, TYPE H (ST50H).
6. THE MINIMUM UNCOATED STEEL THICKNESS AS DELIVERED TO THE JOBSITE SHALL BE: 25 GA = 0.018", 22 GA = 0.027", 20 GA = 0.030", 18 GA = 0.043", 16 GA = 0.054". 14 GA = 0.068", 12 GA = 0.097".
7. STUDS/JOISTS SHALL HAVE WEB PUNCH-OUTS AT 24" OC AT MID-DEPTH. PUNCH-OUTS SHALL NOT EXCEED 1 1/2" IN WIDTH, AND 4" IN LENGTH. NO OTHER OPENINGS IN STUDS/JOISTS ARE PERMITTED UNLESS SPECIFICALLY DETAILED.
8. TRACK SHALL MATCH STUD/JOIST DEPTH & GAGE, AND FLANGE WIDTH SHALL BE 1 1/4", TYP, UNO. ALL TRACKS TO BE UNPUNCHED WITH SOLID WEBS.
9. FASTENING OF FRAMING COMPONENTS SHALL BE WITH SELF-DRILLING SELF-TAPPING SCREWS OR WELDING. WHERE DETAILS CALL FOR SCREWS, THE MINIMUM SIZES SHALL BE AS FOLLOWS: #6 FOR 22 GA OR LIGHTER MATERIAL, #8 FOR 20 GA MATERIAL, #10 FOR 18 & 16 GA MATERIAL, & #12 FOR 14 GA OR HEAVIER MATERIAL, TYP UNO. SCREW SIZE IS DETERMINED BY THE GA OF THE THICKEST PART BEING JOINED UNO. INSTALL SCREWS WITH THE HEAD IN CONTACT WITH THE THINNEST PART BEING JOINED UNO. AS AN ALTERNATE, STEEL MEMBERS 18 GA OR HEAVIER MAY BE WELDED WITH A 1/2" LONG WELD (FILLET OR FLARE GROOVE) INSTEAD OF EACH SCREW, TYP UNO.
10. SCREW SPACING SHALL NOT BE LESS THAN 3 TIMES THE NOMINAL SCREW DIAMETER. SCREW EDGE DISTANCE SHALL NOT BE LESS THAN 1.5 TIMES THE NOMINAL SCREW DIAMETER. PENETRATION OF SCREWS THROUGH JOINED MATERIALS SHALL NOT BE LESS THAN 3 EXPOSED THREADS. SCREW HEADS SHALL BE LOW-PROFILE TYPE.
11. SCREWS SHALL CONFORM WITH ASTM C1513 AND HAVE A CORROSION-RESISTANT COATING.
12. BOLTS SHALL BE INSTALLED IN STANDARD SIZE HOLES, UNO. STANDARD SIZE HOLES SHALL BE BOLT DIA + 1/32" FOR BOLTS SMALLER THAN 1/2" DIA, AND BOLT DIA + 1/16" AT 1/2" DIA AND LARGER BOLTS.
13. WELDING SHALL CONFORM WITH AWS D1.3. WELDING TO STRUCTURAL STEEL SHALL ALSO CONFORM WITH AWS D1.1. THE ELECTRODES USED FOR WELDING SHALL HAVE A MINIMUM YIELD STRENGTH OF 60 KSI. WELDS OF GALVANIZED STEEL SHALL BE COATED WITH A ZINC-RICH PAINT.
14. FASTENING OF SHEATHING SHALL BE WITH SELF-DRILLING SELF-TAPPING SCREWS @ 12" OC MAX AT ALL BEARINGS. #6 MIN FOR GYPSUM BOARD & #8 MIN FOR STRUCTURAL PANELS. SCREW HEADS SHALL BE COUNTER SUNK FLAT-PROFILE TYPE.
15. FRAME INDIVIDUAL MEMBERS AND EACH ELEMENT OF BUILT-UP MEMBERS, CONTINUOUS ONE PIECE BETWEEN SUPPORTS. SPLICE ONLY WHERE SPECIFICALLY NOTED.
16. PAF FASTENERS SHALL BE "HILTI" X-U (ICC ESR 2269), TYP UNO. INSTALLATION OF FASTENER SHALL BE IN ACCORDANCE WITH THE EVALUATION AGENCY REPORT. UNO, INSTALL FASTENERS WITH SUFFICIENT EDGE DISTANCE AND SPACING TO ACHIEVE FULL CAPACITY.
17. PAF FASTENERS TO CONCRETE SHALL HAVE 1" MIN EMBEDMENT INTO CONCRETE, TYP UNO.
18. PAF FASTENERS TO STRUCTURAL STEEL SHALL HAVE MIN EMBEDMENT TO STEEL PER MANUFACTURER, TYP UNO.
19. COORDINATE DETAILS AND ATTACHMENTS WITH THE REQUIREMENTS OF ANY FIRE RATED ASSEMBLY OR UL LISTING INDICATED AND PROVIDE ADDITIONAL COMPONENTS AND FASTENERS AS REQUIRED.



4 TYP STEEL STUD BRIDGING

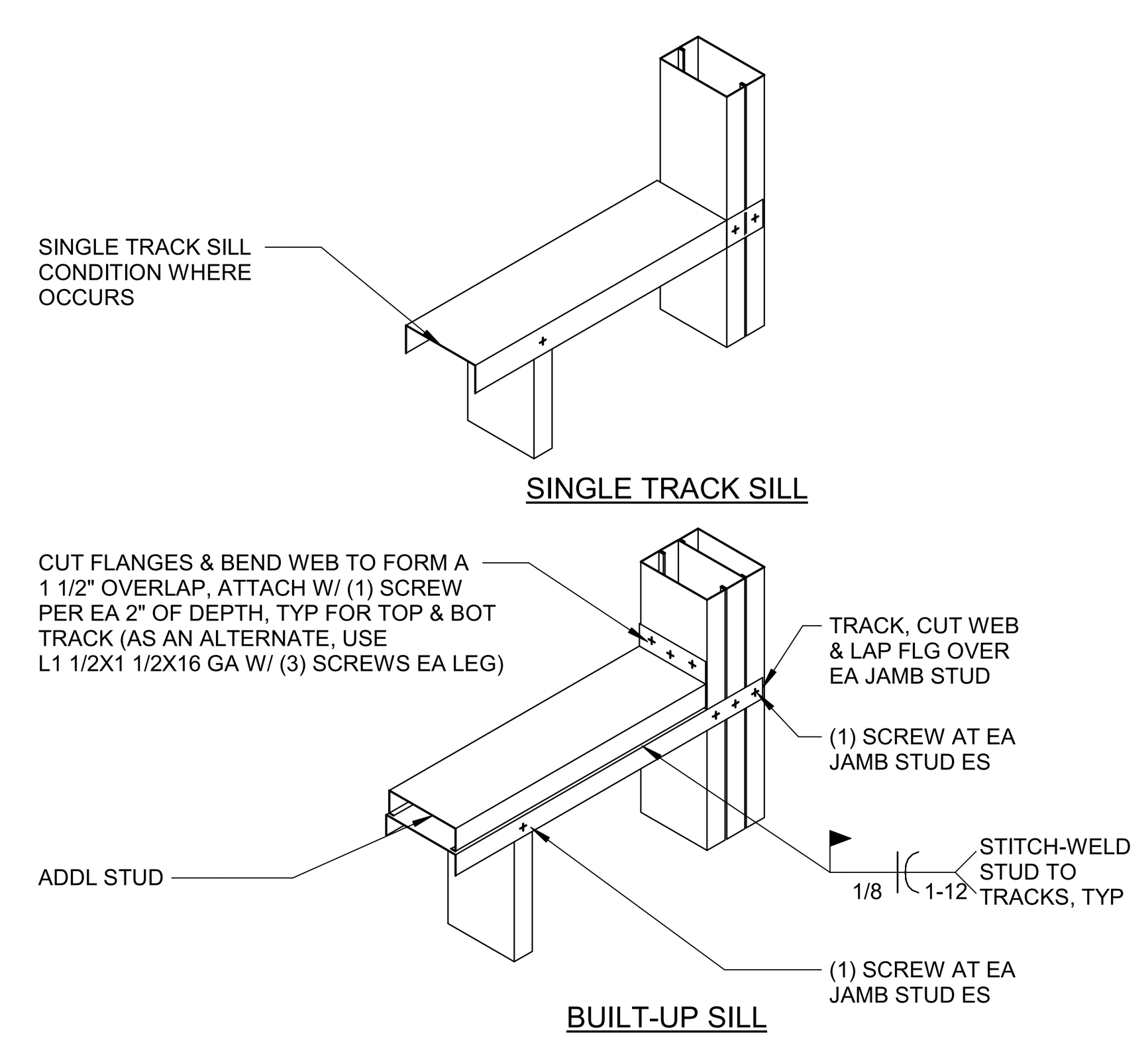
SCALE: NTS — S-_092216_T004A 170113. Q2

NUMBER OF JAMB STUDS EACH SIDE OF OPENING														
MAX WALL HEIGHT, H			9'-6"						16'-6"					
STUD DEPTH			3 5/8" OR 4"			6"			3 5/8" OR 4"			6"		
JAMB GA			20	18	16	20	18	16	20	18	16	20	18	16
MAX OPNG SIZE, L	W/O CEILING OR CASEWORK	4'	1	1	1	1	1	1	2	2	1	2	1	1
		8'	1	1	1	1	1	1	4	3	2	2	2	1
		12'	2	1	1	1	1	1	-	3	2	3	2	2
	W/ CEILING OR CASEWORK	4'	2	1	1	1	1	1	3	2	2	2	2	1
		8'	2	2	1	2	2	1	-	4	3	4	2	2
		12'	3	2	2	3	2	2	-	-	4	-	3	2



8 TYP CFSF JAMBS

SCALE: NTS — S-_092216_T014A 190926. Q2



12 TYP CFSF SILL CONN TO JAMBS

SCALE: NTS — S-_092216_T024A 170626. Q2

OPENING WIDTH, L	4' MAX	8' MAX	12' MAX
TYP SILL	TYP TRACK	TYP TRACK	TYP STUD; TYP TRACK; OR 18GA MIN TRACK
	SA1	SA2	SA3

NOTES:
1. PROVIDE FASTENERS SPACED @ 12" OC WHERE SHOWN.
2. ALL MATERIAL IN SILLS TO BE 20GA MIN, UNO.

16 TYP CFSF SILLS

SCALE: NTS — S-_092216_T012A 140314. Q2

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DEPARTMENT OF PUBLIC WORKS
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SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

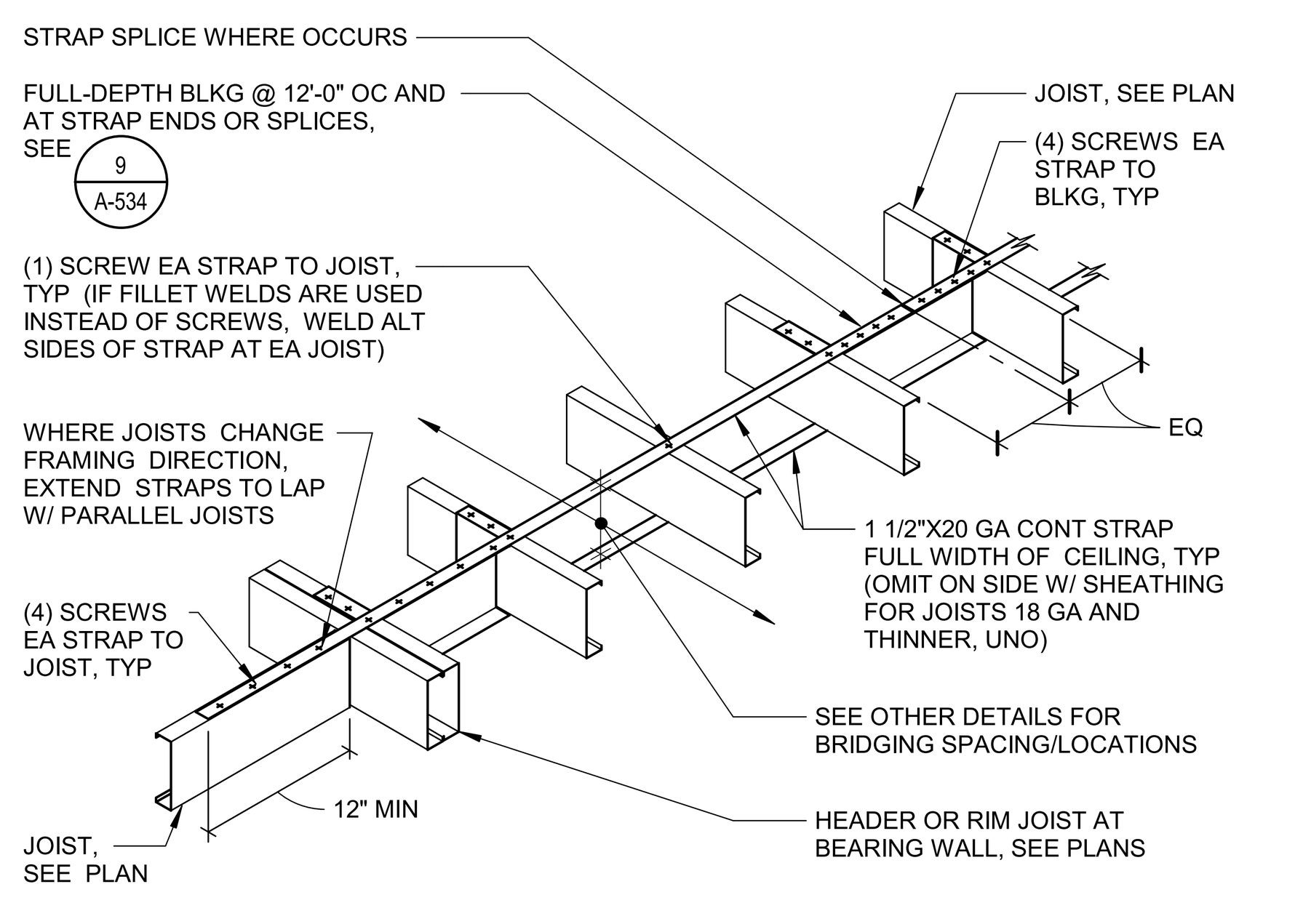
MANAGEMENT
LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

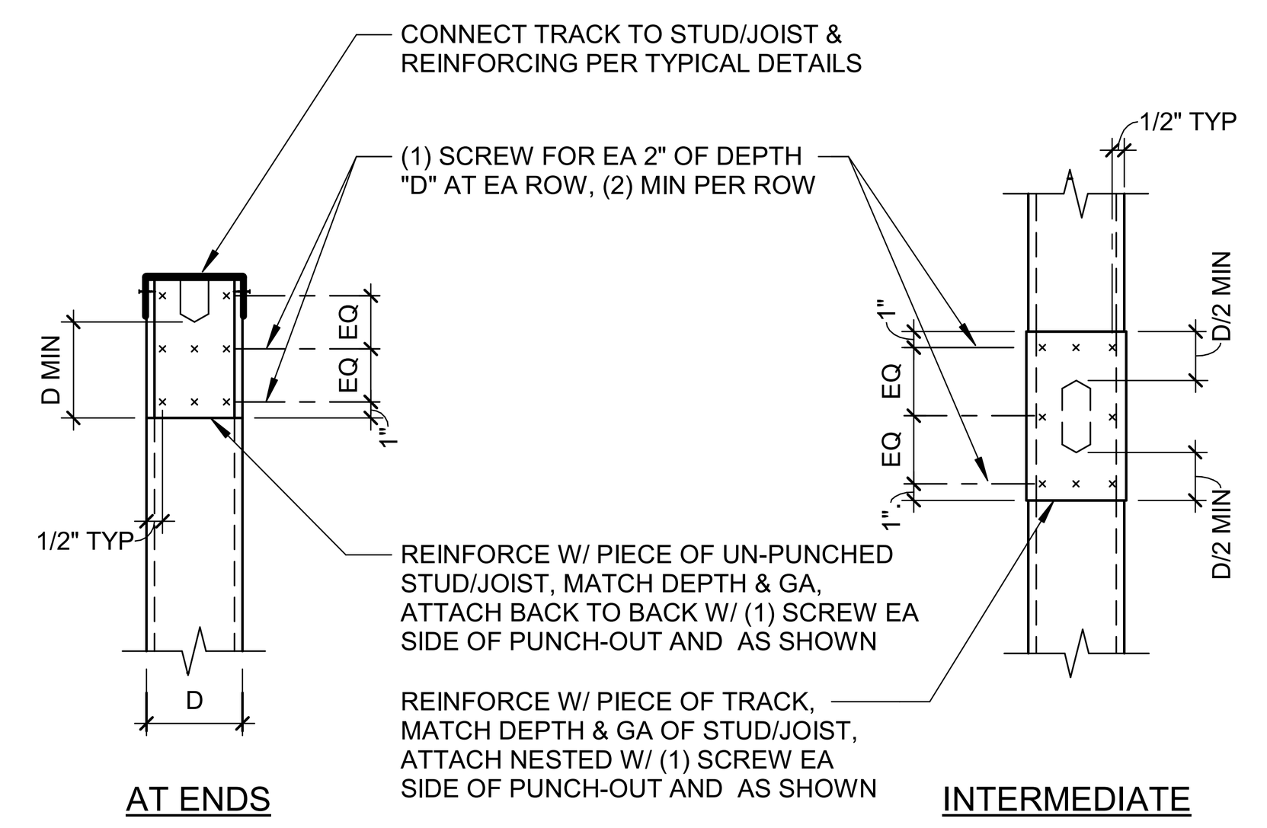
TITLE
DETAILS - INTERIOR COLD FORMED FRAMING

SHEET
A-533



1 TYP STEEL JOIST BRIDGING

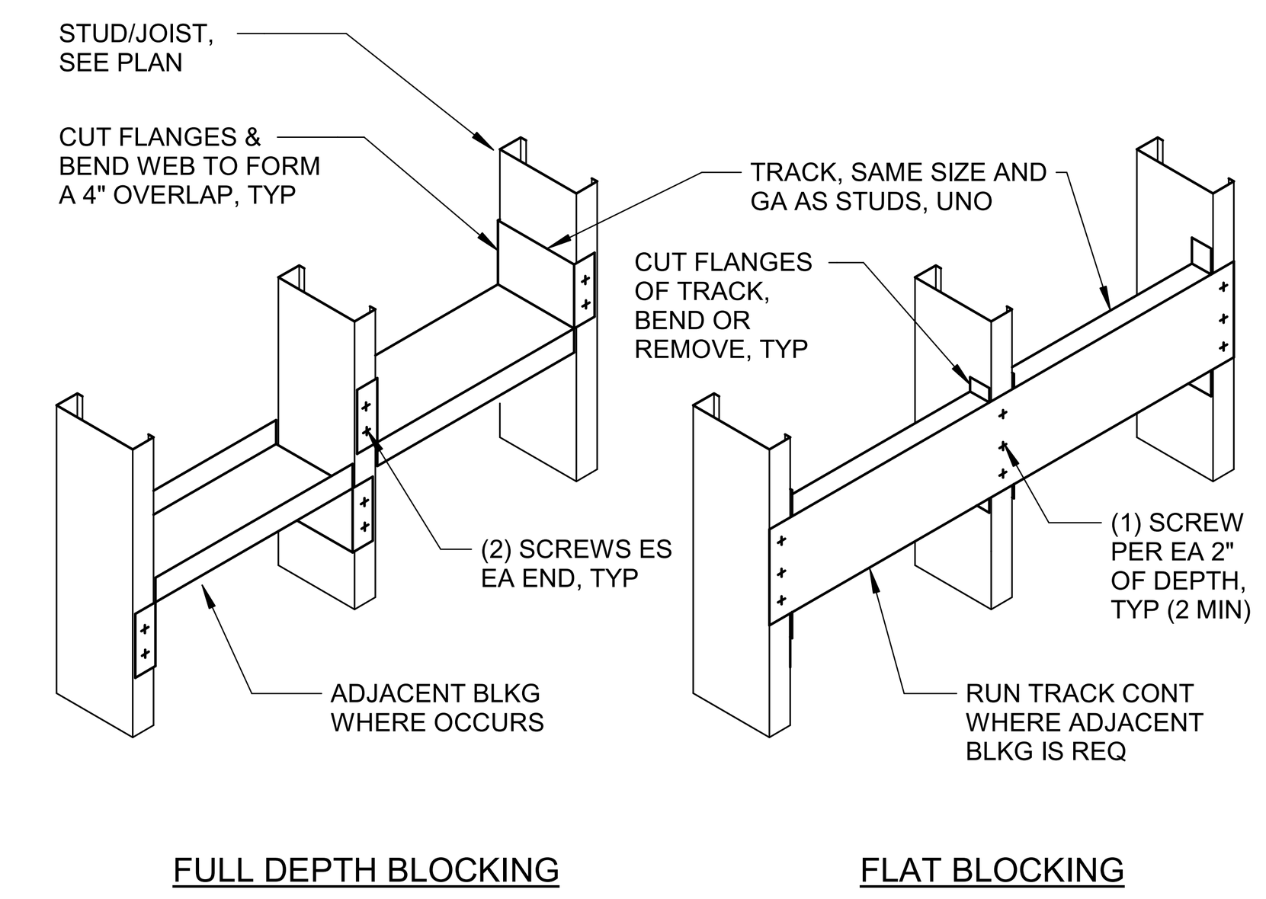
SCALE: NTS — S-_092216_T004B 161223. Q2



NOTES:
1. USE ONLY WHERE NOTED IN OTHER DETAILS.
2. ORIENTATION SHOWN IS FOR STUD, JOIST CONDITION SIMILAR.

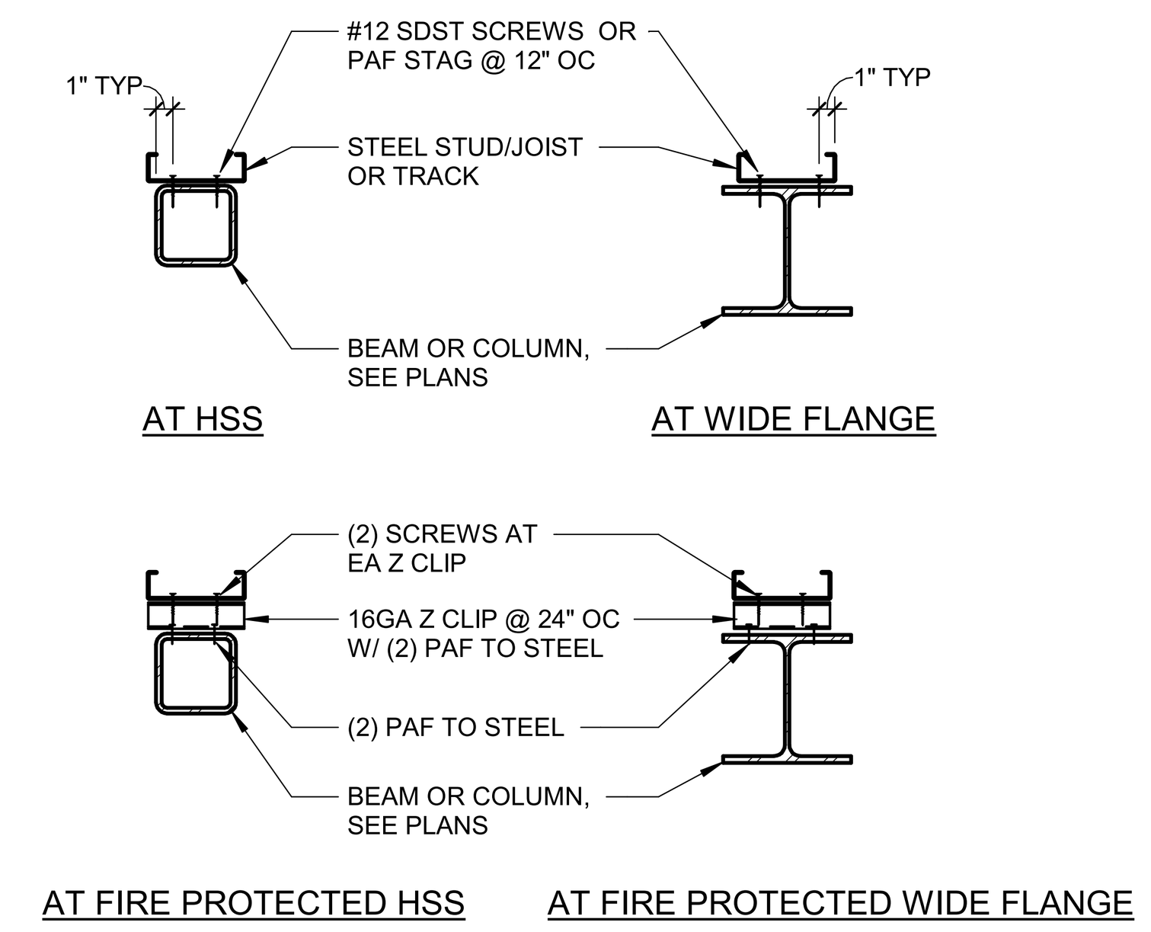
5 TYP STEEL STUD / JOIST PUNCH-OUT REINFORCING

SCALE: NTS — S-_092216_T010A 140314. Q2



9 TYP STEEL STUD / JOIST BLOCKING

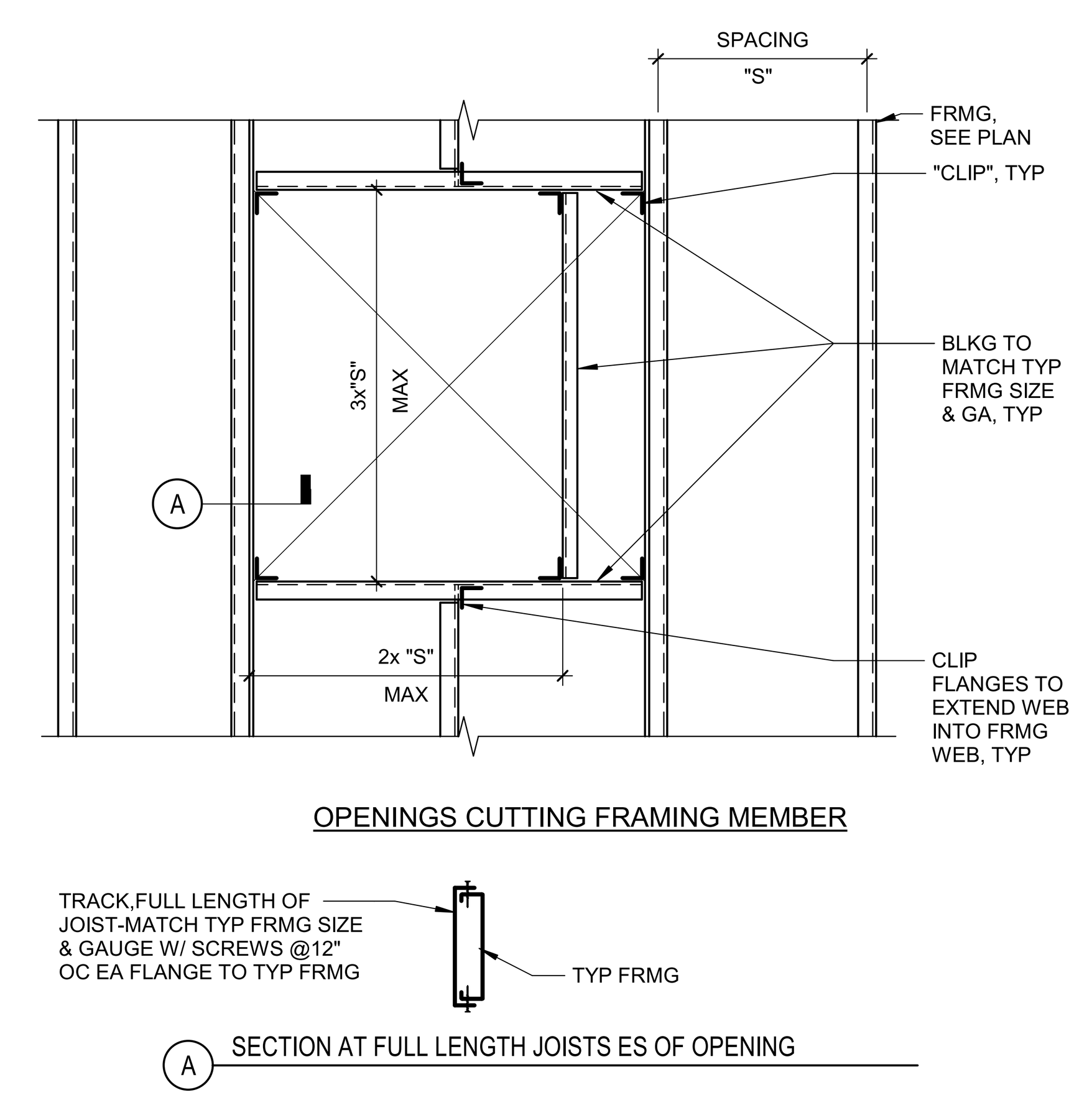
SCALE: NTS — S-_092216_T003A 140314. Q2

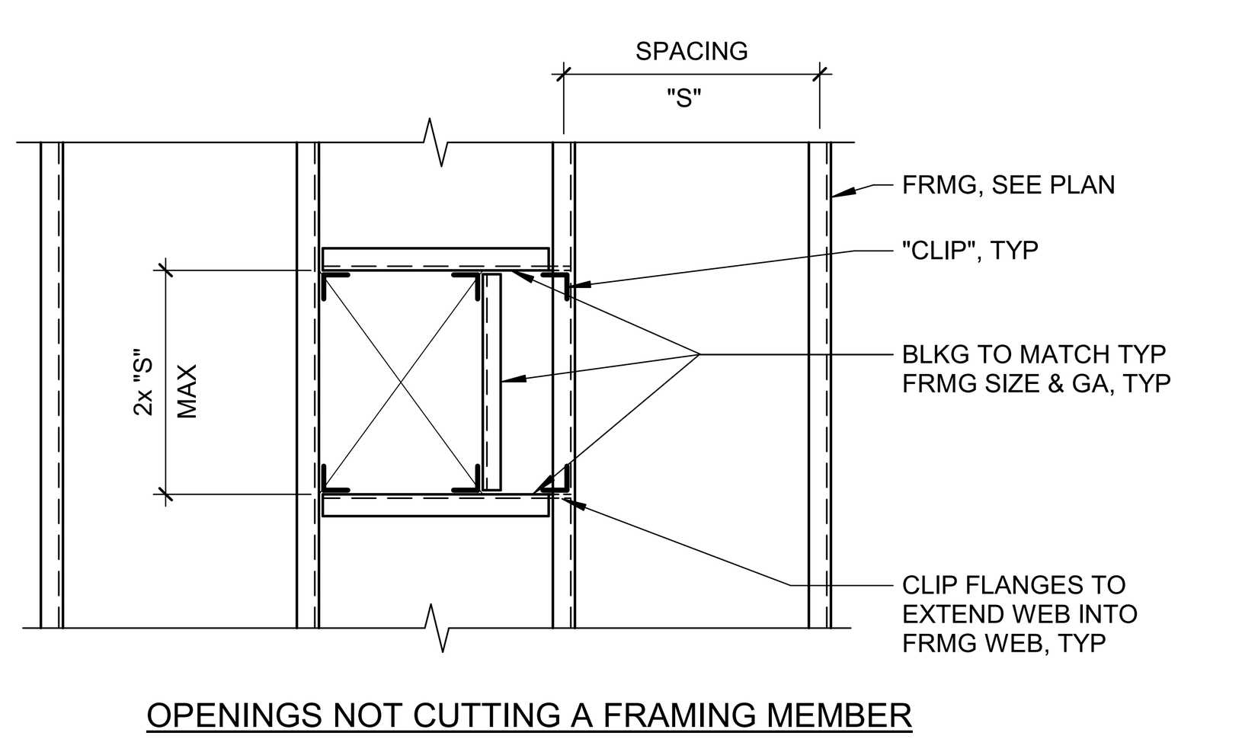


NOTES:
1. SIMILAR AT OTHER STEEL SHAPES

13 TYP STEEL STUD / JOIST CONNECTION TO STRUCTURAL STEEL

SCALE: NTS — S-_092216_T007A 140314. Q2

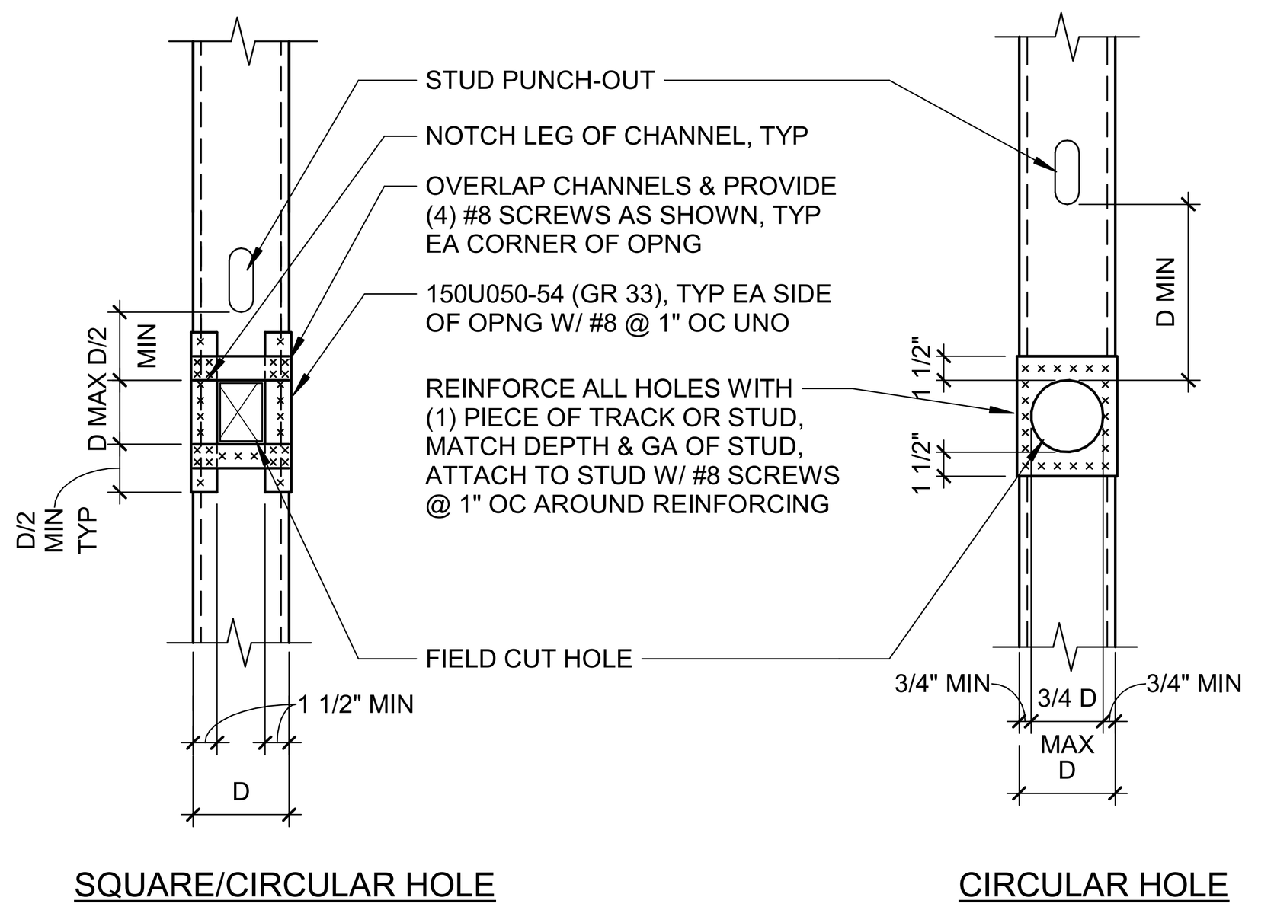




NOTE:
1. "CLIP" REFERS TO 16 GA L1 1/2X1 1/2X (FRMG DEPTH-1") W/ (1) SCREW PER 2" OF FRMG DEPTH AT EA LEG.

