

**MercedCERA RETIREMENT BOARD AGENDA
THURSDAY, SEPTEMBER 22, 2022 – 8:15 A.M.
MERCED COUNTY EMPLOYEES’ RETIREMENT ASSOCIATION**

**MERCED COUNTY ADMINISTRATION BUILDING
2222 M STREET, MERCED
LOS BANOS AND LIVINGSTON CONFERENCE ROOMS, BASEMENT
ZOOM CONFERENCE**

<https://us06web.zoom.us/j/93030195748?pwd=NGhFeGltSVhaSTlsK2JGWE83TVFvdz09>
DIAL IN NUMBER: 669-900-6833, MEETING ID: 930 3019 5748, PASSCODE: 095484
(FOR USE ONLY IF ZOOM CONNECTION MALFUNCTIONS)
TELEPHONE NUMBER: 1-310-372-7549, CONFERENCE CODE: 975839

CALL TO ORDER - 8:15 A.M.

Important Notice Regarding SARS-COV-2

In order to minimize the spread of COVID-19, the Board of Retirement is meeting at the County of Merced Administration Building conference center to provide for sufficient social distancing for the Board and members of the public. Additionally, members of the MercedCERA Board as well as members of the public may elect to participate in this meeting offsite via conference call. Members of the public may attend the meeting in person or listen to the meeting and offer public comment telephonically by calling into the telephone number provided above and entering the stated conference code. If you have any issues participating in the meeting telephonically or require reasonable accommodation for your participation, please contact MercedCERA staff at 209-726-2724. Please turn your cell phone or other electronic device to non-audible mode.

ROLL CALL

APPROVAL OF MINUTES – September 8, 2022

PUBLIC COMMENT

Members of the public may comment on any item under the Board’s jurisdiction including items on the Board’s agenda. Matters presented under this item will not be discussed or acted upon by the Board at this time. Persons addressing the Board will be limited to a maximum of five (5) minutes in total. Please state your name for the record.

CONSENT ITEMS

Consent matters are expected to be routine and may be acted upon, without discussion, as one unit. If an item is taken off the Consent Calendar for discussion, it will be heard as the last item(s) of the Board Action/Discussion as appropriate.

Rebalancing Transactions:

Buy	Sell	Fund Name	Comments
	\$40m	Vanguard Bond Index	Completed
\$40m		Vanguard Short Term Treasury Index	Completed

CLOSED SESSION

As provided in the Ralph M. Brown Act, Government Code sections 54950 et seq., the Board may meet in closed session with members of its staff, county employees and its attorneys. These sessions are not open to the public and may not be attended by members of the public. The matters the Board will meet on in closed session are identified below. Any public reports of action taken in the closed session will be made in accordance with Government Code sections 54957.1.

(1) DISCUSSION AND POSSIBLE ACTION REGARDING INVESTMENTS IN RECOMMENDED FUNDS, ROLL CALL VOTE REQUIRED.

(Govt. Code § 54956.81)

1. Two Funds.

RETURN TO OPEN SESSION

Report on any action taken in closed session.

BOARD ACTION/DISCUSSION

1. Discussion and possible action on the final plans and estimated budget of the MercedCERA Headquarter Building Project – Staff and Golden Valley Engineering.
2. Discussion and possible action on monthly portfolio performance with possible action on any manager and or funds – Meketa.
3. Discussion and possible action to adopt recommendation from the Investment Subcommittee to replace Barrow Hanley and associated allocation – Meketa.
4. Discussion and possible action on quarterly performance from Cliffwater on alternative portfolio with possible action on any managers and or funds – Jamie Feidler, Cliffwater LLC.
5. Discussion on Government Code Section 7514.7 Alternate Fee Reporting for MercedCERA – Jamie Feidler, Cliffwater.
6. Chair to appoint additional Trustee on the ad hoc CIO recruitment Committee – Chair.
7. Review calendar of any training sessions and authorize expenditures for Trustees and Plan Administrator. Pursuant to Govt. Code § 31522.8 and MercedCERA's Trustees Education and Training Policy requirements. Examples of upcoming training and educational sessions:
 - Nossaman Forum, October 17-18, Los Angeles, CA.
 - SACRS Fall Conference, November 8 - 11, 2022, Long Beach, CA.
 - CALAPRS General Assembly, March 4 - 7, 2023 Monterey, CA (registration not currently open).

INFORMATION ONLY

MercedCERA UPCOMING BOARD MEETINGS

Please note: The MercedCERA Board Meeting and/or Education Day times and dates may be changed in accordance with the Ralph M. Brown Act by the MercedCERA Board as required.

- October 13, 2022
- October 27, 2022

ADJOURNMENT

The Agenda and supporting documentation, including any material that was submitted to the Merced County Employees' Retirement Association Board after the distribution of the Agenda, are available online at www.co.merced.ca.us/retirement.

All supporting documentation for Agenda items, including any material that was submitted to the retirement board after the distribution of the Agenda, is also available for public inspection Monday through Friday from 8:00 a.m. to 5:00 p.m. at the administrative office for the Merced County Employees' Retirement Association located at 3199 M Street, Merced, California 95348.

Persons who require accommodation for a disability in order to review an agenda, or to participate in a meeting of the Merced County Employees' Retirement Association per the American Disabilities Act (ADA), may obtain assistance by requesting such accommodation in writing addressed to Merced County Employees' Association, 3199 M Street, Merced, CA 95348 or telephonically by calling (209) 726-2724. Any such request for accommodation should be made at least 48 hours prior to the scheduled meeting for which assistance is requested.

Persons who require accommodation for any audio, visual or other disability or Spanish or Hmong interpretation in order to review an agenda, or to participate in a meeting of the Merced County Employees' Retirement Association per the American Disabilities Act (ADA), may obtain assistance by requesting such accommodation. Please address your written request to Merced County Employees' Association, 3199 M Street, Merced, CA 95348 or telephonically by calling (209) 726-2724. Any such request for accommodation should be made at least 48 hours prior to the scheduled meeting for which assistance is requested.

Spanish and Hmong interpreters are available.

Interpretes de espanol y hmong estan disponibles.

Peb muaj tug paab txhais lug Mev hab Hmoob.

**MercedCERA RETIREMENT BOARD MINUTES
THURSDAY, SEPTEMBER 08, 2022 – 8:15 A.M.
MERCED COUNTY EMPLOYEES’ RETIREMENT ASSOCIATION**

**MERCED COUNTY ADMINISTRATION BUILDING
2222 M STREET, MERCED
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TELEPHONE NUMBER: 1-310-372-7549, CONFERENCE CODE: 975839

CALL TO ORDER - 8:15 A.M.

ROLL CALL

Board Members Present: Ryan Paskin, Alfonse Peterson, Scott Silveira, Scott Johnston, Mike Harris, Aaron Rosenberg, Janey Cabral (arrived at 8:220AM) and Karen Adams. **Absent:** David Ness. **Counsel:** Jeff Grant. **Staff:** Kristen Santos, Brenda Mojica, Monica Gallegos, Mark Harman, Kenter Ludlow and Wendy Calderon.

APPROVAL OF MINUTES – August 11, 2022

**The MercedCERA Board voted unanimously via roll call vote to approve the August 11, 2022 meeting minutes with the correction to reflect that during roll call, all trustees were present at the meeting.
Adams/Harris U/A (7/0)**

PUBLIC COMMENT

No comment.

CONSENT CALENDAR

Consent matters are expected to be routine and may be acted upon, without discussion, as one unit. If an item is taken off the Consent Calendar for discussion, it will be heard as the last item(s) of the Board Action/Discussion as appropriate.

RETIREMENTS: Pursuant to Govt. Code § 31663.25 or § 31672

All items of earnable compensation for service or disability retirements listed below are in compliance with the pay code schedule approved by the Board of Retirement. The retirement is authorized; however, administrative adjustments may be necessary to alter the amount due to: audit, late arrival of data, court order, etc.

a. Bass Jr., William	Sheriff-Corrections	14 Yrs. Svc.	Eff: 08/13/2022
b. Munekawa, Robert	H.S.A.	1 Yrs. Svc.	Eff: 09/07/2022
c. Elgin, Sharyl	Probation	18 Yrs. Svc.	Eff: 09/03/2022
d. Conchas, Maria	Public Services	6 Yrs. Svc.	Eff: 08/03/2022
e. Crain, Diane	H.S.A.	23 Yrs. Svc	Eff: 08/30/2022
f. Cole, Rhonda	District Attorney	01 Yrs. Svc	Eff: 09/02/2022
g. Winters, Richard	I.S.	17 Yrs. Svc	Eff: 09/05/2022

YTD fiscal year 2022/2023 retirees: 16

YTD fiscal year 2021/2022 retirees: 96

YTD fiscal year 2020/2021 retirees: 89

MONTHLY BUDGET REPORT: Delayed due to year end closing.

VIRTUAL MEETINGS: Reaffirm the adoption of Merced County Employee's Retirement Association Resolution No. 2021-02, and its findings that the Governor's proclaimed state of emergency related to the COVID-19 pandemic remains active, that the state of emergency impacts the ability of the Trustees and public to safely meet in person, and state or local officials continue to impose or recommend measures to promote social distancing.

The MercedCERA Board voted unanimously via roll call vote to approve the consent calendar as presented.

Silveira/Johnston U/A (7/0)

BOARD ACTION/DISCUSSION

1. Discussion and update on CPAS training project – Staff.

No action taken.

2. Discussion and possible action to appoint an ad hoc subcommittee to review MercedCERA bylaws – Chair.

The MercedCERA Board Chair appoints Trustee Cabral, Trustee Harris and Trustee Peterson to the ad hoc subcommittee to review MercedCERA bylaws.

3. Review calendar of any training sessions and authorize expenditures for Trustees and Plan Administrator. Pursuant to Govt. Code § 31522.8 and MercedCERA's Trustees Education and Training Policy requirements. Examples of upcoming training and educational sessions:

- Nossaman Fiduciaries Forum, October 17 – 18, Los Angeles, CA.
- SACRS Fall Conference, November 8 - 11, 2022, Long Beach, CA (registration not currently open).
- CALAPRS General Assembly, March 4 - 7, 2023 Monterey, CA (registration not currently open)

The MercedCERA Board voted unanimously via roll call vote to approve the attendance of the Plan Administrator to the Nossaman Fiduciaries Forum.

Silveira/Adams U/A (7/0)

INFORMATION ONLY

Rosenberg- Tiburon class was amazing, thanks Kristie and Paskin for presentation.

Harris- Tiburon class was a very good class.

Kristie- Next meeting Golden Valley will come in with an update for the MercedCERA Board.

MercedCERA UPCOMING BOARD MEETINGS

Please note: The MercedCERA Board Meeting and/or Education Day times and dates may be changed in accordance with the Ralph M. Brown Act by the MercedCERA Board as required.

- September 22, 2022
- October 13, 2022

ADJOURNMENT

The meeting adjourned at 8:34 A.M.

Accepted By,

Trustee Name/Position

Signature

Date

Ryan Paskin/ Chair		
Al Peterson/Secretary		

STAKING NOTES:

ALL IMPROVEMENTS SHALL BE CONSTRUCTED AT THE LOCATIONS SHOWN HEREON BASED ON THE FINAL APPROVALS FOR THIS PROJECT. ALL STATIONING SHOWN HEREON IS FOR REFERENCE ONLY AND IS NOT FOR USE IN LOCATING ANY IMPROVEMENTS FOR CONSTRUCTION.

CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.

UNAUTHORIZED CHANGES & USES: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.



NOTES TO DEVELOPERS AND CONTRACTORS:

THESE IMPROVEMENT PLANS HAVE BEEN PREPARED WITH THE INTENT THAT THE FIRM OF GOLDEN VALLEY ENGINEERING & SURVEYING INC. WILL BE PERFORMING THE CONSTRUCTION STAKING FOR THE COMPLETE PROJECT. IF, HOWEVER, ANOTHER ENGINEERING AND/OR SURVEYING FIRM SHOULD BE EMPLOYED TO USE THESE PLANS FOR THE PURPOSE OF CONSTRUCTION STAKING, NOTICE IS HEREBY GIVEN THAT THE FIRM OF GOLDEN VALLEY ENGINEERING & SURVEYING INC. WILL NOT ASSUME ANY RESPONSIBILITY FOR ERRORS OR OMISSIONS, IF ANY, WHICH MIGHT OCCUR AND WHICH COULD HAVE BEEN AVOIDED, CORRECTED OR MITIGATED IF THE FIRM OF GOLDEN VALLEY ENGINEERING & SURVEYING INC. HAD PERFORMED THE STAKING WORK.

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

ANY QUANTITIES PROVIDED BY THE ENGINEER ARE ESTIMATED AND APPROXIMATES ONLY AND FURNISHED ONLY TO ASSIST THE CONTRACTOR IN PREPARING HIS PROPOSAL.

THE CONTRACTOR IN PREPARING HIS PROPOSAL SHALL MAKE HIS OWN ESTIMATE OF QUANTITIES BASED ON THE IMPROVEMENT PLANS. ANY DISCREPANCIES BETWEEN THE LISTED QUANTITIES AND THE CONTRACTOR'S QUANTITIES SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION.

THE OWNER MAY INCREASE OR DECREASE THE AMOUNT OF ANY CLASS OR PORTION OF THE WORK OR OMIT PORTIONS OF THE WORK THAT MAY BE DEEMED NECESSARY OR EXPEDIENT BY THE ENGINEER.

THIS IS GRADING REVIEW ONLY. COMPLIANCE WITH ADA OCCURS WITH BUILDING PLAN REVIEW.

GENERAL NOTES:

- ALL WORK SHALL COMPLY WITH TITLE 24, 2019 CBC, CPC, CMC, CFC, CEC & ADA AND THE CITY OF MERCED STANDARDS.
- CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS AND DEPTHS AS INDICATED HEREON AND SHALL BE RESPONSIBLE FOR REPORTING ANY DISCREPANCIES BETWEEN THESE PLANS AND EXISTING CONDITIONS PRIOR TO SUBMITTAL OF BID.
- THE CONTRACTOR SHALL VISIT THE SITE AND VERIFY ALL DIMENSIONS OF EXISTING BUILDINGS AND SITE AND REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO ANY CONSTRUCTION.
- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS REQUIRED TO PROTECT ADJACENT PROPERTIES DURING GRADING OPERATIONS. ANYTHING DAMAGED OR DESTROYED SHALL BE REPLACED OR REPAIRED TO CONDITION EXISTING PRIOR TO GRADING.
- AN ENCROACHMENT PERMIT IS REQUIRED PRIOR TO ANY CONSTRUCTION WITHIN CITY OF MERCED RIGHT OF WAY. CONTACT ENGINEERING DEPARTMENT AT LEAST 24 HOURS IN ADVANCE FOR INSPECTIONS.
- SIGN PROPOSALS TO BE SUBMITTED TO OWNER AND CITY OF MERCED PRIOR TO INSTALLATION. (BY SEPARATE PERMIT).
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PAYING FOR THE COST OF ALL FEES, INSPECTIONS, AND TESTS INDICATED ON THE PLANS AND SPECIFICATIONS AND/OR REQUIRED BY ANY GOVERNMENT AGENCY.
- PROVIDE 1/4" MAXIMUM STEP FROM EXTERIOR DOOR THRESHOLDS TO EXTERIOR SURFACE. CHANGES IN ELEVATION LESS THAN 12" ALONG EXITWAY SHALL BE BY MEANS OF AN APPROVED RAMP.
- SITE DEVELOPMENT AND GRADING SHALL COMPLY WITH STATE ACCESSIBILITY REQUIREMENTS ON ACCESS TO ALL ENTRANCES AND EXITS, ACCESS TO NORMAL PATHS OF TRAVEL. OFFICE BUILDING SHALL ALSO COMPLY WITH STATE HANDICAP REQUIREMENTS FOR ALL ACCESSIBILITY.
- THIS PROJECT IS IN COMPLIANCE WITH TITLE 24 DISABLED ACCESS REQUIREMENTS.

BENCHMARK:

SEE SHEET C2.0.

MONUMENT PRESERVATION:

CONTRACTOR TO PROTECT ALL MONUMENTS ON SITE AND OFFSITE DURING CONSTRUCTION PHASE OF WORK. CONTRACTOR WILL BE RESPONSIBLE FOR COST OF ANY MONUMENTS DAMAGED TO WHERE THEY NEED TO BE RESET TO ORIGINAL LOCATION.

STORM WATER POLLUTION PREVENTION PLAN

TOTAL PROJECT AREA IS LESS THAN 1.0 ACRES. THEREFORE PROJECT IS EXEMPT FROM PROVIDING CALIFORNIA STATE WATER BOARD NOTICE OF INTENT FOR GENERAL CONSTRUCTION PERMIT WITH WASTE DISCHARGE IDENTIFICATION NUMBER.

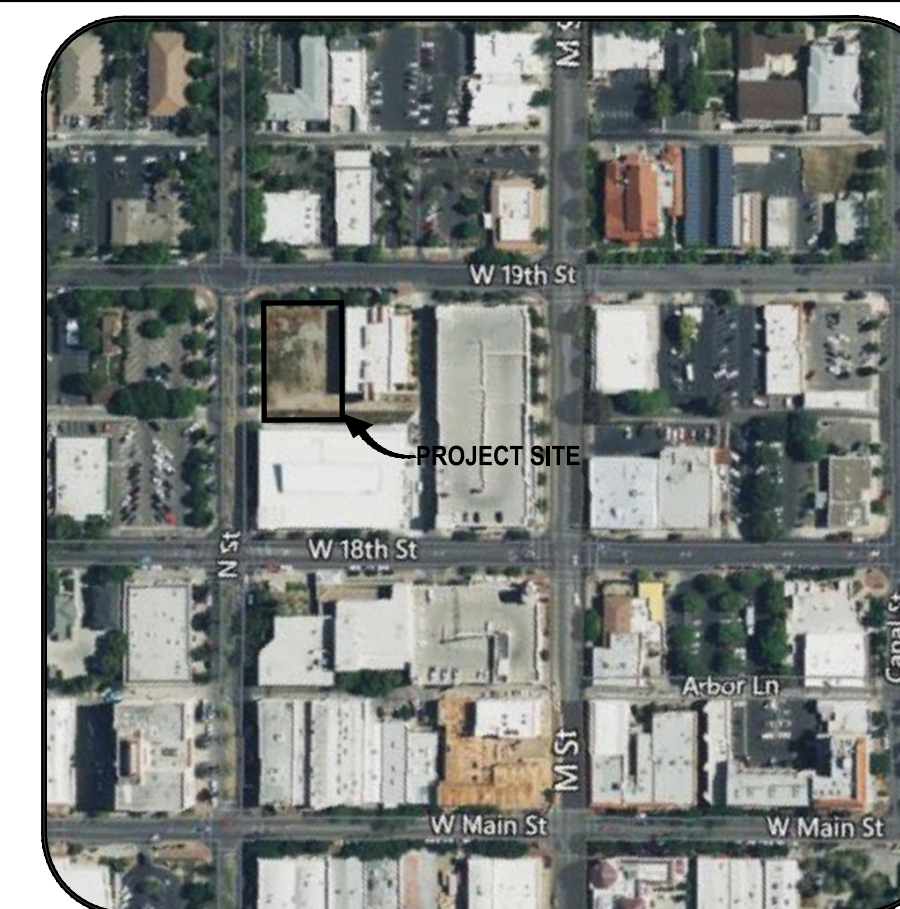
CIVIL IMPROVEMENTS

FOR

MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION

690 W 19TH ST.
MERCED, CA 95340
A.P.N. 031-054-024

VICINITY MAP:



Item 1

IMPROVEMENT NOTES:

- IMPROVEMENTS SHALL BE DONE IN ACCORDANCE WITH CITY OF MERCED STANDARD DETAILS AND SPECIFICATIONS.
- ELEVATIONS ARE 170.02'. BASIS OF ELEVATION IS CITY OF MERCED DISK ON TOP OF NORTHWEST CORNER OF CONCRETE PLANTER WALL THAT IS WEST OF THE SOUTH CURB RETURN, SOUTH WEST CORNER OF 'M' STREET AND WEST 18TH STREET.
- THE SITE IS LOCATED IN FLOOD ZONE AO (DEPTH 1 FEET) PER F.I.R.M. BASE FLOOD MAP 06047C0440G EFFECTIVE DATE 12/2/2008, PREPARED BY F.E.M.A.
- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER, THE ENGINEER AND THE CITY/COUNTY OF MERCED HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER, THE ENGINEER OR THE CITY OF MERCED.
- A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL UNDERGROUND UTILITIES AND OBSTRUCTIONS THROUGH TOPOGRAPHIC INFORMATION PROVIDED BY GOLDEN VALLEY ENGINEERING & SURVEYING INC. AND THROUGH INFORMATION SHOWN ON PUBLIC IMPROVEMENT PLANS OF THE AREA. GOLDEN VALLEY ENGINEERING & SURVEYING INC., CIVIL ENGINEERS, CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OF THIS EFFORT OR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF UTILITIES.
- CONTRACTOR SHALL LOCATE AND PRESERVE ALL FACILITIES INCLUDING GAS, WATER, IRRIGATION, SEWER, POWER, STREET LIGHTS, TELEPHONE AND OTHERS WHICH MAY BE IN THE AREA OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY ALL UTILITIES CONCERNED PRIOR TO COMMENCEMENT OF WORK BY CALLING (811) UNDERGROUND SERVICE ALERT. ENGINEER SHALL BE NOTIFIED OF ANY GROSS LOCATION OR DEPTH DISCREPANCIES.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE REMOVAL OR RELOCATION OF ALL EXISTING UTILITIES WITH THE RESPECTIVE UTILITY COMPANY. COST OF THIS COORDINATION IS TO BE INCLUDED IN THE PRICES BID FOR THE VARIOUS IMPROVEMENTS TO COMPLETE THE PROJECT.
- ALL WORK RELATED TO THE GRADING, DRAINAGE AND PAVING DEPICTED ON THESE PLANS SHALL BE DONE IN ACCORDANCE WITH:
 - A.) SOILS REPORT AND ALL ADDENDUMS PERFORMED BY KRAZAN & ASSOCIATES, INC. ON OCTOBER 7, 2019. KA PROJECT NO. 012-19164. ADDRESS: 215 WEST DAKOTA AVENUE, CLOVIS, CALIFORNIA 95612.
 - B.) APPENDIX J AND CHAPTER 33 OF THE 2019 CALIFORNIA BUILDING CODE.
 - C.) THE APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS OF THE LOCAL AGENCY.
- SURPLUS MATERIAL (INCLUDING SOIL, ASPHALT, CONCRETE OR ANY OTHER MATERIAL ENCOUNTERED DURING CONSTRUCTION) SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE THE PROJECT BOUNDARIES AT AN APPROPRIATE LOCATION IN CONFORMANCE WITH SECTION 19-2.039 OF THE 2018 CALTRANS STANDARD SPECIFICATIONS. FULL COMPENSATION FOR SAID WORK SHALL BE INCLUDED IN THE EARTHWORK BID ITEM OF THE CONSTRUCTION CONTRACT UNLESS OTHERWISE SPECIFICALLY ITEMIZED IN THE BID SHEET/QUANTITY LIST FOR THE PROJECT CONSTRUCTION CONTRACT.
- GRADES SHOWN ON THE PLAN ARE FINISHED GRADES UNLESS OTHERWISE SPECIFICALLY NOTED. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE FINISHED SURFACE ELEVATIONS OF BASE COURSES, SUBGRADES, ETC.
- THE CONTRACTOR SHALL PRESERVE ALL STAKES AND POINTS SET FOR LINES, GRADES, OR MEASUREMENT OF THE WORK IN THEIR PROPER PLACES UNTIL AUTHORIZED TO REMOVE THEM BY THE ENGINEER. ALL EXPENSES INCURRED IN REPLACING STAKES THAT HAVE BEEN REMOVED WITHOUT PROPER AUTHORITY SHALL BE PAID FOR BY THE CONTRACTOR AND MAY BE DEDUCTED FROM PAYMENTS DUE THE CONTRACTOR.
- LINES AND GRADES: ALL DISTANCES AND MEASUREMENTS ARE GIVEN AND WILL BE MADE IN A HORIZONTAL PLANE. GRADES ARE GIVEN FROM THE TOP OF STAKES OR NAILS UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL USE THREE POINTS OF REFERENCE TO DETERMINE ANY GRADIENT OR SLOPE. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN GRADIENT OR SLOPE PRIOR TO BEGINNING ANY CONSTRUCTION.
- IT IS RECOMMENDED THAT A SOILS ENGINEER BE RETAINED FOR THE PROJECT.
- IN THE EVENT THAT RAIN OCCURS OR IS LIKELY TO OCCUR, THE EXPOSED SURFACES SHALL BE TREATED AS DIRECTED BY THE SOILS ENGINEER PRIOR TO THE COMPLETION OF THAT DAY'S WORK AND BEFORE DAMAGE HAS OCCURRED.

- THE DISPOSITION OF ALL FENCES, BRUSH, CULVERTS AND ANY OTHER MATERIAL UNUSUAL FOR GRADING AND UNDERGROUND OBSTACLES SUCH AS WELLS, TANKS, IRRIGATION LINES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH ANY LOCAL AGENCY REQUIREMENTS.
- COMPACTION TESTS MAY BE REQUIRED BY THE LOCAL AGENCY ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- DUST CONTROL: APPROPRIATE DUST CONTROL SHALL BE PROVIDED FOR THE ALLEVATION OR PREVENTION OF DUST NUISANCE, AT THE CONTRACTOR'S EXPENSE.
- WHERE THE PLANS OR SPECIFICATIONS DESCRIBE PORTIONS OF THE WORK IN GENERAL TERMS BUT NOT IN COMPLETE DETAIL, IT IS UNDERSTOOD THAT ONLY THE BEST GENERAL PRACTICE IS TO PREVAIL AND THAT ONLY MATERIALS AND WORKMANSHIP OF THE FINEST QUALITY ARE TO BE USED.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF MERCED BUILDING DIVISION AT LEAST ONE WORKING DAY IN ADVANCE OF BEGINNING ANY NEW PHASE OF WORK IN ORDER TO SCHEDULE ANY NECESSARY OR REQUIRED INSPECTIONS.
- P.G.&E., M.I.D., TELEPHONE AND CABLE T.V. FACILITIES TO BE INSTALLED BY THE RESPECTIVE UTILITY COMPANIES AND ARE TO OCCUPY A JOINT TRENCH.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CALIFORNIA ADMINISTRATIVE CODE, TITLE 8 SUBCHAPTER 4, CONSTRUCTION SAFETY ORDERS.
- THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER 9, SECTION 6705, 6706 AND 6707 OF THE STATE LABOR CODE.
- THE FIRM OF GOLDEN VALLEY ENGINEERING & SURVEYING INC. ASSUMES NO RESPONSIBILITY BEYOND THE ADEQUACY OF ITS DESIGN CONTAINED HEREIN.
- IT IS RECOMMENDED THAT GOLDEN VALLEY ENGINEERING & SURVEYING INC. BE RETAINED TO PERFORM INSPECTIONS DURING THE CONSTRUCTION PHASES OF THE WORK. G.V.E.S., INC. ASSUMES NO RESPONSIBILITY FOR COMPLIANCE WITH THESE IMPROVEMENT PLANS UNLESS THEY HAVE BEEN RETAINED TO PERFORM INSPECTIONS DURING THE CONSTRUCTION PHASES OF THE WORK AND HAVE AGREED IN WRITING TO ACCEPT SAID RESPONSIBILITY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING ALL INSPECTION WITH LOCAL GOVERNING AGENCIES.
- ALL WORK AND MATERIALS SHALL BE DONE IN COMPLIANCE WITH LOCAL ORDINANCES AND THE 2019 EDITION OF THE CALIFORNIA BUILDING CODE, CALIFORNIA PLUMBING CODE, CALIFORNIA FIRE CODE AND THE 2019 CALIFORNIA ELECTRICAL CODE.
- NO WORK SHALL COMMENCE UNTIL ALL APPLICABLE PERMITS ARE OBTAINED FROM THE LOCAL GOVERNING AGENCY.
- CONSTRUCTION AND MATERIALS FOR ASPHALTIC CONCRETE PAVING SHALL BE IN ACCORDANCE WITH SECTION 39, "ASPHALT CONCRETE" OF THE STATE STANDARD SPECIFICATION, TYPE "B", 1/2" MAXIMUM, MEDIUM GRADED AGGREGATE.
- CONSTRUCTION AND MATERIALS FOR AGGREGATE BASE SHALL IN ACCORDANCE WITH SECTION 26, "AGGREGATE BASES" OF THE STATE STANDARD SPECIFICATION, CLASS 2. WITH 3/4" MAXIMUM AGGREGATE.
- THE CONTRACTOR SHALL VERIFY LOCATION AND SIZE OF ALL EXISTING AND PROPOSED FACILITIES PRIOR TO ANY CONSTRUCTION INCLUDING ORDERING MATERIALS. IF OTHER THAN SHOWN ON DRAWINGS, NOTIFY ENGINEERS IMMEDIATELY.
- CITY OF MERCED STANDARDS ARE PART OF THIS PLAN. CHECK WITH CITY FOR LATEST EDITION OF STANDARDS.
- ALL COMPACTION IN CITY RIGHT OF WAY ARE PER CURRENT CITY REQUIREMENTS AND SHALL SUPERCEDE OUTDATED STANDARDS. SEE CITY'S ENGINEERING DEPARTMENT FOR REQUIREMENTS.

LEGEND:

AB	AGGREGATE BASE	N	NORTH
AD	AREA DRAIN	N/A	NOT APPLICABLE
AC	ASPHALT CONCRETE	NTS	NOT TO SCALE
APPROX	APPROXIMATE (LY)	OC	ON CENTER
AVG	AVERAGE	OD	OUTSIDE DIAMETER
BLDG	BUILDING	OH	OVERHEAD
C	CONCRETE	PCC	PORTLAND CEMENT CONCRETE
CB	CATCH BASIN	PL	PROPERTY LINE
CBC	CALIFORNIA BUILDING CODE	PP	POWER POLE
CL	CENTERLINE (OR) CLASS	PUE	PUBLIC UTILITY EASEMENT
CLR.	CLEAR	PVMT	PAVEMENT
CMP	CORRUGATED METAL PIPE	R	RADIUS
CMU	CONCRETE MASONRY UNIT	RCP	REINFORCED CONCRETE PIPE
CO	CLEANOUT	REQ'D	REQUIRED
CONC	CONCRETE	R/W	RIGHT OF WAY
DET OR DTL	DETAIL	S	SOUTH
DIA	DIAMETER	SD	STORM DRAIN
DIM	DIMENSION	SDCB	STORM DRAIN CATCH BASIN
DIP	DUCTILE IRON PIPE	SDCI	STORM DRAIN CURB INLET
DSJ	DEEP SCORE JOINTS	SDMH	STORM DRAIN MANHOLE
DW	DRIVEWAY	SF OR SQ.FT.	SQUARE FEET
DWG	DRAWING	SPEC	SPECIFICATIONS
E	EAST	SS	SANITARY SEWER
EA	EACH	SSMH	SANITARY SEWER MANHOLE
ELEC	ELECTRIC	SSCO	SANITARY SEWER CLEANOUT
ELEV	ELEVATION	STD	STANDARD
ENGR	ENGINEER	STA	STATION
EP	EDGE OF PAVEMENT	SW	SIDEWALK
EQUIP	EQUIPMENT	TC	TOP OF CURB
EW	EACH WAY	TELE	TELEPHONE
EXIST	EXISTING	TEMP	TEMPORARY
FF	FINISH FLOOR	TRANS	TRANSFORMER
FG	FINISH GRADE	TRP	TRANSFORMER POLE
FH	FIRE HYDRANT	TYP	TYPICAL
FL	FLOWLINE	U.O.N.	UNLESS OTHERWISE NOTED
FM	FORCE MAIN	UG	UNDERGROUND
FT	FEET OR FOOT	UP	UTILITY POLE
GALV	GALVANIZED	UTIL	UTILITY
GB	GRADE BREAK	VERT	VERTICAL
GRND	GROUND	VCP	VITRIFIED CLAY PIPE
G.V.E.S.	GOLDEN VALLEY ENGINEERING & SURVEYING	VG	VALLEY GUTTER
ID	INSIDE DIAMETER	W	WEST
INV	INVERT	W/	WITH
IP	IRON PIPE	W/O	WITHOUT
IRR OR IRRIG	IRRIGATION	WB	WATER BOX
L	LENGTH	WV	WATER VALVE
LD	LANDSCAPE DRAIN	±	PLUS OR MINUS
LF	LINEAR FEET	↘	DRAINAGE SLOPE
MAX	MAXIMUM	↗	PAVEMENT SLOPE
MECH	MECHANICAL		
MH	MANHOLE		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MW	MONITORING WELL		

APPROVALS

CITY OF MERCED
DEPARTMENT OF ENGINEERING
561 W. 18th St., Merced, CA 95340 (209) 385-6846

APPROVED: _____ DATE _____

MICHAEL R. BELTRAN II, PE
CITY ENGINEER

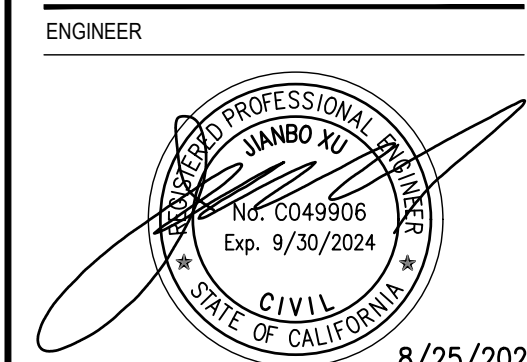
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PREPARED BY:

GOLDEN VALLEY ENGINEERING & SURVEYING
405 West 19th Street 95340
P.O. Box 349
Merced, CA 95341
Ph.: (209) 722-3200
Fax: (209) 722-3254

No.	Date	Description

It is the client's responsibility prior to using construction to verify the designer is writing of any proposed errors or omissions in the plans and specifications or which a contractor through knowledgeable with the building codes and methods of construction should reasonably be aware. While professional engineers and geologists are not held liable for errors or omissions, it is the client's responsibility to verify the designer prior to the start or client's construction proceeding with the work. The client will be responsible for any errors or omissions if these provisions are not followed.

**CIVIL IMPROVEMENT PLANS FOR
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION**
690 W. 19TH STREET
A.P.N. 031-054-024
 CITY OF MERCED
 CALIFORNIA

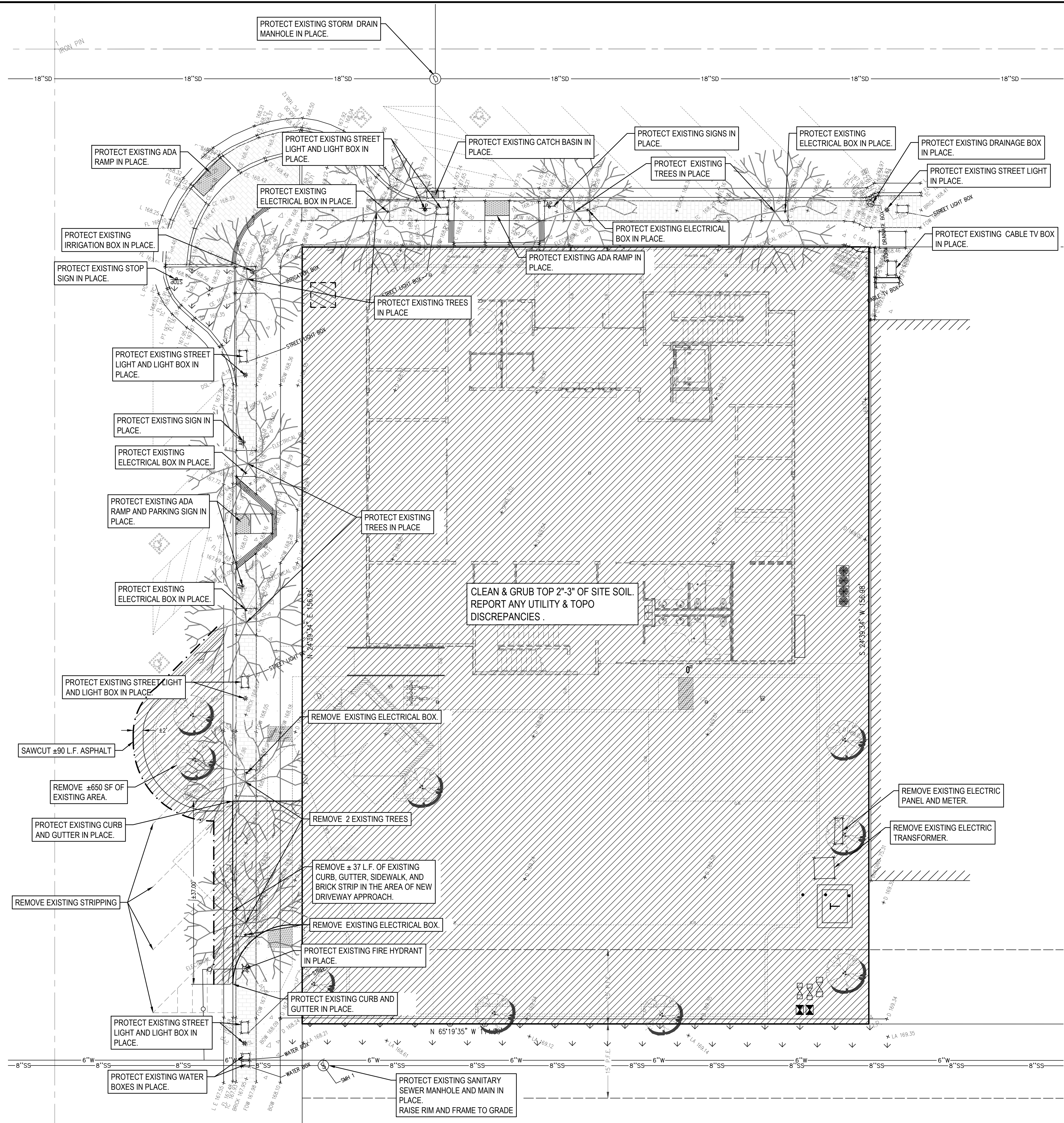


SHEET CONTENTS:
COVER

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: AUGUST, 2022
Checked By: Jim Xu, AMT
Drawn By: SY, NI
Job No.: 22-050
SHEET NUMBER:

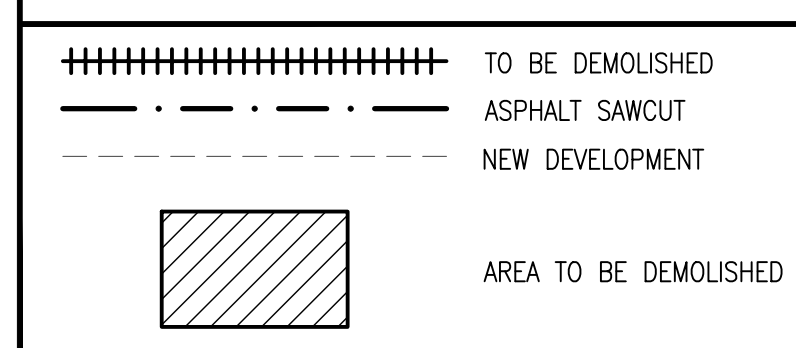
C1.0



DEMOLITION NOTES:

1. SEPARATE PERMIT IS REQUIRED FOR BUILDING DEMOLITION.
2. SEE SOIL REPORT FOR ADDITIONAL DEMOLITION REQUIREMENTS AND SITE PREPARATION.
3. PROTECT EXISTING UTILITIES DURING DEMOLITION.
4. THE CONTRACTOR SHALL COORDINATE RELOCATION/UNDERGROUND OF OVERHEAD DRY UTILITIES WITH THE RESPECTIVE UTILITY COMPANY.
5. NO WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL START UNTIL AN ENCROACHMENT PERMIT IS OBTAINED FROM THE COMMUNITY DEVELOPMENT DEPARTMENT.

DEMOLITION LEGEND:



CAUTION:

- CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES (WATER, GAS, ELECTRICAL, TV, COMMUNICATION, & ETC.) PRIOR TO START OF CONSTRUCTION & DEMOLITION.
- REPORT ANY DISCREPANCIES TO ENGINEER OF RECORD.

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PREPARED BY:

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405 West 19th Street 95340
P.O. Box 349
Merced, CA 95341
Ph: (209) 722-3200
Fax: (209) 722-3254

No.	Date	Description

It is the client's responsibility to verify the accuracy of the information provided to the engineer. The engineer is not responsible for any errors or omissions in the information provided to the engineer. The engineer is not responsible for any errors or omissions in the information provided to the engineer.

CIVIL IMPROVEMENT PLANS FOR
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19TH STREET
A.P.N. 031-054-024

CITY OF MERCED

ENGINEER

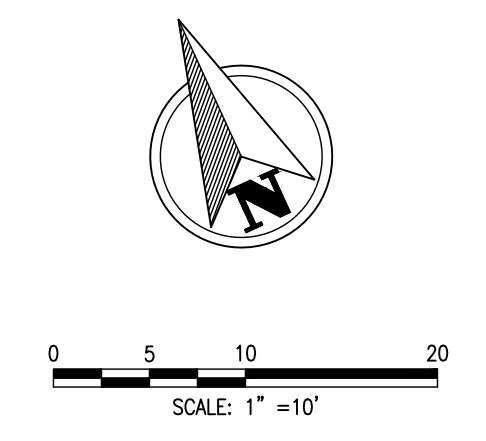
8/25/2022

SHEET CONTENTS:
DEMOLITION PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

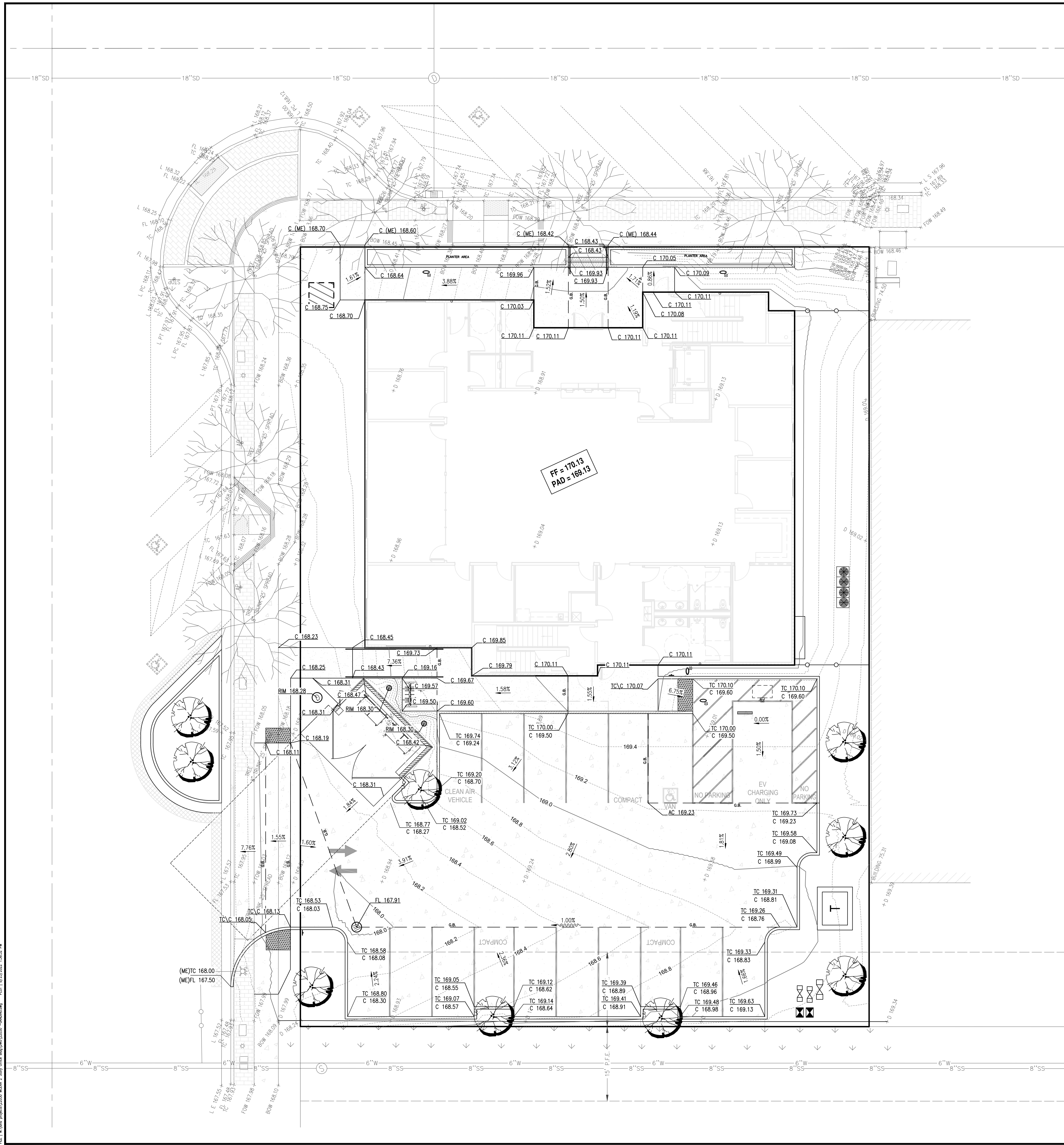
PROJECT DATA:
Date: AUGUST, 2022
Checked By: Jim Xu, AMT
Drawn By: SY, NI
Job No.: 22-050
SHEET NUMBER:

DEMOLITION PLAN



811
Know what's below.
Call before you dig.
1-800-227-2600

C3.0



GRADING LEGEND:

AC	ASPHALT CONCRETE
C	CONCRETE
CR	CROWN OF ROAD
FL	FLOW LINE
G.B.	GRADE BREAK
(ME)	MATCH EXISTING
RIM	RIM OF MANHOLE/CATCH BASIN
TC	TOP OF CURB
	ASPHALT SLOPE
	DRAINAGE SLOPE

GRADING NOTES:

1. RAISE EXISTING UTILITY LIDS TO GRADE.
2. SIDEWALKS SHALL HAVE A MAX CROSS SLOPE OF 1.5% AND SHALL NOT EXCEED 4.75% SLOPE IN DIRECTION OF TRAVEL.

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PREPARED BY:

GOLDEN VALLEY ENGINEERING & SURVEYING
405 West 19th Street 95340
Merced, CA 95341
Ph.: (209) 722-3200
Fax: (209) 722-3254

No.	Date	Description

It is the client's responsibility prior to or during construction to verify the design in writing of any proposed work or additions to the plan and specifications of which a contractor is responsible for. The contractor shall be responsible for any errors or omissions that may occur. The client shall be responsible for any defects in construction if these provisions are not followed.

**CIVIL IMPROVEMENT PLANS FOR
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION**
690 W. 19TH STREET
A.P.N. 031-054-024

CITY OF MERCED
CALIFORNIA

ENGINEER

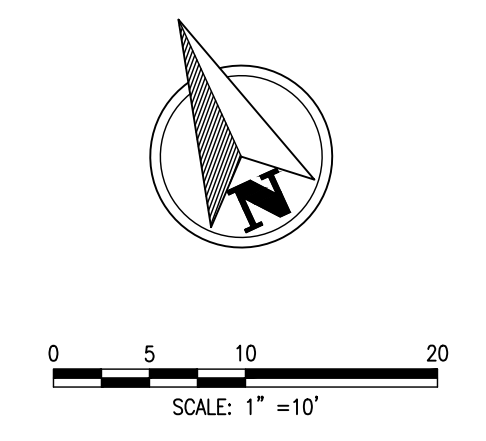
8/25/2022

SHEET CONTENTS:
GRADING PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: AUGUST, 2022
Checked By: Jim Xu, AMT
Drawn By: SY, NI
Job No.: 22-050
SHEET NUMBER:

GRADING PLAN



Know what's below.
Call before you dig.
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C7.0

PLOT: (\\svr\proj\2022\0504_MCR_2 Draw Civil\BAC\220504-02000-0000.dwg) PLOT: 8/25/2022 1:34:23 PM

RESIDENTIAL DRIVEWAY (STANDARD CURB)
DRAWING NO. APPROVED BY DATE
DATE: 4/05 APPROVED BY: *Mark L. Tucker* DATE: 4/14/06
REVISED: 12/05 CITY ENGINEER SHEET D-3 OF

COMMERCIAL/INDUSTRIAL DRIVEWAY
DRAWING NO. APPROVED BY DATE
DATE: 1/02 APPROVED BY: *Mark L. Tucker* DATE: 4/14/06
REVISED: 3/17/08 CITY ENGINEER SHEET D-7 OF

FRONT END LOADER - ANGLED SERVICE
DRAWING NO. APPROVED BY DATE
DATE: 6/04 APPROVED BY: *Mark L. Tucker* DATE: 3/17/08
REVISED: 3/17/08 CITY ENGINEER SHEET R-2A OF

REFUSE ENCLOSURE GATE
DRAWING NO. APPROVED BY DATE
DATE: 8/04 APPROVED BY: *Mark L. Tucker* DATE: 4/4/06
REVISED: 8/04 CITY ENGINEER SHEET R-4A OF

REFUSE ENCLOSURE DETAIL
DRAWING NO. APPROVED BY DATE
DATE: 8/04 APPROVED BY: *Mark L. Tucker* DATE: 4/4/06
REVISED: 8/04 CITY ENGINEER SHEET R-4 OF

SEWER MANHOLE DETAIL
DRAWING NO. APPROVED BY DATE
DATE: 12/05 APPROVED BY: *Mark L. Tucker* DATE: 4/14/06
REVISED: 12/05 CITY ENGINEER SHEET S-1 OF

MANHOLE FRAME AND COVER
DRAWING NO. APPROVED BY DATE
DATE: 12/05 APPROVED BY: *Mark L. Tucker* DATE: 4/14/06
REVISED: 12/05 CITY ENGINEER SHEET S-3 OF

SIDEWALK, CURB & GUTTER SECTION
DRAWING NO. APPROVED BY DATE
DATE: 12/05 APPROVED BY: *Mark L. Tucker* DATE: 3/17/08
REVISED: 3/17/08 CITY ENGINEER SHEET SCG-1 OF

ADA ACCESS RAMP
DRAWING NO. APPROVED BY DATE
DATE: 12/05 APPROVED BY: *Mark L. Tucker* DATE: 3/17/08
REVISED: 3/17/08 CITY ENGINEER SHEET SCG-2 OF

SIDEWALK RETURNS
DRAWING NO. APPROVED BY DATE
DATE: 12/05 APPROVED BY: *Mark L. Tucker* DATE: 3/17/08
REVISED: 3/17/08 CITY ENGINEER SHEET SCG-5 OF

SITE SPECIFIC DATA

PROJECT NUMBER	
PROJECT NAME	
PROJECT LOCATION	
STRUCTURE ID	
TREATMENT REQUIRED	
VOLUME BASED (CF)	FLOW BASED (CFS)
PEAK BYPASS REQUIRED (CFS) - IF APPLICABLE	OFFLINE
PIPE DATA	I.E. MATERIAL DIAMETER
INLET PIPE 1	N/A N/A N/A
INLET PIPE 2	N/A N/A N/A
OUTLET PIPE	PRETREATMENT BIOPOLYMER DISCHARGE
RIM ELEVATION	
SURFACE LOAD	PEDESTRIAN
FRAME & COVER	24" x 42" OPEN PLANTER N/A

INSTALLATION NOTES

- CONTRACTOR TO PROVIDE ALL LABOR, EQUIPMENT, MATERIALS AND APPURTENANCES REQUIRED TO OFFLOAD AND INSTALL THE SYSTEM AND APPURTENANCES IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S SPECIFICATIONS, UNLESS OTHERWISE STATED IN MANUFACTURER'S CONTRACT.
- UNIT MUST BE INSTALLED ON LEVEL BASE. MANUFACTURER RECOMMENDS A MINIMUM 6" LEVEL ROCK BASE (UNLESS SPECIFIED BY THE PROJECT ENGINEER). CONTRACTOR IS RESPONSIBLE TO VERIFY PROJECT ENGINEER'S RECOMMENDED BASE SPECIFICATIONS.
- CONTRACTOR TO SUPPLY AND INSTALL ALL EXTERNAL CONNECTING PIPES. ALL PIPES MUST BE FLUSH WITH INSIDE SURFACE OF CONCRETE. PIPES CANNOT INTERLUDE BEYOND FLOWLINE. INLET OF OUTLET PIPE MUST BE FLUSH WITH DISCHARGE CHAMBER FLOOR. ALL PIPES SHALL BE SEALED WATER TIGHT PER MANUFACTURER'S STANDARD CONNECTION DETAIL.
- CONTRACTOR RESPONSIBLE FOR INSTALLATION OF ALL RISERS, MANHOLES AND HATCHES. CONTRACTOR TO GROUP ALL MANHOLES AND HATCHES TO MATCH FINISHED SURFACE UNLESS SPECIFIED OTHERWISE.
- VEGETATION SUPPLIED AND INSTALLED BY OTHERS. ALL UNITS WITH VEGETATION MUST HAVE DRAIN OR SPRAY IRRIGATION SUPPLIED AND INSTALLED BY OTHERS.
- CONTRACTOR RESPONSIBLE FOR CONTACTING BIO CLEAN FOR ACTIVATION OF UNIT. MANUFACTURER'S WARRANTY IS VOID WITH OUT PROPER ACTIVATION BY A BIO CLEAN REPRESENTATIVE.

GENERAL NOTES

- MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS, ELEVATIONS, SPECIFICATIONS AND CAPACITIES ARE SUBJECT TO CHANGE. FOR PROJECT SPECIFIC DRAWINGS DETAILING EXACT DIMENSIONS, WEIGHTS AND ACCESSORIES PLEASE CONTACT BIO CLEAN.

BIO CLEAN
MWS-L-4-6-V
STORMWATER BIOPOLYMER SYSTEM
STANDARD DETAIL

TREATMENT FLOW (CFS)	0.073
ORIGINATING HEAD (FT)	3.4
PRETREATMENT LOADING RATE (GPM/5F)	1.3
RETENTION MEDIA LOADING RATE (GPM/5F)	1.0

STORM DRAIN MANHOLE DETAILS
DRAWING NO. APPROVED BY DATE
DATE: 6-10-07 APPROVED BY: *Mark L. Tucker* DATE: 6-10-07
REVISED: 7-1-07 CITY ENGINEER SHEET SD-10 OF

PARALLEL PARKING LAYOUT

90° PARKING LAYOUT

WHERE BUMPERS OVERHANG PLANTERS OR RAISED WALKWAYS, THE DEPTH OF PARKING STALLS MAY BE REDUCED BY 2 FEET, TO 18 FEET.

PARALLEL & 90° PARKING
DRAWING NO. APPROVED BY DATE
DATE: 6-10-07 APPROVED BY: *Mark L. Tucker* DATE: 6-10-07
REVISED: 7-1-07 CITY ENGINEER SHEET TC-9 OF

PREPARED BY:

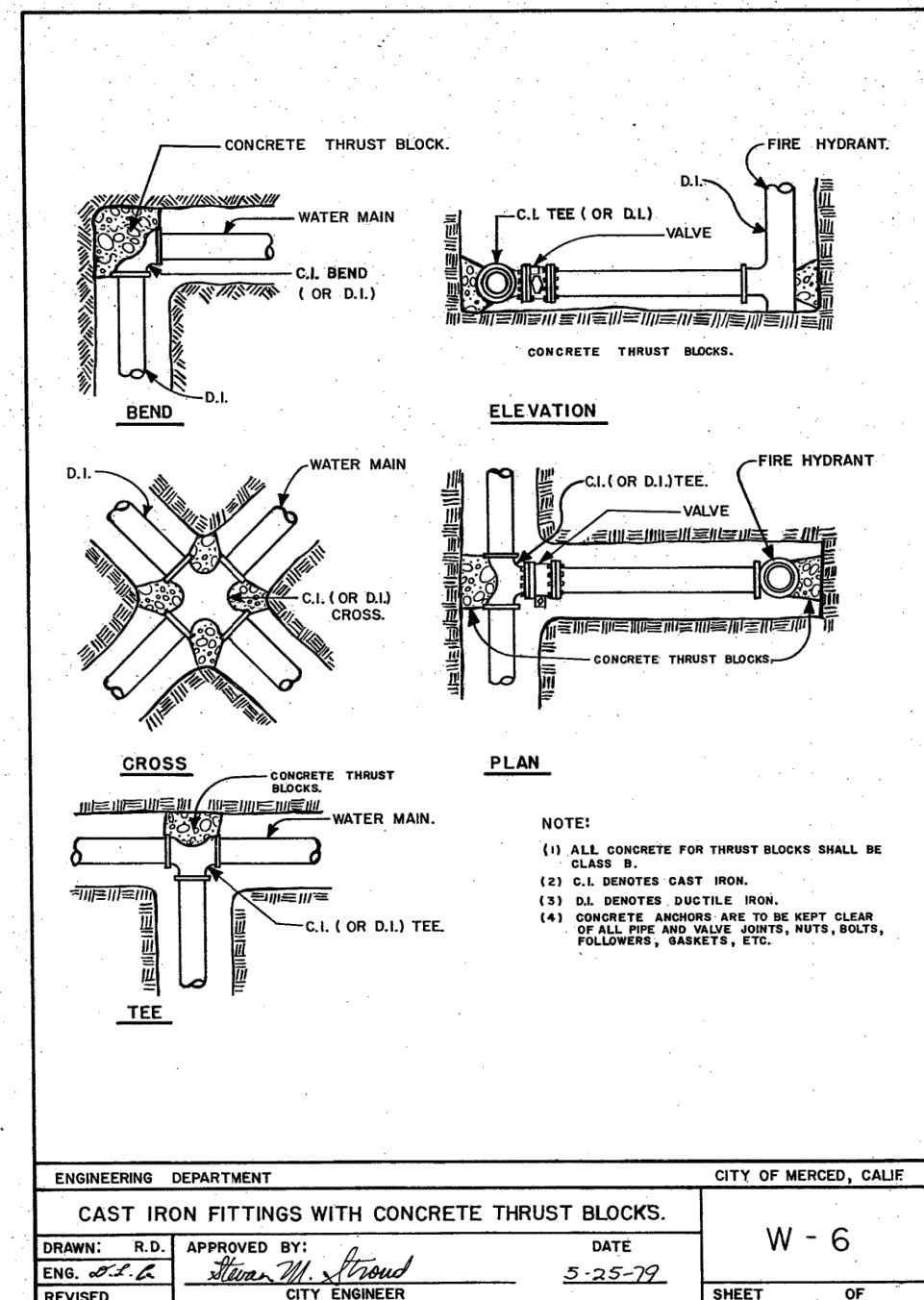
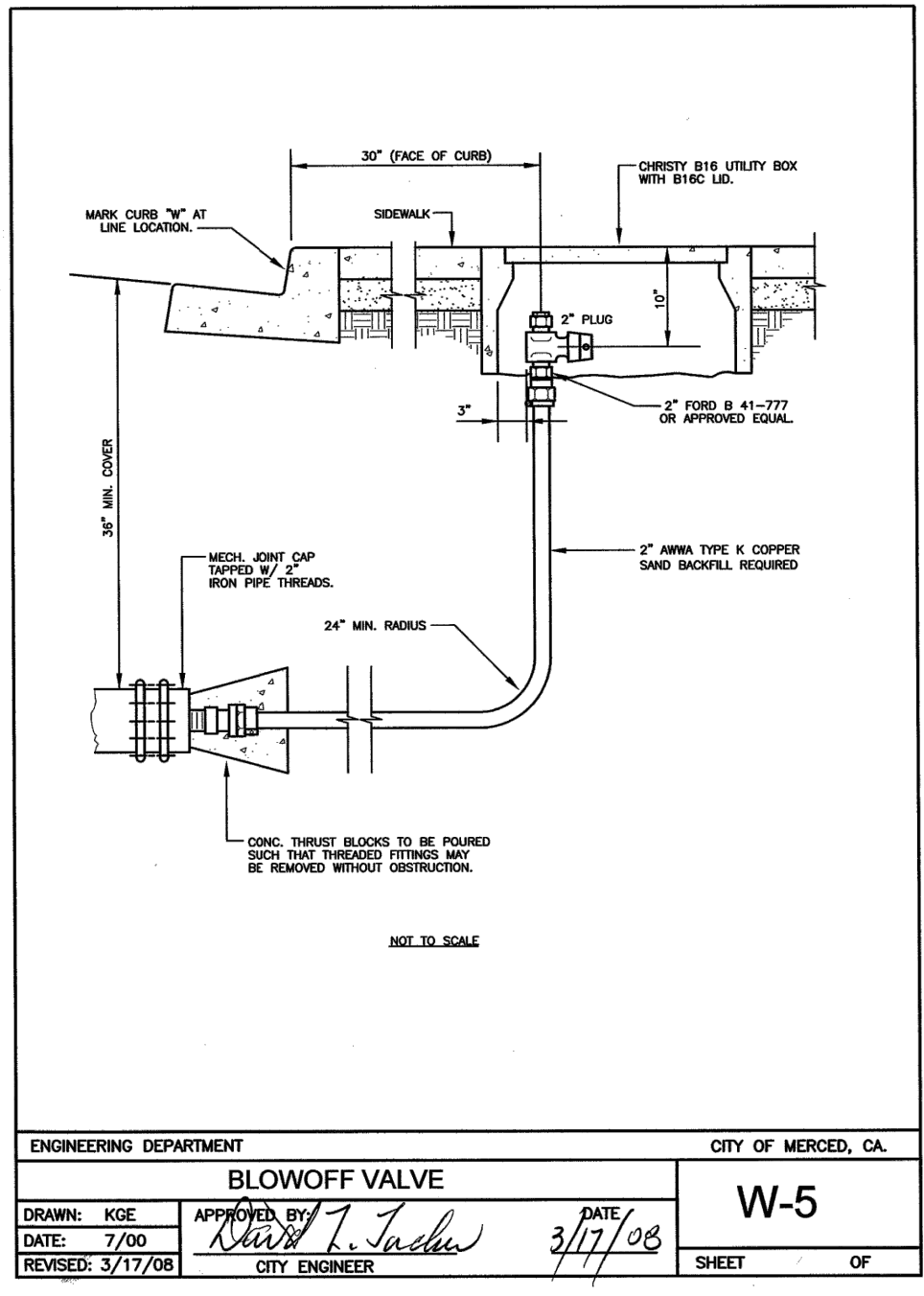
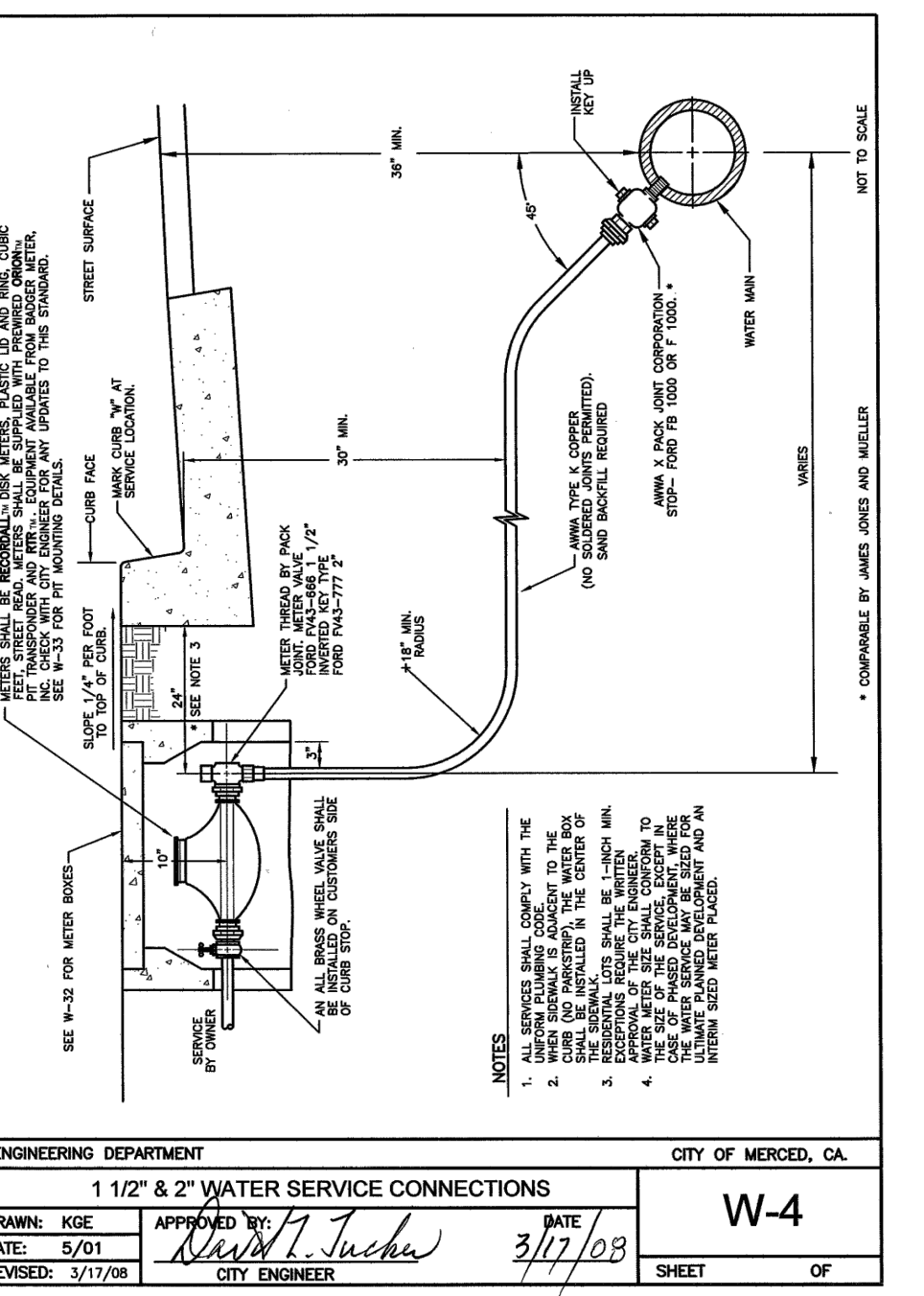
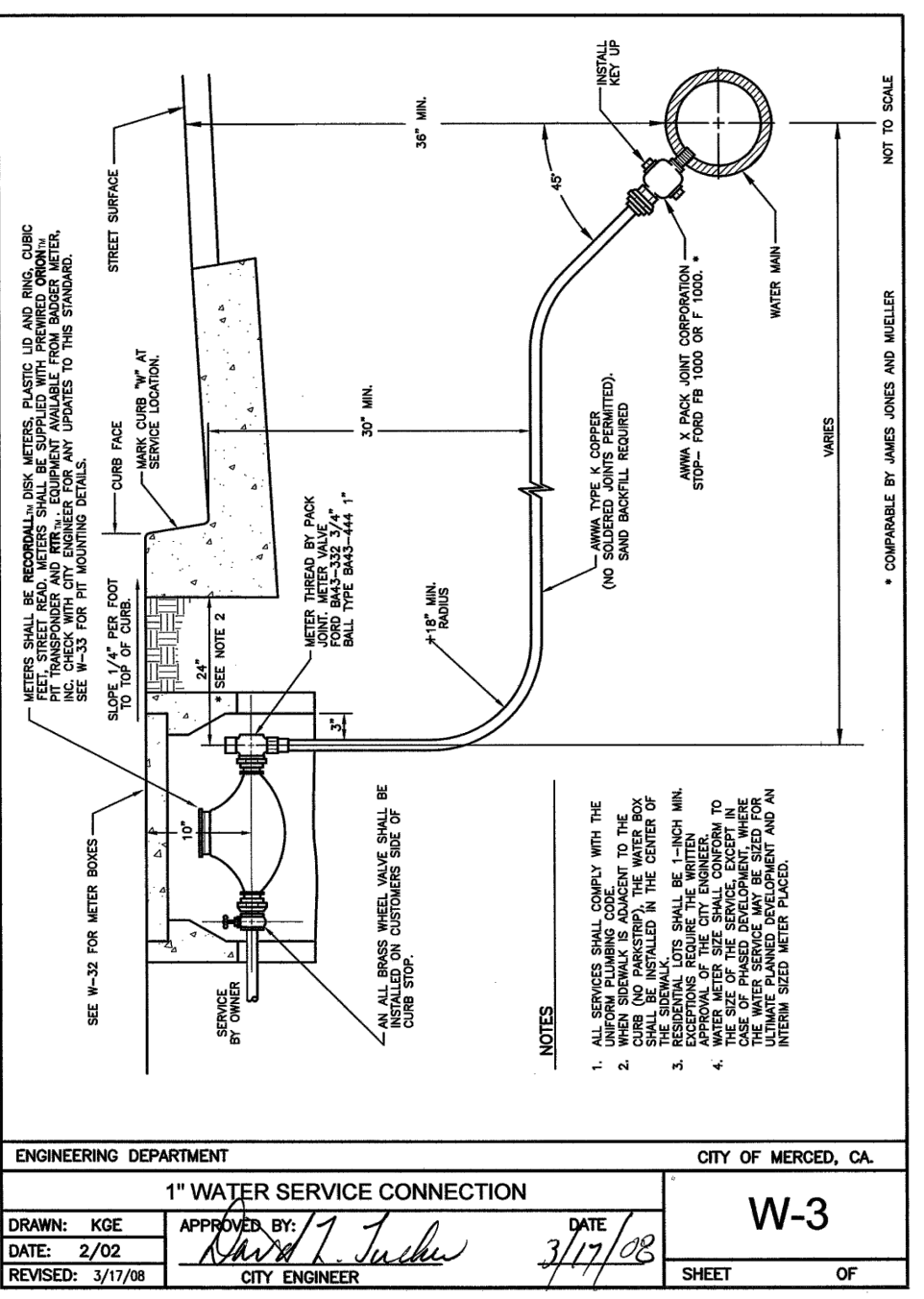
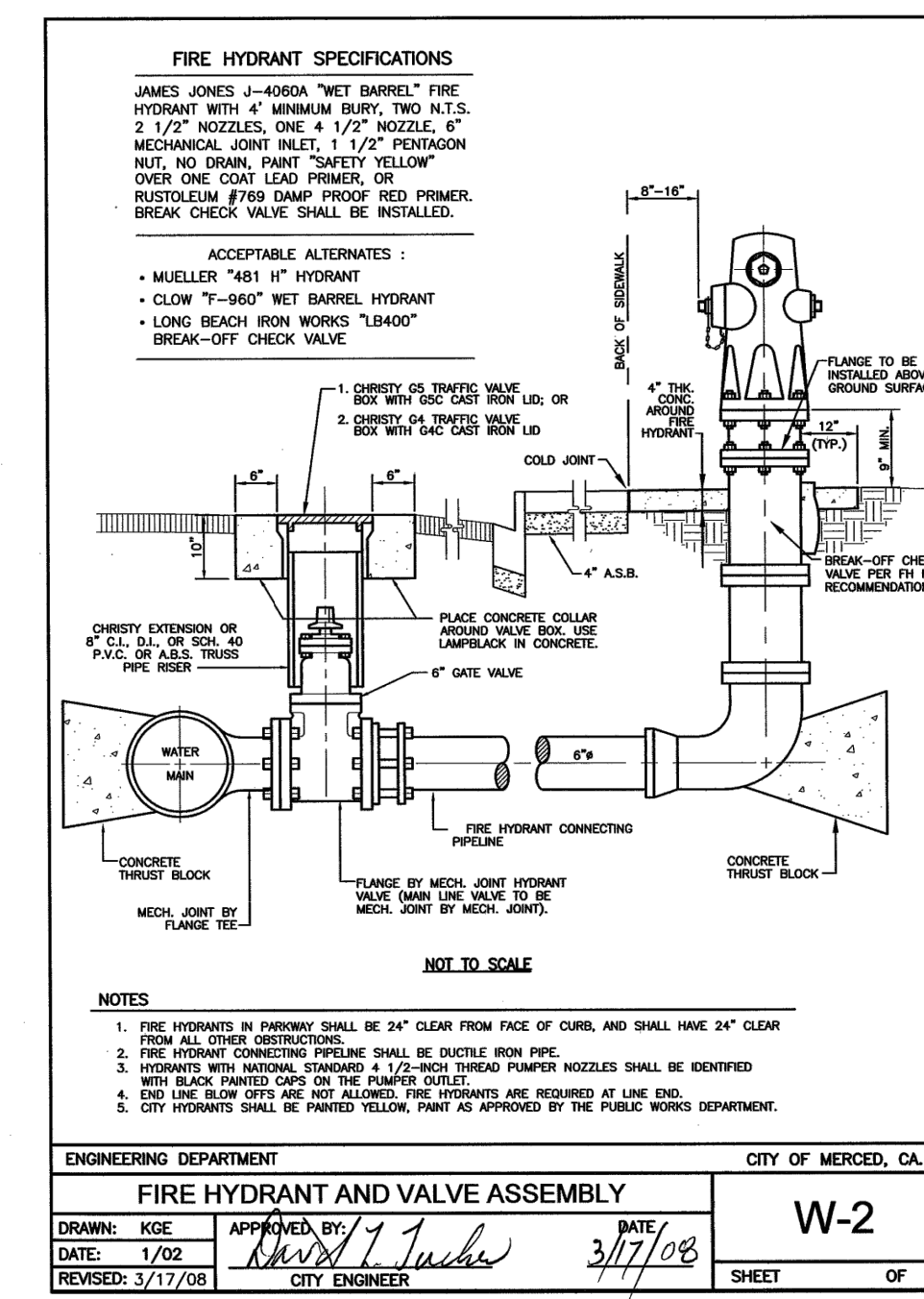
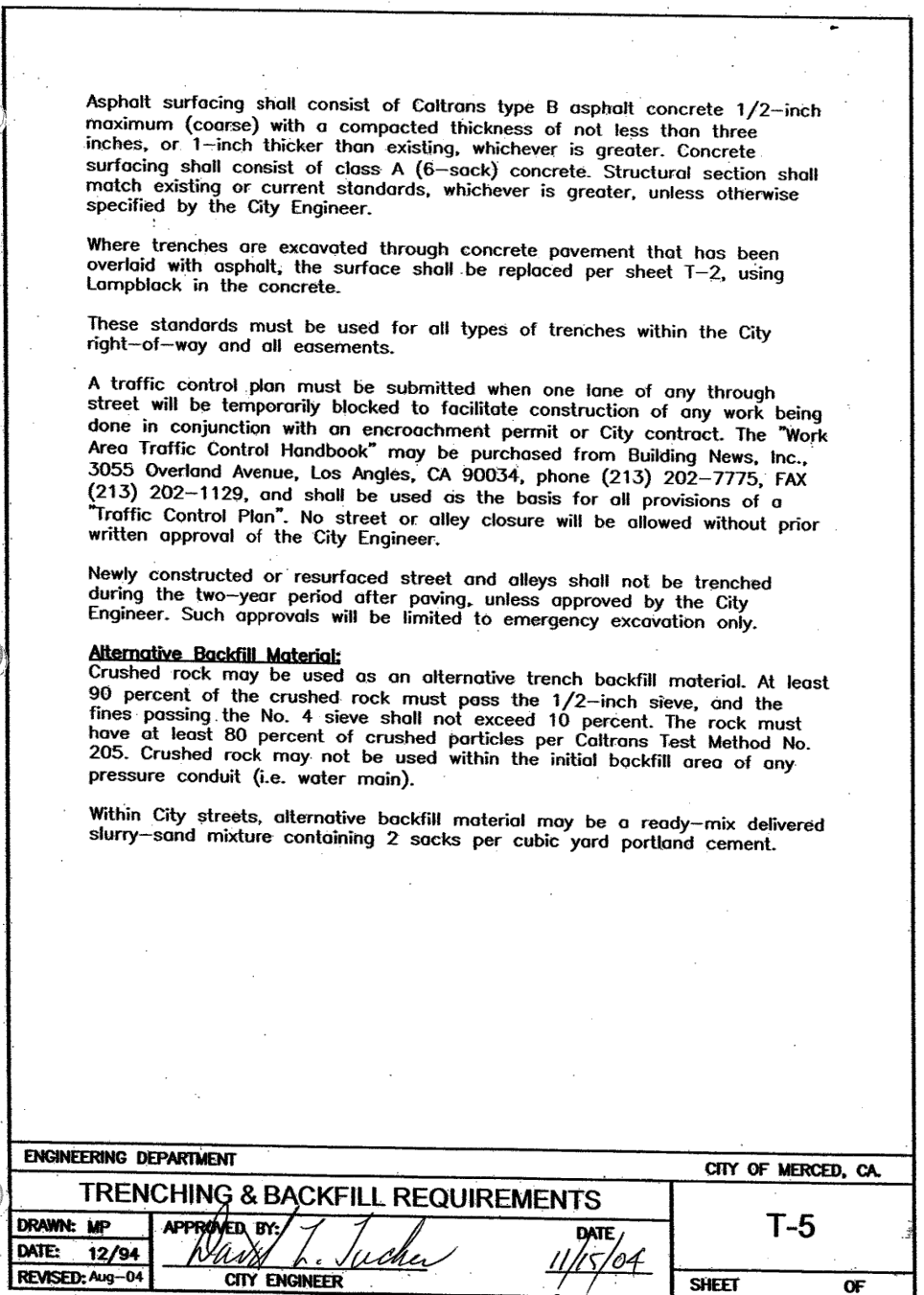
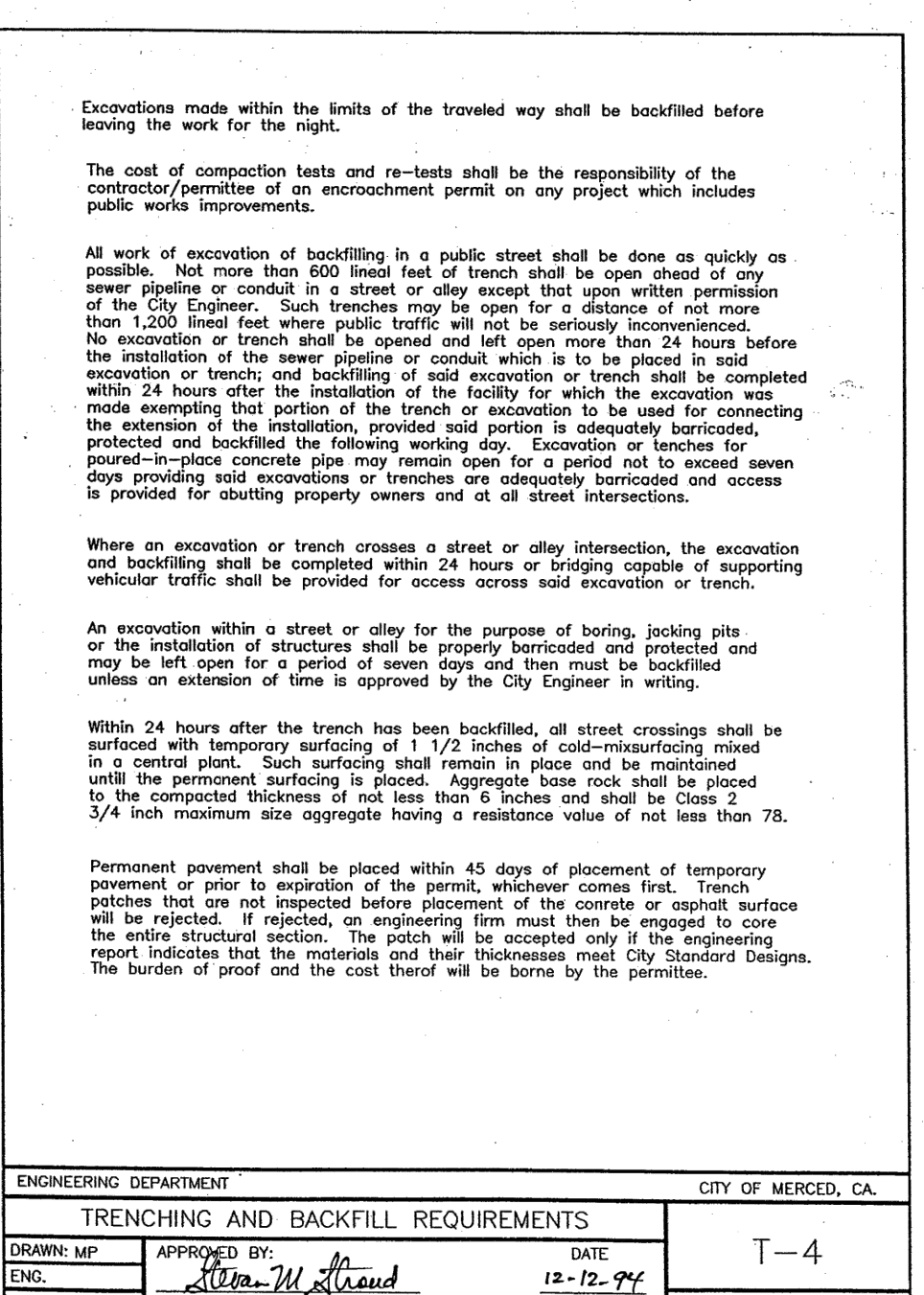
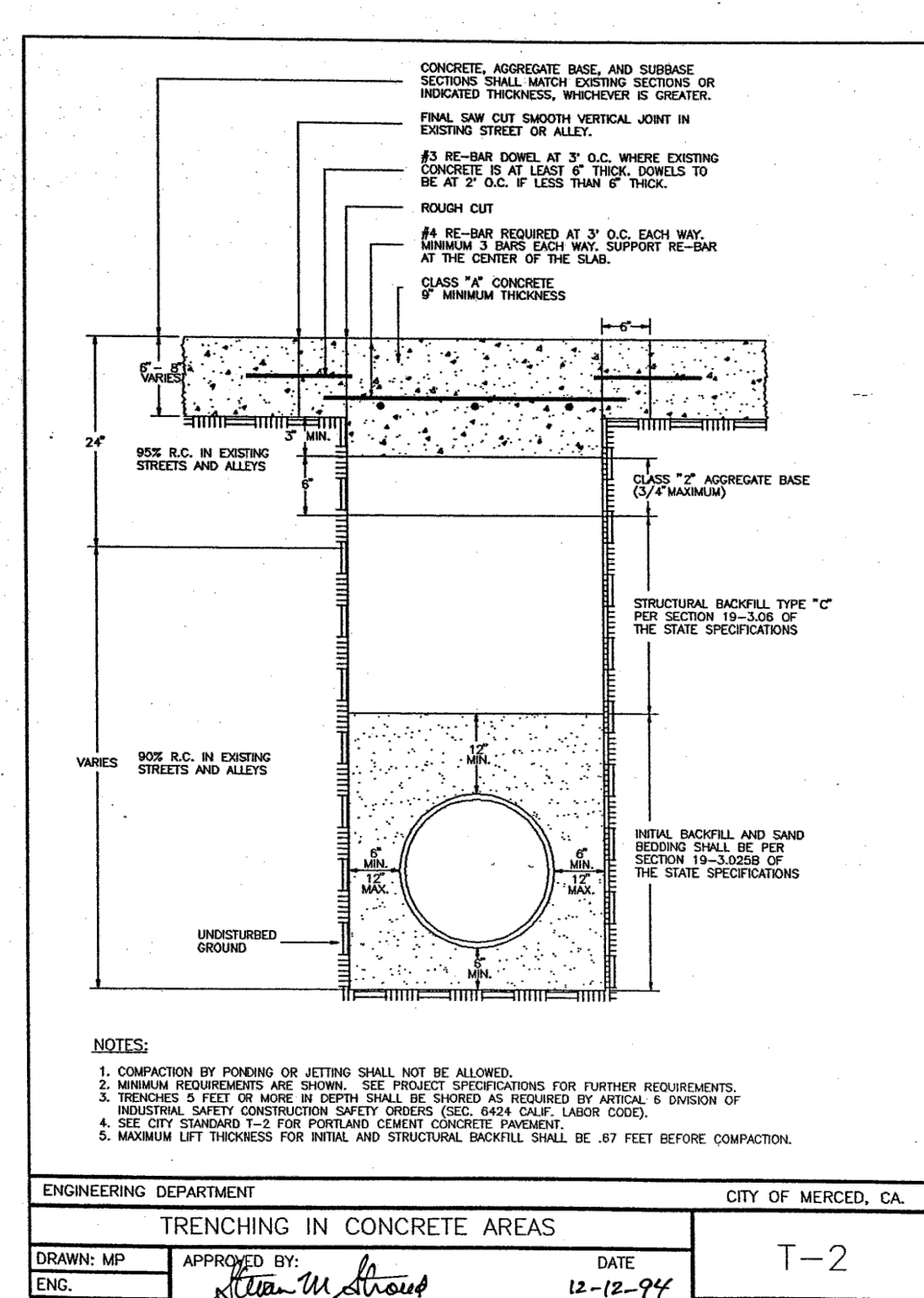
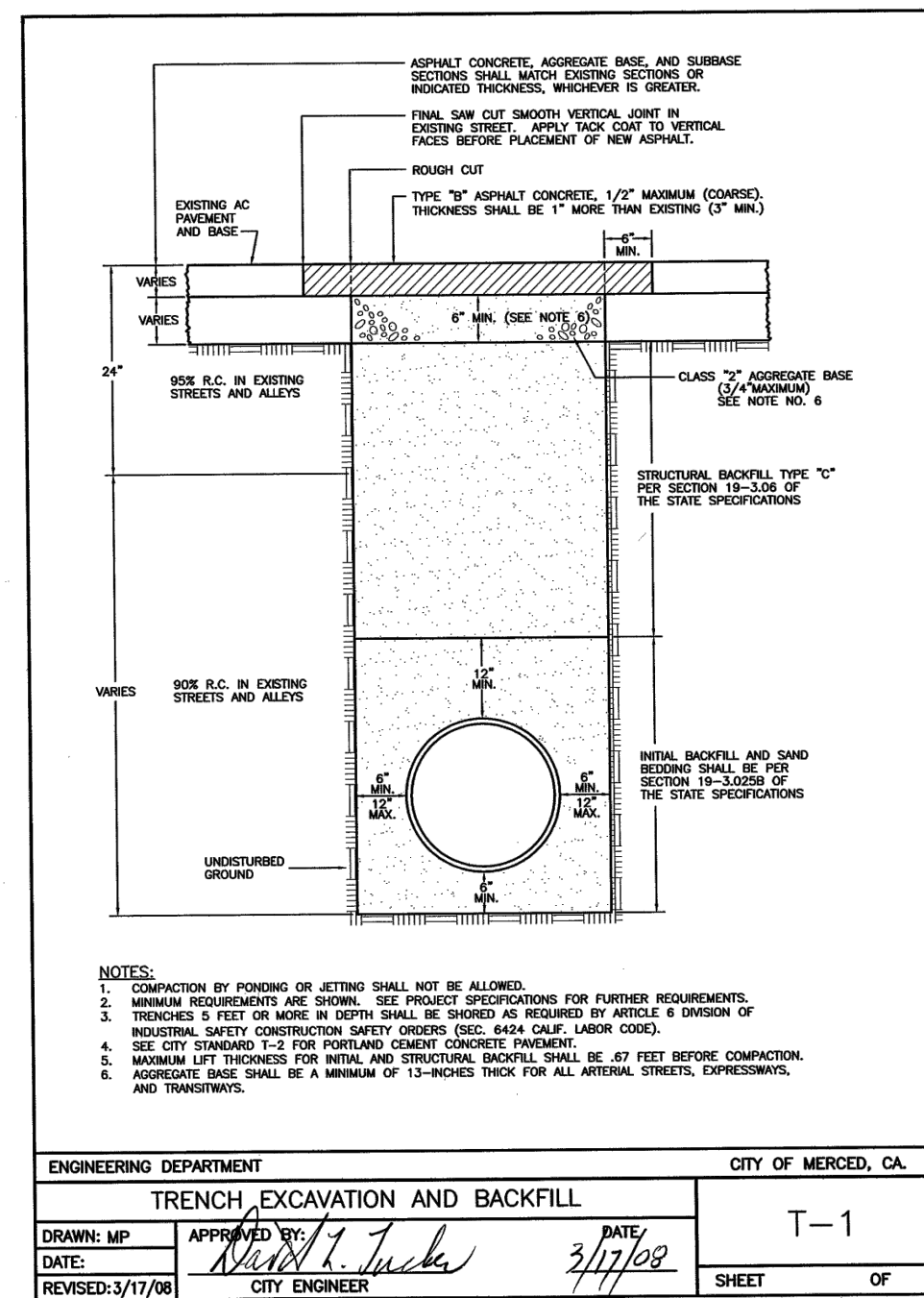
GOLDEN VALLEY ENGINEERING & SURVEYING
405 West 19th Street 95340
P.O. Box 349
Merced, CA 95341
Ph: (209) 722-3200
Fax: (209) 722-3254

