



**TO:** Mayor and Councilmembers

**FROM:** Matthew R. Fore, General Services Director

SUBJECT: Approval of Plans and Authorization to Advertise for Bids for the Goleta

Valley Community Center Seismic Retrofit Project – DIR 4301(CIP #9067)

### **RECOMMENDATION:**

 A. Approve plans for the Goleta Valley Community Center Seismic Retrofit Project – DIR 4301;

- B. Authorize staff to advertise a Notice Inviting Bids for the Goleta Valley Community Center Seismic Retrofit Project DIR 4301; and
- C. Authorize a budget transfer of \$2,455,580 from the General Fund Construction Account for the ADA Improvements Project to the General Fund Construction Account for the Seismic Improvements Project.

### **BACKGROUND:**

Over the years, Council has considered issues related to the state and status of the Goleta Community Center (GCC). At its August 31, 2021 meeting, City Council received a report on the status of the Goleta Community Center facility and the approved Goleta Community Center Improvements Capital Project to complete a seismic retrofit and related Americans with Disabilities Act access upgrades. The Council agenda report from August 31, 2022, provides extensive history and background information on the site and structures.<sup>1</sup>

### **DISCUSSION:**

In 2013, the City commissioned a seismic evaluation of the GCC. The evaluation found two primary deficiencies in the Auditorium and Dining Hall: 1) inadequate connection between the roof and walls; and, 2) the absence of proper roof structural sheathing throughout the entire roof system. In February 2021, based upon evaluation and analysis of the City's Building Official, the City closed the Auditorium and Dining Hall for use until the building could be made seismically stable. Other rooms, including the conference room and eight classrooms, remain in use. The plans that are part of this Council action

<sup>&</sup>lt;sup>1</sup> The August 31, 2021 Council Agenda Report is available at https://tinyurl.com/y4ahz9tn

will remedy the current seismic deficiencies, thereby removing known seismic safety issues and allowing the Auditorium and Dining Hall to be put back into use.

The Goleta Municipal Code (GMC), Section 3.05.170(C) and Section 3.05.210(A), requires City Council authorization prior to publication of a notice inviting bids for construction projects greater than \$200,000. The project team have completed design for the project and are prepared to advertise for construction bids for the subject project upon City Council's approval and authorization. A notice to invite construction bids will be published in the public newspaper and posted on the City's website. The General Services and Public Works departments anticipate returning to City Council with a proposed construction contract for award in the Fall of 2022. The timeline for this project is extremely tight. The current deadline for expenditures under the FEMA grant is April 2023. While staff have applied to CalOES for an extension to the grant deadline of an additional year, and CalOES then applied to FEMA for approval of the same, at this point we are proceeding as if we will not receive an extension.

The bid package consists of contract documents, specifications, plans, and project special provisions. The specifications also incorporate by reference the City adopted engineering standards, Greenbook Standard Specification and Standard Plans for Public Works Construction (current edition including applicable amendments), and Occupational Safety and Health Administration (OSHA) regulations. The full set of plans are available on the City's website as part of this City Council agenda item. The contract documents and project specifications will be incorporated into the formal bid solicitation to commence in the coming weeks. Staff recommends that the City Council approve the plans and authorize staff to advertise for construction bids for the project.

Staff had hoped to include this project under a Project Labor Agreement, pursuant to the Project Labor Agreement Policy (Policy) adopted by the City Council on October 5, 2021. A team of City negotiators and the City's special legal Council, Michael Vlaming, have been meeting with representatives of the Tri Counties Building & Construction Trades Council (TCBCTC) since May 2022. City negotiators have pressed for expedited negotiations, but this has been hampered by TCBCTC negotiators' availability. At this point, negotiators are still not close to an agreement in accordance with Council's adopted Policy and the grant timelines for this project will not accommodate a further delay. Under the terms of the Policy, therefore, this project will proceed without a Project Labor Agreement attached. However, staff still hope to include a Project Labor Agreement with the ADA Improvements Project portion of the Goleta Community Center upgrades, if we are able to reach an agreement before that project is bid.

### **GOLETA STRATEGIC PLAN:**

Implementation of seismic improvements directly supports the following elements of the City's Strategic Plan:

**Goal 5.1:** Strengthen Citywide Infrastructure including roads and traffic circulation, including bike lanes, paths, and sidewalks.

**Objective 5.1.2:** Complete design and seek funding for Goleta Community Center seismic upgrades and ADA improvements.

### FISCAL IMPACTS:

The Project is currently funded by two sources originally totaling \$5.4M: 1) a Hazard Mitigation Grant from the Federal Emergency Management Agency (FEMA) in the amount of \$3.8M; and 2) City matching funds (General Fund) to the FEMA Grant of \$1.4M. In addition, this project was estimated to have a funding gap of \$2.4 million.

In June 2022, Council received information on funding strategies on the unfunded Annual Work Program projects, which included the two GCC Projects. At the time of adopting the FY 2022-23 Budget, it included initially appropriating \$2.9 million towards the GCC ADA Improvements Project (CIP #9121), however it was discussed that staff may have a future recommended budget transfer of the \$2.9 million to the GCC Seismic Improvement Project (CIP #9067) after further review and determining which GCC project takes priority first. Staff now recommends that the Council authorize the budget transfer of \$2,455,580 from the GCC ADA Project (101-90-9121-57071) to the GCC Seismic Project(101-90-9067-57071).

The table below summarizes the current available budget for this project net of designrelated expenditures incurred to date:

Project 9067 Goleta Community Center Seismic Improvement Project			
Account	Fund Type	Total A	Available Budget
101-90-9067-57070	General Fund (Design)	\$	68,687
101-90-9067-57071	General Fund (Construction)	\$	1,432,628
421-90-9067-57070	Hazard Mitigation Grant	\$	1,148
421-90-9067-57071	Hazard Mitigation Grant	\$	3,851,912
	Subtotal	\$	5,354,375
Transfer from 101-90-9121-57071		\$	2,455,580
	Total	\$	7,809,955

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Meeting Date: September 20, 2022

Project costs have risen dramatically since the previous engineering cost estimate in June of 2019. The preliminary engineering cost estimate for the project assuming a three-month construction period was \$5.135M. However, since 2019, the cost of capital projects in general, including the seismic improvement project, have increased dramatically, driven by materials shortages stemming from the COVID-19 pandemic and by more recent inflationary pressures. As a result, the revised engineering cost estimate conducted in August of 2022, now assumes a six-month construction period and a revised total project cost of \$6.845M. Final costs will be known once bids are received.

The City has already applied to CalOES to amend the FEMA grant for this project twice: once to increase the grant amount to reflect updated cost estimates, and once to extend the grant deadline. Staff plans to apply again to further increase the grant amount based on the revised cost estimate, in which case the increased costs, less the City matching portion, might be reimbursed. However, this is not guaranteed and staff recommend moving forward with the project bid regardless, so that the project timeline is not further delayed.

### **ALTERNATIVES:**

The City Council may elect to not approve the plans and specifications and not authorize staff to advertise for construction bids for this project. Doing so would delay the construction of the project and would jeopardize the FEMA Hazard Mitigation Grant, the primary source of funding for this project.

Reviewed By: Legal Review By: Approved By:

Illegan K.

Kristine Schmidt
Assistant City Manager

Megan Garibaldi City Attorney

Robert Nisbet City Manager

### ATTACHMENT:

1. Project Plans

### **Attachment 1**

Plans for the Goleta Valley Community Center Seismic Retrofit Project – DIR 4301 (CIP 9067)



	Sheet List
Sheet Number	Sheet Name
S0.00	COVER SHEET
S0.01	GENERAL NOTES
S0.02	GENERAL NOTES
S0.03	SYMBOLS & ABBREVIATIONS
S1.00	TYPICAL DETAILS
S2.01	FIRST FLOOR & FOUNDATION FRAMING PLAN
S2.02	ROOF FRAMING PLAN
S3.01	TRUSS ELEVATIONS
S3.02	TRUSS ELEVATIONS
S5.00	FLOOR FRAMING AND ANCHORAGE DETAILS
S5.01	ROOF ANCHORAGE DETAILS
S5.02	ANCHORAGE AND BRACING DETAILS
A2.01	FIRST FLOOR PLAN AND REFLECTED CEILING PLANS
A2.02	ROOF PLAN
A5.00	ROOF DETAILS
A5.01	EXTERIOR PHOTOGRAPHS
A5.02	EXTERIOR PHOTOGRAPHS









Holmes Structures 523 West 6th St, STE 1122 Los Angeles, CA 90014 USA T: 213 481 5630 holmesstructures.com

■ STRUCTURAL ENGINEER



■ PROJECT NAME / LOCATION

5689

■ ISSUE / REVISION

No. DESCRIPTION

■ S.E.R.

N.T.S.

■ PROJECT No.

DRAWING TITLE

■ DESIGN ■ DRAWN

AS NOTED IF PRINT SIZE IS 30"x42"

19018.10

**COVER SHEET** 

### SCOPE OF WORK:

THE EXISTING SINGLE-STORY STRUCTURE LOCATED AT 5679 HOLLISTER AVE, GOLETA CA 93117 WAS DESIGNED IN 1926 AND CONSISTS OF CAST-IN-PLACE REINFORCED CONCRETE WALLS AND A WOOD ROOFING SYSTEM SUPPORTED BY WOOD TRUSSES. THE GROUND LEVEL FLOOR IS COMPRISED OF A MIXTURE OF CONCRETE SLAB ON GRADE, SUSPENDED CONCRETE SLAB, AND WOOD FRAMING SUPPORTED BY WOOD JOISTS. THE EXISTING CONCRETE WALLS ARE SUPPORTED BY CAST-IN-PLACE REINFORCED CONCRETE STRIP FOOTINGS. THE EXISTING LATERAL FORCE RESISTING SYSTEM IS COMPRISED OF CAST-IN-PLACE REINFORCED CONCRETE SHEAR WALLS AND THE EXISTING WOOD DIAPHRAGM.

THE OWNER HAS ELECTED TO CONDUCT A VOLUNTARY SEISMIC RETROFIT OF THE EXISTING STRUCTURE, BASED ON THE ASCE 41-17 TIER 2 DEFICIENCY-BASED EVALUATION AND RETROFIT PROCEDURE. THE PERFORMANCE OBJECTIVES ARE TO ACHIEVE LIFE-SAFETY STRUCTURAL PERFORMANCE LEVEL AT THE BSE-1E HAZARD LEVEL, AND COLLAPSE PREVENTION STRUCTURAL PERFORMANCE AT THE BSE-2E HAZARD LEVEL. THE SCOPE OF WORK APPLIES TO THE FOLLOWING ELEMENTS:

1. ANCHORAGE AND STRENGTHENING OF EXISTING WOOD DIAPHRAGMS & TRUSS CONNECTIONS TO EXISTING CONCRETE WALLS.

ALL OTHER ELEMENTS NOT SPECIFICALLY NOTED ABOVE WERE NOT STRENGTHENED OR EVALUATED AGAINST THE LOADS DESCRIBED ABOVE BEYOND THE TIER-1 SCREENING LEVEL, INCLUDING NONSTRUCTURAL ELEMENTS. LIQUEFACTION MITIGATION WAS NOT ADDRESSED WITHIN THIS SCOPE OF WORK.

THE SCOPE OF RETROFIT WORKS DOES NOT TRIGGER A SEISMIC RETROFIT UNDER SECTION 503 OF THE 2019 CALIFORNIA EXISTING BUILDING CODE

### GOVERNING CODE:

THE STRUCTURAL DESIGN OF BUILDING COMPONENTS DESCRIBED ON THESE DRAWINGS IS IN ACCORDANCE WITH THE 2019 CALIFORNIA BUILDING CODE (CBC)

### LIMITATIONS:

THE LATERAL FORCE RESISTING SYSTEM SHOWN ON THESE DRAWINGS IS DESIGNED TO ACHIEVE MINIMUM REQUIRED STANDARDS FOR STRUCTURAL SEISMIC RESISTANCE. AND IS INTENDED TO REDUCE THE RISK OF LIFE LOSS OR INJURY. THIS WORK WILL NOT NECESSARILY PREVENT LOSS OF LIFE OR INJURY, NOR PREVENT EARTHQUAKE DAMAGE TO NEW OR REHABILITATED BUILDINGS.

# <u>1. GENERAL</u>

MATERIALS AND WORKMANSHIP TO CONFORM TO THE BUILDING CODE DEFINED ABOVE AND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS

- A. THESE NOTES APPLY TO ALL DRAWINGS AND GOVERN UNLESS OTHERWISE NOTED OR SPECIFIED. WHENEVER THERE APPEARS TO BE A CONFLICT BETWEEN THE NOTES. DRAWINGS. OR SPECIFICATIONS. CONTACT THE OWNER'S REPRESENTATIVE AND ENGINEER FOR CLARIFICATION.
- B. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND PROPOSED DIMENSIONS AT JOB SITE. COMPARE STRUCTURAL DRAWINGS WITH ARCHITECTURAL. MECHANICAL. AND ELECTRICAL DRAWINGS BEFORE COMMENCING WORK. NOTIFY OWNER'S REPRESENTATIVE AND ENGINEER OF ANY DISCREPANCIES AND DO NOT PROCEED WITH AFFECTED WORK UNTIL THEY ARE RESOLVED. DO NOT SCALE DRAWINGS
- C. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, USE SIMILAR DETAILS OF CONSTRUCTION, SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER
- D. DETAILS NOTED AS "TYPICAL" IN THEIR TITLE OR ON SHEETS TITLED "TYPICAL DETAILS" APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY REFERENCED. SUCH DETAILS ARE NOT NOTED AT EACH LOCATION THAT THEY OCCUR.
- E. ALL ELEMENTS INDICATED ON THE DRAWINGS SHALL BE ASSUMED "NEW" UNLESS OTHERWISE NOTED.
- F. SAFETY MEASURES: AT ALL TIMES THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING, BUT NOT LIMITED TO:
- a) SAFETY OF THE PERSONS AND PROPERTY
- b) MEANS AND METHODS OF CONSTRUCTION. c) COMPLIANCE WITH APPLICABLE CAL/OSHA REQUIREMENTS AND GUIDELINES,

d) ALL NECESSARY INDEPENDENT ENGINEERING REVIEWS OF THESE CONDITIONS THE CONTRACTOR SHALL BRACE OR SHORE THE CONSTRUCTION AS REQUIRED TO PROVIDE A SAFE AND TRUE STRUCTURE. WHERE BRACING OR SHORING IS INDICATED IN THE DRAWINGS, IT IS DONE SO ONLY AS A COURTESY TO THE CONTRACTOR AND

SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COORDINATE THE WORK WITH THE AFOREMENTIONED PROVISIONS. THE ARCHITECT'S OR ENGINEER'S JOB SITE REVIEW IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.

# 2. SUBMITTALS

- A. SUBMIT (1) HARDCOPY OR ELECTRONIC PORTABLE DOCUMENT FORMAT (PDF) COPY OF REQUIRED SUBMITTALS TO OWNER'S REPRESENTATIVE FOR REVIEW. MULTIPLE COPIES OF THE SAME SUBMITTAL WILL NOT BE RETURNED. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR MAKING ANY ADDITIONAL COPIES OF REVIEWED SUBMITTALS, AS MAY BE REQUIRED. THE ENGINEER SHALL HAVE 15 WORKING DAYS FROM DATE OF RECEIPT TO COMPLETE AND RETURN THE SUBMITTAL REVIEW.
- B. SUBSTITUTION REQUESTS SHALL DEMONSTRATE THE REQUESTED SUBSTITUTION'S ABILITY TO MEET OR EXCEED THE REQUIREMENTS OF THE ORIGINALLY SPECIFIED ITEM. THE REQUEST SHALL ALSO INCLUDE A ROUGH COST SAVINGS ESTIMATE TO THE OWNER, REFERENCES TO DETAILS WHERE SUBSTITUTION IS PROPOSED TO BE APPLIED, AND ALL SUPPORTING DOCUMENTATION REQUIRED FOR THE ITEM BY THIS SECTION OF THE NOTES.
- C. SHOP DRAWINGS. MILL CERTIFICATES. AND/OR OTHER RELEVANT CERTIFICATIONS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BEFORE FABRICATION, FOR THE FOLLOWING ITEMS:

NOTE: SUBMITTING COPIES OF THE STRUCTURAL DRAWINGS IS UNACCEPTABLE AND WILL BE REJECTED FOR COMPLETE REVISION

1) STRUCTURAL AND MISCELLANEOUS STEEL

- a. MILL CERTIFICATIONS FOR ALL STEEL AND ALL FASTENERS. SHOP DRAWINGS INCLUDING AT A MINIMUM ASTM MATERIAL DESIGNATIONS, MEMBER SIZES, SIZES AND TYPES OF WELDS,
- SIZES AND TYPES OF BOLTS, AND DIMENSIONS. c. WELD PROCEDURE SPECIFICATIONS FOR EACH TYPE OF WELD TO BE USED AND PRODUCT DATA FOR WELDING FILLER METAL.
- d. MANUFACTURER'S PRODUCT DATA FOR PRIMER AND FINISH PAINT
- INCLUDING COLOR CHARTS.
- e. CONTRACTOR SHALL ESTABLISH AND VERIFY REQUIRED TOP OF STEEL (T.O.S.) ELEVATIONS, WHETHER INDICATED ON THE DRAWINGS OR NOT AGAINST ARCHITECTURAL FINISHED FLOOR AND ROOF ELEVATIONS. AND THE STRUCTURAL DETAILS, INCLUDING ANY SPECIFIED OFFSET OR PRE-CAMBER. NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
- 2) REINFORCING STEEL
- a. MATERIAL CERTIFICATES FOR REINFORCING STEEL. b. DRAWINGS FOR FABRICATION. BENDING. AND PLACEMENT OF
- REINFORCING STEEL IN ACCORDANCE WITH ACI 315. 3) GLUED LAMINATED BEAMS AND PREFABRICATED WOOD JOISTS/BEAMS a. SHOP DRAWINGS INDICATING FRAMING SIZES AND SPACING OF

MEMBERS, CAMBERS, CONNECTION INFORMATION, APPEARANCE

CLASSIFICATION, ETC. b. MATERIAL CERTIFICATES, INCLUDING GRADE, STRENGTH, AND STIFFNESS.

- 4) PREFABRICATED TRUSSES a. FRAMING DRAWINGS AND CALCULATIONS STAMPED AND SEALED BY A REGISTERED CIVIL OR STRUCTURAL ENGINEER IN THE STATE OF CALIFORNIA TO THE OWNER'S REPRESENTATIVE AND ENGINEER AND THE

BUILDING DEPARTMENT FOR REVIEW.

6) MECHANICAL ANCHORS AND EPOXY ANCHORS

- 5) CAST-IN-PLACE CONCRETE AND SHOTCRETE a. MIX DESIGNS FOR EACH TYPE OF CONCRETE ON THE PROJECT INCLUDING RESULTS OF SLUMP, COMPRESSION, AND SHRINKAGE
- TESTS AND OTHER PROJECT SPECIFIC CRITERIA
- b. MATERIAL CERTIFICATES c. PROPOSED CONSTRUCTION AND CONTROL JOINT LOCATIONS
- d. CURING MATERIALS AND METHODS e. PRODUCT DATA FOR NON-SHRINK GROUT f. FORMWORK TYPE, FORMWORK, JOINT LOCATIONS, CHAIRS
- FORM TIES, ETC. g. PROPOSED ROUGHENING METHODS AND TECHNIQUES TO PREPARE EXISTING
- SURFACES TO RECEIVE NEW CONCRETE, IN ACCORDANCE WITH AMPLITUDE NOTED IN THE CONCRETE SECTION OF THESE NOTES.
- a. PRODUCT DATA FOR EACH TYPE OF SYSTEM INCLUDING ANCHOR TESTING IN ACCORDANCE WITH ACI 355.2 FOR MECHANICAL ANCHORS AND ACI 355.4 FOR EPOXY ANCHORS. b. CERTIFICATION OF ANCHOR INSTALLERS PER ACI/CRSI WHERE
- ANCHORS ARE INSTALLED IN HORIZONTAL OR VERTICAL CONDITIONS WITH SUSTAINED TENSION.
- 7) SHORING PLANS AND CALCULATIONS, STAMPED AND SIGNED BY
- AN ENGINEER LICENSED IN THE STATE OF CONSTRUCTION. a. SHORING AND UNDERPINNING OF ADJACENT SITE
- b. ROOF TRUSSES
- c. ERECTION OF STEEL FRAMING d. CONCRETE FORMWORK

### 3. SPECIAL INSPECTION REQUIREMENTS AND TESTING

- A. PROVIDE SPECIAL INSPECTIONS AND TESTING FOR ALL ITEMS AS REQUIRED BY THE GOVERNING JURISDICTION.
- B. THE OWNER SHALL BE RESPONSIBLE FOR RETAINING AN INDEPENDENT, QUALIFIED INSPECTOR AND/OR TESTING LAB TO PERFORM ALL REQUIRED TESTING AND SPECIAL INSPECTIONS.
- C. IF INITIAL TESTS OR INSPECTIONS MADE BY THE OWNER'S TESTING AGENCY REVEAL THAT ANY PORTION OF THE WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, ADDITIONAL TESTS, INSPECTIONS, AND NECESSARY REPAIRS WILL BE MADE AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND OWNER OF NON-CONFORMING WORK. THIS NOTIFICATION SHALL SPECIFICALLY ADDRESS THE NON-CONFORMING WORK AND SHALL BE SEPARATE FROM THE SPECIAL INSPECTION REPORTS.
- D. SPECIAL INSPECTION REPORTS SHALL BE SENT TO THE ENGINEER AT THE TIME OF COMPLETION FOR REVIEW OF CONFORMANCE WITH THE REQUIREMENTS OF THE STRUCTURAL DRAWINGS.
- E. THE CONTRACTOR SHALL NOTIFY THE TESTING LAB A MINIMUM OF 48 HOURS PRIOR TO TIME OF INSPECTION.
- F. THE FOLLOWING SPECIFIC ITEMS SHALL BE INSPECTED AND/OR TESTED BY THE TESTING LAB:

### 1) CONCRETE

- a. SAMPLE AND TEST CONCRETE AS FOLLOWS: 1 FABRICATE SPECIMENS FOR STRENGTH TESTS PER ACI 318.
- 2 PERFORM SLUMP AND AIR CONTENT TESTS.
- DETERMINE TEMPERATURE OF THE CONCRETE. b. REINFORCING STEEL AND WELDED WIRE MESH (INCLUDING PRE
- STRESSING TENDONS). 1 PLACEMENT (CONTINUOUS INSPECTION FOR SPECIAL MOMENT FRAMES)
- 2 OBTAIN AND REVIEW MILL TEST REPORTS.
- 3 WELDING. CONCRETE PLACEMENT (CONTINUOUS INSPECTION).
- CAST-IN-PLACE ANCHOR BOLTS.
- CURING TEMPERATURE AND TECHNIQUES AND DURATION. REVIEW MIX DESIGN FOR EACH CLASS OF CONCRETE
- REVIEW THE TICKET OF EACH BATCH OF CONCRETE DELIVERED.
- SHOTCRETE 1 PLACEMENT
- 2 TEST PANELS a SAMPLING
- b TESTING c SCORING
- i. FORMWORK (INCLUDING FORM REMOVAL AND RESHORES) 1 SHAPE
- 2 LOCATION DIMENSIONS
- POST TENSION TENDONS 1 PLACEMENT
- GROUTING (CONTINUOUS INSPECTION) 3 STRESSING (CONTINUOUS INSPECTION)
- NOTE: TESTING DURING CONSTRUCTION IS NOT REQUIRED FOR FOUNDATION CONCRETE, EXCLUDING CAST-IN-PLACE DRILLED PILES OR CAISSONS, WHERE THE STRUCTURAL DESIGN IS BASED ON F'C NO
- GREATER THAN 2500 PSI AND NON-STRUCTURAL SLABS-ON-GRADE. 2) NON-SHRINK GROUT
- a. PLACEMENT b. CAST AND TEST SPECIMENS FOR COMPRESSION STRENGTH
- 3) ALL STRUCTURAL WELDING INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
- a. CONTINUOUS INSPECTION FOR ALL BUTT WELDS, COMPLETE AND PARTIAL PENETRATION WELDS, GROOVE WELDS AND PLUG WELDS INCLUDING WELDING OF REINFORCEMENT.
- b. CONTINUOUS INSPECTION AND 100% ULTRASONIC TESTING FOR ALL COMPLETE PENETRATION WELDS BETWEEN THE PRIMARY MEMBERS OF MOMENT-RESISTING FRAMES, EXCEPT WHEN THE THICKNESS OF THE MATERIALS TO BE WELDED IS LESS THAN 5/16". IN ADDITION, MAGNETIC PARTICLE TESTING SHALL BE PERFORMED ON 25% OF ALL BEAM-TO-COLUMN COMPLETE PENETRATION WELDS
- c. CONTINUOUS INSPECTION OF ALL FILLET WELDS EXCEEDING 5/16". d. PERIODIC VISUAL INSPECTION OF THE FOLLOWING ITEMS: SINGLE-PASS FILLET WELDS NOT EXCEEDING 5/16".
- 2 FLOOR AND ROOF DECK WELDING. 3 WELDED STUDS WHEN USED FOR THE STRUCTURAL DIAPHRAGM
- OR COMPOSITE CONNECTIONS. 4 WELDED SHEET METAL STEEL FOR COLD-FORMED STUDS AND
- 5 WELDING OF STAIRS AND RAILING SYSTEMS.
- 4) HIGH STRENGTH BOLTING.
- 5) POST INSTALLED ANCHORS. WHERE ANCHORS ARE LOADED IN SUSTAINED TENSION, INSPECTION SHALL BE CONTINUOUS. REFER TO THE DRAWINGS FOR LOCATIONS. a. BRICK MASONRY
  - 1 EPOXY THREADED RODS SHALL BE TESTED PER TESTING SCHEDULE IN TYPICAL DETAILS.
- b. CONCRETE EPOXY REBAR AND THREADED RODS
- MECHANICAL ANCHORS
- 6) STRUCTURAL WOOD a. PERIODIC SPECIAL INSPECTION FOR NAILING, BOLTING. ANCHORING AND OTHER FASTENING OF COMPONENTS WITHIN THE SEISMIC FORCE RESISTING SYSTEM, INCLUDING WOOD SHEAR WALLS, WOOD DIAPHRAGMS DRAG STRUTS, BRACES, SHEAR PANELS AND HOLD-DOWNS.
- d. VERIFICATION TESTING
- e. PROOF TESTING

### 4. STRUCTURAL OBSERVATIONS

- A. STRUCTURAL OBSERVATIONS WILL BE UNDERTAKEN BY PERSONNEL UNDER THE SUPERVISION OF THE ENGINEER OF RECORD. STRUCTURAL OBSERVATIONS ARE SEPARATE FROM THE SPECIAL INSPECTION REQUIREMENTS OUTLINED
- B. THE PURPOSE OF STRUCTURAL OBSERVATIONS IS TO REVIEW THE OVERALL PROGRESS OF CONSTRUCTION AND ASCERTAIN ITS GENERAL COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS, THESE GENERAL NOTES, AND OTHER SPECIFICATIONS, WHERE APPLICABLE. OBSERVATIONS WILL BE NOTED IN REGULAR SITE REPORTS ISSUED TO THE OWNER.
- C. UNLESS OTHERWISE AGREED UPON, THE ENGINEER OF RECORD SHALL BE ENGAGED TO PROVIDE, AT MINIMUM, A LEVEL OF CONSTRUCTION INVOLVEMENT NEEDED TO OBSERVE THE FOLLOWING AT SIGNIFICANT MILESTONES DURING THE **CONSTRUCTION PROCESS:** 
  - 1) FOUNDATION REINFORCEMENT AND CONSTRUCTION
  - 2) MASONRY/CONCRETE WALL/SLAB REINFORCEMENT AND CONSTRUCTION 3) STRUCTURAL STEEL FRAMING
  - 4) LATERAL FORCE RESISTING ELEMENTS
  - 5) WOOD FRAMING
  - THAT EFFECT SHALL BE MADE PRIOR TO THE START OF CONSTRUCTION.