3 TYP STEEL JOIST/RAFTER FRAMING AT OPENINGS

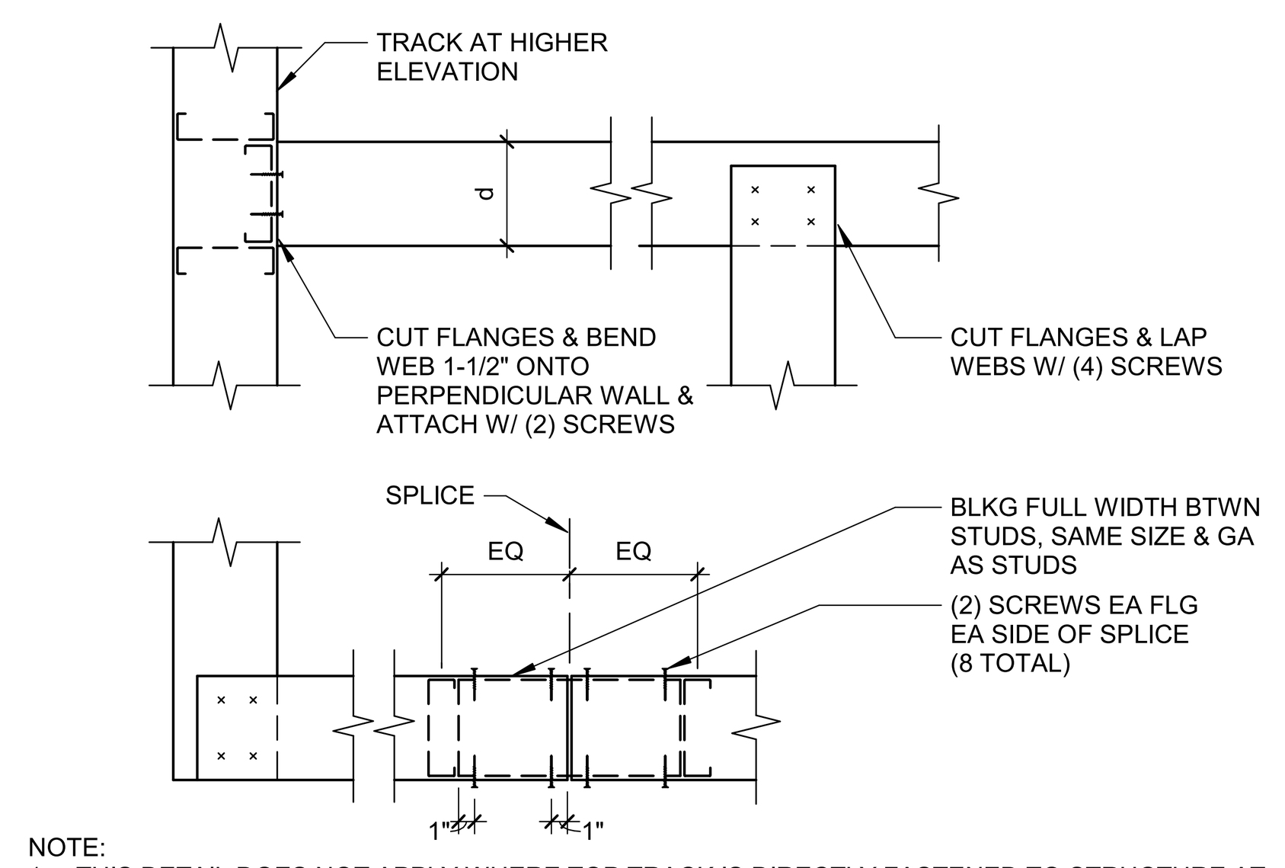
SCALE: NTS — S-_092216_T032B 170626. Q2



NOTES:
1. NO HOLES ARE PERMITTED WITHIN 12" OF STUD SUPPORTS.
2. REINFORCING IS NOT REQUIRED FOR CIRCULAR HOLES WITH DIAMETER LESS THAN 1/2 D THAT HAVE A CLEAR DIMENSION OF D MIN BETWEEN ADJACENT OPENINGS / PUNCHOUTS.
3. HOLES CLOSER TO PUNCH-OUTS THAN NOTED ARE PERMITTED PROVIDED THE COMBINED PUNCH-OUT/OPENING MEETS THE SIZE LIMITATIONS AND IS REINFORCED AS SHOWN.

6 TYP STEEL STUD HOLE REINFORCING

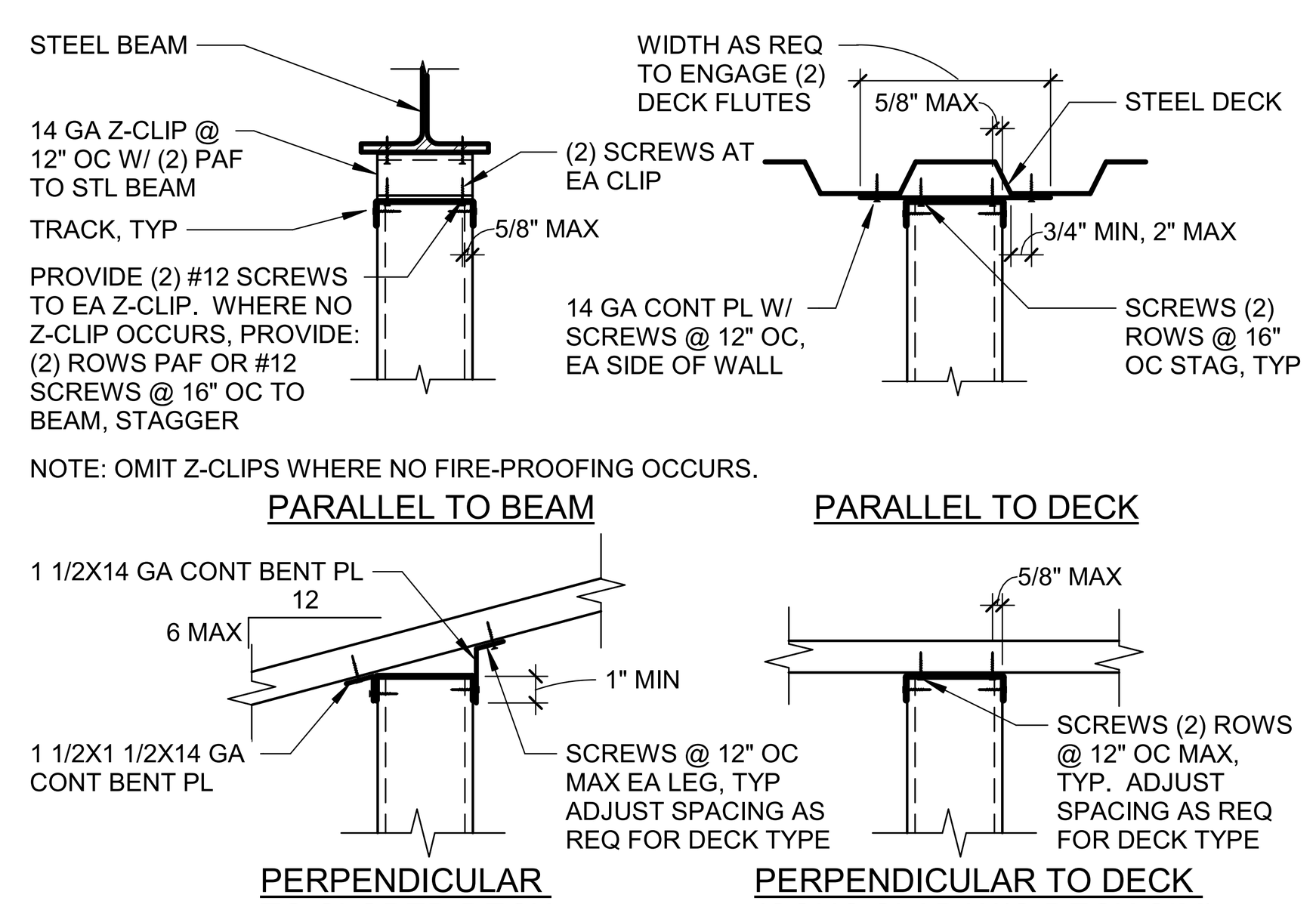
SCALE: NTS — S-_092216_T016A 170626. Q2



NOTE:
1. THIS DETAIL DOES NOT APPLY WHERE TOP TRACK IS DIRECTLY FASTENED TO STRUCTURE AT 24" OC MAX, UNO.

10 TYP STEEL TOP TRACK FRAMING AT CORNERS, INTERSECTIONS, AND SPLICES

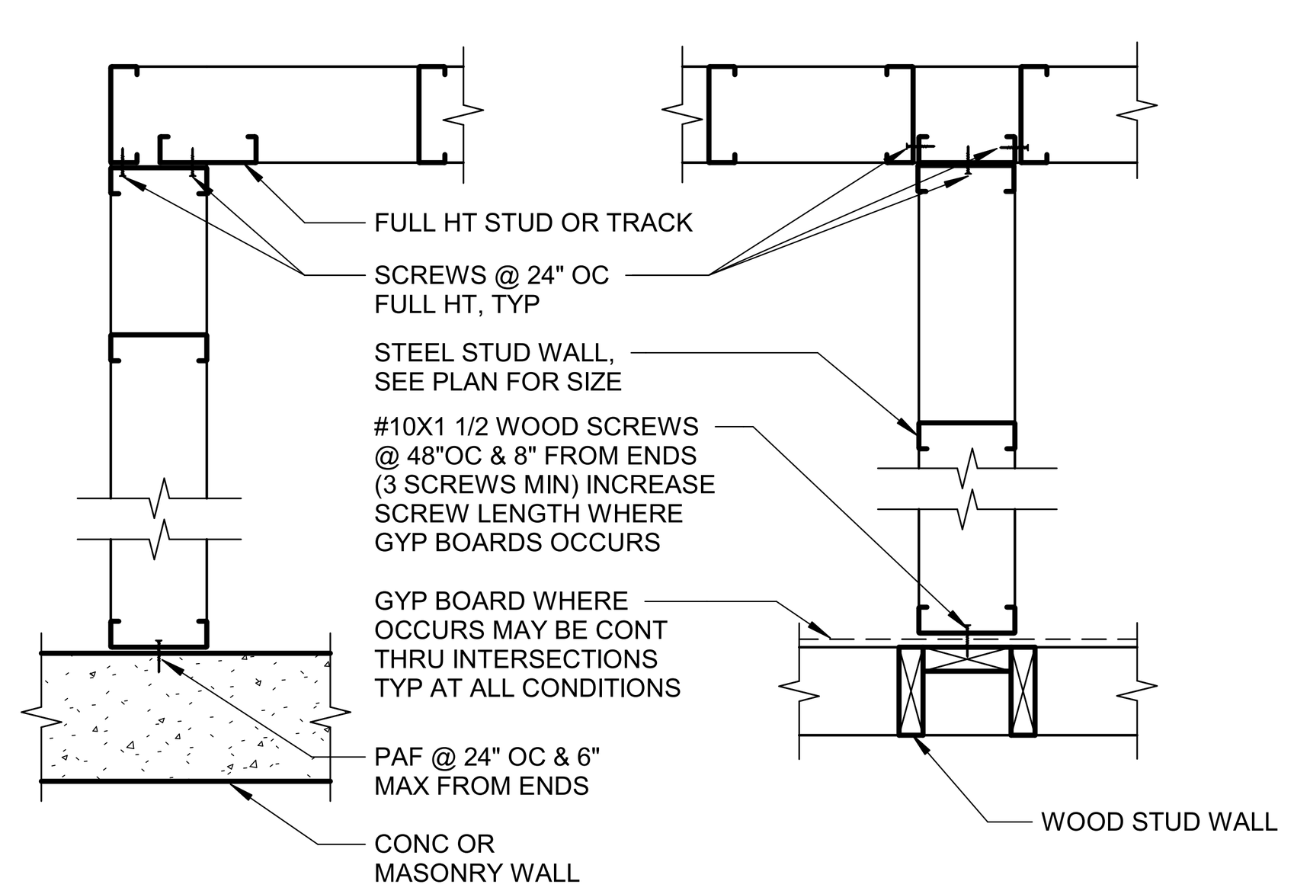
SCALE: NTS — S-_092216_T030A 160712. Q2



NOTES:
1. TRACK SHALL BE 18 GA MIN, STEEL DECK SHALL BE 18GA MIN.
2. PROVIDE (1) SCREW FROM TRACK TO EACH STUD FLANGE.
3. WHERE CONC OCCURS, SCREWS TO CONC SHALL BE 1/4" DIA SCREW ANCHORS W/ 1 5/8" NOMINAL MIN EMBED. SCREW ANCHORS TO BE "HILTI" KH-EZ (ICC ESR 3027) OR "SIMPSON" TITEN HD (ICC 2713).
4. MAX SUSPENDED LOAD = 150 PLF OR 200# / STUD

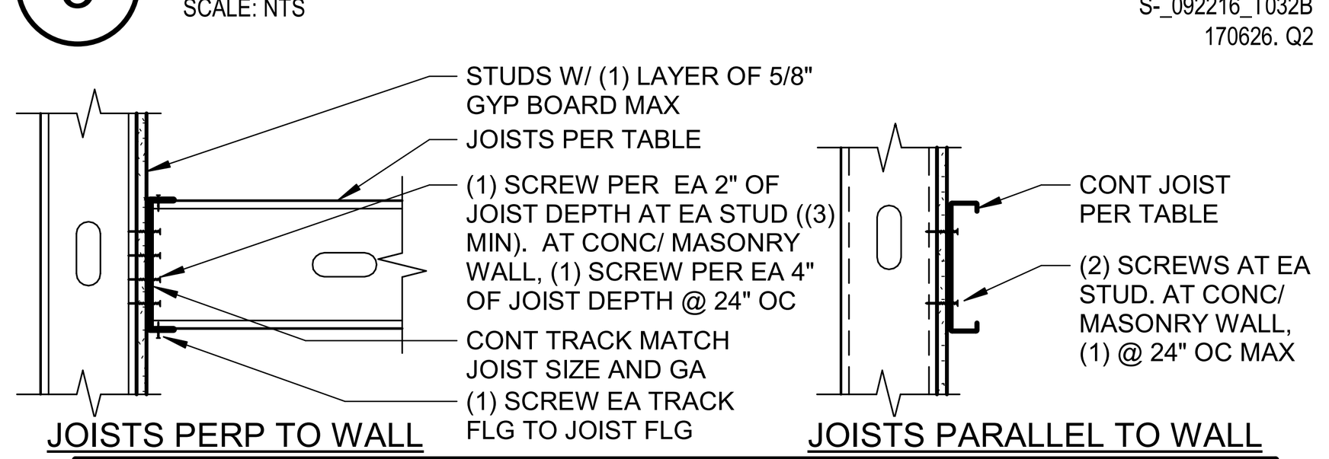
7 TYP INTERIOR SUSPENDED STEEL STUD SOFFIT ANCHORAGE

SCALE: NTS — S-_092216_T001A 190506. Q2



11 TYP STEEL STUD WALL FRAMING AT CORNERS AND INTERSECTIONS

SCALE: NTS — S-_092216_T022A 140314. Q2

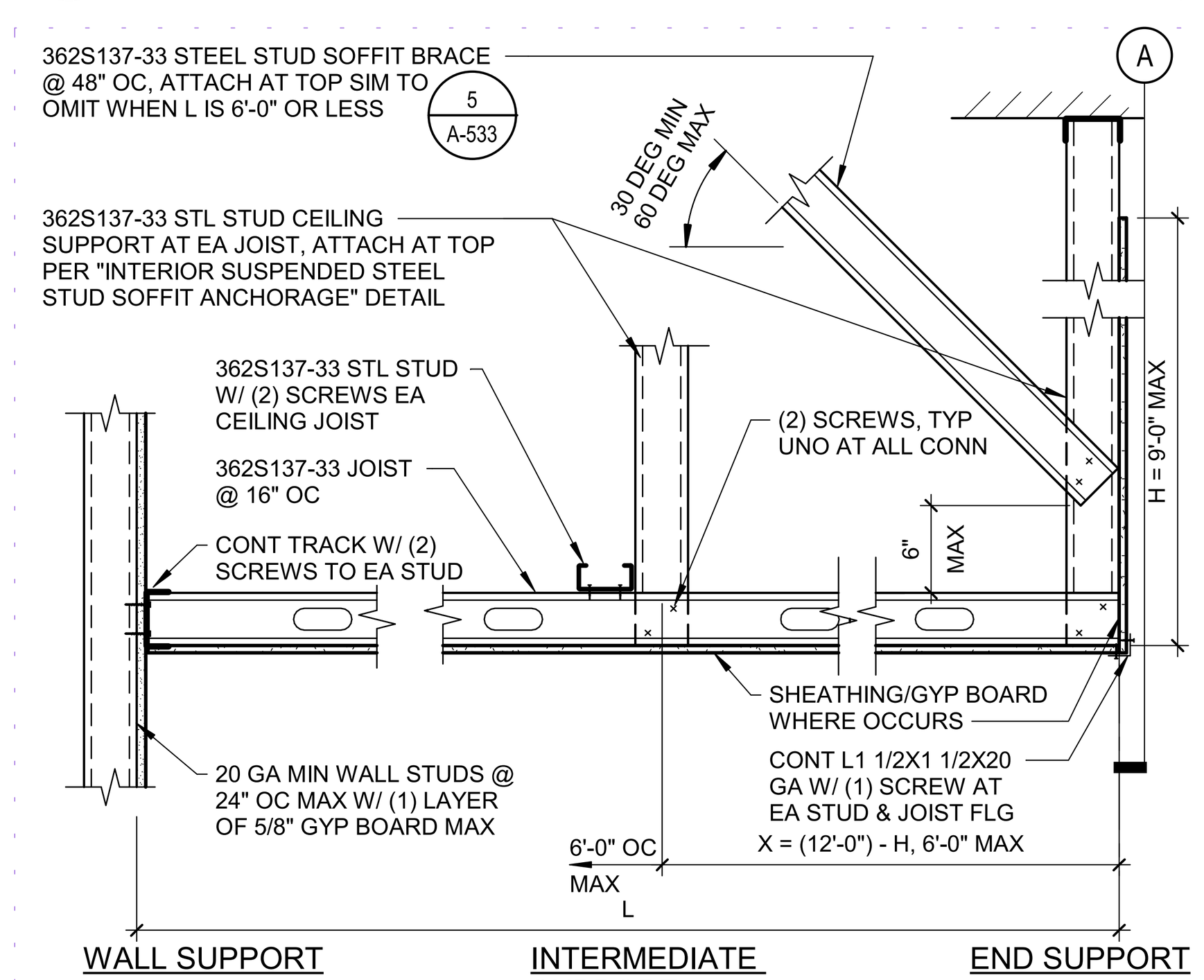


MAX JOIST SPAN	JOIST SPACING	JOIST SIZE	MAX BRIDGING SPACING	
			SHEATHING ON ONE SIDE	SHEATING ON BOTH SIDES
6'-0"	24"	362S137-43	5'-0"	NONE
	16"	362S137-33	5'-0"	NONE
8'-0"	24"	362S137-54	4'-0"	NONE
	16"	362S137-43	4'-0"	NONE
12'-0"	24"	600S137-54	4'-0"	NONE
	16"	600S137-43	5'-0"	NONE
16'-0"	24"	800S137-54	4'-0"	NONE
	16"	600S137-54	4'-0"	NONE

NOTES:
1. WALL STUDS SUPPORTING CEILING MEMBERS SHALL BE 20 GA MIN (2X4 MIN AT WOOD STUDS) SPACED @ 24" OC MAX.
2. WHERE BRIDGING IS REQUIRED, SEE TYP DETAIL.
3. DESIGN CAPACITY: DL = 10PSF, LL = 10PSF OR 200 LBS OVER 2'-6" TRIBUTARY WIDTH, DEFLECTION = L/180 MAX
4. SCREWS TO STUD WALLS SHALL BE #10 SCREWS (1 1/2" MIN EMBED AT WOOD). SCREWS TO CONC/MASONRY WALLS SHALL BE 1/4" DIA "HILTI" HUS-EZ OR "DEWALT" SCREWBOLT+ W/ 1 5/8" MIN EMBED (SPACED @ 4" OC MIN) (ICC ESR 3027, 2056, 3889, OR 4042).

4 TYP CEILING CFSF JOISTS

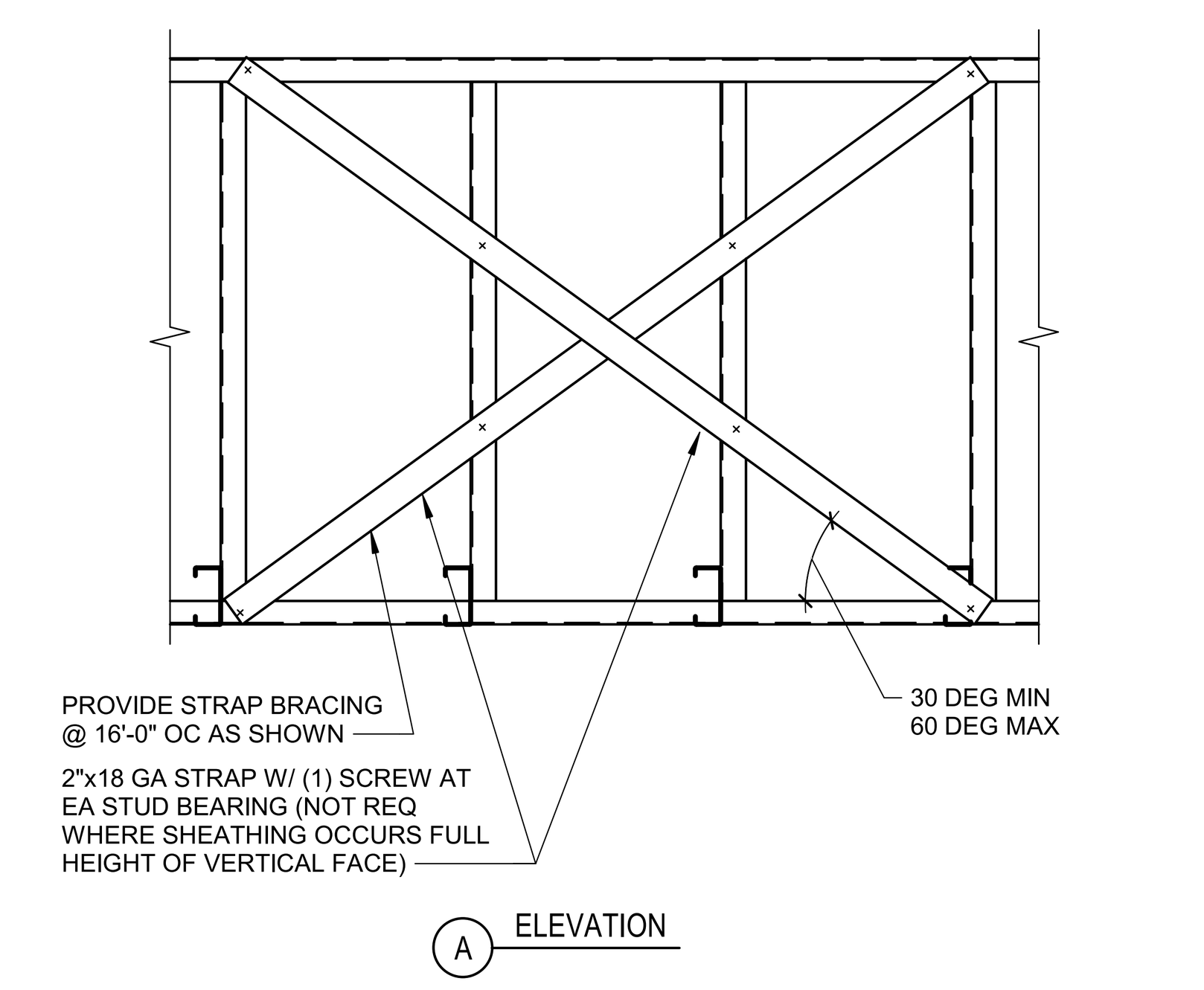
SCALE: NTS — S-_092216_T006A 200302

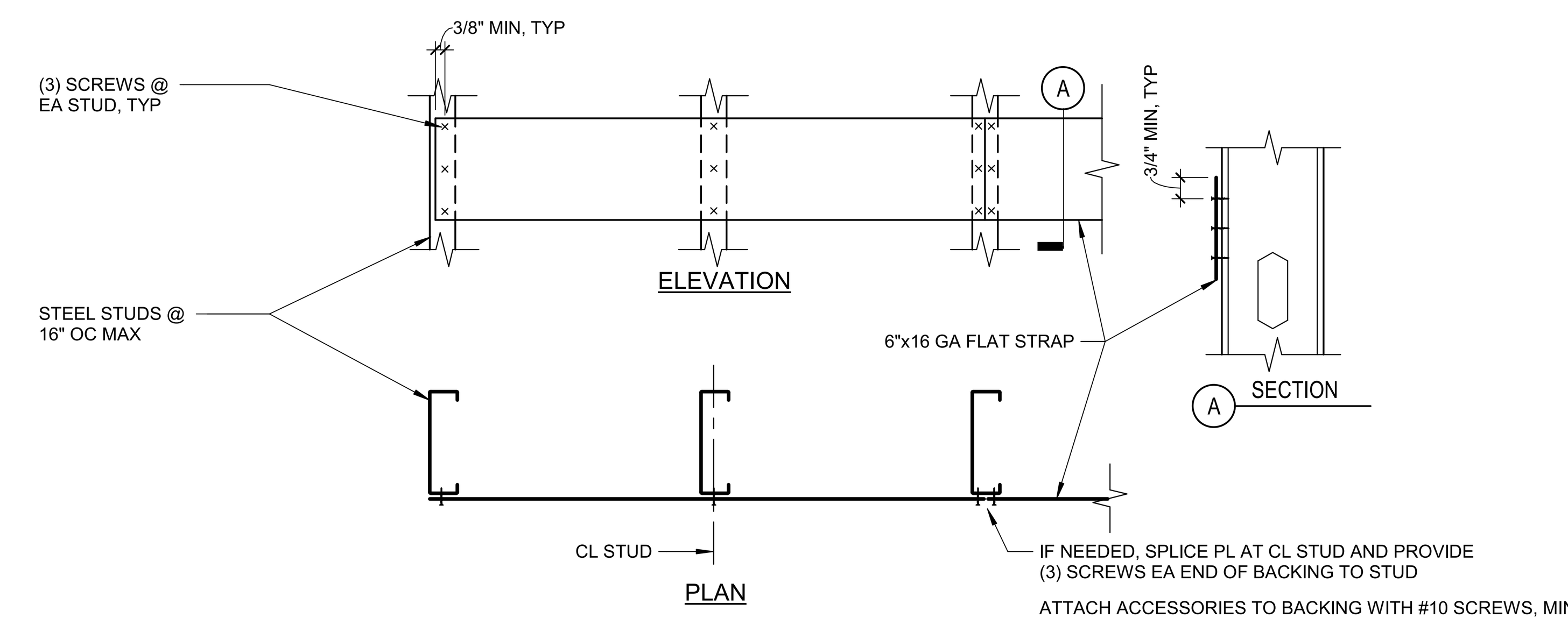


NOTE:
1. THIS DETAIL APPLIES TO NON-ACCESSIBLE CEILING SPACES ONLY.

