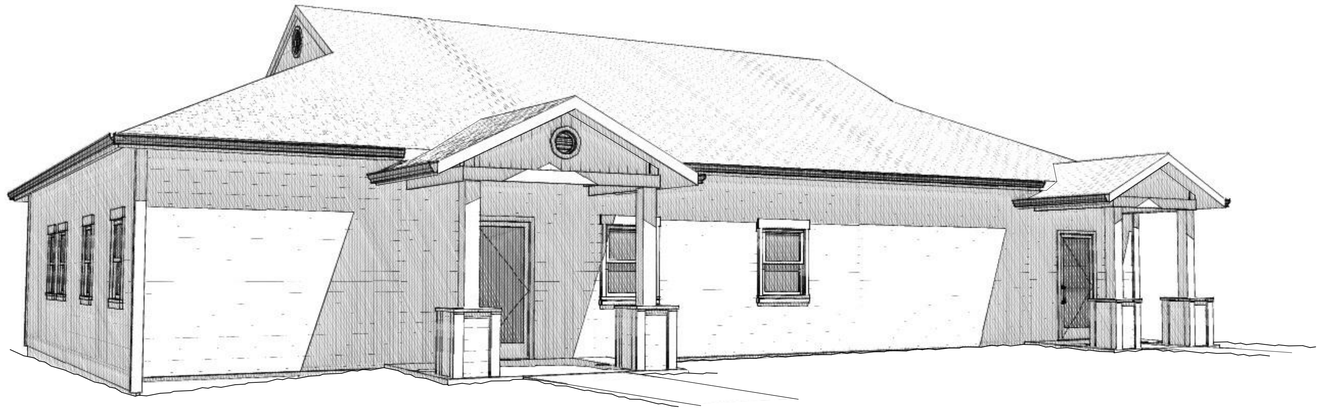
DISTRICT SUPPORT SERVICES BUILDING
FOR THE
GRASS VALLEY SCHOOL DISTRICT



PROJECT INFORMATION

SCOPE: A NEW DISTRICT SUPPORT SERVICES OFFICE BUILDING FOR THE GRASS VALLEY SCHOOL DISTRICT. LOCATED ON AN ADMINISTRATIVE CAMPUS. CONSISTING OF (3) EXISTING RELOCATABLE BUILDINGS TO FORM (1) NEW BUILDING WITH A NEW SEPTIC SYSTEM. ADMINISTRATIVE/COMMUNITY SERVICES STAFF ONLY, NO STUDENTS OR TEACHERS OCCUPY THE BUILDING.

SITE: GILMORE WAY
GRASS VALLEY, CA 95945
APN:29-030-02

OWNER: GRASS VALLEY SCHOOL DISTRICT
BRIAN MARTINEZ
DIRECTOR OF PROJECTS (FACILITIES)
GILMORE WAY,
GRASS VALLEY, CA 95945
(530) 273-8723

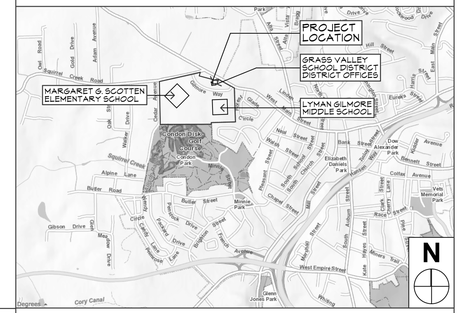
ZONING: P

OCCUPANCY: A-3 & B

CONSTRUCTION TYPE: V-B, NON-SPRINKLERED

SQUARE FOOTAGE: CONDITIONED SPACE: 2,880 SQ. FT.

VICINITY MAP



GENERAL NOTES

ALL WORK SHALL CONFORM TO THE 2013 CBC AND THE CURRENT EDITIONS OF THE CMC, CPC, CEC, CGSBC, CALIFORNIA ENERGY REGULATIONS, AND ALL LOCAL CODES AND ORDINANCES.

DO NOT SCALE THE CONSTRUCTION DOCUMENTS. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED GRAPHICS.

SPECIFICATIONS, DRAWINGS, AND DETAILS TAKE PRECEDENCE OVER THESE GENERAL NOTES.

VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK, NOTIFY ARCHITECT OF ANY DISCREPANCIES PRIOR TO PROCEEDING.

CONTRACTOR SHALL PROVIDE SUBMITTALS TO OWNER AND ARCHITECT ON ITEMS AND SYSTEMS WHERE ALTERNATES ARE AVAILABLE IN DESIGN, COLOR, FABRICATION, ETC. THIS INCLUDES, BUT IS NOT LIMITED TO, METAL RAILINGS, CABINETRY, PLASTIC PANELING, ROOFING, SIDING, DOORS, WINDOWS, DOOR HARDWARE, LOUVERS, VENTS, FLOORING, PAINT, APPLIANCES, FIXTURES, PLUMBING FIXTURES, WIRING DEVICES, AND LIGHTING.

UNLESS NOTED OTHERWISE, DIMENSIONS ARE TO FACE OF STUD AT NEW CONSTRUCTION AND FACE OF FINISH AT EXISTING CONSTRUCTION.

CEILING HEIGHT NOTATIONS INDICATE FINISH CEILING SURFACE.

DO NOT PROCEED WITH SHOP FABRICATION PRIOR TO OBTAINING FIELD DIMENSIONS.

THE WORK IN THE BUILDER'S CONTRACT WITH THE OWNER SHALL INCLUDE ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO COMPLETE THE WORK AS SHOWN IN THE DRAWINGS AND SPECIFICATIONS, ANY CUSTOMARY AND NECESSARY ITEMS WHICH ARE REASONABLY IMPLIED AND REQUIRED TO COMPLETE THE WORK SHALL BE FURNISHED, EVEN IF NOT SHOWN IN THE DRAWINGS OR SPECIFICATIONS.

FURNISH AND INSTALL SUPPORT BRACKETS, BACKING, AND STIFFENERS AS REQUIRED AT ALL MECHANICAL AND

ELECTRICAL EQUIPMENT AS WELL AS FIXTURES AND ACCESSORIES.

DO NOT MODIFY, CUT, OR OTHERWISE COMPROMISE THE INTEGRITY OF STRUCTURAL ELEMENTS WITHOUT WRITTEN CONSENT AND GUIDANCE FROM THE STRUCTURAL ENGINEER.

CONTRACTOR SHALL PROVIDE DOCUMENTATION CERTIFYING THE WORK CONFORMS TO TITLE 24 REQUIREMENTS AND THE ENERGY COMPLIANCE DOCUMENTATION FOR THE PROJECT.

PROVIDE A MINIMUM 42" HIGH GUARD RAIL AT ANY LOCATION WHERE SURFACE OF WALKWAY IS MORE THAN 30" ABOVE ADJOINING GRADE. PROVIDE INTERMEDIATE RAILS SPACED SUCH THAT A SPHERE 4" IN DIAMETER CANNOT PASS THROUGH.

UNLESS NOTED TO BE EXPOSED CONSTRUCTION ON FINISH SCHEDULE, DO NOT EXPOSE PIPES, CONDUITS, DUCTS, ETC.

WHERE REQUIRED TO MAINTAIN CONTINUITY OF FIRE RESISTIVE ASSEMBLIES, CONTINUE GYPSUM BOARD OR OTHER FINISH MATERIALS BEHIND ALL RECESSED ACCESSORIES, CABINETS, AND PANELS.

PROVIDE AN ACCESS DOOR (MIN. 18" X 24") WITHIN 20'-0" OF THE MAIN PLUMBING CLEANOUT.

AT DOORS ADJOINING WALLS, LAYOUT DOOR INSTALLATION TO PROVIDE MINIMUM 4" CLEARANCE BETWEEN WALL SURFACE AND FACE OF DOOR IN 90 DEGREE OPEN POSITION, UNLESS NOTED OTHERWISE.

CONNECT ALL DOWNSPOUTS TO SUB-SURFACE DRAINAGE PIPING.

FOR PROJECTS WITH PRE-FABRICATED TRUSSES, REFER TO FABRICATOR'S DRAWINGS FOR LAYOUT.

PROVIDE CONTINUOUS VENTING AT ALL RIDGES.

PROVIDE SUSPENDED EQUIPMENT WITH SUFFICIENT LATERAL BRACING

ALL MECHANICAL EQUIPMENT, AIR CONDITIONING UNITS, HEATING UNITS, AND UTILITIES SHALL BE SCREENED FROM THE VIEW OF ADJACENT PROPERTIES OR ROADWAYS. ALL GUTTERS, SCREENS, VENTS, AND FLASHING SHALL BE PAINTED TO PREVENT GLARE AND TO MATCH ADJACENT BUILDING COLORS.

DIVISION 2 - SITEWORK

COMPLETED GRADING SHALL RESULT IN A MINIMUM 5% SLOPE AWAY FROM ALL BUILDING WALLS AT UNPAVED AREAS, A MINIMUM DISTANCE OF 5'-0" AND 2% SLOPE AWAY FROM ALL BUILDING WALLS AT WALKS, PATIOS, DRIVEWAYS, AND SOLID DECKING SURFACES AND STAIR LANDINGS.

PROVIDE ADDRESS NUMERALS FOR ALL NEW BUILDINGS, LOCATE TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET FRONTING THE PROPERTY.

DIVISION 5 - METALS

PROVIDE GALVANIC ISOLATION BETWEEN DISSIMILAR METALS

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

PROVIDE FLASHING AT INTERSECTION OF ROOF PLANES AND WALLS, ALL ROOF PENETRATIONS, ALL EXTERIOR OPENINGS, AND AT CHIMNEYS.

ATTIC AND UNDERFLOOR AREAS SHALL BE PROVIDED WITH VENTILATING AREA PER CBC 1203 AND/OR 706A. ALL OPENINGS SHALL BE COVERED WITH CORROSION RESISTANT METAL MESH.

PROVIDE MINIMUM 12" BETWEEN CENTER OF ROOF VALLEY FLASHINGS AND CENTER OF ANY ROOF PENETRATION FLASHINGS.

FLASH, CAULK, AND SEAL WHERE SHOWN IN DRAWINGS AND WHERE REQUIRED TO PREVENT THE INFILTRATION OF MOISTURE.

PROVIDE FLASHING SET IN CAULKING BED UNDER THRESHOLDS AND SILLS, DOWN AND OVER EXTERIOR WALL FINISH.

PENETRATIONS THROUGH FIRE RATED ASSEMBLIES SHALL BE SEALED WITH FIRE STOPPING ACCEPTABLE TO THE LOCAL FIRE MARSHALL.

DIVISION 8 - DOORS AND WINDOWS

INSTALL GASKETING, WEATHERSTRIPPING, ETC AT EXTERIOR DOORS AND DOORS OPENING TO UNCONDITIONED AREAS.

DIVISION 9 - FINISHES

ALL ROOF FLASHING TO BE PAINTED TO MATCH ROOFING COLOR.

WHERE FINISHES ARE NOT DETAILED, WORK SHALL CONFORM TO THE BEST PRACTICES OF THE TRADE.

DIVISION 11 - EQUIPMENT

PROVIDE 30 INCHES CLEARANCE ABOVE RANGE TO UNPROTECTED COMBUSTIBLE MATERIAL OR 24 INCHES CLEARANCE ABOVE RANGE OR OPEN TOP BROILER WHEN EQUIPPED WITH METAL VENTILATING HOODS.

DIVISION 15 - MECHANICAL AND PLUMBING

PROVIDE CATWALK ACCESS TO ATTIC-MOUNTED HVAC EQUIPMENT FROM ATTIC ACCESS TO UNIT

DIVISION 16 - ELECTRICAL

ELECTRICAL CONTRACTOR SHALL VERIFY ELECTRICAL PLANS WITH CONTRACTOR AND OWNER PRIOR TO BEGINNING INSTALLATION.

PROVIDE LIGHTING WITH SWITCH AND SERVICE OUTLET AT CRAWL SPACE ACCESS AND ATTIC ACCESS

ARCHITECT'S STATEMENT

Statement of General Conformance

FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS,
INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS, PREPARED BY OTHER LICENSED DESIGN PROFESSIONALS AND/OR CONSULTANTS

(Application No. _____ File No. _____)

☒ The drawings or sheets listed on the cover or index sheet
☐ This drawing, page of specifications/calculations

have been prepared by other design professionals or consultants who are licensed and/or authorized to prepare such drawings in this state. It has been examined by me for:

1) design intent and appears to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications prepared by me, and
2) coordination with my plans and specifications and is acceptable for incorporation into the construction of this project.

The Statement of General Conformance "shall not be construed as relieving me of my rights, duties, and responsibilities under Sections 17302 and 81138 of the Education Code and Sections 4-336, 4-341 and 4-344" of Title 24, Part 1. *(Title 24, Part 1, Section 4-317 (b))*

I certify that: ☒ All drawings or sheets listed on the cover or index sheet
☐ This drawing or page

☒ is/are in general conformance and ☒ have been coordinated	☐ is/are in general conformance and ☐ have been coordinated
Signature: [signature] Date: 4-26-16	Signature: _____ Date: _____
Architect or Engineer designated to be in general responsible charge	Architect or Engineer delegated responsibility for this portion of the work.
Print Name: ANDREW PAWLOWSKI	Print Name: _____
License Number: C25996 Expiration Date: 10-31-2017	License Number: _____ Expiration Date: _____

PROJECT DIRECTORY

OWNER:
GRASS VALLEY SCHOOL DISTRICT
BRIAN MARTINEZ
DIRECTOR OF PROJECTS (FACILITIES)
10840 GILMORE WAY
GRASS VALLEY, CA. 95945
(T) (530) 273-8723
(E) bmartinez@gvsd.us

ARCHITECT:
SITELINE ARCHITECTURE
ANDREW PAWLOWSKI ARCHITECT, LEED AP
LIC. # C 25966
644 ZION ST. SUITE "A"
NEVADA CITY, CA. 95959
(T) (530) 478-9415
(F) (530) 478-9416
(E) ajp@sitelinearch.com

CIVIL ENGINEER:
SIERRA LAND SOLUTIONS
BRYAN MCALISTER PE, PLA, LEED AP-ND
LIC. # C 058570
350 CROWNPOINT CIRCLE, SUITE 260
GRASS VALLEY, CA. 95945
(T) (530) 272-3757
(C) (530) 559-1326
(E) bryan@slands.net

STRUCTURAL ENGINEER:
LINCHPIN STRUCTURAL ENGINEERING INC.
DOUG GADON PE, SE
LIC. # 5096
10031 WEST RIVER ST. P.O. BOX 2651
TRUCKEE, CA. 96161
(T) (530) 563-6341
(T) (530) 563-6842
(E) doug@linchpinSE.com

ELECTRICAL ENGINEER:
SPECTRAL ENGINEERING
MEG HOBBS PE, LEED AP
LIC. # E 17502
P.O. BOX 154
CHICAGO PARK, CA. 95712
(T) (916) 599-2439
(C) (530) 273-8701
(E) meghobbs@spectral engineering.com

MECHANICAL ENGINEER:
MELAS ENERGY ENGINEERING
MICHAEL MELAS
LIC. # M 26789
547 UREN ST,
NEVADA CITY, CA. 95959
(T) (530) 265-2492
(F) (530) 265-2273
(E) mmelas@sbcglobal.net

SHEET INDEX

A0	COVER SHEET / PROJECT INFORMATION
	CIVIL DRAWINGS:
G0.1	OVERALL SITE PLAN
G0.2	CONSTRUCTION NOTES
G0.3	TOPOGRAPHY SURVEY
C1.1	SITE PLAN
C2.1	GRADING AND DRAINAGE PLAN
C2.2	UTILITY PLAN
C3.1	EROSION CONTROL DETAILS
C3.2	CALTRANS DETAILS
C3.3	WATER DETAILS
C3.4	NOT USED
C3.5	GENERAL DETAILS
	ARCHITECTURAL DRAWINGS:
A0.1	SITE STAGING PLAN
A1	EGRESS & EXITING PLAN
A2	NON-RESIDENTIAL MANDATORY MEASURES
A3	FLOOR PLAN
A4	ENLARGED RESTROOM PLAN
A5	REFLECTED CEILING PLAN
A6	ROOF PLAN
A7	EXTERIOR ELEVATIONS
A8	EXTERIOR ELEVATIONS
A8.1	EXISTING EXTERIOR ELEVATIONS - DISTRICT OFFICE
A9	BUILDING SECTIONS
A10	TYPICAL (E) RELOCATABLE DEMOLITION PLANS
D1	DETAILS
D2	DETAILS
	STRUCTURAL DRAWINGS:
S-001	SPECIFICATIONS
S-100	FOUNDATION PLAN
S-200	ROOF FRAMING PLAN
S-300	SHEAR PLAN
S-410	FOUNDATION DETAILS
S-420	FRAMING DETAILS
S-430	SHEAR DETAILS
	MECHANICAL DRAWINGS:
M0.1	HVAC NOTES & SCHEDULES
M1.1	HVAC FLOOR PLAN
	ELECTRICAL DRAWINGS:
E0.1	LEGEND, NOTES & SINGLE LINE DIAGRAMS
E0.2	SCHEDULES & DIAGRAMS
E1.1	SITE ELECTRICAL PLAN
E2.1	LIGHTING PLAN
E3.1	POWER PLAN
E5.1	TITLE 24 LIGHTING
E5.2	TITLE 24 LIGHTING
E5.3	TITLE 24 LIGHTING
E5.4	TITLE 24 LIGHTING
	PLUMBING DRAWINGS:
P0.1	PLUMBING NOTES AND SCHEDULES
P1.1	PLUMBING PLAN - W & V
P1.2	PLUMBING PLAN - WATER
	ENERGY COMPLIANCE DRAWINGS:
T-24-1	ENERGY COMPLIANCE
T-24-2	ENERGY COMPLIANCE

LICENSED ARCHITECT ANDREW J. PAWLOWSKI No. C 25996 REN. OCT 31 2017 STATE OF CALIFORNIA

Revisions

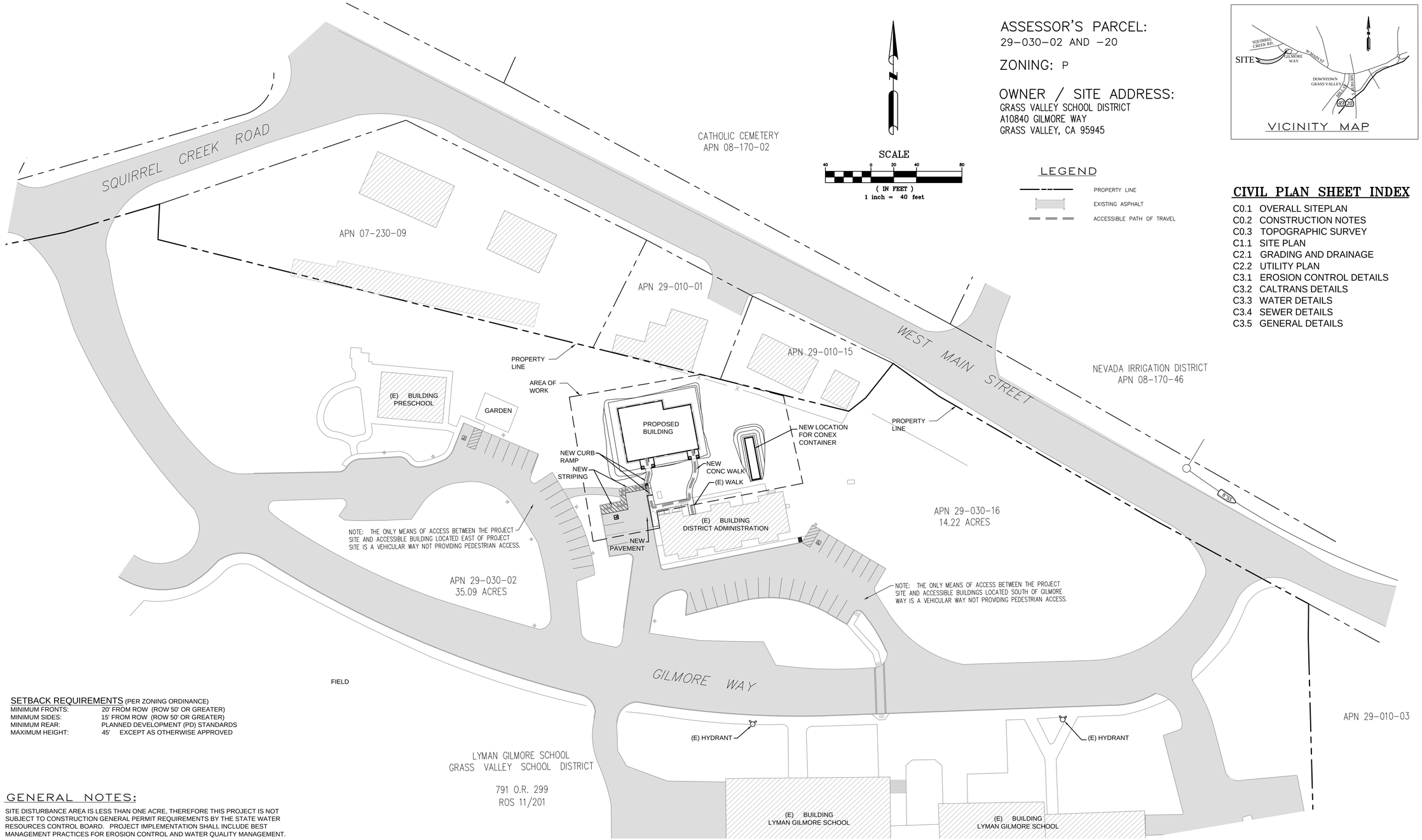
siteline architecture
Andrew J. Pawlowski, Architect, LEED AP
644 Zion Street
Nevada City CA 95959
530.478.9415 - t
530.478.9416 - f
www.sitelinearch.com

DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:29-030-02

date: 6/9/16
scale: NO SCALE
job #: 15-397

COVER SHEET / PROJECT INFORMATION

A0



SCALE
40 0 20 40 80
(IN FEET)
1 inch = 40 feet

ASSESSOR'S PARCEL:
29-030-02 AND -20

ZONING: P

OWNER / SITE ADDRESS:
GRASS VALLEY SCHOOL DISTRICT
A10840 GILMORE WAY
GRASS VALLEY, CA 95945

LEGEND
- PROPERTY LINE
- EXISTING ASPHALT
- ACCESSIBLE PATH OF TRAVEL

CIVIL PLAN SHEET INDEX

C0.1 OVERALL SITEPLAN
C0.2 CONSTRUCTION NOTES
C0.3 TOPOGRAPHIC SURVEY
C1.1 SITE PLAN
C2.1 GRADING AND DRAINAGE
C2.2 UTILITY PLAN
C3.1 EROSION CONTROL DETAILS
C3.2 CALTRANS DETAILS
C3.3 WATER DETAILS
C3.4 SEWER DETAILS
C3.5 GENERAL DETAILS

SETBACK REQUIREMENTS (PER ZONING ORDINANCE)

MINIMUM FRONTS:	20' FROM ROW (ROW 50' OR GREATER)
MINIMUM SIDES:	15' FROM ROW (ROW 50' OR GREATER)
MINIMUM REAR:	PLANNED DEVELOPMENT (PD) STANDARDS
MAXIMUM HEIGHT:	45' EXCEPT AS OTHERWISE APPROVED

GENERAL NOTES:

SITE DISTURBANCE AREA IS LESS THAN ONE ACRE, THEREFORE THIS PROJECT IS NOT SUBJECT TO CONSTRUCTION GENERAL PERMIT REQUIREMENTS BY THE STATE WATER RESOURCES CONTROL BOARD. PROJECT IMPLEMENTATION SHALL INCLUDE BEST MANAGEMENT PRACTICES FOR EROSION CONTROL AND WATER QUALITY MANAGEMENT.

RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 50% OF NON-HAZARDOUS CONSTRUCTION OR DEMOLITION WASTE IN ACCORDANCE WITH THE CONSTRUCTION WASTE MANAGEMENT PLAN FOR THIS PROJECT.

INSPECTION/ TESTING:
IN ADDITION TO INSPECTIONS BY COUNTY STAFF, NEVADA COUNTY ALSO REQUIRES THE ENGINEER OF RECORD TO CERTIFY THAT THIS PROJECT HAS BEEN CONSTRUCTED PER PLAN. CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS PRIOR TO WORK TO SCHEDULE INSPECTIONS.

THE OWNER WILL CONTRACT WITH A GEOTECHNICAL ENGINEER FOR COMPACTION TESTING. COMPACTION TESTS ARE REQUIRED FOR ALL FILL SUPPORTING DRIVEWAY OR STRUCTURES. COMPACTION REPORTS SHALL BE ONSITE AT ROUGH AND FINAL GRADING INSPECTIONS. CONTRACTOR SHALL SHALL NOTIFY THE OWNER 48 HOURS PRIOR TO GRADING TO SCHEDULE COMPACTION TESTS.

PRIOR TO CALLING FOR BUILDING FOUNDATION INSPECTION, PRELIMINARY GRADING AND COMPACTION REPORTS SHALL BE SUBMITTED AND APPROVED BY THE BUILDING DEPARTMENT.

FIRE PROTECTION :	NEVADA COUNTY CONSOLIDATED FIRE DISTRICT
TELEPHONE :	AT&T
POWER :	PACIFIC GAS AND ELECTRIC
SEWAGE DISPOSAL :	CITY OF GRASS VALLEY
WATER :	NEVADA IRRIGATION DISTRICT (N.I.D.)

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT

THE PATH OF TRAVEL (POT) IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT."

REGISTERED PROFESSIONAL ENGINEER
BRYAN K. McLISTER
058570
December 31, 2016
CIVIL
STATE OF CALIFORNIA

05/19/2016
DATE

ENGINEER SIGNATURE

DATE SIGNED: 05/19/2016

NO.	REVISIONS	DATE

DESIGNED: BKM
DRAWN: BKM
PROJ. NO: 16106
DWG:GV SCHOOL design1
DATE:3-28-16

GRASS VALLEY SCHOOL DISTRICT

GRASS VALLEY CALIFORNIA

OVERALL SITEPLAN

SIERRA LAND SOLUTIONS, INC.
350 CROWN POINT CIRCLE, STE.260
GRASS VALLEY, CA 95945
(530) 272-3757
SLS

C0.1

GENERAL NOTES:

THESE NOTES COVER THE REQUIREMENTS FOR CONSTRUCTION OF THIS PROJECT. REFERENCES TO THE CALTRANS STANDARD SPECIFICATIONS ARE FOR TECHNICAL CONTENT ONLY. METHODS OF MEASUREMENTS AND PAYMENT FOR THIS WORK ARE TO BE INDEPENDENTLY AGREED UPON BETWEEN THE OWNER AND THE CONTRACTOR AND ARE NOT COVERED BY THESE NOTES OR BY REFERENCES TO THE STANDARD SPECIFICATIONS.

Unless otherwise noted, all construction is on lands of the owner, in public rights-of-way, or in easements obtained by the owner or public agencies. The contractor shall obtain the required encroachment permits from the appropriate public agencies. Where work is located in easements traversing lands other than those of the owner, the contractor shall make all appropriate notifications and confine his operations within the easement boundaries.

All materials and construction shall meet the requirements of the following specifications, codes and these improvement plans. The adopted standards of the governing agency shall govern in case of conflict.

State of California, Department of Transportation, 2015 Standard Specifications (Herein called standard specifications) and 2015 Standard Plans.

California Uniform Building Code: 2013 (Current Edition).

Nevada County Standards: Current Edition

Nevada Irrigation District Development Standards and Standard Details, Current Edition

All work must comply with current California Building Codes for Accessibility Chapter 11, CBC and Department of State Architect (DSA) Policies and Procedures.

It is the responsibility of the contractor to obtain copies of these specifications and codes and have them available at the work location at all times. The contractor shall examine and become familiar with all parts of these specifications and codes that apply to this work. In general, the applicable sections of agency specifications and the standard specifications are not repeated in these notes. It is the contractor's responsibility to construct all facilities in accordance with the applicable agency requirements and the standard specifications.

No grading disturbance shall occur between October 15 and May 1 without prior written approval of the Nevada County Building Department.

The types, locations, sizes and depths of existing underground utilities as shown on the plans were obtained from sources of varying reliability. The contractor is cautioned that only actual excavation will reveal the types, extent, sizes, locations and depths of such such underground facilities. A reasonable effort has been made to locate and delineate all known underground facilities. However, neither the owner nor the Engineer can assume any responsibility for the completeness or accuracy of the delineation of such underground facilities nor for the existence of other buried objects or facilities which may be encountered but are not shown on these plans.

The contractor is responsible for contacting the utility companies or appropriate agencies with facilities in the area, and requesting a verification at the construction site where such utilities may conflict with the placement of improvements shown on these plans.

All existing utilities shall be marked prior to beginning any excavation or trenching. Contact the Underground Service Alert at 800-642-2444 for the marking of existing utility locations.

The contractor shall immediately notify the Engineer if there is a conflict between any existing utilities and new construction as shown on these plans.

Construction staking will be provided by the owner.

The contractor shall make arrangements for construction stakes at least three working days in advance of when the stakes are needed.

All stakes shall be preserved by the contractor until they are no longer needed. The contractor shall pay the cost of replacing any stakes damaged or destroyed.

All construction shown on these plans, unless otherwise noted, requires inspection by the appropriate agencies. The contractor shall notify the appropriate agency three days prior to commencement of work and continue this notification process if there are any delays between construction phases.

When the contractor's operations temporarily interfere with the existing flow of sewage, water, gas, electricity, telephone communication, or the operation of any other utility, the contractor shall provide, or make arrangements for satisfactory bypass facilities.

The contractor shall request permission to interfere with said utilities by applying to the related utility and shall comply with their recommendations and ordinances in each case. Said bypass facilities shall be so constructed as to provide a noninterruptive service of said utility.

The contractor shall comply with all applicable occupational safety and health standards, rules, regulations and orders established by the State of California.

The contractor is solely responsible for the safety procedures to be followed by workers, subcontractors, and other persons working on the project. The contractor shall provide for the safety of the public both day and night. The engineer is not hired to review or approve the safety procedure followed by the contractor.

As required by the construction safety orders of the California Division of Occupational Safety and Health sufficient bracing and shoring shall be installed in the trenches to ensure the safety of workers. Where practical, all such bracing and shoring shall be removed from the trench as the backfilling proceeds. The contractor shall obtain a trench excavation permit, if required, from the California Division of Occupational Safety and Health.

Public safety and traffic control shall be provided in accordance with **County** requirements and Caltrans Standards. Safe vehicular and pedestrian access shall be provided at all times during construction.

Flagmen and traffic handling devices shall be provided at the contractor expense in accordance with Manual on Uniform Traffic Control Devices, or MUTCD.

All construction equipment working in areas of public traffic shall comply with the applicable section of the California Vehicle Code.

The contractor shall comply with all local sound control rules, regulations and ordinances. Each internal combustion engine used for any purpose on the job shall be equipped with a spark arrestor and muffler. The hours of work shall be limited to between 7:00 A.M. and 6:00 P.M. Monday through Saturday.

Fugitive dust emissions resulting from site clearing and road construction shall be minimized at all times, utilizing control measures including dust palliatives, regularly applied water, graveled or paved haul roads, etc.

During the progress of the work, the contractor shall keep the job site in a clean and orderly condition. Excess or unsuitable material shall be removed from the job site. Spillage and trackage resulting from hauling along or across existing streets or roads shall be removed immediately by the contractor. Dust and mud control shall be provided at all times including evenings, weekends, and holidays. All existing and new drainage facilities including gutters and roadside ditches shall be kept clean and free of debris at all times including evenings, weekends, and holidays.

All existing surfaces damaged by the contractor shall be restored to equal or better than original condition in accordance with section 7-1.11 and 15 of the standard specifications.

Watering shall be done in accordance with section 17 of the standard specifications and these notes. Watering shall include, but is not limited to, collection and applying all water required for all embankments, excavations, backfilling, cleaning, flushing, testing, and dust control.

Open burning of site or road-cleared vegetation is prohibited. Cleared vegetation should be treated by legal means other than open burning, such as chipping, shredding, grinding use as firewood and conversion to biomass fuel.

Grading Disturbance areas shall be minimized wherever possible and all disturbance areas shall be restored in accordance with erosion control requirements. Contractor shall make every effort possible to save any tree within two feet horizontally of the top of cut or toe of fill.

Clearing and grubbing shall be done in accordance with section 16 of the standard specifications and these notes. All objectionable material shall be removed from within the road right-of-way, driveway approaches, areas through which ditches and channels are to be excavated, and other such areas. Clearing and grubbing shall be done in advance of grading operations. Remove all waste material and objectionable material from the owner's property and legally dispose of it.

Before grading begins, the site shall be cleared of all debris and deleterious material such as concrete chunks, wood, and rocks greater than one foot in dimension Subsequently, the remaining organics shall be removed by stripping. The stripping operation shall extend two to six inches into the soil to obtain adequate organic removal. Ditches designated to remain shall be cleared of all berry vines and other organics. Loose soil in ditches shall also be removed. Strippings are unsuitable for structural fill material but may be used in landscape areas (not within five feet of the building pads). If used, strippings shall be compacted to 90 percent relative compaction. Trees not designated to remain shall be removed, including the stumps and larger surface roots.

Earthwork shall be done in accordance with section 19 of the standard specifications and these notes:

Earthwork consists of performing all operations necessary to excavate all materials, regardless of character and subsurface conditions, from the roadway prism or adjacent thereto; to excavate all materials, of whatever nature, necessary for the construction of foundations for structures and other facilities; to excavate trenches for culverts, water lines, sewer lines, utilities and other facilities; to excavate drainage, irrigation ditches and drainage channels; to excavate material from the roadway and borrow material for use as specified; to construct embankments, including the placing of selected material in connection therewith as specified; to backfill structures, culverts, and other facilities; to backfill depressions resulting from removal of obstructions, holes pits, and other depressions within the the roadway prism; to apply water; to remove and replace unsuitable material; to excavate and grade driveways; to construct protection dikes; to remove unsuitable material outside the roadway prism, slide material which has come into the roadway prism, and material which has slipped from embankments; and to prepare basement material for the placing of other material thereon.

Before any fill is placed the areas to receive fill shall be scarified to a depth of six inches and re-compacted to 90 percent relative compaction.

On site soil which is free of debris, large rocks, or organic material may be reused as fill material. Rocks greater than eight inches in any dimension shall be removed if the fill is to be used within three feet of final grade. Oversized rock may be used in landscape areas, rock landscape walls or removed from the site. Oversized rock should not be placed in fill without prior approval and observation from a qualified geotechnical representative. In general, oversized rock used in fill must be placed at or near the bottom of deep fill and placed in windrows to avoid nesting. Import fill shall be granular and approved by the engineer.

Fill should be uniformly moisture conditioned and placed in horizontal, maximum 8-inch thick loose lifts and compacted to at least 90 percent of maximum dry density. The upper 8 inches of fill in building footprints and paved areas should be compacted to a minimum of 95 percent of the maximum dry density.

The contractor is advised to make an independent evaluation of the earthwork quantities involved. The Owner and the Engineer. do not, expressly or by implication, agree that the actual earthwork quantities will correspond to those given.
IN PLACE EXCAVATION: 500 CUBIC YARDS
IN PLACE EMBANKMENT: 500 CUBIC YARDS
AREA DISTURBED BY GRADING ACTIVITIES = 0.35 AC

Any excess and unsuitable material shall be removed from the owner's property and legally disposed of.

The following ASTM test methods shall be used instead of California Tests specified in the standard specifications for relative compaction, grading (sieve analysis), and sand equivalent.

Sand Equivalent	ASTM 2419
Sieve Analysis	ASTM C136
Field In Place Density	ASTM D1556 or D2922 and D3017
Moisture Density Relationship	ASTM D1557

Relative compaction (RC) shall be computed as follows:
RC=(field in place dry density/maximum dry density) x 100

CULTURAL OR HISTORIC RESOURCES:

THERE IS THE POSSIBILITY THAT SIGNIFICANT UNIDENTIFIED CULTURAL MATERIAL, INCLUDING HUMAN REMAINS/BURIALS, COULD BE ENCOUNTERED ON OR BELOW THE SURFACE DURING THE COURSE OF CONSTRUCTION ACTIVITIES. IN THE EVENT OF AN INADVERTENT DISCOVERY OF PREVIOUSLY UNIDENTIFIED CULTURAL MATERIAL, INCLUDING HUMAN REMAINS, ARCHEOLOGICAL CONSULTATION SHOULD BE SOUGHT IMMEDIATELY AND WORK SHALL HALT. THE COUNTY CORONER SHALL BE IMMEDIATELY INFORMED AND CONSULTED IN ACCORDANCE WITH STATE LAW.

MATERIAL NOTES:

AGGREGATE BASE SHALL BE CLASS 2, 3/4" MAXIMUM GRADING, CONFORMING TO STANDARD SPECS. SECTION 26, PLACED AT 95% RELATIVE COMPACTION.

ASPHALT CONCRETE SHALL BE 1/2" MAX. MED. (TYPE B) AGGREGATE, PG 64-16 ASPHALT BINDER IN ACCORDANCE WITH CALTRANS STANDARD SPECS. SECTION 39, 93, AND 94. ASPHALT CONCRETE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION WITH AN AIR VOIDS RATIO OF 3% TO 10%.

ALL CONCRETE MATERIALS AND CONSTRUCTION SHALL BE IN CONFORMANCE WITH CALTRANS STANDARD SPECIFICATION SECTION 90. CONCRETE FOR APPROACH SLABS & RETAINING WALLS SHALL BE CLASS B AND OBTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. PRIOR TO INSTALLATION OF ANY BRIDGE GIRDERS OR PLACEMENT OF ANY BACKFILL. CONCRETE FOR BRIDGE DECK SHALL BE CLASS A CONCRETE WITH A 28 DAY COMPRESSIVE STRENGTH OF 4000 P.S.I. ALL STEEL REINFORCING BARS MATERIAL AND INSTALLATION SHALL BE IN CONFORMANCE WITH CALTRANS STANDARD SPECIFICATION SECTION 52. ALL REINFORCEMENT BARS SHALL BE GRADE 60 EPOXY COATED.

PLAN REVISIONS

No changes shall be made to the approved plans unless authorized by the Engineer and the appropriate agency. Should changes become necessary, the Contractor shall notifiy the Engineer of the proposed change and estimated cost associated with the change. The Engineer shall resubmit two (2) copies of the affected plan sheets to the **County** or affected agency with the authorized changes noted and dated in a revision block on the title sheet. The changes shall be identified by the revision number in a triangle delineated on the plans adjacent to the change. The proposed changes shall be reviewed and approved by the **County** or affected agency prior to implementation of the change.

AS-BUILT PLANS

The Contractor shall provide one set of red-lined As Built Plans to the Consulting Engineer upon completion of the work before final approval. The Consulting Engineer shall incorporate the red-lined markups with all approved deviations and shall provide a reproducible set of record drawings to the **County** or affected agency.

INSPECTION REQUIREMENTS

All improvements constructed under the requirements of Nevada County Standard Construction Specifications shall be subject to inspection during construction by the Nevada County Public Works Department. The Consulting Engineer shall inspect and certify the construction. The Contractor shall submit to the Consulting Engineer a practicable progress schedule in accordance with Section 8, "Progress Schedule", State Specifications. Two (2) working days prior to the commencement of work the Consulting Engineer shall submit the "Progress Schedule" to the Department. Each feature of work shall be inspected by the Consulting Engineer and approved by the Department prior to proceeding to subsequent salient features of work.

All improvements constructed under the requirements of Utility Agencies or Fire District shall shall be subject to inspection during construction by that agency or district. Two (2) working days prior to the commencement of work, the Contractor shall notify the Utility Agency of District. Each feature of work shall be inspected and approved by the Department prior to proceeding to subsequent features of work.

When the improvements are completed, the Contractor shall request a final inspection by the Public Works Department and the Consulting Engineer. The Public Works Department shall inspect the work and notify the Contractor, the Consulting Engineer and the Developer of any defects or deficiencies to be remedied. At such time as these defects or deficiencies are corrected or completed in accordance with the plans or as specified by the Department, the Department shall recommend acceptance of the work to the Nevada County Board of Supervisors.

PERMITS AND NOTICES

The Contractor shall be responsible for insuring that all necessary permits have been obtained and all required notices have been given prior to commencement of work, including:
- An approved set of plans shall be available at the project site at all times during the work.
- All utility companies affected by the project shall be notified in advance of the work.
- "Underground Service Alert" (phone 800-642-2444) shall be notified at least two (2) working days in advance of any excavation.
- The Contractor shall be responsible for receiving rights-of-entry for any work done on private property or in non-public easements.

TESTING OF MATERIALS

Testing of all materials utilized in work performed under the standard construction specifications and per these improvement plans shall conform to the requirements and methods for testing of the California Department of Transportation and their standard specifications. All materials must meet minimum specifications. Where testing may be allowed to be performed by the Consulting Engineer, Geotechnical Engineer or authorized laboratory, signed copies of the test results shall be submitted to Nevada County Department of Public Works within forty eight (48) hours or prior to commencement of a subsequent salient feature of work. Test results shall show clearly the names of the individual and firm performing the tests, as well as the project name, the dates of sampling and testing, origin of the sample and the actual results of the test. The test result shall also indicate whether the test result met minimum specification for the material as well as any corrective action by the Contractor and any retest by which the material was found to be in compliance. The Department reserves the right to verify test results.

FIRE DISTRICT NOTES:

ALL FLAMMABLE VEGETATION AND FUELS REMOVED DURING SITE DEVELOPMENT SHALL BE DISPOSED OF IN AN APPROVED MANNER.

MAINTAIN DEFENSIBLE SPACE OF 100 FEET FROM EACH SIDE AND FROM THE FRONT AND REAR OF THE STRUCTURE, BUT NOT BEYOND THE PROPERTY LINE

ANY DEVIATION OR CHANGES FROM THE APPROVED PLANS, DRAWINGS, SPECIFICATIONS, CALCULATIONS, ETC., SHALL BE APPROVED BY THE FIRE PREVENTION BUREAU PRIOR TO INSTALLATION. REQUEST FOR CHANGES SHALL BE SUBMITTED, IN WRITING, TO THE FIRE PREVENTION BUREAU FOR APPROVAL.

FINAL APPROVAL OF THE PROJECT AND/OR OCCUPANCY OF THE BUILDING ARE SUBJECT TO VERIFICATION BY A REPRESENTATIVE OF THE BUREAU OF FIRE PREVENTION THAT ALL OF THE ABOVE REQUIREMENTS HAVE BEEN SATISFACTORILY COMPLETED.

ALL MEETINGS AND INSPECTIONS REQUIRE A 48-HOUR MINIMUM ADVANCE REQUEST.

ALL WORK COVERED OR COMPLETED WITHOUT BENEFIT OF THE REQUIRED INSPECTIONS MAY BE SUBJECT TO ADDITIONAL INSPECTIONS OR REMOVAL, AS NEEDED, TO INSURE THAT THE WORK HAS BEEN COMPLETED IN COMPLIANCE WITH THE REQUIREMENTS OF THE FIRE PREVENTION BUREAU, THE APPROVED DESIGN, AND THE MANUFACTURER'S LISTING OR INSTALLATION REQUIREMENTS.

EROSION CONTROL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE TEMPORARY EROSION AND DRAINAGE CONTROL FACILITIES DURING THE RAINY SEASON OPERATION AND PROTECT ALL GRADED AREAS FROM EROSION. TEMPORARY EROSION CONTROL SHALL BE DONE IN COMPLIANCE WITH REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) REQUIREMENTS, **COUNTY** REQUIREMENTS, EROSION AND SEDIMENT CONTROL PLAN AND THE CURRENT EDITION OF THE CASQA CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICE (BMP) HANDBOOK FOR CONSTRUCTION ACTIVITY. CONTRACTOR SHALL REPAIR ANY AREAS DAMAGED FROM EROSION PRIOR TO ACCEPTANCE OF THE GRADING AND FINAL IMPROVEMENTS. MINIMUM TEMPORARY EROSION CONTROL SHALL CONSIST OF SEDIMENT BARRIERS, CHECK DAMS STABILIZED CONSTRUCTION ENTRANCE, AND SEDIMENT TRAPS. ADDITIONAL MEASURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.

2. PERMANENT EROSION CONTROL MEASURES ARE SHOWN ON THESE IMPROVEMENT PLANS. ALL TEMPORARY EROSION AND DRAINAGE CONTROL FACILITIES SHALL REMAIN IN PLACE UNTIL SURFACING IS COMPLETE AND REVEGETATION IS SUCCESSFULLY ESTABLISHED.

3. REQUIRED CONSTRUCTION DETAILS AND BEST MANAGEMENT PRACTICES (BMP'S) ARE PROVIDED IN THE PLANS AND IN THE CASQA BMPS. ADDITIONAL MEASURES MAY BE REQUIRED BASED ON SITE CONDITIONS. REFER TO CASQA BMPS FOR SITE MONITORING REQUIREMENTS. IT IS THE CONTRACTORS RESPONSIBILITY TO MONITOR THE SITE IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.

4. ALL EXPOSED SOIL SURFACES SHALL BE PROTECTED FROM CONDITIONS THAT SUSPEND OR TRACK DUST PARTICLES AND SHALL BE IMPLEMENTED DAILY INCLUDING EVENINGS, WEEKENDS AND HOLIDAYS. FOR ADDITIONAL INFORMATION SEE CASQA BMP'S.

5. ALL INLETS RECEIVING RUNOFF FROM THE PROJECT SITE SHALL HAVE INLET PROTECTION IN PLACE AT ALL TIMES DURING CONSTRUCTION.

6. PAVED STREETS ADJACENT TO OR WITHIN THE PROJECT SITE SHALL BE SWEPT OR WASHED AT THE END OF EACH CONSTRUCTION DAY, OR AS NECESSARY, TO REMOVE EXCESSIVE ACCUMULATIONS OF SILT, MUD, AND/OR DIRT WHICH MAY HAVE RESULTED FROM ACTIVITIES ON THE PROJECT SITE.

7. REMOVAL OF NATIVE VEGETATION SHALL BE MINIMIZED.

8. REFER TO REGARDING REVEGETATION.

9. IF PERMANENT EROSION CONTROL MEASURES ARE NOT INSTALLED BY OCTOBER 15 OF CONSTRUCTION SEASON, TEMPORARY MEASURES, SUCH AS SEDIMENT BARRIERS, CHECK DAMS, SEDIMENT TRAPS AND TEMPORARY PROTECTION SUCH AS WOOD CHIPS AND PINE NEEDLES SHALL BE REMAIN IN PLACE IN ACCORDANCE WITH THE PLANS. ADDITIONAL MEASURES MAY BE DETERMINED IN THE FIELD BY THE CONSULTING ENGINEER, **NEVADA COUNTY** AND THE REGIONAL WATER QUALITY CONTROL BOARD.

GENERAL NOTES - DRY UTILITIES (ELEC/TELE/GAS/CABLE)

REFER TO PROJECT SPECIFICATIONS AND MECHANICAL/ELECTRICAL/PLUMBING PLANS FOR INSTALLATION OF ALL PRIVATE UTILITIES SHOWN ON THESE PLANS. .INSTALLATION MUST BE INSPECTED BY UTILITY AGENCY OR DISTRICT (IF PUBLIC) OR THE DEVLOPERS DESIGNATED INSPECTOR(IF PRIVATE) PRIOR TO BACKFILL OR CONCRETE ENCASEMENT.

PULL BOXES/VAULTS
ALL VAULT FRAME AND LIDS SHALL BE H-20 INCIDENTAL TRAFFIC LOAD RATING WHEN LOCATED IN SIDEWALK OR LANDSCAPE AREAS AND SHALL BE H-20 FULL TRAFFIC LOADING WHEN LOCATED WITHIN STREET/PARKING AREA. NO AGENCY NAME SHALL APPEAR ON PRIVATE FACILITIES.
ALL VAULTS AND PULLBOXES SHALL BE GROUTED AND SEALED.
PLACE MIN. 6" DRAIN ROCK UNDER ALL PULLBOXES AND VAULTS.
PULL BOX/VAULTS SHOULD BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS. HOWEVER, IF ADDITIONAL SWEEPS ARE USED AND/OR THE TOTAL NUMBER OF SWEEPS TOTALING 180 DEGREES, A PULLBOX NEEDS TO BE INSTALLED.

CONDUIT
CONTRACTOR SHOULD PROVIDE A 3/8" NYLON CONTINUOUS PULL ROPE WITH SEQUENTIAL FOOT MARKINGS IN EACH CONDUIT. NO TYING OR SPLICING IS PERMITTED. LEAVE A MINIMUM OF 3 FOOT OF SECURED PULL ROPE IN EACH BOX OR VAULT.
CONDUIT SHOULD BE INSTALLED WITH A SLIGHT DRAIN SLOPE AWAY FROM THE BUILDINGS TO PREVENT THE WATER ACCUMULATION IN THE CONDUIT OR BUILDING.
THE BEND RADIUS OF THE SWEEPS MUST BE 10 TIMES THE INTERNAL CONDUIT DIAMETER.
ALL CONDUIT SHALL BE MANDRELED.

SEWER SYSTEM NOTES

1. ALL SANITARY SEWER SYSTEM INSTALLATIONS SHALL COMPLY WITH THE CITY OF GRASS VALLEY ENGINEERING AND PUBLIC WORKS DEPARTMENT CODES, SPECIFICATIONS, AND STANDARD DETAILS. CITY REQUIREMENTS SHALL TAKE PRECEDENCE WHEN IN CONFLICT WITH INFORMATION SHOWN ON THESE PLANS.
2. THE SEWER SYSTEM SHALL BE INSPECTED AND TESTED ACCORDING TO CITY REQUIREMENTS.
3. SEWER AND WATER SEPARATION SHALL CONFORM TO THE "CRITERIA FOR THE SEPARATION WATER OF WATER MAINS AND SANITARY SEWERS" OF THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES. ALL SEWER FORCE MAIN SHALL BE INSTALLED WITH 10' MIN. HORIZONTAL SEPARATION AND 1' MIN. CLEARANCE BELOW ALL WATERLINES.
4. BACKFILL AND PIPE BEDDING SHALL COMPLY WITH CITY REQUIREMENTS.
7. ALL SEWER LATERALS SHALL BE PVC PIPE SDR35, UNLESS OTHERWISE SHOWN.
8. REFER TO SEPTIC DISPOSAL DESIGN (BY OTHERS) FOR ADDITIONAL NOTES AND REQUIREMENTS FOR INSTALLATION AND TESTING OF SEPTIC SYSTEM.

WATER SYSTEM NOTES

1. ALL WATER SYSTEM INSTALLATIONS SHALL COMPLY WITH THE NEVADA IRRIGATION DISTRICT (NID) CODES, SPECIFICATIONS, AND STANDARD DETAILS. NID REQUIREMENTS SHALL TAKE PRECEDENCE WHEN IN CONFLICT WITH INFORMATION SHOWN ON THESE PLANS.
2. THE WATER SYSTEM SHALL BE INSPECTED AND TESTED ACCORDING TO NID REQUIREMENTS.
3. SEWER AND WATER SEPARATION SHALL CONFORM TO THE "CRITERIA FOR THE SEPARATION WATER OF WATER MAINS AND SANITARY SEWERS" OF THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES.

REGISTERED PROFESSIONAL ENGINEER
BRIAN K. McALISTER
C 058570
December 31, 2016
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 05/19/2016

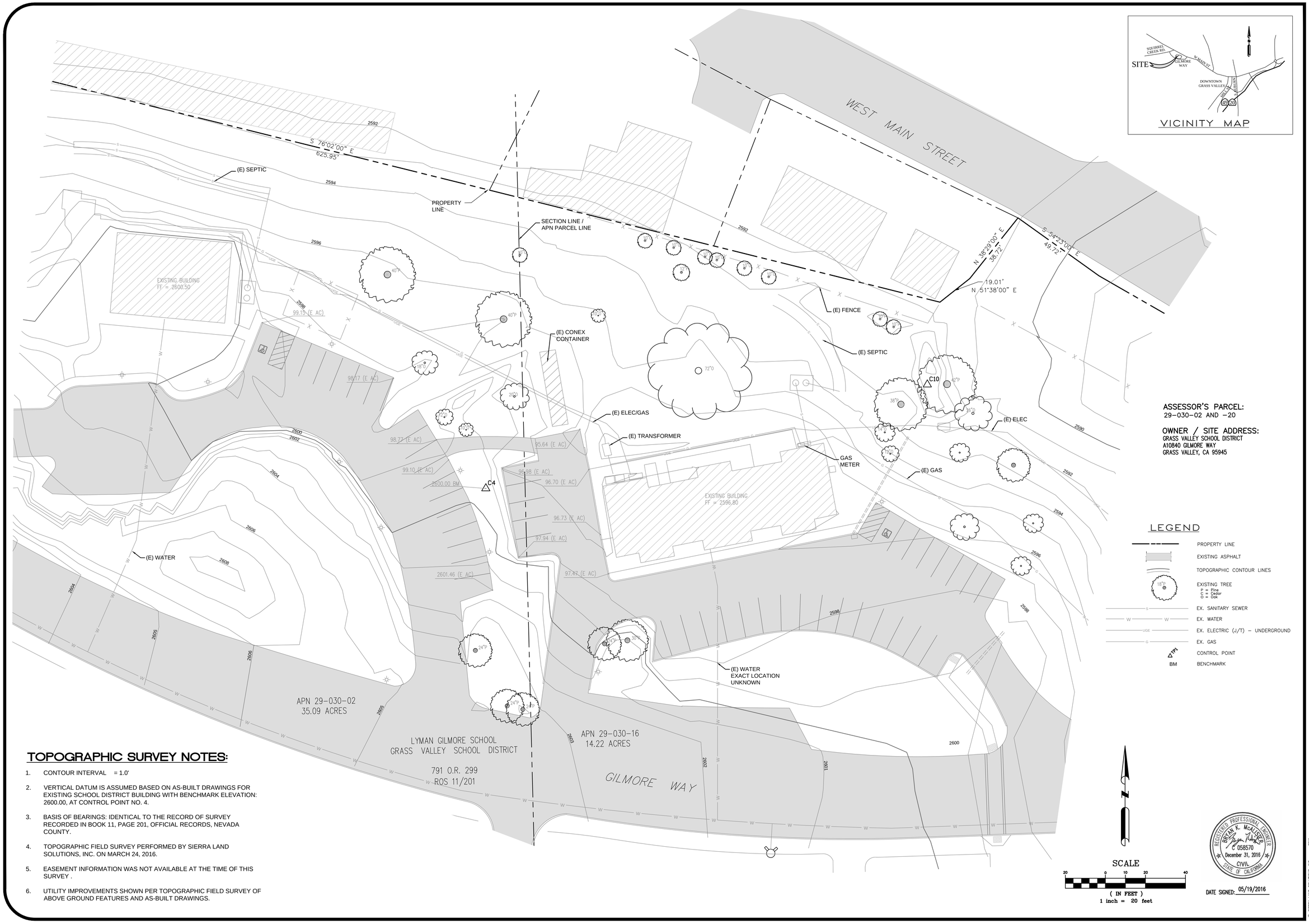
NO.	REVISIONS	DATE

DESIGNED: BKM
DRAWN: BKM
PROJ. NO: 16106
DWG:GV SCHOOL design1
DATE:3-28-16

GRASS VALLEY SCHOOL DISTRICT
GRASS VALLEY CALIFORNIA
CONSTRUCTION NOTES

SIERRA LAND SOLUTIONS, INC.
350 CROWN POINT CIRCLE, STE.260
GRASS VALLEY, CA 95945
(530) 272-3757
SLS

C0.2



ASSESSOR'S PARCEL:
29-030-02 AND -20

OWNER / SITE ADDRESS:
GRASS VALLEY SCHOOL DISTRICT
A10840 GILMORE WAY
GRASS VALLEY, CA 95945

LEGEND

- PROPERTY LINE
- EXISTING ASPHALT
- TOPOGRAPHIC CONTOUR LINES
- EXISTING TREE (P = Pine, C = Cedar, O = Oak)
- EX. SANITARY SEWER
- EX. WATER
- EX. ELECTRIC (J/T) – UNDERGROUND
- EX. GAS
- CONTROL POINT
- BM BENCHMARK

TOPOGRAPHIC SURVEY NOTES:

1. CONTOUR INTERVAL = 1.0'
2. VERTICAL DATUM IS ASSUMED BASED ON AS-BUILT DRAWINGS FOR EXISTING SCHOOL DISTRICT BUILDING WITH BENCHMARK ELEVATION: 2600.00, AT CONTROL POINT NO. 4.
3. BASIS OF BEARINGS: IDENTICAL TO THE RECORD OF SURVEY RECORDED IN BOOK 11, PAGE 201, OFFICIAL RECORDS, NEVADA COUNTY.
4. TOPOGRAPHIC FIELD SURVEY PERFORMED BY SIERRA LAND SOLUTIONS, INC. ON MARCH 24, 2016.
5. EASEMENT INFORMATION WAS NOT AVAILABLE AT THE TIME OF THIS SURVEY .
6. UTILITY IMPROVEMENTS SHOWN PER TOPOGRAPHIC FIELD SURVEY OF ABOVE GROUND FEATURES AND AS-BUILT DRAWINGS.

SCALE
20 0 10 20 40
(IN FEET)
1 inch = 20 feet

REGISTERED PROFESSIONAL ENGINEER
BRIAN K. McALLISTER
C 058570
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GRASS VALLEY SCHOOL DISTRICT

TOPOGRAPHIC SURVEY

GRASS VALLEY CALIFORNIA

SIERRA LAND SOLUTIONS, INC.
350 CROWN POINT CIRCLE, STE.260
GRASS VALLEY, CA 95945
(530) 272-3757
SLS

C0.3

SIGNAGE NOTES

S1 INSTALL PATH OF TRAVEL DIRECTIONAL SIGNAGE - ONE SIGN WITH INTERNATIONAL SYMBOL OF ACCESSIBILITY AND DIRECTIONAL ARROW. SIGN SHALL BE MOUNTED ON A METAL SIGN POST AT 48" FROM GROUND TO BOTTOM OF LOWER SIGN. REFER TO PLAN FOR DIRECTION OF ARROW. (SEE DETAIL A)

S2 PLACE ACCESSIBLE STALL PARKING STRIPING AND SIGNAGE PER CALTRANS STD. DETAIL A90A/C3.2.

SCALE

10 0 5 10 20

(IN FEET)
1 inch = 10 feet

PROPERTY LINE

PROPOSED BUILDING

RELOCATE (E) CONEX CONTAINER

NEW LOCATION FOR CONEX CONTAINER

NEW CONC WALK

NEW CONC WALK

NEW STRIPING

S1

NEW CURB RAMP DETAIL A88A/C3.2

NEW CURB DETAIL A87A/C3.2

S2

(E) TRANSFORMER

(E) SIDEWALK

S1

GAS METER

(E) ELEC VAULT

(E) BUILDING

(E) ACCESSIBLE STRIPING

(E) SIDEWALK

2598

LEGEND

PROPERTY LINE

EXISTING ASPHALT

ACCESSBLE PATH OF TRAVEL

48"

PATH OF TRAVEL DIRECTIONAL SIGNAGE

DETAIL A

REGISTERED PROFESSIONAL ENGINEER
BRIAN K. McALISTER
058570
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GRASS VALLEY SCHOOL DISTRICT

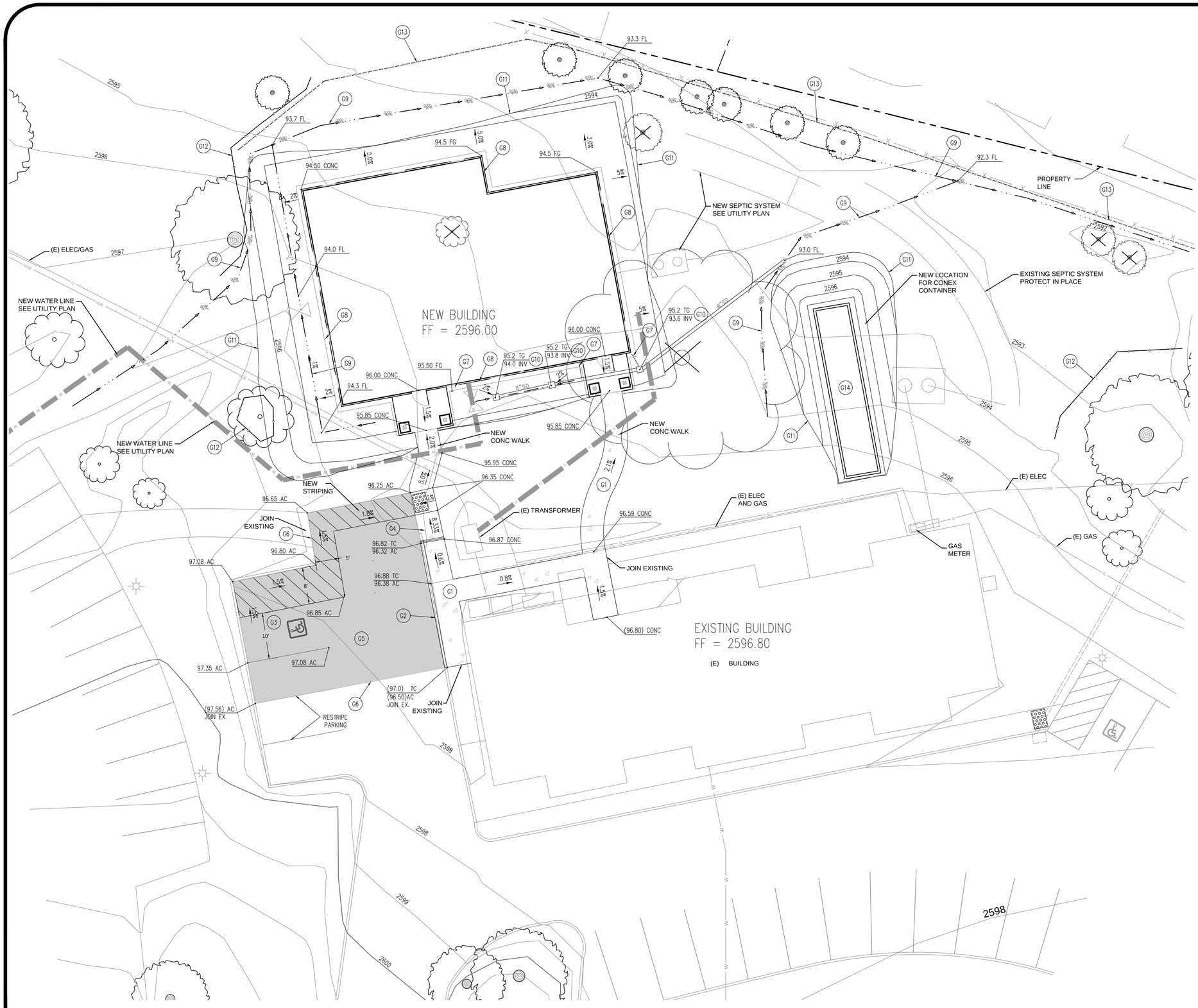
CALIFORNIA

SITEPLAN

GRASS VALLEY

SIERRA LAND SOLUTIONS, INC.
350 CROWN POINT CIRCLE, STE.260
GRASS VALLEY, CA 95945
(530) 272-3757
SLS

C1.1



LEGEND

- PROPERTY LINE
- EXISTING ASPHALT
- NEW ASPHALT
- TOPOGRAPHIC CONTOUR LINES
- EXISTING TREE
- REMOVE EXISTING TREE
- TOP / TOE — SLOPES (2:1 MAX)
- 6181.43 AC — FINISH GRADE
- 12"SD — STORM DRAIN HDPE (6" TYP.)
- PROPOSED DRAINAGE SWALE
- ORANGE CONSTRUCTION FENCING (NOT SHOWN) (SEE TREE MITIGATION DETAIL 1/C3.5)
- FIBER ROLLS OR SILT FENCING (PER DETAILS ON C3.1)

SCALE

10 0 5 10 20

(IN FEET)
1 inch = 10 feet

GRADING/DRAINAGE NOTES:

G1 CONSTRUCT CONCRETE SIDEWALK (DETAIL 6/C3.5)
G2 CONSTRUCT TYPE A1-6" CURB (DETAIL A87A/C3.2)
G3 CONSTRUCT ACCESSIBLE PARKING WITH STRIPING AND SIGNAGE (SEE DETAIL A90A/C3.2)
G4 CONSTRUCT CURB RAMP WITH DETECTIBLE WARNING (DETAIL A88A/C3.2)
G5 CONSTRUCT ASPHALT PAVEMENT SECTION (DETAIL 7/C3.5)
G6 JOIN EXISTING ASPHALT (DETAIL SHEET 3/C3.5)
G7 CONNECT ROOF DRAIN TO AREA DRAIN PIPING OR NEAREST AREA DRAIN
G8 COMPLY WITH CBC REQUIREMENTS AND GRADING DETAIL 5/C3.5 FOR GRADING ADJACENT TO BUILDING. (TYPICAL)
G9 INSTALL V-DITCH (DETAIL 9/C3.5) (ROCK LINE V-DITCH IF SLOPE EXCEEDS 5%)
G10 INSTALL 8" SQUARE AREA DRAIN (DETAIL 10/C3.5) WITH 6" AREA DRAIN PIPE, SLOPE=0.010 MIN. AND =0.080 MAX.
G11 GRADE FILL SLOPES AT 2:1 MAX. AND CUT SLOPES AT 2:1 MAX. (DETAIL 2, 4/C3.5).
G12 INSTALL CONSTRUCTION FENCE AND TREE PROTECTION (DETAIL 1/C3.5).
G13 INSTALL FIBER ROLL BARRIER (DETAIL T56/C3.1) OR SILT FENCE (DETAIL 1/C3.1).
G14 PLACE 6" AGGREGATE BASE, COMPACT TO 95%

REGISTERED PROFESSIONAL ENGINEER
BRIAN K. McALLISTER
058570
December 31, 2016
CIVIL
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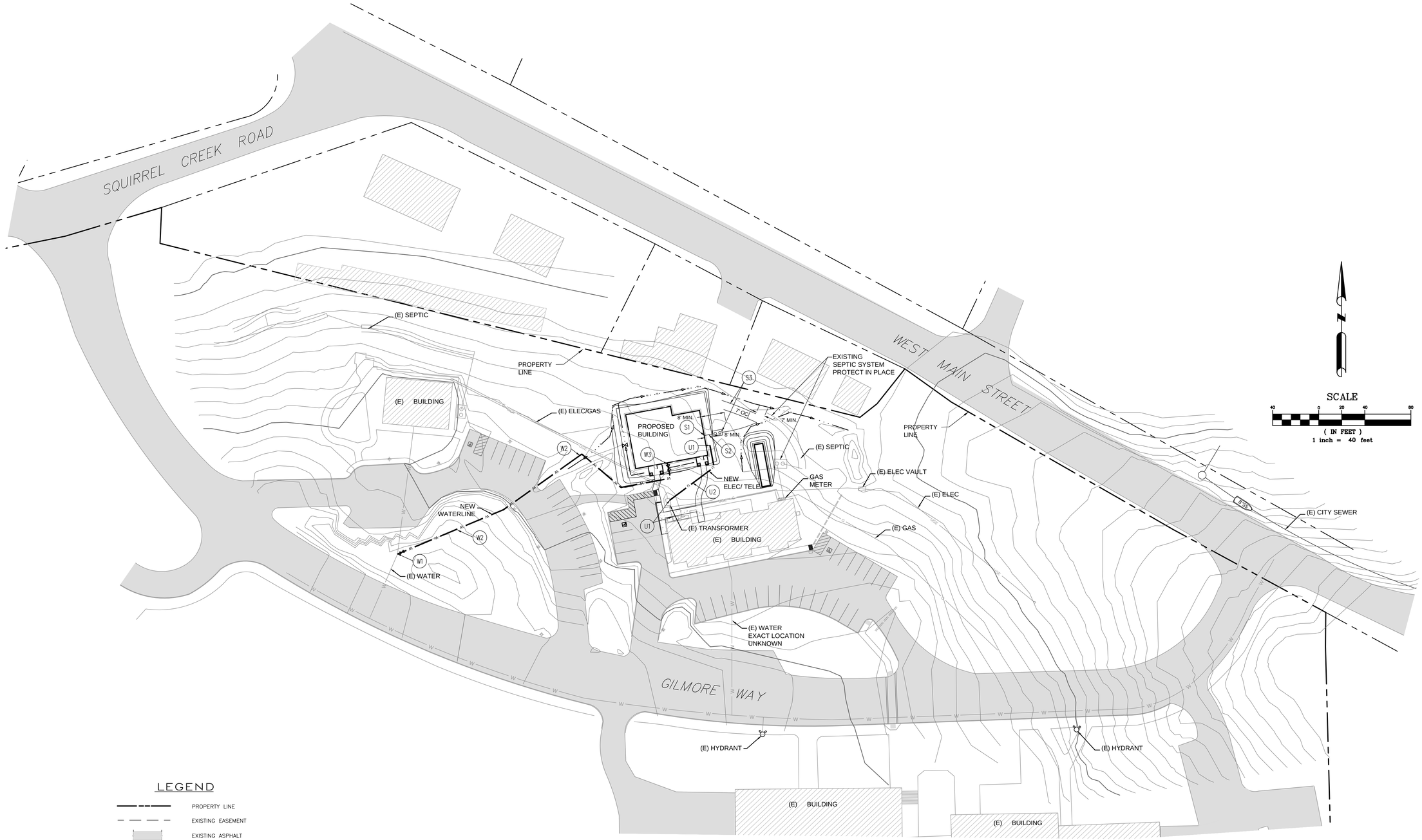
GRASS VALLEY SCHOOL DISTRICT