ADDITIONAL ENGINEER INVOLVEMENT MAY BE DESIRED. ANY AGREEMENT TO

- D. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 3 DAYS PRIOR TO TIME OF OBSERVATION AND PROVIDE ACCESS FOR THE OBSERVATIONS.
- E. AN OWNER'S REPRESENTATIVE MAY BE DESIGNATED, BY THE OWNER'S SPECIFIC AUTHORIZATION PRIOR TO THE START OF CONSTRUCTION, WHO WILL HAVE THE AUTHORITY TO REQUEST ADDITIONAL ENGINEER INVOLVEMENT OUTSIDE OF THE NORMAL DUTIES ASSOCIATED WITH STRUCTURAL OBSERVATION.

# 5. DESIGN BASIS

- A. DESIGN INTENT: TIER 2 DEFICIENCY BASED VOLUNTARY SEISMIC RETROFIT. THE ASSOCIATED STRUCTURAL MODIFICATIONS WILL NOT TRIGGER A SEISMIC RETROFIT UNDER SECTION 503: ALTERATIONS OF THE 2019 CALIFORNIA EXISTING BUILDING CODE.
- B. ANALYSIS PROCEDURE: LINEAR STATIC ANALYSIS PER THE 2019 CBC, 2019 CEBC AND ASCE 41-17

ROOF FLOOR CORRIDOR 100 PARTITION 15

C. DESIGN LIVE LOADS (PSF):

- D. LINEAR STATIC LATERAL SEISMIC DESIGN FORCES: BSE 1E (LIFE SAFETY OBJECTIVE): V = C1\*C2\*CM\*Sa\*W = 1.17\*WBSE 2E (COLLAPSE PREVENTION OBJECTIVE): V = C1\*C2\*CM\*Sa\*W = 2.40\*W
- SEISMIC COEFFICIENTS C1\*C2 = 1.4 (ASSUMED COEFFICIENT PER ASCE 41-17 TABLE 7-3) CM = 1.0 (PER ASCE 41-17 TABEL 7-4) BSE 1E: Sa = 0.835BSE 2E:
- Sa = 1.716SEISMIC GROUND MOTION VALUES
- BSE 1E: SXS = 0.835SX1 = 0.468BSE 2E:

SXS = 1.716

SX1 = 0.995

FOUNDATION DESIGN IS BASED ON A GEOTECHNICAL REPORT PREPARED BY: FUGRO DATED: JULY 2019

# 6. CONCRETE

- A. EXCEPT WHERE NOTED OTHERWISE ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS. UNLESS OTHERWISE NOTED, COMPLY WITH CONSTRUCTION TOLERANCES AS SPECIFIED IN ACI 117 "SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS".
- REINFORCE ALL CONCRETE. INSTALL ALL INSERTS, BOLTS, ANCHORS, AND REINFORCING AND SECURELY TIE PRIOR TO PLACING CONCRETE
- C. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150 TYPE I OR II.

CONCRETE SHALL SATISFY THE FOLLOWING PROPERTIES:

MIN. FLY ASH OR SLAG REPLACEMENT:

MAX. SHRINKAGE AT 28 DAYS:

D. CONCRETE SHALL BE HARDROCK CONCRETE AND CONFORM TO ALL REQUIREMENTS OF ASTM C-33, UNLESS OTHERWISE NOTED. WHERE LIGHTWEIGHT CONCRETE IS SPECIFIED, IT SHALL CONFORM TO ASTM C-330. FLY ASH SHALL COMPLY WITH ASTM C618; SLAG SHALL COMPLY WITH ASTM C989. PROPORTION CONCRETE IN ACCORDANCE WITH ACI 211.1, INCLUDING ANY REQUIRED ADMIXTURES.

ADMIXTURES WITH CHLORIDE IONS: **NOT PERMITTED** MIN. STRENGTH AT 28 DAYS (f'c): 2500 PSI MIN. STRENGTH AT 56 DAYS: 3500 PSI MIN. SLUMP: MAX. SLUMP: MAX. AGGREGATE SIZE: MAX. WATER/CEMENTITIOUS (W/CM) RATIO:

E. THE ACTUAL SLUMP AND TOLERANCE SHALL BE ESTABLISHED BY THE CONTRACTOR AND CONCRETE SUPPLIER. AS REQUIRED TO SATISFY THE CONTRACTOR'S MEANS AND-METHODS FOR PLACEMENT. FIELD AND INSTALLATION CONDITIONS (INCLUDING REINFORCING CONGESTION), FINISH REQUIREMENTS, AND AS

REQUIRED TO SATISFY THE PERFORMANCE CRITERIA SPECIFIED ABOVE.

0.040% PER ASTM C157

IN AREAS OF HEAVY REINFORCING AND CONGESTION, CONTRACTOR SHALL PROVIDE ADEQUATE MEANS AND METHODS TO PROPERLY INSTALL CONCRETE (I.E., HIGH-RANGE WATER-REDUCING ADMIXTURE, FORM VIBRATORS, ETC.) AT SUCH LOCATIONS, THE CONTRACTOR MAY USE 3/8" MINIMUM CRUSHED ROCK OF NOT LESS THAN 1500 POUNDS/CU. YD. NO WATER SHALL BE ADDED AT THE TIME OF INSTALLATION WITHOUT WRITTEN APPROVAL OF THE ENGINEER OF RECORD.ALL CONCRETE WITH EXPOSED SURFACES SHALL HAVE HIGH-RANGE WATER-REDUCING ADMIXTURE (SUPERPLASTICIZER): ASTM C494, TYPE F OR TYPE G. PRODUCTS INCLUDE THE FOLLOWING:

- 1) EUCON 37/1037 OR PLASTOLSERIES, EUCLID CHEMICAL COMPANY 2) DARACEM, W.R. GRACE COMPANY, OR 3) SIKAMENT 300, SIKA CORP.
- G. WHEN PLACING NEW CONCRETE OR SHOTCRETE AGAINST EXISTING CONCRETE, AND/OR CONCRETE MASONRY, ROUGHEN EXISTING MATERIAL TO 1/4" AMPLITUDE. REMOVE ALL LOOSE CEMENTITIOUS MATERIALS AND AGGREGATES. PRESSURE WASH SURFACE AND REMOVE STANDING WATER IMMEDIATELY PRIOR TO PLACING NEW CONCRETE. AT EXISTING BRICK, ROUGHENING IS NOT REQUIRED IF EXISTING BRICK HAS A NATURAL ROUGH SURFACE (APPROXIMATELY 1/4" AMPLITUDE). THE ROUGHENED SURFACE IS SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER.
- I. CONTRACTOR SHALL CONSTRUCT CONCRETE FLOORS AND SLABS PER RECOMMENDATIONS OF ACI 302.1R. CONTRACTOR SHALL SUBMIT LOCATIONS OF PROPOSED CONSTRUCTION JOINTS FOR ENGINEERS REVIEW AND APPROVAL

### 7. FORMWORK

- A. DESIGN AND CONSTRUCT FORMWORK IN ACCORDANCE WITH ACI 347 "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK" AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE", UNLESS OTHERWISE NOTED.
- B. AS REQUIRED, PROVIDE POUR POCKETS IN FORMS AND UNDER EXISTING MEMBERS TO PREVENT AIR POCKETS OR "HONEYCOMBS". CONCRETE CAST WITH AIR POCKETS OR HONEYCOMBS IS NOT ACCEPTABLE.
- C. PROVIDE 3/4 INCH BY 3/4 INCH CHAMFER STRIPS ON ALL EXTERNAL CORNERS OF BEAMS, COLUMNS, AND WALLS, UNLESS OTHERWISE NOTED.
- D. REMOVE FORMS AND SHORES IN ACCORDANCE WITH THE FOLLOWING:
- 1) POST-TENSIONED SLABS, BEAMS, AND GIRDERS REMOVE FORMS AND SHORES NO SOONER THAN 72 HOURS, F'C = 4000 PSI MINIMUM, OR MEMBERS HAVE BEEN TENSIONED.
- 2) BOTTOM FORMS AND SHORES FOR MILDLY REINFORCED SLABS, BEAMS, AND GIRDERS – REMOVE FORMS AND SHORES NO SOONER THAN 7 DAYS AND F'C
- = 3000 PSI MINIMUM. 3) COLUMNS AND WALLS – REMOVE FORMS AND SHORES NO SOONER THAN 72
- 4) FOOTINGS, PILE CAPS, AND GRADE BEAMS REMOVE FORMS AND SHORES NO SOONER THAN 48 HOURS. E. CONCRETE SHALL BE CONTINUOUSLY CURED FOR 10 DAYS AFTER PLACING IN
- ANY APPROVED MANNER IN ACCORDANCE WITH ACI 301, INCLUDING CURING COMPOUND, CURING PAPER, WATER SPRAY, FLOODING WITH WATER (FOR SLABS), ETC. PROVIDE CURING WHERE FORMS ARE REMOVED IN LESS THAN 7
- NOTE: FOOTINGS ARE EXEMPTED FROM THIS REQUIREMENT

# . REINFORCING STEEL

- A. ALL REINFORCING STEEL BARS, UNLESS OTHERWISE NOTED, SHALL CONFORM WITH THE LATEST STANDARD SPECIFICATIONS FOR DEFORMED BILLET STEEL FOR CONCRETE REINFORCEMENT, ASTM DESIGNATION A615 AND SHALL BE MINIMUM GRADE 60. HEADED SHEAR STUD REINFORCING SHALL COMPLY WITH ASTM A1044
- B. ALL REINFORCING STEEL THAT IS TO BE WELDED, OR USED IN SEISMIC FRAME MEMBERS AND SHEARWALL BOUNDARY ELEMENTS, SHALL CONFORM TO THE LATEST STANDARD FOR LOW-ALLOY STEEL DEFORMED BARS FOR CONCRETE REINFORCEMENT ASTM A706 (GRADE 60 ONLY). BILLET STEEL ASTM A615 REINFORCEMENT MAY BE SUBSTITUTED FOR LOW ALLOY ASTM A706 IF (1 THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED THE SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI, (2) THE RATIO OF THE ACTUAL ULTIMATE TENSILE STRESS TO THE ACTUAL YIELD STRENGTH IS NOT LESS THAN 1.25, AND (3) MINIMUM ELONGATION IN 8 INCHES SHALL BE AT LEAST 14 PERCENT FOR BAR SIZES #3 THROUGH #6, AT LEAST 12 PERCENT FOR BAR SIZES #7 THROUGH #11, AND AT LEAST 10 PERCENT FOR BAR SIZES #14 AND #18.
- C. WELDED WIRE MESH SHALL CONFORM TO LATEST EDITION OF ASTM A1064.
- D. SUITABLE DEVICES (DOBIES, CHAIRS, ETC.) OF SOME STANDARD MANUFACTURE SHALL BE USED TO HOLD REINFORCEMENTS IN ITS TRUE HORIZONTAL AND VERTICAL POSITIONS. THESE DEVICES SHALL BE SUFFICIENTLY RIGID AND NUMEROUS TO PREVENT DISPLACEMENT OF THE REINFORCING DURING PLACING OF CONCRETE. ALL SUCH DEVICES HAVE PRIOR APPROVAL FROM THE ARCHITECT AND ENGINEER
- E. LAP SPLICE ALL BARS IN CONCRETE PER STANDARD DETAILS SCHEDULE USING LAP TYPE "TOP" UNLESS OTHERWISE NOTED. WHEN LAPPING BARS OF DIFFERENT SIZES, USE THE LAP LENGTH OF THE LARGER BAR.
- F. UNLESS OTHERWISE DEMONSTRATED BY SUCCESSFUL PLACEMENT OF A REPRESENTATIVE TEST PANEL, LAP SPLICES FOR SHOTCRETE WALLS SHALL BE PER NON-CONTACT SPLICE METHOD. THE LAPPED BARS SHALL BE SPACED A MINIMUM OF 2 INCHES BETWEEN THEM AND THE LAP LENGTH SHALL BE PER THE SCHEDULE USING LAP CLASS B, "TOP".
- G. IN LIEU OF LAP SPLICES, REBAR COUPLERS MAY BE USED. ERICO'S AND/ OR ERICO'S CADWELD LENTON. DAYTON BAR-LOCKS AND SIMILAR DEVICES MAY BE USED ONLY IF REINFORCING DETAILER ACCOUNTS FOR COUPLER SIZE, 24 INCH STAGGERING OF COUPLERS AND REINFORCING BAR SPACING. ALTERNATES WILL BE CONSIDERED UPON SUBMITTAL OF MANUFACTURER'S TESTING REPORT FOR APPLICATIONS IN SEISMIC FRAME MEMBERS AND BOUNDARY ELEMENTS OF SHEAR WALLS, THE COUPLERS SHALL DEVELOP THE LARGER OF 100% OF THE ULTIMATE TENSILE STRENGTH OR 125% OF THE SPECIFIED YIELD STRENGTH OF THE REBAR. FOR ALL OTHER APPLICATIONS, THE COUPLERS SHALL DEVELOP 125% OF THE SPECIFIED YIELD STRENGTH OF THE REBAR.
- H. IN LIEU OF COUPLERS, MAIN LONGITUDINAL REINFORCING BARS OF ASTM A706 STEEL MAY BE WELDED PER AWS D1.4. WELDED SPLICES SHALL NOT BE USED WITHIN A JOINT OF THE SEISMIC FRAME, OR WITHIN A DISTANCE OF ONE BEAM/COLUMN DEPTH FROM A JOINT.
- I. SPIRAL REINFORCEMENT

CONSTRUCTION DOCUMENTS.

AS FOLLOWS, UNLESS OTHERWISE NOTED:

- 1) LAP SPLICES FOR SPIRAL REINFORCEMENT ARE NOT PERMITTED WITHOUT
- SPECIFIC AUTHORIZATION FROM ENGINEER. 2) SPIRALS SHALL BE TERMINATED WITH A MINIMUM OF (3) TIGHT TIES AND A 135° HOOK UNLESS OTHERWISE NOTED.

J. HOOK DISCONTINUOUS ENDS OF REINFORCING STEEL PER TYPICAL DETAIL.

UNLESS OTHERWISE NOTED. WHERE SPECIFIED OR WHERE REINFORCING IS IN A CONGESTED ZONE SO AS NOT TO PERMIT HOOK BARS, PROVED A "T-HEAD" TERMINATOR: LENTON "D16" TERMINATOR OR APPROVED EQUAL K. DETAIL ACCORDING TO THE LATEST ACI STANDARD 315, MANUAL OF

PLACE REINFORCEMENT PER ACI 301, "SPECIFICATION FOR STRUCTURAL

STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES.

- CONCRETE", UNLESS OTHERWISE NOTED.
- L. REBAR PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT. M. REBAR SHALL ONLY BE BENT ONCE. REBAR SHALL NOT BE BENT AND STRAIGHTENED FOR CONSTRUCTION UNLESS EXPLICITLY NOTED ON THE
- N. MAINTAIN COVERAGE TO FACE OF BARS, INCLUDING SLEEVES AND PENETRATIONS,
- 1) CAST-IN-PLACE CONCRETE a. 3 INCHES WHERE CONCRETE IS DEPOSITED AGAINST EARTH EXCEPT
- SLAB-ON-GRADE. b. 2-1/2 INCHES FOR CAST-IN-PLACE DEEP FOUNDATION ELEMENTS NOT ENCLOSED BY A STEEL PIPE, TUBE OR PERMANENT CASING. c. 2 INCHES FOR FORMED CONCRETE WHICH IS EXPOSED TO EARTH OR

WEATHER FOR #6 BAR THROUGH #18 BAR. REDUCED TO 1-1/2 FOR

- d. 1-1/2 INCHES FOR INTERIOR BEAMS AND COLUMNS
- e. 1-1/2 INCHES FOR INTERIOR SLABS AND WALLS FOR #14 AND #18 BAR. REDUCED TO 3/4 INCH FOR #11 BAR AND SMALLER.
- f. 1-1/2 INCHES FOR SLAB-ON-GRADE.

#5 BAR, W31 OR D31 WIRE AND SMALLER.

Holmes

■ STRUCTURAL ENGINEER

**Holmes Structures** 523 West 6th St, STE 1122 Los Angeles, CA 90014 USA T: 213 481 5630 holmesstructures.com

■ STAMP

<sup>₹</sup> No. C78947 '

EXP. 03/31/20

CIVAL ONT

■ PROJECT NAME / LOCATION

5 0

■ ISSUE / REVISION

No. DESCRIPTION 100% CD

> ■ SCALE AS NOTED IF PRINT SIZE IS 30"x42" ■ S.E.R. DESIGN DRAWN

**GENERAL NOTES** 

19018.10

■ SHEET

■ PROJECT No.

DRAWING TITLE

- c. 1-1/2 INCHES WHERE FORMED CONCRETE IS EXPOSED TO EARTH OR
- WEATHER FOR BEAMS AND COLUMNS d. 3/4 INCH FOR INTERIOR SLABS AND WALLS.

e. 1-1/2 INCHES FOR PRIMARY REINFORCEMENT IN INTERIOR BEAMS

AND COLUMNS. 1 INCH FOR TIES AND STIRRUPS. O. PROVIDE FIBER-REINFORCING WHERE INDICATED ON THE DRAWINGS. COMPLY WITH ASTM C1116 . FIBER-REINFORCING SHALL BE FIBERMESH 300 BY PROPEX (MINIMUM

# DOSAGEOF 1.5 LBS/YD3 U.O.N.) OR APPROVED EQUIVALENT

- A. NON-SHRINK GROUT SHALL ACHIEVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS (F'c) OF 7,000 PSI.
- B. NON-SHRINK GROUT SHALL COMPLY WITH ONE OF THE FOLLOWING
- 1) DRY PACK NON-SHRINK GROUT SHALL BE EUCLID CHEMICAL COMPANY'S "EUCO-NS", L&M CRYSTEX, MASTER BUILDERS' "MASTERFLOW 713", SIMPSON'S "FX-228", OR FIVE STAR GROUT.
- 2) WHERE HIGH FLUIDITY OR INCREASED PLACING TIME IS REQUIRED, USE EUCLID CHEMICAL COMPANY'S "EUCO HI-FLOW GROUT" OR MASTER BUILDERS' "MASTERFLOW 928".
- C. COMPLY WITH MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND REQUIREMENTS.

### **10. PATCHING OF CONCRETE**

9. NON-SHRINK GROUT

- A. ALL INSERT HOLES, SHE-BOLTS, ETC., AND OTHER IMPERFECTIONS ON THE SURFACES OF THE CONCRETE SHALL BE FILLED WITH GROUT, BRUSHED AND SACKED TO A UNIFORM FINISH. ALL HOLES THROUGH TO THE OUTSIDE OF THE BUILDING MUST BE MADE WATERTIGHT.
- B. MATERIALS AND METHODS USED FOR PATCHING OF CONCRETE IN THE EVENT OF SPALLING, HONEYCOMBING, LARGE CRACKS, ETC., SHALL BE BY MASTER BUILDERS, SIKA, OR EQUIVALENT, FINAL FINISHED APPEARANCE SUBJECT TO APPROVAL. SUBSTITUTES WILL BE CONSIDERED UPON SUBMITTAL OF MANUFACTURER'S TESTING REPORT.

### 11. FRAMING LUMBER

- A. ALL FRAMING LUMBER SHALL BE GRADED PER WCLIB GRADING RULES NO. 17
- B. ALL FRAMING LUMBER SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 19% AT TIME OF INSTALLATION.
- C. ALL POSTS AND BEAMS SHALL BE DOUGLAS FIR, #1.
- D. ALL FLOOR AND ROOF JOISTS SHALL BE DOUGLAS FIR, #1.
- E. ALL STUDS, PLATES, ETC., SHALL BE DOUGLAS FIR, CONSTRUCTION GRADE
- F. ENGINEERED WOOD PRODUCTS MAY BE USED AS SUBSTITUTES FOR SAWN LUMBER UPON REQUEST BY THE CONTRACTOR AND APPROVAL FROM THE ARCHITECT AND ENGINEER OF RECORD. CONTRACTOR SHALL SUBMIT MANUFACTURER'S TESTING REPORTS FOR APPROVAL

### 12. ENGINEERED WOOD PRODUCTS (EWP)

- A. ALL ENGINEERED WOOD PRODUCTS (EWP) SUPPLIED ON THIS PROJECT SHALL BE SUPPLIED BY ONE MANUFACTURER
- B. ALL MICROLLAM LVL FRAMING MEMBERS SHALL BE FABRICATED BY TRUS JOIST WITH THE FOLLOWING ALLOWABLE STRESSES: Fb = 2600 PSI, Fv = 285 PSI, E = 2,000,000 PSI. MOISTURE CONTENT AT THE TIME OF FABRICATION SHALL NOT EXCEED 9%.
- C. ALL PARALLAM PSL FRAMING MEMBERS SHALL BE FABRICATED BY TRUS JOIST WITH THE FOLLOWING ALLOWABLE STRESSES: Fb = 2900 PSI. Fv = 290 PSI. E = 2.200.000 PSI, MOISTURE CONTENT AT THE TIME OF FABRICATION SHALL NOT EXCEED 9%.
- D. ALL TJI PREFABRICATED WOOD I-JOISTS SHALL BE FABRICATED BY TRUS

# 13. PLYWOOD (PW) OR ORIENTED STRAND BOARD (OSB)

- A. EACH PANEL SHALL BE IDENTIFIED WITH THE APPROPRIATE GRADE, TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION, AND SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE U.S. PRODUCT STANDARD PS-1. PLYWOOD GRADE SHALL CONFORM TO CD-X FOR PLYWOOD OR TYPE 2-M-W FOR ORIENTED STRAND BOARD, UNLESS OTHERWISE NOTED.
- B. WHERE PLYWOOD IS PERMANENTLY EXPOSED TO WEATHER, IT SHALL BE EXTERIOR TYPE. OTHERWISE, PANEL SHEATHING SHALL BE EXPOSURE 1. PLYWOOD TO BE CC GRADE AT LOCATIONS EXPOSED TO WEATHER; CC OR CD GRADE ELSEWHERE
- C. PANELS TO BE 5-PLY MINIMUM. EXCEPT 3/8" PANELS TO BE 3-PLY MINIMUM
- D. PLYWOOD SHEETS AT FLOORS AND ROOFS SHALL BE LAID WITH FACE GRAIN PERPENDICULAR TO JOISTS AND RAFTERS. PLYWOOD AT FLOORS SHALL BE GLUED TO FRAMING BELOW (USE SOLVENT BASED GLUE COMPLYING WITH ASTM D3498 AND VOLATILE ORGANIC COMPOUND (VOC) LIMITS PER CALGREEN). LN-950 BY LIQUID NAILS OR APPROVED EQUIVALENT, UNLESS OTHERWISE SPECIFIED BY THE ARCHTIECT. PROVIDE RING-SHANK NAILS AT FLOOR AND ROOF SHEATHING.
- E. PLYWOOD SHEETS ON WALLS SHALL BE LAID WITH LONG DIMENSION VERTICAL. BLOCK ALL EDGES WITH A MINIMUM OF 3X BLOCK AND/MEMBERS. ALL NAILING SHALL HAVE 3/8 INCH EDGE DISTANCE FOR FRAMING. BLOCKING AND PLYWOOD EDGES. USE SMOOTH-SHANK NAILS FOR PLYWOOD WALL SHEATHING.
- F. STAPLES FOR PLYWOOD DIAPHRAGMS SHALL BE 14 GAGE ROUND SEMI-FLATTENED OR FLATTENED, PLAIN OR ZINC-COATED STEEL WIRE, WITH A NOMINAL CROWN WIDTH OF 7/16", DRIVEN BY PNEUMATIC OR MECHANICAL DEVICE.
- G. PROVIDE 1/8" GAP BETWEEN PANELS UNLESS OTHERWISE NOTED.
- H. PANELS SHALL HAVE THE FOLLOWING PROPERTIES UNLESS OTHERWISE NOTED.
- 1) 3/8 INCH NOMINAL SHALL BE 3/8 INCH ACTUAL THICKNESS WITH 24/0 SPAN RATING.
- 2) 1/2 INCH NOMINAL SHALL BE 15/32 INCH ACTUAL THICKNESS WITH 32/16 SPAN RATING
- 3) 5/8 INCH NOMINAL SHALL BE 19/32 INCH ACTUAL THICKNESS WITH 40/20 SPAN RATING.
- 4) 3/4 INCH NOMINAL SHALL BE 23/32 INCH ACTUAL THICKNESS WITH 48/24 SPAN RATING.
- 5) 1-1/8 INCH NOMINAL SHALL BE 1-1/8 INCH ACTUAL THICKNESS WITH 48 O.C. FLOOR SPAN RATING.