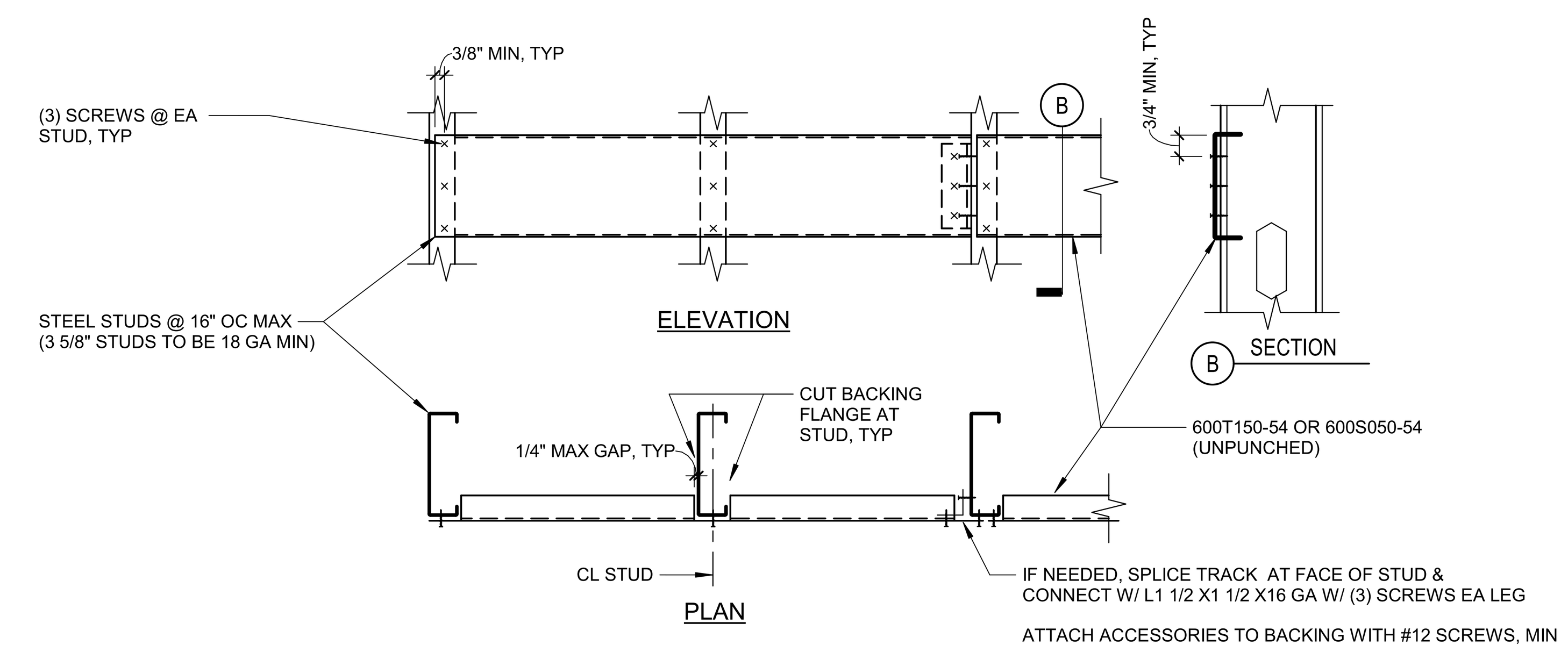
8 TYP INTERIOR SUSPENDED STEEL STUD SOFFIT/CEILING

SCALE: NTS — S-_092216_T005A 190926. Q2

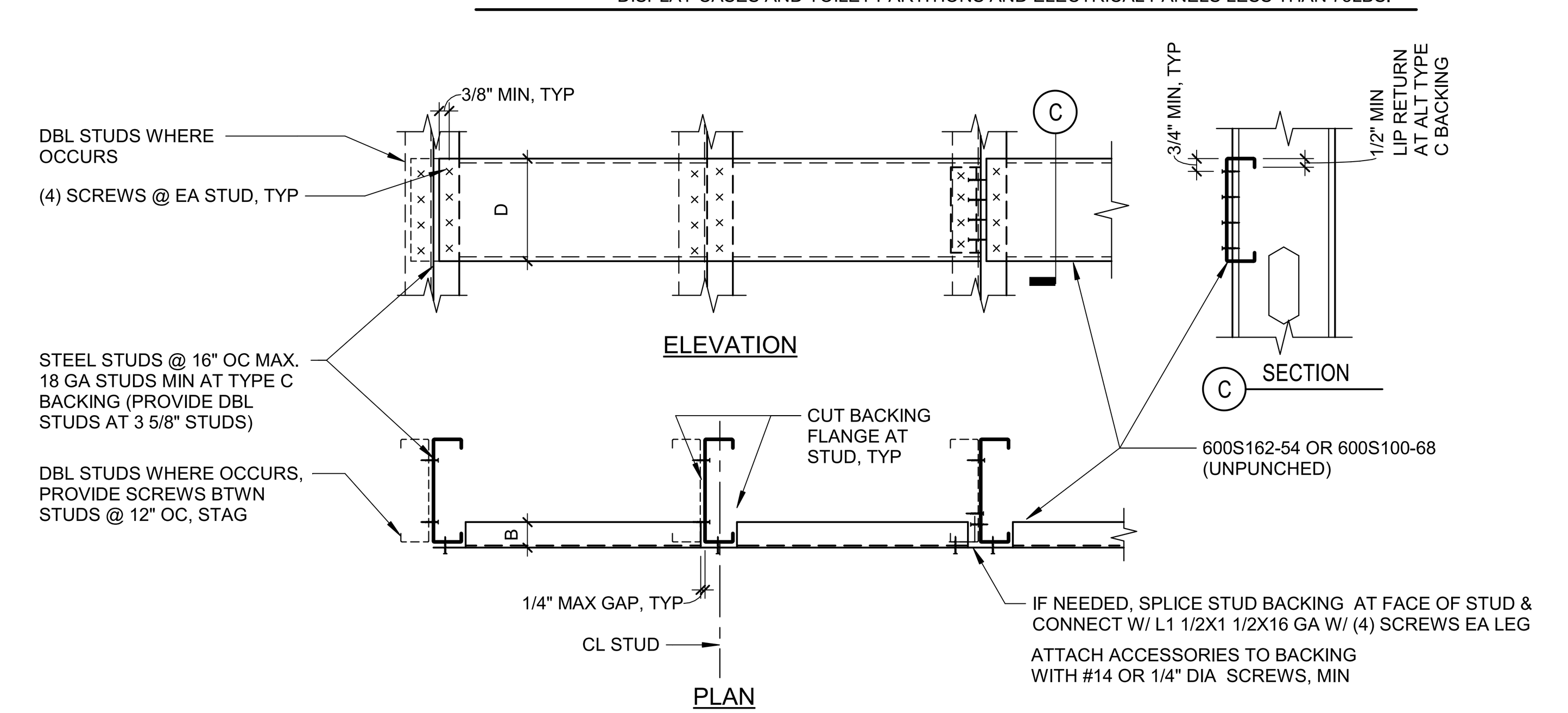




TYPE A USE FOR: MIRRORS, FLAT SIGNS, TACK BOARDS, CHALKBOARDS, BULLETIN BOARDS, MARKER BOARDS, FRAMED ARTWORK



TYPE B USE FOR: TOILET & BATH ACCESSORIES UNO, DOOR STOPS, DOOR HOLDERS, CABINETS, DISPLAY CASES AND TOILET PARTITIONS AND ELECTRICAL PANELS LESS THAN 75LBS.



TYPE C USE FOR: GRAB BARS, SHOWER SEATS, SHELF BRACKETS, COUNTERTOP BRACKETS, URINAL SCREENS, AND SINK BRACKETS

NOTES:
1. DO NOT CUT OR NOTCH STUDS TO INSTALL BACKING.
2. BACKING CONT ONE PIECE OVER (3) STUDS MIN. DO NOT CUT OR NOTCH BACKING EXCEPT AS SHOWN.
3. VERIFY LENGTH, HEIGHT, QUANTITY & LOCATION OF BACKING WITH ARCHITECTURAL DETAILS AND ACCESSORY MANUFACTURER.
4. EXTEND BACKING TO FIRST STUD PAST END OF ATTACHED ACCESSORY.
5. DEEPER BACKING MAY BE USED. ADD (1) SCREW AT EA CONN FOR EA 2" INCREASE IN DEPTH.
6. SEE "COLD FORMED STEEL FRAMING" NOTES FOR SCREW SIZES, UNO. USE LOW-PROFILE SCREW HEADS FOR BACKING TO STUD CONNECTION.

16 TYP STEEL STUD WALL BACKING PLATE

SCALE: NTS — S-_092216_T002B 170626. Q2

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ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT
LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
DETAILS - INTERIOR COLD FORMED FRAMING

SHEET
A-534

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY
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10/16/2020 1:42:57 PM

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0 1/4" 1/2" 1"

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10/15/2020 1:42:58 PM

DOOR SCHEDULE

DOOR NO	LOCATION	FIRE RATING (MINS)	HDW GP	DOORS								FRAMES							STC	SECURITY	KEYING ACCESS	SIGNAGE	COMMENTS
				TYPE	WIDTH	LEAF 2 TYPE	LEAF 2 WIDTH	MATL	HEIGHT	FINISH	GL	TYPE	MATL	FINISH	GL	HEAD	JAMB	SILL					
101	LEVEL 1 INFILL / TO ELEVATOR/STAIR LANDING	0	102	DG2	3'-0"			HM	7'-0"	PT-1	GL-1	FW1_A	HM	PT-1	GL-1	11/A-513	12/A-513	16/A-513					PANIC DEVICE
201	LEVEL 2 INFILL / TO ELEVATOR/STAIR LANDING	0	102	DG2	3'-0"			HM	7'-0"	PT-1	GL-1	FW1_B	HM	PT-1	GL-1	11/A-513	12/A-513	16/A-513					PANIC DEVICE
B01	BASEMENT / MAIN ELECTRICAL ROOM	20	103	DF1	3'-0"			HM	7'-0"	PT-3	--	FB1A	HM	PT-3	--	18/A-532	19/A-532						PANIC DEVICE
B02	BASEMENT / MPOE	20	104	DF1	3'-0"			HM	7'-0"	PT-3	--	FB1A	HM	PT-3	--	18/A-532	19/A-532						
B03	BASEMENT / ELEVATOR MACHINE ROOM	20	104	DF1	3'-0"			HM	7'-0"	PT-3	--	FB1A	HM	PT-3	--	18/A-532	19/A-532						
B04	ONE WAY STAIR DISCHARGE GATE	0	101	G1	3'-6"			--	7'-4"	PT-2	--	--	--	PT-1		3/A-514	18,20/A-514	--					STAIR EXIT GATE w/ PANIC DEVICE

DOOR SCHEDULE GENERAL NOTES

1. GENERAL DOOR SHEET NOTES ARE TYPICAL UNLESS NOTED OTHERWISE.
2. FLOORS OR LANDINGS ON EACH SIDE OF EXIT DOORS SHALL NOT EXCEED ½" FROM THE TOP OF THE DOOR THRESHOLD TO THE FLOOR OR LANDING SURFACE ON EITHER SIDE OF THE DOOR ASSEMBLY.
3. EXITS AND EXIT ACCESS DOORS SHALL BE MARKED BY AN APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF TRAVEL.
4. THE FORCE FOR PUSHING OR PULLING OPEN INTERIOR SWINGING EGRESS DOORS, OTHER THAN FIRE DOORS, SHALL NOT EXCEED 5 POUNDS. FOR OTHER SWINGING DOORS, AS WELL AS SLIDING AND FOLDING DOORS, THE DOOR LATCH SHALL RELEASE WHEN SUBJECTED TO A 15 POUND MAXIMUM FORCE
5. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN THE PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, PANIC BARS, PUSH-PULL ACTIVATING BARS OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP, PINCH OR TWIST THE OPENING HARDWARE
6. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING DOORS SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. WHERE NARROW FRAME DOORS ARE USED, A 10" HIGH SMOOTH PANEL SHALL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
7. RATED DOORS SHALL BE POSITIVE LATCHING AND SELF CLOSING.
8. FIRE RATED DOORS AND CLASS SHALL HAVE AN APPROVED LABEL OR LISTING MARK INDICATING THE FIRE PROTECTION RATING WHICH IS PERMANENTLY AFFIXED AT THE FACTORY WHERE FABRICATION AND ASSEMBLY OCCUR.
9. DOOR AND FRAME ASSEMBLY DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION AND INSTALLATION.
10. COORDINATE OVERALL DOOR FRAME DEPTHS WITH WALL TYPES.
11. FOR DOOR HARDWARE GROUPS, SEE PROJECT SPECIFICATIONS.
12. FOR SIGNAGE ON OR ADJACENT TO DOORS, SEE SHEET SERIES G-100.
13. GLASS DOORS, SIDELIGHTS, AND GLAZED OPENINGS WITHIN 18" OF THE FLOOR OR WITHIN 24" HORIZONTALLY OF ANY DOOR OPENING SHALL BE FULLY TEMPERED GLASS APPROVED FOR IMPACT HAZARD.
14. PROVIDE RATED GLASS AT RATED DOORS AND FRAMES WITH LITES. SEE DOOR SCHEDULE AND PROJECT SPECIFICATIONS.
15. COORDINATE THE SIZE AND LOCATION OF RECESSES IN CONCRETE FLOORS FOR RECESSED DOOR HARDWARE.
16. SEE SECURITY DRAWINGS FOR DOORS WITH CARD READERS AND OTHER SECURITY ELECTRONICS, COORDINATE WITH ELECTRICAL.
17. HOLLOW METAL FRAMES IN MASONRY CONSTRUCTION SHALL BE GROUTED FULL.
18. REFER TO A-513 AND A-514 FOR DOOR DETAILS

LEGEND

(E) = EXISTING
ADO = AUTOMATIC DOOR OPERATOR
ADC = AUTOMATIC DOOR CLOSER
CR = CARD READER
EL = ELECTRIC LOCK
HDW GP = HARDWARE GROUP
HO = HOLD OPEN
PH = PANIC HARDWARE
V = VINYL STRIPS

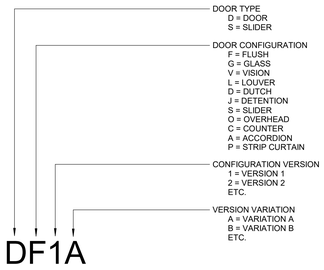
GLASS LEGEND:
GL = GLASS
LG = LEADED GLASS
RG = RATED GLASS
SG = SPANDREL GLASS

GLASS LEGEND NOTES:
1. SEE SPECS FOR GLASS TYPS NOTED

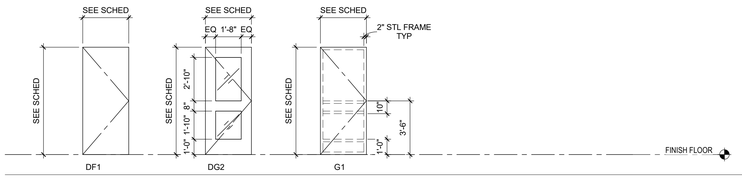
MATERIAL
ALUM = ALUMINUM
DHM = DETENTION HOLLOW METAL
HM = HOLLOW METAL
SST = STAINLESS STEEL
WD = WOOD

FINISH
ANOD = ANODIZED
FRP = FIBER REINFORCED PLASTIC
PLAM = PLASTIC LAMINATE
PT = PAINT
ST = STAIN

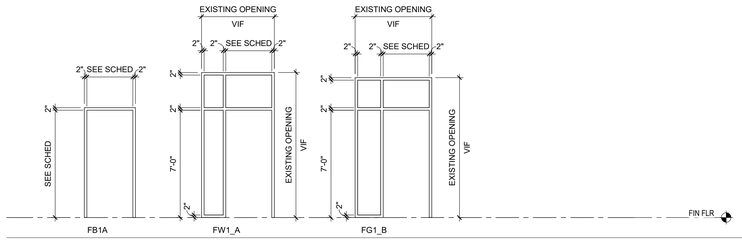
DOOR TYPE SYMBOL KEY



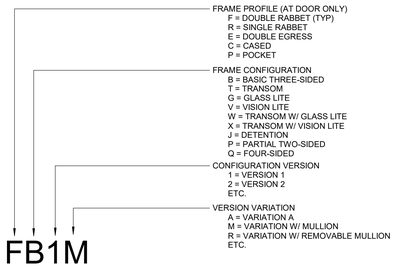
DOOR TYPES



FRAME TYPES



FRAME TYPE SYMBOL KEY



LIONAKIS
1919 Nineteenth Street
Sacramento CA 95811
P 916.558.1900 F 916.558.1919
www.lionakis.com
CONSULTANT

SEAL

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO:	015437.05
CLIENT PROJECT NO:	
COPYRIGHT:	LIONAKIS 2020

AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
SCHEDULES / DIAGRAMS - DOORS

SHEET
A-621

UL - U419

FIRE-RESISTANCE DESIGN

Assembly Usage Disclaimer

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States
Design Criteria and Allowable Variances

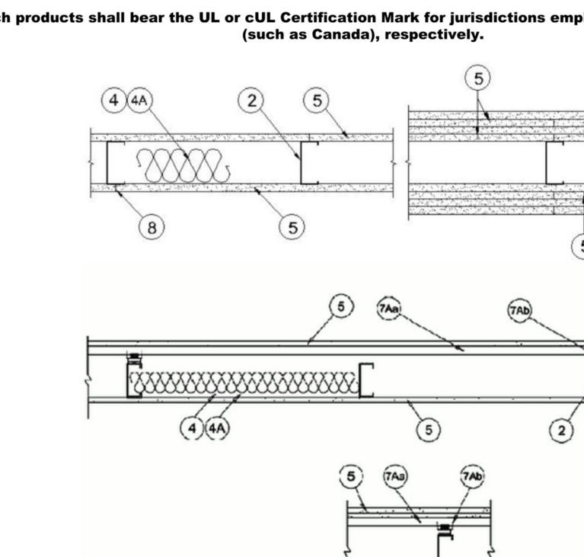
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada
Design Criteria and Allowable Variances

Design No. U419

September 28, 2018

Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5 through 5K)

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2 — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™ Track

CRACO MFG INC — SmartTrack25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™ Track

FUSION BUILDING PRODUCTS — Viper25™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper25™ Track

1B. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

FUSION BUILDING PRODUCTS — Viper20™ Track

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track

1C. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — In lieu of Item 1 — Channel shaped, attached to floor and ceiling with fasteners 24 in. OC. max.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20

UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

1D. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2A — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1E. **Framing Members* — Floor and Ceiling Runners —** (Not Shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G or 5I only, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1F. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
SUPER STUD BUILDING PRODUCTS — The Edge

1G. **Framing Members* — Floor and Ceiling Runner —** For use with Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size attached to floor and ceiling with fasteners 24 in. OC max.
STUDCO BUILDING SYSTEMS — CROCSTUD Track

1H. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.018 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

FUSION BUILDING PRODUCTS — Viper20™ Track VT100

IMPERIAL MANUFACTURING GROUP INC — Viper20™ Track VT100

1I. **Framing Members* — Floor and Ceiling Runners —** (Not Shown, As an alternate to Item 1) — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC. max.
TELLING INDUSTRIES L L C — TRUE-TRACK™

1J. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
TELLING INDUSTRIES L L C — Viper25™ Track

1K. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
TELLING INDUSTRIES L L C — Viper20™ Track

1L. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2N, proprietary channel shaped runners, 1-1/4 in. wide by min. 3-1/2 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
STEEL INVESTMENT GROUP L L C — AlphaTRAK

1M. **Framing Members* — Floor and Ceiling Runners —** Not Shown — As an alternate to Item 1 — For use with Item 2O, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
RONDO BUILDING SERVICES PTY LTD — Rondo Wall Track

1N. **Framing Members* — Floor and Ceiling Runners —** Not Shown — As an alternate to Item 1 — For use with Item 2P, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
OEG BUILDING MATERIALS — OEG Track

1O. **Framing Members* — Floor and Ceiling Runner —** Not Shown — In lieu of Item 1 — For use with Item 2Q, proprietary channel shaped runners, min width to accommodate stud size, fabricated from min. 25 MSG (0.018 in. min. bare metal thickness), attached to floor and ceiling with fasteners spaced 24 in. OC max.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X Track

2. **Steel Studs —** Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

2A. **Steel Studs —** (As an alternate to Item 2, For use with Items 5B, 5E, 5H, 5J and 5K) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2B. **Framing Members* - Steel Studs —** (As an alternate to Item 2, For use with Items 5C, 5I or 5K) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper25™

CRACO MFG INC — SmartStud25™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper25™

FUSION BUILDING PRODUCTS — Viper25™

IMPERIAL MANUFACTURING GROUP INC — Viper25™

2C. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

FUSION BUILDING PRODUCTS — Viper20™

IMPERIAL MANUFACTURING GROUP INC — Viper20™

2D. **Framing Members* — Steel Studs —** In lieu of Item 2 — Channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME D24/30EQD and Type SUPREME D20

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME D24/30EQD and Type SUPREME D20

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME D24/30EQD and Type SUPREME D20

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME D24/30EQD and Type SUPREME D20

UNITED METAL PRODUCTS INC — Type SUPREME D24/30EQD and Type SUPREME D20

2E. **Framing Members* — Steel Studs —** (Not Shown, As an alternate to Item 2) — For use with Items 5F or 5G or 5I or 5K only, channel shaped studs, min depth as indicated under Item 5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2F. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.
SUPER STUD BUILDING PRODUCTS — The Edge

2G. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height.
STUDCO BUILDING SYSTEMS — CROCSTUD

2H. **Framing Members* — Steel Studs —** (Not Shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
TELLING INDUSTRIES L L C — TRUE-STUD™

2I. **Framing Members* — Steel Studs —** (As an alternate to Item 2, For use with Items 5C or 5L or 5K) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.
TELLING INDUSTRIES L L C — Viper25™

2J. **Framing Members* — Metal Studs —** Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights
TELLING INDUSTRIES L L C — Viper20™

2K. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
EB METAL INC — NITROSTUD

2L. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
OLMAR SUPPLY INC — PRIMESTUD

2M. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

2N. **Framing Members*— Steel Studs —** As an alternate to Item 2 — proprietary channel shaped steel studs, min depth 3-1/2 in. and as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly height.
STEEL INVESTMENT GROUP L L C — AlphaSTUD

2O. **Framing Members* — Steel Studs —** As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
RONDO BUILDING SERVICES PTY LTD — Rondo Lipped Wall Stud

2P. **Framing Members* — Steel Studs —** As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, min 25 MSG galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
OEG BUILDING MATERIALS — OEG Stud

2Q. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1O, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 25 MSG (0.018 in. min. bare metal thickness). Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper X

3. **Wood Structural Panel Sheathing —** (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DOC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.

4. **Batts and Blankets* —** (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4A. **Batts and Blankets* —** (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4B. **Batts and Blankets* —** For use with Item 5K. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4C. **Fiber, Sprayed* —** (Optional) and as an alternate to Batts and Blankets (Item 4B) where insulation is required - Spray applied granulated mineral fiber material. The fiber is applied with adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5. **Gypsum Board* —** Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2, 2C, 2D, 2F, 2G, 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4)
1	3-1/2	1 layer, 5/8 in. thick	Optional
1	2-1/2	1 layer, 1/2 in. thick	1-1/2 in.
1	1-5/8	1 layer, 3/4 in. thick	Optional
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
2	3-1/2	1 layer, 3/4 in. thick	3 in.
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	2 layers, 3/4 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional
4	2-1/2	2 layers, 3/4 in. thick	2 in.

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR; WRC, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX or WRC; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type SCX, SGX, SHX, WRX, IP-X1, AR, C, WRC, FRX-G, IP-AR, IP-X2, IPC-AR; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or WRC; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRX, WRC or; 3/4 in. thick Types IP-X3 or ULTRACODE

When Item 7B, **Steel Framing Members***, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to opposite side of stud without furring channels as described in Item 6.

5A. **Gypsum Board* —** (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.
CGC INC — Type SHX.

UNITED STATES GYPSUM CO — Type FRX-G, SHX.

USG MEXICO S A DE C V — Type SHX.

5B. **Gypsum Board* —** (Not Shown) — As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) — Nom 5/8 in. or 3/4 in. may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12).
RAY-BAR ENGINEERING CORP — Type RB-LBG

5C. **Gypsum Board* —** (For Use With Item 2B) — Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 6 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.
CGC INC — Type SCX.

UNITED STATES GYPSUM CO — Type SCX, SGX.

USG BORAL DRYWALL SFZ LLC — Type SCX

USG MEXICO S A DE C V — Type SCX

5D. **Gypsum Board* —** (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.
CGC INC — Type USGX

UNITED STATES GYPSUM CO — Type USGX

USG BORAL DRYWALL SFZ LLC — Type USGX

USG MEXICO S A DE C V — Type USGX

5E. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6 by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

NEW ENGLAND LEAD BURNING CO INC, DBA NELCO — Nelco

5F. **Gypsum Board* —** (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only, Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.
UNITED STATES GYPSUM CO — 5/8 in. thick Type SCX, SGX

USG BORAL DRYWALL SFZ LLC — 5/8 in. thick Type SCX, SGX

5G. **Gypsum Board* —** (As an alternate to Item 5) — For use with Items 1E and 2E only, Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally, as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Item 2E	No. of Layers & Thickness of Panel	Min Thkns of Insulation (Item 4)
2	1-5/8	2 layers, 1/2 in. thick	Optional
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 1/2 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 1/2 in. thick	Optional

CGC INC — 1/2 in. thick Type C, IP-X2 or IPC-AR;, 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type SCX, SGX, SHX, IP-X1, AR, C, , FRX-G, IP-AR, IP-X2, IPC-AR, ULIX; 3/4 in. thick Types IP-X3 or ULTRACODE

USG BORAL DRYWALL SFZ LLC — 1/2 in. Type C; 5/8 in. Types C, SCX, SGX, ULTRACODE

USG MEXICO S A DE C V — 1/2 in. thick Type C, IP-X2, IPC-AR or; 5/8 in. thick Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, or; 3/4 in. thick Types IP-X3 or ULTRACODE

5H. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5, Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over 20 MSG steel studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound see Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

5I. **Gypsum Board* —** (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.
CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

5J. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5 when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified, For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

5K. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:

Gypsum Board Protection on Each Side of Wall

Rating, Hr	Min Stud Depth, in. Items 2 through 2O	No. of Layers & Thkns of Panel	Min Thkns of Insulation (Item 4B)
1	3-5/8	1 layer, 5/8 in. thick	3-1/2 in.
2	1-5/8	2 layers, 5/8 in. thick	Optional
3	1-5/8	3 layers, 5/8 in. thick	Optional
4	1-5/8	4 layers, 5/8 in. thick	Optional

UNITED STATES GYPSUM CO — 5/8 in. thick Type ULIX

6. **Fasteners —** (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). **Single layer systems:** 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. **Two layer systems:** First layer- 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 8 in. from first layer.**Three-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. **Four-layer systems:** First layer- 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer- 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer- 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer- 2-5/8 in. long for 1/2 in., 5/8 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

7. **Furring Channels —** (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A.

7A. **Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

7B. **Framing Members* —** (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC — Type Isomax

7C. **Framing Members* —** (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ca) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
PLITEQ INC — Type GENIECLIP

7D. **Steel Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Da) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

7E. **Steel Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 7Eb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

7F. **Steel Framing Members* —** (Optional on one or both sides, not shown, for single or double layer systems) — Resilient channels and Steel Framing Members as described below:

a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 5. Not for use with Item 5A and 5E.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 7Fa) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

8. **Joint Tape and Compound —** Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. **Siding, Brick or Stucco —** (Optional, Not Shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

10. **Caulking and Sealants* —** (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.
UNITED STATES GYPSUM CO — Type AS

11. **Lead Batten Strips —** (Not Shown, For Use With Item 5B) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. **Lead Batten Strips —** (Not Shown, For Use With Item 5H) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

12. **Lead Discs or Tabs —** (Not Shown, For Use With Item 5B) — Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

12A. **Lead Discs —** (Not Shown, for use with Item 5H) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

13. **Lead Batten Strips —** (Not Shown, For Use With Item 5E) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

14. **Lead Tabs —** (Not Shown, For Use With Item 5E) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2018-09-28

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

UL - BW-S-0001

UL Product iQ™

XHBN.BW-S-0001 - Joint Systems

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XHBN - Joint Systems
XHBN7 - Joint Systems Certified for Canada

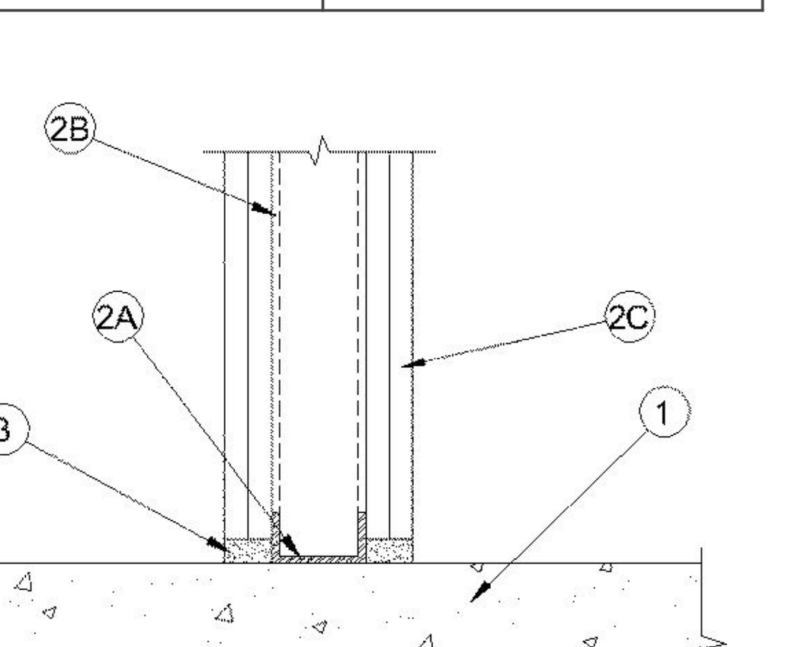
See General Information for Joint Systems

See General Information for Joint Systems Certified for Canada

System No. BW-S-0001

January 26, 2015

ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1 and 2 Hr (See Item 2)	F Ratings — 1 and 2 Hr (See Item 2)
Nominal Joint Width - 3/4 In.	FT Ratings — 1 and 2 Hr (See Item 2)
L Rating at Ambient — Less than 1 CFM/Lin Ft	FH Ratings — 1 and 2 Hr (See Item 2)
L Rating at 400° F — Less than 1 CFM/Lin Ft	FTH Ratings — 1 and 2 Hr (See Item 2)
	Nominal Joint Width - 3/4 In.
	L Rating at Ambient — Less than 1 CFM/Lin Ft
	L Rating at 400° F — Less than 1 CFM/Lin Ft



1. **Floor Assembly —** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m³) structural concrete. Floor may also be constructed of any 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units***.

See **Precast Concrete Units** category in the Fire Resistance Directory for names of manufactures.

2. **Wall Assembly —** The 1 or 2 h fire-rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 or V400 Series Wall or Partition Design in the UL Fire Resistance Directory. In addition, the wall may incorporate a head-of-wall joint system constructed as specified in the HW Series Joint Systems in the UL Fire Resistance Directory. The wall shall include the following construction features:

A. **Steel Floor Runner —** Floor runners of wall assembly shall consist of min No. 25 gauge galv steel channels sized to accommodate steel studs (Item 2B). Floor runners to be provided with min 1-1/4 in. (32 mm) flanges. Runners secured with steel fasteners spaced 12 in. (305 mm) OC.

B. **Studs —** Steel studs to be min 2-1/2 in. (64 mm) wide. Studs cut 1/2 to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in, resting on and fastened to floor runner with sheet metal screws. Stud spacing not to exceed 24 in. (610 mm) OC.