GRASS VALLEY CALIFORNIA

GRADING AND DRAINAGE PLAN

SIERRA LAND SOLUTIONS, INC.
350 CROWN POINT CIRCLE, STE.260
GRASS VALLEY, CA 95945
(530) 272-3757
SLS

C2.1



LEGEND

- PROPERTY LINE
- EXISTING EASEMENT
- EXISTING ASPHALT
- S — 6"SS — EX. SANITARY SEWER
- W — 8"W — W — EX. WATER
- T — EX. TELEPHONE (J/T) – UNDERGROUND
- UGE — EX. ELECTRIC (J/T) – UNDERGROUND
- G — EX. GAS
- 36" SD — EXISTING STORM DRAIN CULVERT
- U — U — U — PROPOSED JOINT TRENCH (ELEC/TELE)
- PROPOSED SEWER
- W — W — PROPOSED WATER

GENERAL NOTE:

CONSTRUCT ALL PIPE CROSSINGS UNDER FOOTING PER DETAIL 8/C3.5

WATER NOTES:

W1 CONNECT TO EXISTING 2" WATER MAIN WITH 2" TEE AND GATE VALVE (DETAIL SD4/C3.3)
W2 INSTALL 2" P.E. WATER SUPPLY LINE (DETAILS NID SD1, SD2 AND SD3/C3.3)
W3 INSTALL 2"x1" REDUCER AND CONNECT 1" DOMESTIC WATER LINE TO BUILDING PLUMBING WITH OUTSIDE VALVE (CONNECT SIZE/TYPE TO MATCH AT BUILDING) (DETAILS NID SD1, SD2, SD3 AND SD4/C3.3)

SEWER NOTES:

S1 INSTALL CLEANOUT LOCATED WITHIN 5' OF BUILDING (DETAILS 1, SS-3 AND SS-5) (SEE PLUMBING PLAN) (CONNECT SIZE/TYPE TO MATCH AT BUILDING)
S2 INSTALL 6" PVC SDR35 SEWER LATERAL (DETAIL SS-5 AND B-7/C3.4)
S3 INSTALL 1500 GAL SEPTIC TANK AND 62' GRAVITY SEPTIC TRENCH PER SEPTIC DISPOSAL DESIGN BY ENVIRONMENTAL SOLUTIONS (DESIGN BY OTHERS) (SEE DESIGN REPORT FOR ADDITIONAL REQUIREMENTS)

UTILITY NOTES:

U1 CONNECT TO EXISTING ELECTRIC AND TELECOM FACILITIES (COORDINATE ALL WORK WITH PG&E AND ATT)
U2 INSTALL SECONDARY JOINT UTILITY TRENCH – (1) 4" ELECTRIC, (1) 2" TELE, AND (1) 2" EMPTY.
U3 CONNECT TO ELECTRICAL AND TELEPHONE SERVICE AT BUILDING (REFER TO ELECTRICAL PLAN FOR LOCATION, SIZE AND TYPE OF SERVICE)

REGISTERED PROFESSIONAL ENGINEER
BRYAN K. McALISTER
C 058570
December 31, 2016
CIVIL
STATE OF CALIFORNIA

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GRASS VALLEY SCHOOL DISTRICT

GRASS VALLEY CALIFORNIA

UTILITY PLAN

SIERRA LAND SOLUTIONS, INC.
350 CROWN POINT CIRCLE, STE.260
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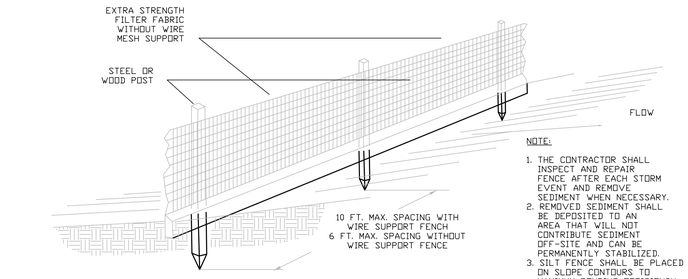
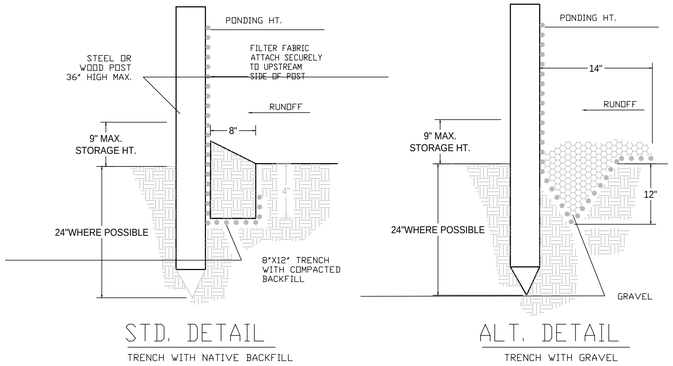
C2.2



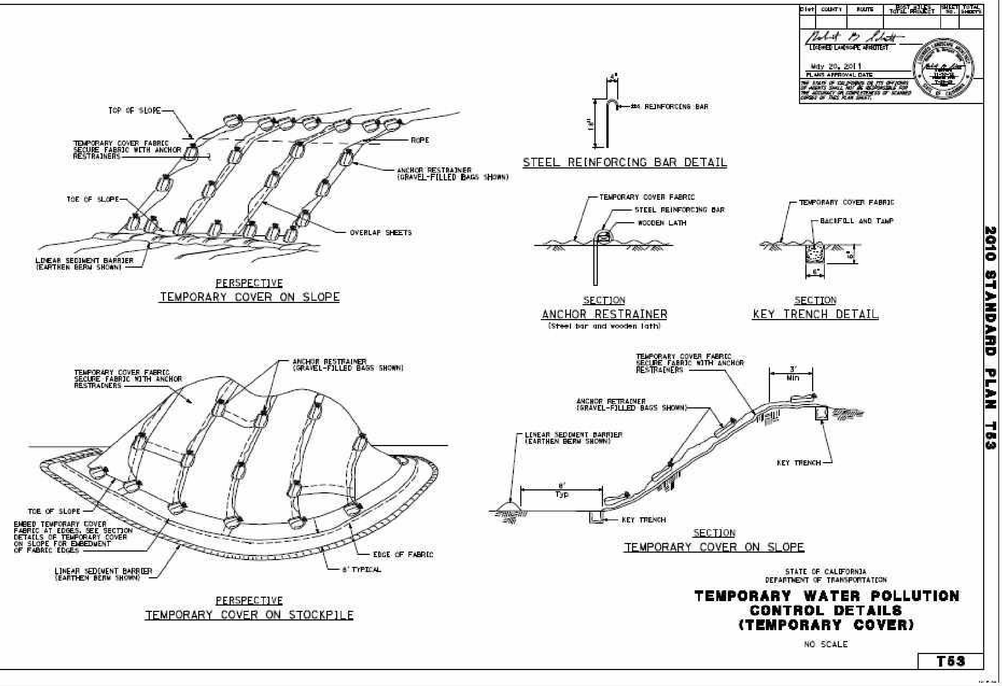


STD. DETAIL
TRENCH WITH NATIVE BACKFILL

ALT. DETAIL
TRENCH WITH GRAVEL

1 SILT FENCE DETAIL
N.T.S.

248



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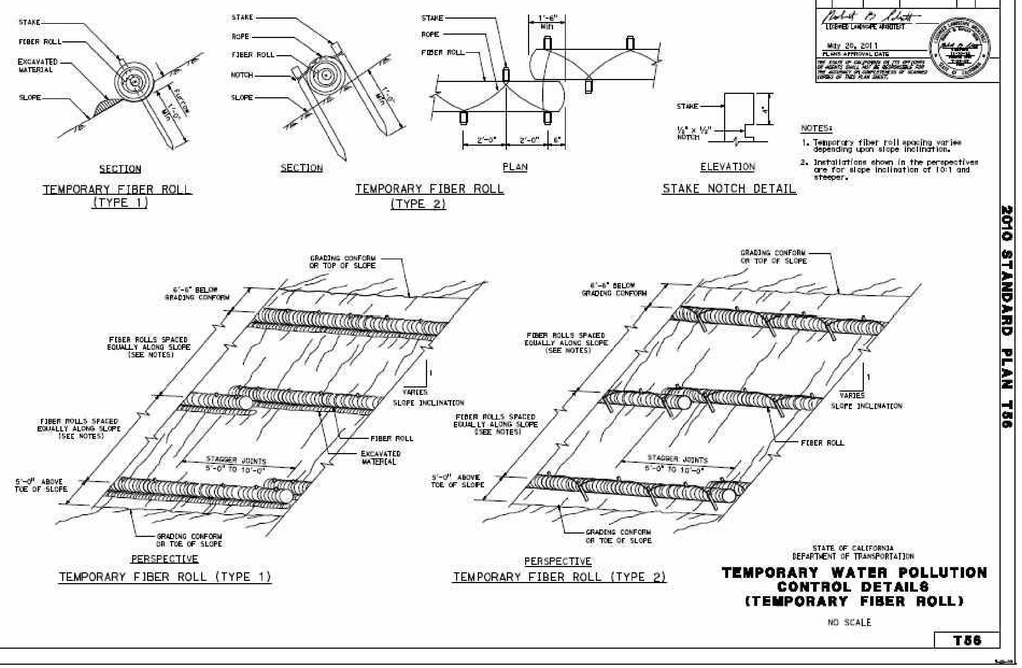


REGISTERED PROFESSIONAL ENGINEER
BRIAN K. McALISTER
058570
December 31, 2016
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 05/19/2016

NO.	REVISIONS	DATE

DESIGNED: BKM
DRAWN: BKM
PROJ. NO: 16106
DWG:GV SCHOOL design1
DATE:3-28-16

GRASS VALLEY SCHOOL DISTRICT
GRASS VALLEY CALIFORNIA
EROSION CONTROL DETAILS

SIERRA LAND SOLUTIONS, INC.
350 CROWN POINT CIRCLE, STE.260
GRASS VALLEY, CA 95945
(530) 272-3757
SLS

C3.1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

[illegible]
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
Michael Jonzen
No. 44788
Exp. 03-31-14
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED ______

2010 REVISED STANDARD PLAN RSP A87A

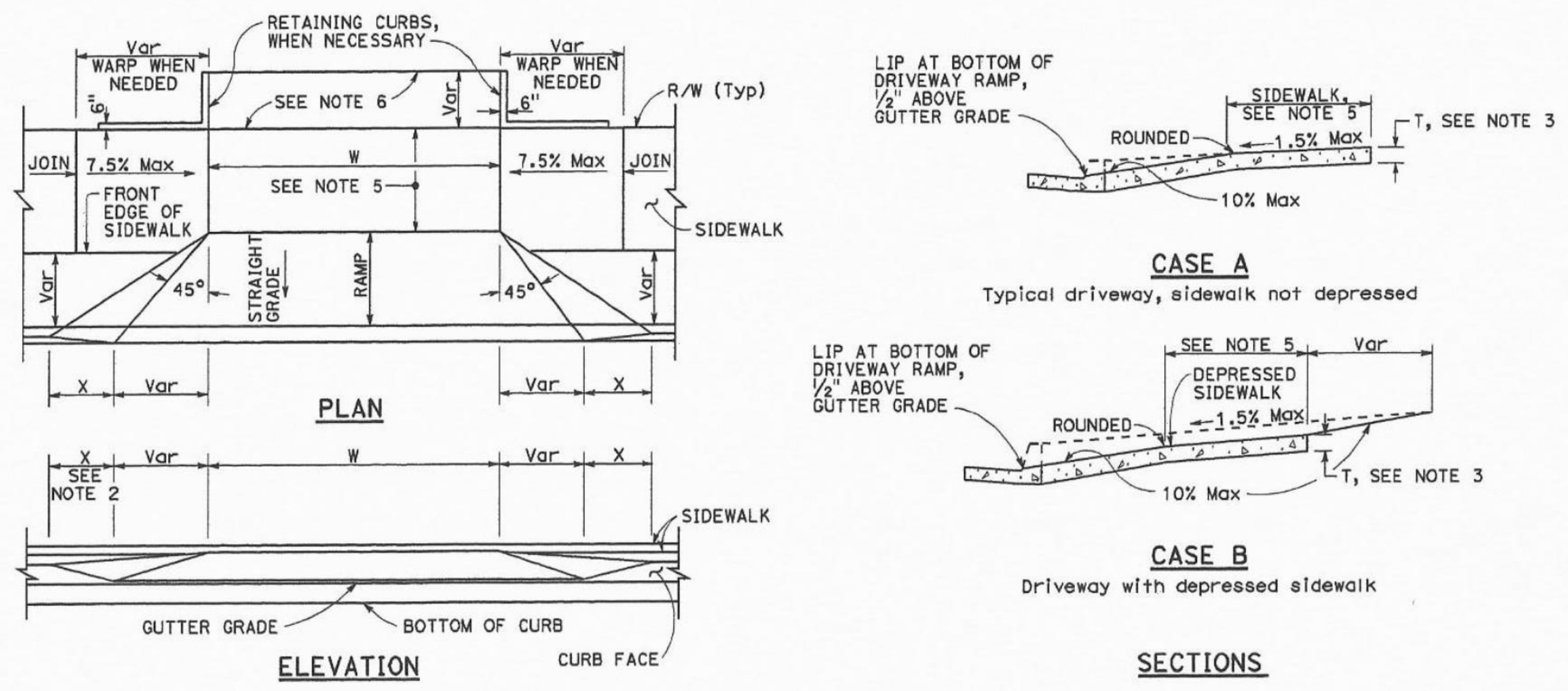
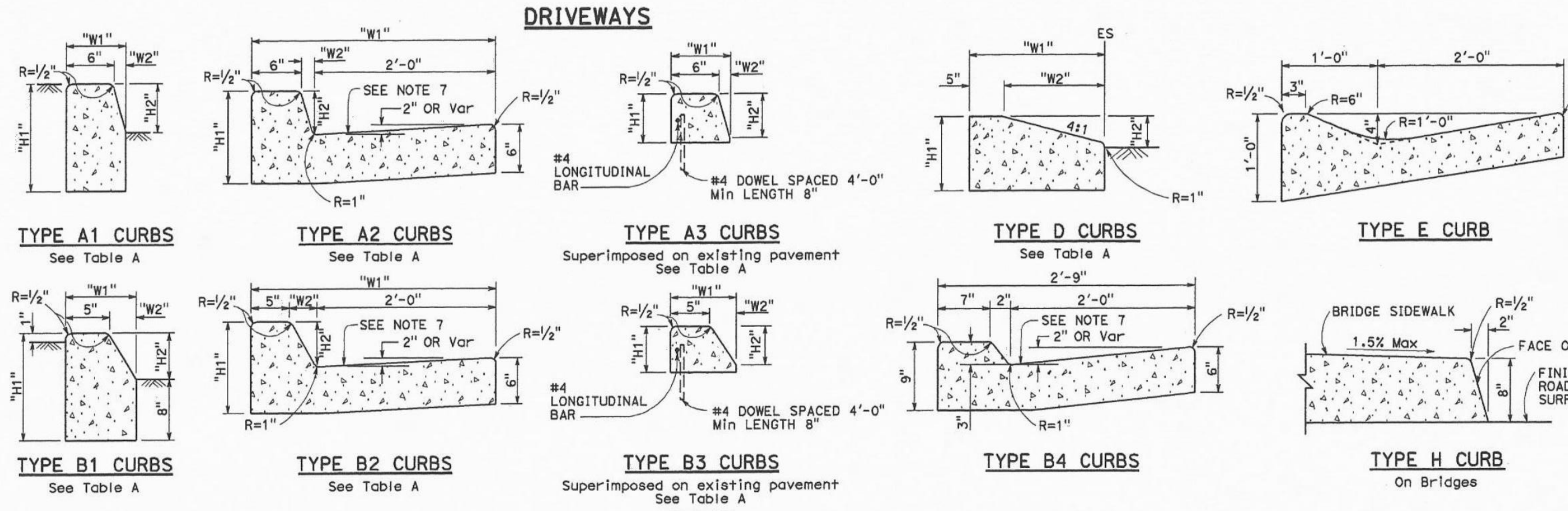


TABLE A

CURB TYPE	DIMENSIONS "H1"	"H2"	"W1"	"W2"
A1-6	1'-2"	6"	7½"	1½"
A1-8	1'-4"	8"	8"	2"
A2-6	1'-0"	6"	2'-7½"	1½"
A2-8	1'-2"	8"	2'-8"	2"
A3-6	6"	5"	7¼"	1¼"
A3-8	8"	7"	7¾"	1¾"
B1-4	1'-0"	4"	7½"	2½"
B1-6	1'-2"	6"	9"	4"
B2-4	10"	4"	2'-7½"	2½"
B2-6	1'-0"	6"	2'-9"	4"
B3-4	4"	3"	7"	2"
B3-6	6"	5"	8½"	3½"
D-4	10"	4"	1'-6"	1'-1"
D-6	1'-0"	6"	2'-2"	1'-9"

CURB QUANTITIES

TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661



NOTES:

1. Case A driveway section typically applies.
2. X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
3. Sidewalk and ramp thickness "T" at driveway shall be 4" for residental and 6" for commercial.
4. Difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway 5'-0" from gutter line shall not exceed 15%. Reduce driveway ramp slope, not gutter slope, where required.
5. Minimum width of clear passageway for sidewalk shall be 4'-2".
6. Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
7. Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

RSP A87A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87A DATED MAY 20, 2011 - PAGE 119 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87A

7-8-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

[illegible]
REGISTERED CIVIL ENGINEER

July 3, 2015
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
Hector David Cordova
No. C41957
Exp. 3-31-16
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED ______

2010 REVISED STANDARD PLAN RSP A90A

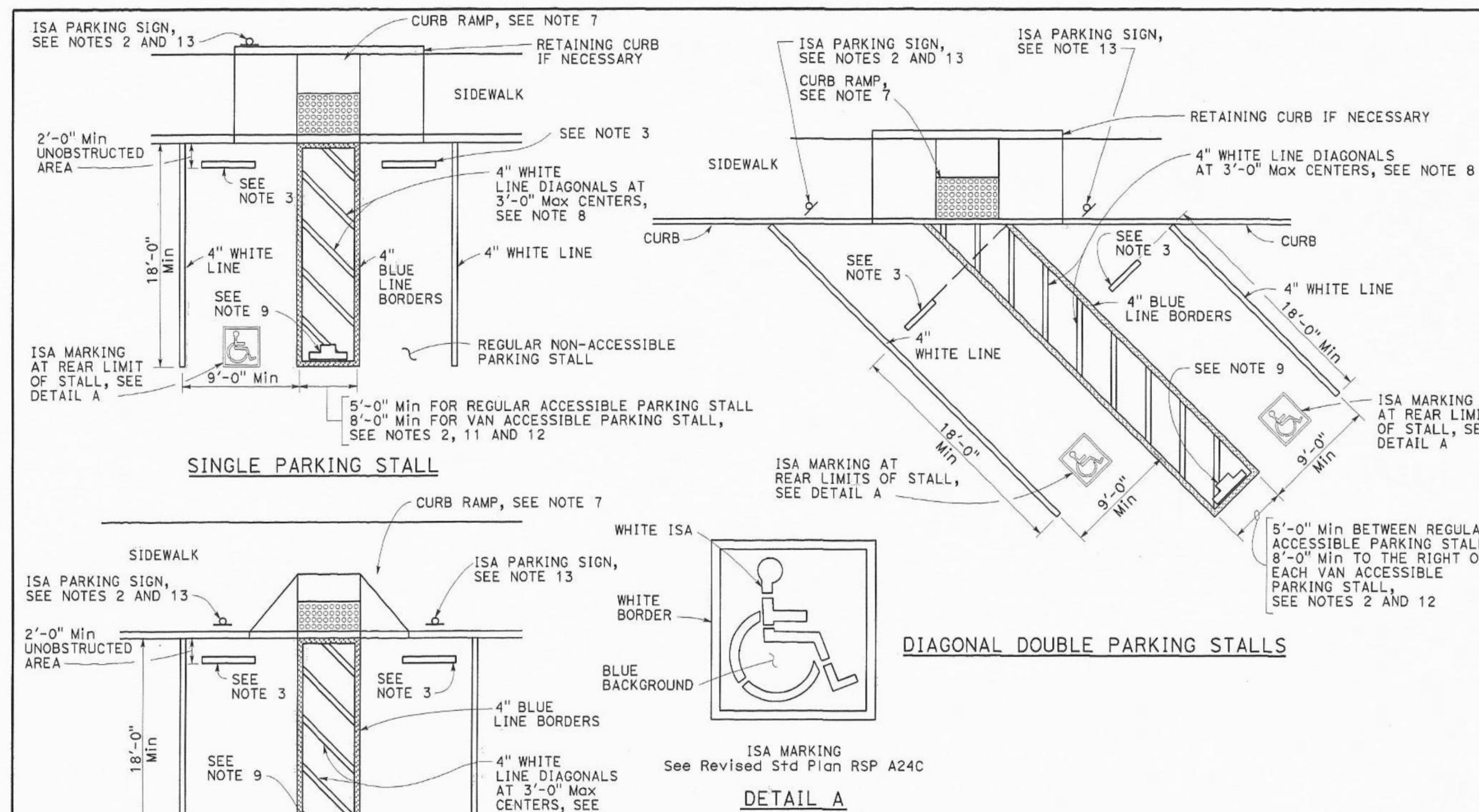
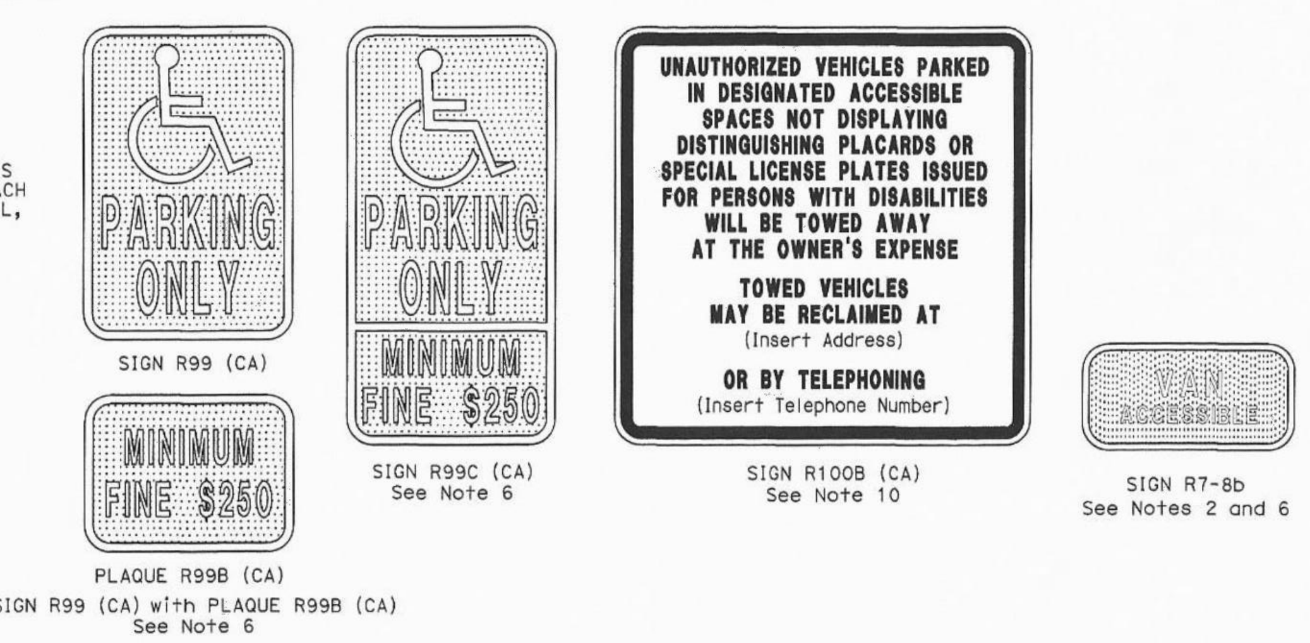


TABLE A

TOTAL NUMBER OF PARKING SPACES PROVIDED IN PARKING FACILITY	MINIMUM NUMBER OF REQUIRED ACCESSIBLE PARKING SPACES
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2 PERCENT OF TOTAL
1001 AND OVER	20 PLUS 1 FOR EACH 100 OR FRACTION THEREOF OVER 1000



OFF-STREET PARKING SIGNS
(Parking lot or garage)
See Note 6

NOTES:

1. Accessible parking spaces serving a particular building shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance. In parking facilities that do not serve a particular building, accessible parking shall be located on the shortest accessible route of travel to an accessible pedestrian entrance of the parking facility.
2. One in every six accessible off-street parking stalls, but not less than one, shall be served by an accessible aisle of 8'-0" minimum width and shall be signed van accessible. The R7-8b sign shall be mounted below the R99B (CA) plaque or the R99C (CA) sign.
3. In each parking stall, a curb or parking bumper shall be provided if required to prevent encroachment of vehicles over the required width of walkways. Parking stalls shall be so located that persons with disabilities are not compelled to wheel or walk behind parked vehicles other than their own. For more parking bumper requirements, see the Special Provisions.
4. Parking spaces and access aisles shall be level with surface slopes not exceeding 1.5% in all directions.
5. Table A shall be used to determine the required number of accessible parking stalls in each parking lot or garage.
6. Where Plaque R99B (CA), Sign R99C (CA) or Sign R7-8b are installed, the bottom of the sign or plaque panel shall be a minimum of 7'-0" above the surrounding surface.
7. Curb ramps shall conform to the details shown on Revised Standard Plan RSP A88A.
8. Blue paint, instead of white may be used for marking accessibility aisles in areas where snow may cause white markings to not be visible.
9. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high and located so that it is visible to traffic enforcement officials. See Revised Standard Plan RSP A90B for details of the "NO PARKING" pavement marking.
10. A R100B (CA) sign shall be posted in a conspicuous place at each entrance to off-street parking facilities or immediately adjacent to and visible from each stall. The sign shall include the address where the towed vehicle may be reclaimed and the telephone number of the local traffic law enforcement agency.
11. Where a single (non-van) accessible parking space is provided, the loading and unloading access aisle shall be on the passenger side of the vehicle as the vehicle is going forward into the parking space.
12. Where a van accessible parking space is provided, the loading and unloading access aisle shall be 8'-0" wide minimum, and shall be on the passenger side of the vehicle as the vehicle is going forward into the parking space.
13. Accessible Parking Only Sign shall be Sign R99C (CA) or Sign R99 (CA) with Plaque R99B (CA).

LEGEND

ISA = International Symbol of Accessibility

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ACCESSIBLE PARKING OFF-STREET

NO SCALE

RSP A90A DATED JULY 3, 2015 SUPERSEDES RSP A90A DATED JULY 19, 2013 AND STANDARD PLAN A90A DATED MAY 20, 2011 - PAGE 123 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A90A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

[illegible]
REGISTERED CIVIL ENGINEER

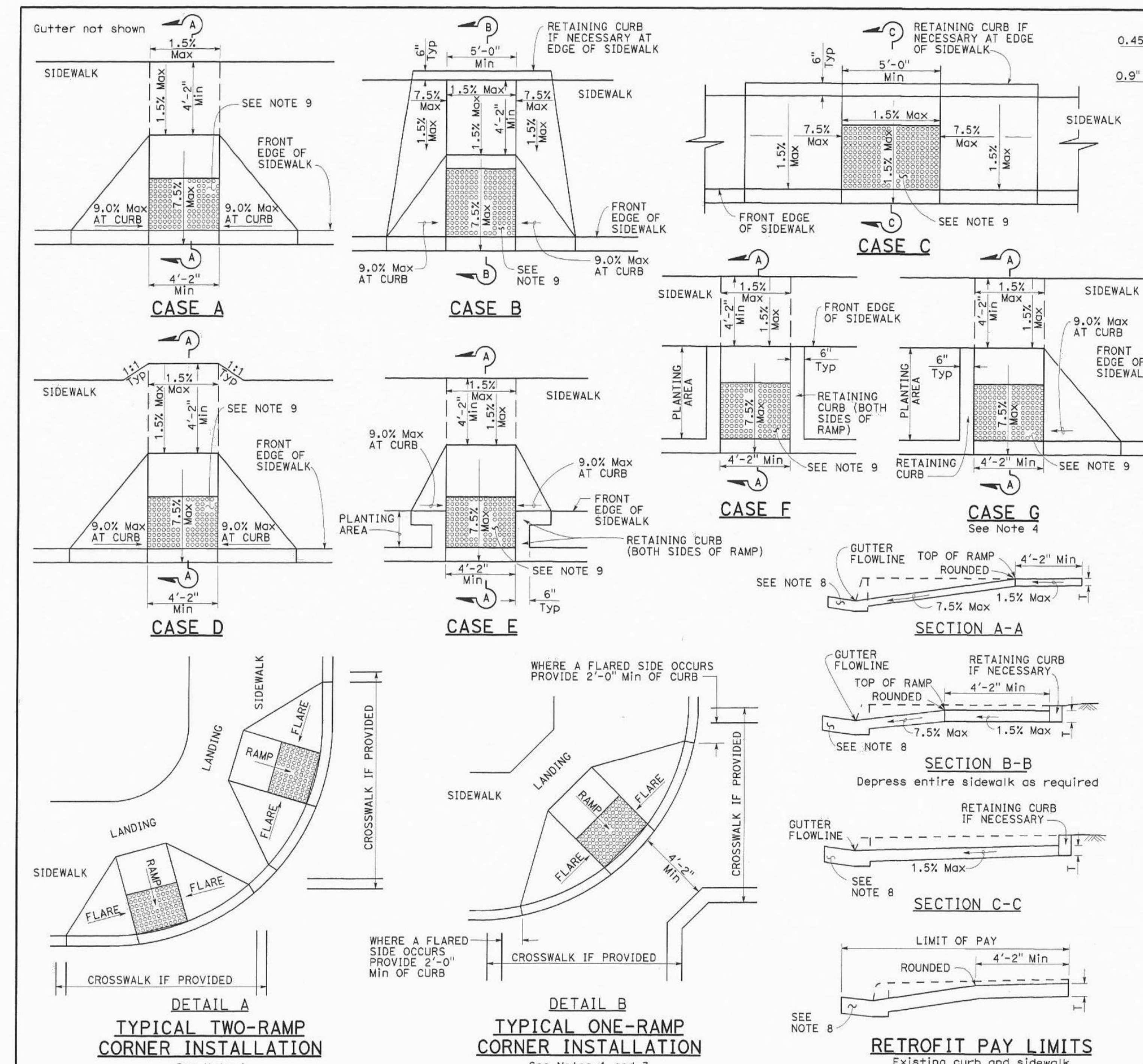
July 3, 2015
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
Hector David Cordova
No. C41957
Exp. 3-31-16
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED ______

2010 REVISED STANDARD PLAN RSP A88A



NOTES:

1. As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
2. If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
5. If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-2".
6. Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
7. Transitions from ramps and landing to walks, gutters or streets shall be flush (no lip) and free of abrupt changes.
8. Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1:20 (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
9. Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. A 4'-0" wide detectable warning surface may be used on a 4'-2" wide curb ramp. Detectable Warning Surfaces shall conform to the requirements in the Standard Specifications.
10. Sidewalk and ramp thickness, "T", shall be 3½" minimum.
11. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
12. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining full detectable warning width and depth.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURB RAMP DETAILS

NO SCALE

RSP A88A DATED JULY 3, 2015 SUPERSEDES RSP A88A DATED MARCH 21, 2014 AND RSP A88A DATED JULY 19, 2013 AND STANDARD PLAN A88A DATED MAY 20, 2011 - PAGE 121 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A88A

6-30-15

REGISTERED PROFESSIONAL ENGINEER
BRYAN K. McALISTER
C 058570
December 31, 2016
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 05/19/2016

DESIGNED: BKM
DRAWN: BKM
PROJ. NO: 16106
DWG: GV SCHOOL design1
DATE: 3-28-16

NO.	REVISIONS	DATE

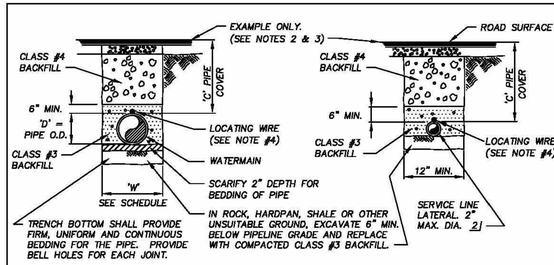
GRASS VALLEY SCHOOL DISTRICT

CALTRANS DETAILS

GRASS VALLEY CALIFORNIA

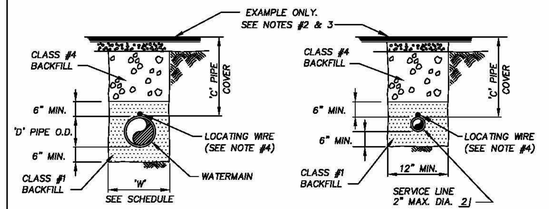
SIERRA LAND SOLUTIONS, INC.
350 CROWN POINT CIRCLE, STE.260
GRASS VALLEY, CA 95945
(530) 272-3757
SLS

C3.2



METALLIC WATERMAIN

METALLIC SERVICE LINE, ARV & B/O LATERALS



NON–METALLIC WATERMAIN

NON–METALLIC SERVICE LINE

NOT TO SCALE

NOTES:

1. ALL MATERIALS AND INSTALLATION SHALL CONFORM TO "WATERMAINS" AND "SERVICE ASSEMBLIES" IN THE SPECIFICATIONS.
2. TRENCH DETAILS FOR PIPELINES LOCATED ALONG OR ACROSS ROADWAYS SHALL CONFORM TO REQUESTS OF THE APPROPRIATE REGULATORY BODY.
3. TRENCHES LOCATED OUTSIDE OF ROADWAYS SHALL HAVE BACKFILL SLIGHTLY MOUNDED OVER THE TRENCH UNLESS DETERMINED BY THE DISTRICT ENGINEER THAT A MOUND IS NOT NECESSARY.
4. LOCATING WIRE SHALL BE COATED 10 GAUGE SOLID COPPER AND SHALL CONFORM TO DRAWING NID SD3.
5. LOCATING WIRE SHOULD BE TAPED TO PIPE.
6. COMMON TRENCH WITH OTHER UTILITIES WILL NOT BE ALLOWED.

TRENCH WIDTH 'W' SCHEDULE		
WATERMAIN SIZE "D" 1/	MIN. TRENCH WIDTH FOR TANGENTS AND CURVES OVER 1000' RADIUS	MIN. TRENCH WIDTH FOR CURVES LESS THAN 1000' RADIUS
4"	18"	24"
6" & 8"	24"	30"
10" & LARGER	O.D. + 16"	O.D. + 16"

1/ 2" WATERMAIN INSTALLED AS SERVICE LINE

PIPE COVER 'C' SCHEDULE 3/		
ITEM	MIN.	MAX.
WATERMAIN	PER PROFILE ON PLAN SHEETS	
SERVICE LINE & LATERALS	24"	48"
HYDRANT LATERAL	30"	48"

2/ SERVICE LINES OR LATERALS OVER 2"ø SHALL BE INSTALLED AS WATERMAINS.
3/ THE PROFILE, WHERE SHOWN ON THE PLANS, SHALL GOVERN OVER THIS SCHEDULE.

BACKFILL CLASSIFICATION					
CLASS #1 MATERIAL	CLEAN SAND–FREE FROM DELETERIOUS MATERIAL WITH S.E. OF AT LEAST 50 AND MEETING THIS PERCENT BY WEIGHT GRADATION.	SIEVE SIZE	NATURAL SAND	CRUSHED SAND	DECOMPOSED GRANITE
		1–1/2"	100	---	---
		3/4"	75–100	100	100
		NO.4	55–100	75–100	75–100
		NO.200	0–15	0–5	0–5
CLASS #2 MATERIAL	SELECT EARTH FREE FROM DELETERIOUS MATERIAL AND PASSING 1" SCREEN.				
CLASS #3 MATERIAL	SELECT EARTH FREE FROM DELETERIOUS MATERIAL AND PASSING 2" SCREEN.				
CLASS #4 MATERIAL	SELECT EARTH FREE FROM DELETERIOUS MATERIAL AND PASSING 4" SCREEN.				

TRENCH BACKFILL COMPACTION SCHEDULE		
ITEM	INSIDE ROADWAY 4/	OUTSIDE ROADWAY
WATERMAIN	95% MIN.	85% MIN.
SERVICE LINES & ARV LATERALS	95% MIN.	85% MIN.
HYDRANT LATERAL	95% MIN.	95% MIN.

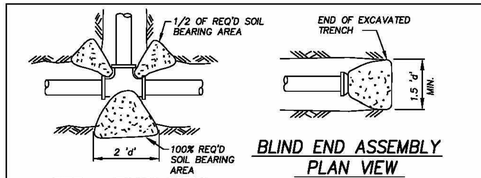
4/ DEFINED AS AREA BETWEEN TOP OF CUT AND TOE OF FILL OF ROADWAY CROSS SECTION.

BOARD REVIEW: 3–10–10 REVISED: 10–30–12 G.K.

WATERMAIN, SERVICE LINE AND LATERAL TRENCH DETAILS

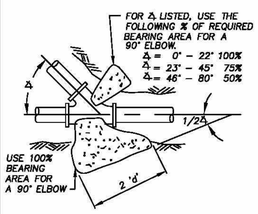
NOT TO SCALE

NID SD1

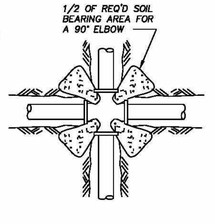


TEE – PLAN VIEW

BLIND END ASSEMBLY PLAN VIEW

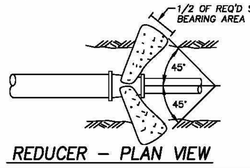


WYE – PLAN VIEW



CROSS – PLAN VIEW

ELBOW – PLAN VIEW



REDUCER – PLAN VIEW

NOTES:

1. MATERIALS AND INSTALLATION SHALL CONFORM TO REACTION BLOCKING FOR "WATERMAINS" IN THE SPECIFICATIONS.
2. THRUST BLOCKS SHALL BE PLACED AT ALL HORIZONTAL DEFLECTIONS IN EXCESS OF 6° AND ALL DOWNWARD VERTICAL DEFLECTIONS IN EXCESS OF 6°.
3. MAXIMUM ESTIMATED SOIL BEARING CAPACITY SHALL NOT EXCEED 2,000 P.S.F. UNLESS OTHERWISE APPROVED BY DISTRICT ENGINEER.
4. MINIMUM SOIL BEARING AREAS ARE BASED ON A WORKING PRESSURE 150 P.S.I. WITH A 1.5 SAFETY FACTOR PLUS 75 P.S.I. SURGE (TOTAL 300 P.S.I.) CALCULATION FOR BEARING AREAS FOR WORKING PRESSURE HIGHER THAN 150 P.S.I. MUST BE APPROVED BY THE DISTRICT ENGINEER.
5. CONCRETE SHALL BE PLACED BETWEEN THE FITTING AND UNDISTURBED SOIL.
6. THRUST BLOCKS SHALL BE NEATLY FORMED USING PLYWOOD OR SANDBAGS. FORMING MATERIALS SHALL BE REMOVED UPON INITIAL CURE OF CONCRETE & PRIOR TO BACKFILLING.
7. THRUST BLOCKS SHALL BE CONSTRUCTED OF 2,000 PSI CONCRETE.
8. CONCRETE SHALL NOT BE PLACED ON OR AROUND PIPE, BELLS, FLANGES OR OTHER JOINTS. IF UNAVOIDABLE, AND WITH APPROVAL OF THE DISTRICT ENGINEER, THESE AREAS SHALL BE PROTECTED WITH A DOUBLE WRAP OF 6 MIL POLYETHYLENE FILM.
9. THRUST BLOCKS PLACED ON BLIND FLANGES ADJACENT TO OTHER THRUST BLOCKS ON THE SAME FITTING SHALL BE SEPARATED FROM THE PERMANENT THRUST BLOCKS WITH A PLYWOOD DIVIDER IN ORDER TO FACILITATE ITS REMOVAL.

THRUST BLOCK SCHEDULE

PIPE SIZE 1/ 2/	MAX. SOIL BEARING CAPACITY (1,000 P.S.F.) SEE NOTE 3	REQUIRED SOIL BEARING (SQ. FT.) – SEE NOTE #4.					
		BLIND END OR TEE	ELBOW				REDUCER OR CROSS
			90°–46°	45°–23°	22 1/2°–12°	11 1/4°–6°	
4" & 6"	10	2	2	1	1	1	2
	4	3	3	2	1	1	3
	2	5	6	4	2	1	6
	1	9	12	8	4	2	12
8"	10	2	3	2	1	1	3
	4	4	6	3	2	1	9
	2	8	11	6	3	2	11
	1	16	22	12	6	3	22
10"	10	3	4	2	2	1	4
	4	6	9	5	3	2	9
	2	12	17	10	5	3	17
	1	24	34	20	10	5	34
12"	10	4	5	3	2	1	5
	4	9	12	7	3	2	12
	2	17	24	13	7	4	24
	1	34	48	26	14	7	48
SOIL DESCRIP–TION	10	HARD, SOUND SHALE					
	4	SAND & GRAVEL CEMENTED WITH CLAY–HARD TO PICK					
	2	SANDY MEDIUM CLAY – CAN BE SPADED					
	1	SOFT CLAY					

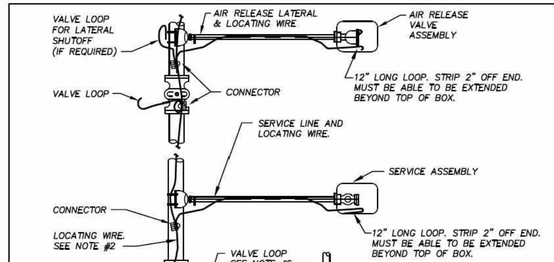
'd' = DEPTH OF SOIL BEARING SURFACE
1/ REQUIRED SOIL BEARING AREA FOR SIZES LARGER THAN 12" MUST BE APPROVED BY DISTRICT ENGINEER OR SHALL BE AS SHOWN ON THE PLANS.
2/ FOR 2" PIPE SIZE, USE 25% OF THE TABLE VALUE FOR 4".

BOARD REVIEW: 3–10–10 SD NUMBER REVISED 6–27–14

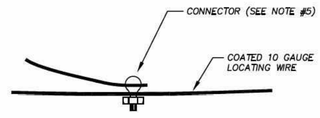
THRUST BLOCKS

NOT TO SCALE

NID SD2



VALVE LOOP DETAIL



CONNECTOR DETAIL

NOTES:

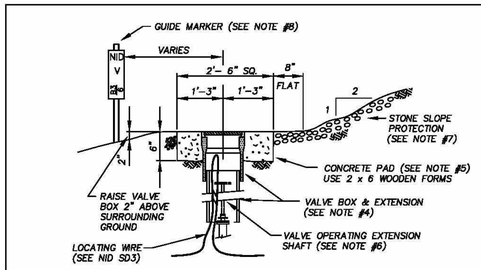
1. ALL MATERIALS AND INSTALLATION SHALL CONFORM TO LOCATING WIRE AND CONNECTORS FOR "WATER MAINS" IN THE SPECIFICATIONS.
2. LOCATING WIRE SHALL BE COATED 10 GAUGE SOLID COPPER.
3. LOCATING WIRE SHALL BE PLACED ABOVE AND CENTERED OVER ALL NON–METALLIC PIPE AND OVER ALL METALLIC PIPE USING 'O' RING JOINTS WITHOUT BONDING STRAPS.
4. LOCATING WIRE SHALL BE PLACED OVER ALL SERVICE LINES INCLUDING PRIVATE FIRE SERVICE LATERALS AND AIR RELEASE VALVE LATERALS.
5. ALL CONNECTORS FOR SPLICES AND OTHER CONNECTIONS TO THE LOCATING WIRES SHALL BE MADE WITH SPLIT BOLT OR PARALLEL CONNECTORS – (NO WIRE NUTS). ALL SPLICES AND CONNECTIONS AND THE CONNECTOR SHALL BE WRAPPED THOROUGHLY WITH VINYL ELECTRICAL TAPE.
6. VALVE LOOPS ARE REQUIRED FOR ONLY ONE VALVE IN A CLUSTER OF VALVES PROVIDING THEY ARE ALL WITHIN A 2' RADIUS.
7. ALL BLOWOFF VALVES AND AIR RELEASE LATERAL SHUTOFF VALVES (IF REQUIRED) SHALL BE INSTALLED WITH A LOCATING WIRE VALVE LOOP.
8. ALL LOCATING WIRE SHALL BE TESTED FOR CONTINUITY.

BOARD REVIEW: 3–10–10 REVISED: 10–30–12 G.K. SD NUMBER REVISED 6–27–14

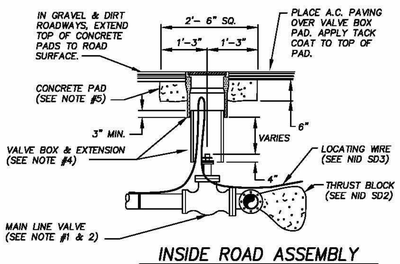
LOCATING WIRE

NOT TO SCALE

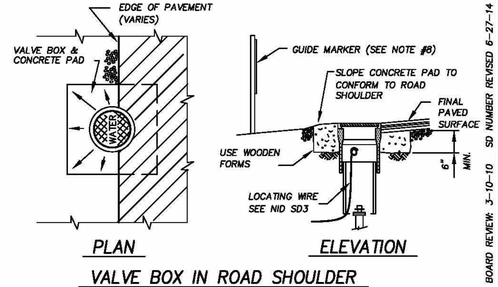
NID SD3



OUTSIDE ROAD ASSEMBLY



INSIDE ROAD ASSEMBLY



PLAN ELEVATION

VALVE BOX IN ROAD SHOULDER

NOTES:

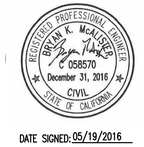
1. ALL MATERIALS AND INSTALLATIONS SHALL CONFORM TO "MAINLINE VALVES" IN THE SPECIFICATIONS.
2. VALVES SHALL BE OF THE TYPE ALLOWED IN THE SPECIFICATIONS.
3. JOINTS MAY BE FLANGED, MECHANICAL OR 'O' RING PUSH ON JOINTS EXCEPT WHERE SPECIFIC TYPES OF JOINTS ARE SHOWN ON THE PLANS OR DESIGNATED IN THE SPECIFICATIONS. ALL JOINTS SHALL BE PROTECTED FROM CORROSION AS REQUIRED IN THE SPECIFICATIONS.
4. VALVE BOXES SHALL BE CHRISTY G5 WITH A RATTLEPROOF CAST IRON LID MARKED "WATER". BOX EXTENSIONS SHALL BE PRECAST CONCRETE OR 8" SMOOTH WALL P.V.C. PIPE WITH MIN. SDR OF 35 AND ENDS CUT SQUARE. BOX EXTENSIONS SHALL BE CENTERED OVER THE VALVE OPERATING NUT AND CONCENTRIC WITH THE VALVE STEM.
5. VALVE BOX PADS SHALL BE 3,000 P.S.I. CONCRETE.
6. A VALVE OPERATOR EXTENSION SHAFT SHALL BE FURNISHED AND INSTALLED FOR ALL VALVES WITH OPERATING NUTS PLACED 36" OR MORE BELOW THE TOP OF THE VALVE BOX. REFER TO NID SD9.
7. PLACE STONE SLOPE PROTECTION OF NO. 3 BACKING ROCK PER CALTRANS SEC. 72, ON ALL CUT SLOPES SURROUNDING VALVE ASSEMBLIES AS DIRECTED.
8. A GUIDE MARKER SHALL BE FURNISHED AND INSTALLED AS DIRECTED. REFER TO DRAWING NID SD9.

BOARD REVIEW: 3–10–10 SD NUMBER REVISED 6–27–14

MAINLINE VALVE ASSEMBLY

NOT TO SCALE

NID SD4



DATE SIGNED: 05/19/2016

NO.	REVISIONS	DATE

DESIGNED: BKM
DRAWN: BKM
PROJ. NO: 16106
DWG:GV SCHOOL design1
DATE:3–28–16

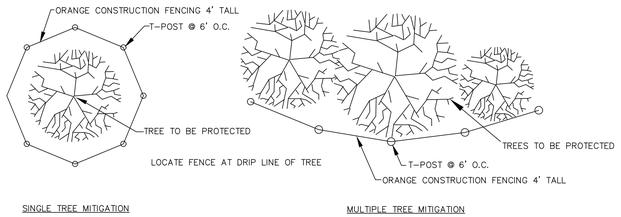
GRASS VALLEY SCHOOL DISTRICT

GRASS VALLEY CALIFORNIA

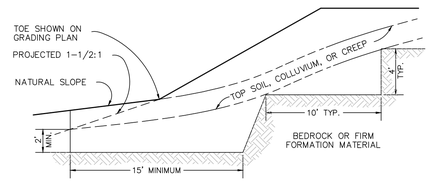
WATER DETAILS

SIERRA LAND SOLUTIONS, INC.
350 CROWN POINT CIRCLE, STE.260
GRASS VALLEY, CA 95945
(530) 272-3757
SLS

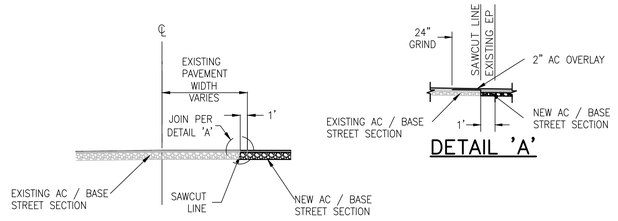
C3.3



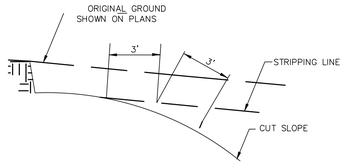
1 TREE MITIGATION DETAIL
NTS



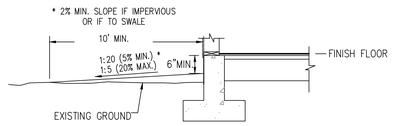
2 BENCH DETAIL FOR FILL
NTS



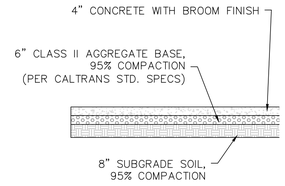
3 JOIN EXISTING ASPHALT DETAIL
NTS



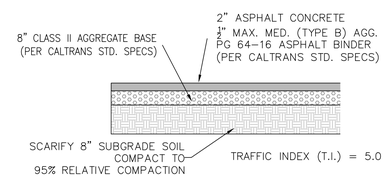
4 SLOPE ROUNDING DETAIL
NTS



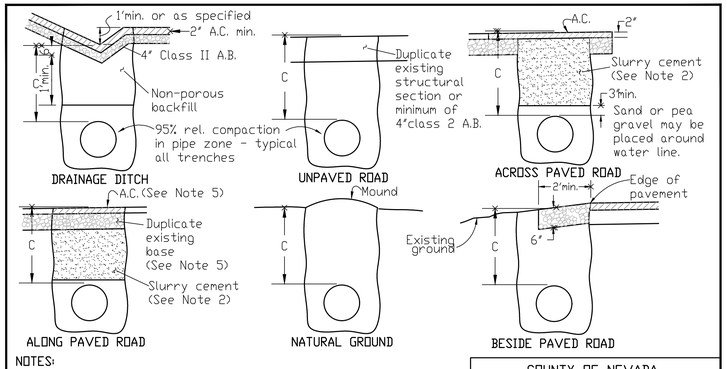
5 GRADING DETAIL (TYPICAL)
NTS



6 TYPICAL SIDEWALK SECTION
NTS



7 TYPICAL PAVEMENT SECTION
NTS



NOTES:
1. 95% relative compaction in roadway prism and below drainage ditch. 90% more than 2 1/2' below finish surface. 85% in natural ground.
2. Slurry Cement Backfill per Caltrans Standard Specifications 19-3.062. (Unless previously approved by the Engineer.)
3. 'C'=2 1/2' minimum above 4000' elevation. For water lines use utility district standards.
4. Roadway structural sections and surfacing must be replaced in kind if they exceed above minimums.
5. Structural Section (A.C. & A.B.) to be based upon requirements set forth on Std. Dwg. A-1.

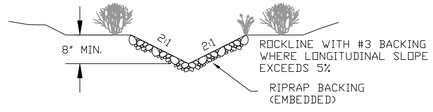
REGISTERED PROFESSIONAL ENGINEER JOHN W. RUMSEY, III No. 40386 Exp. 3-31-99 CIVIL STATE OF CALIFORNIA

COUNTY OF NEVADA
DEPARTMENT OF TRANSPORTATION
ENCROACHMENT DETAIL
TRENCH BACKFILL

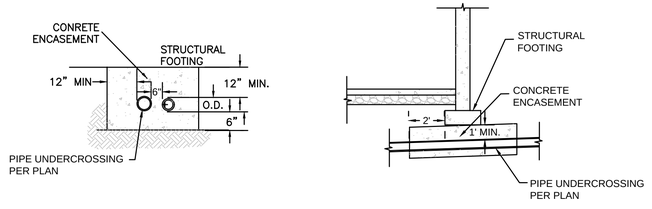
Approved by: John W. Rumsey — 5-04-95
Senior Civil Engineer — Date

STANDARD DRAWINGS B-7

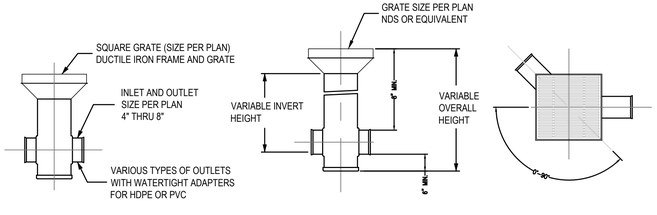
Rev. 5-04-95



9 ROCK LINED V-DITCH DETAIL
N.T.S.



8 PIPE CROSSING UNDER FOOTING
NTS



SQUARE GRATE INLETS

10 *AREA DRAIN DETAILS*
N.T.S.

REGISTERED PROFESSIONAL ENGINEER BRIAN K. McALISTER 058570 December 31, 2016 CIVIL STATE OF CALIFORNIA

DATE SIGNED: 05/19/2016

NO.	REVISIONS	DATE

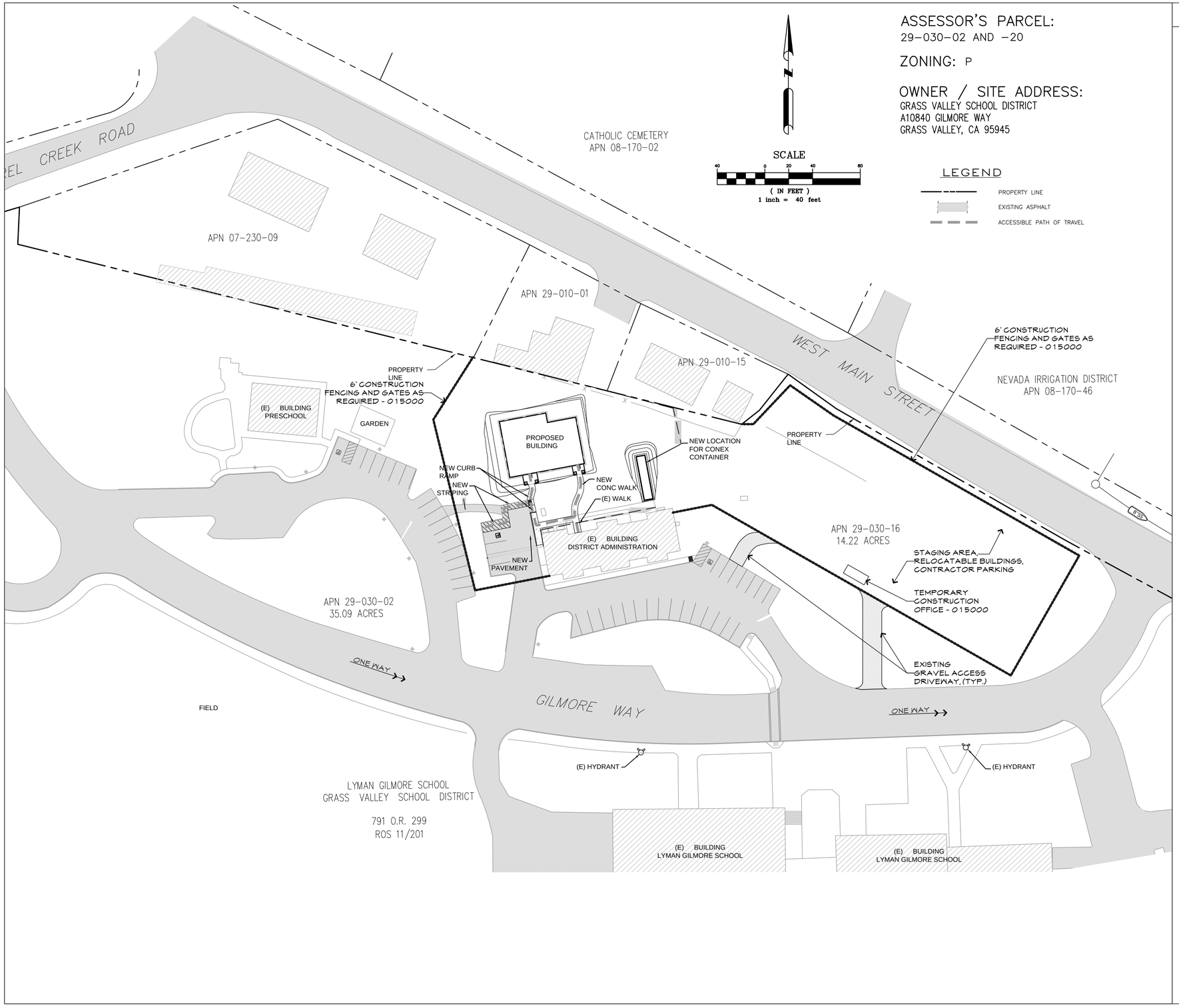
DESIGNED: BKM
DRAWN: BKM
PROJ. NO: 16106
DWG:GV SCHOOL design1
DATE:3-28-16

GRASS VALLEY SCHOOL DISTRICT
GRASS VALLEY CALIFORNIA

GENERAL DETAILS

SIERRA LAND SOLUTIONS, INC.
350 CROWN POINT CIRCLE, STE.260
GRASS VALLEY, CA 95945
(530) 272-3757
SLS

C3.5



ASSESSOR'S PARCEL:
29-030-02 AND -20

ZONING: P

OWNER / SITE ADDRESS:
GRASS VALLEY SCHOOL DISTRICT
A10840 GILMORE WAY
GRASS VALLEY, CA 95945

NOTES

LICENSED ARCHITECT
ANDREW J. PAWLOWSKI
No. C 25996
REN OCT 31, 2017
STATE OF CALIFORNIA

Revisions

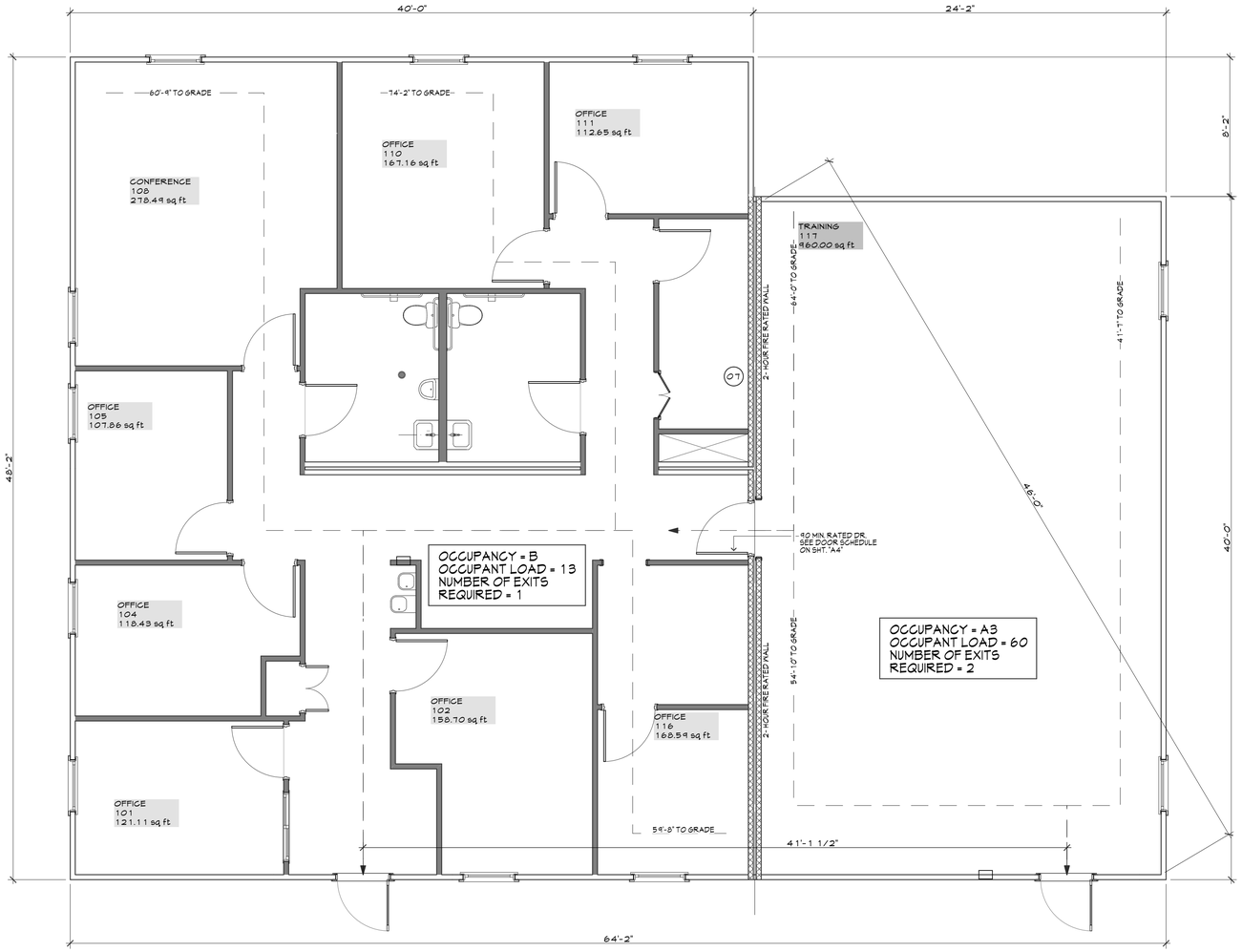
siteline architecture
Andrew J. Pawlowski, Architect, LEED AP
644 Zion Street
Nevada City CA 95959
530.478.9415 - t
530.478.9416 - f
www.sitelinearch.com

DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:29-030-02

date: 6/9/16
scale:
job #: 15-397

SITE STAGING PLAN

A0.1



N

CODE ANALYSIS

BUILDING OCCUPANCY: (MIXED)
B - BUSINESS: PROFESSIONAL OR SERVICE TYPE TRANSACTIONS

A-3 - ASSEMBLY: USES INTENDED FOR WORSHIP, RECREATION OR AMUSEMENT AND OTHER ASSEMBLY USES NOT CLASSIFIED ELSEWHERE IN GROUP A INCLUDING BUT NOT LIMITED TO LECTURE HALLS

CONSTRUCTION TYPE: V-B NON-SPRINKLERED
B - S.F.: 1,920; 1 STORY
A-3 - S.F.: 960; 1 STORY

AREA/HEIGHT PER CBC TABLE 503

B - OCCUPANCY
MAX. SQUARE FOOTAGE : 9,000 S.F.
MAX. HEIGHT OF BLDG: 2 STORIES
INCREASES NOT REQUIRED

A-3 - OCCUPANCY
MAX. SQUARE FOOTAGE : 6,000 S.F.
MAX. HEIGHT OF BLDG: 1 STORY
INCREASES NOT REQUIRED

PER 507: NOT UNLIMITED AREA BUILDING; NO AREA OR HEIGHT MODIFICATIONS/INCREASES USED; NO FRONTAGE INCREASE USED.

SEPARATION & FIRE RATING OF STRUCTURE (TABLE 508.4):
B & A-3 = 2 HOUR FIRE RATED SEPARATION REQUIRED

FIRE-RESISTANCE RATING OF V-B TYPE BUILDING COMPONENTS NOT REQUIRED PER TABLE 601

803.9: INTERIOR WALL & CEILING FINISHES
B & A-3 OCCUPANCY, NON-SPRINKLERED:
ROOMS: CLASS C MATERIALS

FIRE ALARM SYSTEM :
(907.2.2) B - PER OCCUPANT LOAD, NO FIRE ALARM SYSTEM IS REQUIRED

(907.2.1) A-3 - PER OCCUPANT LOAD, NO FIRE ALARM SYSTEM IS REQUIRED

OCCUPANT LOAD: (PER TABLE 1004.1.1)

B - AREA: 100 GROSS FACTOR (OFFICES & CONFERENCE RMS. ONLY)
1,228/100 = 12.8 = 13 OCCUPANTS
A-3 - AREA: 15 NET FACTOR (TRAINING RM.)
923/15 = 61.53 = 62 OCCUPANTS

OF EXITS: (2) PROVIDED
(TABLE TO 21.2(2) - (1) EXIT MAX. OCC. LOAD = 49/75' MAX. TRAVEL DISTANCE
GROUP B OCC. LOAD 13 - (1) EXIT REQUIRED
GROUP A-3 OCC. LOAD 62 - (2) EXITS REQUIRED

EGRESS ILLUMINATION: REQUIRED PER 1006.1

(TABLE 1016.2)
GROUP A MAX. TRAVEL DISTANCE = 200' UNSPRINKLERED
GROUP B MAX. TRAVEL DISTANCE = 220' UNSPRINKLERED

(TABLE 1014.3) COMMON PATH OF EGRESS TRAVEL
B ≤ 30 (UNSPRINKLERED): 100'
A-3 (ALL OTHERS): 75'

HALL MUST ACCOMODATE 1/2 A-3 OCCUPANT LOAD - 31
(1/2 OF A-3 OCCUPANCY) + B OCCUPANT LOAD - 13
MULTIPLY BY 0.2 TO SIZE EXIT (44 OCC LOAD)

(1005.3.2) EGRESS WIDTH: 0.2" / OCCUPANT
1. 1/2 OF A-3 OCC. LOAD = 31 + FUTURE OFFICE OCC. LOAD =2
31 + 2 = 33 OCC. LOAD x 0.2" = 6.6"
2. 1/2 OF A-3 OCC. LOAD = 31 + ALL OFFICES OCC. LOAD = 13
31 + 13 = 44 OCC. LOAD x 0.2" = 8.8"

(903.2.1.3) SPRINKLERS AT GROUP A-3 ARE REQUIRED IF ANY OF THE FOLLOWING APPLIES:

1. FIRE AREA EXCEEDS 12,000 SQ. FT.
2. FIRE AREA HAS AN OCC. LOAD EXCEEDING 300 OR MORE
3. THE FIRE AREA IS LOCATED ON A FLOOR OTHER THAN LEVEL EXIT DISCHARGE.
4. THE STRUCTURE EXCEEDS 12,000 SQ. FT. AND CONTAINS MORE THAN ONE FIRE AREA CONTAINING EXHIBITION AND DISPLAY ROOMS, AND IS SEPARATED INTO TWO OR MORE BUILDINGS BY FIRE WALLS OF LESS THAN 4 HOUR FIRE RESISTANCE RATING WITHOUT OPENINGS.

B - NO SPRINKLERS REQUIRED
A-3 - NO SPRINKLERS REQUIRED

LICENSED ARCHITECT
ANDREW J. PAWLOWSKI
No. C 25996
REN. OCT 31, 2017
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Revisions

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DISTRICT SUPPORT SERVICES BLDG

for

GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:29-030-02

date: 6/9/16
scale: 1/4" = 1'-0"
job #: 15-397

EGRESS & EXITING PLAN

A1

CONSTRUCTION WASTE MANAGEMENT PLAN WORKSHEET

Project Name: DISTRICT SUPPORT SERVICES BLDG
Project Location: GILMORE WAY, GRASS VALLEY
Building Permit #: TBA **Project Sq. Ft.:** 2,880
Contractors Name: TBD **Telephone:**
Owners Name: GRASS VALLEY SCHOOL DISTRICT **Telephone:** (530) 274-8723

This construction waste management plan is hereby submitted to comply with Section 4.408.2 of the 2013 California Green Building Standards Code.