No. Date Description

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CIVIL IMPROVEMENT PLANS FOR MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19TH STREET
A.P.N. 031-054-024

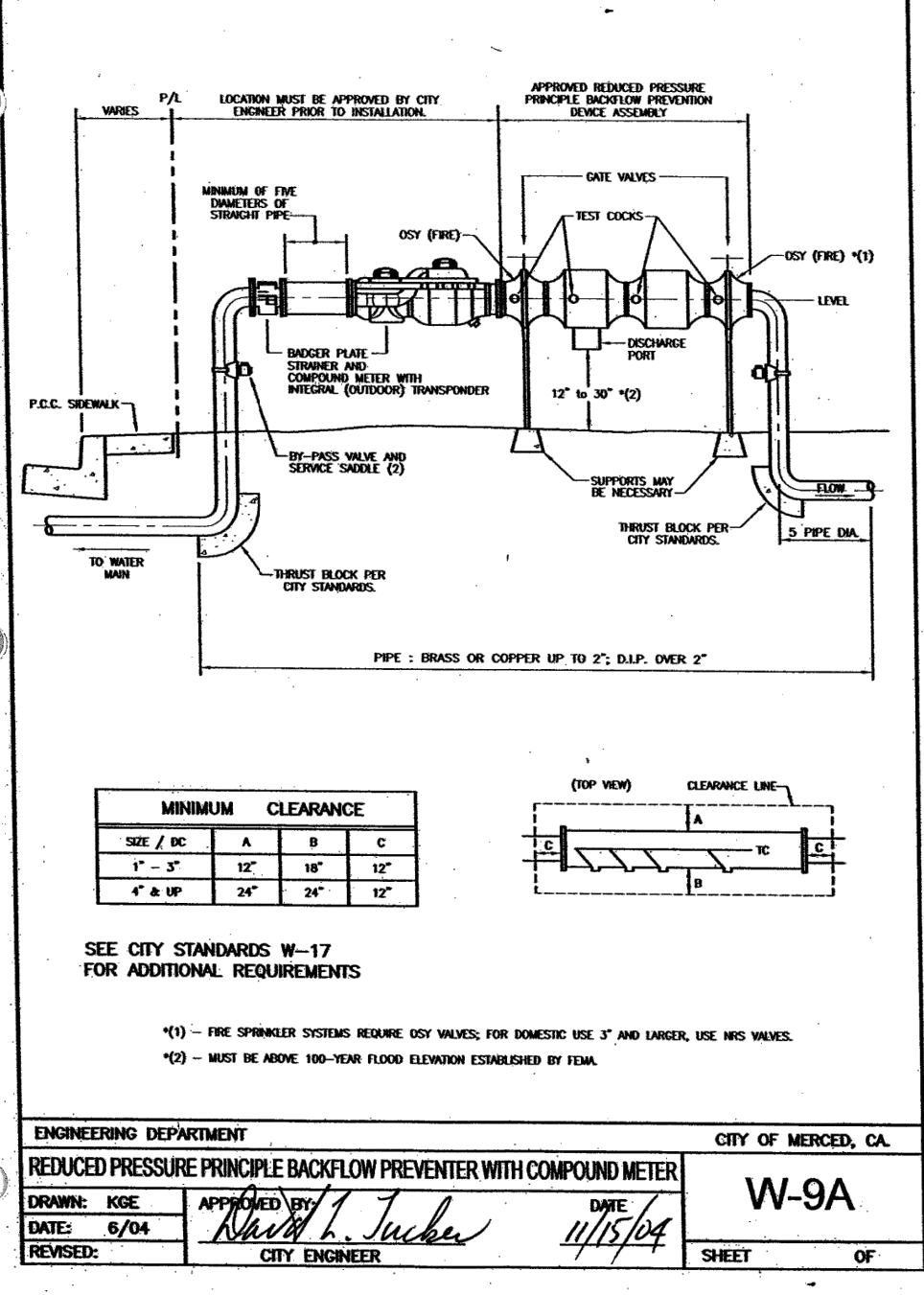
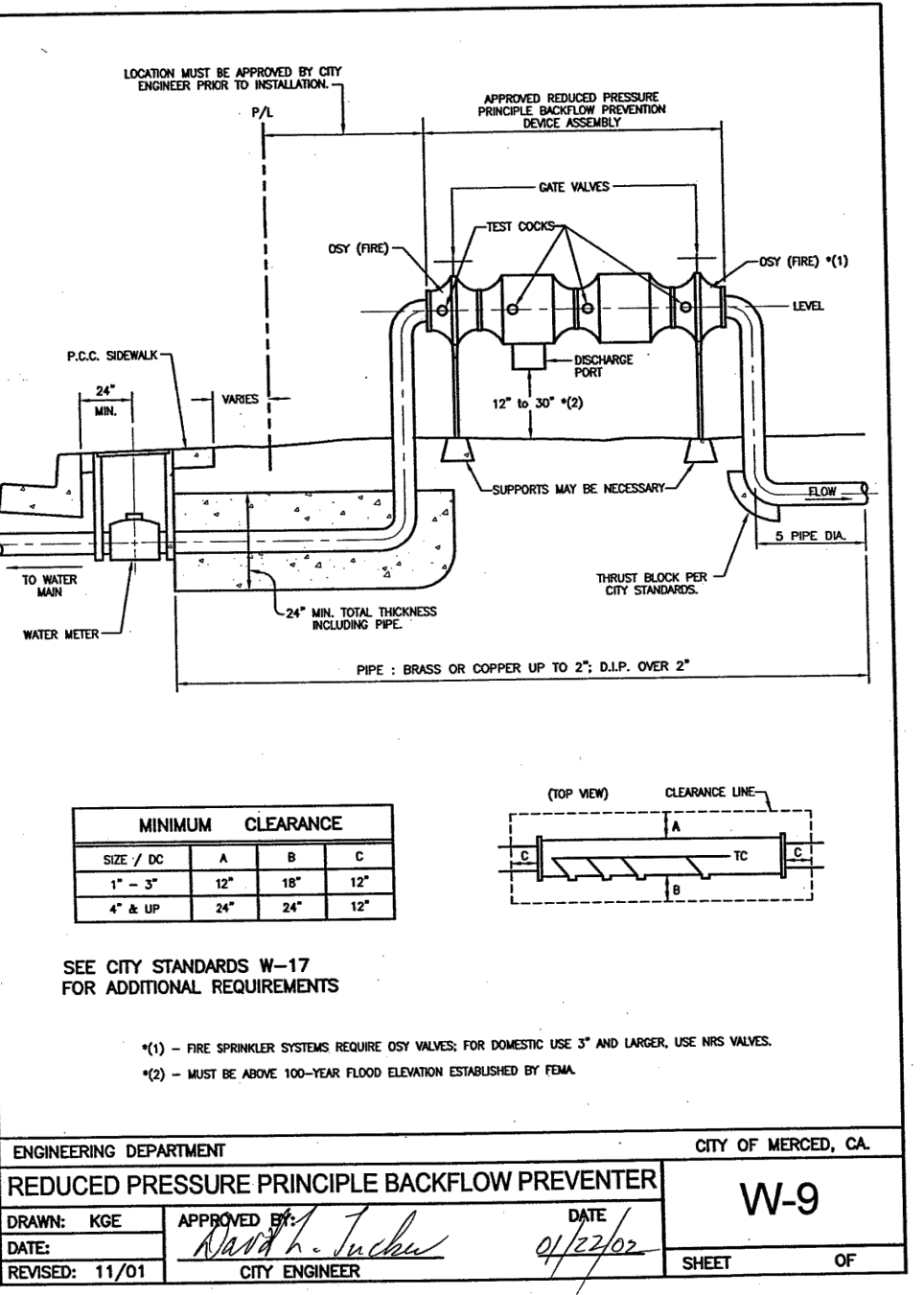
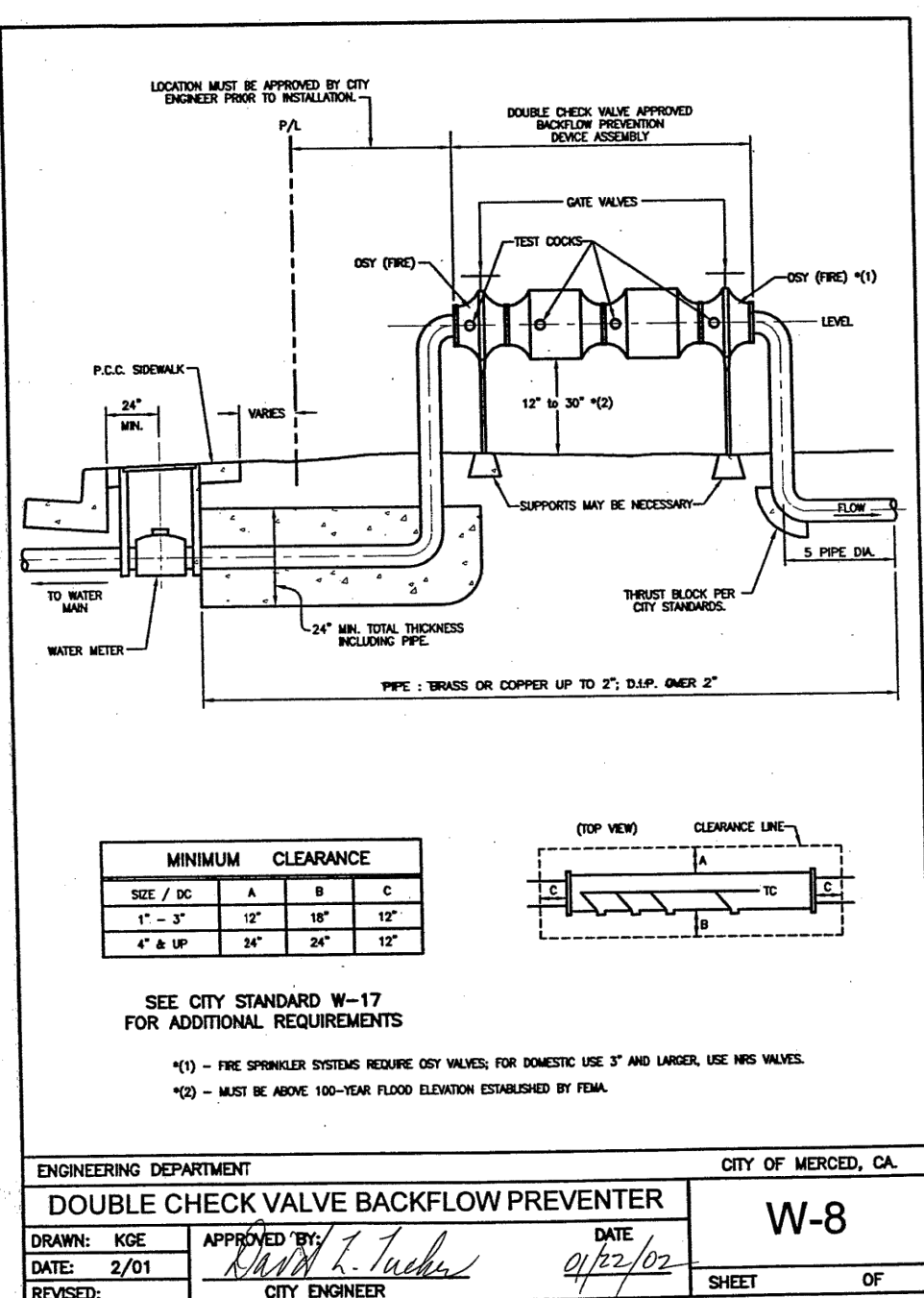
CALIFORNIA
CITY OF MERCED



THRUST BLOCK SIZE			WEIGHT AT VERTICAL BENDS LBS.
DIAMETER OF PIPE INCHES	HORIZONTAL BEND SURFACE AREA SQ. FT.	THICKNESS INCHES	
22-1/2" BENDS			
6 OR LESS	2	6	1,700
8	3	12	3,000
12	4	14	4,600
14	5	18	9,000
16	6	18	11,500
45" BENDS			
6 OR LESS	4	12	3,300
8	5	14	5,600
10	6	18	9,000
12	7	18	13,000
14	8	24	17,000
16	11.5	24	23,200
90" BENDS AND HYDRANT BURS			
6 OR LESS	8	12	6,000
8	10	15	10,700
10	12	18	16,700
12	12	18	24,000
14	12	24	32,000
16	18	24	42,700
TEES & DEAD ENDS			
		SIZE	AREA #
6 OR LESS	3	12	6.4
8	4	15	8.6
10	5	18	10.8
12	6	18	12.5
14	11.5	24	14.2
16	11.5	24	16.2

NOTE: ALL VALUES SHOWN ARE MINIMUM FOR A HYDROSTATIC PRESSURE OF 150 P.S.I. AND A SOIL RESISTANCE OF 2000 LBS./SQ. FT. WITH PIPELINE A MINIMUM OF 2 FT. OF COVER AND V OF 10 FPS. THE DIR. OF PULLED WIRES WILL CONSIDER REDUCTION OF THRUST BLOCK SURFACE AREA UPON SUBMITTAL OF APPROVED SOIL RESISTANT TEST RESULTS GREATER THAN 2000 LBS./SQ. FT.

THRUST BLOCKS
ENGINEERING DEPARTMENT CITY OF MERCED, CALIF
DRAWING NO. APPROVED BY DATE DATE
DATE: 2/01 APPROVED BY: *Mark L. Tucker* DATE: 6-25-99
REVISED: CITY ENGINEER SHEET W-7 OF



BOXES AND LIDS	METER SIZE		
	1-INCH	1 1/2-INCH	2-INCH
Non-Traffic Rated			
Christy Box (1)	N-30	B-36	B-36
Christy Lid (2)	FL30D	FL36D	FL36D
Christy Lid (2) (4)	FL30 w/ Orton Hole	FL36 w/ Orton Hole	FL36 w/ Orton Hole
Christy Lid (3) (4)	SYN1325 w/ Orton Hole	SYN1730 w/ Orton Hole	SYN1730 w/ Orton Hole
Christy Lid	SYN1325	SYN1730T	SYN1730T
BES Lid (3) (4)	PL30 w/ Orton Hole	PL30 w/ Orton Hole	PL30 w/ Orton Hole
BES Box	C36 Meter Box	C36 Meter Box	C36 Meter Box
Brooks Lid	#66 Meter Box	#66 Meter Box	#66 Meter Box
Amorcast Box	A6001640PK12	A6001640PK12	A6001640PK12
Amorcast Lid	A6001868	A6001843	A6001843
CDR System Corp.	WCOO-1324-2PR-0276	WA03-1730-12RR-0338	WA03-1730-12RR-0338
Traffic Rated (3)			
Christy Box	B-36	B-36	B-36
Christy Lid	B-36-61G	B-36-61G	B-36-61G
Christy Lid	SYN1730T	SYN1730T	SYN1730T
BES Lid	PL30 w/ Orton Hole	PL30 w/ Orton Hole	PL30 w/ Orton Hole
BES Box	C36 Meter Box	C36 Meter Box	C36 Meter Box
Brooks Box	#66 Meter Box	#66 Meter Box	#66 Meter Box
Brooks Lid	#66 TR	#66 TR	#66 TR
Amorcast Lid	Amorcast Factory for "20K" Incident Traffic Load Rated Assembly	A6001947T	A6001947T
CDR System Corp.	WCOO-1324-2PR-0276	WA03-1730-12RR-0338	WA03-1730-12RR-0338

(1) or approved equal
(2) as alternate, with pathway only
(3) Meter boxes located where subject to traffic, and in sidewalk adjacent to drive over curb require a traffic rated (steel) or (Polymer) lid set flush with concrete surface.
(4) Use with "Orton PR Module" meter reading system.

WATER SERVICE METER BOXES
ENGINEERING DEPARTMENT CITY OF MERCED, CA
DRAWING NO. APPROVED BY DATE DATE
DATE: 1/02 APPROVED BY: *Mark L. Tucker* DATE: 4/4/06
REVISED: 12/05 CITY ENGINEER SHEET W-32 OF

ENGINEER



8/25/2022

SHEET CONTENTS:
CITY STANDARDS

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: AUGUST, 2022
Checked By: Jim Xu, AMT

Drawn By: SY, NI
Job No.: 22-050

SHEET NUMBER

C9.1

PROPOSED MERCED COUNTY EMPLOYEES' RETIREMENT BUILDING 19TH STREET AND STREE MERCED, CALIFORNIA

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the proposed Merced County Employees' Retirement Building to be located at the southeast corner of 19th Street and N Street in Merced, California.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs, and the boring log legend are presented in Appendix A. Appendix A contains a description of the laboratory testing phase of this study, along with the laboratory test results.

SCOPE AND SCOPE

This investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in the design of specific construction elements, and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our proposal dated February 22, 2019 (KA Proposal No. P531-19) and included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.
• A field investigation consisting of drilling 2 borings to depths of approximately 15 and 50 feet for evaluation of the subsurface conditions at the project site.
• Performing laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.
• Preparation of this report summarizing the results, conclusions, recommendations, and findings of our investigation.

PROPOSED CONSTRUCTION

We understand that design of the proposed development is currently underway; structural load information and other final details pertaining to the structures are unavailable. On a preliminary basis, it is understood that the development will include construction of a commercial building. It is anticipated the building will be a single- or two-story structure utilizing concrete slab-on-grade. On-site paved areas and landscaping are also planned for the development of the project.

In the event, those structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION, SITE HISTORY AND SITE DESCRIPTION

The site is rectangular in shape and encompasses approximately 0.41 acres. The site is located at the southeast corner of 19th Street and N Street in Merced, California. A parking lot is located south of the site. The remainder of the site is predominantly surrounded by commercial developments.

Site history was obtained by reviewing historical aerial photographs taken in 1999, 2009, 2015 and 2016. Review of the 1999 aerial photograph indicates that the project site was occupied by a commercial building with associated grass and trees.

Review of the 2009 aerial photograph indicates that the project site predominantly consisted of a vacant lot. The previous structure had been removed. Several trees had been planted along the northern and western edges of the site. A new commercial building had been constructed west of the site.

Review of the 2015 aerial photograph indicates that the project site conditions appeared to be relatively similar to that noted in the 2009 aerial photograph.

Review of the 2016 aerial photograph indicates that the site was used as a construction equipment storage yard for a structure under construction south of the site.

Presently, the site predominantly consists of a vacant lot. Buried utility lines are located along the edges of the site and extend into the site. The site is covered by a sparse to moderate weed growth and the surface soils have a loose consistency. Several small trees are located along the northern and western edges of the site. Several small bushes are located along the northern edge of the site. Buried utility lines are located along the edges of the site and may extend into the project site. The site is relatively level with no major changes in grade.

GEOLOGIC SETTING

The San Joaquin Valley, which includes the Merced area, is a topographic and structural basin that is bounded on the east by the Sierra Nevada Mountains and on the west by the Coast Ranges. The Sierra Nevada, a fault block dipping gently southward, is made up of igneous and metamorphic rocks of pre-Tertiary age that comprise the basement complex beneath the Valley.

The Coast Ranges evolved as a result of folding, faulting, and accretion of diverse geologic terranes. They are composed chiefly of sedimentary and metamorphic rocks that are sharply deformed into complex structures. They are broken by numerous faults, the San Andreas Fault being the most notable structural feature.

Both the Sierra Nevada and Coast Ranges are geologically young mountain ranges and possess active and potentially active fault zones. Major active faults and fault zones occur at some distance to the east, west, and south of the Merced area. The Owens Valley Fault Zone bounds the eastern edge of the Sierra Nevada block and contains both active and potentially active faults.

There are no active fault traces in the project vicinity. Accordingly, the project area is not within an Earthquake Fault Zone (Special Studies Zone) and will not require a special site investigation by an Engineering Geologist.

Merced residents could feel the effects of a large seismic event on one of the nearby active or potentially active fault zones. Merced has experienced groundshaking from earthquakes in the historical past. According to the Five County Seismic Safety Element, groundshaking of VII intensity (Modified Mercalli Scale) was felt in Merced from the 1872 Owens Valley Earthquake. This is the largest known earthquake event affecting the Merced area.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling 2 borings to depths of approximately 15 and 50 feet below existing site grade, using a truck-mounted drill rig. In addition, 1 bulk subsurface sample was obtained from the site for laboratory R-value testing.

Merced residents could feel the effects of a large seismic event on one of the nearby active or potentially active fault zones. Merced has experienced groundshaking from earthquakes in the historical past. According to the Five County Seismic Safety Element, groundshaking of VII intensity (Modified Mercalli Scale) was felt in Merced from the 1872 Owens Valley Earthquake. This is the largest known earthquake event affecting the Merced area.

For additional information about the soils encountered, please refer to the boring logs in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory testing program was formulated with emphasis on the evaluation of natural moisture, density, gradation, shear strength, consolidation potential, expansion potential, atterberg limits, R-values, and moisture-density relationships of the materials encountered.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. In general, the surface soils consisted of approximately 6 to 12 inches of very loose gravely silty sand. These soils are disturbed, have low strength characteristics and are highly compressible when saturated.

Beneath the loose surface soils, up to 3 1/2 feet of fill material was encountered. The fill material predominantly consisted of gravely silty sand, silt/sand/clayey sand, sandy clay and silty sand with gravel. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Limited testing was performed on the fill soils during the time of our field and laboratory investigations.

Below the fill material, approximately 2 to 3 feet of loose to dense silty sand, silt/sand/sandy silt or silty sand/sandy clay or very stiff sandy clay were encountered. Field and laboratory tests suggest that these soils are moderately strong, slightly compressible, and have a moderate potential for expansion.

Below approximately 6 to 7 feet, layers of predominantly medium dense to dense silty sand, sandy silt, silt/sand/sandy clay or very stiff sandy clay were encountered. Field and laboratory tests suggest that these soils are moderately strong and slightly compressible. Penetration resistance ranged from 114 to 121 pcf. A representative soil sample consolidated approximately 1% percent under a 2 ksf load when saturated. A representative soil sample had an angle of internal friction of 37 degrees. A representative sample of the clayey soil had an expansion index of 62.

Below approximately 6 to 7 feet, layers of predominantly medium dense to dense silty sand, sandy silt, silt/sand/sandy clay or very stiff sandy clay were encountered. Field and laboratory tests suggest that these soils are moderately strong and slightly compressible. Penetration resistance ranged from 114 to 121 pcf. A representative soil sample consolidated approximately 1% percent under a 2 ksf load when saturated. A representative soil sample had an angle of internal friction of 37 degrees. A representative sample of the clayey soil had an expansion index of 62.

For additional information about the soils encountered, please refer to the boring logs in Appendix A.

GROUNDWATER

Test borings locations were checked for the presence of groundwater during and immediately following the drilling operations. Free groundwater was not encountered within a depth of 50 feet. However,

planned finished subgrade levels should be cleaned to firm, undisturbed soil and backfilled with Engineered Fill. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Excavations should extend to a minimum depth of at least 1 foot below proposed footing elevations or as recommended by the Soils Engineer. Any other buried structures encountered, should be removed in accordance with the recommendations of the Soils Engineer. The resulting excavations should be backfilled with Engineered Fill.

Trees and shrubs are located along the edges of the site. Tree and shrub removal operations should include removal of roots greater than 1 inch in diameter. The resulting excavations should be backfilled with Engineered Fill compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Following stripping, fill removal operations and demolition activities, and prior to fill placement, the exposed subgrade to be building pad areas should be cleaned to a depth of at least 12 inches, wetted until uniform and free from large clods, moisture-conditioned to a minimum of 2 percent above optimum moisture content, and compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. Prior to backfilling, the exposed subgrade should be proof-rolled to verify stability. Where pavement and exterior driveway areas, following striping, demolition, and fill removal activities, the exposed subgrade should be excavated/cleared to a depth of at least 12 inches, wetted until uniform and free from large clods, moisture-conditioned to a minimum of 2 percent above optimum moisture content, and compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

It is recommended that the upper 24 inches of soil within proposed conventional slab-on-grade and exterior framework areas consist of non-expansive Engineered Fill or lime-treated clay soil. The purpose is to support the slab-on-grade areas with 24 inches of non-expansive or lime-treated fill. The fill placement serves two functions: 1) it provides a uniform amount of soil which will be evenly distributed to the soil pressures and 2) it reduces moisture content fluctuation in the clayey material beneath the building area. The non-expansive fill material should be a well-graded silty sand or sandy silt soil. A clean sand or very sandy soil is not acceptable for this purpose. A sandy soil will allow the surface water to drain into the expansive clayey soil below, which may result in soil swelling. Imported Fill should be approved by the Soils Engineer prior to placement. The fill should be placed as specified as Engineered Fill.

In lieu of the use of non-expansive soils or lime-treated soils, the moisture content of the top 24 inches should be moisture-conditioned to between 3 and 5 percent above optimum moisture content. The moisture-conditioned clayey soils should be removed and recompacted to between 90 and 95 percent of maximum density based on ASTM Test Method D1557. Over-compaction of the clayey material may result in excessive post-construction swell pressures. In any event, some post-construction movement of the reworked soil is expected, but careful moisture and compaction control should minimize the swell potential. If construction takes place during the winter, early spring, or if the contractor elects to pond the building site, the moisture content may be relatively high. It may not be necessary to remove and recompact the soil.

The site was previously occupied by a commercial development. In addition, existing developments are located within the project site vicinity. Associated with these developments are buried structures, such as utility lines and landscape irrigation lines that extend into the project site. Any surface or buried structures, including utilities, encountered during construction should be properly removed and the resulting excavations backfilled with Engineered Fill. It is suspected that demolition activities of the existing structures will disturb the upper soils. Areas disturbed by demolition activities should be excavated to firm native ground. Excavations, depressions, or soft silt pond areas extending below

reduce post-construction soil movement. Actual foundation and slab movement cannot be accurately determined because it will be influenced by post-construction moisture fluctuation, such as landscape water. However, movement is expected to be less than 1/8 inch.

The total soil movement for the soil replacement alternatives is not expected to exceed 1 inch. Differential movement should be less than 1/4 inch. Most of the settlement is expected to occur during construction as the loads are applied. However, additional post-construction settlement may occur if the foundation soils are flooded or saturated.

The footing excavations should not be allowed to dry out any time prior to pouring concrete. It is recommended that footings be reinforced by at least one No. 4 reinforcing bar in both top and bottom.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.30 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 250 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A 1/2 increase in the above value may be used for short duration, wind, or seismic loads.

Concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with accepted engineering practice. The water vapor retarder should consist of a vapor retarder shooting underlain by a minimum of 3 inches of compacted, clean, gravel of 1/4-inch maximum size. To aid in curing during an optional 2 or 4 inches of granular fill may be placed on top of the vapor retarder. The granular fill should consist of damp clean sand with at least 10 to 30 percent of the sand passing the 100 sieve. The sand should be free of clay, silt, or organic material. Rock dust which is manufactured sand from rock crushing operations is typically suitable for the granular fill. This granular fill material should be compacted.

It is recommended that the concrete slab be reinforced to reduce crack separation and possible vertical offset of the cracks. We recommend at least No. 4 reinforcing bars placed on 18-inch centers, be used for this purpose. The reinforcement should be placed at mid-height within the slab. Thicker floor slabs with increased concrete strength and reinforcement should be designed wherever heavy concentrated loads, heavy equipment, or machinery is anticipated.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. Exterior finish grades should be sloped a minimum of 2 percent away from all interior slab areas to preclude ponding of water adjacent to the structures. All fills required to bring the building pads to grade should be Engineered Fills.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor retarder and penetrate the slab-on-grade. This moisture vapor penetration can effect floor coverings and produce mold and mildew in the structure. To reduce moisture vapor intrusion, it is recommended that a vapor retarder be

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

SOIL LIQUEFACTION

Soil liquefaction is a state of soil particle suspension, caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs in soils, such as sands, in which the strength is purely frictional. However, liquefaction has occurred in soils other than clean sands. Liquefaction usually occurs under vibratory conditions, such as those induced by seismic events.

To evaluate the liquefaction potential of the site, the following items were evaluated:

- 1) Soil type
2) Groundwater depth
3) Relative density
4) Initial confining pressure
5) Intensity and duration of groundshaking

The predominant soils within the project site consist of alternating layers of silty sand, sandy silt, silty sand/sandy silt, silty sand/sand and sandy silty/sandy clay. Groundwater was not encountered within a depth of 50 feet during our exploratory drilling. However, information obtained from the Department of Water Resources indicates that water wells had history water elevations as shallow as 2 feet below site grade within the project site vicinity.

The potential for soil liquefaction during a seismic event was evaluated using the LIQVEEPRO computer program (version 5.8H) developed by CivITech Software. For the analysis, a maximum earthquake magnitude of 6.26 was used. A peak horizontal ground surface acceleration of 0.225g was considered conservative and appropriate for the liquefaction analysis. An estimated high groundwater depth of 2 feet was used for our analysis. The computer analysis indicates that soils above a depth of 2 feet are non-liquefiable due to the absence of groundwater. The soils below a depth of 2 feet have a slight to very low potential for liquefaction under seismic shaking due to predominantly medium dense/silt to very dense/sand sandy and silty soils and the undisturbed low seismicity in the region. The analysis also indicates that the total and differential seismic induced settlement is not anticipated to exceed 1/4 and 1/8 inch, respectively. Accordingly, measures to mitigate liquefaction potential are not necessary.

moisture-condition the soil if the moisture content and relative density are as recommended. The moisture within the clayey soils should be maintained or re-established immediately before concrete pouring. Moisture content within the upper 24 inches of soils should be verified by our office within 48 hours of concrete pouring. If this option is utilized, exterior footings should have a minimum embedment depth of 24 inches.

It is recommended that any uncured fill material encountered within pavement areas be removed and/or recompacted. The fill materials should be moisture-conditioned to a minimum of 2 percent above optimum moisture and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. As an alternative, the Owner may elect not to recompact the existing fill within paved areas. However, the Owner should be aware that the paved areas may settle which may require annual maintenance. At a minimum, it is recommended that the upper 12 inches of subgrade soil be moisture-conditioned to a minimum of 2 percent above optimum moisture content and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

The upper soils, during wet winter months become very moist due to the absorptive characteristics of the soil. Fieldwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site waterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon inspection of the material and the stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

FINISHED FILL

The on-site upper native soils and fill material are predominantly gravely silty sand, silty sand/clayey sand, silty sand/sandy silt, sandy clay, sandy silt/silty clay and silty sand with gravel. The clayey soils will not be suitable for reuse as non-expansive Engineered Fill. The clayey soils will be suitable for reuse for fill placement within the upper 24 inches of conventional slab-on-grade and exterior framework areas, provided they are lime-treated. The preliminary application rate of lime should be 5 percent by dry weight. The lime material should be calcium oxide, commonly known as quick-lime. The clayey soils will be suitable for reuse as optimum moisture-condition during mixing operations. Additional testing is recommended to determine the appropriate application rate of lime prior to placement. These soils will be suitable for reuse as General Engineered Fill provided they are moisture-conditioned to at least 2 percent above optimum moisture, and recompacted to between 90 and 95 percent of maximum density based on ASTM Test Method D1557. The soils that do not contain clay will be suitable for reuse as non-expansive Engineered Fill provided they are cleaned of excessive organic and debris. However, it may be difficult for the contractor to separate these materials during grading operations.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site waterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

Imported Fill should consist of a well-graded, slightly cohesive, fine silty sand or sandy silt, with relatively impervious characteristics when compacted. This material should be approved by the Soils Engineer prior to use and should typically possess the following characteristics:

Table with 3 columns: Percent Passing No. 200 Sieve, Plasticity Index, UBC Standard 29-2 Expansion Index. Values range from 20 to 50, 10 maximum, and 15 maximum.

Fill soils should be placed in thicknesses of 6 inches thick, moisture-conditioned to a minimum of 2 percent above optimum moisture content, and compacted to achieve at least 90 percent maximum density based on ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required density or if soil conditions are not stable.

Drainage and Landscaping. The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. In accordance with Section 1804 of the 2016 California Building Code, it is recommended that the ground surface adjacent to foundations be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative device of drainage conveyance. Swales used for conveyance of drainage and conveyance within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and exterior concrete walkways, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water away to collection facilities and off-site. These grades should be maintained for the life of the project.

Slots of weep holes should be placed in drop inlets of other surface drainage devices in pavement areas to allow free drainage of adjoining base course materials. Cutoff walls should be installed at pavement edges adjacent to vehicular traffic areas; these walls should extend to a minimum depth of 12 inches below pavement subgrade to limit the amount of seepage water that can infiltrate the pavements. Where cutoff walls are undesirable subgrade drains can be constructed to transport excess water away from planter to drainage interceptors. If cutoff walls can be successfully used at the site, construction of subgrade drains is considered unnecessary.

Structures should have exterior wall footing placed at least 18 inches deep for the soil replacement or lime treatment alternate, and 24 inches for reworking of the expansive soil alternate. Depths cited, should be measured from rough grade or exterior grade, whichever is lower. The interior footings should be at least 12 inches below subgrade. The placement of continuous perimeter footings at the recommended depth will have an encapsulation to prevent moisture fluctuations in the soil and should

Table with 4 columns: Traffic Index, Asphaltic Concrete, Class II Aggregate Base, Compacted Subgrade. Values range from 4.0 to 7.5, 2.0 to 4.0, 4.0 to 5.0, and 12.0 to 12.0.

* 95% compaction based on ASTM Test Method D1557 or CAL 316
** 90% compaction based on ASTM Test Method D1557 or CAL 316

If traffic index is not available, an estimated (typical) value index of 4.5 may be used for light to moderate traffic and an index of 7.0 may be used for light truck traffic.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site soil conditions, with the exception of the loose surface soils, expansive nature of the clayey soils, previous development and existing development, appear to be conducive to the development of the project. The surface soils have a loose consistency. These soils are disturbed, have low strength characteristics, and are highly compressible when saturated. Accordingly, it is recommended that these surface soils be recompacted. The compaction effort should stabilize the surface soils and locate any unsuitable or plant areas not found during our field investigation.

Up to 3 1/2 feet of fill material was encountered within the borings drilled throughout the site. The fill material predominantly consisted of gravely silty sand, silt/sand/clayey sand or silty sand with gravel. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Limited testing was performed on the fill soils during the time of our field and laboratory investigations. The limited testing indicates the fill soils had varying strength characteristics ranging from loosely placed to compacted. Therefore, it is recommended that fill soils that have not been properly compacted and certified be excavated and stockpiled so that the native soils can be prepared properly. Over-compaction should extend to a minimum of 5 feet beyond structural elements. The fill material will be suitable for use as Engineered Fill provided it is cleaned of excessive organics, debris, and fragments larger than 4 inches in maximum dimension.

Clayey soils were encountered within the site. These clayey soils appear to have a moderate shrink/swell potential. The estimated swell pressure of the clayey material may cause movement affecting slabs and brittle exterior finishes. To reduce the potential soil movement, it is recommended that the upper 24 inches of soil within slab-on-grade and exterior framework areas consist of non-expansive fill. The fill material should be a well-graded silty sand or sandy silt soil. A clean sand or very sandy soil is not acceptable for this purpose. A sandy soil will allow the surface water to drain into the expansive clayey soils below, which may result in swelling. The replacement soil and/or the upper 24 inches of imported Fill soils should meet the specifications as described under the subsurface Engineered Fill. The replacement soils should extend 5 feet beyond the perimeter of the building. The non-expansive replacement soil should be compacted to at least 90 percent relative compaction based on ASTM Test Method D1557. The exposed native soils in the excavation should not be allowed to dry out and should be kept continuously moist prior to backfilling. In addition, it is recommended that slab-on-grade continuous footings and slabs be nominally reinforced to reduce cracking and vertical off-set.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site waterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

Imported Fill should consist of a well-graded, slightly cohesive, fine silty sand or sandy silt, with relatively impervious characteristics when compacted. This material should be approved by the Soils Engineer prior to use and should typically possess the following characteristics:

Table with 3 columns: Percent Passing No. 200 Sieve, Plasticity Index, UBC Standard 29-2 Expansion Index. Values range from 20 to 50, 10 maximum, and 15 maximum.

Fill soils should be placed in thicknesses of 6 inches thick, moisture-conditioned to a minimum of 2 percent above optimum moisture content, and compacted to achieve at least 90 percent maximum density based on ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required density or if soil conditions are not stable.

Drainage and Landscaping. The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. In accordance with Section 1804 of the 2016 California Building Code, it is recommended that the ground surface adjacent to foundations be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative device of drainage conveyance. Swales used for conveyance of drainage and conveyance within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and exterior concrete walkways, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water away to collection facilities and off-site. These grades should be maintained for the life of the project.

Slots of weep holes should be placed in drop inlets of other surface drainage devices in pavement areas to allow free drainage of adjoining base course materials. Cutoff walls should be installed at pavement edges adjacent to vehicular traffic areas; these walls should extend to a minimum depth of 12 inches below pavement subgrade to limit the amount of seepage water that can infiltrate the pavements. Where cutoff walls are undesirable subgrade drains can be constructed to transport excess water away from planter to drainage interceptors. If cutoff walls can be successfully used at the site, construction of subgrade drains is considered unnecessary.

Structures should have exterior wall footing placed at least 18 inches deep for the soil replacement or lime treatment alternate, and 24 inches for reworking of the expansive soil alternate. Depths cited, should be measured from rough grade or exterior grade, whichever is lower. The interior footings should be at least 12 inches below subgrade. The placement of continuous perimeter footings at the recommended depth will have an encapsulation to prevent moisture fluctuations in the soil and should

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site soil conditions, with the exception of the loose surface soils, expansive nature of the clayey soils, previous development and existing development, appear to be conducive to the development of the project. The surface soils have a loose consistency. These soils are disturbed, have low strength characteristics, and are highly compressible when saturated. Accordingly, it is recommended that these surface soils be recompacted. The compaction effort should stabilize the surface soils and locate any unsuitable or plant areas not found during our field investigation.

Up to 3 1/2 feet of fill material was encountered within the borings drilled throughout the site. The fill material predominantly consisted of gravely silty sand, silty sand/clayey sand or silty sand with gravel. The thickness and extent of fill material was determined based on limited test borings and visual observation. Thicker fill may be present at the site. Limited testing was performed on the fill soils during the time of our field and laboratory investigations. The limited testing indicates the fill soils had varying strength characteristics ranging from loosely placed to compacted. Therefore, it is recommended that fill soils that have not been properly compacted and certified be excavated and stockpiled so that the native soils can be prepared properly. Over-compaction should extend to a minimum of 5 feet beyond structural elements. The fill material will be suitable for use as Engineered Fill provided it is cleaned of excessive organics, debris, and fragments larger than 4 inches in maximum dimension. Prior to backfilling, Krazan & Associates, Inc., should inspect the bottom of the excavation to verify no additional removal is required.

Tree and shrub removal operations should include roots greater than 1 inch in diameter. The resulting excavations should be cleaned to firm native ground and backfilled with Engineered Fill compacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

The site was previously occupied by a commercial development. In addition, the site is surrounded by existing developments. Associated with these developments are buried structures, such as utility lines and landscape irrigation lines that extend into the project site. Demolition activities should include proper removal of any buried structures. Any surface or buried structures encountered during construction should be properly removed and/or relocated. It is suspected that demolition activities of the existing utilities or structures will disturb the upper soils. After demolition activities, it is recommended that these disturbed soils be removed and/or recompacted. This compaction effort should stabilize the upper soils and locate any unsuitable or plant areas not found during our field investigation.

Tree and shrubs are located along the edges of the site. Tree and shrub removal operations should include roots greater than 1 inch in diameter. The resulting excavations should be backfilled with Engineered Fill. The replacement soils should extend 5 feet beyond the perimeter of the building. The non-expansive replacement soil should be compacted to at least 90 percent relative compaction based on ASTM Test Method D1557. The exposed native soils in the excavation should not be allowed to dry out and should be kept continuously moist prior to backfilling. In addition, it is recommended that slab-on-grade continuous footings and slabs be nominally reinforced to reduce cracking and vertical off-set.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site waterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

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The following recommendations are for light-duty and heavy-duty Portland Cement Concrete pavement sections.

PORTLAND CEMENT PAVEMENT LIGHT DUTY

Traffic Index	Portland Cement Concrete**	Class II Aggregate Base*	Compacted Subgrade**
4.5	5.0"	4.0"	12.0"

HEAVY DUTY

Traffic Index	Portland Cement Concrete**	Class II Aggregate Base*	Compacted Subgrade**
7.0	6.5"	4.0"	12.0"

* 90% compaction based on ASTM Test Method D1557 or CAL 216
** 90% compaction based on ASTM Test Method D1557 or CAL 216
*** Minimum compressive strength of 3000 psi

It is recommended that any unsorted fill material encountered within pavement areas be removed and/or recompacted. The fill materials should be moisture-conditioned to near optimum moisture and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557. As an alternative, the Owner may elect not to recompact the existing fill within paved areas. However, the Owner should be aware that the paved areas may settle which may require annual maintenance. At a minimum, it is recommended that the upper 12 inches of subgrade soil be moisture-conditioned as necessary and recompacted to a minimum of 90 percent of maximum density based on ASTM Test Method D1557.

Seismic Parameters - 2016 California Building Code

The Site Class per Section 1613 of the 2016 California Building Code (2016 CBC) and Table 20.3-1 of ASCE 7-10 is based upon the site soil conditions. It is our opinion that a Site Class D is most consistent with the subject site soil conditions. For seismic design of the structures based on the seismic provisions of the 2016 CBC, we recommend the following parameters:

Seismic Item	Value	CBC Reference
Site Class	D	Section 1613.3.2
Site Coefficient F _v	1.282	Table 1613.3.3 (1)
S _w	0.647	Section 1613.3.1
S _{ms}	0.830	Section 1613.3.3
S _{ms}	0.553	Section 1613.3.4
Site Coefficient F _a	1.256	Table 1613.3.3 (2)
S _i	0.272	Section 1613.3.1
S _{ms}	0.505	Section 1613.3.3
S _{ms}	0.337	Section 1613.3.4

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Soil Cement Reactivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or masonry) and the soil. HUDFHA and CBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentrations detected from these soil samples were less than 150 ppm and are below the maximum allowable values established by HUDFHA and CBC. However, it is recommended that a Type II cement be used within the concrete to compensate for sulfate reactivity with the cement.

Compacted Material Acceptance

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be unstable or if future instability is suspected. A specific example of rejection of fill material possessing the required percent compaction is a fill which has been compacted with an in situ moisture content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

Testing and Inspection

A representative of Krazan & Associates, Inc. should be present at the site during the earthwork activities to confirm that actual subsurface conditions are consistent with the exploratory fieldwork. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent of these recommendations is incorporated into the project design and construction. Krazan & Associates, Inc. will not be responsible for grades or sinking, since this is the responsibility of the Prime Contractor.

LIMITATIONS

Soils Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using the most appropriate and most current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Soils Engineering, physical changes in the site, either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the soils

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report is completed may require the soils report to be professionally reviewed. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that 2 years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. If any variations or undesirable conditions are encountered during construction, the Soils Engineer should be notified so that supplemental recommendations may be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The Soils Engineer should be notified of any changes so the recommendations may be reviewed and re-evaluated.

This report is a Geotechnical Engineering Investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands. Any statements, or absence of statements, in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessment.

The geotechnical engineering information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

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If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (559) 344-2200.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Steve Nelson
Project Engineer
David F. Jarama, II
Managing Engineer
RGE No. 1698/RCE No. 60185



SNDRJ:jt

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Merced, CA 95341
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No.	Date	Description

It is the client's responsibility prior to or during construction to verify the designer in writing for any potential errors or omissions in the plans and modifications of which the contractor is responsible. The client shall be notified of any errors or omissions in writing and to include them in the design prior to the client or client's subcontractors proceeding with the work. The client shall be responsible for any delays in construction if these procedures are not followed.

**CIVIL IMPROVEMENT PLANS FOR
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19TH STREET
A.P.N. 031-054-024**
CITY OF MERCED
CALIFORNIA

ENGINEER

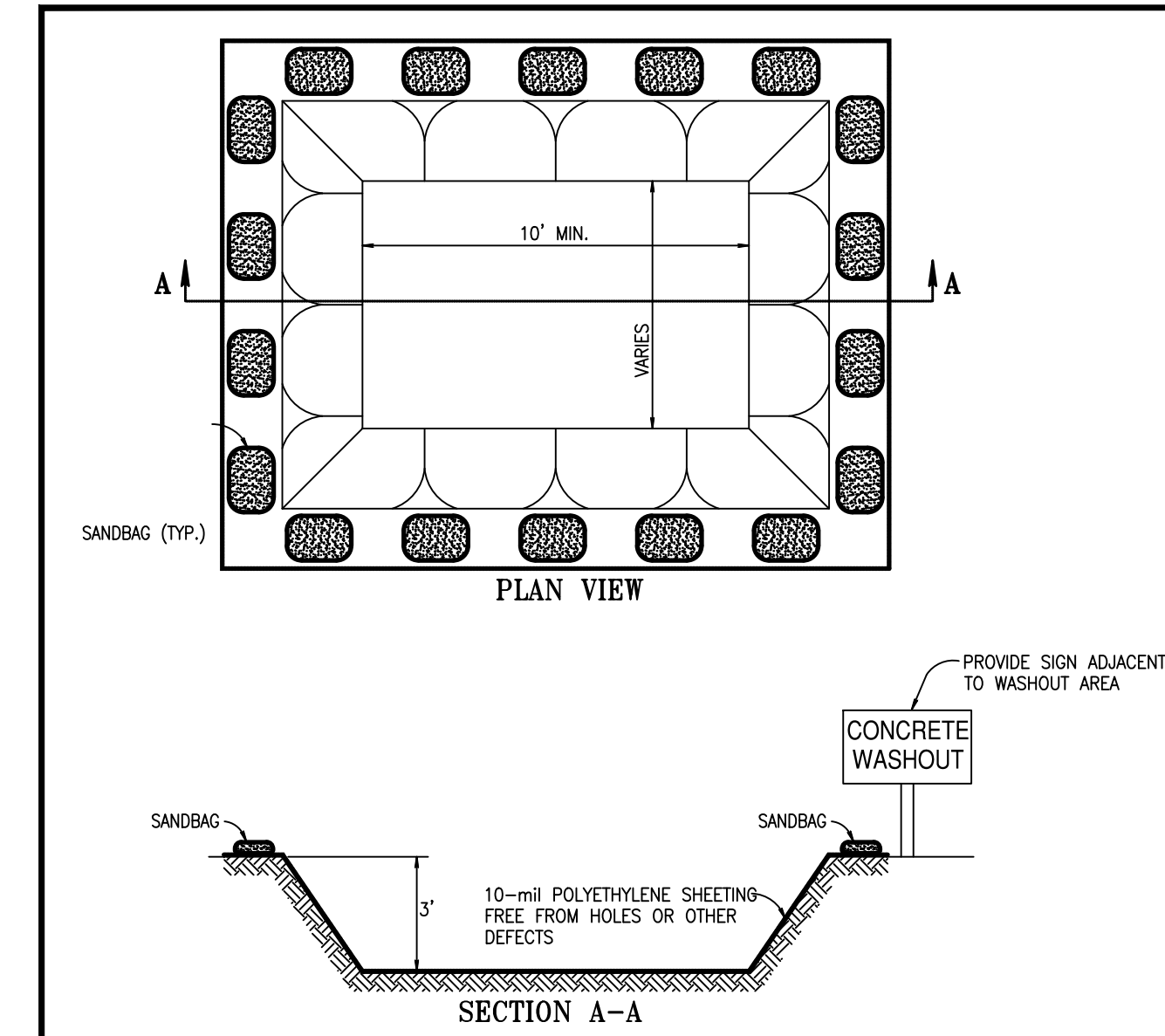
8/25/2022

SHEET CONTENTS:
SOILS REPORT

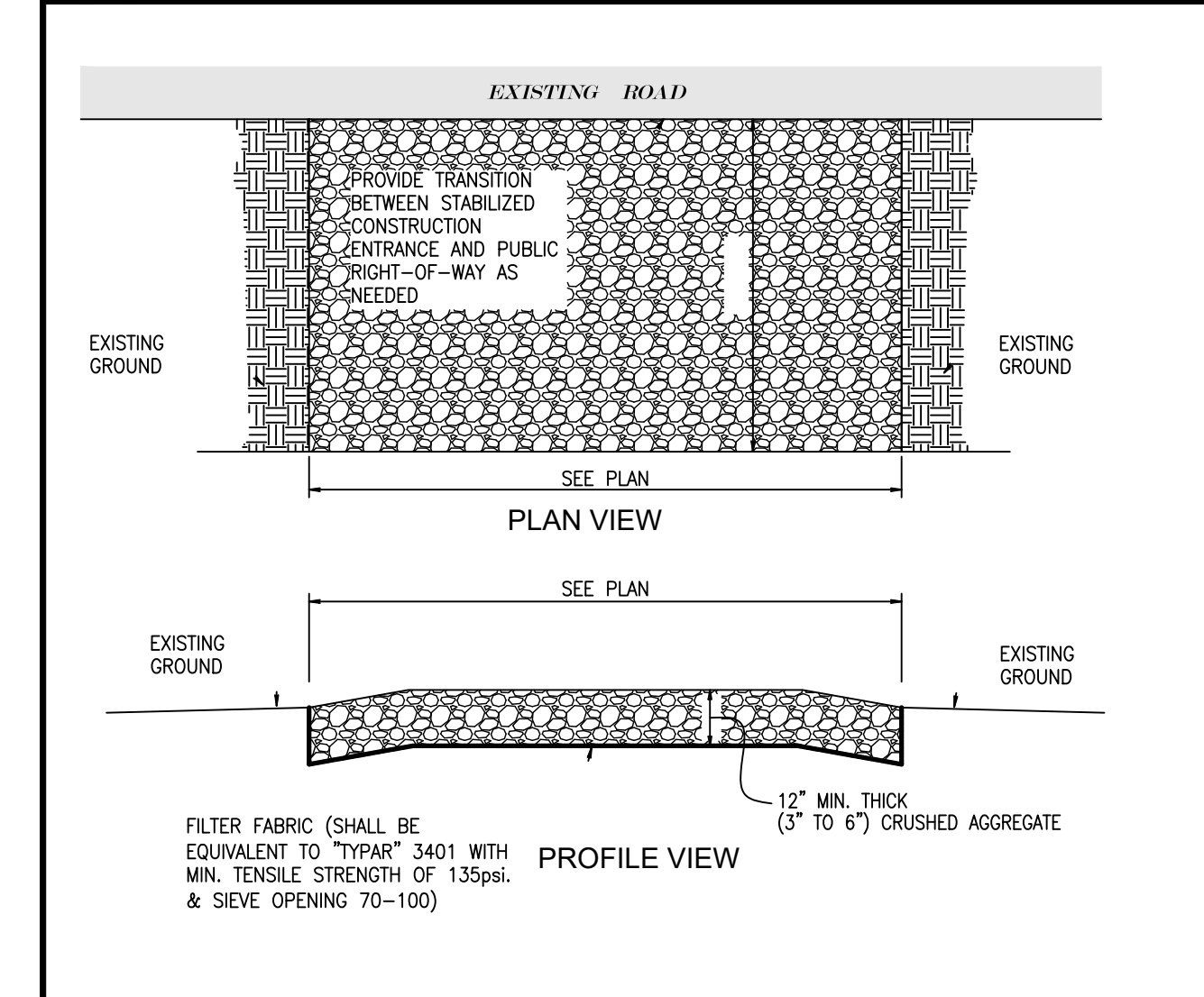
PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: AUGUST, 2022
Checked By: Jim Xu, AMT
Drawn By: SY, NI
Job No.: 22-050
SHEET NUMBER:

C10.1

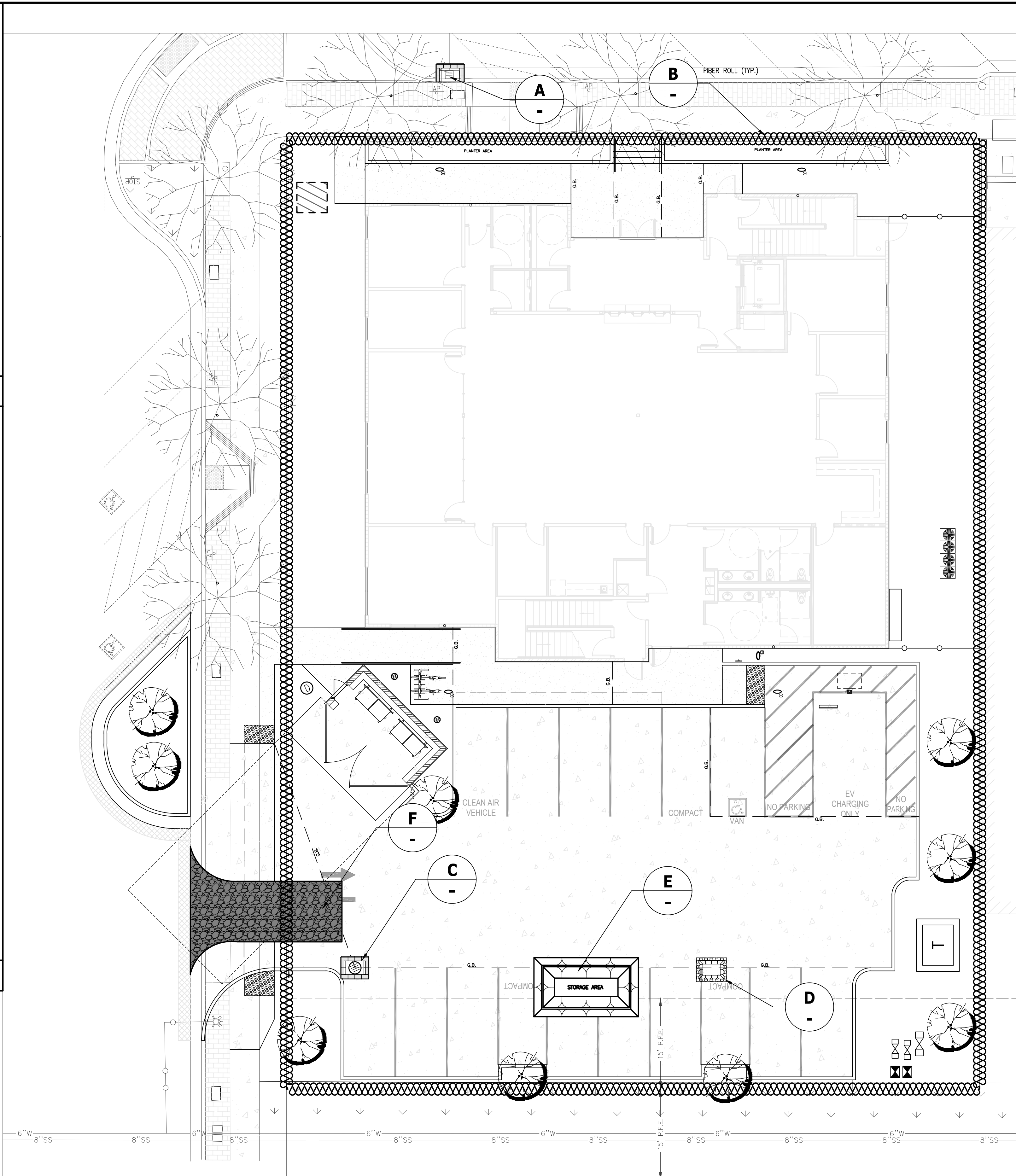


D CONCRETE WASHOUT



- TEMPORARY STABILIZED CONSTRUCTION ENTRANCE**
1. THE MATERIAL FOR CONSTRUCTION OF THE PAD SHALL BE 3 TO 6 INCHES CRUSHED AGGREGATE.
 2. THE THICKNESS OF THE PAD SHALL NOT BE LESS THAN 12 INCHES.
 3. THE WIDTH OF THE PAD SHALL NOT BE LESS THAN THE FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
 4. THE LENGTH OF THE PAD SHALL BE AS REQUIRED, BUT NOT LESS THAN 50 FEET.
 5. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND.

F STABILIZED CONSTRUCTION ENTRANCE

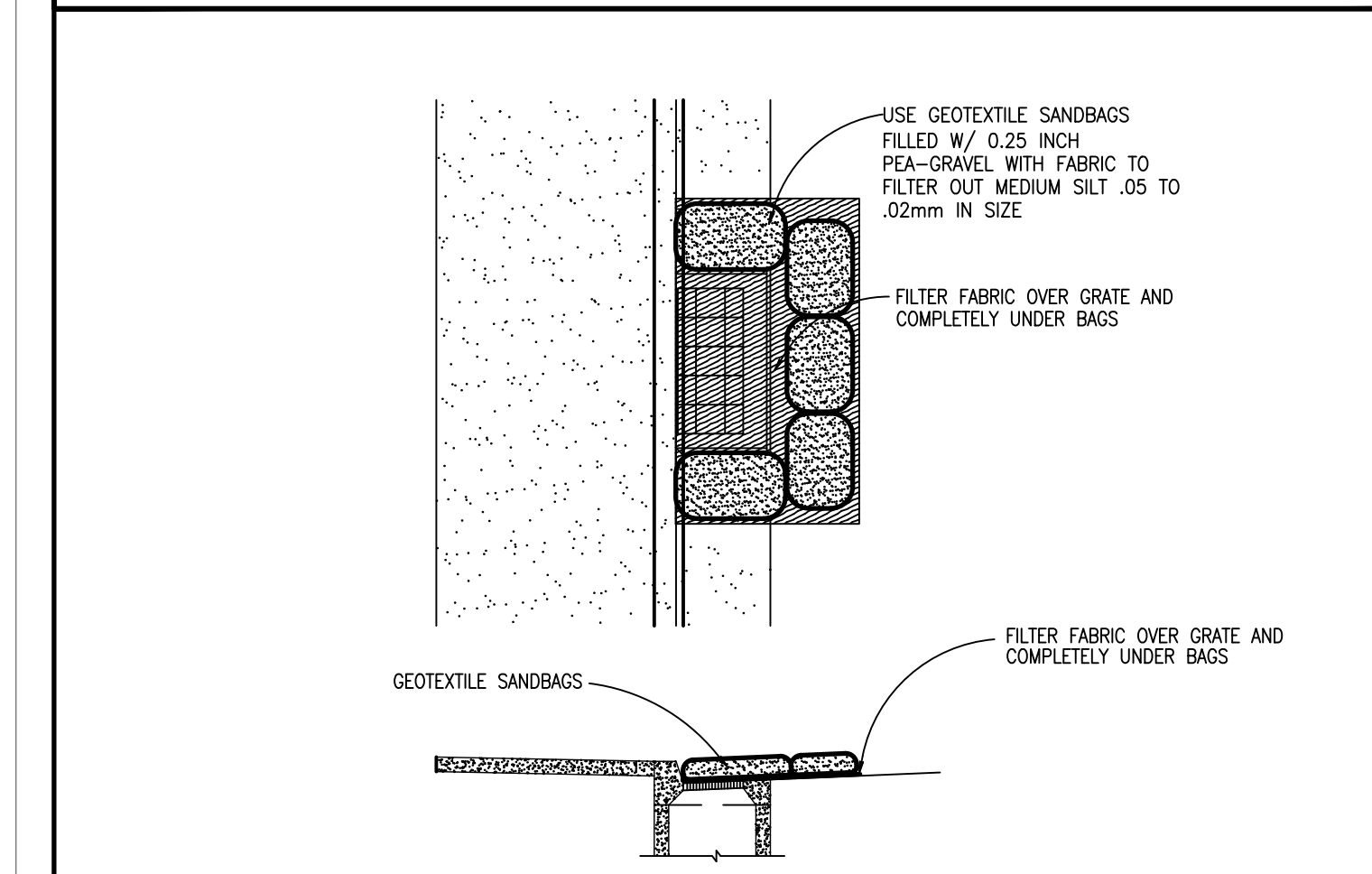


EROSION CONTROL PLAN NOTES:

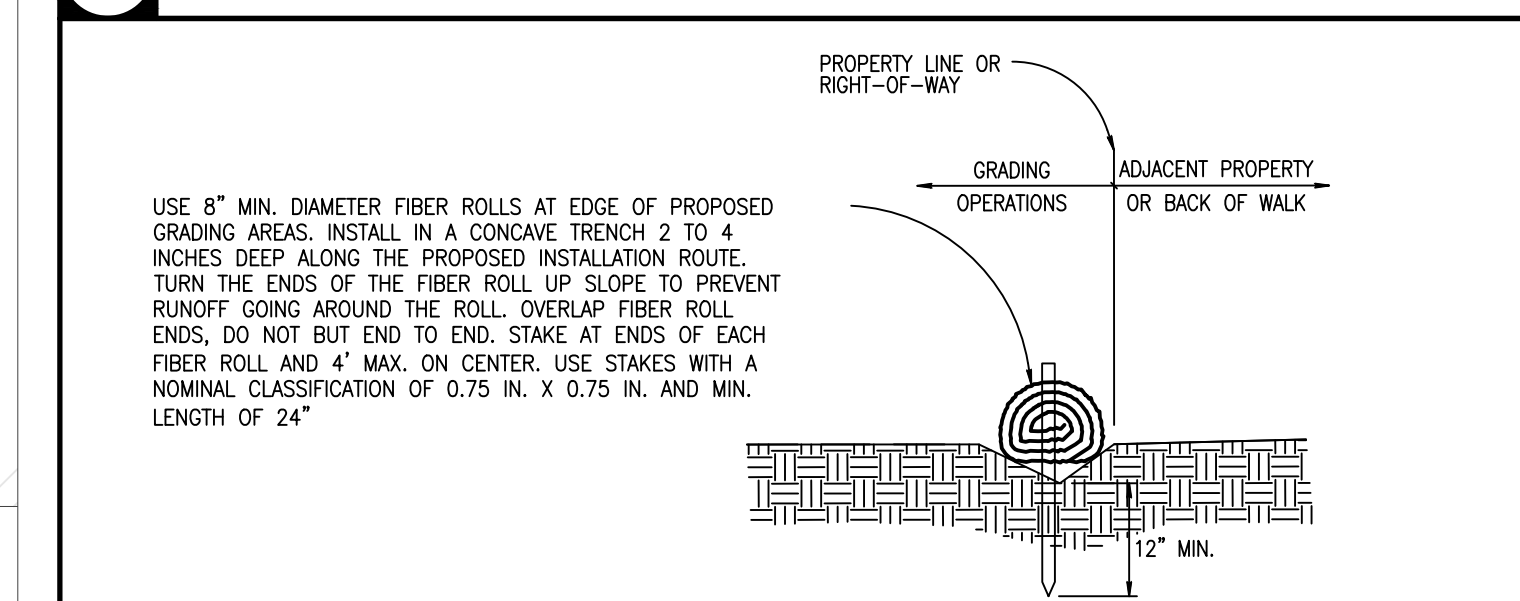
1. RETAIN FLOATABLE WIND BLOWN MATERIALS ON SITE BY STORING ALL TRASH AND BUILDING MATERIAL WASTE IN ENCLOSURES UNTIL DISPOSAL AT OFF-SITE FACILITIES. CHECK ADJACENT AREAS DAILY AND PICK UP CONSTRUCTION WASTE MATERIALS AND DEBRIS THAT HAVE BLOWN OR WASHED OFF SITE.
2. PERMANENTLY STABILIZE ALL SURFACE AREA WITHIN AND ADJACENT TO THIS SITE THAT IS DISTURBED BY VEHICLES, GRADING AND OTHER CONSTRUCTION FOR THE PROPOSED FACILITY. STABILIZATION IS OBTAINED WHEN THE DISTURBED SURFACE IS COVERED WITH STRUCTURES, PAVING AND/OR PERENNIAL VEGETATION HAVING A UNIFORM COVERAGE DENSITY OF AT LEAST 70%. STABILIZATION OF ALL DISTURBED AREA IS REQUIRED BEFORE TERMINATING MAINTENANCE AND REMOVAL OF EROSION CONTROL MEASURES.
3. CONTRACTORS SHALL INSPECT POLLUTION CONTROL MEASURES AT LEAST ONCE EVERY 14 DAYS AND WITHIN 24 HOURS AFTER A STORM EVENT OF 1/2" INCH OR GREATER. DAMAGED MEASURES THAT PROVE TO BE INEFFECTIVE SHALL BE REPLACED WITH MORE EFFECTIVE MEASURES OR ADDITIONAL MEASURES WITHIN SEVEN DAYS. REPEATED FAILURE OF A CONTROL MEASURE REQUIRES INSTALLATION OF A MORE SUITABLE DEVICE TO PREVENT DISCHARGE OF POLLUTANTS FROM THE CONSTRUCTION SITE.
4. INSTALLATION OF ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY THE CITY OR STATE. CONTRACTOR TO VERIFY REQUIREMENTS PRIOR TO BEGINNING ANY WORK ON PROJECT SITE.
5. CARE SHALL BE TAKEN TO MINIMIZE THE ENCROACHMENT OF SEDIMENT INTO ALL STORM DRAIN APPURTENANCES, PUBLIC STREETS, AND ONTO PRIVATE PROPERTY UNTIL IMPERVIOUS MATERIAL (ROAD/PARKING AREA SURFACE) IS APPLIED OR UNTIL PROPOSED LANDSCAPE HAS BEEN ESTABLISHED.
6. ALL GRASS SLOPES WHICH EXCEED 3:1 (H:V) SHALL UTILIZE CONTECH CONSTRUCTION PRODUCTS PERMANENT TURF REINFORCEMENT MATS TRM 450 OR APPROVED EQUAL. MATS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AND STANDARDS. CONTRACTOR SHALL COORDINATE INSTALLATION INSPECTION WITH MANUFACTURER.