# 14. ROUGH CARPENTRY

- A. FOR SCHEDULE OF MINIMUM NAILING TABLE 2304.10.1 OF THE 2016 CALIFORNIA BUILDING CODE. 16d VINYL COATED SINKERS MAY BE SUBSTITUTED FOR 16d BOX OR COMMON NAILS FOR ROUGH FRAMING. SINKERS SHALL NOT BE USED WITH METAL CONNECTORS.
- B. SILLS AND LEDGERS ON CONCRETE OR MASONRY SHALL BE PRESSURE-TREATED DOUGLAS FIR. SILLS AND LEDGERS SHALL BE FASTENED TO THE CONCRETE WITH A MINIMUM OF TWO FASTENERS PER PIECE AND A FASTENER NO FURTHER THAN 9 INCHES FROM END OF EACH PIECE, UNLESS OTHERWISE NOTED.
- C. PLACE JOISTS WITH CROWN UP.
- D. RE-TIGHTEN ALL BOLTS PRIOR TO CLOSING IN WALLS.

- E. WHEN METAL CONNECTORS, ANCHORS OR FASTENERS ITEMS ARE EXPOSED TO WEATHER AND/OR PRESSURE TREATED LUMBER THE METAL ITEMS ARE TO BE OF HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL SILICON BRONZE OR COPPER. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A153. SEE ADDITIONAL COATING REQUIREMENTS AS NOTED IN THE PRESSURE TREATMENT SECTION.
- F. DOUBLE ALL JOISTS UNDER ALL PARALLEL PARTITIONS UNLESS NOTED **OTHERWISE**
- G. BLOCK ALL JOISTS AT SUPPORTS AND UNDER ALL PARTITIONS WITH MINIMUM 2x SOLID BLOCKING. BLOCK AND BRIDGE ROOF JOISTS AT 10 FEET AND FLOOR JOISTS AT 8 FEET UNLESS OTHERWISE NOTED.
- H. 2x JOISTS SHALL BE SISTERED (VERTICAL NAIL LAMINATED) WITH SDWS 0.220x3 MIN. LENGTH AT 6" O.C. IN (2) ROWS STAGGERED UNLESS OTHERWISE NOTED.
- ALL POSTS LOCATED OVER WOOD WALLS SHALL HAVE A POST OF EQUAL OR GREATER SIZE LOCATED IN THE WALL DIRECTLY BELOW UNLESS OTHERWISE
- J. THE STRUCTURAL DESIGN ASSUMES THAT ALL FLOORS AND ROOFS ARE CONSTRUCTED AND LOADED WITH FINISHES (OR EQUIVALENT WEIGHT) FOR A MINIMUM OF SEVEN (7) DAY PRIOR TO THE TIME OF DOOR AND WINDOW INSTALLATION.
- K. ALL TIMBER FASTENERS NOT SPECIFICALLY DETAILED ON THE DRAWINGS SHALL BE SIMPSON STRONG-TIE'S STANDARD FASTENERS OR APPROVED EQUIVALENT INSTALLER PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. USP LUMBER CONNECTORS WITH REFERENCE NUMBERS FOR SUBSTITUTION MAY BE USED IN LIEU OF SIMPSON HARDWARE. ENGINEER MAY APPROVE OF OTHER SUBSTITUTIONS UPON THE FOLLOWING: 1) WRITTEN REQUEST FOR OTHER BRANDS. 2) SUBMISSION OF MANUFACTURER'S TESTING REPORTS, 3) REFERENCES TO PERTINENT DETAILS WHERE SUBSTITUTIONS ARE TO BE APPLIED.
- L. ALL STRUCTURAL WOOD WALLS SHALL BE FRAMED WITH 2x4 MINIMUM STUDS AT 16" ON CENTER UNLESS OTHERWISE NOTED.
- M. PRE-DRILL HOLES AS REQUIRED TO PREVENT SPLITTING OF WOOD.

### **15. PRESSURE TREATMENT**

- A. ALL LUMBER EXPOSED TO WEATHER SHALL BE PRESSURE TREATED IN ACCORDANCE WITH A.W.P.A. STANDARD U1, WITH A PRESERVATIVE AND RETENTION SUITABLE FOR THE APPLICATION (SEE BELOW). ALL CUT ENDS SHALL ALSO BE FIELD TREATED WITH A PRESERVATIVE. AS AN ALTERNATE
- CONTRACTOR MAY USE REDWOOD OF EQUIVALENT STRENGTH PROPERTIES AS THOSE SHOWN ABOVE, AND AN APPROVED PRIMER. THE FOLLOWING USE CATEGORIES SHALL BE REQUIRED BASED ON THE APPLICATION:
- 1) UC1 INTERIOR DRY 2) UC2 – INTERIOR DAMP
- 3) UC3A EXTERIOR ABOVE GROUND PROTECTED
- 4) UC3B EXTERIOR ABOVE GROUND UNPROTECTED
- i) UC4A GROUND CONTACT, GENERAL USE i) UC4B – GROUND CONTACT, HEAVY DUTY USE
- ) UC4C GROUND CONTACT, EXTREME DUTY B) UC5A – MARINE USE, NORTHERN WATERS
- B. ALL EXTERIOR GLUED LAMINATED BEAMS EXPOSED TO WEATHER SHALL BE PRESSURE TREATED WITH A PRESERVATIVE, PENTACHLOROPHENOL WITH A MINIMUM NET RETENTION OF 0.40#/CU. FT. FOR BOTH GROUND USE. ALL CUT ENDS SHALL ALSO BE TREATED WITH A PRESERVATIVE. AS AN ALTERNATE, GLU-LAM BEAMS MAY BE FABRICATED OF ALASKAN, OR PORT ORFORD CEDAR. AND FIELD PAINTED WITH AN APPROVED PRIMER.
- C. ALL PLYWOOD EXPOSED TO WEATHER SHALL BE PRESSURE TREATED
- D. WHEN METAL CONNECTOR, ANCHOR OR FASTENER ITEMS ARE IN CONTACT WITH PRESSURE TREATED LUMBER AND/OR CORROSIVE ENVIRONMENTS THE CONTRACTOR SHALL USE CORROSION RESISTANT METAL ITEMS AS NOTED:
- 1) WHEN LUMBER IS TREATED WITH CHROMATED COPPER ARSENATE (CCA-C) OR DOT SODIUM ARSENATE (SBX) THE METAL ITEMS SHALL HAVE A MINIMUM G90 (0.90 OZ/SQFT) ZINC COATING OR ENGINEER APPROVED **EQUIVALENT**
- 2) WHEN LUMBER IS TREATED WITH ALKALINE COPPER QUAT (ACQ-C OR ACQ-D), COPPER AZOLE (CBA-A OR CA-B) OR OTHER BORATE (NON-DOT) TREATMENT THE METAL ITEMS SHALL HAVE A MINIMUM G185 (1.85 OZ/SQFT) ZINC COATING OR ENGINEER APPROVED EQUIVALENT
- 3) WHEN LUMBER IS TREATED WITH OTHER TREATMENTS (NOT AMMONIACAL COPPER ZINC ARSENATE (ACZA) SEE 4 BELOW) OR IS EXPOSED TO CORROSIVE ENVIRONMENTS NOT LIST ABOVE THE METAL ITEMS SHALL BE TYPE 316L STAINLESS STEEL OR ENGINEER APPROVED EQUIVALENT
- 4) AMMONIACAL COPPER ZINC ARSENATE (ACZA) IS NOT PERMITTED UNLESS APPROVED BY THE ENGINEER. 5) CONTRACTOR IS TO CONFIRM LUMBER PRESSURE TREATMENT TYPE PRIOR
- TO PURCHASE OF METAL ITEMS 6) AS AN ALTERNATIVE, FOR THE SITUATION WHEN THE BASE OF A HOLDOWN IS IN CONTACT WITH A PRESSURE TREATED SILL PLATE THE CONTRACTOR

CAN PROVIDE A PRESSURE TREATMENT BARRIER BETWEEN THE BASE OF

# 16. STRUCTURAL STEEL

- A. STRUCTURAL STEEL SHALL CONFORM TO FOLLOWING ASTM DESIGNATIONS, UNLESS OTHERWISE NOTED:
- 1) PLATES AND BARS, INCLUDING DOUBLER PLATES, CONTINUITY PLATES, BASE PLATES. GUSSET PLATES. AND SHEAR TABS: ASTM A572 GRADE 50.
- WIDE FLANGES (W): ASTM A992 (Fy = 50 KSI). B) MISCELLANEOUS (M), AMERICAN STANDARD (S), CHANNEL (C), MISCELLANEOUS CHANNEL (MC), AND ANGLES (L): ASTM A36 (Fy = 36
- BEARING PILES (HP): ASTM A572 GRADE 50 (Fy = 50 KSI).
- RECTANGULAR AND ROUND HSS (HSS): ASTM A1085 (Fy = 50 KSI).
- i) PIPE (P): ASTM A53 GRADE B (Fv = 35 KSI)

THE HOLDOWN AND THE SILL PLATE.

- ) STRUCTURAL TEES (WT, MT, AND ST) SHALL CONFORM TO THE ASTM SPECIFICATION OF THE CORRESPONDING FULL DEPTH SHAPE (WT SHALL CONFORM TO ASTM SPECIFICATION FOR W, ETC.)
- B. STRUCTURAL FASTENERS INCLUDING BOLTS. THREADED RODS. AND ANCHOR RODS. SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS, UNLESS OTHERWISE
- 1) ERECTION, GROUTED, AND TIMBER CONNECTION BOLTS: ASTM A307
- WITH WELDABILITY SUPPLEMENT S1 GRADE A. 2) HIGH STRENGTH BOLTS: ASTM A325: WHERE TWIST-OFF TYPE BOLTS
- ARE SPECIFIED, PROVIDE ASTM F1852. THREADED RODS: ASTM A36.
- HIGH STRENGTH THREADED RODS: ASTM A193 GRADE B7
- ) STEEL HEADED STUD ANCHORS: ASTM A108. ANCHOR RODS AND ANCHOR BOLTS: ASTM F1554 WITH WELDABILITY SUPPLEMENT S1 GRADE 55.
- C. WHEN PRETENSIONED A490 BOLTS ARE SPECIFIED F436 WASHERS SHALL BE JSED UNDER BOTH THE BOLT HEAD AND NUT.
- D. ALL BOLTS FOR EXTERIOR USE SHALL BE ZINC-COATED BY THE BOLT MANUFACTURER BY EITHER THE HOT-DIP PROCESS IN ACCORDANCE WITH ASTM A153, CLASS C OR THE MECHANICAL DEPOSIT PROCESS IN ACCORDANCE WITH ASTM B695, CLASS 50.
- E. ALL STRUCTURAL STEEL MEMBERS EXPOSED TO WEATHER OR CALLED OUT AS HOT DIP GALVANIZED (HDG) ON PLAN OR STRUCTURAL STEEL MEMBERS LOCATED IN EXTERIOR ENVIRONMENTS SHALL BE HDG IN ACCORDANCE WITH ASTM A 123. ANY MEMBER THAT HAS HAD ITS HDG COATING DAMAGED OR REMOVED DURING TRANSPORT OR ERECTION SHALL HAVE ITS COATING REPAIRED USING ZRC GALVILITE REPAIR COMPOUND OR EQUAL. REPAIR GALVANIZING AFTER WELDING IN ACCORDANCE WITH ASTM A780.
- F. PAINT STEEL (EXCEPT GALVANIZED STEEL AND PORTIONS TO BE ENCASED IN CONCRETE) WITH ONE COAT OF PRIMER STANDARD TNEMEC P10-99 OR EQUIVALENT SUBJECT TO ENGINEER'S APPROVAL. ALTERNATES WILL BE CONSIDERED UPON REQUEST AND SUBMISSION OF THE MANUFACTURER'S SPECIFICATIONS.

- G. ALL CONCRETE ENCASED STEEL SHALL BE CLEAN OF GREASE, PAINT AND OTHER CONTAMINANTS.
- H. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST AISC 'SPECIFICATIONS' FOR DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
- I. WELDING SHALL CONFORM TO THE LATEST EDITION OF THE A.N.S.I./A.W.S. D1.1 STRUCTURAL WELDING CODE. USE E70XX ELECTRODES. WELDING OF METAL DECK AND OTHER SHEET METAL SHALL CONFORM TO THE LATEST EDITION OF A.W.S D1.3, USE E70XX ELECTRODES.
- J. ALL STAIR STRINGERS SHALL BE EITHER A CHANNEL OR MISCELLANEOUS CHANNEL SECTION OR BENT PLATE WITH TOP AND BOTTOM FLANGES OF MINIMUM WIDTH OF 3/4 INCH. THE DESIGN AND USE OF STAIR STRINGERS TREADS, GUARDRAILS, AND THEIR ATTACHMENTS TO THE BASE BUILDING STRUCTURE SHALL BE DOCUMENTED AND SUPPORTED WITH CALCULATIONS AND DRAWINGS THAT ARE STAMPED AND SIGNED BY A CIVIL/STRUCTURAL ENGINEER LICENSED IN THE STATE OF CONSTRUCTION.
- K. LOCATE AND INSTALL ALL ANCHOR BOLTS, EPOXY ANCHORS, AND MECHANICAL ANCHORS BEFORE FABRICATING STEEL CONNECTION ELEMENTS.
- L. STRUCTURAL STEEL AND CONNECTIONS EXPOSED TO VIEW IN THE COMPLETED BUILDING ARE DESIGNATED ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) AND ARE SUBJECT TO THE AISC AESS REQUIREMENTS.

### 17. MECHANICAL ANCHORS

- A. EXPANSION ANCHORS INTO CONCRETE SHALL BE
- a. HILTI KB-TZ, b. SIMPSON STRONG-BOLT 2
- c. DeWalt POWER-STUD+ SD2. INSTALL ANCHORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- B. SCREW ANCHORS INTO CONCRETE SHALL BE:
- a. HILTI KH-EZ, b. SIMPSON TITEN HD,
- c. DeWalt WEDGEBOLT+.
- INSTALL SCREWS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS
- C. PRIOR TO INSTALLING MECHANICAL ANCHORS IN POST TENSIONED CONCRETE ELEMENTS THE CONTRACTOR SHALL SCAN THE STRUCTURE AND LOCATE THE TENDONS. THE CONTRACTOR SHALL AVOID TENDON LOCATIONS.
- D. PROVIDE STAINLESS (AISI 316) STEEL FASTENERS FOR EXTERIOR USE OR WHEN EXPOSED TO WEATHER OR IN CHEMICALLY CORROSIVE ENVIRONMENTS. PROVIDE ZINC COATED OR GALVANIZED CARBON STEEL ANCHORS AT OTHER LOCATIONS, UNLESS OTHERWISE NOTED. WHERE STAINLESS STEEL FASTENERS ARE USED IN CONJUNCTION WITH GALVANIZED OR OTHER DISSIMILAR BASE METALS, PROVIDE ELECTRICAL ISOLATION AS NOTED ON THE DRAWINGS. NOTIFY THE ENGINEER FOR CLARIFICATION IF NO ELECTRICAL ISOLATION IS SPECIFIED.
- E. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. DO NOT CUT EXISTING REINFORCEMENT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED ABOVE, THE ENGINEER WILL DETERMINE A NEW LOCATION
- F. LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES. MEMBERS. OR OTHER STEEL ASSEMBLIES ATTACHED WITH MECHANICAL ANCHORS.

### 18. EPOXY GROUTING OF DOWELS, REBAR AND ANCHOR BOLTS

- A. INSTALLATION OF POST-INSTALLED DOWELS, REBAR AND ANCHOR BOLTS (EPOXY ANCHORS) SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII). WHERE THERE IS A CONFLICT BETWEEN THESE NOTES AND THE MPII. SEE MPII FOR CLARIFICATION.
- B. EPOXY ANCHORS SHALL MEET THE REQUIREMENTS OF ACI 355.4 AND THE FOLLOWING INSTALLATION REQUIREMENTS. UNLESS OTHERWISE NOTED.
- 1) MINIMUM AGE OF CONCRETE: 21 DAYS CONCRETE TEMPERATURE RANGE: 50-80 DEGREES FAHRENHEIT
- 3) MOISTURE CONDITION OF CONCRETE: DRY
- C. EPOXY GROUTING WILL BE USED IN ALL LOCATIONS WHERE EITHER ALL-THREAD ROD OR REBAR ARE BEING EMBEDDED INTO EXISTING CONCRETE, CMU, OR BRICK.
- D. IN CONCRETE, HOLES SHALL BE DRILLED WITH ROTARY HAMMER UNLESS NOTED OTHERWISE.
- E. IN BRICK, HOLES SHALL BE DRILLED WITH NON-IMPACT TOOLS, NO ROTARY
- F. EPOXY GROUT FOR DOWNWARD HOLES SHALL BE EITHER NON-SAG OR LIQUID TYPE, NORMAL SET. HORIZONTAL OR OVERHEAD HOLES SHALL BE NON-SAG TYPE. FOR OVERHEAD APPLICATIONS A PISTON PLUG SHALL BE USED.
- G. UNLESS OTHERWISE NOTED, EPOXY TYPES SHALL BE AS FOLLOWS: FOR DOWELS AND REBAR IN CONCRETE, EPOXY SHALL BE:
- a. HILTI HIT-RE 500 V3,
- b. HILTI HIT HY 200. FOR ANCHOR BOLTS IN CONCRETE, EPOXY SHALL BE
- a. SIMPSON SET-XP, b. HILTI HIT-HY 200,
- c. DeWalt PURE 110+.
- FOR UNREINFORCED MASONRY (URM), EPOXY SHALL BE: a. SIMPSON SET,
- b. HILTI HIT-HY 70. c. DeWalt T308+.

FOR CONCRETE MASONRY UNITS (CMU), EPOXY SHALL BE SIMPSON SET OR POWERS PURE 100+.ALTERNATES WILL BE CONSIDERED UPON REQUEST AND

SUBMISSION OF PRODUCT EVALUATION REPORT IN ACCORDANCE WITH ACI 355.4.

- 1) WHEN INSTALLING ANCHORS, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS OR POST TENSIONING TENDONS. IN POST TENSION ELEMENTS THE CONTRACTOR SHALL SCAN PRIOR TO LOCATE THE EXISTING TENDONS PRIOR TO INSTALLING THE ANCHOR.
- 2) IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER, OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED, THE ENGINEER WILL DETERMINE A NEW LOCATION.
- 3) LOCATE EXISTING REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES. MEMBERS. OR OTHER STEEL ASSEMBLIES ATTACHED WITH ANCHORS.

# 19. FINISHES - FOR WORK ON EXISTING BUILDINGS

A. REPLACE ALL DAMAGED FINISH MATERIALS WITH NEW MATERIALS OF EQUIVALENT QUALITY AND KIND. SUBMIT SAMPLES AND/OR PRESENT SAMPLE INSTALLATION TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

# 20. EPOXY INJECTION OF CONCRETE CRACKS

- A. EXISTING CRACKS IN CONCRETE ELEMENTS EXCEEDING 1/16TH INCH CRACK WIDTH SHALL BE EPOXY INJECTED USING SIMPSON "CRACK-PAC" EPOXY INJECTION SYSTEM, OR APPROVED EQUIVALENT. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF THE LOCATIONS, CRACK PATTERNS, AND WIDTH OF CRACKS THAT ARE EXCEEDING 1/16<sup>TH</sup> INCH.
- B. AT EXPOSED LOCATION, INJECTION PORTS SHALL BE REMOVED AND EPOXY SHALL BE GROUND SMOOTH TO PROVIDE AN ACCEPTABLE SURFACE. WHICH SHALL BE SUBJECT TO REVIEW AND APPROVAL.

- F. EPOXY GROUT FOR DOWNWARD HOLES SHALL BE EITHER NON-SAG OR LIQUID TYPE, NORMAL SET. HORIZONTAL OR OVERHEAD HOLES SHALL BE NON-SAG TYPE. FOR OVERHEAD APPLICATIONS A PISTON PLUG SHALL BE USED.
- G. UNLESS OTHERWISE NOTED, EPOXY TYPES SHALL BE AS FOLLOWS:
- a. HILTI HIT-RE 500 V3, b. HILTI HIT HY 200.
- FOR ANCHOR BOLTS IN CONCRETE, EPOXY SHALL BE
- a. SIMPSON SET-XP,
- b. HILTI HIT-HY 200, c. DeWalt PURE 110+
- FOR UNREINFORCED MASONRY (URM), EPOXY SHALL BE:

FOR DOWELS AND REBAR IN CONCRETE, EPOXY SHALL BE:

- a. SIMPSON SET,
- b. HILTI HIT-HY 70, c. DeWalt T308+.
- FOR CONCRETE MASONRY UNITS (CMU), EPOXY SHALL BE SIMPSON SET OR POWERS PURE 100+.ALTERNATES WILL BE CONSIDERED UPON REQUEST AND SUBMISSION OF PRODUCT EVALUATION REPORT IN ACCORDANCE WITH ACI 355.4.
- 1) WHEN INSTALLING ANCHORS, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS OR POST TENSIONING TENDONS. IN POST TENSION ELEMENTS THE CONTRACTOR SHALL SCAN
- PRIOR TO LOCATE THE EXISTING TENDONS PRIOR TO INSTALLING THE ANCHOR. 2) IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON AND SHIFT THE HOLE LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM OF 2 ANCHOR DIAMETERS OR 1 INCH, WHICHEVER IS LARGER OF SOUND CONCRETE BETWEEN THE DOWEL AND THE ABANDONED HOLE FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. IF THE ANCHOR OR DOWEL MAY NOT BE SHIFTED AS NOTED, THE ENGINEER WILL DETERMINE
- A NEW LOCATION. 3) LOCATE EXISTING REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH ANCHORS.

### 21. FINISHES - FOR WORK ON EXISTING BUILDINGS

A. REPLACE ALL DAMAGED FINISH MATERIALS WITH NEW MATERIALS OF EQUIVALENT QUALITY AND KIND. SUBMIT SAMPLES AND/OR PRESENT SAMPLE INSTALLATION TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

### 22. EPOXY INJECTION OF CONCRETE CRACKS

SUBJECT TO REVIEW AND APPROVAL.

A. WHERE INDICATED, INJECTION OF CRACKS IN CONCRETE SHALL BE PERFORMED USING SIMPSON "CRACK-PAC" EPOXY INJECTION SYSTEM, OR APPROVED

B. AT EXPOSED LOCATION, INJECTION PORTS SHALL BE REMOVED AND EPOXY

SHALL BE GROUND SMOOTH TO PROVIDE AN ACCEPTABLE SURFACE, WHICH SHALL BE

■ STRUCTURAL ENGINEER



STAMP



■ PROJECT NAME / LOCATION

5 0

■ ISSUE / REVISION

No. DESCRIPTION 100% CD

IF PRINT SIZE IS 30"x42" DESIGN DRAWN ■ PROJECT No. 19018.10

**GENERAL NOTES** 

■ SHEET

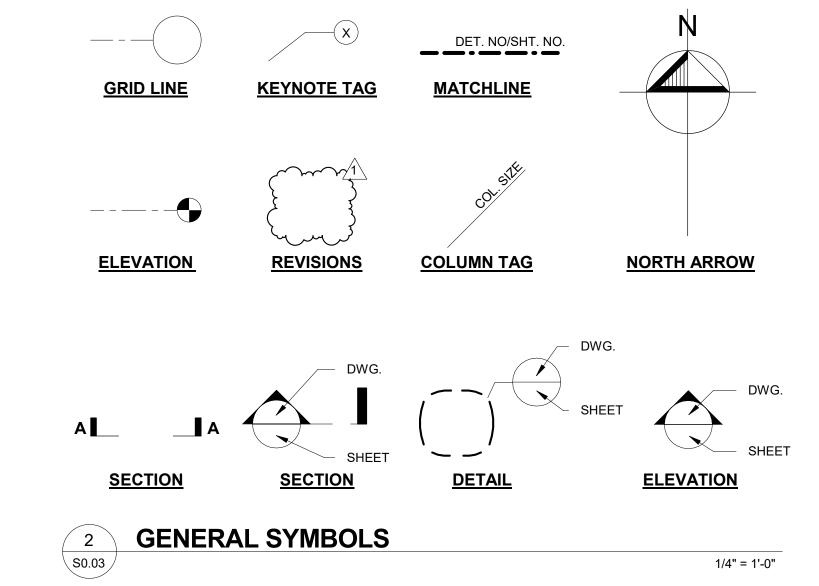


■ PROJECT NAME / LOCATION

5689

8/28/2019

30"x42"



ABOVE ANCHOR BOLT LLV LV. A.B. ANCHOR BOLT
ADD'L ADDITIONAL
ADJ. ADJACENT
A.F.F. ARCHITECTURAL FINISHED FLOOR
APPROX. APPROXIMATE
ARCH. ARCHITECT
A.T.R. ALL THREAD ROD
(B) BELOW
BLDG. BUILDING
BLKG. BLOCKING
BM. BEAM
B.N. BOUNDARY NAILING
B.O. BOTTOM OF
BOT. BOTTOM
BTWN. BETWEEN

CENTERLINE L.S. LVL L.W. CENTERLINE CUBIC FEET
CAST IN PLACE
CONSTRUCTION JOINT C.F. CUBIC FEET
C.I.P. CAST IN PLACE
C.J. CONSTRUCTION CLR. CLEAR
CMU CONCRETE MASO
CNTR. CENTER
COL. COLUMN
CNTRSNK. COUNTER SUNK CLEAR CONCRETE MASONRY UNIT CNTRSNICOLL.
COMP.
CONC.
COND.
CONT.
DBL.
DET.
DIA. Ø
DIAPH.
DIM.
DN.
DWG.
(F) COLLECTOR COMPACTED CONCRETE CONDITION CONNECTION CONTINUOUS DOUBLE DETAIL DIAMETER DIAPHRAGM DIMENSION DOWN DRAWING (E) EA. E/E E/F **EXISTING** EACH EACH END **EACH FACE ELEVATION** EL. EMB. E.N. EQ. EQUIV. E/S E/W EXT. FDN. EMBEDMENT EDGE NAILING EQUAL EQUIVALENT EACH SIDE EACH WAY EXTERIOR FOUNDATION FIN. FLR. F.N. F.S. FT. FTG. GA. GALV. FINISH FLOOR FIELD NAILING FAR SIDE FEET FOOTING GAUGE GALVANIZED G.L. GLB HD H.D.G. HDR. GRID LINE GLUED LAMINATED BEAM HOLDOWN HOT DIP GALVANIZED HEADER VERT. V.I.F. V.W.A. HORIZ. HORIZONTAL

HOLLOW STRUCTURAL STEEL

INSIDE DIAMETER

1 ABBREVIATIONS
S0.03

INCH INTERIOR POUND LONGITUDINAL

HT. HSS I.D. IN. INT. LB LONG.