The purpose of this plan is to identify and outline the methods to be used as the minimum requirements for a construction waste management plan when the local jurisdiction does not have a construction and demolition waste management ordinance per Section 4.408.2.

1. The method of waste tracking to be used on this project will be: (Check one box)

   ☐ **Volume** ☐ **Weight** ☐ **4 Lbs. per Sq. Ft.** ☒ **Recycling Facility**

2. Construction waste generated on this project for transport to a recycling facility will be: (Check appropriate box)

   ☒ **Sorted on-site (Source-separated)** ☐ **Bulk mixed (Single stream)**

3. The facility (or facilities) where the construction waste material will be taken is:

   Name of Facility: McCourtney Road Transfer Station Recycling Center & Household Hazardous Waste Facility
   Address: 14741 Wolf Mountain Road Grass Valley, CA
   Telephone: (530) 274-3240 (Attach separate sheet for additional facilities)

4. The following construction methods will be used to reduce the amount of waste generated: (Check all that apply)

   ☒ Efficient design (dimensions of building components are designed to available material sizes or standard sizes).
   ☒ Careful and accurate material ordering.
   ☒ Careful material handling and storage.
   ☐ Panelized or prefabricated construction.
   ☒ Other SALVAGE: EXCESS MATERIALS WILL BE SALVAGED FOR OTHER PROJECTS OR DONATED TO HABITAT FOR HUMANITY
   ☐ Other

5. Waste reduction and recycling strategies shall be discussed at periodic project meetings. Each new [Contractor]* that comes onto the site shall be provided with a copy of the CWMP, which shall also be posted in the project office. The [Project Manager]* shall also instruct all [Subcontractors]* as to the location and proper use of debris boxes for disposal of construction waste materials.

6. Every effort shall be made to use recycling and/or reuse (diversion) measures to reduce the amount of construction waste and other materials sent to landfills. Whenever possible, site-sorted debris boxes shall be used to segregate construction waste materials to maximize the diversion rate.

7. The [Contractor]* shall provide debris boxes for materials sorted on-site (source-separated) and/or bulk mixed (single stream) waste for all construction related waste generated on this project. Mixed construction waste shall be taken to a recycling facility that has a diversion rate of at least 50 percent.

8. Any [Supplier]* hauling away packaging or waste materials shall notify the [Contractor]* of the amount of these materials and how they will be disposed of (reused, recycled, salvaged, or taken to landfill).

9. Identified below are the construction waste materials that will be reused and/or recycled during the course of this project and how they will be diverted:

Material	Diversion Method: (Recycle/Reuse)
WOOD WASTE (INCLUDING PALLETS)	RECYCLE @ WOOD WASTE FACILITY
RECYCLABLE PRODUCT PACKAGING	RECYCLE @ COLLECTION FACILITY
SALVAGE MATERIALS	DONATE/SALVAGE/REUSE
METAL WASTE	RECYCLE @ COLLECTION FACILITY
(WIRE FLASHING,SIDING)	
PLASTICS	RECYCLE @ COLLECTION FACILITY
GYPSUM DRYWALL	RECYCLE @ COLLECTION FACILITY

(See Construction Waste Management Worksheets for examples of common materials.)

10. The [Waste Hauler]* shall track the total amount of construction waste leaving the project by weight or by volume and supply the [Contractor]* with copies of tickets or detailed receipts from all loads of construction waste removed from the jobsite.

11. The [Contractor]* shall monitor the process of waste management, recycling, and reuse of construction waste materials to ensure compliance with the CWMP during the course of the project.

12. The [Contractor]* shall ensure that all supporting documentation which demonstrates compliance with the waste management plan is provided to the local enforcement agency upon completion of the project.

* Insert title of appropriate party or responsible person, which may include, but not be limited to: *Contractor(s), Subcontractor(s), Project Manager(s), Superintendent(s), Supplier(s), or Waste Hauler(s).*

2013 CAL GREEN NON-RESIDENTIAL MANDATORY MEASURES CHECKLIST

APPLICATION CHECKLIST FOR BSC	MANDATORY
Requirements	
Project meets all of the requirements of Divisions 5.1 through 5.5.	☒
Site Development	
5.106.1 Storm water pollution prevention. Newly constructed projects which disturb less than one acre of land shall prevent the pollution of stormwater runoff from the construction activities through local ordinance in Section 5.106.1.1 or Best management practices (BMP) in Section 5.106.1.2.	☒ or ☒
A5.106.2 Storm water design. Design storm water runoff rate and quantity in conformance with Section A5.106.3.1 and storm water runoff quality by Section A5.106.3.2 or by local requirements, whichever are stricter.	
A5.106.2.1 Storm water runoff rate and quantity. Implement a storm water management plan resulting in no net increase in rate and quantity of storm water runoff from existing to developed conditions.	
Exception: If the site is already greater than 50 percent impervious, implement a storm water management plan resulting in a 25-percent decrease in rate and quantity.	☒
A5.106.2.2 Storm water runoff quality. Use post construction treatment control best management practices (BMPs) to mitigate (infiltrate, filter or treat) storm water runoff from the 85th percentile 24-hour runoff event (for volume-based BMPs) or the runoff produced by a rain event equal to two times the 85th percentile hourly intensity (for flow-based BMPs).	
5.106.4 Bicycle parking. Comply with Sections 5.106.4.1, 4.106.4.1 and 5.106.4.1.2; or meet local ordinance, whichever is stricter.	☒
5.106.4.1.1 Short-term bicycle parking. If the new project or addition or alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.	☒
5.106.4.1.2 Long-term bicycle parking. For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking spaces being added, with a minimum of one space. See exception for addition or alterations.	☒
A5.106.4.3 Changing rooms. For buildings with over 10 tenant-occupants, provide changing/shower facilities in accordance with Table A5.106.4.3 or document arrangements with nearby changing/shower facilities.	
A5.106.5.1 Designated parking for fuel-efficient vehicles. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in:	
A5.106.5.1.1. Tier 1 10% of total spaces per Table A5.106.5.1.1.	
A5.106.5.1.2. Tier 2 12% of total spaces per Table A5.106.5.1.2.	
5.106.5.2 Designated parking. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2.	☒
5.106.8 Light pollution reduction. [N] Outdoor lighting systems shall be designed and installed to comply with the following:	
1. The minimum requirements in the *California Energy Code* for Lighting Zones 1–4 as defined in **Chapter 10** of the *California Administrative Code*; and	☒
2. Backlight, Uplight and Glare (BUG) ratings as defined in IESNA-TM-15-11; and	☒
3. Allowable BUG ratings not exceeding those shown in Table 5.106.8, or	or
Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.	☒
Exceptions: [N]	
1. Luminaires that qualify as exceptions in Section 147 of the *California Energy Code*	
2. Emergency lighting	
5.106.10 Grading and paving. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include those shown in Items 1–5. See exception for additions or alterations.	☒
Energy Efficiency	
Performance Requirements	
5.201.1 Scope. Building meets or exceeds the requirements of the California Building Energy Efficiency Standards.3	☒
Water Efficiency and Conservation	
Indoor Water Use	
5.303.1 Meters. Separate meters shall be installed for the uses described in Sections 5.303.1.1 and 5.303.1.2.	
5.303.1.1 New buildings or additions in excess of 50,000 square feet. Separate submeters shall be installed as follows:	☒
1. For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day.	
2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:	
a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s)	☒
b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s)	☒
c. Steam and hot-water boilers with energy input more than 500,000 Btu/h (147 kW)	☒
5.303.1.2 Excess consumption. Any tenant within a new building or an addition that is projected to consume more than 1,000 gal/day (3800 L/day).	
5.303.2 Water reduction. Plumbing fixtures shall meet the maximum flow rate values shown in Table 5.303.2.3.	☒
Exception: Buildings that demonstrate 20-percent overall water use reduction. In this case, a calculation demonstrating a 20-percent reduction in the building "water use baseline," as established in Table 5.303.2.2, shall be provided.	☒
5.303.3 Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:	☒
5.303.3.1 Water closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type Toilets.	☒
Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.	
5.303.3.2 Urinals. The effective flush volume of urinals shall not exceed 0.5 gallons per flush.	☒
5.303.3.3 Showerheads.	☒
5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.	☒
5.303.3.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.	
Note: A hand-held shower shall be considered a showerhead.	
5.303.4 Wastewater reduction. [N] Each building shall reduce the generation of wastewater by one of the following methods:	As applicable
1. The installation of water-conserving fixtures or	☒
2. Utilizing nonpotable water systems.	☒
5.303.6 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1401.1 of the *California Plumbing Code* and in Chapter 6 of this code.	As applicable ☒
Outdoor Water Use	
5.304.1 Water budget. A water budget shall be developed for landscape irrigation use.3 Applies to additions or alterations.	☒
5.304.2 Outdoor potable water use. For new water service, separate meters or submeters shall be installed for indoor and outdoor potable water use for landscaped areas of at least 1,000 square feet but not more than 5,000 square feet, separate submeters shall be installed for outdoor potable water use. Applies to additions or alterations.	☒
A5.304.2.1 Outdoor potable water use. For new water service not subject to the provisions of *Water Code* Section 535, separate meters or submeters shall be installed for outdoor potable water use for landscaped areas of at least 500 square feet but not more than 1,000 square feet (the level at which Section 5.304.2 applies).	
5.304.3 Irrigation design. In new nonresidential projects with at least 1,000 square feet but not more than 2,500 square feet of landscaped area (the level at which the MLO applies), install irrigation controllers and sensors which include the following criteria and meet manufacturer's recommendations. Applies to additions or alterations.	
5.304.3.1 Irrigation controllers. Automatic irrigation system controllers installed at the time of final inspection shall comply with the following:	☒ As applicable ☒
1. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.	
2. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.	
Weather Resistance and Moisture Management	
5.407.1 Weather protection. Provide a weather-resistant exterior wall and foundation envelope as required by *California Building Code,* Section 1403.2 and *California Energy Code,* Section 150, manufacturer's installation instructions or local ordinance, whichever is more stringent.2	☒
5.407.2 Moisture control. Employ moisture control measures by the following methods;	
5.407.2.1 Sprinklers. Prevent irrigation spray on structures.	☒
5.407.2.2 Entries and openings. Design exterior entries and openings to prevent water intrusion into buildings.	☒
Construction Waste Reduction, Disposal and Recycling	
5.408.1 Construction waste management. Recycle and/or salvage for reuse a minimum of 50% of the non- hazardous construction waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.	☒ or
5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that complies with Items 1 through 4 of this section.	☒
5.408.1.2 Waste management company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction waste material diverted from the landfill complies with this section.	☒
Exceptions to Sections 5.408.1.1 and 5.408.1.2:	
1. Excavated soil and land-clearing debris	
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.	
3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets	
5.408.1.4 Documentation. Provide documentation of the waste management plan that meets the requirements listed in Sections 5.408.1.1 through 5.408.1.3, and the plan is accessible to the enforcement authority.	☒
5.408.3 Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.	☒
Exception: Reuse, either on-or off-site, of vegetation or soil contaminated by disease or pest infestation.	

APPLICATION CHECKLIST FOR BSC	MANDATORY
Building Maintenance and Operation	
5.410.1 Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling.3	☒
5.410.1.1 Additions. [A] All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30 percent or more in floor area, shall provide recyling areas on site.	
Exception: Additions within a tenant space resulting in less than a 30-percent increase in the tenant space floor area.	
5.410.2 Commissioning. [N] For new buildings 10,000 square feet and over, building commissioning for all building systems covered by Title 24, Part 6, process systems and renewable energy systems shall be included in the design and construction processes of the building project. Commissioning requirements shall include items listed in Section 5.410.2.	☒
Exceptions:	
1. Dry storage warehouses of any size.	
2. Areas under 10,000 square feet used for offices or other conditioned accessory spaces within dry storage warehouses	
3. Tenant improvements under 10,000 square feet as described in Section 303.1.1.	
5.410.2.1 Owner's Project Requirements (OPR). [N] Documented before the design phase of the project begins the OPR shall include items listed in Section 5.410.4.	☒
5.410.2.2 Basis of Design (BOD). [N] A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project to cover the systems listed in Section 5.410.2.2.	☒
5.410.2.3 Commissioning plan. [N] A commissioning plan describing how the project will be commissioned shall include items listed in Section 5.410.2.3.	☒
5.410.2.4 [N] Functional performance testing shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications.	☒
5.410.2.5 Documentation and training. [N] A Systems manual and systems operations training are required.	
5.410.2.5.1 Systems manual. [N] The systems manual shall be delivered to the building owner or representative and facilities operator and shall include the items listed in Section 5.410.2.5.1.	☒
5.410.2.5.2 Systems operations training. [N] A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and shall include items listed in Section 5.410.2.5.2	☒
5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.	☒
5.410.4 Testing and adjusting. Testing and adjusting of systems shall be required for buildings less than 10,000 square feet. Applies to new systems serving additions or alterations.	☒
5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include, as applicable to the project, the systems listed in Section 5.410.4.2.	☒
5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with applicable standards on each system as determined by the enforcing agency.	☒
5.410.4.3.1 HVAC balancing. Before a new space-conditioning system serving a building or space is operated for normal use, balance in accordance with the procedures defined by national standards listed in Section 5.410.4.3.1 or as approved by the enforcing agency.	☒
5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.	☒
5.410.4.5 Operation and maintenance manuals. Provide the building owner with detailed operating and maintenance instructions and copies of guaranties/warranties for each system prior to final inspection.	☒
5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.	☒
Environmental Quality	
Fireplaces	
5.503.1 Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace or a sealed woodstove and refer to residential requirements in the *California Energy Code,* Title 24, Part 6, Subchapter 7, Section 150.	☒ As applicable
5.503.1.1 Woodstoves. Woodstoves shall comply with US EPA Phase II emission limits, where applicable.	☒
Pollutant Control	
A5.504.1 Indoor air quality (IAQ) during construction. Maintain IAQ as provided in Sections A5.504.1.1 and A5.504.1.2.	
A5.504.1.1 Temporary ventilation. Provide temporary ventilation during construction in accordance with Section 121 of the *California Energy Code,* CCR, Title 24, Part 6 and Chapter 4 of CCR, Title 8 and as listed in Items 1 and 2 in Section A5.504.1.2.	
A5.504.1.2 Additional IAQ measures. Employ additional measures as listed in Items 1 through 5 in Section A5.504.1.3.	
5.504.1.3 Temporary ventilation. If the HVAC system is used during construction, use return air filters with a MERV of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy. Applies to additions or alterations.	☒
5.507.4 Acoustical control. Employ building assemblies and components with STC values determined in accordance with ASTM E 90 and ASTM E 413 or OITC determined in accordance with ASTM E 1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2.	☒
5.507.4.1 Exterior noise transmission, prescriptive method. Wall and floor-ceiling assemblies exposed to the noise source making up the building envelope shall have exterior wall and roof ceiling assemblies meeting a composite STC rating of at least 50 or a composite OITC rating of no less than 40 with exterior windows of a minimum STC of 40 or OITC of 30 in the locations described in Items 1 and 2. Also applies to addition envelope or altered envelope.	☒
5.507.4.1.1 Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L_{eq}-1Hr during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30). Also applies to addition or alteration exterior wall.	☒ or
5.507.4.2 Performance method. For buildings located as defined in Sections A5.507.4.1 or A5.507.4.1.1, wall and roof-ceiling assemblies making up the building envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (L_{eq}-1Hr) of 50 dBA in occupied areas during any hour of operation. Also applies to addition envelope or altered envelope.	☒
5.507.4.2.1 Site features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the project to mitigate sound migration to the interior. Also applies to addition envelope or altered envelope.	☒
5.507.4.2.1 Documentation of compliance. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.	☒
5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.	☒
Outdoor Air Quality	
5.508.1 Ozone depletion and global warming reductions. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.	As applicable
5.508.1.1 CFCs. Install HVAC and refrigeration equipment that does not contain CFCs.3	☒
5.508.1.2 Halons. Install fire suppression equipment that does not contain Halons.1	☒
5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.	☒ As applicable
Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO_2), and potentially other refrigerants.	

APPLICATION CHECKLIST FOR BSC	MANDATORY
5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.	☒
5.504.4 Finish material pollutant control. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.4.	
5.504.4.1 Adhesives, sealants, caulks. Adhesives and sealants used on the project shall meet the requirements of the following standards.	
1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2.	☒
2. Aerosol adhesives and smaller unit sizes of adhesives and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with Section 94507.	☒
5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with Table 5.504.4.3 unless more stringent local limits apply.	☒
5.504.4.3.1 Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product- Weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances (CCR, Title 17, Section 94520, et seq.).	☒
5.504.4.3.2 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency.	☒
5.504.4.4 Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the standards listed in Section 5.504.4.4.	☒
5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.	☒
5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.	☒
5.504.4.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in Table 5.504.4.5.	☒
5.504.4.5.3 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:	As applicable
1. Product certifications and specifications.	☒
2. Chain of custody certifications.	☒
3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).	☒
4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards.	☒
5. Other methods acceptable to the enforcing agency.	☒
5.504.4.6 Resilient flooring systems. Comply with the VOC-emission limits defined in the 2012 CHPS criteria and listed on its High Performance Products Database; products compliant with CHPS criteria certified under the Greenguard Children & Schools program; certified under the FloorScore program of the Resilient Floor Covering Institute; or meet California Department of Public Health 2010 Specification.	☒
A5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.	☒
5.504.5.3 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a MERV of 8. MERV 8 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.	☒
Exceptions:	
1.An ASHRAE 10-percent to 15-percent efficiency filter shall be permitted for an HVAC unit meeting the 2013 *California Energy Code* having 60,000 Btu/h or less capacity per fan coil, if the energy use of the air delivery system is 0.4 W/cfm or less at design air flow.	
2.Existing mechanical equipment.	
Indoor Moisture and Radon Control	
5.505.1 Indoor moisture control. Buildings shall meet or exceed the provisions of *California Building Code*, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.1.3	☒
Air Quality and Exhaust	
5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 of the *California Energy Code* and Chapter 4 of CCR, Title 8 or the applicable local code, whichever is more stringent.3	☒
5.506.2 Carbon dioxide (CO_2) monitoring. For buildings or additions equipped with demand control ventilation, CO_2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the *California Energy Code*, CCR, Section 120(c)(4).3	☒
Indoor Moisture and Radon Control	
5.505.1 Indoor moisture control. Buildings shall meet or exceed the provisions of *California Building Code*, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.1.3	☒
Air Quality and Exhaust	
5.506.1 Outside air delivery. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 of the *California Energy Code* and Chapter 4 of CCR, Title 8 or the applicable local code, whichever is more stringent.3	☒
5.506.2 Carbon dioxide (CO_2) monitoring. For buildings or additions equipped with demand control ventilation, CO_2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the *California Energy Code*, CCR, Section 120(c)(4).3	☒

LICENSED ARCHITECT ANDREW J. PAWLOWSKI No. C 25996 REN OCT 31, 2017 STATE OF CALIFORNIA

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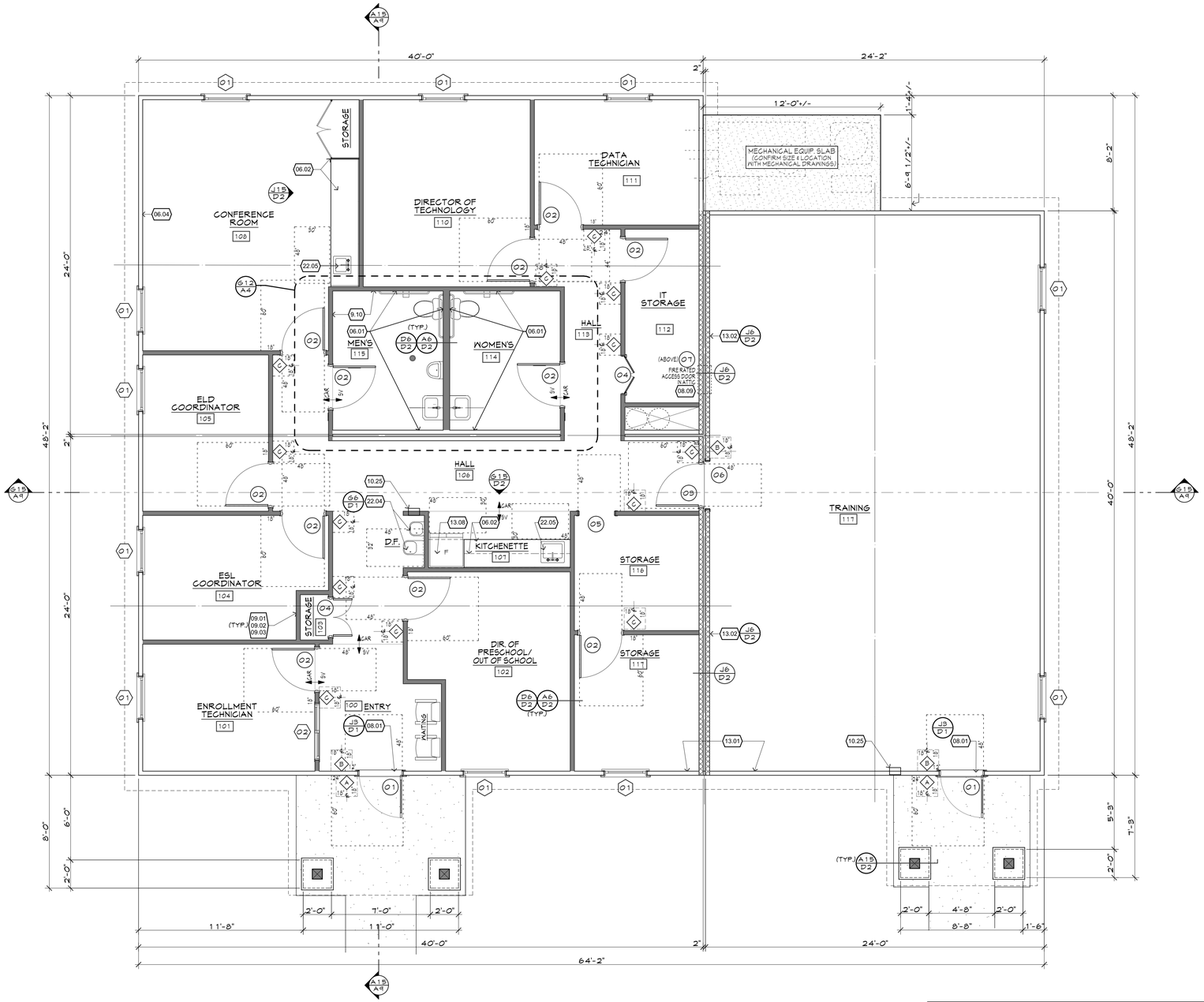
DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN: 29-030-02

date: 6/9/16
scale:
job #: 15-397

NON-RESIDENTIAL MANDATORY MEASURES

A2



NOTES

1. 11B-219 ASSISTED LISTENING SYSTEMS:
ASSISTED LISTENING SYSTEMS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 11B-219 AND SHALL COMPLY WITH SECTION 11B-706.

2. 11B-219.2 REQUIRED SYSTEMS:
AN ASSISTED LISTENING SYSTEM SHALL BE PROVIDED IN ASSEMBLY AREAS, INCLUDING CONFERENCE AND MEETING ROOMS.

3. 11B-219.3 RECEIVERS:
THE MINIMUM NUMBER IS 4% OF TOTAL OF SEATS (TWO MINIMUM) SEATS WITH DEVICES ARE REQUIRED TO BE WITHIN 50' OF STAGE OR PLAY AREA AND HAVE A COMPLETE VIEW OF THE STAGE AREA.

KEYNOTES

06 FINISHES
06.01 PLASTIC PANELING - 48" HIGH AT PLUMBING WALL AND ADJOINING WALLS ONLY (TYP. 3 WALLS FOR EACH RESTROOM) - 066400
06.02 PLASTIC LAMINATE FACED CABINETS - 064116
06.03 CEMENTITIOUS SOFFIT BOARD - 074646
06.04 WHITE BOARD

08 OPENINGS
08.01 THRESHOLD - 087100
08.03 ATTIC ACCESS

09 FINISHES
09.01 PAINT FINISH - 099113
09.02 RESILIENT BASE AND ACCESSORIES, TYP. THROUGHOUT - 096516
09.03 GYPSUM BOARD, TYP. THROUGHOUT - 092900
09.10 SOUND ATTENUATION BLANKETS TYPICAL AT ALL RESTOOM WALLS - 92900

10 ACCESSORIES
10.25 FIRE EXTINGUISHER CABINET (SEMI-RECESSED)

13 SPECIAL CONSTRUCTION
13.01 RELOCATED 24' x 40' BUILDING, TYPICAL OF (3), SEE STRUCTURAL DRAWINGS.
13.02 2-HOUR FIRE RATED WALL (TO BOTTOM OF ROOF SHEATHING) - 092900
13.08 REFRIGERATOR (BY OWNER)

22 PLUMBING
22.04 DRINKING FOUNTAIN - SEE PLUMBING DRAWINGS
22.05 SINK - SEE PLUMBING DRAWINGS

SIGNS - 101400

SIGN TYPE	DESCRIPTION
A	INTERNATIONAL SYMBOL OF ACCESSIBILITY, SEE J12/D1
B	TACTILE EXIT SIGN WITH "GRADE 2" BRAILLE, SEE G12/D1
C	ROOM NAME SIGN WITH "GRADE 2" BRAILLE
D	SANITARY FACILITY SIGNAGE WITH "GRADE 2" BRAILLE WALL MOUNTED - SEE G12/D1
E	SANITARY FACILITY SIGNAGE - DOOR MOUNTED IN CONTRASTING COLOR TO DOOR COLOR - SEE G12/D1

LEGEND

- (E) WALL
- NEW 2x4 STUD WALL (U.N.O.)
- NEW 2-HOUR FIRE RATED WALL - SEE J6/D2
- 01 WINDOW TYPE - SEE SCHEDULE ON SHEET "A4"
- 01 DOOR TYPE - SEE SCHEDULE ON SHEET "A4"
- 08.01 KEYNOTE
- 100 ROOM NUMBER
- A SIGN
- J3/D1 DETAIL REFERENCE / DETAIL SHEET NUMBER
- CAR / SV LINE OF MATERIAL TRANSITION
  CAR = CARPET - 096816
  SV = SHEET VINYL - 096516
- 102800 REFERENCE TO SPECIFICATION, SEE PROJECT MANUAL

APPROVALS

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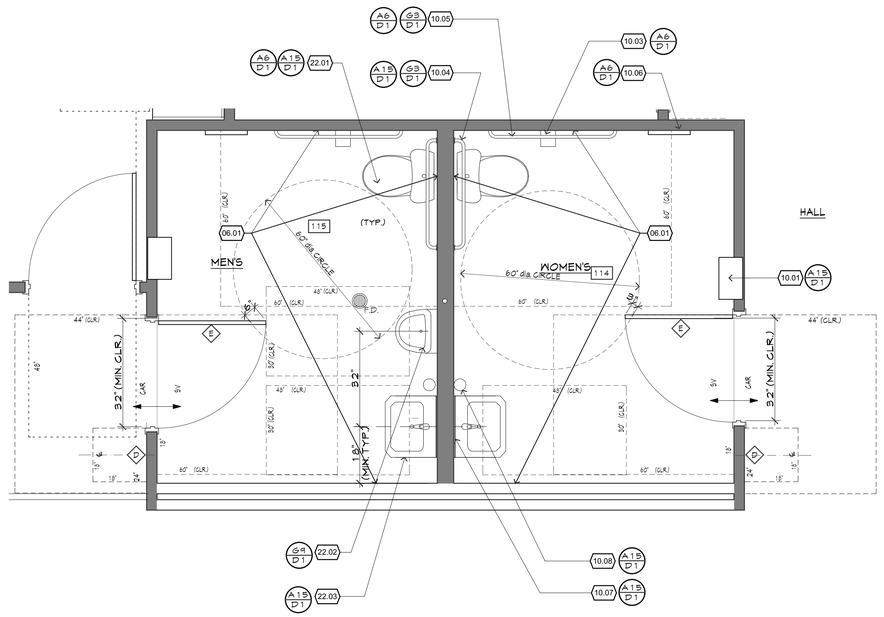
DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:29-030-02

date:	6/9/16
scale:	1/4" = 1'-0"
job #:	15-397

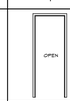
FLOOR PLAN

A3

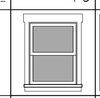


G12 ENLARGED RESTROOM PLAN 1/2" = 1'-0"

○ DOOR SCHEDULE

ID	01	02	03	04	05	06	07
QUANTITY	2	11	1	2	1	1	1
ELEVATION							
NOMINAL W x H SIZE	3'-0"x7'-0"	3'-0"x7'-0"	3'-0"x7'-0"	2'-8"x7'-0"	2'-6"x7'-0"	3'-4"x7'-0"	1'-10"x2'-6"
NOMINAL HEAD HEIGHT	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	7'-0"	12'-6"
NOTES	ALUMINUM / GLASS W/ CLOSER. SEE 084113	SOLID CORE WOOD. PROVIDE ACOUSTIC SEALS AT RESTROOM DOORS. SEE 081416	SOLID CORE WOOD. 90 MINUTE FIRE RATED DOOR. SEE 081416	SOLID CORE WOOD. SEE 081416	CASED OPENING 081113	CASED OPENING 081113	FIRE RATED FOR 2HR WALL

⬡ WINDOW SCHEDULE

ID	01	02
QUANTITY	11	1
TYPE	VINYL SINGLE HUNG	ALUM. NTERIOR SLIDER
W x H Size	3'-0"x4'-0"	4'-0"x4'-0"
W/D NOMINAL HD. H..	7'-0"	7'-0"
ELEVATION		
NOTES	SEE 85313	SEE 085113

NOTES

⬡ KEYNOTES

06 FINISHES

06.01 PLASTIC PANELING - 48" HIGH AT PLUMBING WALL AND ADJOINING WALLS ONLY (TYP. 3 WALLS FOR EACH RESTROOM) - 066400

10 ACCESSORIES - 102800

10.01 RECESSED PAPER TOWEL DISPENSER/WASTE RECEPTACLE - BOBRICK #B-3974
10.03 SURFACE MOUNTED TOILET PAPER DISPENSER - BOBRICK #B-2888
10.04 36" GRAB BAR - BOBRICK #B-5806.99.36
10.05 42" GRAB BAR - BOBRICK #B-5806.99.42
10.06 SURFACE MOUNTED TOILET SEAT COVER DISPENSER - BOBRICK #B-221
10.07 SURFACE MOUNTED MIRROR - BOBRICK #B-2436
10.08 AUTOMATIC LAVATORY MOUNTED FOAM SOAP DISPENSER - BOBRICK #B-2111

22 PLUMBING

22.01 WATER CLOSET - SEE PLUMBING DRAWINGS
22.02 URINAL - SEE PLUMBING DRAWINGS
22.03 LAVATORY - SEE PLUMBING DRAWINGS

◇ SIGNS

SIGN TYPE	DESCRIPTION
A	INTERNATIONAL SYMBOL OF ACCESSIBILITY, SEE J12 D1
B	TACTILE EXIT SIGN WITH "GRADE 2" BRAILLE, SEE G19 D1
C	ROOM NAME SIGN WITH "GRADE 2" BRAILLE
D	SANITARY FACILITY SIGNAGE WITH "GRADE 2" BRAILLE WALL MOUNTED - SEE G12 D1
E	SANITARY FACILITY SIGNAGE - DOOR MOUNTED IN CONTRASTING COLOR TO DOOR COLOR - SEE G12 D1

LEGEND

- (E) 2x4 STUD WALL
- NEW 2x4 STUD WALL (U.N.O.)
- 10.01 KEYNOTE
- 100 ROOM NUMBER
- A SIGN
- J34 D1 DETAIL REFERENCE / DETAIL SHEET NUMBER
- 102800 REFERENCE TO SPECIFICATION, SEE PROJECT MANUAL

APPROVALS

LICENSED ARCHITECT
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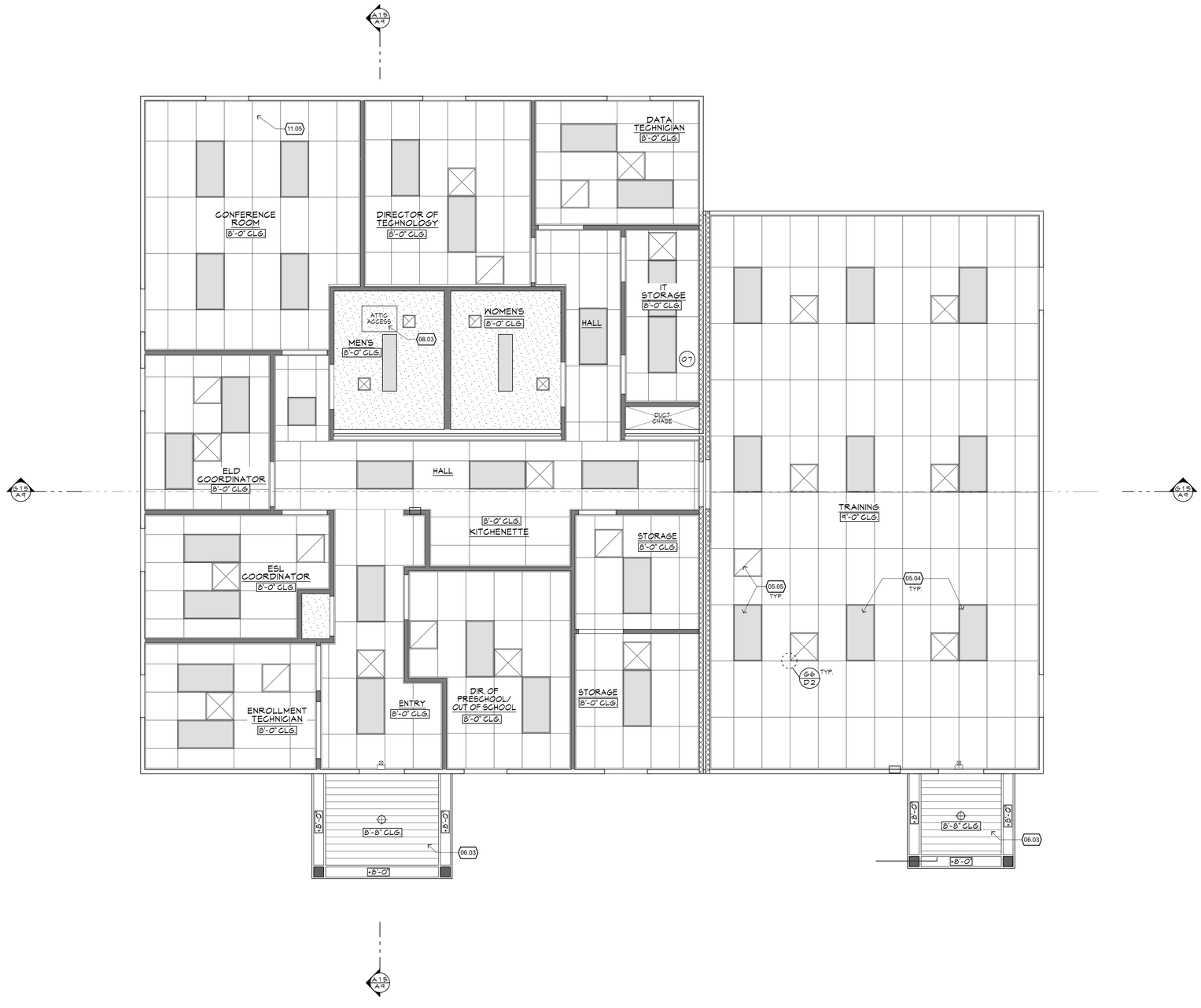
DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:24-030-02

date: 6/9/16
scale: AS NOTED
job #: 15-397

ENLARGED RESTROOM PLANS

A4



NOTES

KEYNOTES

05 INTERIOR
05.04 LIGHT FIXTURE - SEE ELECTRICAL DRAWINGS
05.05 MECHANICAL EQUIPMENT - SEE MECHANICAL DRAWINGS

06 FINISHES
06.03 CEMENTITIOUS SOFFIT BOARD - 074646

08 OPENINGS
08.03 ATTIC ACCESS

11 EQUIPMENT
11.05 PULL DOWN PROJECTOR SCREEN - 115213

LEGEND

SUSPENDED ACOUSTIC CEILING - 095113

GYPSUM BOARD CEILING - 092900

ELECTRICAL:

SUSPENDED CEILING LIGHT FIXTURE - SEE SHEET E2.1

SURFACE MOUNTED FLUORESCENT LIGHT FIXTURE - SEE SHEET E2.1

WALL MOUNTED EXIT SIGN - SEE SHEET E2.1

MECHANICAL:

CEILING MOUNTED SUPPLY REGISTER - SEE SHEET M1.1

CEILING MOUNTED RETURN AIR GRILL - SEE SHEET M1.1

CEILING MOUNTED EXHAUST FAN - SEE SHEET M1.1

APPROVALS

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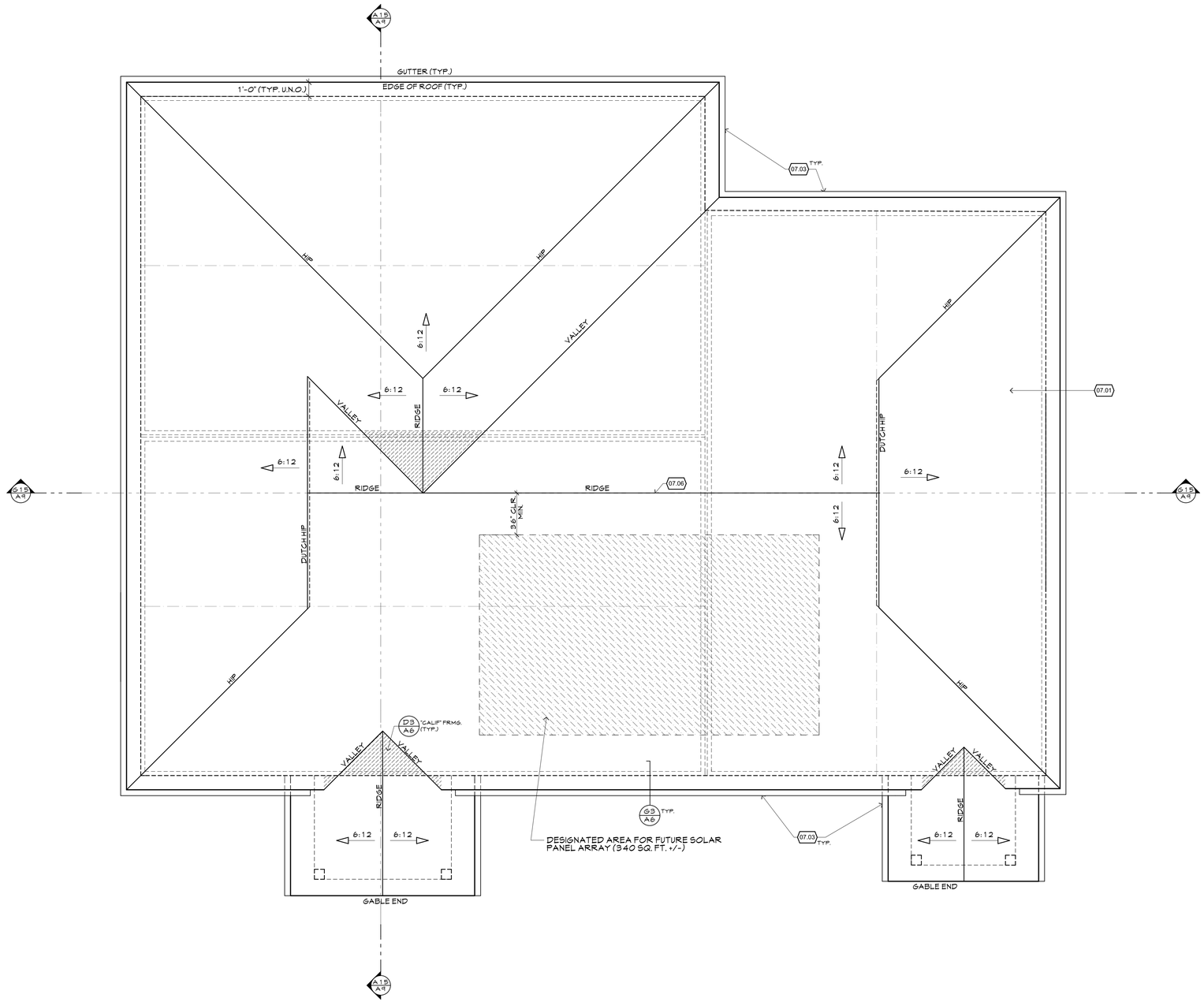
GILMORE WAY, GRASS VALLEY, APN: 29-030-02

6/9/16 date.
1/4" = 1'-0" scale.
15-397 job #.

REFLECTED CEILING PLAN

A5



NOTES

1. ALL ROOFING MATERIALS SHALL HAVE MINIMUM CLASS "A" FIRE RATING.

4. INSTALLATION OF ROOFING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

5. ALL GUTTERS SHALL BE PROVIDED WITH DEBRIS SCREENS

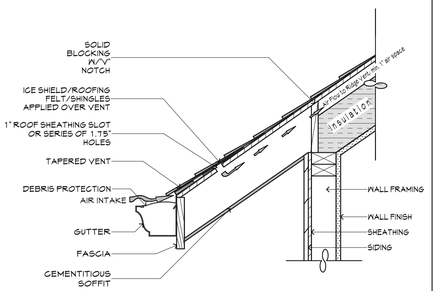
KEYNOTES

07 THERMAL AND MOISTURE PROTECTION

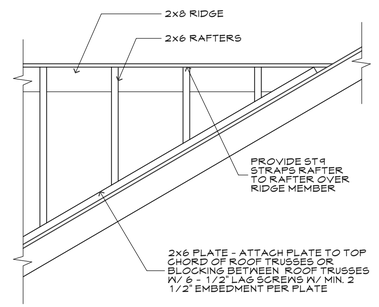
07.01 CLASS "A" COMPOSITION SHINGLES - 073113

07.03 GUTTER w/DOWNSPOUTS AND DEBRIS SCREEN - 77100

07.06 RIDGE VENT - 073113



G3 EAVE 3/4" = 1'-0"



D3 CALIFORNIA FRAMING 3/4" = 1'-0"

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DISTRICT SUPPORT SERVICES BLDG

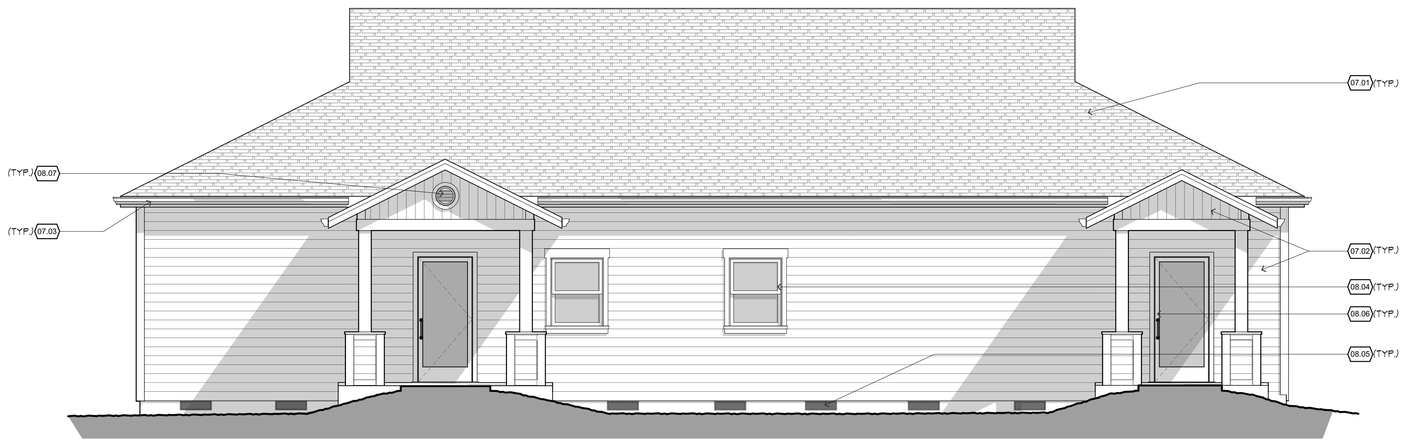
for

GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:29-030-02

date: 6/9/16
scale: 1/4" = 1'-0"
job #: 15-397

ROOF PLAN

A6



G15 SOUTH ELEVATION 1/4" = 1'-0"

A15 WEST ELEVATION 1/4" = 1'-0"

ELEVATION NOTES

WILDLAND URBAN INTERFACE (CBC CHAPTER 7A/CRC SECTION 327)

1. EXTERIOR WALL COVERINGS SHALL EXTEND FROM THE TOP OF THE FOUNDATION TO THE ROOF, TERMINATE AT 2 INCH NOMINAL SOLID WOOD BLOCKING BETWEEN RAFTERS OR AT ENCLOSED EAVES. BUILDING SHALL HAVE ALL UNDERFLOOR AREAS ENCLOSED TO THE GRADE WITH EXTERIOR WALLS IN ACCORDANCE WITH THIS SECTION.
2. EXTERIOR WINDOWS, WINDOW WALLS, GLAZED DOORS AND GLAZED OPENINGS WITHIN EXTERIOR DOORS SHALL BE INSULATING GLASS UNITS WITH A MINIMUM OF ONE TEMPERED PANE, GLASS BLOCK UNITS, OR HAVE FIRE RESISTIVE RATING OF NOT LESS THAN 20 MINUTES PER ASTM E2010 OR SFM 12-7A-2.
3. EXTERIOR DOORS SHALL CONFORM TO SFM 12-7A-1 OR BE OF APPROVED NONCOMBUSTIBLE, OR SOLID CORE WOOD HAVING STILES AND RAILS NOT LESS THAN 1 3/8" THICK WITH INTERIOR FIELD PANEL THICKNESS NO LESS THAN 1 1/4" THICK OR SHALL HAVE A FIRE RESISTANCE RATING OF NOT LESS THAN 20 MIN. PER ASTM E2074.
4. THE UNDERSIDE OF APPENDAGES AND FLOOR PROJECTIONS SHALL MAINTAIN THE IGNITION RESISTANT INTEGRITY OF EXTERIOR WALLS, OR PROJECTIONS SHALL BE ENCLOSED TO GRADE.
5. ANY PORTION OF DECKING SURFACE, STAIR TREADS, RISERS AND LANDINGS OF DECKS, PORCHES, AND BALCONIES WITHIN 10 FEET OF THE PRIMARY STRUCTURE SHALL COMPLY WITH THE METHODS OUTLINED IN CBC 704A/CRC R327.9
6. VENTILATION OPENING FOR ENCLOSED ATTICS, ENCLOSED EAVE SOFFIT SPACES, ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS, AND UNDERFLOOR VENTILATION OPENING SHALL BE FULLY COVERED WITH NON-COMBUSTIBLE METAL WIRE MESH, VENTS, OTHER MATERIALS OR OTHER DEVICES THAT MEET THE FOLLOWING REQUIREMENTS:
   1. THE DIMENSION OF THE OPENINGS THERIN SHALL BE A MINIMUM OF 1/16 INCH (1.6mm) AND SHALL NOT EXCEED 1/8 INCH (3.2mm).
   2. THE MATERIALS USED SHALL BE NONCOMBUSTIBLE.
   EXCEPTION:
   VENTS LOCATED UNDER THE ROOF COVERING, ALONG THE RIDGE OF ROOFS, WITH THE EXPOSED SURFACE OF THE VENT COVERED BY NONCOMBUSTIBLE WIRE MESH, MAY BE OF COMBUSTIBLE MATERIALS.
   3. THE MATERIALS USED SHALL BE CORROSION RESISTANT.
7. OPEN ROOF EAVES. THE EXPOSED ROOF DECK ON THE UNDERSIDE OF UNENCLOSED ROOF EAVES SHALL CONSIST OF ONE OF THE FOLLOWING (CRC R327.1.4):
   1. NONCOMBUSTIBLE MATERIAL.
   2. IGNITION-RESISTANT MATERIAL.
   3. ONE LAYER OF 5/8 INCH TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE EXTERIOR OF THE ROOF DECK.
   4. THE EXTERIOR PORTION OF A 1-HOUR FIRE RESISTIVE EXTERIOR WALL ASSEMBLY APPLIED TO THE UNDERSIDE OF THE ROOF DECK DESIGNED FOR EXTERIOR FIRE EXPOSURE INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL.
   EXCEPTIONS: THE FOLLOWING MATERIALS DO NOT REQUIRE PROTECTION:
   1. SOLID WOOD RAFTER TAILS ON THE EXPOSED UNDERSIDE OF OPEN ROOF EAVES HAVING A MINIMUM NOMINAL DIMENSION OF 2 INCH (50.8 MM).
   2. SOLID WOOD BLOCKING INSTALLED BETWEEN RAFTER TAILS ON THE EXPOSED UNDERSIDE OF OPEN ROOF EAVES HAVING A MINIMUM NOMINAL DIMENSION OF 2 INCH (50.8 MM).
   3. GABLE END OVERHANGS AND ROOF ASSEMBLY PROJECTIONS BEYOND AN EXTERIOR WALL OTHER THAN AT THE LOWER END OF THE RAFTER TAILS.
   4. FASCIA AND OTHER ARCHITECTURAL TRIM BOARDS.

UNDERFLOOR AREA VENTING:
UNDERFLOOR AREA: 2,880 S.F./150 = 19.2 S.F.= 2,760 SI. NFA REQUIRED
UNDERFLOOR VENTILATION (28) MIN. - 20"X5" VENTS OR EQUIV. PLACED AS CLOSE TO CORNERS AS PRACTICAL & LOCATED FOR CROSS-VENTILATION)

KEYNOTES

05 INTERIOR
05.10 METAL GUARDRAIL - 055000

07 THERMAL AND MOISTURE PROTECTION
07.01 CLASS "A" COMPOSITION SHINGLES - 073113
07.02 FIBER-CEMENT SIDING- 074646
07.03 GUTTER w/DOWNSPOUTS AND DEBRIS SCREEN - 77100

08 OPENINGS
08.04 VINYL WINDOW - 085313
08.05 UNDERFLOOR VENT - 089516
08.06 ALUMINUM FRAMED ENTRANCE DOOR - 084113
08.07 FALSE LOUVERED VENT - 089119
08.08 FIXED LOUVERED VENT, SEE SHEET M1.1 - 089119

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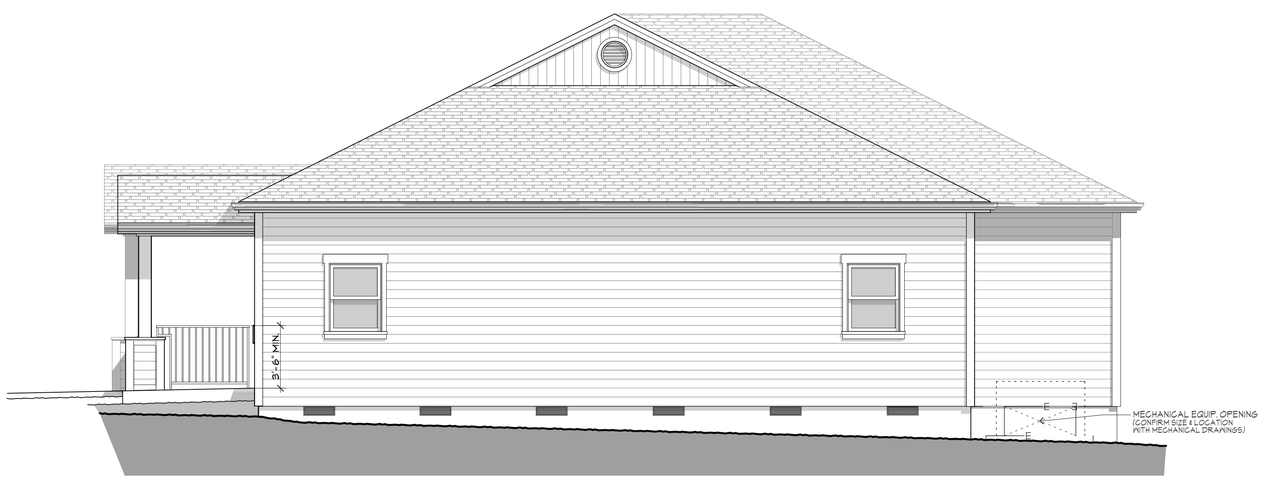
GILMORE WAY, GRASS VALLEY, APN:29-030-02

date: 6/9/16
scale: 1/4" = 1'-0"
job #: 15-397

EXTERIOR ELEVATIONS

A7

G15 NORTH ELEVATION 1/4" = 1'-0"



A15 EAST ELEVATION 1/4" = 1'-0"

ELEVATION NOTES

WILDLAND URBAN INTERFACE (CBC CHAPTER 7A/CRC SECTION R327)

1. EXTERIOR WALL COVERINGS SHALL EXTEND FROM THE TOP OF THE FOUNDATION TO THE ROOF, TERMINATE AT 2 INCH NOMINAL SOLID WOOD BLOCKING BETWEEN RAFTERS OR AT ENCLOSED EAVES. BUILDING SHALL HAVE ALL UNDERFLOOR AREAS ENCLOSED TO THE GRADE WITH EXTERIOR WALLS IN ACCORDANCE WITH THIS SECTION.

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5. ANY PORTION OF DECKING SURFACE, STAIR TREADS, RISERS AND LANDINGS OF DECKS, PORCHES, AND BALCONIES WITHIN 10 FEET OF THE PRIMARY STRUCTURE SHALL COMPLY WITH THE METHODS OUTLINED IN CBC 704A/CRC R327.9

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   3. THE MATERIALS USED SHALL BE CORROSION RESISTANT.

7. OPEN ROOF EAVES. THE EXPOSED ROOF DECK ON THE UNDERSIDE OF UNENCLOSED ROOF EAVES SHALL CONSIST OF ONE OF THE FOLLOWING (CRC R327.7.4):
   1. NONCOMBUSTIBLE MATERIAL.
   2. IGNITION-RESISTANT MATERIAL.
   3. ONE LAYER OF 5/8 INCH TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE EXTERIOR OF THE ROOF DECK.
   4. THE EXTERIOR PORTION OF A 1-HOUR FIRE RESISTIVE EXTERIOR WALL ASSEMBLY APPLIED TO THE UNDERSIDE OF THE ROOF DECK DESIGNED FOR EXTERIOR FIRE EXPOSURE INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL.
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   3. GABLE END OVERHANGS AND ROOF ASSEMBLY PROJECTIONS BEYOND AN EXTERIOR WALL OTHER THAN AT THE LOWER END OF THE RAFTER TAILS.
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UNDERFLOOR AREA: 2,880 S.F. / 150 = 19.2 S.F. = 2,760 SI. NFA REQUIRED
UNDERFLOOR VENTILATION (28) MIN. - 20"X5" VENTS OR EQUIV. PLACED AS CLOSE TO CORNERS AS PRACTICAL & LOCATED FOR CROSS-VENTILATION)

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for
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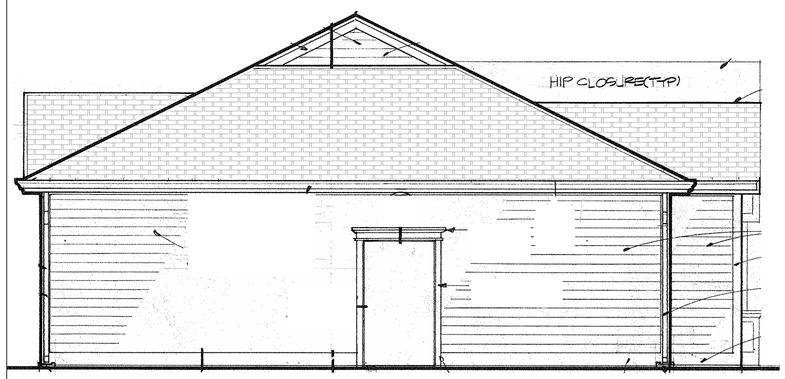
GILMORE WAY, GRASS VALLEY, APN:29-030-02

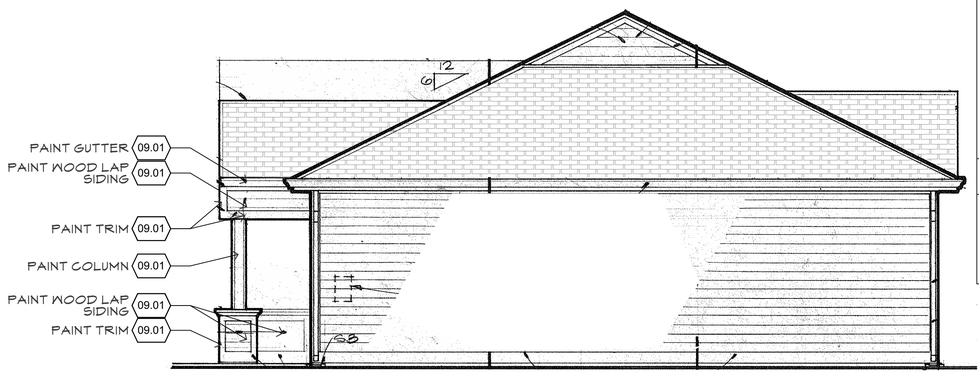
date: 6/9/16
scale: 1/4" = 1'-0"
job #: 15-397

EXTERIOR ELEVATIONS

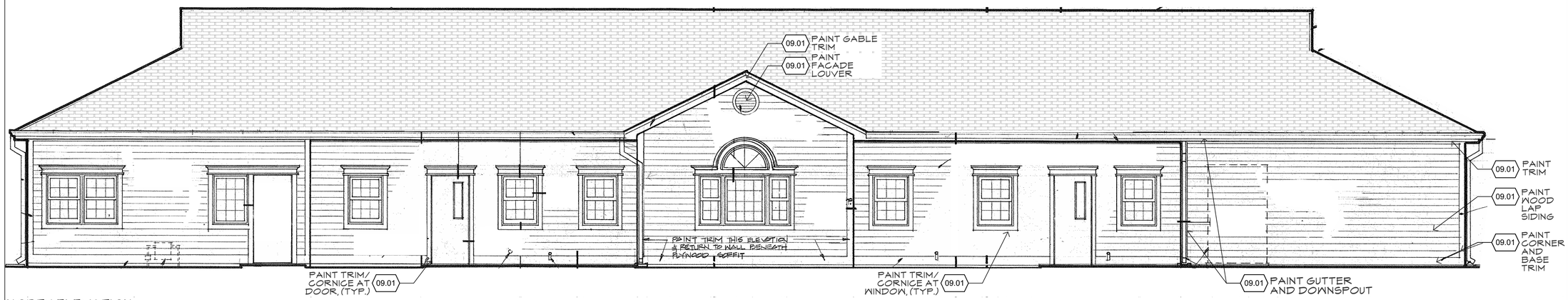
A8



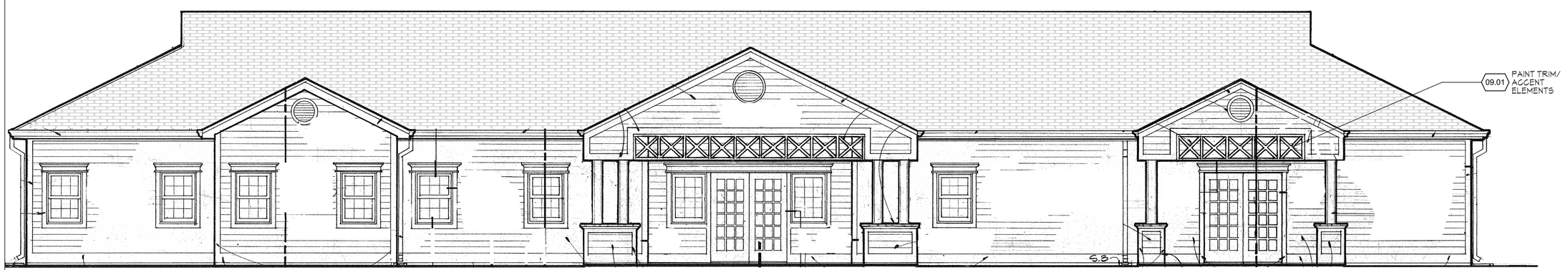
WEST ELEVATION



EAST ELEVATION



NORTH ELEVATION



SOUTH ELEVATION

NOTES

SCOPE:

EXTERIOR PAINTING OF THE EXISTING DISTRICT OFFICE BUILDING (LOCATED IMMEDIATELY SOUTH OF THE NEW ADMINISTRATION BUILDING PROPOSED).

KEYNOTES

09 FINISHES

09.01 PAINT FINISH - 099113

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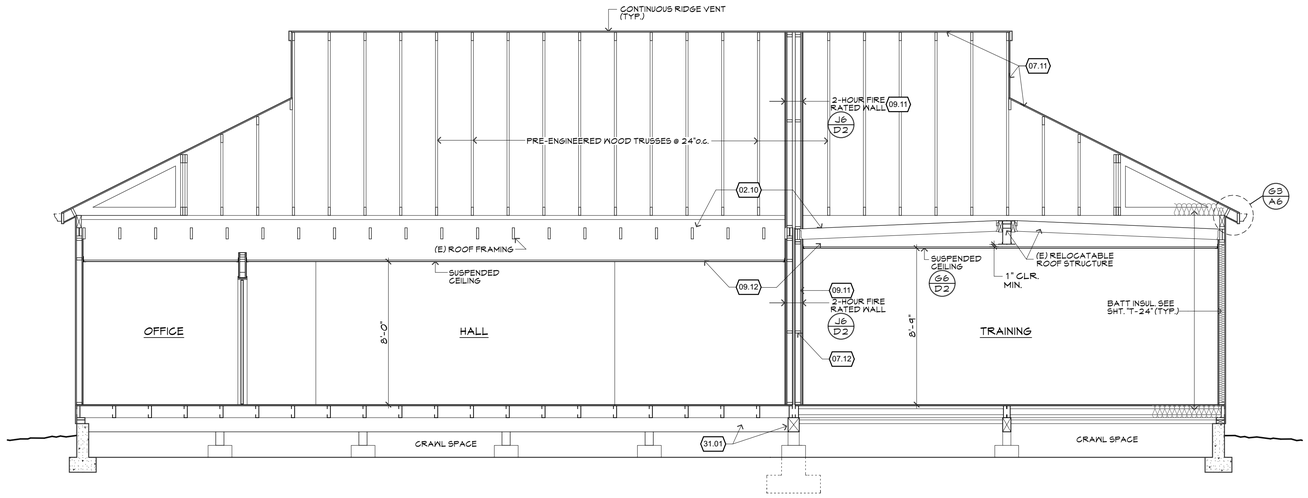
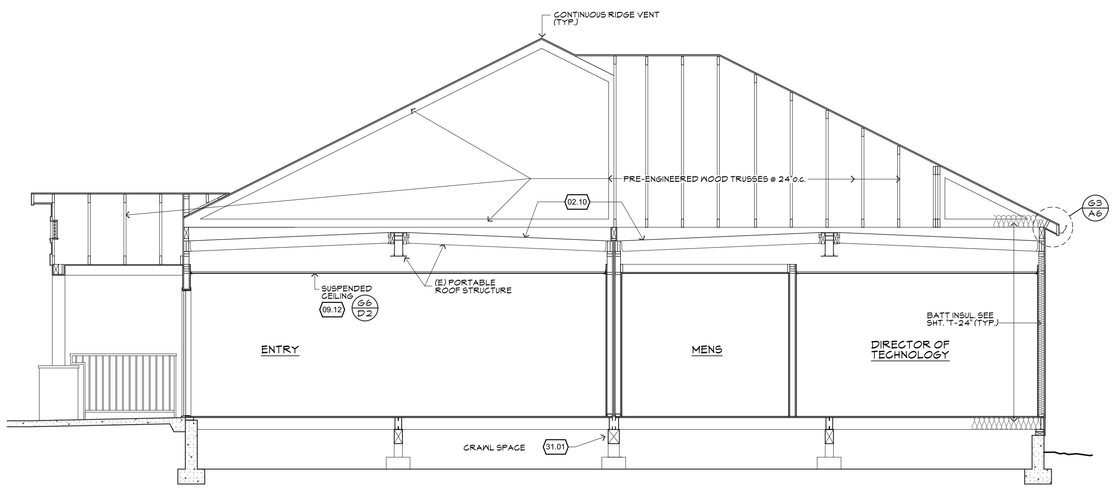
EXISTING EXTERIOR ELEVATION - DISTRICT OFFICE

A8.1



G1.5 SECTION 1/4" = 1'-0"



A1.5 SECTION 1/4" = 1'-0"

SECTION NOTES

1. CRIPPLE WALLS EXCEEDING 4 FEET IN HEIGHT SHALL BE FRAMED OF STUDS HAVING THE SIZE REQUIRED FOR AN ADDITIONAL STORY.
2. WALL CONSTRUCTION SHALL COMPLY WITH CBC TABLE 2308.9.1 UNLESS NOTED OTHERWISE.
3. FIRE BLOCKING/DRAFTSTOPPING (VERTICAL AND HORIZONTAL) SHALL CONFORM TO CBC SECTION 717.
4. WHERE SOLES OR PLATES ARE CUT FOR PIPES, A METAL TIE MINIMUM 0.058 INCH THICK AND 1 1/2 INCHES WIDE SHALL BE FASTENED ACROSS THE OPENING WITH 6-16D NAILS MINIMUM EACH SIDE.

KEYNOTES

02 EXISTING CONDITIONS
02.10 REMOVE ROOFING AND SHEATHING FROM EXISTING BUILDING - 24199

07 THERMAL AND MOISTURE PROTECTION
07.11 RADIANT BARRIER AT ROOF SHEATHING AND GABLES
07.12 FIRE STOPPING - 78413

09 FINISHES
09.11 GYPSUM BOARD, FIRE SEPARATION - 092900
09.12 ACOUSTIC PANEL CEILING - 95113

31. EARTHWORK
31.01 TERMITE CONTROL - 313116

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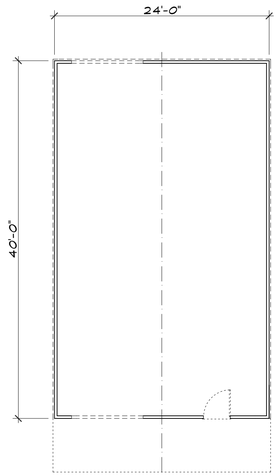
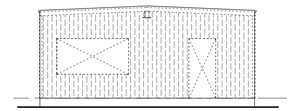
SECTIONS

A9

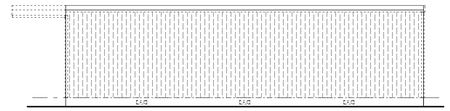


TYPICAL FLOOR PLAN

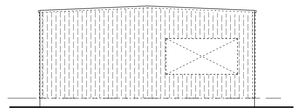
G9 (E) RELOCATABLE DEMO. PLAN 1/8" = 1'-0"



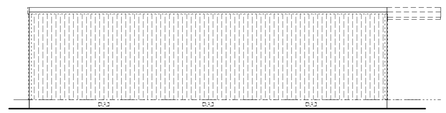
FRONT ELEVATION



RIGHT SIDE ELEVATION



REAR ELEVATION



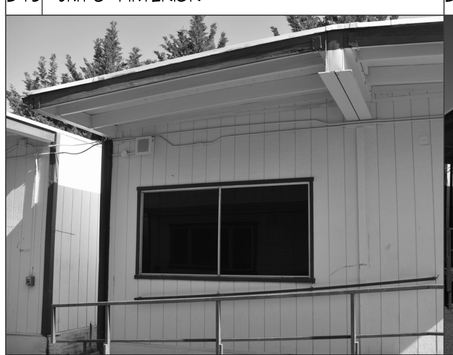
LEFT SIDE ELEVATION

D15 UNIT G-7 INTERIOR

D12 UNIT G-8 INTERIOR

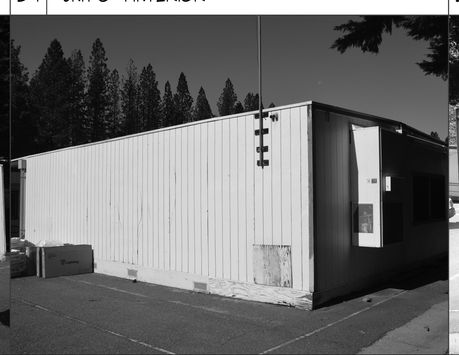
D9 UNIT G-9 INTERIOR

D6 TYPICAL (E) RELOCATABLE DEMOLITION ELEVATIONS 1/8" = 1'-0"

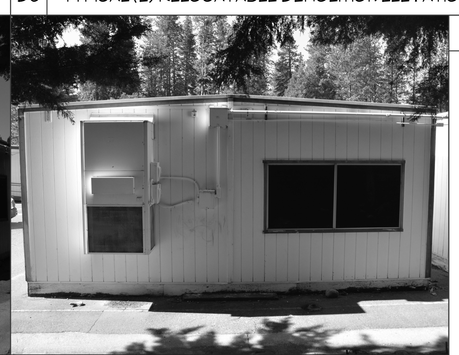


A15 TYPICAL RELOCATABLE FRONT

A12 TYPICAL RELOCATABLE FRONT / RIGHT SIDE



A9 TYPICAL RELOCATABLE RIGHT SIDE / REAR



A6 TYPICAL RELOCATABLE REAR

DEMOLITION NOTES

1. REMOVE ALL DOORS, WINDOWS, EXTERIOR SIDING, EXTERIOR TRIM, SKIRTING, UNDERFLOOR VENTS, EXTERIOR ELECTRICAL CONDUITS, LIGHT FIXTURES, ROOFING, ROOF OVERHANGS, FRONT OVERHANG SUPPORT BEAMS, INTERIOR FINISHES, FLOORING AND SUSPENDED CEILINGS.