INFILTRATION TRENCH/BASIN CONSTRUCTION NOTES:

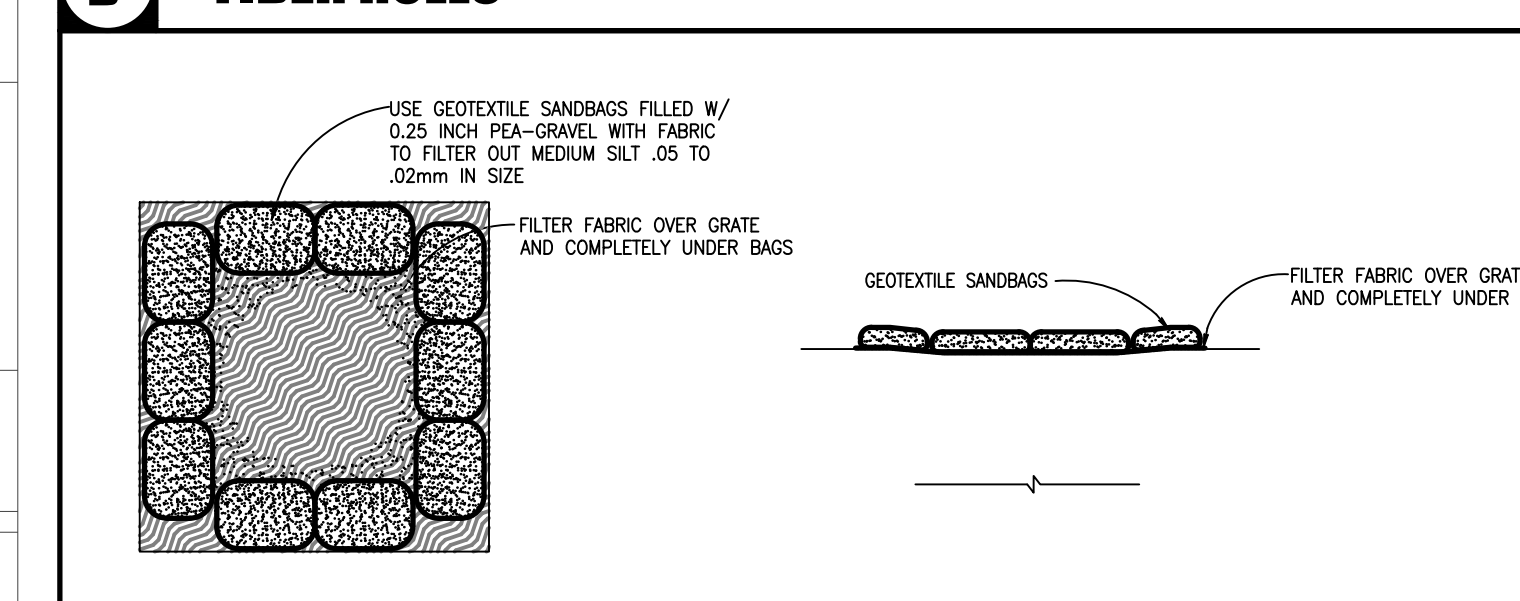
1. BEFORE CONSTRUCTION BEGINS, STABILIZE THE ENTIRE AREA DRAINING TO THE FACILITY. IF POSSIBLE, PLACE A DIVERSION BERM AROUND THE PERIMETER OF THE INFILTRATION SITE TO PREVENT SEDIMENT ENTRANCE DURING CONSTRUCTION OR REMOVE THE TOP 2 INCHES OF SOIL AFTER THE SITE IS STABILIZED. STABILIZE THE ENTIRE CONTRIBUTING DRAINAGE AREA, INCLUDING THE SIDE SLOPES, BEFORE ALLOWING ANY RUNOFF TO ENTER ONCE CONSTRUCTION IS COMPLETE.
2. PLACE EXCAVATED MATERIAL SUCH THAT IT CAN NOT BE WASHED BACK INTO THE BASIN IF A STORM OCCURS DURING CONSTRUCTION OF THE FACILITY.
3. BUILD THE TRENCH/BASIN WITHOUT DRIVING HEAVY EQUIPMENT OVER THE INFILTRATION SURFACE. ANY EQUIPMENT DRIVEN ON THE SURFACE SHOULD HAVE EXTRA-WIDE ("LOW PRESSURE") TIRES. PRIOR TO ANY CONSTRUCTION, ROPE OFF THE INFILTRATION AREA TO STOP ENTRANCE BY UNWANTED EQUIPMENT.
4. AFTER FINAL GRADING, TILL THE INFILTRATION SURFACE DEEPLY.



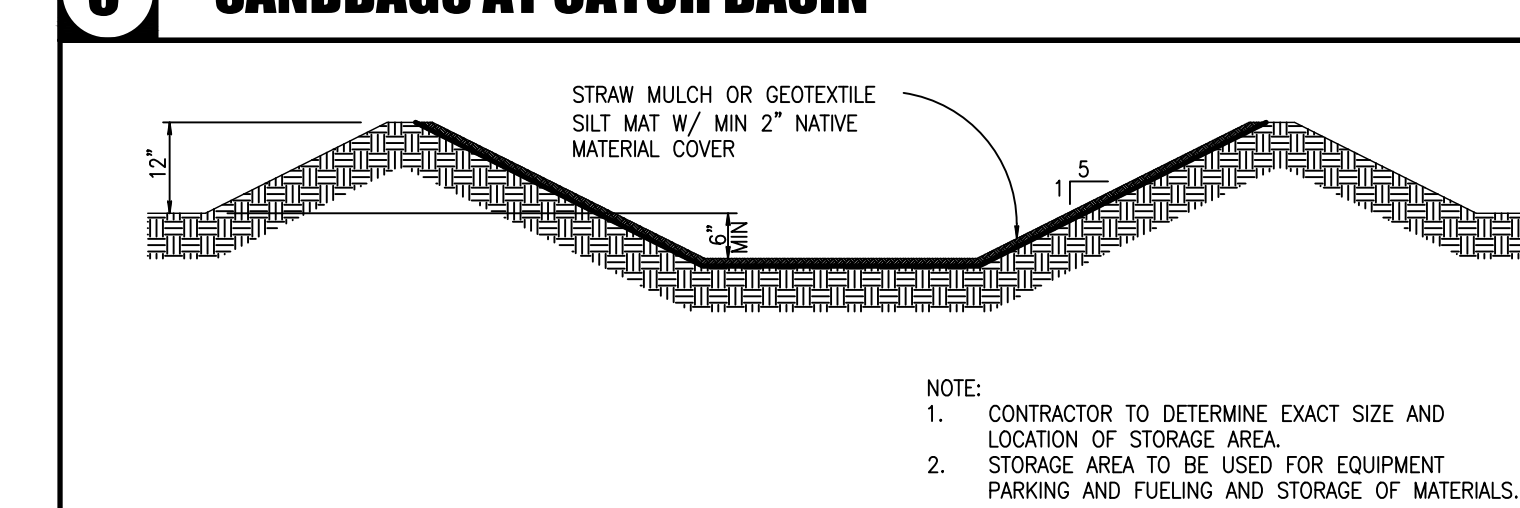
A CURB INLET PROTECTION



B FIBER ROLLS



C SANDBAGS AT CATCH BASIN



E STORAGE AREA

- NOTE:
1. CONTRACTOR TO DETERMINE EXACT SIZE AND LOCATION OF STORAGE AREA.
 2. STORAGE AREA TO BE USED FOR EQUIPMENT PARKING AND FUELING AND STORAGE OF MATERIALS.

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No. Date Description

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**CIVIL IMPROVEMENT PLANS FOR
 MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION**
 690 W. 19TH STREET
 A.P.N. 031-054-024

ENGINEER

 8/25/2022

SHEET CONTENTS:
 EROSION CONTROL PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
 3199 M STREET
 MERCED, CA 95340
 PH: (209) 726-2724

PROJECT DATA:
 Date: AUGUST, 2022
 Checked By: Jim Xu, AMT
 Drawn By: SY, NI
 Job No.: 22-050

SHEET NUMBER:

ECP

PLOT: T:\Users\jperkins\22050_MDCR_2 Draw.dwg, 8/25/2022 1:37:57 PM
 PLOT: 14.75x22.00 1:37:57 PM

EXTERIOR WALL: 2x6 WOOD STUDS @ 16" O.C w/R-21 FIBERGLASS INSULATION
EXTERIOR SURFACE: 15/32" PLYWOOD SHEATHING, THEN 2 LAYERS 15lb. TYPE 'D' BLDG. PAPER,
OVER EXPANDED METAL LATH & 7/8" (3-COAT SYSTEM) CEMENT PLASTER w/ ACRYLIC FINISH
INTERIOR SURFACE: (1) LAYER 5/8" TYPE 'X' GYPSUM.
NOTE: REFER TO SHEAR WALL PLAN ON SHEET S3.0 FOR LOCATIONS THAT REQUIRE 15/32"
PLYWOOD SHEATHING ON THE INTERIOR SIDE OF THE EXTERIOR WALL.

EXTERIOR WALL: 2x6 WOOD STUDS @ 16" O.C w/R-21 FIBERGLASS INSULATION
EXTERIOR SURFACE: 15/32" PLYWOOD SHEATHING, TYVEK BUILDING WRAP w/
AEP SPAN 24 GA. HR-36 METAL WALL PANEL WITH FACTORY PAINTED FINISH
INTERIOR SURFACE: (1) LAYER 5/8" TYPE 'X' GYPSUM.

INTERIOR WALL: 2x6 WOOD STUDS @ 16" O.C w/R-19 INSULATION AND 5/8" TYPE 'X'
GYPSUM BOARD ON BOTH SIDES. REFER TO SHEAR WALL PLAN ON SHEET S3.0 FOR
LOCATIONS THAT REQUIRE 15/32" PLYWOOD SHEATHING.

INTERIOR WALL: 2x4 WOOD STUDS @ 16" O.C w/R-11 INSULATION AND 5/8" TYPE 'X'
GYPSUM BOARD ON BOTH SIDES.

ELEVATOR HOISTWAY WALL: ONE HOUR FIRE RATED - 2x6 WOOD STUDS @ 16" O.C
w/R-19 INSULATION AND 5/8" TYPE 'X' GYPSUM BOARD ON BOTH SIDES.
(GA FILE NO. WPXXXX)

INTERIOR WALL: TWO HOUR FIRE RATED - 2x4 WOOD STUDS @ 16" O.C w/R-11
INSULATION AND 2 LAYERS 5/8" TYPE 'X' GYPSUM BOARD ON EACH SIDE.
(GA FILE NO. WPXXXX)

INTERIOR WALL: TWO HOUR FIRE RATED - 2x6 WOOD STUDS @ 16" O.C w/R-19
INSULATION AND 2 LAYERS 5/8" TYPE 'X' GYPSUM BOARD ON EACH SIDE.
(GA FILE NO. WPXXXX)

EXTERIOR WALL: 2x6 WOOD STUDS @ 16" O.C w/R-21 FIBERGLASS INSULATION
EXTERIOR SURFACE: 15/32" PLYWOOD SHEATHING, THEN 2 LAYERS 15lb. TYPE 'D' BLDG. PAPER,
OVER EXPANDED METAL LATH & 7/8" (3-COAT SYSTEM) CEMENT PLASTER w/ ACRYLIC FINISH
INTERIOR SURFACE: (2) LAYER 5/8" TYPE 'X' GYPSUM.

ROOM NUMBER KEY - REFER TO SHEET AX.X FOR ROOM FINISH SCHEDULE

DOOR NUMBER KEY - REFER TO SHEET AX.X FOR DOOR SCHEDULE

WINDOW KEY - REFER TO SHEET AX.X FOR WINDOW SCHEDULE

SEMI-RECESSED FIRE EXTINGUISHER LOCATION (TYPE 2A-10BC) ALSO SEE GENERAL NOTE #3

NOTE: REFER TO SHEET A1.1 FOR KEY NOTES.

5 LEGEND

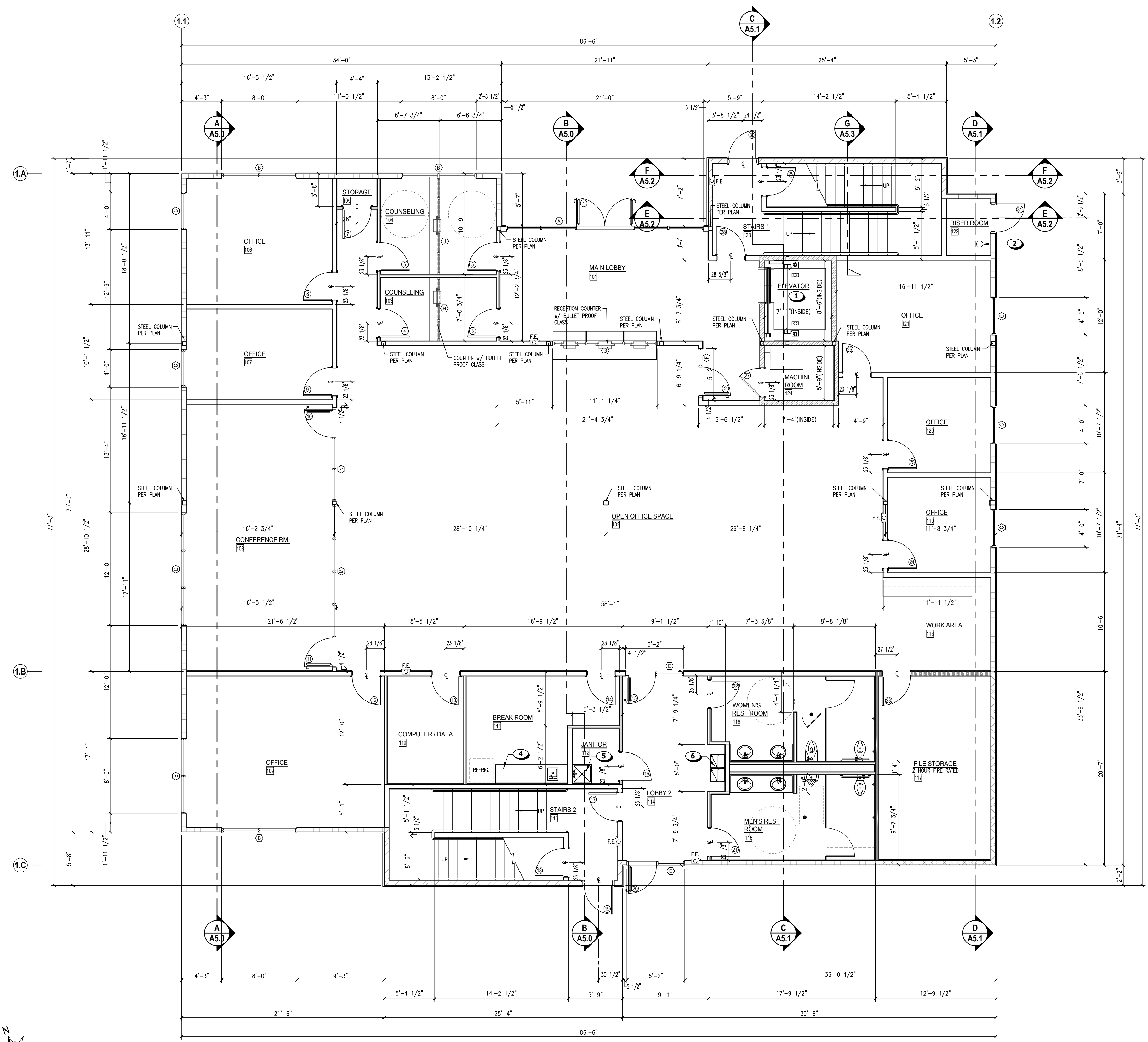
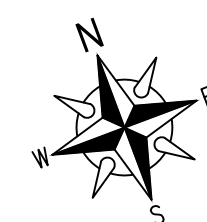
SCALE: NONE

- ALL EXTERIOR WALL DIMENSIONS ARE MEASURED TO THE FACE OF EXTERIOR PLYWOOD SHEATHING. ALL INTERIOR WALL DIMENSIONS ARE MEASURED TO THE FACE OF STUDS UNLESS OTHERWISE NOTED.
- LANDINGS SHALL HAVE A WIDTH NOT LESS THAN THE WIDTH OF THE DOOR AND SHALL HAVE A LENGTH MEASURED IN THE DIRECTION OF TRAVEL OF NOT LESS THAN 44". LANDINGS AT HANDICAP ACCESSIBLE DOORS SHALL HAVE A LENGTH IN THE DIRECTION OF TRAVEL OF AT LEAST 60", AND LENGTH OPPOSITE THE DIRECTION OF DOOR SWING OF 48". THIS LENGTH CAN BE 44" IF DOOR HAS NO CLOSURE AND APPROACH CAN BE MADE FROM THE LATCH SIDE.
- FIRE EXTINGUISHER, TYPE 2A-10BC SHALL BE LOCATED SO THAT THE MAXIMUM TRAVEL DISTANCE DOES NOT EXCEED 75 FEET PER 2019 CFC. ALL EXTINGUISHERS MUST BE MOUNTED IN A VISIBLE AND ACCESSIBLE LOCATION AND EACH MUST DISPLAY A CURRENT CALIFORNIA STATE FIRE MARSHALL'S SERVICE LABEL.
- EMERGENCY LIGHTING PER 2019 CBC, SEE ALSO ELECTRICAL PLANS.
- EXIT SIGNS FOR ALL EXITS AND EXIT WAYS SHALL BE PROVIDED PER CBC SEC. 1011. EXIT ILLUMINATION SHALL COMPLY WITH CBC SEC. 1006. THE POWER SUPPLY FOR EXIT ILLUMINATION SHALL BE PROVIDED BY THE PREMISES WIRE SYSTEM AND STORAGE BATTERIES. ALSO SEE ELECTRICAL PLAN FOR LOCATIONS
- REFER TO ACCESSIBILITY DETAIL 8 ON SHEET ADA-1 FOR ACCESSIBILITY THRESHOLD REQUIREMENTS.
- THE UNLATCHING OF ANY DOOR OR LEAF SHALL NOT REQUIRE MORE THAN ONE OPERATION. 2019 CFC, SECTION 1010.1.9.5.
- NO THUMB LATCHES OR KEYPED CYLINDER DEAD BOLTS ARE ALLOWED ON ANY DOORS UNLESS OPERATED BY A SINGLE ACTION WITH A LEVER FROM THE INSIDE OF THE AREA SERVED. 2019 CFC, SECTION 1010.1.9.3.
- REFER TO SHEETS ADA-1 AND ADA-2 FOR ACCESSIBILITY DETAILS, CLEAR FLOOR SPACE, MANEUVERING SPACE AT DOORS AND REACH RANGES.
- TACTILE SIGNS:
A) TACTILE SIGNS SHALL BE PROVIDED AT "EXIT" DOOR LOCATIONS.
B) EACH GRADE LEVEL EXIT DOOR SHALL BE PROVIDED WITH TACTILE EXIT SIGNAGE. SIGN SHALL READ "EXIT". REFER TO DETAIL 14 ON SHEET ADA-1.

13 GENERAL NOTES

SCALE: NONE

14 FLOOR PLAN - FIRST FLOOR



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No.	Date	Description

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NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024

CITY OF MERCED
ENGINEER

PRELIMINARY
SHEET CONTENTS:
FLOOR PLAN-FIRST FLOOR

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724
PROJECT DATA:
Date: 05/20/2022
Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050
SHEET NUMBER

A1.0

SCALE: 3/16"=1'-0"

1 OTIS ELEVATOR - HYDROFIT 3510,
CAPACITY: 3500 LBS
PLATFORM SIZE: 6'-6 3/4" W x 6'-1 1/8" D
CAB INSIDE DIMENSIONS: 6'-5 9/16" W x 5'-5 9/16" D
CAB HEIGHT: 7'-7 11/16"
ENTRANCE: SINGLE SLIDE DOOR 42" W x 7'-0" H

2 INSIDE BUILDING FIRE SPRINKLER RISER
3 UNDER COUNTER REFRIGERATOR
4 COUNTER TOP MICROWAVE OVEN
5 MOP SINK
6 ACCESSIBLE HI-LOW DRINKING FOUNTAIN w/ WATER BOTTLE FILL
7 ROOF ACCESS LADDER w/ SAFETY POST

8
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12
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16
17
18
19
20

5 DETAIL

SCALE: NONE

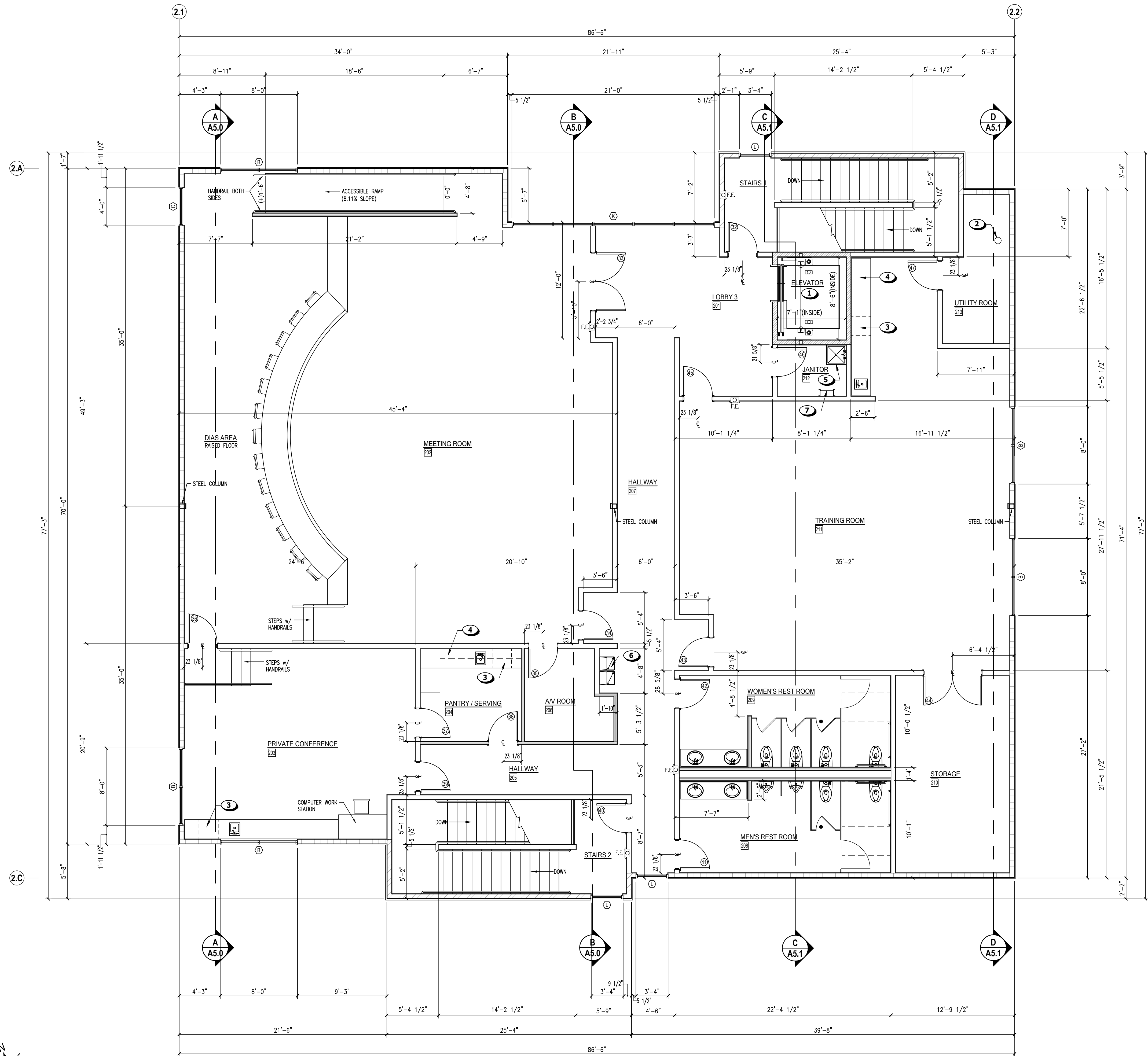
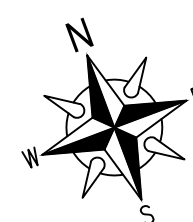
9 DETAIL

SCALE: NONE

13 DETAIL

SCALE: NONE

14 FLOOR PLAN - SECOND FLOOR



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No. Date Description

No.	Date	Description

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NEW 2-STORY OFFICE BUILDING FOR:
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690 W. 19th STREET
A.P.N. 031-054-024
 CALIFORNIA
 CITY OF MERCED

ENGINEER

PRELIMINARY

SHEET CONTENTS:
FLOOR PLAN-SECOND FLOOR

PREPARED FOR:

MERCED COUNTY EMPLOYEE'S
RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:

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Drawn By: Jim Davis
Job No.: 22-050

SHEET NUMBER:

A1.1

SCALE: 3/16"=1'-0"

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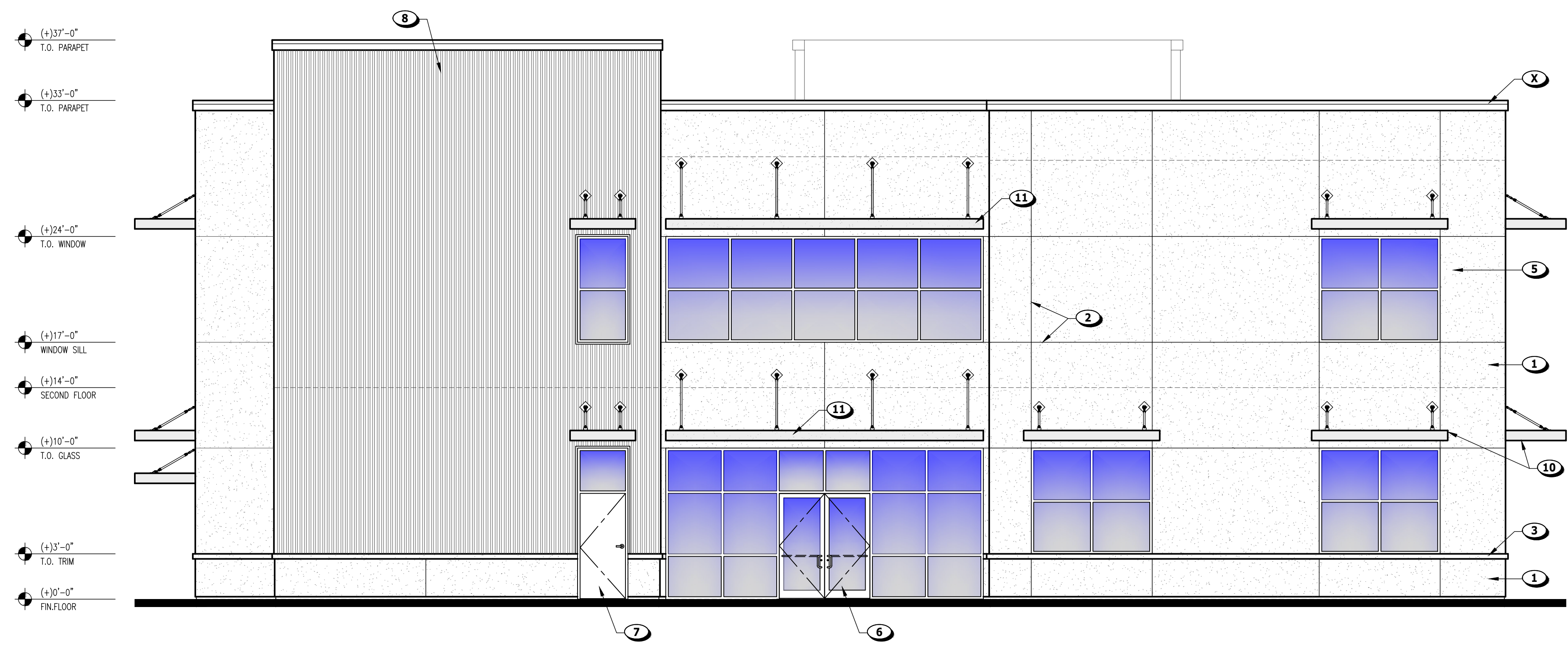
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- 1 7/8" THICK 3 COAT CEMENT PLASTER w/ ACRYLIC FINISH (COLOR TBD)
- 2 GALVANIZED METAL CEMENT PLASTER CRACK CONTROL JOINTS (144 S.F. MAX. AREA, 18" MAX. SPACING)
- 3 2"x4" EFS BAND
- 4 22 GA. SHEET METAL CAP FLASHING - (COLOR TBD)
- 5 ALUMINUM STOREFRONT WINDOW WITH DUAL PANE GLASS - (COLOR TBD)
- 6 ALUMINUM STOREFRONT ENTRY WITH DUAL PANE GLASS - (COLOR TBD)
- 7 HOLLOW METAL DOOR w/ TRANSOM - (PAINT COLOR TBD)
- 8 AEP SPAN 24 GA. HR-36 METAL WALL PANEL w/ FACTORY PAINTED FINISH (COLOR TBD)
- 9 WALL MOUNTED LED LIGHT FIXTURE (REFER TO ELECTRICAL PLANS)
- 10 PRE-MANUFACTURED SUSPENDED ALUMINUM CANOPY WITH 4'-0" PROJECTION
- 11 PRE-MANUFACTURED SUSPENDED ALUMINUM CANOPY WITH 8'-0" PROJECTION



5 NORTH ELEVATION

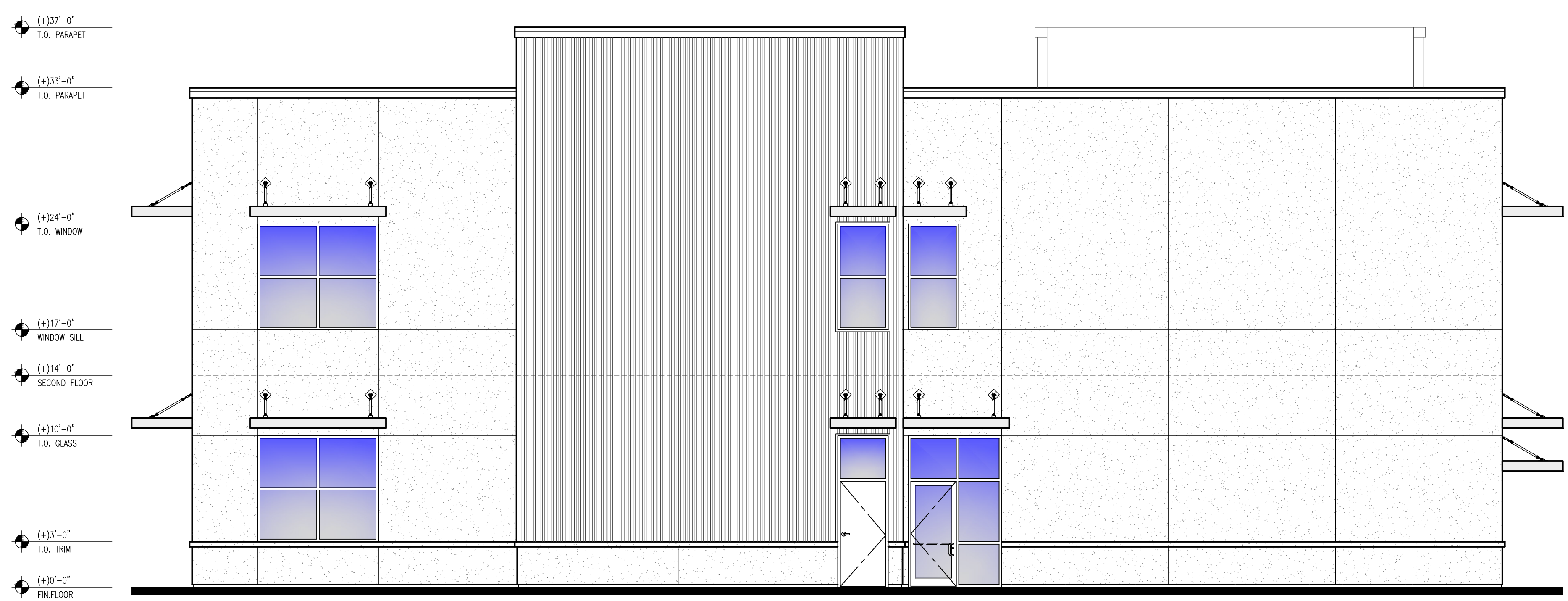
SCALE: 3/16"=1'-0"

8 DETAIL

SCALE: NONE

4 KEY NOTES

SCALE: NONE



13 SOUTH ELEVATION

SCALE: 3/16"=1'-0"

16 DETAIL

SCALE: NONE

12 DETAIL

SCALE: NONE

NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
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CITY OF MERCED
CALIFORNIA

ENGINEER

SHEET CONTENTS:
EXTERIOR ELEVATIONS

PREPARED FOR:
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3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: 05/20/2022
Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050
SHEET NUMBER:

A2.0

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 CITY OF MERCED

ENGINEER

SHEET CONTENTS:
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MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
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Drawn By: Jim Davis
Job No.: 22-050

SHEET NUMBER:

A2.1

- 1 7/8" THICK 3 COAT CEMENT PLASTER w/ ACRYLIC FINISH (COLOR TBD)
- 2 GALVANIZED METAL CEMENT PLASTER CRACK CONTROL JOINTS (144 S.F. MAX. AREA, 18' MAX. SPACING)
- 3 2"x4" EFS BAND
- 4 22 GA. SHEET METAL CAP FLASHING - (COLOR TBD)
- 5 ALUMINUM STOREFRONT WINDOW WITH DUAL PANE GLASS - (COLOR TBD)
- 6 ALUMINUM STOREFRONT ENTRY WITH DUAL PANE GLASS - (COLOR TBD)
- 7 HOLLOW METAL DOOR w/ TRANSOM - (PAINT COLOR TBD)
- 8 AEP SPAN 24 GA. HR-36 METAL WALL PANEL w/ FACTORY PAINTED FINISH (COLOR TBD)
- 9 WALL MOUNTED LED LIGHT FIXTURE (REFER TO ELECTRICAL PLANS)
- 10 PRE-MANUFACTURED SUSPENDED ALUMINUM CANOPY WITH 4'-0" PROJECTION
- 11 PRE-MANUFACTURED SUSPENDED ALUMINUM CANOPY WITH 8'-0" PROJECTION

4 KEY NOTES

SCALE: NONE

8 DETAIL

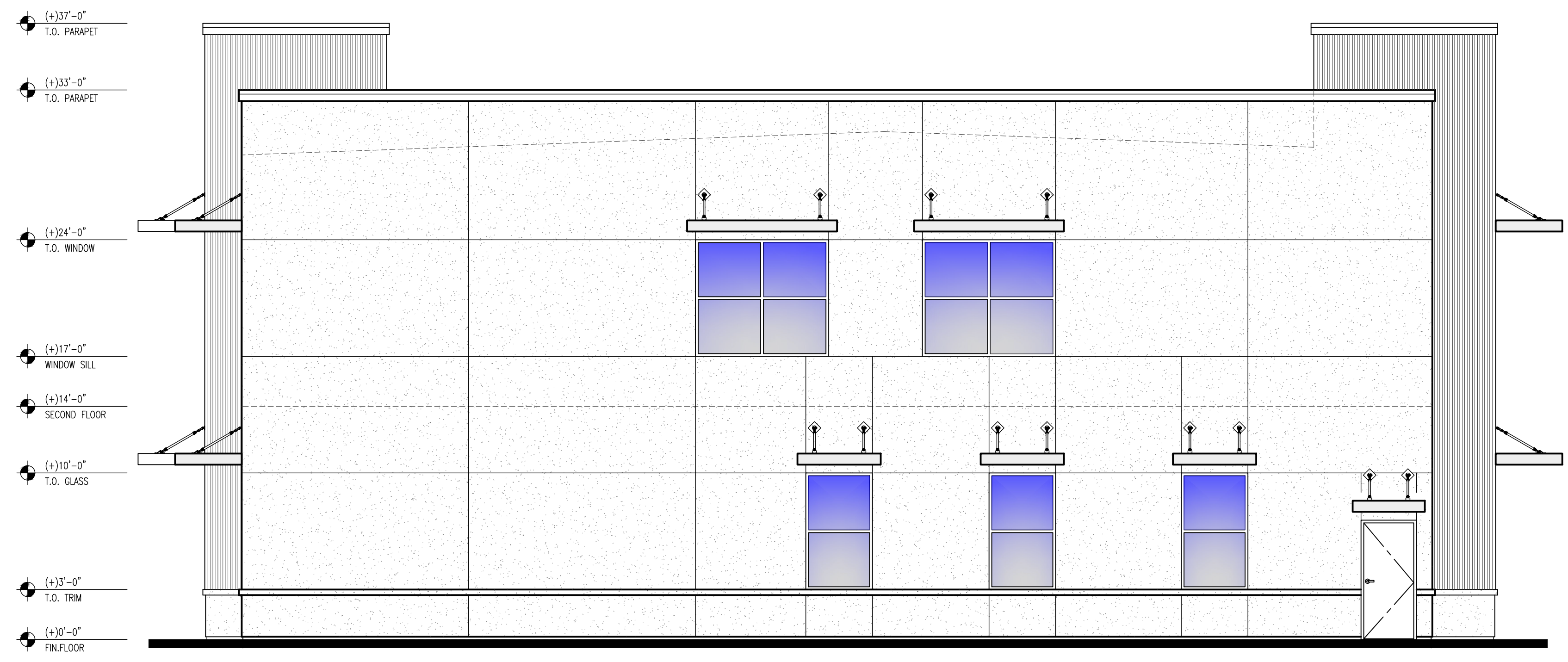
SCALE: NONE

12 DETAIL

SCALE: NONE

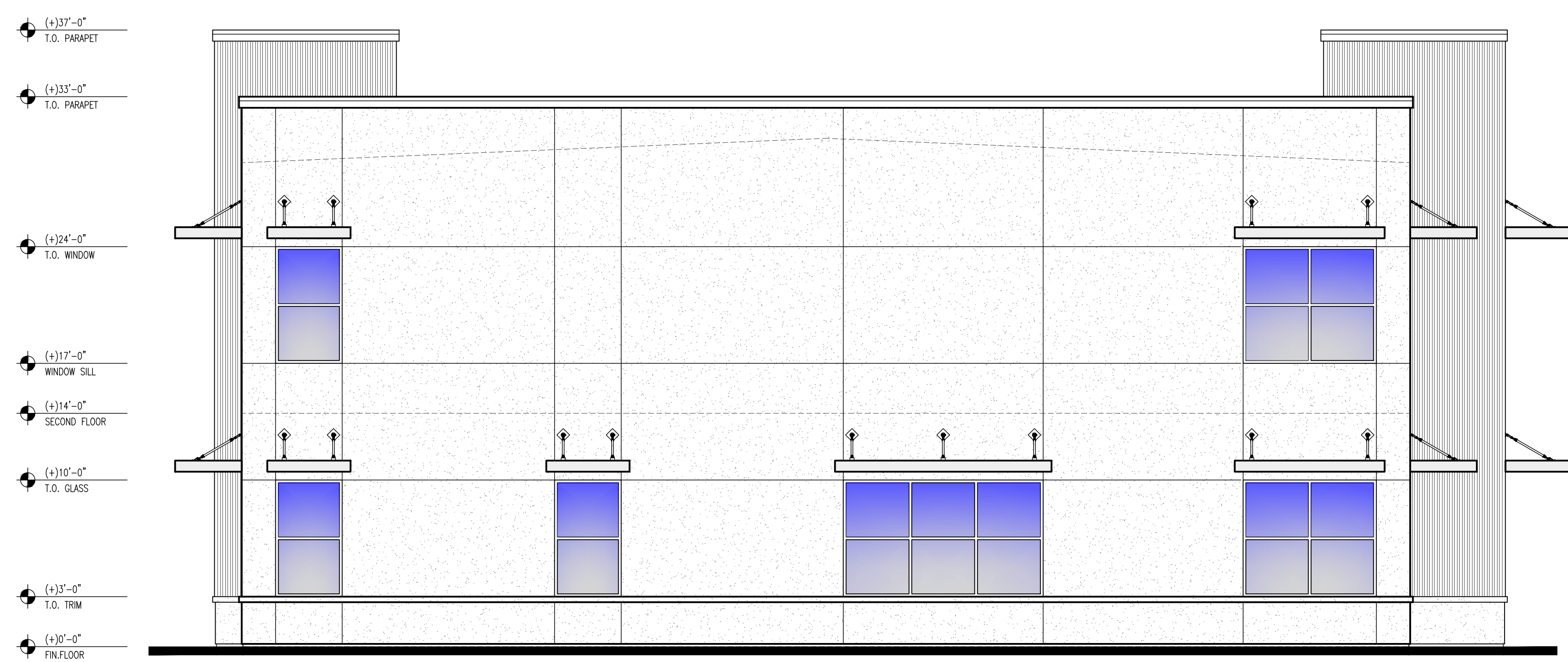
16 DETAIL

SCALE: NONE



5 EAST ELEVATION

SCALE: 3/16"=1'-0"



13 WEST ELEVATION

SCALE: 3/16"=1'-0"

No.	Date	Description

It is the client's responsibility prior to or during construction to verify the designer is using all applicable codes and regulations. The client shall be responsible for any delays in construction if these procedures are not followed.

NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024
 CALIFORNIA
 CITY OF MERCED

ENGINEER

PRELIMINARY

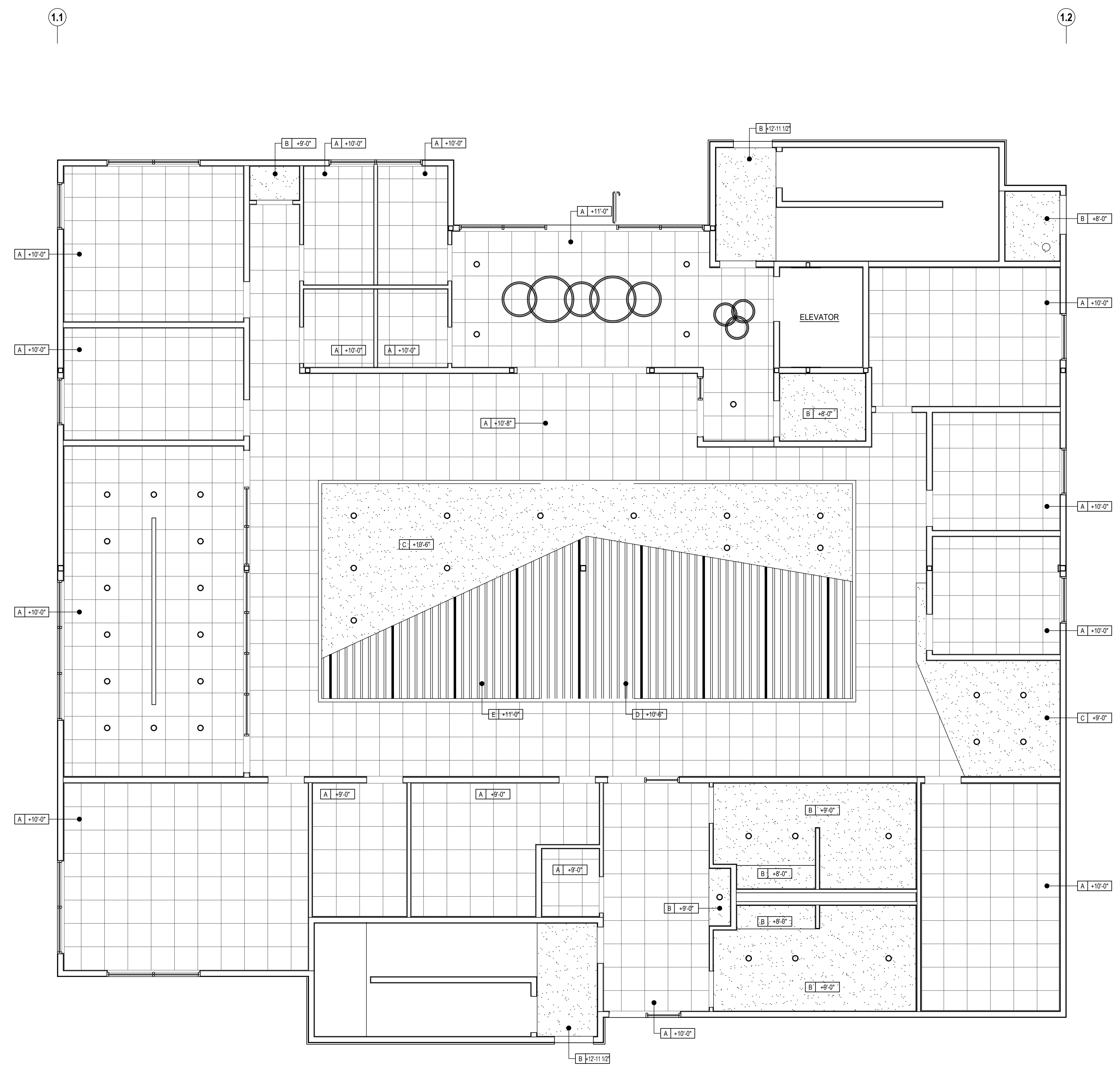
SHEET CONTENTS:
REFLECTIVE CEILING PLAN
1st FLOOR

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: 05/20/2022
Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050

SHEET NUMBER:

A3.0



CEILING FINISH TYPES

A = 2'x2' SUSPENDED CEILING SYSTEM-?

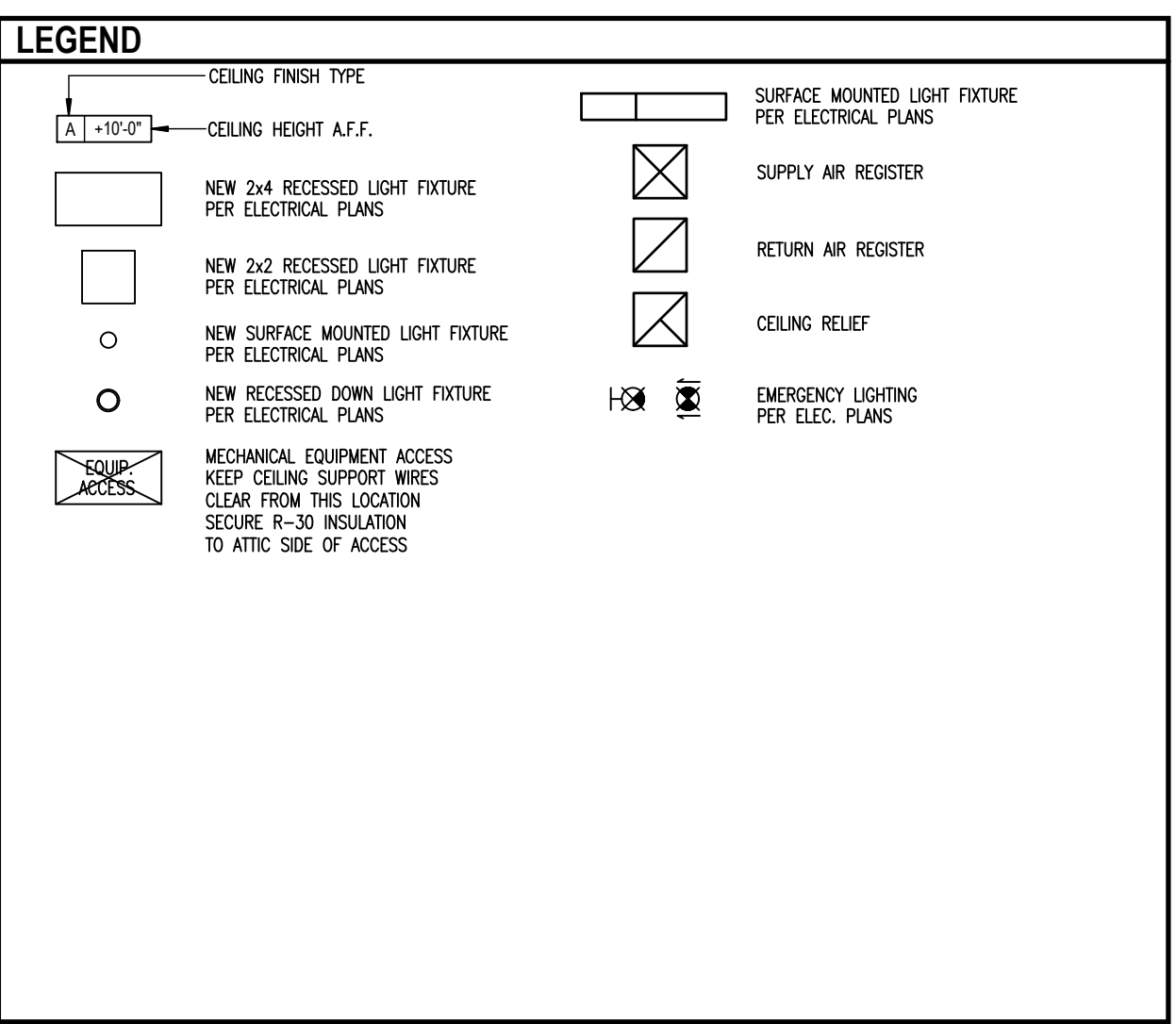
B = GYPSUM BOARD TAPED, TEXTURED & PAINTED ON CEILING JOISTS PER PLAN.

C = ARMSTRONG SUSPENDED DRYWALL GRID SYSTEM w/ GYPSUM BOARD TAPED, TEXTURED AND PAINTED.

D = LINEAR ACOUSTICAL BAFFLES

E = NO CEILING. (OPEN TO FRAMING)

NOTE: SEE SHEET A3.2 FOR SUSPENDED CEILING DETAILS





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No.	Date	Description

It is the client's responsibility prior to or during construction to verify the designer is writing all new provisions and/or changes to the plans and specifications of which is consistent throughly investigate with the building codes and methods of construction should be required to verify. When installing electrical, each provision errors or omissions shall be resolved from the designer prior to the start or start construction proceeding with the work. The client will be responsible for any delays in construction if these provisions are not followed.

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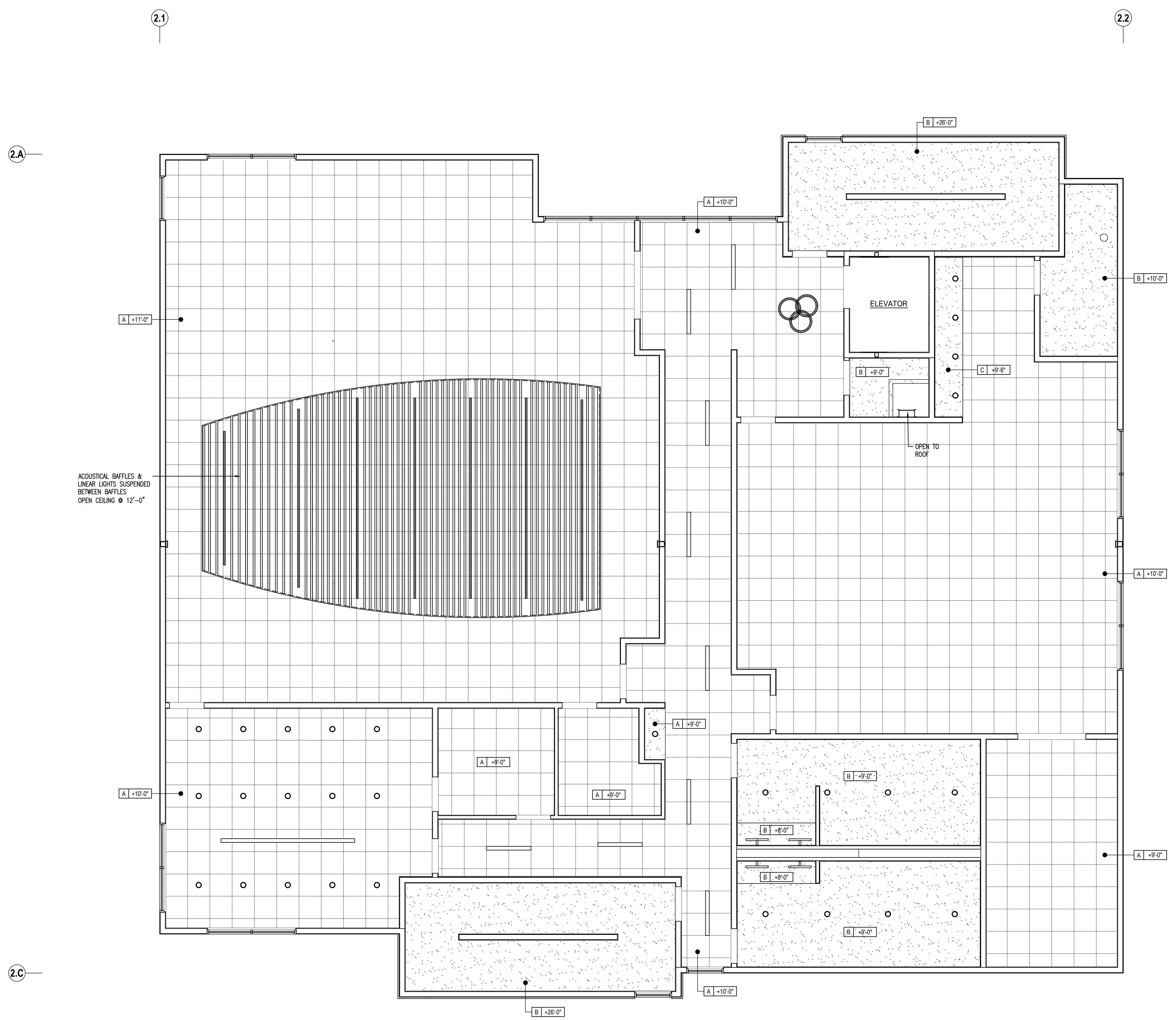
SHEET CONTENTS:
REFLECTIVE CEILING PLAN
2nd FLOOR

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

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SHEET NUMBER:

A3.1



ACOUSTICAL BAFFLES & LINEAR LIGHTS SUSPENDED BETWEEN BAFFLES OPEN CEILING @ 12'-0"

CEILING FINISH TYPES
 A = 2'x2' SUSPENDED CEILING SYSTEM-?
 B = GYPSUM BOARD TAPED, TEXTURED & PAINTED ON CEILING JOISTS PER PLAN.
 C = ARMSTRONG SUSPENDED DRYWALL GRID SYSTEM w/ GYPSUM BOARD TAPED, TEXTURED AND PAINTED.
 D = LINEAR ACOUSTICAL BAFFLES
 E = NO CEILING. (OPEN TO FRAMING)
 NOTE: SEE SHEET A3.2 FOR SUSPENDED CEILING DETAILS

LEGEND

	CEILING FINISH TYPE		SURFACE MOUNTED LIGHT FIXTURE PER ELECTRICAL PLANS
	NEW 2x4 RECESSED LIGHT FIXTURE PER ELECTRICAL PLANS		SUPPLY AIR REGISTER
	NEW 2x2 RECESSED LIGHT FIXTURE PER ELECTRICAL PLANS		RETURN AIR REGISTER
	NEW SURFACE MOUNTED LIGHT FIXTURE PER ELECTRICAL PLANS		CEILING RELIEF
	NEW RECESSED DOWN LIGHT FIXTURE PER ELECTRICAL PLANS		EMERGENCY LIGHTING PER ELEC. PLANS
	MECHANICAL EQUIPMENT ACCESS KEEP CEILING SUPPORT WIRES CLEAR FROM THIS LOCATION SECURE R-30 INSULATION TO ATTIC SIDE OF ACCESS		

No.	Date	Description

It is the client's responsibility prior to or during construction to verify the designer in writing for any proposed areas or conditions. The plans and specifications of which to construct or thoroughly investigate with the building codes and methods of construction should be provided to the contractor. Without thoroughly checking each proposed area or condition, the contractor shall be held responsible for the design prior to the start or during construction. Proceeding with the work, the contractor shall be responsible for any defects in construction if these procedures are not followed.

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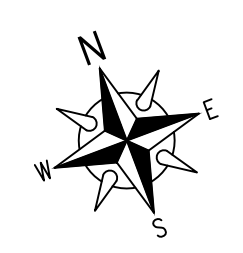
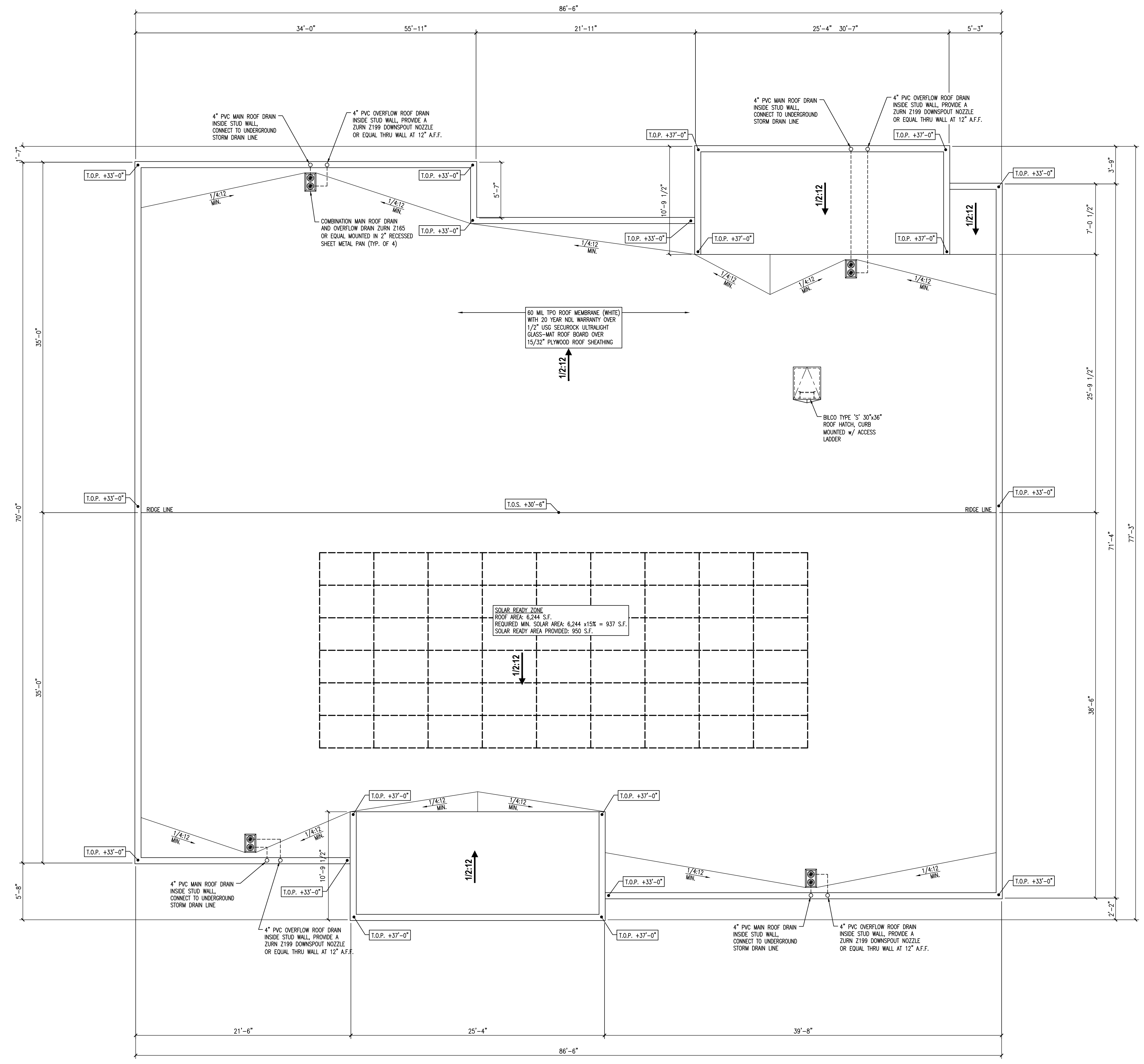
SHEET CONTENTS:
ROOF PLAN

PREPARED FOR:
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PROJECT DATA:
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Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050

SHEET NUMBER:

A4.0



No.	Date	Description

It is the client's responsibility prior to or during construction to verify the designer in writing of any proposed areas of contract. In the event that specifications or details are not shown, the contractor shall consult with the building codes and methods of construction shall be required to comply. When installing elements, each proposed area or condition shall be verified from the designer prior to the start or details construction proceeding with the work. The client will be responsible for any delays in construction if these procedures are not followed.

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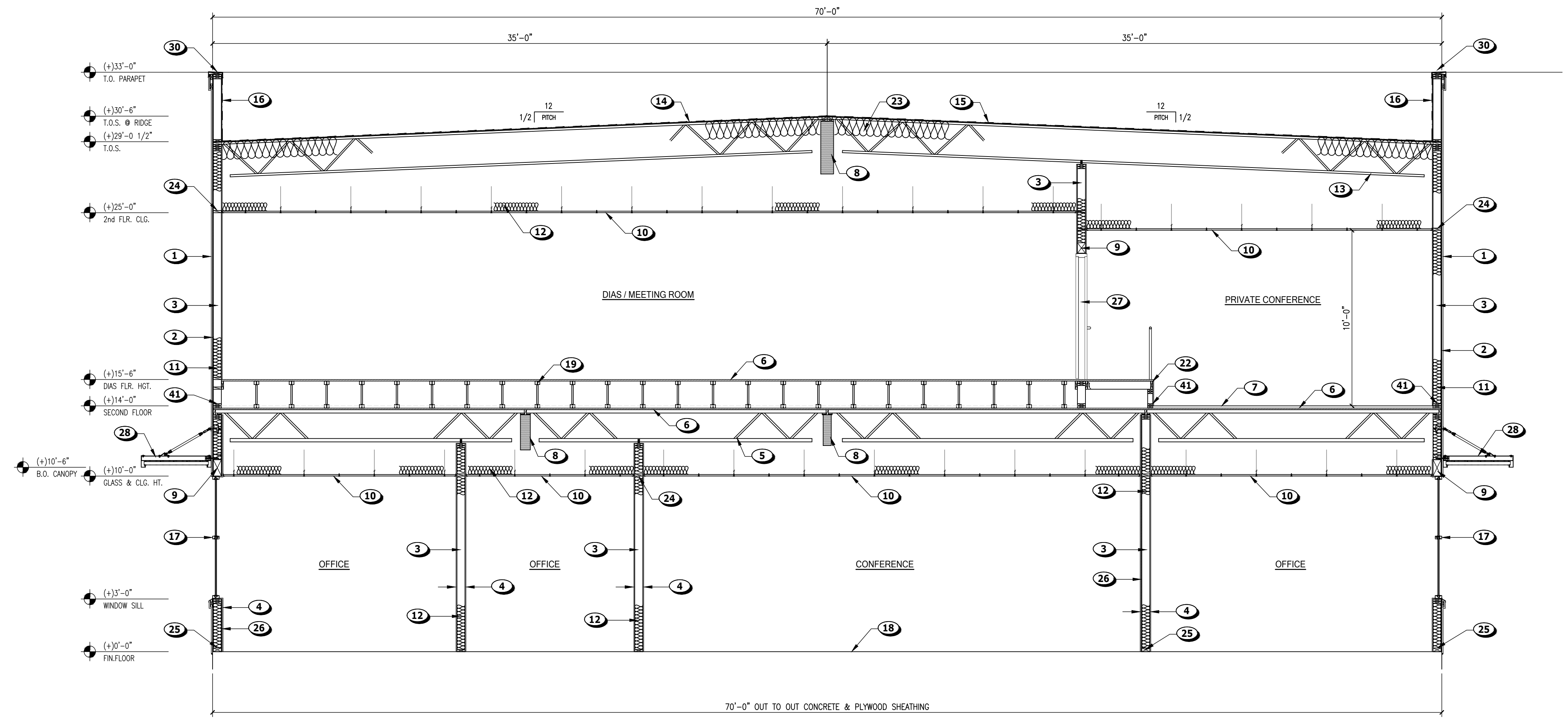
ENGINEER
PRELIMINARY

SHEET CONTENTS:
BUILDING SECTIONS

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

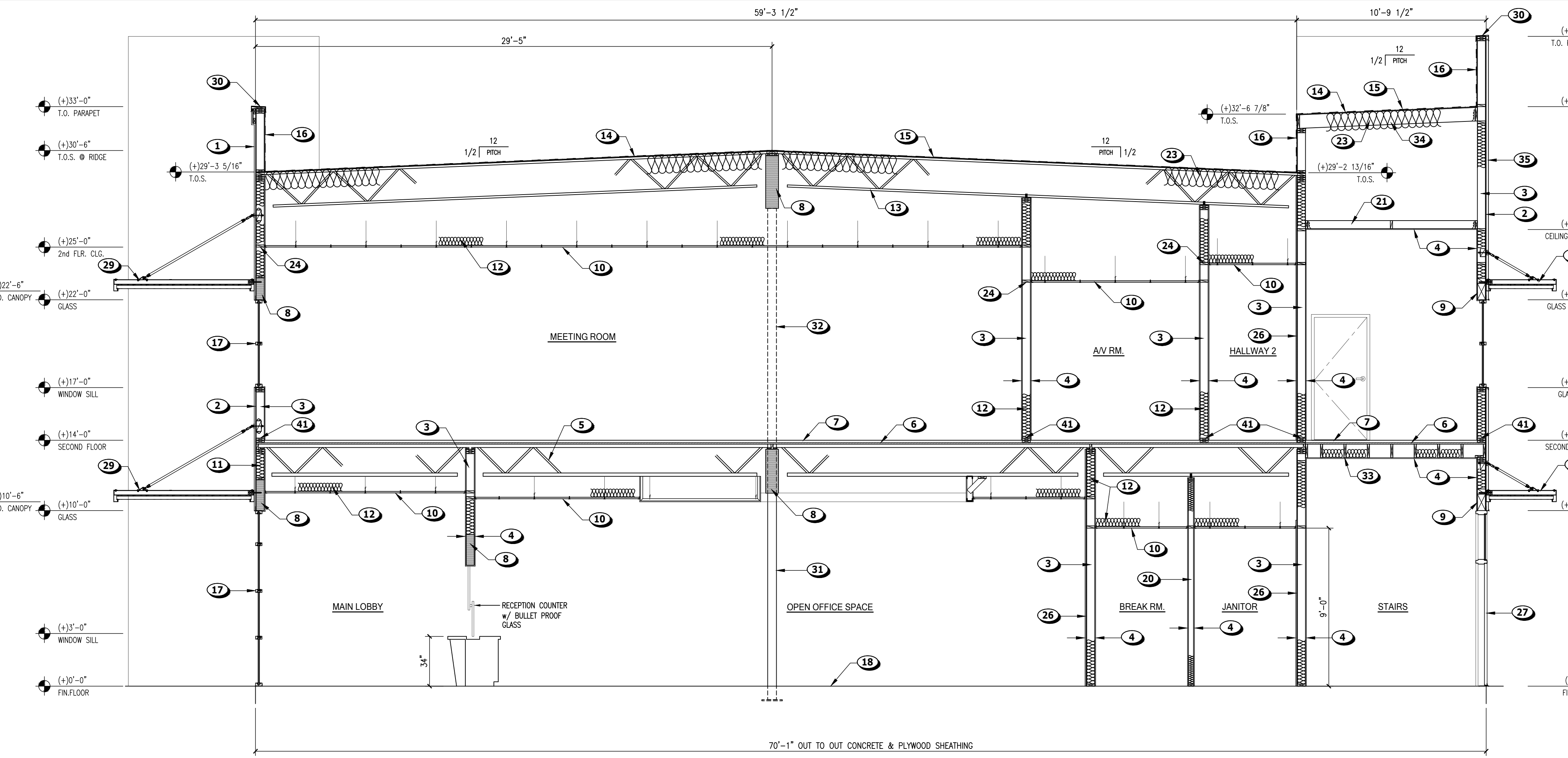
PROJECT DATA:
Date: 05/20/2022
Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050
SHEET NUMBER:

A5.0



A BUILDING SECTION

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



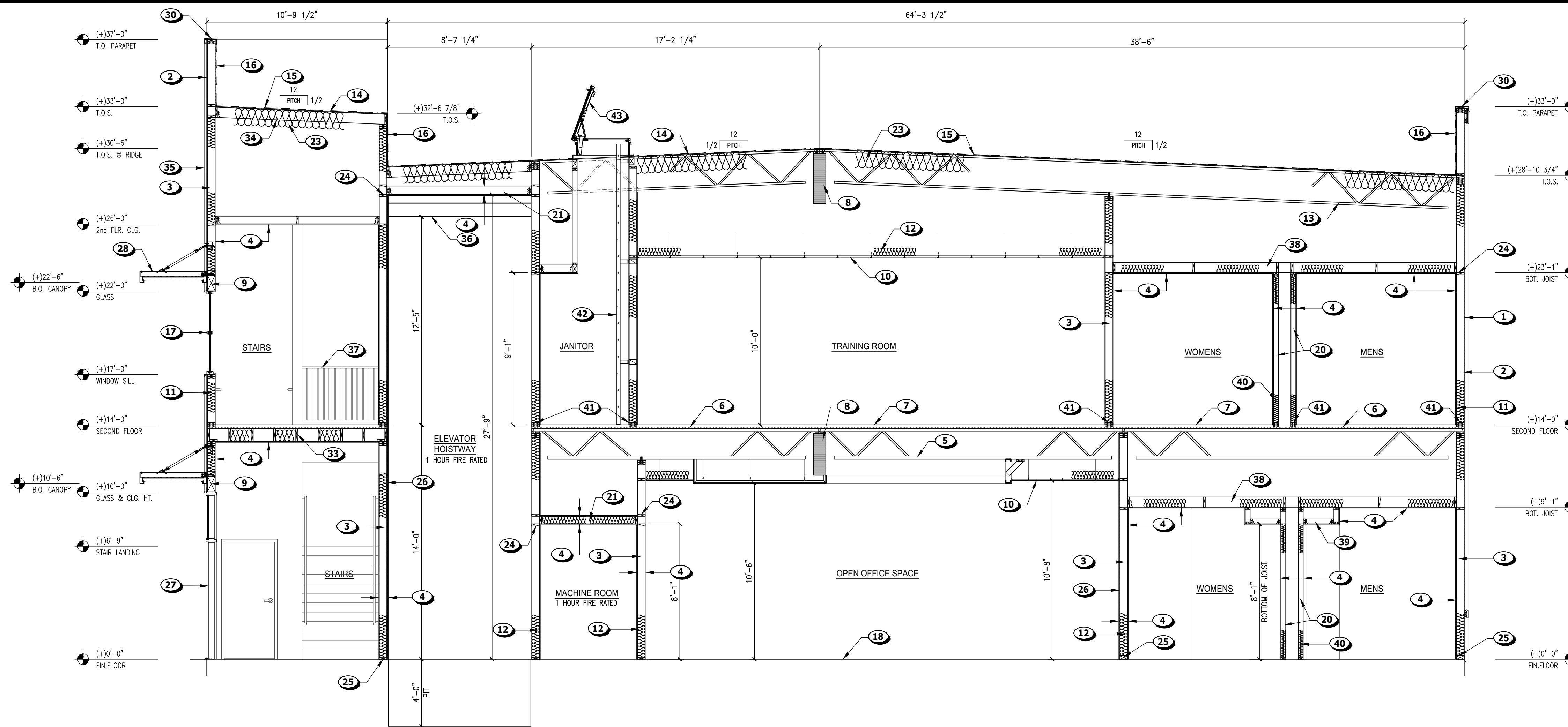
B BUILDING SECTION

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

16 KEY NOTES

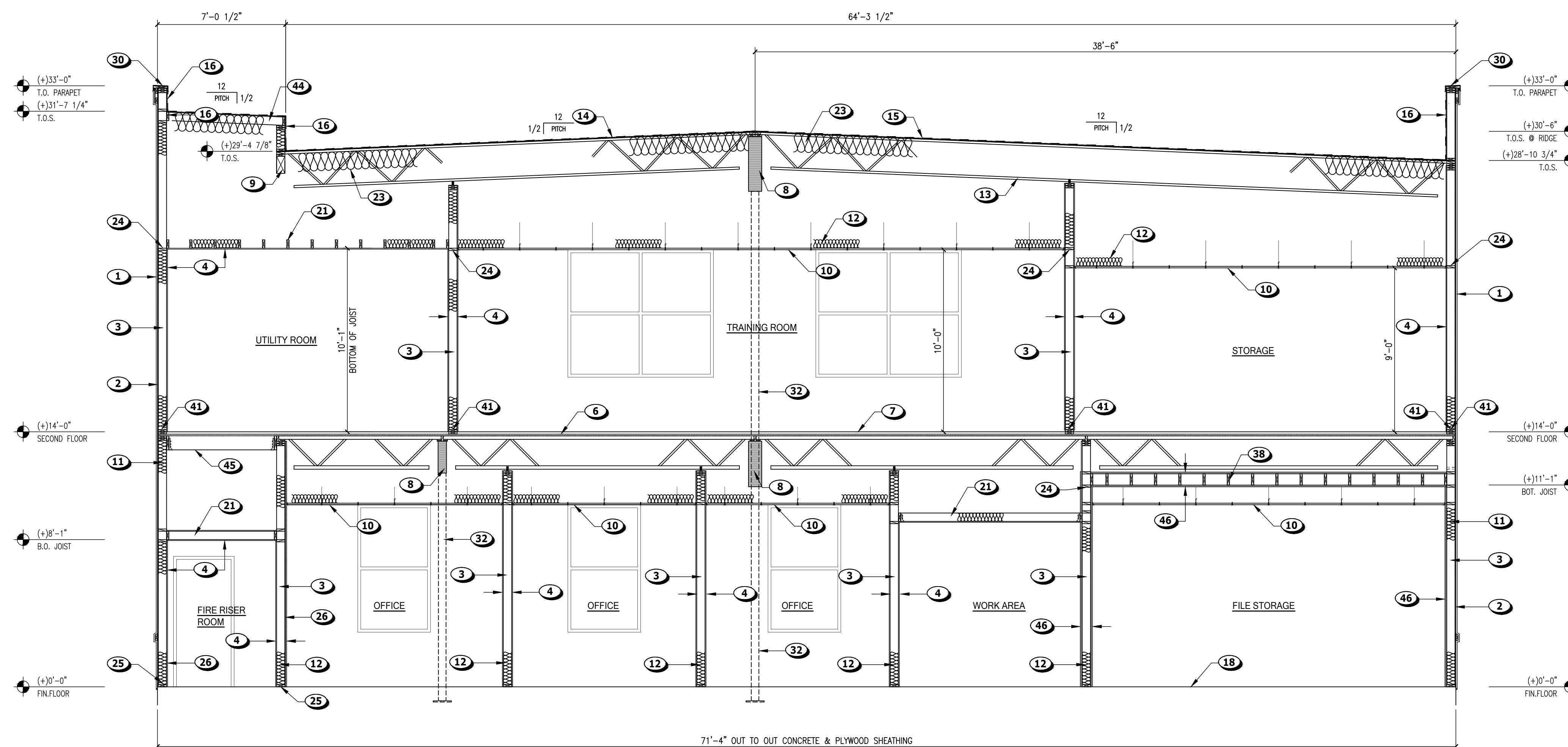
- 1 7/8" CEMENT PLASTER (3 COAT)
- 2 1/2" PLYWOOD SHEATHING
- 3 2x6 WOOD STUDS @ 16" O.C.
- 4 5/8" GYPSUM BOARD
- 5 FLOOR TRUSS AS PER FRAMING PLAN
- 6 1 1/8" PLYWOOD SUB-FLOOR
- 7 1 1/2" CELL-CRETE
- 8 GLULAM BEAM PER FRAMING PLAN
- 9 HEADER BEAM PER FRAMING PLAN
- 10 SUSPENDED T-BAR CEILING - SEE CEILING PLAN A3.0 & A3.1
- 11 R-21 FIBERGLASS INSULATION
- 12 R-19 FIBERGLASS INSULATION FOR SOUND CONTROL
- 13 ROOF TRUSS AS PER FRAMING PLAN
- 14 ROOF SHEATHING AS PER FRAMING PLAN
- 15 TPO MEMBRANE ROOFING AS PER ROOF PLAN
- 16 TPO MEMBRANE ROOFING TO EXTEND UP BACK SIDE OF PARAPET
- 17 STORE-FRONT GLASS PER WINDOW SCHEDULE
- 18 REINFORCED CONCRETE FLOOR SLAB AS PER STRUCTURAL PLANS
- 19 18 3/8" DEEP RED-S FLOOR TRUSS @ 24" O.C. FOR RAISED FLOOR
- 20 2x4 WOOD STUDS @ 16" O.C.
- 21 2x6 WOOD CEILING JOIST @ 16" O.C.
- 22 WOOD FRAMED STEPS w/ HANDRIAL
- 23 R-38 FIBERGLASS INSULATION
- 24 2x BLOCKING
- 25 2x OR 3x PRESSURE TREATED PLATE PER FRAMING PLAN
- 26 INTERIOR SHEAR PLYWOOD PER FRAMING PLAN
- 27 DOOR & FRAME PER PLAN
- 28 PRE-MANUFACTURED SUSPENDED ALUMINUM CANOPY WITH 4'-0" PROJECTION
- 29 PRE-MANUFACTURED SUSPENDED ALUMINUM CANOPY WITH 8'-0" PROJECTION
- 30 22 GA. G.S.M. PARAPET CAP FLASHING (PAINTED)
- 31 HSS COLUMN PER FRAMING PLAN
- 32 HSS COLUMN PER FRAMING PLAN HIDDEN INSIDE WALL BEYOND
- 33 2x10 FLOOR JOIST @ 16" O.C.
- 34 2x8 RAFTERS @ 16" O.C.
- 35 AEP SPAN 24 GA. HR-36 METAL WALL PANELS w/ FACTORY PAINTED FINISH OVER TYVEK COMMERCIAL WRAP
- 36 W10x15 ELEVATOR SAFETY BEAM
- 37 42" HIGH GUARDRAIL
- 38 2x8 CEILING JOIST @ 16" O.C.
- 39 2x4 SOFFIT FRAMING @ 16" O.C.
- 40 R-13 FIBERGLASS INSULATION FOR SOUND CONTROL
- 41 DOUBLE 2x SILL PLATE
- 42 ROOF ACCESS LADDER w/ PUSH-UP SAFETY POST
- 43 30"x36" BILCO TYPE S ROOF HATCH OR EQUAL
- 44 2x6 RAFTERS @ 16" O.C.
- 45 2x10 FLOOR JOIST @ 24" O.C.
- 46 2 LAYERS 5/8" TYPE X GYPSUM BOARD
- 47 WALL MOUNTED HANDRAIL BOTH SIDES OF STAIRS
- 48 2x12 STAIR STRINGERS (4) TOTAL
- 49 1 1/8" PLYWOOD STAIR TREAD
- 50 2x STAIR RISER
- 51 2x4 BLOCKING @ 16" O.C.
- 52 WINDOW PER PLAN