LAG SCREW LAMINATED VENEER LUMBER LIGHT WEIGHT MAXIMUM MAX. M.B. MECH. MIN. MISC. MACHINE BOLT MECHANICAL MINIMUM MISCELLANEOUS ML. MTL. MICROLLAM METAL NEW NOT IN CONTRACT (N) N.I.C. N.S. N.T.S **NEAR SIDE** NOT TO SCALE N.W. O.C. O.D. OPNG. OPP. PAR. NORMAL WEIGHT ON CENTER OUTSIDE DIAMETER PERP. PL PSL PLYWD. PLYWOOD PRESSURE TREATED POST TENSIONED REFERENCE REF. R.C. REINF. RELATIVE COMPACTION REINFORCING REQ'D REQUIRED REVISION REV. S.A.D. S.C.D. S.L.D. S.M.D SCH. SHT. SHTG. SIMP. SIM. S.O.G. SCHEDULE SHEET SHEATHING SIMPSON SIMILAR SLAB ON GRADE SPEC. SQ. STAG. STD. STIFF. SPECIFICATIONS SQUARE STAGGERED STANDARD STIFFENER STL. S.W. STEEL SHEAR WALL S.W. SYM. T&B T&G THK. THR'D. SYMMETRIC TOP AND BOTTOM TONGUE AND GROOVE THREADED THROUGH T.O. T.O.C T.O.S. TRNSV. TOP OF TOP OF CONCRETE TOP OF SLAB/STEEL TRANSVERSE TUBE STEEL TYPICAL TS TYP. UNLESS OTHERWISE NOTED
VERTICAL
VERIFY IN FIELD
VERIFY WITH
WITH
WOOD
WITHOUT

LONG LEG VERTICAL

LEVEL

■ ISSUE / REVISION No. DESCRIPTION 100% CD OPENING
OPPOSITE
PARALLEL
PERPENDICULAR
PLATE
PARALLEL STRAND LUMBER SEE ARCHITECTURAL DRAWINGS SEE CIVIL DRAWINGS SEE LANDSCAPE DRAWINGS SEE MECHANICAL DRAWINGS ■ SCALE AS NOTED IF PRINT SIZE IS ■ S.E.R. ■ DESIGN ■ DRAWN

LS ■ PROJECT No. 19018.10 ■ DRAWING TITLE

SYMBOLS & **ABBREVIATIONS** 

■ SHEET

WORKING POINT

N.T.S.

WEIGHT

WD. W/O W.P.

WT.

TYPICAL PLYWD. SHEAR WALL ELEV.

SHEAR

CAPACITY,

Vs (PLF)

1280

6. SIMPSON STRONG TIE HOLD-DOWNS HDU14, COMPRRESSION POSTS PER PLAN

SHEAR WALL SCHEDULE

MEMBER

2x ROOF RAFTER

DBL. 2x ROOF RAFTER

TJI ROOF RAFTER

LVL ROOF RAFTER

2x FLOOR JOIST

TJI FLOOR JOIST

(SPAN < 18'-0")

TJI FLOOR JOIST

 $(SPAN \ge 18'-0")$ 

LVL OR DBL. LVL

FLOOR JOIST

4x OR 6x BEAM

GLULAM OR PSL

BEAM

SPACING (SIMP.

A35, LTP4 OR

12" O.C.

2. E.N. ACROSS ALL PANEL EDGES, FIELD NAILING IS 12" O.C. ALL NAILS ARE COMMON WIRE NAILS, MAY USE 10d

3. ALL MEMBERS RECEIVING E.N. INCLUDING SILL PLATE SHALL BE 3x AS A MIN. NAILING SHALL BE STAGGERED. EXCEPTION: WHERE PLYWOOD IS APPLIED TO ONLY ONE SIDE OF WALL AND NAIL SPACING IS 6" O.C. MEMBERS

4. ALL FDN. ANCHOR BOLTS ARE %"ø L-BOLTS W/ A 2" HOOK OR ALL THREAD ROD WITH A NUT, WASHER AND NUT ON THE EMBEDDED END. WHEN SHEAR WALLS ARE LOCATED ON (E) CONCRETE 5/8" Ø ALL THREAD ROD WITH SIMPSON SET-XP EPOXY MAY BE USED. ANCHORS SHALL HAVE A MIN. EMBEDMENT OF 7", A MIN. EDGE DISTANCE OF 1¾" AND SHALL HAVE A 3" SQ. x 3 GA. PLATE WASHER AT THE SILL. CONTRACTOR MAY USE BP%-3 OR BPS%-3 SIMPSON WASHERS. PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE(S) WITH SHEATHING. WHERE WALL IS GREATER THAN 2x4 AND SHEATHING OCCURS ON BOTH SIDES, ANCHOR BOLTS SHALL BE STAGGERED. A.B. & WASHER SHALL BE HOT DIPPED

5. SILL CONNECTION IS FOR WOOD TO WOOD CONNECTION ONLY, TYP. BTWN. FLOORS. WHERE SPACING IS CLOSER THAN 8" O.C. RIM OR RIM BLOCKING SHALL BE 3½" MIN WIDTH AND FASTENERS SHALL BE STAGGERED. SDS 1/4 x 6 MAY BE USED IN LIEU OF SDWS 0.220 x 6 AT CONTRACTOR'S DISCRETION.

HANGER

JB OR HUTF<sup>3</sup>

HUTF<sup>3</sup>

ITS OR LBV<sup>3</sup>

LB OR JB

ITS

LBV OR BA

LBV

FACE MOUNT TOP FLANGE

LUS OR U<sup>3</sup>

HU³

IUS OR HU<sup>3</sup>

HU³

LUS OR U

IUS

MIU OR HU

HU

HUCQ

1. ALL HANGERS BY SIMPSON OR APPROVED EQUIVALENT. INSTALL PER MANUFACTURER'S INSTRUCTIONS,

( <sub>b</sub> ) LS50)

NAILING

10d @ 3" O.C.

1. STRUCTURAL PANEL 15/32" PLYWOOD SHEATHING

SHORTS (2 1/8" MIN. LENGTH) W/ FULL HEADS.

RECEIVING EDGE NAILING CAN BE 2x.

GALVANIZED.

(E.N.) SEE

(a) NOTE 2

SILL PL CONN.

SPACING (SIMP.

SDWS 0.220 x 6)

SEE NOTE 5

8" O.C.

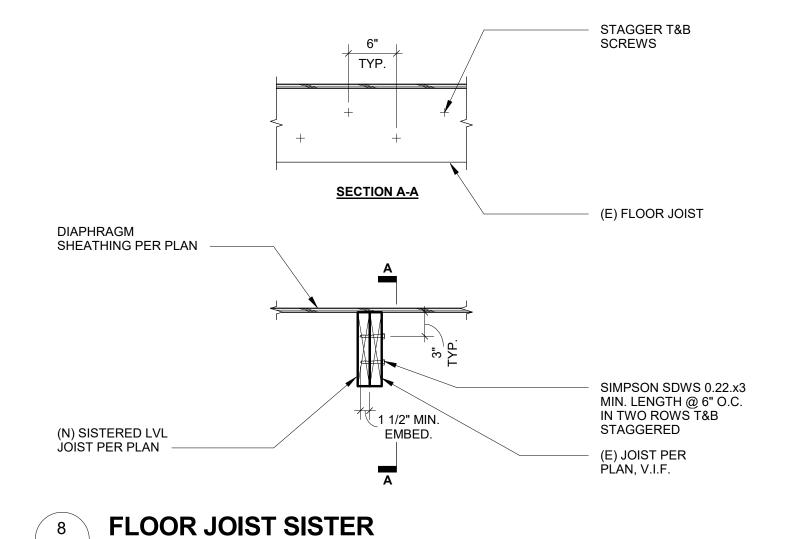
FDN. ANCHOR

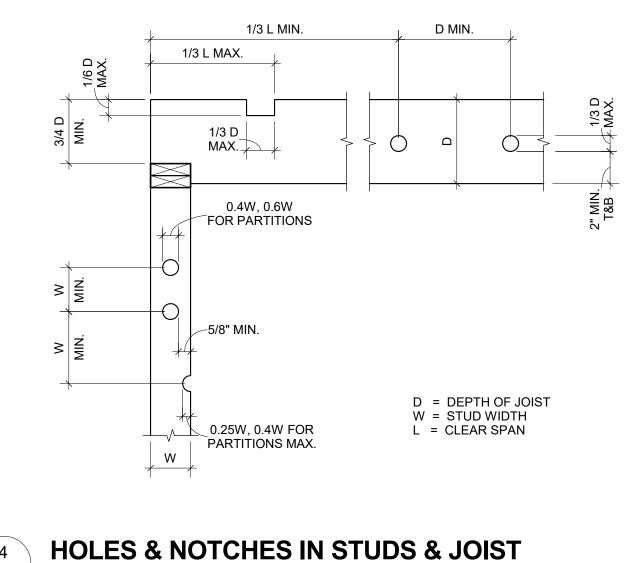
SPACING. SEE

NOTE 4

24" O.C.

N.T.S.





**NAILING SCHEDULE** 

S1.00

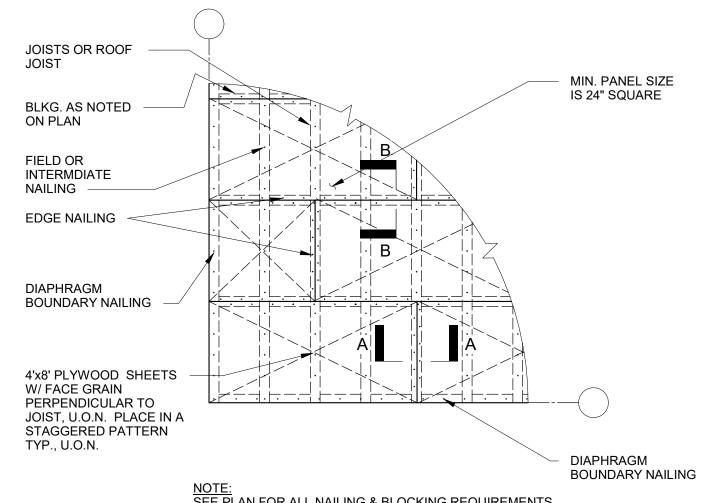
1" = 1'-0"

3/8" CLI TYP.	₹.,
	NAIL AS INDICATED
	PLYWD., SEE PLANS FOR THICKNESS
SECT. A-A	FLR. OR ROOF JOIST
	NAILS AS INDICATED
	3x4 FLAT BLOCKING

S1.00

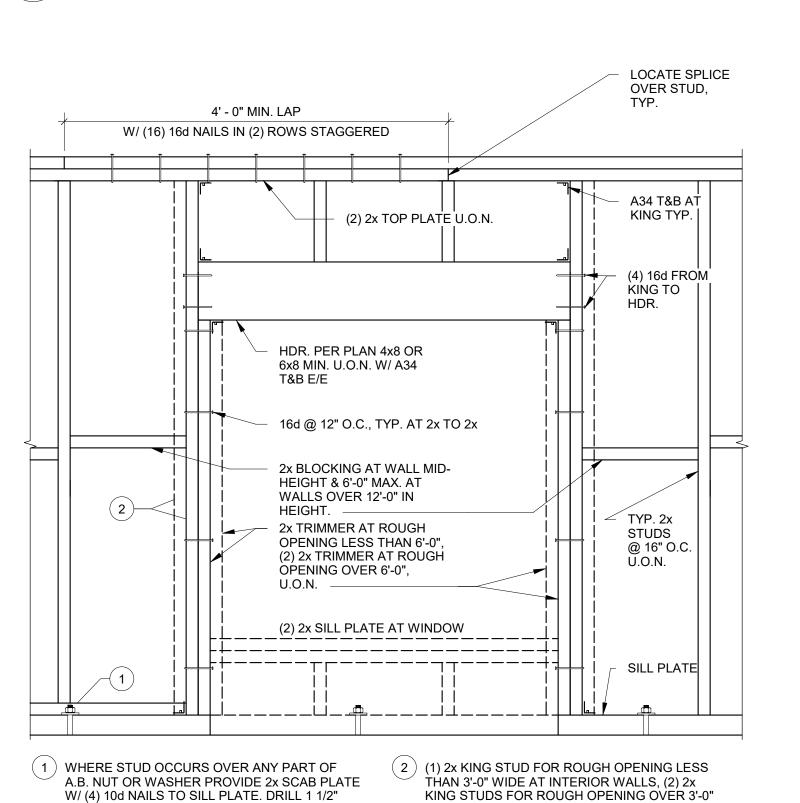
N.T.S.

<u>SECT. B-B</u> @ FLR. DIAPH. W/ WD. BLKG.



JOISTS OR ROOF JOIST	MIN. PANEL SIZE
BLKG. AS NOTED ON PLAN	IS 24" SQUARE
FIELD OR INTERMDIATE NAILING	
EDGE NAILING	
DIAPHRAGM BOUNDARY NAILING	<b>A</b>
4'x8' PLYWOOD SHEETS W/ FACE GRAIN PERPENDICULAR TO JOIST, U.O.N. PLACE IN A STAGGERED PATTERN	
TYP., U.O.N.	DIAPHRAGM BOUNDARY NAILING
<u>NOTE:</u> SEE PLAN FOR ALL NAILING & BLOCKING REQUIREMI	ENTS

6	TYP. FLR. & ROOF PLYWD. DIAPHRAGM NAILING	
S1.00		N.T.S.



WIDE AND AT EXTERIOR WALLS, U.O.N.		
R & WINDOW OPNG.		
	N.T.S.	

NAILING GOILEGEL	
CONNECTION	NAILING
1. JOIST TO SILL OR GIRDER, TOE NAIL	(3) 8d
2. BRIDGING TO JOIST, TOE NAIL E/E	(2) 8d
3. 1" x 6" SUBFLOOR OR LESS TO EA. JOIST, FACE NAIL	(2) 8d
4. WIDER THAN 1" x 6" SUBFLOOR TO EA. JOIST, FACE NAIL	(3) 8d
5. 2" SUBFLOOR TO JOIST OR GIRDER, BLIND & FACE NAIL	(2) 16d
6. SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL SOLE PLATE TO JOIST, AT BRACED WALL PANELS	16d @ 16" O.C. (3) 16d @ 16" O.C.
7. TOP PLATE TO STUD, END NAIL	(2) 16d
8. STUD TO SOLE PLATE	(4) 8d TOE NAIL OR (2) 16d END NAIL
9. DOUBLE STUDS, FACE NAIL	16d @ 24" O.C.
10. DOUBLE TOP PLATES, FACE NAIL DOUBLE TOP PLATES, LAP SPLICE (PARTITION)	16d @ 16" O.C. (8) 16d
11. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL	(3) 8d
12. RIM JOIST TO TOP PLATE, TOE NAIL	8d @ 16" O.C.
13. TOP PLATES, LAP AND INTERSECTIONS, FACE NAIL	(2) 16d
14. CONTINUOUS HEADER, TWO PIECES	16d @ 16" O.C. ALONG EACH EDGE
15. CEILING JOISTS TO PLATE, TOE NAIL	(3) 8d
16. CONTINUOUS HEADER TO STUD, TOE NAIL	(4) 8d
17. CEILING JOISTS, LAP OVER PARTITIONS, FACE NAIL	(3) 16d
18. CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	(3) 16d MIN. SEE 2010 CBC TABLE 2308.10.4.1
19. RAFTER TO PLATE, TOE NAIL	(3) 8d
20.1" DIAGONAL BRACE TO EA. STUD & PLATE, FACE NAIL	(2) 8d
21.1" x 8" SHEATHING OR LESS TO EA. BEARING, FACE NAIL	(2) 8d
22.WIDER THAN 1" x 8" SHEATHING TO EA. BEARING, FACE NAIL	(3) 8d
23.BUILT-UP CORNER STUDS	16d @ 24" O.C.
24.BUILT-UP GIRDER & BEAMS	20d @ 32" O.C. FACE NAIL T&B STAGG. ON OPP. SIDES & (2) 20d FACE NAIL AT ENDS AND SPLICES
25.2" PLANKS, FACE NAIL	16d @ EACH BEARING
26.COLLAR TIE TO RAFTER, FACE NAIL	(3) 10d
27.JACK RAFTER TO HIP	(3) 10d TOE NAIL (2) 16d FACE NAIL
28.ROOF RAFTER TO 2x RIDGE BEAM	(2) 16d TOE NAIL (2) 16d FACE NAIL
29.JOIST TO BAND JOIST, FACE NAIL	(3) 16d
30.LEDGER STRIP, FACE NAIL AT EACH JOIST	(3) 16d
31.WOOD STRUCTURAL PANELS SUBFLOOR, ROOF & WALL SHEATHING (TO FRAMING)	10d
32.PANEL SIDING (TO FRAMING)	8d
33.FIBERBOARD SHEATHING	8d
	I.

1	NAILING SCHED
S1.00	

34.INTERIOR PANELING

CENTER

■ STRUCTURAL ENGINEER

Holmes Structures

■ PROJECT NAME / LOCATION

■ STAMP

N.T.S.

523 West 6th St, STE 1122 Los Angeles, CA 90014 USA T: 213 481 5630 holmesstructures.com

■ ISS	UE / REVISION	
No.	DESCRIPTION	DATE
	100% CD	8/28/2019

■ SCALE	AS NOTED IF PRINT SIZE IS 30"x42"
■ S.E.R.	NM
■ DESIGN	DW
■ DRAWN	LS
■ PROJECT No.	19018.10

DRAWING TITLE

TYPICAL DETAILS

■ SHEET

NOTES:

TYPICAL HANGER SCHEDULE

2. USE LARGEST HANGER ALLOWED FOR FRAMING MEMBER.

3. HANGER MAY BE SLOPED UP TO 45°

N.T.S.

**TYPICAL FRAMING @ DOOR & WINDOW C** 

DIA. HOLE FOR A.B.

All drawings and written material appearing herein constitute original and unpublished work of the Structural Engineer and may not be duplicated, used or disclosed without consent of Structural Engineer.

N.T.S.

# **SHEET**

- 1. CONTRACTOR TO V.I.F. EMBEDMENT DEPTH OF (E) STRIP FOOTINGS SUPPORTING (E) CONC. WALLS.
- 2. NO EXCAVATIONS (SUCH AS FOR LANDSCAPING PLANTERS) DIRECTLY ADJACENT TO PERIMETER WALLS ARE PERMITTED. 3.SEE DET. 2 / S5.00 FOR TYP. FLOOR POST BRACING DETAIL
- THROUGHOUT ENTIRE BUILDING, WHERE OCCURS
- 4. EXISTING CRACKS IN CONCRETE ELEMENTS EXCEEDING 1/16TH INCH CRACK WIDTH SHALL BE EPOXY INJECTED. SEE GENERAL NOTES FOR REQUIREMENTS 5. EXTENT OF ALL (E) "SPRUNG" FLOOR LOCATIONS TO BE V.I.F. BEFORE STARTING WORK. SEE DETAIL 3/S5.00 FOR ALTERNATIVE WALL ANCHORAGE DETAIL. V.I.F. IF (E) JOISTS ARE CONT., OR IF (E) JOISTS ARE LAPPED/OR HAVE BUTTED END CONNECTIONS. ALLOW FOR RETROFIT OF (E) JOIST CONNECTIONS USING EITHER METAL STRAPPING, OR BY SISTERING NEW JOISTS TO LAP EVERY ALTERNATING JOIST @ 32" O.C. CONTRACTOR TO SUBMIT PREFERRED OPTION TO ENGINEER FOR APPROVAL BEFORE STARTING WORK.
- 6. ALL MEMBERS & FRAMING SHALL BE ASSUMED NEW (N) U.O.N.

# **KEY NOTES:**

- (6) (E) SUSPENDED CONCRETE SLAB, V.I.F.
- (7) (E) CONCRETE SLAB ON GRADE, V.I.F.
- (E) 1/2" PLANK SHEATHING, V.I.F., W/ MIN. 4X BLOCKING U.O.N. & (2) ROWS OF 8d NAILS @ 2 1/2" O.C. (B.N.) & 3" O.C. (E.N.)

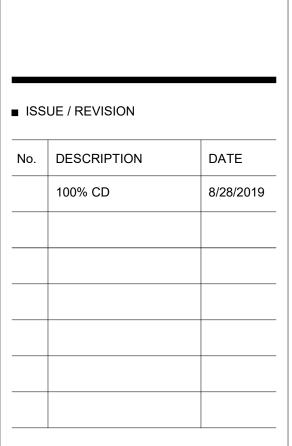


■ STRUCTURAL ENGINEER

STAMP



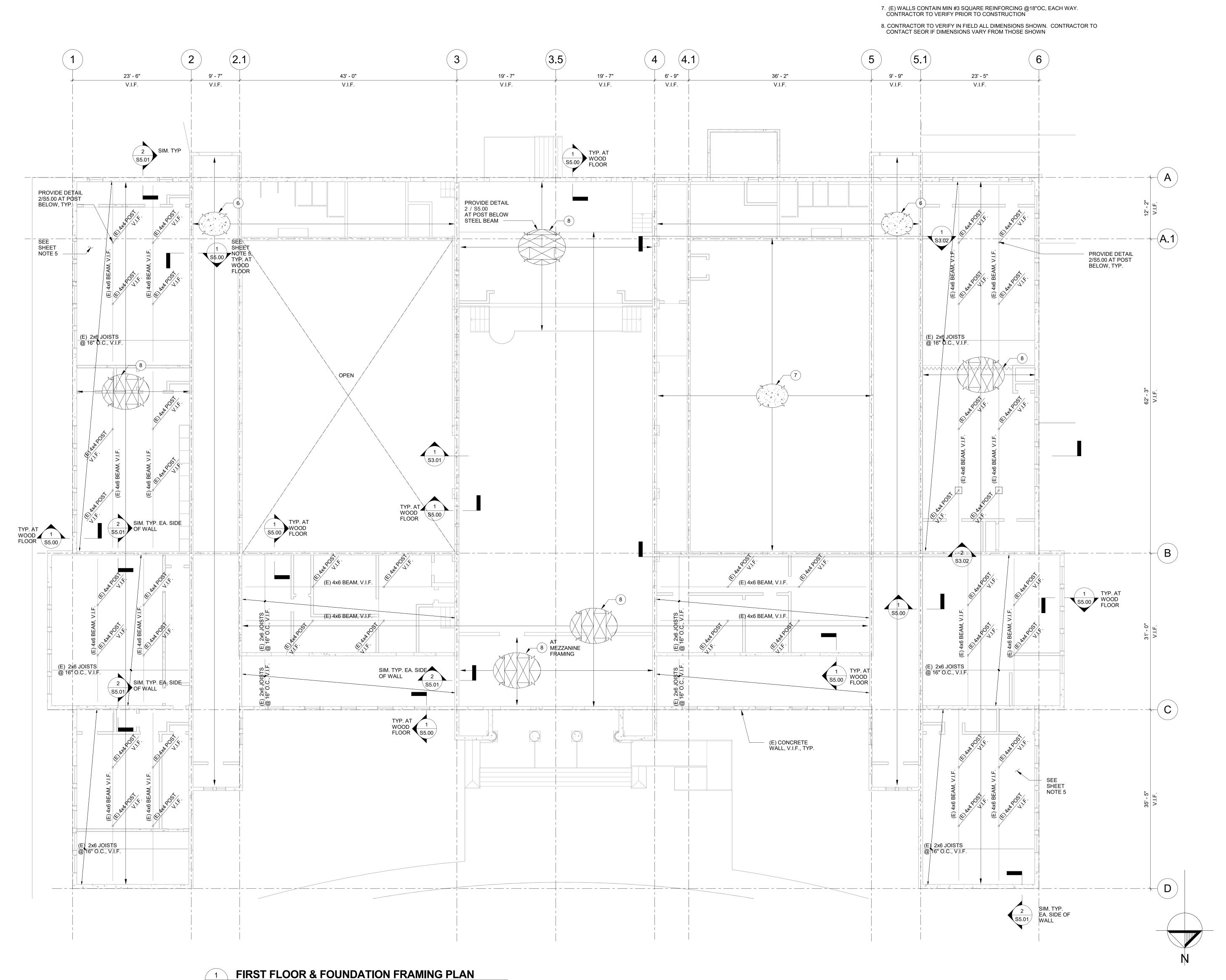
■ PROJECT NAME / LOCATION



■ S.E.R. ■ DESIGN ■ DRAWN ■ PROJECT No.