2. PROPOSED DEMOLITION SHOWN IS INTENDED TO BE LIMITED. IF THE CONTRACTOR DETERMINES IN THE FIELD THAT ANY OF THE PROPOSED WORK WILL AFFECT THE INTEGRITY OF THE REMAINING STRUCTURE IN ANY WAY, THE WORK SHALL BE STOPPED AND THE ARCHITECT AND OR STRUCTURAL ENGINEER SHALL BE CONTACTED PRIOR TO PROCEEDING.

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date: 6/9/16
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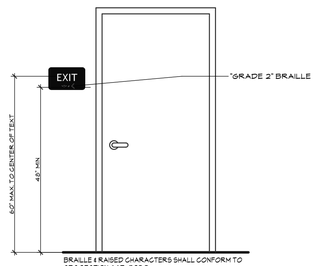
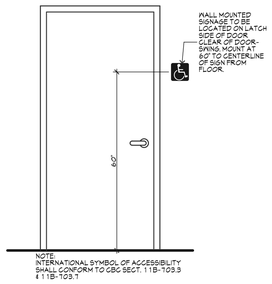
E RELOCATABLE DEMOLITION PLANS

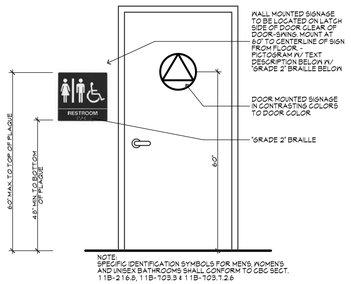
A10



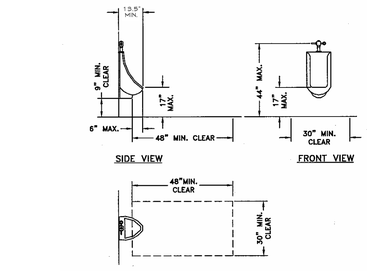
G15 TACTILE SIGNAGE 1/2" = 1'-0"



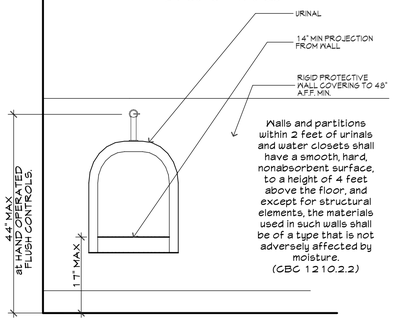
J12 INT'L. SYMBOL OF ACCESSIBILITY 1/2" = 1'-0"



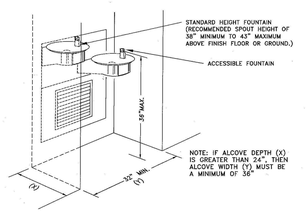
G12 RESTROOM DOOR SIGNAGE 1/2" = 1'-0"



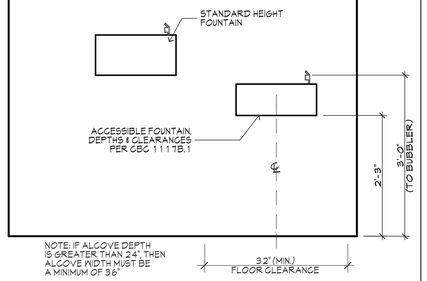
NOTE: CONFIGURATIONS SHOWN ARE PROVIDED AS A GUIDELINE ONLY AND ARE NOT INTENDED TO DEPICT SITE-SPECIFIC CONDITIONS. SEE FLOOR PLANS FOR LAYOUT OF FIXTURES



G9 URINAL 3/4" = 1'-0"

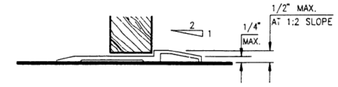


NOTE: CONFIGURATIONS SHOWN ARE PROVIDED AS A GUIDELINE ONLY AND ARE NOT INTENDED TO DEPICT SITE-SPECIFIC CONDITIONS. SEE FLOOR PLANS FOR LAYOUT OF FIXTURES

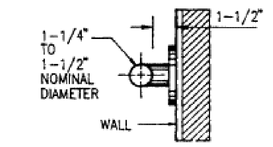


G6 HI-LO DRINKING FOUNTAIN 3/4" = 1'-0"

THE FLOOR OR LANDING SHALL NOT BE MORE THAN 1/2 INCH LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGE IN LEVEL BETWEEN 1/4 INCH AND 1/2 INCH SHALL BE BEVELED WITH A SLOPE NO GREATER THAN ONE UNIT VERTICAL TO 2 UNITS HORIZONTAL (50-PERCENT SLOPE).

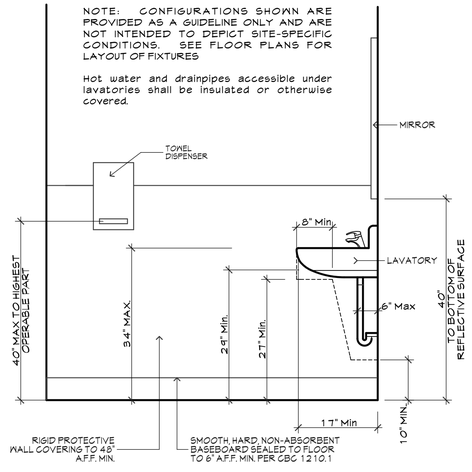


J3 THRESHOLD NO SCALE

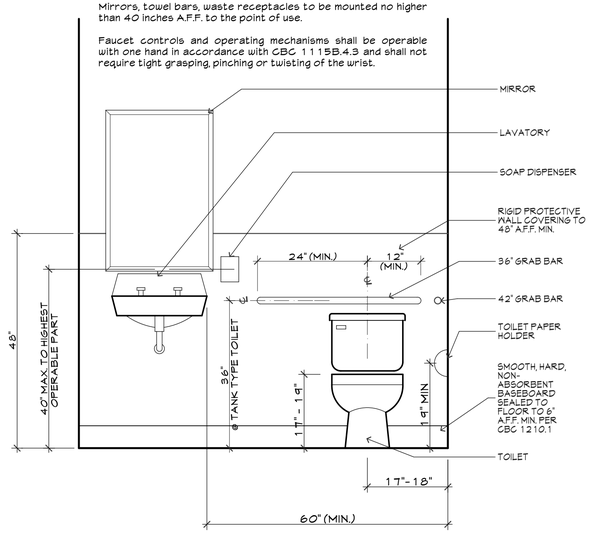


SECTION THROUGH TYPICAL GRAB BAR

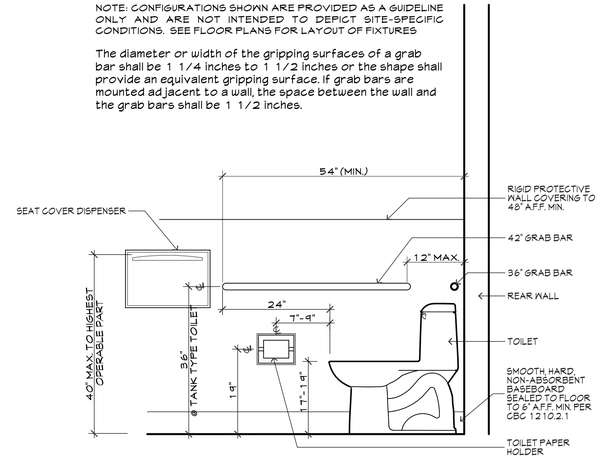
G3 GRAB BAR NO SCALE



A15 WATER CLOSET & LAVATORY 3/4" = 1'-0"



A15 WATER CLOSET & LAVATORY 3/4" = 1'-0"



A6 WATER CLOSET 3/4" = 1'-0"

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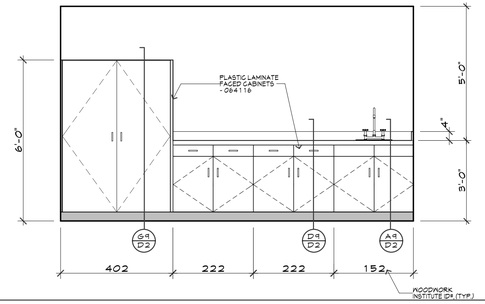
DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:29-030-02

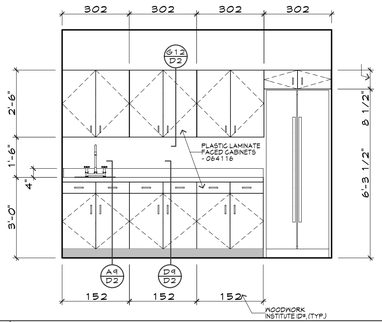
date: 6/9/16
scale:
job #: 15-397

DETAILS

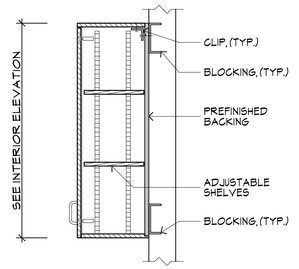
D1



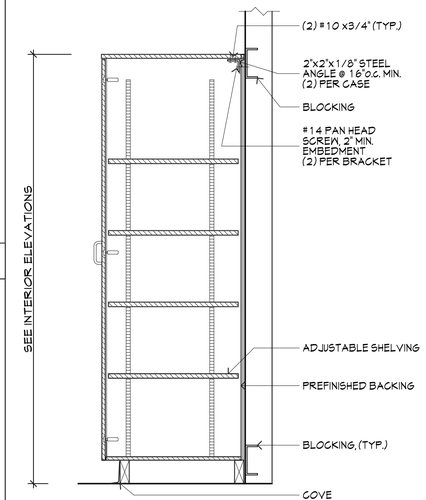
J15 INTERIOR ELEVATION - CONFERENCE ROOM 3/8" = 1'-0"



G15 INTERIOR ELEVATION - KITCHENETTE 3/8"=1'-0



G12 UPPER WALL HUNG CABINET 1" = 1'-0"



G9 STORAGE CABINET 1" = 1'-0"

WALLS AND INTERIOR PARTITIONS, WOOD-FRAMED

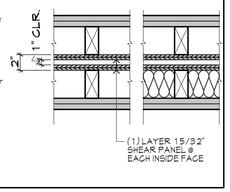
GA FILE NO. WP 3820	GENERIC	2 HOUR FIRE	55 to 59 STC SOUND

GYPSUM WALLBOARD, WOOD STUDS

BASE layer 5/8" type X gypsum wallboard or gypsum veneer base applied at right angles to each side of double row 2 x 4 wood studs 16" o.c. on separate plates 2" apart with 6d coated nails, 1-7/8" long, 0.085" shank, 1/4" heads, 24"o.c. FACE layer 5/8" type X gypsum wallboard or gypsum veneer base applied at right angles to each side with 8d coated nails, 2-3/8" long, 0.100" shank 1/4" heads, 8"o.c.

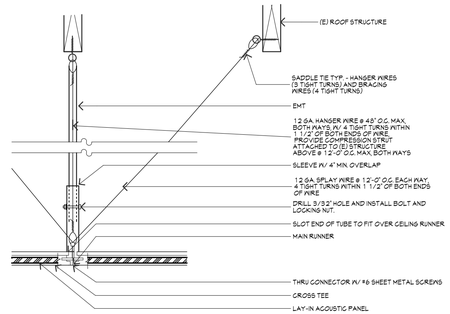
Joints staggered 16" each layer and side. Sound tested with 3 1/2" glass fiber insulation friction fit in stud spaces on one sideband with nails for base layer spaced 6"o.c. Horizontal bracing required at mid-height (LOAD-BEARING)

Thickness:	11 1/2"
Approx. Weight:	13 psf
Fire Test:	See WP 4135 (FM WP 36,9-27-74); UL R4024, 10-31-68
Sound Test:	NGC 3056, 4-7-70



NOTE:
1. SEE SPECIFICATION SECTION 092900

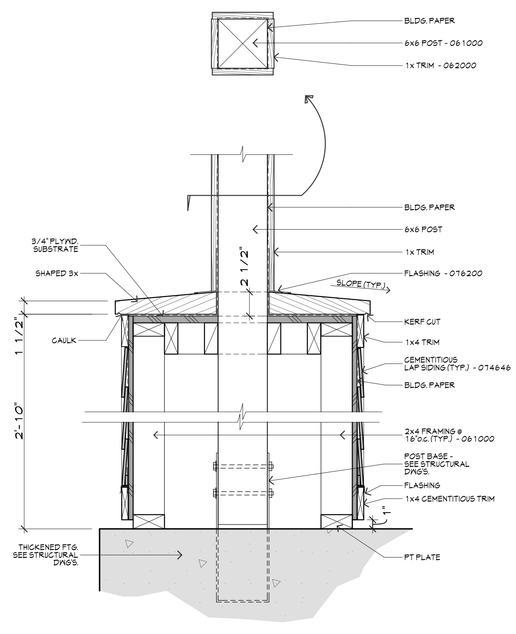
J6 2-HOUR FIRE RATED WALL ASSEMBLY NO SCALE



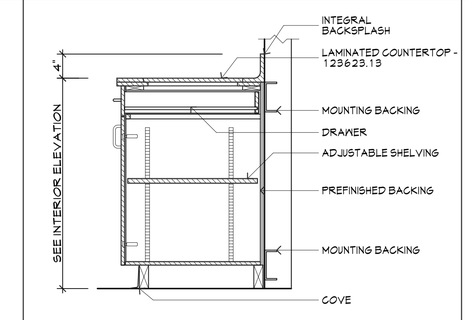
ELECTRICAL METALLIC TUBING (EMT) ONLY	
SIZE (Diameter)	L (Maximum Height)
1/2"	4'-0"
3/4"	5'2"
1"	6'-6"
1 1/4"	8'-6"
1 1/2"	9'-10"
2"	12'-7"
2 1/2"	16'-6"
4"	20'-2"
4"	26'-0"

NOTE: STRUTS OTHER THAN EMT MAY REQUIRE ENGINEERING CALCULATIONS. MAX STRUT SPACING 144 SQ. FT.

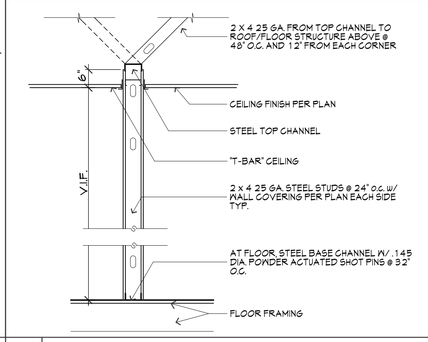
G6 SUSPENDED CEILING 1 1/2"= 1'-0"



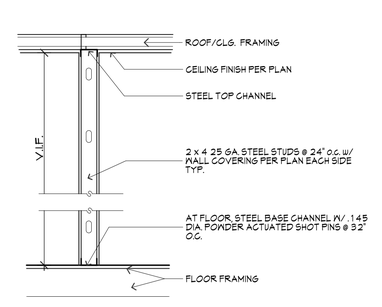
A15 ENTRY COLUMN & BASE 1 1/2"= 1'-0"



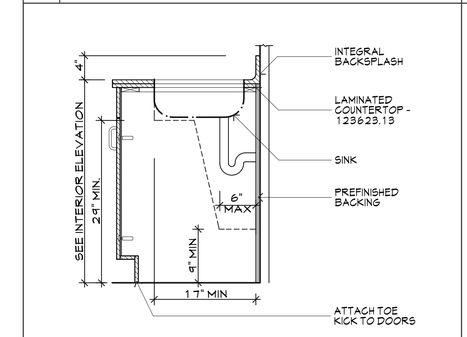
D9 BASE CABINET 1" = 1'-0"



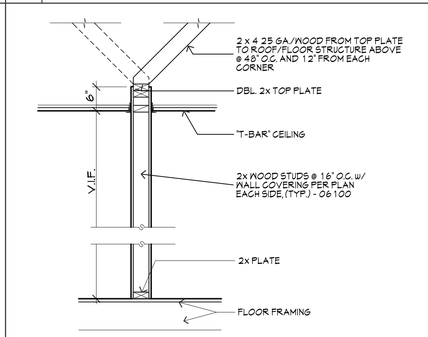
D6 INT. PARTN. @ T-BAR CLG. MTL. STUDS



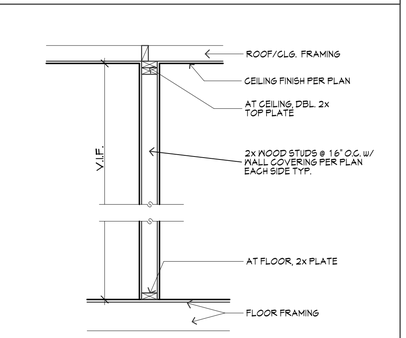
D3 INT. PARTN. @ GYP. BD. CLG. MTL. STUDS



A9 BASE CABINET WITH SINK 1" = 1'-0"



A6 INT. PARTN. @ T-BAR CLG. WOOD STUDS 3/4"=1'-0



A3 INT. PARTN. @ GYP. BD. CLG. WOOD STUDS 3/4"=1'-0

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DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:24-030-02

date: 6/9/16
scale: AS NOTED
job #: 15-397

DETAILS

D2

PRINT DATE: 6/6/2016 2:54:15 PM

PROJECT SUMMARY

THE PROJECT IS TO SEPERATE EXISTING MODULAR BUILDINGS, RELOCATE, AND REASSEMBLE MODULAR BUILDINGS AT A NEW LOCATION. THE MODULAR BUILDINGS WILL HAVE A NEW CONCRETE FOUNDATION. THE BUILDINGS WILL HAVE A NEW TRUSS ROOF.

APPLICABLE CODES

2013 CALIFORNIA BUILDING CODE	(2013 CBC)
2012 NATIONAL DESIGN STANDARD	(2012 NDS)
STEEL CONSTRUCTION MANUAL, 14 ED.	(AISC 14 ED.)

ADDITIONAL BUILDER NOTES

1. UNLESS EXPLICITLY STATED IN THESE CONSTRUCTION DOCUMENTS, BY NOTE OR CLARIFICATION LETTER, THE ENTIRE SCOPE OF WORK REPRESENTED BY THESE DOCUMENTS SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

2. THESE CONSTRUCTION DOCUMENTS REPRESENT THE DESIGN INTENT OF THE DESIGN TEAM BASED ON DIMENSIONS OF EXISTING SITE AND/OR FIELD CONDITIONS. ACTUAL CONDITIONS MAY REQUIRE MODIFICATIONS OF THE CONSTRUCTION DETAILS TO ACHIEVE THE DESIGN INTENT. CONTRACTOR SHALL NOTIFY DESIGN TEAM IN WRITING OF ANY DISCREPANCIES RELATED TO EXISTING SITE AND/OR FIELD CONDITIONS PRIOR TO CONTINUING ANY WORK.

3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RECORD ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE CONSTRUCTION DOCUMENTS AND TO BRING THEM TO THE ATTENTION OF THE DESIGN TEAM PRIOR TO COMMENCING ANY WORK. ANY DEVIATION FROM THE CONDITIONS SHOWN IN THESE CONSTRUCTION DOCUMENTS SHALL REQUIRE WRITTEN APPROVAL FROM THE DESIGN TEAM.

4. DO NOT SCALE THE DRAWINGS. WRITTEN DIMENSIONS SHALL TAKE PRECENDENCE OVER SCALED DIMENSIONS. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN TEAM PRIOR TO COMMENCING ANY WORK.

5. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY. WORK REQUIRED TO BE DONE BY ONE DOCUMENT AND NOT BY OTHERS SHALL BE DONE AS IF REQUIRED BY ALL.

6. THE CONTRACTOR AND SUBCONTRACTOR SHALL MAKE NO STRUCTURAL SUBSTITUTIONS, CHANGES, OR MODIFICATIONS WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.

7. CONTRACTORS AND SUBCONTRACTORS SHALL ENSURE THAT ALL WORK IS PERFORMED IN A PROFESSIONAL AND WORKMANLIKE MANNER BY SKILLED MECHANICS OF THE TRADE. SUBCONTRACTORS AND SUPPLIERS ARE HEREBY NOTIFIED THAT THEY ARE TO CONFER AND COOPERATE FULLY WITH EACH OTHER DURING THE COURSE OF CONSTRUCTION TO DETERMINE THE EXACT EXTENT AND OVERLAP OF EACH OTHER'S WORK AND TO SUCCESSFULLY COMPLETE THE EXECUTION OF THE WORK IN A TIMELY MANNER.

8. BUILDER'S SET: THIS SET OF DRAWINGS HAS BEEN PREPARED SUFFICIENT TO OBTAIN A BUILDING PERMIT. ALL MATERIALS AND METHODS OF CONSTRUCTION NECESSARY TO COMPLETE THE PROJECT ARE NOT NECESSARILY DESCRIBED IN THIS "BUILDER'S SET". THE IMPLEMENTATION OF THE DRAWINGS REQUIRES THE CONTRATOR TO BE THOROUGHLY KNOWLEDGEABLE WITH THE APPLICATIONS OF CODES AND THE METHODS OF CONSTRUCTION SPECIFIC TO THIS PROJECT AND TYPE OF CONSTRUCTION.

9. UNLESS SPECIFICALLY SHOWN OR NOTED ON THE DRAWINGS, NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED, BORED, OR OTHERWISE WEAKENED WITHOUT THE PERMISSION OF THE STRUCTURAL ENGINEER.

10. ALL WATERPROOFING, FLASHING, AND DRAINAGE ARE TO BE DESIGNED AND PROVIDED BY THE BUILDER.

GENERAL NOTES

ANY DISCREPANCIES FOUND AMONG THE DRAWINGS, THESE GENERAL NOTES AND THE SITE CONDITIONS SHALL BE REPORTED TO THE ENGINEER, WHO SHALL CORRECT SUCH DISCREPANCY IN WRITING. ANY WORK DONE BY THE GENERAL CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE GENERAL CONTRACTOR'S RISK. THE GENERAL CONTRACTOR SHALL VERIFY AND COORDINATE DIMENSIONS AMONG ALL DRAWINGS PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION. THE STRUCTURE HAS BEEN DESIGNED TO RESIST CODE REQUIRED VERTICAL AND LATERAL FORCES AFTER THE CONSTRUCTION OF ALL STRUCTURAL ELEMENTS HAS BEEN COMPLETED. STABILITY OF THE STRUCTURE PRIOR TO COMPLETION IS THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THIS RESPONSIBILITY INCLUDES BUT IS NOT LIMITED TO JOB SITE SAFETY; ERECTION MEANS, METHODS, AND SEQUENCES; TEMPORARY SHORING, FORMWORK, AND BRACING; USE OF EQUIPMENT AND CONSTRUCTION PROCEDURES. PROVIDE ADEQUATE RESISTANCE TO LOADS ON THE STRUCTURES DURING CONSTRUCTION PER SEI/ASCE STANDARD NO. 37-02 "DESIGN LOADS ON STRUCTURES DURING CONSTRUCTION." CONSTRUCTION OBSERVATION BY THE STRUCTURAL ENGINEER IS FOR GENERAL CONFORMANCE WITH DESIGN ASPECTS ONLY AND IS NOT INTENDED IN ANY WAY TO REVIEW THE CONTRACTOR'S CONSTRUCTION PROCEDURES.

STANDARDS
ALL METHODS, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 2013 CALIFORNIA BUILDING CODE (CBC) AS AMENDED AND ADOPTED BY THE LOCAL BUILDING OFFICIAL OR APPLICABLE JURISDICTION.

CONTRACT DRAWINGS / DIMENSIONS

ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. CONSULTANT DRAWINGS BY OTHER DISCIPLINES ARE SUPPLEMENTARY TO ARCHITECTURAL DRAWINGS. REPORT DIMENSIONAL OMISSIONS OR DISCREPANCIES BETWEEN ARCHITECTURAL DRAWINGS AND STRUCTURAL, MECHANICAL, ELECTRICAL OR CIVIL DRAWINGS TO ARCHITECT PRIOR TO PROCEEDING WITH WORK.

STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS. PRIMARY STRUCTURAL ELEMENTS ARE DIMENSIONED ON STRUCTURAL PLANS AND DETAILS AND OVERALL LAYOUT OF STRUCTURAL PORTION OF WORK. SOME SECONDARY ELEMENTS ARE NOT DIMENSIONED SUCH AS, WALL CONFIGURATIONS, INCLUDING EXACT DOOR AND WINDOW LOCATIONS, ALCOVES, SLAB SLOPES AND DEPRESSIONS, CURBS, ETC. VERTICAL DIMENSIONAL CONTROL IS DEFINED BY ARCHITECTURAL WALL SECTIONS AND BUILDING SECTIONS. STRUCTURAL DETAILS SHOW DIMENSIONAL RELATIONSHIPS TO CONTROL DIMENSIONS DEFINED BY ARCHITECTURAL DRAWINGS. DETAILING AND SHOP DRAWING PRODUCTION FOR STRUCTURAL ELEMENTS WILL REQUIRE DIMENSIONAL INFORMATION CONTAINED IN BOTH ARCHITECTURAL AND STRUCTURAL DRAWINGS.

DESIGN CRITERIA

RISK CATEGORY: II - TABLE 1604.5

VERTICAL LOADS

AREA	DESIGN DEAD LOAD	LIVE LOAD	CONCENTRATED LOADS
ROOF	15 PSF	20 PSF	--
FLOOR	30 PSF	100 PSF	--

SNOW: FOR SITES OVER 25 PSF.

Pg = 50 PSF (GROUND SNOW LOAD)
Pf = .7PgCeCt I = 39 PSF (FLAT ROOF SNOW LOAD)
Ps = CsPf = 39 PSF (SLOPED ROOF SNOW LOAD)
Is = 1.0, Ce = 1.0, Ct = 1.1, Cs = 1.0

LATERAL FORCES

WIND:
ALTERNATE HEIGHTS METHOD

- EXPOSURE CATEGORY = C
- RISK CATEGORY = II
- BASIC WIND SPEED, V = 115 MPH
- Pnet = .00256V^2KzCnetKzt
- Kz = .92
- Cnet- WINDWARD = .43
- Cnet- LEEWARD = .51
- Pnet = 29.2 PSF

SEISMIC:
V = CsW

Cs = Sds/(R/I) ; 0.044 Sds*Ie < Cs < Sd1/((R/Ie)*T)

- SEISMIC IMPORTANCE FACTOR, Ie = 1
- SPECTRAL RESPONSE ACCELERATION Ss = 0.585, S1 = .243
- SITE CLASS PER TABLE 20-3.1 OF ASCE 7-10 = D
- SPECTRAL RESPONSE COEFFICIENTS: Sds = 0.519, Sd1 = 0.310
- SEISMIC DESIGN CATEGORY = D
- ANALYSIS PROCEDURE USED = EQUIVALENT LATERAL FORCE ANALYSIS
- RESPONSE MODIFICATION FACTOR PER TABLE 12.2-1 (ASCE 7-10) R = 6.5
- Cs = 0.80
- DESIGN BASE SHEAR, V = 7.617 KIPS (ULTIMATE)

Sheet Number	Sheet Name
S-000	COVER PAGE
S-001	SPECIFICATIONS
S-100	FOUNDATION PLAN
S-200	ROOF FRAMING PLAN
S-300	SHEAR PLAN
S-410	FOUNDATION DETAILS
S-420	FRAMING DETAILS
S-430	SHEAR DETAILS

STRUCTURAL PLANS & DETAILS LEGEND

SHEET NUMBER DESCRIPTION

S-XXX

SHEET SEQUENCE NUMBER
SUB-GROUP OF DESIGNATORS USED WHEN MORE THAN ONE SHEET OF SAME TYPE IS REQUIRED

DETAIL TYPE DESIGNATOR
0 - TYPICAL DETAILS
1 - FOUNDATION DETAILS
2 - FRAMING DETAILS
3 - SHEAR DETAILS
4 - STEEL DETAILS
5 - MASONRY DETAILS
6 - CUSTOM DETAILS

SHEET TYPE DESIGNATOR
0 - SPECIFICATIONS
1 - FOUNDATION PLANS
2 - FRAMING PLANS
3 - SHEAR PLANS
4 - DETAILS
5 - STRUCTURAL ELEVATIONS
6 - SK DETAILS / CONSTRUCTION ADMIN

STRUCTURAL SHEETS

DETAIL CALL OUT DESCRIPTION

XXX
S-XXX

DETAIL BUBBLE
LOCATION OF STRUCTURAL DETAIL OR SECTION

DETAIL CUT LINE
DETAIL CUT LOOKING IN THE DIRECTION OF THE SECTION CUT. THE SECTION IS CONTINUOUS UNO.

DETAIL NUMBER
SPECIFIC TO EACH DETAIL.

DETAIL LOCATION NUMBER
SHEET LOCATION. SEE SHEET NUMBER DESCRIPTION

STRUCTURAL ABBREVIATIONS

AB - ANCHOR BOLT
ABV - ABOVE
ADD'L - ADDITIONAL
ADJ - ADJACENT
ARCH - ARCHITECTURAL
BLKG - BLOCKING
BLW - BELOW
BN - BOUNDARY NAILS
BTWN - BETWEEN
CBC - CALIFORNIA BUILDING CODE
CJ - CONSTRUCTION JOINT
CL - CENTERLINE
COL - COLUMN
CONC - CONCRETE
CONT - CONTINUOUS
DF - DOUGLAS FIR
DFPT - DOUGLAS FIR PRESSURE TREATED
DL - DEAD LOAD
DN - DOWN
E - EXISTING
ELECT - ELECTRICAL
EN - EDGE NAIL
ENGR - ENGINEER
ES - EACH SIDE
EW - EACH WAY
FDN - FOUNDATION
FF - FINISH FLOOR
FOHC - FREE OF HEART CORE
FOS - FACE OF STUD
FS - FAR SIDE
GA - GAGE
GALV - GALVANIZED
GC - GENERAL CONTRACTOR
GLB - GLUED LAMINATED BEAM
GYP BD - GYPSUM BOARD
HD - HOLDOWN
HORIZ - HORIZONTAL
HSS - HOLLOW STRUCTURAL SECTION
IBC - INTERNATIONAL BUILDING CODE
INTR - INTERMEDIATE
INV - INVERTED
K - KIPS
KP - KING POST
KS - KING STUD
LL - LIVE LOAD
LLV - LONG LEG VERTICAL
LLH - LONG LOG HORIZONTAL
LSL - LAMINATED STRAND LUMBER
LVL - LAMINATED VENEER LUMBER
LWT - LIGHTWEIGHT
MAX - MAXIMUM
MECH - MECHANICAL
MFR - MANUFACTURER
MIN - MINIMUM
MISC - MISCELLANEOUS
NS - NEAR SIDE
OC - ON CENTER
OCEW - ON CENTER EACH WAY
OH - OPPOSITE HAND
OPNG - OPENING
PL - PLATE
PLS - POUNDS PER LINEAR FOOT
PSF - POUNDS PER SQUARE FOOT
PSL - PARALLEL STRAND LUMBER
PT - PRESSURE TREATED
PW - PLYWOOD
REIINF - REINFORCEMENT
SCHED - SCHEDULE
SHTHG - SHEATHING
SMS - SHEET METAL SCREW
STD HK - STANDARD HOOK
SIM - SIMILAR
STAG - STAGGARED
STIFF - STIFFENER
SW - SHEARWALL
SYM - SYMMETRICAL
T&B - TOP & BOTTOM
T&G - TONGUE AND GROOVED
THRU - THROUGH
TN - TOE NAIL
TS - TUBE STEEL
TYP - TYPICAL
UBC - UNIFORM BUILDING CODE
UNO - UNLESS NOTED OTHERWISE
VERT - VERTICAL
VIF - VERIFY IN FIELD
W/ - WITH
WWF - WELDED WIRE FABRIC

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info@LinchpinSE.com
530.563.6341
www.LinchpinSE.com

REGISTERED PROFESSIONAL ENGINEER ★ DOUGLAS L. G... STRUCTURAL ★ STATE OF CALIFORNIA
BID SET

REVISIONS

DISTRICT SUPPORT SERVICES BLDG

10840 GILMORE WAY
GRASS VALLEY
APM: 29-030-02

DESIGNED BY JG
DRAFTED BY JG

CLIENT INFORMATION

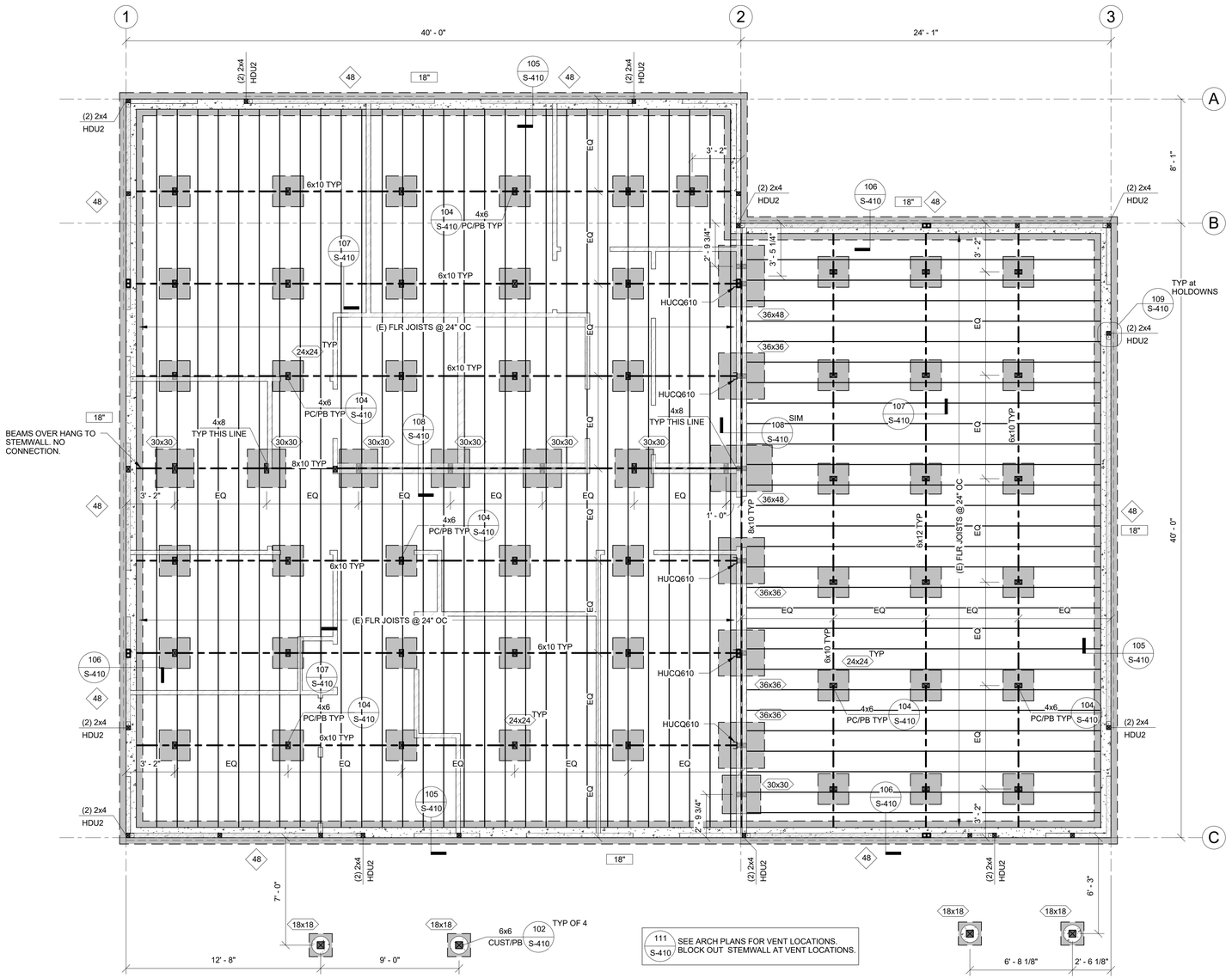
GRASS VALLEY SCHOOL DISTRICT
10840 GILMORE WAY
GRASS VALLEY, CA 95945

PROJECT# 1491

ISSUE DATE 05/19/2016
SCALE As indicated

SPECIFICATIONS

S-001



FOUNDATION & FLOOR PLAN

1/4" = 1'-0"

PRINT DATE: 6/6/2016 2:54:16 PM

FLOOR FRAMING NOTES

1) FLOOR BEAMS AND SUPPORTING POST SHALL BE PRESSURE TREATED DF#1.

2) SEE ADDITIONAL REQUIREMENTS IN STRUCTURAL SPECIFICATIONS SHEET S-001.

3) SEE SHEET S-430 FOR SHEARWALL NOTES, SCHEDULES, & DETAILS.

FOUNDATION NOTES

1.) SEE TYP NOTES AND DETAILS ON SHEET S-001 FOR ADDITIONAL INFORMATION.

2.) SECURE ALL HOLDOWN ANCHORS WITHIN FORMWORK PRIOR TO POUR.

3.) BUILDER SHALL CHECK AND VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

4.) WIDEN/EXTEND FOOTINGS AS REQUIRED TO PROVIDE SUPPORT FOR ANY VENEER SHOWN ON ARCHITECTURAL DRAWINGS.

5.) INSTALL ALL HOLDOWN ANCHORS PER MANUFACTURER SPECS & EDGE DISTANCE REQUIREMENTS.

FOUNDATION & FLOOR FRAMING LEGEND

- NEW FOOTING
- WALLS ABOVE FRAMING
- CONCEALED BEAM OR HEADER
- FLOOR JOIST

POST , TRIMMER OR COLUMN

- MEMBER SIZE (6x6)
- PC / PB
- HARDWARE AT BOTTOM
- HARDWARE AT TOP
- ☒ DISCONTINUOUS POST ABV
- ■ POST BELOW FRAMING

ANCHOR BOLT SCHEDULE

SYMBOL	ANCHOR SIZE AND SPACING	3x MUDSILL REQ.
48	5/8" x 12" J BOLTS at 48" O.C.	NO
32	5/8" x 12" J BOLTS at 32" O.C.	NO
24	5/8" x 12" J BOLTS at 24" O.C.	NO
16	5/8" x 12" J BOLTS at 16" O.C.	YES
12	5/8" x 12" J BOLTS at 12" O.C.	YES

1.) PROVIDE ANCHORS AT 48" O.C. UNDER ALL WINDOWS UNO

2.) ANCHOR BOLT SPACING SPECIFIED IS AT SHEARWALLS ONLY. AT OTHER LOCATIONS PROVIDE ANCHOR BOLTS AT 48" O.C. TYP UNO.

3.) ANCHORS SHALL HAVE 7" EMBEDMENT AND AMPLE THREADS TO ACCOMMODATE A 3X PLATE

4.) ANCHOR BOLTS SHALL HAVE A MINIMUM .229"x3"x3" WASHER OR APPROVED EQUAL. THE PLATE WASHER SHALL EXTEND WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) WITH SHEATHING

5.) ALL SILL PLATES TO BE BORATE PRESSURE TREATED

HOLDOWN HARDWARE SCHEDULE

HOLDOWN	ANCHOR	ALT. EMBED	EMBED INTO FTG	RETROFIT
HDU2	SB 5/8x24	5/8" ROD 18" EMBED	N.A.	1/2"x15" THD 10" EMBED
HDU4	SB 5/8x24	5/8" ROD 18" EMBED	N.A.	5/8" ROD 18" EMBED EPOXY
HDU5	SB 5/8x24	5/8" ROD 18" EMBED	N.A.	5/8" ROD 18" EMBED EPOXY
HDU8	SB 7/8x24	7/8" ROD 18" EMBED	N.A.	7/8" ROD 18" EMBED EPOXY
HDU11	N.A.	N.A.	1" ROD 18" EMBED	N.A.
HDU14	N.A.	N.A.	1" ROD 18" EMBED	N.A.
HD19	N.A.	N.A.	1 1/4" ROD 18" EMBED	N.A.

1.) THE ROD IS TO BE A307 ALL-THREAD WITH DOUBLE NUT AND 3/8x2 1/2x2 1/2 PLATE WASHER (1/2x3x3 AT HD19). SIMPSON PAB8 AND PAB10 CAN BE SUBSTITUTED.

CONT. FOOTING SCHEDULE

SYMBOL	FOOTING SIZE	REBAR
18	18" WIDE x 10" THICK	(3) #4 CONT.

PAD FOOTING SCHEDULE

SYMBOL	FOOTING SIZE	REBAR
24x24	24" SQ x 12" THICK	(4) #3 EW
36x36	36" SQ x 12" THICK	(5) #4 EW

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REGISTERED PROFESSIONAL ENGINEER DOUGLAS L. G. CIVIL STRUCTURAL STATE OF CALIFORNIA BID SET

REVISIONS

DISTRICT SUPPORT SERVICES BLDG

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GRASS VALLEY
APM: 29-030-02

DESIGNED BY JG

DRAFTED BY JG

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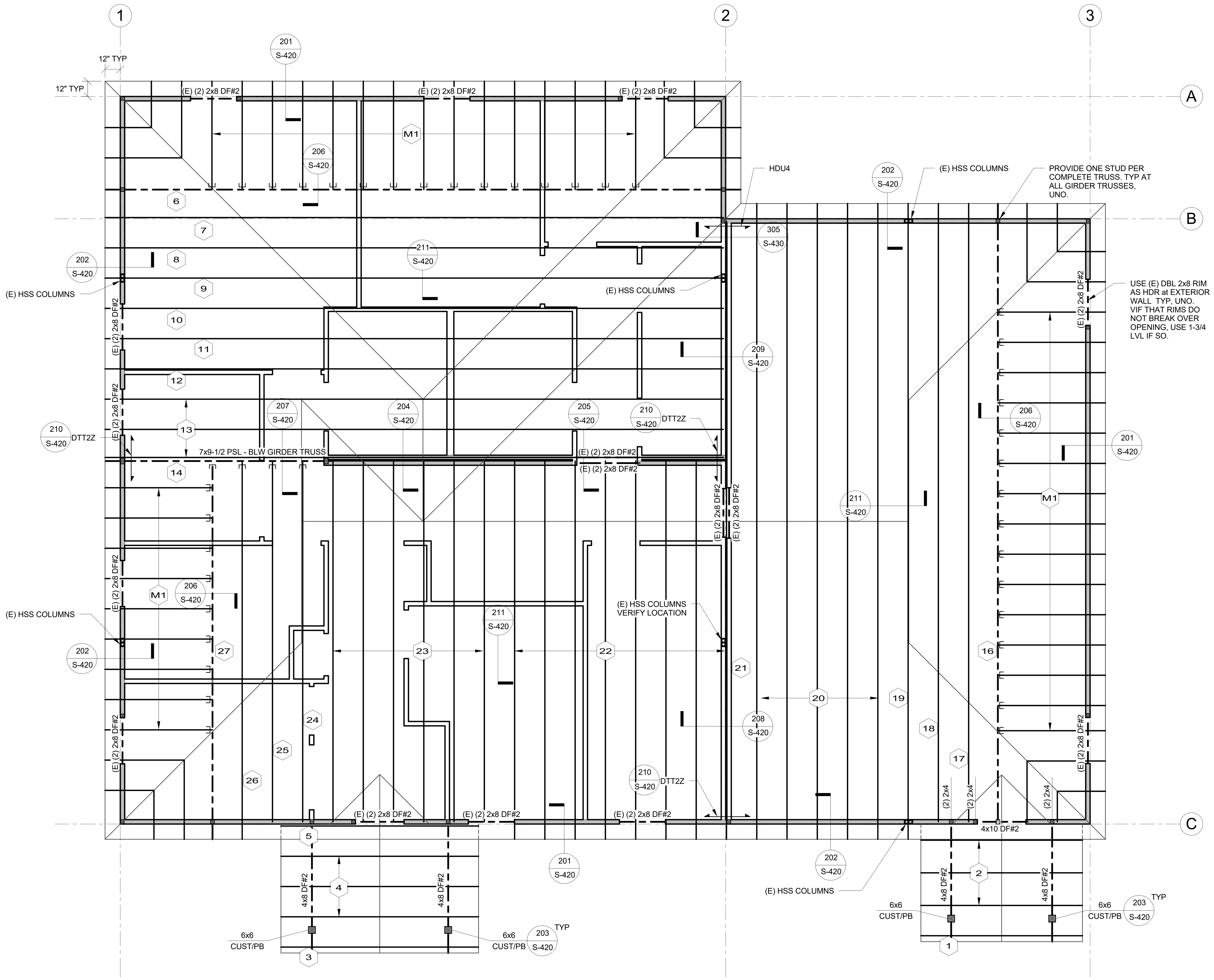
FOUNDATION PLAN

S-100



1
2
3
A
B
C
12" TYP
(E) (2) 2x8 DF#2
M1
6
7
8
9
10
11
12
13
14
16
17
18
19
20
21
22
23
24
25
26
27
HDU4
(E) HSS COLUMNS
PROVIDE ONE STUD PER COMPLETE TRUSS. TYP AT ALL GIRDER TRUSSES, UNO.
USE (E) DBL 2x8 RIM AS HDR at EXTERIOR WALL TYP, UNO. VIF THAT RIMS DO NOT BREAK OVER OPENING. USE 1-3/4 LVL IF SO.
DTT2Z
7x9-1/2 PSL - BLW GIRDER TRUSS
(E) HSS COLUMNS VERIFY LOCATION
4x10 DF#2
4x8 DF#2
(2) 2x4
6x6 CUST/PB
TYP

ROOF FRAMING PLAN
1/4" = 1'-0"

ROOF FRAMING NOTES

1) ROOF SHEATHING TO BE 1/2" APA RATED 32/16 W/ 10d (0.148 SHANK DIAMETER) at 6" O.C. BOUNDARY & EDGES AND 12" O.C. FIELD (UNO). SEE DIAPHRAGM NAILING DETAIL ON S-430 FOR MORE INFO.

2) SEE TRUSS CALCULATION PACKAGE FOR MORE INFORMATION.

3) ALL BEARING/PERIMETER WALLS - TOP PLATE SPLICES W/ (12) 16d AT LAP PROVIDE MST37 AT ANY PLATE DISCONTINUITIES (UNO).

4) SEE ADDITIONAL REQUIREMENTS IN STRUCTURAL SPECIFICATIONS SHEET S-001.

5) PROVIDE MIN OF ONE STUD UNDER EVERY TRUSS OR RAFTER.

6) BRACE TRUSS MEMBERS PER TRUSS MANUFACTURER.

FRAMING LEGEND

- WALLS BELOW FRAMING
- GIRDER TRUSS OR HEADER
- TRUSS
- 22 TRUSS CALLOUT
- HANGER - SEE SCHEDULE

POST , TRIMMER OR COLUMN

MEMBER SIZE
MEMBER TYPE
6x6 POST
CC / -
ADDITIONAL HARDWARE AT BOTTOM (AT BCO ATTACH TO SILL)
HARDWARE AT TOP

NOTES
1. DASH INDICATES NO HARDWARE

- POST BELOW FRAMING
- DISCONTINUOUS POST ABV FRAMING

ROOF OVERFRAMING

1.) (N) TRUSSES STACK ABOVE EXISTING ROOF.

2.) PROVIDE SOLID PACKING (4" MIN) BETWEEN TRUSSES AND ALL BEARING LINES (SEE DETAILS) TO PROVIDE LEVEL SURFACE.

3.) PROVIDE (MIN 4") GAP BETWEEN TRUSS BOTTOM CHORDS AND (E) ROOF DECK THROUGHOUT.

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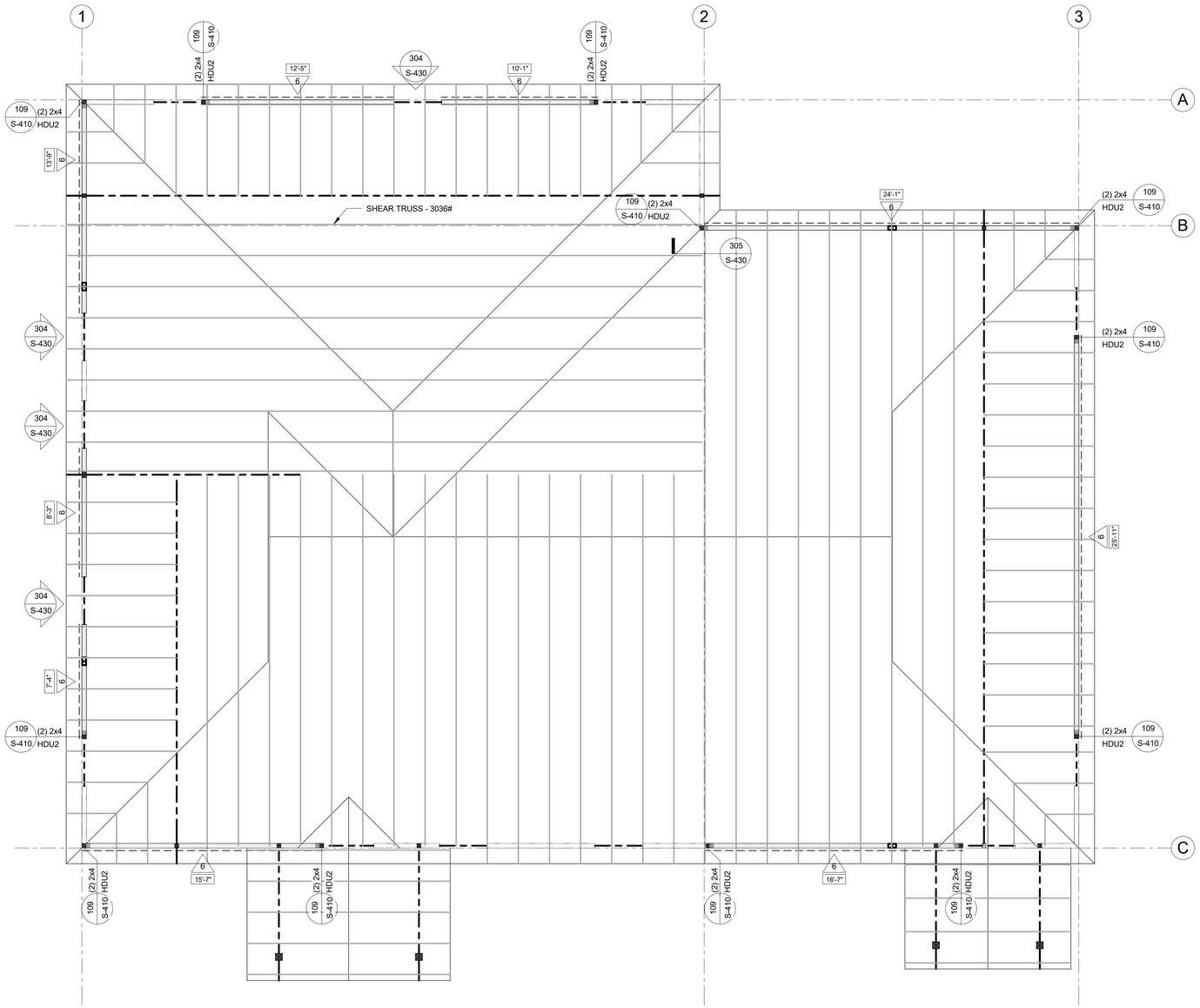
ROOF FRAMING PLAN

S-200



ROOF DIAPHRAM & SHEARWALL PLAN

1/4" = 1'-0"

PRINT DATE 6/6/2016 2:54:17 PM

HOLDOWN HARDWARE SCHEDULE

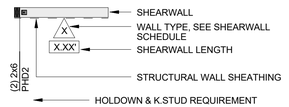
HOLDOWN	ANCHOR	ALT. EMBED	EMBED INTO FTG	RETROFIT
HDU2	SB 5/8x24	5/8" ROD 18" EMBED	N.A.	1/2"x15" THD 10" EMBED
HDU4	SB 5/8x24	5/8" ROD 18" EMBED	N.A.	5/8" ROD 18" EMBED EPOXY
HDU5	SB 5/8x24	5/8" ROD 18" EMBED	N.A.	5/8" ROD 18" EMBED EPOXY
HDU8	SB 7/8x24	7/8" ROD 18" EMBED	N.A.	7/8" ROD 18" EMBED EPOXY
HDU11	N.A.	N.A.	1" ROD 18" EMBED	N.A.
HDU14	N.A.	N.A.	1" ROD 18" EMBED	N.A.
HD19	N.A.	N.A.	1 1/4" ROD 18" EMBED	N.A.

1.) THE ROD IS TO BE A307 ALL-THREAD WITH DOUBLE NUT AND 3/8x2 1/2x2 1/2 PLATE WASHER (1/2x3x3 AT HD19). SIMPSON PAB8 AND PAB10 CAN BE SUBSTITUTED.

SHEAR WALL SCHEDULE

	(1)				(2)	(3)	(4)	(5)	(6)	(7)
PLAN SYMBOL	SHEATHING THICKNESS (IN)	PANEL EDGE NAILING	FRAMING AT ABUTTING PANEL EDGES	ALLOWABLE SHEAR (PLF)	SILL PLATE AGAINST CONC. OR MASONRY	SOLE PLATE ON SUBFLR FRAMING	SOLE PL NAILING	ADD BLKG OR CONT. MEMBER	F. CLIPS TYPE PER DETAIL	A. BOLTS TYPE PER DETAIL
6	15/32	10d COM. at 6" O.C.	2X	310	2X	2X	16d at 6" O.C.	NOT REQ.	at 24" O.C.	at 48" O.C.
4	15/32	10d COM. at 4" O.C.	3X	460	2X	2X	16d at 4" O.C.	NOT REQ.	at 16" O.C. NOTE 15 &17	at 32" O.C.
3	15/32	10d COM. at 3" O.C.	3X	600	2X	2X	16d at 3" O.C.	1 3/4" LSL	at 12" O.C. NOTE 15 &17	at 24" O.C.
2	15/32	10d COM. at 2" O.C.	3X	770	3X	3X NOTE 16	1/4" SDS X 4.5" at 8" O.C. NOTE 16	1 3/4" LSL	at 8" O.C. NOTE 15 &17	at 24" O.C.
4/4	15/32 BOTH SIDES	10d COM. at 4" O.C.	3X	920	3X	3X	1/4" SDS X 4.5" at 6" O.C.	2 1/4" LSL	at 8" O.C.	at 16" O.C.
3/3	15/32 BOTH SIDES	10d COM. at 3" O.C.	3X	1200	3X	3X	1/4" SDS X 4.5" at 6" O.C.	2 1/4" LSL	at 6" O.C.	at 16" O.C.
2/2	15/32 BOTH SIDES	10d COM. at 2" O.C.	4X	1540	3X	3X	1/4" SDS X 4.5" at 4" O.C.	2 1/4" LSL	at 4" O.C.	at 12" O.C.

PLAN LEGEND



SHEAR PLAN NOTES

1) SEE SHEET S-430 FOR SHEARWALL NOTES, SCHEDULES, & DETAILS.

2) SEE SHEET S-001 FOR SPECIFICATIONS AND GENERAL NOTES.

3) SEE ROOF AND FLOOR FRAMING PLANS SHEETS S-2XX FOR ROOF & FLOOR SHEATHING REQUIREMENTS.

4) HATCHED AREAS ARE FOR BLOCKED DIAPHRAGMS

5) EDGE NAIL TO ALL MEMBERS INDICATED COLLECTORS

PROVIDE 10d at 6" OC BOUNDARY NAILING / 6" OC EDGE NAILING / 10" OC FIELD NAILING.

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SHEAR PLAN

S-300

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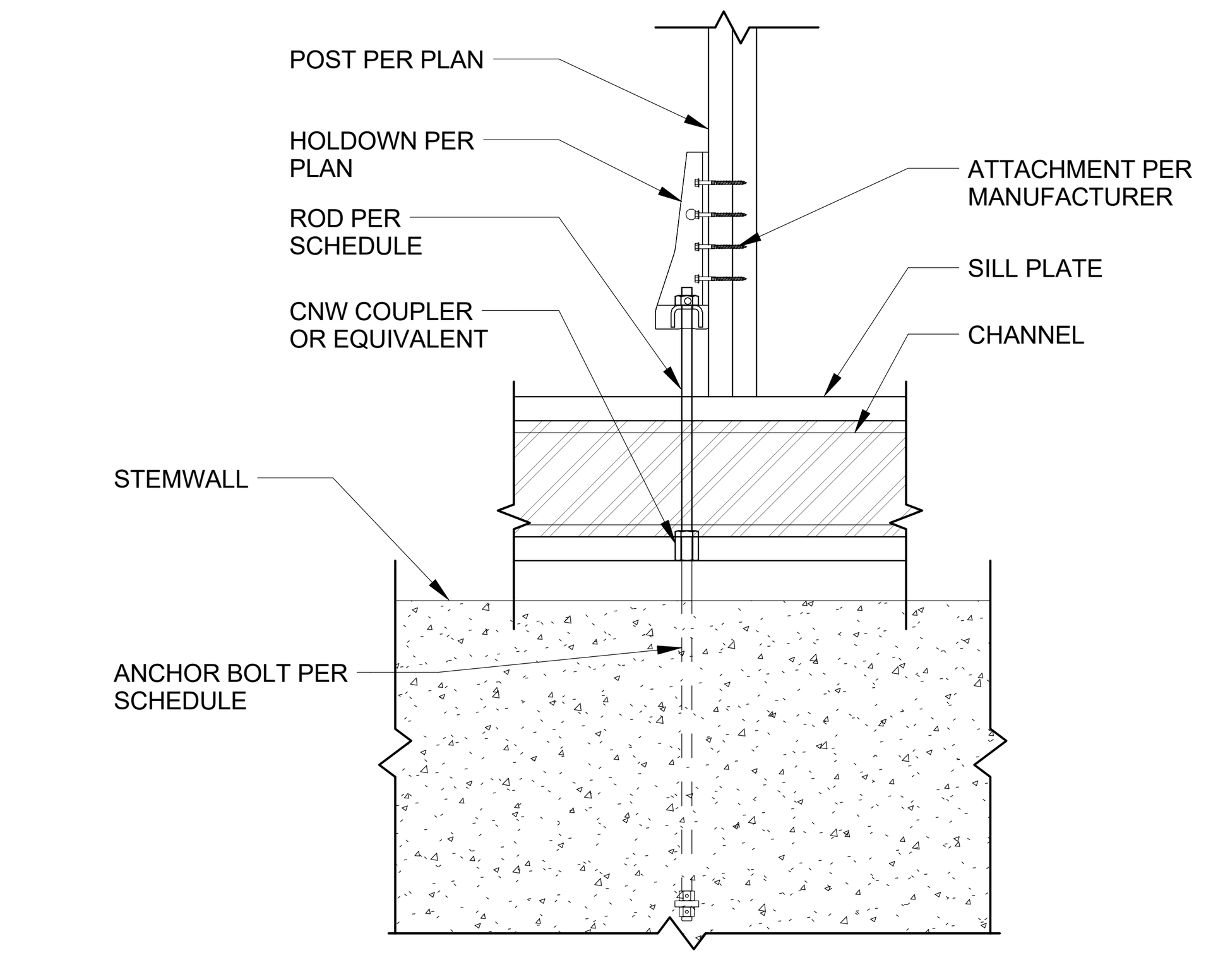
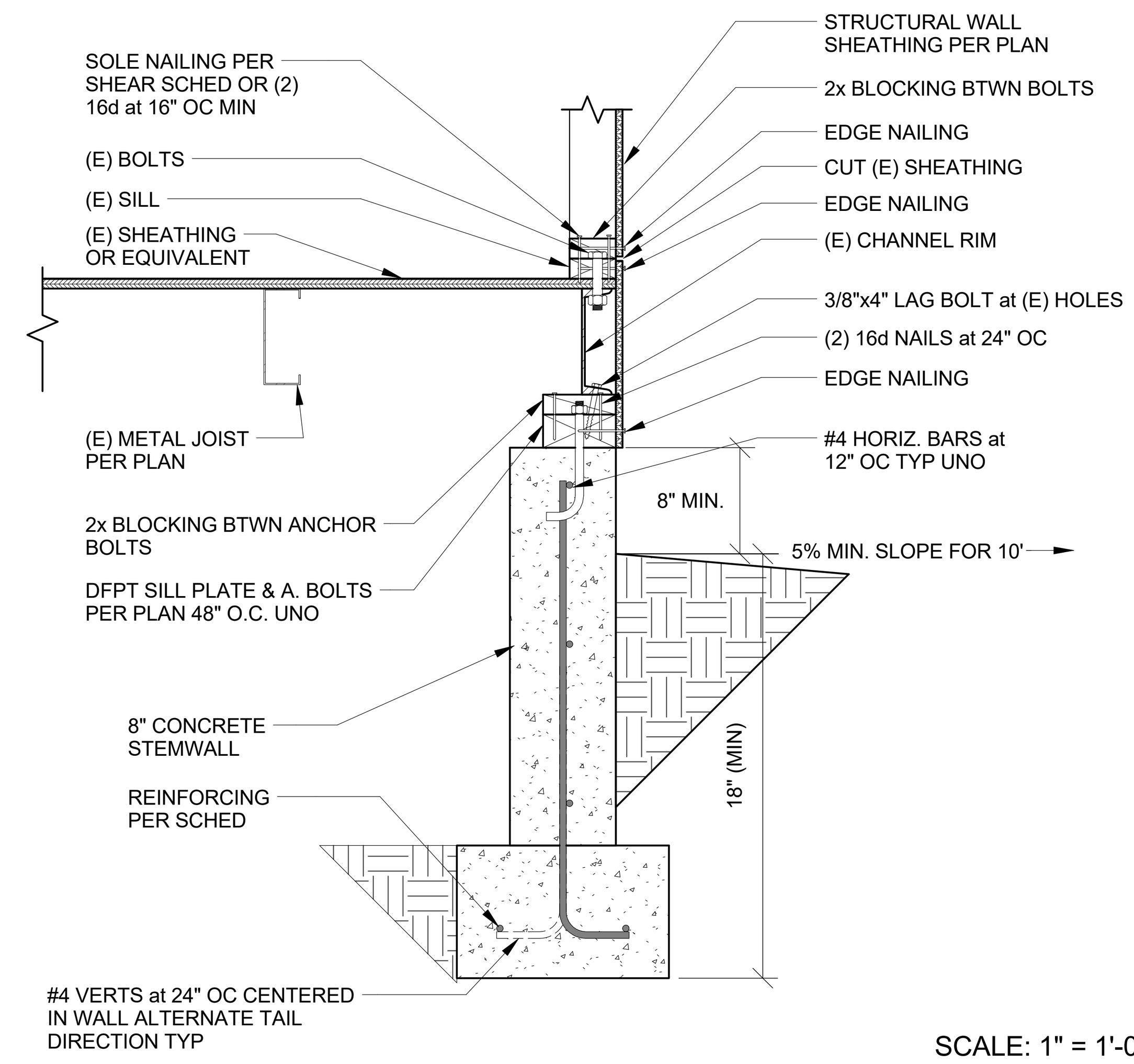


NOTE: SEE OTHER FOUNDATION DETAILS FOR STEMWALL AND FOOTING INFORMATION

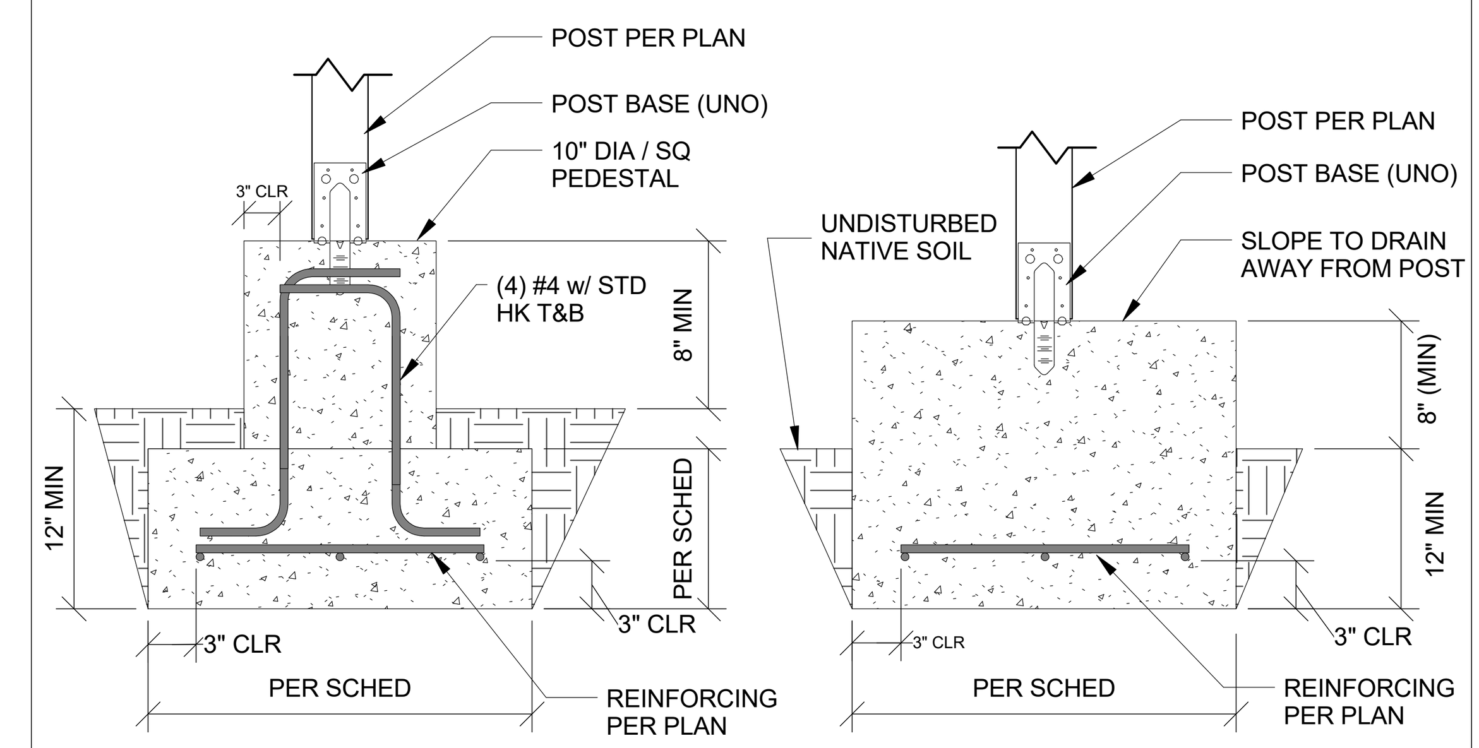
SCALE: 1" = 1'-0"

HOLDOWN COUPLING DETAIL 109



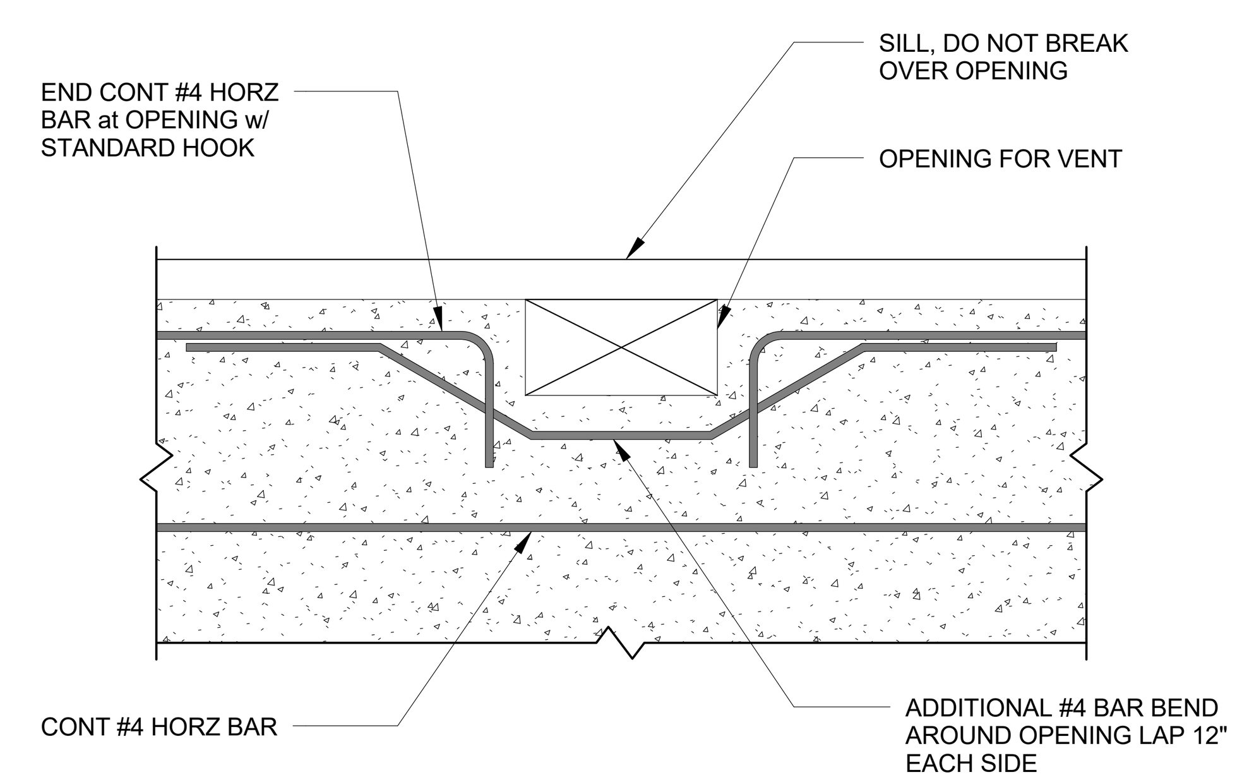
SCALE: 1" = 1'-0"

CONT FOOTING BELOW PARALLEL FRAMING 106



SCALE: 1" = 1'-0"

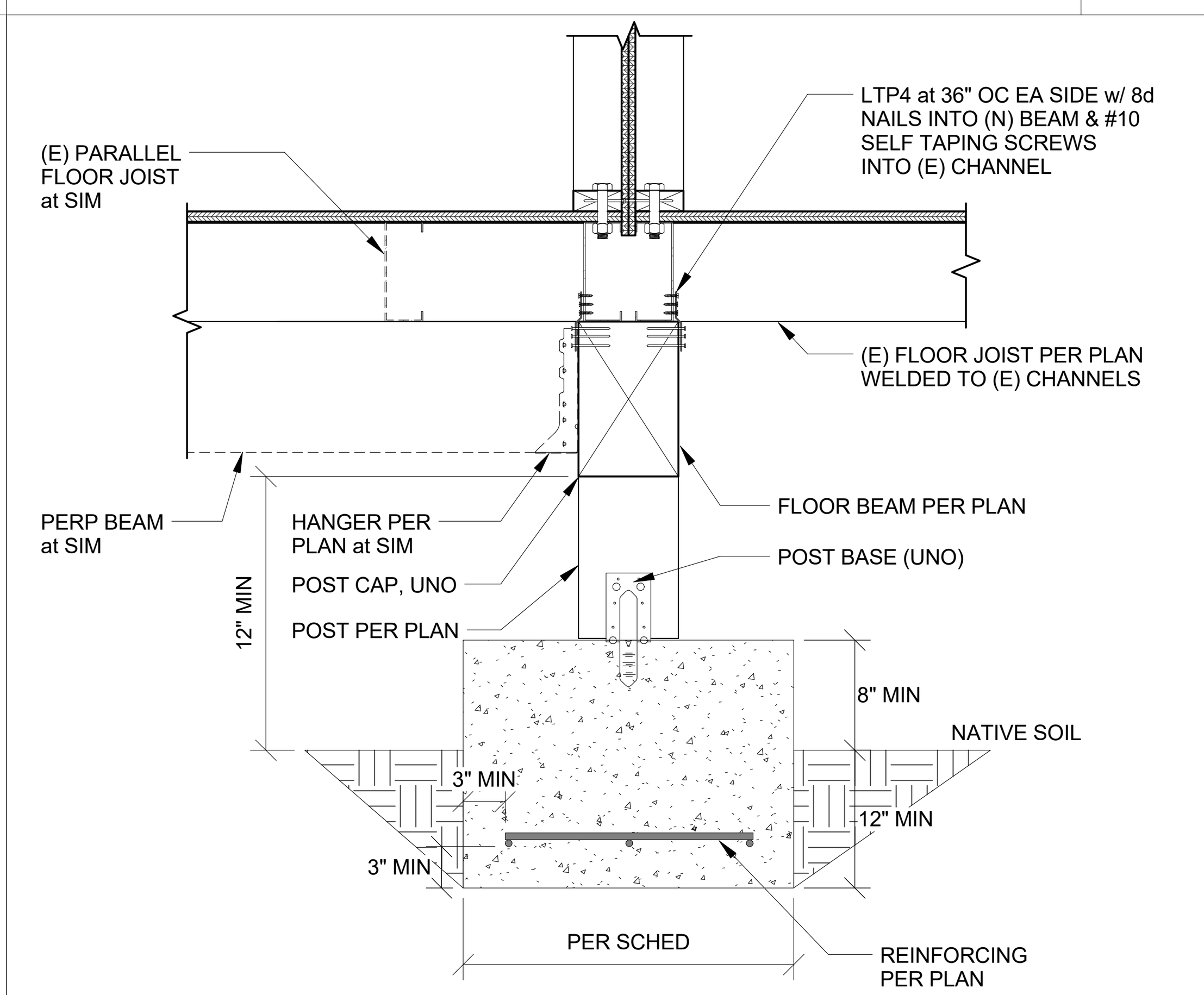
INTERIOR CRAWL PAD 103



NOTE: ONLY HORIZONTAL REBAR IS SHOWN FOR CLARITY. FOR ADDITIONAL INFORMATION SEE OTHER DETAILS ON THIS SHEET.