C. **Gypsum Board* —** Gypsum board installed to a min total thickness of 5/8 or 1-1/4 in. (16 or 32 mm) on each side of wall for a 1 or 2 hr rated wall, respectively. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory, except that a max 3/4 in. (19 mm) gap shall be maintained between the bottom of gypsum board and top of concrete floor. **The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.**

3. **Fill, Void or Cavity Material* Sealant — Max separation between top of floor and bottom of gypsum board is 3/4 in. (19 mm).** For 1 and 2 hr rated wall assemblies, min 5/8 in. or 1-1/4 in. (16 or 1-1/4 mm) thickness of fill material, respectively, installed on each side of the wall between the bottom of the gypsum board and the top of the concrete floor, flush with each surface of the wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S Elastomeric Firestop Sealant, CP606 Flexible Firestop Sealant, CFS-S SIL GG, FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2015-01-26

UL - HW-D-0042

ONLINE CERTIFICATIONS DIRECTORY

System No. HW-D-0042
XHBN.HW-D-0042
Joint Systems

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Design/System/Construction/Assembly Usage Disclaimer

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- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHBN - Joint Systems

XHBN7 - Joint Systems Certified for Canada

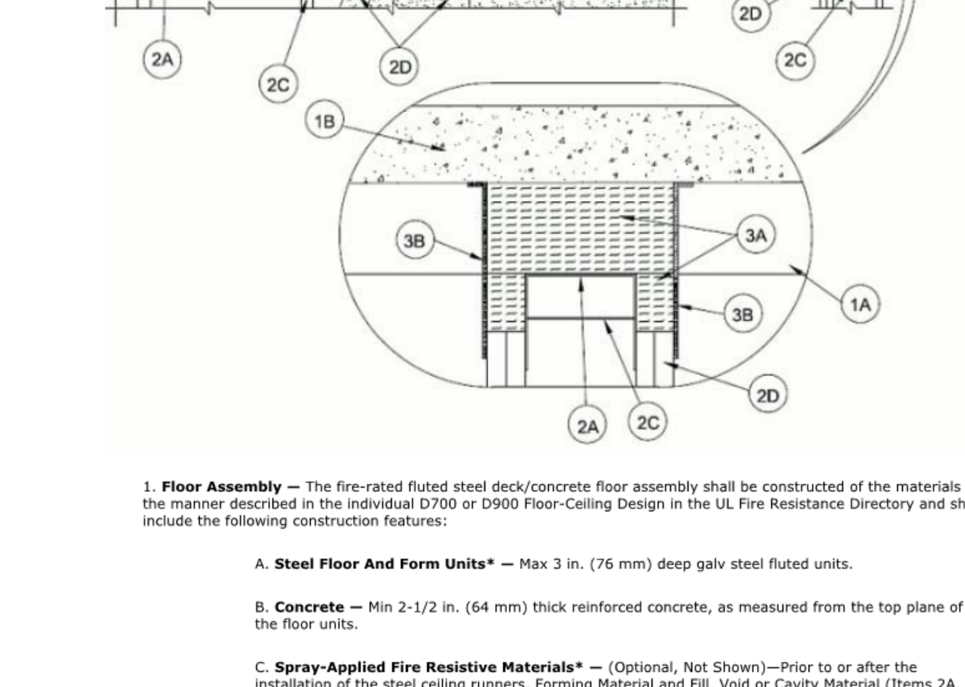
See General Information for Joint Systems

See General Information for Joint Systems Certified for Canada

System No. HW-D-0042

January 15, 2014

ANSI/UL2079	CAN/ULC S115
Assembly Ratings — 1 and 2 Hr (See Items 2 and 3A)	F Ratings — 1 and 2 Hr (See Items 2 and 3A)
Nominal Joint Width - 1 In.	FT Ratings — 1 and 2 Hr (See Items 2 and 3A)
Class II Movement Capabilities — 50% Compression or Extension	FH Ratings — 1 and 2 Hr (See Items 2 and 3A)
L Rating At Ambient — Less Than 1 CFM/Lin Ft	FTH Ratings — 1 and 2 Hr (See Items 2 and 3A)
L Rating At 400°F — Less Than 1 CFM/Lin Ft	Nominal Joint Width - 1 In.
	Class II Movement Capabilities — 50% Compression or Extension
	L Rating At Ambient — Less Than 1 CFM/Lin Ft
	L Rating At 400°F — Less Than 1 CFM/Lin Ft



1. **Floor Assembly —** The fire-rated fluted steel deck/concrete floor assembly shall be constructed of the materials and in the manner described in the individual D700 or D900 Floor-Ceiling Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor And Form Units* —** Max 3 in. (76 mm) deep galv steel fluted units.

B. **Concrete —** Min 2-1/2 in. (64 mm) thick reinforced concrete, as measured from the top plane of the floor units.

C. **Spray-Applied Fire Resistive Materials* —** (Optional, Not Shown)—Prior to or after the installation of the steel ceiling runners, Forming Material and Fill, Void or Cavity Material (Items 2A, 3A, 3B, respectively) the steel floor units may be sprayed with a min 5/16 in. (8 mm) to max 1-3/4 in. (45 mm) thickness of fire resistive material.

W R GRACE & CO - CONN — Type MK-6-HY

ISOLATEK INTERNATIONAL — Type 300

1A. **Roof Assembly —** (Not Shown) — As an alternate to the floor assembly, a fire rated fluted steel deck roof assembly may be used. The roof assembly shall be constructed of the materials and in the manner described in the individual P900 Series Roof-Ceiling Design in the UL Fire Resistance Directory. The hourly rating of the roof assembly shall be equal to or greater than the hourly rating of the wall assembly. The roof assembly shall include the following construction features:

A. **Steel Roof Deck —** Max 3 in. (76 mm) deep galv steel fluted roof deck.

B. **Roof Insulation —** Min 2-1/4 in. (57 mm) thick poured insulating concrete, as measured from the top plane of the floor units.

1B. **Roof Assembly —** As an alternate to Items 1 and 1A, a fire rated protected fluted steel deck roof assembly may be used. The roof assembly shall be constructed of the materials and in the manner described in the individual P700 Series Roof-Ceiling Design in the UL Fire Resistance Directory. The hourly rating of the roof assembly shall be equal to or greater than the hourly rating of the wall assembly. The roof assembly shall include the following construction features:

A. **Steel Roof Deck —** Max 3 in. (76 mm) deep galv steel fluted roof deck.

B. **Spray—Applied Fire Resistive Materials* —** (Not Shown)—Prior to or after the installation of the steel ceiling runners, Forming Material and Fill, Void or Cavity Material (Items 2A, 3A, 3B), the roof assembly shall be sprayed with the type and thickness of fire resistive material indicated in the individual P700 Series design.

W R GRACE & CO - CONN — Type MK-6-HY

ISOLATEK INTERNATIONAL — Type 300

2. **Wall Assembly —** The 1 or 2 hr fire rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner described in the individual U400 or V400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor And Ceiling Runners —** Floor and ceiling runners of wall assembly shall consist of galv steel channels sized to accommodate steel studs (Item 2C). Flange height of ceiling runner shall be min 1/4 in. (6 mm) greater than max extended joint width. Ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors, steel fasteners or welds spaced max 24 in. (610 mm) OC. before or after optional spray-applied fire resistive material is used. The use of welds to secure the ceiling runner may only be used prior to the installation of the optional spray-applied material.

A1. **Light Gauge Framing*-Slotted Ceiling Runner —** As an alternate to the ceiling runner in Item 2A, slotted ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 2C). Slotted ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel fasteners or welds spaced max 24 in. (610 mm) OC before optional spray-applied fire resistive material is used. Ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors, steel fasteners or welds spaced max 24 in. (610 mm) OC. before or after optional spray-applied fire resistive material is used. The use of welds to secure the ceiling runner may only be used prior to the installation of the optional spray-applied material.

BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST

CLARKDIETRICH BUILDING SYSTEMS — Type SLT, SLT-H

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — SDT250, SDT300

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Type SLT

METAL-LITE INC — The System

OLMAR SUPPLY INC — STT250, STT300

R & P SUPPLY — SCT250, SCT300

SCAFCO STEEL STUD MANUFACTURING CO

TELLING INDUSTRIES L L C — True-Action Deflection Track

A2. **Light Gauge Framing*-Vertical Deflection Ceiling Runner —** When the nom joint width is less than or equal to 3/4 in. (19 mm), vertical deflection ceiling runner may be used as an alternate to the ceiling runners in Items 2A and 2A1. Vertical deflection ceiling runner to consist of galv steel channel with slotted vertical deflection clips mechanically fastened within runner. Slotted clips provided with step bushings for permanent fastening of steel studs. Flanges sized to accommodate steel studs (Item 2C). Vertical deflection ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors, steel fasteners or welds spaced max 24 in. (610 mm) OC. before or after optional spray-applied fire resistive material is used. The use of welds to secure the ceiling runner may only be used prior to the installation of the optional spray-applied material.

THE STEEL NETWORK INC — VertiTrack VTD250, VTD362, VTD400, VTD600 and VTD800

A3. **Light Gauge Framing*- Notched Ceiling Runner —** As an alternate to the ceiling runners in Items 2A through 2A3, notched ceiling runners to consist of C-shaped galv steel channel with notched return flanges sized to accommodate steel studs (Item 2C). Notched ceiling runner installed perpendicular to direction of fluted steel deck and secured to valleys with steel masonry anchors, steel fasteners or welds spaced max 24 in. (610 mm) OC. before or after optional spray-applied fire resistive material is used. The use of welds to secure the ceiling runner may only be used prior to the installation of the optional spray-applied material.

OLMAR SUPPLY INC — Type SCR

B. **Steel Attachment Clips —** (Optional - Not Shown) - When spray applied fireproofing is used ceiling runner may be secured to deck with Z-shaped clips formed from min 1 in. (25 mm) long strips of min 20 ga galv steel. Length of clips should not exceed the width (thickness) of the wall. Clips to be sized to extend through the thickness of the spray-applied fire-resistive material on the bottom of the steel deck with 1-1/2 or 2 in. (38 or 51 mm) long upper and lower legs. Legs of clips fastened to valleys of steel deck (prior to application of spray-applied fire-resistive materials) and top of ceiling runner with steel masonry anchors, steel fasteners or welds. Clips spaced max 24 in. (610 mm) OC.

C. **Studs —** Steel studs to be min 2-1/2 in. (64 mm) wide. Studs cut 1/2 to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in and resting on floor runner and with top nesting in ceiling runner without attachment. When slotted ceiling runner (Item 2A1) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at midheight of slot on each side of wall. When vertical deflection ceiling runner (Item 2A2) is used, steel studs secured to slotted vertical deflection clips, through the bushings, with steel screws at midheight of each slot. Stud spacing not to exceed 24 in. (610 mm) OC.

D. **Gypsum Board* —** Gypsum board installed to a min total thickness of 5/8 in. and 1-1/4 in. (16 and 32 mm) on each side of wall for 1 and 2 hr rated assemblies, respectively. Wall to be constructed as specified in the individual Wall and Partition Design in the UL Fire Resistance Directory, except that a max 1 in. (25 mm) gap shall be maintained between the top of the gypsum board and the bottom of the steel deck units and the top row of screws shall be installed into the studs 1-1/2 to 2 in. (38 to 51 mm) below the bottom of the ceiling runner. **The hourly rating of the joint system is dependent on the hourly rating of the wall.**

3. **Joint System — Max separation between bottom of floor or roof and top of wall at time of installation of joint system is 1 in. (13 mm).** The joint system is designed to accommodate a max 50 percent compression or extension from its installed width. The joint system consists of forming material and a fill material, as follows:

A. **Forming Material* —** Nom 4 pcf (64 kg/m3) density mineral wool batt insulation cut with a length approx equal to the overall thickness of the wall. Multiple pieces stacked on top of each other, as needed, and then compressed 25 percent in thickness and inserted into the flutes of the steel deck above the top of the ceiling runner. The mineral wool batt insulation is to project beyond each side of the ceiling runner, flush with wall surfaces. Alternately, nom 4 pcf (64 kg/m3) forming material cut to shape of flute and nom 1 in. (25 mm) longer than thickness of wall; mineral wool compressed from ends and firmly packed into each flute to attain a min compression rate of 14.3 percent in the length (wall thickness) direction to be flush with both wall surfaces. Additional 5/8 in. and 1-1/4 in. (16 and 32 mm) wide strips for 1 and 2 hr rated assemblies, respectively, of nom 4 pcf (64 kg/m³) mineral wool batt insulation are to be cut to fill the gap between the top of the gypsum board and bottom of the steel deck. The strips of mineral wool are compressed 50 percent and tightly packed, cut edge first, into the gap between the top of the gypsum board and bottom of the steel deck on both sides of the wall.

ROCK WOOL MANUFACTURING CO — Delta- Board

ROXUL INC — SAFE

THERMAFIBER INC — Type SAF

IIG MINWOOL L L C — MinWool-1200 Safing

A1. **Forming Material*—Plugs —** (Optional, Not Shown) Preformed mineral wool plugs, formed to the shape of the fluted floor units, friction fit to completely fill the flutes above the ceiling channel. The plugs shall project beyond each side of the ceiling runner, flush with wall surfaces. Additional forming material, described in Item 3A, to be used in conjunction with the plugs to fill the gap between the top of gypsum board and bottom of steel floor units.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP777 Speed Plugs

A2. **Forming Material* - Strips —** (Optional) - Nom 5/8 in. and 1-1/4 in. (16 and 32 mm) wide by 2 in. (51 mm) high precut mineral wool strips for 1 and 2 hr rated assemblies respectively. The strips are compressed 50 percent and firmly packed, cut edge first, into the gap between the top of the gypsum board and bottom of the steel floor units on both sides of the wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 767 Speed Strips

B. **Fill, Void or Cavity Material* —** Min 1/16 in. (1.6 mm) dry thickness (1/8 in. or 3.2 mm wet thickness) of fill material sprayed or troweled on each side of the wall to completely cover mineral wool forming material and to overlap a min of 1/2 in. (13 mm) onto gypsum board and steel deck on both sides of wall. When Spray-Applied Fire Resistive Material* is applied to the Steel Floor and Form Units*, the fill material is to overlap the gypsum board a min of 1/2 in. (13 mm) and the Spray-Applied Fire Resistive Material a min of 2 in. (51 mm) on both sides of wall. When spray-applied fire resistive materials are used, the firestop joint spray shall overlap the wall a min 1/2 in. (13 mm) and overlap the spray-applied fire resistive material a min of 2 in. (51 mm) on both sides of the wall.

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CFS-SP WB Firestop Joint Spray

*Bearing the UL Classification Mark

Last Updated on 2014-01-15

LIONAKIS
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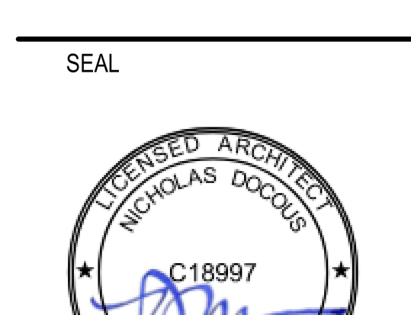
CONSULTANT

SEAL



PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:
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AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
UL ASSEMBLIES

SHEET
A-661

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

C:\Users\michael.hodges\Documents_RevitLocalFiles\015437.05_BIM_A-MASTER_R20_CENTRAL_michael.hodges.RVT

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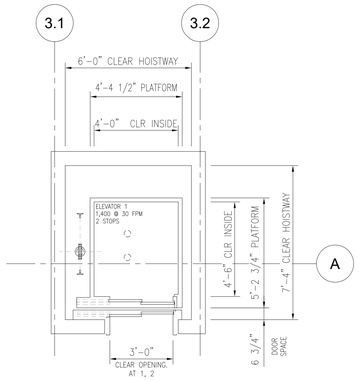


HOISTWAY PLAN ELEVATOR 1

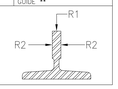
2 / VT.01 SCALE: NONE

RAIL FORCES MAXIMUM ON EACH GUIDE RAIL								
	ELEVATOR NUMBER	ELEVATOR 1						OCCURING ON
NORMAL FORCES	R1	792 LBS						FACE OF MAIN GUIDE
	R2	286 LBS						SIDE OF MAIN GUIDE
	CAR SAFETY	N/A						FORCE TRANSMITTED TO PIT CAR SAFETY APPLICATION *
	CWT SAFETY	N/A						FORCE TRANSMITTED TO PIT CWT SAFETY APPLICATION *
SEISMIC FORCES CAR	R1	1584 LBS						FACE OF MAIN GUIDE **
	R2	572 LBS						SIDE OF MAIN GUIDE - LOADING OR RUNNING **
SEISMIC FORCES CWT	R1	N/A						FACE OF COUNTERWEIGHT GUIDE **
	R2	N/A						SIDE OF COUNTERWEIGHT GUIDE **

BUILDING SUPPORTS TO RESIST HORIZONTAL FORCES WITH A TOTAL DEFLECTION AT POINT OF SUPPORT NOT IN EXCESS OF 1/8" DURING NORMAL CONDITIONS

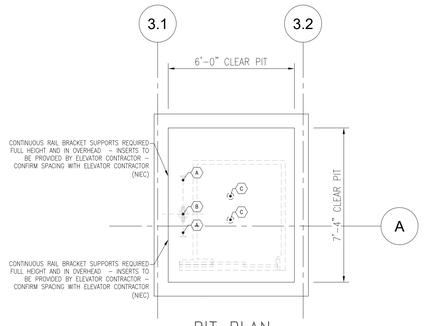
* THESE REACTIONS DO NOT OCCUR SIMULTANEOUSLY WITH PIT BUFFER REACTIONS

** BUILDING SUPPORTS FOR GUIDE RAIL ATTACHMENT SHALL RESIST HORIZONTAL FORCES WITH A TOTAL DEFLECTION NOT IN EXCESS OF 1/4" BASED UPON 0.5G ACCELERATION DURING SEISMIC CONDITIONS



RAIL FORCES ELEVATOR 1

5 / VT.01 SCALE: NONE



PIT PLAN ELEVATOR 1

3 / VT.01 SCALE: NONE

PIT REACTION TABLE	
KEY	REACTION
A	3,000 LBS EACH
B	9,000 LBS
C	8,000 LBS EACH
REACTIONS HAVE BEEN DOUBLED FOR IMPACT	

PIT REACTIONS ELEVATOR 1

6 / VT.01 SCALE: NONE

SECTION VIEW ELEVATOR 1

1 / VT.01 SCALE: NONE

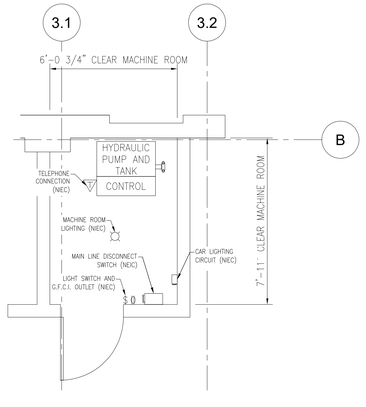
POWER REQUIREMENTS FOR REFERENCE ONLY							
POWER FEEDER REQUIREMENTS					MAIN SUPPLY: 480V / 3 PH / 60hZ		
UNIT NUMBER	CAPACITY	SPEED FPM	MOTOR HP	DRIVE HP	FULL LOAD AMPERAGE STARTING	FULL LOAD AMPERAGE RUNNING	MACHINE / CONTROL ROOM HEAT LOADING (BTU'S / HR)
ELEVATOR 1	1,400	30	15	N/A	30	15.6	6,000

NOTES:
1. ELECTRIC POWER AND CURRENT ARE BASED ON THREE (3) PHASE A.C. POWER SUPPLY
2. MAIN POWER TO BE PROVIDED AT EACH CONTROLLER THROUGH FUSED DISCONNECTING MEANS OR CIRCUIT BREAKERS
3. MAIN POWER SUPPLY DISCONNECTING MEANS TO BE SIZED TO LIMIT VOLTAGE DROP TO LESS THAN 5%
4. A FOURTH WIRE IS REQUIRED FOR GROUNDING PURPOSES. THE CONDUIT CONTAINING THE POWER CABLE CANNOT BE USED AS A GROUND FOR THE SYSTEM
5. PROVIDE ALL COPPER CONDUCTORS THROUGHOUT
6. MACHINE ROOM TEMPERATURE TO BE MINIMUM 50 DEGREES F, MAX. 90 DEGREES F, TO BE MEASURED 6'-0" ABOVE FINISH FLOOR AT APPROXIMATE CENTER OF ROOM – RELATIVE HUMIDITY MAXIMUM 85% NON CONDENSING
7. THE SELECTION OF MAIN POWER SUPPLY DISCONNECTING MEANS TO BE SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, SECTION 620-51, ARTICLE 430-52 (EXCEPTIONS A, B, C)
8. PROVIDE LOCAL TELEPHONE SERVICE LINE TO EACH CAR CONTROLLER (IF APPLICABLE)
9. PROVIDE G.F.C.I.-PROTECTED PIT, CONTROL ROOM, AND OVERHEAD OUTLETS

ADDITIONAL POWER AND DISCONNECT REQUIREMENTS IN MACHINE ROOM			
AUXILIARY SYSTEM	SUPPLY TERMINAL	SUPPLY VOLTAGE	CIRCUIT CAPACITY
CAR LIGHT AND FAN W/ LOCKABLE DISCONNECT	EACH CONTROLLER	120V / 1 PH / 60hZ	20 AMP PER CAR
SEISMIC SWITCH	EACH GROUP	120V / 1 PH / 60hZ	20 AMP PER CAR

ELECTRICAL AND MECHANICAL REQUIREMENTS ELEVATOR 1

7 / VT.01 SCALE: NONE



MACHINE ROOM PLAN ELEVATOR 1

4 / VT.01 SCALE: NONE
MACHINE ROOM LOCATED AT BASEMENT

NIEC: NOT IN ELEVATOR CONTRACT

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CONSULTANT

SEAL

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION

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CLIENT COUNTY OF LASSEN
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MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

TITLE
LU/LA ELEVATOR BASIS OF DESIGN

SHEET
VT.01

ELECTRICAL LEGEND

NOTE: NOT ALL SYMBOLS OR ABBREVIATIONS ARE APPLICABLE TO THIS PROJECT. REFER TO DETAILS AND NOTES FOR MOUNTING HEIGHTS.

LIGHTING

SYMBOL	DESCRIPTION
	RECESSED 2X4 LUMINAIRE
	SURFACE MOUNTED 2X4 LUMINAIRE
	RECESSED 1X4 LUMINAIRE
	SURFACE MOUNTED 1X4 LUMINAIRE
	RECESSED 2X2 LUMINAIRE
	SURFACE MOUNTED 2X2 LUMINAIRE
	SHADING OF ANY LUMINAIRE INDICATES CONNECTION TO ALTERNATE POWER SOURCE (EMERGENCY, UPS, STANDBY, ETC.) PER CIRCUITING INDICATED
	SUSPENDED LINEAR LUMINAIRE (SIZE VARIES)
	WALL MOUNTED LINEAR LUMINAIRE (SIZE VARIES)
	SUSPENDED PENDANT LUMINAIRE (SIZE VARIES)
	RECESSED DOWNLIGHT, CEILING MOUNTED
	SURFACE DOWNLIGHT, CEILING MOUNTED
WW DIRECTION	RECESSED WALLWASH
WW DIRECTION	SURFACE WALLWASH
	RECESSED LINEAR WALLWASH
	SURFACE LINEAR WALLWASH
	RECESSED WALL MOUNTED LUMINAIRE
	TRACK LIGHTING WITH HEADS AS INDICATED.
	RECESSED CEILING ADJUSTABLE POINT SOURCE
	SURFACE CEILING ADJUSTABLE POINT SOURCE
	WALL MOUNTED LUMINAIRE
	WALL MOUNTED DIRECTIONAL (SIZE VARIES)
	FLUORESCENT STRIPLIGHT - POWER FEED SECTION, FEED THROUGH SECTION. LENGTH AS SHOWN.
	WALL MOUNTED FLUORESCENT STRIPLIGHT
	UNDERCABINET FLUORESCENT STRIPLIGHT
	CONTINUOUS LINEAR SOURCE (LED, COLD CATHODE, NEON, FIBER OPTIC, ETC...)
	BATTERY POWER EMERGENCY UNIT EQUIPMENT (SEE LUMINAIRE SCHEDULE FOR QUANTITY OF HEADS) - WALL, CEILING MOUNTED.
	ILLUMINATED EXIT SIGN, SHADED QUADRANT INDICATES FACES, ARROWS AS SHOWN
	BOLLARD
	POLE MOUNTED LUMINAIRE- SINGLE OR DUAL HEAD
	INDICATES ROTATED OPTICS
	POST TOP MOUNTED LUMINAIRE
	IN-GRADE POINT SOURCE
	GARAGE LIGHTING LUMINAIRE WITH CUTOFF LOUVERS
HA 3c	LUMINAIRE MARKING CONVENTION LEGEND: HA = LUMINAIRE TYPE IDENTIFICATION. SEE LUMINAIRE SCHEDULE. 3c = CIRCUIT NUMBER VIA LOCAL SWITCH (LOWERCASE LETTER) THAT SERVES THE LUMINAIRE. 3A = CIRCUIT NUMBER/UPPERCASE LETTER COMBINATION INDICATES LOW VOLTAGE RELAY OR LIGHTING CONTACTOR THAT SERVES THE LUMINAIRE
HA 3A	

SWITCHING CONTROLS

SYMBOL	DESCRIPTION
S^a	SINGLE POLE SWITCH (SUPERSCRIPT DENOTES SIMILARLY MARKED LUMINAIRES CONTROLLED TOGETHER)
S_2	TWO POLE SWITCH
S_3	THREE WAY SWITCH
S_4	FOUR WAY SWITCH
S_K	KEY OPERATED SWITCH
D	DIMMER SWITCH. NUMBER INDICATES WATTAGE RATING. IF NOT SHOWN THEN EQUAL TO LOAD.
D	DIMMER SWITCH UNDER SEPARATE COVERPLATE
S_P	SWITCH WITH PILOT LIGHT (PILOT IS "ON WHEN SWITCH IS "ON").
S_{PL}	SWITCH WITH PILOT LIGHT (PILOT IS "ON WHEN SWITCH IS "OFF").
S_{TS}	TIMER SWITCH
S^{LVA}	LOW VOLTAGE MOMENTARY CONTACT SWITCH, UPPER CASE LETTER SUPERSCRIPT INDICATES CONNECTION TO LOW VOLTAGE RELAY CONTROLLING SIMILARLY MARKED LUMINAIRES.
S_{WP}	WEATHERPROOF SWITCH
S_V	LINE VOLTAGE, VARIABLE SPEED FAN CONTROL SWITCH. LOCATE ADJACENT TO ADJACENT TO LIGHT SWITCHES.
S_T	MOTOR-RATED THERMAL OVERLOAD SWITCH
S_{OR1}	LIGHTING CONTROL OVERRIDE SWITCH. NUMBER = ZONE CONTROLLED
PC	PHOTOCELL
	EQUIPMENT OPERATOR PUSH BUTTON STATION. PROVIDED WITH EQUIPMENT, INSTALLED AND CONNECTED BY ELECTRICAL, UON.
	PUSHBUTTON OR PUSHBUTTONS.
TC	TIME CLOCK
OS	OCCUPANCY SENSOR - WALL MOUNTED
OS	360 DEGREE OCCUPANCY SENSOR - CEILING MTD.
OS	CORRIDOR/AISLE OCCUPANCY SENSOR - CEILING MOUNTED
T T	THERMOSTAT - WALL, CEILING.
S_{EPO} EPO	EMERGENCY POWER OFF, HEAVY-DUTY, OIL-TIGHT RED MUSHROOM-HEAD PUSHBUTTON WITH GUARD.
	LIGHTING CONTROL PANEL AND ASSOCIATED COMPONENTS. PROVIDE CONTROL POWER AS REQUIRED OR AS INDICATED.

DISTRIBUTION & EQUIPMENT

SYMBOL	DESCRIPTION
	BRANCH CIRCUIT PANELBOARDS, SURFACE AND RECESS MOUNTED
	MOTOR CONTROL CENTER WITH CODE CLEARANCES SHOWN, DASHED EQUIP. = FUTURE
	TRANSFORMER WITH CODE CLEARANCES SHOWN
	SERVICE AND/OR DISTRIBUTION EQUIPMENT WITH CODE CLEARANCES SHOWN
	CONNECTION TO MOTOR PROVIDED BY OTHERS
VFD	CONNECTION TO VARIABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT
	DISCONNECT SWITCH, SIZE AS NOTED OR IF NOT SHOWN SIZE PER CONNECTED MOTOR SIZE AND MOTOR DISCONNECT SCHEDULE
F	FUSED DISCONNECT SWITCH, SIZE AS NOTED. SIZE FUSE PER MANUFACTURER'S RECOMMENDATIONS
C	ENCLOSED CIRCUIT BREAKER DISCONNECT SWITCH, TRIP SIZE AS NOTED.
	DISCONNECT W/ MAGNETIC MOTOR STARTER (CONTROLLER) OR CONTACTOR. SIZE PER LOAD SERVED. NEMA SIZE #1 MINIMUM.
	MAGNETIC MOTOR STARTER (CONTROLLER) OR CONTACTOR. SIZE PER LOAD SERVED. NEMA SIZE #1 MINIMUM.
	CONNECTION TO EQUIPMENT PROVIDED BY OTHERS. SHADED = ON ALT. POWER SOURCE NOTED
	CONNECTION TO EQUIPMENT WITH INTEGRAL DISCONNECT PROVIDED BY OTHERS. SHADED = ON ALTERNATE POWER SOURCE NOTED
	EQUIPMENT OR TERMINAL ENCLOSURE AS NOTED, SURFACE AND RECESS MOUNTED
DM	DAMPER MOTOR
	BUSWAY RISER
C F	BUSWAY STAB-IN TYPE CIRCUIT BREAKER OR FUSE DISCONNECT. SIZE AS NOTED.

DIAGRAMS

SYMBOL	DESCRIPTION
	AUTOMATIC TRANSFER SWITCH (ATS)
	AUTOMATIC TRANSFER SWITCH WITH MAINTENANCE BYPASS(BIATS)
	OVERLOADS
	NORMALLY CLOSED CONTACTOR OR RELAY CONTACTS
	NORMALLY OPEN CONTACTOR OR RELAY CONTACTS
	BUS DUCT
	BUS BAR
	BATTERY GENERAL
	RESISTOR
	CONNECTOR, FEMALE AND MALE RESPECTIVELY
	PIPE GROUND
C	CONTACTOR COIL
R	RELAY COIL
D	LIGHTNING SURGE ARRESTOR D = DISTRIBUTION CLASS I = INTERMEDIATE CLASS
SPD	SURGE PROTECTION DEVICE
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	NORMALLY OPEN PUSH BUTTON
	NORMALLY CLOSED PUSH BUTTON
	FUSED VOLTAGE SENSE LEADS
PF	METER: POWER FACTOR
KWH	METER: KILOWATT HOUR
M M	UTILITY CO. APPROVED SOCKET WITH METER INSTALLED. SQUARE = REMOTE MOUNTED
DMU	DIGITAL METER UNIT. REFER TO SPECIFICATIONS.
STB	CURRENT TRANSFORMER SHORTING TERMINAL BLOCK.
	TERMINAL FOR FIELD CONNECT, SIZE & TYPE SUITABLE FOR CONDUCTOR INSTALLED.
	LED INDICATOR LIGHT, PUSH TO TEST, R=RED, G= GREEN, B= BLUE, Y= YELLOW, W= WHITE
	DELTA CONNECTION
	GROUNDED WYE CONNECTION
	CONNECTION TO GROUND
100AT 225AF	CIRCUIT BREAKER, WITH TRIP & FRAME AMPERE RATING
225AF 400AS	FUSED SWITCH, WITH FUSE AND SWITCH AMPERE RATING
	INDIVIDUALLY MOUNTED CIRCUIT BREAKER
52	CIRCUIT BREAKER, MEDIUM VOLTAGE, DRAWOUT
	DRAWOUT CIRCUIT BREAKER
GF	GROUND FAULT TRIP UNIT
BA	BELL ALARM TRIP MODULE CONTACTS
ST	SHUNT TRIP UNIT, 120VAC OR VOLTAGE AS NOTED
AM	INTEGRAL AMMETER DISPLAY
K	KEY INTERLOCK
10	CAPACITOR, POWER FACTOR CORRECTION, SIZE IN KVAR
	GENERATOR
	FUSE, HOLDER & PULLER

POWER DEVICES

SYMBOL	DESCRIPTION
	SIMPLEX RECEPTACLE - WALL, CEILING, ON ALT.
	DUPLEX RECEPTACLE - WALL, CEILING, ON ALT.
	DOUBLE DUPLEX RECEPTACLE - WALL, CLG, ON ALT.
	SPECIAL PURPOSE RECEPTACLE -WALL, CEILING ON ALT. POWER; NEMA CONFIGURATION AS NOTED
AB	RECEPTACLE TYPE SHOWN -WALL -ABOVE COUNTER BACKSPLASH. SEE ARCHITECTURAL DRAWINGS.
"ON ALT."	SHADED RECEPTACLES NOTED "ON ALT." ABOVE ARE CONNECTED TO ALTERNATE POWER SOURCE (EMERG., STANDBY, UPS, ETC.) PER CIRCUITING INDICATED
	DUPLEX RECEPTACLE - WALL - HALF SWITCHED
C C	CONTROLLED DUPLEX / DOUBLE DUPLEX RECEPTACLE
S	COMBINATION SWITCH/DUPLEX RECEPTACLE
GFI	DUPLEX RECEPTACLE - WALL - WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER
WP	RECEPTACLE TYPE SHOWN W/ WEATHERPROOF COVER AND INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER
+42"	RECEPTACLE TYPE SHOWN AT SPECIAL HEIGHT
	WALL MOUNTED ELECTRICAL CONNECTION TO ELECTRIFIED FURNITURE. PROVIDE 8 WIRES (4 HOTS, 1 DEDICATED NEUTRAL, 1 COMMON NEUTRAL, 1 IG) NEUTRALS TO BE #10 AWG. USE LIQUID-TIGHT FLEX.
	CLOCK HANGER RECEPTACLE
	FLUSH FLOOR BOX DEVICE - DEVICE TYPE PER SYMBOLS ABOVE
	PEDESTAL FLOOR DEVICE - DEVICE TYPE PER SYMBOLS ABOVE
	POKE THRU UNIT WITH DUPLEX RECEPTACLE - FLUSH, PEDESTAL MOUNTED.
	POKE THRU UNIT WITH DOUBLE DUPLEX RECEPTACLE - FLUSH, PEDESTAL MOUNTED.
	COMBO POKE THRU UNIT WITH DUPLEX RECEPTACLE AND TELEPHONE OUTLET - FLUSH, PEDESTAL MOUNTED.
	MULTI-SERVICE FLOOR BOX CAST IN CONC. OR IN RAISED FLOOR - SEE ARCH DWGS; WITH RECEPTACLES & SIGNAL OUTLETS AS NOTED.
	POKE THRU UNIT WITH JUNCTION BOX. RACEWAY COMPONENTS RC-700 SERIES.
	TELE/POWER POLE, POWER POLE
	TELE/POWER POLE WITH WHIP CONNECTION TO ELECTRIFIED FURNITURE
	TWO-PIECE SURFACE METAL RACEWAY WITH RECEPTACLES AS NOTED, BACK LENGTH AS INDICATED ON THE DRAWINGS AND WITH ALL FITTINGS AS REQUIRED.
	TWO OR THREE COMPARTMENT SURFACE METAL RACEWAY WITH RECEPTACLES AND OUTLETS AS INDICATED, LENGTH AS INDICATED ON THE DRAWINGS. PROVIDE ALL FITTINGS AS REQUIRED.
TX	REMOTE MOUNTED LINE TO LOW-VOLTAGE FUSED TRANSFORMER. CONCEAL FROM VIEW.