SCALE: NONE



C BUILDING SECTION

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



D BUILDING SECTION

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

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PREPARED BY:



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No.	Date	Description

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ENGINEER

PRELIMINARY

SHEET CONTENTS:
BUILDING SECTIONS

PREPARED FOR:

MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:

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SHEET NUMBER:

A5.1



GOLDEN VALLEY
ENGINEERING & SURVEYING
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Merced, CA 95341
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Fax: (209) 722-3254

No.	Date	Description

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NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19TH STREET
A.P.N. 031-054-024
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ENGINEER

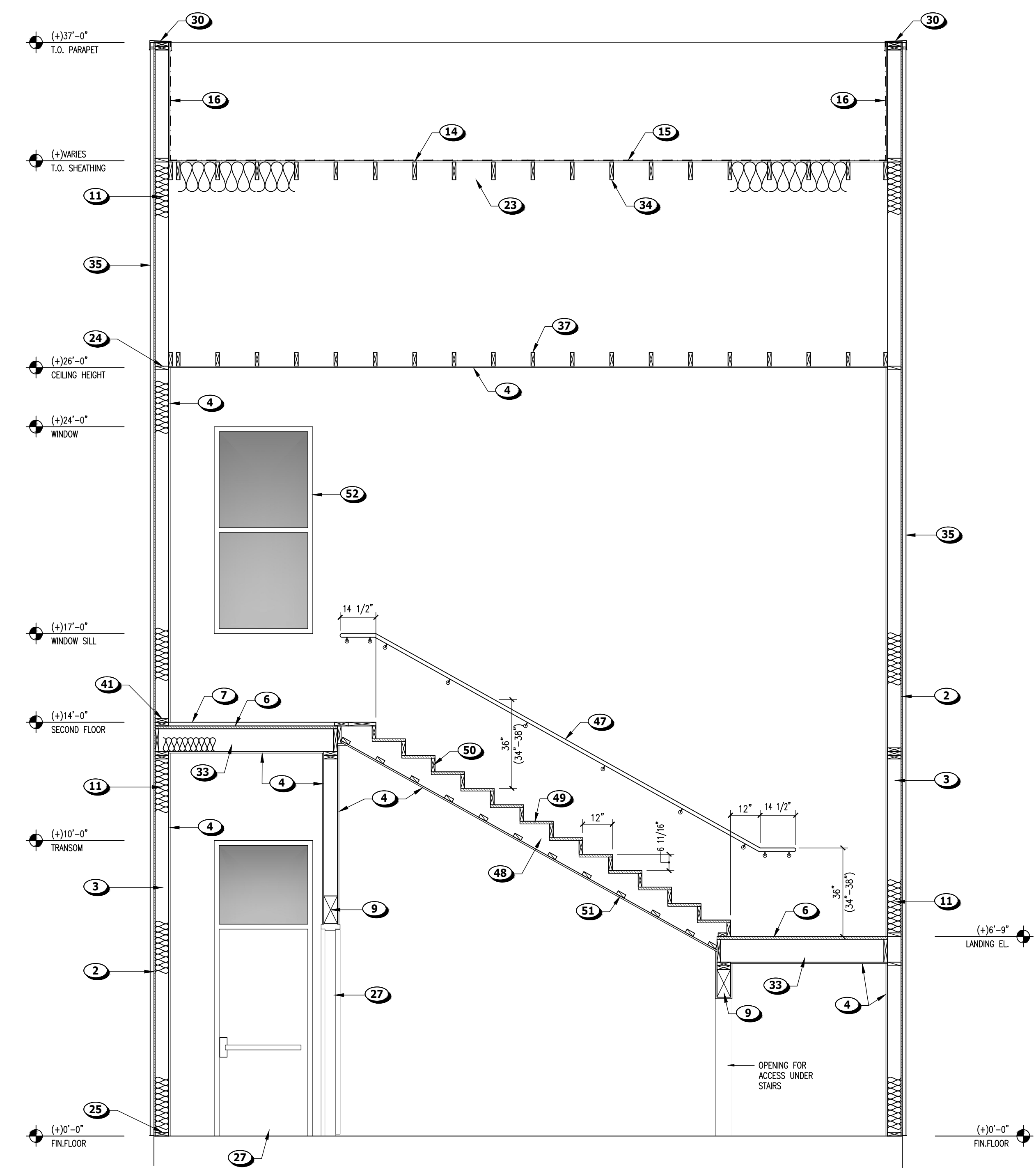
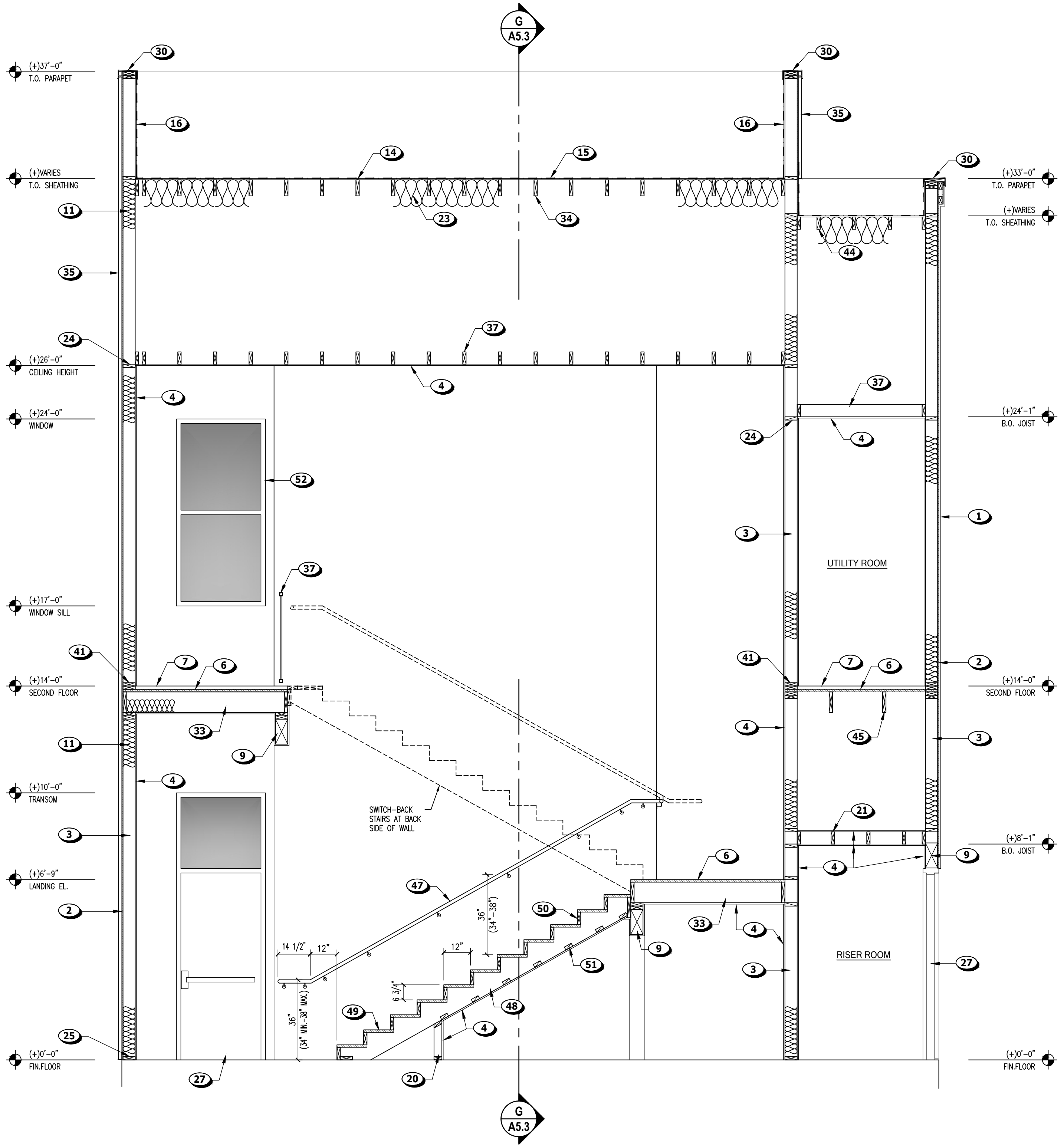
PRELIMINARY

SHEET CONTENTS:
BUILDING SECTIONS

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: 05/20/2022
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Job No.: 22-050
SHEET NUMBER

A5.2



E SECTION AT STAIRS

F SECTION AT STAIRS

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

PREPARED BY:

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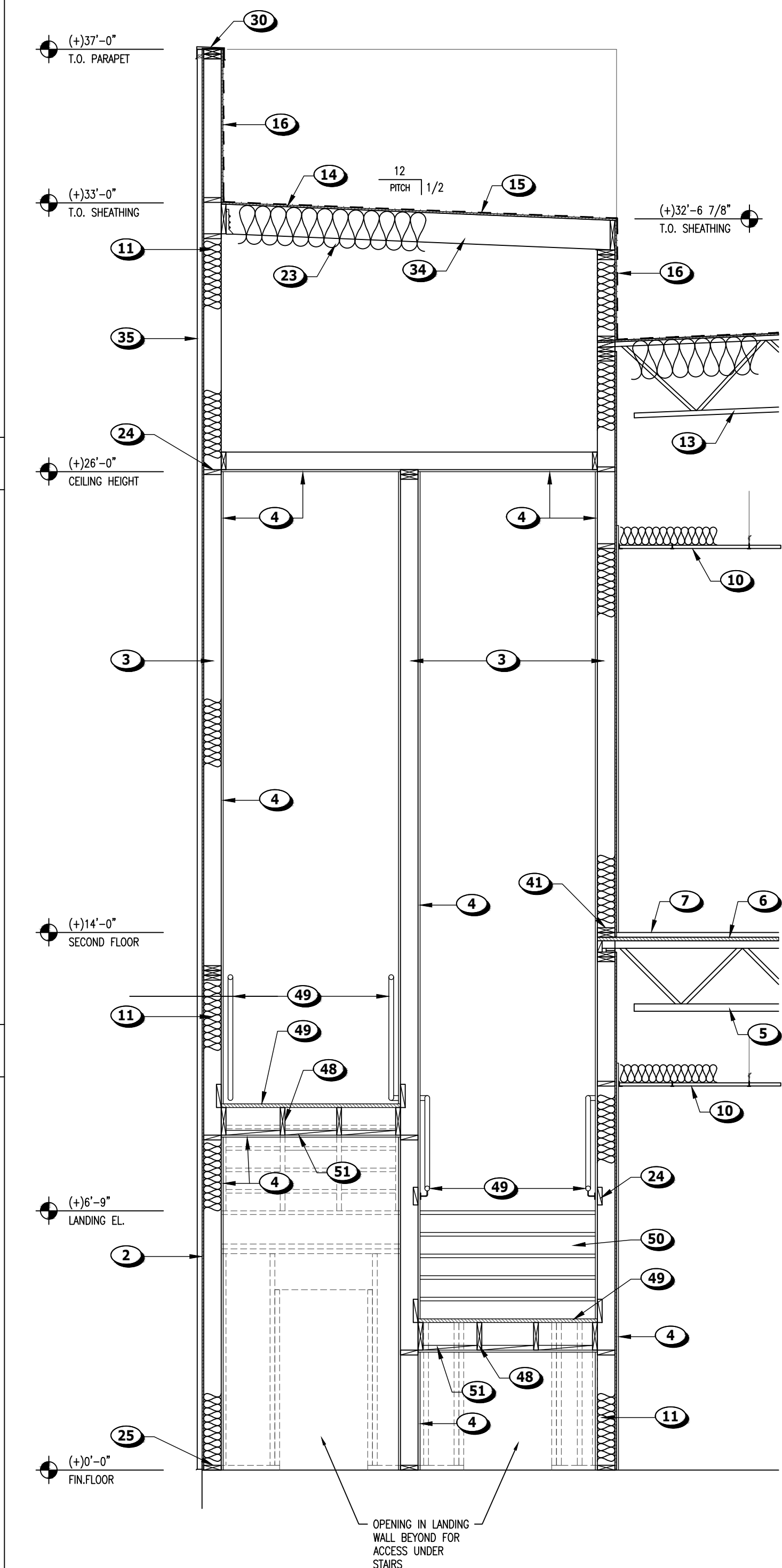
SHEET CONTENTS:
BUILDING SECTIONS

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3199 M STREET
MERCED, CA 95340
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PROJECT DATA:
Date: 05/20/2022
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Drawn By: Jim Davis
Job No.: 22-050

SHEET NUMBER

A5.3



1 DETAIL SCALE: NONE **2 DETAIL** SCALE: NONE **3 DETAIL** SCALE: NONE

5 DETAIL SCALE: NONE **6 DETAIL** SCALE: NONE **7 DETAIL** SCALE: NONE

9 DETAIL SCALE: NONE **10 DETAIL** SCALE: NONE **11 DETAIL** SCALE: NONE **6 SECTION AT STAIRS** SCALE: 3/8"=1'-0"

13 DETAIL SCALE: NONE **14 DETAIL** SCALE: NONE **15 DETAIL** SCALE: NONE **16 DETAIL** SCALE: NONE

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No. Date Description

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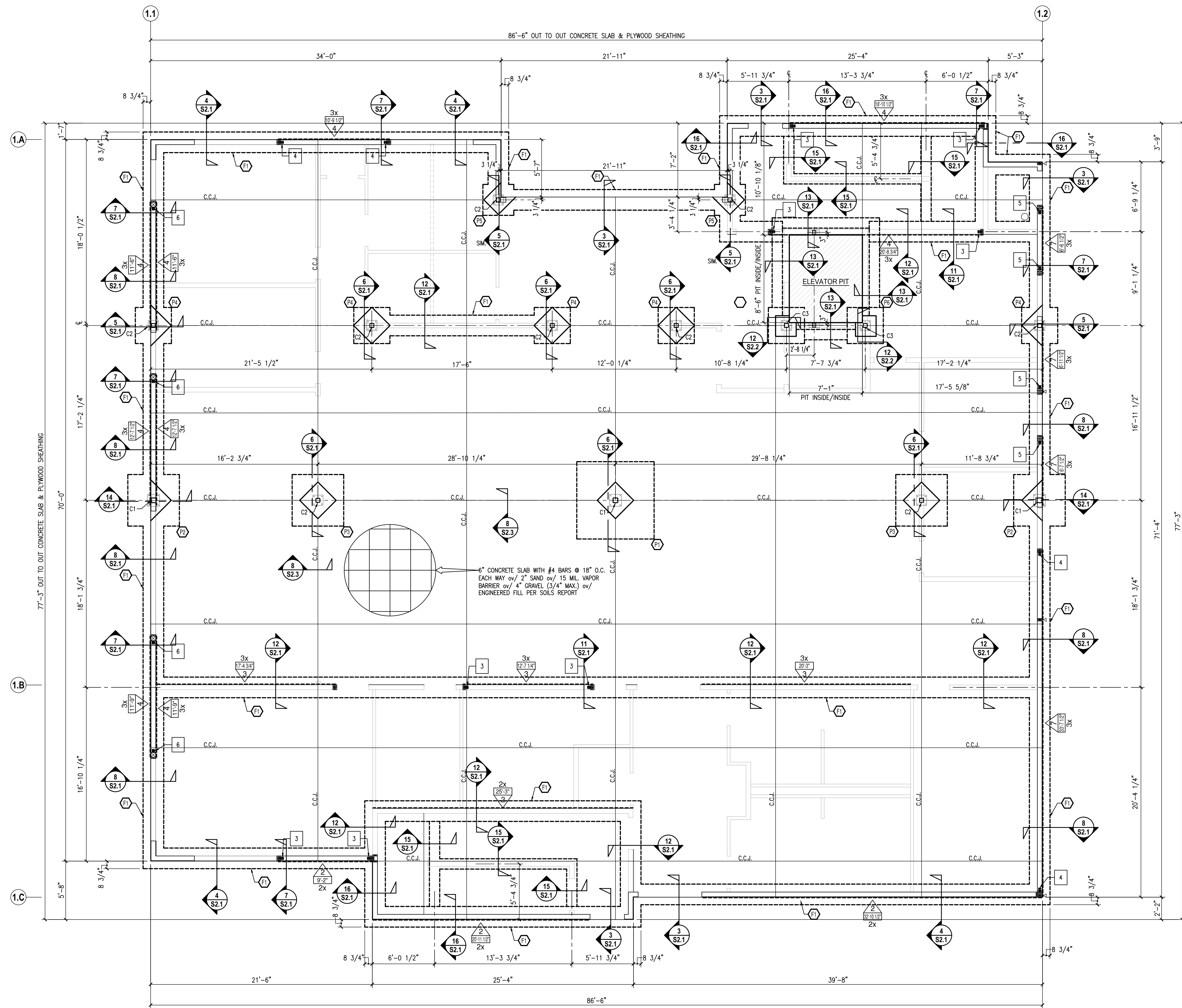
SHEET CONTENTS:
FOUNDATION PLAN

PREPARED FOR:

MERCED COUNTY EMPLOYEE'S
RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

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FOUNDATION NOTES:

- VERIFY ALL DIMENSIONS PRIOR TO POURING CONCRETE.
- ALL FOOTINGS SHOULD HAVE A MINIMUM DEPTH OF 18" BELOW PAD SUBGRADE (SOIL GRADE) OR ADJACENT EXTERIOR GRADE, UNLESS NOTED OTHERWISE, WHICHEVER IS LOWER.
- ALL CONCRETE APRONS AND DOOR STOODS TO BE PLACED AFTER BUILDING IS ENCLOSED.
- DAMP PROOFING INSTALLED BENEATH THE SLAB SHALL CONSIST OF NOT LESS THAN 10-MIL. POLYETHYLENE, OR OTHER APPROVED METHODS OR MATERIALS. JOINTS IN THE MEMBRANE SHALL BE LAPPED NOT LESS THAN 12 INCHES AND SEALED IN AN APPROVED MANNER.
- CONCRETE SPECIFICATIONS, SEE CONCRETE NOTES ON SHEET S1.0
- CONTRACTOR SHALL OBTAIN A MOISTURE AND COMPACTION TEST FOR BUILDING PAD PRIOR TO POURING CONCRETE. TESTS MUST BE DONE BY A LICENSED INDEPENDENT SOIL TESTING LABORATORY.
- PROVIDE CRACK CONTROL JOINTS (C.C.J.) @ MAX. 12'-0" O.C. EACH WAY TYP. UNLESS OTHERWISE NOTED
- SEE SOILS REPORT REFERENCED ON SHEET S1.0

PIER FOOTING SCHEDULE

PIER	MINIMUM PIER SIZE	FOOTING REINFORCEMENT	COLUMN	DETAIL REF.
C1	90" SQ. x 24" DEEP	(10) #6 EACH WAY @ BOTTOM	C1	6/S2.1
C2	60" SQ. x 18" DEEP	(6) #5 EACH WAY @ BOTTOM	C1	14/S2.1
C3	60" SQ. x 18" DEEP	(6) #5 EACH WAY @ BOTTOM	C2	6/S2.1
C4	42" SQ. x 18" DEEP	(5) #5 EACH WAY @ BOTTOM	C2	5A6/S2.1
C5	36" SQ. x 18" DEEP	(4) #5 EACH WAY @ BOTTOM	C2	5M5/S2.1
C6	42" SQ. x 18" DEEP	(5) #5 EACH WAY @ BOTTOM	C3	12/S2.2

CONTINUOUS FOOTING SCHEDULE

FTG	MINIMUM WIDTH x DEPTH	FOOTING REINFORCEMENT
C1	CONT. 24" WIDE x 18" DEEP	(3) #5 CONT. TOP & BOTTOM

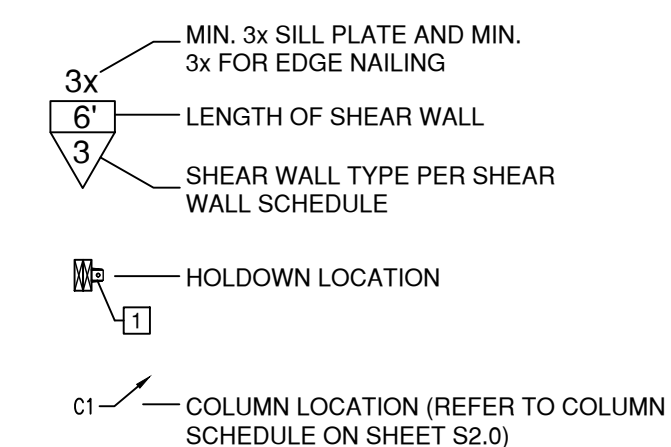
COLUMN SCHEDULE

MARK	SIZE	BASE PLATE	ANCHOR BOLTS
C1	HSS 6" x 6" x 1/2"	PLATE 3/4" x 14" x 14"	(4) 3/4" x 12" MIN. EMBED ⁽¹⁾
C2	HSS 5" x 5" x 3/8"	PLATE 3/4" x 12" x 12"	(4) 3/4" x 12" MIN. EMBED ⁽¹⁾
C3	HSS 5" x 5" x 3/8"	PLATE 3/4" X SEE DETAIL	(5) 3/4" x 24" ALL THREAD

NOTES:
(1) ANCHOR BOLTS TO BE ASTM F1554 GRADE 36 WITH MINIMUM 3" LONG HOOK, A563 NUTS AND F436 WASHERS.

SHEAR WALL & HOLDOWN SYMBOL LEGEND

(REFER TO SHEET S3.0 FOR SHEAR WALL & HOLDOWN SCHEDULES)



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ENGINEER

PREPARED FOR:
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3199 M STREET
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PROJECT DATA:
Date: 05/20/2022
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SHEET NUMBER

PRELIMINARY

SHEET CONTENTS:
FOUNDATION DETAILS

FOUNDATION DETAILS

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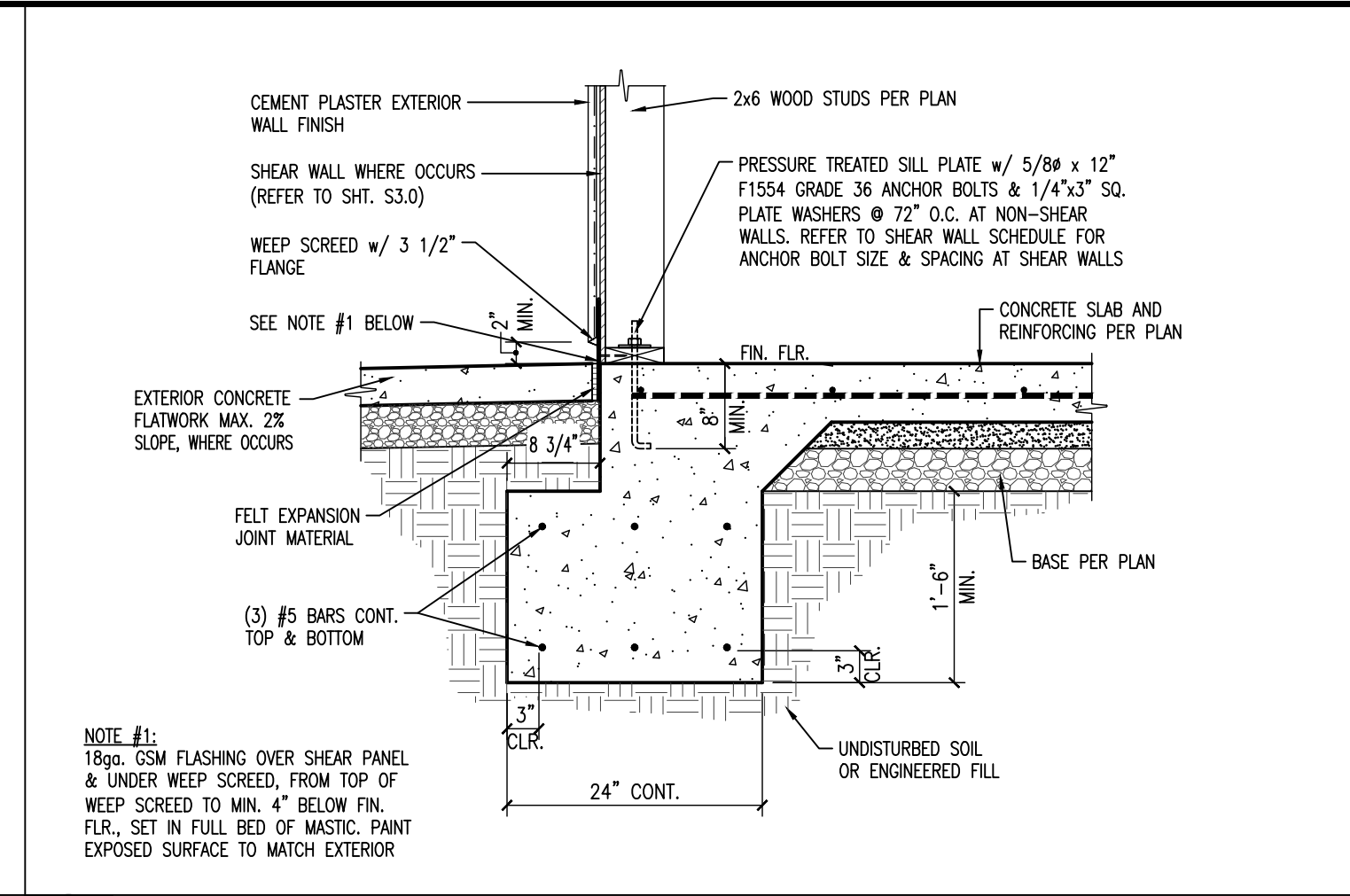
FOUNDATION DETAILS

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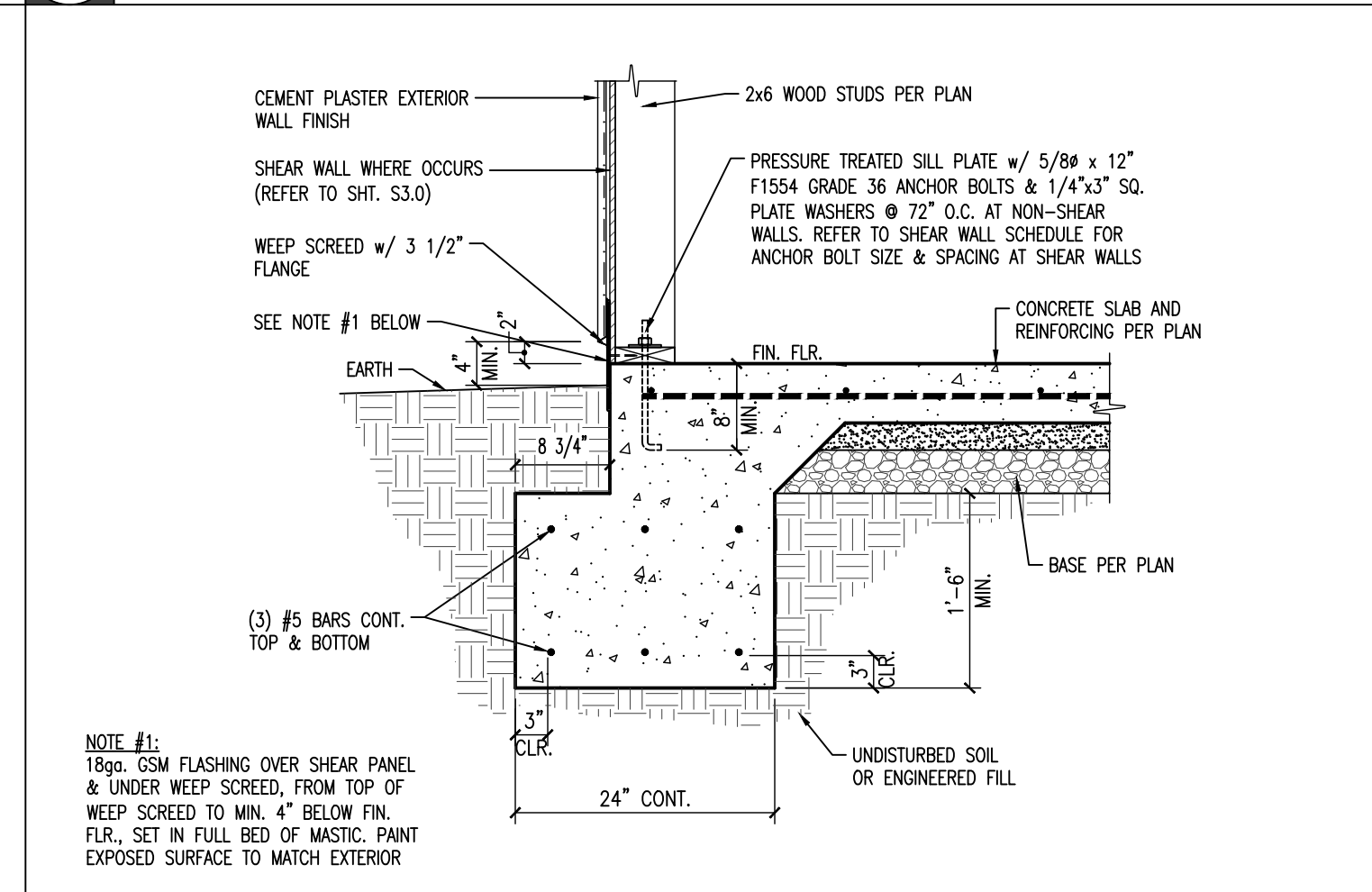
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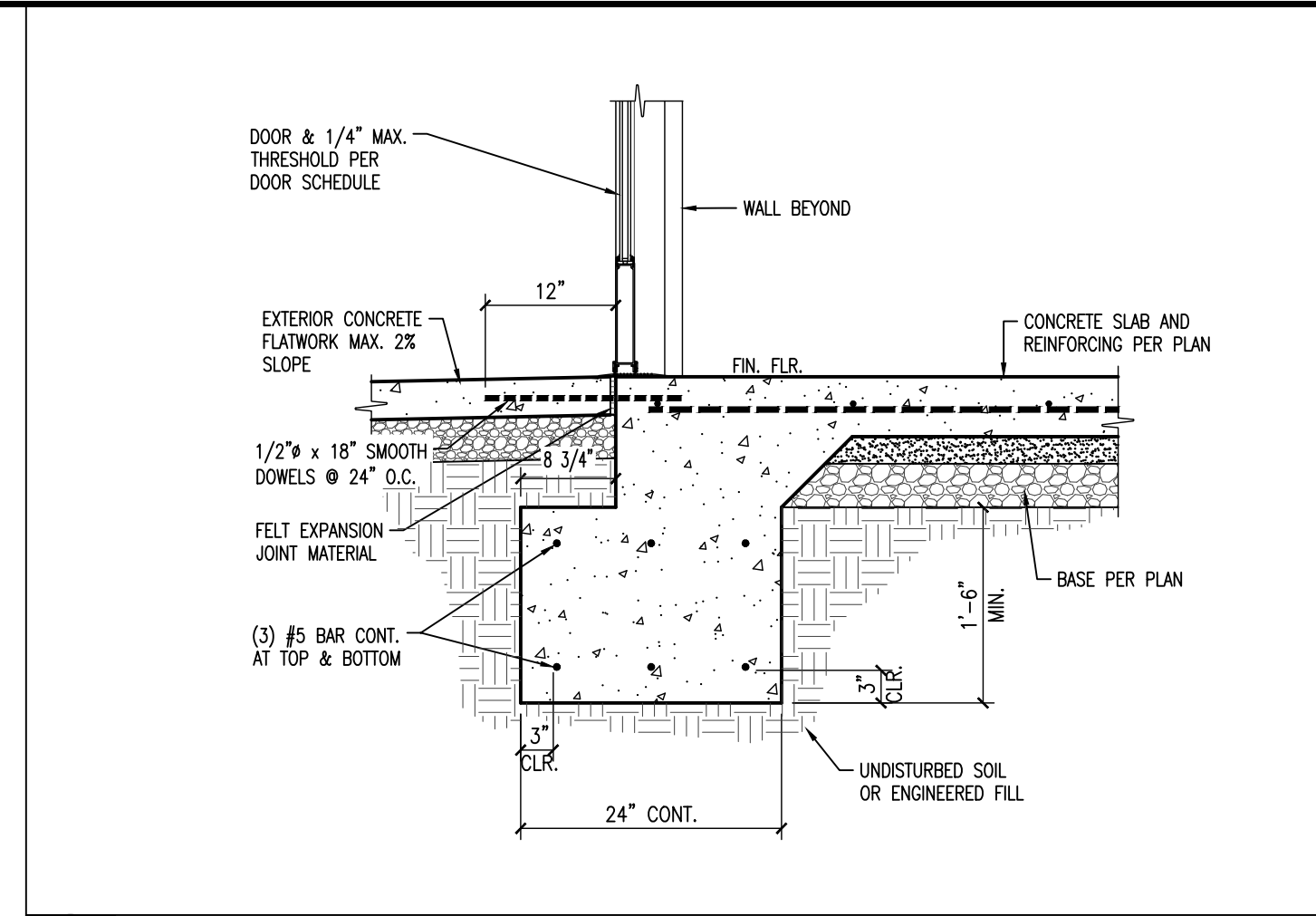
FOUNDATION DETAILS



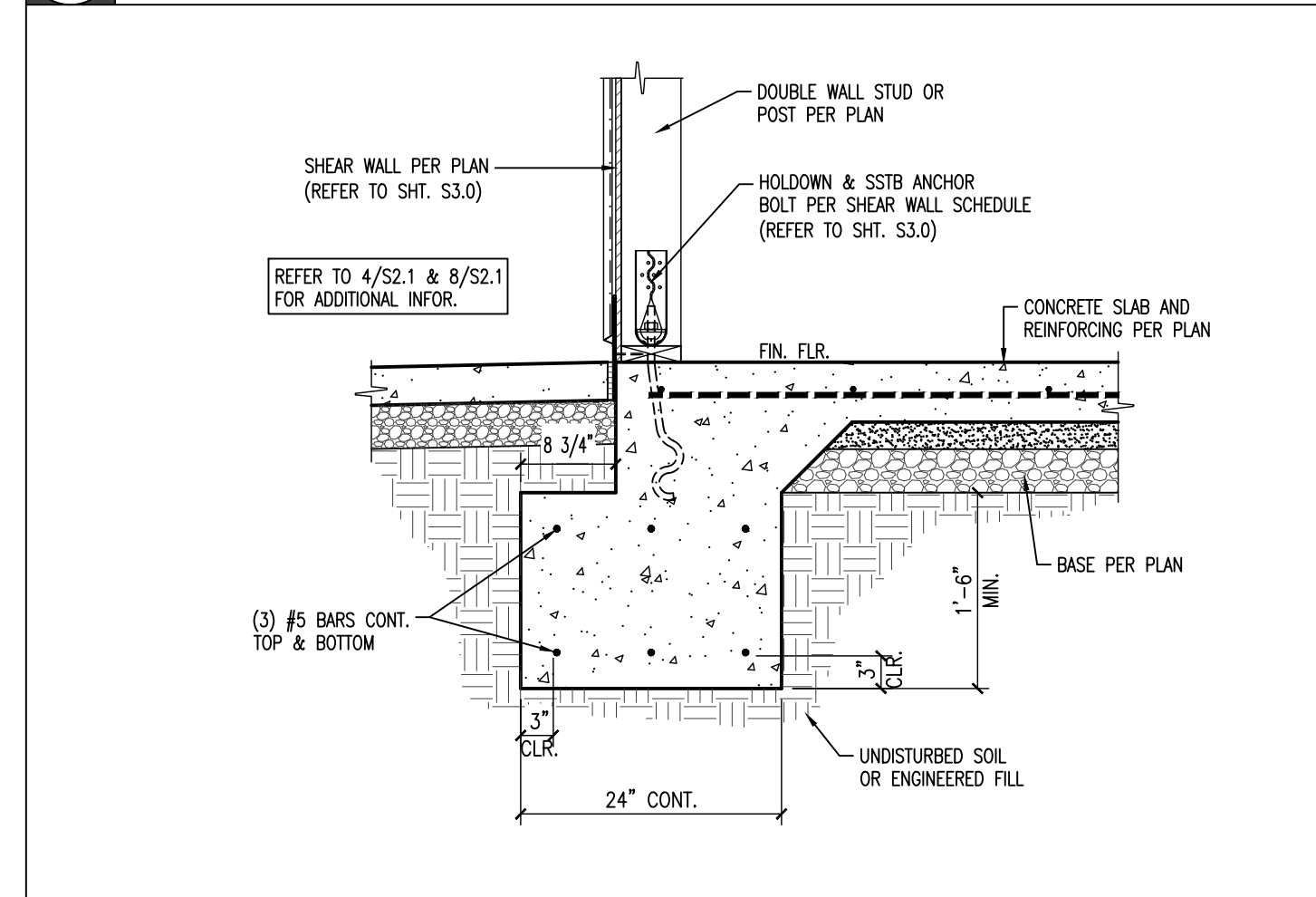
4 PERIMETER FOOTING DETAIL SCALE: 3/4"=1'-0"



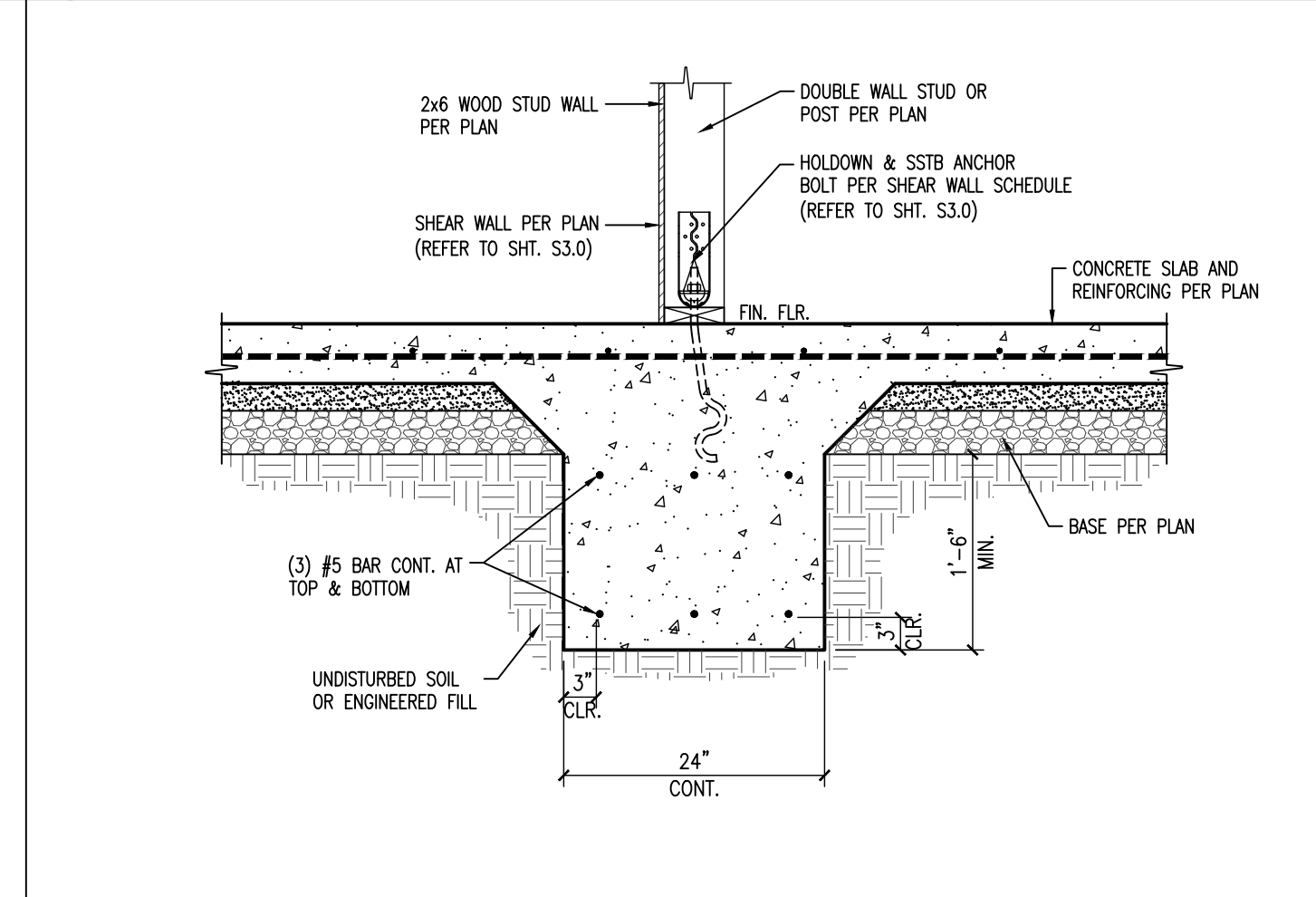
8 PERIMETER FOOTING DETAIL SCALE: 3/4"=1'-0"



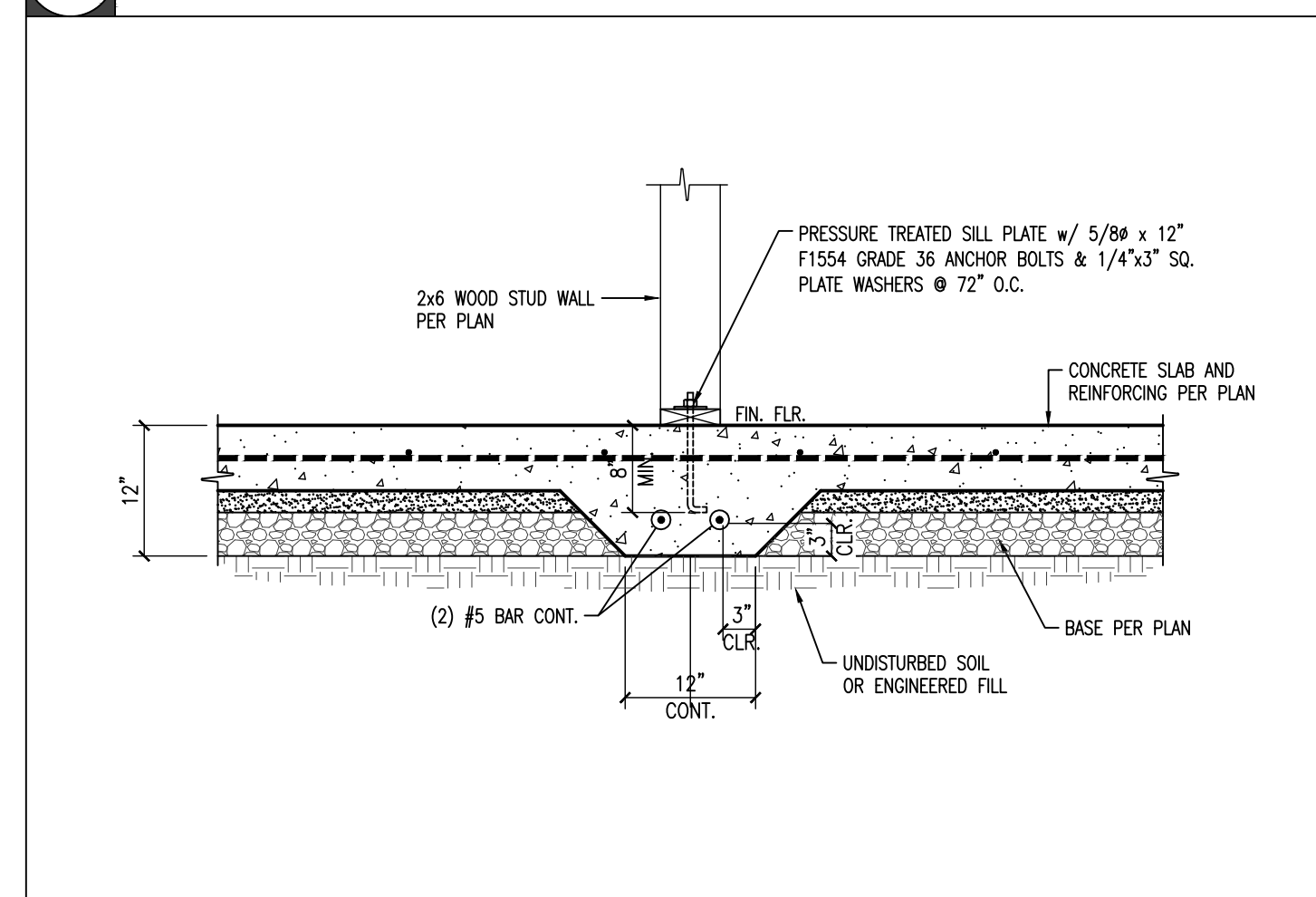
3 PERIMETER FTG. AT DOOR OPENING DETAIL SCALE: 3/4"=1'-0"



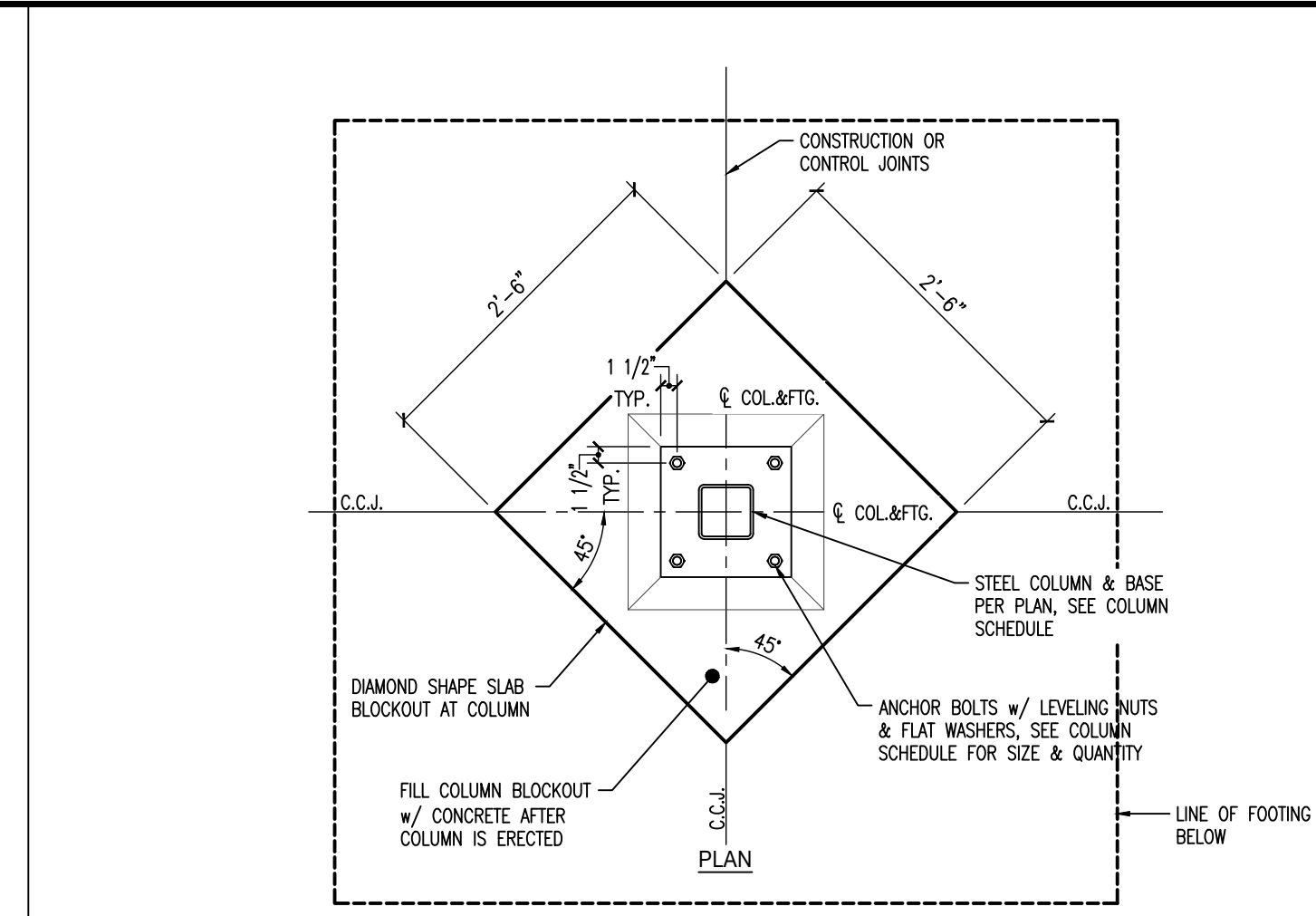
7 SHEAR WALL FOOTING DETAIL SCALE: 3/4"=1'-0"



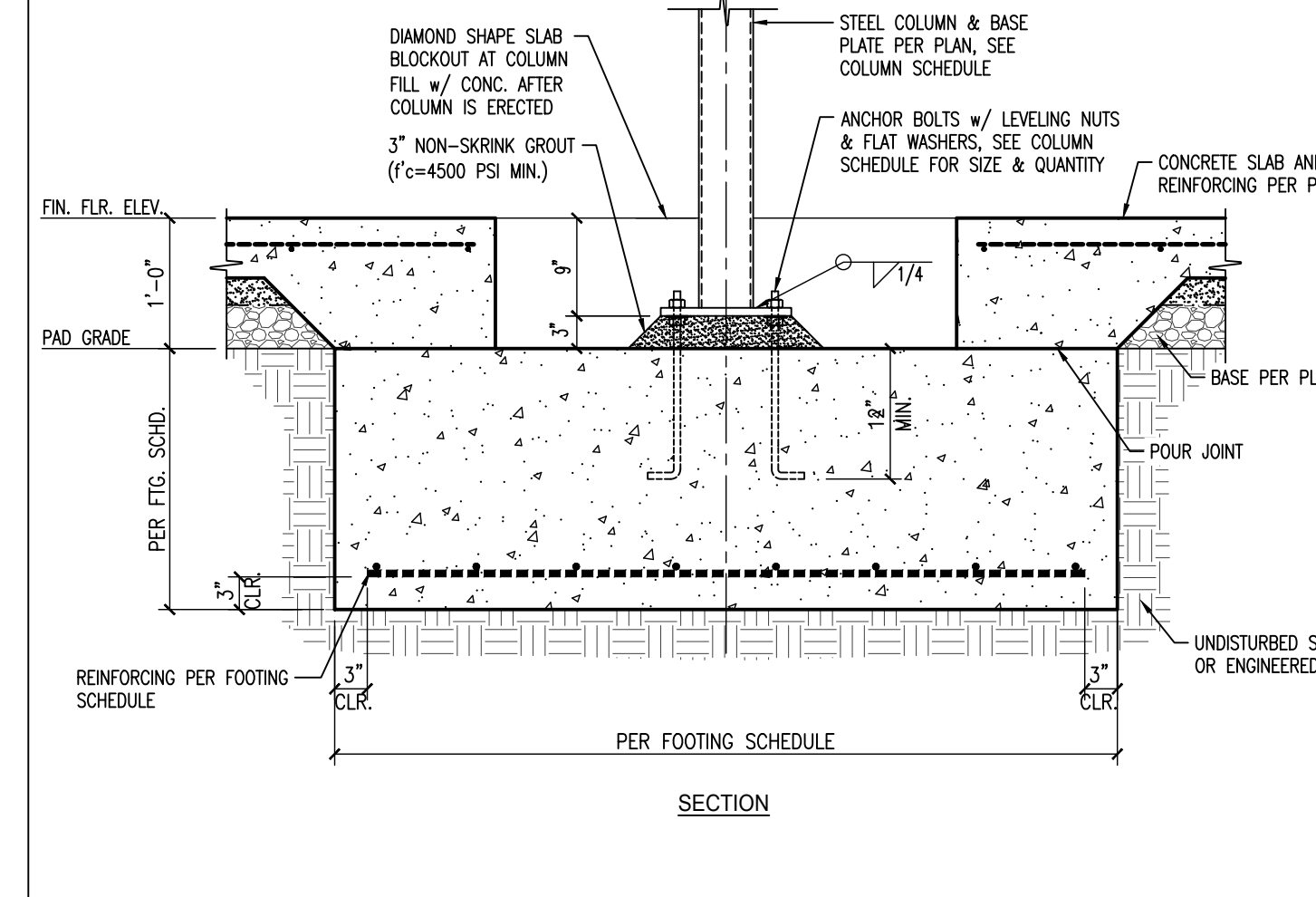
11 SHEAR WALL FOOTING DETAIL SCALE: 3/4"=1'-0"



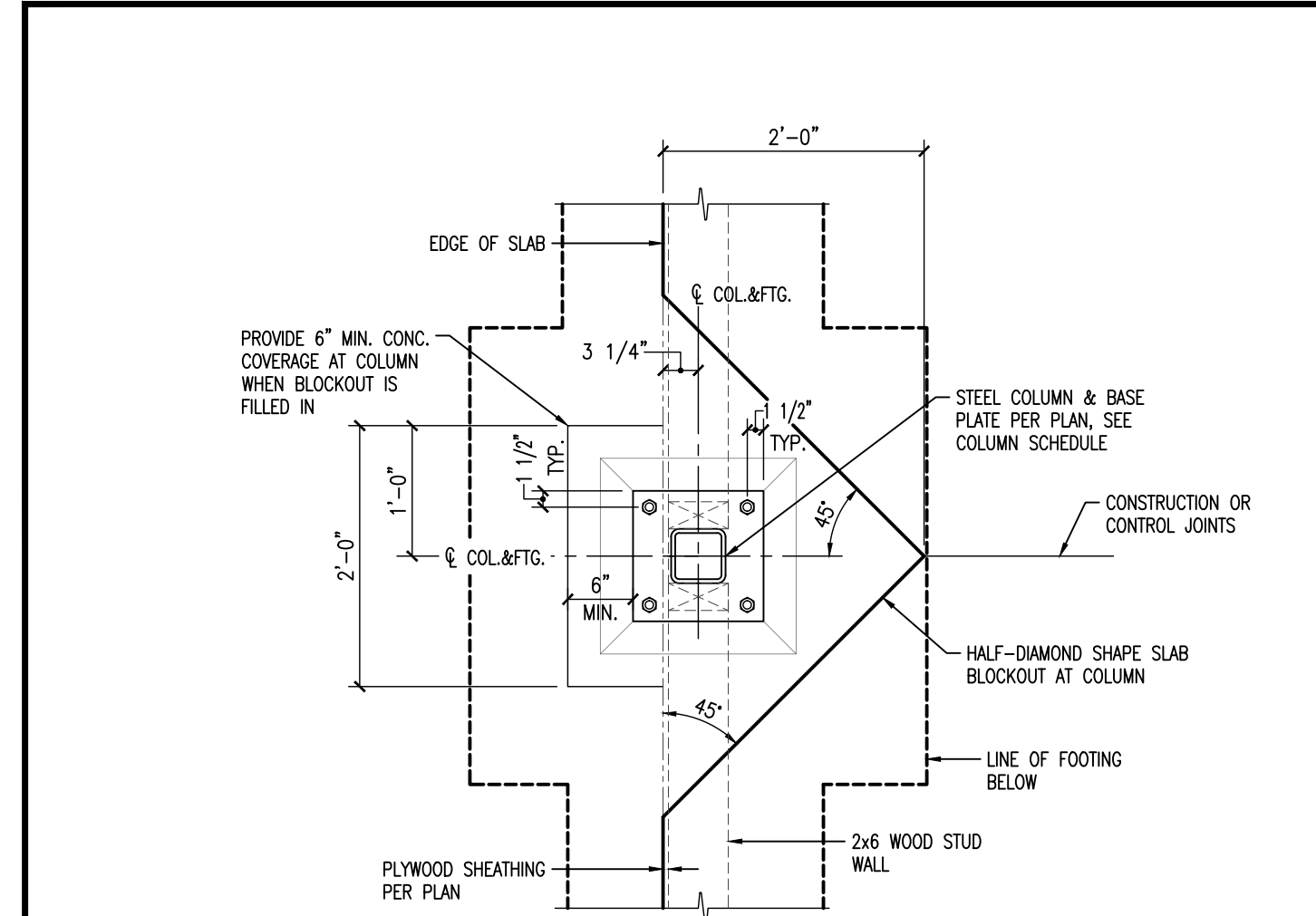
15 THICKENED SLAB DETAIL SCALE: 3/4"=1'-0"



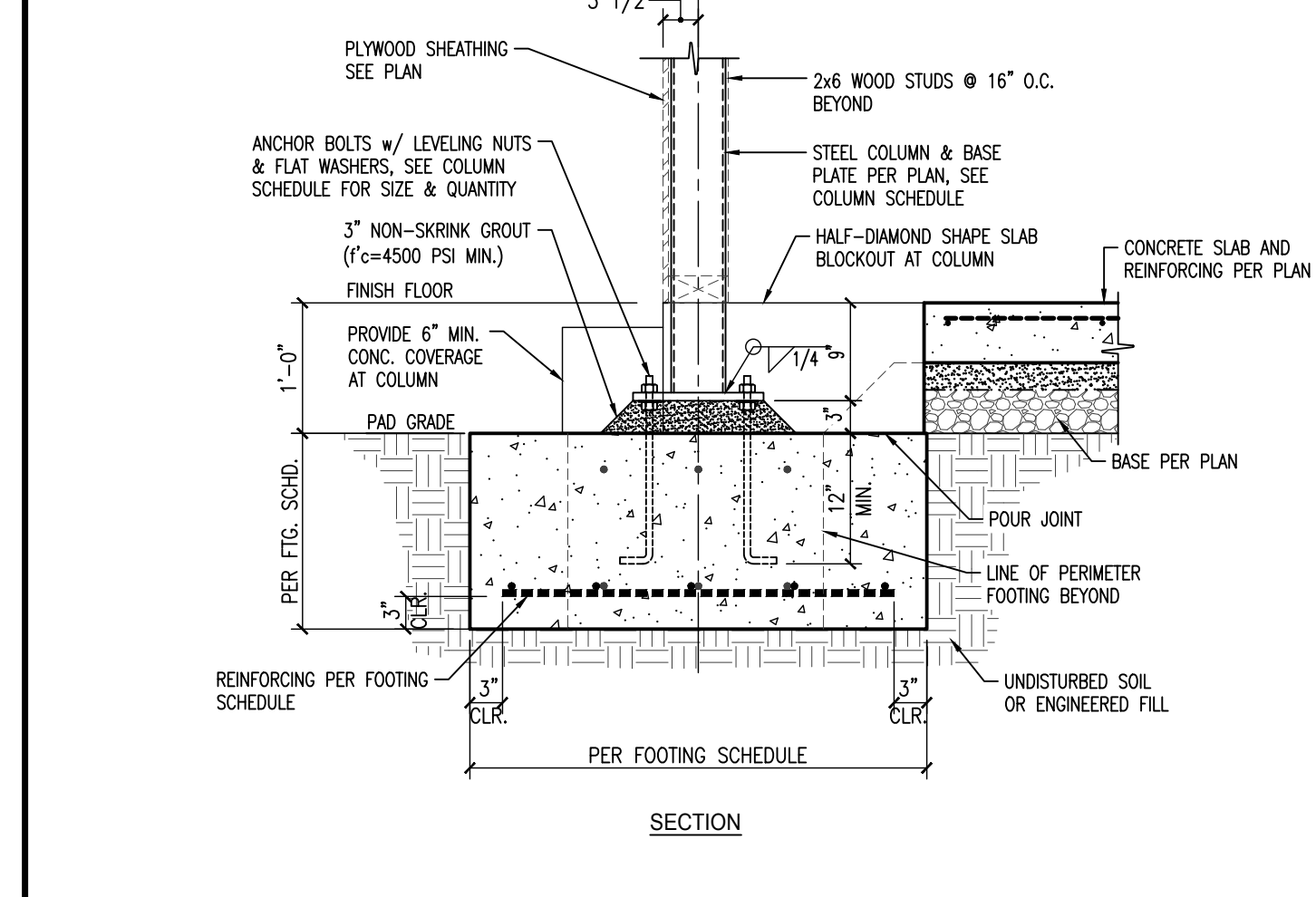
6 HSS COLUMN FOOTING DETAIL SCALE: 3/4"=1'-0"



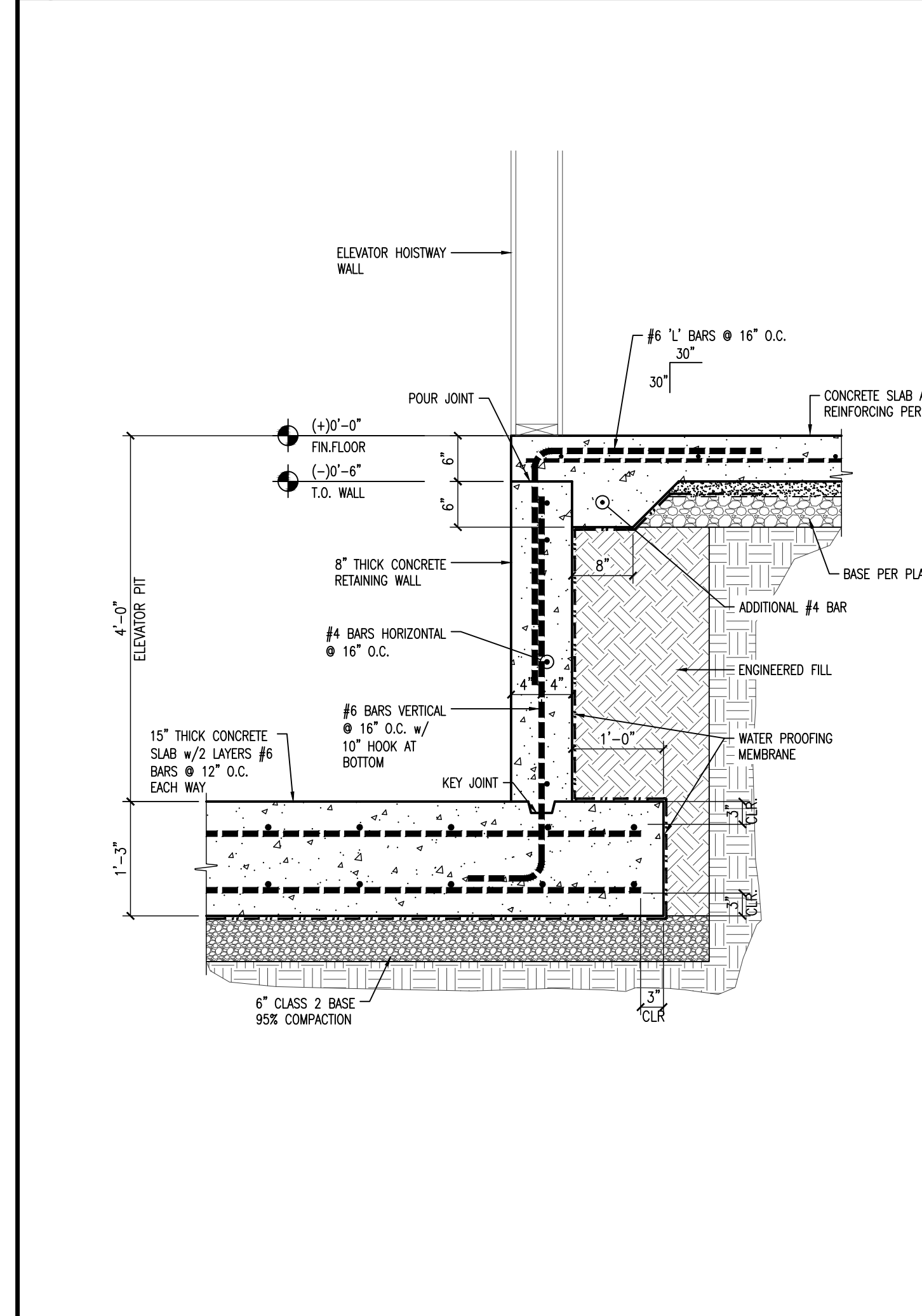
14 HSS COLUMN FOOTING DETAIL SCALE: 3/4"=1'-0"



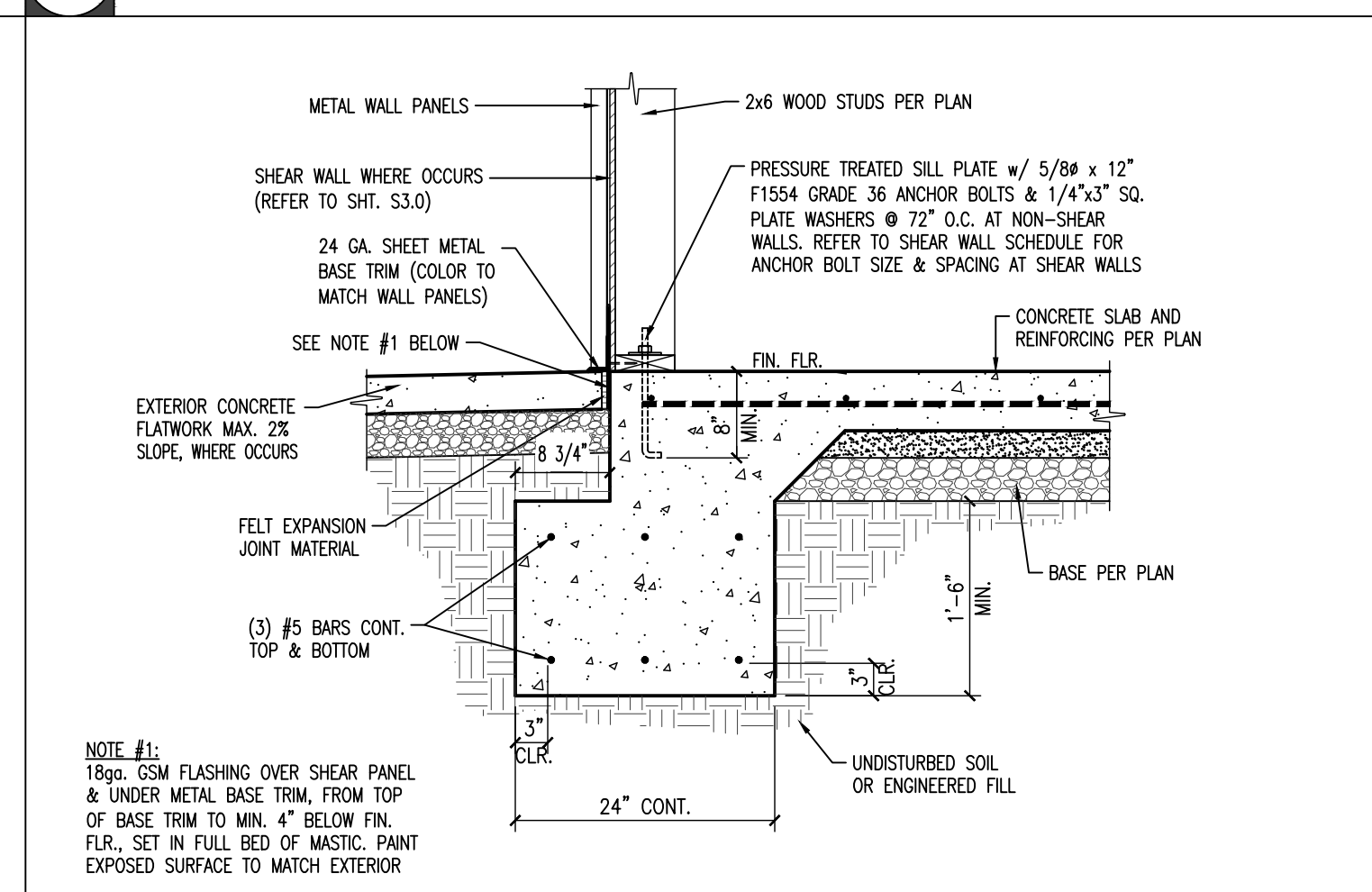
5 HSS COLUMN FOOTING DETAIL SCALE: 3/4"=1'-0"



13 ELEVATOR PIT DETAIL SCALE: 3/4"=1'-0"



13 ELEVATOR PIT DETAIL SCALE: 3/4"=1'-0"



16 PERIMETER FOOTING DETAIL SCALE: 3/4"=1'-0"

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No.	Date	Description

It is the client's responsibility prior to or during construction to verify the designer in writing of any proposed work or changes to the plans and specifications or methods of construction should be made. When necessary, corrections and amendments should be made to the drawings and specifications prior to the start of construction. The client will be responsible for any delays in construction if these procedures are not followed.