DRAWING TITLE

FIRST FLOOR & FOUNDATION FRAMING PLAN



## **SHEET**

- 1. AUDITORIUM TRUSS CONNECTION (E) NAILING TO BE V.I.F., ALLOW FOR (N) NAILING ALL TRUSS WEB-CHORD CONNECTIONS TYP.
- 2. ALL MEMBERS & FRAMING SHALL BE ASSUMED NEW (N) U.O.N.
- 3. (E) WALLS CONTAIN MIN #3 SQUARE REINFORCING @18"OC, EACH WAY. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION
- 4. CONTRACTOR TO VERIFY IN FIELD ALL DIMENSIONS SHOWN. CONTRACTOR TO CONTACT
- SEOR IF DIMENSIONS VARY FROM THOSE SHOWN 5. MAXIMUM ALLOWABLE NEW ROOF WEIGHT IS 7 PSF. CONSULT SEOR FOR ADDITIONAL ALLOWANCE.

# **KEY NOTES:**

- $\left(\begin{array}{c}1\end{array}
  ight)$  (E) 1/2" PLANK SHEATHING, V.I.F., PROVIDE 23/32" PLYWOOD SHEATHING (HIGH LOAD DIAPHRAGM) W/ MIN. 4X BLOCKING Ù.O.N. & (2) ROWS OF 10d NAILS @ 2 1/2" O.C. (B.N.) & 3" O.C. (E.N.)
- (E) 1/2" PLANK SHEATHING, V.I.F., PROVIDE 15/32" PLYWOOD SHEATHING W/ MIN. 3X BLOCKING U.O.N. & 10d NAILS @ 2 1/2" O.C. (B.N.) & 3" O.C. (E.N.)
- (4) WOOD-FRAMED WALLS, OR PORTIONS THEREOF AROUND OPENINGS, WITH NO DASHED SHEATHING LINES SHALL BE SHEATHED WITH 15/32" PLYWOOD (ONE SIDE) W/ MIN. 3x BLOCKING U.O.N., W/ 8d NAILS @ 6" O.C. TO ALL PANEL EDGES AND 8d @ 12" O.C. FIELD NAILING
- (5) (2)-3x6 DF #1 CONT. CHORD MEMBERS SISTERED TÝP. WITH (E) PURLINS, PROVIDE BLOCKING PER PLAN

EXISTING STUD FRAMING CONDITION TO BE V.I.F. ALLOW FOR (N) STUD FRAMING & TOP

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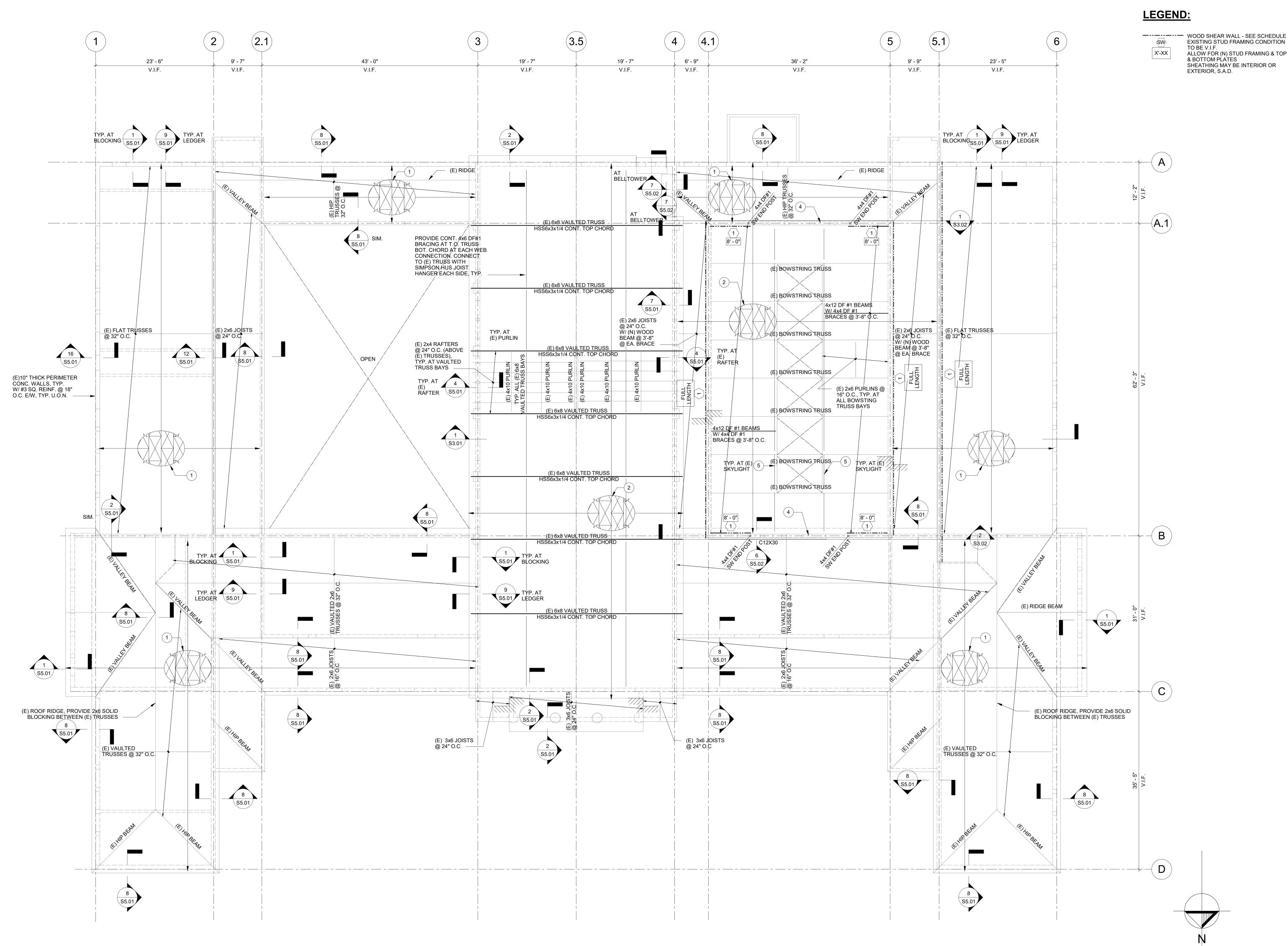
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**ROOF FRAMING PLAN** 

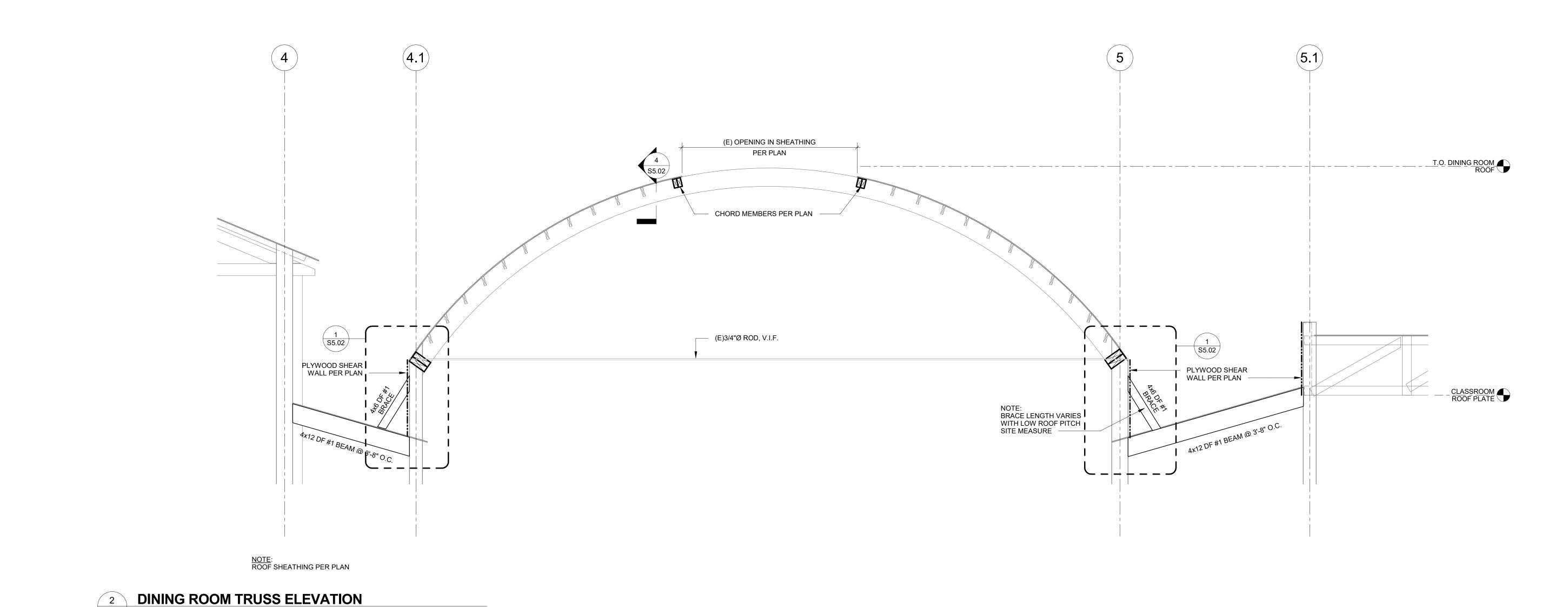


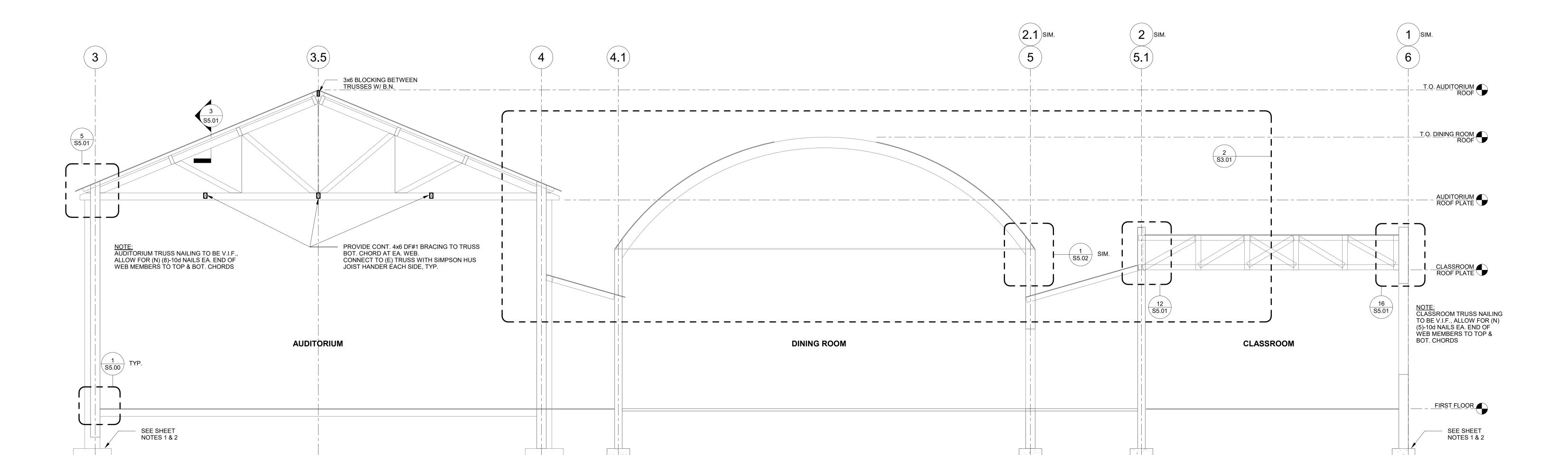
**ROOF FRAMING PLAN** 

1/8" = 1'-0"

# **SHEET NOTES:**

- 1. CONTRACTOR TO V.I.F. EMBEDMENT DEPTH OF (E) STRIP FOOTINGS SUPPORTING (E) CONC.
- 2.NO EXCAVATIONS (SUCH AS FOR LANDSCAPING PLANTERS) DIRECTLY ADJCAENT TO PERIMETER WALLS ARE PERMITTED.
- 3. SEE DET. 1/S5.00 FOR TYP. FLOOR POST BRACING DETAIL THROUGHOUT ENTIRE BUILDING4. AUDITORIUM TRUSS CONNECTION (E) NAILING TO BE V.I.F., ALLOW FOR (N) NAILING ALL TRUSS WEB-CHORD CONNECTIONS TYP.





3/8" = 1'-0"

NOTE:
ROOF SHEATHING PER PLAN

PARTIAL TRUSS ELEVATION

1/4" = 1'-0"

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TRUSS ELEVATIONS

SHEET

■ DRAWING TITLE

S3.01

# **SHEET NOTES:**

- 1. CONTRACTOR TO V.I.F. EMBEDMENT DEPTH OF (E) STRIP FOOTINGS SUPPORTING (E) CONC.
- 2. NO EXCAVATIONS (SUCH AS FOR LANDSCAPING PLANTERS) DIRECTLY ADJCAENT TO PERIMETER WALLS ARE PERMITTED.
- 3. SEE DET. 1/S5.00 FOR TYP. FLOOR POST BRACING DETAIL THROUGHOUT ENTIRE BUILDING AUDITORIUM TRUSS CONNECTION (E) NAILING TO BE V.I.F., ALLOW FOR (N) NAILING ALL TRUSS WEB-CHORD CONNECTIONS TYP.

# **KEY NOTES:**

- (1) (E) 1/2" PLANK SHEATHING, V.I.F., PROVIDE 23/32" PLYWOOD SHEATHING (HIGH LOAD DIAPHRAGM) W/ MIN. 4X BLOCKING Ù.O.N. & (2) ROWS OF 10d NAILS @ 2 1/2" O.C. (B.N.) & 3" O.C. (E.N.)
- (4) WOOD-FRAMED WALLS, OR PORTIONS THEREOF AROUND OPENINGS, WITH NO DASHED SHEATHING LINES SHALL BE SHEATHED WITH 15/32" PLYWOOD (ONE SIDE) W/ MIN. 3x BLOCKING U.O.N., W/ 8d NAILS @ 6" O.C. TO ALL PANEL EDGES AND 8d @ 12" O.C. FIELD NAILING





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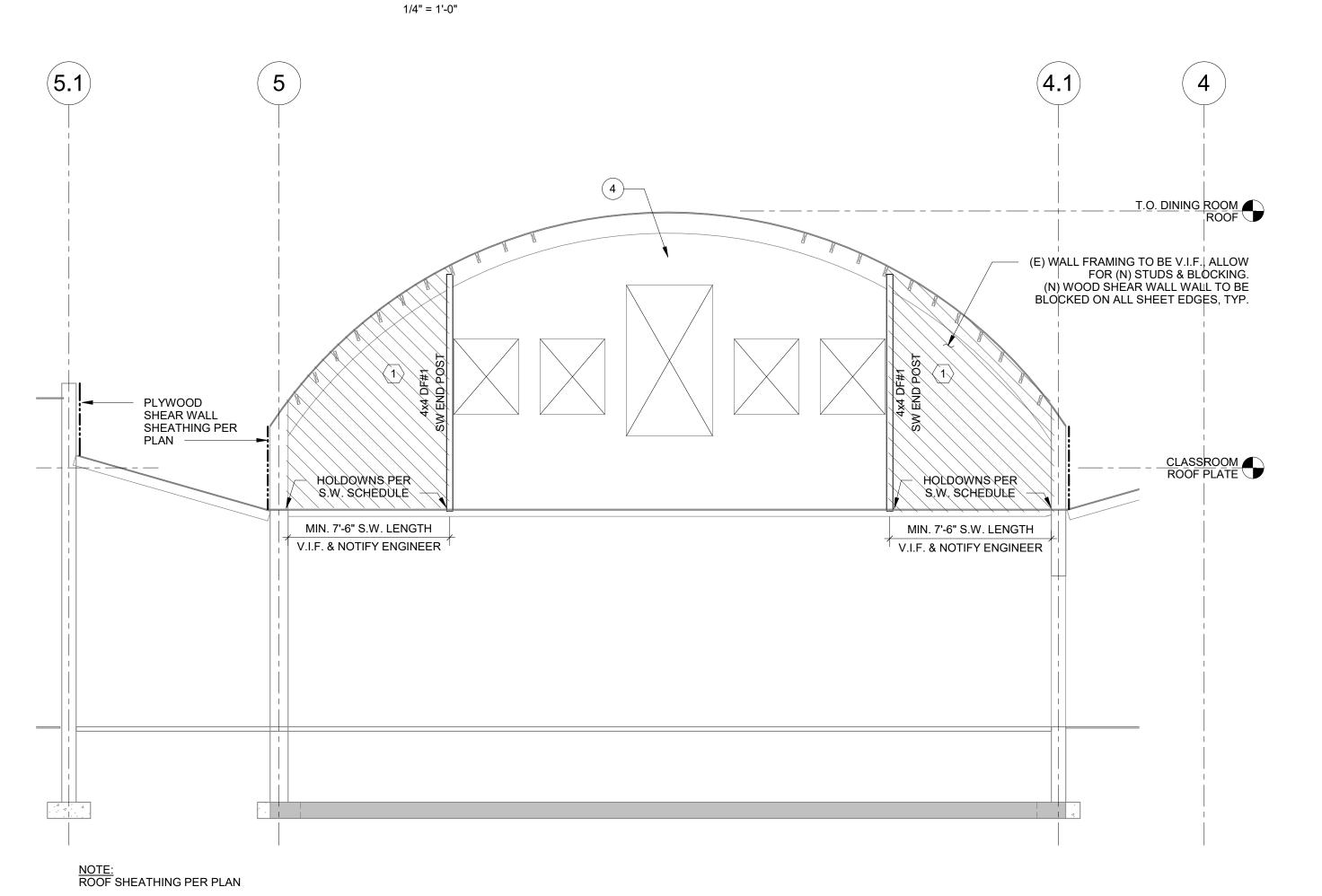
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TRUSS ELEVATIONS

MAINTAIN CURRENT (E) WALL FRAMING TO BE V.I.F., ALLOW FOR (N) STUDS & BLOCKING.
(N) WOOD SHEAR WALL WALL TO BE
BLOCKED ON ALL SHEET EDGES, TYP. MEP OPENINGS HOLDOWNS PER HOLDOWN'S PER S.W. SCHEDULE S.W. SCHEDULE —MIN. 7'-6" SW LENGTH— MIN. 7'-6" SW LENGTH V.I.F. & NOTIFY ENGINEER V.I.F. & NOTIFY ENGINEER 5' - 0" STEEL BEAM PER PLAN FIXED TO
 (E) CONC. WALL. MAKE GOOD OF
 (E) CEILING PER ARCH. DETAILS



<u>NOTE:</u> ROOF SHEATHING PER PLAN





**DINING ROOM SOUTH GABLE END** 

**SHEET** 

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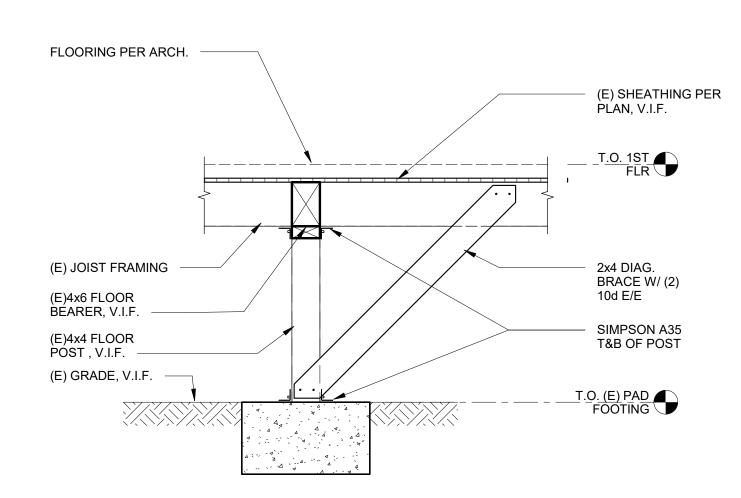
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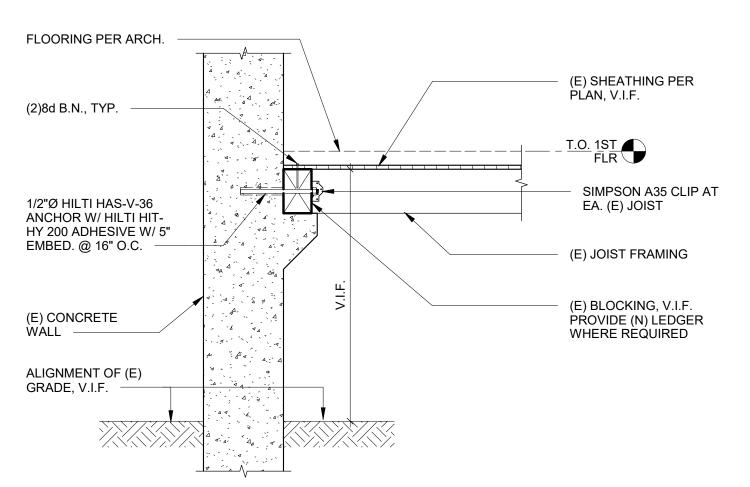
FLOORING PER ARCH. (E) SHEATHING PER PLAN, V.I.F. 1/2"Ø HILTI HAS-V-36 ANCHOR W/ HILTI HIT-HY 200 ADHESIVE W/ 5" (E) JOIST FRAMING EMBED. @ 24" O.C. — A35 CLIP E/S E/E OF (E) JOISTS FRAMING - (E) LEDGER, V.I.F. PROVIDE (N) LEDGER WHERE REQUIRED (E) CONCRETE WALL

NOTE: CONTRACTOR SHALL V.I.F. CONDITION OF LAPS IN (E) JOISTS, SISTER NEW JOISTS WHERE REDUIRED FOR CONTINUITY

3 ALTERNATIVE FIRST FLOOR CONNECTION DETAIL
S5.00 WHERE SPRUNG FLOOR OCCURS
1" = 1'-0"



TYP. FLOOR POST BRACING DETAIL THROUGHOUT S5.00 ENTIRE BUILDING



NOTE: NO EXCAVATIONS (SUCH AS FOR LANDSCAPING PLANTERS) DIRECTLY ADJACENT TO PERIMETER WALLS ARE PERMITTED

\$5.00

TYPICAL FIRST FLOOR WALL CONNECTION DETAIL

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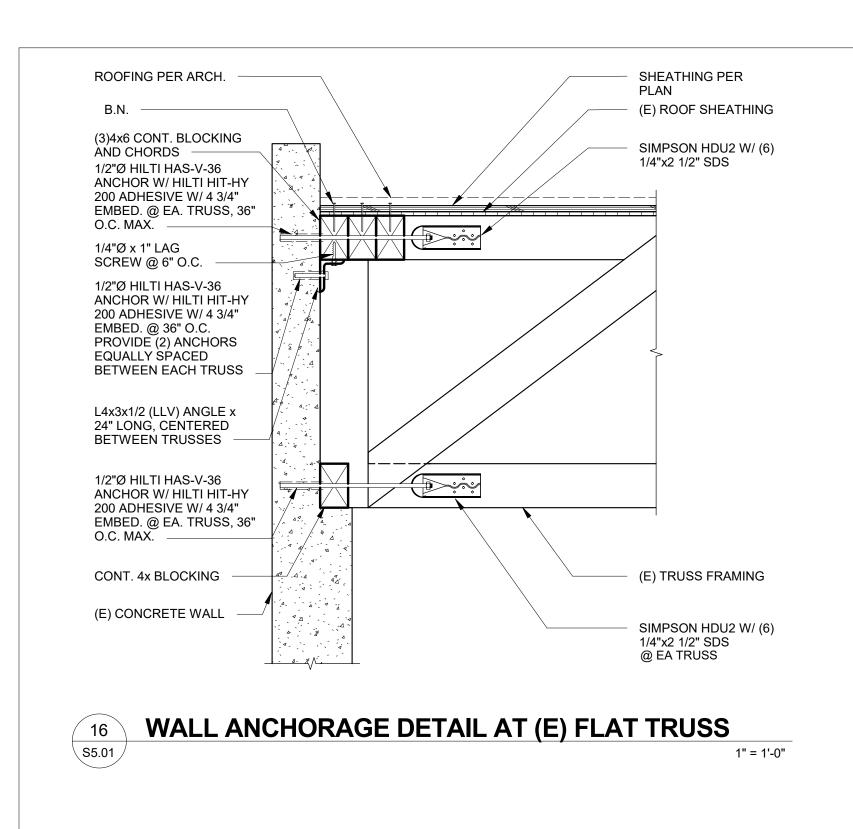
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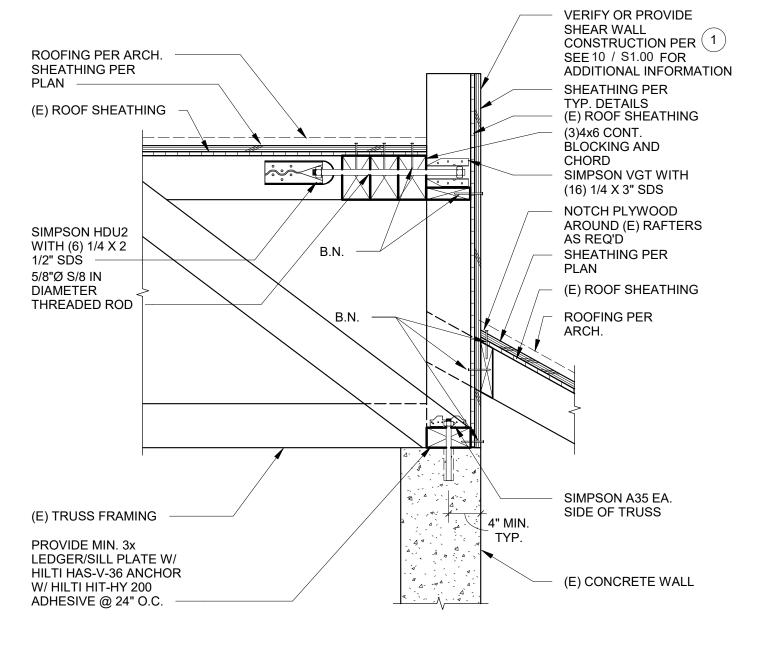
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FLOOR FRAMING AND ANCHORAGE **DETAILS** 

■ SHEET

S5.00





TRUSS DETAIL

ROOFING PER ARCH.