SIGNAL DEVICES

SYMBOL	DESCRIPTION
W	TERMINAL/MOUNTING BOARD, 8' HIGH, 3/4"x4'x WIDTH AS SHOWN, FIRE RETARDANT TREATED PLYWOOD.
	SIGNAL SYSTEM EQUIPMENT ENCLOSURES AS NOTED- SURFACE, RECESSED MOUNTED
	COMBO TELEPHONE/DATA OUTLET - WALL
W	TELEPHONE OUTLET - WALL, W = USE HIGHER MOUNTING HEIGHT PER MOUNTING HEIGHT DETAIL
	DATA OUTLET - WALL
S S	SPEAKER - WALL, CEILING
V	VOLUME CONTROL - WALL
B	BELL
	BUZZER
	CHIME
C C	SYSTEM CLOCK - WALL , CEILING
I M I	INTERCOM STATION - WALL, DESK. M = MASTER STATION
M M	MICROPHONE JACK - WALL, FLOOR
	PUSHBUTTON OR PUSHBUTTONS
	RF COAX CABLE OUTLET (TV, VCR, ETC.)
	COMBINATION RF COAX CABLE AND DATA OUTLET
	RF COAX CABLE SIGNAL SPLITTER
S PA	PAGING SYSTEM HORN (OUTDOOR)
AV	AV INPUT OUTLET, 1"C WITH 3-GANG BOX. CONDUIT STUBBED ABOVE ACCESSIBLE TILE CEILING.
IR	ASSISTIVE LISTENING INFRARED TRANSMITTER PANEL, 1"C WITH 2-GANG BOX. CONDUIT STUBBED ABOVE ACCESSIBLE TILE CEILING.
	RF COAX CABLE DISTRIBUTION AMPLIFIER. PROVIDE 120V POWER AS REQUIRED OR AS INDICATED. SEE RISER DIAGRAM.
	FLUSH FLOOR DEVICE - DEVICE TYPE PER SYMBOLS ABOVE
	PEDESTAL FLOOR DEVICE - DEVICE TYPE PER SYMBOLS ABOVE
S D S D	DUAL COIL SPEAKER - SURFACE CEILING, RECESSED CEILING.

REFERENCE SYMBOLS

SYMBOL	DESCRIPTION
XX	KEYED NOTE REFERENCE
125.4	BRANCH CIRCUIT OR FEEDER TAG; REFER TO BRANCH CIRCUIT AND FEEDER SCHEDULE FOR WIRE AND CONDUIT SIZES & QUANTITY.
1 E4.1	REFER TO DETAIL ON DRAWING INDICATED
2 E4.1	ELEVATION TAG: REFER TO ELEVATION NUMBER ON DRAWING INDICATED
A M-1	SECTION TAG: REFER TO SECTION NUMBER ON DRAWING INDICATED
K112	KITCHEN EQUIPMENT TAG, REFER TO KITCHEN EQUIPMENT SCHEDULE
CH 1	MECHANICAL EQUIPMENT IDENTIFICATION TAG
EQUIP NAME	EQUIPMENT BY OTHERS IDENTIFICATION TAG

WIRING

SYMBOL	DESCRIPTION
	NEW WORK
	WIRING CONCEALED IN FLOOR OR UNDER GRADE OR ROUTED IN CEILING SPACE OF FLOOR BELOW.
(E)	EXISTING WORK TO REMAIN
(ER)	EXISTING RELOCATED
(D)	EXISTING WORK TO BE REMOVED
(F)	FUTURE WORK
T	TELEPHONE SYSTEM CONDUIT
MV	MEDIUM VOLTAGE CONDUIT
G	BARE GROUNDING GRID OR CONDUCTORS, UON.
GC	GROUNDING CONDUCTOR(S) ROUTED IN CODE SIZED CONDUIT, UON.
	STROKES INDICATE QUANTITY OF #12 AWG. CONDUCTORS, UON. NOTE: WIRING STROKES FOR 20A BRANCH CIRCUITS ARE NOT SHOWN ON DRAWINGS. CONTRACTOR SHALL USE INFORMATION IN PANEL AND BRANCH CIRCUIT SCHEDULES TO PROVIDE REQUIRED CIRCUITING.
	GROUND
	HOT
	NEUTRAL
L1A-1,3	HOME RUN WIRING TO INDICATED DESTINATION, 3/4"C. MIN. OR AS OTHERWISE NOTED. CONTRACTOR SHALL USE CIRCUIT SIZES NOTED IN RESPECTIVE SCHEDULES AND INFORMATION IN THE FEEDER AND BRANCH CIRCUIT SCHEDULES.
HD1A	CONDUIT RUN TURNED UP THROUGH FLOOR OR CEILING. CORE & FIREPROOF AS REQUIRED.
	CONDUIT RUN TURNED DOWN THROUGH FLOOR OR CEILING. CORE & FIREPROOF AS REQUIRED.
	CONDUIT STUBBED OUT AT LOCATION SHOWN. PROVIDE INSULATED BUSHING & PULLROPE.
	TELEPHONE/DATA SLEEVE THROUGH WALL, ABOVE CEILING. EXTEND TO ACCESSIBLE TILE CLG. BOTH SIDES. TERMINATE WITH BUSHINGS. (1) 1.25" CO UON. COORDINATE LOCATIONS WITH CABLE INSTALLER(S) PRIOR TO ROUGH-IN.
	BASKET TYPE CABLE TRAY WITH 90 DEGREE ELBOW SHOWN
	LADDER TYPE CABLE TRAY WITH 90 DEGREE ELBOW SHOWN
	JUNCTION BOXES, WALL, CEILING AND FLUSH FLOOR MOUNTED. 4" SQ. BOX MIN., LARGER IF REQUIRED
	WIRING EXTENSION POINT - CONDUIT TO MC CABLE OR MANUFACTURED WIRING SYSTEM J-BOX ABOVE ACCESSIBLE CEILINGS AREAS, OR EXTEND CONDUIT & WIRE IN EXPOSED OR "HARD" CEILING AREAS. SHADED= ON ALT. POWER SOURCE (EMERG,UPS,ETC.)
PB	PULL BOX, MIN. SIZE PER NEC., UON.
P	UNDERFLOOR RACEWAY
	FLEXIBLE CONDUIT CONNECTION
	POWER CONNECTION TO DIV 15 FIRE/SMOKE DAMPER. REFER TO FSD CONNECTION DETAIL IF NOT SHOWN

GROUNDING SYSTEM

SYMBOL	DESCRIPTION
G	BARE GROUNDING GRID OR CONDUCTORS, UON.
GC	GROUNDING CONDUCTOR(S) ROUTED IN CODE SIZED CONDUIT, UON.
	GROUND GRID BOND POINT
	GROUND GRID BOND POINT - MECHANICAL CONNECTION
	GROUND GRID BOND POINT - EXOTHERMIC WELD CONNECTION
	GROUND BAR, SEE PLANS AND SPECIFICATIONS FOR DIMENSIONS AND REQUIREMENTS
	GROUND ROD LOCATION
	GROUND ROD IN TEST WELL
	LIGHTNING PROTECTION PARAPET MOUNTED AIR TERMINAL
	LIGHTNING PROTECTION MID ROOF MOUNTED AIR TERMINAL
	LIGHTNING PROTECTION AIR TERMINAL
	LIGHTNING PROTECTION CONDUCTOR ROUTED DOWN

ABBREVIATIONS

(E)	EXISTING TO REMAIN	IMC	INTERMEDIATE METAL CONDUIT
(F)	FUTURE	KCMIL	THOUSAND CIRCULAR MILS
(R)	EXISTING TO BE REMOVED	KN	KEYED NOTE
(RL)	EXISTING TO BE RELOCATED	KO	KNOCK OUT
AB	ABOVE COUNTER BACKSPLASH	KW	KILOWATTS
ACU	AIR CONDITIONING UNIT	KVA	KILOVOLT-AMPERES
AC	ALTERNATING CURRENT	LTG	LIGHTING
A, AMP	AMPERES	LCP	LIGHTING CONTROL PANEL
ADJ	ADJACENT	MAX	MAXIMUM
AF	AMPERE (RATED) FUSE OR CB FRAME	MCA	MINIMUM CIRCUIT AMPERES
AFF	ABOVE FINISHED FLOOR	MCB	MAIN CIRCUIT BREAKER
AFG	ABOVE FINISHED GRADE	MFR	MANUFACTURER
AHJ	AUTHORITY HAVING JURISDICTION	MIN	MINIMUM
AIC	EQUIPMENT SHORT CIRCUIT INTERRUPT RATING (RMS SYM. AMPS)	MISC	MISCELLANEOUS
		MLO	MAIN LUGS ONLY
AL	ALUMINUM (ALLOY)	MO	MANUAL OPERATOR
ALC	AUTOMATIC LIGHTING CONTROL	MTD	MOUNTED
AS	AMPERE (RATED) SWITCH	MTR	MOTOR
AT	CIRCUIT BRKR TRIP SETTING (AMPS)	N	NEUTRAL (GROUNDED CONDUCTOR)
ATS	AUTOMATIC TRANSFER SWITCH	NC	NORMALLY CLOSED
AUTO	AUTOMATIC	NEC	NATIONAL ELECTRICAL CODE
AUX	AUXILIARY	-NEG	NEGATIVE
AWG	AMERICAN WIRE GAUGE	NEMA	NATIONAL ELECTRICAL MFGR'S ASSOC.
BATT	BATTERY	NL	NIGHT LIGHT (UNSWITCHED)
BC	BARE COPPER	NO	NORMALLY OPEN
BG	BELOW GRADE	NTS	NOT TO SCALE
BRKR	CIRCUIT BREAKER	NP	NAMEPLATE
C	CONDUIT (CIRCULAR RACEWAY)	OC	ON CENTER
CAB	CABINET	OD	OUTSIDE DIAMETER
CB	CIRCUIT BREAKER	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CFM	CUBIC FEET PER MINUTE	ODOI	OWNER FURNISHED, OWNER INSTALLED
CKT	CIRCUIT	OS	OCCUPANCY SENSOR
CLG	CEILING	P	POLE
CO	CONDUIT ONLY	PB	PUSHBUTTON
CPT	CONTROL POWER TRANSFORMER	PH,Ø	PHASE
CT	CURRENT TRANSFORMER	PNL	PANEL
CU	COPPER	+,POS	POSITIVE
DC	DIRECT CURRENT	PRI	PRIMARY
DISC	DISCONNECT	REQD	REQUIRED
DIA	DIAMETER	RNC	RIGID NON-METALLIC CONDUIT (PVC)
DIV	DIVISION	RS	RAPID START
DP	DISTRIBUTION PANEL	RST	REMOTE STATION TRANSMITTER
DPDT	DOUBLE POLE DOUBLE THROW	SAD	SEE ARCHITECTURAL DRAWINGS
DPST	DOUBLE POLE SINGLE THROW	SEC	SECONDARY
DWG	DRAWING	SN	SHEET NOTE
E,EMER	EMERGENCY	SOL	SOLENOID
EF	EXHAUST FAN	SPD	SURGE PROTECTION DEVICE
EMT	ELECTRICAL METALLIC TUBING	SPDT	SINGLE POLE DOUBLE THROW
ENCL	ENCLOSURE	SPST	SINGLE POLE SINGLE THROW
EO	ELECTRICALLY OPERATED	SUB	SUBSTATION
EOL	END OF LINE	SWBD	SWITCHBOARD
EWC	ELECTRIC WATER COOLER	SWGR	SWITCHGEAR
EWH	ELECTRIC WATER HEATER	TB	TERMINAL BOARD
FA	FIRE ALARM	TDC	TIME DELAY CLOSING
FAA	FIRE ALARM ANNUNCIATOR	TDO	TIME DELAY OPENING
FACP	FIRE ALARM CONTROL PANEL	TEL	TELEPHONE
FBO	FURNISHED BY OTHERS	TYP	TYPICAL
FC	FOOT CANDLES	UF	UNDERFLOOR
FF	FLUSH FLOOR MOUNTED	UG	UNDERGROUND
FLA	FULL LOAD AMPERES	UL	UNDERWRITERS LAB
FLEX	FLEXIBLE	UON	UNLESS OTHERWISE NOTED
FPB	FAN POWERED BOX	UPS	UNINTERRUPTIBLE POWER SUPPLY
FSD	FIRE/SMOKE DAMPER	UTX	UTILITY TRANSFORMER
FW	FLUSH WALL MOUNTED	V	VOLTS
FU	FUSE	VA	VOLT-AMPERES
GEN	GENERATOR	VFD	VARIABLE FREQUENCY DRIVE
GFI	GROUND FAULT CIRCUIT INTERRUPTER	W	WATT
G,GND	GROUND	W/	WITH
GRAP	GENERATOR REMOTE ANNUNCIATOR PANEL	W/O	WITHOUT
GRC	GALVANIZED RIGID STEEL CONDUIT	WP	WEATHERPROOF
HLO	HANDLE LOCK-ON(OFF)	XFR	TRANSFORMER
HP	HORSEPOWER	XP	EXPLOSION PROOF
HPF	HIGH POWER FACTOR	Z	ZONE
HTR	HEATER	",IN	INCHES
HZ	HERTZ (CYCLES PER SECOND)	',FT	FEET
IES	ILLUMINATING ENGINEERING SOCIETY	Ø	PHASE
IBC	INDIVIDUAL BRANCH CIRCUIT	>	GREATER THAN
ID	INSIDE DIAMETER	<	LESS THAN
IG	ISOLATED GROUND	>	GREATER THAN OR EQUAL TO

ELECTRICAL DRAWING LIST

SHEET NUMBER	SHEET NAME
E0.0	ELECTRICAL LEGEND AND ABBREVIATIONS
E0.2	BASIS OF DESIGN AND LIGHTING SCHEDULES
E1.1	ELECTRICAL SITE PLAN
E3.1	BASEMENT ELECTRICAL PLAN
E5.1	SINGLE LINE DIAGRAM
E5.2	PANELBOARD SCHEDULES
E6.1	ENLARGED ELECTRICAL PLANS
E9.1	ELECTRICAL DETAILS
E9.2	ELECTRICAL DETAILS
ET24.1	ELECTRICAL TITLE 24 DOCUMENTATION - INDOOR
ET24.2	ELECTRICAL TITLE 24 DOCUMENTATION - EXTERIOR
ET24.3	ELECTRICAL TITLE 24 DOCUMENTATION - POWER DISTRIBUTION

ELECTRICAL EQUIPMENT NAMING CONVENTION LEGEND

EXAMPLES/LEGEND

DP-	H	M	1	
XFR-	L	D	1	
SWBD-	H	L	1	
PNL-	H	SN	1	
		K	2	
		ADDN'L DESIG.		
EQUIP. TYPE	SYSTEM VOLTAGE		FLOOR	

EQUIPMENT TYPE

ATS - AUTOMATIC TRANSFER SWITCH
XFR - TRANSFORMER
UTX - UTILITY MAIN TRANSFORMER
CB - ENCLOSED CIRCUIT BREAKER
SWBD - SWITCHBOARD
DP - DISTRIBUTION PANEL
PNL - BRANCH PANEL

VOLTAGE

H - 480/277 VOLT
L - 208/120 VOLT

ADDITIONAL DESIGNATION

(1st letter)
BLANK - PANEL
D - DISTRIBUTION PNL

(2nd letter)
P - PLUGLOAD
L - LIGHTING
M - MECHANICAL

FLOOR

1 - BASEMENT

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REGISTERED PROFESSIONAL ENGINEER
CHRISTY D. DUTTER
No. 21073
RENEWAL 03/31/21
ELECTRICAL
STATE OF CALIFORNIA

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION SEISMIC RETROFIT
220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT

COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:
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AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE

ELECTRICAL LEGEND AND ABBREVIATIONS

SHEET

E0.0

LUMINAIRE SCHEDULE

TAG	DESCRIPTION	LAMP	COLOR TEMP	MANUFACTURER	MODEL	VOLTAGE	LOAD	MOUNTING	COMMENTS
C1	4' LINEAR SURFACE	LED	3500K	HE WILLIAMS	LLM-4-L10/935-S-SQ-D-EM/10WLP-UNV	120 V	28.8 W	WALL	10W EMERGENCY BATTERY PACK
H1	LINEAR STRIPLIGHT	LED	3500K	HE WILLIAMS	LLM-4-L10/935-S-SQ-D-UNV	277 V	28.8 W	SURFACE	
H1E	4' LINEAR STRIPLIGHT	LED	3500K	HE WILLIAMS	LLM-4-L10/935-S-SQ-EM/10WLP-UNV	277 V	28.8 W	SURFACE	10W EMERGENCY BATTERY PACK
H2E	4' SUSPENDED STRIP	LED	3500K	AXIS LIGHTING	WBLED-900-90-35-S-4-BLK-UNV-DP-1-SA(18)-B#-F-OS#	277 V	39.6 W	SUSPENDED	10W EMERGENCY BATTERY PACK, WET LOCATION RATED, INTEGRAL HIGH/LOW OCCUPANCY SENSOR
S1	HALF ROUND	LED	3000K	LITHONIA	ARC2 LED-P4-30K-MVOLT-E8WC-PE-DBLXD-	277 V	30.0 W	WALL	EMERGENCY BATTERY PACK, WET LOCATION RATED, INTEGRAL PHOTOCELL DUSK-TO-DAWN OPERATION

GENERAL NOTES:

A. CONTRACTOR TO SUBMIT CUTSHEETS OF ALTERNATE AND APPROVED MANUFACTURERS PRODUCT ALONG WITH CUTSHEETS OF SPECIFIED FIXTURE FOR REVIEW AND APPROVAL BY ENGINEER.
B. SHADING OF ANY LUMINAIRE INDICATES CONNECTION TO EMERGENCY BATTERY PACK.
C. CONTRACTOR IS RESPONSIBLE TO VERIFY CEILING TYPE AND THICKNESS, AND PROVIDE REQUIRED LUMINAIRE MOUNTING TRIMS AND BRACKETS FOR ALL FIXTURE TYPES.
D. CONTRACTOR IS RESPONSIBLE TO VERIFY SINGLE OR DOUBLE FACE AND MOUNTING OF EXIT SIGNS WITH LIGHTING PLANS AND RACHITECTURAL CEILING PLANS AND PROVIDE WALL MOUNTING BRACKETS, CEILING MOUNTING BRACKETS AND/OR PENDANTS AS REQUIRED.
E. IN LOCATIONS WHERE DUCT WORK RUNS OVER THE TOP OF RECESSED LUMINAIRES, THE LUMINAIRES AT THESE LOCATIONS WILL BE HORIZONTALLY SUPPORTED TO AVOID UNNECCESSARY DUCT PENETRATIONS. LUMINAIRES ARE TO BE SUPPORTED BY THE CEILING SYSTEM OR BUILDING STRUCTURE ONLY.
F. VERIFY MOUNTING HEIGHTS AND CEILING TYPES WITH ARCHITECT.

LCP SCHEDULE

LIGHTING ZONE	DESCRIPTION	VOLTS	CIRCUITING		CONTROL
			PANEL	CIRCUIT	
A	STAIRWELL	277	HL1	3	TCO, TCF
B	SPARE	277			
C	SPARE	277			
D	SPARE	277			
F	SPARE	277			
G	SPARE	277			
H	SPARE	277			
J	SPARE	277			
K	SPARE	277			
L	SPARE	277			
M	SPARE	277			
N	SPARE	277			
O	SPARE	277			
P	SPARE	277			
Q	SPARE	277			
R	SPARE	277			

NOTES:
1. TCO (TIME CLOCK ON), TCF (TIME CLOCK OFF)
2. PCO (PHOTOCELL ON), PCF (PHOTOCELL OFF)
3. SPARE RELAY CIRCUITS WILL BE UTILIZED IN PHASE 3 OF PROJECT.

ELECTRICAL - BASIS OF DESIGN

A. CODES AND STANDARDS
 1. AMERICANS WITH DISABILITIES ACT, (ADA)
 2. NFPA 70E: STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE
 3. NFPA 101, LIFE SAFETY CODE: 2012 EDITION
 4. NFPA 110, STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS: 2016 EDITION
 5. CALIFORNIA BUILDING CODES ENFORCED BY THE AUTHORITY HAVING JURISDICTION (AHJ):
  A. 2019 CALIFORNIA BUILDING CODE (CBC), CALIFORNIA CODE OF REGULATIONS, TITLE-24, PART 2 (BASED ON THE 2018 INTERNATIONAL BUILDING CODE WITH STATE AMENDMENTS).
  B. 2019 CALIFORNIA FIRE CODE (CFC), CALIFORNIA CODE OF REGULATIONS, TITLE-24, PART 9 (BASED ON THE 2018 UNIFORM FIRE CODE WITH STATE AMENDMENTS).
  C. 2019 CALIFORNIA ELECTRICAL CODE (CEC), BASED ON THE 2017 NATIONAL ELECTRICAL CODE (NEC) WITH STATE AMENDMENTS.
  D. 2019 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARD FOR NONRESIDENTIAL COMPLIANCE, CALIFORNIA CODE OF REGULATIONS, TITLE-24, PART 6.
 6. LASSEN MUNICIPAL UTILITY DISTRICT (LMUD) STANDARDS

B. POWER DESIGN
 1. DESIGN VOLTAGES:
  A. 480VAC, 3-PHASE, 3-WIRE MOTOR LOADS RATED 3 HP AND LARGER.
  B. 277VAC: INTERIOR AND EXTERIOR LIGHTING.
  C. 208VAC: 1 AND 3-PHASE EQUIPMENT AND MOTORS FROM ¾ HP TO 2 HP.
  D. 120V: RECEPTACLES, EQUIPMENT, AND MOTORS ½ HP AND SMALLER.

ELECTRICAL SYSTEMS

A. NORMAL POWER
 1. A 600A ELECTRICAL SERVICE AT 480V, 3PH, 4W SHALL BE PROVIDED BY A PAD MOUNTED LMUD TRANSFORMER LOCATED ON SITE. SECONDARY CONDUCTORS SHALL DELIVER POWER FROM THE TRANSFORMER TO A 600A RATED SERVICE ENTRANCE AUTOMATIC TRANSFER SWITCH THAT INCLUDES A 600A MAIN CIRCUIT BREAKER. THE TRANSFER SWITCH SHALL FEED THE MAIN SWITCHBOARD.
 2. FEEDER BREAKERS SHALL DISTRIBUTE POWER TO MAJOR LOADS WITHIN THE BUILDING, INCLUDING:
  A. POWER TO EQUIPMENT IN THE MAIN ELECTRICAL ROOM. BREAKERS WILL BE PROVIDED FOR THE ENTIRETY OF THE REMODELED COURTHOUSE TO BE COMPLETED IN PHASE 3.
  B. CODE MINIMUM PROVISIONS FOR FUTURE PHOTOVOLTAIC SYSTEM
  C. ELEVATOR
 3. FEEDERS WITHIN BUILDINGS SHALL BE INDIVIDUAL CONDUCTORS INSTALLED IN METAL CONDUIT.
 4. PHOTOVOLTAIC SYSTEM
  A. THE MAIN SWITCHBOARD SHALL HAVE A SPACE FOR A CIRCUIT BREAKER TO SUPPORT THE FUTURE PHOTOVOLTAIC SYSTEM. A PHOTOVOLTAIC SYSTEM IS NOT PLANNED TO BE INSTALLED AS PART OF THIS PROJECT.
 5. PANEL BOARDS
  A. PANELBOARD CONSTRUCTION SHALL INCLUDE DOOR-IN-DOOR FEATURES TO FACILITATE MAINTENANCE AND INCLUDE 20% SPARE CAPACITY AND BREAKER SPACE.
 6. TRANSFORMERS
  A. TYPICAL STEPDOWN TRANSFORMERS (480V – 208/120V) FOR NORMAL POWER SERVICE SHALL BE SIZED APPROPRIATELY TO MATCH THE RATINGS OF PANELBOARDS. INDOOR TRANSFORMERS SHALL HAVE NEMA 1 ENCLOSURES AND BE LOCATED IN ELECTRICAL ROOMS. TEMPERATURE RISE ABOVE AMBIENT SHALL NOT EXCEED 115 DEGREES.

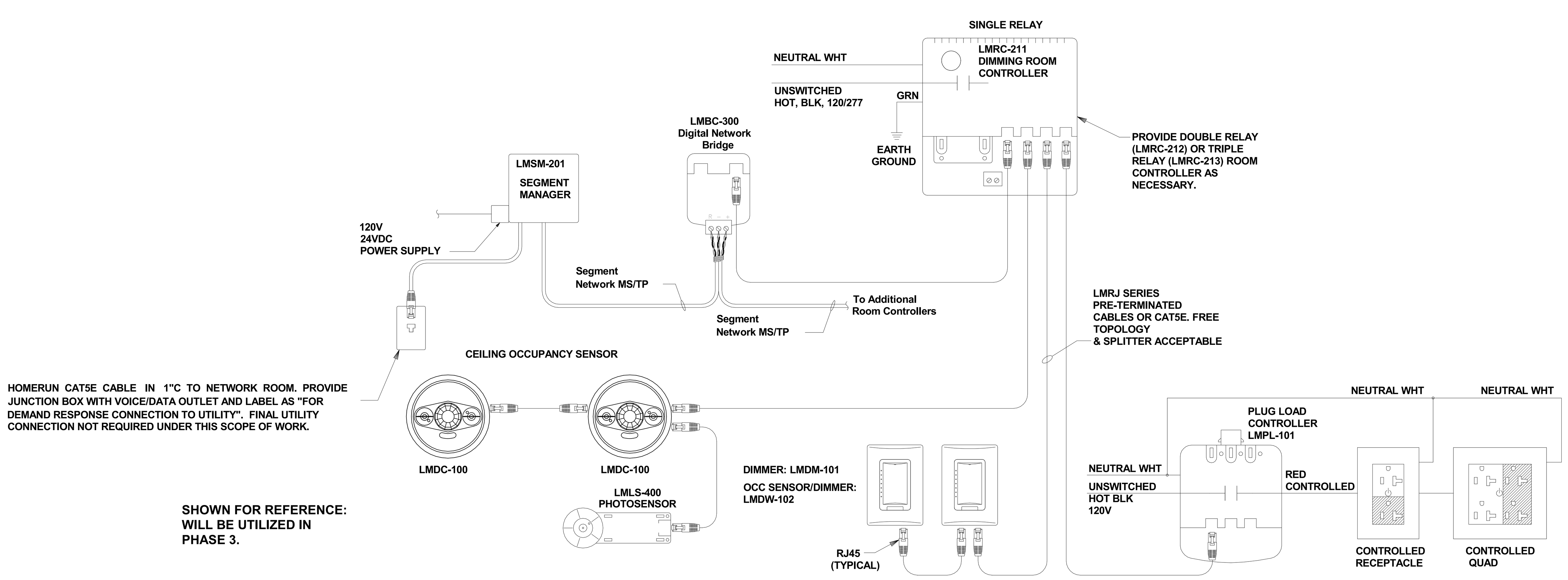
B. FUTURE GENERATOR POWER
 1. PROVISIONS SHALL BE MADE FOR A STANDBY (NON-EMERGENCY) GENERATOR TO BE ADDED TO THE BUILDING IN THE FUTURE. SPACE SHALL BE SET ASIDE FOR THE GENERATOR NEXT TO THE EXISTING GENERATOR.
 2. PROVIDE A SERVICE ENTRANCE RATED AUTOMATIC TRANSFER SWITCH AHEAD OF THE MAIN SWITCHBOARD TO SERVE ENTIRE BUILDING LOAD. AUTOMATIC TRANSFER SWITCH TO BE RATED FOR 600 AMPS AT 480/277V, 3-PHASE, 4-POLE.
 3. INSTALL ALL POWER AND LOW VOLTAGE CONDUITS IN AND OUT OF THE ATS. CAPTURE CONDUITS TO FUTURE GENERATOR IN PULL BOX NEAR LOCATION OF FUTURE GENERATOR NEAR EXISTING GENERATOR.

C. LIGHTING
 1. EMERGENCY EGRESS FIXTURES SHALL INCLUDE AN INTEGRAL BATTERY BACKUP SUPPLY.

D. MISCELLANEOUS POWER
 1. POWER METERING
  A. A FULLY NETWORKED POWER METERING SYSTEM SHALL BE EMPLOYED THROUGHOUT THE BUILDING. ALL BRANCH PANELS SHALL BE METERED AT THE INCOMING MAIN ONLY.
 2. GROUNDING SYSTEM
  A. MAIN BUILDING GROUND BUS – ONE 24" W X 4" H X ¼" THICK COPPER BUS BAR SHALL BE PROVIDED. #3/0 GROUND CONDUCTOR SHALL BE PROVIDED TO BOND TO BUILDING STEEL AND BUILDING GROUNDING ELECTRODE. PROVIDE # 3/0 AWG BONDS TO COLD WATER AND GAS PIPE SYSTEMS.
  B. TELECOM ROOMS – PROVIDE 12"W X 4"H " 1/4" THICK COPPER BUS BAR IN MDF WITH GROUNDING CONNECTION BACK TO MAIN BUILDING GROUND BUS BAR PER TELECOM REQUIREMENTS.
 3. ELEVATOR POWER
  A. ELEVATOR SHALL BE SERVED DIRECTLY FROM THE MAIN SWITCHBOARD.
  B. POWER FOR ELEVATOR CONTROLLER, DISCONNECT, CAB LIGHTING.