NEW 2-STORY OFFICE BUILDING FOR:
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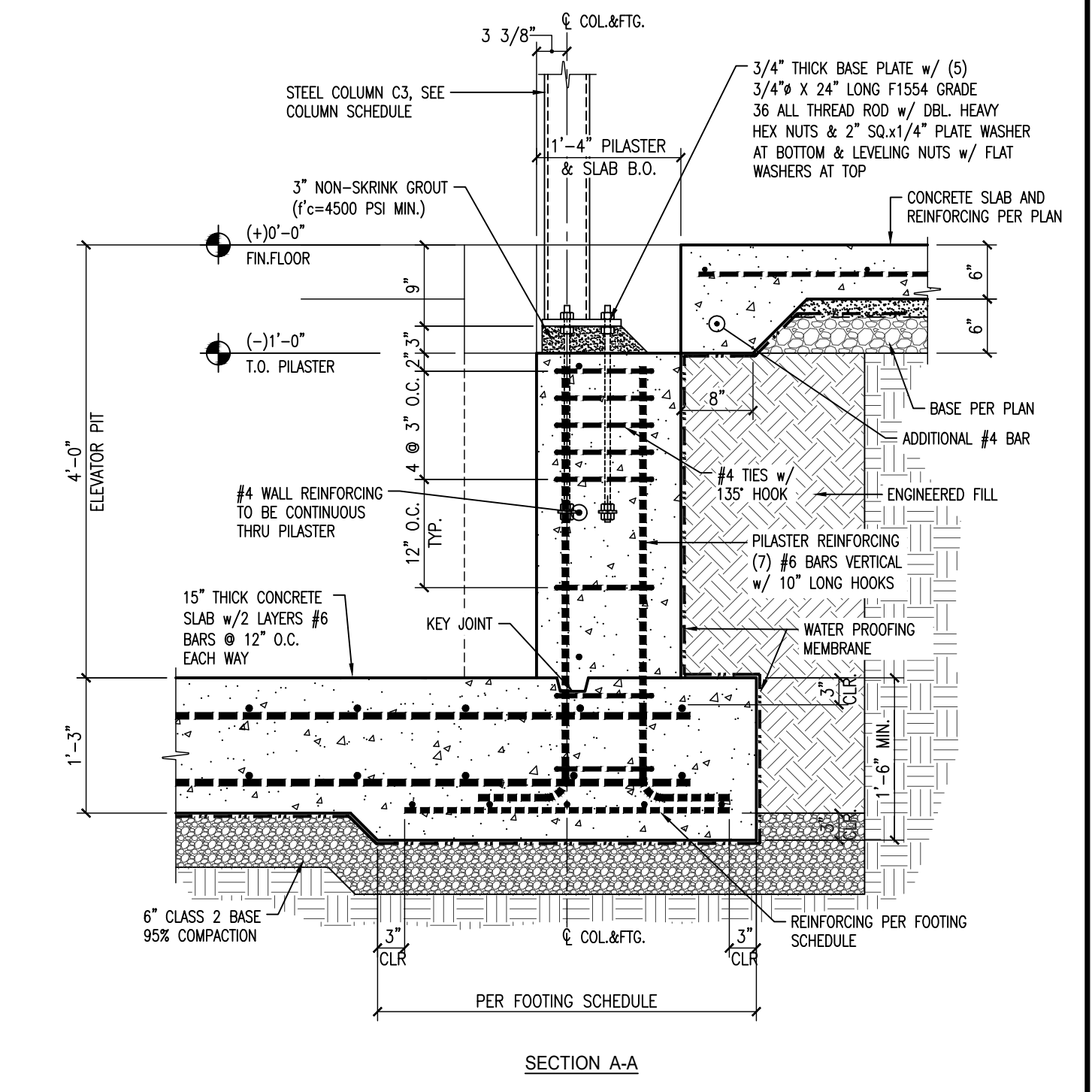
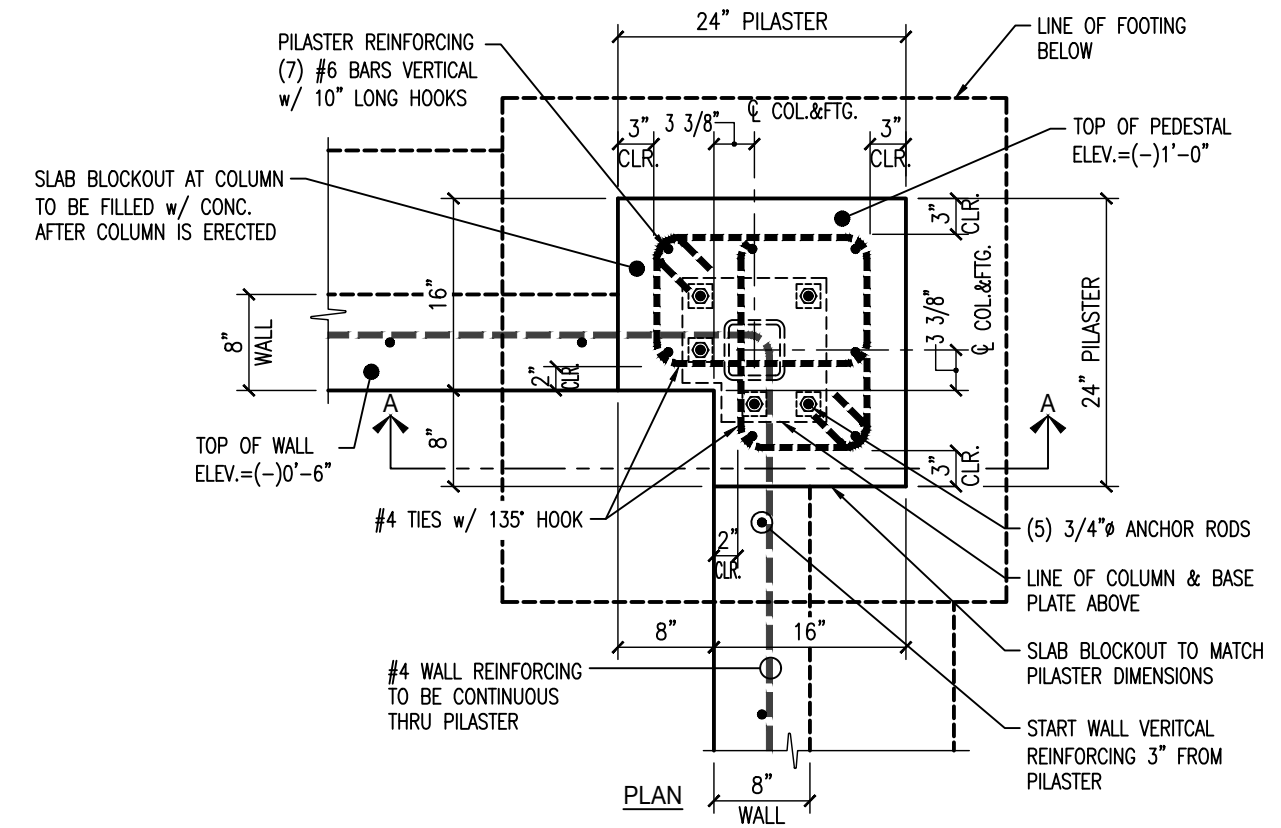
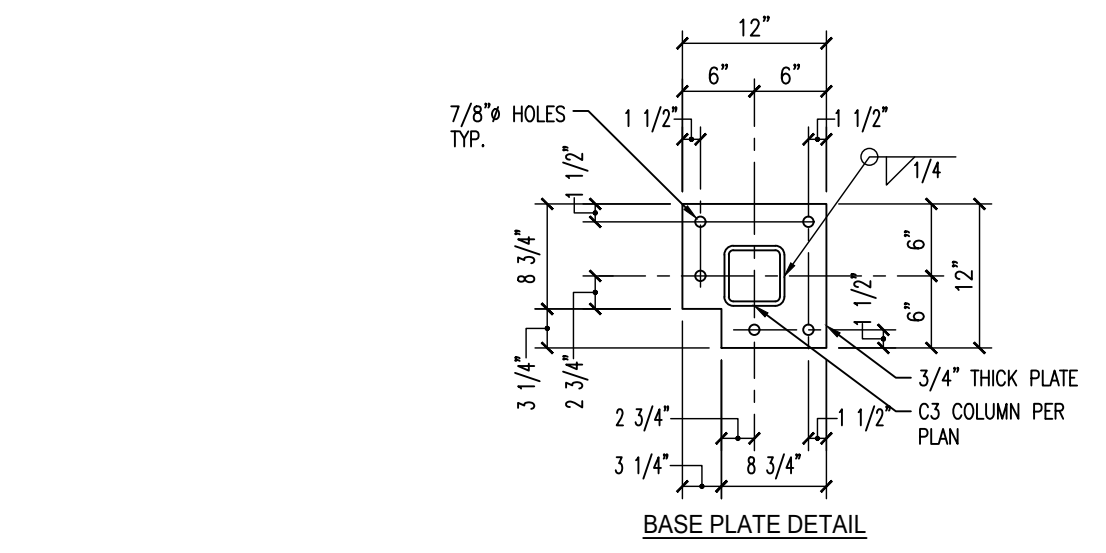
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SHEET CONTENTS:
FOUNDATION DETAILS

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
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PH: (209) 726-2724

PROJECT DATA:
Date: 05/20/2022
Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050
SHEET NUMBER:

S2.2



1 DETAIL SCALE: NONE

2 DETAIL SCALE: NONE

3 DETAIL SCALE: NONE

5 DETAIL SCALE: NONE

6 DETAIL SCALE: NONE

7 DETAIL SCALE: NONE

9 DETAIL SCALE: NONE

10 DETAIL SCALE: NONE

11 DETAIL SCALE: NONE

12 COLUMN AT ELEVATOR PIT DETAIL SCALE: 3/4"=1'-0"

13 DETAIL SCALE: NONE

14 DETAIL SCALE: NONE

15 DETAIL SCALE: NONE

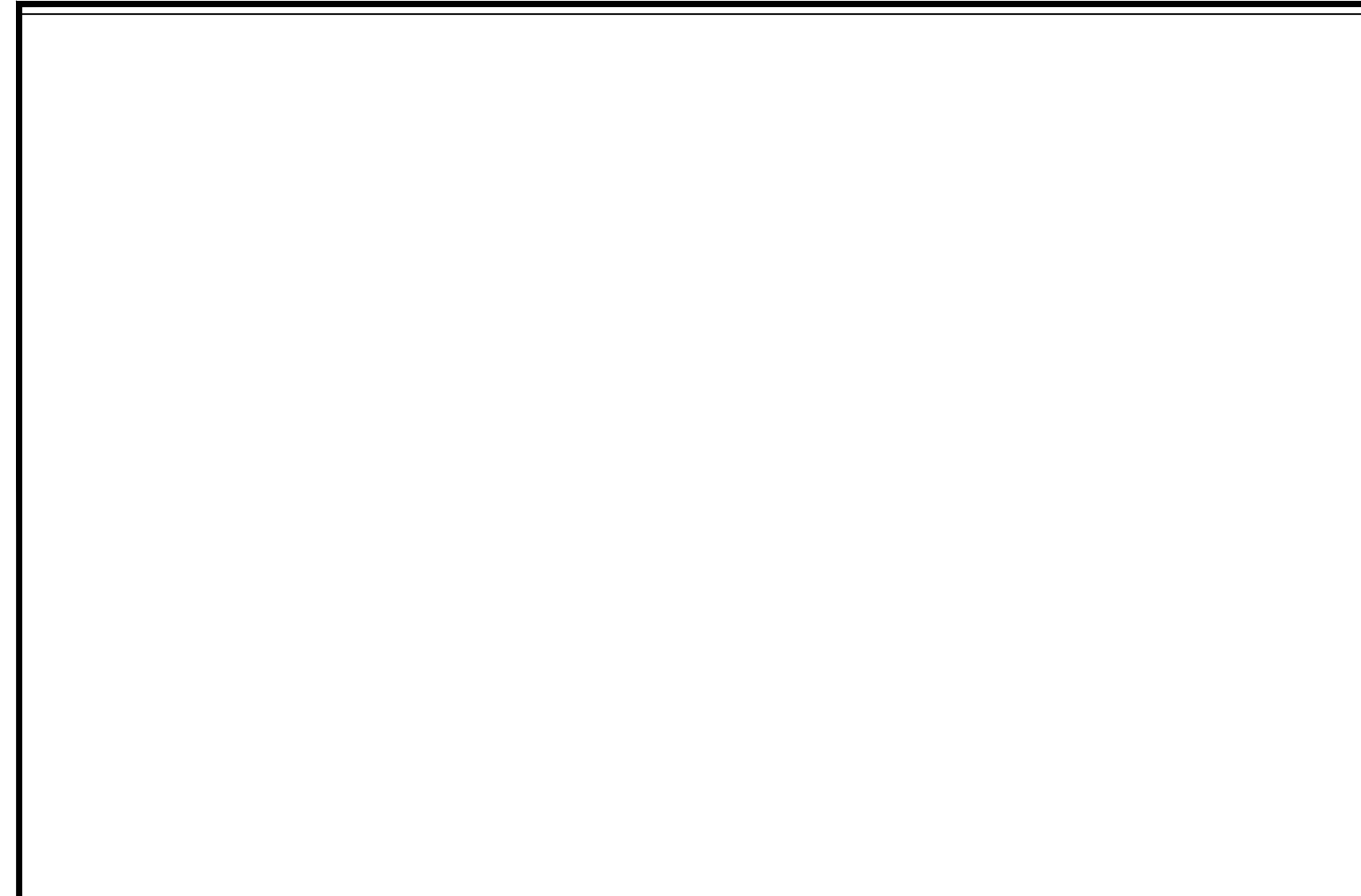
16 DETAIL SCALE: NONE

PREPARED BY:

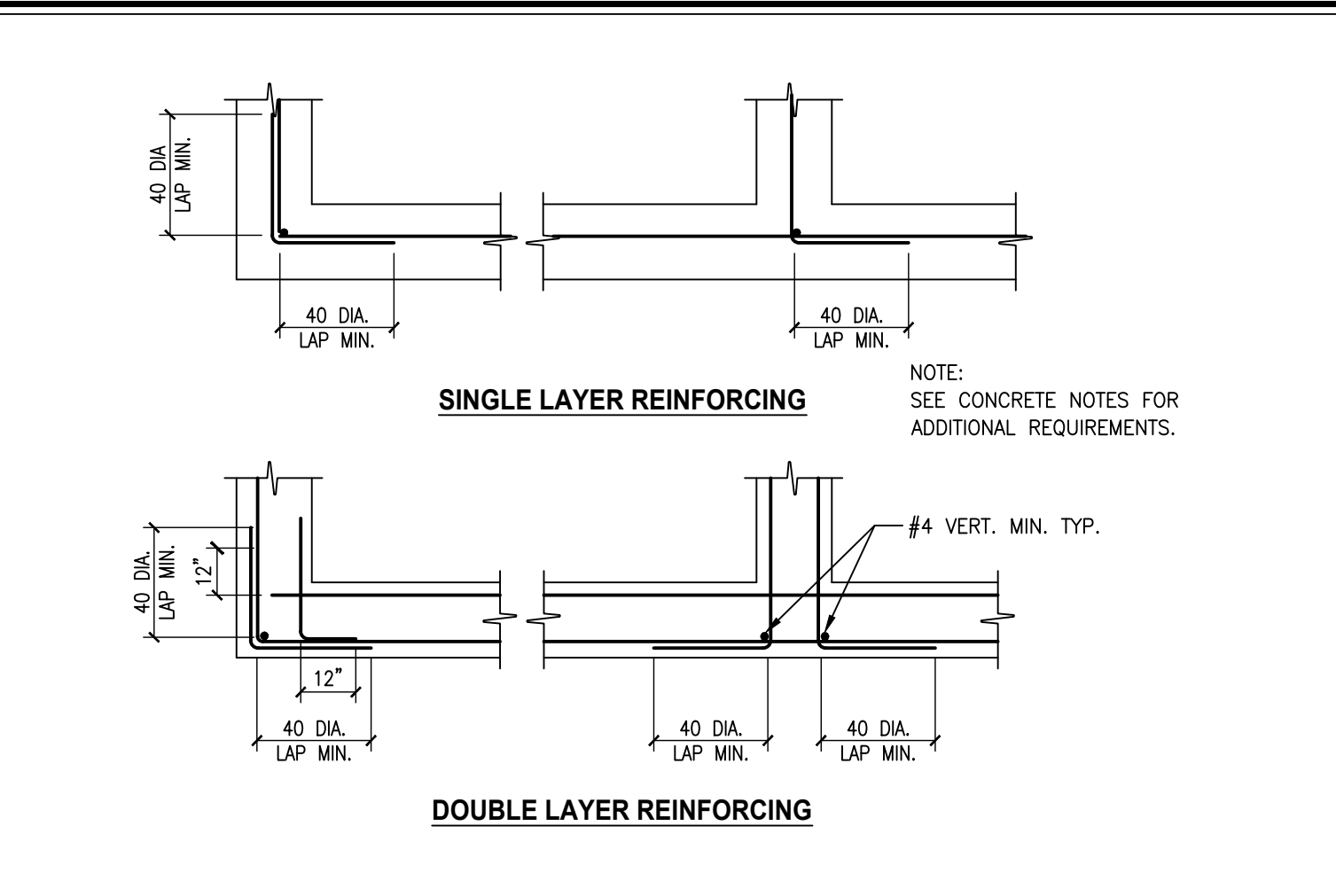
GOLDEN VALLEY ENGINEERING & SURVEYING
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Fax: (209) 722-3254

No. Date Description

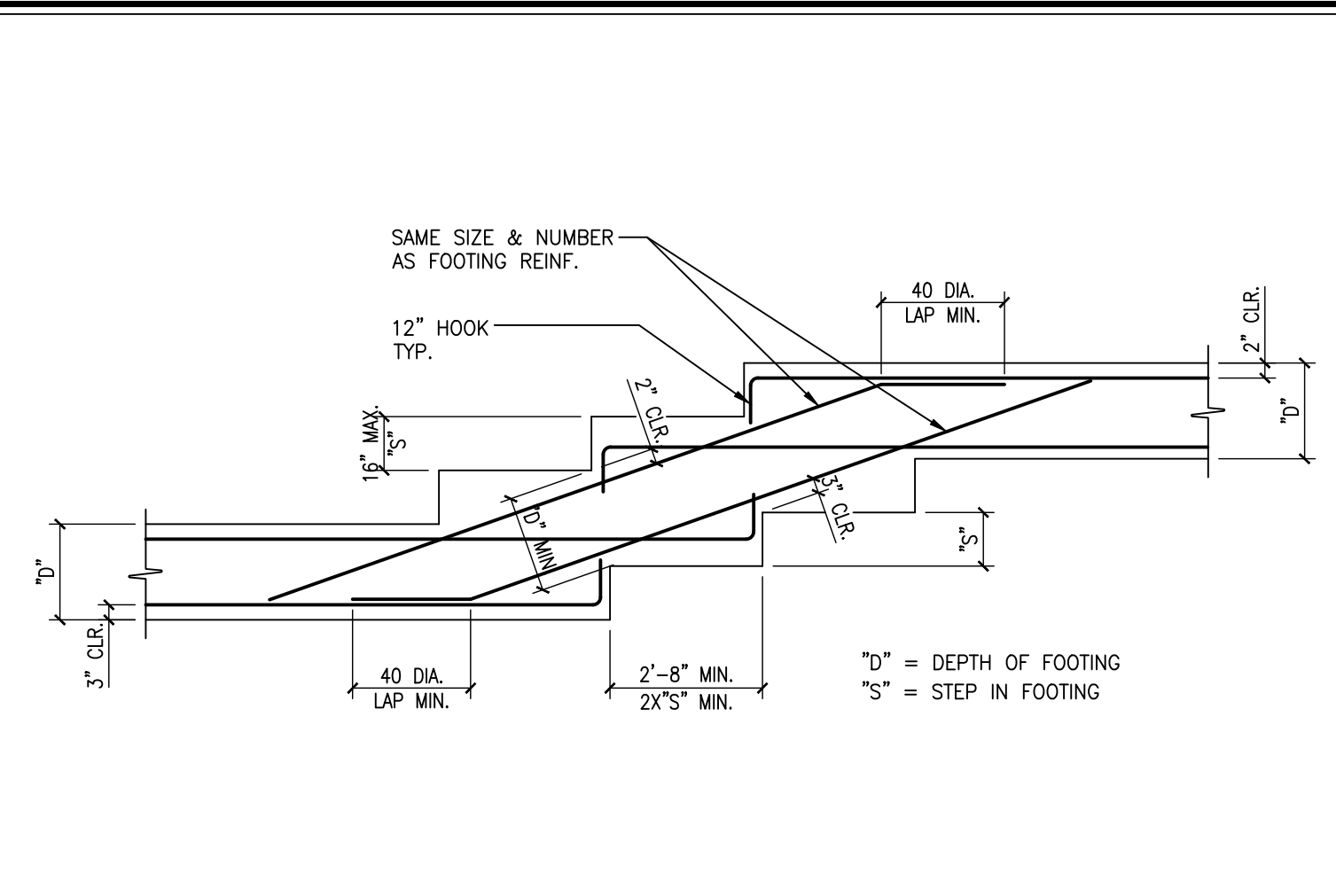
It is the client's responsibility prior to or during construction to verify the designer is using the most current version of standards. The client shall be responsible for any delays in construction if these provisions are not followed.



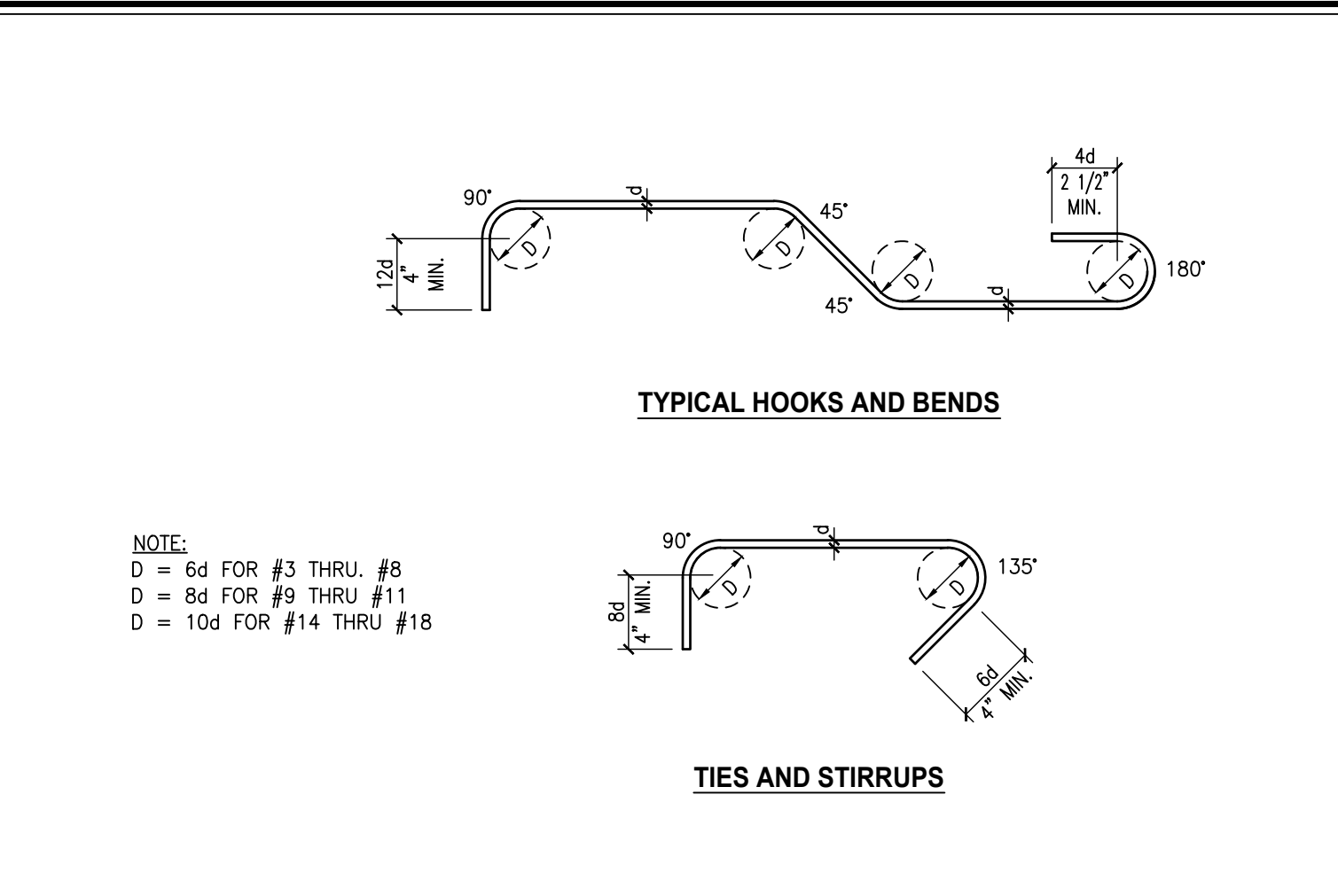
1 DETAIL NOT USED NO SCALE



2 TYP. REINF. @ CORNERS & INTERIOR FOUNDATIONS NO SCALE



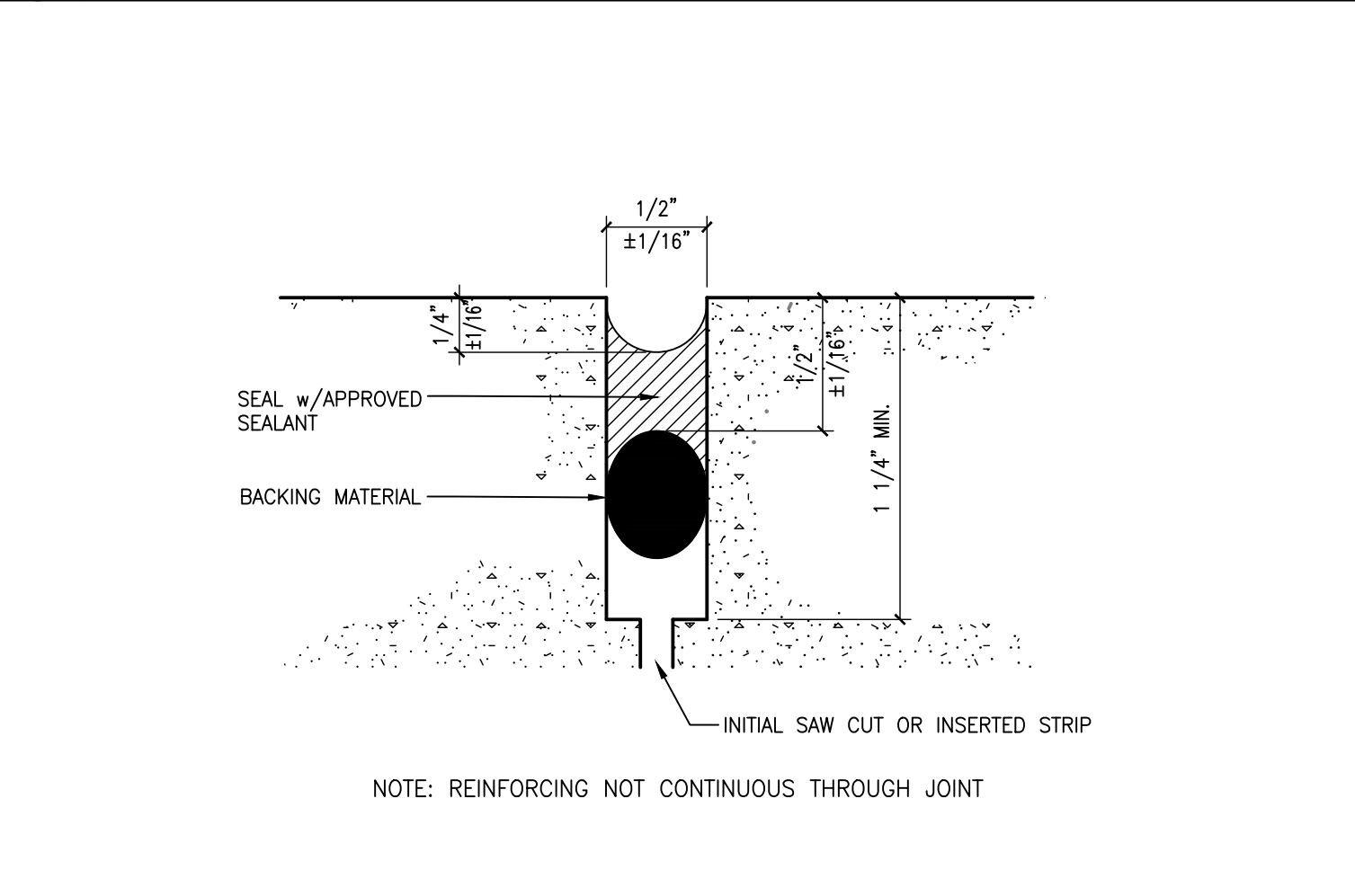
3 TYPICAL STEPPED FOOTING NO SCALE



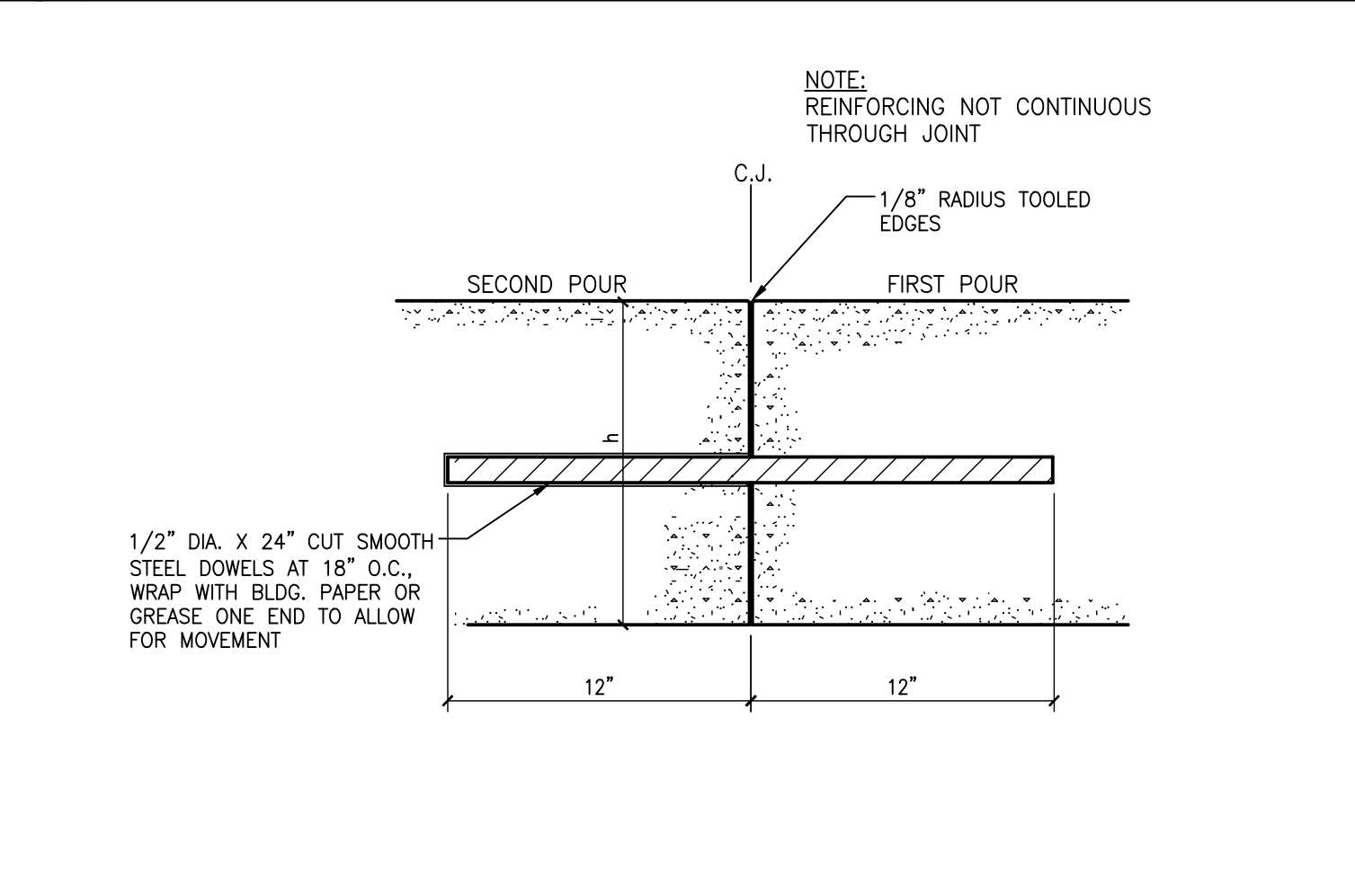
4 REINFORCING HOOKS AND BENDS NO SCALE



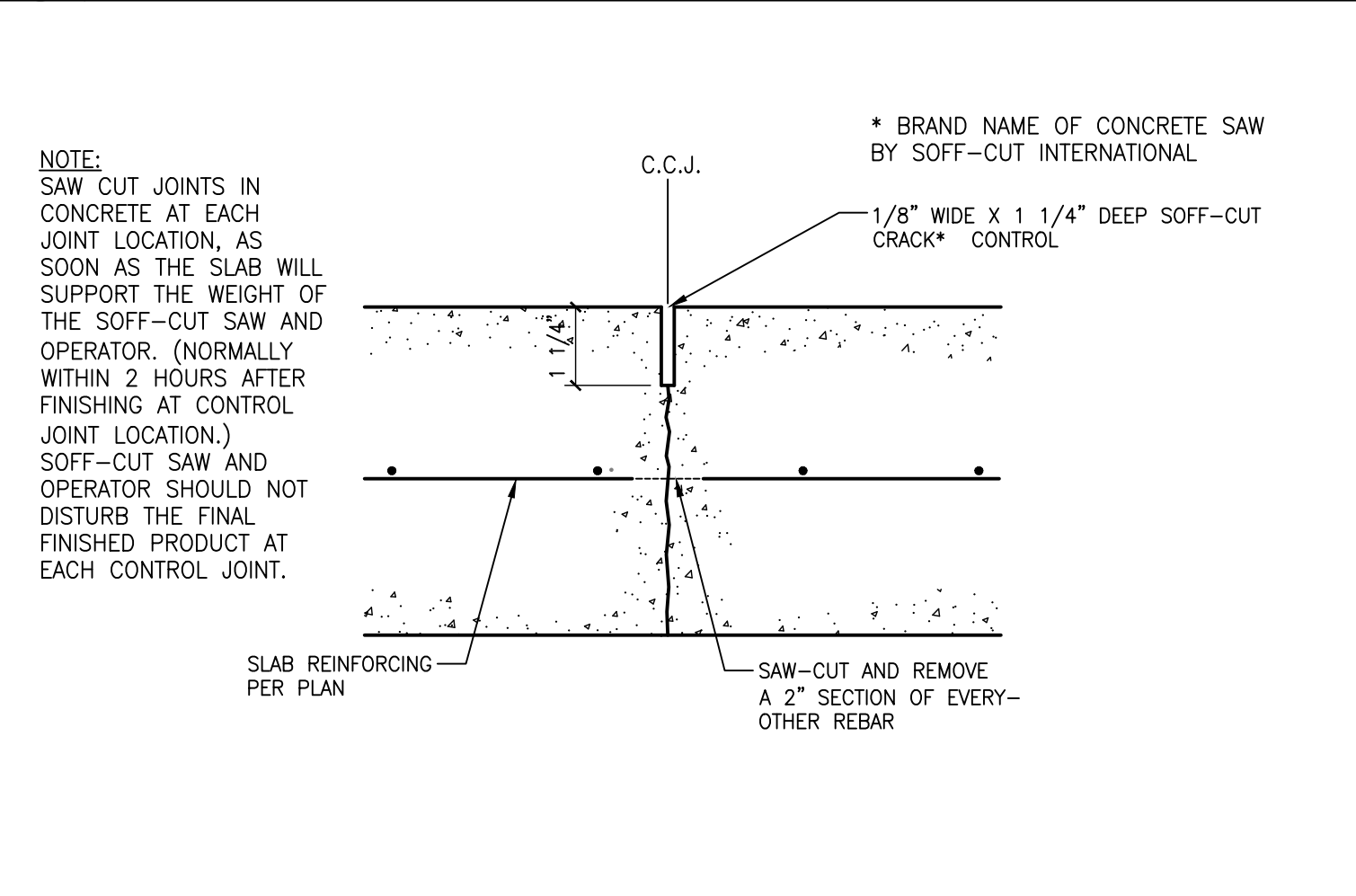
5 DETAIL NOT USED NO SCALE



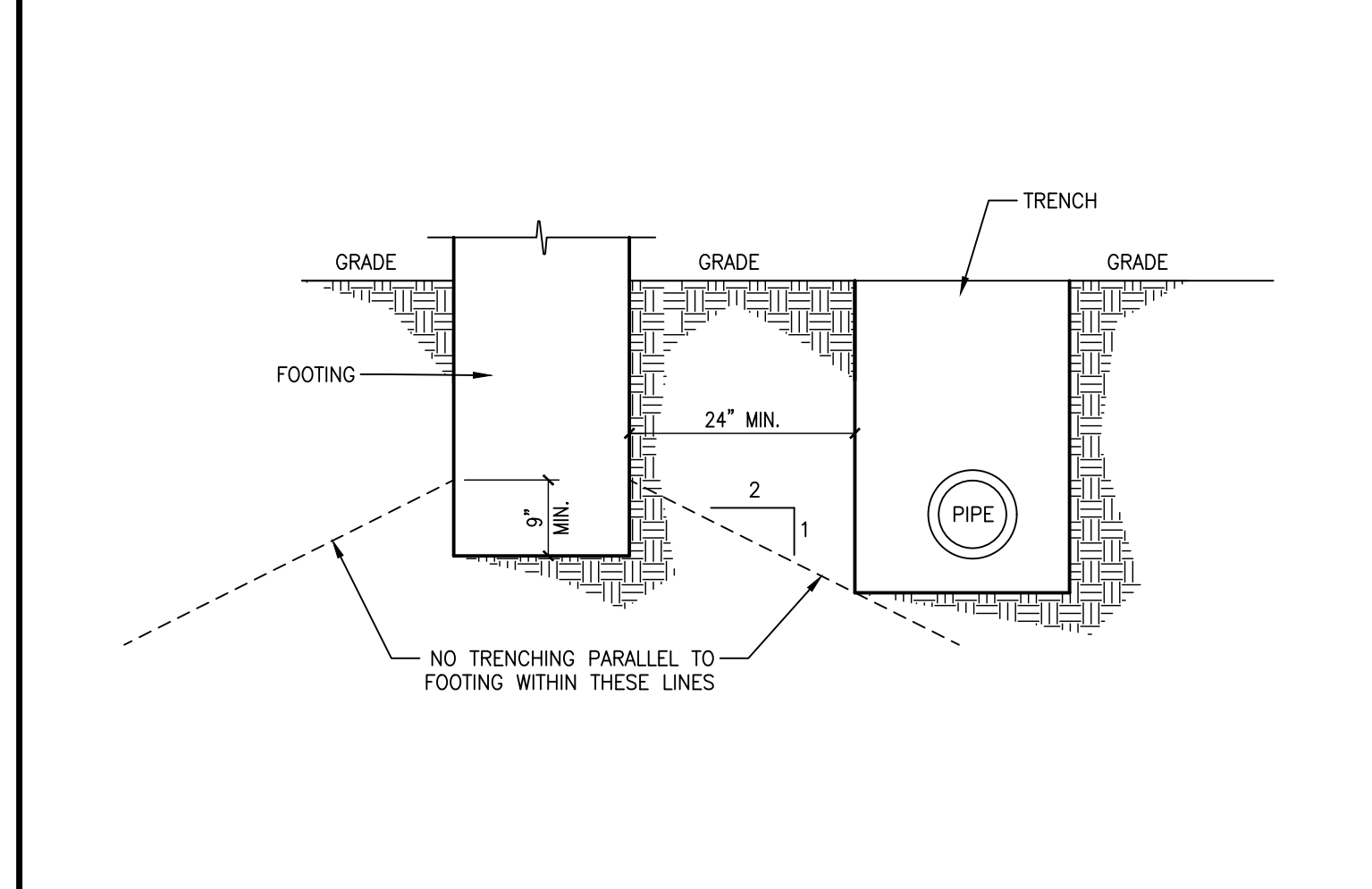
6 TRANSVERSE WEAKENED PLANE JOINT NO SCALE



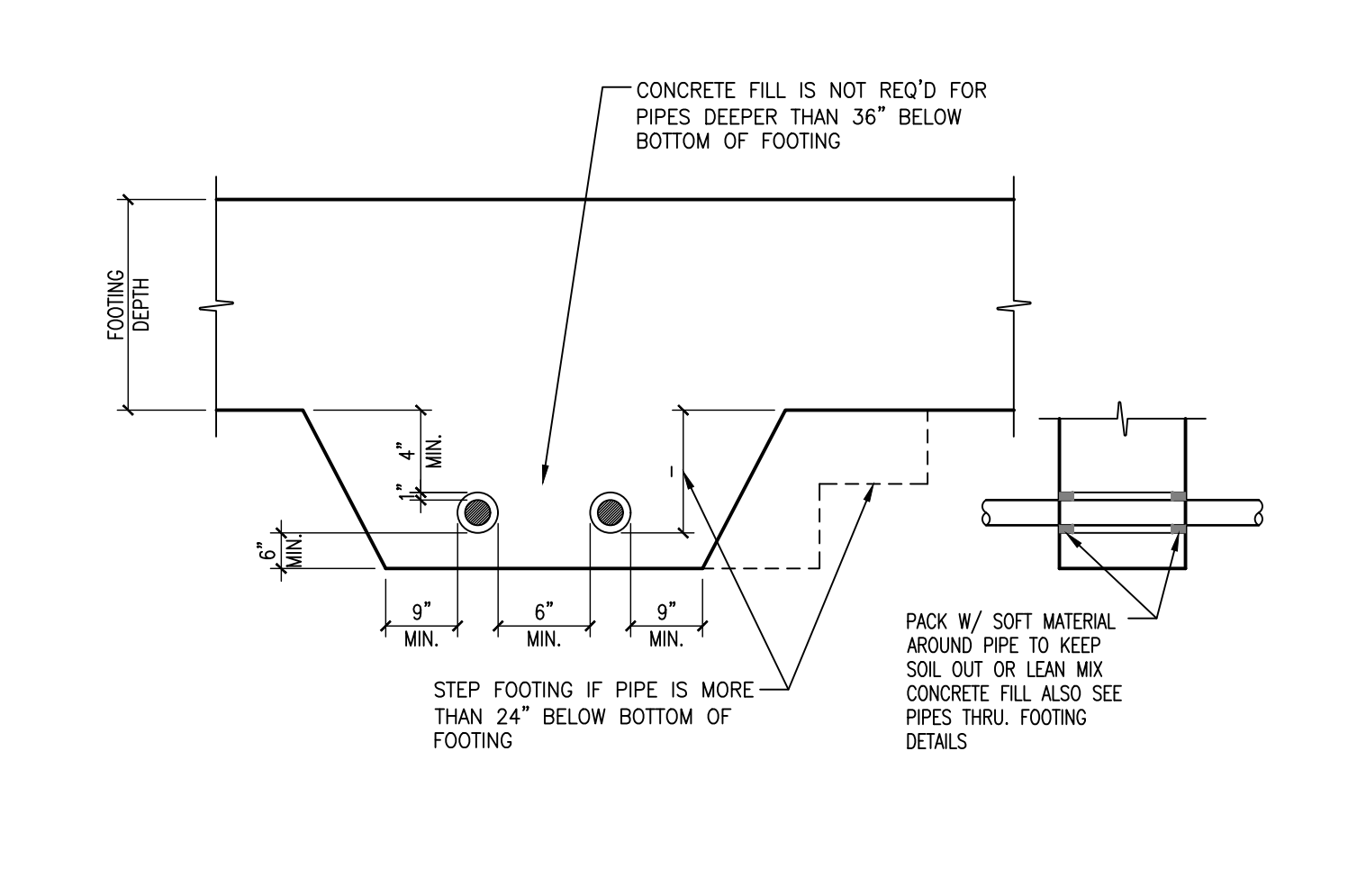
7 CONSTRUCTION JOINT (C.J.) NO SCALE



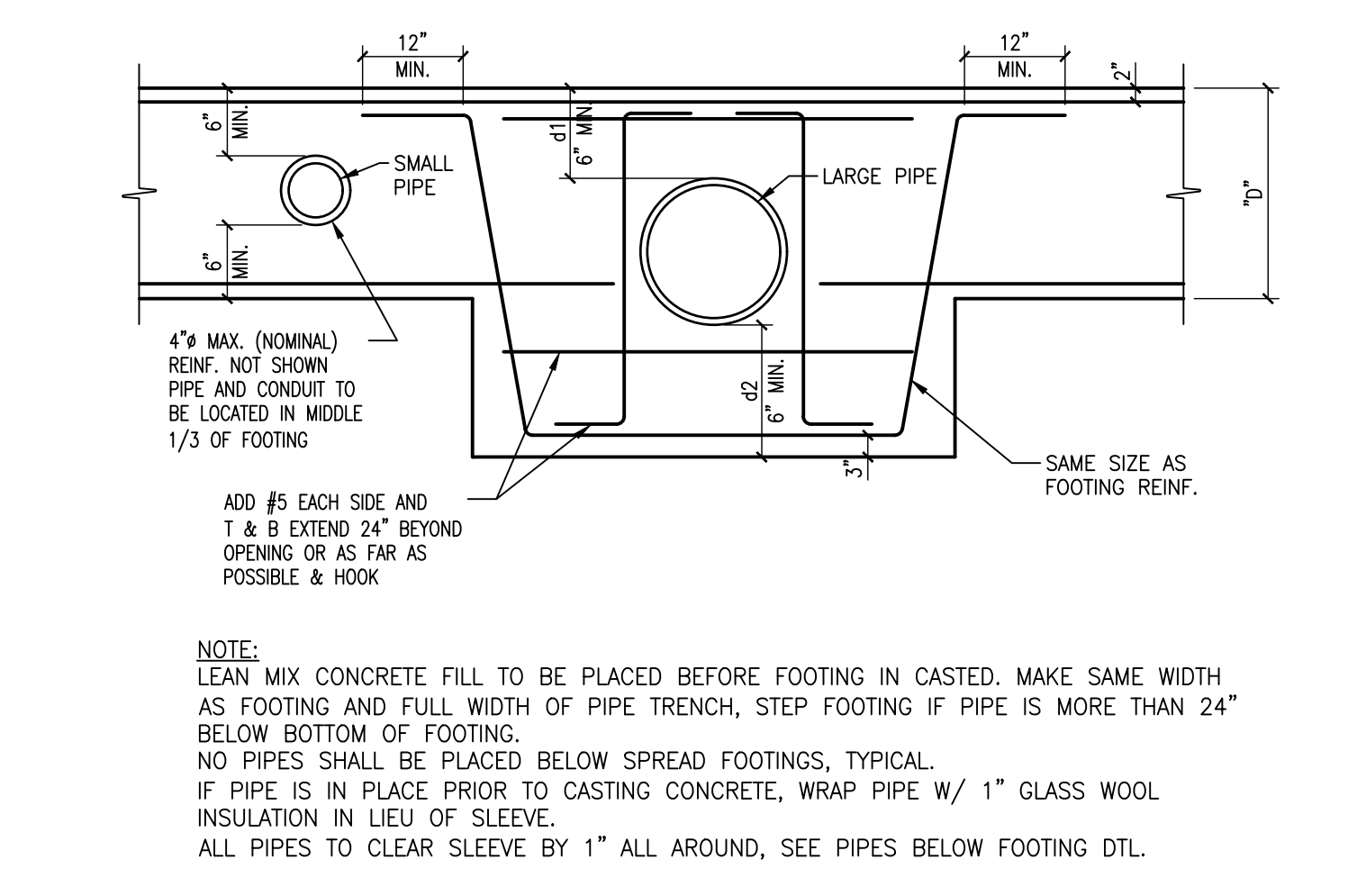
8 CRACK CONTROL JOINT (C.C.J.) NO SCALE



9 TRENCH NEAR FOOTINGS NO SCALE



10 PIPES BELOW FOOTING NO SCALE



11 PIPES THROUGH FOOTING NO SCALE

STEEL (Yield S., psi)	CONCRETE AT 28 DAYS (by compressive strength, psi)					
	f'c = 2500		f'c = 3000		f'c = 4000	
	REINFORCING LOCATION		REINFORCING LOCATION		REINFORCING LOCATION	
Fy = 60000	Top	Other	Top	Other	Top	Other
d _b in	in	in	in	in	in	in
# 3	0.375	21	16	20	16	17
# 4	0.5	42	32	38	29	33
# 5	0.625	51	39	47	37	41
# 6	0.75	62	47	56	43	49
# 7	0.875	90	69	82	63	71
# 8	1	102	78	94	72	81
# 9	1.125	115	89	106	81	91
# 10	1.25	130	101	119	91	103
# 11	1.375	143	111	132	102	114

NOTE:
1. LAP SPLICES SHOWN SHALL CONFORM TO CLASS "B" SPLICES PER ACI 318-14.
2. TOP REINFORCING IS HORIZONTAL REINFORCEMENT THAT HAS MORE THAN TWELVE INCHES OF CONCRETE PLACED BELOW IT.
3. MINIMUM CLEAR SPACING BETWEEN BARS = 2 TIMES BAR DIAMETER, MINIMUM CLEAR COVER = BAR DIAMETER.

12 TYPICAL REBAR SPlice LENGTH NO SCALE

MATERIAL THICKNESS OF THICKER PART JOINED (INCHES)	MINIMUM SIZE OF FILLET WELD * (INCHES)
TO 1/4 INCLUSIVE	1/8
OVER 1/4 TO 1/2	3/16
OVER 1/2 TO 3/4	1/4
OVER 3/4	5/16

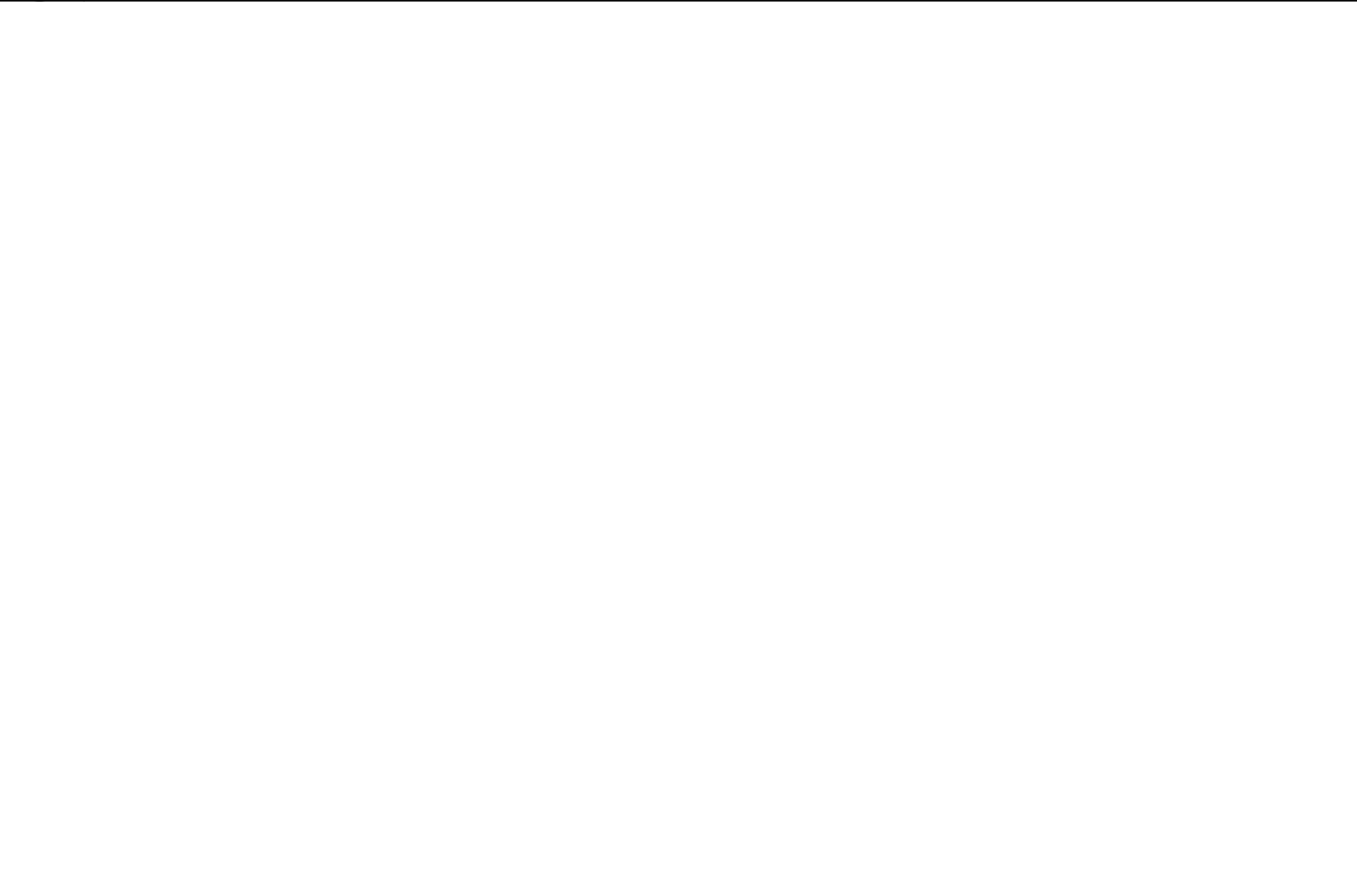
* LEG DIMENSION OF FILLET WELDS, SINGLE-PASS WELDS MUST BE USED.

NOTE:
UNLESS LARGE SIZES ARE SHOWN, THE MINIMUM SIZE OF FILLET WELDS SHALL BE SHOWN IN TABLE J2.4. MINIMUM WELD SIZE IS DEPENDENT UPON THE THICKER OF THE TWO PARTS JOINED, EXCEPT THAT THE WELD SIZE NEED NOT EXCEED THE THICKNESS OF THE THINNER PART. FOR THIS EXCEPTION, PARTICULAR CARE SHALL BE TAKEN TO PROVIDE SUFFICIENT PREHEAT FOR SOUNDNESS OF THE WELD. WELD SIZES LARGER THAN THE THINNER PART JOINED ARE PERMITTED IF REQUIRED BY CALCULATED STRENGTH. IN THE AS-WELDED CONDITION, THE DISTANCE BETWEEN THE EDGE OF THE BASE METAL AND THE TOE OF THE WELD MAY BE LESS THAN 1/16" (INCHES) PROVIDED THE WELD SIZE IS CLEARLY VERIFIABLE.

13 FILLET WELDS NO SCALE



14 DETAIL NOT USED NO SCALE



15 DETAIL NOT USED NO SCALE



16 DETAIL NOT USED NO SCALE

NEW 2-STORY OFFICE BUILDING FOR:
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 690 W. 19th STREET
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 CALIFORNIA
 CITY OF MERCED

ENGINEER

PRELIMINARY

SHEET CONTENTS:
FOUNDATION DETAILS

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: 05/20/2022
Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050

SHEET NUMBER

S2.3

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No.	Date	Description

It is the client's responsibility prior to or during construction to notify the designer in writing of any proposed changes or omissions to the plans and specifications or which a contractor thoroughly investigate with the building codes and methods of construction should be followed. Without notifying engineers, each proposed error or omission shall be noted from the designer prior to the start of construction. The contractor shall be responsible for any delays in construction if these procedures are not followed.

**NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION**
690 W. 19th STREET
A.P.N. 031-054-024

CALIFORNIA

PRELIMINARY

ENGINEER

PRELIMINARY

SHEET CONTENTS:
1st FLOOR SHEAR WALL PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: 05/20/2022
Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050
SHEET NUMBER:

S3.0

FRAMING NOTES:

- 1.) ALL MEMBERS EXPOSED TO WEATHER TO BE REDWOOD OR PRESSURE TREATED PER 2019 CBC
- 2.) ALL HEADERS SHOWN (---) ARE 4x12 D.F. #2 OR 6x12 D.F.#1 FOR 2x6 WALL (U.O.N.)
- 3.) SEE SHEARWALL PLAN FOR VERTICAL HOLDOWN AND HORIZONTAL TIE.
- 4.) HOLDOWNS ARE TO BE PLACED ADJACENT TO WALL ENDS, DOOR AND WINDOW OPENINGS CENTERED ON 4x OR (2)2x STUD U.N.O. ADJACENT TO DOOR AND WINDOW TRIMMER STUDS. VERIFY ACTUAL LOCATIONS WITH THE GENERAL CONTRACTOR.
- 5.) ALL NAILING SHALL BE PER THE 2019 CBC, TABLE 2304.10.1 UNLESS OTHERWISE NOTED.
- 6.) PROVIDE SOLID BLOCKING AT ALL SHEAR WALLS.
- 7.) ALL FRAMING SHALL BE DOUGLAS FIR NO. 2, UNLESS OTHERWISE NOTED.
- 8.) PROVIDE DOUBLE TRIMMERS (OR 4x4 POST) UNDER OPENINGS EXCEEDING 4' FOR ALL BEARING WALLS
- 9.) ALL INTERIOR SHEAR WALL SHALL BE EXTENDED TO ROOF AND NAILED TO ROOF SHEATHING WITH EDGE NAIL UNLESS DRAG TRUSS IS USED (SEE ROOF FRAMING PLAN).
- 10.) PROVIDE DOUBLE STUDS OR 4x POST UNDER ALL GIRDER TRUSSES
- 11.) CONTRACTOR TO PROVIDE TEMPORARY AND PERMANENT BRACING FOR ALL ROOF TRUSSES PER TRUSS MANUFACTURER SPECIFICATIONS
- 12.) ALL SHEATHING TO BE APA RATED STRUCTURAL 1 PLYWOOD
- 13.) USE MST27 AT TOP PLATE SPLICES U.O.N.
- 14.) PROVIDE TEMPORARY BRACING UNTIL ALL SHEAR WALLS AND ROOF SHEATHING ARE IN PLACE.
- 15.) NON-BEARING WALLS: PROVIDE A GAP OF 1/4" PLUS DEFLECTION ON FLOOR/ROOF JOISTS.

SHEAR WALL NOTES:

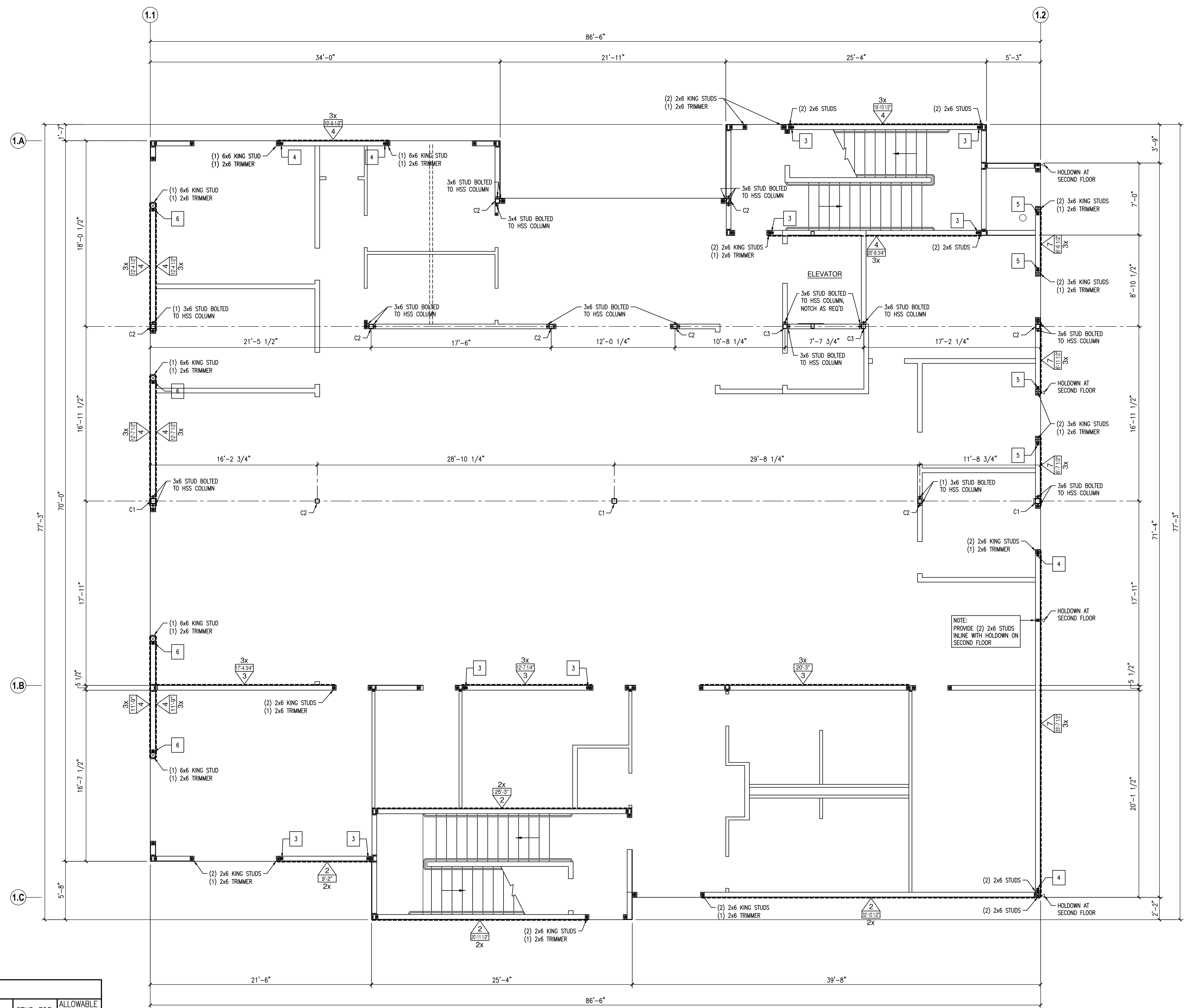
1. ALL FRAMING SHALL BE AT 16" O.C. MAXIMUM.
2. WHERE PLYWOOD IS APPLIED ON BOTH SIDES OF A WALL AND NAIL SPACING IS LESS THAN 6 INCHES ON CENTER ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3 INCH NOMINAL OR THICKER AND NAILS ON EACH SIDE SHALL BE STAGGERED.
3. SHEARWALL PLYWOOD SHALL BE EITHER CDX, CCX, STRUCTURAL 1 OR TYPE 'X' GYPSUM BOARD WHERE INDICATED AND APPLIED DIRECTLY TO FRAMING (ALL EDGES BLOCKED UNLESS OTHERWISE NOTED)
4. ANCHOR BOLTS ARE TO BE 5/8" DIA. x 12" WITH 1/4" THICK X 3" SQ. WASHER EMBEDDED MINIMUM OF 8" INTO CONCRETE FOR 2x SILL PLATE. (5/8" DIA. x 12" LONG FOR 3x SILL PLATE)
5. SIMPSON A35 CLIPS PER MANUFACTURERS SPECIFICATION INSTALLED AT TOP PLATE (AND SILL PLATE FOR RAISED FLOOR) TO BLOCKING BETWEEN THE TRUSSES (OR ROOF RAFTERS) AND FLOOR JOISTS.
6. APPLIES TO NAILING AT ALL STUDS, TOP AND BOTTOM PLATES AND BLOCKING
7. FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER IF ALLOWABLE SHEAR VALUES EXCEED 350 PLF ON SHEAR WALLS
8. ALL INTERIOR SHEAR WALLS TO BE EXTENDED TO ROOF WITH EDGE NAILS TO ROOF SHEATHING
9. IF SIMPSON MAS ARE USED, SPACING LISTED FOR ANCHOR BOLTS SHALL BE TIMES A FACTOR OF 0.8
10. IF DOUBLE PLYWOOD IS USED, SPACING LISTED FOR ANCHOR BOLTS AND A35 SHALL BE TIMES A FACTOR OF 0.5
11. PROVIDE SIMPSON A35 ON 3x STUDS TO CONNECT STUDS TO SILL PLATE
12. USE SIMPSON RFB5x10 WITH SIMP. 'SET' EPOXY FOR RETROFIT ANCHOR BOLTS

SHEAR WALL SCHEDULE

SYMBOL	MATERIALS	NAILS	NAIL SPACING		5/8" DIA. ANCHOR BOLT SPACING	SIMPSON A35 SPACING	SILL PLATE	STUD FOR EDGE NAIL	ALLOWABLE CAPACITY (PLF)
			EDGES	FIELDS					
△	7/8" STUCCO (3 COATS)	16 GA. STAPLE	6" O.C.	6" O.C.	48" O.C.	24" O.C.	2x	2x	180
△	15/32" PLYWOOD STRUCTURAL 1 (or 7/16" OSB) - BLOCKED	8d	6" O.C.	12" O.C.	48" O.C.	24" O.C.	2x	2x	280
△	15/32" PLYWOOD STRUCTURAL 1 (or 7/16" OSB) - BLOCKED	8d	4" O.C.	12" O.C.	32" O.C.	12" O.C.	3x	3x	430
△	15/32" PLYWOOD STRUCTURAL 1 (or 7/16" OSB) - BLOCKED	8d	3" O.C.	12" O.C.	32" O.C.	12" O.C.	3x	3x	550
△	1/2" DRYWALL (UNBLOCKED)	6d COOLER	4" O.C.	4" O.C.	60" O.C.	48" O.C.	2x	2x	125
△	5/8" DRYWALL (UNBLOCKED)	6d COOLER	4" O.C.	4" O.C.	60" O.C.	36" O.C.	2x	2x	145
△	15/32" PLYWOOD STRUCTURAL 1 (or 7/16" OSB) - BLOCKED	8d	2" O.C.	12" O.C.	16" O.C.	8" O.C.	3x	3x	730

TOP PLATE SPLICE NOTE:
1. FIRST FLOOR SHEAR WALL TOP PLATE SPLICE SHALL HAVE MINIMUM (27)-16d COMMON NAILS OR USE A MST60.
2. ROOF DIAPHRAGM SHEAR WALLS ON SECOND FLOOR TOP PLATE SPLICE SHALL HAVE MINIMUM (17)-16d COMMON NAILS OR USE A MST27.

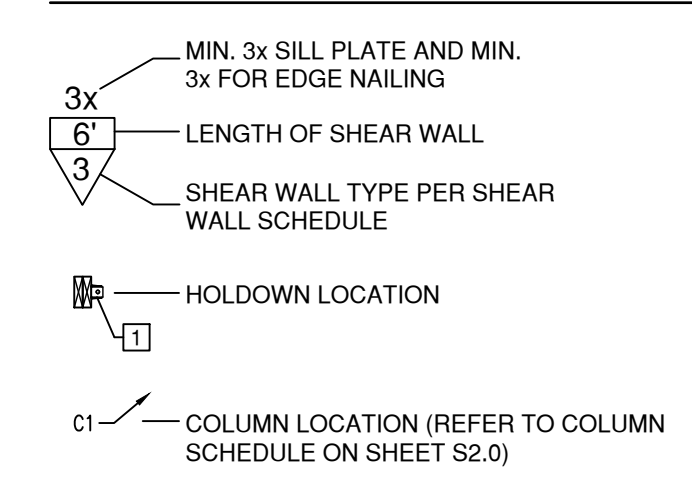
A SHEAR WALL PLAN - FIRST FLOOR



HOLDOWN SCHEDULE

SYMBOL	HOLDOWN TYPE	ALLOWABLE TENSION (LB)
1	SIMPSON MST48 CENTERED ON 4x (OR 2-2x STUDS) w/ (26) 0.162x2 1/2" (N16) FASTENERS.	3210
2	SIMPSON MST72 CENTERED ON 4x (OR 2-2x STUDS) w/ (54) 0.162x2 1/2" (N16) FASTENERS.	6730
3	SIMPSON HU2-SDS2.5 CENTERED ON 4x POST (OR CENTERED ON 2-2x STUDS) w/ SSB16 ANCHOR BOLT w/ (6) SDS SCREWS PER MANUFACTURER.	3075
4	SIMPSON HUS-SDS2.5 CENTERED ON 4x POST (OR CENTERED ON 2-2x STUDS) w/ SSB24 ANCHOR BOLT w/ (14) SDS SCREWS PER MANUFACTURER.	5645
5	SIMPSON HU11-SDS2.5 CENTERED ON 6x POST (OR CENTERED ON 2-3x STUDS) w/ SB130 ANCHOR BOLT w/ (30) SDS SCREWS PER MANUFACTURER.	9535
6	SIMPSON HU14-SDS2.5 CENTERED ON 6x POST (OR CENTERED ON 2-3x STUDS) w/ SB130 ANCHOR BOLT w/ (36) SDS SCREWS PER MANUFACTURER (REQUIRES HEAVY HEX ANCHOR NUT).	14445

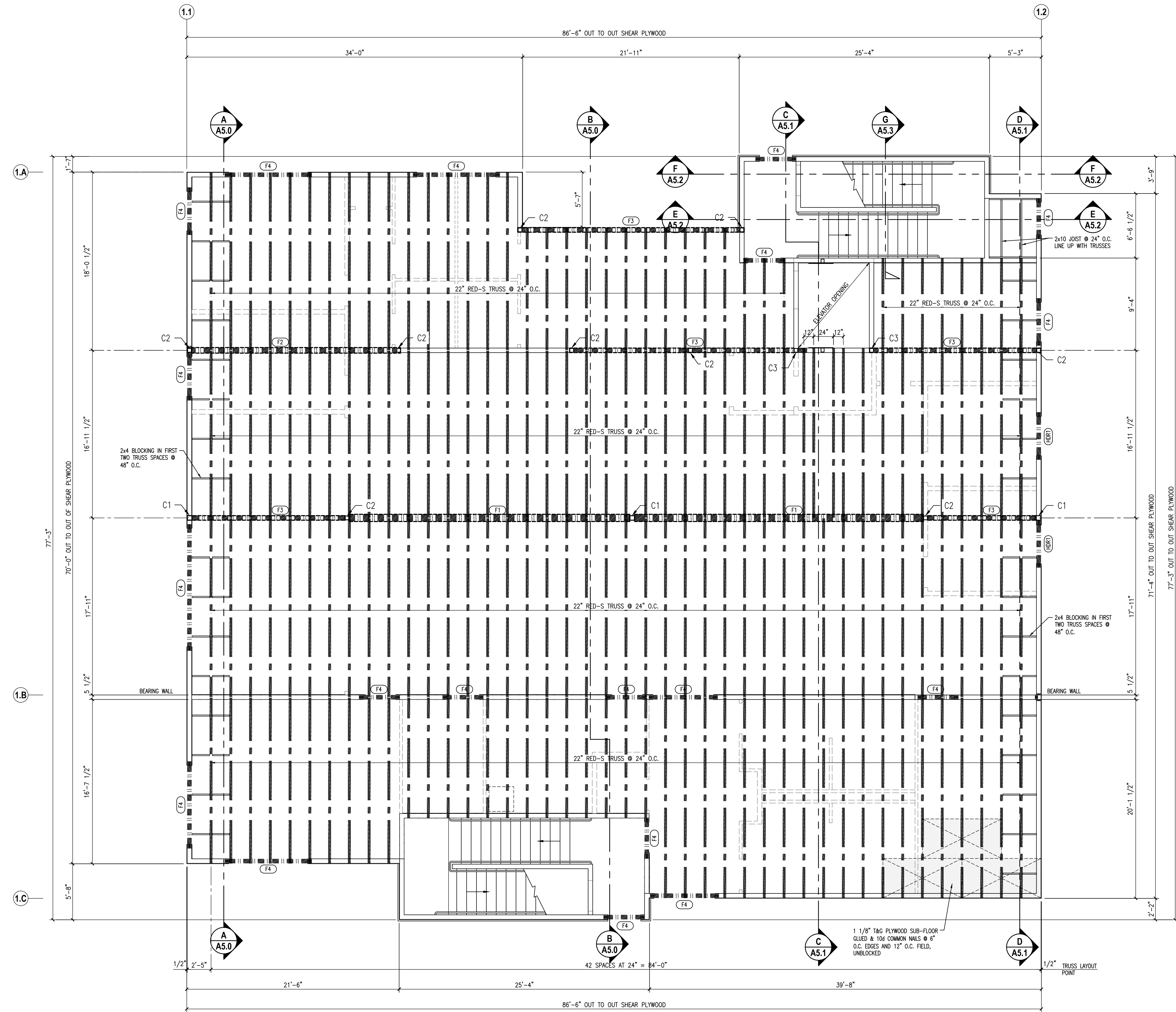
SHEAR WALL SYMBOL LEGEND



SCALE: 3/16"=1'-0"

No.	Date	Description

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BEAM SCHEDULE		
MARK	SIZE	CAMBER
F1	8.75"x30" GLB 24F-V4	0.46"
F2	6.75"x24" GLB 24F-V4	0.31"
F3	5.5"x21" GLB 24F-V4	0.24"
F4	6x12 DF #1	-
R1	8.75"x30" GLB 24F-V4	1.18"
R2	5.5"x15" GLB 24F-V4	0.64"
R3	6x12 DF #1	-

NEW 2-STORY OFFICE BUILDING FOR:
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690 W. 19TH STREET
A.P.N. 031-054-024
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 CITY OF MERCED

ENGINEER
PRELIMINARY

SHEET CONTENTS:
 1st FLOOR FRAMING PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
 3199 M STREET
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 PH: (209) 726-2724

PROJECT DATA:
 Date: 05/20/2022
 Checked By: Jim Xu
 Drawn By: Jim Davis
 Job No.: 22-050
 SHEET NUMBER:

No.	Date	Description

It is the client's responsibility prior to or during construction to verify the designer in writing of any proposed work or changes to the plans and specifications of which is submitted throughly investigate with the building codes and methods of construction should be made to comply. After construction, each proposed error or omission shall be resolved from the designer prior to the start or close construction proceeding with the work. The client will be responsible for any defects in construction if these procedures are not followed.

NEW 2-STORY OFFICE BUILDING FOR:
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A.P.N. 031-054-024

CITY OF MERCED

ENGINEER

PRELIMINARY

SHEET CONTENTS:
ROOF FRAMING PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION

3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

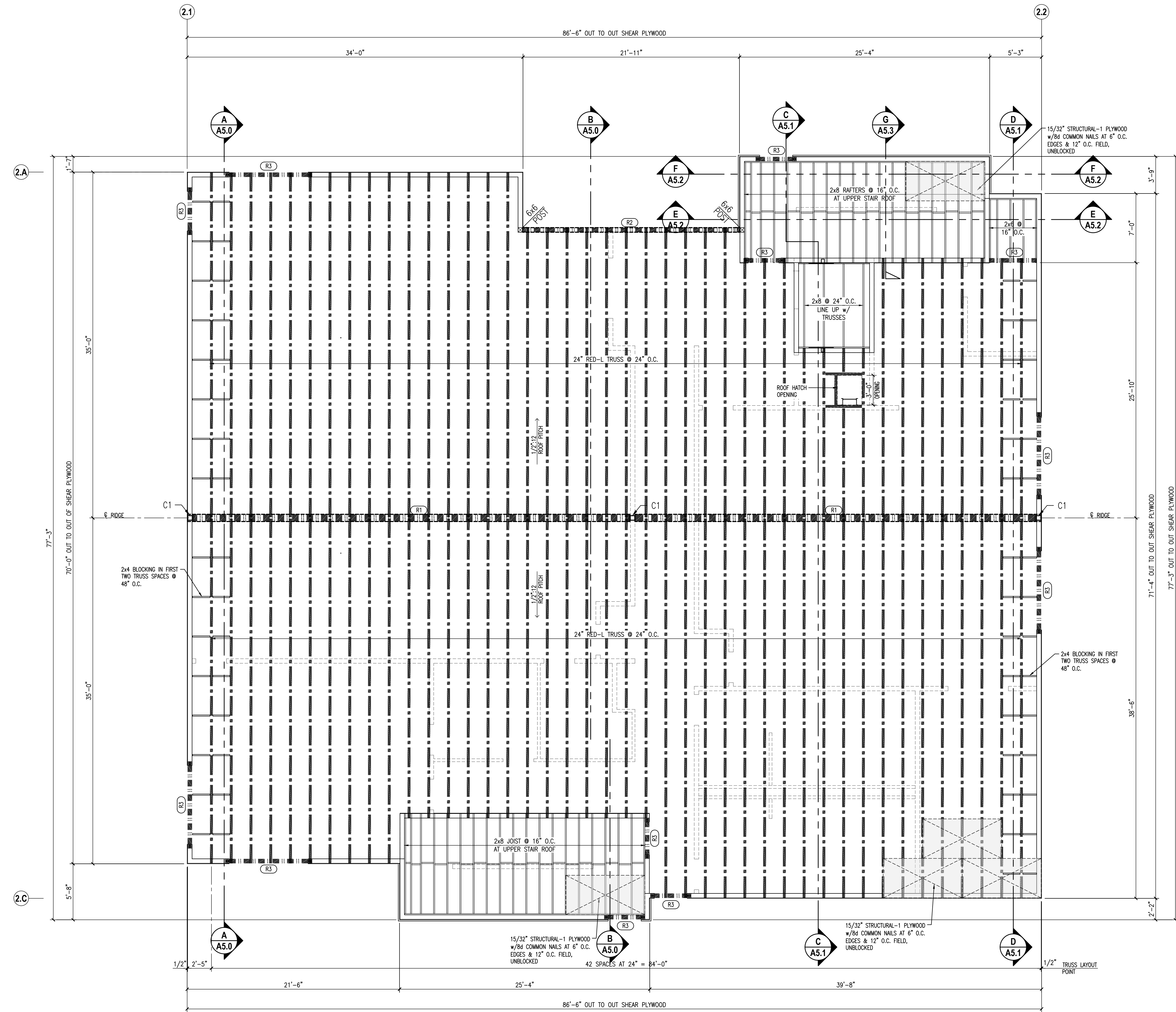
PROJECT DATA:
Date: 05/20/2022

Checked By: Jim Xu

Drawn By: Jim Davis

Job No.: 22-050

SHEET NUMBER:
S4.1



BEAM SCHEDULE		
MARK	SIZE	CAMBER
F1	8.75"x30" GLB 24F-V4	0.46"
F2	6.75"x24" GLB 24F-V4	0.31"
F3	5.5"x21" GLB 24F-V4	0.24"
F4	6x12 DF #1	-
R1	8.75"x30" GLB 24F-V4	1.18"
R2	5.5"x15" GLB 24F-V4	0.64"
R3	6x12 DF #1	-

DUCTWORK NOTES

- ALL WORK TO BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE APPLICABLE SMACNA STANDARDS AND FABRICATION GUIDELINES. ALL METAL DUCTS SHALL BE CONSTRUCTED OF GALVANIZED SHEET METAL PER CALIFORNIA MECHANICAL CODE STANDARDS, UNLESS NOTED OTHERWISE.
- DUCT PRESSURE CLASS SHALL BE MINIMUM 2" W.C. AND SHALL EXCEED THE FAN SYSTEM DESIGN EXTERNAL STATIC PRESSURE WHERE APPLICABLE.
- PROVIDE TURNING VANES ON ALL SQUARE THROAT ELBOWS. RADIUS ELBOWS SHALL HAVE A THROAT RADIUS EQUAL TO OR GREATER THAN THE DUCT WIDTH. (USE SMACNA ELBOW TYPES RE 1 OR RE 2 ONLY, UNLESS NOTED OTHERWISE.)
- DIVIDED FLOW BRANCHES SHALL SPLIT WITH ELBOWS PER NOTE 2. (USE SMACNA TYPE 1, 2, OR 4A/4B UNLESS NOTED OTHERWISE.)
- BRANCH FITTING TAKEOFFS SHALL BE WYES, 45° LEAD IN, OR CONICAL/BELLMOUTH TAPS UNLESS NOTED OTHERWISE. DO NOT USE STRAIGHT TAPS.
- ALL SUPPLY AND RETURN DUCT SHALL BE INSULATED PER T24 THICKNESS AND R-VALUE REQUIREMENTS (CEC 120.4(a)).
 - SUPPLY DUCT: MIN. R-4.2, BUT R-8 WHERE EXPOSED TO EXTERIOR OR UNCONDITIONED SPACE.
 - RETURN DUCT: MIN. R-4.2, BUT R-8 WHERE EXPOSED TO EXTERIOR OR UNCONDITIONED SPACE.
 - EXHAUST DUCT: NO INSULATION EXCEPT AS SHOWN.
- EXTERIOR INSULATION EXPOSED TO WEATHER SHALL BE WEATHERPROOFED AND SHALL BE PAINTED TO MATCH ADJACENT SURFACE.
- PROVIDE DUCT LEAKAGE TEST PER CMC 603.10.1.

MECHANICAL GENERAL NOTES

- SCOPE: A NEW COMPLETE HVAC SYSTEM, INCLUDING MECHANICAL EQUIPMENT & DUCTWORK AS GENERALLY DELINEATED ON THE DRAWINGS. EQUIPMENT SHALL COMPLY WITH TITLE 24 CALIFORNIA CODE OF REGULATIONS.
- CODES: ALL WORK MATERIAL AND EQUIPMENT SHALL BE FURNISHED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND AMENDED BY THE INSPECTING AUTHORITY HAVING JURISDICTION. NOTHING IN THESE PLANS SHALL BE CONSTRUED TO PERMIT THE INSTALLATION OF WORK, MATERIAL OR EQUIPMENT NOT CONFORMING TO THESE OR OTHER CODES APPLICABLE TO THIS PROJECT.
 - 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC) PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
 - 2019 CALIFORNIA BUILDING CODE (CBC) PART 2, TITLE 24, CCR BASED ON THE 2018 INTERNATIONAL BUILDING CODE (IBC)
 - 2019 CALIFORNIA ELECTRICAL CODE (CEC) PART 3, TITLE 24, CCR BASED ON THE 2017 NATIONAL ELECTRICAL CODE (NEC)
 - 2019 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24, CCR BASED ON THE 2018 UNIFORM MECHANICAL CODE (UMC)
 - 2019 CALIFORNIA PLUMBING CODE (CPC) PART 5, TITLE 24, CCR BASED ON THE 2018 UNIFORM PLUMBING CODE (UPC)
 - 2019 CALIFORNIA ENERGY CODE (CEC) PART 6, TITLE 24 CCR
 - 2019 CALIFORNIA FIRE CODE (CFC) PART 9, TITLE 24, CCR BASED ON THE 2018 INTERNATIONAL FIRE CODE (IFC)
 - 2019 CALIFORNIA GREEN BUILDING STANDARDS (CGBC) PART 11, TITLE 24, CCR
- WORKMANSHIP: ALL WORKMANSHIP SHALL BE DONE IN A NEAT AND ORDERLY MANNER ACCORDING TO THE BEST TRADE PRACTICE BY THOSE SKILLED IN THE PARTICULAR TRADE. EQUIPMENT, DUCTS, GRILLES, ETC., SHALL BE PLUMB, LEVEL, SQUARE OR CENTERED ETC., TO GIVE A NEAT AND PLEASING APPEARANCE. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- AVAILABLE POWER: THE MECHANICAL CONTRACTOR SHALL CONFIRM ALL SYSTEMS VOLTAGES BEFORE BIDDING OR ORDERING EQUIPMENT, AND SHALL ALLOW FOR BUCK & BOOST TRANSFORMERS IF REQUIRED.
- AIR BALANCE: THE AIR DISTRIBUTION SYSTEM SHALL BE BALANCED TO DELIVER SPECIFIED AIR QUANTITIES FOLLOWING THE PROCEDURES OF THE LATEST EDITION OF THE SMACNA PUBLICATION PROCEDURAL STANDARDS FOR TESTING ADJUSTING & BALANCING OF ENVIRONMENTAL SYSTEMS. CONTRACTOR SHALL PROVIDE ACCESSIBLE & ADJUSTABLE VOLUME DAMPERS AS REQUIRED TO BALANCE THE SYSTEMS AND MAINTAIN A NOISE CRITERIA LEVEL NOT TO EXCEED 30. THE AIR BALANCE TECHNICIAN SHALL BE RESPONSIBLE TO MODIFY ALL SUPPLY, RETURN, AND EXHAUST FAN SHEAVES & VFD OUTPUT FREQUENCY LIMITS AS APPLICABLE SUCH THAT THE DESIGN AIR FLOWS ARE MET. ALL SUPPLY FANS CONTROLLED FOR FILTER LOADING SHALL SIMILARLY BE MODIFIED TO ENSURE THE FULL RANGE OF MOTOR POWER IS AVAILABLE TO THE CONTROL SYSTEM. RATED MAXIMUM FAN SPEED SHALL NOT BE EXCEEDED.
- PERMITS AND UTILITY SERVICE FEES: CONTRACTOR TO ARRANGE AND PAY FOR ALL PERMITS, INSPECTIONS AND SERVICE CHARGES REQUIRED IN THE INSTALLATION OF THE WORK.
- EXISTING INFORMATION: LOCATION, SIZE, MATERIAL, ETC. OF EXISTING SYSTEMS, ETC., IS PROVIDED FROM SOURCES DEEMED TO BE RELIABLE BUT IS NOT GUARANTEED. CONTRACTOR SHALL FIELD VERIFY ALL DATA BEFORE PROCEEDING WITH ANY WORK. NO EXTRA COST WILL BE ALLOWED FOR CONDITIONS NOT AS SHOWN.
- ACCURACY: PLANS ARE DIAGRAMMATIC. CONTRACTOR SHALL CONFIRM ALL DIMENSIONS AND LOCATIONS OF AC UNITS, EXHAUST FANS, WALLS, PARTITIONS ETC., AGAINST ARCHITECTURAL AND STRUCTURAL DESIGN PLANS FOR LOCATION CONSISTENCY & ACCURACY PRIOR TO COMMENCING WITH ANY WORK.
- PAINTING: PAINT ALL VISIBLE INTERIOR PORTIONS OF TERMINAL DEVICES & CANS WITH FLAT BLACK ENAMEL PAINT.
- SIZES: DUCTWORK SIZES ON PLANS ARE INSIDE NET FREE AREA.
- MECHANICAL EQUIPMENT: ALL EQUIPMENT SHALL BE LISTED BY AN APPROVED TESTING AGENCY AND INSTALLED IN ACCORDANCE WITH ITS INSTALLATION INSTRUCTIONS AND LISTING.