PROVIDE 4x CONT.

3/4"Ø HILTI HAS-V-36

ANCHOR W/ HILTI HIT-HY 200 ADHESIVE W/ 5"

EMBED. @ 12" O.C. —

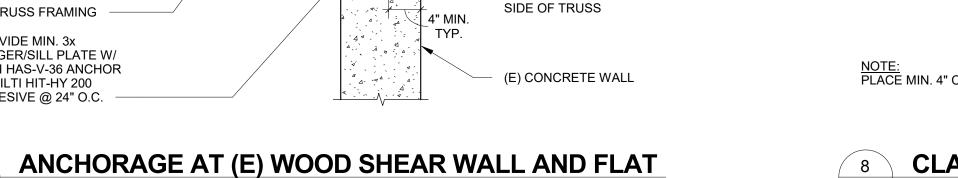
LEDGER, TYP.

(E) CONCRETE

NOTE: ALTERNATE WITH DETAIL 1 / S5.01

**CLASSROOM WALL ANCHORAGE DETAIL** 

B.N.



SHEATHING PER

PÉR PLAN, V.I.F.

(E) ROOF SHEATHING

1/4"Ø x 1" LAG SCREW

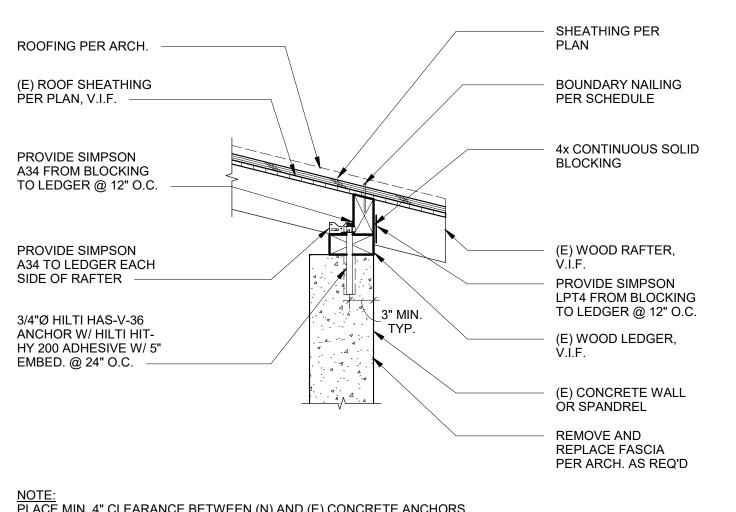
W/ 1/2" MAX. DRYPACK

L4x3x1/2 (LLV) CONT. ANGLE

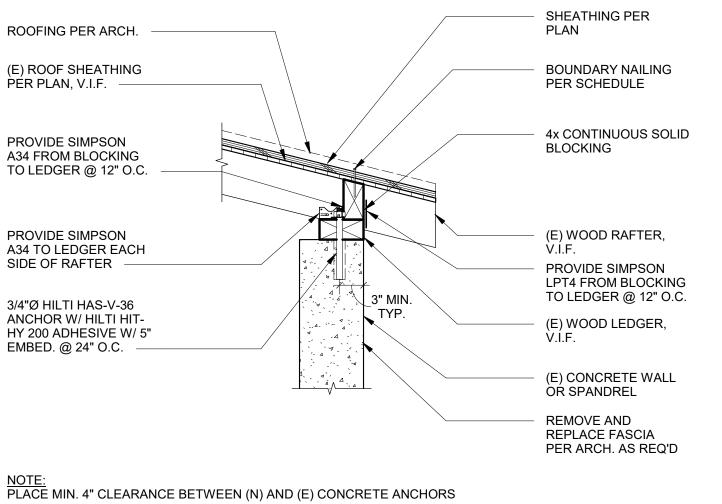
1" = 1'-0"

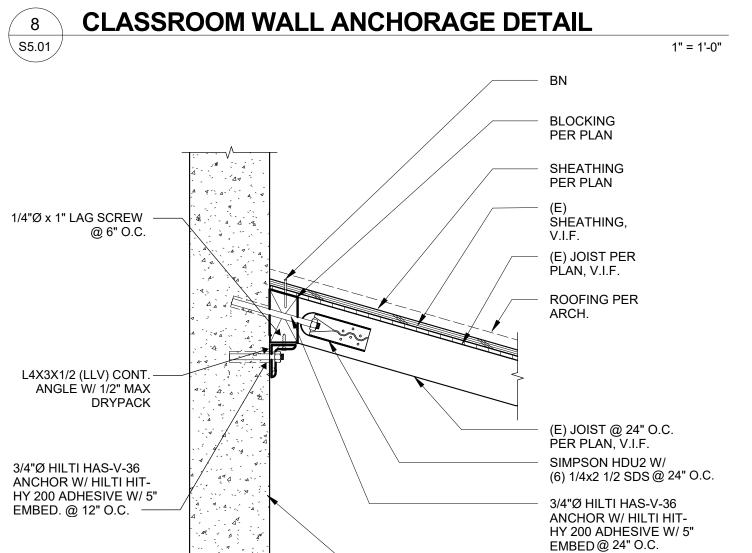
@ 6" O.C.

PLAN





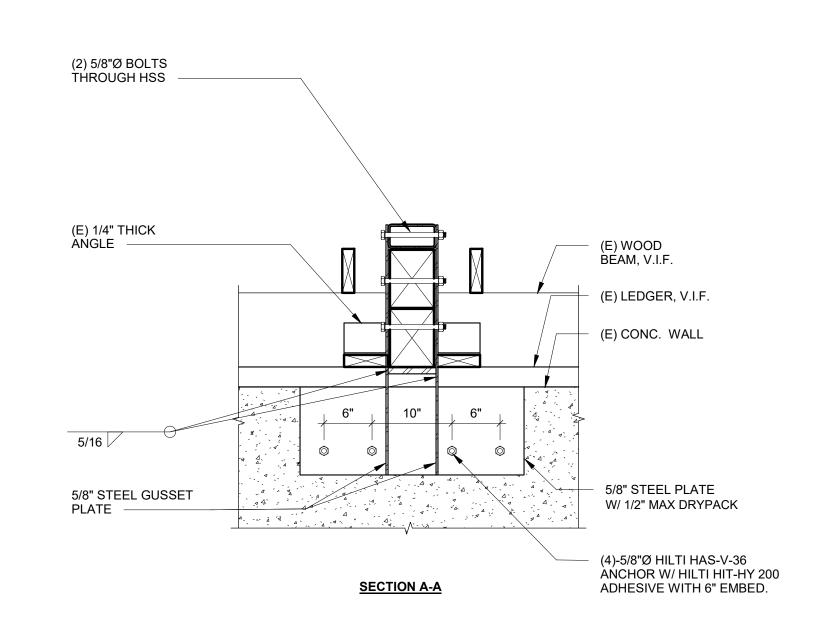


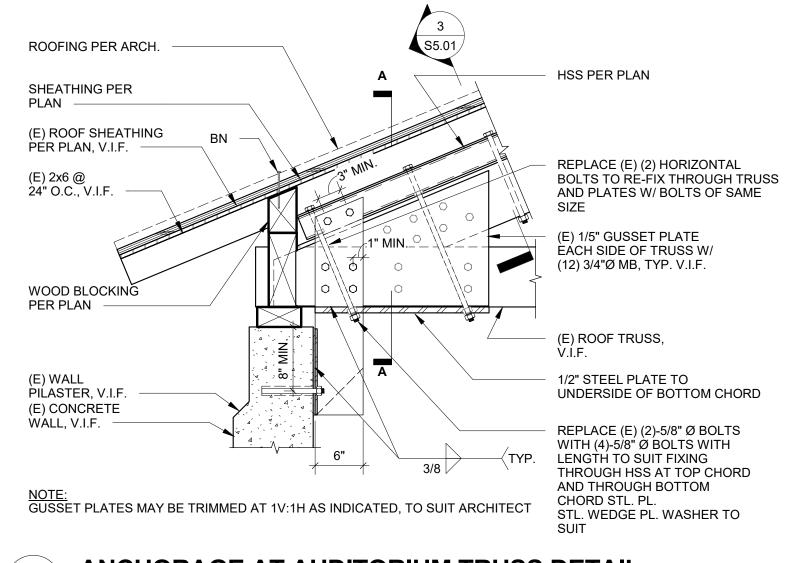




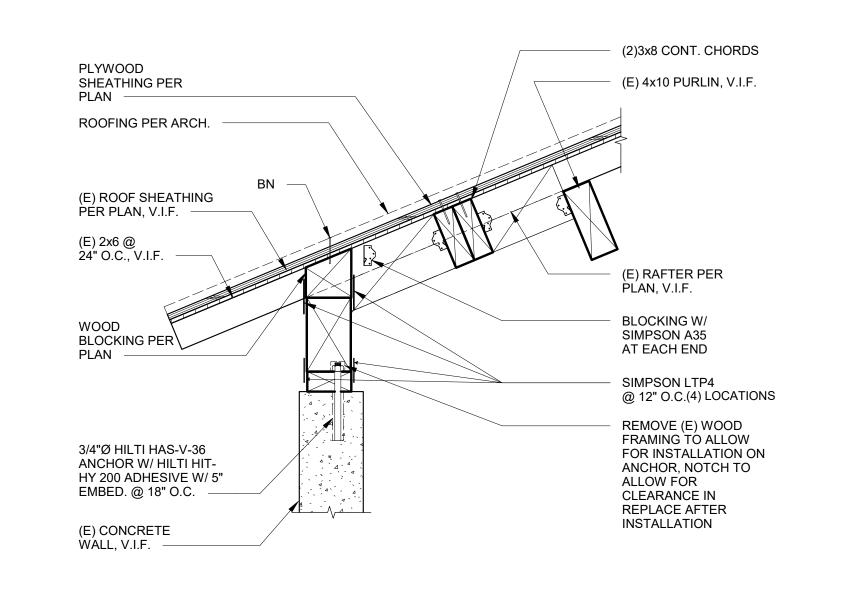
L'ajrient

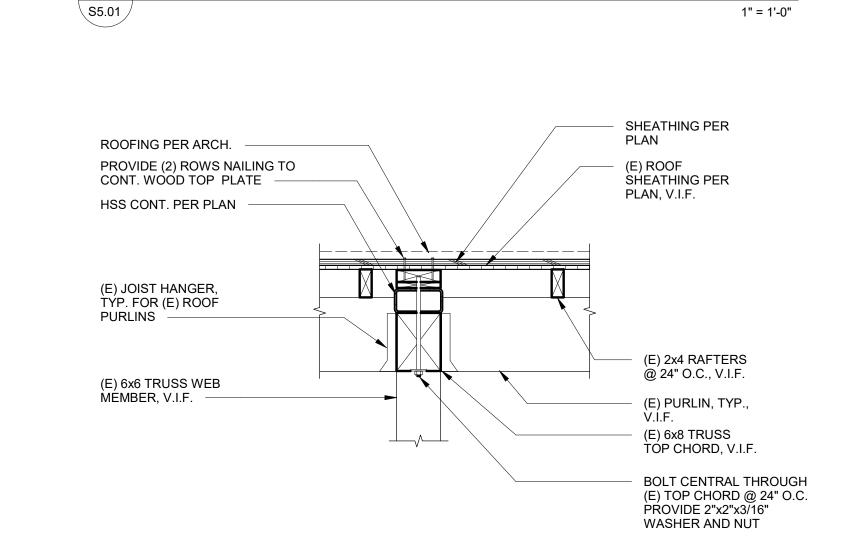
(E) CONCRETE WALL, V.I.F.



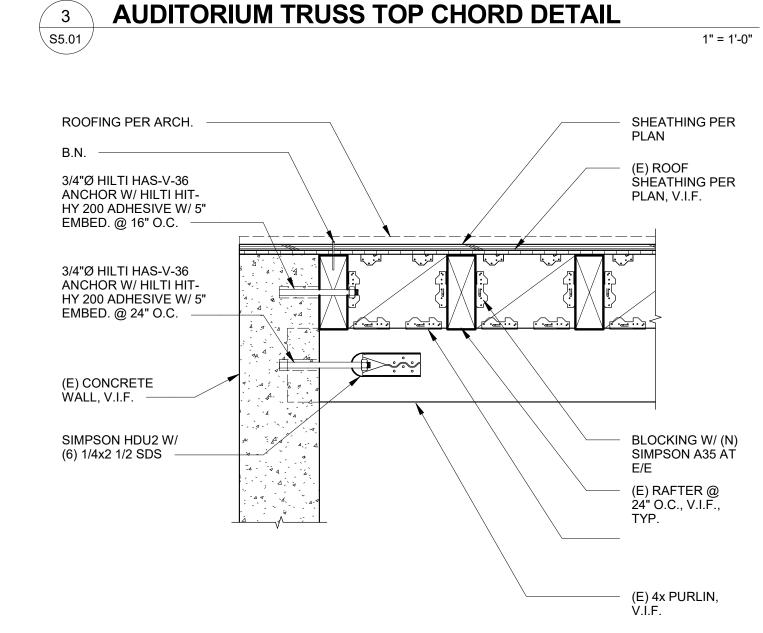




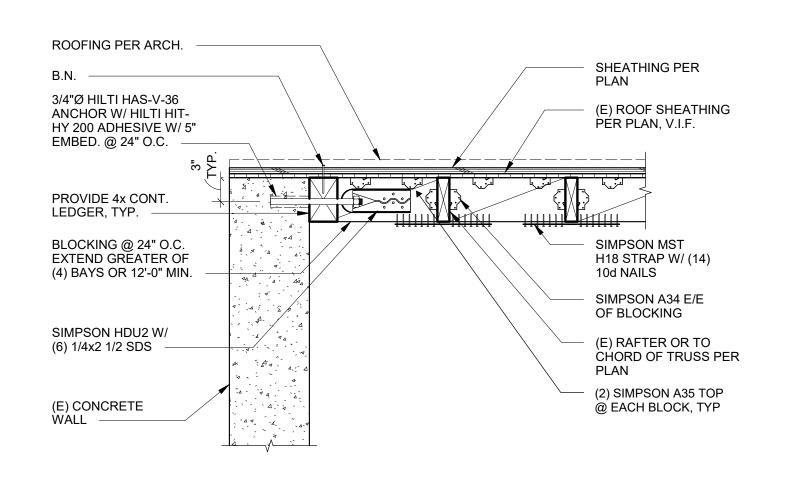




DIAPHRAGM DETAIL AT AUDITORIUM







NOTE: ALTERNATE WITH DETAIL 9 / S5.01

**CLASSROOM WALL ANCHORAGE DETAIL** S5.01 /

H Z J

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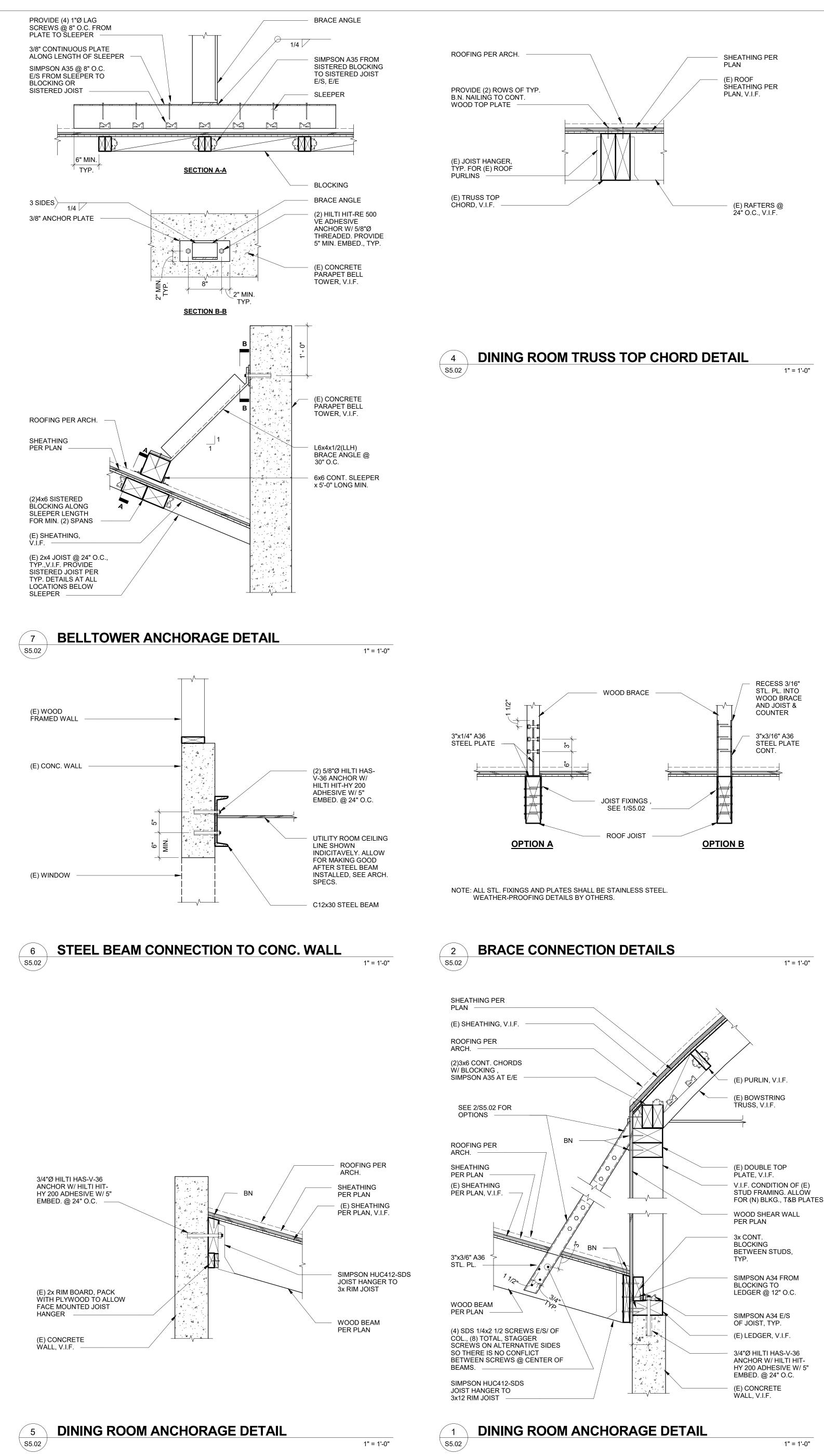
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**ROOF ANCHORAGE DETAILS** 

■ SHEET

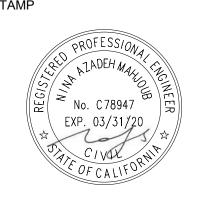
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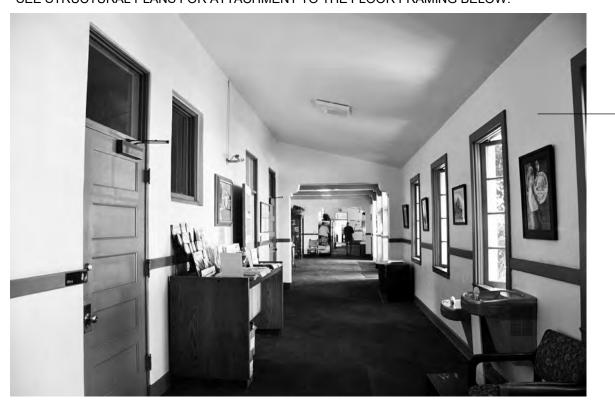
**ANCHORAGE AND BRACING DETAILS** 

■ SHEET

S5.02

F. Classroom w/ Sprung Floor

IT APPEARS THAT ROOM 4 HAS A SPRUNG DANCE FLOOR OVER AN EXISTING SUBFLOOR. SEE STRUCTURAL PLANS FOR ATTACHMENT TO THE FLOOR FRAMING BELOW.



# G. North Corridor Looking West

SCOPE OF WORK INCLUDES REMOVAL OF FLOOR FINISHES AS REQUIRED TO INSTALL NEW BOUNDARY AND FLOOR NAILING. REINSTALL CARPET FOLLOWING REPAIRS. WOOD ROOFING FRAMING BLOCKING AND ATTACHMENT PER STRUCTURAL DWGS. CONTRACTOR TO REVIEW LOCATIONS OF TEMPORARY ACCESS PANELS WITH ARCHITECT PRIOR TO CONSTRUCTION. ALL TEMPORARY ACCESS PANELS WILL NEED TO BE REPAIRED AND FINISHES PATCHED TO MATCH ADJACENT SURFACES. PAINT ENTIRE INTERIOR SURFACE IMPACTED BY PATCHING.



# H. East Corridor Facing South

SCOPE OF WORK INCLUDES ADDING PLYWOOD SHEATHING TO THE WOOD FRAMED PARAPET WALLS. REMOVE EXISTING 1X ROOF DECK AS REQUIRED TO INSTALL NEW SHEAR WALLS. REINSTALL 1X ROOF DECK AND INSTALL NEW PLYWOOD ABOVE PER STRUCTURAL DWGS. PROVIDE NEW CEMENT STUCCO AT FACE OF PARAPET WALLS. PROVIDE WD. TRIM, AS REQUIRED, TO ACCOMMODATE THICKER PARAPET WALL WHERE IT MEETS LOWER CONCRETE WALL. PAINT EXTERIOR.



I. View of Dining Rm. Facing East SCOPE OF WORK INCLUDES STRENGTHENING OF WOOD FRAMED VAULT AND SHEAR WALLS. WORK AT THE EAST WALL SHOULD NOT DISTURB THE EXISTING PAINTED WALL



J. Typical Classroom

INTERIOR SURFACE IMPACTED BY PATCHING.

MURAL INDICATED WITH THE ARROW.

SCOPE OF WORK INCLUDES REMOVAL OF FLOOR FINISHES AS REQUIRED TO INSTALL NEW BOUNDARY AND FLOOR NAILING. REINSTALL CARPET FOLLOWING REPAIRS. WOOD ROOFING FRAMING BLOCKING AND ATTACHMENT PER STRUCTURAL DWGS. CONTRACTOR TO REVIEW LOCATIONS OF TEMPORARY ACCESS PANELS WITH ARCHITECT PRIOR TO CONSTRUCTION. ALL TEMPORARY ACCESS PANELS WILL NEED TO BE REPAIRED AND FINISHES PATCHED TO MATCH ADJACENT SURFACES. PAINT ENTIRE



A. Typical Crawl Space

SCOPE OF WORK INCLUDES STRUCTURAL STRENGTHENING PER DRAWINGS. CONTRACTOR TO REVIEW TEMPORARY ACCESS PANELS WITH ARCHITECT



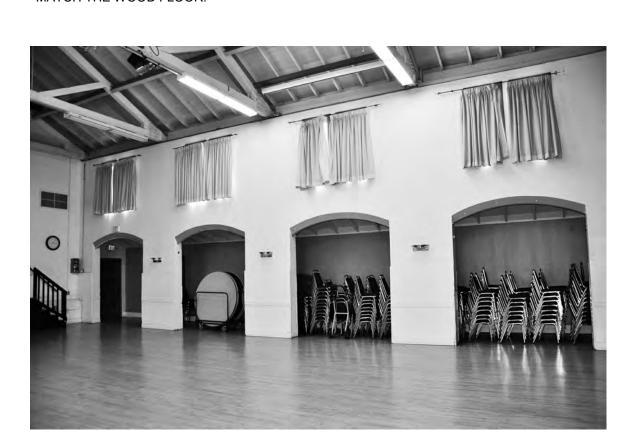
# B. Typical Low Slope Roof Trusses

SCOPE OF WORK INCLUDES STRUCTURAL STRENGTHENING PER DRAWINGS. CONTRACTOR TO REVIEW LOCATIONS OF TEMPORARY ACCESS PANELS WITH ARCHITECT PRIOR TO CONSTRUCTION, ALL TEMPORARY ACCESS PANELS WILL NEED TO BE REPAIRED AND FINISHES PATCHED TO MATCH ADJACENT SURFACES.



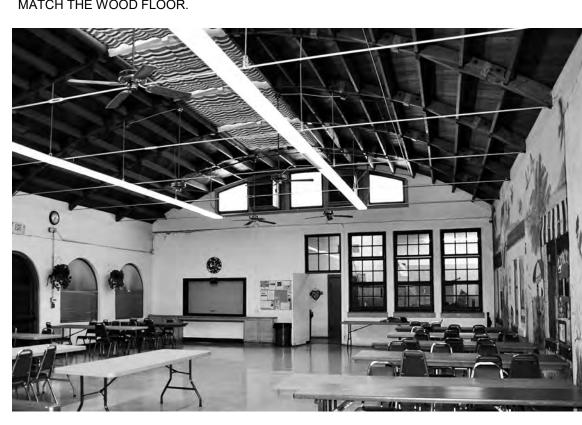
# C. View of Auditorium Facing South

SCOPE OF WORK INCLUDES STRENGTHENING AND ATTACHMENT OF WOOD TRUSSES AND ROOF FRAMING TO TOP OF CONCRETE WALLS. PAINT INTERIOR OF AUDITORIUM INCLUDING WOOD TRUSSES, WALLS AND WINDOWS. AT FLOOR, ATTACHMENT TO BLOCKING AND LEDGERS SHALL BE COUNTERSUNK AND FILLED WITH WOOD PLUGS TO MATCH THE WOOD FLOOR.