E. LOW VOLTAGE
 1. NEW FIBER CONNECTIONS SHALL BE PROVIDED FROM THE ANNEX BUILDING TO THE NEW COURTHOUSE VIA EXISTING PATHWAYS. INTERCEPT AND EXTEND LOW VOLTAGE CONDUIT TO NEW MPOE IN COURTHOUSE.
 2. LOW VOLTAGE DESIGN BY COUNTY SUB-CONSULTANT.

F. FIRE ALARM DESIGN BY COUNTY SUB-CONSULTANT. ELECTRICAL CONTRACTOR TO PROVIDE 120V CIRCUIT.



1 WATTSTOPPER DLM DIAGRAM, OR APPROVED EQUAL

SCALE: NONE

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SEAL

REGISTERED PROFESSIONAL ENGINEER GARRETT D. DUTTER No. 21075 REN. 03/31/21 ELECTRICAL STATE OF CALIFORNIA

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION SEISMIC RETROFIT
220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
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ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT
LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:
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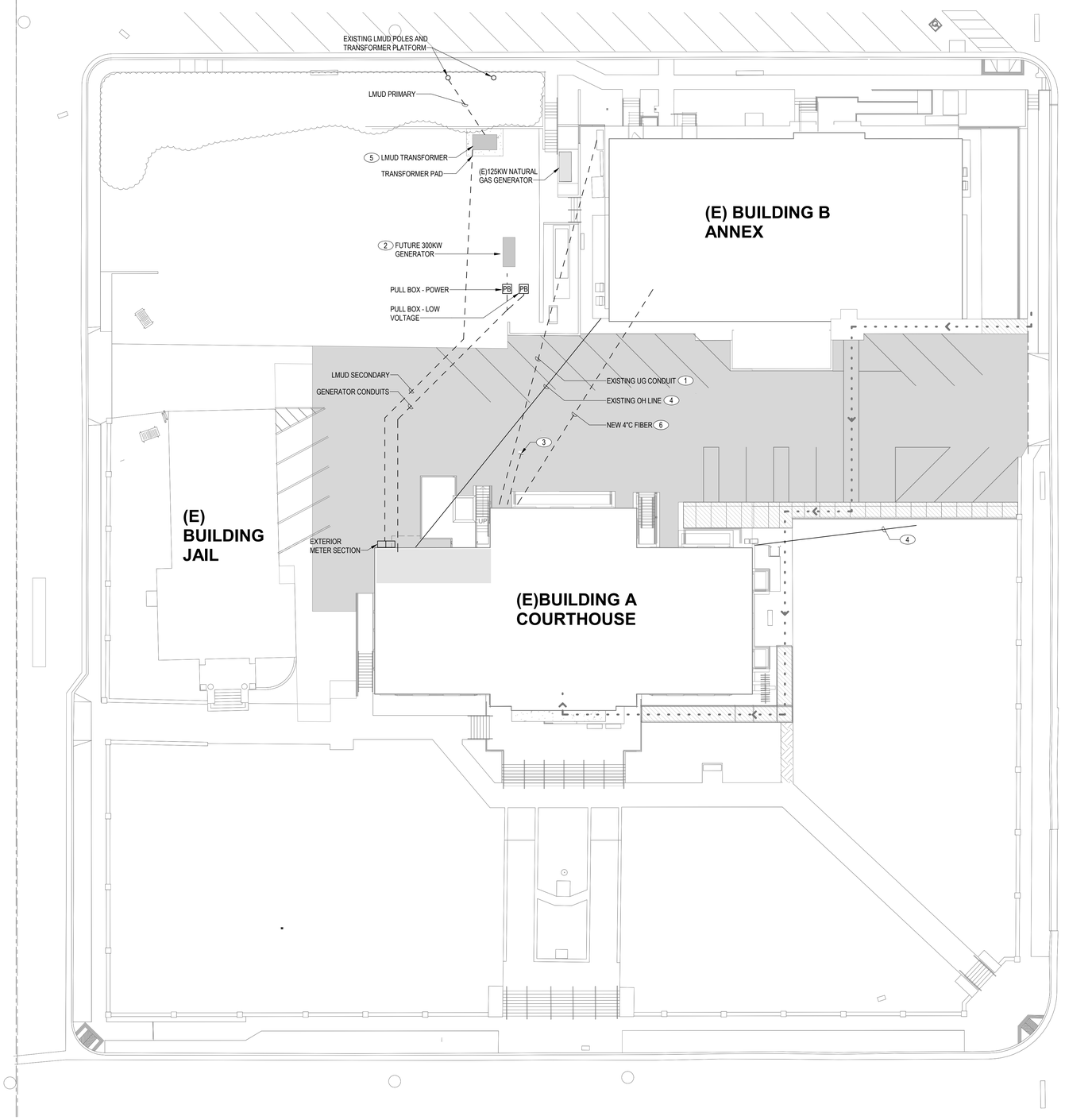
AGENCY

TITLE
BASIS OF DESIGN AND LIGHTING SCHEDULES

SHEET
E0.2



1 **ELECTRICAL SITE PLAN**
SCALE: 1/16" = 1'-0"

N

0 16' - 0" 32' - 0" 48' - 0" 64' - 0"

SHEET NOTES

A. ALL EXISTING POWER SERVING THE ANNEX BUILDING TO REMAIN.

B. CONTRACTOR TO COMPLY WITH LMUD DESIGN STANDARDS.

C. PROVIDE SLEEVE WITH WATER-PROOF SEAL ON ALL EXTERIOR CONDUIT PENETRATIONS INTO COURTHOUSE PER SPECIFICATIONS.

KEYED NOTES (#)

1. UNDERGROUND FEEDER TO MAIN SWITCHBOARD AT ANNEX EXTERIOR. EXISTING POWER TO BE MAINTAINED DURING DEMO AND SEISMIC PHASES AND REMOVED DURING TENANT IMPROVEMENT PHASE AFTER NEW POWER IS PROVIDED TO COURTHOUSE. SEE PHASE 1 DRAWING PACKAGE.

2. PROVIDE THE FOLLOWING CONDUITS FOR THE FUTURE GENERATOR. STUB EACH CONDUIT TO PULL BOX AND PROVIDE PULL STRING AND CAP AT THE END.
   A. FEEDER CONDUITS TO SERVICE ENTRANCED RATED ATS (SEE SINGLE LINE DIAGRAM FOR SIZE).
   B. 1"C TO PANEL LP1 FOR SERVICE RECEPTACLE, BLOCK HEATER AND BATTERY CHARGER.
   C. 1"C TO MAIN ELECTRICAL ROOM FOR REMOTE ANNUNCIATOR.
   D. 1"C TO BMS PANEL.
   E. 1"C TO FACP
   F. 1"C TO ATS FOR AUTOMATIC TRANSFER START.
   G. 1"C SPARE TO MAIN ELECTRICAL ROOM.

3. EXISTING UNDERGROUND TELECOM FEED TO COURTHOUSE TO REMAIN THROUGHOUT ALL PHASES OF PROJECT. EXISTING UNDERGROUND CONDUIT TO BE REUSED WHERE POSSIBLE DURING TENANT IMPROVEMENT PHASE OF PROJECT. COUNTY WILL PULL AND COIL FEED WITHIN BUILDING BACK TO POINT OF ENTRY. REMOVE AND REPLACE RUSTED FLEX CONDUIT RISER INTO COURTHOUSE BUILDING DURING TI PHASE.

4. MAINTAIN EXISTING OVERHEAD CIRCUIT TO WALL MOUNTED SITE LIGHTING FIXTURE. RE-ROUTE OVERHEAD FEED AS NEEDED TO ACCOMMODATE ELEVATOR AND STAIRS IN PHASE 2. FIXTURE AND CIRCUIT TO BE REMOVED DURING PHASE 3.

5. COORDINATE LOCATION OF NEW TRANSFORMER WITH OWNER AND LMUD REQUIREMENTS.

6. UTILIZE EXISTING 4"C TO PROVIDE NEW FIBER CONNECTION FROM EXISTING ANNEX DATA CENTER TO TERMINATE IN NEW COURTHOUSE MPOE. COORDINATE TERMINATION POINT IN ANNEX AND CONDUIT ROUTING/REQUIREMENTS WITH OWNER.

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SEAL
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GARRETT D. DUTTER
No. 21073
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03/31/21
ELECTRICAL
STATE OF CALIFORNIA

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION SEISMIC RETROFIT
220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO:	015437.05
CLIENT PROJECT NO:	
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AGENCY

APPROVED BY: Willdan Engineering
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3:31 pm, Oct 27, 2020

TITLE
ELECTRICAL SITE PLAN

SHEET
E1.1

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT. SCALE ACCORDINGLY

SHEET NOTES

A. REFER TO DETAIL DRAWINGS FOR ADDITIONAL INFORMATION. ALL DETAILS APPLY FOR ALL APPLICABLE SITUATIONS WHETHER REFERENCED OR NOT, UON.

B. REFER TO ARCHITECTURAL FLOOR PLANS, INTERIOR ELEVATIONS AND DETAIL DRAWINGS PRIOR TO ROUGH-IN.

C. CONTRACTOR IS RESPONSIBLE TO REVIEW ARCHITECTURAL DRAWINGS TO CONFIRM CEILING TYPES IN ALL ROOMS (ACCESSIBLE, EXPOSED, OR "HARD") AND TO USE THE APPROPRIATE WIRING METHOD FOR EACH TYPE. ENSURE ALL J-BOXES ARE ACCESSIBLE AFTER ALL OTHER TRADE'S WORK IS COMPLETED. DO NOT LOCATE ANY J-BOXES ON "HARD" CEILINGS; ALL WIRING MUST BE ACCESSIBLE THROUGH DEVICE ONLY IN "DAISY-CHAIN" METHOD OR WITH DEDICATED HOMERUNS TO EACH DEVICE. J-BOXES MAY BE LOCATED ABOVE OTHER TRADE'S ACCESS DOORS IF FEASIBLE AND DOES NOT INTERFERE WITH ACCESS.

D. FLOOR PLANS ARE DIAGRAMMATIC. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS WITH ARCHITECTURAL DRAWINGS AND FIELD DETERMINE EXACT CONDUIT, PULL BOX, AND ROUTING REQUIREMENTS.

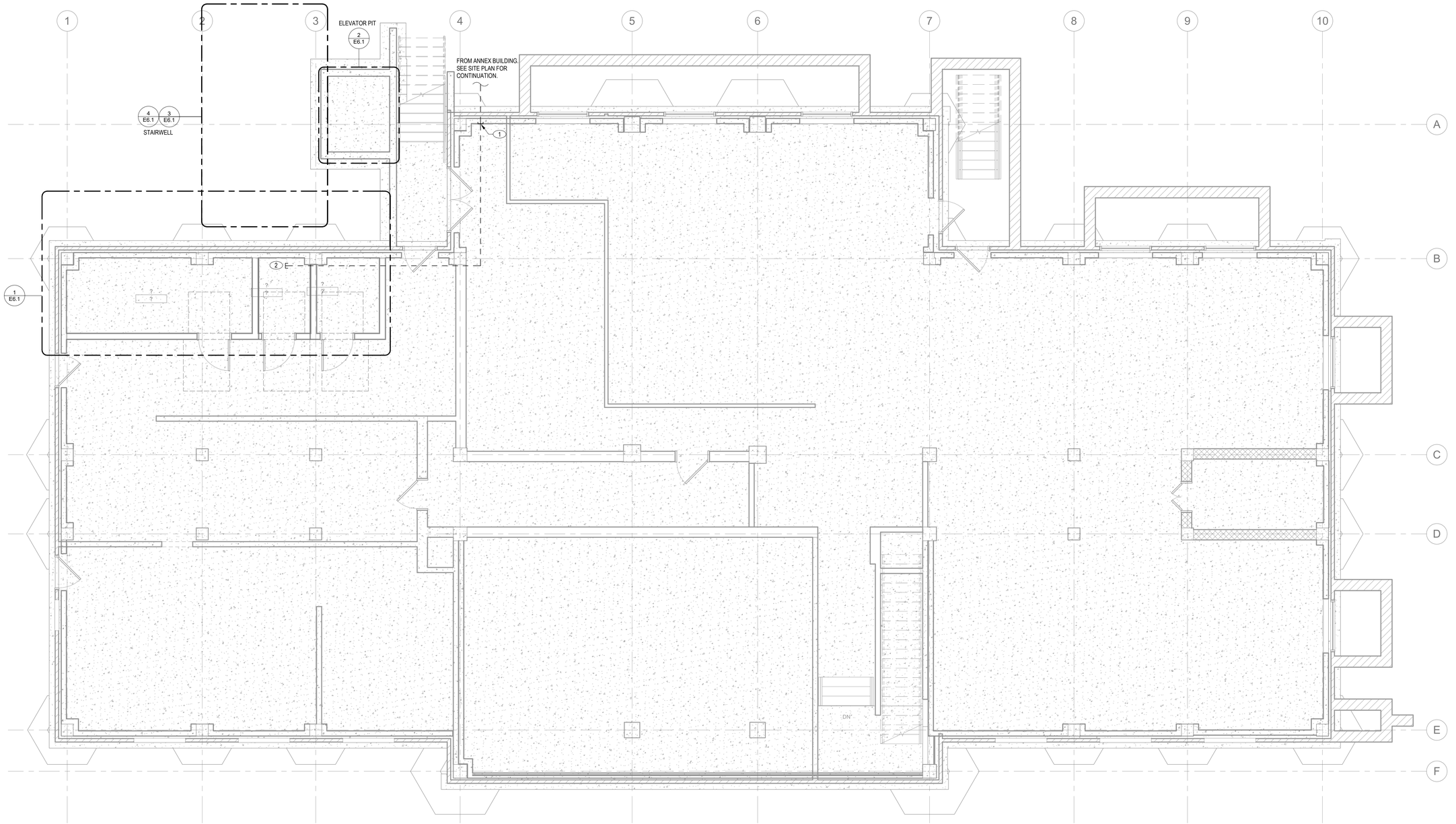
E. ALL NEW RACEWAYS AND CONDUCTORS SHALL BE INSTALLED CONCEALED; CUT AND PATCH EXISTING WALLS TO ACCOMMODATE NEW RACEWAY INSTALLATION. ALL CONDUITS TO BE INSTALLED 90° TO BUILDING LINES.

F. PROVIDE BACK BOX AND 3/4" CONDUIT FROM EACH DATA/LOW VOLTAGE DEVICE SHOWN TO ACCESSIBLE CEILING LOCATION. VERIFY QUANTITIES, LOCATIONS, AND REQUIREMENTS WITH LOW VOLTAGE SYSTEM SUPPLIER PRIOR TO ROUGH-IN.

KEYED NOTES

1. (2) INCOMING TELECOM FEEDS: (1) EXISTING FEED CAPPED FROM PHASE 1 AND (1) NEW 4"C FIBER. REROUTE AND EXTEND TO NEW MPOE.

2. STUB LOW VOLTAGE CONDUIT INTO PLYWOOD TELECOM BACKBOARD.



1 **BASEMENT ELECTRICAL PLAN**
SCALE: 1/4" = 1'-0"

N

0 4' - 0" 8' - 0" 12' - 0" 16' - 0"

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MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

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TITLE

BASEMENT ELECTRICAL PLAN

SHEET

E3.1

COURTHOUSE MAIN SWITCHBOARD LOAD CALCULATION					
COURTHOUSE SQ FOOTAGE	19,500	SF			
LIGHTING	1	VA/SF	=	20	KVA
RECEPTACLES	3	VA/SF	=	59	KVA
HVAC	12	VA/SF	=	234	KVA
TELE/DATA/SECURITY	0.5	VA/SF	=	10	KVA
ELEVATOR (15 HP)			=	13	KVA
			SUBTOTAL	335	KVA
			x	125%	
TOTAL LOAD			=	**418**	**KVA**
AMPS @ 277/480V =			=	**504**	**AMPS**

NOTE: PROVIDE NEW 600A, 277/480V, 3PH, 4W SERVICE.

VOLTAGE DROP TABLE

VOLT	AMP	MAXIMUM ALLOWED RUN LENGTH (FT) #12	#10	#8	#6	#4
120	2	500	800	1200	2000	3250
	4	250	400	600	1000	1625
	6	175	250	400	650	1100
	8	125	200	325	500	800
	10	100	150	250	400	650
	12	85	125	200	350	550
	14	75	110	175	300	450
	16	60	100	150	250	400
277	2	1100	1800	2750		
	4	550	900	1375		
	6	350	600	950		
	8	275	450	700		
	10	225	350	550		
	12	175	300	475		
	14	150	250	400		
	16	140	225	360		

NOTES:

1. THIS SCHEDULE APPLIES TO ALL BRANCH CIRCUITS. CONTRACTOR SHALL PROVIDE UPSIZED CONDUCTORS AND CONDUIT/ RACEWAYS AS REQUIRED FOR EACH SITUATION.
2. THIS SCHEDULE IS FOR 3% VOLTAGE DROP USING COPPER CONDUCTORS. ALUMINUM CONDUCTORS ARE NOT ALLOWED TO SERVE BRANCH CIRCUITS.
3. USE 12-AMPS FOR ALL CIRCUITS SERVING ONE OR MORE RECEPTACLES, UNLESS HIGHER AMPACITY IS APPROPRIATE OR REQUIRED. USE FULL LOAD AMPS (FLA) OF EQUIPMENT SERVED X 125% FOR ALL OTHER CIRCUITS THAT SERVE A DEDICATED LOAD WITH NO PLANS FOR ADDING FUTURE EQUIPMENT OR A RECEPTACLE TO THAT CIRCUIT.
4. WHENEVER BRANCH CIRCUIT CONDUCTORS ARE UPSIZED THE ASSOCIATED GROUND CONDUCTOR SHALL ALSO BE UPSIZED, PER NEC 250.122.

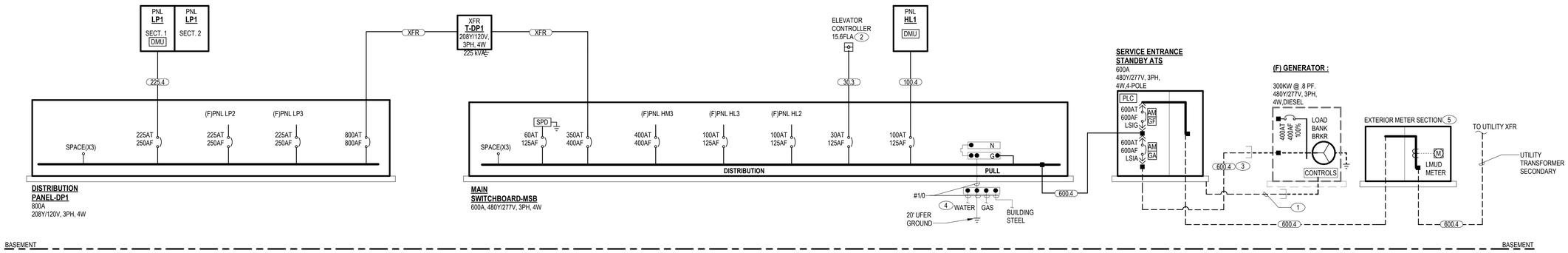
COPPER FEEDER SCHEDULE

FEEDER TAG	CONDUITS MET	SETS	RNC	CONDUCTORS PER SET PHASE/NEUTRAL	GROUND
4000.4	3.50"	11	4.00"	(4) 500 KCMIL	500 KCMIL
4000.3	3.00"	11	4.00"	(3) 500 KCMIL	500 KCMIL
3500.4	3.50"	10	4.00"	(4) 500 KCMIL	500 KCMIL
3500.3	3.00"	10	4.00"	(3) 500 KCMIL	500 KCMIL
3000.4	3.50"	8	4.00"	(4) 500 KCMIL	400 KCMIL
3000.3	3.00"	8	4.00"	(3) 500 KCMIL	400 KCMIL
2500.4	3.50"	7	4.00"	(4) 500 KCMIL	350 KCMIL
2500.3	3.00"	7	4.00"	(3) 500 KCMIL	350 KCMIL
2000.4	3.00"	6	4.00"	(4) 400 KCMIL	250 KCMIL
2000.3	3.00"	6	4.00"	(3) 400 KCMIL	250 KCMIL
1600.4	3.00"	5	4.00"	(4) 400 KCMIL	#4/0
1600.3	3.00"	5	4.00"	(3) 400 KCMIL	#4/0
1200.4	3.00"	4	4.00"	(4) 350 KCMIL	#3/0
1200.3	3.00"	4	3.00"	(3) 350 KCMIL	#3/0
1000.4	3.00"	3	4.00"	(4) 400 KCMIL	#2/0
1000.3	3.00"	3	4.00"	(3) 400 KCMIL	#2/0
800.4	3.00"	3	3.00"	(4) 300 KCMIL	#1/0
800.3	2.50"	3	3.00"	(3) 300 KCMIL	#1/0
700.4	3.50"	2	4.00"	(4) 500 KCMIL	#1/0
700.3	3.00"	2	4.00"	(3) 500 KCMIL	#1/0
600.4	3.00"	2	4.00"	(4) 350 KCMIL	#2/0 (SSBJ)
600.3	2.50"	2	3.00"	(3) 350 KCMIL	#1
500.4	2.50"	2	3.00"	(4) 250 KCMIL	#2
500.3	2.50"	2	2.50"	(3) 250 KCMIL	#2
450.4	2.50"	2	3.00"	(4) #4/0	#2
450.3	2.00"	2	2.50"	(3) #4/0	#2
400.4	2.00"	2	2.50"	(4) #3/0	#2
400.3	2.00"	2	2.50"	(3) 3/0	#2
350.4	3.50"	1	4.00"	(4) 500 KCMIL	#2
350.3	2.50"	1	4.00"	(3) 500 KCMIL	#2
300.4	3.00"	1	3.00"	(4) 350 KCMIL	#4
300.3	2.50"	1	3.00"	(3) 350 KCMIL	#4

FEEDER TAG	CONDUITS MET	SETS	RNC	CONDUCTORS PER SET PHASE/NEUTRAL	GROUND
250.4	2.50"	1	3.00"	(4) 250 KCMIL	#4
250.3	2.50"	1	3.00"	(3) 250 KCMIL	#4
225.4	2.50"	1	3.00"	(4) #4/0	#4
225.3	2.00"	1	2.50"	(3) #4/0	#4
200.4	2.00"	1	2.50"	(4) #3/0	#6
200.3	2.00"	1	2.50"	(3) #3/0	#6
175.4	2.00"	1	2.50"	(4) #2/0	#6
175.3	1.50"	1	2.00"	(3) #2/0	#6
150.4	2.00"	1	2.00"	(4) #1/0	#6
150.3	1.50"	1	2.00"	(3) #1/0	#6
125.4	1.50"	1	1.50"	(4) #1	#6
125.3	1.25"	1	1.50"	(3) #1	#6
110.4	1.25"	1	1.50"	(4) #2	#6
110.3	1.25"	1	1.50"	(3) #2	#6
100.4	1.25"	1	1.50"	(4) #2	#8
100.3	1.25"	1	1.50"	(3) #2	#8
90.4	1.25"	1	1.50"	(4) #2	#8
90.3	1.25"	1	1.50"	(3) #2	#8
80.4	1.25"	1	1.50"	(4) #4	#8
80.3	1.00"	1	1.50"	(3) #4	#8
70.4	1.25"	1	1.50"	(4) #4	#8
70.3	1.00"	1	1.50"	(3) #4	#8
60.4	1.00"	1	1.00"	(4) #6	#10
60.3	0.75"	1	1.00"	(3) #6	#10
50.4	1.00"	1	1.00"	(4) #6	#10
50.3	0.75"	1	1.00"	(3) #6	#10
40.4	0.75"	1	1.00"	(4) #8	#10
40.3	0.75"	1	1.00"	(3) #8	#10
30.4	0.75"	1	1.00"	(4) #10	#10
30.3	0.75"	1	1.00"	(3) #10	#10
20.4	0.75"	1	1.00"	(4) #12	#12
20.3	0.75"	1	1.00"	(3) #12	#12
XFR					NOTE 7

NOTES:

1. CONDUCTORS AND CONDUITS SHOWN IN THIS SCHEDULE ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION.
2. THIS SCHEDULE SHALL BE USED ON ALL FEEDERS SERVING LOADS WHERE THE CIRCUIT BREAKER SIZE MATCHES THE AMPACITY OF ITS FEEDER. USE THE "MOTOR CIRCUIT SCHEDULE" FOR LOADS, SUCH AS MOTORS, PUMPS, FANS, CHILLERS, ETC., WHERE THE CIRCUIT BREAKER SIZE IS LARGER THAN THE AMPACITY OF ITS FEEDER.
3. PROVIDE GROUND WIRE NOTED ABOVE IN ALL FEEDERS AND BRANCH CIRCUITS. WHERE MULTIPLE CONDUITS ARE INDICATED PROVIDE NOTED GROUND WIRE IN EACH CONDUIT.
4. NOT ALL FEEDERS ARE NECESSARILY USED ON THIS PROJECT.
5. NOMINAL AMPACITIES GREATER THAN 100 AMPS ARE FOR 75 DEG..C TERMINALS.
6. "MET"= EMT, IMC, GRC, RAC, OR PVC COATED GRC TYPE CONDUITS. "RNC"= PVC 40, PVC 80 OR FIBERGLASS TYPE CONDUITS ROUTED UNDERGROUND. REFER TO SIZING ON DRAWINGS IF "RNC" CONDUITS ARE ROUTED ABOVEGROUND. CONDUIT SIZES NOTED ON SINGLE-LINE DIAGRAM OR ON PLANS SUPERSEDE SIZES NOTED ABOVE IF LARGER.
7. REFER TO TRANSFORMER SCHEDULE FOR STANDARD PRIMARY AND SECONDARY FEEDER SIZES.



1 SINGLE LINE DIAGRAM

SCALE: NONE

SHEET NOTES

A. REFER TO SCHEDULES FOR FEEDER SIZES.

B. ALL TRANSFORMERS ARE 480V DELTA PRIMARY TO 208Y/120V SECONDARY, 115 DEGREE C. RISE U.O.N.

C. LOCATE ALL 208/120V PANELS WITHIN TEN FEET OF ASSOCIATED TRANSFORMER. OTHERWISE, PROVIDE DISCONNECT WITHIN TEN FEET TO PROTECT SECONDARY CONDUCTORS PER NEC 240.21(B)(1).

D. COORDINATE ELECTRIC SERVICE REQUIREMENTS WITH UTILITY DESIGN STANDARDS.

E. DASHED FEEDERS INDICATE UNDERGROUND CONDUIT.

F. ALL COMPONENTS SHALL BE FULLY RATED. SERIES RATED IS NOT ALLOWED.

G. CONTRACTOR TO PERFORM SHORT CIRCUIT, ARC FLASH AND COORDINATION STUDIES BASED ON ACTUAL EQUIPMENT INSTALLED AND AVAILABLE FAULT CURRENT FROM UTILITY. ALL EQUIPMENT TO HAVE AN AIC RATING IN ACCORDANCE WITH THE STUDIES. PROVIDE ARC FLASH LABELS ON ALL POWER DISTRIBUTION EQUIPMENT. SEE SPECIFICATIONS.

KEYED NOTES (#)

1. PROVIDE LOW VOLTAGE CONDUITS STUBBED TO PULL BOX AS DESCRIBED ON SITE PLAN.
2. SEE ELEVATOR DRAWINGS FOR EXACT REQUIREMENTS.
3. PROVIDE CONDUIT ONLY SIZED FOR FUTURE FEEDER AS SHOWN. PROVIDE PULL STRING IN EACH CONDUIT AND CAP AT PULL BOX FOR FUTURE USE.
4. UTILIZE EXISTING GROUND ELECTRODE SYSTEM WHERE POSSIBLE AND IN GOOD CONDITION.
5. PROVIDE REAR-EXIT METER SECTION TO ALLOW CONDUITS TO PENETRATE EXTERIOR WALL AND TURN DOWN INTO TOP OF ATS.