DEMOLITION NOTES

- THE CONTRACTOR SHALL VISIT THE PROJECT SITE AND MAKE HIMSELF AWARE OF ALL EXISTING CONDITIONS WHICH CAN BE OBSERVED. ADDITIONAL COSTS WILL NOT BE ALLOWED FOR CORRECTION OF ITEMS WHICH CAN BE OBSERVED AND THEREFORE SHOULD BE INCLUDED IN HIS BID. THE CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED TO COMPLETE THIS PROPOSED PROJECT.
- THE NOTES AND DRAWINGS CONTAINED ON THIS SHEET DESCRIBE IN A GENERAL SENSE THE EXTENT OF ITEMS TO BE MODIFIED, REMOVED OR INSTALLED. THIS DESCRIPTION DOES NOT NECESSARILY INCLUDE A DESCRIPTION OF ITEMS TO BE REPAIRED OR REFINISHED AS A RESULT OF THIS REMOVAL OR MODIFICATION. IN THE ABSENCE OF ANY SPECIFIC DIRECTION, THE CONTRACTOR SHALL REPAIR THE AFFECTED AREA(S) TO A CONDITION EQUAL TO THE ADJACENT AREA(S) AND/OR SIMILAR EXISTING CONDITIONS ON PROJECT.
- THE CONTRACTOR SHALL PROVIDE DUST AND DEBRIS CONTROL THROUGHOUT THE PROJECT'S CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE BUILDING OWNER TO PROVIDE THE LEAST INTERRUPTION OF EXISTING BUILDING OPERATIONS. COORDINATE WITH THE OWNER THE LOCATION OF ON-SITE STORAGE AND STAGING.
- NOT ALL REQUIRED PATCHING AND/OR REPAIRS ARE SPECIFICALLY NOTED ON THIS PLAN.
- COORDINATE DEMOLITION WORK WITH NEW PROPOSED FLOOR PLANS.
- CONTRACTOR SHALL DISCARD AND DISPOSE OF ALL DEMOLISHED ITEMS.
- EXISTING PIPING AND ELECTRICAL OR COMMUNICATION CONDUITS WHICH INTERFERE WITH THE WORK SHALL BE RE-ROUTED BY THE CONTRACTOR.

SHEET INDEX

SHEET NO.	DESCRIPTION
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M0.1	MECHANICAL - SCHEDULES
M0.2	MECHANICAL - GREEN BUILDING CODE NOTES
M2.1	MECHANICAL - FIRST FLOOR PLAN
M2.2	MECHANICAL - SECOND FLOOR PLAN
M2.3	MECHANICAL - ROOF PLAN

MECHANICAL LEGEND

DESCRIPTION	SYMBOL
SUPPLY AIR DUCT SECTION	SA
RETURN AIR DUCT SECTION	RA
DUCT SIZE NET INSIDE DIMENSION	12x8
EXHAUST AIR DUCT SECTION	EA
SPLITTER DAMPER W/ LOCKING QUADRANT	
FLEXIBLE DUCT CONNECTION	
DUCT DROP/RISE	
DOOR LOUVER	
AIR EXTRACTOR	
ACCESS DOOR - A.D.	
VOLUME DAMPER W/ LOCKING QUADRANT	
AUTO MOTORIZED CONTROLLED DAMPER	
FIRE DAMPER / CEILING FIRE DAMPER	
MOTORIZED FIRE / SMOKE DAMPER	
1ST LETTER - LOCATION	C-CEILING W-WALL F-FLOOR
2ND LETTER - SERVICE	S-SUPPLY R-RETURN E-EXHAUST
NUMBER	5-SEE SCH FOR TYPE
300 CFM = CUBIC FEET PER MINUTE 12 X 12 = NECK SIZE	
SMOKE DETECTOR	SD
DUCT WITH ACOUSTICAL LINING	
TO BE REMOVED	
THERMOSTAT	
CONDENSATE DRAIN LINE	CD
2-WAY CONTROL VALVE	
3-WAY CONTROL VALVE	
BALANCE VALVE	
BUTTERFLY VALVE	
CHECK VALVE	
FLEXIBLE COUPLING	
GLOBE VALVE	
MANUAL AIR VENT - MAV	
PETES PLUG	
PRESSURE GAUGE	
PRESSURE REDUCING VALVE - PRV	
REDUCER	
SHUT OFF COCK	
SHUT OFF VALVE	
STRAINER	
THERMOMETER	
UNION	
CHILLED WATER SUPPLY	CHWS
CHILLED WATER RETURN	CHWR
COOLING TOWER MAKE-UP (WATER)	CT MU
CONDENSER WATER SUPPLY	CWS
CONDENSER WATER RETURN	CWR
HEATING HOT WATER SUPPLY	HHWS
HEATING HOT WATER RETURN	HHWR
HIGH PRESSURE STEAM	HPS
LOW PRESSURE STEAM	LPS
STEAM CONDENSATE RETURN	SCR
INDUSTRIAL COLD WATER	ICW
ABOVE FINISHED FLOOR	A.F.F.
ACCESS DOOR / ACCESS PANEL	A.D. / A.P.
ANALOG INPUT / ANALOG OUTPUT	AI / AO
AUTOMATIC AIR VENT	AAV
CUBIC FEET PER HOUR (1000 BTU)	CFH
CUBIC FEET PER MINUTE	CFM
DIFFERENTIAL PRESSURE TRANSDUCER	DPT
DIGITAL INPUT / DIGITAL OUTPUT	DI / DO
EXISTING	(E)
FLOW SWITCH	FS
GALLONS PER MINUTE	GPM
GALVANIZED SHEET METAL	GSM
THOUSANDS OF BTU'S PER HOUR	MBH
NEW	(N)
NOT IN MECHANICAL CONTRACT	N.I.M.C.
OUTSIDE AIR	OSA
POINT OF CONNECTION	P.O.C.
REFRIGERANT LIQUID / REFRIGERANT SUCTION	RL / RS
TEMPERATURE CONTROL PANEL	TCP
WELL TEMPERATURE SENSOR	WTS

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No. Date Description

No.	Date	Description

It is the client's responsibility prior to or during construction to notify the designer in writing of any measurement or condition of the site and equipment of which the contractor throughly knowledgeable with the building codes and methods of construction should reasonably be aware. Without notifying concerning such potential errors or omissions, shall be retained from the designer prior to the start of client's construction proceeding with the work. The client will be responsible for any delays in construction if these provisions are not followed.

NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024
 CALIFORNIA
 CITY OF MERCED

ENGINEER

SHEET CONTENTS:

MECHANICAL-
LEGEND & NOTES

PREPARED FOR:

**MERCED COUNTY EMPLOYEE'S
RETIREMENT ASSOCIATION**
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:

Date:

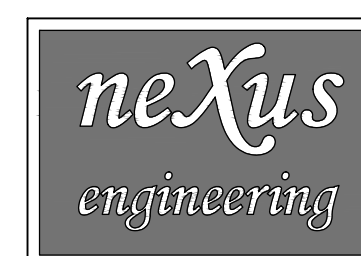
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No.	Date	Description

It is the client's responsibility prior to or during construction to notify the designer in writing of any proposed changes or additions to the plans and specifications of which the contractor through cooperation with the building codes and methods of construction should be notified by the client. After the contractor has received approval from the client, the client is responsible for any delays in construction if these provisions are not followed.

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SHEET CONTENTS:
MECHANICAL-
GREEN BUILDING CODE
NOTES

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RETIREMENT ASSOCIATION**
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PROJECT DATA:
Date:
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SHEET NUMBER:
M0.2

MECHANICAL GREEN BUILDING CODE NOTES

REQUIRED

SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS

5.410.1 RECYCLING BY OCCUPANTS. PROVIDE READILY ACCESSIBLE AREAS THAT SERVE THE ENTIRE BUILDING AND ARE IDENTIFIED FOR THE DEPOSITING, STORAGE AND COLLECTION OF NON-HAZARDOUS MATERIALS FOR RECYCLING, INCLUDING (AT A MINIMUM) PAPER, CORRUGATED CARDBOARD, GLASS, PLASTICS, ORGANIC WASTE, AND METALS OR MEET A LAWFULLY ENACTED LOCAL RECYCLING ORDINANCE, IF MORE RESTRICTIVE.

EXCEPTION: RURAL JURISDICTIONS THAT MEET AND APPLY FOR THE EXEMPTION IN PUBLIC RESOURCES CODE 42849.02 (A)(2)(A) ET SEQ. SHALL ALSO BE EXEMPT FROM THE ORGANIC WASTE PORTION OF THIS SECTION.

5.410.1.1 ADDITIONS. ALL ADDITIONS CONDUCTED WITHIN A 12-MONTH PERIOD UNDER SINGLE OR MULTIPLE PERMITS, RESULTING IN AN INCREASE OF 30% OR MORE IN FLOOR AREA, SHALL PROVIDE RECYCLING AREAS ON SITE.

EXCEPTION: ADDITIONS WITHIN A TENANT SPACE RESULTING IN LESS THAN A 30% INCREASE IN THE TENANT SPACE FLOOR AREA.

5.410.1.2 SAMPLE ORDINANCE. SPACE ALLOCATION FOR RECYCLING AREAS SHALL COMPLY WITH CHAPTER 18, PART 3, DIVISION 30 OF THE PUBLIC RESOURCES CODE. CHAPTER 18 IS KNOWN AS THE CALIFORNIA SOLID WASTE REUSE AND RECYCLING ACCESS ACT OF 1991 (ACT).

NOTE: A SAMPLE ORDINANCE FOR USE BY LOCAL AGENCIES MAY BE FOUND IN APPENDIX A OF THE DOCUMENT AT THE CALRECYCLE'S WEB SITE.

5.410.2 COMMISSIONING. [N] FOR NEW BUILDINGS 10,000 SQUARE FEET AND OVER, BUILDING COMMISSIONING SHALL BE INCLUDED IN THE DESIGN AND CONSTRUCTION PROCESSES OF THE BUILDING PROJECT TO VERIFY THAT THE BUILDING SYSTEMS AND COMPONENTS MEET THE OWNER'S OR OWNER REPRESENTATIVE'S PROJECT REQUIREMENTS. COMMISSIONING SHALL BE PERFORMED IN ACCORDANCE WITH THIS SECTION BY TRAINED PERSONNEL WITH EXPERIENCE ON PROJECTS OF COMPARABLE SIZE AND COMPLEXITY. ALL OCCUPANCIES OTHER THAN I-OCCUPANCIES AND L-OCCUPANCIES SHALL COMPLY WITH THE CALIFORNIA ENERGY CODE AS PRESCRIBED IN CALIFORNIA ENERGY CODE SECTION 120.8. FOR I-OCCUPANCIES THAT ARE NOT REGULATED BY OSHPD OR FOR I-OCCUPANCIES AND L-OCCUPANCIES THAT ARE NOT REGULATED BY THE CALIFORNIA ENERGY CODE SECTION 100.0 SCOPE, ALL REQUIREMENTS IN SECTIONS 5.410.2 THROUGH 5.410.2.6 SHALL APPLY.

COMMISSIONING REQUIREMENTS SHALL INCLUDE:

1. OWNER'S OR OWNER REPRESENTATIVE'S PROJECT REQUIREMENTS.
2. BASIS OF DESIGN.
3. COMMISSIONING MEASURES SHOWN IN THE CONSTRUCTION DOCUMENTS.
4. COMMISSIONING PLAN.
5. FUNCTIONAL PERFORMANCE TESTING.
6. DOCUMENTATION AND TRAINING.
7. COMMISSIONING REPORT.

EXCEPTIONS:

1. UNCONDITIONED WAREHOUSES OF ANY SIZE.
2. AREAS LESS THAN 10,000 SQUARE FEET USED FOR OFFICES OR OTHER CONDITIONED ACCESSORY SPACES WITHIN UNCONDITIONED WAREHOUSES.
3. TENANT IMPROVEMENTS LESS THAN 10,000 SQUARE FEET AS DESCRIBED IN SECTION 303.1.1.
4. OPEN PARKING GARAGES OF ANY SIZE, OR OPEN PARKING GARAGE AREAS, OF ANY SIZE, WITHIN A STRUCTURE.

NOTE: FOR THE PURPOSES OF THIS SECTION, UNCONDITIONED SHALL MEAN A BUILDING, AREA, OR ROOM WHICH DOES NOT PROVIDE HEATING AND/OR AIR CONDITIONING.

INFORMATIONAL NOTES:

1. IAS AC 476 IS AN ACCREDITATION CRITERIA FOR ORGANIZATIONS PROVIDING TRAINING AND/OR CERTIFICATION OF COMMISSIONING PERSONNEL. AC 476 IS AVAILABLE TO THE AUTHORITY HAVING JURISDICTION AS A REFERENCE FOR QUALIFICATIONS OF COMMISSIONING PERSONNEL. AC 476 DOES NOT CERTIFY INDIVIDUALS TO CONDUCT FUNCTIONAL PERFORMANCE TESTS OR TO ADJUST AND BALANCE SYSTEMS.
2. FUNCTIONAL PERFORMANCE TESTING FOR HEATING, VENTILATION, AIR CONDITIONING SYSTEMS AND LIGHTING CONTROLS MUST BE PERFORMED IN COMPLIANCE WITH THE CALIFORNIA ENERGY CODE.

5.410.2.1 OWNER'S OR OWNER REPRESENTATIVE'S PROJECT REQUIREMENTS (OPR). [N] THE EXPECTATIONS AND REQUIREMENTS OF THE BUILDING APPROPRIATE TO ITS PHASE SHALL BE DOCUMENTED BEFORE THE DESIGN PHASE OF THE PROJECT BEGINS. THIS DOCUMENTATION SHALL INCLUDE THE FOLLOWING:

1. ENVIRONMENTAL AND SUSTAINABILITY GOALS.
2. ENERGY EFFICIENCY GOALS.
3. INDOOR ENVIRONMENTAL QUALITY REQUIREMENTS.
4. PROJECT PROGRAM, INCLUDING FACILITY FUNCTIONS AND HOURS OF OPERATION, AND NEED FOR AFTER HOURS OPERATION.
5. EQUIPMENT AND SYSTEMS EXPECTATIONS.
6. BUILDING OCCUPANT AND OPERATION AND MAINTENANCE (O&M) PERSONNEL EXPECTATIONS.

5.410.2.2 BASIS OF DESIGN (BOD). [N] A WRITTEN EXPLANATION OF HOW THE DESIGN OF THE BUILDING SYSTEMS MEETS THE OPR SHALL BE COMPLETED AT THE DESIGN PHASE OF THE BUILDING PROJECT. THE BASIS OF DESIGN DOCUMENT SHALL COVER THE FOLLOWING SYSTEMS:

1. HEATING, VENTILATION, AIR CONDITIONING (HVAC) SYSTEMS AND CONTROLS.
2. INDOOR LIGHTING SYSTEM AND CONTROLS.
3. WATER HEATING SYSTEM.
4. RENEWABLE ENERGY SYSTEMS.
6. WATER REUSE SYSTEMS.

5.410.2.3 COMMISSIONING PLAN. [N] PRIOR TO PERMIT ISSUANCE A COMMISSIONING PLAN SHALL BE COMPLETED TO DOCUMENT HOW THE PROJECT WILL BE COMMISSIONED. THE COMMISSIONING PLAN SHALL INCLUDE THE FOLLOWING:

1. GENERAL PROJECT INFORMATION.
2. COMMISSIONING GOALS.
3. SYSTEMS TO BE COMMISSIONED. PLANS TO TEST SYSTEMS AND COMPONENTS SHALL INCLUDE:
 - A. AN EXPLANATION OF THE ORIGINAL DESIGN INTENT.
 - B. EQUIPMENT AND SYSTEMS TO BE TESTED, INCLUDING THE EXTENT OF TESTS.
 - C. FUNCTIONS TO BE TESTED.
 - D. CONDITIONS UNDER WHICH THE TEST SHALL BE PERFORMED.
 - E. MEASURABLE CRITERIA FOR ACCEPTABLE PERFORMANCE.
4. COMMISSIONING TEAM INFORMATION.
5. COMMISSIONING PROCESS ACTIVITIES, SCHEDULES AND RESPONSIBILITIES. PLANS FOR THE COMPLETION OF COMMISSIONING SHALL BE INCLUDED.

5.410.2.4 FUNCTIONAL PERFORMANCE TESTING. [N] FUNCTIONAL PERFORMANCE TESTS SHALL DEMONSTRATE THE CORRECT INSTALLATION AND OPERATION OF EACH COMPONENT, SYSTEM AND SYSTEM-TO-SYSTEM INTERFACE IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. FUNCTIONAL PERFORMANCE TESTING REPORTS SHALL CONTAIN INFORMATION ADDRESSING EACH OF THE BUILDING COMPONENTS TESTED, THE TESTING METHODS UTILIZED, AND INCLUDE ANY READINGS AND ADJUSTMENTS MADE.

REQUIRED

5.410.2.5 DOCUMENTATION AND TRAINING. [N] A SYSTEMS MANUAL AND SYSTEMS OPERATIONS TRAINING ARE REQUIRED, INCLUDING OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) REQUIREMENTS IN CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 8, SECTION 5142, AND OTHER RELATED REGULATIONS.

5.410.2.5.1 SYSTEMS MANUAL. [N] DOCUMENTATION OF THE OPERATIONAL ASPECTS OF THE BUILDING SHALL BE COMPLETED WITHIN THE SYSTEMS MANUAL AND DELIVERED TO THE BUILDING OWNER OR REPRESENTATIVE. THE SYSTEMS MANUAL SHALL INCLUDE THE FOLLOWING:

1. SITE INFORMATION, INCLUDING FACILITY DESCRIPTION, HISTORY AND CURRENT REQUIREMENTS.
2. SITE CONTACT INFORMATION.
3. BASIC OPERATIONS AND MAINTENANCE, INCLUDING GENERAL SITE OPERATING PROCEDURES, BASIC TROUBLESHOOTING, RECOMMENDED MAINTENANCE REQUIREMENTS, SITE EVENTS LOG.
4. MAJOR SYSTEMS.
5. SITE EQUIPMENT INVENTORY AND MAINTENANCE NOTES.
6. A COPY OF VERIFICATIONS REQUIRED BY THE ENFORCING AGENCY OR THIS CODE.
7. OTHER RESOURCES AND DOCUMENTATION, IF APPLICABLE.

5.410.2.5.2 SYSTEMS OPERATIONS TRAINING. [N] A PROGRAM FOR TRAINING OF THE APPROPRIATE MAINTENANCE STAFF FOR EACH EQUIPMENT TYPE AND/OR SYSTEM SHALL BE DEVELOPED AND DOCUMENTED IN THE COMMISSIONING REPORT AND SHALL INCLUDE THE FOLLOWING:

1. SYSTEMEQUIPMENT OVERVIEW (WHAT IT IS, WHAT IT DOES AND WITH WHAT OTHER SYSTEMS AND/OR EQUIPMENT IT INTERFACES).
2. REVIEW AND DEMONSTRATION OF SERVICING/PREVENTIVE MAINTENANCE.
3. REVIEW OF THE INFORMATION IN THE SYSTEMS MANUAL.
4. REVIEW OF THE RECORD DRAWINGS ON THE SYSTEMEQUIPMENT.

5.410.2.6 COMMISSIONING REPORT. [N] A REPORT OF COMMISSIONING PROCESS ACTIVITIES UNDERTAKEN THROUGH THE DESIGN AND CONSTRUCTION PHASES OF THE BUILDING PROJECT SHALL BE COMPLETED AND PROVIDED TO THE OWNER OR REPRESENTATIVE.

5.410.4 TESTING AND ADJUSTING. TESTING AND ADJUSTING OF SYSTEMS SHALL BE REQUIRED FOR BUILDINGS LESS THAN 10,000 SQUARE FEET OR NEW SYSTEMS TO SERVE AN ADDITION OR ALTERATION SUBJECT TO SECTION 303.1.

5.410.4.2 SYSTEMS. DEVELOP A WRITTEN PLAN OF PROCEDURES FOR TESTING AND ADJUSTING SYSTEMS. SYSTEMS TO BE INCLUDED FOR TESTING AND ADJUSTING SHALL INCLUDE AT A MINIMUM, AS APPLICABLE TO THE PROJECT:

1. HVAC SYSTEMS AND CONTROLS.
2. INDOOR AND OUTDOOR LIGHTING AND CONTROLS.
3. WATER HEATING SYSTEMS.
4. RENEWABLE ENERGY SYSTEMS.
5. LANDSCAPE IRRIGATION SYSTEMS.
6. WATER REUSE SYSTEMS.

5.410.4.3 PROCEDURES. PERFORM TESTING AND ADJUSTING PROCEDURES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND APPLICABLE STANDARDS ON EACH SYSTEM.

5.410.4.3.1 HVAC BALANCING. IN ADDITION TO TESTING AND ADJUSTING, BEFORE A NEW SPACE-CONDITIONING SYSTEM SERVING A BUILDING OR SPACE IS OPERATED FOR NORMAL USE, THE SYSTEM SHALL BE BALANCED IN ACCORDANCE WITH THE PROCEDURES DEFINED BY THE TESTING ADJUSTING AND BALANCING BUREAU NATIONAL STANDARDS; THE NATIONAL ENVIRONMENTAL BALANCING BUREAU PROCEDURAL STANDARDS; ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS OR AS APPROVED BY THE ENFORCING AGENCY.

5.410.4.4 REPORTING. AFTER COMPLETION OF TESTING, ADJUSTING AND BALANCING, PROVIDE A FINAL REPORT OF TESTING SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.

5.410.4.5 OPERATION AND MAINTENANCE (O & M) MANUAL. PROVIDE THE BUILDING OWNER OR REPRESENTATIVE WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF WARRANTIES/WARRANTIES FOR EACH SYSTEM. O & M INSTRUCTIONS SHALL BE CONSISTENT WITH OSHA REQUIREMENTS IN CCR, TITLE 8, SECTION 5142, AND OTHER RELATED REGULATIONS.

5.410.4.5.1 INSPECTIONS AND REPORTS. INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS AND REPORTS REQUIRED BY THE ENFORCING AGENCY.

DIVISION 5.5 ENVIRONMENTAL QUALITY

SECTION 5.501 GENERAL

5.501.1 SCOPE. THE PROVISIONS OF THIS CHAPTER SHALL OUTLINE MEANS OF REDUCING THE QUANTITY OF AIR CONTAMINANTS THAT ARE ODOROUS, IRRITATING, AND/OR HARMFUL TO THE COMFORT AND WELL-BEING OF A BUILDING'S INSTALLERS, OCCUPANTS AND NEIGHBORS.

SECTION 5.502 DEFINITIONS

5.502.1 DEFINITIONS. THE FOLLOWING TERMS ARE DEFINED IN CHAPTER 2 (AND ARE INCLUDED HERE FOR REFERENCE)

ARTERIAL HIGHWAY. A GENERAL TERM DENOTING A HIGHWAY PRIMARILY FOR THROUGH TRAFFIC USUALLY ON A CONTINUOUS ROUTE.

A-WEIGHTED SOUND LEVEL (DBA). THE SOUND PRESSURE LEVEL IN DECIBELS AS MEASURED ON A SOUND LEVEL METER USING THE INTERNATIONALLY STANDARDIZED A-WEIGHTING FILTER OR AS COMPUTED FROM SOUND SPECTRAL DATA TO WHICH A-WEIGHTING ADJUSTMENTS HAVE BEEN MADE.

1 BTU/HOUR. BRITISH THERMAL UNITS PER HOUR. ALSO REFERRED TO AS BTU. THE AMOUNT OF HEAT REQUIRED TO RAISE ONE POUND OF WATER ONE DEGREE FAHRENHEIT PER HOUR. A COMMON MEASURE OF HEAT TRANSFER RATE. A TON OF REFRIGERATION IS 12,000 BTU. THE AMOUNT OF HEAT REQUIRED TO MELT A TON (2,000 POUNDS) OF ICE AT 32° FAHRENHEIT.

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). A METRIC SIMILAR TO THE DAY-NIGHT AVERAGE SOUND LEVEL (LDN), EXCEPT THAT A 5 DECIBEL ADJUSTMENT IS ADDED TO THE EQUIVALENT CONTINUOUS SOUND EXPOSURE LEVEL FOR EVENING HOURS (7PM TO 10PM) IN ADDITION TO THE 10 DB NIGHTTIME ADJUSTMENT USED IN THE LDN.

COMPOSITE WOOD PRODUCTS. COMPOSITE WOOD PRODUCTS INCLUDE HARDWOOD PLYWOOD, PARTICLEBOARD AND MEDIUM DENSITY FIBERBOARD. "COMPOSITE WOOD PRODUCTS" DOES NOT INCLUDE HARDBOARD, STRUCTURAL PLYWOOD, STRUCTURAL PANELS, STRUCTURAL COMPOSITE LUMBER, ORIENTED STRAND BOARD, GLUED LAMINATED TIMBER, TIMBER, PREFABRICATED WOOD JOISTS OR FINGER-JOINTED LUMBER, ALL AS SPECIFIED IN CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 17, SECTION 93120.1(A).

NOTE: SEE CCR, TITLE 17, SECTION 93120.1.

DAY-NIGHT AVERAGE SOUND LEVEL (LDN). THE A-WEIGHTED EQUIVALENT CONTINUOUS SOUND EXPOSURE LEVEL FOR A 24-HOUR PERIOD WITH A 10 DB ADJUSTMENT ADDED TO SOUND LEVELS OCCURRING DURING NIGHTTIME HOURS (10P.M. TO 7 A.M.).

DECIBEL (DB). A MEASURE ON A LOGARITHMIC SCALE OF THE MAGNITUDE OF A PARTICULAR QUANTITY (SUCH AS SOUND PRESSURE, SOUND POWER, SOUND INTENSITY) WITH RESPECT TO A REFERENCE QUANTITY.

ELECTRIC VEHICLE (EV). AN AUTOMOTIVE-TYPE VEHICLE FOR ON-ROAD USE, SUCH AS PASSENGER AUTOMOBILES, BUSES, TRUCKS, VANS, NEIGHBORHOOD ELECTRIC VEHICLES, ELECTRIC MOTORCYCLES, AND THE LIKE, PRIMARILY POWERED BY AN ELECTRIC MOTOR THAT DRAWS CURRENT FROM A RECHARGEABLE STORAGE BATTERY, FUEL CELL, PHOTOVOLTAIC ARRAY, OR OTHER SOURCE OF ELECTRIC CURRENT. PLUG-IN HYBRID ELECTRIC VEHICLES (PHEV) ARE CONSIDERED ELECTRIC VEHICLES. FOR PURPOSES OF THE CALIFORNIA ELECTRICAL CODE, OFF-ROAD, SELF-PROPELLED ELECTRIC VEHICLES, SUCH AS INDUSTRIAL TRUCKS, HOISTS, LIFTS, TRANSPORTS, GOLF CARTS, AIRLINE GROUND SUPPORT EQUIPMENT, TRACTORS, BOATS, AND THE LIKE, ARE NOT INCLUDED.

REQUIRED

SECTION 5.502 DEFINITIONS (CONT)

ELECTRIC VEHICLE CHARGING STATION(S) (EVCV(S)). ONE OR MORE SPACES INTENDED FOR CHARGING ELECTRIC VEHICLES.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). THE CONDUCTORS, INCLUDING THE UNGROUNDED, GROUNDED, AND EQUIPMENT GROUNDING CONDUCTORS AND THE ELECTRIC VEHICLE CONNECTORS, ATTACHMENT PLUGS, AND ALL OTHER FITTINGS, DEVICES, POWER OUTLETS, OR APPARATUS INSTALLED SPECIFICALLY FOR THE PURPOSE OF TRANSFERRING ENERGY BETWEEN THE PREMISES WIRING AND THE ELECTRIC VEHICLE.

ENERGY EQUIVALENT (NOISE) LEVEL (LEQ). THE LEVEL OF A STEADY NOISE WHICH WOULD HAVE THE SAME ENERGY AS THE FLUCTUATING NOISE LEVEL INTEGRATED OVER THE TIME OF PERIOD OF INTEREST.

EXPRESSWAY. AN ARTERIAL HIGHWAY FOR THROUGH TRAFFIC WHICH MAY HAVE PARTIAL CONTROL OF ACCESS, BUT WHICH MAY OR MAY NOT BE DIVIDED OR HAVE GRADE SEPARATIONS AT INTERSECTIONS.

FREEWAY. A DIVIDED ARTERIAL HIGHWAY WITH FULL CONTROL OF ACCESS AND WITH GRADE SEPARATIONS AT INTERSECTIONS.

GLOBAL WARMING POTENTIAL (GWP). THE RADIATIVE FORCING IMPACT OF ONE MASS-BASED UNIT OF A GIVEN GREENHOUSE GAS RELATIVE TO AN EQUIVALENT UNIT OF CARBON DIOXIDE OVER A GIVEN PERIOD OF TIME. CARBON DIOXIDE IS THE REFERENCE COMPOUND WITH A GWP OF ONE.

GLOBAL WARMING POTENTIAL VALUE (GWP VALUE). A 100-YEAR GWP VALUE PUBLISHED BY THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC) IN EITHER ITS SECOND ASSESSMENT REPORT (SAR) (IPCC, 1995), OR ITS FOURTH ASSESSMENT A-3 REPORT (AR4) (IPCC, 2007). THE SAR GWP VALUES ARE FOUND IN COLUMN "SAR (100-YR)" OF TABLE 2.14.; THE AR4 GWP VALUES ARE FOUND IN COLUMN "100 YR" OF TABLE 2.14.

HIGH-GWP REFRIGERANT. A COMPOUND USED AS A HEAT TRANSFER FLUID OR GAS THAT IS: (A) A CHLOROFLUOROCARBON, A HYDROCHLOROFLUOROCARBON, A HYDROFLUOROCARBON, A PERFLUOROCARBON, OR ANY COMPOUND OR BLEND OF COMPOUNDS, WITH A GWP VALUE EQUAL TO OR GREATER THAN 150, OR (B) ANY OZONE DEPLETING SUBSTANCE AS DEFINED IN TITLE 40 OF THE CODE OF FEDERAL REGULATIONS, PART 82, SEC.82.3 (AS AMENDED MARCH 10, 2009).

LONG RADIUS ELBOW. PIPE FITTING INSTALLED BETWEEN TWO LENGTHS OF PIPE OR TUBING TO ALLOW A CHANGE OF DIRECTION, WITH A RADIUS 1.5 TIMES THE PIPE DIAMETER.

LOW-GWP REFRIGERANT. A COMPOUND USED AS A HEAT TRANSFER FLUID OR GAS THAT: (A) HAS A GWP VALUE LESS THAN 150, AND (B) IS NOT AN OZONE DEPLETING SUBSTANCE AS DEFINED IN TITLE 40 OF THE CODE OF FEDERAL REGULATIONS, PART 82, SEC.82.3 (AS AMENDED MARCH 10, 2009).

MERV. FILTER MINIMUM EFFICIENCY REPORTING VALUE, BASED ON ASHRAE 52.2-1999.

MAXIMUM INCREMENTAL REACTIVITY (MIR). THE MAXIMUM CHANGE IN WEIGHT OF OZONE FORMED BY ADDING A COMPOUND TO THE "BASE REACTIVE ORGANIC GAS (ROG) MIXTURE" PER WEIGHT OF COMPOUND ADDED, EXPRESSED TO THE HUNDRETHS OF A GRAM (G/G ROG).

PRODUCT-WEIGHTED MIR (PW MIR). THE SUM OF ALL WEIGHTED-MIR FOR ALL INGREDIENTS IN A PRODUCT SUBJECT TO THIS ARTICLE. THE PW MIR IS THE TOTAL PRODUCT REACTIVITY EXPRESSED TO HUNDRETHS OF A GRAM OF OZONE FORMED PER GRAM OF PRODUCT (EXCLUDING CONTAINER AND PACKAGING).

PSIG. POUNDS PER SQUARE INCH, GAUGE.

REACTIVE ORGANIC COMPOUND (ROC). ANY COMPOUND THAT HAS THE POTENTIAL, ONCE EMITTED, TO CONTRIBUTE TO OZONE FORMATION IN THE TROPOSPHERE.

SCHRADER ACCESS VALVES. ACCESS FITTINGS WITH A VALVE CORE INSTALLED.

SHORT RADIUS ELBOW. PIPE FITTING INSTALLED BETWEEN TWO LENGTHS OF PIPE OR TUBING TO ALLOW A CHANGE OF DIRECTION, WITH A RADIUS 1.0 TIMES THE PIPE DIAMETER.

SUPERMARKET. FOR THE PURPOSES OF SECTION 5.508.2, A SUPERMARKET IS ANY RETAIL FOOD FACILITY WITH 8,000 SQUARE FEET OR MORE CONDITIONED AREA, AND THAT UTILIZES EITHER REFRIGERATED DISPLAY CASES, OR WALK-IN COOLERS OR FREEZERS CONNECTED TO REMOTE COMPRESSOR UNITS OR CONDENSING UNITS.

VOC. A VOLATILE ORGANIC COMPOUND BROADLY DEFINED AS A CHEMICAL COMPOUND BASED ON CARBON CHAINS OR RINGS WITH VAPOR PRESSURES GREATER THAN 0.1 MILLIMETERS OF MERCURY AT ROOM TEMPERATURE. THESE COMPOUNDS TYPICALLY CONTAIN HYDROGEN AND MAY CONTAIN OXYGEN, NITROGEN AND OTHER ELEMENTS. SEE CCR TITLE 17, SECTION 94508(A).

NOTE: WHERE SPECIFIC REGULATIONS ARE CITED FROM DIFFERENT AGENCIES SUCH AS SCAQMD, ARB, ETC., THE VOC DEFINITION INCLUDED IN THAT SPECIFIC REGULATION IS THE ONE THAT PREVAILS FOR THE SPECIFIC MEASURE IN QUESTION.

SECTION 5.503 FIREPLACES

5.503.1 FIREPLACES. INSTALL ONLY A DIRECT-VENT SEALED-COMBUSTION GAS OR SEALED WOOD-BURNING FIREPLACE, OR A SEALED WOODSTOVE OR PELLET STOVE, AND REFER TO RESIDENTIAL REQUIREMENTS IN THE CALIFORNIA ENERGY CODE, TITLE 24, PART 6, SUBCHAPTER 7, SECTION 150. WOODSTOVES, PELLET STOVES AND FIREPLACES SHALL COMPLY WITH APPLICABLE LOCAL ORDINANCES.

5.503.1.1 WOODSTOVES. WOODSTOVES AND PELLET STOVES SHALL COMPLY WITH U.S. EPA NEW SOURCE PERFORMANCE STANDARDS (NSPS) EMISSION LIMITS AS APPLICABLE, AND SHALL HAVE A PERMANENT LABEL INDICATING THEY ARE CERTIFIED TO MEET THE EMISSION LIMITS.

SECTION 5.504 POLLUTANT CONTROL

5.504.1 TEMPORARY VENTILATION. THE PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION THE BUILDING OR AREAS OF ADDITION OR ALTERATION WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN AIR FILTERS WITH A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8, BASED ON ASHRAE 52.2-1999, OR AN AVERAGE EFFICIENCY OF 30% BASED ON ASHRAE 52.1-1992. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY, OR, IF THE BUILDING IS OCCUPIED DURING ALTERATION, AT THE CONCLUSION OF CONSTRUCTION.

5.504.3 COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION, OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY COLLECT IN THE SYSTEM.



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No.	Date	Description

It is the client's responsibility prior to or during construction to notify the designer in writing of any proposed errors or omissions in the plan and specifications or which a contractor throughly knowledgeable with the building codes and methods of construction should reasonably be aware. When instructions concerning such proposed errors or omissions shall be received from the designer prior to the start or commencement of construction with the work, the client will be responsible for any delays in construction if these instructions are not followed.

NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
 690 W. 19th STREET
 A.P.N. 031-054-024
 CALIFORNIA
 CITY OF MERCED

ENGINEER

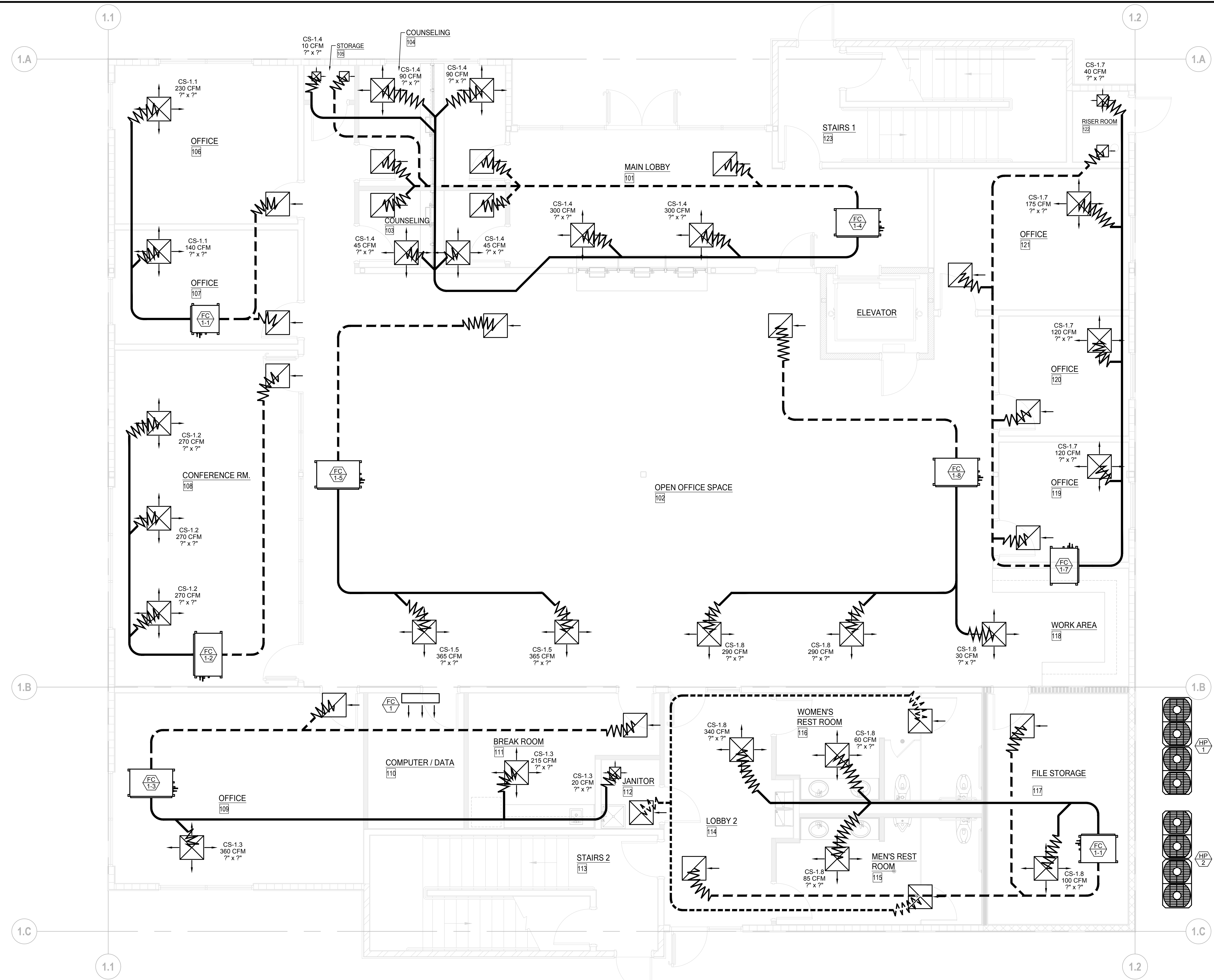
SHEET CONTENTS:
MECHANICAL - FIRST FLOOR PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

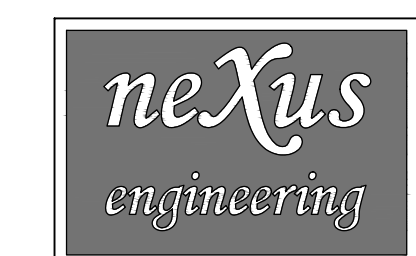
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Date: _____
Checked By: _____
Drawn By: _____
Job No.: 22-050

SHEET NUMBER:

M2.1



1
M2.1
MECHANICAL - FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"
NORTH



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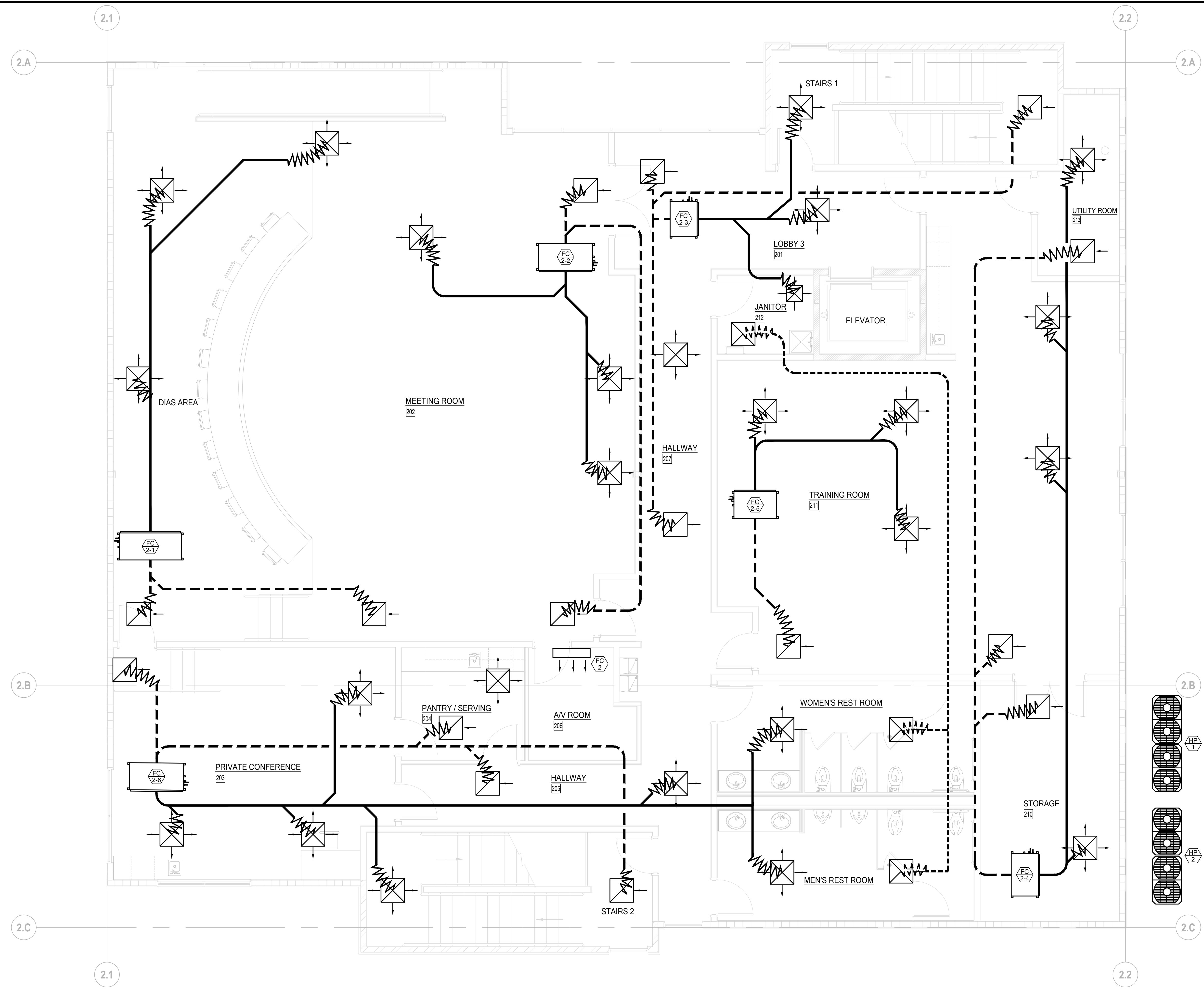
SHEET CONTENTS:
 MECHANICAL - SECOND FLOOR PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
 3199 M STREET
 MERCED, CA 95340
 PH: (209) 726-2724

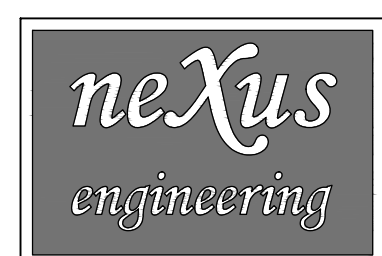
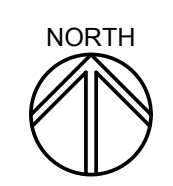
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SHEET NUMBER:

M2.2



1 MECHANICAL - SECOND FLOOR PLAN
 M2.2 SCALE: 1/4" = 1'-0"



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PLUMBING FIXTURE SCHEDULE	
MARK	DESCRIPTION
WC-1	WATER CLOSET: WALL MOUNT, VITREOUS CHINA, WHITE, 1.28 GPF, INTEGRAL TRAP, DIRECT-FED SIPHON JET, ELONGATED BOWL 1-1/2" TOP SPUD, TOP OF SEAT @ 17" HIGH, KOHLER "KINGSTON ULTRA" #K-84325. VALVE: BATTERY POWERED, SENSOR OPERATED, 1.28 GALLONS PER FLUSH, SLOAN "G2 OPTIMA PLUS" #8111-1.28. SEAT: HEAVY DUTY, ELONGATED, OPEN FRONT, LESS COVER, SELF-SUSTAINING CHECK HINGES, CENTOCO 1500 SERIES, INSTALLED PER ACCESSIBILITY REQUIREMENTS.
UR-1	URINAL: WALL MOUNT, VITREOUS CHINA, WHITE, FLUSH VALVE TYPE, 1.0 GALLON PER FLUSH, INTEGRAL TRAP, TOP SPUD, SIPHON JET, KOHLER "STANWELL" #K-Z5048-ET. VALVE: BATTERY POWERED, SENSOR OPERATED, SLOAN "G2 OPTIMA PLUS" #8180-1.0 (1.0 GALLON PER FLUSH). INSTALLED PER ACCESSIBILITY REQUIREMENTS.
L-1	LAVATORY: COUNTER MOUNT, VITREOUS CHINA, WHITE, SELF-FIMMING, OVAL 20" X 17", FRONT OVERFLOW, (3) HOLES ON 4" CENTERS, KOHLER "PENNINGTON" #K-2196-4. FAUCET: POLISHED CHROME, 0.5 GPM LAMINAR OUTLET, SINGLE LEVER HANDLE, CHICAGO #2200-4E2805ABCP. PROVIDE P-TRAP, SUPPLIES & STOPS.
S-1	SINK: DROP IN, SELF RIMMING, 18GA STAINLESS STEEL, CENTER DRAIN, (3) FAUCET HOLES ON 4" CENTERS, 7-1/2" DEEF, JUST #SL-ADA-1613-A-GR FAUCET: 5-1/4" GOOSENECK, WRIST BLADE HANDLES, 1.5 GPM LAMINAR OUTLET, 4" CENTERS, CHICAGO #895-317GN2AE36ABCP. PROVIDE GRID STRAINER, P-TRAP, SUPPLIES, AND ANGLE STOPS W/ LOOSE KEY. INSTALL PER ACCESSIBILITY REQUIREMENTS.
DF-1	DRINKING FOUNTAIN: DUAL HEIGHT, WALL-MOUNTED, PUSH BUTTON, FREEZE-RESISTANT, LIGHT GRAY GRANITE COLOR, ELKAY #EZSTL8LC OR EQUAL. PROVIDE ALL NECESSARY HARDWARE. INSTALL PER ACCESSIBILITY REQUIREMENTS.
MS-1	MOP SINK: FLOOR MOUNT, MOLDED STONE, 24" x 24", WHITE, 3" OUTLET, FLORESTONE #MSR-2424. VINYL RIM GUARD: FIAT: E-77-AA. FAUCET: ROUGH CHROME FINISH, EXPOSED YOKE FAUCET, VACUUM BREAKER, WALL BRACE, 3/4" HOSE THREAD OUTLET, INTEGRAL STOPS, CHICAGO #897-RCF. PROVIDE WITH MOP HANGER AND 4' LONG 3/4"ø FILL HOSE.
FD-1	FLOOR DRAIN: CAST IRON BODY, CLAMPING COLLAR, NICKEL-BRONZE STRAINER, TRAP PRIMER CONNECTION, ZURN #ZN415B.

* INDICATES ADA/HCP COMPLIANT FIXTURE.

PLUMBING EQUIPMENT SCHEDULE	
MARK	DESCRIPTION
WH-1	ELECTRIC WATER HEATER: 30 GALLON STORAGE, INSULATED TANK, 16 GALLONS RECOVERY @ 100°F RISE, T&P RELIEF VALVE, TEMPERATURE = 120°, 120V WITH (2) NON-SIMULTANEOUS 4KW ELEMENTS, OPERATING WEIGHT = 369 LBS, A.O. SMITH #DEL 30.
CP-1	CIRCULATION PUMP: LEAD-FREE BRONZE BODY, POLYPROPYLENE IMPELLER, CERAMIC SHAFT, 3/4" FLANGE CONNECTIONS, 10 GPM @ 8'/HD, 115V/1ø, 125 WATTS @ 0.80 FLA, OP WT = 13.1 LBS. PROVIDE WITH OPTIONAL AUTOMATIC TIMER KIT AND AQUASTAT. BELL & GOSSETT #NBF-22.
ET-1	EXPANSION TANK: 4.4 GALLON TANK VOLUME, 3.2 GALLON ACCEPTANCE VOLUME, BUTYL DIAPHRAGM BLADDER, MAX OPERATING TEMP = 200°F, MAX WORKING PRESSURE = 150 PSI, FACTORY PRE-CHARGED TO 50 PSI, DIM = 11" DIAMETER x 15" LONG, WEIGHT = 9 LBS, AMTROL "THERM-X-TROL" #ST-12.
WHA-1	WATER HAMMER ARRESTOR: LEAD FREE, 1/2" BRASS MALE NPT, NITROGEN PRELOADED, PROVIDE SHUT-OFF VALVE, PRECISION PLUMBING PRODUCTS #SC-500A

PLUMBING GENERAL NOTES

- SCOPE: A COMPLETE DOMESTIC PLUMBING SYSTEM AS GENERALLY DELINEATED ON THE PLUMBING DRAWINGS, INCLUDING SERVICE PIPING AND FINAL CONNECTIONS TO EQUIPMENT FURNISHED AND INSTALLED BY OTHER TRADES AS MAY BE SHOWN ON THE ARCHITECTURAL, ELECTRICAL OR OTHER DRAWINGS OF THE CONTRACT DOCUMENTS.
- CALIFORNIA CODE OF REGULATIONS: ALL HOT WATER DISTRIBUTION AND CIRCULATION LINES SHALL BE INSULATED IN ACCORDANCE WITH SECTION 120.3 OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 6, SUBCHAPTER 3.
- ALL PLUMBING FIXTURES & EQUIPMENT USED (E.G. SHOWERHEADS, LAVATORY FAUCETS, SINK FAUCET AND WATER HEATERS) SHALL HAVE BEEN CERTIFIED TO THE CALIFORNIA ENERGY COMMISSION BY ITS MANUFACTURER TO COMPLY WITH THE EFFICIENCY STANDARDS FOR SUCH APPLIANCES.
- CODES: ALL WORK, MATERIAL, AND EQUIPMENT SHALL BE FURNISHED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND AMENDED BY THE INSPECTING AUTHORITY HAVING JURISDICTION. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT THE INSTALLATION OF WORK, MATERIAL OR EQUIPMENT NOT CONFORMING TO THESE OR OTHER CODES APPLICABLE TO THIS PROJECT.
 - 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC) PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
 - 2019 CALIFORNIA BUILDING CODE (CBC) PART 2, TITLE 24, CCR BASED ON THE 2018 INTERNATIONAL BUILDING CODE (IBC)
 - 2019 CALIFORNIA ELECTRICAL CODE (CEC) PART 3, TITLE 24, CCR BASED ON THE 2018 NATIONAL ELECTRICAL CODE (NEC)
 - 2019 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24, CCR BASED ON THE 2018 UNIFORM MECHANICAL CODE (UMC)
 - 2019 CALIFORNIA PLUMBING CODE (CPC) PART 5, TITLE 24, CCR BASED ON THE 2018 UNIFORM PLUMBING CODE (UPC)
 - 2019 CALIFORNIA ENERGY CODE (CEC) PART 6, TITLE 24 CCR
 - 2019 CALIFORNIA FIRE CODE (CFC) PART 9, TITLE 24, CCR BASED ON THE 2018 INTERNATIONAL FIRE CODE (IFC)
 - 2019 CALIFORNIA GREEN BUILDING STANDARDS (CGBSC) PART 11, TITLE 24, CCR
- WORKMANSHIP: ALL WORK SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER ACCORDING TO THE BEST TRADE PRACTICE BY THOSE SKILLED IN THE PARTICULAR TRADE. EQUIPMENT, FIXTURES, PIPING, ETC., SHALL BE PLUMB, LEVEL, SQUARE AND/OR CENTERED, ETC. EQUIPMENT TO BE INSTALLED IN STRICT COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- EXISTING INFORMATION: LOCATION, SIZE, ELEVATION, MATERIAL, ETC., OF EXISTING UTILITIES IS PROVIDED FROM SOURCES DEEMED RELIABLE BUT IS NOT GUARANTEED. THE CONTRACTOR SHALL FIELD VERIFY ALL DATA BEFORE PROCEEDING WITH ANY WORK. NO EXTRA COST WILL BE ALLOWED FOR SERVICES NOT AS SHOWN.
- PERMITS AND UTILITY SERVICE FEES: THE PLUMBING CONTRACTOR SHALL ARRANGE AND PAY FOR ALL PERMITS, INSPECTIONS, AND SERVICE CHARGES REQUIRED FOR THE INSTALLATION OF THE WORK.
- ACCURACY: PLANS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL CONFIRM ALL DIMENSIONS AND LOCATION OF WALLS, PARTITIONS, FIXTURES, ETC., AGAINST DESIGN PLANS FOR CONSISTENCY AND ACCURACY PRIOR TO COMMENCING WORK.
- PROVIDE AND INSTALL CONDENSATE DRAIN WITH TRAP AT EACH A/C UNIT PER THE UPC, AT LOCATIONS SHOWN ON DRAWINGS. COORDINATE WITH MECHANICAL CONTRACTOR.
- PROVIDE AND INSTALL ACCESS PANELS FOR ALL SHUT-OFF, ISOLATION, OR BRANCH VALVES NOT READILY ACCESSIBLE. ACCESS PANELS SHALL BE PROVIDED AND INSTALLED AT ALL TRAP PRIMER VALVES AND WATER HAMMER ARRESTORS.
- ALL PIPING PASSING THROUGH CONCRETE FLOORS SHALL BE SLEEVED TO PROTECT PIPING AGAINST BREAKAGE.
- HORIZONTAL DRAINAGE PIPING LESS THAN 4" IN DIAMETER SHALL BE SLOPED AT A MINIMUM OF 1/4" PER FOOT (2%) DRAINAGE PIPING 4" AND LARGER SHALL BE SLOPED AT A MINIMUM OF 1/4" PER FOOT (2%) UNLESS OTHERWISE APPROVED BY THE AHJ.
- ALL PLUMBING FIXTURES AND PIPING SHALL BE LISTED BY AN APPROVED LISTING AND TESTING AGENCY AND PROPERLY LABELED.
- ALL PIPES SHALL BE LABELED WITH CLASSIFICATION, COLOR SCHEME, AND SIZING PER ANSI STANDARD A13.1.

DEMOLITION NOTES

- THE CONTRACTOR SHALL VISIT THE PROJECT SITE AND MAKE HIMSELF AWARE OF ALL EXISTING CONDITIONS WHICH CAN BE OBSERVED. ADDITIONAL COSTS WILL NOT BE ALLOWED FOR CORRECTION OF ITEMS WHICH CAN BE OBSERVED AND THEREFORE SHOULD BE INCLUDED IN HIS BID. THE CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION WORK REQUIRED TO COMPLETE THIS PROPOSED PROJECT.
- THE NOTES AND DRAWINGS CONTAINED ON THIS SHEET DESCRIBE IN A GENERAL SENSE THE EXTENT OF ITEMS TO BE MODIFIED, REMOVED OR INSTALLED. THIS DESCRIPTION DOES NOT NECESSARILY INCLUDE A DESCRIPTION OF ITEMS TO BE REPAIRED OR REFINISHED AS A RESULT OF THIS REMOVAL OR MODIFICATION. IN THE ABSENCE OF ANY SPECIFIC DIRECTION, THE CONTRACTOR SHALL REPAIR THE AFFECTED AREA(S) TO A CONDITION EQUAL TO THE ADJACENT AREA(S) AND/OR SIMILAR EXISTING CONDITIONS ON PROJECT.
- THE CONTRACTOR SHALL PROVIDE DUST AND DEBRIS CONTROL THROUGHOUT THE PROJECT'S CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THE BUILDING OWNER TO PROVIDE THE LEAST INTERRUPTION OF EXISTING BUILDING OPERATIONS. COORDINATE WITH THE OWNER THE LOCATION OF ON-SITE STORAGE AND STAGING.
- NOT ALL REQUIRED PATCHING AND/OR REPAIRS ARE SPECIFICALLY NOTED ON THIS PLAN.
- COORDINATE DEMOLITION WORK WITH NEW PROPOSED FLOOR PLANS.
- CONTRACTOR SHALL DISCARD AND DISPOSE OF ALL DEMOLISHED ITEMS.
- EXISTING PIPING AND ELECTRICAL OR COMMUNICATION CONDUITS WHICH INTERFERE WITH THE WORK SHALL BE RE-ROUTED BY THE CONTRACTOR.

FIXTURE CONNECTION SCHEDULE

FIXTURE	SYM	WASTE		TRAP	VENT	COLD WATER		HOT WATER	
		BRANCH	OUTLET			BRANCH	OUTLET	BRANCH	OUTLET
WATER CLOSET (F.V.)	WC	4"	3"	--	2"	1-1/4"	1-1/4"	--	--
URINAL (F.V.)	UR	2"	2"	INT	2"	1"	3/4"	--	--
LAVATORY	L	2"	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	1/2"	1/2"
SINK	S	2"	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"	1/2"	1/2"
MOP SINK	MS	3"	3"	3"	2"	3/4"	3/4"	3/4"	3/4"
DRINKING FOUNTAIN	DF	2"	1-1/4"	1-1/4"	1-1/4"	1/2"	1/2"	--	--
TRAP PRIMER	TP	--	--	--	--	1/2"	1/2"	--	--

SHEET INDEX

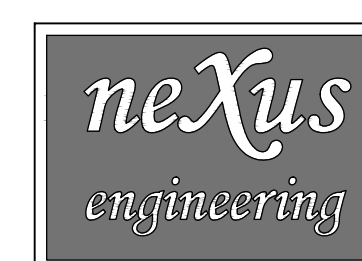
SHEET NO.	DESCRIPTION
P0.0	PLUMBING - SCHEDULE, LEGEND, & NOTES
P0.1	PLUMBING - GREEN BUILDING CODE NOTES
P2.1	PLUMBING - FIRST FLOOR PLAN
P2.2	PLUMBING - SECOND FLOOR PLAN

PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	SS	SOIL, WASTE OR SANITARY SEWER BELOW FLOOR
	SS	SOIL, WASTE OR SANITARY SEWER OVERHEAD
	V	VENT PIPING
	CW	COLD WATER
	HW (110°, 140°)	HOT WATER SUPPLY
	HWR	HOT WATER RETURN
	G	NATURAL GAS - LOW PRESSURE
		EXISTING TO BE REMOVED
	D OR IW	DRAIN OR INDIRECT WASTE
	CD	CONDENSATE DRAIN
	OCD	OVERFLOW CONDENSATE DRAIN
	SD, RWL	STORM DRAIN, RAINWATER LEADER
	OFL	RAINWATER OVERFLOW LEADER (STORM)
	AD, AP	ACCESS DOOR, ACCESS PANEL
	AC	AIR CHAMBER
	ANV	ANGLE VALVE
	AQ	AQUASTAT
	AD	AREA DRAIN
	AAV	AUTOMATIC AIR VENT
	BV	BALL VALVE
		BRANCH - TOP CONNECTION
		BRANCH - BOTTOM CONNECTION
		BRANCH - SIDE CONNECTION
	BFV	BUTTERFLY VALVE
	COP	CAP ON END OF PIPE
	CBV	CALIBRATED BALANCE VALVE
	CB, RD	CATCH BASIN, ROOF DRAIN
	CKV	CHECK VALVE
	CP	CIRCULATING PUMP
	CO	CLEANOUT PLUG
	CR	CONCENTRIC REDUCER
	DIA	DIAMETER
	ER	ECCENTRIC REDUCER
	FC	FLEXIBLE CONNECTOR
	FCO	FLOOR CLEANOUT
	FD	FLOOR DRAIN
	FS	FLOW SWITCH
	GCK	GAGE COCK
	SOV	SHUT OFF VALVE
	GSCCK, PC	GAS COCK, PLUG COCK
	GPR	GAS PRESSURE REGULATOR
	GL, V	GLOBE VALVE
	GCO	GRADE CLEANOUT
	HB	HOSE BIBB
	AN	PIPE ANCHOR
	PG	PIPE GUIDE
	POC	POINT OF CONNECTION
	PRV	PRESSURE REDUCING VALVE
	PG	PRESSURE GAUGE
	RV or T&P	RELIEF VALVE OR TEMPERATURE & PRESSURE RELIEF VALVE
	SV	SOLENOID VALVE
	STR	STRAINER
	TH	THERMOMETER
	TP	TRAP PRIMER
	UN	UNION OR FLANGE
	WCO	WALL CLEANOUT

PLUMBING MATERIAL SPECIFICATIONS

- A. DWV
PIPE: SERVICE WEIGHT CAST IRON SOIL PIPE PER ASTM A-74
FITTINGS: CAST IRON "NO-HUB" PER CISPI 310
- B. DOMESTIC WATER
PIPE: COPPER TYPE L PER ASTM B-88
FITTINGS: WROUGHT COPPER PER ANSI 16.22
INSULATION (3/4" DIA. PIPE AND SMALLER): INSULATE HW & HWR WITH 1" FIBERGLASS INSULATION AND ALL-SERVICE-JACKET INSULATION (1" - 1-1/2" DIA. PIPE); INSULATE HW & HWR WITH 1-1/2" FIBERGLASS INSULATION AND ALL-SERVICE-JACKET INSULATION (2" DIA. PIPE AND LARGER); INSULATE HW & HWR WITH 2" FIBERGLASS INSULATION AND ALL-SERVICE-JACKET
- C. CONDENSATE DRAIN
PIPE: COPPER TYPE L PER ASTM B-88
FITTINGS: WROUGHT COPPER PER ANSI 16.22



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No.	Date	Description

I, the client, hereby authorize the engineer to use the drawings and specifications of these drawings for the construction of the project. The client shall be responsible for any errors or omissions in these drawings and specifications.

NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024
 CITY OF MERCED

ENGINEER

SHEET CONTENTS:
PLUMBING - SCHEDULES, LEGENDS & NOTES

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
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PH: (209) 726-2724

PROJECT DATA:
Date:
Checked By:
Drawn By:
Job No.: 22-050

SHEET NUMBER:

P0.0

PLUMBING GREEN BUILDING CODE NOTES

REQUIRED		REQUIRED	
	<p>SECTION 5.301 GENERAL 5.301.1 SCOPE. THE PROVISIONS OF THIS CHAPTER SHALL ESTABLISH THE MEANS OF CONSERVING WATER USE INDOORS, OUTDOORS AND IN WASTEWATER CONVEYANCE.</p> <p>SECTION 5.302 DEFINITIONS 5.302.1 DEFINITIONS. THE FOLLOWING TERMS ARE DEFINED IN CHAPTER 2 (AND ARE INCLUDED HERE FOR REFERENCE)</p> <p>EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAf) [DSA-SS]. AN ADJUSTMENT FACTOR WHEN APPLIED TO REFERENCE EVAPOTRANSPIRATION THAT ADJUSTS FOR PLANT FACTORS AND IRRIGATION EFFICIENCY, WHICH ARE TWO MAJOR INFLUENCES ON THE AMOUNT OF WATER THAT NEEDS TO BE APPLIED TO THE LANDSCAPE.</p> <p>FOOTPRINT AREA [DSA-SS]. THE TOTAL AREA OF THE FURTHEST EXTERIOR WALL OF THE STRUCTURE PROJECTED TO NATURAL GRADE, NOT INCLUDING EXTERIOR AREAS SUCH AS STAIRS, COVERED WALKWAYS, PATIOS AND DECKS.</p> <p>METERING FAUCET. A SELF-CLOSING FAUCET THAT DISPENSES A SPECIFIC VOLUME OF WATER FOR EACH ACTUATION CYCLE. THE VOLUME OR CYCLE DURATION CAN BE FIXED OR ADJUSTABLE.</p> <p>GRAYWATER. PURSUANT TO HEALTH AND SAFETY CODE SECTION 17922.12, "GRAYWATER" MEANS UNTREATED WASTEWATER THAT HAS NOT BEEN CONTAMINATED BY ANY TOILET DISCHARGE, HAS NOT BEEN AFFECTED BY INFECTIOUS, CONTAMINATED, OR UNHEALTHY BODILY WASTES, AND DOES NOT PRESENT A THREAT FROM CONTAMINATION BY UNHEALTHFUL PROCESSING, MANUFACTURING, OR OPERATING WASTES. "GRAYWATER" INCLUDES, BUT IS NOT LIMITED TO WASTEWATER FROM BATHTUBS, SHOWERS, BATHROOM WASHBASINS, CLOTHES WASHING MACHINES AND LAUNDRY TUBS, BUT DOES NOT INCLUDE WASTE WATER FROM KITCHEN SINKS OR DISHWASHERS.</p> <p>MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). THE CALIFORNIA ORDINANCE REGULATING LANDSCAPE DESIGN, INSTALLATION AND MAINTENANCE PRACTICES THAT WILL ENSURE COMMERCIAL, MULTIFAMILY AND OTHER DEVELOPER INSTALLED LANDSCAPES GREATER THAN 2500 SQUARE FEET MEET AN IRRIGATION WATER BUDGET DEVELOPED BASED ON LANDSCAPED AREA AND CLIMATOLOGICAL PARAMETERS.</p> <p>MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO), [HCD] THE CALIFORNIA MODEL ORDINANCE (CALIFORNIA CODE OF REGULATIONS, TITLE 23, DIVISION 2, CHAPTER 2.7), REGULATING LANDSCAPE DESIGN, INSTALLATION AND MAINTENANCE PRACTICES. LOCAL AGENCIES ARE REQUIRED TO ADOPT THE UPDATED MWELO, OR ADOPT A LOCAL ORDINANCE AT LEAST AS EFFECTIVE AS THE MWELO.</p> <p>POTABLE WATER. WATER THAT IS DRINKABLE AND MEETS THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) DRINKING WATER STANDARDS. SEE DEFINITION IN THE CALIFORNIA PLUMBING CODE, PART 5.</p> <p>POTABLE WATER, [HCD] WATER THAT IS SATISFACTORY FOR DRINKING, CULINARY, AND DOMESTIC PURPOSES, AND MEETS THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) DRINKING WATER STANDARDS AND THE REQUIREMENTS OF THE HEALTH AUTHORITY HAVING JURISDICTION.</p> <p>RECYCLED WATER. WATER WHICH, AS A RESULT OF TREATMENT OF WASTE, IS SUITABLE FOR A DIRECT BENEFICIAL USE OR A CONTROLLED USE THAT WOULD NOT OTHERWISE OCCUR [WATER CODE SECTION 13050 (N)]. SIMPLY PUT, RECYCLED WATER IS WATER TREATED TO REMOVE WASTE MATTER ATTAINING A QUALITY THAT IS SUITABLE TO USE THE WATER AGAIN.</p> <p>SUBMETER. A METER INSTALLED SUBORDINATE TO A SITE METER, USUALLY USED TO MEASURE WATER INTENDED FOR ONE PURPOSE, SUCH AS LANDSCAPE IRRIGATION. FOR THE PURPOSES OF CALGREEN, A DEDICATED METER MAY BE CONSIDERED A SUBMETER.</p> <p>WATER BUDGET. IS THE ESTIMATED TOTAL LANDSCAPE IRRIGATION WATER USE WHICH SHALL NOT EXCEED THE MAXIMUM APPLIED WATER ALLOWANCE CALCULATED IN ACCORDANCE WITH THE DEPARTMENT OF WATER RESOURCES MODEL EFFICIENT LANDSCAPE ORDINANCE (MWELO).</p>	<p><input checked="" type="checkbox"/></p>	<p>SECTION 5.303 INDOOR WATER USE 5.303.1 METERS. SEPARATE SUBMETERS OR METERING DEVICES SHALL BE INSTALLED FOR THE USES DESCRIBED IN SECTIONS 503.1.1 AND 503.1.2.</p> <p>5.303.1.1 BUILDINGS IN EXCESS OF 50,000 SQUARE FEET. SEPARATE SUBMETERS SHALL BE INSTALLED AS FOLLOWS:</p> <p>1. FOR EACH INDIVIDUAL LEASED, RENTED OR OTHER TENANT SPACE WITHIN THE BUILDING PROJECTED TO CONSUME MORE THAN 100 GAL/DAY (380 L/DAY), INCLUDING, BUT NOT LIMITED TO, SPACES USED FOR LAUNDRY OR CLEANERS, RESTAURANT OR FOOD SERVICE, MEDICAL OR DENTAL OFFICE, LABORATORY, OR BEAUTY SALON OR BARBER SHOP.</p> <p>2. WHERE SEPARATE SUBMETERS FOR INDIVIDUAL BUILDING TENANTS ARE UNFEASIBLE, FOR WATER SUPPLIED TO THE FOLLOWING SUBSYSTEMS:</p> <p>A. MAKEUP WATER FOR COOLING TOWERS WHERE FLOW THROUGH IS GREATER THAN 500 GPM (30 L/S). B. MAKEUP WATER FOR EVAPORATIVE COOLERS GREATER THAN 6 GPM (0.04 L/S). C. STEAM AND HOT WATER BOILERS WITH ENERGY INPUT MORE THAN 500,000 BTU/H (147 KW).</p> <p>5.303.1.2 EXCESS CONSUMPTION. A SEPARATE SUBMETER OR METERING DEVICE SHALL BE PROVIDED FOR ANY TENANT WITHIN A NEW BUILDING OR WITHIN AN ADDITION THAT IS PROJECTED TO CONSUME MORE THAN 1,000 GAL/DAY.</p> <p>5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING:</p> <p>5.303.3.1 WATER CLOSETS. THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH. TANK-TYPE WATER CLOSETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR TANK-TYPE TOILETS.</p> <p>NOTE: THE EFFECTIVE FLUSH VOLUME OF DUAL FLUSH TOILETS IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH.</p> <p>5.303.3.2 URINALS. THE EFFECTIVE FLUSH VOLUME OF URINALS SHALL NOT EXCEED 0.5 GALLONS PER FLUSH.</p> <p>5.303.3.3 SHOWERHEADS. 5.303.3.3.1 SINGLE SHOWERHEAD. SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 2.0 GALLONS PER MINUTE AT 80 PSI. SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR SHOWERHEADS.</p> <p>5.303.3.3.2 MULTIPLE SHOWERHEADS SERVING ONE SHOWER. WHEN A SHOWER IS SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL THE SHOWERHEADS AND/OR OTHER SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 2.0 GALLONS PER MINUTE AT 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ALLOW ONLY ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME.</p> <p>NOTE: A HAND-HELD SHOWER SHALL BE CONSIDERED A SHOWERHEAD.</p> <p>5.303.3.4 FAUCETS AND FOUNTAINS.</p> <p>5.303.3.4.1 NONRESIDENTIAL LAVATORY FAUCETS. LAVATORY FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 0.5 GALLONS PER MINUTE AT 60 PSI.</p> <p>5.303.3.4.2 KITCHEN FAUCETS. KITCHEN FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI.</p> <p>5.303.3.4.3 WASH FOUNTAINS. WASH FOUNTAINS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE/20 [RIM SPACE (INCHES) AT 60 PSI].</p> <p>5.303.3.4.4 METERING FAUCETS. METERING FAUCETS SHALL NOT DELIVER MORE THAN 0.20 GALLONS PER CYCLE.</p> <p>5.303.3.4.5 METERING FAUCETS FOR WASH FOUNTAINS. METERING FAUCETS FOR WASH FOUNTAINS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 0.20 GALLONS PER MINUTE/20 [RIM SPACE (INCHES) AT 60 PSI].</p> <p>NOTE: WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.</p> <p>5.303.4 COMMERCIAL KITCHEN EQUIPMENT.</p> <p>5.303.4.1 FOOD WASTE DISPOSERS. DISPOSERS SHALL EITHER MODULATE THE USE OF WATER TO NO MORE THAN 1 GPM WHEN THE DISPOSER IS NOT IN USE (NOT ACTIVELY GRINDING FOOD WASTE/NO-LOAD) OR SHALL AUTOMATICALLY SHUT OFF AFTER NO MORE THAN 10 MINUTES OF INACTIVITY. DISPOSERS SHALL USE NO MORE THAN 6 GPM OF WATER.</p> <p>NOTE: THIS CODE SECTION DOES NOT AFFECT LOCAL JURISDICTION AUTHORITY TO PROHIBIT OR REQUIRE DISPOSER INSTALLATION.</p> <p>5.303.5 AREAS OF ADDITION OR ALTERATION. FOR THOSE OCCUPANCIES WITHIN THE AUTHORITY OF THE CALIFORNIA BUILDING STANDARDS COMMISSION AS SPECIFIED IN SECTION 103, THE PROVISIONS OF SECTION 5.303.3 AND 5.303.4 SHALL APPLY TO NEW FIXTURES IN ADDITIONS OR AREAS OF ALTERATION TO THE BUILDING.</p> <p>5.303.6 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. PLUMBING FIXTURES AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET THE APPLICABLE STANDARDS REFERENCED IN TABLE 1701.1 OF THE CALIFORNIA PLUMBING CODE AND IN CHAPTER 6 OF THIS CODE.</p>

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Fax: (209) 722-3254

No.	Date	Description

It is the client's responsibility prior to or during construction to notify the designer in writing of any proposed changes or additions to the plan and specifications of which the contractor through cooperation with the building codes and methods of construction should normally be aware. When notified concerning such proposed errors or omissions, shall be resolved from the design prior to the start of client construction proceeding with the work. The client will be responsible for any delays in construction if these provisions are not followed.

NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024
 CALIFORNIA
 CITY OF MERCED

ENGINEER

SHEET CONTENTS:
PLUMBING - GREEN BUILDING CODE NOTES

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
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PROJECT DATA:
Date:
Checked By:
Drawn By:
Job No.: 22-050

SHEET NUMBER:

P0.1



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I, the client, hereby authorize the designer to verify the design and to certify that the design complies with the building codes and methods of construction used in the project. The client shall be responsible for any errors or omissions in the design and shall be held liable for any damages or losses resulting therefrom.