SCALE: 1" = 1'-0"

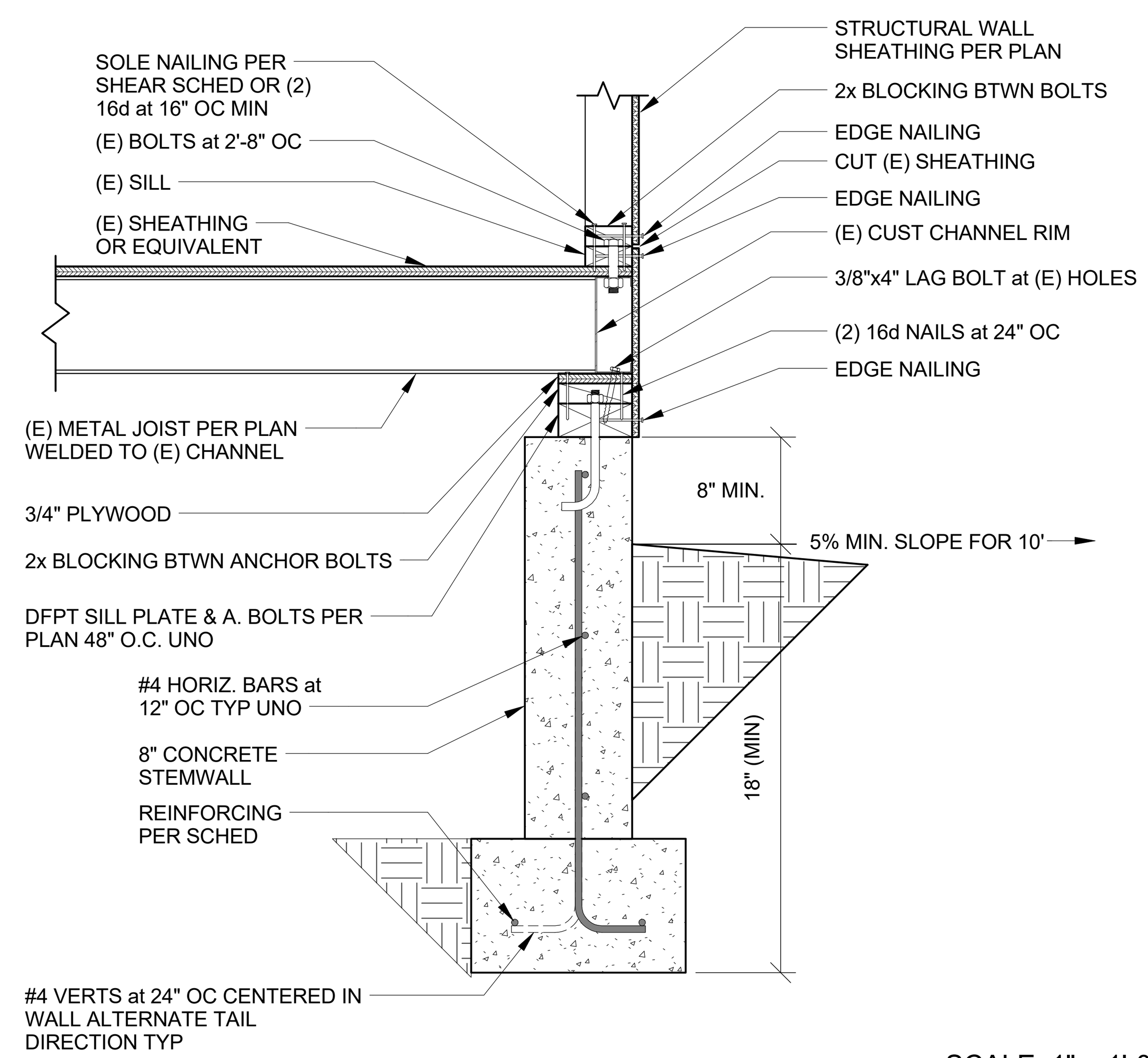
CONCRETE BLOCK OUT DETAIL 111



NOTE: SEE INTERIOR CRAWL PAD DETAIL FOR ADDITIONAL INFORMATION AND ALTERNATIVE FOOTING OPTION

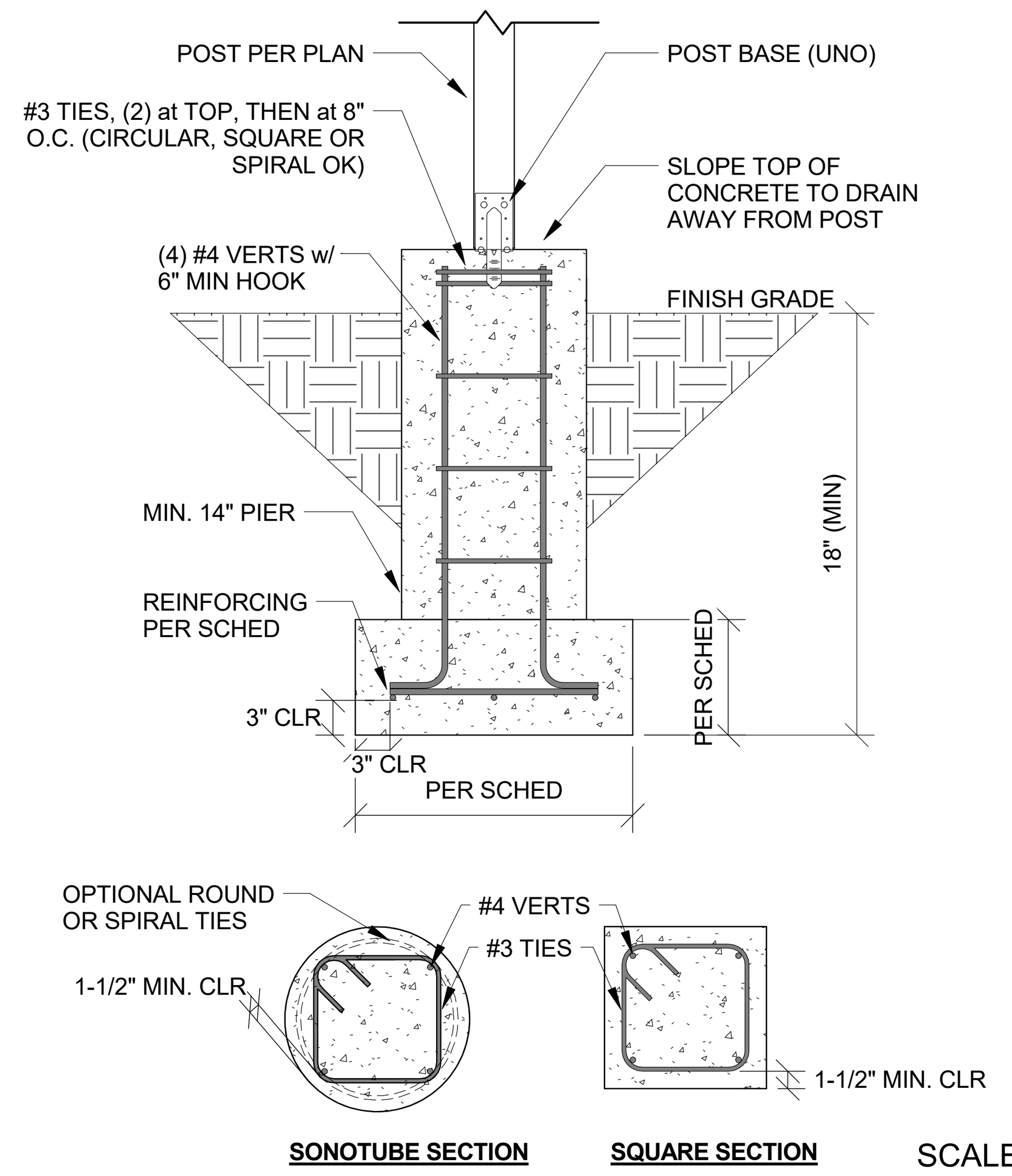
SCALE: 1" = 1'-0"

FLOOR at DBL WALL LINE 108



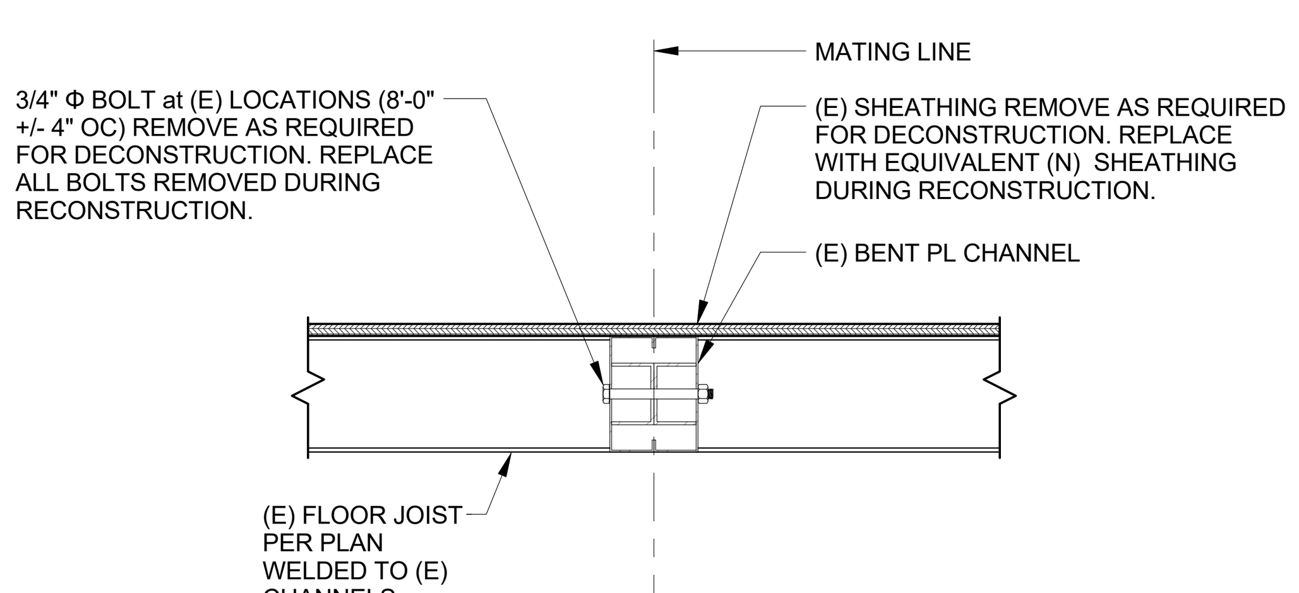
SCALE: 1" = 1'-0"

CONT FOOTING BELOW PERP FRAMING 105



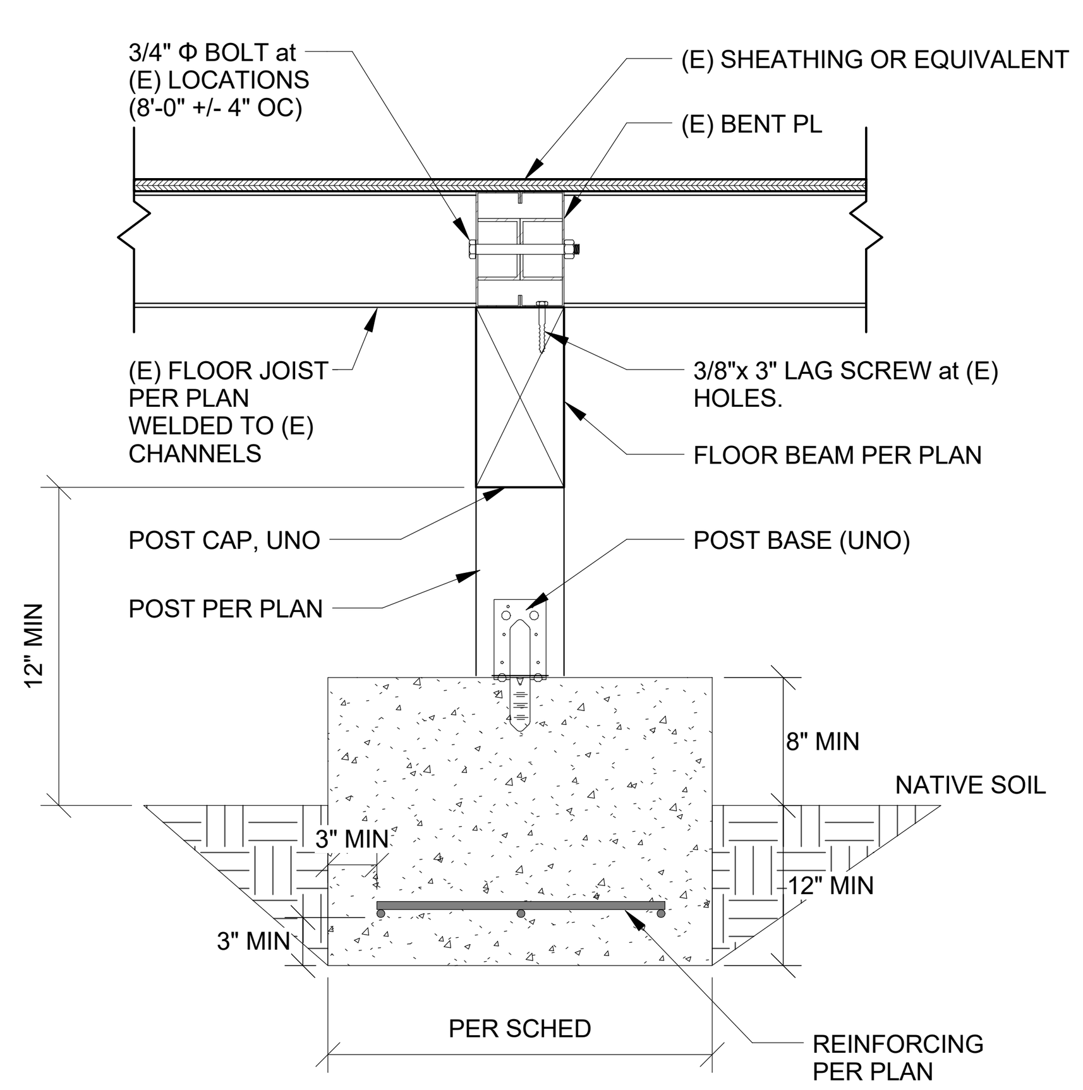
SCALE: 3/4" = 1'-0"

PIER FOOTING DETAIL 102



SCALE: 1" = 1'-0"

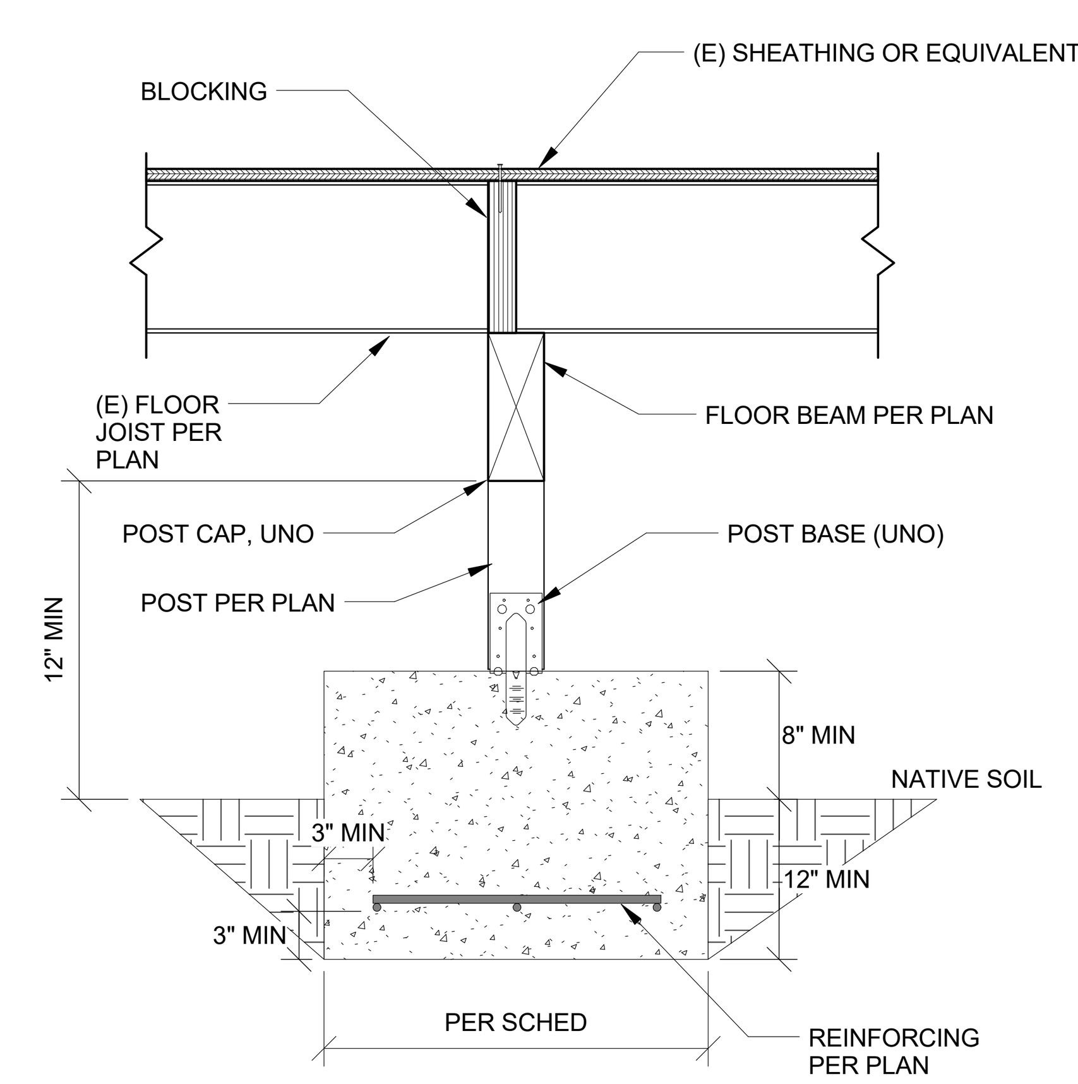
(E) CONNECTION at FLOOR MATING LINE 110



NOTE: SEE INTERIOR CRAWL PAD DETAIL FOR ADDITIONAL INFORMATION AND ALTERNATIVE FOOTING OPTION

SCALE: 1" = 1'-0"

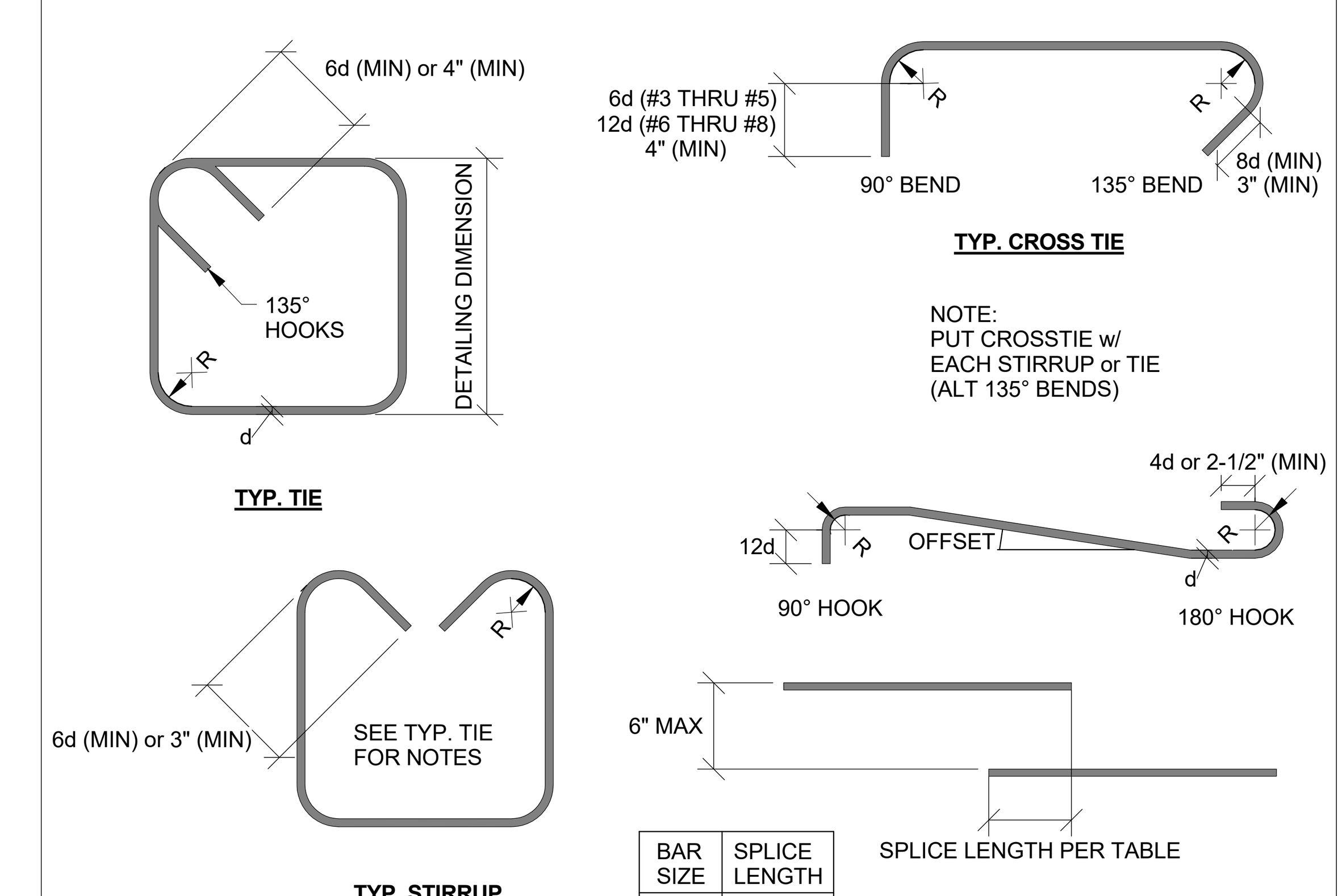
FLOOR at MODULAR MATE LINE 107



NOTE: SEE INTERIOR CRAWL PAD DETAIL FOR ADDITIONAL INFORMATION AND ALTERNATIVE FOOTING OPTION

SCALE: 1" = 1'-0"

FRAMED FLOOR OVER PIER 104



BEND RADIUS:
R = 3d FOR #3 THRU #8
R = 4d FOR #9 THRU #11
R = 5d FOR #14 THRU #18

BAR SIZE	SPLICE LENGTH
#3	12"
#4	18"
#5	24"
#6	32"
#7	42"
#8	56"
#9	70"

SCALE: 1" = 1'-0"

BENDS AND HOOKS 101

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FOUNDATION DETAILS

S-410

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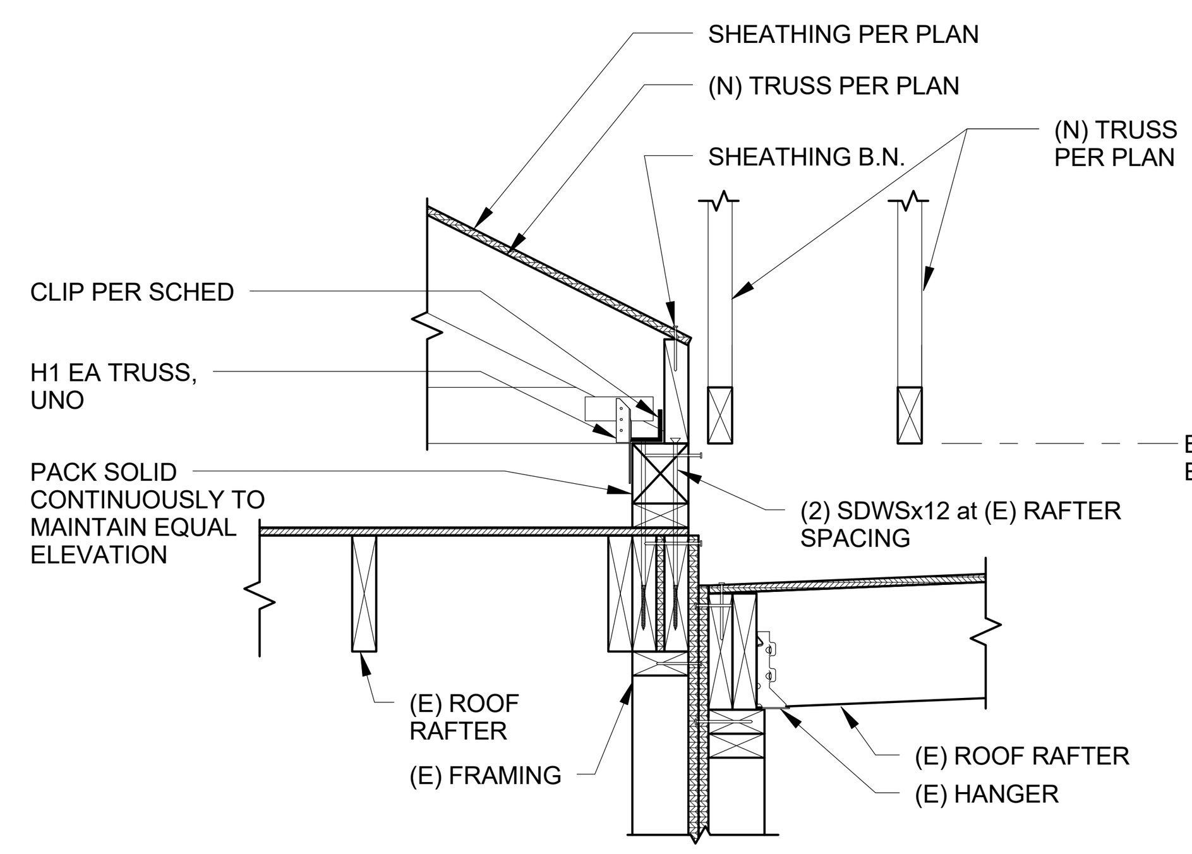
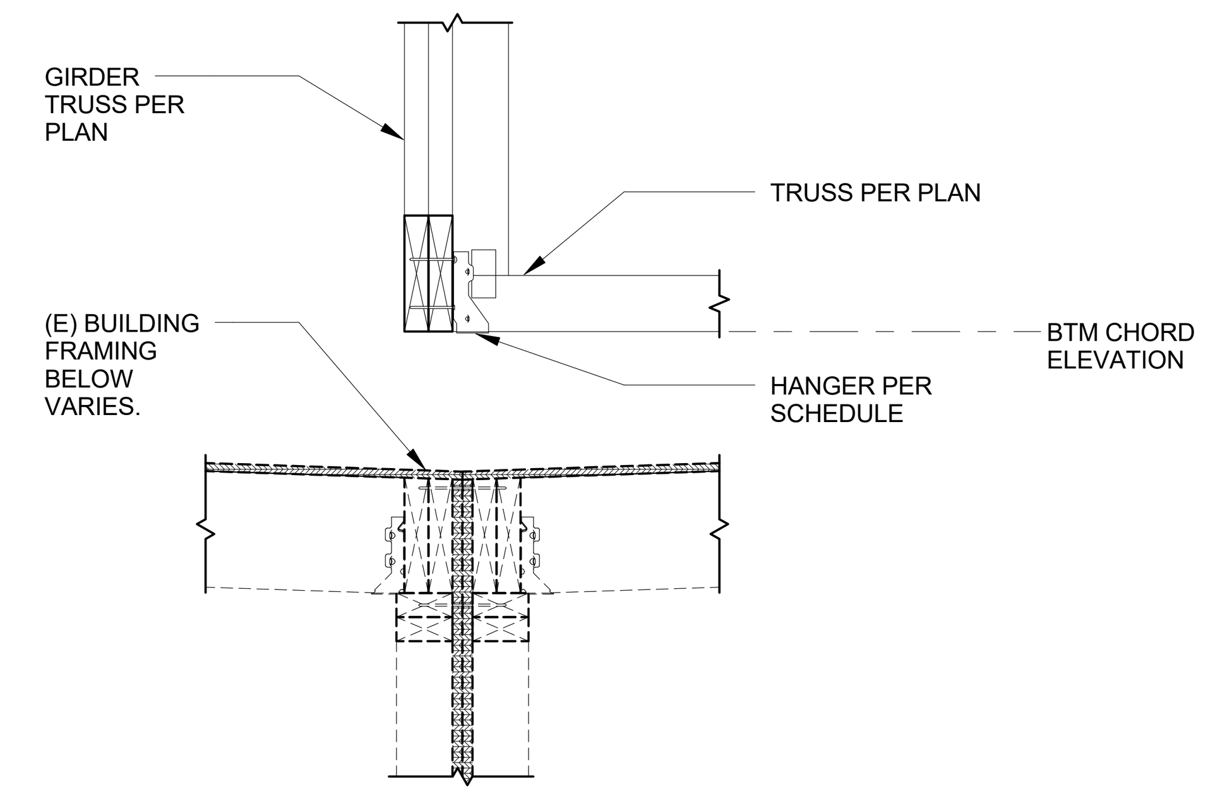

SHEATHING PER PLAN
(N) TRUSS PER PLAN
SHEATHING B.N.
(N) TRUSS PER PLAN
CLIP PER SCHED
H1 EA TRUSS, UNO
PACK SOLID CONTINUOUSLY TO MAINTAIN EQUAL ELEVATION
BTM CHORD ELEVATION
(2) SDWSx12 at (E) RAFTER SPACING
(E) ROOF RAFTER
(E) FRAMING
(E) ROOF RAFTER
(E) HANGER

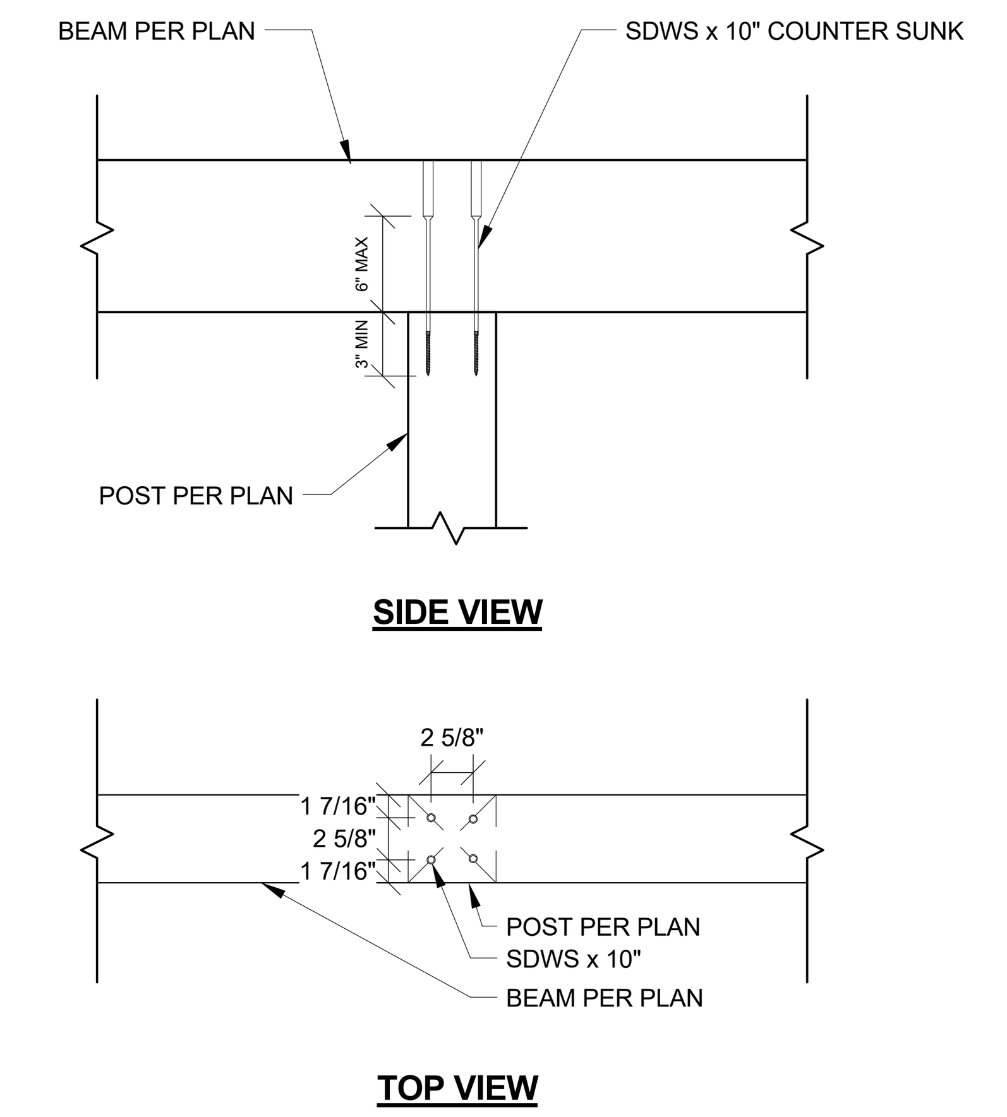
SCALE: 1" = 1'-0"

BUILDING SEAM GRID 2 PERP TRUSSES 209



SCALE: 1" = 1'-0"

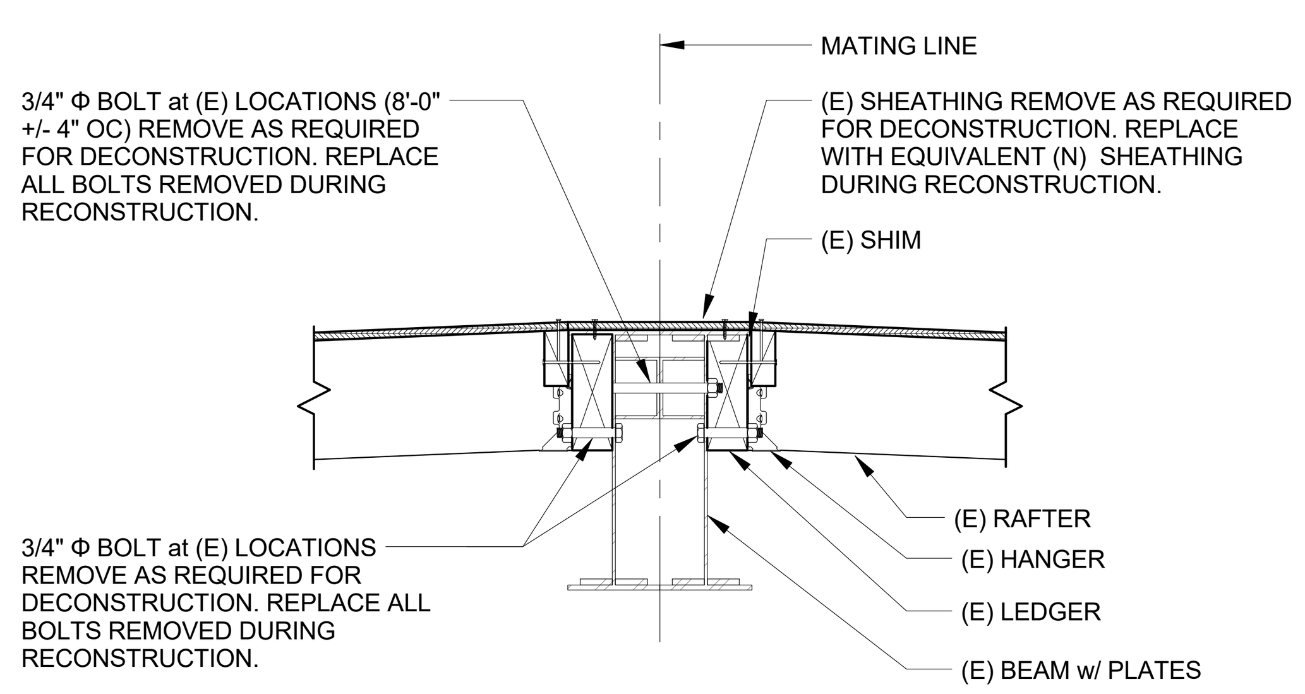
JACK TO GIRDER TRUSS CONNECTION 206



NOTE: COUNTER SINK SCREWS ENSURE HEAD OF SCREW WITHIN 6" OF BOTTOM OF BEAM. ENSURE 3" PENETRATION INTO POST.

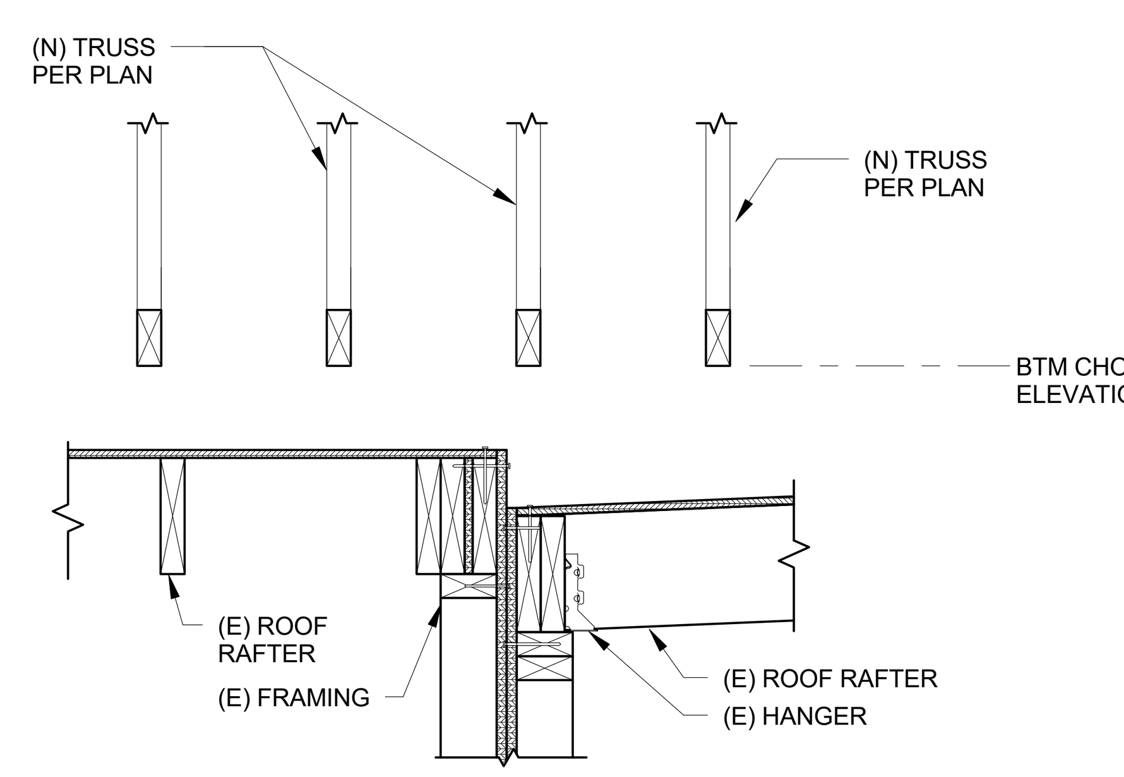
SCALE: 1" = 1'-0"

PINNED BEAM COLUMN CONNECTION 203


MATING LINE
3/4" Φ BOLT at (E) LOCATIONS (8'-0" +/- 4" OC) REMOVE AS REQUIRED FOR DECONSTRUCTION. REPLACE ALL BOLTS REMOVED DURING RECONSTRUCTION.
(E) SHEATHING REMOVE AS REQUIRED FOR DECONSTRUCTION. REPLACE WITH EQUIVALENT (N) SHEATHING DURING RECONSTRUCTION.
(E) SHIM
3/4" Φ BOLT at (E) LOCATIONS REMOVE AS REQUIRED FOR DECONSTRUCTION. REPLACE ALL BOLTS REMOVED DURING RECONSTRUCTION.
(E) RAFTER
(E) HANGER
(E) LEDGER
(E) BEAM w/ PLATES

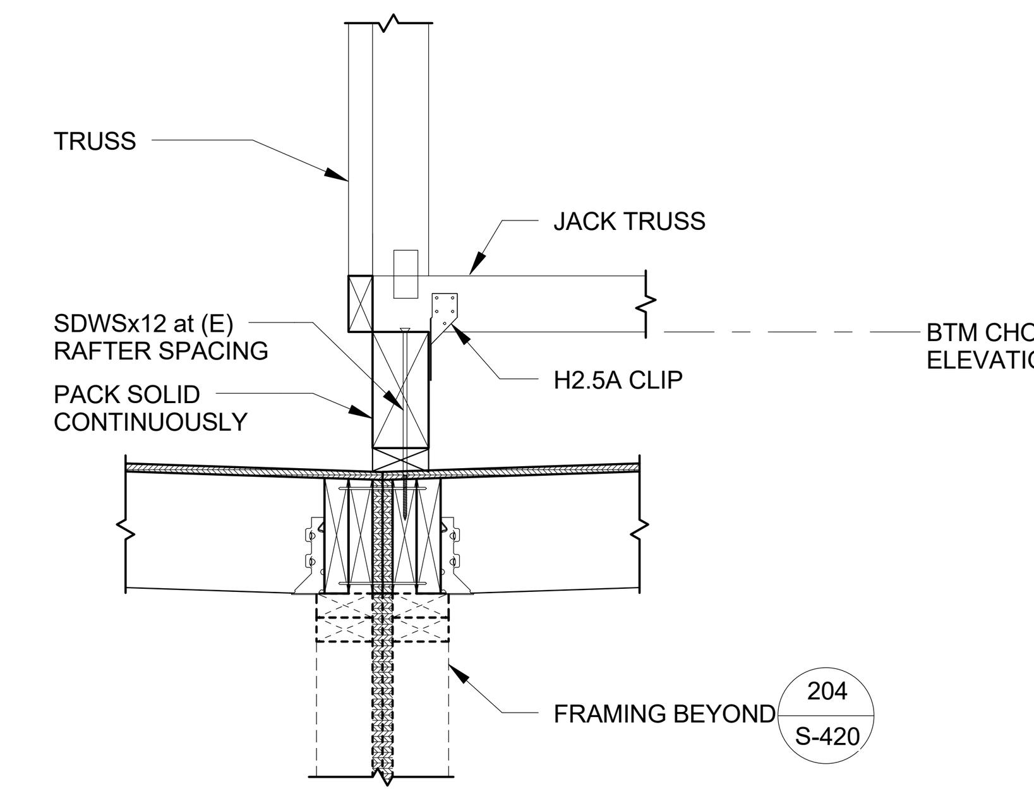
SCALE: 1" = 1'-0"

(E) CONNECTION at ROOF MATING LINE 211



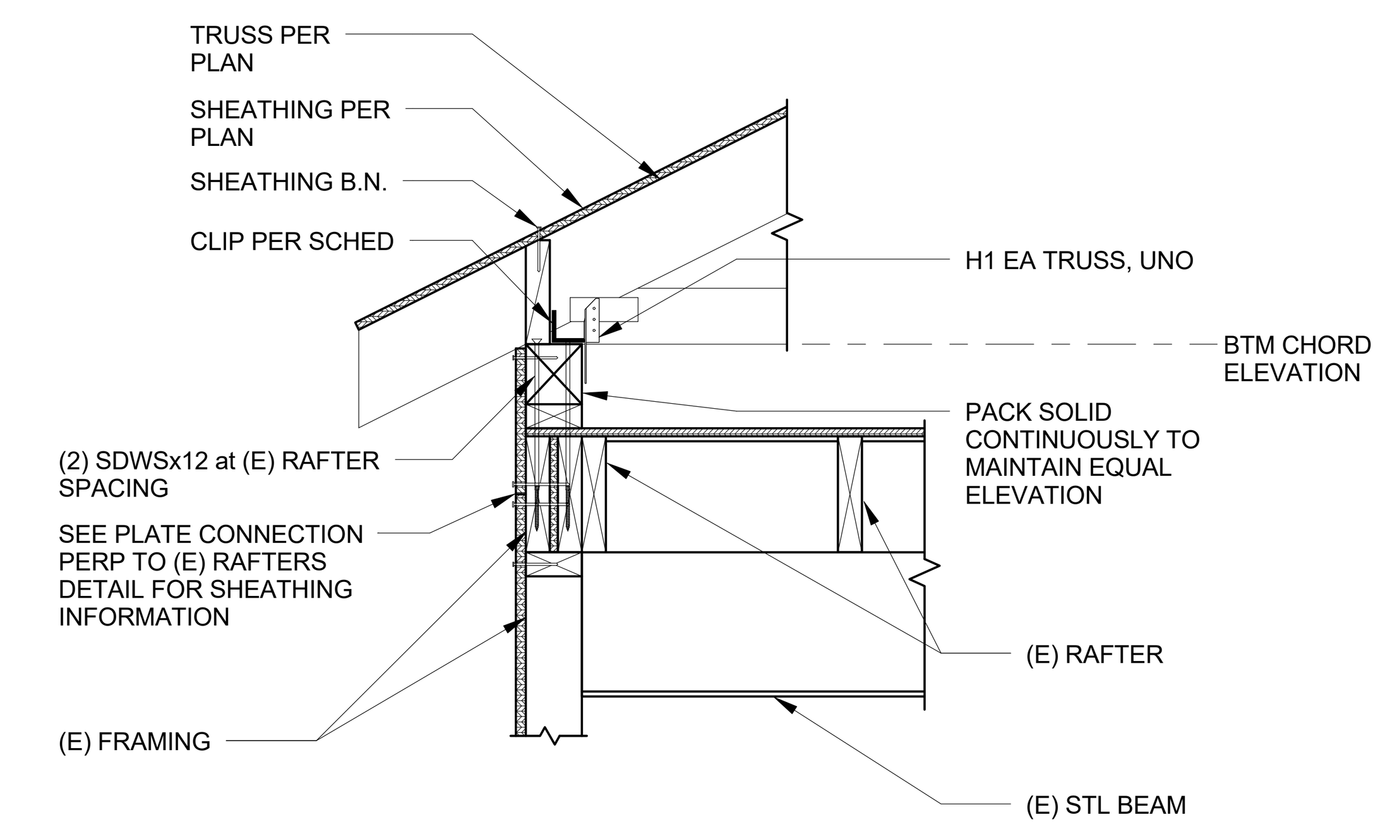
SCALE: 1" = 1'-0"

BUILDING SEAM GRID 2 PARALLEL TRUSSES 208



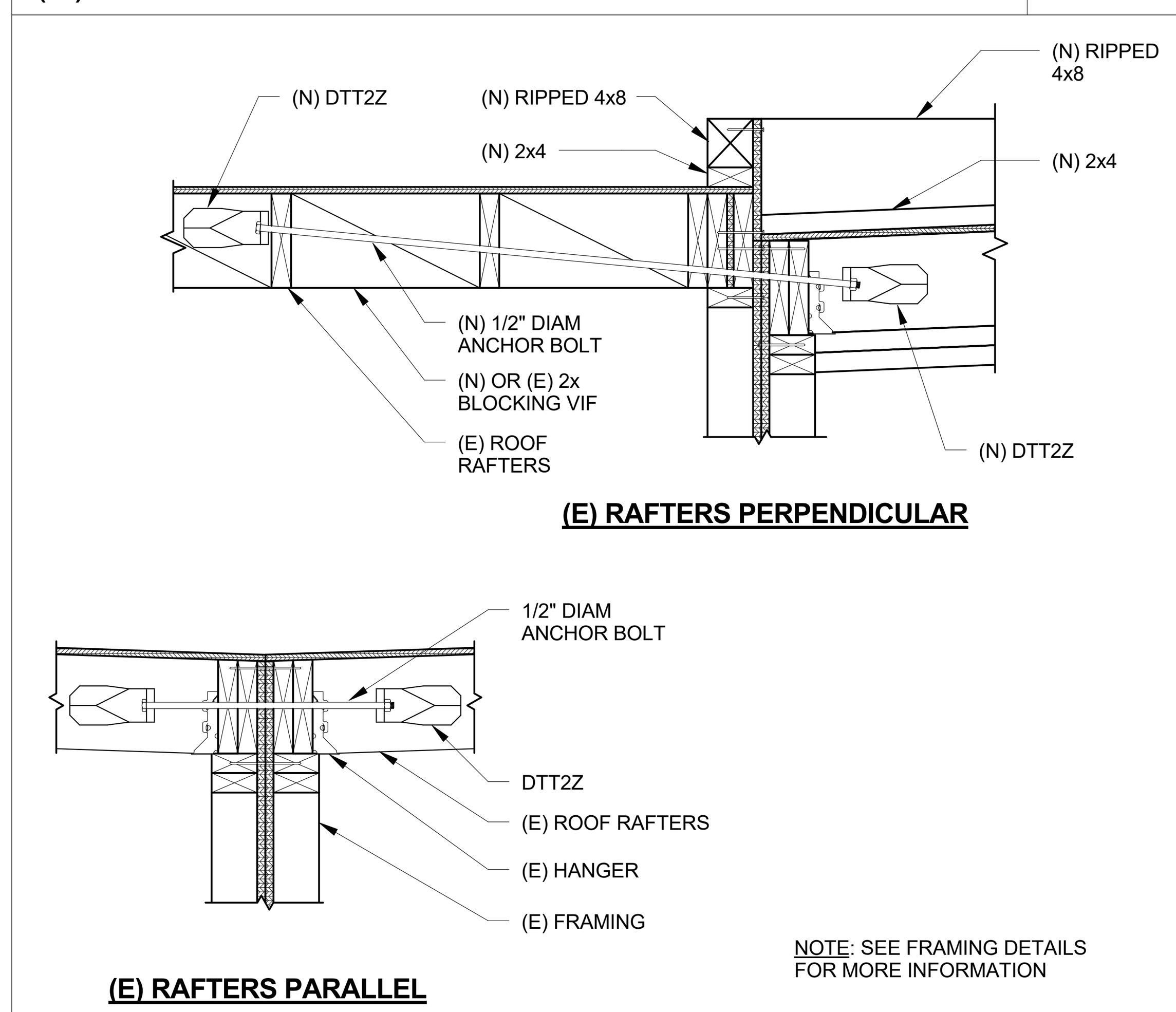
SCALE: 1" = 1'-0"

JACK TRUSS w/ (E) HDR at DBL WALL LINE 205


TRUSS PER PLAN
SHEATHING PER PLAN
SHEATHING B.N.
CLIP PER SCHED
H1 EA TRUSS, UNO
BTM CHORD ELEVATION
PACK SOLID CONTINUOUSLY TO MAINTAIN EQUAL ELEVATION
(2) SDWSx12 at (E) RAFTER SPACING
SEE PLATE CONNECTION PERP TO (E) RAFTERS DETAIL FOR SHEATHING INFORMATION
(E) RAFTER
(E) FRAMING
(E) STL BEAM

SCALE: 1" = 1'-0"

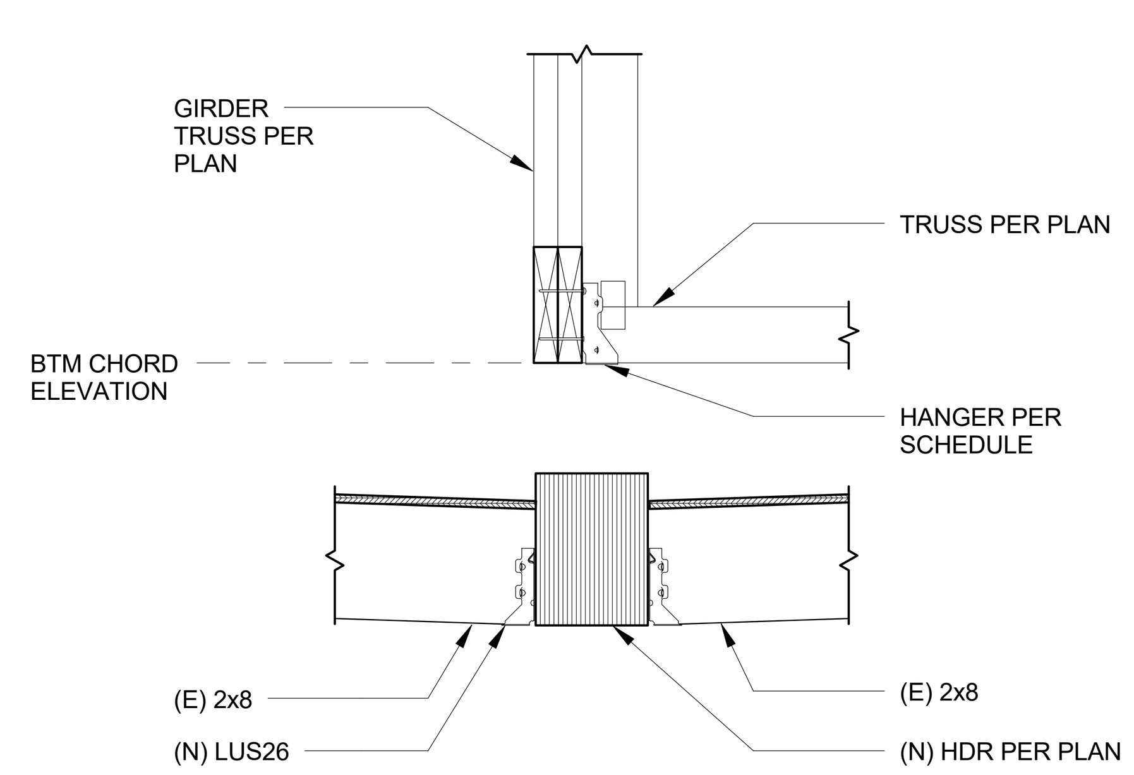
PLATE CONNECTION PARALLEL TO (E) RAFTERS 202



NOTE: SEE FRAMING DETAILS FOR MORE INFORMATION

SCALE: 1" = 1'-0"

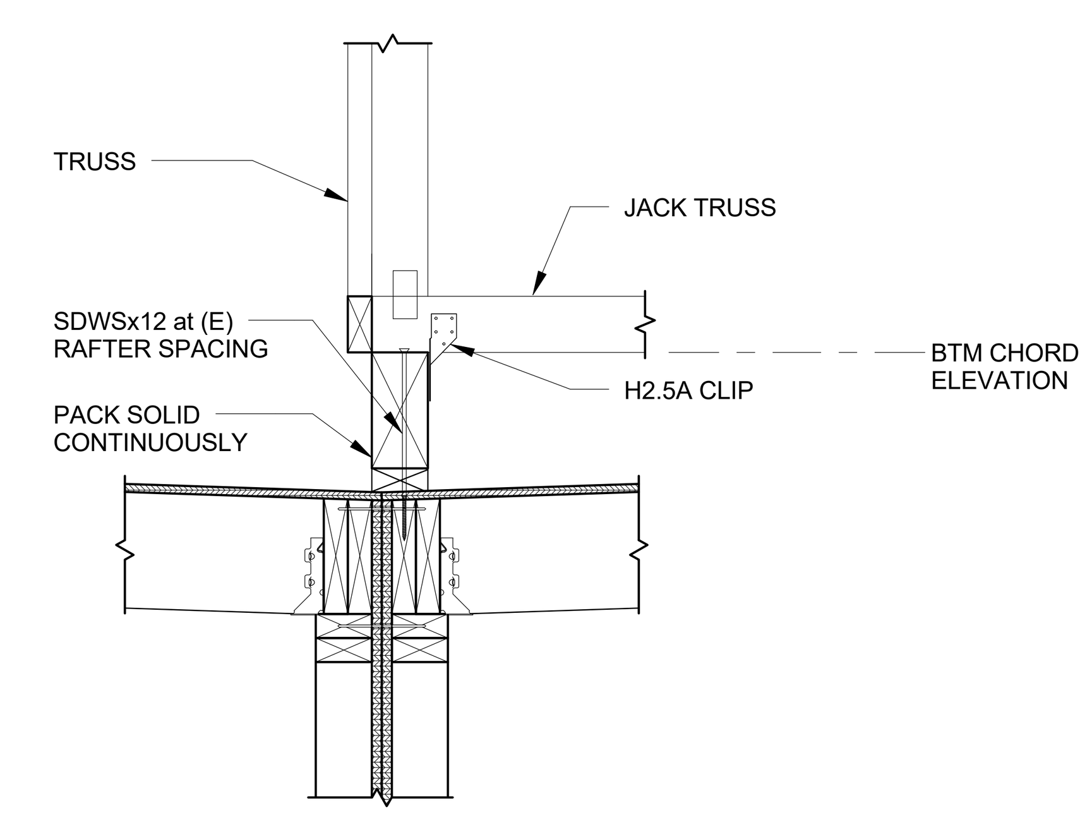
DTT2Z BUILDING TIE 210



NOTE: CUT AWAY DOUBLE RIM, TOP PLATE, AND WALL FRAMING. REMOVE (E) HANGERS. CONNECT (E) 2x8 TO (N) HDR USING (N) HANGERS.