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TITLE

SINGLE LINE DIAGRAM

SHEET

E5.1

SWITCHBOARD- MSB

VOLTAGE: 480Y/277V, 3PH, 4W
MOUNTING: PAD
MAIN AMPS/ TYPE: 600 A/MLO
BUS AMPS: 600 A
INTEGRAL SPD: No
NEMA RATING:
AIC RATING: 65K
POWER SOURCE TYPE: NORMAL
LOCATION: Room B01
SUPPLY FROM:

CKT	CIRCUIT DESCRIPTION	NO.of POLES	LOAD TYPE	FRAME SIZE	TRIP RATING	FEEDER TAG	A	B	C	REMARKS
1	T-DP1	3	L; M;...	400 A	350 A	XFR	3.19 kVA	2.34 kVA	3.48 kVA	
2	HL1	3	L; C	125 A	100 A	100.4	0.14 kVA	0.49 kVA	0 kVA	
3	ELEVATOR CONTROLLER	3	M	125 A	30 A	30.3	4.32 kVA	4.32 kVA	4.32 kVA	
4	(F)PNL HL2	3		125 A	100 A	100.4				
5	(F)PNL HL3	3		125 A	100 A	100.4				
6	(F)PNL HM3	3		400 A	400 A	400.4				
7	SPD	3		125 A	60 A	60.3				
8	SPACE									
9	SPACE									
10	SPACE									
SPECIAL SWITCHBOARD FEATURES:					Total Connected Load:		7.66 kVA	7.15 kVA	7.8 kVA	
					Total Connected Amps:		27.9 A	25.8 A	28.5 A	

LOAD TYPE	CONNECTED	DEMAND FACTOR	DEMAND/ ADJUSTED
M	13.47 kVA	100%	13.47 kVA
R	7.88 kVA	100%	7.88 kVA
C	0.9 kVA	125%	1.13 kVA
L	0.36 kVA	125%	0.45 kVA

LEGEND
C = CONTINUOUS
K = KITCHEN
L = LIGHTING
M=MOTOR
MOTOR = LARGEST MOTOR
N = NON-CONTINUOUS
R = RECEPTACLE

PANEL TOTALS	KVA	AMPS
TOTAL CONNECTED LOAD:	22.61 kVA	27.2 A
TOTAL DEMAND LOAD:	22.93 kVA	27.6 A
SPARE CAPACITY :	20%	20%
REQUIRED CAPACITY:	**27.51 kVA**	**33 A**

PANEL: LP1

VOLTAGE: 208Y/120V, 3PH, 4W
MOUNTING: SURFACE
BUS RATING: 225 A
MAIN AMPS: 225 A MLO
AIC RATING: 10K
NEMA RATING: Type 1
INTEGRAL SPD: No
ISOL GROUND BAR: No
FEED-THRU LUGS: Yes
DOUBLE-LUGS: Yes
LOCATION: Room B01
SUPPLY FROM: DP1

CKT	TRIP	POLE	DESCRIPTION	TYPE	A (kVA)		B (kVA)		C (kVA)		TYPE	DESCRIPTION	POLE	TRIP	CKT
1	20 A	1	ELECTRICAL ROOM RECEPTACLES	R	0.18	0.3					C	ELEVATOR CAR LTG AND FAN	1	20 A	2
3	20 A	1	MPOE QUAD RECEPTACLES	R			0.72	0.18			R	RCPT - ELEVATOR CONTROL ROOM	1	20 A	4
5	20 A	1	FIRE ALARM CONTROL PANEL	C					0.3	0.18	R	ELEVATOR PIT SUMP PUMP	1	20 A	6
7	20 A	1	ELEVATOR PIT RECEPTACLE	R	0.18	0.03					L	LTG - ELEVATOR PIT	1	20 A	8
9	20 A	1	SERVER RACK QUAD RECEPTACLE	R			0.36	1.08			R	ELECTRICAL ROOM RECEPTACLES	1	20 A	10
11	30 A	2	NEMA L6-30R	R	2.5	0			2.5	0.5	M	SEISMIC SWITCH	1	20 A	12
13											--	SPARE	1	20 A	14
15	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	16
17	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	18
19	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	20
21	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	22
23	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	24
25	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	26
27	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	28
29	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	30
31	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	32
33	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	34
35	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	36
37	--	--	SPACE	--	0	0					--	SPACE	--	--	38
39	--	--	SPACE	--			0	0			--	SPACE	--	--	40
41	--	--	SPACE	--					0	0	--	SPACE	--	--	42
SPECIAL PANEL FEATURES					3.19 kVA		2.34 kVA		3.48 kVA		CIRCUIT NOTES				

LOAD TYPE	CONNECTED	DEMAND FACTOR	DEMAND LOAD
C	0.6 kVA	125%	0.75 kVA
L	0.03 kVA	125%	0.04 kVA
M	0.5 kVA	100%	0.5 kVA
R	7.88 kVA	100%	7.88 kVA

LOAD TYPE KEY
C = CONTINUOUS
E = ELEVATOR
K = KITCHEN
L = LIGHTING
M = MOTOR
MOTOR = LARGEST MOTOR
N = NON-CONTINUOUS
R = RECEPTACLE

PANEL TOTALS	KVA	AMPS
TOTAL CONNECTED LOAD:	9.01 kVA	25 A
TOTAL DEMAND LOAD:	9.17 kVA	25.4 A
SPARE CAPACITY:	20%	20%
DESIGNED CAPACITY:	**11 kVA**	**31 A**

SWITCHBOARD- DP1

VOLTAGE: 208Y/120V, 3PH, 4W
MOUNTING: PAD
MAIN AMPS/ TYPE: 800 A/MCB
BUS AMPS: 800 A
INTEGRAL SPD: No
NEMA RATING: NEMA-1
AIC RATING: 35K
POWER SOURCE TYPE: NORMAL
LOCATION: Room B01
SUPPLY FROM: T-DP1

CKT	CIRCUIT DESCRIPTION	NO.of POLES	LOAD TYPE	FRAME SIZE	TRIP RATING	FEEDER TAG	A	B	C	REMARKS
1	LP1	3	L; M;...	250 A	225 A	225.4	3.19 kVA	2.34 kVA	3.48 kVA	
2	(F)PNL LP2	3		250 A	225 A	225.4				
3	(F)PNL LP3	3		250 A	225 A	225.4				
4	SPACE	--	--	--	--	--	0 kVA			--
5	SPACE	--	--	--	--	--	0 kVA			--
6	SPACE	--	--	--	--	--	0 kVA			--
SPECIAL SWITCHBOARD FEATURES:					Total Connected Load:		3.19 kVA	2.34 kVA	3.48 kVA	
					Total Connected Amps:		27.7 A	19.5 A	30.1 A	

LOAD TYPE	CONNECTED	DEMAND FACTOR	DEMAND/ ADJUSTED
M	0.5 kVA	100%	0.5 kVA
R	7.88 kVA	100%	7.88 kVA
C	0.6 kVA	125%	0.75 kVA
L	0.03 kVA	125%	0.04 kVA

LEGEND
C = CONTINUOUS
K = KITCHEN
L = LIGHTING
MOTOR = LARGEST MOTOR
N = NON-CONTINUOUS
R = RECEPTACLE

PANEL TOTALS	KVA	AMPS
TOTAL CONNECTED LOAD:	9.01 kVA	25 A
TOTAL DEMAND LOAD:	9.17 kVA	25.4 A
SPARE CAPACITY :		
REQUIRED CAPACITY:	**9.17 kVA**	**25 A**

PANEL: LP1

VOLTAGE: 208Y/120V, 3PH, 4W
MOUNTING: SURFACE
BUS RATING: 225 A
MAIN AMPS: 225 A MLO
AIC RATING: ????
NEMA RATING: Type 1
INTEGRAL SPD: No
ISOL GROUND BAR: No
FEED-THRU LUGS: No
DOUBLE-LUGS: No
LOCATION: Room B01
SUPPLY FROM: LP1

CKT	TRIP	POLE	DESCRIPTION	TYPE	A (kVA)		B (kVA)		C (kVA)		TYPE	DESCRIPTION	POLE	TRIP	CKT
43	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	44
45	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	46
47	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	48
49	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	50
51	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	52
53	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	54
55	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	56
57	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	58
59	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	60
61	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	62
63	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	64
65	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	66
67	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	68
69	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	70
71	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	72
73	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	74
75	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	76
77	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	78
79	--	--	SPACE	--	0	0					--	SPACE	--	--	80
81	--	--	SPACE	--			0	0			--	SPACE	--	--	82
83	--	--	SPACE	--					0	0	--	SPACE	--	--	84
SPECIAL PANEL FEATURES					0 kVA		0 kVA		0 kVA		CIRCUIT NOTES				

LOAD TYPE	CONNECTED	DEMAND FACTOR	DEMAND LOAD

LOAD TYPE KEY
C = CONTINUOUS
E = ELEVATOR
K = KITCHEN
L = LIGHTING
M = MOTOR
MOTOR = LARGEST MOTOR
N = NON-CONTINUOUS
R = RECEPTACLE

PANEL TOTALS	KVA	AMPS
TOTAL CONNECTED LOAD:	0 kVA	0 A
TOTAL DEMAND LOAD:	0 kVA	0 A
SPARE CAPACITY:	20%	20%
DESIGNED CAPACITY:	**0 kVA**	**0 A**

PANEL: HL1

VOLTAGE: 480Y/277V, 3PH, 4W
MOUNTING: SURFACE
BUS RATING: 100 A
MAIN AMPS: 100 A MCB
AIC RATING: 42K
NEMA RATING: Type 1
INTEGRAL SPD: No
ISOL GROUND BAR: No
FEED-THRU LUGS: No
DOUBLE-LUGS: No
LOCATION: Room B01
SUPPLY FROM: MSB

CKT	TRIP	POLE	DESCRIPTION	TYPE	A (kVA)		B (kVA)		C (kVA)		TYPE	DESCRIPTION	POLE	TRIP	CKT
1	20 A	1	LIGHTING - BASEMENT	L	0.12	0.03					L	ELEVATOR CONTROL ROOM LTG	1	20 A	2
3	20 A	1	STAIRWELL LIGHTING	L			0.19	0.3			C	LIGHTING CONTROL PANEL	1	20 A	4
5	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	6
7	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	8
9	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	10
11	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	12
13	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	14
15	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	16
17	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	18
19	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	20
21	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	22
23	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	24
25	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	26
27	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	28
29	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	30
31	20 A	1	SPARE	--	0	0					--	SPARE	1	20 A	32
33	20 A	1	SPARE	--			0	0			--	SPARE	1	20 A	34
35	20 A	1	SPARE	--					0	0	--	SPARE	1	20 A	36
37	--	--	SPACE	--	0	0					--	SPACE	--	--	38
39	--	--	SPACE	--			0	0			--	SPACE	--	--	40
41	--	--	SPACE	--					0	0	--	SPACE	--	--	42
SPECIAL PANEL FEATURES					0.14 kVA		0.49 kVA		0 kVA		CIRCUIT NOTES				

LOAD TYPE	CONNECTED	DEMAND FACTOR	DEMAND LOAD
C	0.3 kVA	125%	0.38 kVA
L	0.33 kVA	125%	0.42 kVA

LOAD TYPE KEY
C = CONTINUOUS
E = ELEVATOR
K = KITCHEN
L = LIGHTING
M = MOTOR
MOTOR = LARGEST MOTOR
N = NON-CONTINUOUS
R = RECEPTACLE

PANEL TOTALS	KVA	AMPS
TOTAL CONNECTED LOAD:	0.63 kVA	0.8 A
TOTAL DEMAND LOAD:	0.79 kVA	1 A
SPARE CAPACITY:	20%	20%
DESIGNED CAPACITY:	**0.95 kVA**	**1 A**

KEYED NOTES (#)

1. PROVIDE RED MARKING ON CIRCUIT BREAKER DESIGNATED FOR FIRE ALARM CONTROL PANEL.

PANEL SCHEDULE KEY	
MSB	LP1 (SECTION 1)
DP1	LP1 (SECTION 2)
HL1	N/A

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MANAGEMENT
LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

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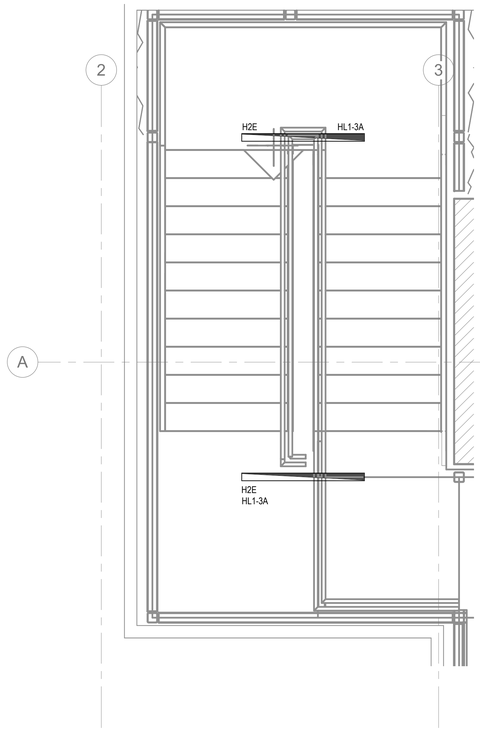
TITLE
PANELBOARD SCHEDULES

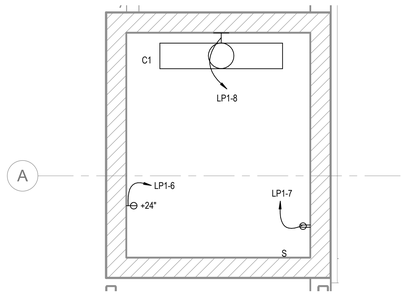
SHEET
E5.2



4 ENLARGED ELECTRICAL PLAN - STAIRWELL LEVEL 3

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

0 2' - 0" 4' - 0" 6' - 0" 8' - 0"



2 ENLARGED ELECTRICAL PLAN - ELEVATOR PIT

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

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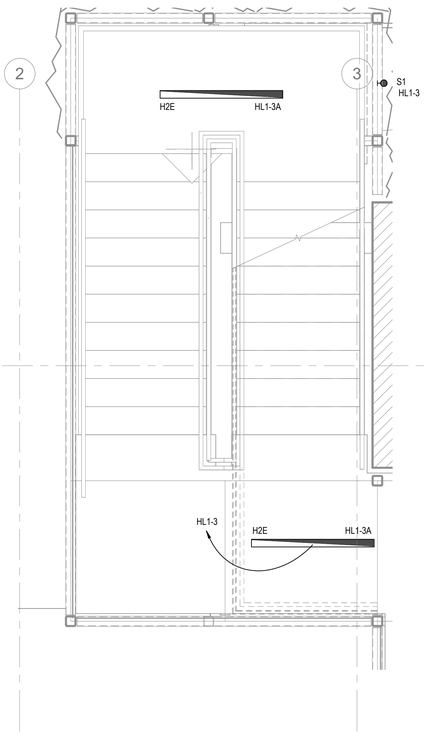
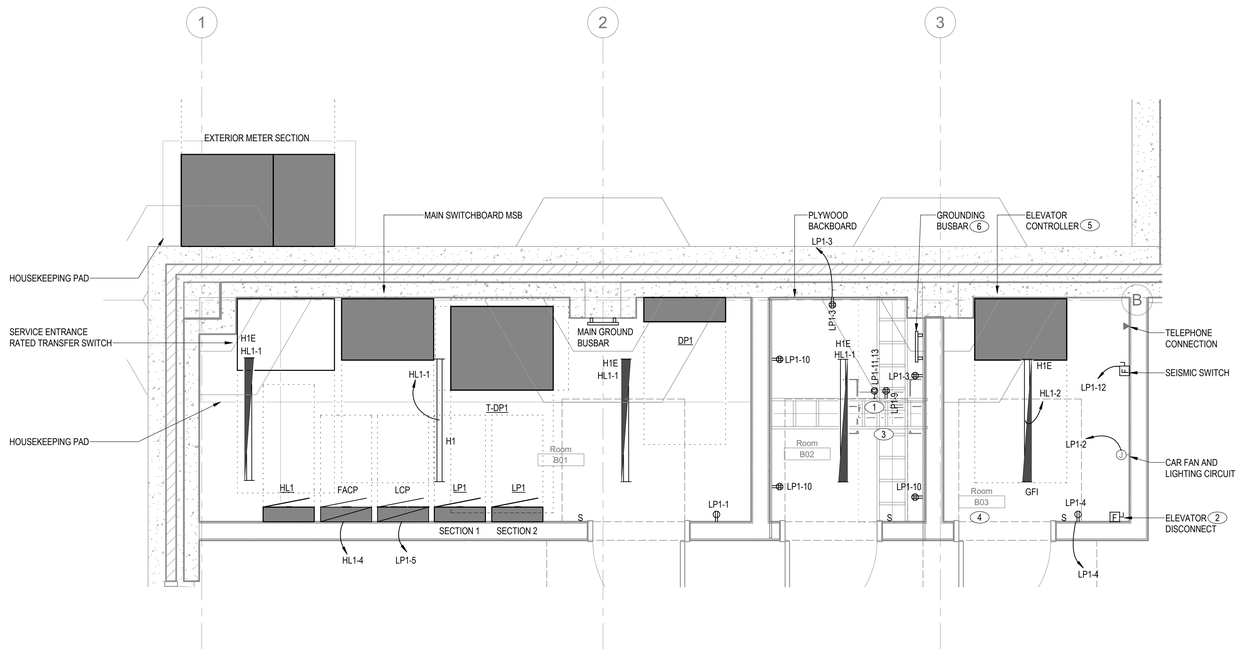


3 ENLARGED ELECTRICAL PLAN - STAIRWELL LEVEL 1 AND 2

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

0 2' - 0" 4' - 0" 6' - 0" 8' - 0"



1 ENLARGED ELECTRICAL PLAN - MAIN ELECTRICAL ROOM, MPOE, & ELEVATOR MACHINE ROOM

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

0 2' - 0" 4' - 0" 6' - 0" 8' - 0"

SHEET NOTES

A. WHERE POSSIBLE, BOXES SHALL BE IN SEPARATE STUD SPACES FROM BOXES SERVING OTHER ROOMS TO MINIMIZE SOUND TRANSFER.

B. PROVIDE 4" HOUSEKEEPING PAD FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

C. REFER TO ONE LINE DIAGRAM FOR ADDITIONAL INFORMATION ON NAMED ELECTRICAL EQUIPMENT SHOWN.

D. REFER TO DETAIL DRAWINGS FOR ADDITIONAL INFORMATION. ALL DETAILS APPLY FOR ALL APPLICABLE SITUATIONS WHETHER REFERENCED OR NOT, UON.

E. REFER TO ARCHITECTURAL FLOOR PLANS, INTERIOR ELEVATIONS AND DETAIL DRAWINGS PRIOR TO ROUGH-IN.

F. CONTRACTOR IS RESPONSIBLE TO REVIEW ARCHITECTURAL DRAWINGS TO CONFIRM CEILING TYPES IN ALL ROOMS (ACCESSIBLE, EXPOSED, OR "HARD") AND TO USE THE APPROPRIATE WIRING METHOD FOR EACH TYPE. ENSURE ALL J-BOXES ARE ACCESSIBLE AFTER ALL OTHER TRADE'S WORK IS COMPLETED. DO NOT LOCATE ANY J-BOXES ON "HARD" CEILINGS; ALL WIRING MUST BE ACCESSIBLE THROUGH DEVICE ONLY IN "DAISY-CHAIN" METHOD OR WITH DEDICATED HOMERUNS TO EACH DEVICE. J-BOXES MAY BE LOCATED ABOVE OTHER TRADE'S ACCESS DOORS IF FEASIBLE AND DOES NOT INTERFERE WITH ACCESS.

G. FLOOR PLANS ARE DIAGRAMMATIC. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS WITH ARCHITECTURAL DRAWINGS AND FIELD DETERMINE EXACT CONDUIT, PULL BOX, AND ROUTING REQUIREMENTS.

H. PROVIDE #10 AWG NEUTRALS TO ALL 15A AND 20A RECEPTACLES THAT SHARE A COMMON NEUTRAL, UNLESS OTHERWISE NOTED.

I. ALL NEW RACEWAYS AND CONDUCTORS SHALL BE INSTALLED CONCEALED; CUT AND PATCH EXISTING WALLS TO ACCOMMODATE NEW RACEWAY INSTALLATION. ALL CONDUITS TO BE INSTALLED 90° TO BUILDING LINES.

KEYED NOTES (#)

1. PROVIDE 208V, 30A, NEMA L6-30R TWIST LOCK RECEPTACLE AND 120V QUADPLEX RECEPTACLE ABOVE EACH RACK ,SURFACE MOUNTED TO SIDE OF LADDER RACK.
2. PROVIDE LOCKABLE FUSED ELEVATOR DISCONNECT WITH INTEGRAL SHUNT TRIP (INTERNALLY POWERED, RELAY ACTIVATED), BUSSMAN QUIK-SPEC POWER MODULE SWITCH, OR EQUAL. COORDINATE WITH FIRE ALARM DRAWINGS FOR CONNECTIONS FOR SHUNT TRIP INPUT SIGNAL.
3. REFER TO LOW VOLTAGE DRAWINGS AND PROVIDE AND INSTALL ALL EQUIPMENT DESIGNATED TO BE INSTALLED BY ELECTRICAL CONTRACTOR.
4. SEE ELEVATOR DRAWINGS FOR EXACT REQUIREMENTS.
5. SEE SINGLE LINE DIAGRAM FOR MORE INFORMATION.
6. PROVIDE 12"W x 4"H x 1/4"D TELECOM GROUND BUS BAR WITH #1/0 CONNECTION TO MAIN GROUND BUS BAR. BOND ALL EQUIPMENT RACKS AND LADDER RACKS TO BUS BAR WITH #6 AWG GREEN COPPER GROUND CONDUCTORS.

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MANAGEMENT

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TITLE
ENLARGED ELECTRICAL PLANS

SHEET
E6.1

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT. SCALE ACCORDINGLY
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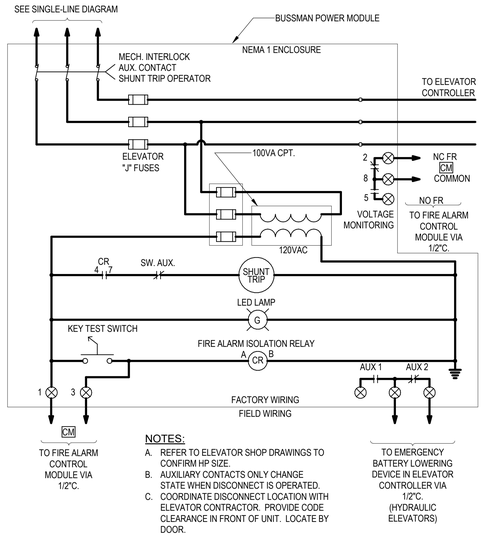
10/15/2020 10:18:59 AM

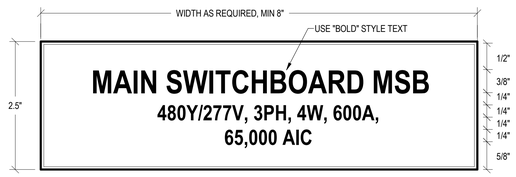


NOTES:

A. REFER TO ELEVATOR SHOP DRAWINGS TO CONFIRM HP SIZE.
B. AUXILIARY CONTACTS ONLY CHANGE STATE WHEN DISCONNECT IS OPERATED.
C. COORDINATE DISCONNECT LOCATION WITH ELEVATOR CONTRACTOR. PROVIDE CODE CLEARANCE IN FRONT OF UNIT. LOCATE BY DOOR.

6 ELEVATOR DISCONNECT SHUNT TRIP - SCHEMATIC

SCALE: NONE

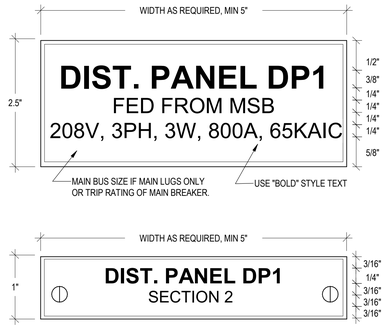


NOTES:

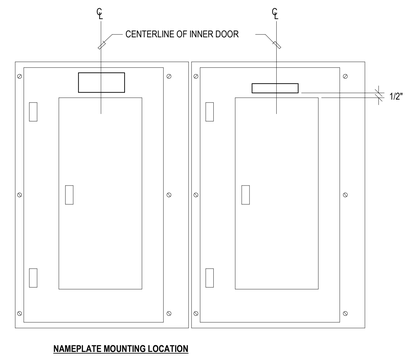
1. SEE DRAWINGS FOR ADDITIONAL NAMEPLATE INFORMATION AND COLORS OF NAMEPLATES FOR DIFFERENT SYSTEMS.
2. TEXT SHOWN ABOVE IS FOR EXAMPLE ONLY. MODIFY TEXT AS REQUIRED TO MATCH EQUIPMENT SPECIFICATIONS.
3. CENTER ALL TEXT HORIZONTALLY

5 MAIN SWITCHBOARD NAMEPLATE

SCALE: NONE



ADJACENT ADDITIONAL PANEL SECTIONS AS REQUIRED



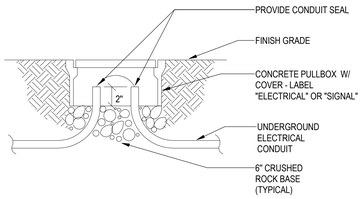
NAMEPLATE MOUNTING LOCATION

NOTES:

1. SEE DRAWINGS FOR ADDITIONAL NAMEPLATE INFORMATION AND COLORS OF NAMEPLATES FOR DIFFERENT SYSTEMS.
2. PROVIDE ONE NAMEPLATE FOR EACH PANEL OR MCC SECTION. WHERE SECTION NUMBER TWO AND ABOVE ARE WITHIN SAME ROOM AND WITHIN 10' OF EACH OTHER USE THE SMALLER SIZE NAMEPLATE.
3. CENTER ALL TEXT HORIZONTALLY.
4. TEXT SHOWN ABOVE IS FOR EXAMPLE ONLY. MODIFY TEXT AS REQUIRED TO MATCH EQUIPMENT SPECIFICATIONS.

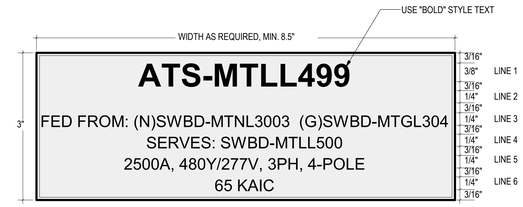
4 DISTRIBUTION PANEL AND BRANCH PANEL NAMEPLATES

SCALE: NONE



7 PULLBOX DETAIL

SCALE: NONE

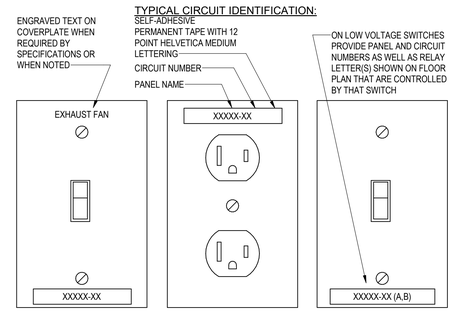


NOTES

1. SEE DRAWINGS FOR ADDITIONAL NAMEPLATE INFORMATION AND COLORS OF NAMEPLATES FOR DIFFERENT SYSTEMS.
2. TEXT SHOWN ABOVE IS FOR EXAMPLE ONLY. MODIFY TEXT AS REQUIRED TO MATCH EQUIPMENT SPECIFICATIONS. REPLACE QUESTION MARKS WITH CORRECT NUMBERS.
3. CENTER ALL TEXT HORIZONTALLY
4. DRILL HOLES ON EXTERIOR NAMEPLATES ONLY

3 TRANSFER SWITCH NAMEPLATES

SCALE: NONE

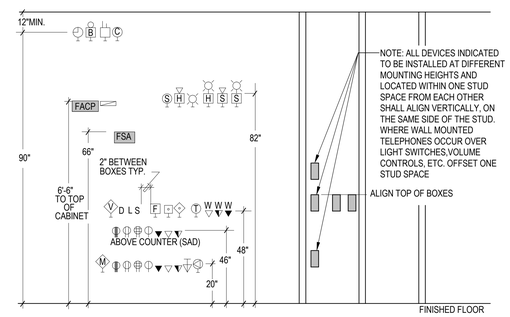


NOTES:

1. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION AND COLORS OF TAPE REQUIRED FOR DIFFERENT SYSTEMS.
2. TEXT SHOWN ABOVE IS FOR EXAMPLE ONLY. MODIFY TEXT AS REQUIRED TO MATCH INSTALLATION.
3. WHERE MULTIPLE SWITCHES ARE GROUPED UNDER COMMON COVERPLATE AND ARE SERVED FROM SAME CIRCUIT, PROVIDE ONLY ONE LABEL FOR MIDDLE SWITCH. PROVIDE MULTIPLE LABELS IF DIFFERENT CIRCUITS ARE USED.

2 DEVICE AND SWITCH LABELING

SCALE: NONE



NOTES:

A. HEIGHTS SHOWN ARE TYPICAL TO TOP OF BOX, UNLESS OTHERWISE NOTED.
B. WHEREVER DEVICES ARE INDICATED TO BE ABOVE DOORS, DEVICE SHALL BE CENTERED VERTICALLY BETWEEN TOP OF DOOR TRIM AND CEILING LINE AND CENTERED HORIZONTALLY ON DOOR OPENING, UNLESS OTHERWISE NOTED.
C. MOUNTING HEIGHTS SHOWN ON ARCHITECTURAL ELEVATIONS SHALL GOVERN OVER THOSE SHOWN ABOVE. CONTRACTOR SHALL ALWAYS REFER TO ARCHITECTURAL DRAWINGS PRIOR TO INSTALLING J-BOXES AND BACKBOXES. INFORM ENGINEER AND ARCHITECT OF CONFLICTS.

1 ELECTRICAL, TELECOM & SIGNAL SYS. DEVICE MOUNTING HEIGHTS & ALIGNMENT

SCALE: NONE

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MANAGEMENT

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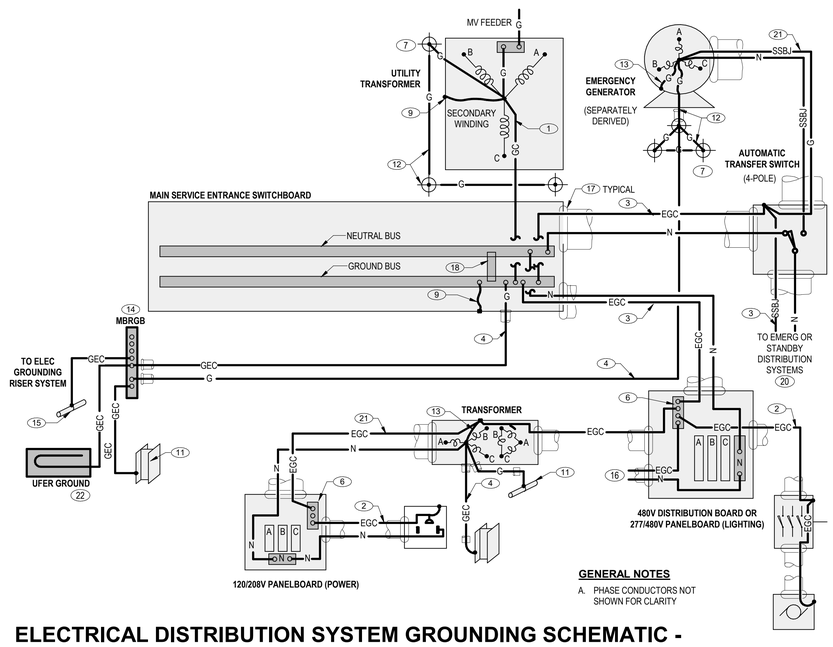
TITLE

ELECTRICAL DETAILS

SHEET

E9.1



GENERAL NOTES

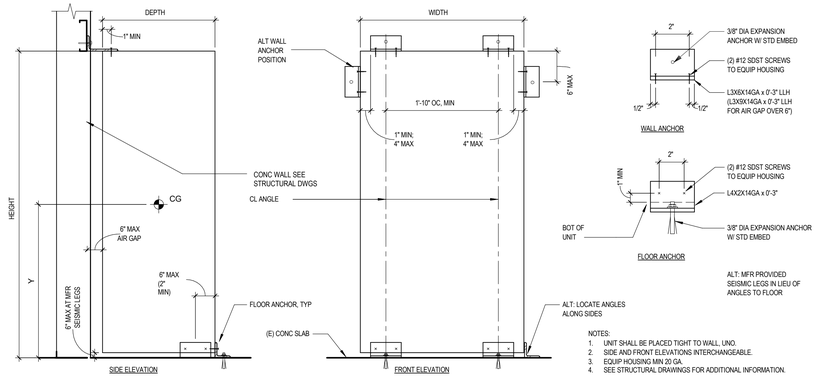
A. PHASE CONDUCTORS NOT SHOWN FOR CLARITY

KEYED NOTES (#)

1. GROUNDED CONDUCTOR BROUGHT TO SERVICE EQUIPMENT PER NEC 250.24(b), SIZED PER NEC TABLE 250.102.
2. ALL EQUIPMENT GROUNDING CONDUCTORS (EGC) FOR RECEPTACLE AND OTHER BRANCH CIRCUITS SHALL BE SIZED PER NEC TABLE 250.122. MULTIPLE BRANCH CIRCUITS IN EACH HOMERUN SHALL USE ONLY ONE EQUIPMENT GROUNDING CONDUCTOR, UON.
3. SIZE EQUIPMENT GROUNDING CONDUCTORS FOR FEEDER CIRCUITS PER FEEDER SCHEDULE OR IF NOT SHOWN, PER NEC TABLE 250.122.
4. SEPARATELY DERIVED ALTERNATING CURRENT SYSTEM GROUNDING ELECTRODE CONDUCTOR PER NEC 250-30. ROUTE ONE COPPER GROUNDING ELECTRODE CONDUCTOR (GEC). SIZED PER NEC TABLE 250.66, OR AS NOTED, IN CONDUIT TO GROUNDING ELECTRODES SHOWN OR CONNECT TO MAIN BUILDING REFERENCE GROUND BUS IF IN SAME ROOM OR TO BUILDING GROUNDING RISER.
5. TYPICAL RECEPTACLE WITH EQUIPMENT GROUNDING CONDUCTOR. GROUND PER NEC 250.146.
6. CONNECT EQUIPMENT GROUNDING CONDUCTORS TO GROUND LUG BONDED TO THE ENCLOSURE.
7. GROUND ROD OR OTHER MADE ELECTRODES PER NEC 250.52 & 54 AND AS SHOWN ON DRAWINGS AND SPECIFICATIONS. PROVIDE 10'-0" MINIMUM SPACING BETWEEN RODS.
8. COPPER GROUND CONNECTION TO COMMUNICATION BACKBOARDS OR TO BUILDING TELECOM GROUNDING RISER. REFER TO EACH SYSTEM FOR SIZE AND QUANTITY. IF NOT SHOWN, SIZE PER BICSI TABLE 5.4.4.1 TBB STANDARDS.
9. MAIN BONDING JUMPER: SIZE PER NEC 250.28 AND TABLE 250.102.
10. EQUIPMENT COPPER GROUNDING BAR BONDED TO ENCLOSURE.
11. BONDING CONDUCTOR TO NEAREST EFFECTIVELY GROUNDED BUILDING STEEL, METAL PIPING SYSTEMS AND METAL DUCTWORK PER NEC 250.104.
12. UNDERGROUND, BARE COPPER, 7-STRAND GROUNDING ELECTRODE CONDUCTOR: #4/0 AWG, U.O.N.
13. SYSTEM BONDING JUMPER PER NEC 250.28, 250.102(C) AND TABLE 250.102.
14. MAIN BUILDING REFERENCE GROUND BUS. REFER TO SPECIFICATIONS AND DETAIL NOTED.
15. COLD WATER PIPE AS GROUNDING ELECTRODE PER NEC 250.50(A) & 250.54(D).
16. TO LIGHTING OR OTHER 277/480 VOLT BRANCH CIRCUIT.
17. BOND PARALLEL METALLIC CONDUITS TOGETHER USING GROUNDING BUSHINGS AND ONE GROUNDING CONDUCTOR IDENTICAL IN SIZE TO GROUNDING CONDUCTOR IN EACH OF THE PARALLEL CONDUIT RUNS.
18. FACTORY NEUTRAL DISCONNECT LINK
19. COORDINATE WITH UTILITY COMPANY ON WHO DOES THE UTILITY GROUNDING SCOPE. ASSUME IN BID .
20. ALL GROUNDING FOR THE EMERGENCY POWER DISTRIBUTION SYSTEM SHALL CONFORM TO ALL REQUIREMENTS SHOWN FOR THE NORMAL POWER DISTRIBUTION SYSTEM.
21. SUPPLY SIDE BONDING JUMPER, SIZE PER NEC TABLE 250.102

8 ELECTRICAL DISTRIBUTION SYSTEM GROUNDING SCHEMATIC - 480V WITH GENERATOR

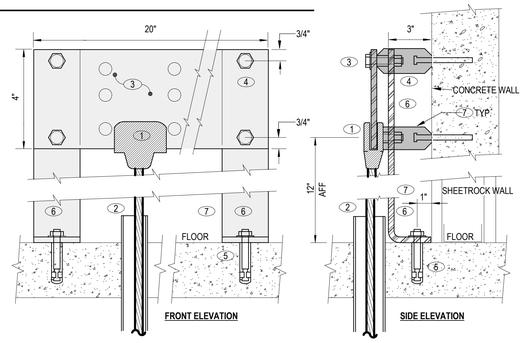
SCALE: NONE



NOTES:
1. UNIT SHALL BE PLACED TIGHT TO WALL, UNO.
2. SIDE AND FRONT ELEVATIONS INTERCHANGEABLE.
3. EQUIP HOUSING MIN 20 GA.
4. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

7 EQUIPMENT ANCHORAGE AT CONCRETE WALL

SCALE: 1" = 1'-0"

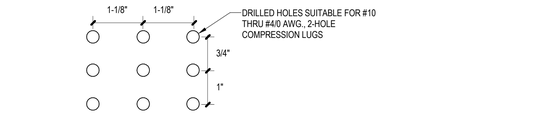


NOTES (#)

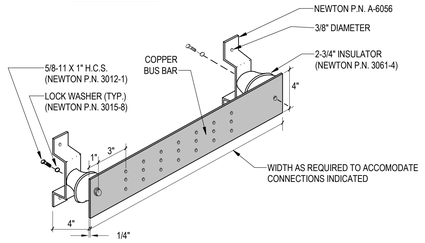
1. IRREVERSIBLE TYPE WELDED OR HIGH-PRESSURE CRIMP GROUND CONDUCTOR TO BUS BAR CONNECTOR. T&B TYPE CB4, CB29 OR EQUAL BY BURNDY OR CADWELD.
2. UNDERGROUND COPPER GROUND CONDUCTORS IN PVC CONDUITS.
3. 1/4" THICK X HEIGHT AND WIDTH SHOWN, COPPER GROUND BUS.
4. 3/8"∅ X 3" LONG BOLT WITH LOCK WASHER AND SPACER FOR ATTACHING COPPER GROUND BUS TO SUPPORTS.
5. SUPPORT ANCHOR BOLT. 3 1/2" MINIMUM EMBEDMENT.
6. 1/4" THICK X 2" WIDE GALVANIZED STEEL PLATE GROUND BUS SUPPORTS. BENT AS SHOWN. USE WHERE GROUND BUS IS ADJACENT TO SHEETROCK WALLS.
7. FOR CONCRETE WALL MOUNTING APPLICATIONS: USE STANDARD RED INSULATING BUS BAR STANDOFFS, AND OMIT STEEL FLOOR PLATE GROUND BUS SUPPORT.