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690 W. 19th STREET
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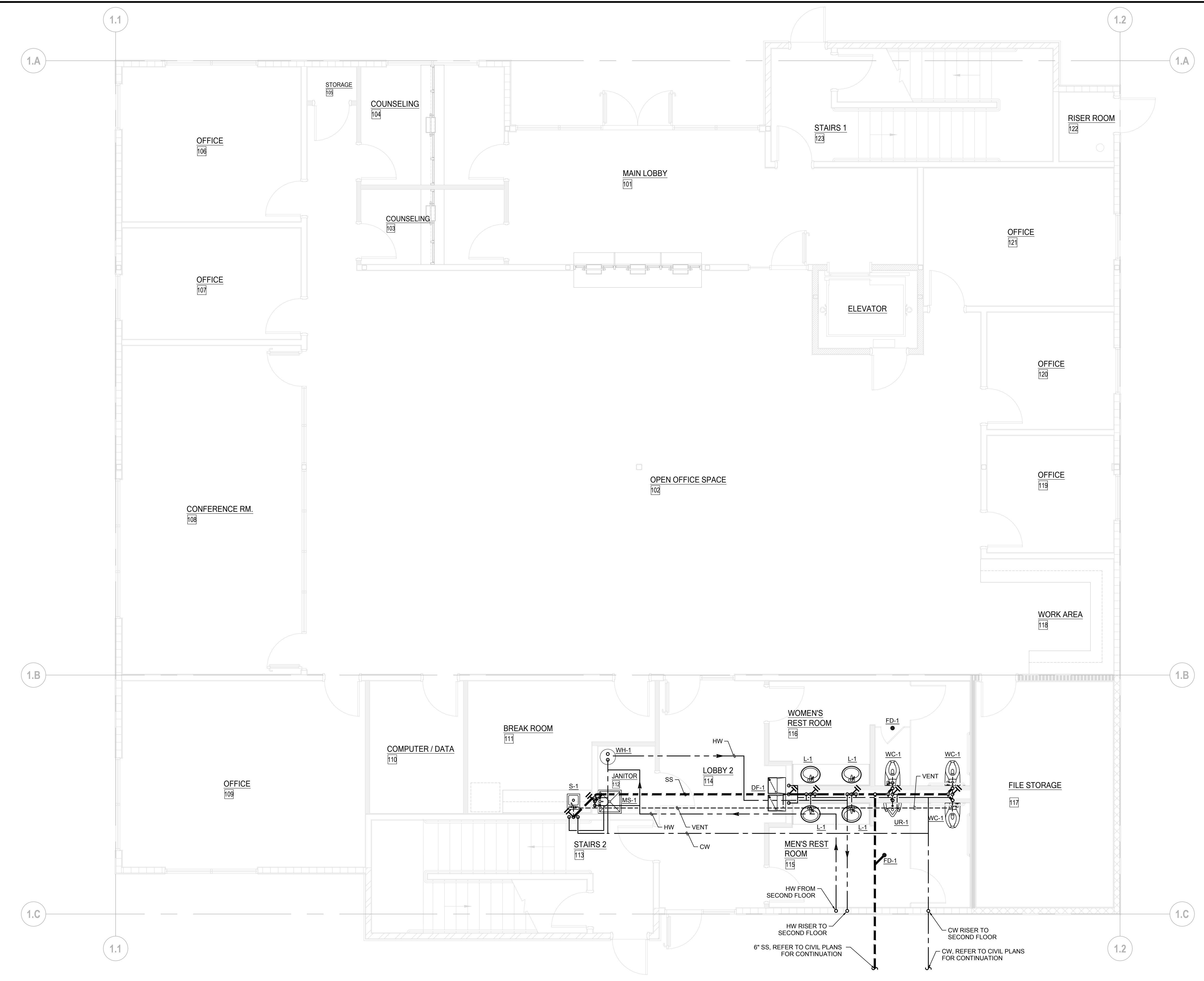
SHEET CONTENTS:
PLUMBING - FIRST FLOOR PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
 3199 M STREET
 MERCED, CA 95340
 PH: (209) 726-2724

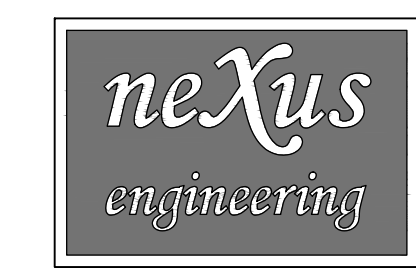
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 Date:
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 Job No.: 22-050

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P2.1



1
P2.1
PLUMBING - FIRST FLOOR PLAN
 SCALE: 1/4" = 1'-0"
 NORTH



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NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
 690 W. 19th STREET
 A.P.N. 031-054-024
 CALIFORNIA
 CITY OF MERCED

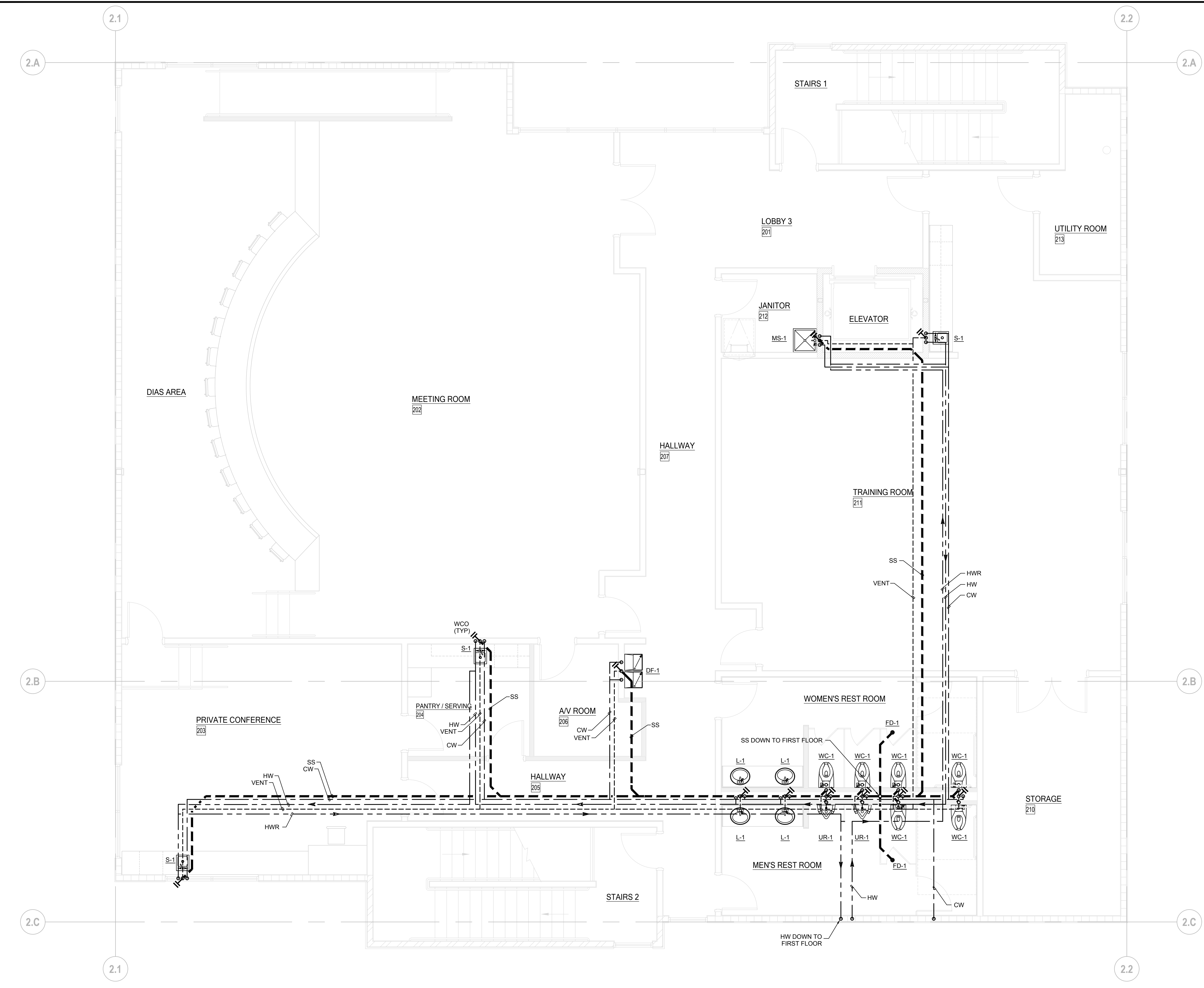
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SHEET CONTENTS:
PLUMBING - SECOND FLOOR PLAN

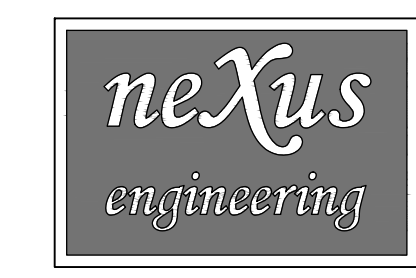
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PROJECT DATA:
 Date:
 Checked By:
 Drawn By:
 Job No.: 22-050
 SHEET NUMBER:

P2.2



1
P2.2
PLUMBING - SECOND FLOOR PLAN
 SCALE: 1/4" = 1'-0"
 NORTH



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NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024
CITY OF MERCED
CALIFORNIA

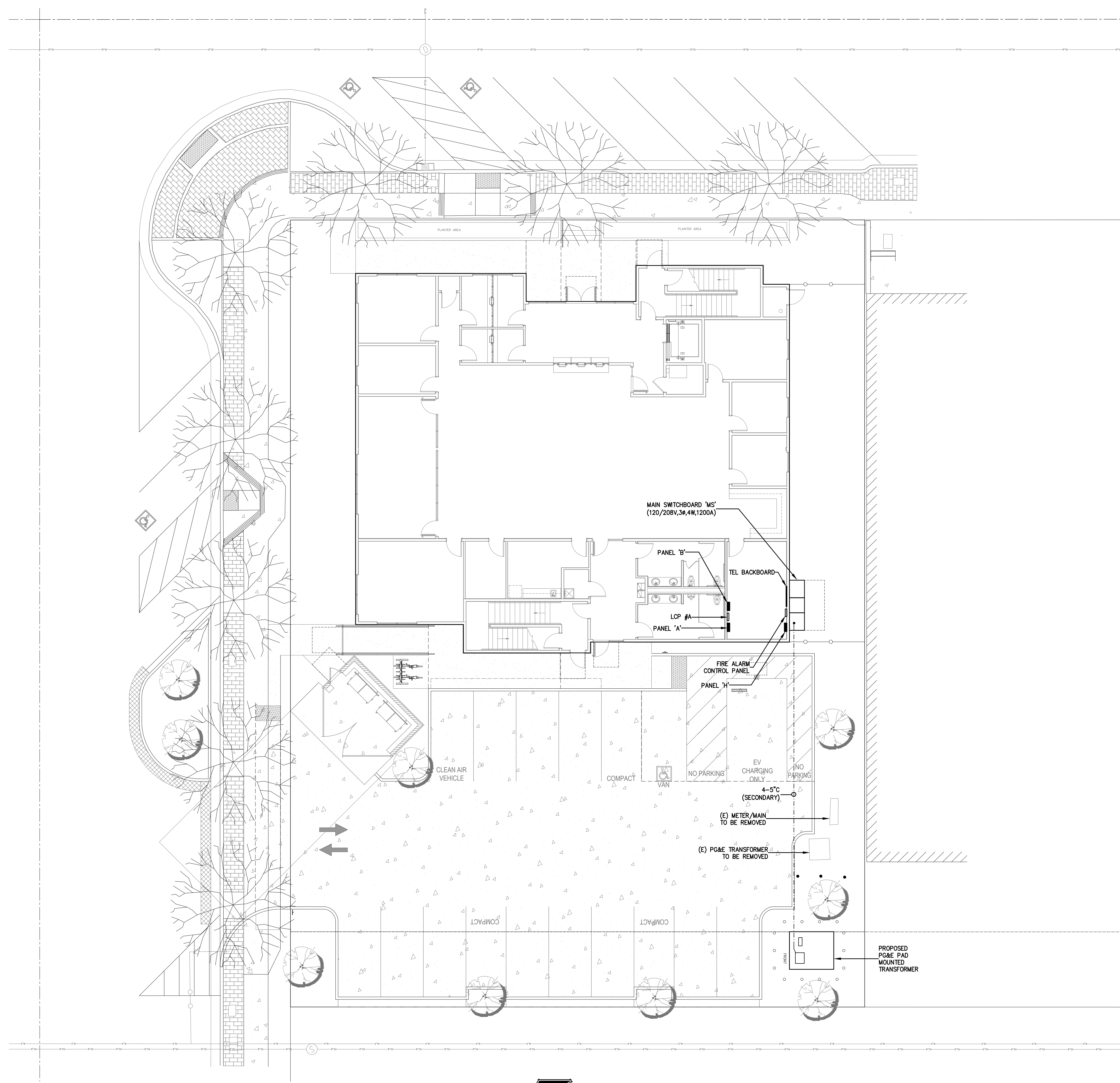
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SHEET CONTENTS:
SITE ELECTRICAL PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: 08/15/2022
Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050

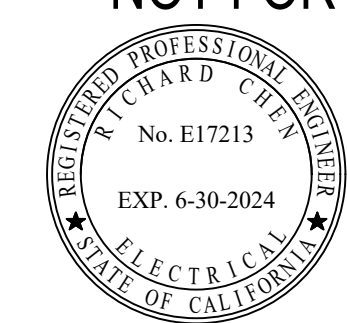
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E1.0



SITE ELECTRICAL PLAN
SCALE: 1" = 10'-0"

NOT FOR CONSTRUCTION

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No.	Date	Description

I, the undersigned, hereby certify that I am a duly qualified and licensed professional engineer in the State of California, and that I am the author of the designs and specifications herein, and that I am not providing any services in violation of the provisions of the California Engineering Act, Chapter 10, Article 1, Section 49000, et seq., of the California Code of Regulations, and that I am not providing any services in violation of the provisions of the California Code of Regulations, and that I am not providing any services in violation of the provisions of the California Code of Regulations.

Signature: _____ Date: _____

CITY OF MERCED CALIFORNIA

NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024

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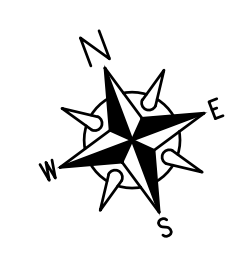
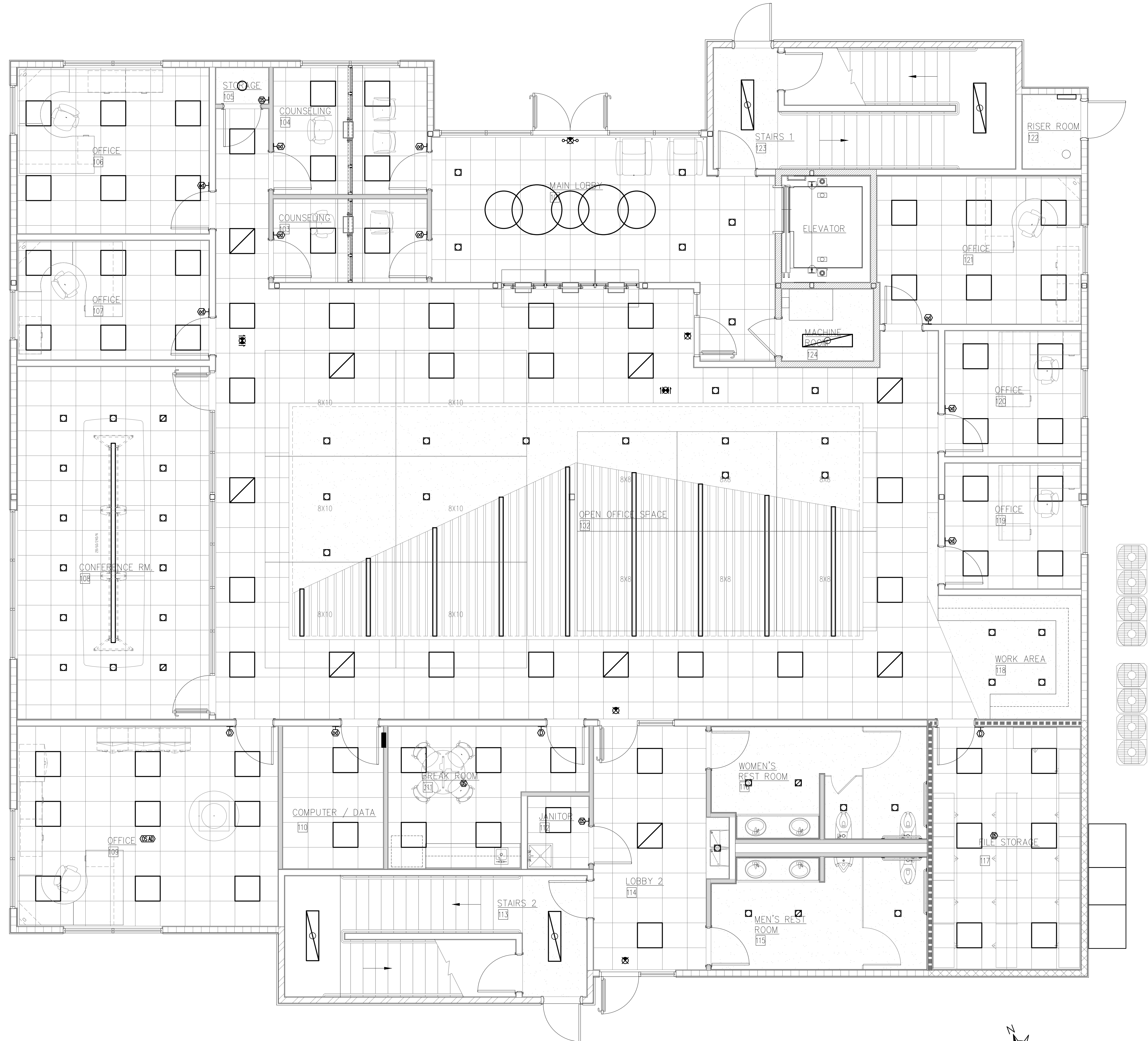
SHEET CONTENTS:
FIRST FLOOR LIGHTING PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
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PROJECT DATA:
Date: 08/15/2022
Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050

SHEET NUMBER:

E2.1



NOT FOR CONSTRUCTION

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Clovis, California 93619
Tel (559) 578-6049

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PREPARED BY:

GOLDEN VALLEY
ENGINEERING & SURVEYING
405 West 19th Street 95340
P.O. Box 349
Merced, CA 95341
Ph.: (209) 722-3200
Fax: (209) 722-3254

No.	Date	Description

I, the undersigned, hereby certify that I am a duly qualified and licensed Professional Engineer in the State of California, and that I am the author of the design and construction of the electrical system shown on these drawings. I am not providing any services on these drawings that I am not licensed to provide. I am not providing any services on these drawings that I am not licensed to provide. I am not providing any services on these drawings that I am not licensed to provide.

NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024
 CALIFORNIA
 CITY OF MERCED

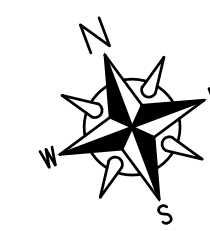
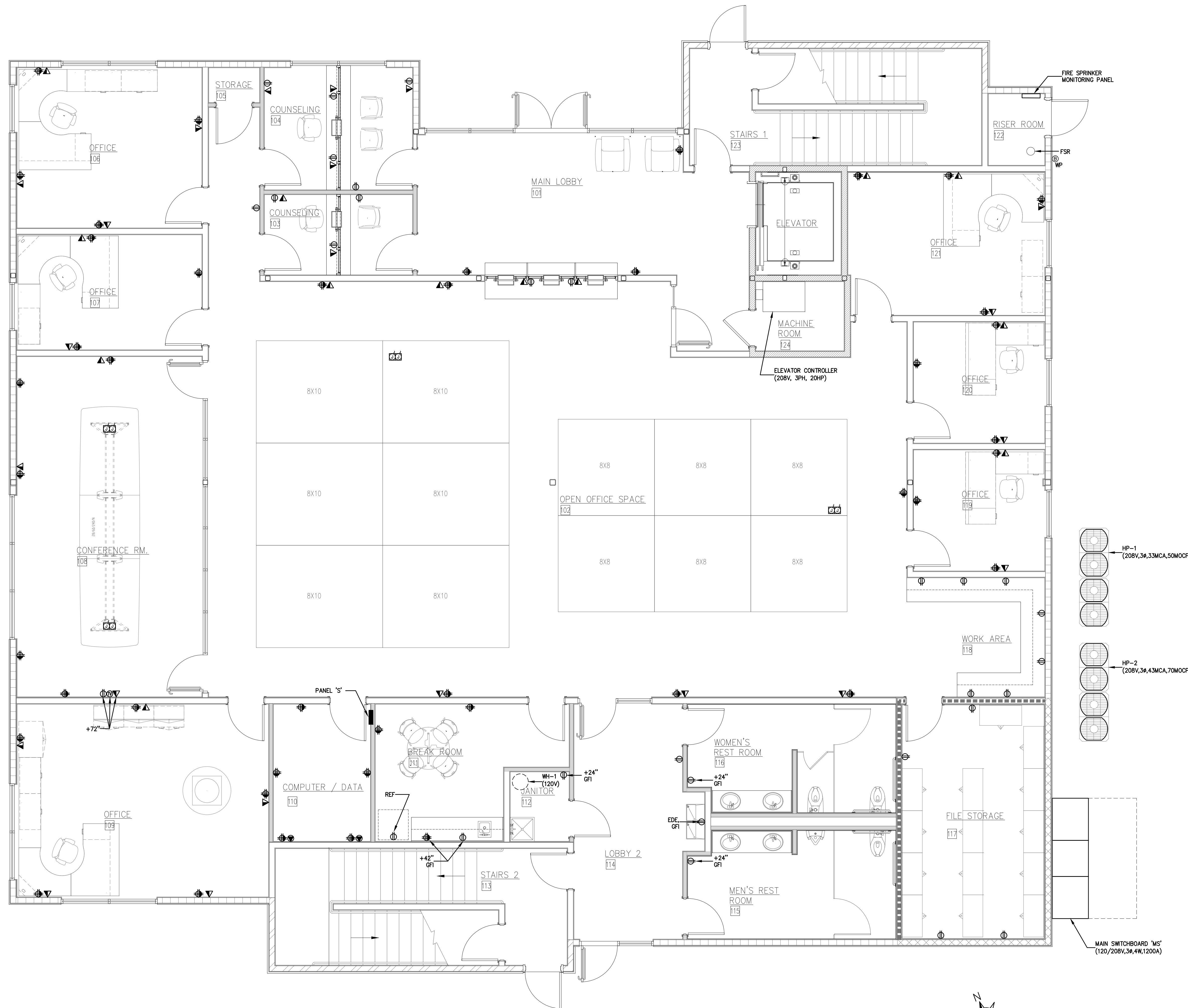
ENGINEER

SHEET CONTENTS:
FIRST FLOOR
POWER PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: 08/15/2022
Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050
SHEET NUMBER:

E2.2



NOT FOR CONSTRUCTION

CHEN
ENGINEERS, INC.
Electrical Engineering Services
729 W. Enterprise Avenue
Clovis, California 93619
Tel (559) 578-6049

WESTERN PROFESSIONAL ENGINEER
RICHARD CHEN
No. E17213
EXP. 6-30-2024
ELECTRICAL
STATE OF CALIFORNIA

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No.	Date	Description

It is the client's responsibility prior to or during construction to verify the designer is relying on the most current and applicable codes and standards. The designer is not responsible for the building code and methods of construction used in the work. The client will be responsible for any delays or modifications if these changes are not noted.

NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024
CITY OF MERCED
CALIFORNIA

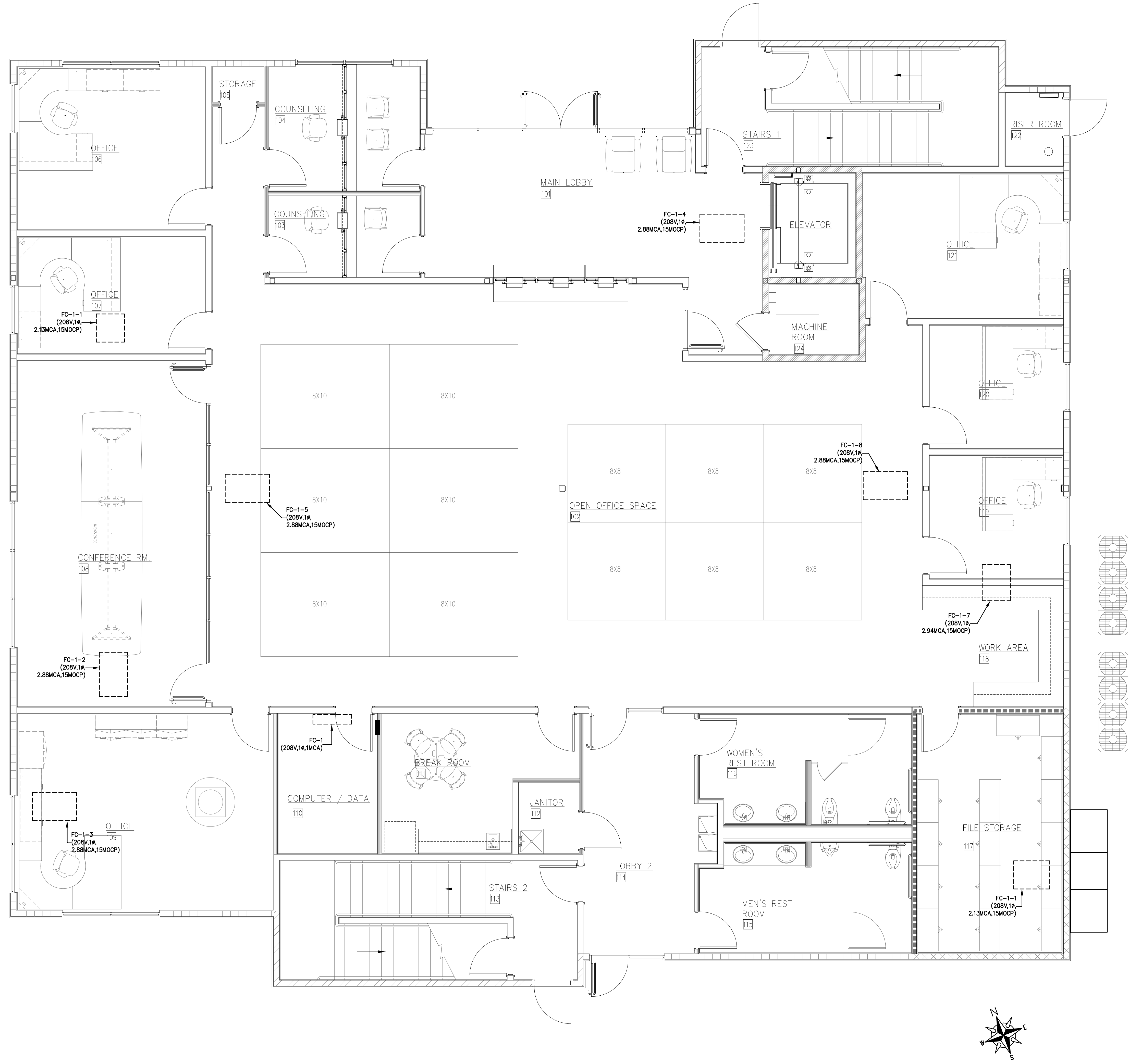
ENGINEER

SHEET CONTENTS:
FIRST FLOOR
HVAC ELECTRICAL PLAN

PREPARED FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:
Date: 08/15/2022
Checked By: Jim Xu
Drawn By: Jim Davis
Job No.: 22-050
SHEET NUMBER:

E2.3



NOT FOR CONSTRUCTION

CHEN
ENGINEERS, INC.
Electrical Engineering Services
729 W. Enterprise Avenue
Clovis, California 93619
Tel (559) 578-6049

REGISTERED PROFESSIONAL ENGINEER
RICHARD CHEN
No. E17213
EXP. 6-30-2024
ELECTRICAL
STATE OF CALIFORNIA

M:\15\G\VES\MERCED Office_Merced\mercedOffice\Merced E2.dwg, 8/15/2022 3:15:02 PM, MY

No.	Date	Description

I, the undersigned, being a duly qualified and licensed professional engineer in the State of California, do hereby certify that I am the author of the above drawings and that I am a duly qualified and licensed professional engineer in the State of California. My commission expires on 06/30/2024.

NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024
 CALIFORNIA
 CITY OF MERCED

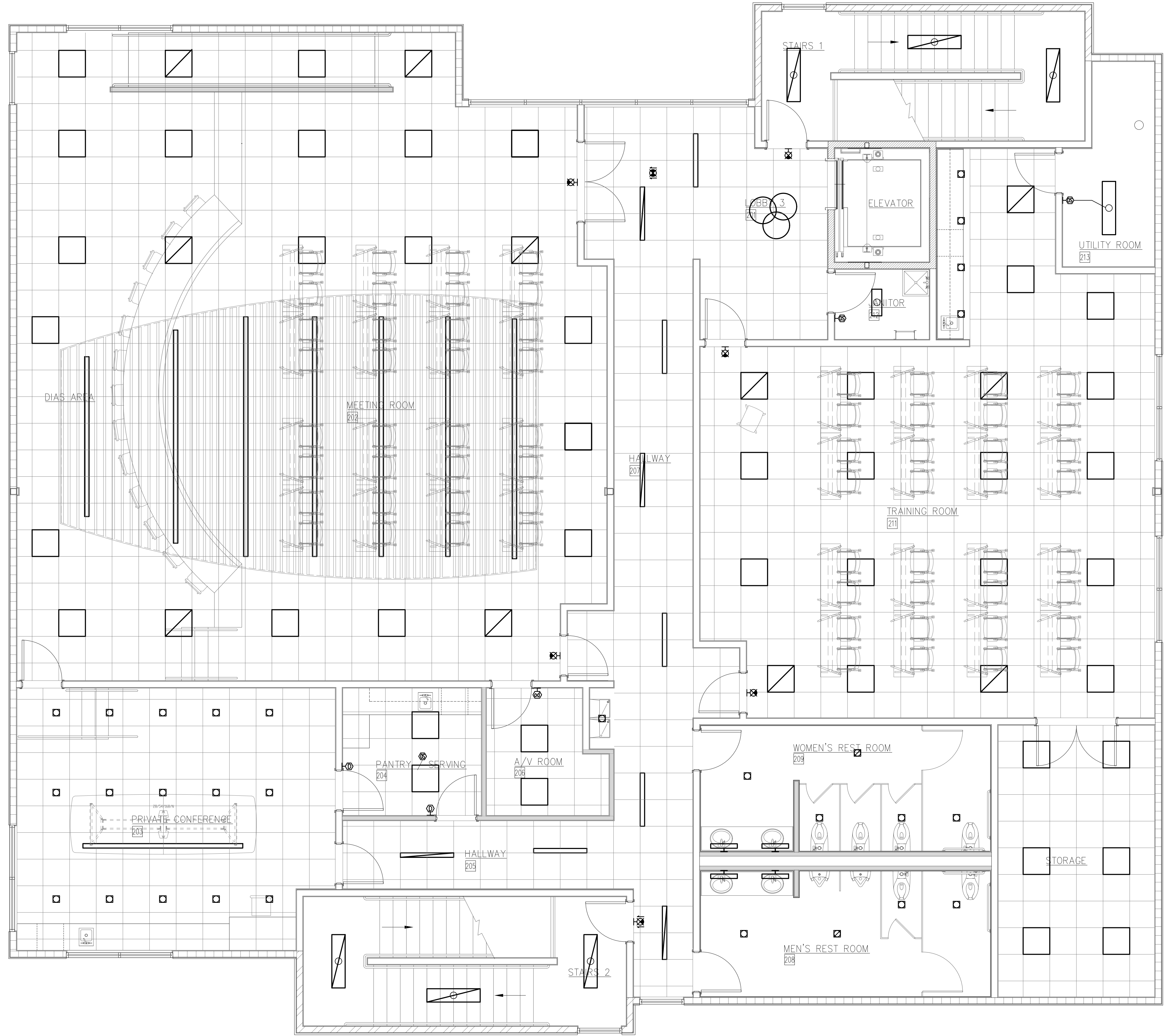
ENGINEER

SHEET CONTENTS:
 SECOND FLOOR
 LIGHTING PLAN

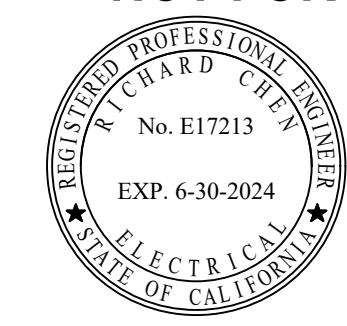
PREPARED FOR:
**MERCED COUNTY EMPLOYEE'S
 RETIREMENT ASSOCIATION**
 3199 M STREET
 MERCED, CA 95340
 PH: (209) 726-2724

PROJECT DATA:
 Date: 08/15/2022
 Checked By: Jim Xu
 Drawn By: Jim Davis
 Job No.: 22-050
 SHEET NUMBER:

E2.4



NOT FOR CONSTRUCTION
CHEN
ENGINEERS, INC.
 Electrical Engineering Services
 729 W. Enterprise Avenue
 Clovis, California 93619
 Tel (559) 578-6049



No.	Date	Description

I, the undersigned, hereby certify that I am a duly licensed Professional Engineer in the State of California, and that I am the author of the design and drawings herein, and that I am not providing any services in violation of the provisions of the California Electrical Code, and that I am not providing any services in violation of the provisions of the California Electrical Code, and that I am not providing any services in violation of the provisions of the California Electrical Code.

MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024
CITY OF MERCED
CALIFORNIA

NEW 2-STORY OFFICE BUILDING FOR:
MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
690 W. 19th STREET
A.P.N. 031-054-024
CITY OF MERCED

ENGINEER

SHEET CONTENTS:
SECOND FLOOR
POWER PLAN

PREPARED FOR:

MERCED COUNTY EMPLOYEE'S RETIREMENT ASSOCIATION
3199 M STREET
MERCED, CA 95340
PH: (209) 726-2724

PROJECT DATA:

Date: 08/15/2022

Checked By: Jim Xu

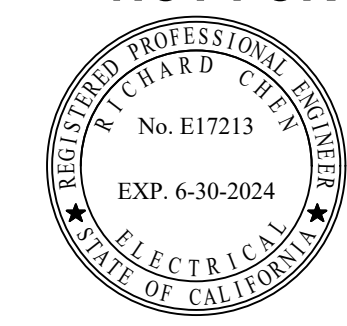
Drawn By: Jim Davis

Job No.: 22-050

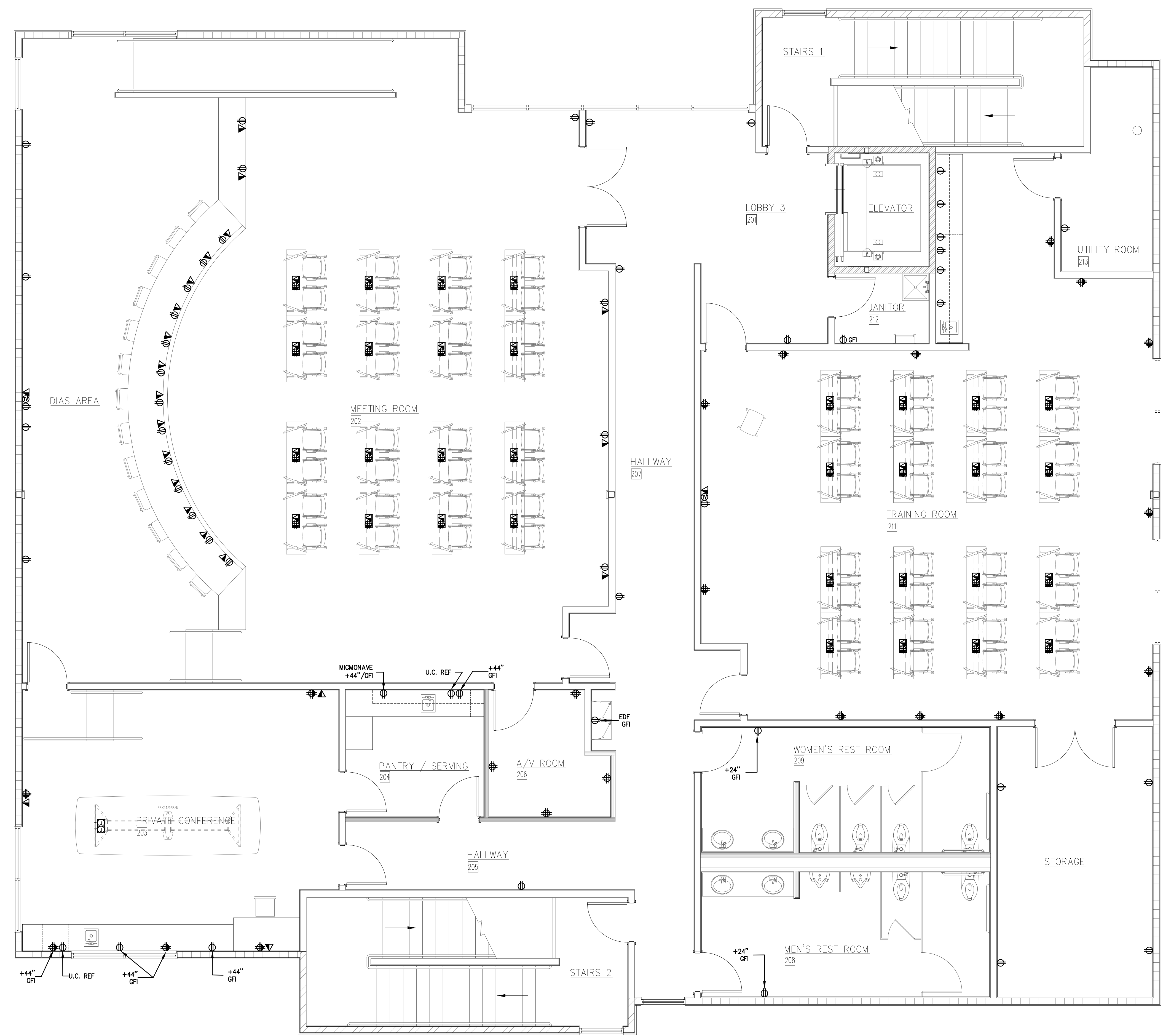
SHEET NUMBER:

E2.5

NOT FOR CONSTRUCTION



CHEN
ENGINEERS, INC.
Electrical Engineering Services
729 W. Enterprise Avenue
Clovis, California 93619
Tel (559) 578-6049



**Merced County Employees'
Retirement Association**

September 22, 2022

July Performance

1. Economic and Market Update as of July 31, 2022
2. Performance Highlights as of July 31, 2022
3. Performance Update as of July 31, 2022
4. Disclaimer, Glossary, and Notes

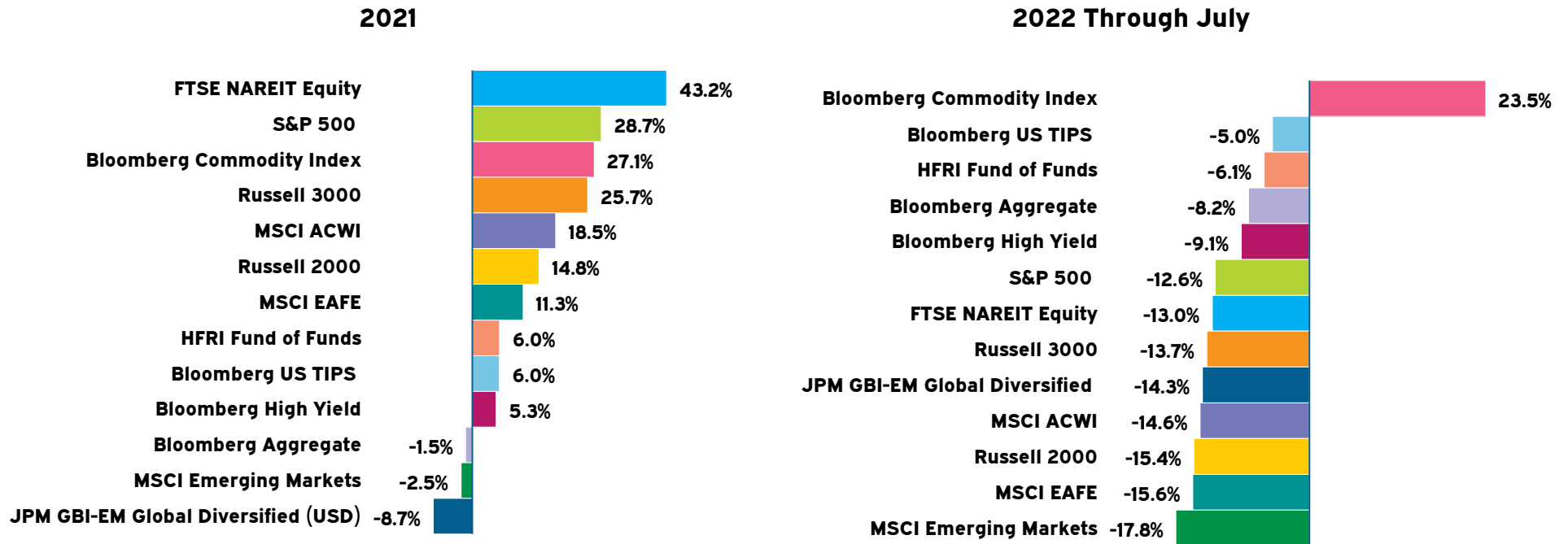
Economic and Market Update

Data as of July 31, 2022

Commentary

- Global markets posted strong results in July on expectations that policy tightening in the US could end early next year due to slowing growth.
- As expected, the Federal Reserve increased interest rates by another 75 basis points. Notably, much focus was placed on chair Jerome Powell's comments that the pace of policy tightening could slow.
 - Developed market equity indices increased for the month, led by US equities where earnings reports were not as weak as feared. Emerging markets fell for the month driven by China instituting renewed COVID-19 lockdowns and lingering property market issues.
 - Growth stocks again outperformed value stocks in July, but trail significantly year to date.
 - Rates declined for the month as growth slowed and expectations for the pace of policy tightening moderated.
- Persistently high inflation and the expected policy response, the war in Ukraine, lingering COVID-19 issues, and lockdowns in China will all have considerable economic and financial consequences for the global economy.

Index Returns¹



→ Outside of emerging markets and the broad US investment grade bond market (Bloomberg Aggregate), most asset classes appreciated in 2021.

→ While year-to-date returns remain negative, in July most asset classes posted positive returns reflecting an improvement in sentiment related to cooling inflationary pressures and the expected path of policy.

¹ Source: Bloomberg and FactSet. Data is as of July 31, 2022.

Domestic Equity Returns¹

Domestic Equity	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
S&P 500	9.2	-16.1	-12.6	-4.6	13.4	12.8	13.8
Russell 3000	9.4	-16.7	-13.7	-7.4	12.6	12.2	13.5
Russell 1000	9.3	-16.7	-13.6	-6.9	12.9	12.5	13.7
Russell 1000 Growth	12.0	-20.9	-19.4	-11.9	16.1	16.3	16.0
Russell 1000 Value	6.6	-12.2	-7.1	-1.4	8.9	8.3	11.1
Russell MidCap	9.9	-16.8	-13.8	-9.8	9.5	9.7	12.3
Russell MidCap Growth	12.2	-21.1	-22.6	-21.8	7.5	11.0	12.8
Russell MidCap Value	8.6	-14.7	-9.0	-2.9	9.4	7.7	11.5
Russell 2000	10.4	-17.2	-15.4	-14.3	7.5	7.1	10.6
Russell 2000 Growth	11.2	-19.3	-21.6	-23.2	4.7	6.9	10.7
Russell 2000 Value	9.7	-15.3	-9.3	-4.8	9.5	6.7	10.2

US Equities: Russell 3000 Index rose 9.4%, and growth indices continued to outperform value in July.

- US stocks rose sharply during the month, led by the technology and consumer discretionary sectors.
- Growth indices outperformed their value counterparts for the month but remain well behind for the year-to-date period.
- Small company stocks outperformed large company stocks in July by over 100 basis points but remain behind year-to-date.

¹ Source: Bloomberg. Data is as of July 31, 2022.

Foreign Equity Returns¹

Foreign Equity	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)
MSCI ACWI ex. US	3.4	-13.7	-15.6	-15.3	2.9	2.4	5.0
MSCI EAFE	5.0	-14.5	-15.6	-14.3	3.2	2.6	5.8
MSCI EAFE (Local Currency)	5.2	-7.8	-6.7	-2.1	5.9	5.2	8.7
MSCI EAFE Small Cap	6.6	-17.7	-19.7	-20.3	3.6	2.3	7.8
MSCI Emerging Markets	-0.2	-11.5	-17.8	-20.1	0.9	1.0	2.8
MSCI Emerging Markets (Local Currency)	0.1	-8.1	-13.6	-14.9	3.6	3.4	5.8
MSCI China	-9.5	3.4	-19.7	-28.3	-3.6	-1.6	4.3

International equities (MSCI EAFE) gained 5.0%, while emerging markets (MSCI EM) fell 0.2% in July.

- Non-US developed market stocks trailed the US for the month, and emerging markets stocks posted negative returns due to China’s drawdown of 9.5%. Both remain notably negative for the year-to-date period (EAFE -15.6%, EM -17.8%), lagging US equities.
- The war in Ukraine, high inflation and the likely monetary policy response, and slowing growth continue to weigh on sentiment.
- Growth stocks had a strong month in July, outperforming value stocks across developed and emerging markets, similar to the US.

¹ Source: Bloomberg. Data is as of July 31, 2022.

Fixed Income Returns¹

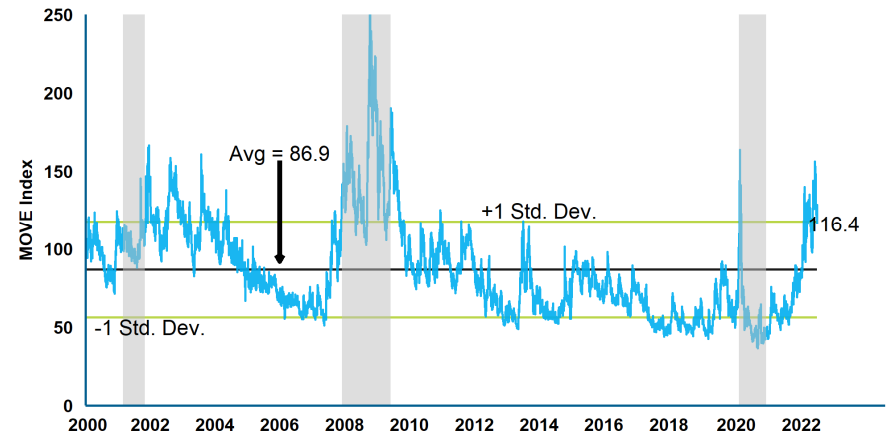
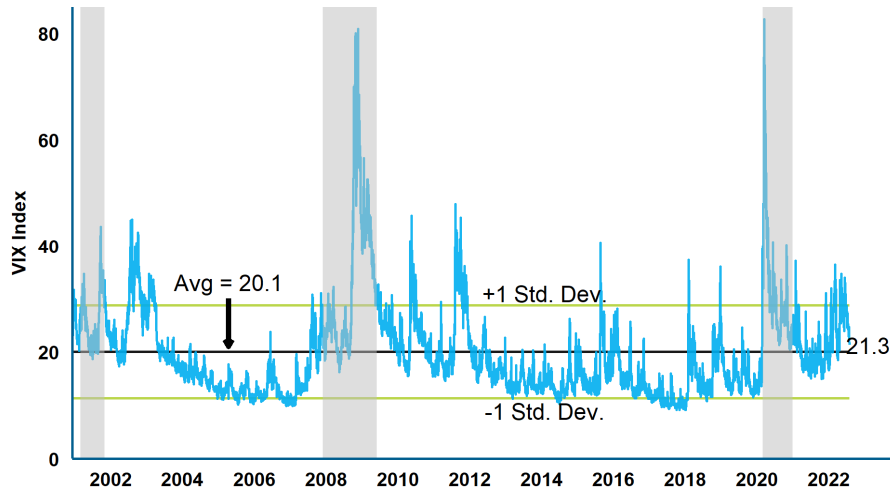
Fixed Income	July (%)	Q2 (%)	YTD (%)	1 YR (%)	3 YR (%)	5 YR (%)	10 YR (%)	Current Yield (%)	Duration (Years)
Bloomberg Universal	2.5	-5.1	-8.7	-9.6	-0.2	1.3	1.9	3.9	6.4
Bloomberg Aggregate	2.4	-4.7	-8.2	-9.1	-0.2	1.3	1.6	3.4	6.6
Bloomberg US TIPS	4.4	-6.1	-5.0	-3.6	4.4	4.0	2.0	3.0	7.4
Bloomberg High Yield	5.9	-9.8	-9.1	-8.0	2.0	3.1	4.9	7.7	4.7
JPM GBI-EM Global Diversified (USD)	0.3	-8.6	-14.3	-18.7	-6.0	-2.7	-1.7	7.3	5.0

Fixed Income: The Bloomberg Universal gained 2.5% in July.

- Fixed income indices broadly benefited from yields declining across the curve. During July, the US 10-year Treasury note yield fell 36 basis points, from 3.01% on June 30th to 2.65% on July 31.
- The high yield index was one of the best performers in July as yields declined along with tightening spreads supported by a historic drop in high yield issuance to the lowest July issuance since 2006.

¹ Source: Bloomberg. JPM GBI-EM is from InvestorForce. Data is as of July 31, 2022.

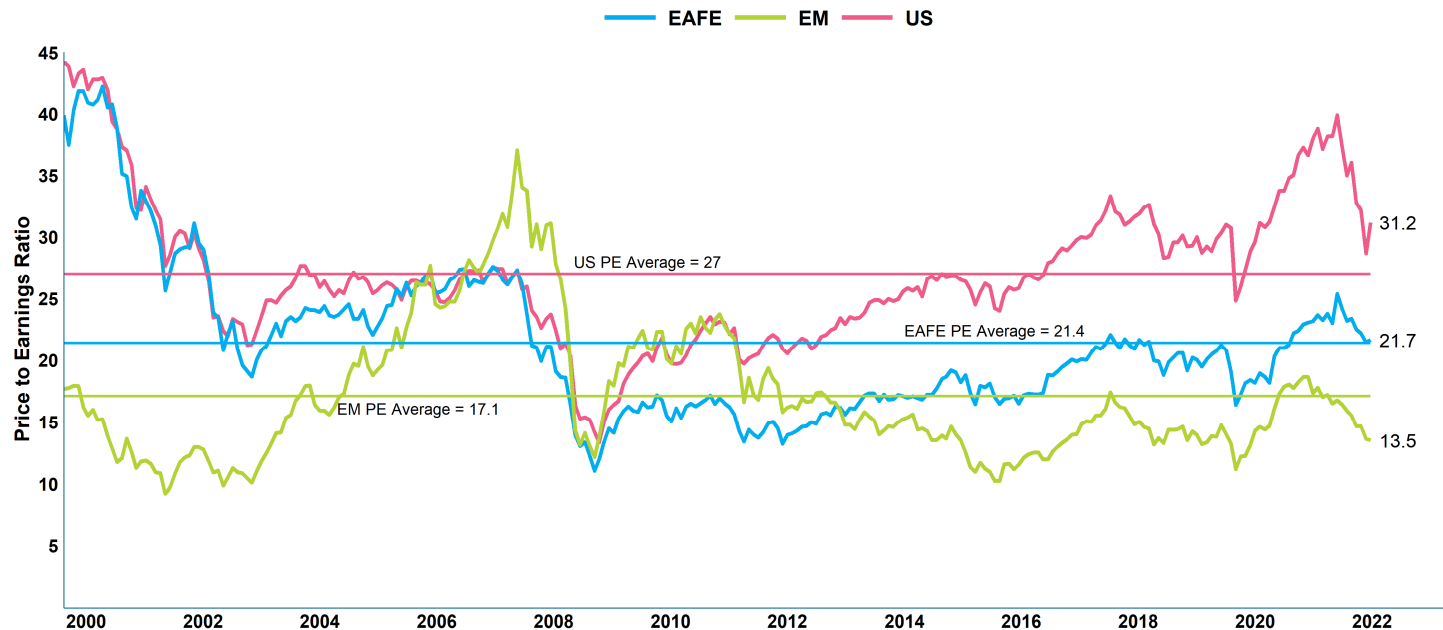
Equity and Fixed Income Volatility¹



- Volatility in equities (VIX) and fixed income (MOVE) declined in July based on potentially peaking monetary policy and possible rate cuts in 2023.
- Despite the July decline, fixed income volatility remains high due to the uncertain path of short-term interest rates.

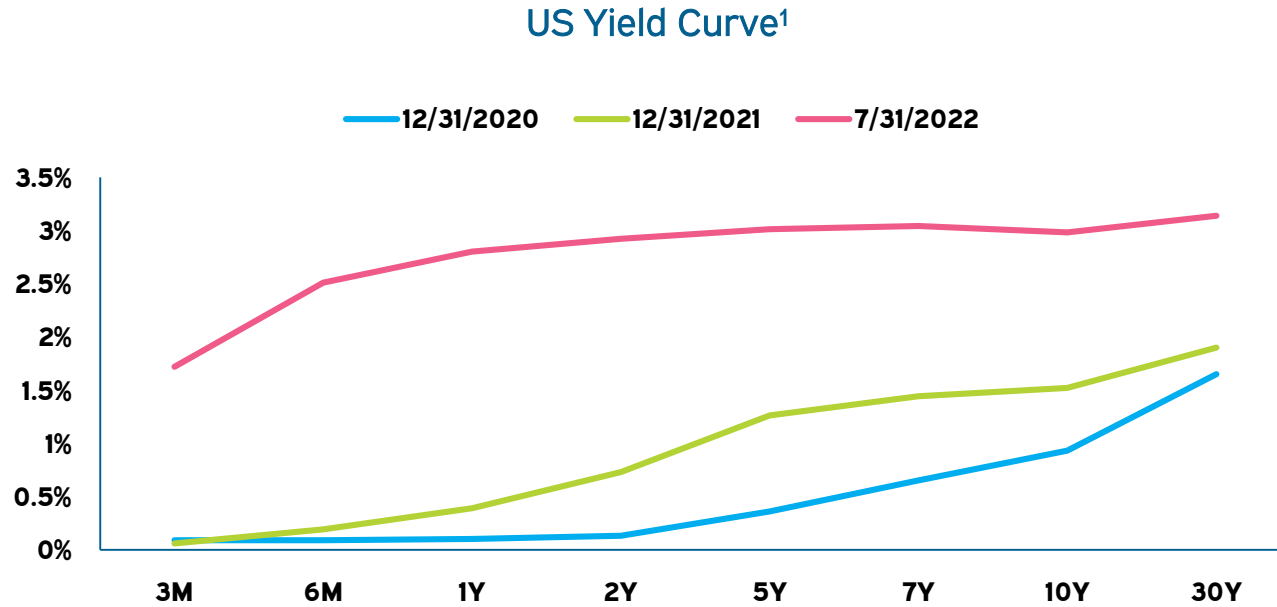
¹ Equity and Fixed Income Volatility – Source: Bloomberg. Implied volatility as measured using VIX Index for equity markets and the MOVE Index to measure interest rate volatility for fixed income markets. Data is as of July 2022. The average line indicated is the average of the VIX and MOVE values between January 2000 and the recent month-end respectively.

Equity Cyclically Adjusted P/E Ratios¹



- Strong positive results in July for US equities reversed the recent trend of valuation declines, but they remain well off the peak.
- International developed market valuations remain below the US and are slightly above their own long-term average, with those for emerging markets the lowest and under the long-term average.

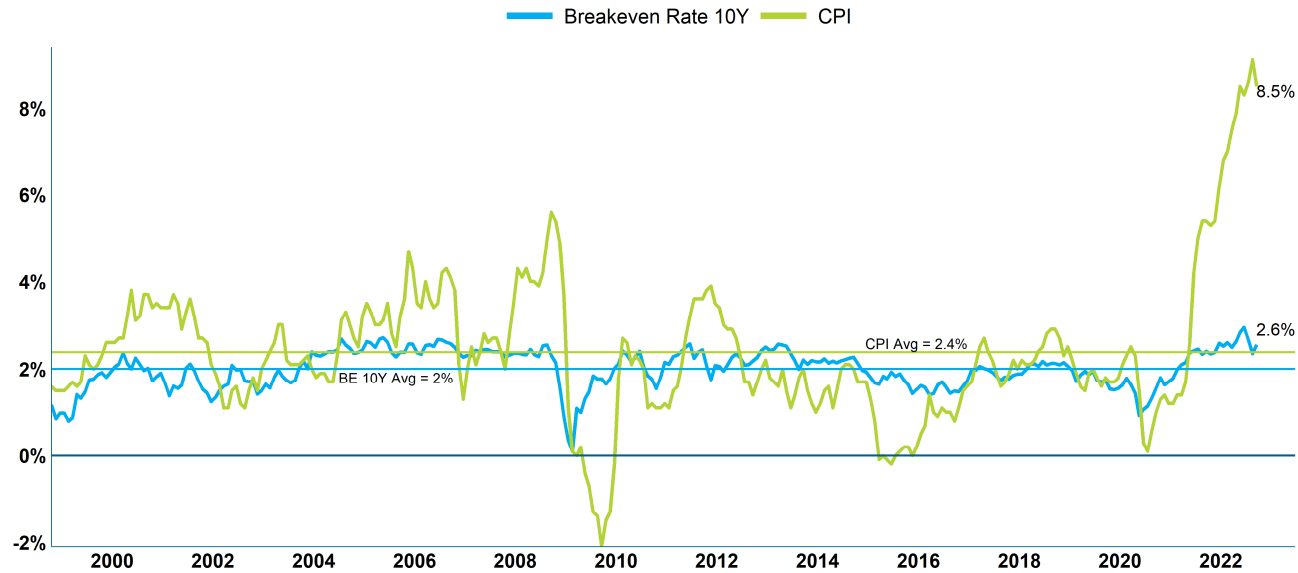
¹ US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: MSCI and Bloomberg. Earnings figures represent the average of monthly “as reported” earnings over the previous ten years. Data is as of July 31, 2022. The average line is the long-term average of the US, EM, and EAFE PE values from December 1999 to the recent month-end respectively.



- Rates across the yield curve remain much higher than at the start of the year.
- In July, longer-dated yields declined as investors reconsidered economic growth prospects and the likelihood that yields have reached their peak for this economic cycle. Shorted dated yields rose on near-term policy actions and messaging that policy officials intend to remain aggressive in fighting inflation pressures into early 2023.
- The yield spread between two-year and ten-year Treasuries became negative, finishing July at -0.23%. Inversions in the yield curve have historically often signaled building recessionary pressures.

¹ Source: Bloomberg. Data is as of July 31, 2022.

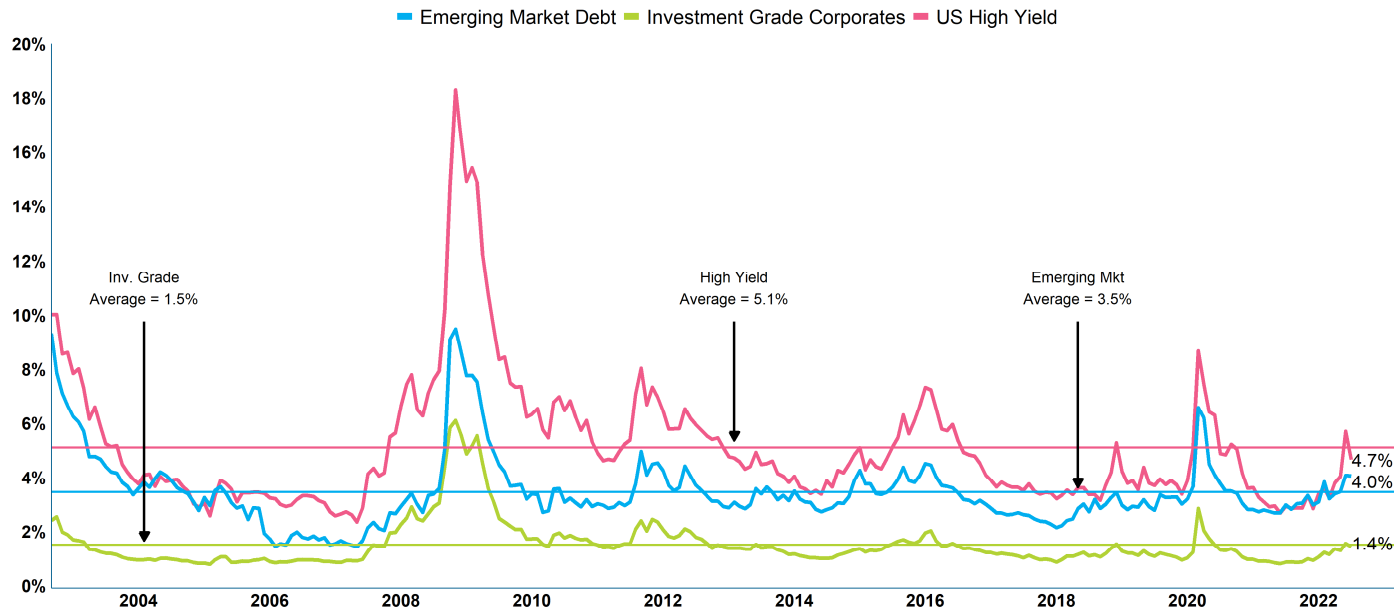
Ten-Year Breakeven Inflation and CPI¹



- In July, inflation expectations (breakevens) rose on the prospects of easing monetary policy next year.
- Trailing twelve-month CPI declined in July (8.5% versus 9.1%) and came in below expectations. Inflation levels in the US remain well above the long-term average of 2.4%.
- Rising prices for energy (particularly oil), food, housing, and for new and used cars, remain key drivers of higher inflation.

¹ Source: Bloomberg. Data is as of July 31, 2022. The CPI and 10 Year Breakeven average lines denote the average values from August 1998 to the present month-end respectively. Breakeven values represent month-end values for comparative purposes.

Credit Spreads vs. US Treasury Bonds¹



- Credit spreads (the spread above a comparable maturity Treasury) declined in July, particularly for high yield, as risk appetite returned.
- In the US, spreads for high yield reversed course, declining from 5.7% to 4.7%, while investment grade (1.6% to 1.4%) and emerging market (4.1% to 4.0%) spreads experienced more modest declines.

¹ Sources: Bloomberg. Data is as of July 31, 2022. Average lines denote the average of the investment grade, high yield, and emerging market spread values from August 2000 to the recent month-end respectively.

Global Economic Outlook

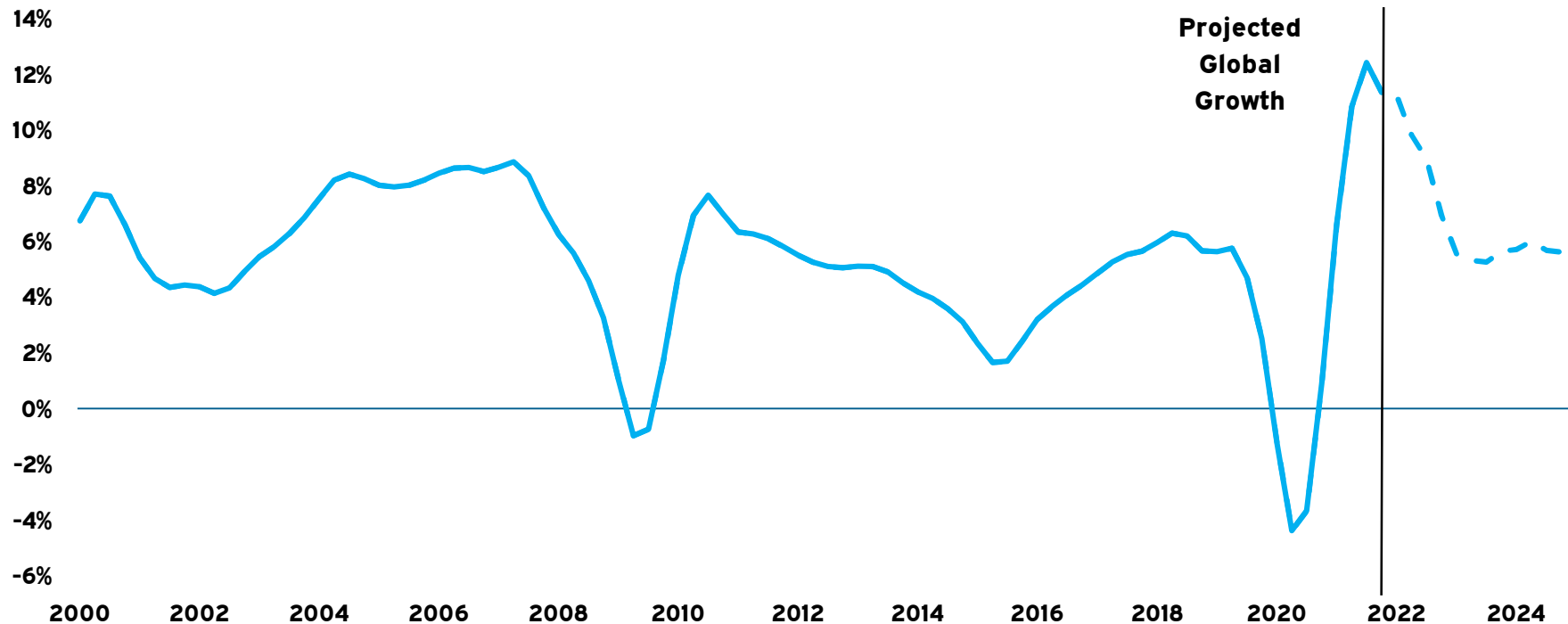
The IMF significantly lowered global growth forecasts again in their latest projections, driven by the economic impacts of persistent inflation in energy and food prices.

- The IMF forecasts global GDP growth to come in at 3.2% in 2022 (0.4% below the prior estimate) and 2.9% in 2023 (0.7% below the prior estimate).
- In advanced economies, GDP is projected to increase 2.5% in 2022 and 1.4% in 2023. The US saw another downgrade in the 2022 (2.3% versus 3.7%) and 2023 (1.0% versus 2.3%) growth forecasts largely due to policy tightening happening faster than previously expected given persistently high inflation. The euro area saw a downgrade too in expected growth (2.6% versus 2.8%) in 2022 and in 2023 (1.2% versus 2.3%) as rising energy prices particularly weigh on the region that is a net importer of energy. The Japanese economy is expected to grow 1.7% this year and next.
- Growth projections for emerging markets are higher than developed markets, at 3.6% in 2022 and 3.9% in 2023. China's growth was downgraded for 2022 (3.3% versus 4.4%) and 2023 (4.9% versus 5.1%) given tight COVID-19 restrictions and continued property sector problems.
- The global inflation forecast was significantly increased for 2022 (7.4% versus 3.8%).

	Real GDP (%) ¹			Inflation (%) ¹		
	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average	IMF 2022 Forecast	IMF 2023 Forecast	Actual 10 Year Average
World	3.2	2.9	3.0	7.4	4.8	3.5
Advanced Economies	2.5	1.4	1.6	5.7	2.5	1.5
US	2.3	1.0	2.1	7.7	2.9	1.9
Euro Area	2.6	1.2	0.9	5.3	2.3	1.2
Japan	1.7	1.7	0.5	1.0	0.8	0.5
Emerging Economies	3.6	3.9	4.2	8.7	6.5	5.1
China	3.3	4.9	6.7	2.1	1.8	2.1

¹ Source: IMF World Economic Outlook. Real GDP forecasts from July 2022 Update. Inflation forecasts are as of the April 2022 Update.* Actual 10 Year Average* represents data from 2012 to 2021.

Global Nominal Gross Domestic Product (GDP) Growth¹

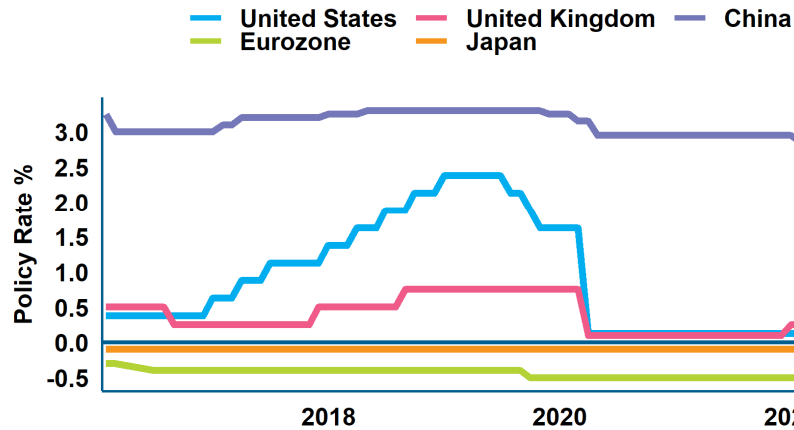


- Global economies are expected to slow in 2022 compared to 2021 with risks of recession increasing given persistently high inflation and related tighter monetary policy.
- Looking forward, the delicate balancing act of central banks trying to reduce inflation without dramatically impacting growth will remain key.

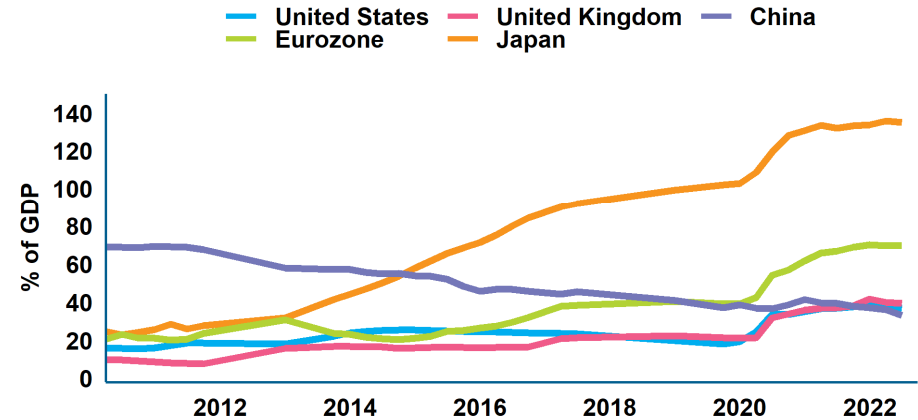
¹ Source: Oxford Economics (World GDP, US\$ prices & PPP exchange rate, nominal, % change YoY). Updated July 2022.

Central Bank Response¹

Policy Rates



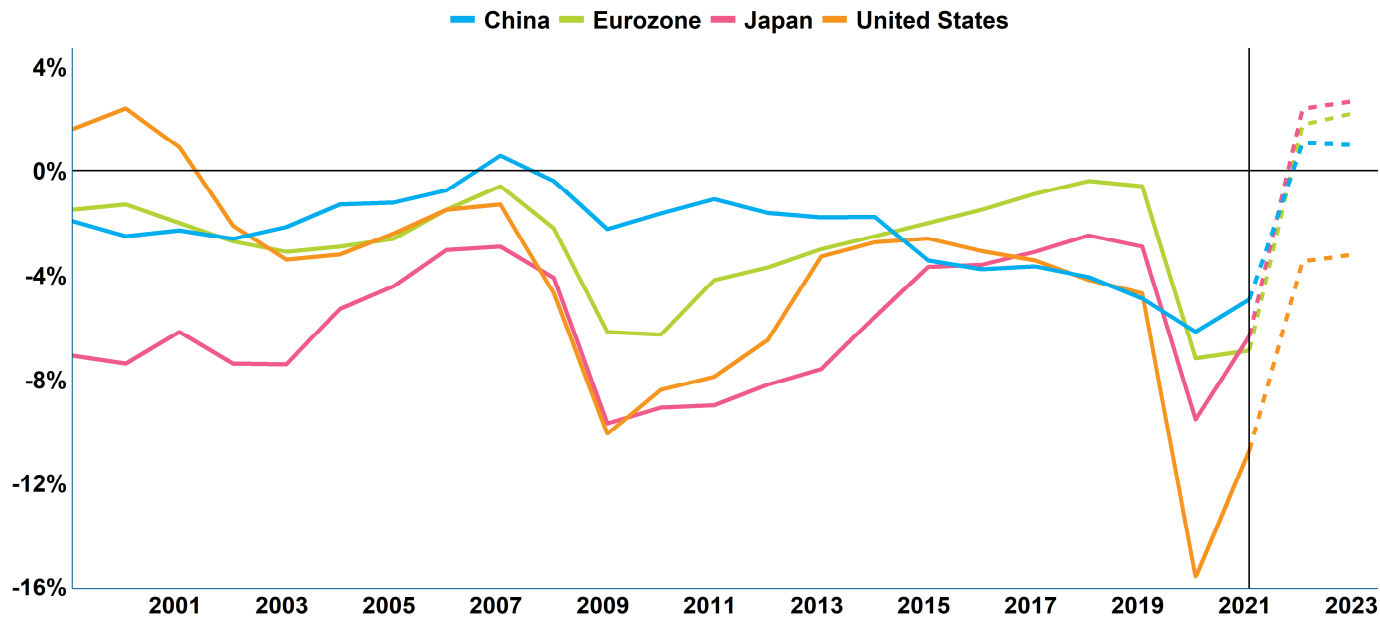
Balance Sheet as % of GDP



- After global central banks took extraordinary action to support economies during the pandemic, including policy rate cuts and emergency stimulus through quantitative easing (QE), many are now aggressively reducing support in the face of high inflation.
- The pace of withdrawing support varies across central banks with the US taking a more aggressive approach. The risk remains for a policy error, particularly overtightening, as record inflation, the war in Ukraine, and a tough COVID-19 policy in China could suppress global growth.
- The one notable central bank outlier is China, where the central bank recently lowered rates and reserve requirements in response to slowing growth.

¹ Source: Bloomberg. Policy rate data is as of July 31, 2022. China policy rate is defined as the medium-term lending facility 1 year interest rate. Balance sheet as % of GDP is based on quarterly data and is as of June 30, 2022.

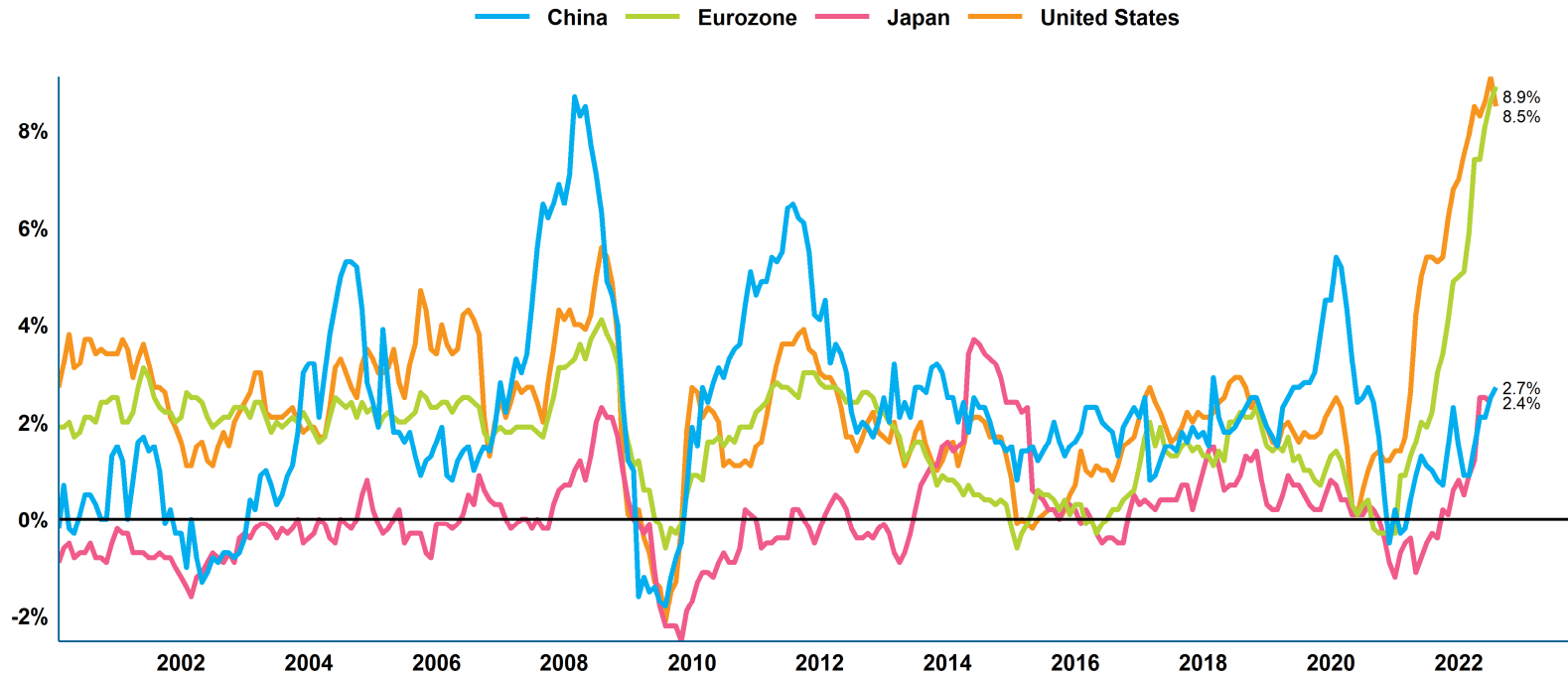
Budget Surplus / Deficit as a Percentage of GDP¹



- Budget deficits as a percentage of GDP drastically increased for major world economies, particularly the US, due to massive fiscal support and the severe economic contraction's effect on tax revenue in 2020 and 2021.
- As fiscal stimulus programs end, and economic recoveries continue, deficits should improve in the coming years.