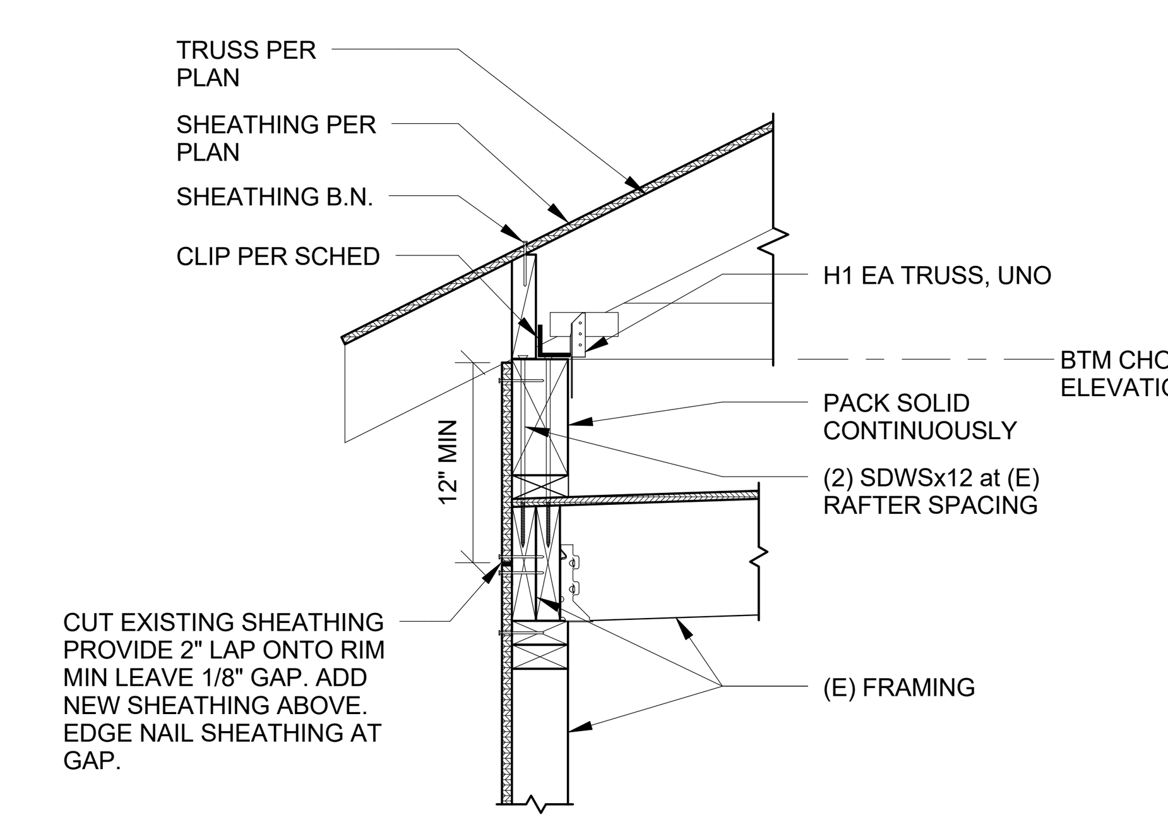
SCALE: 1" = 1'-0"

JACK TO GIRDER TRUSS CONNECTION at HDR 207



SCALE: 1" = 1'-0"

JACK TRUSS at DBL WALL LINE 204


TRUSS PER PLAN
SHEATHING PER PLAN
SHEATHING B.N.
CLIP PER SCHED
H1 EA TRUSS, UNO
BTM CHORD ELEVATION
PACK SOLID CONTINUOUSLY
(2) SDWSx12 at (E) RAFTER SPACING
12" MIN
CUT EXISTING SHEATHING PROVIDE 2" LAP ONTO RIM MIN LEAVE 1/8" GAP. ADD NEW SHEATHING ABOVE. EDGE NAIL SHEATHING AT GAP.
(E) FRAMING

SCALE: 1" = 1'-0"

PLATE CONNECTION PERP TO (E) RAFTERS 201

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DISTRICT SUPPORT SERVICES BLDG

10840 GILMORE WAY
GRASS VALLEY
APM: 29-030-02

DESIGNED BY	JG
DRAFTED BY	JG

CLIENT INFORMATION

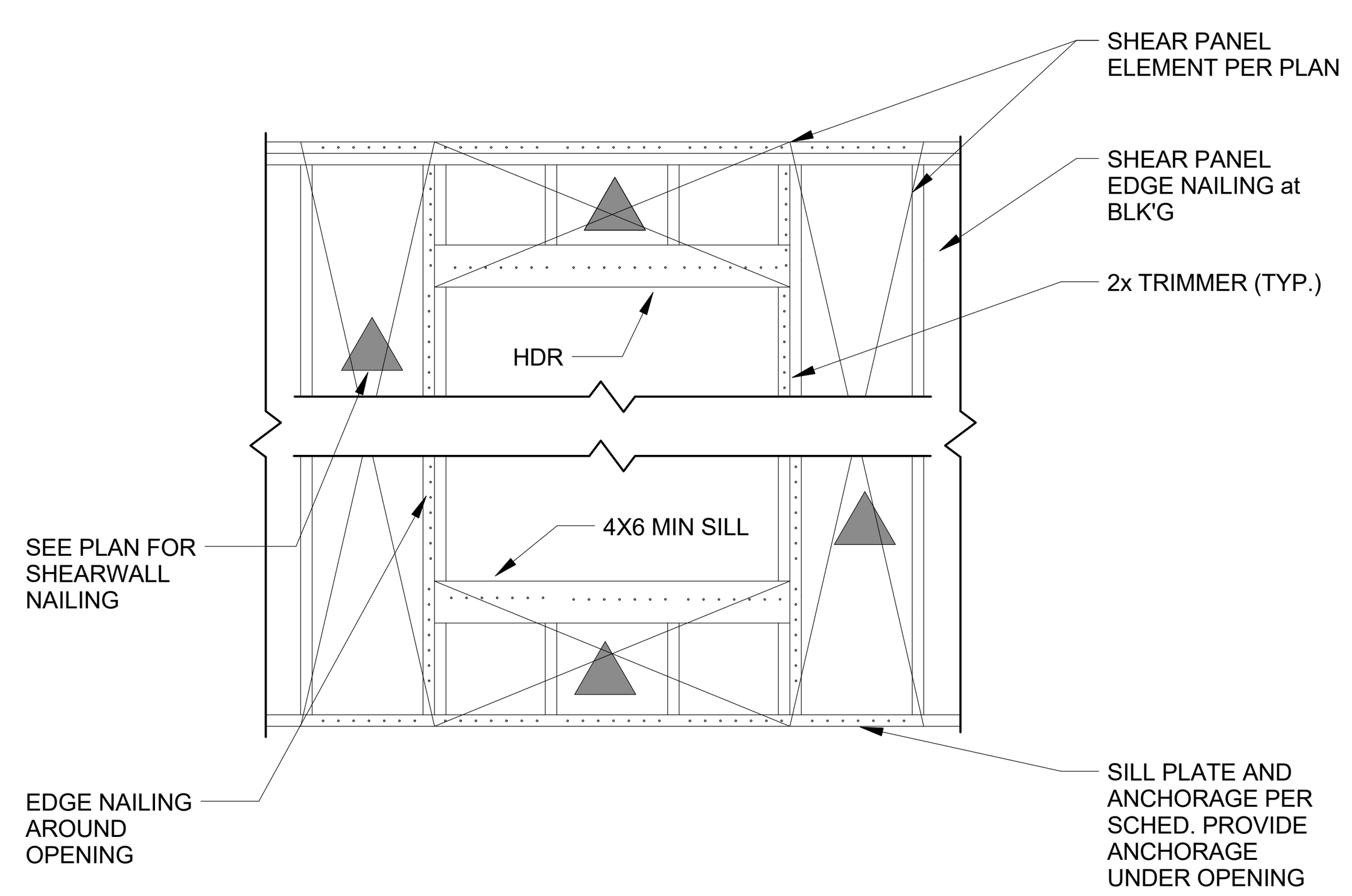
GRASS VALLEY SCHOOL DISTRICT
10840 GILMORE WAY
GRASS VALLEY, CA 95945

PROJECT#	1491
ISSUE DATE	05/19/2016
SCALE	1" = 1'-0"

FRAMING DETAILS

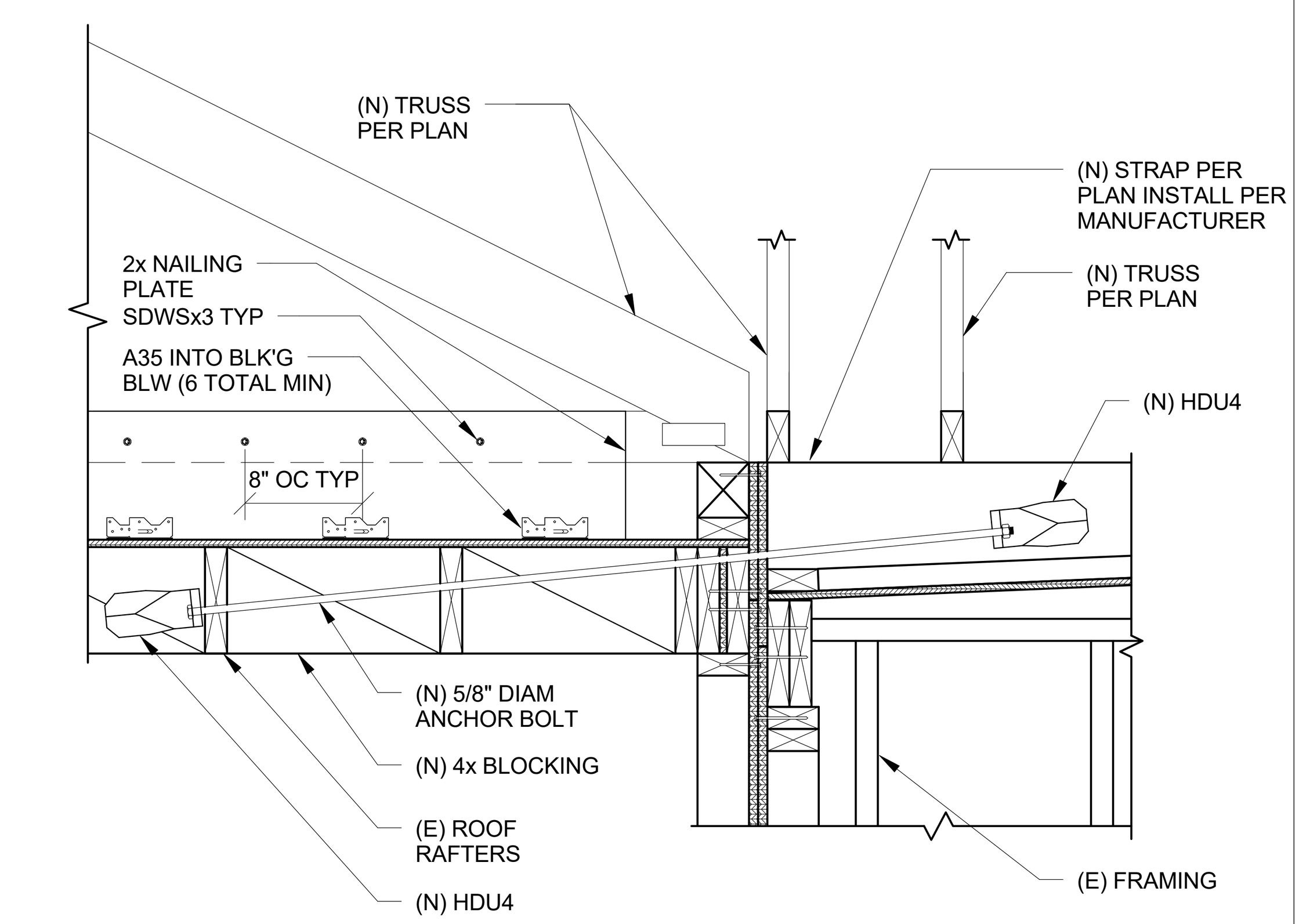
S-420

PRINT DATE: 6/6/2016 2:54:21 PM



SCALE: 1" = 1'-0"

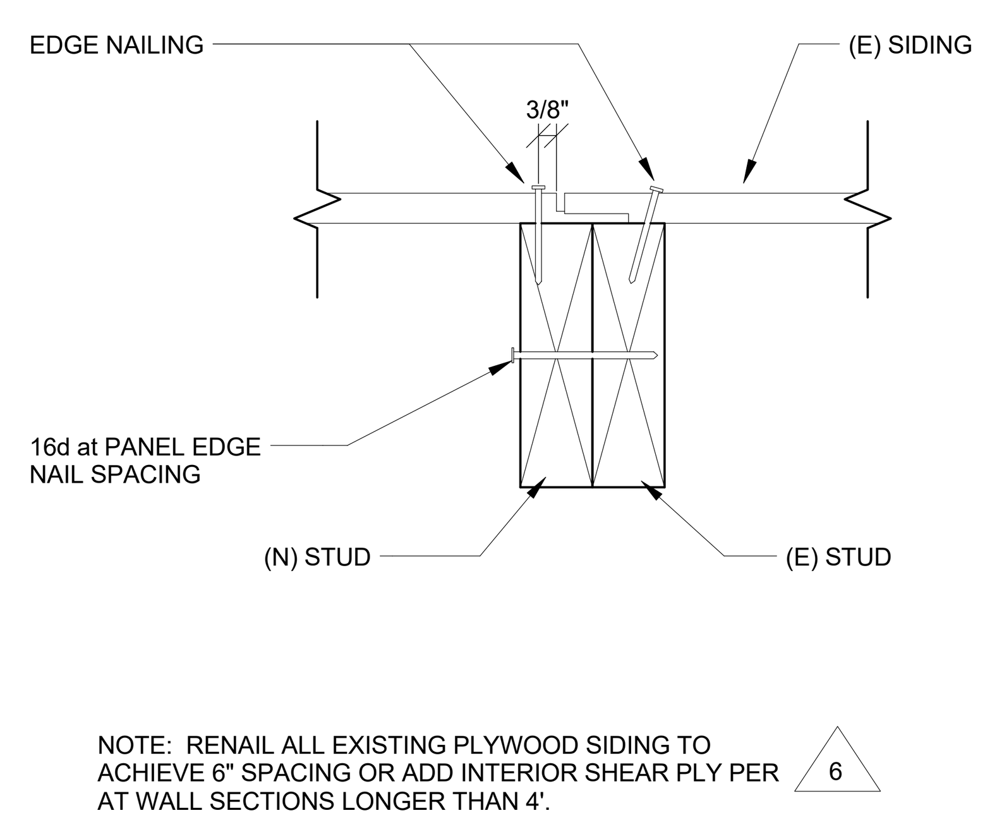
PERFORATED SHEARWALL 304



NOTE: SEE FRAMING DETAILS FOR MORE INFORMATION

SCALE: 1" = 1'-0"

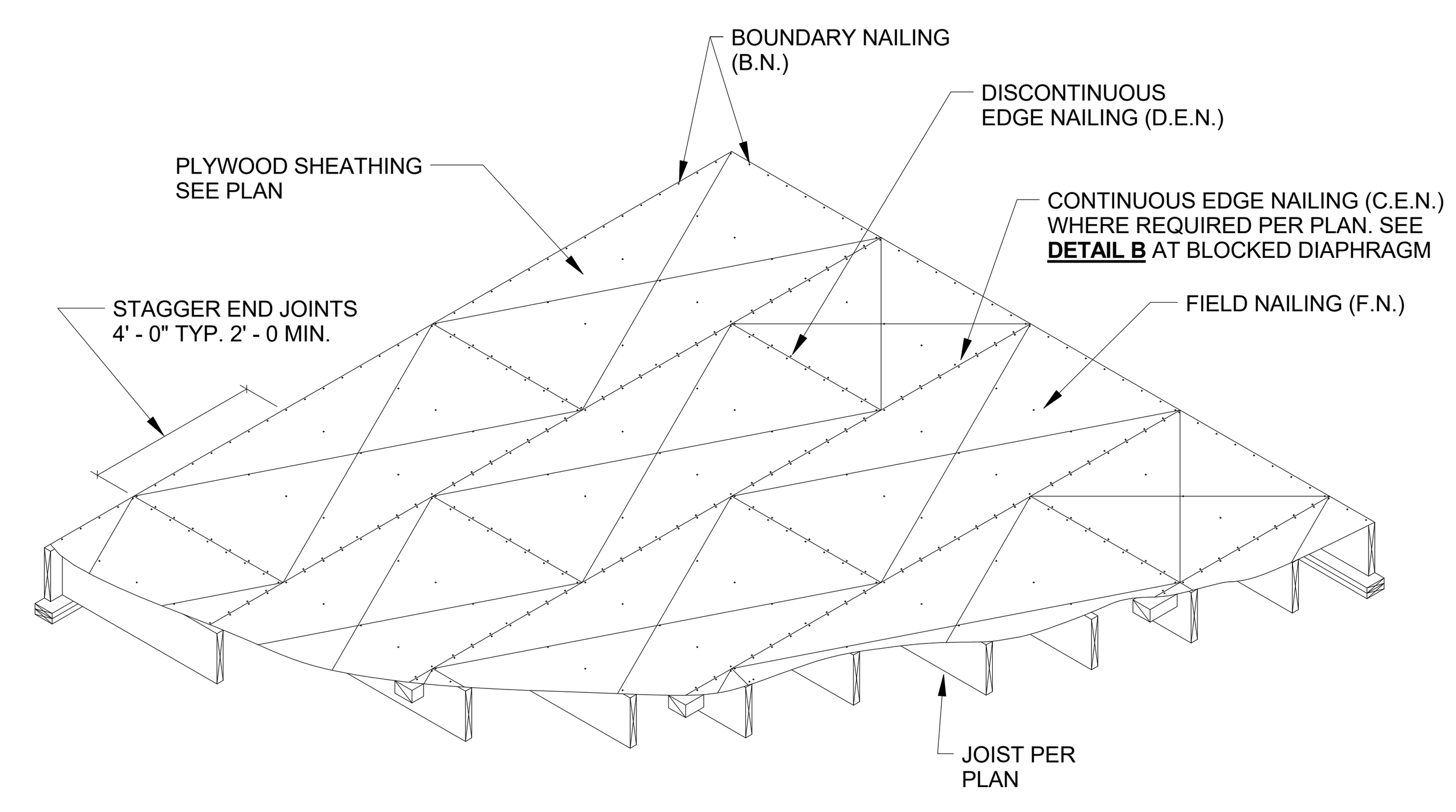
STRAP TRUSS DETAIL 305



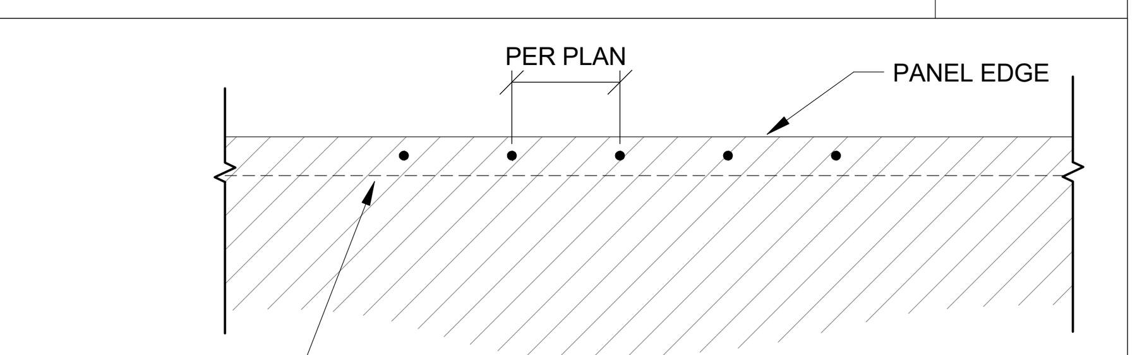
NOTE: RENAIL ALL EXISTING PLYWOOD SIDING TO ACHIEVE 6" SPACING OR ADD INTERIOR SHEAR PLY PER 6 AT WALL SECTIONS LONGER THAN 4'.

SCALE: 3" = 1'-0"

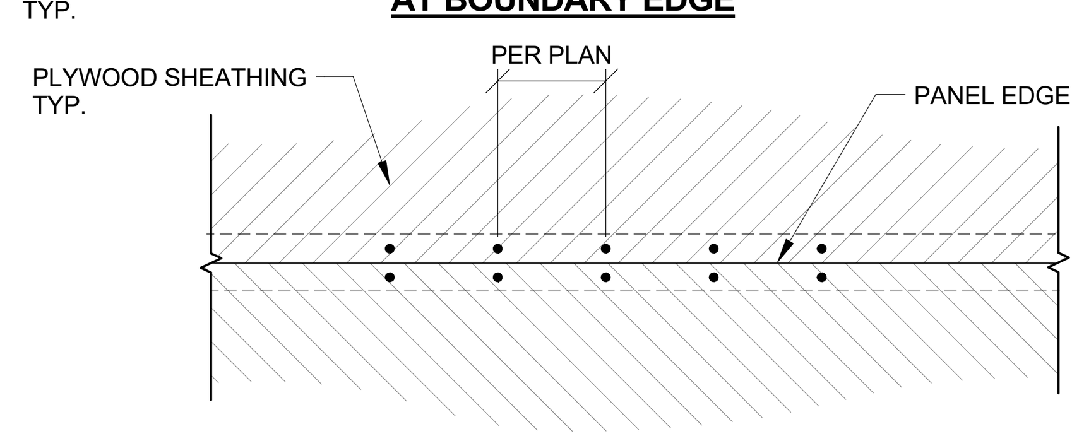
EXISTING T1-11 SHEARWALL NAILING 303



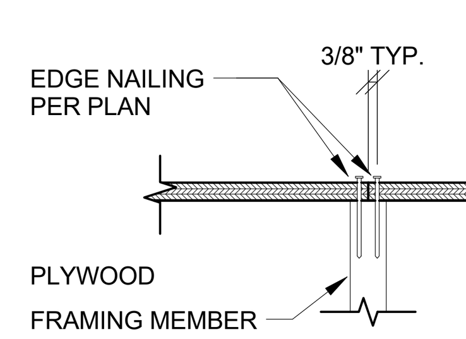
DIAPHRAGM ISOMETRIC



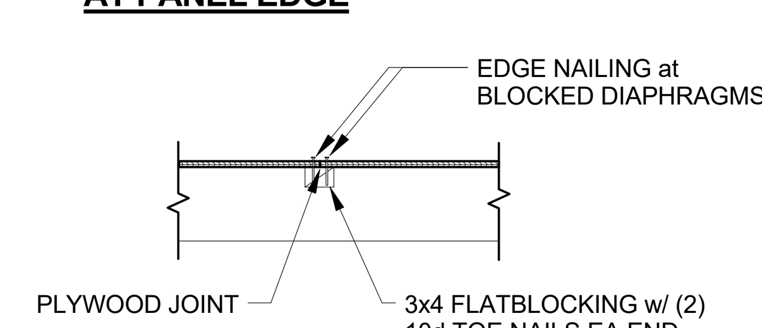
AT BOUNDARY EDGE



AT PANEL EDGE



DETAIL A

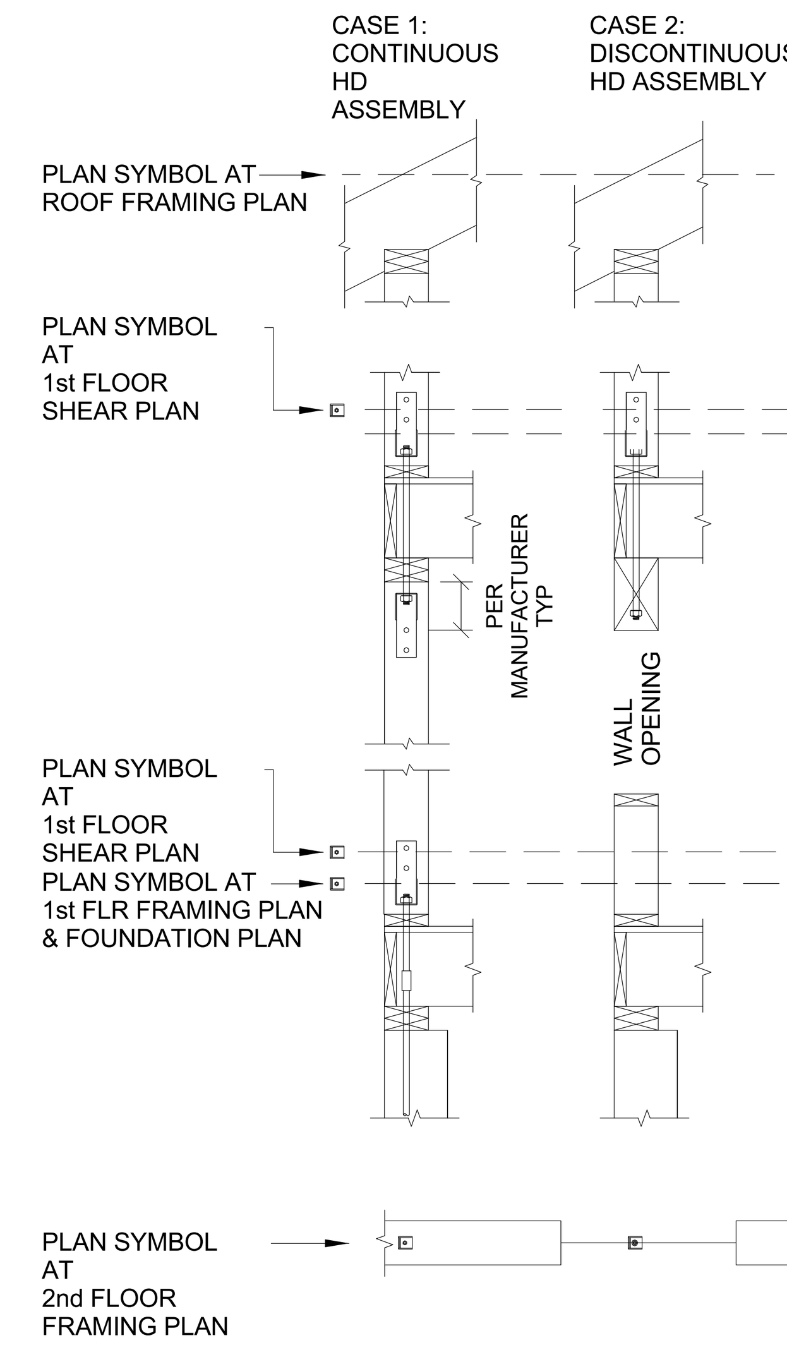


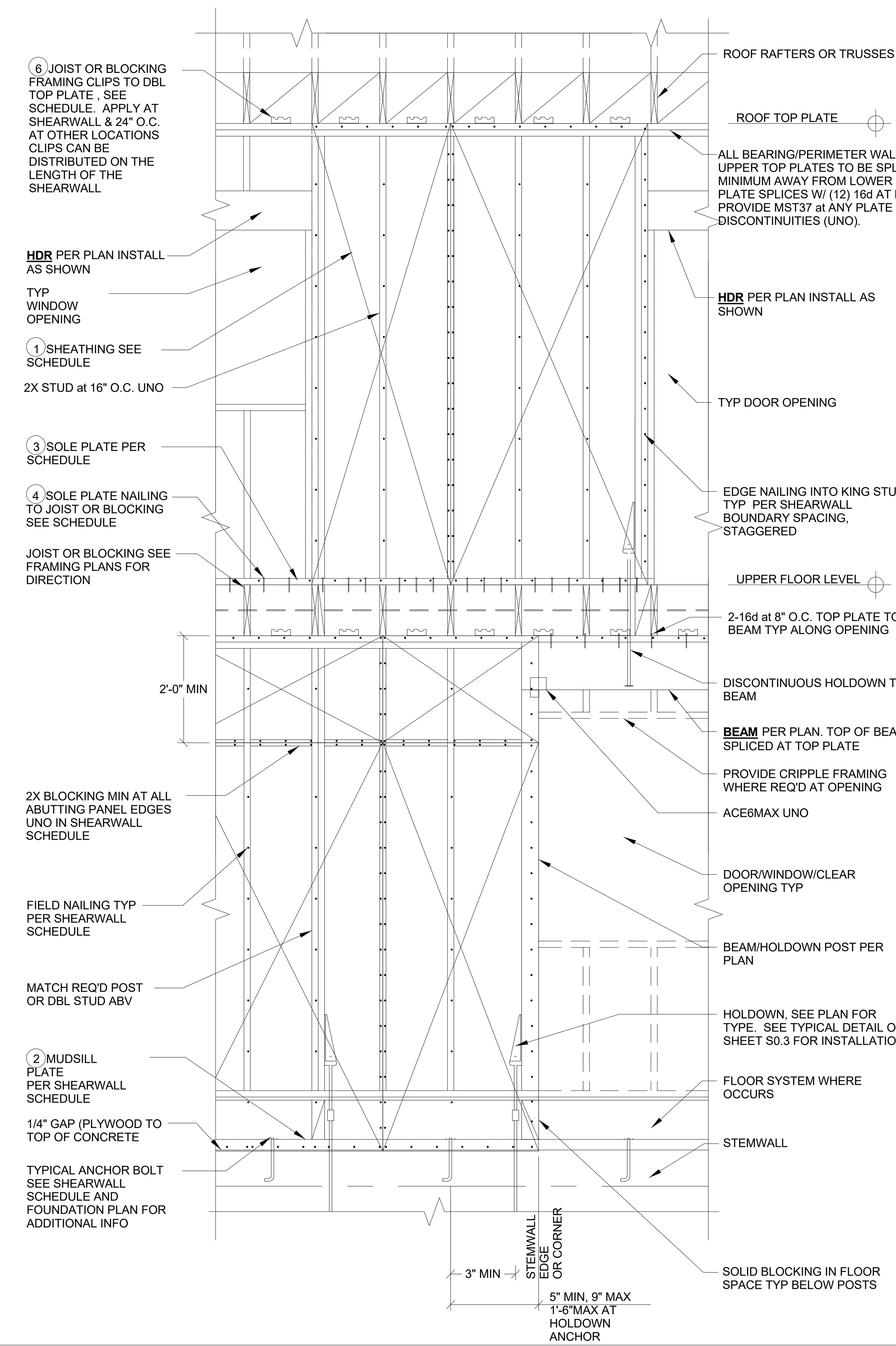
DETAIL B

NOTES:
1. RUN LONG DIMENSION OF PLYWOOD PERPENDICULAR TO JOIST.
2. NAILING SIZE AND SPACING NOTED ON PLAN.
3. NAILS SHALL HAVE A MINIMUM 3/8" EDGE DISTANCE, SEE **DETAIL A**.
4. USE TONGUE AND GROOVE PLYWOOD AT UNBLOCKED FLOORS.
5. USE BOUNDARY NAILING AT ALL NAILING ZONE BOUNDARIES.
6. MINIMUM PANEL DIMENSION IS 2' - 0" WIDE.
7. SEE SHEARWALL SCHEDULE FOR ADDITIONAL NAILING REQUIREMENTS.

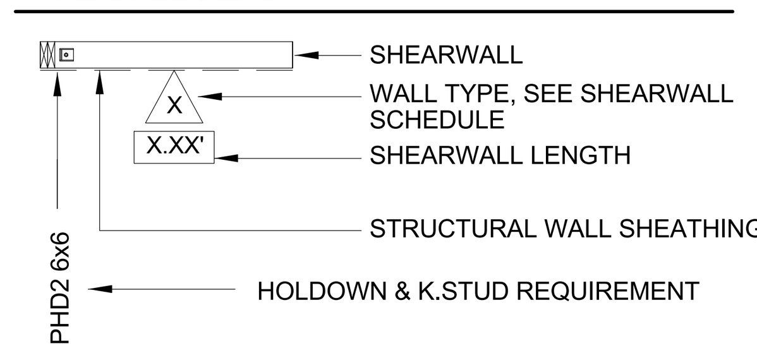
SCALE: 1" = 1'-0"

DIAPHRAGM NAILING 302





PLAN LEGEND



NOTE: STRUCTURAL COMPOSITE LUMBER COLUMNS HAVE SIDES THAT SHOW EITHER THE WIDE FACE OR THE EDGES OF THE LUMBER STRANDS/VENEERS. ALL DESIGN VALUES REFLECT INSTALLATION INTO THE WIDE FACE.

SHEAR WALL SCHEDULE

1					2	3	4	5	6	7
PLAN SYMBOL	SHEATHING THICKNESS (IN)	PANEL EDGE NAILING	FRAMING AT ABUTTING PANEL EDGES	ALLOWABLE SHEAR (PLF)	SILL PLATE AGAINST CONC. OR MASONRY	SOLE PLATE ON SUBFLOOR FRAMING	SOLE PLATE NAILING	ADDITIONAL BLOCKING OR CONT. MEMBER AT SHEAR TRANSFER	FRAMING CLIPS TYPE PER DETAIL	ANCHOR BOLTS TYPE PER DETAIL
6	15/32	10d COM. at 6" O.C.	2X	310	2X	2X NOTE 16	16d at 6" O.C. NOTE 16	NOT REQUIRED	at 24" O.C.	at 48" O.C.
4	15/32	10d COM. at 4" O.C.	3X	460	2X	2X NOTE 16	16d at 4" O.C. NOTE 16	NOT REQUIRED	at 16" O.C. NOTE 15 &17	at 32" O.C.
3	15/32	10d COM. at 3" O.C.	3X	600	2X	2X NOTE 16	16d at 3" O.C. NOTE 16	1 3/4" LSL	at 12" O.C. NOTE 15 &17	at 24" O.C.
2	15/32	10d COM. at 2" O.C.	3X	770	3X	3X NOTE 16	1/4" SDS X 4.5" at 8" O.C. NOTE 16	1 3/4" LSL	at 8" O.C. NOTE 15 &17	at 24" O.C.
4/4	15/32 BOTH SIDES	10d COM. at 4" O.C.	3X	920	3X	3X	1/4" SDS X 4.5" at 6" O.C.	2 1/4" LSL	at 8" O.C.	at 16" O.C.
3/3	15/32 BOTH SIDES	10d COM. at 3" O.C.	3X	1200	3X	3X	1/4" SDS X 4.5" at 6" O.C.	2 1/4" LSL	at 6" O.C.	at 16" O.C.
2/2	15/32 BOTH SIDES	10d COM. at 2" O.C.	4X	1540	3X	3X	1/4" SDS X 4.5" at 4" O.C.	2 1/4" LSL	at 4" O.C.	at 12" O.C.

1. THERE SHALL BE A MINIMUM OF TWO ANCHORS PER PLATE, WITH AN ANCHOR LOCATED WITHIN 12" OF EACH END.
2. ANCHORS SHALL BE EMBEDDED IN CONCRETE A MINIMUM OF 7".
3. ANCHOR BOLTS SHALL COMPLY WITH CBC SECTION 2304.9.5.
4. ALL ANCHORS SHALL BE INSTALLED WITH SIMPSON BP PLATE OR 3"x3" x0.299" PLATE WASHER. THE PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE OF THE SHEATHING.
5. AT 3X SILL PLATES, USE 12" LONG A.BOLTS FOR EXTRA THREAD LENGTH ABOVE CONCRETE.
6. WHERE 3X FRAMING AT PANEL EDGE NAILING IS REQUIRED, NAILS SHALL BE STAGGERED.
7. WHERE SHEATHING IS APPLIED TO BOTH FACES OF A WALL, PANEL JOINTS ARE TO BE OFFSET TO FALL ON DIFFERENT STUDS.
8. SHEATHING IS TO EXTEND FROM TOP PLATE TO SILL PLATE WITH NO GAPS UNO.
9. WHERE SHEAR WALLS DO NOT OCCUR, USE MIN. 15/32" SHEATHING W/ 10d at 6"/12" O.C.
10. SHEATHING SHALL BE ATTACHED TO STUDS at 16" O.C.
11. FIELD NAILING TO BE at 12" O.C. TYPICAL.
12. SHEATHING SHALL BE WOOD STRUCTURAL PANELS- C-D, C-C EXTERIOR SHEATHING OR OTHER GRADES COVERED IN PS1 AND PS2.
13. THIS SCHEDULE IS BASED ON ICBO REPORT ER-2403 WHICH DEFINES 8d COMMON NAILS AS HAVING A SHANK DIAMETER OF 0.131" AND 10d COMMON HAVING A 0.148" DIAMETER.
14. WHERE PANEL EDGES DO NOT OCCUR ON HOLDOWN POSTS, PROVIDE EDGE NAILING INTO POSTS.
15. FRAMING CLIP SPACING IS AT THE SHEARWALLS ONLY. AT ALL OTHER LOCATIONS PROVIDE CLIPS at 24" O.C. CLIPS SPECIFIED AT SHEARWALL CAN BE SPREAD OUT OVER THE ENTIRE LENGTH OF WALL 24" O.C. MAXIMUM.
16. IF SHEARWALL WOOD SHEATHING IS SPLICED AT THE RIM PLATE AND PLATE NAILING CAN BE REDUCED TO 2X PLATE WITH 16D at 4" O.C.
17. IF SHEARWALL WOOD SHEATHING IS SPLICED AT THE FLOOR RIM JOIST, PROVIDE FRAMING CLIPS AT A MINIMUM 24" O.C.
18. AT BUILT UP HOLDOWN POSTS, SPLICE MEMBERS W/ 16d NAILS at SHEARWALL BOUNDARY SPACING, STAGGERED.
19. WHERE HOLDOWN IS ATTACHED THROUGH STUD NAILER TO HOLDOWN POST, LENGTHEN SCREWS ACCORDINGLY AND EDGE/BOUNDARY NAIL BOTH NAILER AND POST.

SCALE: 1" = 1'-0"

SHEARWALL SCHEDULE, LEGEND, & CONTINUOUS LOAD PATH 301

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CLIENT INFORMATION

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GRASS VALLEY, CA 95945

PROJECT# 1491

ISSUE DATE 05/19/2016

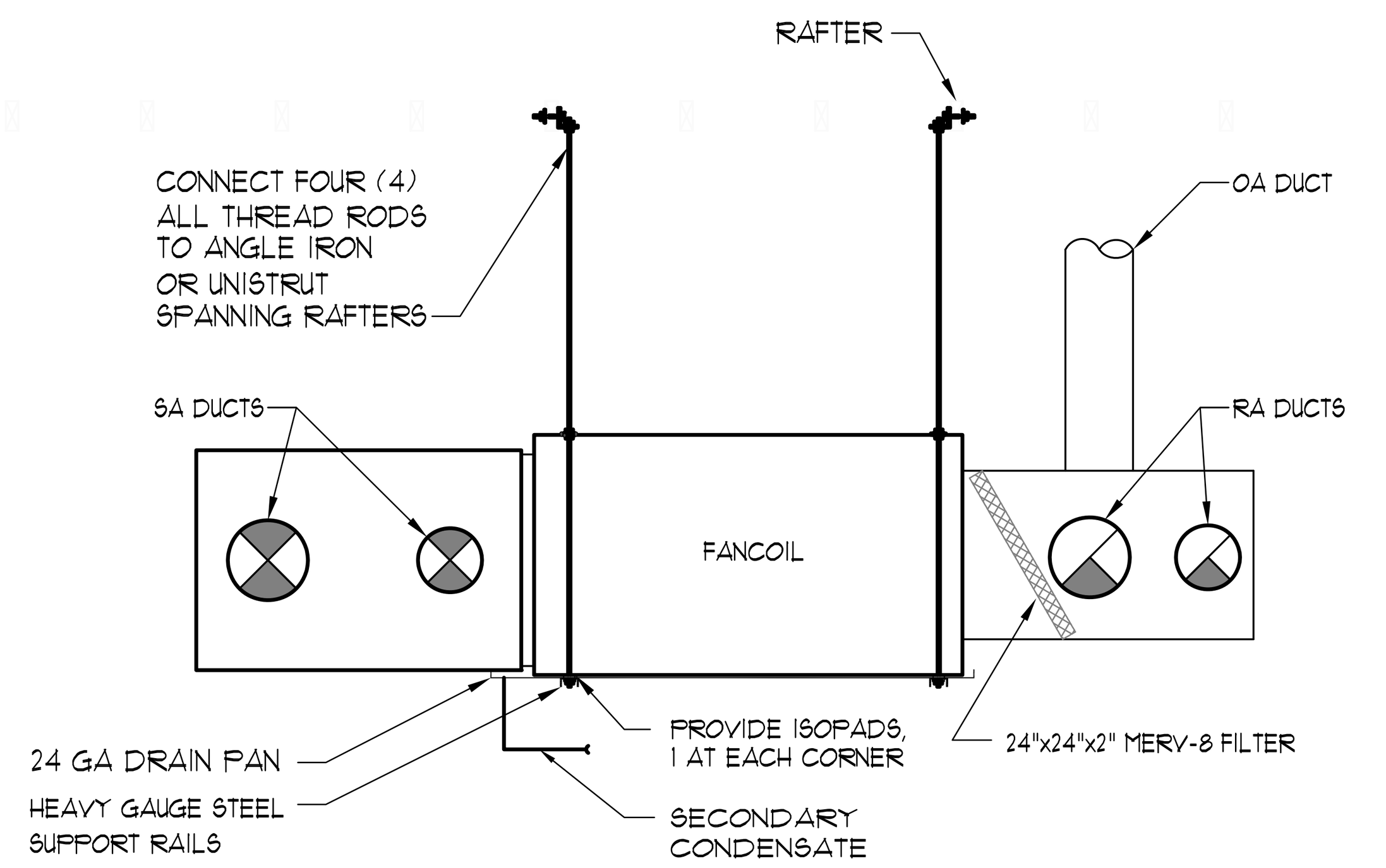
SCALE As indicated

SHEAR DETAILS

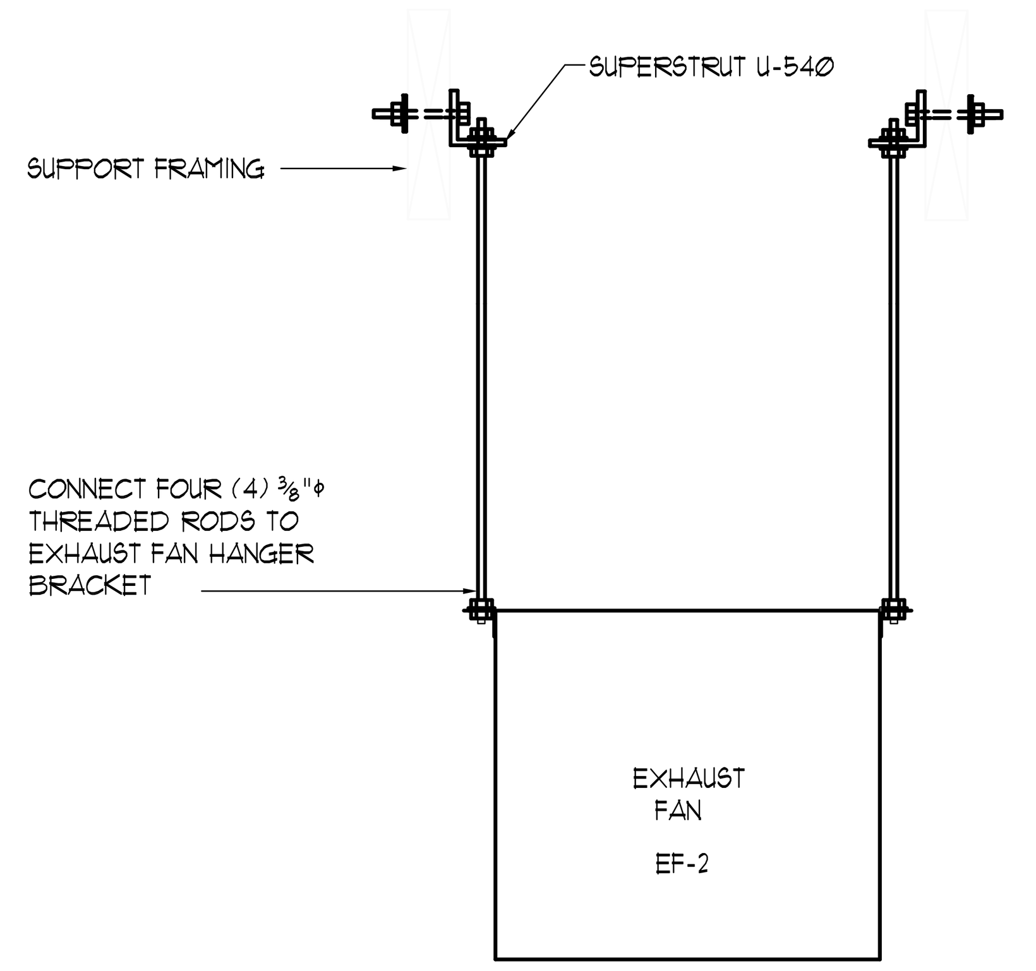
S-430

HVAC LEGEND

10x10 SG 330 CFM	CEILING SUPPLY DIFFUSER, SIZE AND FLOW RATE LISTED ARROWS INDICATE THROW PATTERN
10x10 RG 150 CFM	CEILING RETURN GRILLE, SIZE AND FLOW RATE LISTED
10"x10" EG 90 CFM	CEILING EXHAUST GRILLE, SIZE AND FLOW RATE LISTED
	RECTANGULAR SUPPLY AIR CROSS SECTION
	RECTANGULAR RETURN AIR CROSS SECTION
T1A	THERMOSTAT, NUMBER DENOTES UNIT SERVED, LETTER INDICATES ZONE DAMPER
10"ϕ	RIGID DUCT
10"ϕ	FLEXIBLE DUCT
FD	DUCT MOUNTED FUSIBLE LINK FIRE DAMPER
F 1	EQUIPMENT TAG
AC	GAS-ELECTRIC PACKAGE AIR CONDITIONER
CU	CONDENSING UNIT
F	FURNACE
CFM	CUBIC FEET PER MINUTE
EF	EXHAUST FAN
OA	OUTSIDE AIR
EA	EXHAUST AIR
—C—	CONDENSATE PIPING



FANCOIL INSTALLATION DETAIL
SCALE: NONE



NOTE:
BOLTS & ANCHORS TO BE SAME SIZE AS ROD

EXHAUST FAN MOUNTING DETAIL
N.T.S.

HVAC NOTES

1. FURNISH AND INSTALL ALL MATERIALS AND PERFORM ALL LABOR NECESSARY FOR A COMPLETE INSTALLATION OF HVAC WORK INDICATED ON THE DRAWINGS. ALSO, PROVIDE ANY INCIDENTAL WORK NOT SHOWN OR SPECIFIED, WHICH CAN REASONABLY BE INFERRED OR TAKEN AS BELONGING TO THE WORK AND NECESSARY TO PROVIDE THE COMPLETE SYSTEM.

2. IT IS THE INSTALLING CONTRACTORS RESPONSIBILITY TO ASSURE ALL MECHANICAL SYSTEMS FUNCTION PROPERLY, SAFELY, AND MEET ALL LOCAL, STATE AND REGIONAL CODES.

3. ALL WORK IS TO CONFORM TO THE ACCEPTED STANDARDS OF THE TRADE. THE ENGINEER IS TO BE NOTIFIED IF ANY SUBSTITUTIONS ARE SEEN TO BE NECESSARY.

4. CONTRACTOR SHALL VERIFY SITE DIMENSIONS. NO CHANGE ORDERS WILL BE ALLOWED FOR CONDITIONS WHICH COULD BE VERFIED BEFORE CONSTRUCTION.

8. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES. NO CHANGE ORDERS WILL BE ALLOWED FOR TIEMS THAT COULD HAVE BEEN COORDINATED IN THE FIELD.

9. RUN ALL DUCTWORK AS HIGH AS POSSIBLE IN GENERAL LOCATION SHOWN, BUT CONFORM TO ALL STRUCTURAL REQUIREMENTS,

10. CONTRACTOR SHALL CLEAN AWAY ALL DEBRIS, SURPLUS MATERIAL ETC. RESULTING FROM WORK DAILY, LEAVING THE JOB IN A CLEAN CONDITION.

11. SUBMITTALS SHALL BE DELIVERED TO ARCHITECT AT LEAST 30 CALENDAR PRIOR TO THE NEED FOR APPROVAL, AND BEFORE FABRICATION AND INSTALLATION OF EQUIPMENT, CONTRACTOR SHALL SUBMIT FOR APPROVAL A COMPLETE DESCRIPTIONS, INFORMATION, AND PERFORMANCE DATA ON PROPOSED EQUIPMENT IN ACCORDANCE WITH DIVISION 1. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE REQUIRED NUMBER OF EACH ITEM FOR PROPER DISTRIBUTION. SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY IN PDF FORMAT.

12. SUPPLY AIR DIFFUSERS AND RETURN/EXHAUST AIR GRILLES SHALL BE THE SIZE AND THROW PATTERN INDICATED, AND NECK VELOCITY SHALL NOT EXCEED AN NC CRITERIA CURVE OF 25. ALL DIFFUSERS SHALL BE MADE WITH SQUARE TO ROUND TRANSITIONS. INSTALL WITH METAL GROUNDS AND GASKETS TO PREVENT STREAKING.

13. SUPPLY AIR DIFFUSERS AND RETURN/EXHAUST GRILLES SHALL BE SHOEMAKER, OR EQUAL. PROPOSED MODEL NUMBERS FOR DIFFERENT APPLICATIONS ARE AS FOLLOWS:

	APPLICATION	MODEL #	REMARKS
CLG.	T-BAR SUPPLY	700 MA (W/ OBD)	MODULAR CORE WITH T-BAR PANEL THROW PATTERN INDICATED
CLG.	GYPSUM SUPPLY	MA (W/ OBD)	MODULAR CORE THROW PATTERN INDICATED
CLG.	T-BAR RETURN	105P	PERFORATED FACE WITH T-BAR PANEL
CLG.	T-BAR EXHAUST	700-600	EGGCRATE GRILLE WITH T-BAR PANEL
CLG.	GYPSUM EXHAUST	600	EGGCRATE GRILLE

14. FOR EXACT LOCATION OF DIFFUSERS AND GRILLES REFER TO ARCHITECTURAL REFLECTED CEILING PLAN.

15. FIRE DAMPERS & ACCESS:
HORIZONTAL FIRE DAMPERS: C&S PRODUCTS®MODEL #FD4C FUSIBLE LINK 1-1/2 HR RATED FIRE DAMPER WITH OUT OF AIRSTREAM STYLE AND INTEGRAL "CR" STYLE SLEEVE, OR EQUAL. FRAME IS 22 GAUGE GALVANIZED STEEL, BLADES ARE 20 GAUGE.
DUCT ACCESS DOOR: C&S PRODUCTS®MODEL #RAD FOR ROUND DUCT, OR EQUAL. DOOR PANEL IS 20 GAUGE STEEL WITH CONTINUOUS ZINC PLATED STEEL HINGE.

16. CONTROLS
A. THE VENTILATION SYSTEM SHALL BE WIRED TO OPERATE CONTINUOUSLY DURING OCCUPIED HOURS. DURING UNOCCUPIED HOURS THE UNIT SHALL CYCLE ON AND OFF WITH A DEMAND FOR HEATING AND COOLING.
B. ROOM THERMOSTATS SHALL BE PROGRAMMABLE WITH 5-1-1 DAY
C. PROGRAMMING AND 24 HOUR HEATING AND COOLING SETBACK CAPABILITY.
D. PROVIDE TWO-STAGE THERMOSTATS FOR EQUIPMENT WITH TWO-STAGE HEATING AND/OR COOLING.
E. PROVIDE ROOM CO2 SENSOR FOR HP-1.
F. PROVIDE OWNERS WITH OPERATION AND MAINTENANCE MANUAL.
G. FOLLOW MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION OF ALL COMPONENTS.
H. INSTALL THERMOSTATS IN A CENTRALLY LOCATED AREAS AT 60" ABOVE FLOOR LEVEL OUT OF DIRECT SUN AND DRAFTS WHERE INDICATED ON THE MECHANICAL PLANS.
I. ALL LOW VOLTAGE WIRING FOR CONTROLS AND SENSORS IS THE RESPONSIBILITY OF THE MECHANICAL/HVAC CONTRACTOR. ALL CONDUIT PULLS (AND LOW VOLTAGE WIRING INSTALLATION) IS TO BE COORDINATED WITH ELECTRICAL CONTRACTOR DURING CONSTRUCTION.

17. PROVIDE CAM-FARR, 2 INCH DEEP, 30% EFFICIENT FILTERS IN RETURN AIR PLENUM OF FURNACES. INSTALL DOWNSTREAM OF RETURN AIR AND FRESH AIR INTAKE.

18. FLUES AND COMBUSTION INLETS FOR FURNACES SHALL TERMINATE A MINIMUM OF THREE (3) FEET ABOVE ANY FRESH AIR INLET WITHIN TEN (10) FEET.

19. OUTSIDE AIR INTAKE SHALL BE A MINIMUM OF 10 FEET AWAY FROM OR 3 FEET BELOW EXHAUST AIR DISCHARGE OR PLUMBING VENTS. COVER AIR INTAKE WITH 1" MESH WIRE.

20. SLOPE ALL CONDENSATE LINES at 1/4" PER FOOT. CONDENSATE OUTLETS SHALL TERMINATE INDIRECTLY TO APPROVED APPLIANCE OR A MINIMUM OF 6 INCHES ABOVE GROUND LEVEL. CONDENSATE LINES SHALL BE 3/4" HARD-DRAWN COPPER UNLESS OTHERWISE NOTED.

21. SUPPORTS AND HANGERS FOR HVAC EQUIPMENT SHALL BE IN ACCORDANCE WITH THE 2013 CALIFORNIA MECHANICAL CODE. DUCT SUPPORTS AND BRACING SHALL BE IN ACCORDANCE WITH TABLE 6-5 OF THE 2013 CALIFORNIA MECHANICAL CODE AND SMACNA STANDARDS.

22. SUPPORTS AND HANGERS FOR HVAC EQUIPMENT SHALL BE IN ACCORDANCE WITH ANSI/SMACNA 006-2006 HVAC DUCT CONSTRUCTION STANDARDS AND THE 2013 CALIFORNIA MECHANICAL CODE. DUCTS SHALL BE SUPPORTED A 8' INTERVALS (MIN.).

23. AIR DISTRIBUTION SYSTEM SHALL BE BALANCED WITH AN APPROVED AND CALIBRATED AIR FLOW MEASURING DEVICE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH BY THE NATIONAL ENVIRONMENTAL BALANCING BUREAU (NEBB). PROVIDE INDICATED AIR FLOW RATES (WITHIN ±5%). PROVIDE OWNER WITH COMPLETE AIR BALANCE REPORT IN ACCORDANCE WITH THE SPECIFICATIONS. PRIOR TO BALANCING, INSTALL CLEAN FILTERS IN EACH UNIT HAVING FILTERS. LEAVE OWNER WITH ONE SET OF SPARE FILTERS.

24. DUCT BALANCING DAMPERS SHALL BE USED TO PROVIDE INDICATED AIRFLOW RATES.

25. DUCT MATERIAL AND SEALING:
A. DUCTING IN CONCEALED LOCATION SHALL BE GALVANIZED SHEET METAL OR PRE-INSULATED FLEX DUCT, AS INDICATED ON DRAWINGS. DUCT SHALL BE MANUFACTURED IN ACCORDANCE WITH CHAPT. 6 OF THE 2013 CMC AND SMACNA GUIDELINES.
B. PRE-INSULATED FLEX DUCT SHALL HAVE AN R-VALUE = 6.0
C. FACTORY-FABRICATED DUCT SYSTEMS SHALL COMPLY WITH UL181.
D. METAL TO METAL JOINTS SHALL BE SEALED WITH MASTIC SEALANT TO PROVIDE AIRTIGHT PROTECTION PRIOR TO INSULATION. APPLY SEALANT ACCORDING TO MANUFACTURER'S RECOMMENDATION.
E. INNER LINING OF FLEX DUCTING SHALL BE SEALED WITH MASITC SEALANT TO SHEET METAL FITTING. THE EXTERIOR LINING (INSULATION) SHALL BE SECURELY FASTENED WITH PANDUIT STRAP TO THE SHEET METAL FITTING.
F. WHERE TURNS AND/OR TRANSITIONS EXCEED 45 DEGREES USE SHEET METAL FITTINGS AND ELBOWS. PROVIDE SHEET METAL SLEEVES FOR ALL SPLICES.
G. CORRUGATED ALUMINUM FLEX DUCT SHALL NOT BE ALLOWED.
H. ALL TAPES AND MASTIC SEALANTS SHALL COMPLY WITH UL181, UL 181A, OR UL181B.

26. DUCT MATERIAL AND SEALING FOR DUCT EXPOSED TO WEATHER:
A. ALL DUCTING EXPOSED TO WEATHER SHALL BE 20 GA. GALVANIZED STEEL.
B. JOINTS SHALL BE SEALED WITH "ARABOL" AND MASTIC SEALANT, OR EQUAL, TO PROVIDE WEATHERTIGHT PROTECTION PRIOR TO INSULATION.
C. INSULATE DUCTING ON THE EXTERIOR WITH 1" AP ARMAFLEX®SA SELF-ADHERING SHEET INSULATION. THERMAL CONDUCTIVITY = 0.23 (BTU-IN./H-FT2-F) ASTM C 518, 0.1 (PERMS/IN.) ASTM E 96.
A. INSULATION AND SEAMS SHALL BE COATED WITH WB ARMAFLEX®FINISH FOR WEATHER PROTECTION.

27. WRAP ALL UNLINED CONCEALED SUPPLY AND RETURN DUCTS WITH O.C. FIBERGLASS DUCT WRAP OR JM MICROLITE, 2" THICK AND 1" PER CUBIC FOOT DENSITY. WRAP INSULATION ENTIRELY AROUND DUCT AND WIRE SECURELY IN PLACE WITH #16 WIRE 12" O.C. ON EACH SIDE OF STANDING SEAM AND OVER INSULATION JOINT. LAP ALL INSULATION JOINTS 3" MIN. INSULATE DUCTS TIGHT AGAINST OTHER WORK BEFORE HANGING IN PLACE.

28. DUCT SYSTEM LEAKAGE TEST
A. PROVIDE DUCT TESTS FOR ALL SYSTEMS THAT HAVE ANY PORTION OF THE AIR DISTRIBUTION SYSTEM IN UNCONDITIONED SPACE (E.G. ATTICS & CRAWLSPACES)
B. PERFORM FINAL DUCT PRESSURE TEST AFTER THE DRY WALL HAS BEEN FINISHED. DUCTS SHALL BE PRESSURIZED TO 25 PASCAL AND THE AIR LEAKAGE SHALL NOT EXCEED 6% OF FAN FLOW. FINAL TEST SHALL BE PERFORMED BY INDEPENDENT CERTIFIED HERS. AT THE TESTERS DISCRETION ONE OUT OF SEVEN SYSTEMS SHALL BE TESTED.
C. DUCT LEAKAGE TEST SHALL BE PROVIDED BY HERS RATER.

29. INCREASE DUCT SIZES GRADUALLY, NOT EXCEEDING 15 DEGREES DIVERGENCE WHEREVER POSSIBLE. DIVERGENCE UPSTREAM OF EQUIPMENT SHALL NOT EXCEED 20 DEGREES± CONVERGENCE DOWNSTREAM SHALL NOT EXCEED 30 DEGREES.

30. DUCTS WITHIN 10 FEET OF AIR MOVING DEVICE SHALL BE LINED ON THE INTERIOR WITH 1" OWENS CORNING TYPE 150 AEROFLEX, OR EQUAL. MATERIAL HAS A 'K' OF 0.28 (BTU/HR-FT-°F)

31. PAINT DUCTWORK VISIBLE BEHIND REGISTERS AND GRILLES MATTE BLACK WITH APPROPRIATE PAINT.

32. SELECT, SUPPLY AND INSTALL FLEXIBLE DUCT CONNECTIONS BETWEEN SUPPLY/RETURN PLENUMS AND MAIN DUCTS TO ELIMINATE VIBRATION.

33. NO DUCTED OR NON-DUCTED AIR MOVING DEVICE SHALL TERMINATE IN ATTIC.

34. INSULATE CONDENSATE LINE WITH ARMSTRONG®1/2" WALL THICKNESS "DG TUBO-SLIT". COND=0.29 (BTU-IN/HR-°F) at 75°F IN ACCORDANCE WITH ASTM C 177 OR C 518. WHERE PIPING IS EXPOSED TO WEATHER PROVIDE PVC JACKETING AROUND INSULATION.

HVAC EQUIPMENT SCHEDULE

		COOLING			HEATING		FAN			ELECT.							
SYMBOL	AREA SERVED	TOTAL (BTU/HR)	SENSIBLE (BTU/HR)	COIL EDB/EWB (°F)	HIGH INPUT/OUTPUT (BTU/HR)	DB (°F)	CFM	S.P. (WC)	O.A. (CFM)(2) (MIN)	VOLTAGE	MCA	COMP. LRA	FUSE/MOCP	MFGR & MODEL NO.	WEIGHT (LBS)	EFFICIENCY	REMARKS
HP 1	TRANING	42,300	40,700	80/62	46000	47	1,400	0.76	150	208/230 V. 1 PHASE	26	93	30	CARRIER # 50HCQA05	580	HSPF = 8.1 SEER = 15.8 EER=12.8	ROOFTOP HYBRID HEAT DUAL-FUEL PACKAGE UNIT INSTALL PREFAB.MFG ROOF CURB ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF
FC 2	OFFICES	---	---	---	---	---	1,400	0-0.8	300	208/230 V. 1 PHASE	5.4	---	15	CARRIER # FV4CNG005	118		VARAIBLE SPEED FANCOIL MOUNTED IN HORIZONTAL POSITION NO STRIP HEAT L=53-7/16", W=22-1/16", H=21"
HP 2	OFFICES	43,310	32,780	80/63	47,000	47	---	---	---	208/230 V. 1 PHASE	34.9	96	50	CARRIER # 25HNB648	316	HSPF=9.0 SEER = 16 EER=12.5	GROUND MOUNT VARAIBLE SPEED HEAT PUMP W=35", D=35", H=44"
FC 3	CONFERENCE	---	---	---	---	---	542	---	(3)	(4)	(4)	(4)	(4)	FUJITSU # ASU15RLS3	31	---	INDOOR HEAT PUMP WALL UNIT PROVIDE CONDENSATE PUMP
HP 3	CONFERENCE	---	---	---	---	---	542	---	---	208/230 V. 1 PHASE	17.2	---	20	FUJITSU # AOU15RLS3	86	HSPF=13.4 SEER = 25.3 EER=14	GROUND MOUNTED OUTDOOR HEAT PUMP WALL UNIT

NOTES:
1. PROVIDE CO2 DEMAND VENTILATION CONTROLS FOR HP-1. INSTALL CO2 SENSOR ADJACENT TO THERMOSTAT.
2. OUTSIDE AIR LISTED IS WITH OA ECONOMIZER DAMPER IN MINIMUM POSITION.
3. CONFERENCE ROOM WILL BE PROVIDED BY NATURAL VENTILATION.
4. ELECTRICAL FOR INDOOR UNIT WILL BE PROVIDED BY OUTDOOR UNIT HP-9.

EXHAUST FAN SCHEDULE

		COOLING	FAN			ELECT.						
SYMBOL	QTY.	DESCRIPTION	CFM	S.P. (WC)	RPM	VOLTAGE	BHP	WATTS	MFGR & MODEL NO.	WEIGHT (LBS)	SONES	REMARKS
EF-1	2	CEILING CABINET FAN	90	0.25	---	115 V. 1 PHASE	---	24.3	PANASONIC WHISPERSENSE™ FV-11VQC5	12.6	0.4	UNIT HAS BUILT-IN BACKDRAFT DAMPER FAN SHALL HAS BUILT-IN HUMIDITY SENSOR FAN SHALL HAVE 6" DIA. DUCT CONNECTION
EF-2	1	IN-LINE EXHAUST FAN	240	0.2	---	115 V. 1 PHASE	---	55	PANASONIC WHISPERLINE™ FV-20-NLF1	24	1.7	UNIT HAS BUILT-IN BACKDRAFT DAMPER FAN SHALL BE ENERGIZED BY FAN IN FC-2 SUSPEND FAN FROM ROOF FRAMING

NOTES:
1. INSTALL/MOUNT EXHAUST FANS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
2. EF-1 SHALL BE ENERGIZED BY ROOM LIGHT SWITCH.
3. EF-2 SHALL OPERATE SIMULTANEOUSLY WITH SUPPLY FAN IN FC-2.

HVAC NOTES AND SCHEDULES
SCALE: 1/4 = 1'-0"

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Project Title: DISTRICT SUPPORT SERVICE BLDG. for GRASS VALLEY SCHOOL DISTRICT
Project Location: 10840 GILMORE WAY GRASS VALLEY, CA 95945
Sheet Title: HVAC NOTES AND SCHEDULES

Revisions:

No.	Date:	By:	Description:
	-	-	-

Plot Date: 4/6/2016
Job # 16-041
Scale as noted
Date 1st Issued N/A
Sheet Number M0.1

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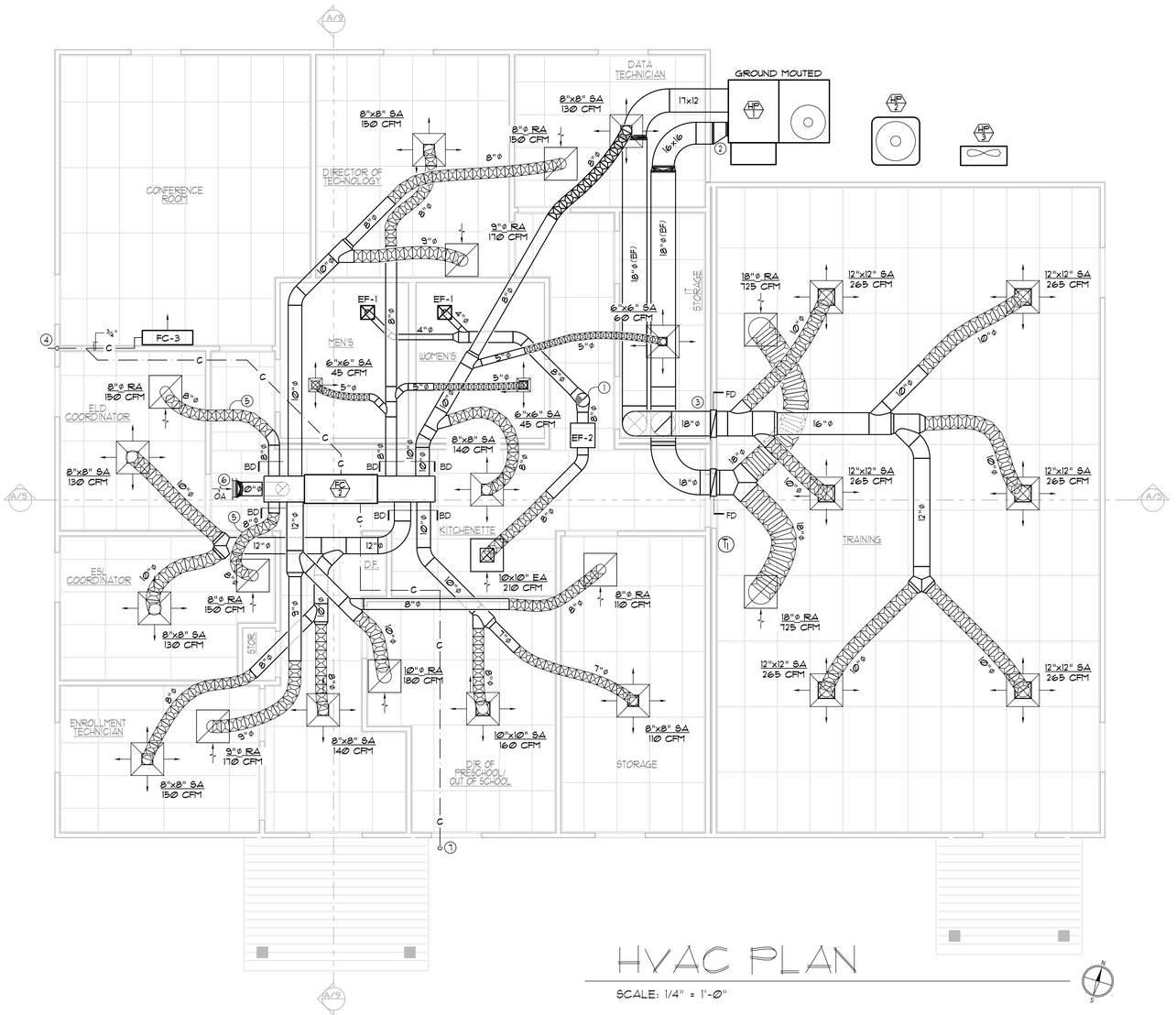

HVAC PLAN

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

KEYED NOTES

1. 10"ø EXHAUST DUCT THROUGH ROOF TO ROOF CAP
2. TRANSITION 10"x25" DUCT AT UNIT TO 16"x16"
3. 18"ø RA AND SA DUCT RISERS
4. TERMINATE PRIMARY CONDENSATE 6" MIN. ABOVE GRADE WITH DOUNWARD ELBOW
5. PROVIDE A MINIMUM OF 10' OF FLEX DUCT BETWEEN PLENUM AND GRILL
6. 14"x14" OA LOUVER AT GABLE END
7. TERMINATE SECONDARY CONDENSATE FLUSH WITH SOFFIT, OVER WINDOW

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Project Title: DISTRICT SUPPORT SERVICE BLDG. for GRASS VALLEY SCHOOL DISTRICT

Project Location: 10840 GILMORE WAY GRASS VALLEY, CA 95945

Sheet Title: HVAC FLOOR PLAN

Revisions:

No.	Date:	By:	Description:
	-	-	-

Plot Date: 4/6/2016

Job #	16-041
Scale	as noted
Date 1st Issued	N/A
Sheet Number	M1.1

TELECOMMUNICATIONS SYMBOLS

NOTE: RACEWAY ONLY OUTLET. PROVIDE DOUBLE GANG BACK BOX AND SINGLE GANG ADAPTER PLATE WITH 1" CONDUIT AND PULLSTRING TO ACCESSIBLE CEILING SPACE.

- TELEPHONE/DATA OUTLET. SEE NOTE ABOVE.
- TELEPHONE TERMINAL BOARD AND GROUND; SIZE PER PLAN. PAINT BOARD TO MATCH WALL. PROVIDE A SINGLE RECEPTACLE ON DEDICATED CIRCUIT AT 6'-0" AFF LOCATED AT LEFT SIDE OF BOARD.

WIRING DEVICE SYMBOLS

- $\ominus_a$ 20A, 125V, DUPLEX RECEPTACLE OUTLET. ALPHABET INDICATES SPECIAL MOUNTING HEIGHT PER LIST:
  a – +84" AFF
  b – ABOVE COUNTER BACKSPLASH
  c – CEILING MOUNTED
- 20A, 125V, DOUBLE DUPLEX RECEPTACLE OUTLET
- GFCI TYPE; 20A,125V, DUPLEX RECEPTACLE; +18" A.F.F. TO CENTERLINE. USE WEATHER-PROOF COVER FOR WET LOCATION INSTALLATIONS.
- WP 20A,125V, DUPLEX RECEPTACLE GFCI WITH WEATHER PROOF COVER
- SPECIAL PURPOSE RECEPTACLE OUTLET; RATING AS SHOWN; +18" A.F.F. TO CENTERLINE
- S^3 3-WAY SWITCH.
- (B)$_{a,b}$-(A)$_a$ OCCUPANCY LIGHT CONTROL SWITCH; WALL AND CEILING MOUNTED
  UPPER CASE LETTER INDICATES SENSOR TYPE PER OCCUPANCY SENSOR SCHEDULE.
  LOWER CASE LETTER INDICATES SWITCH CIRCUIT FOR FIXTURE
- S_{LV} LOW-VOLTAGE MOMENTARY CONTACT SWITCH
- S_D DIMMER SWITCH
- (D) DAYLIGHT SENSOR, CEILING MOUNTED
- DLM DIGITAL LIGHTING MANAGEMENT. SEE DIAGRAM.