5 MAIN BUILDING REFERENCE GROUND BUS

SCALE: NONE



HOLE PATTERN DETAIL

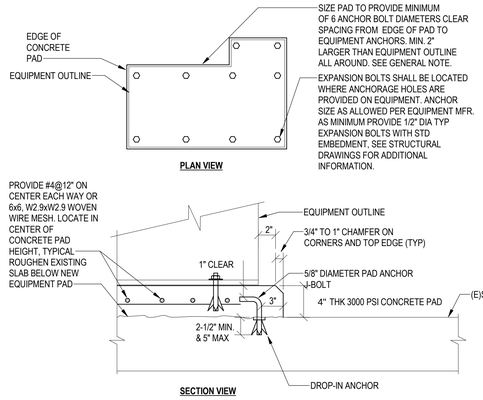


GENERAL NOTES

A. COORDINATE WITH ARCHITECT TO PROVIDE METAL BACKING BEHIND SHEETROCK WALLS.

3 TELECOMMUNICATIONS GROUNDING BUS BAR

SCALE: NONE

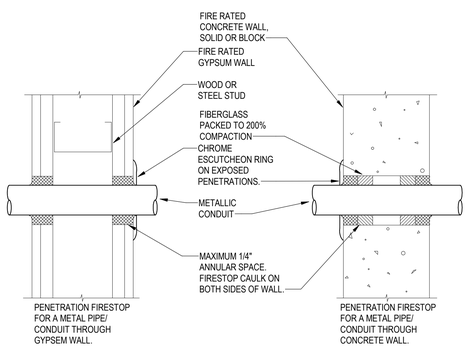


NOTES

A. INCREASE PAD SIZE AS REQUIRED WHERE EQUIPMENT REQUIRES EXTERNAL CLAMP DOWN ANCHORS.
B. PROVIDE MINIMUM OF (4) EXPANSION ANCHORS PER EQUIPMENT. LOCATE ONE ON EACH CORNER.
C. PROVIDE PADS FOR ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT.
D. 5/8" J-BOLTS TO BE SPACED ON A MAXIMUM OF 24" CENTERS AROUND PERIMETER OF PAD.

2 ELECTRICAL EQUIPMENT CONCRETE "HOUSEKEEPING" PAD

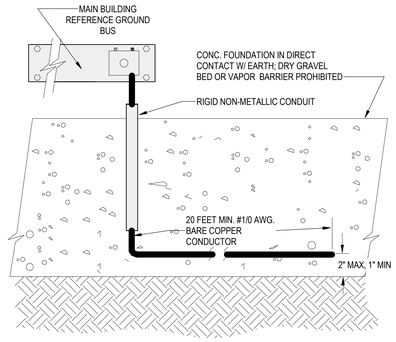
SCALE: NONE



NOTES:
A. INSTALL FIRE STOP SYSTEMS IN STRICT CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF FIRE RATED WALLS AND FLOORS.
C. VERIFY UL APPROVED DETAIL REQUIRED FOR EACH CONDITION WITH ARCHITECT. SUBMIT FOR APPROVAL COPY OF DETAIL TO BE USED, PRIOR TO INSTALLATION.

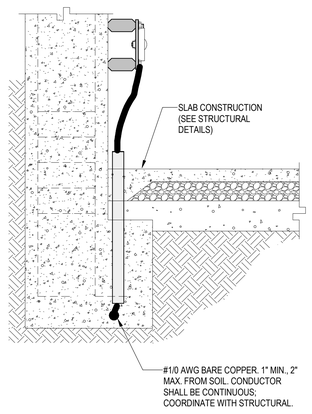
6 FIRE RATED WALL CONDUIT PENETRATION

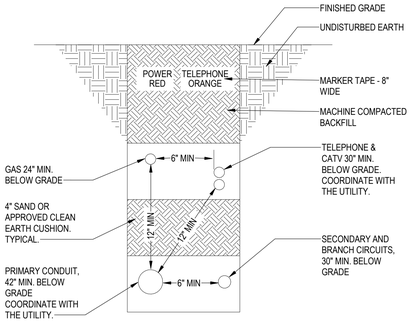
SCALE: NONE



4 UFER GROUNDING ELECTRODE

SCALE: NONE





1 COMMON UTILITY TRENCH

SCALE: NONE

LIONAKIS
1919 Nineteenth Street
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P 916.558.1900 F 916.558.1919
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CONSULTANT
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Project Manager: RON MILSON
Job. No.: 20US003224

SEAL

REGISTERED PROFESSIONAL ENGINEER
GARRETT D. DUTTER
No. 21073
REN
03/31/21
ELECTRICAL
STATE OF CALIFORNIA

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION SEISMIC RETROFIT
220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO:	015437.05
CLIENT PROJECT NO:	
COPYRIGHT:	LIONAKIS 2019

AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
ELECTRICAL DETAILS

SHEET
E9.2

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY
0 1/4" 1/2" 1"
C:\Users\bali.sanghera\Documents\015437.04_BIM_MEP-MASTER_R20_CENTRAL_bsanghera#MTTSS.RVT
10/15/2020 10:18:40 AM

IF THIS SHEET IS NOT 30"x42", IT IS A REDUCED PRINT - SCALE ACCORDINGLY

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c),§130.0, §130.1, §140.6, and §141.0(b)2 for indoor lighting scopes using the prescriptive path.

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page 1 of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

A. GENERAL INFORMATION

01	Project Location (city)	SUSANVILLE	04	Total Conditioned Floor Area (sf)	
02	Climate Zone	3	05	Total Unconditioned Floor Area (sf)	
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	

X Office; Retail; Warehouse; Hotel/Motel; School; Support Areas; Parking Garage; High-Rise Residental; Relocatable; Healthcare; Other (write in):

B. PROJECT SCOPE

Table instructions: Include any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 or 141.0(b)2 for alterations. WARNING: Changing the Calculation Method in this table will result in the deletion of data previously input. If you need to change the calculation method, please open a new form or use "Save As".

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (sf)	Calculation Method	Area (sf)
X New Lighting System	Area Category	241		
Altered Lighting System		0		
Total Area of Work (sf)	241		0	

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1.	Allowed Lighting Power per 140.6(b) (Watts)							Adjusted Lighting Power per 140.6(a) (Watts)				Compliance Results
	01	02	03	04		05		06	07		08	09
	Complete Building 140.6(c)1 (See Table I)	Area Category 140.6(c)2 (See Table I)	Area Category Additional 140.6(c)2G (+) (See Table J)	Tailored 140.6(c)3 (+) (See Table K)	=	Total Allowed (Watts)	>=	Total Designed (Watts) (See Table F)	Adjustments: PAF Control Credits 140.6(a)2 (-) (See Table P)	=	Total Adusted (Watts) *Includes Adjustments	05 Must be >=08 140.6
Conditioned:	0	96.4	0	0	=	96.4	>=	240.4	0	=	240.4	Does NOT Comply
Unconditioned:					=		>=			=		

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020

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Indoor Lighting
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Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page 2 of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

Controls Compliance (See Table H for Details)	
Rated Power Reduction Compliance (See Table Q for Details)	Not Applicable

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction

F. INDOOR LIGHTING FIXTURE SCHEDEULE

REFER TO CONTINUATION SHEET FOR TABLE F

G. MODULAR LIGHTING SYSTEMS

This Section Does Not Apply

H. INDOOR LIGHTING CONTROLS (Not Including PAFs)

REFER TO CONTINUATION SHEET FOR TABLE H

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

REFER TO CONTINUATION SHEET FOR TABLE I

J. ADDITIONAL LIGHTING ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

REFER TO CONTINUATION SHEET FOR TABLE J

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STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

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Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page 3 of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This Section Does Not Apply

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This Section Does Not Apply

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This Section Does Not Apply

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS

This Section Does Not Apply

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This Section Does Not Apply

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This Section Does Not Apply

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS

This Section Does Not Apply

R. 80% LIGHTING POWER FOR ALTERATIONS - CONTROLS EXCEPTIONS

This Section Does Not Apply

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This Section Does Not Apply

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

REFER TO CONTINUATION SHEET FOR TABLE T

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

REFER TO CONTINUATION SHEET FOR TABLE U

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STATE OF CALIFORNIA
Indoor Lighting
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Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page 4 of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

F. INDOOR LIGHTING FIXTURE SCHEDEULE

Table Instructions: Include all permanent designed lighting and all portable lighting in offices.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Track Fixture	Small Aperture & Color Change(1)	Watts per luminaire(2)	How Wattage is determined	Total number luminaires	Exempt per §140.6(a)3	Design Watts	Field Inspector Pass	Field
H1	4FT SUR LIN LED STRIP			16.4	0	5		82		
H2E	4FT SUS LIN LED STRIP			39.6	0	4		158.4		
Total Designed Watts CONDITIONED SPACES:								240.4	Plus pgs	

1. FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4B is adjusted to be 75% of their rated wattage. Rated wattage in column Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.

2. Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020

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Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

G. MODULAR LIGHTING SYSTEMS

Table Instructions: Complete this table for track lighting fixtures indicated on Table F. Luminaire classification and power should be per §130.0(c)6.

Name or Item Tag	Complete Track Description	Calculation Method per §130.0(c)6				Track Wattage
C		X i Installed Luminaires vs Default 30 W/ft	ii Current Limiter	iii Overcurrent Protection Panel	iv Power supplied by driver, power supply or transformer (2)	
		Number of luminaires in system x Rated Watts per luminaire = Total Watts: 0		OR Linear ft of track or busway x Default W/LF: 30 = Total Watts: 0		
		VA of current limiter				
		Voltage of branch circuit		x Sum of Ampere ratings for all overcurrent panels		
		Maximum rated input wattage per manufacturer: 500				
		i Installed Luminaires vs Default 30 W/ft	X ii Current Limiter	iii Overcurrent Protection Panel	iv Power supplied by driver, power supply or transformer (2)	0
		VA of current limiter				
		i Installed Luminaires vs Default 30 W/ft	ii Current Limiter	X iii Overcurrent Protection Panel	iv Power supplied by driver, power supply or transformer (2)	0
		Voltage of branch circuit		x Sum of Ampere ratings for all overcurrent panels		
		i Installed Luminaires vs Default 30 W/ft	ii Current Limiter	iii Overcurrent Protection Panel	X iv Power supplied by driver, power supply or transformer (2)	0
		Maximum rated input wattage per manufacturer				

(1)FOOTNOTE: For power-over-Ethernet lighting systems, power provided to installed non-lighting devices may be subtracted from the total power rating of the power-over-Ethernet system.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020

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Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

H. INDOOR LIGHTING CONTROLS (Not Including PAFs)

Table Instructions: Please include lighting controls for conditioned and unconditioned spaces in this table. When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.

Building Level Controls

01	02	03	
Mandatory Demand Response §110.12(c)	Shut-Off Controls §130.1(c)	Field Inspector Pass	Field
Not Required - Building <= 0.5 W/SF	Whole Building Timeswitch		

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls § 130.1(b)	Shuf-Off Controls § 130.1(c)	Primary/Skylit Daylighting § 130.1(d)	Secondary Daylighting § 140.6(d)	Interlocked Systems § 140.6(a)1	Field Inspector Pass	Field
ELEC, MECH, ELEV RM	ELECT, MECH, TELE ROOMS	Area Controls	Bi-Level Switch						

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved. EX: Conference 1: Primary/Skylight Daylighting: Exempt becasuse less than 120 watts of general lighting; EXCEPTION 1 TO 130.1(D)2

Plan Sheet Showing Daylit Zones:

Explain here why item with asterisk complies

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020

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CERTIFICATE OF COMPLIANCE NRCC-LTI-E

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Table Instructions: Complete the table for each area complying using the Complete Building or Area Category Methods per §140.6(b). Indicate if additional lighting power allowances per § 140.6(c) or adjustments per §140.6(a) are being used.

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft2)	Area (ft2)	Allowed Wattage (Watts)	Additional Allowances / Adjustments: Area Category	PAF
ELEC, MECH, ELEVATOR RMS	ELECT, MECH, TELE ROOMS	0.4	241	96.4	X	
		TOTAL:	241	96.4	See Tables J or P for detail	

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

J. ADDITIONAL LIGHTING ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

Table Instructions: Please complete the table for all areas indicted in Table I as using an additional allowance per the Area Category Method in Table 140.6-C.

Conditioned Spaces

01	02	03	04	05	06	07	08	09	10
Area Description	Primary Function Area	Applicable Qualifying Lighting System from Table 140.6-C	Allowed Density (W/sf) or (W/lf)	Ltg Area, Length or ATM/Mirror (sf, lf or #)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	Number of Luminaires	Total Design Watts
						H1	16.4	5	82
Total Design Watts:	Calculated Allowance (Watts):	Total Additional Allowance for this area:							
82	0.00	0.00							
					X				
					X				
Total Design Watts:	Calculated Allowance (Watts):	Total Additional Allowance for this area:							
0	0.00	0.00							

11	
Total Additional Allowance (Watts) CONDITIONED SPACES:	0.00

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

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Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	August 12, 2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name:	GARRETT DUTTER, P.E.	Documentation Author Signature:	(signed)
Company:	GLUMAC	Signature Date:	January 25, 2020
Address:	910 GLENN DRIVE	CEA/HERS Certification Identification (if applicable):	
City/State/Zip:	FOLSOM, CA 95630-2527	Phone:	(916) 934-5103

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the informatin provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit appliaction.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	GARRETT DUTTER, P.E.	Responsible Designer Signature:	(signed)
Company:	GLUMAC	Date Signed:	January 25, 2020
Address:	910 GLENN DRIVE	License:	E21075
City/State/Zip:	FOLSOM, CA 95630-2527	Phone:	(916) 934-5103

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020

9 LASSEN COURTHOUSE - ET24 Forms 2019 - v01k_I_Last!Print_Area

SCALE: 12" = 1'-0"

LIONAKIS

1919 Nineteenth Street
Sacramento CA 95811
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CONSULTANT

GLUMAC engineers for a sustainable future

910 Glenn Dr.
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www.glumac.com
T. 916.934.5103 F. 916.934.5112

Project Manager: RON MILSON
Job. No.: 20US00224

SEAL

REGISTERED PROFESSIONAL ENGINEER GARRETT D. DUTTER No. 21075 REN 03/31/21 ELECTRICAL STATE OF CALIFORNIA

PROJECT

LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION SEISMIC RETROFIT
220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT

COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

TITLE

ELECTRICAL TITLE 24 DOCUMENTATION - INDOOR

SHEET

ET24.1

C:\Users\bali.sanghera\Documents\015437.04_BIM_MEP-MASTER_R20_CENTRAL_bsangheraMUTSS.RVT

10/15/2020 10:18:41 AM

STATE OF CALIFORNIA
Oudoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c),§130.0, §130.1, §140.6, and §141.0(b)2 for indoor lighting scopes using the prescriptive path.

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page	of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020	

A. GENERAL INFORMATION

01	Project Location (city)	SUSANVILLE	04	Total Illuminated Hardscape Area (ft2)	
02	Climate Zone	3			
03	Outdoor Lighting Zone per Title 24, Part 1 §10-114 or as designated by Authority Having Jurisdiction (AHJ):				

☐ LZ-0: Very Low - Undeveloped Parkland ☐ LZ-2: Moderate - Rural Areas ☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval
☐ LZ-1: Low - Developed Parkland ☒ LZ-3: Moderately High - Urban Areas

B. PROJECT SCOPE

Table Instructions: Include any outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.7 or §141.0(b)2L for alterations.

My Project consists of:

01	02
☒ New Lighting System	Must Comply with Allowances from 140.7
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ☐ Yes ☐ No

03	04	05
% of Existing Luminaires Being Altered(1)	Sum total of Luminaires Being Added or Altered	Calculation Method
☐ <10% ☐ ≥ 10% and < 50% ☐ ≥ 50%	4	SEE TABLE I

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

(1) Foot Notes: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Calculation of Total Allowed Lighting Power (Watts) 140.7 or 141.0(b)2L										Compliance Results	
01		02		03		04		05	06	07	08	09
General Hardscape Allowance 140.7(d)1	+	Per Application 140.7(d)2	+	Sales Frontage 140.7(d)2	+	Ornamental 140.7(d)2	+	Per Specific Area 140.7(d)2	OR Existing Power 141.0(b)2L =	Total Allowed (Watts)	= >	Total Actual (Watts)	07 Must be >= 08
(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	(See Table N)			(See Table F)	
456.8	+		+		+		+		OR =	456.8	= >	188.4	Complies
Cutoff Compliance (See Table G for Details)												Not Applicable	
Controls Compliance (See Table H for Details)												See Table H	

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page	of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020	

F. OUTDOOR LIGHTING FIXTURE SCHEDEULE

Table Instructions: For new or altered lighting systems demonstrating compliance with §140.7 (ie Table I has expanded for input), include all luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2L (ie Table N has expanded for input), include only new luminaires being installed and replacement luminaires being installed as part of the project scope (ie, do not include existing luminaires remaining or existing luminaires being moved).

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire (1) (2)	How Wattage is determined	Total number luminaires	Luminaire Status(3)	Excluded per 140.7(a)	Design Watts	Cutoff Req. >= 6,200 initial lumen output §130.2(b)*	Field Inspector Pass	Fail
H2E	4FT SUS LIN LED STRIP	☒ Linear	39.6W/LF	0	4 LF	New	☐	158.4	Exempt*	☐	☐
S1	SUR RND LED DIR	☐ Linear	30	0	1	New	☐	30	Exempt*	☐	☐
		☐ Linear					☐			☐	☐
		☐ Linear					☐			☐	☐
		☐ Linear					☐			☐	☐
		☐ Linear					☐			☐	☐
		☐ Linear					☐			☐	☐
		☐ Linear					☐			☐	☐
							Total Designed Watts:	188.4			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to §130.2(b)

¹ FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c).

² For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet for the luminaire should be indicated in column 05 instead of number of luminaires.

³ Select "New" for new luminaires in a new outdoor lighting project or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope

⁴ Compliance with mandatory cutoff requirements is required for luminaires with initial lumen output ≥ 6,200 unless exempted by §130.2(b).

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTI-E

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page	of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020	

H. OUTDOOR LIGHTING CONTROLS

Table Instructions: Complete this table demonstrating compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank. For each requirement in columns 02 through 04, do not leave the field blank, instead select NA or Exempt* from the dropdown list to indicate not applicable or an exemption.

Mandatory Controls

01	02	03	04	05	
Area Description	Shut-Off §130.2(c)1	Auto-Schedule §130.2(c)2	Motion Sensor §130.2(c)3	Field Inspector Pass	Field
STAIRWELL	TIME CLOCK	Yes	OCCUPANY SENSOR	☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.
EX. Not permitted by health & safety to be turned off; EXCEPTION 1 to §130.2(c).

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page	of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020	

I. LIGHTING POWER ALLOWANCE (per §140.7)

Table Instructions: Please complete this table for areas using the allowance calculations per §140.7. General Hardscape Allowance is per Table 140.7-A while "Use it or lost it" Allowances are per Table 140.7-B. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.

General Hardscape Allowance	"Use it or lose it" Allowances (select all that apply)			
☒	☐ Per Specific Area	☐ Sales Frontage	☐ Ornamental	☐ Per Specific Area
Table I (below)	Table J	Table K	Table L	Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A

02	03	04	05	06	07	08	09	10
Area Description	Surface Type	Area Wattage Allowance (AWA) Illuminated Area (sf)	Allowed Density (W/sf)	Area Allowance (Watts)	Linear Wattage Allowance (LWA) Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	Total General AWA+LWA (Watts)
STAIRWELL	Concrete	360	0.03	10.8	240	0.4	96	106.8
Initial Wattage Allowance for Entire Site (Watts):								350
Total General Hardscape Allowance (Watts):								456.8

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name:	GARRETT DUTTER, P.E.	Documentation Author Signature:	
Company:	GLUMAC	Signature Date:	January 25, 2020
Address:	910 GLENN DRIVE	CEA/HERS Certification Identification (if applicable):	
City/State/Zip:	FOLSOM, CA 95630-2527	Phone:	(916) 934-5103

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the informatin provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit appliaction.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	GARRETT DUTTER, P.E.	Responsible Designer Signature:	
Company:	GLUMAC	Date Signed:	January 25, 2020
Address:	910 GLENN DRIVE	License:	E21075
City/State/Zip:	FOLSOM, CA 95630-2527	Phone:	(916) 934-5103

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CONSULTANT
GLUMAC engineers for a sustainable future
910 Glenn Dr. Project Manager: RON MILSON
Folsom, CA 95630-2527 Job. No.: 20US00224
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SEAL
REGISTERED PROFESSIONAL ENGINEER GARRETT D. DUTTER No. 21075 ELECTRICAL STATE OF CALIFORNIA

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION SEISMIC RETROFIT
220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT

LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
ELECTRICAL TITLE 24 DOCUMENTATION - EXTERIOR

SHEET
ET24.2

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-LTC-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTC-E

This document is used to demonstrate compliance with mandatory requirements in §130.5 for electrical systems in newly constructed nonresidential, high-rise residential and hotel/motel occupancies. Additions and alterations to electrical service systems in these occupancies will also use this document to demonstrate compliance per §141.0(a) or §141.0(b)2F for alterations.

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

A. GENERAL INFORMATION

01 Project Location (city)	SUSANVILLE	02 Occupancy Types Within Project:	

☒ Office ☐ Retail ☐ Warehouse ☐ Hotel/Motel ☐ School ☐ Support Areas
☐ Parking Garage ☐ High-Rise Residental ☐ Relocatable ☐ Healthcare Facilities ☐ Other (write in):

B. PROJECT SCOPE

Table Instructions: Include any electrical service systems that are within the scope of the permit application..

01 Electrical Service Designation/ Description	02 Scope of Work[1]	03 Rating (kVA)	04 Utility Provided Metering System Exception to §130.5(a)[2]	05 System subject to CA Elec Code Article 517 Exception to §130.5(a)&(b)	06 Demand Response Controls
MSB	New electrical service equipment & meter	498.8	☒	☐	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections §120.2, §130.1 and §130.3 and compliance documents NRCC-MCH, NRCC-LTI and NRCC-LTS will indicate when demand response controls are required.
			☐	☐	
			☐	☐	
			☐	☐	

[1] FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c), no other requirements from 130.5 are required.
[2] Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-LTC-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTC-E

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

C. COMPLIANCE RESULTS

Table Instructions: If this table says "DOES NOT COMPLY" refer to Table D, for guidance and review the Table that indicates "No".

Calculation of Total Allowed Lighting Power (Watts) 140.7 or 141.0(b)2L

01 Service Electrical Metering §130.5(a)	AND	02 Separation for Monitoring §130.5(b)	AND	03 Voltage Drop §130.5(c)	AND	04 Controlled Receptacles §130.5(d)	09 Compliance Results
(See Table F)		(See Table G)		(See Table K)		(See Table L)	
yes	AND	Yes	AND	Yes	AND	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with unedittable comments because of selections made or data entered in tables throughout the form.

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction

F. SERVICE ELECTRICAL METERING

REFER TO CONTINUATION SHEET FOR TABLE F

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

REFER TO CONTINUATION SHEET FOR TABLE G

H. VOLTAGE DROP

This Section Does Not Apply

I. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-LTC-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTC-E

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

F. INDOOR LIGHTING FIXTURE SCHEDEULE

Table Instructions: Complete the table below for new or replacement electrical service systems OR equipment to demonstrate compliance with §130.5(a).

Designed Wattage: Conditioned Spaces

01 Electrical Service Designation/ Description	02 Rating (kVA)	03 Required Metering Capabilities per Table 130.5-A: Instantaneous Demand (kW)	Historical Peak Demand (kW)	Tracking kWh for user-defined period	kWh per rate period	04 Location of Requirements in Construction Documents	05 Field Inspector: Pass	Field
MSB	498.8	☒	☐	☒	☐	Schedule Sheet	☐	☐

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-LTC-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTC-E

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

Table Instructions: Complete this table for entirely new or complete replacement electrical power distribution systems to demonstrate compliance with §130.5(b). Using the dropdown choices in column 01, indicate the load types included for each service. Any load types that are not included in the service do not need to be shown

Electrical Service Designation/Description:

01 Load Type per Table 130.5-B[1]	02 Minimum Required Separation of Load per Table 130.5-B	03 Compliance Method[2]	04 Location of Requirements in Construction Documents	05 Field Inspector: Pass	Field
Lighting including exit, egress and exterior	All lighting disaggregated by floor, type or area	Method 3	Schedules	☐	☐
Plug Loads and appliances < 25kVA	All plug load separate by floor, type or area Groups of plug loads exceeding 25 kVA connected load in an area less than 5000 sf	Method 3	Schedules	☐	☐
Elevators, escalators, moving walkways	All loads in aggregate	Method 2	Single Line Diagram Sheet	☐	☐
				☐	☐
				☐	☐
				☐	☐
				☐	☐

* NOTES: If "Other"* is selected under Compliance Method above, please indicate how compliance has been achieved in the space provided below.

[1] FOOTNOTES: For each separate load type, up to 10% of the connected load may be of any type.
[2] Method 1: Switchboards/ motor control centers/ panelboard loads disaggregated for each load type
Method 2: Switchboards/ motor control centers/ panelboard supply other distribution equipment with loads disaggregated for each load type
Method 3: Branch circuits serve load types individually & provisions for adding future branch curcuit monitoring
Method 4: Complete metering system measures and reports loads by type
See Chapter 8 of the Nonresidential Compliance Manual for more detail on Compliance Methods.

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-LTC-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTC-E

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

H. VOLTAGE DROP

Table Instructions: Please complete this table for entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with §130.5(c). For alterations, only the altered circuits must demonstrate compliance per §141.0(b)2Pii.

01 Electrical Service Designation/ Description	02 Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method		03 Location of Voltage Drop Calculations*	04 Sheet Number for Voltage Drop Calculations in Construction Documents	05 Field Inspector: Pass	Field
MSB	☒ Voltage drop < 5%	☐ Permitted by CA Elec Code (Exception to § 130.5(c))*	N/A	N/A	☐	☐

NOTES If "Permitted by CA Elec Code" is selected under Compliance Method above, please indicate where the exception applies in the space provided below.

* FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".
I. CIRCUIT CONTROLS

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-LTC-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTC-E

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c),§130.0, §130.1, §140.6, and §141.0(b)2 for indoor lighting scopes using the prescriptive path.

Project Name:	LASSEN COUNTY COURTHOUSE RENOVATION	Report Page:	Page of
Project Address:	220 S LASSEN ST, SUSANVILLE, CA 96130	Date Prepared:	8/12/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name:	GARRETT DUTTER, P.E.	Documentation Author Signature:	
Company:	GLUMAC	Signature Date:	January 25, 2020
Address:	910 GLENN DRIVE	CEA/HERS Certification Identification (if applicable):	
City/State/Zip:	FOLSOM, CA 95630-2527	Phone:	(916) 934-5103

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
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Responsible Designer Name:	GARRETT DUTTER, P.E.	Responsible Designer Signature:	
Company:	GLUMAC	Date Signed:	January 25, 2020
Address:	910 GLENN DRIVE	License:	E21075
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T. 916.934.5103 F. 916.934.5112
Project Manager: RON MILSON
Job. No.: 20US800224

SEAL
REGISTERED PROFESSIONAL ENGINEER
GARRETT D. DUTTER
No. 21075
RENEWAL 03/31/21
ELECTRICAL
STATE OF CALIFORNIA

PROJECT
LASSEN COUNTY HISTORIC COURTHOUSE RENOVATION SEISMIC RETROFIT
220 S LASSEN ST
SUSANVILLE, CA 96130

CLIENT
COUNTY OF LASSEN
DEPARTMENT OF PUBLIC WORKS
707 NEVADA STREET SUITE 4
SUSANVILLE, CA 96130

ISSUED

MARK	DATE	DESCRIPTION
	10/16/2020	100% CD SUBMITTAL

MANAGEMENT
LIONAKIS PROJECT NO: 015437.05
CLIENT PROJECT NO:

AGENCY

APPROVED BY: Willdan Engineering
Approval of these plans shall not be construed to be a permit for, or an approval of any violation of any of the provisions of the state or local laws. One set of approved plans must be kept on the job until completion.
3:31 pm, Oct 27, 2020

TITLE
ELECTRICAL TITLE 24 DOCUMENTATION - POWER DISTRIBUTION

SHEET
ET24.3