# D. View of Auditorium Facing West

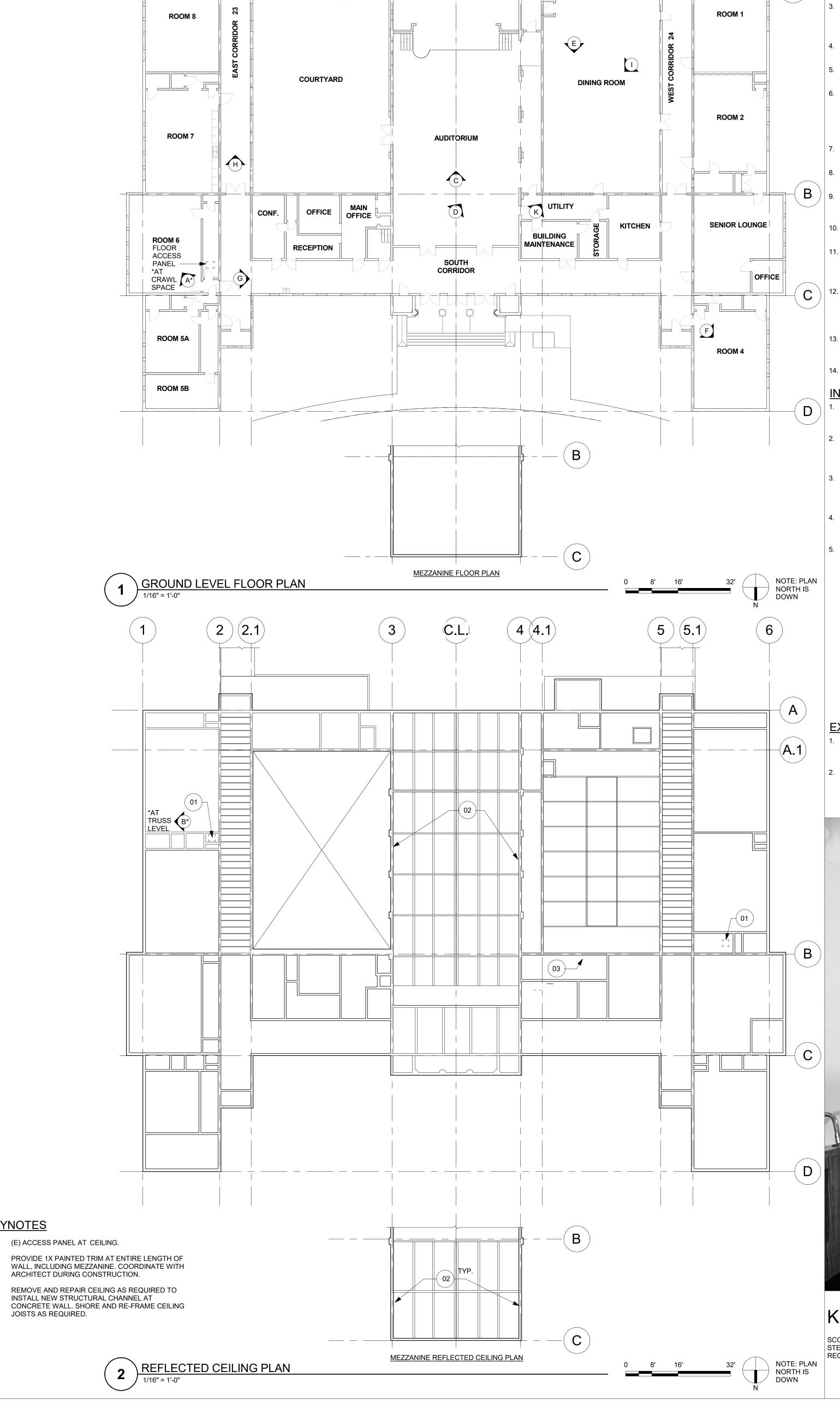
SCOPE OF WORK INCLUDES STRENGTHENING AND ATTACHMENT OF WOOD TRUSSES AND ROOF FRAMING TO TOP OF CONCRETE WALLS. PAINT INTERIOR OF AUDITORIUM INCLUDING WOOD TRUSSES, WALLS AND WINDOWS. AT FLOOR, ATTACHMENT TO BLOCKING AND LEDGERS SHALL BE COUNTERSUNK AND FILLED WITH WOOD PLUGS TO



**KEYNOTES** 

E. View of Dining Rm. Facing North SCOPE OF WORK INCLUDES STRENGTHENING OF WOOD FRAMED VAULT AND SHEAR

WALLS. WORK AT THE EAST WALL SHOULD NOT DISTURB THE EXISTING PAINTED WALL



CHILDREN'S

RESTROOMS

**ROOM** 

**RESTROOM** 

CORRIDOR

RESTROOM

**GENERAL SHEET NOTES** 

- GOLETA COMMUNITY CENTER HAS BEEN DETERMINED ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES AND CALIFORNIA REGISTER OF HISTORICAL RESOURCES. ALL WORK SHALL FOLLOW THE SECRETARY OF THE INTERIOR'S STANDARDS FOR THE TREATMENT OF HISTORIC PROPERTIES.
- THE BUILDING WILL REMAIN IN OPERATION DURING CONSTRUCTION. COORDINATE WITH BUILDING OWNER OR MANAGER ACCESS, CLEARANCES, CONTROLS, AND UTILITIES TO THE PROJECT SITE.
- THE CONTRACTOR SHALL PROVIDE APPROPRIATE BARRIERS BETWEEN THE CONSTRUCTION AREA AND THE REMAINDER OF THE SITE OR BUILDING AND SHALL COMPLY WITH CALIFORNIA BUILDING CODE (CBC) SECTION 3306 -PROTECTION OF PEDESTRIANS DURING CONSTRUCTION.
- REQUIRED MEANS OF EGRESS SHALL BE MAINTAINED AT ALL TIMES DURING
- DRAWINGS ARE BASED ON PREVIOUS SETS OF PLANS AND LIMITED FIELD VERIFICATION. VERIFY ALL DIMENSIONS AND CONDITIONS IN FIELD.
- THE CONSTRUCTION DOCUMENTS ARE PROVIDED TO ILLUSTRATE THE DESIGN AND GENERAL TYPE OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP THROUGHOUT. THE DOCUMENTS DO NOT ILLUSTRATE EVERY CONDITION. THE CONTRACTOR, IN ASSUMING RESPONSIBILITY FOR THE WORK INDICATED, SHALL COMPLY WITH THE SPIRIT AS WELL AS THE LETTER IN WHICH THEY WERE
- HAZARDOUS MATERIALS ABATEMENT IS NOT PART OF THE ARCHITECTURAL WORK AND IS THE SOLE RESPONSIBILITY OF THE OWNER. ITEMS REQUIRING REMOVAL AND SALVAGE SHALL BE DETACHED FROM EXISTING CONSTRUCTION, STORED AND PROTECTED AGAINST DAMAGE. PROTECT AREA AND NEW OR EXISTING MATERIALS AND FINISHES FROM DAMAGE WHICH MAY OCCUR FROM CONSTRUCTION, DEMOLITION, DUST,
- RESTORE FINISHES AT PATCHES, (N) WORK, AND CONDITIONS WHERE WORK DAMAGES (E) FINISH, TYP. AT INTERIOR AND EXTERIOR.
- NOT EVERY ITEM OF WORK TO BE DEMOLISHED IS INDICATED. DEMOLITION WORK INCLUDES THE REMOVAL OF EXISTING CONSTRUCTION TO THE EXTENT REQUIRED TO ACCOMMODATE THE NEW WORK. VISIT THE PROJECT SITE AND DETERMINE THE EXTENT OF DEMOLITION BEFORE PRICING.
- CONTRACTORS SHALL REMOVE RUBBISH AND WASTE MATERIALS ON A REGULAR BASIS AND SHALL EXERCISE STRICT CONTROL OVER JOB CLEANING TO PREVENT ANY DIRT, DEBRIS, OR DUST FROM AFFECTING, IN ANY WAY, FINISHED WORK OR EXISTING TO REMAIN WORK OR CREATING A SAFETY
- ORDERLY MANNER SO SPACES CAN BE REOCCUPIED IMMEDIATELY FOLLOWING CONSTRUCTION.

# INTERIOR FINISHES SCOPE OF WORK NOTES

- WOOD BASEBOARD AND SHOE MOLDING IMPACTED BY CARPET REMOVAL SHALL BE REMOVED, SALVAGED AND, REINSTALLED. DAMAGED BASEBOARD AND MOLDING SHALL BE REPLACED IN KIND AND NEW PAINTED FINISH INSTALL AT MATCH ADJACENT SURFACES.
- MOCK-UPS OF NEW FLOOR NAILING AT EXPOSED AREAS, INCLUDING WOOD FLOORS IS REQUIRED. FOR PRICING ASSUME NEW NAILING WILL BE COUNTERSUNK AND THE TOPS PLUGGED WITH WOOD AT THE AUDITORIUM AND
- INTERIOR PAINTED MURAL AT THE EAST WALL OF THE DINING ROOM SHALL NOT BE DISTURBED. COMPLETE STRUCTURAL REPAIRS FROM THE EXTERIOR. COORDINATE IMPACTS WITH ARCHITECT PRIOR TO CONSTRUCTION.
- NEW INTERIOR PAINTING IS LIMITED TO AREAS DIRECTLY IMPACTED BY THE STRUCTURAL RETROFIT.
  - FOR PRICING ASSUME THE ENTIRE CEILING AT THE AUDITORIUM, INCLUDING WOOD TRUSSES, PURLINS, RAFTERS AND DECKING WILL BE PAINTED. NEW STRUCTURAL COMPONENTS INCLUDING HSS TUBES AND STEEL PLATES AND GUSSETS ARE INCLUDED IN THE PAINTING SCOPE.
  - FOLLOWING STRUCTURAL RETROFIT FOR SHEAR WALLS AND
- AT ALL OTHER AREAS. THE SCOPE OF PAINTING INCLUDES AREAS WHERE FINISHES WERE DISTURBED FOR TEMPORARY ACCESS OPENINGS. UPON PATCHING OF TEMPORARY ACCESS OPENINGS, THE
- EXTERIOR FINISHES SCOPE OF WORK NOTES IN CONJUNCTION WITH NEW ROOFING, REPAIR EXISTING WOOD RAFTER TAILS AND EXTERIOR WOOD ELEMENTS PER THE QUANTITIES SPECIFIED ON SHEET



# K. Utility Room

SCOPE OF WORK INCLUDES PARTIAL REMOVAL OF HARD CEILING TO INSTALL NEW STEEL BEAM AT CONCRETE WALL. SHORE CEILING AND REFRAME CEILING JOISTS AS REQUIRED TO INSTALL STEEL BEAM. PATCH, REPAIR AND PAINT ENTIRE CEILING.

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HAZARD IN OR OUTSIDE JOBSITE. CONTRACTOR SHALL LEAVE JOBSITE AND AFFECTED AREAS CLEAN AND IN AN

SEE ROOF PLAN, SHEET A2.02 FOR DIMENSIONS.

WHERE PRESENT, EXISTING CARPET IS TO BE ROLLED BACK / REMOVED AS REQUIRED TO INSTALL NEW NAILING PER THE STRUCTURAL DRAWINGS. AFTER COMPLETION OF STRUCTURAL WORK, CARPET SHALL BE REINSTALLED.

- PAINT CEILINGS AND WALLS AT THE EAST AND WEST CORRIDORS
- PAINT AREAS IMPACTED BY STRUCTURAL RETROFIT AT THE DINING ROOM AND UTILITY ROOM, INCLUDING WALLS AND CEILINGS.
- AREA SHALL BE REFINISHED TO MATCH ADJACENT CONSTRUCTION. NEW PAINT SHALL COVER THE ENTIRE SURFACE.
- FOLLOWING STRUCTURAL REPAIRS, PAINT ENTIRE EXTERIOR OF THE BUILDING. FOR PRICING ASSUME TWO COLORS: A BASE COLOR AND A WINDOW AND TRIM

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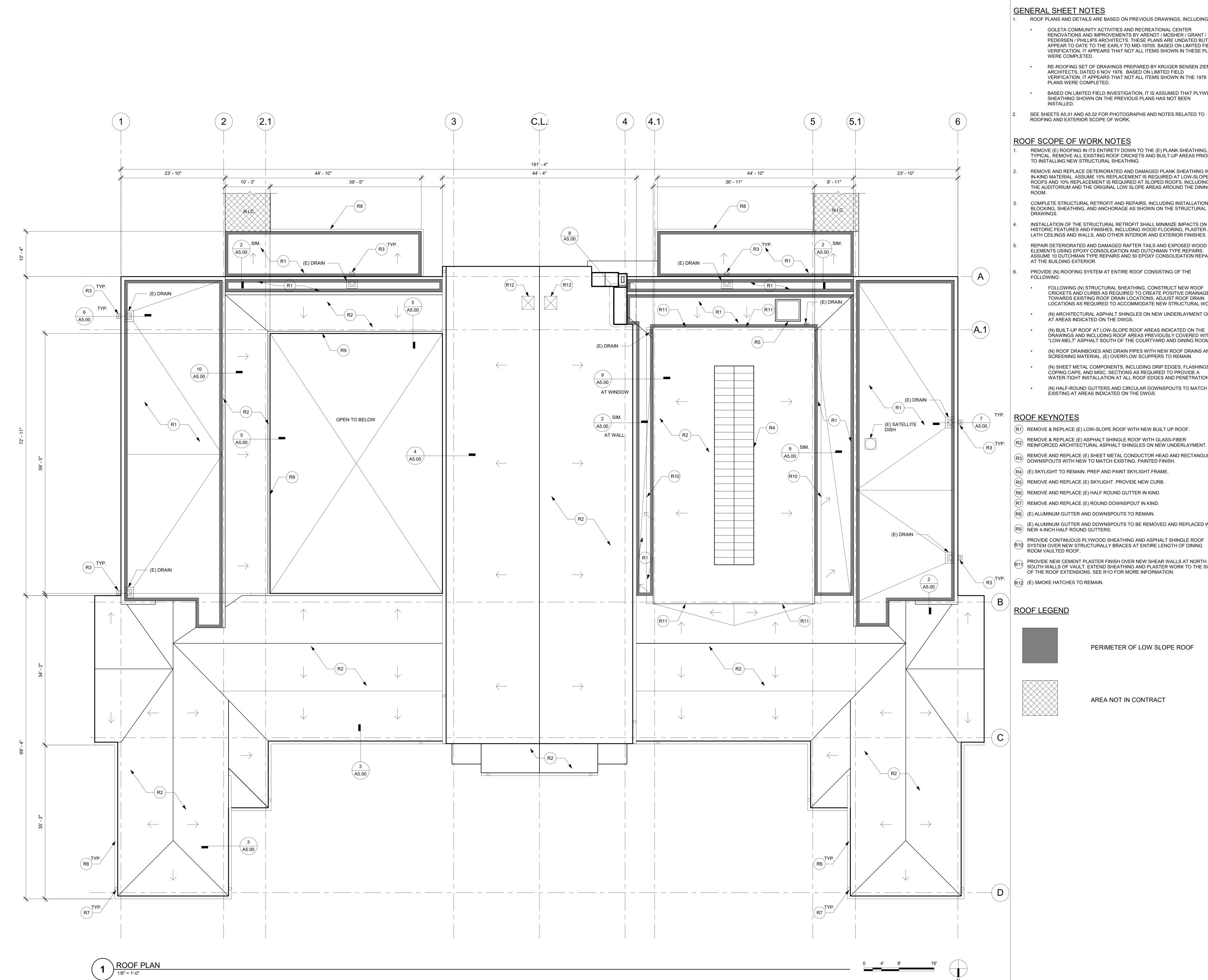
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FIRST FLOOR AND REFLECTED CEILING **PLANS** 

■ SHEET



### **GENERAL SHEET NOTES**

ROOF PLANS AND DETAILS ARE BASED ON PREVIOUS DRAWINGS, INCLUDING:

 GOLETA COMMUNITY ACTIVITIES AND RECREATIONAL CENTER RENOVATIONS AND IMPROVEMENTS BY ARENDT / MOSHER / GRANT / PEDERSEN / PHILLIPS ARCHITECTS. THESE PLANS ARE UNDATED BUT APPEAR TO DATE TO THE EARLY TO MID-1970S. BASED ON LIMITED FIELD VERIFICATION, IT APPEARS THAT NOT ALL ITEMS SHOWN IN THESE PLANS WERE COMPLETED.

RE-ROOFING SET OF DRAWINGS PREPARED BY KRUGER BENSEN ZIEMER ARCHITECTS, DATED 6 NOV 1978. BASED ON LIMITED FIELD VERIFICATION, IT APPEARS THAT NOT ALL ITEMS SHOWN IN THE 1978 PLANS WERE COMPLETED.

BASED ON LIMITED FIELD INVESTIGATION, IT IS ASSUMED THAT PLYWD. SHEATHING SHOWN ON THE PREVIOUS PLANS HAS NOT BEEN

SEE SHEETS A5.01 AND A5.02 FOR PHOTOGRAPHS AND NOTES RELATED TO ROOFING AND EXTERIOR SCOPE OF WORK.

### ROOF SCOPE OF WORK NOTES

REMOVE (E) ROOFING IN ITS ENTIRETY DOWN TO THE (E) PLANK SHEATHING, TYPICAL. RÉMOVE ALL EXISTING ROOF CRICKETS AND BUILT-UP AREAS PRIOR TO INSTALLING NEW STRUCTURAL SHEATHING.

REMOVE AND REPLACE DETERIORATED AND DAMAGED PLANK SHEATHING WITH IN-KIND MATERIAL. ASSUME 15% REPLACEMENT IS REQUIRED AT LOW-SLOPE ROOFS AND 10% REPLACEMENT IS REQUIRED AT SLOPED ROOFS, INCLUDING THE AUDITORIUM AND THE ORIGINAL LOW SLOPE AREAS AROUND THE DINING

COMPLETE STRUCTURAL RETROFIT AND REPAIRS, INCLUDING INSTALLATION OF BLOCKING, SHEATHING, AND ANCHORAGE AS SHOWN ON THE STRUCTURAL

INSTALLATION OF THE STRUCTURAL RETROFIT SHALL MINIMIZE IMPACTS ON HISTORIC FEATURES AND FINISHES, INCLUDING WOOD FLOORING, PLASTER AND LATH CEILINGS AND WALLS, AND OTHER INTERIOR AND EXTERIOR FINISHES.

REPAIR DETERIORATED AND DAMAGED RAFTER TAILS AND EXPOSED WOOD ELEMENTS USING EPOXY CONSOLIDATION AND DUTCHMAN TYPE REPAIRS. ASSUME 10 DUTCHMAN TYPE REPAIRS AND 50 EPOXY CONSOLIDATION REPAIRS AT THE BUILDING EXTERIOR.

### PROVIDE (N) ROOFING SYSTEM AT ENTIRE ROOF CONSISTING OF THE FOLLOWING:

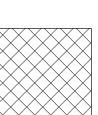
- FOLLOWING (N) STRUCTURAL SHEATHING, CONSTRUCT NEW ROOF CRICKETS AND CURBS AS REQUIRED TO CREATE POSITIVE DRAINAGE TOWARDS EXISTING ROOF DRAIN LOCATIONS. ADJUST ROOF DRAIN LOCATIONS AS REQUIRED TO ACCOMMODATE NEW STRUCTURAL WORK.
- (N) ARCHITECTURAL ASPHALT SHINGLES ON NEW UNDERLAYMENT ON AT AREAS INDICATED ON THE DWGS.
- DRAWINGS AND INCLUDING ROOF AREAS PREVIOUSLY COVERED WITH "LOW-MELT" ASPHALT SOUTH OF THE COURTYARD AND DINING ROOM.
- (N) ROOF DRAINBOXES AND DRAIN PIPES WITH NEW ROOF DRAINS AND SCREENING MATERIAL. (E) OVERFLOW SCUPPERS TO REMAIN.
- (N) SHEET METAL COMPONENTS, INCLUDING DRIP EDGES, FLASHINGS, COPING CAPS, AND MISC, SECTIONS AS REQUIRED TO PROVIDE A WATER-TIGHT INSTALLATION AT ALL ROOF EDGES AND PENETRATIONS.
- (N) HALF-ROUND GUTTERS AND CIRCULAR DOWNSPOUTS TO MATCH EXISTING AT AREAS INDICATED ON THE DWGS.

- (R1) REMOVE & REPLACE (E) LOW-SLOPE ROOF WITH NEW BUILT UP ROOF.
- REMOVE & REPLACE (E) ASPHALT SHINGLE ROOF WITH GLASS-FIBER REINFORCED ARCHITECTURAL ASPHALT SHINGLES ON NEW UNDERLAYMENT.
- REMOVE AND REPLACE (E) SHEET METAL CONDUCTOR HEAD AND RECTANGULAR DOWNSPOUTS WITH NEW TO MATCH EXISTING. PAINTED FINISH.
- (R4) (E) SKYLIGHT TO REMAIN. PREP AND PAINT SKYLIGHT FRAME.
- (R5) REMOVE AND REPLACE (E) SKYLIGHT. PROVIDE NEW CURB.
- (R6) REMOVE AND REPLACE (E) HALF ROUND GUTTER IN KIND.
- (R7) REMOVE AND REPLACE (E) ROUND DOWNSPOUT IN KIND.
- (R8) (E) ALUMINUM GUTTER AND DOWNSPOUTS TO REMAIN.
- (E) ALUMINUM GUTTER AND DOWNSPOUTS TO BE REMOVED AND REPLACED WITH (R9) NÉW 4-INCH HALF ROUND GUTTERS.
- PROVIDE CONTINUOUS PLYWOOD SHEATHING AND ASPHALT SHINGLE ROOF SYSTEM OVER NEW STRUCTURALLY BRACES AT ENTIRE LENGTH OF DINING
- ROOM VAULTED ROOF.
- PROVIDE NEW CEMENT PLASTER FINISH OVER NEW SHEAR WALLS AT NORTH AND SOUTH WALLS OF VAULT. EXTEND SHEATHING AND PLASTER WORK TO THE SIDE OF THE ROOF EXTENSIONS. SEE R10 FOR MORE INFORMATION.
- (R12) (E) SMOKE HATCHES TO REMAIN.

# ROOF LEGEND



PERIMETER OF LOW SLOPE ROOF



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ARCHITECT

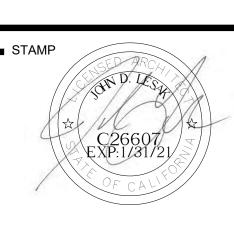
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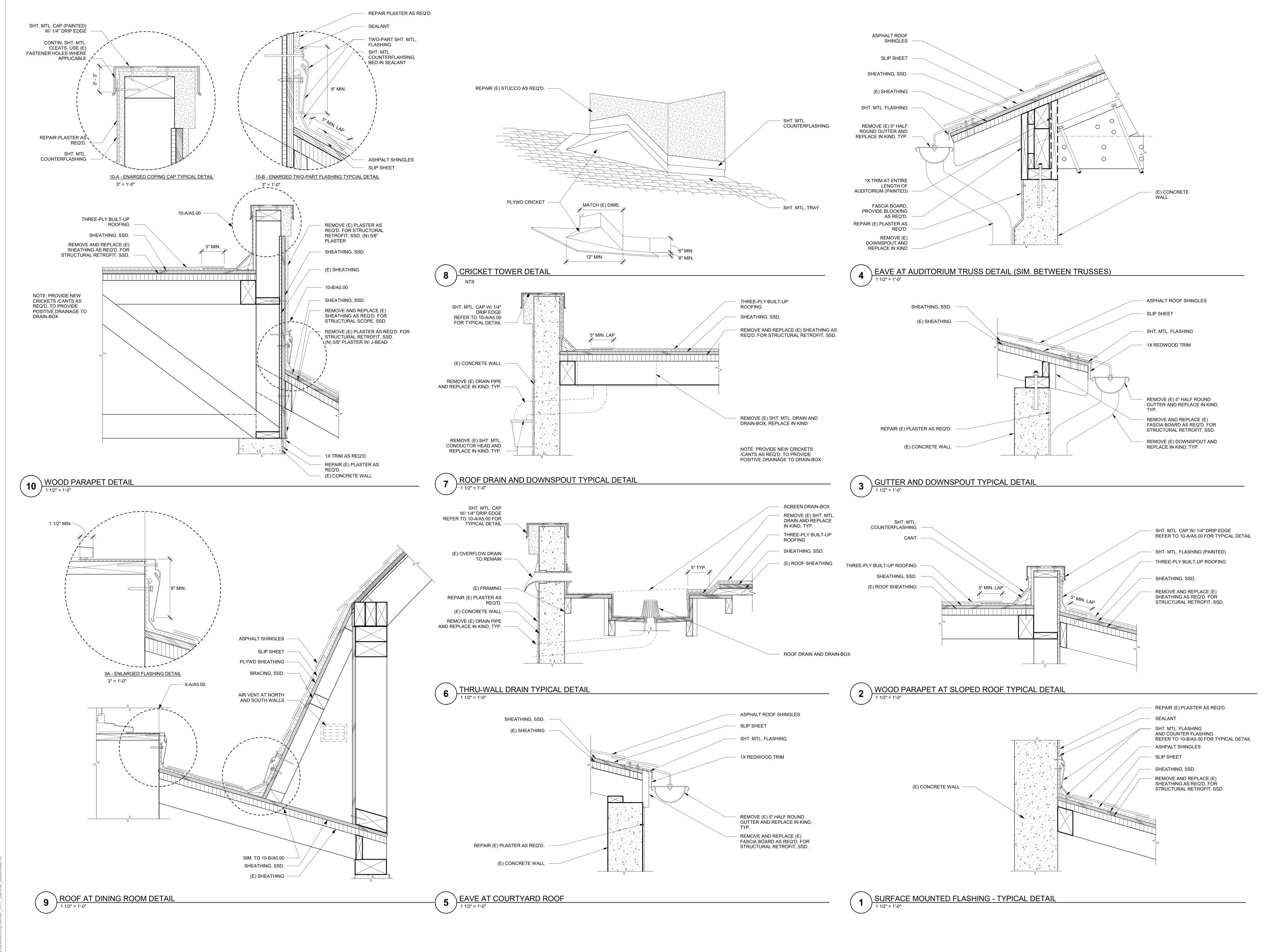
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**ROOF PLAN** 



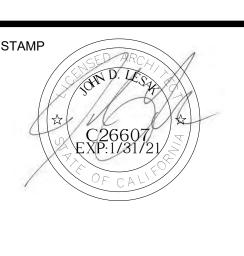
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■ DESIGN

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MB

PROJECT No. 19022

■ DRAWING TITLE

**ROOF DETAILS** 

CHEET

A5.00

O. West Low Slope Roof Looking SW

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, NEW ROOFING AND ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. ARROWS INDICATE TWO (2) LOCATIONS OF EXISTING ROOF DRAINS. DRAIN LOCATIONS TO BE MAINTAINED. RECONSTRUCT DRAIN BOX AS REQUIRED TO ACCOMMODATE NEW STRUCTURAL REPAIRS AND TO CREATE FULLY FUNCTIONAL ROOF DRAINAGE SYSTEM. WEST ROOF TO BE REPLACED WITH SHEET METAL PARAPET CAPS TO MATCH EAST ROOF.