LIGHTING SYMBOLS

- RECESSED LIGHTING FIXTURE AND OUTLET BOX. TYPE AND SIZE PER FIXTURE SCHEDULE.
- RECESSED DOWN-LIGHT FIXTURE AND OUTLET BOX
- WALL MOUNTED LIGHTING FIXTURE AND OUTLET BOX
- STRIP LIGHT FIXTURE; LENGTH PER FIXTURE SCHEDULE. CUSTOM LENGTHS PER PLAN.
- SURFACE LIGHTING FIXTURE AND OUTLET BOX. TYPE AND SIZE PER FIXTURE SCHEDULE.
- LINEAR LIGHT; SURFACE OR PENDANT MOUNTED PER PLAN. LENGTH PER FIXTURE SCHEDULE. CUSTOM LENGTHS PER PLAN. LAMP TYPE PER FIXTURE SCHEDULE.
- EMERGENCY BATTERY UNIT WITH OR WITHOUT EXIT SIGN
- EXIT SIGN; WALL MOUNTED; ARROWS AND FACES AS SHOWN ON PLANS
- EXIT SIGN; CEILING MOUNTED; ARROWS AND FACES AS SHOWN ON PLANS

CONDUIT SYMBOLS

- CONDUIT INSTALLED CONCEALED ABOVE CEILINGS OR IN WALLS IN FINISHED AREAS OR EXPOSED IN UNFINISHED AREAS
- CONDUIT INSTALLED BELOW FINISHED FLOOR OR BELOW GRADE
- INDICATES CONDUIT TURNING UP
- INDICATES CONDUIT TURNING DOWN
- CONDUIT STUBBED OUT AND CAPPED
- CONDUIT HOMERUN; ROUTE TO PANELBOARD, CABINET, OR TERMINAL BOARD INDICATED, AND TERMINATE CONDUCTORS TO CIRCUIT OVER CURRENT PROTECTIVE DEVICE

DESIGNATION SYMBOLS

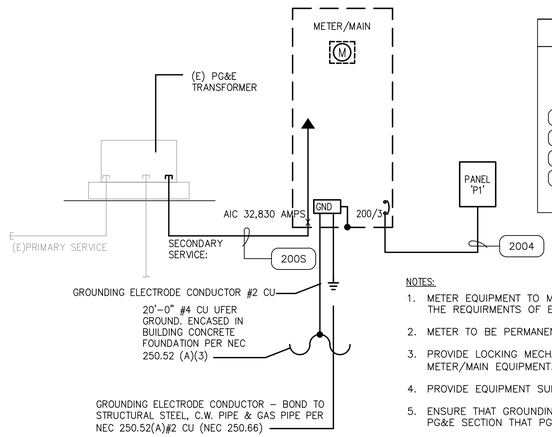
- XXXX FEEDER DESIGNATION TAG
- (1) SHEET NOTE TAG
- A / 22a FIXTURE DESIGNATION
  UPPER CASE LETTER INDICATES FIXTURE TYPE.
  LOWER CASE LETTER INDICATES SWITCH FOR FIXTURE NUMBER INDICATES CIRCUIT NUMBER (WHERE SHOWN).
- S_a LETTER INDICATES FIXTURES CONTROL (WHERE SHOWN)
- $\ominus_{22}$ NUMBER INDICATES CIRCUIT NUMBER (WHERE SHOWN)
- AC 1 EQUIPMENT TAG

POWER SYMBOLS

- (M) MOTOR OUTLET
- FUSED DISCONNECT
  SWITCH XX/XX/XX = AMP SWITCH/POLES/AMP FUSE
- NON-FUSED DISCONNECT
  SWITCH XX/XX = AMP SWITCH/POLES
- PB PULL BOX
- T TRANSFORMER
- SURFACE MOUNTED PANEL OR TERMINAL CABINET
- FLUSH MOUNTED PANEL OR TERMINAL CABINET
- (J)-(J) JUNCTION BOX; WALL MOUNTED, CEILING MOUNTED
- S_M MOTOR RATED TOGGLE SWITCH. MATCH VOLTAGE WITH EQUIPMENT ON PLANS.
- 225 / 3 STATIONARY – CIRCUIT BREAKER; RATING AS SHOWN ON PLANS; AMPS/POLES

GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR READING AND INCLUDING ALL INFORMATION PROVIDED IN THE WRITTEN NOTES THROUGHOUT THE DRAWINGS. SYSTEM REQUIREMENTS MAY NOT BE PICTORIAL.
2. FURNISH ALL LABOR, MATERIALS, EQUIPMENT & SERVICES NECESSARY TO CONSTRUCT AND INSTALL COMPLETE & OPERATIONAL ELECTRICAL SYSTEMS INDICATED ON THE DRAWINGS & IN THE SPECIFICATIONS.
3. PROVIDE NEW TYPEWRITTEN PANEL SCHEDULES FOR ALL NEW AND EXISTING ELECTRICAL PANELS WHERE MODIFICATIONS WHERE MADE.
4. PROVIDE MELAMINE PLASTIC ENGRAVED LABELS FOR PANELS, MAIN SWITCHBOARD DISCONNECTS, AND ALL MAJOR ELECTRICAL EQUIPMENT.
5. ALL NEW CONDUITS, WITHIN FINISHED SPACES, SHALL BE CONCEALED, UNLESS OTHERWISE NOTED.
6. ALL ELECTRICAL DEVICES INDICATED ON THESE SHEETS ARE NEW UNLESS OTHERWISE NOTED AND ARE TO BE INSTALLED PER CBC1117B.6.
7. DO NOT INSTALL RECEPTACLES OR TELEPHONE OUTLETS BACK-TO-BACK IN DEMISING WALLS.
8. FURNISH AND INSTALL FIRE-RATED BACK BOXES IN FIRE RATED WALLS AND CEILINGS WHERE ELECTRICAL EQUIPMENT SUCH AS LIGHT FIXTURES, SWITCHES, RECEPTACLES, TELEPHONE OUTLETS, ETC, ARE INSTALLED RECESSED. SEPARATE ELECTRICAL BOXES BACK TO BACK IN FIRE-RESISTIVE WALLS BY A MINIMUM OF 24" HORIZONTALLY AND BOX AREA NOT TO EXCEED 16 IN. SQ. PROVIDE STEEL BOXES (OR OTHER LISTED BOXES) PER 2013 CALIFORNIA BUILDING CODE 712.3.2.
9. VERIFY AND COORDINATE SERVICE REQUIREMENTS WITH: ELECTRIC:
   – PG&E 1-877-743-7782 (NORTHERN CA)
7. COORDINATION OF ELECTRIC SERVICE AND TELEPHONE SERVICE IS INCOMPLETE AND IS STILL REQUIRED FOR THIS JOB. LOCATION OF TRANSFORMERS, PULLBOXES, UNDERGROUND SERVICE CONDUITS MUST BE COORDINATED AND VERIFIED WITH RESPECTIVE UTILITY COMPANIES.
8. PROVIDE ALL SYSTEMS, EQUIPMENT, DEVICES, MATERIALS, FEEDERS, WIRING, CONDUITS AS SPECIFIED, WHETHER SHOWN OR NOT SHOWN ON FLOOR PLANS.
9. PROVIDE #12 CONDUCTORS FOR ALL WIRING FOR CIRCUITS WHERE NOT SHOWN ON DRAWINGS. NUMBER AS REQUIRED IN CONDUIT SIZED PER NEC.
10. INSTALL AND CONNECT A CODE SIZE INSULATED GROUND CONDUCTOR IN ALL BRANCH CIRCUITS AND FEEDER CONDUITS. THESE EQUIPMENT GROUND WIRES MAY NOT BE SHOWN ON THE PLANS. INCREASE CONDUIT SIZE WHERE REQUIRED.
11. ELECTRICAL PANELBOARDS SHALL HAVE DOOR-IN-DOOR FRONT COVERS.
12. LOCATION AND DEPTH OF ALL UNDERGROUND CONDUITS SHALL BE COORDINATED WITH THE WASTE LINES, RAIN WATER LEADER LINES, SPRINKLER LINES, WATER LINES AND BUILDING FOOTINGS PRIOR TO ROUGH IN.
13. FEEDERS ROUTED EXPOSED AT CEILING OR WALL SHALL BE APPROVED PRIOR TO ROUGH-IN.
14. VERIFY CONTROL REQUIREMENTS FOR ROOF EXHAUST FANS, AIR CONDITIONING UNITS, AND FANS WITH CONTRACTOR PRIOR TO ROUGH-IN.
15. WATER FLOW SWITCH AND VALVES CONTROLLING THE WATER SUPPLY (INCLUDING THE OS&Y VALVES AT THE BACK FLOW PREVENTER AND SITE PIV'S) FOR THE AUTOMATIC FIRE SPRINKLER SYSTEMS SHALL BE ELECTRONICALLY MONITORED BY AN APPROVED FIRE ALARM MONITORING SYSTEM. PROVIDE 3/4" C.O. STUB OUT TO TELEPHONE TERMINAL BACKBOARD.
16. CONTRACTOR TO PROVIDE ALL REQUIRED ACCEPTANCE TESTING. 2013. ACCEPTANCE TESTING REQUIRED PER 2013 CALIFORNIA ENERGY CODE. A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN IS REQUIRED TO PERFORM THE TESTS SET FORTH IN THE FOLLOWING ACCEPTANCE TEST FORMS:
    a. RCA-LTI-02-A-LIGHTING CONTROLS
    b. NRCA-LTI-03-A – AUTOMATIC DAYLIGHTING
    c. NRCA-LTO-02-A-OUTDOOR MOTION SENSOR AND LIGHTING SHUT-OFF CONTROLS.



FEEDER SCHEDULE

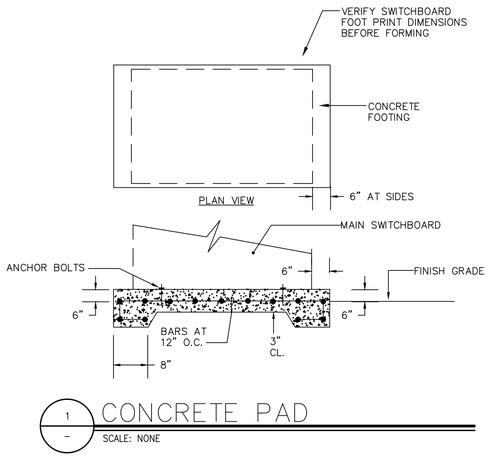
Key: A = Aluminum; C = Conduit only; S = Service secondary; X = Separately derived system

NOTE: NOT ALL FEEDERS SHOWN ARE USED ON THIS PROJECT.

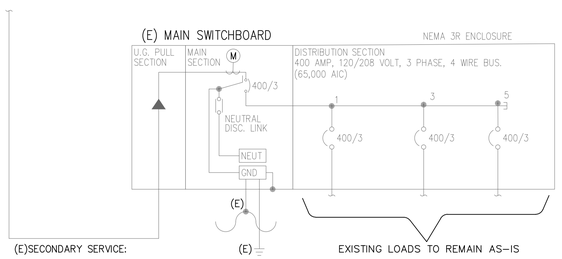
200S	4 #3/0 CU IN 2" C.
200SA	4 – 250 kcmil AL IN 2" C.
2004	4 #3/0 CU, 1 #6 CU GND., IN 2" C.
2004A	4 – 250 kcmil AL, 1 #6 CU GND., IN 2-1/2" C.

NOTES:

1. METER EQUIPMENT TO MEET UTILITY COMPANY SPECIFICATIONS AND THE REQUIRMENTS OF EURSERC.
2. METER TO BE PERMANENTLY MARKED WITH BUILDING ADDRESS.
3. PROVIDE LOCKING MECHANISM AS A PERMANENT PART OF THE METER/MAIN EQUIPMENT.
4. PROVIDE EQUIPMENT SUBMITTAL FOR PG&E REVIEW AND APPROVAL
5. ENSURE THAT GROUNDING ELECTRODE IS LOCATED OUTSIDE OF PG&E SECTION THAT PG&E SEALS..
6. PROVIDE WITH TEST BYPASS.



1 – CONCRETE PAD
SCALE: NONE



ONE-LINE DIAGRAM
SCALE: NONE

DESIGNED BUILDING LOAD CALCULATION

DESCRIPTION	W/SQ. FT.	x	SQ. FT.	=	LOAD
OFFICE					
OFFICE			2890		
LIGHTING	3.0	x	2,890.0	=	8,670.0 VA
PARKING LOT LTG			2,890.0	=	VA
RECEPTACLES	3.0	x	2,890.0	=	8,670.0 VA
MISC	2.0	x	2,890.0	=	5,780.0 VA
OTHER:					
SHOW WINDOWS L.F.		x	200.0	=	VA
H.V.A.C. (ACTUAL)	45.0	x	360.0	=	16,200.0 VA
FOOD SERVICE	12.0	x	200.0	=	2,400.0 VA
25% LCL	5000.0			=	1,250.0 VA
25% LARGEST MOTOR	4500.0			=	1,125.0 VA
TOTAL=					**44,095.0** VA
44,095.0 VA			/ 360	=	122.5 AMPS

ELECTRICAL SHEET INDEX

SHEET	DESCRIPTION	SCALE
E0.1	LEGEND, GENERAL NOTES, & ONE-LINE DIAGRAM	NONE
E0.2	SCHEDULES & DIAGRAMS	NONE
E1.1	SITE - ELECTRICAL PLAN	1" = 10'
E2.1	LIGHTING PLAN	1/4" = 1'-0"
E3.1	POWER PLAN	1/4" = 1'-0"
E5.1	TITLE 24 - LIGHTING	NONE
E5.2	TITLE 24 - LIGHTING	NONE
E5.3	TITLE 24 - LIGHTING	NONE
E5.4	TITLE 24 - LIGHTING	NONE

BID SET –
NOT FOR CONSTRUCTION
DATE: 06-09-16

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Revisions

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DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:29-030-02

date 3/14/16
scale
Job # 15-397

LEGEND, GENERAL NOTES, & ONE-LINE DIAGRAM

E0.1

(N) PANEL 'P1'

Main: MLO
Enclosure SURFACE
AIC 35,000

Bus Rating (Amps): 200
Volts: 208/120V
Phase: 3
Wires: 4

***SEE NOTES BELOW FOR FURTHER INFORMATION AND PANEL OR CIRCUIT REQUIREMENTS.**

Ckt	Description	NOTE	Load Type	Load (KVA)	OC Device Amps	OC Device Poles	Phase	OC Device Amps	OC Device Poles	Load (KVA)	Load Type	NOTE	Description	Ckt
1	RECEPT - MEN'S/WOMEN'S	-	2	0.36	20	1	A	20	1	0.90	2	-	RECEPTACLES - TRAINING/DATA	2
3	RECEPT - REFRIGERATOR	-	2	0.90	20	1	B	20	1	1.08	2	-	RECEPTACLES - TRAINING/DATA	4
5	RECEPTACLE - MICROWAVE	-	2	1.20	20	1	C	20	1	0.72	2	-	RECEPTACLES - TRAINING	6
7	RECEPTACLE - COFFEE	-	2	1.50	20	1	A	20	1	1.20	2	-	PROJECTOR - TRAINING	8
9	RECEPTACLE - KITCHENETTE	-	2	0.18	20	1	B	30	1	0.18	2	-	RECEPT - DEDICATED - STORAGE	10
11	RECEPTACLE - DISPOSAL	-	2	1.00	20	1	C	20	1	0.18	2	-	RECEPT - EXTERIOR	12
13	RECEPTACLE - IT (DEDICATED)	-	2	1.00	30	1	A	20	1	1.08	2	-	RECEPTACLES - OFFICE, ATTIC	14
15	RECEPTACLE - IT (DEDICATED)	-	2	1.00	30	1	B	20	1	0.90	2	-	RECEPTACLES - OFFICE/LOBBY	16
17	RECEPTACLES - IT STORAGE	-	2	0.72	20	1	C	20	1	0.72	2	**2**	RECEPT - OFFICES (CONTROLLED)	18
19	RECEPTACLE - TELCOM BOARD	-	2	0.36	20	1	A	20	1	1.00	2	-	PROJECTOR - LOBBY	20
21	RECEPTACLE - DRINKING FOUNTAIN	-	2	0.50	20	1	B	20	1	0.72	2	-	RECEPTACLES - OFFICE	22
23	SPARE	-	-	0.00	20	1	C	20	1	0.90	2	-	RECEPTACLES - OFFICE	24
25	LIGHTING - TRAINING/OFFICES	**1**	1	0.50	20	1	A	20	1	0.72	2	**2**	RECEPT - OFFICES (CONTROLLED)	26
27	LIGHTING - CORRIDOR/EM LTG	-	1	0.78	20	1	B	20	1	0.36	2	-	PROJECTOR - CONF. RM.	28
29	LIGHTING - CONF.RM./OFFICES	**1**	1	1.10	20	1	C	20	1	0.18	2	-	RECEPTACLE - CONF. RM.	30
31	SPARE	-	-	0.00	20	1	A	20	1	0.90	2	-	RECEPTACLE - OFFICES	32
33	EXHAUST FAN(S) 1 & 2	**3**	3	0.20	20	1	B	20	1	1.00	2	-	PROJECTOR - DIR OF TECH	34
35	WATER HEATER WH-1	-	7	1.65	20	1	C	20	1	0.36	2	**2**	RECEPT - OFFICE/CONF (CONTROLLED)	36
37	SPARE	-	-	0.00	20	1	A	PFB	-	0.00	-	-	SPACE	38
39	SPARE	-	-	0.00	20	1	B	PFB	-	0.00	-	-	SPACE	40
41	SPARE	-	-	0.00	20	1	C	PFB	-	0.00	-	-	SPACE	42
43	SPARE	-	-	0.00	20	1	A	PFB	-	0.00	-	-	SPACE	44
45	SPARE	-	-	0.00	20	1	B	PFB	-	0.00	-	-	SPACE	46
47	SPARE	-	-	0.00	20	1	C	PFB	-	0.00	-	-	SPACE	48
49	SPACE	-	-	0.00	PFB	-	A	PFB	-	0.00	-	-	SPACE	50
51	SPACE	-	-	0.00	PFB	-	B	PFB	-	0.00	-	-	SPACE	52
53	SPACE	-	-	0.00	PFB	-	C	PFB	-	0.00	-	-	SPACE	54
55	SPACE	-	-	0.00	PFB	-	A	PFB	-	0.00	-	-	SPACE	56
57	SPACE	-	-	0.00	PFB	-	B	PFB	-	0.00	-	-	SPACE	58
59	SPACE	-	-	0.00	PFB	-	C	PFB	-	0.00	-	-	SPACE	60
61	SPACE	-	-	0.00	PFB	-	A	PFB	-	0.00	-	-	SPACE	62
63	SPACE	-	-	0.00	PFB	-	B	PFB	-	0.00	-	-	SPACE	64
65	SPACE	-	-	0.00	PFB	-	C	PFB	-	0.00	-	-	SPACE	66
67	SPACE	-	-	0.00	PFB	-	A	PFB	-	0.00	-	-	SPACE	68
69	SPACE	-	-	0.00	PFB	-	B	PFB	-	0.00	-	-	SPACE	70
71	HP-3/FC-3	**3**	3	1.90	20	2	C	PFB	-	0.00	-	-	SPACE	72
73	"	**3**	3	1.90	-	-	A	PFB	-	0.00	-	-	SPACE	74
75	HP-2	**3**	4	3.64	50	2	B	PFB	-	0.00	-	-	SPACE	76
77	"	**3**	4	3.64	-	-	C	PFB	-	0.00	-	-	SPACE	78
79	FC-2	**3**	3	0.65	15	1	A	PFB	-	0.00	-	-	SPACE	80
81	HP-1	**3**	3	2.71	30	2	B	PFB	-	0.00	-	-	SPACE	82
83	"	**3**	3	2.71	-	-	C	PFB	-	0.00	-	-	SPACE	84

			6.27	9.91	13.92		5.80	4.24	3.06	
	LOAD PER PHASE		A	B	C		A	B	C	
			A=	12.07	B=	14.15	C=	16.98		
LOAD TYPE (NUMBER)		0	1	2	3	4	5	6	7	
LOAD TYPE (DESCRIPTION)		P.Rm.L'	Lighting	Receps	Motors	L. Mot.	Kitch	Elevator	Equip	Total
TOTAL CONNECTED LOAD (KVA)		0.00	2.38	21.82	10.07	7.28	0.00	0.00	1.65	43.20
DEMAND MULTIPLIER:		*1.00*	*1.25*	*formula**	*1.00*	*1.25*	*0.65*	*1.00*	*1.00*	
TOTAL DESIGN LOAD		0.00	2.98	15.91	10.07	9.10	0.00	0.00	1.65	39.71 KVA
TOTAL AMPS		0.0	8.3	44.2	28.0	25.3	0.0	0.0	4.6	110.3 AMPS

*formula** Type 2 (receptacles) formula is as follows: If the Total Connected Load is greater than 10KVA, Then the demand load is ((Connected Load - 10) * .5) +10, Else Demand Load equals Connected Load.

NOTES:

1	VIA LIGHTING CONTROL SYSTEM (SEE DEVICE SCHEDULE FOR WATTSTOPPER LMRC-213)
2	VIA PLUG LOAD CONTROLLER (WATTSTOPPER LMPL-201)
3	SEE MECHANICAL PLANS FOR CONTROL WIRING REQUIREMENTS

DIGITAL LIGHTING MANAGEMENT — DLM1

NEMA RATING 1

RELAY#	ZONE	CIRCUIT	DESCRIPTION	CONTROL	NOTES
1	1	P1-25	LIGHTING - TRAINING (a)	TC ON/OFF, vS OVERRIDE ON, DIM	TC ON 6AM/TC OFF 7PM
2	1	P1-25	LIGHTING - TRAINING (b)	TC ON/OFF, vS OVERRIDE ON, DIM	TC ON 6AM/TC OFF 7PM
3	1	P1-25	LIGHTING - TRAINING (c)	TC ON/OFF, vS OVERRIDE ON, DIM	TC ON 6AM/TC OFF 7PM

ABBREVIATIONS:

TC	TIMECLOCK	LV$	LOW VOLTAGE SWITCH STATION
PC	PHOTOCELL	OS	OCCUPANCY SENSOR

CONTROL ZONE - OVER-RIDE SWITCHES (LABEL PER LIST BELOW)

ZONE 1: LV1 TRAINING (a,b,c) (LMSW-101)

DIGITAL LIGHTING MANAGEMENT — DLM2

NEMA RATING 1

RELAY#	ZONE	CIRCUIT	DESCRIPTION	CONTROL	NOTES
1	2	P1-29	LIGHTING - CONF. RM.	TC ON/OFF, vS OVERRIDE ON, DIM	TC ON 6AM/TC OFF 7PM
2	2	P1-29	LIGHTING - CONF. RM.	TC ON/OFF, vS OVERRIDE ON, DIM	TC ON 6AM/TC OFF 7PM
3	2	P1-29	LIGHTING - OFFICES	TC ON/OFF, vS OVERRIDE ON, DIM	TC ON 6AM/TC OFF 7PM

ABBREVIATIONS:

TC	TIMECLOCK	LV$	LOW VOLTAGE SWITCH STATION
PC	PHOTOCELL	OS	OCCUPANCY SENSOR

CONTROL ZONE - OVER-RIDE SWITCHES (LABEL PER LIST BELOW)

ZONE 2: LV2 CONF. RM./OFFICES (LMSW-101)

DIGITAL LIGHTING MANAGEMENT — LMPL-201 (ONE PER RECEPTACLE CIRCUIT)

NEMA RATING 1

PL	ZONE	CIRCUIT	DESCRIPTION	CONTROL	NOTES
1	3	P1-18	RECEPT - OFFICES (CONTROLLED)	TC ON/OFF, vS OVERRIDE ON	TC ON 6AM/TC OFF 7PM
2	3	P1-26	RECEPT - OFFICES (CONTROLLED)	TC ON/OFF, vS OVERRIDE ON	TC ON 6AM/TC OFF 7PM
3	3	P1-36	RECEPT - OFFICE/CONF (CONTROLLED)	TC ON/OFF, vS OVERRIDE ON	TC ON 6AM/TC OFF 7PM

ABBREVIATIONS:

TC	TIMECLOCK	LV$	LOW VOLTAGE SWITCH STATION
PC	PHOTOCELL	OS	OCCUPANCY SENSOR

CONTROL ZONE - OVER-RIDE SWITCHES (LABEL PER LIST BELOW)

ZONE 3: LV3 RECEPTACLES - CONTROLLED (LMSW-103)

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURE	CATALOG #	LAMP TYPE	LAMP No.	WATTS	TYPE	MOUNTING	NOTES
A1	LED 2'X4' LAY-IN, OPAL DIFFUSER, 0-10V DIMMING, INTEGRAL OCCUPANCY SENSOR, 4900 LUMENS, 80 CRI.	PHILIPS/DAY-BRITE	2DL-G-49L-835-4-D-UNV-DIM-OCC	3500K	1	55	0-10V LED DRIVER	RECESSED	CONFERENCE, OFFICES
A1A	SAME AS 'A1' EXCEPT WITH INTEGRAL DAYLIGHT SENSOR	-	-	-	-	-	-	-	DAYLIT AREAS
A2	LED 2'X2' LAY-IN, OPAL DIFFUSER, INTEGRAL OCCUPANCY SENSOR, 3900 LUMENS, 80 CRI.	PHILIPS/DAY-BRITE	2DL-G-44L-835-2-D-UNV-OCC	3500K	1	46	LED DRIVER	RECESSED	SMALL SPACES
	SURFACE MOUNTED LED CANOPY LIGHT WITH INTEGRAL OCCUPANCY SENSOR	GARDCO	SVPG-168L-600-WW-SM-5-120-IMRI-MGY	3000K	1	27	LED DRIVER	SURACE	CANOPY
F1A	SAME AS 'F1' EXCEPT WITH 90-MINUTE EMERGENCY BATTERY	-	SVPG-168L-600-WW-SM-5-EBP-120-IMRI-MGY	-	-	-	-	-	EMERGENCY EGRESS, EXTERIOR LANDINGS
F2	LED STRIP LIGHT	WILLIAMS	75-2-LEDPH15-835-120	3500K	1	12	LED DRIVER	RECESSED	STORAGE
F3	4' SURFACE MOUNTED LIGHT, LED, 3900 LUMENS, 85 CRI	DAY-BRITE	LF4-FR39-35U-LAG	3500K	1	40	LED DRIVER	SURFACE	BATHROOMS
F4	LED UNDER-CABINET LIGHT	HERA	EL/LED/34 WITH EL2H/WB AND CONNECTING CABLE	3000K	1	12	LED DRIVER	SURFACE	KITCHENETTES
X	EXIT SIGN, GREEN LETTERING	EMERGI-LITE OR EQUAL	PRESTIGE SERIES TA-PE-FACE PER PLANS-GM	LED	-	-	-	PER PLANS	EGRESS PATHWAYS
EM	EMERGENCY EGRESS LIGHT	EMERGI-LITE OR EQUAL	EC-2 SERIES, WHITE	LED	-	-	-	PER PLANS	EGRESS PATHWAYS
EX	EMERGENCY LIGHT/EXIT SIGN COMBO	EMERGI-LITE OR EQUAL	PREMIER SERIES COMBO, WHITE	LED	-	-	-	PER PLANS	EGRESS PATHWAYS

NOTES:

A. ALL LED FIXTURES TO BE PROVIDED WITH NO LESS THAN A 5-YEAR WARRANTY

B. LAMPS TO HAVE 83+ CRI UNLESS OTHERWISE NOTED.

C. SPECIFIED MANUFACTURERS ARE APPROVED TO SUBMIT BID. INCLUSION DOES NOT RELIEVE MANUFACTURER FROM SUPPLYING PRODUCT AS DESCRIBED.

D. PROVIDE SUBMITTALS THAT INCLUDE THE LUMINAIRE, LAMP AND BALLAST INFORMATION OF EACH LUMINAIRE, WITH APPLICABLE OPTIONS CLEARLY CHECKED OR HIGHLIGHTED. SUBMITTALS NOT INCLUDING THIS INFORMATION WILL BE RETURNED AS REJECTED BY THE ENGINEER OF RECORD.

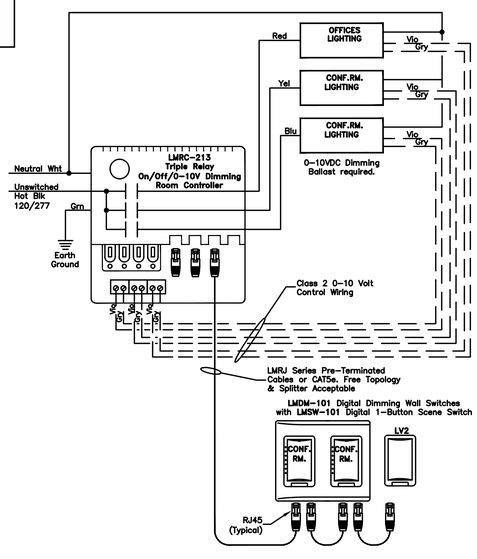
E. PROVIDE COMMISSIONING OF THE LIGHTING AND LIGHTING CONTROLS IN ACCORDANCE WITH CALIFORNIA TITLE 24 LIGHTING COMMISSIONING REQUIREMENTS.

LIGHTING CONTROLS AND DIGITAL LIGHTING MANAGEMENT DEVICE SCHEDULE

TYPE	MODEL	MANUFACTURE	Type	VOLTAGE	CONTROLLER	MOUNTING	LOCATIONS	SETTINGS
A	LMPW-100	Wattstopper	PIR	LOW VOLTAGE	LILM	WALL	SM. SPACES	Manual-ON, Time delay - 30 minutes
LV	LMSW-101	Wattstopper - DIGITAL SWITCH	1-BUTTON	LOW VOLTAGE	DLM	WALL	ZONES PER SCHEDULE	OVER-RIDE SWITCH
DLM	LMRC-212	Wattstopper - DIGITAL LIGHTING MANAGEMENT	-	LINE VOLTAGE	-	WALL	DIMMABLE SPACES	Program 'ON' 1 hours before opening, 'OFF' 1 hours after closing.
D	LMDM-101	Wattstopper - DIMMER	-	LOW VOLTAGE	DLM	WALL	-	SEE DIAGRAM
PL	LMPL-201	Wattstopper - PLUG LOAD CONTROLLER	-	LOW VOLTAGE	-	WALL	-	ONE UNIT PER CIRCUIT

A. Sensor may be the same product with different settings for each space. See SETTINGS column for specifics.

B. CONTRACTOR TO VERIFY FINISH/COLOR WITH OWNER OR OWNER REPRESENTATIVE PRIOR TO ORDERING.

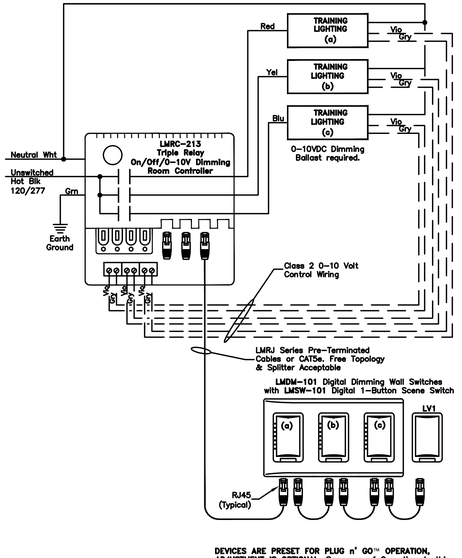


DEVICES ARE PRESET FOR PLUG n' GO™ OPERATION, ADJUSTMENT IS OPTIONAL. Sequence of Operation: In this configuration the LMRC-213 defaults to multi-level automatic-on/automatic-off operation. Load (a) on the LMRC-213 turns on automatically, while Load (b) & (c) defaults to manual-on control; all relays turn off automatically.

LMRC-213 Relay 0-10V Dimming Wiring Diagram

LIGHTING CONTROL DIAGRAM – DLM2

SCALE: NONE



DEVICES ARE PRESET FOR PLUG n' GO™ OPERATION, ADJUSTMENT IS OPTIONAL. Sequence of Operation: In this configuration the LMRC-213 defaults to multi-level automatic-on/automatic-off operation. Load (a) on the LMRC-213 turns on automatically, while Load (b) & (c) defaults to manual-on control; all relays turn off automatically.

LMRC-213 Relay 0-10V Dimming Wiring Diagram

LIGHTING CONTROL DIAGRAM – DLM1

SCALE: NONE

BID SET –
NOT FOR CONSTRUCTION
DATE: 06-09-16

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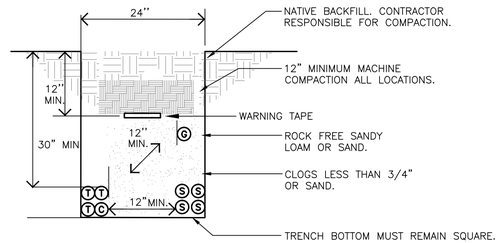
DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:29-030-02

date: 3/14/16
scale:
Job #: 15-397

SCHEDULES & DIAGRAMS

E0.2

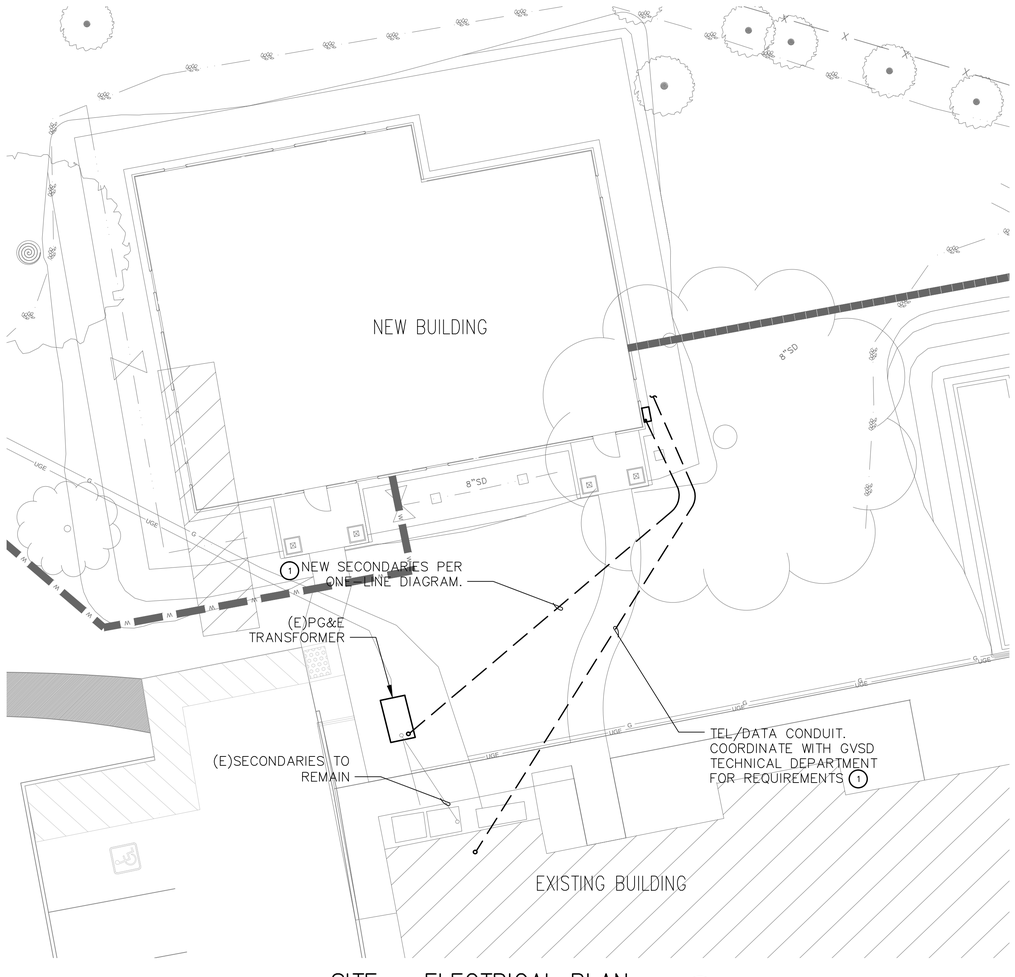


NOTES: 1. SEE PLANS FOR QUANTITY AND SIZE OF CONDUITS

2. SECONDARY CONDUITS & PRIVATE TELEPHONE CONDUITS SHALL BE IN A SEPARATE TRENCH.

1 – JOINT TRENCH DETAIL

SCALE: NONE



SITE – ELECTRICAL PLAN

SCALE: 1" = 10'-0"

① SHEET NOTES

1. COORDINATE ROUTE WITH CIVIL PLANS.

GENERAL NOTES

A. CONTRACTOR SHALL PROVIDE A COMPLETE INSTALLATION INCLUDING ALL WORK REQUIRED TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM FOR THE IMPROVEMENTS INDICATED.

B. CONTRACTOR TO PROVIDE TRENCHING, BACKFILL, EXCAVATION, AND PAVING.

C. SITE PLAN IS DIAGRAMATIC ONLY. CONDUITS SHOULD BE INSTALLED IN JOINT TRENCHES PER SERVICE PROVIDER REQUIREMENTS.

D. TRENCH DEPTH PER SERVICE PROVIDER REQUIREMENTS.

E. PROVIDE POLYESTER PULL-TAPE AND CAP OR PLUG ALL EMPTY CONDUITS, TYPICAL.

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DISTRICT SUPPORT SERVICES BLDG
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GILMORE WAY, GRASS VALLEY, APN:29-030-02

BID SET –
NOT FOR CONSTRUCTION
DATE: 06-09-16

Spectral Engineering
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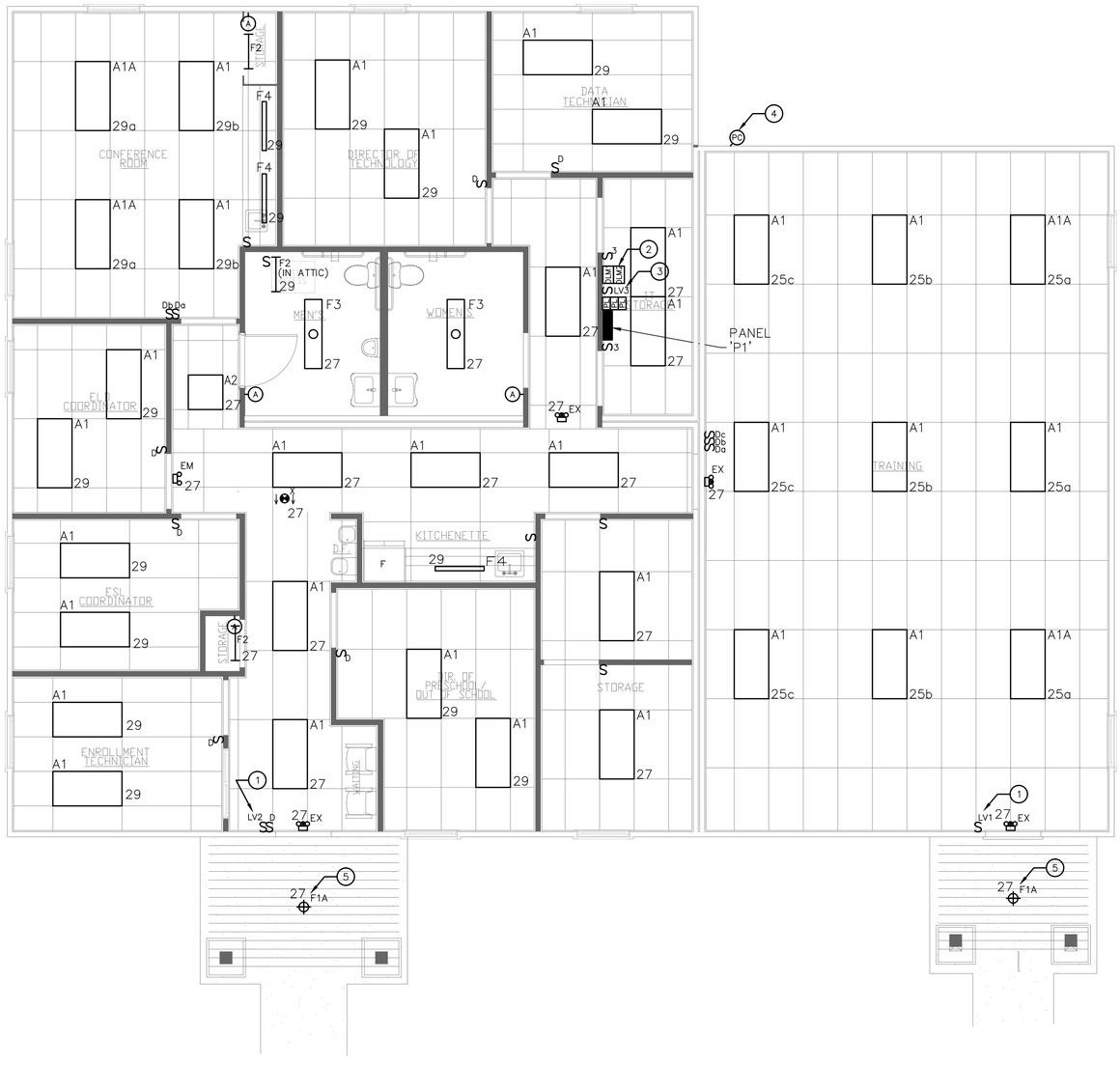
CONTACT: MEG L. HOBBS, PE, LEED AP
EMAIL: meg.hobbs@SPECTRALENGINEERING.COM
PHONE: 916-599-2439

date: 3/14/16
scale:
Job #: 15-397

SITE – ELECTRICAL PLAN

E1.1



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

SHEET NOTES

1. LIGHTING CONTROL OVER-RIDE SWITCH. SEE DIAGRAM AND DLM SCHEDULES. LABEL SWITCHPLATE PER CONTROL ZONE SCHEDULE.
2. DIGITAL LIGHTING MANAGEMENT MODULES. QUANTITY PER SCHEDULES. LOCATE STACKED ON WALL AT A MAXIMUM OF 5'-0" TO TOP. PROVIDE PLYWOOD BACKBOARD PAINTED TO MATCH WALL.
3. CONTROLLED RECEPTACLE OVER-RIDE SWITCH. LABEL SWITCHPLATE PER CONTROL ZONE SCHEDULE. DAISY-CHAIN 'PL'S' TOGETHER AND PROGRAM LOW-VOLTAGE SWITCH TO CONTROL EACH 'PL' FOR OVER-RIDE 'ON' FOR TWO HOURS.
4. LOCATE PHOTOCELL ON ROOF FACING NORTH.
5. EXTERIOR FIXTURES TO BE CONTROLLED VIA ROOF MOUNTED PHOTO-CELL.

GENERAL NOTES

A. CONTRACTOR SHALL PROVIDE A COMPLETE INSTALLATION INCLUDING ALL WORK REQUIRED TO PROVIDE A COMPLETE AND OPERATING SYSTEM FOR THE IMPROVEMENTS INDICATED.

B. ALL CONDUITS AND RACEWAYS SHALL BE RUN IN LOCATIONS WHERE THEY WILL NOT BE VISIBLE.

C. PROVIDE 2 #12 CONDUCTORS AND 1 #12 GROUND UNLESS OTHERWISE NOTED.

D. INTERIOR ELECTRICAL PANELS TO BE NEMA1 WITH LOCKING ENCLOSURE.

E. PROVIDE A TYPE-WRITTEN SCHEDULE IN THE LIGHTING CONTROL PANEL THAT INDICATES THE CIRCUIT NUMBER AND LOCATION OF LIGHTS CONTROLLED.

BID SET –
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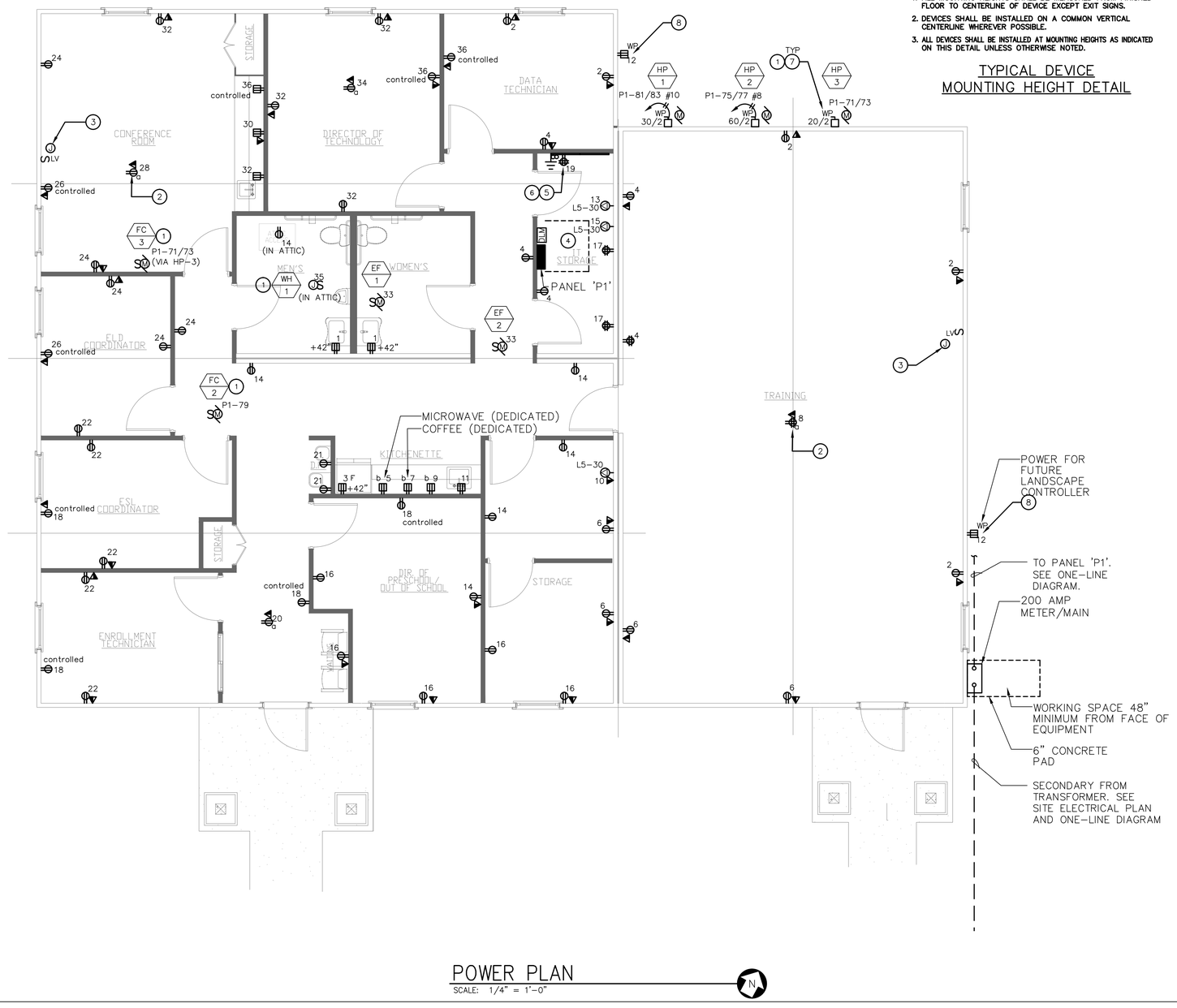
DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:29-030-02

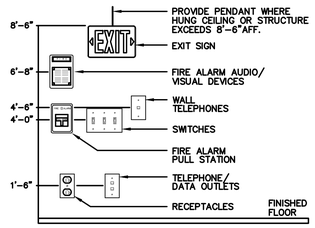
date 3/14/16
scale
Job # 15-397

LIGHTING PLAN

E2.1



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



NOTES:
1. ALL MOUNTING HEIGHTS SHALL BE MEASURED FROM FINISHED FLOOR TO CENTERLINE OF DEVICE EXCEPT EXIT SIGNS.
2. DEVICES SHALL BE INSTALLED ON A COMMON VERTICAL CENTERLINE WHEREVER POSSIBLE.
3. ALL DEVICES SHALL BE INSTALLED AT MOUNTING HEIGHTS AS INDICATED ON THIS DETAIL UNLESS OTHERWISE NOTED.

TYPICAL DEVICE MOUNTING HEIGHT DETAIL

SHEET NOTES

1. VERIFY MECHANICAL AND PLUMBING EQUIPMENT ELECTRIAL INFORMATION (VOLTAGE, AMPERAGE, ETC.) WITH CURRENT MECHANICAL AND PLUMBING EQUIPMENT DRAWINGS AND MECHANICAL AND PLUMBING SUBMITTALS PRIOR TO ROUGH-IN. NOTE: VOLTAGE, AMPERAGE, OR QUANTITY MAY CHANGE DURING THE SUBMITTAL PROCESS WITHOUT NOTICE. IF THE ELECTRICAL INFORMATION DOES NOT MATCH THE INFORMATION PROVIDED ON THE ELECTRICAL DRAWINGS, NOTIFY OWNER OR OWNER REPRESENTATIVE PRIOR TO INSTALLATION AND/OR ORDERING OF MATERIAL.
2. CEILING MOUNTED OUTLET AND DATA PORT FOR OVER-HEAD PROJECTOR. VERIFY EQUIPMENT REQUIREMENTS WITH MEDIA DRAWINGS OR OWNER REPRESENTATIVE.
3. POWER OUTLET FOR OVER-HEAD PROJECTOR SCREEN. VERIFY EXACT LOCATION WITH MEDIA DRAWINGS OR OWNER REPRESENTATIVE. PROVIDE 1/2" CONDUIT AND OUTLET BOX ON WALL FOR SCREEN CONTROL SWITCH.
4. WORKING SPACE AT FRONT OF ELECTRICAL EQUIPMENT TO REMAIN FREE OF STORAGE ITEMS.
5. TELEPHONE AND CABLE CONDUIT STUBBED UP AT LEFT EDGE OF TELECOM BACKBOARD. STUB UP A MINIMUM OF 2" ABOVE FINISHED FLOOR. SEE SITE PLAN TO COORDINATE.
6. PROVIDE A 4' WIDE BY 8' TALL 3/4" PLYWOOD TELECOM BACKBOARD PAINTED TO MATCH WALL. PROVIDE #6 BARE CU GROUND TO BUILDING GROUND SYSTEM. COIL 2' AT BACKBOARD. LOCATE DOUBLE DUPLEX OUTLET AT 6'-6" ABOVE FLOOR AT LEFT SIDE OF BACKBOARD.
7. LOCATE DISCONNECT WITH ADEQUATE WORKING SPACE OR USE KNIFE-SWITCH TYPE DISCONNECT.
8. PROVIDE IN-USE LOCKING COVER.

GENERAL NOTES

A. CONTRACTOR SHALL PROVIDE A COMPLETE INSTALLATION INCLUDING ALL WORK REQUIRED TO PROVIDE A COMPLETE AND OPERATING SYSTEM FOR THE IMPROVEMENTS INDICATED.

B. ALL CONDUITS AND RACEWAYS SHALL BE RUN IN LOCATIONS WHERE THEY WILL NOT BE VISIBLE.

C. PROVIDE 2 #12 CONDUCTORS AND 1 #12 GROUND UNLESS OTHERWISE NOTED.

D. INTERIOR ELECTRICAL PANELS TO BE NEMA1 WITH LOCKING ENCLOSURE.

E. EXTERIOR ELECTRICAL PANELS TO BE NEMA 3R WITH LOCKING ENCLOSURE.

F. PANELS TO BE MARKED FOR ARC FLASH HAZARD PER CEC110.16, MARKING TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING OR MAINTENANCE OF THE EQUIPMENT.

G. PROVIDE LOCKING MECHANISM ON ALL CIRCUIT BREAKERS FEEDING FIRE ALARM, SECURITY PANELS, OR CCTV EQUIPMENT.

BID SET –
NOT FOR CONSTRUCTION
DATE: 06-09-16

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DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
GILMORE WAY, GRASS VALLEY, APN:29-030-02

date: 3/14/16
scale:
Job #: 15-397

POWER PLAN

E3.1

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 3 of 6)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

E. Declaration of Required Certificates of Acceptance

Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Form/Title	
◉	○	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐ Field Inspector
◉	○	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐ Field Inspector
◉	○	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐ Field Inspector

A separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☐ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

F. Indoor Lighting Schedule and Field Inspection Energy Checklist

- ☐ The actual indoor lighting power listed on this page and on the next page includes all installed permanent and planned portable lighting systems.
- ☐ When Complete Building Method is used for compliance, list each different type of luminaire on separate lines.
- ☐ When Area Category Method or Tailored Method is used for compliance, list each different type of luminaire by each different function area on separate lines
- ☐ Also include track lighting in schedule, and submit the track lighting compliance form (NRCC-LTI-05-E) when line-voltage track lighting is installed.

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 2 of 6)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

C. Summary of Allowed Lighting Power

Conditioned and Unconditioned space Lighting must not be combined for compliance

	Indoor Lighting Power for Conditioned Spaces		Watts	Indoor Lighting Power for Unconditioned Spaces		Watts
1.	**Installed** Lighting NRCC-LTI-01-E, page 4	+	2056	**Installed** Lighting NRCC-LTI-01-E, page 4	+	
2.	PORTABLE ONLY FOR OFFICES NRCC-LTI-01-E, page 3	+	0			
3.	Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-		Minus Lighting Control Credits NRCC-LTI-02-E, page 2	-	
4.	Adjusted **Installed** Lighting Power (row 1 plus row 2 minus row 3)	=	2056	Adjusted **Installed** Lighting Power (row 1 minus row 3)	=	0
5.	Complies ONLY if **Installed** ≤ **Allowed**			Complies ONLY if **Installed** ≤ **Allowed**		
6.	**Allowed** Lighting Power Conditioned NRCC-LTI-03-E, page 1		2304	**Allowed** Lighting Power Unconditioned NRCC-LTI-03-E, page 1		

D. Declaration of Required Installation Certificates

Declare by selecting yes for all Installation Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

YES	NO	Form/Title	
◉	○	NRCI-LTI-01-E - Must be submitted for all buildings	☐ Field Inspector
◉	○	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐ Field Inspector
◉	○	NRCI-LTI-03-E - Must be submitted for a line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting, to be recognized for compliance.	☐ Field Inspector
○	○	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐ Field Inspector
○	○	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐ Field Inspector
○	○	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐ Field Inspector

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 1 of 6)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

A. General Information

Climate Zone: 12	Conditioned Floor Area : 2880				
	Unconditioned Floor Area : 0				
Building Type:	☑ Nonresidential	☐ High-Rise Residential	☐ Hotel/Motel		
☐ Schools	☐ Relocatable Public Schools	☐ Conditioned Spaces	☐ Unconditioned Spaces		
Phase of Construction:	☑ New Construction	☐ Addition	☐ Alteration		
Method of Compliance:	☑ Complete Building	☑ Area Category	☐ Tailored		
Project Address: 10840 GILMORE WAY, GRASS VALLEY, CA 95945					

B. Lighting Compliance Documents (select yes for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

YES	NO	FORM	TITLE
◉	○	NRCC-LTI-01-E	Certificate of Compliance. All Pages required on plans for all submittals.
◉	○	NRCC-LTI-02-E	Lighting Controls, Certificate of Compliance, and PAF Calculation. All Pages required on plans for all submittals.
◉	○	NRCC-LTI-03-E	Indoor Lighting Power Allowance
○	○	NRCC-LTI-04-E	Tailored Method Worksheets
○	○	NRCC-LTI-05-E	Line Voltage Track Lighting Worksheets

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 6 of 6)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Meg Hobbs	Documentation Author Signature: Meg Hobbs
Company: Spectral Engineering	Signature Date: 04/27/16
Address: PO BOX 154	CEA Certification Identification (if applicable): na
City/State/Zip: Chicago Park, CA 95712	Phone: 530-273-8701

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 information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
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: Meg Hobbs	Responsible Designer Signature: Meg Hobbs
Company: Spectral Engineering	Date Signed: 04/27/16
Address: PO BOX 154	License: E17502
City/State/Zip: Chicago Park, CA 95712	Phone: 530-273-8701

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 5 of 6)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

A separate Lighting Schedule Must Be Filled Out for Conditioned and Unconditioned Spaces. Installed Lighting Power listed on this Lighting Schedule is only for:
☐ **CONDITIONED SPACE** ☐ **UNCONDITIONED SPACE**

C. INDOOR LIGHTING SCHEDULE and FIELD INSPECTION ENERGY CHECKLIST

Luminaire Schedule		Installed Watts				Location	Field Inspector [1]	
1	2	3	4	5	6	7	8	
Name or Item Tag	Complete Luminaire Description (i.e. 3 lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per Luminaire	How wattage was determined: CEC Default from ta&b	How wattage was determined: According to §130.0(c)	Number Luminaires	Total Installed Watts in this area (C3 x C5)	Primary Function area in which these luminaires are installed	Pass / Fail
A1	LED 2X4	55	☐	☐	34	1870		○ ○
A2	LED 2X2	46	☐	☐	1	46		○ ○
F1	NOT USED HERE	0	☐	☐		0		○ ○
F2	LED STRIP LIGHT	12	☐	☐	2	24		○ ○
F3	4' LED SURFACE	40	☐	☐	2	80		○ ○
F4	LED UNDERCABINET	12	☐	☐	3	36		○ ○
			☐	☐		0		○ ○
			☐	☐		0		○ ○
			☐	☐		0		○ ○
INSTALLED WATTS PAGE TOTAL:						2056	Enter sum total of all pages into NRCC-LTI-01-E; Page 2	

STATE OF CALIFORNIA
INDOOR LIGHTING
CEC-NRCC-LTI-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-01-E
Indoor Lighting	(Page 4 of 6)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

G. Installed Portable Luminaires in Offices – Exception to Section 140.6(a)

- This section shall be filled out ONLY for portable luminaires in offices (As defined in §100.1). All other planned portable luminaires shall be documented on next page of this compliance form.
- This section is used to determine if greater than 0.3 watts of portable lighting is planned for any office
- Fill out a separate line for each different office. Small offices that are typical (having the same general and portable lighting) may be grouped together. This allowance shall not be traded between offices having different lighting systems.

Office Portable Luminaire Schedule	Office Installed Portable Luminaire Watts Per Square Foot							Office Location	Field Inspector	
1	2	3	4	5	6	7	8	9	10	
Complete Luminaire Description (i.e., LED, under cabinet, furniture mounted direct/indirect)	Watts per Luminaire	Number of Luminaires	Installed portable luminaire watts in this office (G2 x G3)	Square feet of this office	Watts per square foot (G4 / G5)	If G6 ≤ 0.3, enter zero; if G6 > 0.3, (G6-0.3)	G5 x G7	Identify Office area in which these portable luminaires are installed	Pass	Fail
			0				0		○	○
			0				0		○	○
			0				0		○	○
			0				0		○	○
			0				0		○	○
Total installed portable luminaire watts that are greater than 0.3 watts per square foot per office:								Enter sum total of all pages into NRCC-LTI-01-E; Page 2		

NOTE: QUANTITIES OF LIGHT FIXTURES OR OTHER DEVICES SHOWN IN THESE FORMS SHALL NOT BE USED FOR BIDDING PURPOSES.

PERMIT SUBMITTAL 1
DATE: 04-28-16

Spectral Engineering
Electrical Consulting Engineers
CONTACT: MEG L. HOBBS, PE, LEED AP
EMAIL: meg.hobbs@SPECTRALENGINEERING.COM
PHONE: 916-599-2439

REGISTERED PROFESSIONAL ENGINEER
MEGAN LINDENBACH HOBBS
No. E17502
ELECTRICAL
STATE OF CALIFORNIA

stamp

Revisions

siteline architecture
Andrew J. Pawlowski, Architect, LEED AP
644 Zion Street
Nevada City, CA 95959
530.478.9415 - t
530.478.9416 - f
www.sitelinearch.com

DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
10840 GILMORE WAY, GRASS VALLEY, APN:29-030-02

date: 3/14/16
scale:
job #: 15-397

TITLE 24 – LIGHTING

E5.1

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 08/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 3 of 3)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Meg Hobbs	Documentation Author Signature:
Company: Spectral Engineering	Signature Date: 04/27/16
Address: PO BOX 154	CEA Certification Identification (if applicable): NA
City/State/Zip: Chicago Park, CA 95712	Phone: 530-273-8701

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Responsible Designer Name: Meg Hobbs	Responsible Designer Signature:
Company: Spectral Engineering	Date Signed: 04/27/16
Address: PO BOX 154	License: E17502
City/State/Zip: Chicago Park, CA 95712	Phone: 530-273-8701

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 08/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 2 of 3)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

A separate document must be filled out for Conditioned and Unconditioned Spaces. This page is used only for the following:
☒ CONDITIONED SPACES ☐ UNCONDITIONED SPACES

B. Mandatory and Prescriptive Indoor Lighting Control Schedule, PAF Calculation, and Field Inspection Checklist

Lighting Control Schedule			Standards Complying With [1] (✓ all that apply, or leave blank if Exempted)							PAF Credit Calculation [2]			✓ # Acceptance Test Required	Field Inspector	
									Watts of Controlled Lighting	PAF	Control Credit (K x L)				
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
Location in Building	Type/ Description of Lighting Control (i.e.: occupancy sensor, automatic time switch, dimmer, automatic daylight, etc..)	# of Units	§130.1(a)	§130.0(b)	§130.1(c)	§130.1(d)	§130.1(e)	§140.6(a)2	§140.6(d)					Pass	Fail
OFFICES/TRAINING	INTEGRAL PHOTOCELL	5	X	E	X	X	E	x	x			0	☐	○	○
OFFICES/CONF/CORRIDOR	INTEGRAL OCCUPANCY SENSOR	35	X	E	X	E	E	x	E			0	☐	○	○
												0	☐	○	○
												0	☐	○	○
												0	☐	○	○
												0	☐	○	○
												0	☐	○	○
												0	☐	○	○
Control Credit PAGE TOTAL (Sum of Column M):												0			
IF MULTIPLE PAGES ARE USED, ENTER SUM TOTAL OF Control Credit for all pages HERE (Sum of all Column M):															
												Enter Control Credit total into NRCC-LTI-01-E; Page 1.			

1. §130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive; §140.6(d) = Additional lighting controls installed to earn a PAF; §140.6(d) = Prescriptive Secondary Sidelit Daylight Controls.
2. Check Table 140.6-A for correct Factor. PAFs shall not be traded between conditioned and unconditioned spaces. As a condition to earn a PAF, an Installation Certificate is also required to be filled out, signed, and submitted.

STATE OF CALIFORNIA
INDOOR LIGHTING – LIGHTING CONTROLS
CEC-NRCC-LTI-02-E (Revised 08/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-02-E
Indoor Lighting - Lighting Controls	(Page 1 of 3)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

The NRCC-LTI-02-E shall be used to document all mandatory and prescriptive lighting controls that are applicable to the project.

A. Mandatory Lighting Control Declaration Statements (Indicate if the measure applies by checking yes or no below.)

YES	NO	Control Requirements
◉	○	Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with Section 110.9.
◉	○	Lighting shall be controlled by a lighting control a system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with Section 130.4(b).
○	○	One or more Track Lighting Integral Current Limiters shall be installed which have been certified to the Energy Commission in accordance with §110.9 and §130.0. Additionally, an Installation Certificate shall be submitted in accordance with Section 130.4(b).
○	○	A Track Lighting Supplementary Overcurrent Protection Panel shall be installed in accordance with Section 110.9 and Section 130.0. Additionally, an Installation Certificate shall be installed in accordance with Section 130.4(b).
◉	○	All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with Section 130.1.
◉	○	All luminaires shall be functionally controlled with manually switched ON and OFF lighting controls in accordance with Section 130.1(a).
◉	○	General lighting shall be separately controlled from all other lighting systems in an area. Floor and wall display, window display, case display, ornamental, and special effects lighting shall each be separately controlled on circuits that are 20 amps or less. When track lighting is used, general, display, ornamental, and special effects lighting shall each be separately controlled; in accordance with Section 130.1(a)4.
◉	○	The general lighting of any enclosed area 100 square feet or larger, with a connected lighting load that exceeds 0.5 watts per square foot shall meet the multi-level lighting control requirements in accordance with Section 130.1(b).
◉	○	All installed indoor lighting shall be equipped with controls that meet the applicable Shut-OFF control requirements in Section 130.1(c).
◉	○	Lighting in all Daylit Zones shall be controlled in accordance with the requirements in Section 130.1(d) and daylit zones are shown on the plans.
○	◉	Lighting power in buildings larger than 10,000 square feet shall be capable of being automatically reduced in response to a Demand Responsive Signal in accordance with Section 130.1(e).
◉	○	Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with Section 130.4(a). The controls required to meet the Acceptance Requirements include automatic daylight controls, automatic shut-OFF controls, and demand responsive controls.

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 08/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 4 of 4)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/27/16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Meg Hobbs	Documentation Author Signature:
Company: Spectral Engineering	Signature Date: 04/27/16
Address: PO BOX 154	CEA Certification Identification (if applicable): NA
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STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 08/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 2 of 4)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/27/16

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☐ CONDITIONED spaces ☐ UNCONDITIONED spaces

C -2 AREA CATEGORY METHOD GENERAL LIGHTING POWER ALLOWANCE

- Do not include portable lighting for offices. Portable lighting for offices shall be documented only in section B of NRCC-LTI-01-E.
- Separately list lighting for each primary function area as defined in §100.1 of the Standards.

A		B		C		D
AREA CATEGORY (From §140.6 Table 140.6-C)		WATTS				ALLOWED
Location in Building	Primary Function Area per Table 140.6-C	PER (ft^2)	X	AREA (ft^2)	=	WATTS
OFFICE	OFFICE	.75				0
OFFICE	LARGE OFFICE	.9				0
CONFERENCE	CONFERENCE	1.4				0
LOBBY	LOBBY	1.1				0
OTHER	BATHROOM, STORAGE	.6				0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
						0
		TOTALS		0		
Enter sum total Area Category allowed watts into section C-1 of NRCC-LTI-03-E (this compliance form)						0
						WATTS

STATE OF CALIFORNIA
INDOOR LIGHTING POWER ALLOWANCE
CEC-NRCC-LTI-03-E (Revised 08/15) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-03-E
Certificate of Compliance - Indoor Lighting Power Allowance	(Page 1 of 4)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/27/16

A separate page must be filled out for Conditioned and Unconditioned Spaces. This page is only for:
☒ CONDITIONED spaces ☐ UNCONDITIONED spaces

A. SUMMARY TOTALS OF LIGHTING POWER ALLOWANCES

- If using Complete Building Method for compliance, use only the total in column (a) as total allowed building watts.
- If using Area Category Method, Tailored Method, or a combination of Area Category and Tailored Method for compliance, use only the total in column (b) as the total allowed building watts

	(a)		(b)
1. Complete Building Method Allowed Watts. Documented in section B of NRCC-LTI-03-E (below on this page)	2304		
2. Area Category Method Allowed Watts. Documented in section C-1 of NRCC-LTI-03-E (below on this page)			0
3. Tailored Method Allowed Watts. Documented in section A of NRCC-LTI-04-E			
TOTAL ALLOWED BUILDING WATTS. Enter number into correct cell on NRCC-LTI-01, Page 2, Row 1	2304		0

☐ Check here if building contains both conditioned and unconditioned areas.

B. COMPLETE BUILDING METHOD LIGHTING POWER ALLOWANCE

1	2		3		4
TYPE OF BUILDING (From §140.6 Table 140.6-B)	WATTS PER (ft^2)	X	COMPLETE BLDG. AREA	=	ALLOWED WATTS
OFFICE	.8		2880		2304
Total Area:			2880		
Total Watts. Enter Total Watts into section A, row 1 (Above on this page)					2304

C -1 AREA CATEGORY METHOD TOTAL LIGHTING POWER ALLOWANCES (D plus E)

	Watts
Total from section C-2	0
Total from section C-3	0
Total Watts. Enter Total Watts into section A, row 2 (Above on this page)	0

PERMIT SUBMITTAL 1
DATE: 04-28-16

Spectral Engineering
Electrical Consulting Engineers
CONTACT: MEG L. HOBBS, PE, LEED AP
EMAIL: meg.hobbs@SPECTRALENGINEERING.COM
PHONE: 916-599-2439

siteline architecture
Andrew J. Pawlowski, Architect, LEED AP
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Nevada City, CA 95959
530.478.9415 - t
530.478.9416 - f
www.sitelinearch.com

DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
10840 GILMORE WAY, GRASS VALLEY, APN:29-030-02

Revisions

date 3/14/16
scale
Job # 15-397

TITLE 24 – LIGHTING

E5.2

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 1 of 4)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

A. General Information

Project Address: 10840 GILMORE WAY, GRASS VALLEY, CA 95945			Total Illuminated Hardscape Area 800	
Phase of Construction:	☑ New Construction	☐ Addition	☐ Alteration	
Outdoor Lighting Zone (OLZ)	☐ OLZ-1	☐ OLZ-2	☑ OLZ-3	☐ OLZ-4
I have confirmed with the AHJ which OLZ applies to this site. For default lighting zone designations, see Title 24 Part 6, §10-114				

B. LIGHTING COMPLIANCE DOCUMENTS
(check box for each document included)

For detailed instructions on the use of this and all Energy Efficiency Standards compliance documents, refer to the Nonresidential Manual published by the California Energy Commission.

☑	NRCC-LTO-01-E	Certificate of Compliance
☑	NRCC-LTO-02-E	Outdoor Lighting Controls Certificate of Compliance
☑	NRCC-LTO-03-E	Outdoor Lighting Power Allowance Certificate of Compliance

C. Summary of Allowed Outdoor Lighting Power

			Watts
1.	**Sum Total ALLOWED** Outdoor Lighting Wattage from NRCC-LTO-03-E, page 1	=	776
	Complies ONLY if **Installed ≤ Allowed**		
2.	**Sum Total INSTALLED** Outdoor lighting Wattage from NRCC-LTO-01-E, page 3		54

D. Declaration of Required Installation Certificates
Declare by checking all Installation Certificates that will be submitted. (Retain copies and verify forms are completed and signed.)

☐ NRCI-LTO-01-E - Must be submitted for all buildings	☐ Field Inspector
☐ NRCI-LTO-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐ Field Inspector

E. Declaration of Required Certificates of Acceptance
Declare by checking all of the Certificates of Acceptance that will be submitted. (Retain copies and verify forms are completed and signed.)

☐ NRCA-LTO-02-A - Must be submitted for outdoor lighting controls.	☐ Field Inspector

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 2 of 4)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

F. Schedule of luminaires exempt from the outdoor lighting power requirements in §140.7

Name or Symbol	Description of exempt luminaire in accordance with the exemptions

G. Schedule of luminaires exempt from the cutoff requirements in §130.2(b)

Name or Symbol	Description of exempt luminaire in accordance with the exemptions

H. Schedule of luminaires exempt from the outdoor lighting control requirements in §130.2(c)

Name or Symbol	Description of exempt luminaire in accordance with the exemptions

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 3 of 4)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

I. Outdoor Lighting Schedule and Field Inspection Energy Checklist

Luminaire Schedule		Installed Watts					Location	Cutoff	Field Inspector	
A	B	C	D		E	F	G	H	I	
Name or Item Tag	Complete Luminaire Description	Watts per Luminaire	How wattage was determined: CEC Default from NA8	According to §130.0(c)	Number of Luminaires	Total Installed Watts in this area (C x E)	Primary Function area in which these luminaires are installed	BUG Rating	Pass	Fail
F1	LED CEILING LIGHT	27	☐	☐	2	54	OUTDOOR LANDING		○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
			☐	☐		0			○	○
INSTALLED WATTS PAGE TOTAL:						54	Enter sum total of all pages or if only one page is used, enter PAGE total here (**Sum Total INSTALLED** Outdoor lighting wattage)		54	

STATE OF CALIFORNIA
OUTDOOR LIGHTING
CEC-NRCC-LTO-01-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-01-E
Outdoor Lighting	(Page 4 of 4)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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Company: Spectral Engineering	Signature Date: 04/27/16
Address: PO BOX 154	CEA Certification Identification (if applicable): NA
City/State/Zip: Chicago Park, CA 95712	Phone: 530-273-8701

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 information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
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: Meg Hobbs	Responsible Designer Signature:
Company: Spectral Engineering	Date Signed: 04/27/16
Address: PO BOX 154	License: E17502
City/State/Zip: Chicago Park, CA 95712	Phone: 530-273-8701

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 1 of 3)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

The NRCC-LTO-02-E shall be used to document all mandatory outdoor lighting controls that are applicable to the project.

A. Mandatory Outdoor Lighting Control Declaration Statements
Check all that apply:

- ☑ Lighting shall be controlled by self-contained lighting control devices which are certified to the Energy Commission according to the Title 20 Appliance Efficiency Regulations in accordance with §110.9(a).
- ☑ Lighting shall be controlled by a lighting control system or energy management control system in accordance with §110.9. An Installation Certificate shall be submitted in accordance with §130.4(b).
- ☑ All lighting controls and equipment shall comply with the applicable requirements in §110.9 and shall be installed in accordance with the manufacturer's instructions in accordance with §130.1
- ☑ Part-Night Outdoor Lighting Controls, as defined in Section 100.1(b), shall meet the requirements in Section 110.9(b)5
- ☑ All outdoor incandescent luminaires rated over 100 watts, determined in accordance with Section 130.0(c), shall be controlled by a motion sensor.
- ☑ All outdoor luminaires rated for use with lamps greater than 150 lamp watts, determined in accordance with Section 130.0(c), shall comply with Backlight, Uplight, and Glare (collectively referred to as "BUG") in accordance with Section 130.2(b)
- ☑ All installed outdoor lighting shall be controlled by a photocontrol or outdoor astronomical time-switch control in accordance with Section 130.2(c)1
- ☑ All installed outdoor lighting shall be circuited and independently controlled from other electrical loads by an automatic scheduling control in accordance with Section 130.2(c)2
- ☑ All installed outdoor lighting, where the bottom of the luminaire is mounted 24 feet or less above the ground, shall be controlled with automatic lighting controls in accordance with Section 130.2(c)3
- ☑ For Outdoor Sales Frontage, Outdoor Sales Lots, and Outdoor Sales Canopies lighting, an automatic lighting control in accordance with Section 130.2(c)4
- ☑ For Building Facade, Ornamental Hardscape and Outdoor Dining lighting, an automatic lighting control in accordance with Section 130.2(c)5
- ☑ Before an occupancy permit is granted for a newly constructed building or area, or a new lighting system serving a building, area, or site is operated for normal use, indoor lighting controls serving the building, area, or site shall be certified as meeting the Acceptance Requirements for Code Compliance in accordance with §130.4.(a). Outdoor lighting controls shall comply with the applicable requirements of Section 130.2(c) and Reference Nonresidential Appendix NA7.8

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-02-E (Revised 08/15) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 2 of 3)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

B. Mandatory Outdoor Lighting Control Schedule and Field Inspection Checklist

Outdoor Lighting Control Schedule			Standards Complying With (✓ all that apply, or leave empty if Exempted)						✓ if Acceptance Test Required	Field Inspector	
A	B	C	D	E	F	G	H	I	J	K	
Location and Application of Luminaires being controlled	Type/ Description of Lighting Control (i.e. motion sensor, photocontrol, outdoor astronomical time-switch control, centralized time-based zone lighting control)	# of Units	§130.2(a)	§130.2(c)1	§130.2(c)2	§130.2(c)3	§130.2(c)4	§130.2(c)5		Pass	Fail
EXTERIOR LANDING	INTEGRAL OCCUPANCY SENSOR	2		✓	✓	✓			☐	○	○
EXTERIOR	PHOTOCELL	1		✓	✓	✓			☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
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									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○
									☐	○	○

REGISTERED PROFESSIONAL ENGINEER
MEG LUCKENBACH HOBBS
No. E17502
ELECTRICAL
STATE OF CALIFORNIA
stamp

Revisions

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Andrew J. Pawlowski, Architect, LEED AP
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DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
10840 GILMORE WAY, GRASS VALLEY, APN:29-030-02

PERMIT
SUBMITTAL 1
DATE: 04-28-16

Spectral Engineering
Electrical
Consulting Engineers
CONTACT: MEG L. HOBBS, PE, LEED AP
EMAIL: meg.hobbs@SPECTRALENGINEERING.COM
PHONE: 916-599-2439

date: 3/14/16
scale:
job #: 15-397

TITLE 24 – LIGHTING

E5.3

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 08/15)
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 2 of 4)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

C. ADDITIONAL "USE IT OR LOSE IT" OUTDOOR LIGHTING POWER ALLOWANCES FOR SPECIFIC APPLICATIONS
- The additional specific outdoor lighting power allowance shall be the smaller of the allowed lighting power or the actual lighting power used.
- Use Outdoor Lighting Zone (OLZ) that is documented on page 1 of NRCC-LTO-01-E to calculate the specific wattage allowances.

C-1. WATTAGE ALLOWANCE PER APPLICATION – Table 140.7-B
- Available only for qualifying locations, which include Building Entrances or Exits; Primary Entrances to Senior Care Facilities, Police Stations, Hospitals, Fire Stations, and Emergency Vehicle Facilities; Drive Up Windows; Vehicle Service Station Uncovered Fuel Dispenser
- If more than one luminaire type is used per location, use multiple rows for that location

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS				DESIGN WATTS				
Name of Location for which allowance is claimed	Number of qualifying locations	Wattage Allowance per qualifying location	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			0					0	
			0					0	
			0					0	
			0					0	
Sum total allowance per application on this site:									0

C-2. WATTAGE ALLOWANCE PER UNIT LENGTH (Sales Frontage) from Table 140.7-B
- If more than one luminaire type is used per location, use multiple rows for that location

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS				DESIGN WATTS				
Name of Location for which allowance is claimed	Linear feet of Sales Frontage	Wattage Allowance per linear foot	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			0					0	
			0					0	
			0					0	
			0					0	
Sum total allowance for sales frontage on the site:									0

STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 08/15)
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 1 of 4)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

A. OUTDOOR LIGHTING POWER ALLOWANCE SUMMARY

1. General Hardscape Lighting Power Allowance (Site Total from Section B of NRCC-LTO-03-E)	1. 776
2. Additional Specific "use it or lose it" Lighting Power Allowances listed in each of these cells shall be identical to total allowed watts determined in Section C-1 to C-4 of NRCC-LTO-03-E.	

PER APPLICATION from Section C-1		PER UNIT LENGTH (SALES FRONTAGE) from Section C-2		PER HARDSCAPE AREA (ORNAMENTAL LIGHTING) from Section C-3		PER SPECIFIC AREA from Section C-4.		
0	+	0	+	0	+	0	=	2.0

3. **Sum Total ALLOWED** Outdoor Lighting Wattage (add rows 1 and 2)	3.0

B. GENERAL HARDSCAPE LIGHTING POWER ALLOWANCE FROM TABLE 140.7-A

	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Initial Wattage Allowance (IWA)	Total General Hardscape Lighting Allowance
A	B	C	D	E	F	G	H	I
Name of area	Illuminated Hardscape Area	AWA Per Square Foot	AWA (B x C)	Perimeter Length of General Hardscape	LPA per Linear Foot	LWA (E x F)	IWA (Watts)	D + G + H
EXTERIOR LANDINGS	800	.02	16	120	.09	11	750	0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0		0
			0			0	TOTAL	776

STATE OF CALIFORNIA
OUTDOOR LIGHTING CONTROLS
CEC-NRCC-LTO-03-E (Revised 08/15)
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-02-E
Outdoor Lighting Controls	(Page 3 of 3)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Meg Hobbs	Documentation Author Signature:
Company: Spectral Engineering	Signature Date: 04/27/16
Address: PO BOX 154	CEA Certification Identification (if applicable): na
City/State/Zip: Chicago Park, CA 95712	Phone: 530-273-8701

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STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
CEC-NRCC-LTO-03-E (Revised 08/15)
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 4 of 4)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

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STATE OF CALIFORNIA
OUTDOOR LIGHTING POWER ALLOWANCES
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CERTIFICATE OF COMPLIANCE	NRCC-LTO-03-E
Outdoor Lighting Power Allowances	(Page 3 of 4)
Project Name: GRASS VALLEY SCHOOL DISTRICT SUPPORT BLDG.	Date Prepared: 04/26/16

C-3. WATTAGE ALLOWANCE PER SQUARE FOOT OF HARDSCAPE AREA (Ornamental Lighting) – Table 140.7-B
- Allowance for the total site illuminated hardscape area. Luminaires qualifying for this allowance shall be rated for 100 watts or less as determined in accordance with Section 130.0(c), and shall be post-top luminaires, lanterns, pendant luminaires, or chandeliers.
- If more than one luminaire type is used per location, use multiple rows for that location

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS				DESIGN WATTS				
Name of area for which ornamental allowance is claimed	Square feet of Hardscape	Wattage Allowance per square foot	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			0					0	
			0					0	
			0					0	
			0					0	
Sum total allowance for ornamental lighting on the site:									0

C-4. WATTAGE ALLOWANCE PER SQUARE FOOT OF SPECIFIC AREA - Table 140.7-B
- Allowances for Building Facades; Outdoor Sales Lots; Vehicle Service Station Hardscape; Vehicle Service Station Canopies; Sales Canopies; Non-sales Canopies; Guard Stations; Student Pick-up/Drop-off zone: Outdoor Dining; Special Security Lighting for Retail Parking and Pedestrian Hardscape.
- If more than one luminaire type is used per location, use multiple rows for that location

A	B	C	D	E	F	G	H	I	J
	ALLOTTED WATTS				DESIGN WATTS				
Name of Location for which allowance is claimed	Illuminated Area of Application	Wattage Allowance per square foot	Allotted Watts (B x C)	Luminaire Code or Symbol	Luminaire Description	Luminaire Quantity	Watts per luminaire	Design Watts (G x H)	Allowed Watts (smaller of D or I)
			0					0	
			0					0	
			0					0	
			0					0	
Sum total allowance for specific area on the site:									0

NOTE: QUANTITIES OF LIGHT FIXTURES OR OTHER DEVICES SHOWN IN THESE FORMS SHALL NOT BE USED FOR BIDDING PURPOSES

Revisions

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DISTRICT SUPPORT SERVICES BLDG
for
GRASS VALLEY SCHOOL DISTRICT
10840 GILMORE WAY, GRASS VALLEY, APN29-030-02

PERMIT SUBMITTAL 1
DATE: 04-28-16

Spectral Engineering
Electrical
Consulting Engineers
CONTACT: MEG L. HOBBS, PE, LEED AP
EMAIL: MEG.HOBBS@SPECTRALENGINEERING.COM
PHONE: 916-599-2439

date: 3/14/16
scale:
job #: 15-397

TITLE 24 – LIGHTING

E5.4

PIPE MATERIAL SCHEDULE

SANITARY WASTE & VENTING MATERIALS

(A) DRAINAGE WASTE AND VENT PIPING SHALL BE SCHEDULE 40 ABS DWV OR OTHER APPROVED MATERIAL HAVING A SMOOTH AND UNIFORM BORE. FITTINGS SHALL BE MADE OF SIMILAR MATERIAL.
EXCEPTION: NO HUB CAST IRON SHALL BE USED WHERE SLOPE OF WASTE LINE IS LESS THAN ¼ IN PER FOOT, OR WHERE WASTE PIPING IS ROUTED BETWEEN FLOOR OR RISERS IN WALLS.

(B) VENT PIPING SHALL EXTEND 12 INCHES ABOVE THE ROOF (MIN.) AND SHALL BE FLASHED WITH 4-POUND LEAD. THE LEAD FLASHING SHALL BE TURNED DOWN ON THE INSIDE OF THE VENT IN A NEAT MANNER. MINIMUM VENT SIZE AT VENT EXTENSION THROUGH ROOF SHALL BE 3" (MIN.) TO PREVENT FROST/SNOW CLOSURE. THE CHANGE IN DIAMETER SHALL BE MADE INSIDE THE BUILDING AT LEAST ONE (1) FOOT BELOW THE ROOF, OR AS REQUIRED BY THE ADMINISTRATIVE AUTHORITY. VENTS SHALL BE PLACED ADJACENT TO UPPER RIDGE OF ROOF AND SHALL BE PROTECTED BY "MURPHY SPLITTER" OR METAL FORMED CRICKET APPROVED BY ADMINISTRATIVE AUTHORITY.

CONDENSATE DRAINAGE

(A) SCHEDULE 40 PVC DWV PIPE MEETING THE REQUIREMENTS OF ATM D 1785 OR OTHER APPROVED MATERIAL HAVING A SMOOTH AND UNIFORM BORE. FITTINGS SHALL BE IN COMPLIANCE ASTMD 2464.

POTABLE WATER PIPING

(A) SCHEDULE 40 PVC PIPE MEETING THE REQUIREMENTS OF ATM D 1785 MAY BE USED FOR COLD WATER DISTRIBUTION OUTSIDE THE BUILDING. FITTINGS SHALL BE IN COMPLIANCE ASTMD 2464.

(B) WATER AND PIPE FITTINGS IN GARAGE SHALL BE MADE OF TYPE K COPPER AND JOINED WITH VIEGA® PRESS FITTINGS.

(C) ALL PIPING MAY BE 2" AND SMALLER SHALL BE NON-BARRIER PEX TUBING BY UPONOR®, VIEGA®, OR EQUAL. PEX TUBING SHALL MEET OR EXCEED THE REQUIREMENTS OF ASTM #876-08 AND F877. FITTINGS SHALL BE ZERO LEAD FITTINGS MEETING THE REQUIREMENTS OF ASTM F1807. PEX PIPING SHALL MEET THE REQUIREMENTS OF SECTION 604.12 OF THE 2013 CPC. POTABLE PEX PIPING PLACED IN SOIL SHALL BE SLEEVED WITH IN ACCORDANCE WITH TABLE 604.1 (FOOTNOTE 2). THE FOLLOWING ARE EXCEPTIONS TO THE USE OF PEX PIPING:
(1) PIPING WITHIN 18 INCHES OF WATER HEATER SHALL BE TYPE L COPPER.
(2) DOMESTIC HOT WATER SUPPLY AND RETURN PIPING ABOVE GRADE SHALL TYPE L COPPER.

PLUMBING SYMBOLS AND LEGEND

AC	ABOVE CEILING
UC	UNDER COUNTER
BF	BELOW FLOOR
BS	BELOW SLAB
IW	IN WALL
VR	VENT RISER
VTR	VENT THRU ROOF
WD/R	WASTE DROP, RISER
GW	GREASE WASTE
WH	WATER HEATER (SEE SCHEDULE)
CWRD	COLD WATER RISER DROP
HWRD	HOT WATER RISER, DROP
HWRT	HOT WATER RETURN
FCW	FILTERED COLD WATER
WCO, GCO	WALL CLEANOUT, GRADE CLEANOUT
PB	PUSH BUTTON TO ENERGIZE DHW RECIRCULATION PUMP
OC	OCCUPANCY SENSOR TO ENERGIZE DHW RECIRCULATION PUMP
C.O.	CLEANOUT
CW	COLD WATER PIPING
HW	HOT WATER PIPING
HWRT	HOT WATER RETURN PIPING
SSW	SOLAR SUPPLY WATER PIPING
SRW	SOLAR RETURN WATER PIPING
W	SANITARY WASTE PIPING
V	VENT PIPING
	SHUT OFF VALVE (LINE SIZED)
D	WATER HEATER DRAIN PIPE
T&P	WATER HEATER TEMP. AND PRESSURE DRAIN PIPE

PLUMBING NOTES

1. ALL WATER AND WASTE PLUMBING INSTALLATION WORK AND ALL PLUMBING MATERIALS SHALL BE IN ACCORDANCE WITH THE 2013 CALIFORNIA PLUMBING CODE.
2. PLUMBING FIXTURES NOT SPECIFIED ON PLANS SHALL BE SELECTED BY INSTALLING SUBCONTRACTOR AND SUBMITTED TO OWNER'S REPRESENTATIVE FOR APPROVAL. FIXTURES SHALL MEET CURRENT CPC AND CAL-GREEN CODES. MAXIMUM FLOW RATES SHALL BE AS FOLLOWS:

SINKS	1.8 GPM
LAVATORIES	0.5 GPM
SHOWERS	2.0 GPM
WATER CLOSETS	1.28 GPF

3. FURNISH AND INSTALL ALL MATERIALS AND PERFORM ALL LABOR NECESSARY FOR A COMPLETE INSTALLATION OF PLUMBING WORK INDICATED ON THE DRAWINGS. PROVIDE ANY INCIDENTAL WORK NOT SHOWN OR SPECIFIED, WHICH CAN REASONABLY BE INFERRED OR TAKEN AS BELONGING TO THE WORK AND NECESSARY TO PROVIDE THE COMPLETE SYSTEM.
4. PROVIDE ALL NECESSARY PLUMBING CONNECTIONS TO EQUIPMENT FURNISHED UNDER OTHER DIVISIONS OR SECTION OR BY OWNERS. PROVIDE SHUTOFF VALVES OR STOPS AT EACH CONNECTION. AT GAS CONNECTIONS, PROVIDE GAS COCK, DIRT LEG, UNION AND FLEX CONN. PROVIDE DRAIN PAN AND TEMPERATURE / PRESSURE RELIEF VALVES AT WATER HEATERS.
5. PIPING IS TO BE FIELD LOCATED IN SUCH A WAY AS TO AVOID OBSTACLES, MEET CALIFORNIA PLUMBING CODE (CPC) REQUIREMENTS AND ALLOW SERVICE CLEARANCE TO AREAS AND EQUIPMENT THAT MAY REQUIRE SERVICING.
6. ALL HORIZONTAL WASTE / VENT PIPES SHALL HAVE A MINIMUM SLOPE OF ¼" PER FOOT
7. HORIZONTAL VENT PIPE SHALL BE SO GRADED AND CONNECTED AS TO DRIP BACK BY GRAVITY TO THE DRAIN PIPE IT SERVES PER 2013 CPC 905.2.
8. INSULATE ALL POTABLE HOT WATER SUPPLY PIPING WITH K-FLEX ¾" WALL THICKNESS INSUL-TUBE® OR EQUAL. CONDUCTIVITY=0.29 (BTU-IN/HR-°F) AT 75°F IN NON CONDITIONED SPACE, IN ACCORDANCE WITH ASTM C177 OR C518.
9. FOR EXACT LOCATION OF PLUMBING FIXTURES AND MOUNTING HEIGHTS, SEE ARCHITECTURAL ELEVATIONS.
10. PRESSURE RELIEF VALVE SHALL DRAIN IN ACCORDANCE WITH 2013 CPC SECTION 608.5.
11. WHERE WATER AND SEWER ARE RUN IN A COMMON TRENCH, TRENCHING SHALL MEET THE REQUIREMENTS SET FORTH IN THE 2013 CPC SECT. 720.
12. PROVIDE EASY SHUT-OFF CAPABILITY FOR WATER HEATERS.
13. PROVIDE WATER HEATER SUPPORT AND SEISMIC BRACING PER 2013 CPC, SECTION 507.2.
14. PIPING SHALL BE SUPPORTED AND BRACED IN ACCORDANCE WITH CHAPTER 3 OF THE 2013 CPC WITH SUPERSTRUT HANGERS, OR EQUAL. PROVIDE ISOLATORS AT ALL HANGERS WHERE PIPING IS NOT INSULATED.
15. PROVIDE BACKFLOW PREVENTION FOR WATER SUPPLY TO BUILDING AS REQUIRED BY ADMINISTRATIVE AUTHORITY.
16. HOSEBIBBS SHALL BE FREEZE-PROOF AND EQUIPPED WITH APPROVED BACKFLOW PREVENTION DEVICE. LOCATION SHALL BE PROVIDED BY OWNER'S REPRESENTATIVE.
17. FOR IN TRENCH DETAILS, SEE CIVIL DRAWINGS.
18. CLEANOUTS IN FIRE RATED WALLS SHALL HAVE BOTH METAL BODY AND COVER CONSISTENT WITH PIPE MATERIAL SCHEDULE.
19. FOR PIPING MATERIALS OUTSIDE OF BUILDING, REFER TO CIVIL ENGINEERING SPECIFICATIONS.
20. SLEEVES: INSTALL AMI SLEEVES OF SUFFICIENT SIZE TO ALLOW FOR FREE MOTION OF PIPE, 24 GAGE GALVANIZED STEEL.THE SPACE BETWEEN PIPE AND SLEEVES SHALL BE CAULKED AND MADE WATERTIGHT. PIPES PENETRATING WALLS BELOW GRADE SHALL BE ANCHORED AT THE WALL. . PROVIDE 1" WIDE CHROME OR NICKEL PLATED ESCUTCHEONS ON ALL PIPES EXPOSED TO VIEW WHERE PASSING THROUGH WALLS, FLOORS, PARTITIONS, CEILINGS, AND SIMILAR LOCATIONS. SIZE THE ESCUTCHEONS TO FIT PIPE AND COVERING.
21. FLOOR, WALL, AND CEILING PLATES: FIT ALL PIPES WITH OR WITHOUT INSULATION PASSING THROUGH WALLS, FLOORS, OR CEILINGS, AND ALL HANGER RODS PENETRATING FINISHED CEILINGS WITH CHROME-PLATED OR STAINLESS STEEL PLATES. OPENINGS THROUGH AIR PLENUMS SHALL BE SEALED AIRTIGHT.
22. PROVIDE HILTI FS-ONE FIRESTOP SEALANT AROUND PIPE PENETRATIONS THROUGH 1 OR 2 HOUR RATED WALL OR FLOOR ASSEMBLIES. APPLY ACCORDING TO MANUFACTURERS RECOMMENDATIONS.
23. PLUMBING VENTS SHALL BE AT LEAST 10' FROM OR 3' ABOVE ANY DOOR, OPENABLE WINDOW, MECHANICAL AIR INTAKE, OR OTHER INLETS INTO THE BUILDING PER CPC 906.2.
24. DISINFECTION OF WATER SYSTEM
    (A) PRIOR TO FINAL INSPECTION, CLEAN AND DISINFECT DOMESTIC HOT AND COLD WATER SYSTEMS. PERFORM ALL WORK PER AWWA STANDARD PROCEDURES FOR DISINFECTING WATER MAINS AND AS REQUIRED BY LOCAL BUILDING AND HEALTH DEPARTMENT CODES.
    (B) WITH ALL FIXTURES CONNECTED AND OPERABLE AND READY FOR USE AND WHEN, BY TEST, SYSTEM IS PROVED TO BE FREE FROM LEAKS, THOROUGHLY FLUSH BY FULLY OPENING EVERY OUTLET AND OPERATING EVERY FIXTURE UNTIL CLEAR WATER FLOWS FROM ALL OUTLETS AND FIXTURES.
    (C) FILL SYSTEM COMPLETELY FULL OF WATER AND INJECT DISINFECTANT SLOWLY AND CONTINUOUSLY AT AN EVEN RATE (NOT IN SLUGS) UNTIL AN ORTHOTOLIDIN TEST AT EACH OUTLET SHOWS A CHLORINE RESIDUAL CONCENTRATION OF AT LEAST 50 PARTS PER MILLION (PPM).
    (D) MAINTAIN CONDITION FOR 24 HOURS WITH CHLORINE RESIDUAL OF 50 PPM RETAINED IN SYSTEM FOR THIS 24 HOUR PERIOD. IF, AFTER 24 HOURS, ORTHOTOLIDIN TESTS INDICATE THAT CHLORINE RESIDUAL CONCENTRATION HAS DECREASED BELOW 50 PPM, THEN DISINFECTION PROCEDURE MUST BE REPEATED UNTIL AN APPROVED RESULT IS OBTAINED.
    (E) WHEN THE ABOVE PROCEDURE HAS BEEN COMPLETED, FLUSH OUT ENTIRE SYSTEM WITH FRESH WATER UNTIL AN ORTHOTOLIDIN TEST AT ANY OUTLET SHOWS A RESIDUAL OF NOT MORE THAN 0.02 PPM.
    (F) POST WARNING SIGNS AT ALL OUTLETS AND IN CONSPICUOUS AREAS WHILE DISINFECTING THE SYSTEM.
25. TESTING OF PIPING
    (A) ALL PIPING SHALL TESTED AT COMPLETION OF ROUGH-IN, OR AT OTHER TIMES AS DIRECTED BY ARCHITECT. TEST IN ACCORDANCE WITH THE FOLLOWING SCHEDULE TO SHOW NO LOSS IN PRESSURE OR VISIBLE LEAKS AFTER A MINIMUM DURATION OF FOUR (4) HOURS AT THE TEST PRESSURE INDICATED.
    (B) ISOLATE FROM THE SYSTEM ALL EQUIPMENT WHICH MAY BE DAMAGED BY TEST PRESSURE. TEST SCHEDULE AS FOLLOWS:

SYSTEM TESTED	TEST PRESSURE PSIG	TEST WITH
ALL SOIL, WASTE, DRAIN AND VENT PIPING WITHIN BUILDINGS.	FILL WITH WATER TO TOP OF HIGHEST JOINT IN SYSTEM: ALLOW TO STAND 2 HOURS OR LONGER AS DIRECTED BY INSPECTOR.	WATER
WATER PIPING	150 PSIG	WATER

PLUMBING EQUIPMENT SCHEDULE

SYMBOL	DESCRIPTION	MFGR & MODEL #	SPECIFICATIONS	ACCESSORIES
WH-1	COMPACT 10 GAL. ELECTRIC WATER HEATER	AO SMITH EJC-10	ELECTRIC 10 GAL. WATER HEATER, RECOVERY = 8.0 GPH at 90°F RISE 120V - 1650W DIMENSIONS: 16"D x 18.25" HT	1. PROVIDE GALVANIZED STEEL WATER HEATER DRAIN PAN. 2. STRAP WATER HEATER TO ¾" PLYWOOD, SECURED TO SIDE OF TRUSS.

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MFGR & MODEL #	ACCESSORIES
WC-1	WATER CLOSET	PROFLO 9403/9412	1.28 GPF, ADA COMPLIANT, WHITE VITREOUS CHINA ELONGATED BOWL
L-1	WALL HUNG LAVATORY	PROFLO PF551WH SLOAN ETF-600	20"X18" ADA COMPLIANT WHITE, VITREOUS CHINA WALL HUNG LAV BATTERY OPERATED ELECTRONIC FAUCET, Ø.5 G.P.H.
UR-1	VITREOUS CHINA, WALL HUNG URINAL W/ FLUSH VALVE	PROFLO PF1815, ADA SLOAN ROYAL 186-0.125 FLUSH VALVE	WHITE VITREOUS CHINA, WALL HUNG, ADA HEIGHT, Ø.125 GPF, FLUSH VALVE, ¾" TOP INLET SPUD
S-1	STAINLESS STEEL SINGLE BOWL SINK	PROFLO PFSR25264 OPTION 1: PROFLO PFXC411 OPTION 2: PROFLO PFXC3101	25"x22" STAINLESS STEEL, SINGLE BOWL SINK, ADA COMPLIANT 1.5 GPM SINGLE LEVER FAUCET WITH PULL OUT SPRAY
DF-1	WALL MOUNTED DUAL LEVEL DRINKING FOUNTAIN	ELKAY LZSTLDDW68K	ADA COMPLIANT 18ga TYPE 304 STAINLESS STEEL DRINKING FOUNTAIN WITH BOTTLE FILLER
FD	FLOOR DRAIN	JR SMITH 810025Y01A05NB	5"ø ADJ. STRAINER, NICKEL BRONZE TOP, 2" OUTLET
TP	TRAP PRIMER	PROFLO PFPR500	FLOOR DRAIN TRAP PRIMER

PLUMBING NOTES AND SCHEDULES

SCALE: 1/4 = 1'-0"

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REGISTERED PROFESSIONAL ENGINEER — MICHAEL C. MELAS — M-26789 Exp. 9/30/16 — MECHANICAL — STATE OF CALIFORNIA

Project Title: DISTRICT SUPPORT SERVICE BLDG.
Project Location: 10840 GILMORE WAY GRASS VALLEY, CA 95945
Sheet Title: PLUMBING NOTES AND SCHEDULES

Revisions:

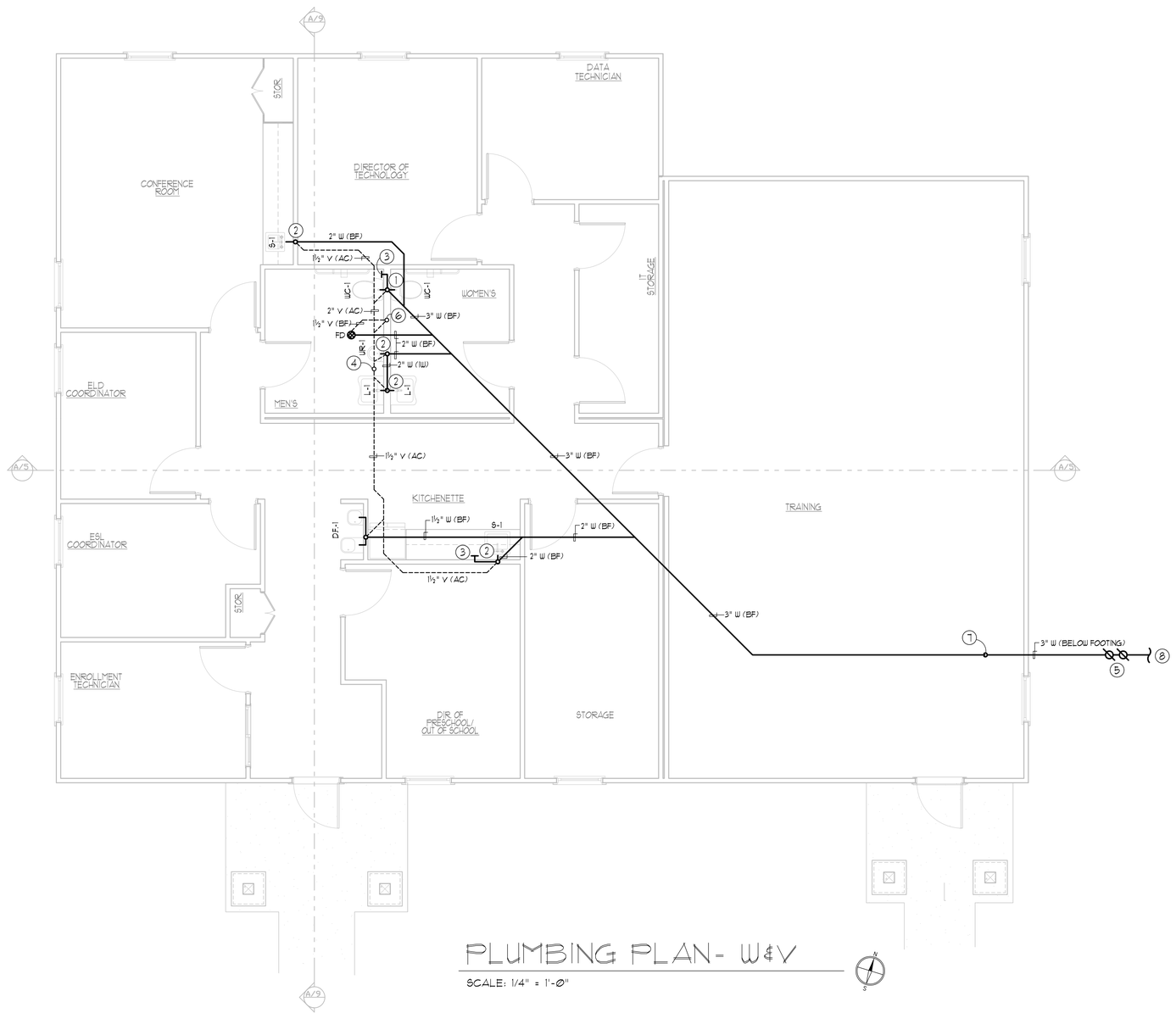
No.	Date:	By:	Description:
	-	-	-

Plot Date: 4/6/2016

Job #	16-041
Scale	as noted
Date 1st Issued	N/A
Sheet Number	P0.1

PLUMBING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MFGR & MODEL #	ACCESSORIES
WC-1	WATER CLOSET	PROFLO 9403/9412	1.28 GPF, ADA COMPLIANT, WHITE VITREOUS CHINA ELONGATED BOWL
L-1	WALL HUNG LAVATORY	PROFLO PF551WH SLOAN ETF-600	20"X18" ADA COMPLIANT WHITE, VITREOUS CHINA WALL HUNG LAV BATTERY OPERATED ELECTRONIC FAUCET, Ø.5 G.P.H.
UR-1	VITREOUS CHINA, WALL HUNG URINAL W/ FLUSH VALVE	PROFLO PF1815, ADA SLOAN ROYAL 186-0.125 FLUSH VALVE	WHITE VITREOUS CHINA, WALL HUNG, ADA HEIGHT, Ø.125 GPF, FLUSH VALVE, ¾" TOP INLET SPUD
S-1	STAINLESS STEEL SINGLE BOWL SINK	PROFLO PFSR25226 OPTION 1: PROFLO PFXC411 OPTION 2: PROFLO PFXC310	25"x22" STAINLESS STEEL, SINGLE BOWL SINK, ADA COMPLIANT 1.5 GPM SINGLE LEVER FAUCET WITH PULL OUT SPRAY
DF-1	WALL MOUNTED DUAL LEVEL DRINKING FOUNTAIN	ELKAY LZSTLDDW8SK	ADA COMPLIANT 18ga TYPE 304 STAINLESS STEEL DRINKING FOUNTAIN WITH BOTTLE FILLER
FD	FLOOR DRAIN	JR SMITH 8200SY02A05NB	5"ø ADJ. STRAINER, NICKEL BRONZE TOP, 2" OUTLET
TP	TRAP PRIMER	PROFLO PFPR500	FLOOR DRAIN TRAP PRIMER



KEYED NOTES

1. 3" WD, 2" VR
2. 2" WD, 1 ½" VR
3. LINE-SIZED WALL CLEAN-OUT
4. 2" VTR
5. 2-WAY CLEAN OUT & BACK-FLOW PREVENTER
6. 1½" VR
7. DROP TO BELOW GRADE
8. FOR CONTINUATION REFER TO CIVIL PLANS

PLUMBING PLAN- W&V

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

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Project Title: DISTRICT SUPPORT SERVICE BLDG.
for GRASS VALLEY SCHOOL DISTRICT

Project Location: 10840 GILMORE WAY
GRASS VALLEY, CA 95945

Sheet Title: PLUMBING PLAN W&V

Revisions:

No.	Date:	By:	Description:
	-	-	-

Plot Date: 4/6/2016

Job #	16-041
Scale	as noted
Date 1st Issued	N/A
Sheet Number	P1.1

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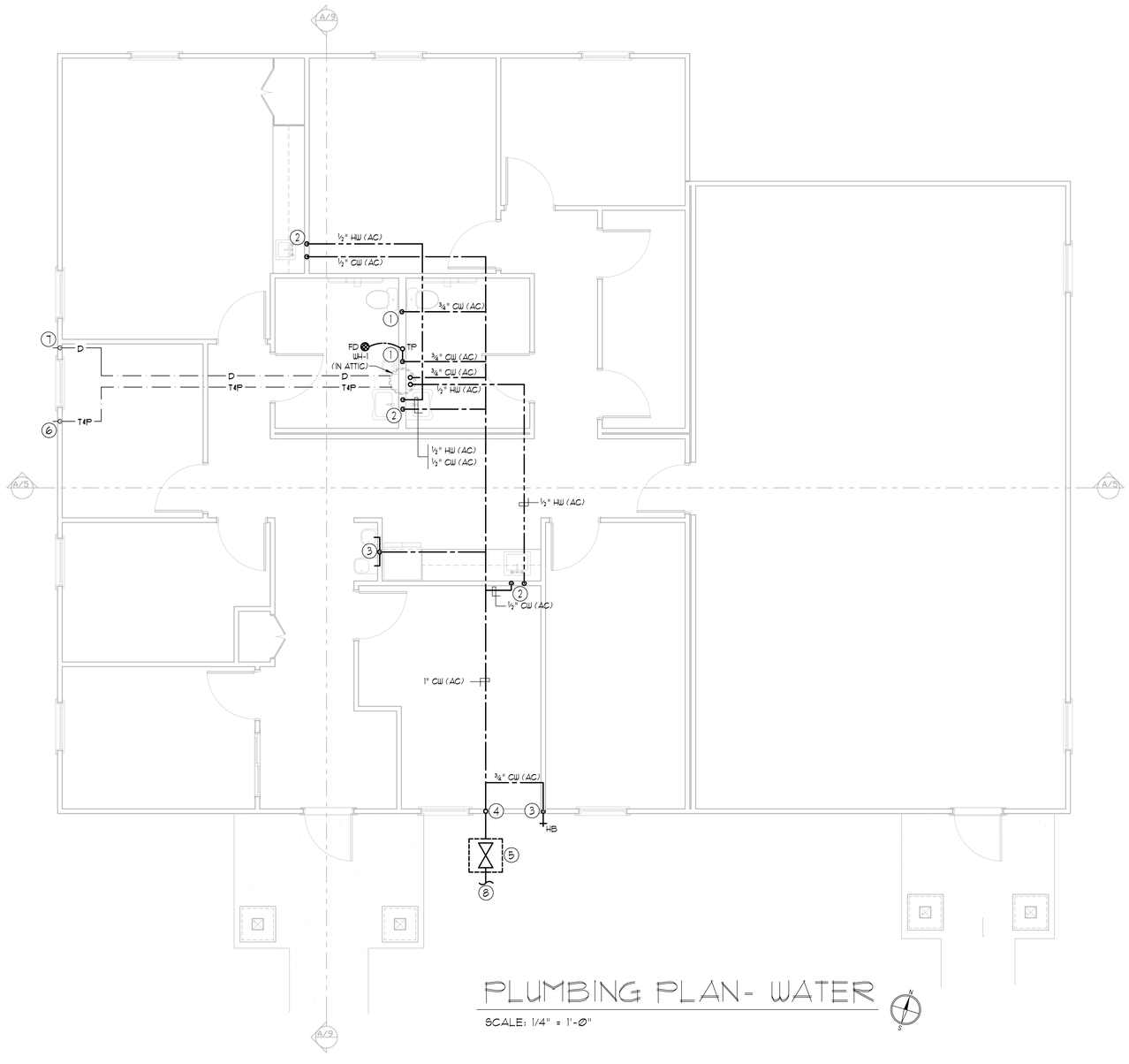

PLUMBING PLAN- WATER

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

KEYED NOTES

1. ¾" CW DROP IN WALL
2. ½" CW & HW DROP IN WALL
3. ½" CW DROP IN WALL
4. 1" CW RISER IN WALL
5. 1" SOV IN VALVE BOX
6. TERMINATE ¾" T4P WITH DOWNWARD ELBOW 6" MIN. ABOVE GRADE
7. TERMINATE 1" PVC DRAIN FROM DRAIN PAN WITH DOWNWARD ELBOW 6" MIN. ABOVE GRADE
8. FOR CONTINUATION REFER TO CIVIL PLANS

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Project Title: DISTRICT SUPPORT SERVICE BLDG.
for GRASS VALLEY SCHOOL DISTRICT

Project Location: 10840 GILMORE WAY
GRASS VALLEY, CA 95945

Sheet Title: PLUMBING PLAN - WATER

Revisions:

No.	Date:	By:	Description:
	-	-	-

Plot Date: 4/6/2016

Job #	16-041
Scale	as noted
Date 1st Issued	N/A
Sheet Number	P1.2

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Project Name:	District Support Services Building	NRCC-PRF-01-E	Page 1 of 17
Project Address:	10840 Gilmore Way Grass Valley	Calculation Date/Time:	17:04, Tue, Apr 05, 2016
Compliance Scope:	NewEnvelopeAndMechanical	Input File Name:	District Support Services Bld - 16041.xml

A. PROJECT GENERAL INFORMATION

1.	Project Location (city)	Grass Valley	7.	# of dwelling units	0
2.	CA Zip Code		8.	Standards Version	Compliance2015
3.	Climate Zone	11	9.	Compliance Software (version)	EnergyPro 6.7
4.	Total Conditioned Floor Area	2,880 ft²	10.	Building Orientation (deg)	(S) 168 deg
5.	Total Unconditioned Floor Area	0 ft²	11.	Permitted Scope of Work	NewEnvelopeAndMechanical
6.	# of Stories (Habitable Above Grade)	1	12	Building Type(s)	Nonresidential

B. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS — § 140.1

BUILDING COMPLIES

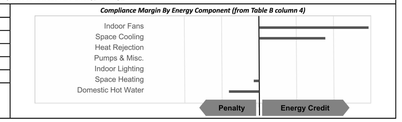
1. Energy Component	2. Standard Design (TDV)	3. Proposed Design (TDV)	4. Compliance Margin (TDV)	5. Percent Better than Standard
Space Heating	12.1	15.5	-3.4	-28.1%
Space Cooling	126.5	80.0	46.5	36.8%
Indoor Fans	119.0	41.8	77.2	64.9%
Heat Rejection	--	--	--	--
Pumps & Misc.	--	--	--	--
Domestic Hot Water	13.7	34.7	-21.0	-153.3%
Indoor Lighting	56.1	56.1	--	0.0%
COMPLIANCE TOTAL	**327.4**	**228.1**	**99.3**	**30.3%**
Receptacle	66.4	66.4	0.0	0.0%
Process	--	--	--	--
Process Ltg	--	--	--	--
TOTAL	**393.8**	**294.5**	**99.3**	**25.2%**

Project Name:	District Support Services Building	NRCC-PRF-01-E	Page 2 of 17
Project Address:	10840 Gilmore Way Grass Valley	Calculation Date/Time:	17:04, Tue, Apr 05, 2016
Compliance Scope:	NewEnvelopeAndMechanical	Input File Name:	District Support Services Bld - 16041.xml

C. PRIORITY PLAN CHECK/ INSPECTION ITEMS (in order of highest to lowest TDV energy savings)

1st	Indoor Fans: Check envelope and mechanical
2nd	Space Cooling: Check envelope and mechanical
3rd	Heat Rejection: Check envelope and mechanical
4th	Pumps & Misc.: Check mechanical
5th	Indoor Lighting: Check lighting
6th	Space Heating: Check envelope and mechanical
7th	Domestic Hot Water: Check mechanical

Compliance Margin By Energy Component (from Table B column 4)



D. EXCEPTIONAL CONDITIONS

The project shows partial compliance, either envelope only or mechanical only, excluding lighting systems. The building must show partial compliance including lighting or full new building compliance or show prescriptive lighting compliance before operation

E. HERS VERIFICATION

This Section Does Not Apply

F. ADDITIONAL REMARKS

None Provided

Project Name:	District Support Services Building	NRCC-PRF-01-E	Page 3 of 17
Project Address:	10840 Gilmore Way Grass Valley	Calculation Date/Time:	17:04, Tue, Apr 05, 2016
Compliance Scope:	NewEnvelopeAndMechanical	Input File Name:	District Support Services Bld - 16041.xml

G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

Identify which building components use the performance or prescriptive path for compliance. "NA"= not in project

For components that utilize the performance path, indicate the sheet number that includes mandatory notes on plans.

Building Component	Compliance Path		Compliance Forms *(required for submittal)*	Location of Mandatory Notes on Plans
Envelope	☒	Performance	NRCC-PRF-ENV-DETAILS (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-ENV-01 / 02 / 03 / 04 / 05 / 06-E	
	☐	NA		
Mechanical	☒	Performance	NRCC-PRF-MCH-DETAILS (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-MCH-01 / 02 / 03 / 04 / 05 / 06 / 07-E	
	☐	NA		
Domestic Hot Water	☒	Performance	NRCC-PRF-PLB-DETAILS (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-PLB-01-E	
	☐	NA		
Lighting (Indoor Conditioned)	☐	Performance	NRCC-PRF-LTI-DETAILS (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-LTI-01 / 02 / 03 / 04 / 05-E	
	☒	NA		
Covered Process: Commercial Kitchens	☐	Performance	52 (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-PRC-01/ 03-E	
	☒	NA		
Covered Process: Computer Rooms	☐	Performance	53 (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-PRC-01/ 04-E	
	☒	NA		
Covered Process: Laboratory Exhaust	☐	Performance	54 (section of the NRCC-PRF-01-E)	
	☐	Prescriptive	NRCC-PRC-01/ 09-E	
	☒	NA		

Project Name:	District Support Services Building	NRCC-PRF-01-E	Page 4 of 17
Project Address:	10840 Gilmore Way Grass Valley	Calculation Date/Time:	17:04, Tue, Apr 05, 2016
Compliance Scope:	NewEnvelopeAndMechanical	Input File Name:	District Support Services Bld - 16041.xml

G. COMPLIANCE PATH & CERTIFICATE OF COMPLIANCE SUMMARY

The following building components are only eligible for prescriptive compliance. Indicate which are relevant to the project.

Yes	NA	Prescriptive Requirement	Compliance Forms
☐	☒	Lighting (Indoor Unconditioned) §140.6	NRCC-LTI-01 / 02 / 03 / 04 / 05-E
☐	☒	Lighting (Outdoor) §140.7	NRCC-LTO-01 / 02 / 03-E
☐	☒	Lighting (Sign) §140.8	NRCC-LTS-01-E
☐	☒	Solar Thermal Water Heating: §140.5	NRCC-STH-01-E

The following building components may have mandatory requirements per Part 6. Indicate which are relevant to the project.

Yes	NA	Mandatory Requirement	Compliance Forms
☐	☒	Commissioning: §120.8 Simple Systems Complex Systems	NRCC-CXR-01 / 02 / 03 / 05-E NRCC-CXR-01 / 02 / 04 / 05-E
☐	☒	Electrical: §130.5	NRCC-ELC-01-E
☐	☒	Solar Ready: §110.10	NRCC-SRA-01 / 02-E
☐	☒	Covered Process: §120.6 Parking Garage	NRCC-PRC-01-E
☐	☒	Commercial Refrigeration	NRCC-PRC-02-E
☐	☒	Warehouse Refrigeration	NRCC-PRC-05-E
☐	☒	Compressed Air	NRCC-PRC-06/07/08-E
☐	☒	Process Boilers	NRCC-PRC-10-E
			NRCC-PRC-11-E

Project Name:	District Support Services Building	NRCC-PRF-01-E	Page 5 of 17
Project Address:	10840 Gilmore Way Grass Valley	Calculation Date/Time:	17:04, Tue, Apr 05, 2016
Compliance Scope:	NewEnvelopeAndMechanical	Input File Name:	District Support Services Bld - 16041.xml

H. CERTIFICATE OF INSTALLATION, CERTIFICATE OF ACCEPTANCE & CERTIFICATE OF VERIFICATION SUMMARY (NRCI/NRCA/NRCV) – Documentation Author to indicate which Certificates must be submitted for the features to be recognized for compliance (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify). See Tables G. and H. in MCH and LTI Details Sections for Acceptance Tests and forms by equipment. — **Confirmed**

Building Component	Compliance Forms *(required for submittal)*	Pass	Fail
Envelope	☒ NRCI-ENV-01-E - For all buildings	☐	☐
	☐ NRCA-ENV-02-F- NFRC label verification for fenestration	☐	☐
Mechanical	☒ NRCI-MCH-01-E - For all buildings with Mechanical Systems	☐	☐
	☒ NRCA-MCH-02-A- Outdoor Air	☐	☐
	☒ NRCA-MCH-03-A – Constant Volume Single Zone HVAC	☐	☐
	☐ NRCA-MCH-04-H- Air Distribution Duct Leakage	☐	☐
	☒ NRCA-MCH-05-A- Air Economizer Controls	☐	☐
	☒ NRCA-MCH-06-A- Demand Control Ventilation	☐	☐
	☐ NRCA-MCH-07-A – Supply Fan Variable Flow Controls	☐	☐
	☐ NRCA-MCH-08-A- Valve Leakage Test	☐	☐
	☐ NRCA-MCH-09-A – Supply Water Temp Reset Controls	☐	☐
	☐ NRCA-MCH-10-A- Hydronic System Variable Flow Controls	☐	☐
	☐ NRCA-MCH-11-A – Auto Demand Shed Controls	☐	☐
	☐ NRCA-MCH-12-A- Packaged Direct Expansion Units	☐	☐
	☐ NRCA-MCH-13-A- Air Handling Units and Zone Terminal Units	☐	☐
	☐ NRCA-MCH-14-A- Distributed Energy Storage	☐	☐
	☐ NRCA-MCH-15-A – Thermal Energy Storage	☐	☐
	☐ NRCA-MCH-16-A- Supply Air Temp Reset Controls	☐	☐
	☐ NRCA-MCH-17-A – Condensate Water Temp Reset Controls	☐	☐
	☐ NRCA-MCH-18-A- Energy Management Controls Systems	☐	☐
	☐ NRCV-MCH-04-H- Duct Leakage Test	☐	☐

Project Name:	District Support Services Building	NRCC-PRF-01-E	Page 6 of 17
Project Address:	10840 Gilmore Way Grass Valley	Calculation Date/Time:	17:04, Tue, Apr 05, 2016
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Building Component	Compliance Forms *(required for submittal)*	Pass	Fail
Plumbing	☒ NRCI-PLB-01-E - For all buildings with Plumbing Systems	☐	☐
	☐ NRCI-PLB-02-E - required on central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-03-E - Single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-21-E - HERS verified central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-PLB-22-E - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCV-PLB-21-H- HERS verified central systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application.	☐	☐
	☐ NRCI-STH-01-E - Any solar water heating	☐	☐
Indoor Lighting	☐ NRCI-LTI-01-E - For all buildings	☐	☐
	☐ NRCI-LTI-02-E - Lighting control system, or for an Energy Management Control System (EMCS)	☐	☐
	☐ NRCI-LTI-03-E - Line-voltage track lighting integral current limiter, or for a supplementary overcurrent protection panel used to energize only line-voltage track lighting	☐	☐
	☐ NRCI-LTI-04-E - Two interlocked systems serving an auditorium, a convention center, a conference room, or a theater	☐	☐
	☐ NRCI-LTI-05-E - Lighting Control Credit Power Adjustment Factor (PAF)	☐	☐
	☐ NRCI-LTI-06-E - Additional wattage installed in a video conferencing studio	☐	☐
	☐ NRCA-LTI-02-A - Occupancy sensors and automatic time switch controls.	☐	☐
	☐ NRCA-LTI-03-A - Automatic daylighting controls	☐	☐
	☐ NRCA-LTI-04-A - Demand responsive lighting controls	☐	☐
Outdoor Lighting	☐ NRCI-LTO-01-E – Outdoor Lighting	☐	☐
	☐ NRCI-LTO-02-E- EMCS Lighting Control System	☐	☐
	☐ NRCA-LTO-02-A - Outdoor Lighting Control	☐	☐
Sign Lighting	☐ NRCI-LTS-01-E – Sign Lighting	☐	☐
Electrical	☐ NRCI-ELC-01-E - Electrical Power Distribution	☐	☐
Photovoltaic	☐ NRCI-SPV-01-E Photovoltaic Systems	☐	☐

Project Name:	District Support Services Building	NRCC-PRF-01-E	Page 7 of 17
Project Address:	10840 Gilmore Way Grass Valley	Calculation Date/Time:	17:04, Tue, Apr 05, 2016
Compliance Scope:	NewEnvelopeAndMechanical	Input File Name:	District Support Services Bld - 16041.xml

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Building Component	Compliance Forms *(required for submittal)*	Pass	Fail
Covered Process	☐ NRCI-PRC-01-E Refrigerated Warehouse	☐	☐
	☐ NRCA-PRC-01-F- Compressed Air Systems	☐	☐
	☐ NRCA-PRC-02-F- Kitchen Exhaust	☐	☐
	☐ NRCA-PRC-03-F- Garage Exhaust	☐	☐
	☐ NRCA-PRC-04-F- Refrigerated Warehouse- Evaporator Fan Motor Controls	☐	☐
	☐ NRCA-PRC-05-F- Refrigerated Warehouse- Evaporative Condenser Controls	☐	☐
	☐ NRCA-PRC-06-F- Refrigerated Warehouse- Air Cooled Condenser Controls	☐	☐
	☐ NRCA-PRC-07F- Refrigerated Warehouse- Variable Speed Compressor	☐	☐
	☐ NRCA-PRC-08-F- Electrical Resistance Underslab Heating System	☐	☐

I. ENVELOPE GENERAL INFORMATION (See NRCC-PRF-ENV-DETAILS for more information) — **Confirmed**

						Pass	Fail
1.	Total Conditioned Floor Area	2,880 ft²	5.	Number of Floors Above Grade	1		
2.	Total Unconditioned Floor Area	0 ft²	6.	Number of Floors Below Grade	0		
3.	Addition Conditioned Floor Area	0 ft²					
4.	Addition Unconditioned Floor Area	0 ft²					

7. Opaque Surfaces & Orientation	8. Total Gross Surface Area	9. Total Fenestration Area	10. Window to Wall Ratio	Pass	Fail
North Wall	640 ft²	36 ft²	05.6%	☐	☐
East Wall	480 ft²	24 ft²	05.0%	☐	☐
South Wall	640 ft²	24 ft²	03.8%	☐	☐
West Wall	480 ft²	48 ft²	10.0%	☐	☐
Total	**2,240 ft²**	**132 ft²**	**05.9%**	☐	☐
Roof	2,880 ft²	0 ft²	00.0%	☐	☐

Project Name:	District Support Services Building	NRCC-PRF-01-E	Page 8 of 17
Project Address:	10840 Gilmore Way Grass Valley	Calculation Date/Time:	17:04, Tue, Apr 05, 2016
Compliance Scope:	NewEnvelopeAndMechanical	Input File Name:	District Support Services Bld - 16041.xml

J. FENESTRATION ASSEMBLY SUMMARY — § 110.6 — **Confirmed**

1. Fenestration Assembly Name / Tag or I.D.	2. Fenestration Type	3. Certification Method[1]	4. Assembly Method	5. Area ft²	6. Overall U-factor	7. Overall SHGC	8. Overall VT	9. Status[2]	Pass	Fail
Operable Low-E Non-Metal Double	VerticalFenestration	NFRCRated	Manufactured	132	0.34	0.32	0.50	N	☐	☐

[1] *Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Site-built fenestration less than 1,000 ft², or more than or equal to 1,000 ft² see Reference Nonresidential Appendix NA6;*
[2] *Status: N - New, A – Altered, E – Existing*

Taking compliance credit for fenestration shading devices? (if "Yes", see NRCC-PRF-ENV-DETAILS for more information)

K. OPAQUE SURFACE ASSEMBLY SUMMARY — § 120.7/ § 140.3 — **Confirmed**

1. Surface Name	2. Surface Type	3. Area (ft²)	4. Framing Type	5. Cavity R-Value	6. Continuous R-Value	7. U-Factor / F-Factor / C-Factor	8. Status[1]	Pass	Fail
R-19 Floor Crawlspace9	ExteriorFloor	2880	Wood	19	NA	U-Factor: 0.047	N	☐	☐
R-30 Roof Attic11	Roof	2880	Wood	30	NA	U-Factor: 0.038	N	☐	☐
R-19 Wall13	ExteriorWall	2240	Wood	19	NA	U-Factor: 0.072	N	☐	☐

[1] *Status: N - New, A – Altered, E – Existing*

L. ROOFING PRODUCT SUMMARY — § 140.3 — **Confirmed**

1. Product Type	2. Product ≥25 lb ft²	3. Aged Solar Reflectance	4. Thermal Emittance	5. SRI	6. Cool Roof Credit	7. CRRC Product ID Number	Pass	Fail
R-30 Roof Attic11	No	0.08	0.75	NA	No	NA	☐	☐

Project Name:	District Support Services Building	NRCC-PRF-01-E	Page 9 of 17
Project Address:	10840 Gilmore Way Grass Valley	Calculation Date/Time:	17:04, Tue, Apr 05, 2016
Compliance Scope:	NewEnvelopeAndMechanical	Input File Name:	District Support Services Bld - 16041.xml

M. HVAC SYSTEM SUMMARY (see NRCC-PRF-MCH-DETAILS for more information) — § 110.1 / § 110.2

Dry System Equipment [1] (Fan & Economizer info included below in Table N) — **Confirmed**

1. Equip Name	2. Equip Type	3. System Type (Simple [3] or Complex [4])	4. Qty	5. Total Heating Output (kBtu/h)	6. Supp Heat Source (Y/N)	7. Supp Heat Output (kBtuh)	8. Total Cooling Output (kBtu/h)	9. Efficiency: Cooling	9. Efficiency: Heating	10. Acceptance Testing Required? (Y/N) [5]	11. Status[6]	Pass	Fail
HP-13	SZHP (Package01Phase)	Simple	1	46	No	0	42	SEER-15.8	HSPF-8.1	Yes	N	☐	☐
HP-219	SZHP (Split3Phase)	Simple	1	47	No	0	43	SEER-16.0	HSPF-9.0	Yes	N	☐	☐
HP-339	SZHP (Split3Phase)	Simple	1	15	No	0	15	SEER-20.0	HSPF-10.0	Yes	N	☐	☐

Wet System Equipment [2] — *Pumps* — **Confirmed**

12. Equip Name	13. Equip Type	14. Qty	15. Vol (gal)	16. Rated Capacity (kBtu/h)	17. Efficiency	18. Standby Loss	19. Tank Ext. R Value	20. Qty	21. GPM	22. HP	23. VSD (Y/N)	24. Status[6]	Pass	Fail
Electric Storage2	Storage	1	10	13	EF: 0.867	NA	NA	NA	NA	NA	No	N	☐	☐

[1] *Dry System Equipment includes furnaces, air handling units, heat pumps, etc.*
[2] *Wet System Equipment includes boilers, chillers, cooling towers, water heaters, etc.*
[3] *Simple Systems must complete NRCC-CXR-03-E commissioning design review form*
[4] *Complex Systems must complete NRCC-CXR-04-E commissioning design review form*
[5] *A summary of which acceptance tests are applicable is provided in NRCC-PRF-MCH-DETAILS*
[6] *Status: N - New, A – Altered, E – Existing*

Discrepancy between modeled and designed equipment sizing? (if "Yes", see Table F. "Additional Remarks" for an explanation) — No

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Project Title: GVS DISTRICT SUPPORT SERVICE BLDG.

Project Location: 10840 GILMORE WAY GRASS VALLEY, CA 95945

Sheet Title: TITLE-24 ENERGY CALCULATIONS

Revisions:

No.	Date:	By:	Description:
	-	-	-

Job #	16- 041 -00
Scale	N/A
Date 1st Issued	4/5/16
Sheet Number	T24-1

N. ECONOMIZER & FAN SYSTEMS SUMMARY[1] — § 140.4 — Confirmed

1.	2.	3.					4.					5.	Pass	Fail
Equip Name	Outside Air	Supply Fan					Return Fan					Economizer Type (if present)		
	CFM	CFM	HP	BHP	TSP (inch WC)	Control	CFM	HP	BHP	TSP (inch WC)	Control			
HP-13	365	1400	0.660	0.660	1.50	ConstantVolume	NA	NA	NA	NA	NA	DifferentialEnthalpy	☐	☐
HP-219	247	1400	0.200	0.200	0.45	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐
HP-339	136	542	0.070	0.070	0.41	ConstantVolume	NA	NA	NA	NA	NA	NoEconomizer	☐	☐

[1] *Mechanical ventilation calculations and exhaust fans are included in the NRCC-PRF-MCH-DETAILS section*

O. EQUIPMENT CONTROLS — § 120.2 — Confirmed

1. Equip Name	2. Equip Type	3. Controls	Pass	Fail
HP-13	SZHP	1 Zones With CO2Sensor Vent. Control Differential Enthalpy Economizer No Supply Air Temp. Control	☐	☐
HP-219	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control	☐	☐
HP-339	SZHP	No DCV Controls No Economizer No Supply Air Temp. Control	☐	☐
Res DHW1 - SHW	Service Hot Water, Primary Only	Fixed Temperature Control, No DDC	☐	☐

P. SYSTEM DISTRIBUTION SUMMARY — § 120.4/ § 140.4(i)

This Section Does Not Apply

Does the Project Include Zonal Systems? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Does the Project Include a Solar Hot Water System? (if "Yes", see NRCC-PRF-MCH-DETAILS for system information)	No
Multifamily or Hotel/ Motel Occupancy? (if "Yes", see NRCC-PRF-MCH-DETAILS for DHW system information)	No

Q. INDOOR CONDITIONED LIGHTING GENERAL INFO (see NRCC-PRF-LTI-DETAILS for more info)

This Section Does Not Apply

R. INDOOR CONDITIONED LIGHTING SCHEDULE (Adapted from NRCC-LTI-01-E)[1] — § 130.0

This Section Does Not Apply

[1] *If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.*

S1. COVERED PROCESS SUMMARY – ENCLOSED PARKING GARAGES — § 140.9

This Section Does Not Apply

S2. COVERED PROCESS SUMMARY – COMMERCIAL KITCHENS — § 140.9

This Section Does Not Apply

S3. COVERED PROCESS SUMMARY – COMPUTER ROOMS — § 140.9

This Section Does Not Apply

S4. COVERED PROCESS SUMMARY – LABORATORY EXHAUSTS — § 140.9

This Section Does Not Apply

T. UNMET LOAD HOURS

Thermal Zone Name	Cooling Unmet Load Hour Limit for Thermal Zone	Proposed Cooling Unmet Load Hours	Heating Unmet Load Hour Limit for Thermal Zone	Proposed Heating Unmet Load Hours
3-Office	150	3065.75	150	255.75

U. ENERGY USE SUMMARY

	Electric (kWh/yr)	Natural Gas (therms/yr)
Total Annual Baseline	39152.8	430.973
Total Annual Proposed	30922.4	0

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT — § 10-103

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Christopher J. Miller	Signature:
Company: MELAS ENERGY ENGINEERING	
Address: 547 Uren St.	Signature Date:
City/State/Zip: Nevada City CA 95959	CEA Identification (If applicable):
Phone: 530 265-2492	

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1	I hereby affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code to sign this document as the person responsible for its preparation; and that I am licensed in the State of California as a civil engineer, mechanical engineer, electrical engineer, or I am a licensed architect.
2	I affirm that I am eligible under the provisions of Division 3 of the Business and Professions Code by section 5537.2 or 6737.3 to sign this document as the person responsible for its preparation; and that I am a licensed contractor performing this work.
3	I affirm that I am eligible under Division 3 of the Business and Professions Code to sign this document because it pertains to a structure or type of work described as exempt pursuant to Business and Professions Code Sections 5537, 5538 and 6737.1.

Responsible Envelope Designer Name: Andrew Pawlowski	**Signature:**	
Company: Siteline Architecture	Date Signed:	
Address: 644 Zion St.	Declaration Statement Type:	
City/State/Zip: Nevada City CA 95959	Title:	License #:
Phone: 530 478-9415		
Responsible Lighting Designer Name:	**Signature: NOT IN SCOPE**	
Company:	Date Signed:	
Address:	Declaration Statement Type:	
City/State/Zip:	Title:	License #:
Phone:		
Responsible Mechanical Designer Name: Michael Melas	**Signature:**	
Company: Melas Energy Engineering	Date Signed:	
Address: 547 Uren St.	Declaration Statement Type:	
City/State/Zip: Nevada City CA 95959	Title:	License #:
Phone: 530 265-2492		

NRCC-PRF-ENV-DETAILS -SECTION START-

A. OPAQUE SURFACE ASSEMBLY DETAILS — Confirmed

1. Surface Name	2. Surface Type	3. Description of Assembly Layers	4. Notes	Pass	Fail
R-19 Floor Crawlspace9	ExteriorFloor	Air - Floor - 3 1/2 in. Wood framed floor, 16in. OC, 5.5in., R-19 Plywood - 1/2 in. Carpet - 3/4 in.		☐	☐
R-30 Roof Attic11	Roof	Asphalt shingles - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Wood framed roof, 24in. OC, 3.5in., R-30 Gypsum Board - 1/2 in.		☐	☐
R-19 Wall13	ExteriorWall	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Wood framed wall, 16in. OC, 5.5in., R-19 Gypsum Board - 1/2 in.		☐	☐

B. OVERHANG DETAILS (Adapted from NRCC-ENV-02-E)

This Section Does Not Apply

C. OPAQUE DOOR SUMMARY — Confirmed

1. Opaque Door Assembly Name / Tag or I.D.	2. Door Type	3. Certification Method	4. Operation	5. Overall U-factor	Pass	Fail
Insulated Metal Door15	MetalInsulatedSwingingDoor	DefaultPerformance	Swinging	0.500	☐	☐

[1] *Status: N - New, A – Altered, E – Existing*

NRCC-PRF-MCH-DETAILS -SECTION START-

A. MECHANICAL VENTILATION AND REHEAT *(Adapted from 2013-NRCC-MCH-03-E)* — Confirmed

	1. DESIGN AIR FLOWS							2. VENTILATION (§ 120.1)									
CONDITIONED ZONE NAME	HEATING / COOLING SYSTEM ID	DESIGN PRIMARY AIR FLOW (CFM)	DESIGN PRIMARY MINIMUM AIR FLOW (CFM)	MINIMUM PRIMARY AIR FLOW FRACTION	MAXIMUM HEATING AIR FLOW (CFM)	MAXIMUM HEATING AIR FLOW FRACTION	DDC CONTROL (Y/N)	VENT SYSTEM ID	CONDITIONED AREA (ft2)	MIN. VENT PER AREA (CFM/ft2)	DESIGN NUM. OF PEOPLE	MIN. VENT PER PERSON (CFM/person)	REQ'D VENT AIR FLOW (CFM)	DESIGN VENT AIR FLOW (CFM)	TRANSFER AIRFLOW (CFM)	DCV (Y/N)	Pass	Fail
1-Training	HP-13	1,400	NA	NA	NA	NA	N	HP-13	960	0.38	48	7.5	360	365	NA	Y	☐	☐
2-Hall/Bath/Storage	HP-219	718	NA	NA	NA	NA	N	HP-219	846	0.15	8	15.0	127	127	NA	N	☐	☐
3-Office	HP-219	682	NA	NA	NA	NA	N	HP-219	803	0.15	8	15.0	120	120	NA	N	☐	☐
4-Conference	HP-339	542	NA	NA	NA	NA	N	HP-339	271	0.50	18	7.5	136	136	NA	N	☐	☐
								TOTAL	2,880		82		743	748	NA		☐	☐

B. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY — § 140.4

1.	2.	3.	4.		5.	6.	7.			8.			Confirmed	
System ID	System Type	Qty	Rated Capacity (kBtuh)		Economizer	Zone Name	Airflow (cfm)			Fan			Pass	Fail
			Heating	Cooling			Design	Min.	Min. Ratio	BHP	Cycles	ECM Motor		
Training5-TRM	Uncontrolled	1	NA	NA	NA	1-Training	1400	NA	NA	NA	NA	☐	☐	☐
Office29-TRM	Uncontrolled	1	NA	NA	NA	3-Office	682	NA	NA	NA	NA	☐	☐	☐
Hall/Bath/Storage21-TRM	Uncontrolled	1	NA	NA	NA	2-Hall/Bath/Storage	718	NA	NA	NA	NA	☐	☐	☐
Conference41-TRM	Uncontrolled	1	NA	NA	NA	4-Conference	542	NA	NA	NA	NA	☐	☐	☐

C. EXHAUST FAN SUMMARY

This Section Does Not Apply

D. DHW EQUIPMENT SUMMARY – *(Adapted from NRCC-PLB-01)* — § 110.3 — Confirmed

1. DHW Name	2. Fuel	3. Type	4. Qty	5. Distribution Type	6. Rated Input kBtuh	7. Efficiency	8. Pilot Energy (Btu/h)	9. External Tank Insulation	10. Vol	11. Standby Loss	12. Vol. of Suppl. Storage Tank	Pass	Fail
Electric Storage2	Electricity	Storage	1	Nonrecirculating	13	EF: 0.867	0	NA	10	0	NA	☐	☐

E. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS

This Section Does Not Apply

F. SOLAR HOT WATER HEATING SUMMARY (Adapted from NRCC-STH-01)

This Section Does Not Apply

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2013-NRCC-MCH-01-E)* — § RA4

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description	MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	Pass	Fail
HP-339	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

NRCC-PRF-LTI-DETAILS -SECTION START-

A. INDOOR CONDITIONED LIGHTING CONTROL CREDITS (Adapted from NRCC-LTI-02-E) — § 140.6

This Section Does Not Apply

B. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS (Adapted from NRCC-LTI-02-E) — § 130.1

This Section Does Not Apply

C. TAILORED METHOD LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST (Adapted from NRCC-LTI-04-E) — § 140.6

This Section Does Not Apply

D. GENERAL LIGHTING POWER (Adapted from NRCC-LTI-04-E) — § 140.6-D

This Section Does Not Apply

E. GENERAL LIGHTING FROM SPECIAL FUNCTION AREAS (Adapted from NRCC-LTI-04-E) — § 140.6(c) 3H

This Section Does Not Apply

G. MECHANICAL HVAC ACCEPTANCE TESTS & FORMS *(Adapted from 2013-NRCC-MCH-01-E)* — § RA4

Declaration of Required Acceptance Certificates (NRCA) – Acceptance Certificates that may be submitted. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description	MCH-02A	MCH-03A	MCH-04A	MCH-05A	MCH-06A	MCH-07A	MCH-08A	MCH-09A	MCH-10A	MCH-11A	MCH-12A	MCH-13A	MCH-14A	MCH-15A	MCH-16A	MCH-17A	MCH-18A	Confirmed	
Equipment Requiring Testing or Verification	# of units	Outdoor Air	Single Zone Unitary	Air Dist. Ducts	Economizer Controls	DCV	Supply Fan VAV	Valve leakage	Supply Water Temp. Reset	Hyd. Variable Flow Control	Auto Demand Shed Control	FDD for DX Units	Auto FDD for Air & Zone	Dist. Energy Storage DX AC	TES Systems	Supply Air Temp. Reset	Condenser Water Reset Controls	ECMS	Pass	Fail
HP-339	1	X	X	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	☐	☐

F. ROOM CAVITY RATIO (Adapted from NRCC-LTI-04-E)

This Section Does Not Apply

G. ADDITIONAL "USE IT OR LOSE IT" (Adapted from NRCC-LTI-04-E)

This Section Does Not Apply

H. INDOOR & OUTDOOR LIGHTING ACCEPTANCE TESTS & FORMS (Adapted from NRCC-LTI-01-E and NRCC-LTO-01-E) — § 130.4

This Section Does Not Apply

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Project Title: GVS DISTRICT SUPPORT SERVICE BLDG.

Project Location: 10840 GILMORE WAY GRASS VALLEY, CA 95945

Sheet Title: TITLE-24 ENERGY CALCULATIONS

Revisions:

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	-	-	-

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