P. Gable Wall with Vent

AT GABLE END WALLS AT THE EAST AND WEST LOW SLOPE ROOFS, REMOVE ROOFING, REPAIR CLADDING AND INSTALL NEW CEMENT PLASTER. REPAIR GABLE VENT, PAINT CEMENT PLASTER. PROVIDE WALL FLASHING FROM GABLE TO LOW SLOPE ROOF. PROVIDE DRIP EDGE AT RAKE OF ASPHALT SHINGLE ROOF.



Q. West Low Slope Roof Parapet

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, NEW ROOFING AND ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. EXISTING DRAIN LOCATIONS TO BE MAINTAINED. RECONSTRUCT DRAIN BOX AS REQUIRED TO ACCOMMODATE NEW STRUCTURAL REPAIRS AND TO CREATE FULLY FUNCTIONAL ROOF DRAINAGE SYSTEM. WEST ROOF PARAPETS TO BE REPLACED WITH SHEET METAL PARAPET CAPS TO MATCH EAST ROOF. PROVIDE NEW CLEATS TO ATTACH SHEET METAL CAPS.



R. West Low Slope Roof Drain

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, NEW ROOFING AND ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. DRAIN LOCATIONS TO BE MAINTAINED. RECONSTRUCT DRAIN BOX AS REQUIRED TO ACCOMMODATE NEW STRUCTURAL REPAIRS AND TO CREATE FULLY FUNCTIONAL ROOF DRAINAGE SYSTEM.



K. East Low Slope Roof Looking SE

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, NEW ROOFING AND ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. ARROWS INDICATE TWO (2) LOCATIONS OF EXISTING ROOF DRAINS. DRAIN LOCATIONS TO BE MAINTAINED. RECONSTRUCT DRAIN BOX AS REQUIRED TO ACCOMMODATE NEW STRUCTURAL REPAIRS AND TO CREATE FULLY FUNCTIONAL ROOF DRAINAGE SYSTEM.



L. East Low Slope Roof Looking NE

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, NEW ROOFING AND ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. AT GABLE INDICATED BY ARROW, REMOVE ROOFING, REPAIR CLADDING AND INSTALL NEW CEMENT PLASTER. REPAIR GABLE VENT, PAINT CEMENT PLASTER. PROVIDE DRIP EDGE AT RAKE OF ASPHALT SHINGLE ROOF.



M. East Corridor Roof Looking NE

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, REMOVAL OF PLASTER AT FACE OF PARAPET, NEW ROOF SHEATHING, SHEAR WALLS, AND ATTACHMENTS PER STRUCTURAL DRAWINGS, NEW ROOFING, INCLUDING SHEET METAL PARAPET CAPS LOW SLOPE ROOF AND ASPHALT SHINGLE AT SHED ROOF. NEW PLASTER OVER NEW SHEAR WALLS AT PARAPET SIDE WALLS.



N. SW Corner of Parapet at East Roof

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, REMOVAL OF PLASTER AT FACE OF PARAPET, NEW ROOF SHEATHING, SHEAR WALLS, AND ATTACHMENTS PER STRUCTURAL DRAWINGS, NEW ROOFING, INCLUDING SHEET METAL PARAPET CAPS LOW SLOPE ROOF AND ASPHALT SHINGLE AT SHED ROOF. NEW PLASTER OVER NEW SHEAR WALLS AT PARAPET SIDE WALLS.



G. View of SE Covered Walkway

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING AND INSTALL NEW ROOF ON EXISTING ROOF DECK AT COVERED WALKWAY. PROVIDE NEW SHEET METAL CONDUCTOR HEAD AND CIRCULAR DOWNSPOUT TO MATCH EXISTING. PREP AND PAINT FACADE AND COVERED WALKWAY. ALUMINUM GUTTER AND DOWNSPOUTS AT COVERED WALKWAY TO REMAIN.



H. Low Roof Near Belltower

SCOPE OF WORK AT LOW ROOF INCLUDES REMOVAL OF EXISTING ROOFING AND INSTALL NEW ROOF ON EXISTING ROOF DECK AT LOW ROOF. REMOVE AND REPLACE ROOF DRAINAGE COMPONENTS DRAINING ONTO THE LOW ROOF. SEE IMAGES ON SHEET A5.02 FOR DRAINAGE COMPONENTS. PREP AND PAINT FACADE AND COVERED WALKWAY (BEYOND). ALUMINUM GUTTER AND DOWNSPOUTS AT LOW ROOF TO REMAIN.



I. Courtyard Facing East

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, REMOVAL OF PLASTER AT FACE OF PARAPET, NEW ROOF SHEATHING, SHEAR WALLS, AND ATTACHMENTS PER STRUCTURAL DRAWINGS, NEW ROOFING, INCLUDING SHEET METAL PARAPET CAPS. NEW PLASTER OVER NEW SHEAR WALLS AT PARAPET SIDE WALLS. NEW PLASTER OVER NEW SHEAR WALLS AT PARAPET SIDE WALLS. REMOVE AND REPLACE EXISTING ALUMINUM GUTTERS AT COURTYARD SHED ROOFS WITH NEW HALF-ROUND SHEET



J. Typ. Conductor Head w/ Overflow

SCOPE OR WORK INCLUDES REMOVAL OF SHEET METAL CONDUCTOR HEAD AND DRAIN LEADER THAT CONNECTS TO EXISTING DRAINBOX. EXISTING THROUGH WALL OVERFLOW SCUPPER TO REMAIN. INSTALL NEW DRAIN LEADER CONNECTED TO NEW SHEET METAL CONDUCTOR HEAD AS PART OF THE NEW ROOFING SYSTEM.



D. Typical Roof Edge at Cross Gable

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, NEW ROOFING AND ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. REPAIR DETERIORATED WOOD RAFTER TAILS AND WOOD TRIM, PREP AND PAINT FACADE.



E. Typical Flat Parapet

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, NEW ROOFING AND ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. PAINT FACADE. ARROW INDICATES TYPICAL SHEET METAL CONDUCTOR HEAD AND RECTANGULAR DOWNSPOUT TO BE REMOVED AND REPLACED. PROVIDE NEW SPLASH BLOCK TO DIRECT WATER AWAY FROM THE BUILDING FOUNDATION.



F. View of Southeast Corner

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, NEW ROOFING AND ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. PAINT FACADE.



A. Main Entry at North Facade

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, NEW ROOFING AND ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. REPAIR DETERIORATED WOOD RAFTER TAILS AND WOOD TRIM, PREP AND PAINT FACADE.



B. Typical Roof Edge at Sloped Roof

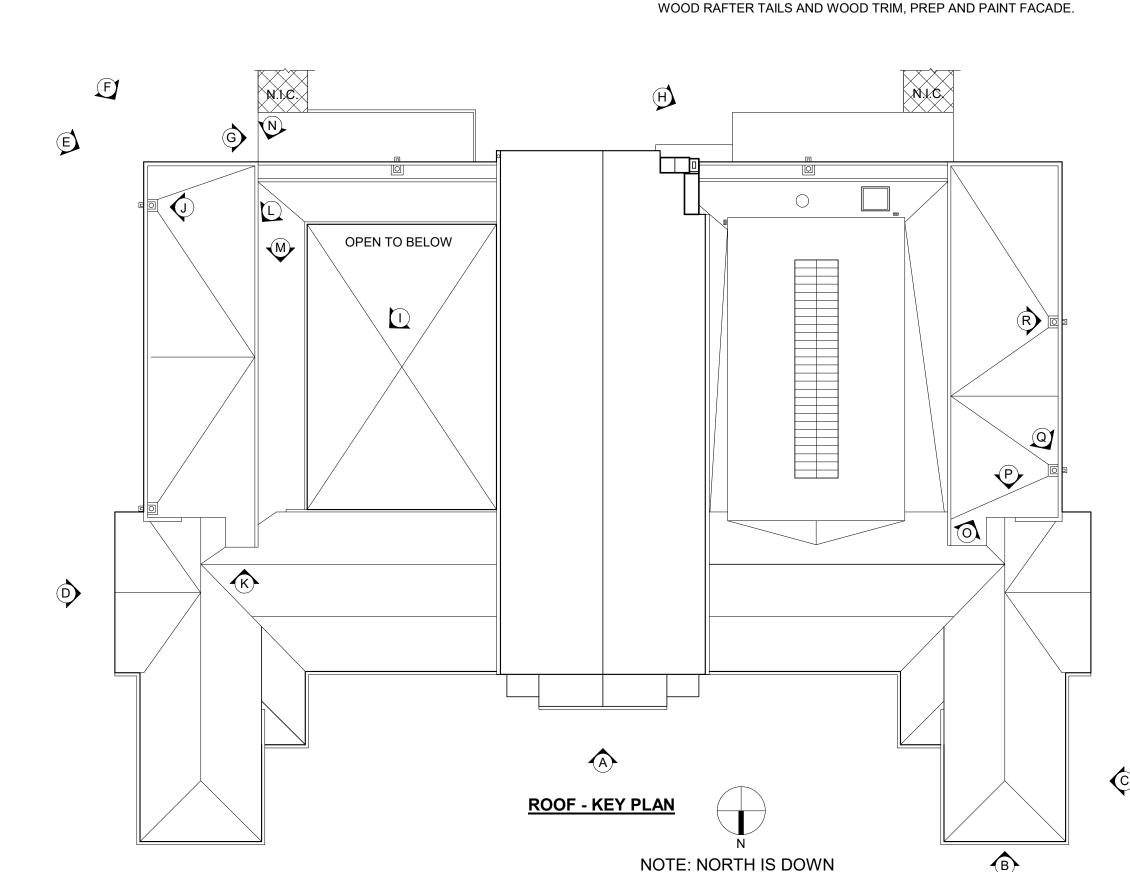
SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, NEW ROOFING AND ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. REPAIR DETERIORATED WOOD RAFTER TAILS AND WOOD TRIM, PREP AND PAINT FACADE.



C. T

C. Typical Roof Edge at Sloped Roof

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF
SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, NEW ROOFING AND
ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. REPAIR DETERIORATED



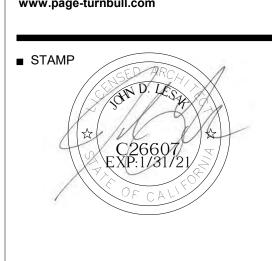
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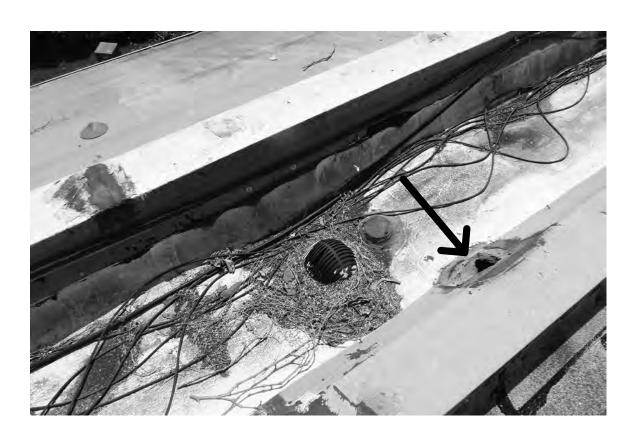
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■ DRAWN MB
■ PROJECT No. 19022

■ DRAWING TITLE

EXTERIOR PHOTOGRAPHS

■ SHEET

A5.01



O. Roof Above Women's Restroom SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOF AND FLASHING AND FLASHING CAPS. INSTALL NEW BUILT-UP ROOFING, FLASHING AND CAPS. PROVIDE NEW ROOF DRAIN AND STRAINER BASKET AT EXISTING LOCATIONS. ARROW INDICATES LOCATION OF MISSING PLUMBING VENT PIPE TO BE REPLACED.

P. Detail View of North Wall at Vault

DETAIL SHOWS THE EXTENSION OF THE CONDITION IN PHOTO L. PROVIDE POSITIVE

Q. Roof Above Women's Restroom

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOF AND FLASHING AND

ROOM VAULTED ROOF.



K. Ridge at Asphalt Shingle Roof SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING TO INSTALL NEW SHEATHING PER STRUCTURAL DRAWINGS. PROVIDE NEW SURFACE MOUNTED COUNTERFLASHING AT VERTICAL WALL SURFACE.

L. Detail View of North Wall at Vault

THE NORTH GABLE END WALL CURRENTLY LACKS POSITIVE DRAINAGE WITH THE SLOPED ASPHALT SHINGLE ROOF DRAINING DIRECTLY INTO THE END WALL. PROVIDE

MIN. 1/4" PER FOOT DRAINAGE FROM THE MIDPOINT OF THE END WALL TOWARDS THE

DRAINS AT THE SOUTH END OF THE DINING ROOM ROOF. COMPLETE DRAINAGE IMPROVEMENTS IN CONJUNCTION WITH SHEAR WALL ENHANCEMENTS PER

M. Typical Half-Round Gutter

SCOPE OF WORK INCLUDES REMOVAL AND REPLACEMENT OF HALF-ROUND SHEET

EAST AND WEST TO DIRECT WATER AROUND THE END WALL AND TOWARDS THE ROOF

STRUCTURAL DRAWINGS. PROVIDE NEW CEMENT PLASTER OVER NEW SHEAR WALLS.



REMOVE EXISTING SKYLIGHT AND REPLACE WITH NEW SKYLIGHT ON NEW CURB. SKYLIGHT TO COMPLY W/ AAMA/WDMA 101/I.S.2/A440 - NORTH AMERICAN FENESTRATION STANDARD VOLUNTARY PERFORMANCE SPECIFICATION FOR WINDOWS, SKYLIGHTS AND GLASS DOORS. BASIS OF DESIGN VELUX FCM, FIXED CURB MOUNTED SKYLIGHT OR ACCEPTED EQUIVALENT. PROVIDE LAMINATED GLAZING WITH WHITE INTERLAYER. SIZE TO BE 30-INCH BY 30-INCH - V.I.F.



D. SW Corner of the Dining Room SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING TO EXPOSE ROOF AND WALL FRAMING. INSTALL NEW SHEATHING, SHEAR WALLS, BRACING AND ANCHORAGE. ARROW INDICATES EXISTING ROOF DRAIN TO BE RELOCATED AS REQ'D TO ACCOMMODATE NEW BRACING AT WEST SIDE OF VAULTED ROOF. PROVIDE MIN. 1/4" PER FOOT DRAINAGE FROM THE MIDPOINT OF THE END WALL TOWARDS THE EAST AND WEST TO DIRECT WATER AROUND THE END WALL AND TOWARDS THE ROOF DRAINS.

E. Skylight at Dining Room

EXISTING SKYLIGHT FLASHING INDICATED W/ THE ARROW.

SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING TO INSTALL NEW SHEATHING PER STRUCTURAL DRAWINGS. PROVIDE NEW SHEET METAL APRON UNDER

F. SW Corner of the Dining Room



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SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING TO EXPOSE ROOF AND WALL FRAMING. INSTALL NEW SHEATHING, SHEAR WALLS, BRACING AND ANCHORAGE. PROVIDE NEW ASPHALT SHINGLE ROOF AT VAULT AND WALL EXTENSIONS. PROVIDE NEW BUILT-UP ROOF AROUND VAULTED AREA, INCLUDING NEW ROOF CRICKETS. ADJUST EXISTING DRAIN LOCATIONS AS REQ'D TO PROVIDE A COMPLETE AND FUNCTIONAL ROOF SYSTEM.

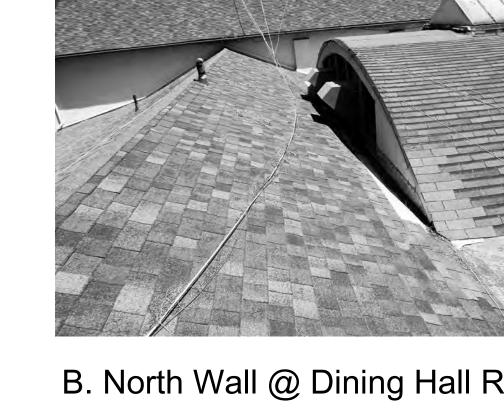


THE NORTH GABLE END WALL CURRENTLY LACKS POSITIVE DRAINAGE WITH THE SLOPED ASPHALT SHINGLE ROOF DRAINING DIRECTLY INTO THE END WALL. PROVIDE





C. Roof East of Dining Room Vault SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING TO EXPOSE ROOF AND WALL FRAMING. INSTALL NEW SHEATHING, SHEAR WALLS, BRACING AND ANCHORAGE. PROVIDE NEW ASPHALT SHINGLE ROOF AT VAULT AND WALL EXTENSIONS. PROVIDE NEW BUILT-UP ROOF AROUND VAULTED AREA, INCLUDING NEW ROOF CRICKETS.



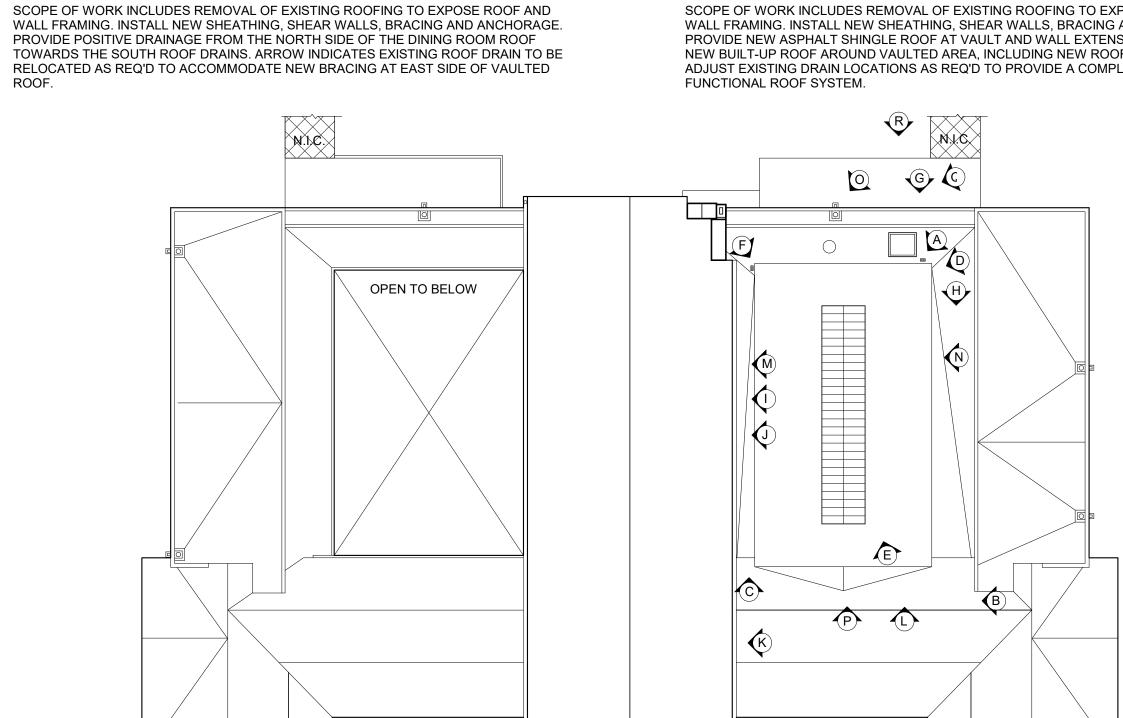
MIN. 1/4" PER FOOT DRAINAGE FROM THE MIDPOINT OF THE END WALL TOWARDS THE EAST AND WEST TO DIRECT WATER AROUND THE END WALL AND TOWARDS THE ROOF DRAINS AT THE SOUTH END OF THE DINING ROOM ROOF.



ADJUST EXISTING DRAIN LOCATIONS AS REQ'D TO PROVIDE A COMPLETE AND



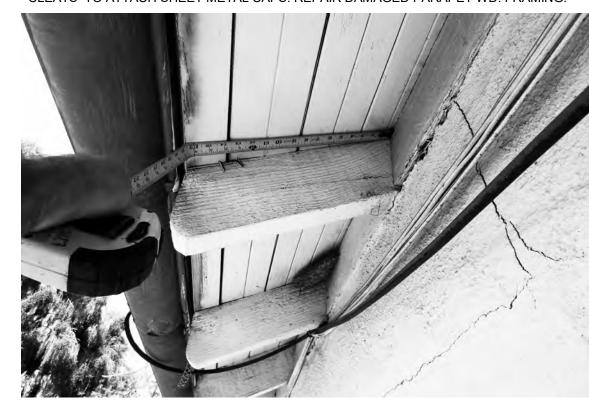




G. Skylight South of Vaulted Roof



H. Parapet at West Low Slope Roof SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING, INSTALL NEW ROOF SHEATHING AND STRUCTURAL RETROFIT PER STRUCTURAL DWGS, REMOVAL OF PLASTER AT FACE OF PARAPET, NEW ROOF SHEATHING, SHEAR WALLS, AND ATTACHMENTS PER STRUCTURAL DRAWINGS. NEW ROOFING AND ROOFING COMPONENTS PER DWGS AND SPECIFICATIONS. WEST ROOF PARAPETS TO BE REPLACED WITH SHEET METAL PARAPET CAPS TO MATCH EAST ROOF. PROVIDE NEW CLEATS TO ATTACH SHEET METAL CAPS. REPAIR DAMAGED PARAPET WD. FRAMING.



I. Typical Rafter Tails at Auditorium SCOPE OF WORK INCLUDES SALVAGE OF WD. FASCIA BOARD TO INSTALL (N)
STRUCTURAL FRAMING AND ATTACHMENTS AT TOP OF CONCRETE WALLS. FOLLOWING STRUCTURAL REPAIRS, REINSTALL SALVAGED AND NEW FASCIA BOARD AND PATCH CEMENT STUCCO. REPAIR DETERIORATED RAFTER TAILS AND INSTALL NEW HALF-ROUND GUTTERS AND CIRCULAR DOWNSPOUTS TO MATCH EXISTING. PAINT EXTERIOR.



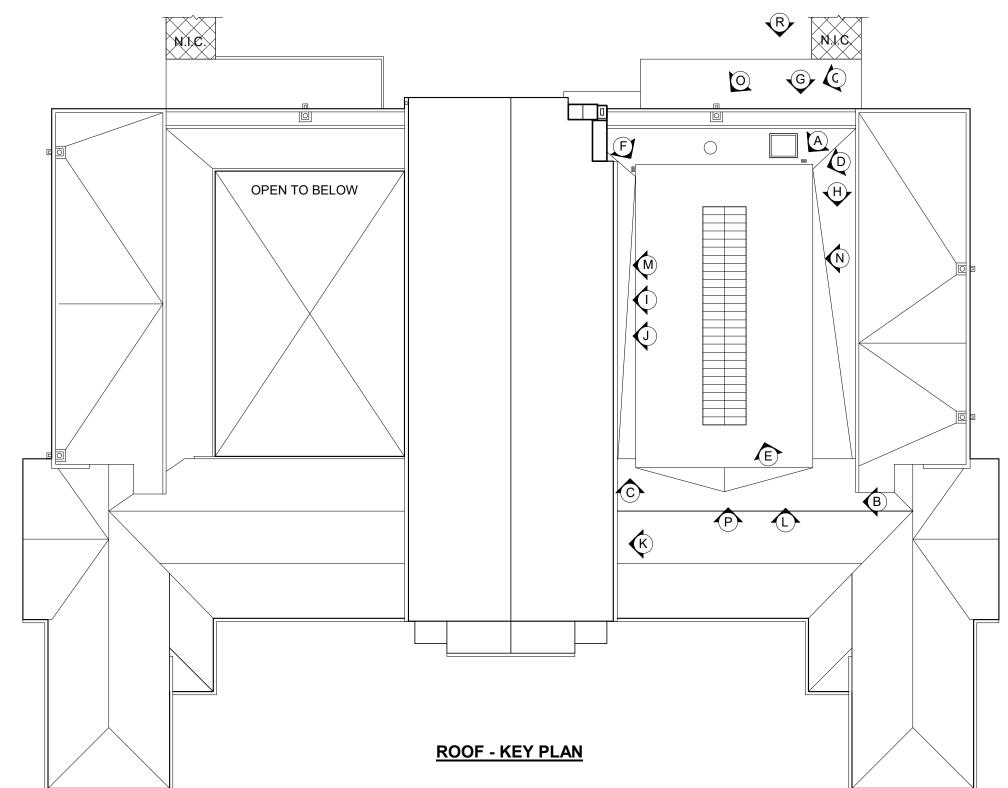
SCOPE OF WORK INCLUDES REMOVAL OF EXISTING ROOFING AND CRICKETS TO AT WINDOWS AND BASE OF WALL PER DETAIL9 / SHEET A5.00. REPAIR WOOD WINDOW



REPAIRS, PROVIDE NEW APRON, STEP FLASHING AND CRICKETS AS REQUIRED TO FLASHING CAPS. INSTALL NEW BUILT-UP ROOFING, FLASHING AND CAPS. REPLACE DIRECT WATER AWAY AND TOWARDS THE ROOF EDGE. THROUGH-WALL DRAINAGE PIPES AS REQUIRED.



INSTALL NEW STRUCTURAL SHEATHING. PROVIDE NEW OVERFRAMING / CRICKETS FOR POSITIVE DRAINAGE TOWARDS ROOF DRAINS. PROVIDE NEW SHEET METAL FLASHING SILLS WHERE DETERIORATED.



A5.02

**EXTERIOR** 

**PHOTOGRAPHS** 

■ ISSUE / REVISION

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2 100% CD

DESIGN

DRAWN

■ PROJECT No.

DRAWING TITLE

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