¹ Source: Bloomberg. Data is as of July 31, 2022. Projections via IMF Forecasts from April 2022 Report. Dotted lines represent 2022 and 2023 forecasts.

Inflation (CPI Trailing Twelve Months)¹

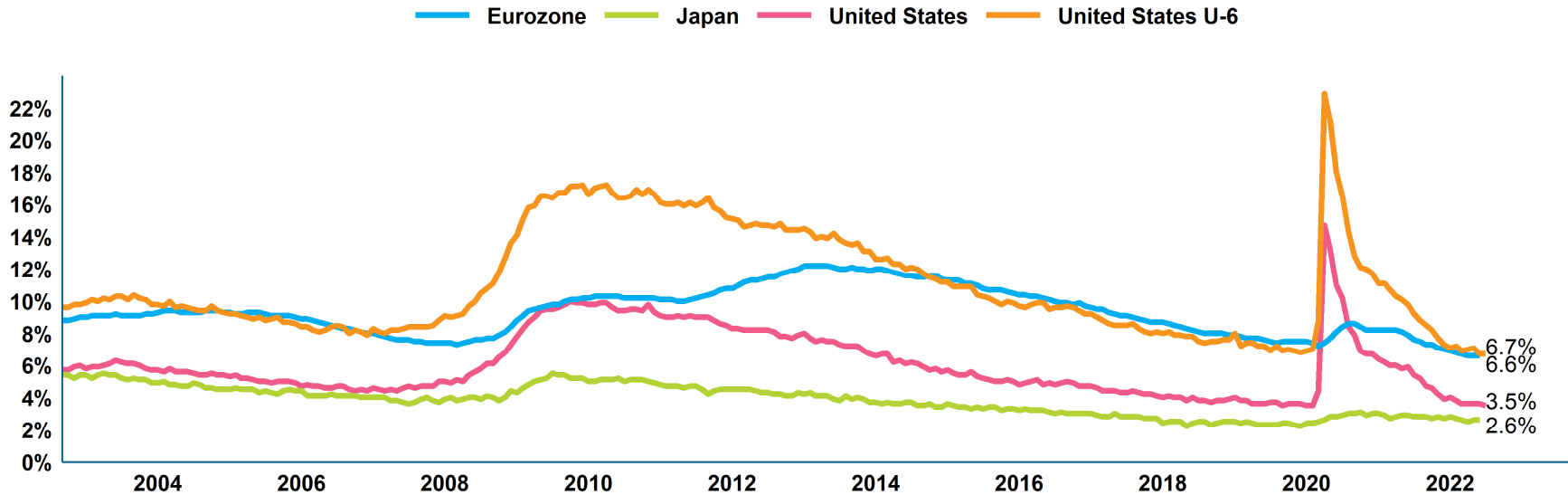


→ Inflation increased dramatically from the lows of the pandemic, particularly in the US and Eurozone where it has reached levels not seen in many decades.

→ Supply issues related to the pandemic, record monetary and fiscal stimulus, strict COVID-19 restrictions in China, and higher prices in many commodities driven by the war in Ukraine have been key global drivers of inflation.

¹ Source: Bloomberg. Data is as of July 2022. The most recent data for Japan is as of June 30, 2022.

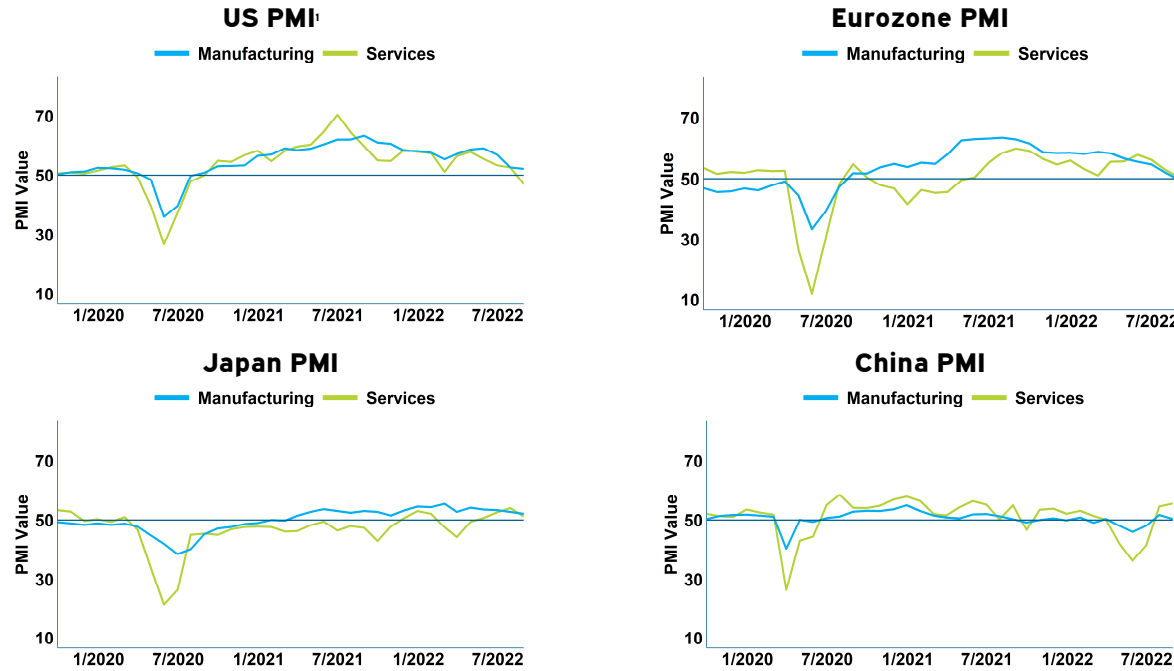
Unemployment¹



- As economies have largely reopened, helped by vaccines for the virus, improvements have been seen in the labor market.
- US unemployment, which experienced the steepest rise from the pandemic, declined back to pre-pandemic levels. The broader measure (U-6) that includes discouraged and underemployed workers declined but is much higher at 6.7%.

¹ Source: Bloomberg. Data is as of July 2022, for the US. The most recent data for Eurozone and Japanese unemployment is as of June 30, 2022.

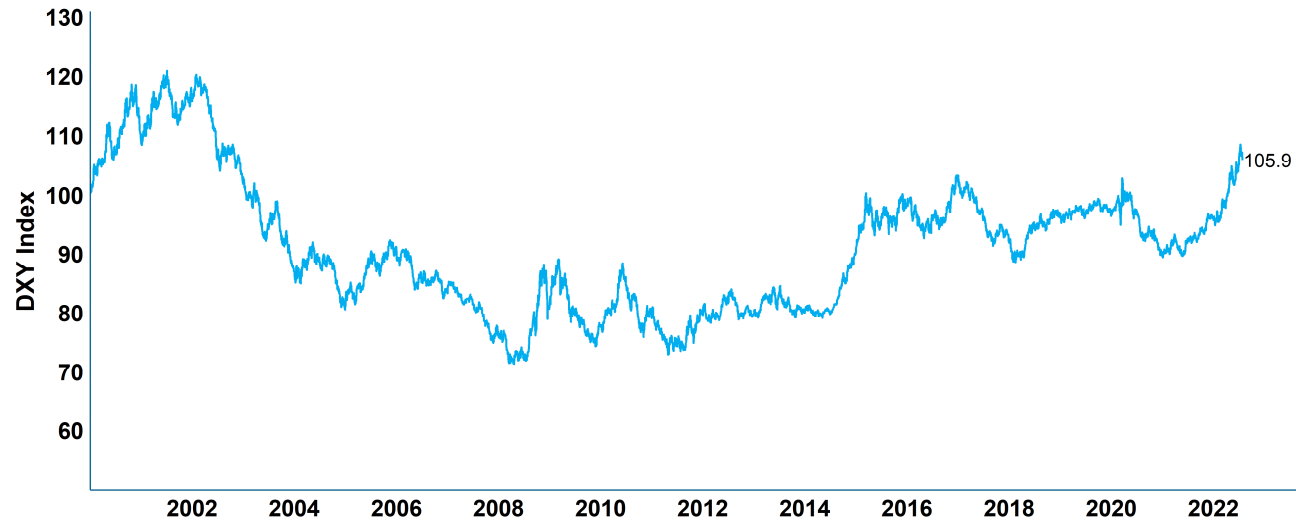
Global PMIs



- After improvements from the lows of the pandemic, Purchasing Managers Indices (PMI), based on surveys of private sector companies, have largely experienced some pressures recently.
- Service sector PMIs in the US and Europe have recently declined, with the US slipping into contraction territory, while Japan experienced a decline for the month on rising COVID-19 cases in parts of the country. In China the services PMI remained in positive territory.
- Manufacturing PMIs dropped recently across China and developed markets given declines in demand and inflationary pressures.

¹ Source: Bloomberg. US Market Services and Manufacturing PMI, Caixin Services and Manufacturing PMI, Eurozone Market Services and Manufacturing PMI, Jibun Bank Services and Manufacturing PMI. Data is as of July 2022. Readings below 50 represent economic contractions.

US Dollar versus Broad Currencies¹



- In July, the US dollar overall continued its path higher but finished the month off its peak as expectations on the pace of policy tightening by the Fed fell and safe-haven flows declined.
- The euro, yen, and yuan have all experienced significant declines versus the dollar this year, adding to inflation and slowing growth concerns.

¹ Source: Bloomberg. Data as of July 31, 2022.

Summary

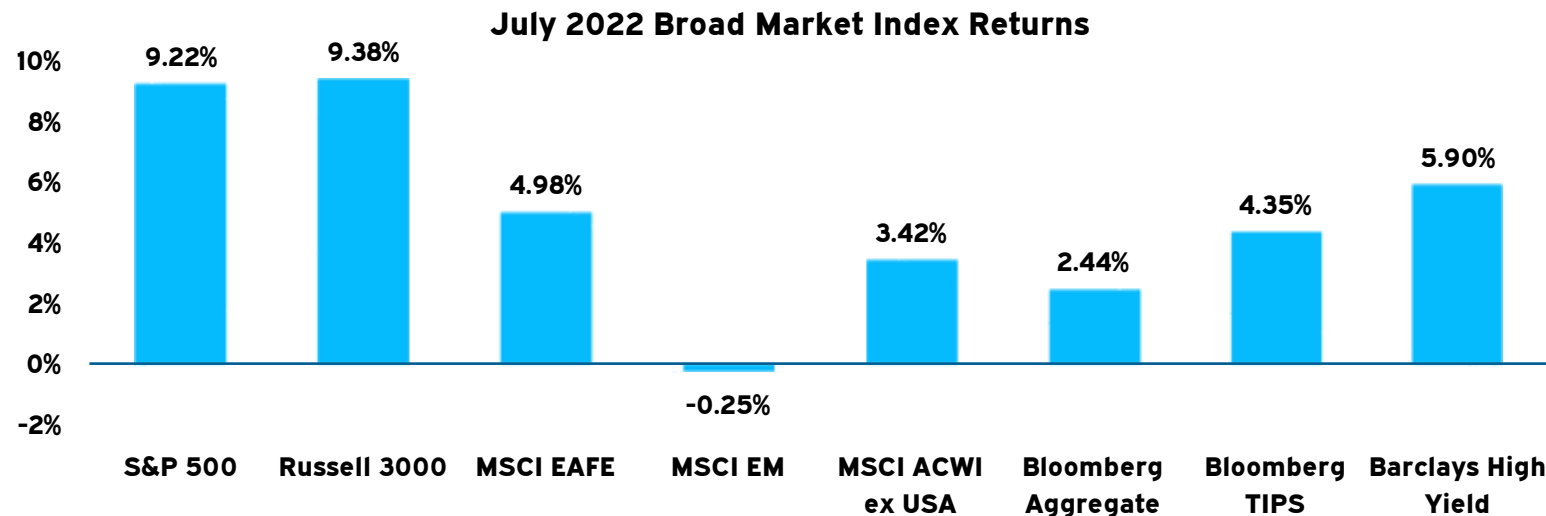
Key Trends in 2022:

- The impacts of record high inflation will remain key going forward, with volatility likely to remain high.
- The war in Ukraine has created significant uncertainty, with a wide range of potential outcomes.
- Expect growth to slow globally in 2022 to the long-term trend or below. Inflation, monetary policy, and the war will all be key.
- The end of many fiscal programs is expected to put the burden of continued growth on consumers. Higher energy and food prices will depress consumers' spending in other areas.
- Monetary policy will likely tighten globally but will remain relatively accommodative. The risk of overtightening policy remains.
- Valuations have significantly declined in the US, approaching long-term averages.
- Outside the US, equity valuations remain lower in both emerging and developed markets, but risks remain, including continued strength in the US dollar, higher inflation particularly weighing on Europe, and China maintaining its restrictive COVID-19 policies.

Performance Highlights

As of July 31, 2022

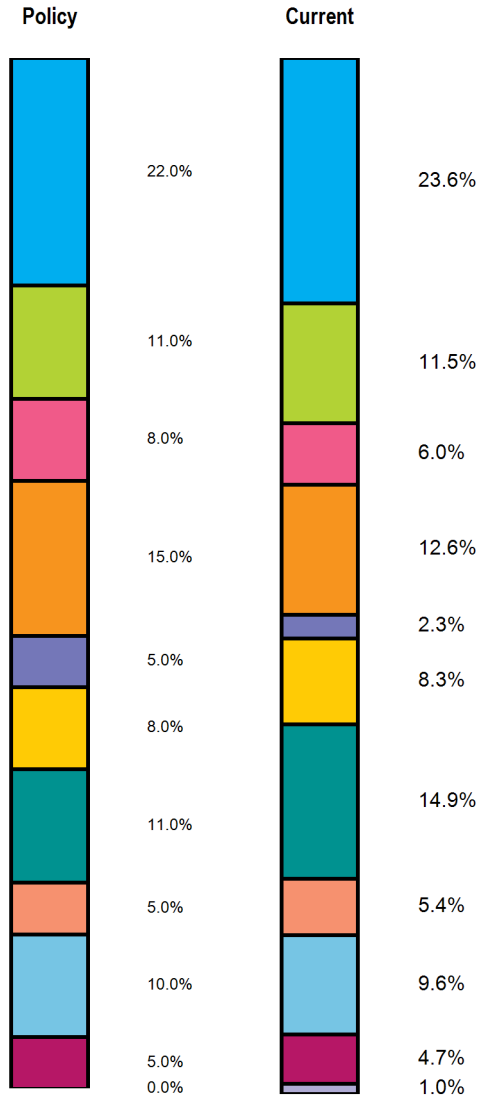
Market Review and Performance Summary for July 2022



- Most asset classes experienced a strong recovery in July as expectations of the Fed’s policy tightening ending early next year grew. US equities saw the strongest returns as investors focused on comments from the Federal Reserve indicating policy tightening could be slowing. While International Developed saw strong returns, Emerging Markets fell due to reinstatement of COVID-19 policies in China. Fixed Income markets also benefited from declining yields during the month.
- Merced CERA reported a monthly return of 3.4% net of fees. US Equities posted the strongest returns, driven by strong performance from both BNY Large Cap funds in the portfolio. Emerging Markets had strong performance on both absolute and relative basis as Artisan Developing World outperformed its benchmark by 7.2%. US Fixed Income mirrored its benchmark while Opportunistic Credit struggled relative to its benchmark primarily due to poor performance from the Sculptor Credit Opportunities fund.
- As of July 31, 2022, total assets for the Merced CERA Portfolio are estimated at \$1.09 billion.

Performance Update

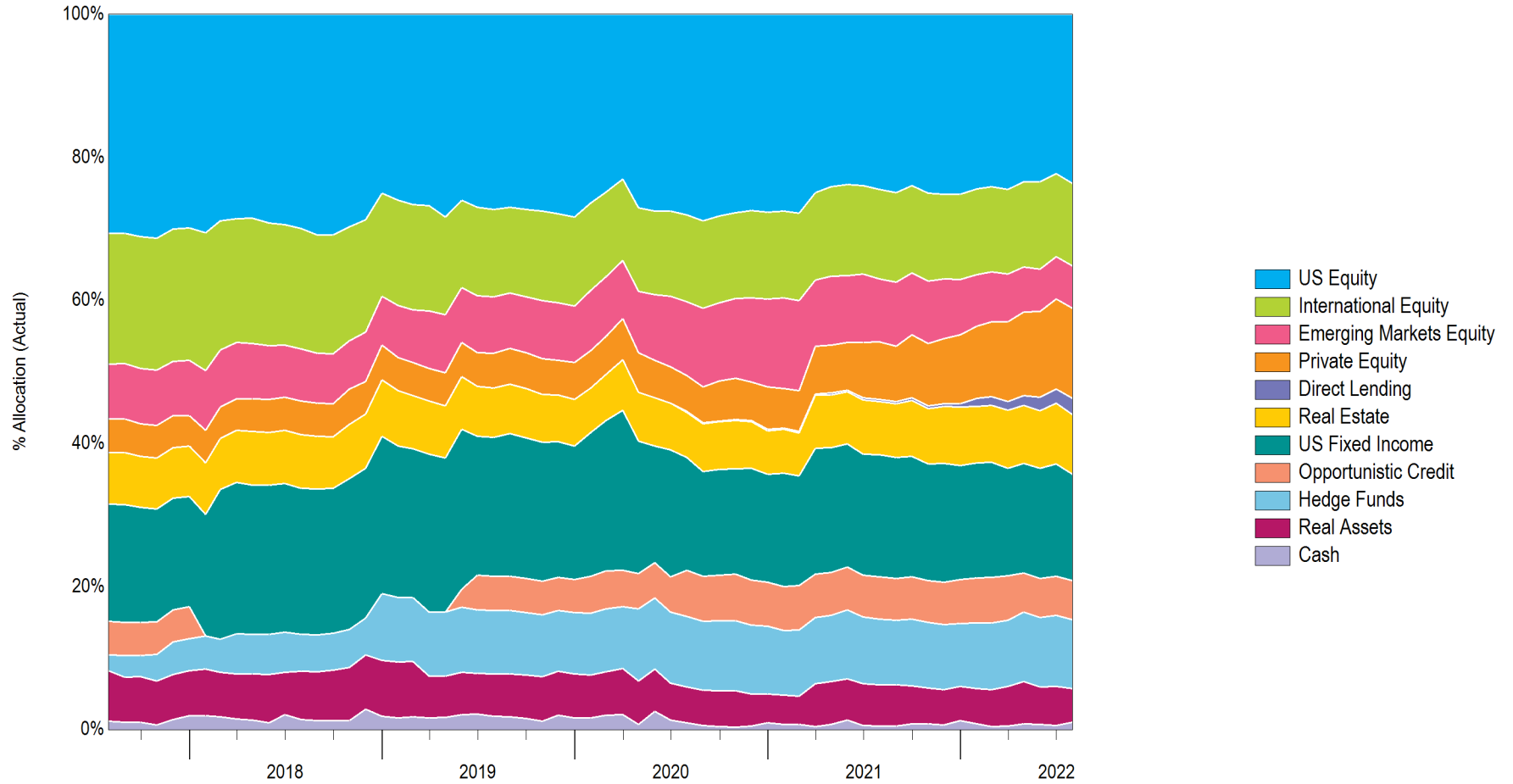
As of July 31, 2022



Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Policy	Difference	Policy Range	Within IPS Range?
US Equity	\$257,901,997	23.6%	22.0%	1.6%	16.0% - 27.0%	Yes
International Equity	\$125,766,661	11.5%	11.0%	0.5%	6.0% - 16.0%	Yes
Emerging Markets Equity	\$64,981,493	6.0%	8.0%	-2.0%	4.0% - 12.0%	Yes
Private Equity	\$137,004,955	12.6%	15.0%	-2.4%	5.0% - 20.0%	Yes
Direct Lending	\$25,113,568	2.3%	5.0%	-2.7%	0.0% - 10.0%	Yes
Real Estate	\$90,611,848	8.3%	8.0%	0.3%	6.0% - 10.0%	Yes
US Fixed Income	\$162,944,180	14.9%	11.0%	3.9%	6.0% - 16.0%	Yes
Opportunistic Credit	\$58,912,411	5.4%	5.0%	0.4%	3.0% - 7.0%	Yes
Hedge Funds	\$105,225,726	9.6%	10.0%	-0.4%	5.0% - 15.0%	Yes
Real Assets	\$51,830,369	4.7%	5.0%	-0.3%	3.0% - 7.0%	Yes
Cash	\$11,085,479	1.0%	0.0%	1.0%	0.0% - 5.0%	Yes
Total	\$1,091,378,687	100.0%	100.0%			

Cash range displayed for illustrative purposes only.

Asset Allocation History
5 Years Ending July 31, 2022



Asset Class Performance Summary										
	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund (Net)*	1,091,378,687	100.0	3.4	-8.0	-4.1	8.8	7.8	8.4	8.1	Dec-94
Total Fund (Gross)*			3.4	-7.8	-3.7	9.2	8.1	8.8	8.2	
<i>Policy Index</i>			2.2	-7.7	-3.1	8.4	7.5	8.5	6.2	Dec-94
Total Fund w/o Alternatives (Net)	670,506,742	61.4	5.1	-14.0	-12.4	7.1	6.8	8.1	--	Dec-94
Total Fund w/o Alternatives (Gross)			5.2	-13.8	-12.0	7.5	7.1	8.4	--	
<i>Policy Index w/o AI</i>			5.1	-12.5	-10.6	5.6	5.8	7.2	--	Dec-94
US Equity (Net)	257,901,997	23.6	9.2	-15.3	-8.4	11.6	11.8	13.9	10.2	Dec-94
US Equity (Gross)			9.3	-15.2	-8.1	11.9	12.0	14.1	10.3	
<i>Russell 3000</i>			9.4	-13.7	-7.4	12.5	11.8	13.2	10.2	Dec-94
International Equity (Net)	190,748,154	17.5	3.2	-19.5	-22.0	7.4	5.1	6.7	5.4	Dec-98
International Equity (Gross)			3.3	-19.1	-21.3	8.2	5.8	7.3	5.7	
<i>International Equity Custom</i>			2.7	-16.2	-16.4	2.7	2.4	5.6	4.1	Dec-98
Developed International Equity (Net)	125,766,661	11.5	2.4	-12.1	-12.3	6.5	4.5	6.6	3.8	Jan-08
Developed International Equity (Gross)			2.5	-11.8	-11.7	7.1	5.0	7.2	4.3	
<i>Custom Blended Developed International Equity BM</i>			5.1	-16.1	-15.2	3.5	2.8	5.9	2.5	Jan-08
Emerging Markets Equity (Net)	64,981,493	6.0	4.9	-30.6	-35.7	6.4	4.7	5.1	4.2	Apr-12
Emerging Markets Equity (Gross)			5.0	-30.2	-35.0	7.3	5.7	6.1	5.2	
<i>Custom Blended Emerging Markets Benchmark</i>			-0.2	-17.8	-20.1	0.9	1.1	3.1	2.4	Apr-12
US Fixed Income (Net)	162,944,180	14.9	2.4	-8.1	-9.2	-0.4	1.1	2.0	4.7	Dec-94
US Fixed Income (Gross)			2.4	-8.0	-9.0	-0.2	1.2	2.2	4.8	
<i>BBgBarc US Aggregate TR</i>			2.4	-8.2	-9.1	-0.3	1.3	1.8	5.0	Dec-94
Opportunistic Credit (Net)	58,912,411	5.4	2.2	-5.8	-3.9	3.3	--	--	3.7	May-19
Opportunistic Credit (Gross)			2.2	-5.5	-3.4	3.7	--	--	4.0	
<i>50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans</i>			3.2	-7.0	-6.8	1.1	--	--	1.7	May-19

The current US Fixed Income benchmark is the Barclays US Agg. Please refer to the benchmark history for the composition of the US Fixed Income benchmark in earlier periods. Data prior to March 2018 provided by prior consultant.

Total Fund | As of July 31, 2022

	Market Value (\$)	% of Portfolio	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Real Estate (Net)	90,611,848	8.3	2.2	1.2	11.7	6.1	6.1	7.2	--	Mar-99
Real Estate (Gross)			2.2	1.2	11.8	6.2	6.2	7.7	8.2	
<i>Custom Blended Real Estate Benchmark</i>			<i>0.0</i>	<i>12.5</i>	<i>29.5</i>	<i>12.3</i>	<i>9.9</i>	<i>10.3</i>	<i>8.0</i>	<i>Mar-99</i>
<i>CPI + 5% (Seasonally Adjusted)</i>			<i>0.4</i>	<i>8.4</i>	<i>13.9</i>	<i>10.1</i>	<i>9.0</i>	<i>7.7</i>	--	<i>Mar-99</i>
Private Real Estate (Net)	66,377,399	6.1	0.0	7.5	18.6	6.4	6.3	7.2	--	Mar-99
Private Real Estate (Gross)			0.0	7.5	18.7	6.4	6.3	7.8	8.2	
<i>Custom Blended Real Estate Benchmark</i>			<i>0.0</i>	<i>12.5</i>	<i>29.5</i>	<i>12.3</i>	<i>9.9</i>	<i>10.3</i>	<i>8.0</i>	<i>Mar-99</i>
Private Equity (Net)	137,004,955	12.6	0.0	8.4	30.7	23.8	20.2	13.6	10.8	Jun-05
Private Equity (Gross)			0.0	8.4	30.7	23.9	20.2	13.7	11.0	
<i>Custom Private Equity Benchmark</i>			<i>-7.9</i>	<i>-5.3</i>	<i>6.1</i>	<i>20.3</i>	<i>18.7</i>	<i>18.9</i>	--	<i>Jun-05</i>
Direct Lending (Net)	25,113,568	2.3	0.0	2.5	2.0	--	--	--	11.1	Jul-20
Direct Lending (Gross)			0.0	2.5	2.0	--	--	--	11.1	
<i>S&P LSTA Leverage Loan Index + 2%</i>			<i>2.3</i>	<i>-1.3</i>	<i>1.3</i>	<i>4.7</i>	<i>5.3</i>	<i>5.9</i>	<i>7.1</i>	<i>Jul-20</i>
Hedge Fund (Net)	105,225,726	9.6	0.1	-0.9	1.2	4.8	4.6	--	4.3	Jun-14
Hedge Fund (Gross)			0.2	-0.3	2.1	5.8	5.3	--	4.7	
<i>Custom Blended Hedge Fund Benchmark</i>			<i>0.8</i>	<i>-5.9</i>	<i>-4.2</i>	<i>4.1</i>	<i>3.6</i>	--	<i>3.3</i>	<i>Jun-14</i>
Real Assets (Net)	51,830,369	4.7	1.2	10.1	16.3	11.4	10.2	9.2	--	Mar-99
Real Assets (Gross)			1.2	10.1	16.6	11.6	10.3	9.8	--	
<i>Custom Blended Real Assets Benchmark</i>			<i>3.8</i>	<i>2.9</i>	<i>9.8</i>	<i>5.8</i>	<i>7.2</i>	--	--	<i>Mar-99</i>
<i>CPI + 5% (Seasonally Adjusted)</i>			<i>0.4</i>	<i>8.4</i>	<i>13.9</i>	<i>10.1</i>	<i>9.0</i>	<i>7.7</i>	--	<i>Mar-99</i>
Private Infrastructure (Net)	24,278,207	2.2	0.0	5.5	8.6	12.4	13.0	--	9.7	Dec-14
Private Infrastructure (Gross)			0.0	5.5	9.0	12.7	13.1	--	9.8	
<i>S&P Global Infrastructure TR USD</i>			<i>4.0</i>	<i>3.5</i>	<i>8.8</i>	<i>5.6</i>	<i>5.0</i>	<i>7.5</i>	<i>5.5</i>	<i>Dec-14</i>
Private Natural Resources (Net)	13,737,354	1.3	0.0	26.3	42.5	12.8	12.2	--	15.5	Sep-15
Private Natural Resources (Gross)			0.0	26.3	42.5	12.8	12.2	--	15.5	
<i>S&P Global Natural Resources Index TR USD</i>			<i>3.5</i>	<i>2.1</i>	<i>6.9</i>	<i>10.7</i>	<i>8.4</i>	<i>4.9</i>	<i>11.9</i>	<i>Sep-15</i>
Cash (Net)	11,085,479	1.0	0.0	0.1	0.1	0.5	--	--	--	
Cash (Gross)			0.0	0.1	0.1	0.5	--	--	--	

*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

Private Markets values are cash flow adjusted from preliminary 03/31/2022 NAVs unless otherwise noted.

Real Assets includes State Street Real Asset NL Fund.

Trailing Net Performance											
	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Total Fund(Net)*	1,091,378,687	100.0	--	3.4	-8.0	-4.1	8.8	7.8	8.4	8.1	Dec-94
<i>Policy Index</i>				2.2	-7.7	-3.1	8.4	7.5	8.5	6.2	Dec-94
Total Fund w/o Alternatives(Net)	670,506,742	61.4	61.4	5.1	-14.0	-12.4	7.1	6.8	8.1	--	Dec-94
<i>Policy Index w/o AI</i>				5.1	-12.5	-10.6	5.6	5.8	7.2	--	Dec-94
US Equity(Net)	257,901,997	23.6	38.5	9.2	-15.3	-8.4	11.6	11.8	13.9	10.2	Dec-94
<i>Russell 3000</i>				9.4	-13.7	-7.4	12.5	11.8	13.2	10.2	Dec-94
BNY Mellon Newton Dynamic US Equity(Net)	120,245,060	11.0	46.6	9.5	-15.8	-7.4	13.5	13.8	--	16.1	Dec-12
<i>S&P 500</i>				9.2	-12.6	-4.6	13.4	12.8	13.8	13.9	Dec-12
BNY Mellon Large Cap(Net)	111,544,650	10.2	43.3	9.3	-13.6	-6.9	13.0	12.6	--	13.5	Mar-16
<i>Russell 1000</i>				9.3	-13.6	-6.9	12.9	12.6	13.7	13.5	Mar-16
Champlain Small Cap(Net)	26,112,287	2.4	10.1	7.9	-20.2	-17.9	--	--	--	6.7	Nov-20
<i>Russell 2000</i>				10.4	-15.4	-14.3	7.5	7.1	10.6	13.6	Nov-20
International Equity(Net)	190,748,154	17.5	28.4	3.2	-19.5	-22.0	7.4	5.1	6.7	5.4	Dec-98
<i>International Equity Custom</i>				2.7	-16.2	-16.4	2.7	2.4	5.6	4.1	Dec-98
Developed International Equity(Net)	125,766,661	11.5	65.9	2.4	-12.1	-12.3	6.5	4.5	6.6	3.8	Jan-08
<i>Custom Blended Developed International Equity BM</i>				5.1	-16.1	-15.2	3.5	2.8	5.9	2.5	Jan-08
GQG International Equity(Net)	51,909,498	4.8	41.3	1.0	-12.2	-12.0	--	--	--	5.5	Dec-19
<i>MSCI ACWI ex USA</i>				3.4	-15.6	-15.3	2.9	2.4	5.0	1.9	Dec-19
First Eagle International Value Fund(Net)	46,830,861	4.3	37.2	2.0	-7.9	-8.2	--	--	--	1.5	Dec-19
<i>MSCI EAFE</i>				5.0	-15.6	-14.3	3.2	2.6	5.8	1.7	Dec-19
<i>MSCI World ex USA</i>				5.0	-14.7	-13.2	3.8	3.1	5.7	2.4	Dec-19

Historical returns for the US Equity Composite prior to January 2012 and for the International Equity Composite prior to December 2010 are gross only. Developed International Equity and Emerging Markets Equity composites were only reported as one composite prior to March 2018.

Total Fund | As of July 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Acadian ACWI ex U.S. Small Cap Equity(Net)	13,721,522	1.3	10.9	5.8	-13.0	-12.8	10.6	--	--	9.6	May-19
<i>MSCI ACWI ex US Small Cap</i>				5.8	-18.5	-18.6	5.1	3.0	6.8	4.2	May-19
Driehaus International Small Cap Growth(Net)	13,304,780	1.2	10.6	6.1	-23.2	-24.0	7.7	--	--	7.9	May-19
<i>MSCI ACWI ex US Small Cap Growth NR USD</i>				7.0	-23.1	-23.2	5.2	3.7	6.9	4.5	May-19
Emerging Markets Equity(Net)	64,981,493	6.0	34.1	4.9	-30.6	-35.7	6.4	4.7	5.1	4.2	Apr-12
<i>Custom Blended Emerging Markets Benchmark</i>				-0.2	-17.8	-20.1	0.9	1.1	3.1	2.4	Apr-12
Artisan Developing World TR(Net)	42,957,249	3.9	66.1	7.0	-34.7	-40.2	--	--	--	2.6	Dec-19
<i>MSCI Emerging Markets</i>				-0.2	-17.8	-20.1	0.9	1.0	2.8	0.7	Dec-19
RWC(Net)	22,024,244	2.0	33.9	0.9	-21.1	-24.6	--	--	--	0.7	Dec-19
<i>MSCI Emerging Markets</i>				-0.2	-17.8	-20.1	0.9	1.0	2.8	0.7	Dec-19
US Fixed Income(Net)	162,944,180	14.9	24.3	2.4	-8.1	-9.2	-0.4	1.1	2.0	4.7	Dec-94
<i>BBgBarc US Aggregate TR</i>				2.4	-8.2	-9.1	-0.3	1.3	1.8	5.0	Dec-94
Barrow Hanley(Net)	81,142,246	7.4	49.8	2.6	-8.5	-9.7	0.0	1.4	1.7	2.7	Mar-10
<i>Bloomberg US Aggregate TR</i>				2.4	-8.2	-9.1	-0.2	1.3	1.6	2.6	Mar-10
Vanguard Total Bond Market Index Fund(Net)	78,557,878	7.2	48.2	2.3	-8.3	-9.4	-0.2	--	--	0.8	May-19
<i>Bloomberg US Aggregate TR</i>				2.4	-8.2	-9.1	-0.2	1.3	1.6	0.8	May-19
Vanguard Short-Term Treasury Index Fund(Net)	3,244,056	0.3	2.0	0.4	-2.6	-3.3	0.3	--	--	1.2	Feb-18
<i>Bloomberg US Govt 1-3 Yr TR</i>				0.4	-2.6	-3.3	0.4	0.9	0.8	1.2	Feb-18
<i>Bloomberg US Govt 1-5 Yr TR</i>				0.8	-3.4	-4.5	0.3	1.0	0.9	1.4	Feb-18

The current US Fixed Income benchmark is the Barclays US Agg. Please refer to the benchmark history for the composition of the US Fixed Income benchmark in earlier periods. Historical returns for the US Fixed Income Composite prior to December 2010 and for Barrow Hanley prior to June 2010 are gross only.

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Opportunistic Credit(Net)	58,912,411	5.4	8.8	2.2	-5.8	-3.9	3.3	--	--	3.7	May-19
<i>50% Barclays US Aggregate / 25% Barclays US High Yield / 25% Credit Suisse Leveraged Loans</i>				3.2	-7.0	-6.8	1.1	--	--	1.7	May-19
GoldenTree Multi-Sector Credit(Net)	22,648,085	2.1	38.4	3.5	-6.5	-4.8	2.8	--	--	3.3	Jun-19
<i>50% BBg US High Yield TR/50% Credit Suisse Leveraged Loans</i>				3.9	-5.9	-4.4	2.2	3.2	4.5	2.7	Jun-19
Sculptor Credit Opportunities Domestic Partners, LP(Net)	18,702,549	1.7	31.7	-0.3	-2.7	1.6	--	--	--	11.2	Jul-20
<i>50% BBg US High Yield TR/50% Credit Suisse Leveraged Loans</i>				3.9	-5.9	-4.4	2.2	3.2	4.5	4.1	Jul-20
PIMCO Income Fund(Net)	17,561,777	1.6	29.8	3.2	-6.3	-5.9	1.3	--	--	1.7	Apr-19
<i>Bloomberg US Aggregate TR</i>				2.4	-8.2	-9.1	-0.2	1.3	1.6	0.8	Apr-19
Real Estate(Net)	90,611,848	8.3	8.3	2.2	1.2	11.7	6.1	6.1	7.2	--	Mar-99
<i>Custom Blended Real Estate Benchmark</i>				0.0	12.5	29.5	12.3	9.9	10.3	8.0	Mar-99
<i>CPI + 5% (Seasonally Adjusted)</i>				0.4	8.4	13.9	10.1	9.0	7.7	--	Mar-99
Vanguard REIT Index(Net)	24,234,449	2.2	26.7	8.7	-13.6	-4.3	--	--	--	14.2	Aug-20
<i>Spliced Vanguard REIT Benchmark</i>				8.7	-13.6	-4.2	7.3	7.3	8.3	14.3	Aug-20
Private Real Estate(Net)	66,377,399	6.1	73.3	0.0	7.5	18.6	6.4	6.3	7.2	--	Mar-99
<i>Custom Blended Real Estate Benchmark</i>				0.0	12.5	29.5	12.3	9.9	10.3	8.0	Mar-99
UBS Trumbull Property(Net)	29,234,368	2.7	44.0	0.0	13.6	24.6	6.6	5.0	6.8	6.9	Mar-99
Patron Capital V(Net)	7,588,905	0.7	11.4	0.0	-28.9	-17.1	-9.9	3.6	--	2.9	Jan-16

GoldenTree Multi-Sector Credit and Sculptor Credit Opportunities Domestic Partners market values are based on manager estimates.

Private Markets values are cash flow adjusted from preliminary 03/31/2022 NAVs.

Data prior to March 2018 provided by prior consultant.

Private Real Estate results prior to 1/1/2019 were included in the Real Assets composite. All results for the Private Real Estate composite that include the period prior to 1/1/2019 will reflect only the latest lineup of managers that Meketa received information for, therefore it may not reflect the entire Private Real Estate composite at that given time.

Total Fund | As of July 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Cerberus Real Estate Debt Fund, L.P.(Net)	4,983,999	0.5	7.5	0.0	3.5	3.1	--	--	--	12.8	Jul-20
AG Realty Value Fund X, L.P.(Net)	4,344,467	0.4	6.5	0.0	17.8	28.2	13.7	--	--	6.5	Jun-19
Rockpoint Real Estate Fund VI, L.P.(Net)	4,193,251	0.4	6.3	0.0	15.0	39.6	--	--	--	18.0	May-20
Taconic CRE Dislocation Fund II(Net)	3,592,288	0.3	5.4	0.0	10.5	5.9	7.9	--	--	7.2	Nov-18
Carlyle Realty VIII(Net)	2,883,973	0.3	4.3	0.0	50.0	151.4	48.8	--	--	12.8	Dec-17
Taconic CRE Dislocation Onshore Fund III(Net)	2,788,994	0.3	4.2								
Greenfield Gap VII(Net)	2,548,394	0.2	3.8	0.0	35.3	55.5	23.8	19.9	--	18.1	Dec-14
Carmel Partners Investment Fund VII(Net)	1,917,662	0.2	2.9	0.0	3.8	1.0	-19.2	--	--	-27.8	Apr-19
Starwood Distressed Opportunity Fund XII Global(Net)	1,791,318	0.2	2.7								
Carmel Partners Investment Fund VIII(Net)	542,722	0.0	0.8								
Carlyle Realty Partners IX(Net)	-32,943	0.0	0.0								
Private Equity(Net)	137,004,955	12.6	12.6	0.0	8.4	30.7	23.8	20.2	13.6	10.8	Jun-05
<i>Custom Private Equity Benchmark</i>				-7.9	-5.3	6.1	20.3	18.7	18.9	--	Jun-05
TCV X(Net)	9,622,770	0.9	7.0	0.0	-1.2	47.0	42.0	--	--	34.3	Apr-19
Genstar Capital Partners IX(Net)	9,246,156	0.8	6.7	0.0	9.3	33.9	25.5	--	--	25.5	Jul-19
Cortec Group Fund VII(Net)	9,215,437	0.8	6.7	0.0	4.4	32.2	--	--	--	27.9	Dec-19
Spark Capital Growth Fund III(Net)	9,194,458	0.8	6.7	0.0	11.3	54.2	--	--	--	25.8	Mar-20
Ocean Avenue II(Net)	8,864,311	0.8	6.5	0.0	23.3	52.6	46.4	40.0	--	24.6	Jun-14
Summit Partners Growth Equity Fund X-A(Net)	7,550,306	0.7	5.5	0.0	0.1	18.1	--	--	--	4.4	Mar-20
Taconic Market Dislocation Fund III L.P.(Net)	7,535,704	0.7	5.5	0.0	4.8	22.8	--	--	--	22.6	Jul-20

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Thoma Bravo Discover Fund III(Net)	7,244,818	0.7	5.3	0.0	11.7	9.3	--	--	--	12.0	Jun-21
Adams Street(Net)	5,694,176	0.5	4.2	0.0	-4.3	12.7	22.0	18.5	15.7	9.7	Sep-05
Davidson Kempner Long-Term Distressed Opportunities Fund IV(Net)	5,687,761	0.5	4.2	0.0	24.7	38.5	16.0	--	--	15.0	Apr-18
Carrick Capital Partners III(Net)	5,651,955	0.5	4.1	0.0	24.8	35.6	19.1	--	--	14.8	Aug-18
GTCR Fund XII(Net)	5,574,267	0.5	4.1	0.0	9.7	48.9	40.6	--	--	20.7	Jun-18
Cressey & Company Fund VI(Net)	5,298,640	0.5	3.9	0.0	4.5	51.6	34.1	--	--	22.9	Jan-19
Accel-KKR Growth Capital Partners III(Net)	4,944,988	0.5	3.6	0.0	1.6	45.8	13.7	--	--	13.3	Jul-19
Marlin Heritage Europe II, L.P.(Net)	4,735,750	0.4	3.5	0.0	9.2	-9.1	--	--	--	-6.1	Oct-20
Pantheon II(Net)	3,750,938	0.3	2.7	0.0	-3.0	9.5	20.2	18.3	16.3	14.7	Dec-11
Khosla Ventures VII(Net)	3,727,537	0.3	2.7	0.0	10.7	13.7	--	--	--	5.1	Jan-21
TCV XI(Net)	3,694,395	0.3	2.7	0.0	12.9	11.8	--	--	--	4.0	Feb-21
GTCR Fund XIII/A & B(Net)	3,462,011	0.3	2.5								
Summit Partners Venture Capital Fund V-A(Net)	2,432,096	0.2	1.8								
Genstar Capital Partners X(Net)	2,205,340	0.2	1.6								
Spark Capital VI(Net)	2,184,166	0.2	1.6	0.0	5.7	6.4	--	--	--	-4.2	Mar-20
Accel-KKR Capital Partners VI(Net)	2,112,161	0.2	1.5								
Invesco VI(Net)	1,662,256	0.2	1.2	0.0	-6.0	81.6	60.8	41.2	--	26.8	Jun-13

Adams Street includes Adams Street 2005, Adams Street 2007, and Adams Street 2011.

Pantheon I includes Pantheon US Fund VI and Pantheon Europe Fund IV.

Pantheon II includes Pantheon US Fund IX, Pantheon Asia Fund VI, and Pantheon Europe Fund VII.

Pantheon Secondary includes Pantheon GLO SEC III B.

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Nautic Partners X(Net)	1,384,851	0.1	1.0								
Khosla Ventures Seed E(Net)	1,244,492	0.1	0.9								
TCV Velocity Fund I(Net)	1,083,784	0.1	0.8								
Spark Capital Growth Fund IV(Net)	868,884	0.1	0.6								
Spark Capital VII(Net)	708,668	0.1	0.5								
Accel-KKR Growth Capital Partners IV(Net)	235,504	0.0	0.2								
Pantheon Secondary(Net)	113,427	0.0	0.1	0.0	-2.3	-20.2	-11.0	-4.1	-1.7	0.8	Jun-07
Pantheon I(Net)	69,662	0.0	0.1	0.0	-14.1	-24.5	-17.7	-9.5	-1.4	-0.7	Dec-05
Threshold Ventures IV LP(Net)	42,500	0.0	0.0	--	--	--	--	--	--	--	Jul-22
Raven Asset Fund II(Net)	19,715	0.0	0.0	0.0	194.0	442.7	61.7	38.7	--	19.5	Aug-14
Summit Partners Growth Equity Fund XI-A(Net)	-23,726	0.0	0.0								
GTCR Strategic Growth Fund I/A&B LP(Net)	-35,203	0.0	0.0								
Direct Lending(Net)	25,113,568	2.3	2.3	0.0	2.5	2.0	--	--	--	11.1	Jul-20
<i>S&P LSTA Leverage Loan Index + 2%</i>				<i>2.3</i>	<i>-1.3</i>	<i>1.3</i>	<i>4.7</i>	<i>5.3</i>	<i>5.9</i>	<i>7.1</i>	<i>Jul-20</i>
AG Direct Lending Fund IV Annex(Net)	6,968,577	0.6	27.7								
Silver Point Specialty Credit Fund II, L.P.(Net)	6,521,140	0.6	26.0	0.0	2.9	2.4	--	--	--	11.3	Jul-20
Varagon Capital Direct Lending Fund(Net)	5,900,000	0.5	23.5								
Ares Senior Direct Lending Fund II(Net)	5,723,851	0.5	22.8								

Total Fund | As of July 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Hedge Fund(Net)	105,225,726	9.6	9.6	0.1	-0.9	1.2	4.8	4.6	--	4.3	Jun-14
<i>Custom Blended Hedge Fund Benchmark</i>				<i>0.8</i>	<i>-5.9</i>	<i>-4.2</i>	<i>4.1</i>	<i>3.6</i>	<i>--</i>	<i>3.3</i>	<i>Jun-14</i>
Silver Point Capital(Net)	17,387,913	1.6	16.5	0.0	0.2	4.0	12.2	--	--	8.4	Nov-17
Wellington-Archipelago(Net)	14,175,541	1.3	13.5	-0.2	-3.0	0.3	4.4	--	--	4.7	Aug-17
Taconic Opportunity Fund(Net)	13,815,279	1.3	13.1	1.2	-1.6	0.7	3.3	--	--	3.9	Dec-18
Laurion Capital(Net)	12,880,101	1.2	12.2	-1.2	-8.9	-9.2	12.3	--	--	11.2	Aug-18
Sculptor (OZ) Domestic II(Net)	12,400,307	1.1	11.8	2.0	-10.5	-11.4	4.0	5.0	--	5.3	Jun-14
Caxton Global Investments(Net)	11,220,766	1.0	10.7	-0.5	11.8	17.5	--	--	--	9.7	May-21
Marshall Wace Global Opportunities(Net)	9,778,767	0.9	9.3	-0.4	0.8	1.9	--	--	--	3.8	May-20
Graham Absolute Return(Net)	9,263,406	0.8	8.8	-0.2	14.4	17.9	5.7	--	--	4.6	Aug-17
Marshall Wace Eureka(Net)	4,303,645	0.4	4.1	-0.5	-0.1	3.4	7.9	--	--	6.4	Nov-17
Real Assets(Net)	51,830,369	4.7	4.7	1.2	10.1	16.3	11.4	10.2	9.2	--	Mar-99
<i>Custom Blended Real Assets Benchmark</i>				<i>3.8</i>	<i>2.9</i>	<i>9.8</i>	<i>5.8</i>	<i>7.2</i>	<i>--</i>	<i>--</i>	<i>Mar-99</i>
<i>CPI + 5% (Seasonally Adjusted)</i>				<i>0.4</i>	<i>8.4</i>	<i>13.9</i>	<i>10.1</i>	<i>9.0</i>	<i>7.7</i>	<i>--</i>	<i>Mar-99</i>
SSgA(Net)	13,814,808	1.3	26.7	3.8	5.5	10.7	10.3	7.4	--	7.5	Apr-17
<i>Real Asset NL Custom Blended Index</i>				<i>4.2</i>	<i>3.6</i>	<i>9.3</i>	<i>10.4</i>	<i>7.6</i>	<i>--</i>	<i>7.7</i>	<i>Apr-17</i>
Private Infrastructure(Net)	24,278,207	2.2	46.8	0.0	5.5	8.6	12.4	13.0	--	9.7	Dec-14
<i>S&P Global Infrastructure TR USD</i>				<i>4.0</i>	<i>3.5</i>	<i>8.8</i>	<i>5.6</i>	<i>5.0</i>	<i>7.5</i>	<i>5.5</i>	<i>Dec-14</i>
KKR Global II(Net)	5,821,151	0.5	24.0	0.0	2.2	8.3	26.7	20.7	--	16.9	Dec-14
North Haven Infrastructure II(Net)	5,400,120	0.5	22.2	0.0	9.5	18.4	7.2	11.7	--	7.8	May-15
ISQ Global Infrastructure Fund II(Net)	5,206,064	0.5	21.4	0.0	6.0	14.8	13.2	--	--	2.7	Jul-18
KKR Global Infrastructure Investors III(Net)	3,832,391	0.4	15.8	0.0	8.5	-10.2	-0.9	--	--	-6.1	Jan-19

Total Fund | As of July 31, 2022

	Market Value (\$)	% of Portfolio	% of Sector	1 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Ardian Infrastructure Fund V(Net)	2,323,086	0.2	9.6	0.0	-0.4	8.6	--	--	--	-16.8	Oct-19
KKR Global Infrastructure Investors IV(Net)	1,372,531	0.1	5.7								
ISQ Global Infrastructure Fund III(Net)	322,864	0.0	1.3								
Private Natural Resources(Net)	13,737,354	1.3	26.5	0.0	26.3	42.5	12.8	12.2	--	15.5	Sep-15
<i>S&P Global Natural Resources Index TR USD</i>				<i>3.5</i>	<i>2.1</i>	<i>6.9</i>	<i>10.7</i>	<i>8.4</i>	<i>4.9</i>	<i>11.9</i>	<i>Sep-15</i>
Tailwater Energy Fund IV, LP(Net)	4,129,771	0.4	30.1	0.0	20.4	39.2	--	--	--	-0.5	Oct-19
EnCap XI(Net)	3,910,421	0.4	28.5	0.0	19.7	49.9	-0.3	-14.1	--	-14.1	Jul-17
BlackRock Global Energy and Power Infrastructure Fund III LP(Net)	2,684,094	0.2	19.5	0.0	5.1	6.6	14.6	--	--	14.6	Jul-19
EnCap IV(Net)	1,374,784	0.1	10.0	0.0	130.5	198.2	47.8	--	--	29.1	Feb-18
GSO Energy Opportunities(Net)	815,901	0.1	5.9	0.0	15.0	29.9	10.0	10.2	--	13.7	Nov-15
Taurus Mining(Net)	378,580	0.0	2.8	0.0	143.5	174.6	32.9	24.4	--	24.6	Sep-15
Taurus Mining Annex(Net)	235,317	0.0	1.7	0.0	597.0	1,183.3	151.9	90.3	--	87.2	Jan-17
Carnelian Energy Capital IV(Net)	208,486	0.0	1.5								
Cash(Net)	11,085,479	1.0	1.0	0.0	0.1	0.1	0.5	--	--	--	
Cash(Net)	10,097,032	0.9	91.1	0.1	0.1	0.1	0.6	0.9	0.8	--	Sep-03
Treasury Cash(Net)	988,447	0.1	8.9								

*One or more accounts have been excluded from the composite for the purposes of performance calculations and market value.

Annual Investment Expense Analysis				
As Of July 31, 2022				
Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Total Fund w/o Alternatives		\$670,506,742		
US Equity		\$257,901,997		
BNY Mellon Newton Dynamic US Equity	0.30% of Assets	\$120,245,060	\$360,735	0.30%
BNY Mellon Large Cap	0.04% of First 100.0 Mil, 0.02% Thereafter	\$111,544,650	\$42,309	0.04%
Champlain Small Cap	1.00% of Assets	\$26,112,287	\$261,123	1.00%
International Equity		\$190,748,154		
Developed International Equity		\$125,766,661		
Acadian ACWI ex U.S. Small Cap Equity	0.99% of Assets	\$13,721,522	\$135,843	0.99%
Driehaus International Small Cap Growth	0.90% of Assets	\$13,304,780	\$119,743	0.90%
GQG International Equity	0.50% of Assets	\$51,909,498	\$259,547	0.50%
First Eagle International Value Fund	0.79% of Assets	\$46,830,861	\$369,964	0.79%
Emerging Markets Equity		\$64,981,493		
Artisan Developing World TR	1.05% of Assets	\$42,957,249	\$451,051	1.05%
RWC	0.87% of Assets	\$22,024,244	\$191,611	0.87%
US Fixed Income		\$162,944,180		
Barrow Hanley	0.30% of First 50.0 Mil, 0.20% of Next 100.0 Mil, 0.15% Thereafter	\$81,142,246	\$212,284	0.26%
Vanguard Short-Term Treasury Index Fund	0.05% of Assets	\$3,244,056	\$1,622	0.05%
Vanguard Total Bond Market Index Fund	0.04% of Assets	\$78,557,878	\$27,495	0.04%
Opportunistic Credit		\$58,912,411		
PIMCO Income Fund	0.50% of Assets	\$17,561,777	\$87,809	0.50%
GoldenTree Multi-Sector Credit	0.70% of Assets	\$22,648,085	\$158,537	0.70%
Sculptor Credit Opportunities Domestic Partners, LP	Performance-based 1.00 and 20.00	\$18,702,549	\$187,025	1.00%

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Real Estate		\$90,611,848		
Vanguard REIT Index	0.10% of Assets	\$24,234,449	\$24,234	0.10%
Private Real Estate		\$66,377,399		
Greenfield Gap VII		\$2,548,394		
Patron Capital V		\$7,588,905		
UBS Trumbull Property		\$29,234,368		
Carlyle Realty VIII		\$2,883,973		
Taconic CRE Dislocation Fund II		\$3,592,288		
Carmel Partners Investment Fund VII		\$1,917,662		
AG Realty Value Fund X, L.P.		\$4,344,467		
Rockpoint Real Estate Fund VI, L.P.		\$4,193,251		
Cerberus Real Estate Debt Fund, L.P.		\$4,983,999		
Taconic CRE Dislocation Onshore Fund III		\$2,788,994		
Starwood Distressed Opportunity Fund XII Global		\$1,791,318		
Carlyle Realty Partners IX		-\$32,943		
Carmel Partners Investment Fund VIII		\$542,722		
Invesco VI		\$1,662,256		
Ocean Avenue II		\$8,864,311		
Pantheon I		\$69,662		
Pantheon II		\$3,750,938		
Pantheon Secondary		\$113,427		
Raven Asset Fund II		\$19,715		
Davidson Kempner Long-Term Distressed Opportunities Fund IV		\$5,687,761		
GTCR Fund XII		\$5,574,267		
Carrick Capital Partners III		\$5,651,955		
Cressey & Company Fund VI		\$5,298,640		

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
TCV X		\$9,622,770		
Accel-KKR Growth Capital Partners III		\$4,944,988		
Genstar Capital Partners IX		\$9,246,156		
Cortec Group Fund VII		\$9,215,437		
Spark Capital Growth Fund III		\$9,194,458		
Spark Capital VI		\$2,184,166		
Summit Partners Growth Equity Fund X-A		\$7,550,306		
Taconic Market Dislocation Fund III L.P.		\$7,535,704		
Marlin Heritage Europe II, L.P.		\$4,735,750		
Khosla Ventures VII		\$3,727,537		
Accel-KKR Capital Partners VI		\$2,112,161		
Khosla Ventures Seed E		\$1,244,492		
TCV XI		\$3,694,395		
Thoma Bravo Discover Fund III		\$7,244,818		
Summit Partners Venture Capital Fund V-A		\$2,432,096		
GTCR Fund XIII/A & B		\$3,462,011		
Genstar Capital Partners X		\$2,205,340		
Nautic Partners X		\$1,384,851		
Spark Capital Growth Fund IV		\$868,884		
Spark Capital VII		\$708,668		
TCV Velocity Fund I		\$1,083,784		
Accel-KKR Growth Capital Partners IV		\$235,504		
Summit Partners Growth Equity Fund XI-A		-\$23,726		
GTCR Strategic Growth Fund I/A&B LP		-\$35,203		

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
Threshold Ventures IV LP		\$42,500		
Direct Lending		\$25,113,568		
Silver Point Specialty Credit Fund II, L.P.		\$6,521,140		
Ares Senior Direct Lending Fund II		\$5,723,851		
Varagon Capital Direct Lending Fund		\$5,900,000		
AG Direct Lending Fund IV Annex		\$6,968,577		
Hedge Fund		\$105,225,726		
Sculptor (OZ) Domestic II	Performance-based 1.50 and 20.00	\$12,400,307	\$238,760	1.93%
Graham Absolute Return	Performance-based 1.75 and 20.00	\$9,263,406	\$162,110	1.75%
Wellington-Archipelago	Performance-based 1.00 and 20.00	\$14,175,541	\$141,755	1.00%
Marshall Wace Eureka	Performance-based 2.00 and 20.00	\$4,303,645	\$86,073	2.00%
Silver Point Capital	Performance-based 1.50 and 20.00	\$17,387,913	\$260,819	1.50%
Laurion Capital	Performance-based 2.00 and 20.00	\$12,880,101	\$257,602	2.00%
Taconic Opportunity Fund	Performance-based 1.40 and 20.00	\$13,815,279	\$227,200	1.64%
Marshall Wace Global Opportunities	Performance-based 2.00 and 20.00	\$9,778,767	\$195,575	2.00%
Caxton Global Investments	Performance-based 1.95 and 22.50	\$11,220,766	\$218,805	1.95%
Real Assets		\$51,830,369		
SSgA	0.30% of First 50.0 Mil, 0.27% of Next 50.0 Mil, 0.25% Thereafter	\$13,814,808	\$41,444	0.30%
Private Infrastructure		\$24,278,207		
KKR Global II		\$5,821,151		
North Haven Infrastructure II		\$5,400,120		
ISQ Global Infrastructure Fund II		\$5,206,064		
KKR Global Infrastructure Investors III		\$3,832,391		
Ardian Infrastructure Fund V		\$2,323,086		
ISQ Global Infrastructure Fund III		\$322,864		

Name	Fee Schedule	Market Value	Estimated Fee Value	Estimated Fee
KKR Global Infrastructure Investors IV		\$1,372,531		
Private Natural Resources		\$13,737,354		
EnCap XI		\$3,910,421		
EnCap IV		\$1,374,784		
GSO Energy Opportunities		\$815,901		
Taurus Mining		\$378,580		
Taurus Mining Annex		\$235,317		
BlackRock Global Energy and Power Infrastructure Fund III LP		\$2,684,094		
Tailwater Energy Fund IV, LP		\$4,129,771		
Carnelian Energy Capital IV		\$208,486		
Cash		\$11,085,479		
Cash		\$10,097,032		
Treasury Cash		\$988,447		

Disclaimer, Glossary, and Notes

WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE "FORWARD - LOOKING STATEMENTS," WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS "MAY," "WILL," "SHOULD," "EXPECT," "AIM," "ANTICIPATE," "TARGET," "PROJECT," "ESTIMATE," "INTEND," "CONTINUE" OR "BELIEVE," OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD-LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security).

Duration: Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. $\text{Portfolio Return} - [\text{Risk Free Rate} + \text{Beta} * (\text{market return} - \text{Risk Free Rate})]$.

Market Capitalization: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

Market Weighted: Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

Prepayment Risk: The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

Price-Book Value (P/B) Ratio: The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about its future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

Style: The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.

Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a “basis book.” For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

$$\frac{5\% \text{ (discount)}}{5 \text{ (yrs. to maturity)}} = 1\% \text{ pro rata, plus } 5.26\% \text{ (current yield)} = 6.26\% \text{ (yield to maturity)}$$

Yield to Worst: The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

NCREIF Property Index (NPI): Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE): Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.
The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.

Merced County Employees' Retirement Association

September 22, 2022

Core Fixed Income
Manager Search

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1. Background
2. Appendices
 - Manager Candidates
 - Baird Advisors
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Background

→ Meketa and the Investment Sub-Committee held a sub-committee meeting earlier this month to discuss MercedCERA's sole core bond active manager, Barrow Hanley. As you may recall, Meketa and the Board have had several discussions regarding a) the goals and structure of the overall fixed income portfolio, b) forward-looking return expectations of the manager over the long-term, and c) Barrow Hanley's ability to effectively and actively manage duration of the portfolio in the short-term given a rising rate environment.

Main discussion points of the meeting centered on:

- a) Forward-looking return expectations of the manager: Meketa walked the sub-committee through what they view to be higher conviction managers deemed to be best in class as potential replacements to Barrow Hanley. Three managers were profiled that Meketa believes to be an upgrade. Of those three, **Wellington** stood out for both their **strong security selection** and their **attractive fee offering**.

Action Item: Seek Board approval to invest \$40M (approximately half of current BHMS assets) into the Wellington Core Bond Fund, using \$40M in proceeds from the partial sale of Barrow Hanley.

- b) Active duration management: Discussion around the overall structure and goals of the fixed income program. Interest in complimenting a strong core bond manager (such as Wellington), with a fixed income strategy where duration is a central piece of their investment strategy and process. Meketa will present high conviction managers in this space later this month, with the goal of bringing forth a recommendation to the Board in October.

Informational Item only, at this time. An additional sub-committee meeting is scheduled in October.

Background (continued)

- c) Additional and immediate consideration: The sub-committee felt it prudent to reduce duration exposure via a rebalancing trade. No formal approval is required as Staff and the Executive Director have authority to execute as deemed appropriate per the Investment Policy Statement. Subsequent to the meeting, the following trade was executed:

Sell: \$40M out of the Vanguard Total Bond Index

Purchase: \$40M into the Vanguard Short-Term Treasury Index

Information Item only. Executed and completed.

→ The following document, included in the Appendix, was used for the sub-committee discussion, and provides a summary of the search process and highlights the three managers under consideration.

Appendices

Introduction

Investment managers are expected to operate within a client's investment guidelines and are given a large degree of latitude to achieve the investment objective.

Manager selection is a nuanced process and requires extensive due diligence. When selecting prospective active managers, Meketa evaluates the following areas:

- Organization
- Investment Team
- Investment Philosophy
- Investment Process
- Investment Performance
- Management Fees

Manager Candidates

Manager Overviews
as of June 30, 2022

	Baird Advisors	Wellington Management Company	Income Research & Management	Barrow Hanley
Firm Overview:				
Firm Location	Milwaukee, WI	Boston, MA	Boston, MA	Dallas, TX
Firm Inception	1919	1982	1987	1979
Ownership Structure	95% Employee Owned ¹	Employee Owned	Employee Owned	75.1% Owned by Perpetual Limited/ 24.9% Employee owned
AUM (Firm)	\$116.4 billion	\$1.2 trillion	\$86.6 billion	\$43 billion
Core Strategies:				
Strategy Name	Core Bond	Core Bond	Aggregate	High Quality Core Fixed Income
Strategy Inception	September 2000	December 1984	December 1991	December 1993
AUM (Strategy)	\$49.7 billion	\$53.2 billion	\$15.1 billion	\$1.8 billion

¹ Baird is 95% employee-owned, with the remainder owned by Northwestern Mutual, which is winding down its ownership to employees.

Baird Advisors

Organization

- Baird Advisors is the fixed income arm of Robert W. Baird Limited, a majority employee-owned financial services firm based in Milwaukee, WI. Robert W. Baird was founded in 1919 and provides asset management, private equity, investment banking, and private wealth management services. Baird now manages \$116.4 billion in assets under management with \$49.7 billion in the Core Bond strategy.
- The firm is 95% employee-owned, with the remainder owned by Northwestern Mutual, which is winding down its ownership to employees.

Investment Team

- Baird Advisor's founding partners are Mary Ellen Stanek, the current Chief Investment Officer, Charlie Groeschell, current Senior Portfolio Manager, and Gary Elfe, who sadly passed away in November 2020.
- The strategy is supported by six senior portfolio managers, three additional portfolio managers, and four research analysts. Members of the team are generalists, and each of them contributes research. Turnover on the team has also been exceptionally low, with no investment professional turnover in the last five years (except for Mr. Elfe's passing).
- Baird has also put thought into succession planning, as the founding partners are in their late 50s. Warren Pierson, a 20-year veteran of the strategy, will assume the role of CIO, and Jay Schwister, portfolio manager, will assume Mr. Groeschell's role of senior portfolio manager. No immediate timeline for succession.

Baird Advisors (continued)**Investment Philosophy and Process**

- The team at Baird Advisors believes that capital markets are very efficient in discounting risk and return over time. Since interest rates are extremely difficult to consistently forecast, they employ a duration neutral, risk-controlled approach.
- The Core strategy targets 50 to 75 basis points excess return gross of fees with a tracking error target of 75 to 125 basis points.
- The team sets the duration of each portfolio equal to that of an appropriate benchmark, thus ensuring a high degree of predictability in tracking benchmark returns. They add incremental value through security selection, yield curve positioning, sector allocation, and competitive execution of trades.
- Portfolio construction follows a two-fold investment process. First, the team seeks to structure the portfolio to achieve the return of the benchmark. This is done through a complete understanding of the benchmark's components and an evaluation of pricing, turnover, and projected changes. Baird does not forecast interest rates, and thus the portfolio managers will control risk by remaining duration neutral at all times.
- The Baird team then seeks to add excess return through yield curve positioning, sector allocation, security selection, and competitive trade execution. Yield curve positioning is continuously monitored, and the team seeks to optimize yield through the roll down effect. Sector allocation is centered on relative value analysis, yield spread analysis, and underlying risk factors. Security selection emphasizes capital structure, financials, and liquidity. Typically, Baird seeks to pick-up additional yield through off-the-run issues.

Wellington Trust Company

Organization

- Wellington Management, headquartered in Boston, MA, traces its history back to the founding of the Wellington Fund in 1928. Wellington Management Group (WMG) is a limited liability partnership, privately held by 177 partners who are all fully active in the business of the firm with no external entities with any ownership interest.
- Wellington had \$1.2 trillion in assets under management as of June 30, 2022, of which \$53.2 billion are in the Core Bond strategy

Investment Team

- The Core Bond and Intermediate strategies are run by two partners of the firm, Joe Marvan and Campe Goodman, who are also members of the Broad Markets team of portfolio managers. Sector specialists manage each sector (Governments, MBS, CMBS, investment grade credit, rates, inflation) based on fundamental bottom-up research. The Core Bond portfolio managers work with the Sector Specialist Portfolio Managers and all analysts to construct and monitor the portfolio.
- There is no CIO. The Broad Markets team decides the broad strategy such as allocating risk to sectors and duration. Broad Markets has four portfolio managers and an Investment Director that make top-down macro decisions based on the economy, central bank policy, and rates. Portfolio managers that run other strategies usually are in agreement with their views, but they do not have to take direction from them and may run independently.

Wellington Trust Company (continued)**Investment Team (continued)**

→ There are 40 credit analysts and the fixed income team leverages the 51 industry equity analysts. They often sit in on company meetings together to get a management team to address both the equity and balance sheet concerns. This large pool of analysts works on various strategies across the firm.

Investment Philosophy and Process

- The Core Bond strategy is managed in a benchmark-relative style that invests across the major sectors of the domestic, investment grade bond market. The strategy seeks excess returns of 50-75 bps over the Bloomberg US Aggregate Bond index, with expected tracking error of 100-150 bps. The strategy maintains an AA/A credit quality rating and overall duration is typically +/- 1.0 year relative to the index. Historical exposures across high quality fixed income sectors have been; US Treasuries and Agencies 0-50%; Investment grade credit 10-50%, Agency MBS 20-70%; Structured credit 20-40%.
- Wellington runs a well-diversified portfolio with no one source of alpha overwhelming returns. They only invest in investment grade, US-dollar denominated, securities and do not make allocations to the high yield or non-US dollar denominated sectors.
- While individual security analysis is the cornerstone to their research effort, the Broad Markets team maintains its own top-down sector relative value analysis, as well as views on interest rates, yield curve shape, and inflation. The Broad Markets team meets formally bi-monthly to discuss and develop top-down strategy that includes an interdisciplinary team of internal analysts, macro strategists, portfolio managers, and traders.

Income Research & Management

Organization

- IR&M manages \$87 billion in fixed income assets, mostly in separately managed accounts. The firm manages \$15.1 billion in the Core Bond strategy.
- As of January 5, 2021, the firm is approximately 90.2% employee owned, held across 64 employees. Two non-employee members of the Sommers family hold the remaining 9.8% of firm ownership. For estate planning purposes, John Sommers (Co-Founder, Chairperson Emeritus, and Board Member), transferred a majority of his shares to his son Jack Sommers (Co-Founder, Executive Chairperson, and Board Member) and his other two sons not involved in the business.
- The succession plan is to continue selling shares each year at a rate of about 2-3% of the firm but the shares are not coming from the founders - they are being issued as new shares in a process where all current shareholders (founders and everyone) get diluted in the process equally.

Investment Team

- The investment team consists of 41 professionals, of which 14 are portfolio managers. Portfolio managers' involvement in the strategy varies depending on the extent that their sector expertise is utilized within portfolio guidelines. Since portfolio managers are not assigned specific portfolios or mandates, they have buy and sell authority within the bounds of their respective sectors. The team is supported by 18 analysts, who are responsible for credit analysis within their respective sectors.

Income Research & Management (continued)**Investment Philosophy and Process**

- IR&M follows a team-oriented duration-neutral and key rate neutral approach focused on relative value emphasizing bottom-up security selection to drive sector selection. The team is benchmark aware with low tracking error.
- Security selection and relative value drive exposures and excess returns. IR&M uses no leverage, no derivatives, and no currency risk.
- New ideas are sourced from new issues, secondary market activity, management meetings, conferences, or team conversations. Securities are then evaluated on an issue-by-issue basis, placing heavy emphasis on credit fundamentals, structural features, volatility, and liquidity.
- Analysts layer top-down analysis by going through different testing methodologies, giving special attention to downside risk under extreme scenarios. The team opts to maintain a duration and yield curve neutral stance, while setting overall sector exposure targets. Portfolio managers, who act as sector specialists, are responsible for determining sub-sector exposure that must fall within limit bands.
- Portfolio managers are ultimately responsible for buy and sell decisions within their respective areas of expertise.

Barrow Hanley**Organization**

- Barrow, Hanley, Mewhinney & Strauss ("BHMS") is a Dallas-based asset management firm. The firm is 75% owned by Perpetual Limited, a publicly traded Australian financial services company that skews heavily towards retail channels. The 75% ownership stake was previously held by BrightSphere Investment Group plc (formerly Old Mutual), a public firm (NYSE: BSIG) until it was sold to Perpetual in 2020. The remaining 24.9% is owned by portfolio managers and analysts through a limited partnership.
- BHMS was established in 1979 and now manages roughly \$43 billion in AUM across all strategies. The firm manages approximately \$6.3 billion in fixed income assets, with approximately \$1.8 billion in the High Quality Core Fixed Income strategy.

Investment Team

- The High Quality Core Fixed Income team is comprised of 6 portfolio managers who also serve as analysts and traders in their respective sectors. There is also one quantitative analyst who is responsible for their Relative Return Model but members of the PM team contribute to its development as well.
- The Fixed Income teams utilizes the broader resources of Barrow Hanley's equity team. The primary advantage of the integration of these teams noted by BH has been their access to company management.

Barrow Hanley (continued)**Investment Philosophy and Process**

- BHMS is best described as a “value” manager, investing in a duration-neutral fashion, with individual security valuation and selection as the primary focus. The firm believes the global fixed income markets are fragmented, producing temporary inefficiencies that provide opportunities for active management employing a research-driven selection process.
- The investment process for their Core fixed income strategies begin with a top-down analysis or screening of the investable universe utilizing their Relative Return Model. The Relative Return Model is based on mean reversion of spread metrics of the various sectors in the investable universe compared to US treasuries.
- The team strictly trades in all cash bonds when constructing their portfolio and each sector is analyzed by the dedicated PM in that sector who also trades within that sector. There is no formal investment committee which results in ad hoc and fluid process for names being added to the portfolio.
- There are daily calls with the portfolio management team to discuss relative value across sectors and their trade ideas within their sectors. For example, based on the relative value model there may be opportunities to swap out certain corporate credit positions in favor of ABS.
- The bottom-up fundamental research performed by each of the six members of the team is split up by sectors and their research is generally stored in Bloomberg notes that are accessible to the rest of the team.
- Given the focus on higher quality in corporate credit and ABS positioning, their cash bond trading in corporates tends to be shorter duration so their treasury positioning will tend to fall on the longer end of the curve to remain duration neutral versus the benchmark on the total portfolio level.

Historical Performance, Portfolio Characteristics, and Management Fees

Appendices: Historical Performance, Portfolio Characteristics, and Management Fees

Historical Performance (Gross of Fees)
as of June 30, 2022

	Baird Advisors	Wellington	IR&M	Barrow	BBG US Agg
Trailing Period Returns (%):					
MRQ	-4.9	-5.7	-4.7	-4.9	-4.7
YTD	-10.9	-11.7	-10.3	-10.6	-10.3
1 year	-10.8	-11.6	-10.3	-10.7	-10.3
3 years	-0.4	-0.7	-0.1	-0.5	-0.9
5 years	1.4	1.2	1.5	1.2	0.9
10 years	2.4	2.2	2.3	1.8	1.5
Calendar Year Returns (%):					
2021	-1.2	-1.3	-1.0	-1.7	-1.5
2020	8.9	9.4	9.6	9.2	7.5
2019	9.8	9.8	9.3	9.0	8.7
2018	0.0	-0.3	0.1	0.0	0.0
2017	4.5	4.7	4.0	3.6	3.5
2016	3.8	4.3	3.6	2.8	2.6
2015	0.9	0.7	0.6	1.1	0.5
2014	7.2	6.6	7.1	5.8	6.0
2013	-1.0	-1.0	-1.3	-1.7	-2.0

Appendices: Historical Performance, Portfolio Characteristics, and Management Fees

Portfolio Characteristics
as of June 30, 2022

	Baird	Wellington	IR&M	Barrow	BBG US Agg
Portfolio Profile:					
Effective Duration (years)	6.4	6.4	6.4	6.2	6.4
Yield to Maturity (%)	4.1	4.8	4.2	4.0	3.7
Number of Holdings	1,554	924	332	298	12,563
Average Credit Quality	AA-	AA-	AA-	AA-	AA
Credit Quality Breakdown (%):					
AAA	59	69	64	60	75
AA	4	4	2	2	3
A	13	14	13	16	10
BBB	24	19	20	21	13
Below BBB	1	4	1	0	0
Cash	0	-9	1	1	0
Sector Allocation:					
Treasury	26	12	19	20	41
Agency	0	0	3	0	1
Corporate	39	29	33	39	24
Municipal	0	2	2	0	0
MBS	23	52	26	31	28
CMBS	7	4	9	1	2
ABS	2	7	8	8	0
Other	1	3	0	0	4
Cash and Equivalents	1	-9	0	1	0

Appendices: Historical Performance, Portfolio Characteristics, and Management Fees

10-Year Trailing Period Returns and Risk Statistics¹
as of June 30, 2022

	Baird	Wellington	IR&M	Barrow	BBG US Agg
Common Period Perf (%)					
Trailing Period Return	2.4	2.2	2.3	1.8	1.5
Up Period Percent	78	67	67	68	NA
Down Period Percent	73	67	78	49	NA
Risk:					
Standard Deviation (%)	3.7	3.7	3.5	3.6	3.5
Tracking Error (%)	0.7	0.8	0.6	0.4	NA
Beta	1.05	1.04	1.00	1.03	1.00
Correlation to Benchmark	0.98	0.98	0.99	0.99	NA
Downside Deviation (%)	4.0	4.0	3.8	3.8	3.72
Upside Capture (%)	116	111	110	106	NA
Downside Capture (%)	99	98	93	101	NA
Risk-Adjusted Return:					
Sharpe Ratio	0.49	0.43	0.49	0.33	0.27
Information Ratio	1.20	0.83	1.34	0.70	NA

¹ Data shown is calculated using gross of fees performance. Risk statistics calculated against the Bloomberg Barclays US Aggregate Index.

Appendices: Historical Performance, Portfolio Characteristics, and Management Fees

Historical Trailing Risk (gross of fees)
as of June 30, 2022

	Baird			Wellington			IR&M			Barrow Hanley		
	3 Yr.	5 Yr.	10 Yr.	3 Yr.	5 Yr.	10 Yr.	3 Yr.	5 Yr.	10 Yr.	3 Yr.	5 Yr.	10 Yr.
Information Ratio	0.41	0.53	1.20	0.24	0.31	0.83	1.03	0.98	1.34	0.66	0.56	0.70
Tracking Error (%)	1.2	0.9	0.7	1.1	0.9	0.8	0.8	0.7	0.6	0.7	0.5	0.4
Sharpe Ratio	-0.21	0.06	0.49	-0.25	0.02	0.43	-0.15	0.11	0.49	-0.23	0.02	0.33
<i>Sharpe Ratio Index</i>	<i>-0.34</i>	<i>-0.05</i>	<i>0.27</i>	<i>-0.34</i>	<i>-0.05</i>	<i>0.27</i>	<i>-0.34</i>	<i>-0.05</i>	<i>0.27</i>	<i>-0.34</i>	<i>-0.05</i>	<i>0.27</i>
Standard Deviation (%)	5.0	4.3	3.7	5.1	4.4	3.7	4.7	4.1	3.5	4.8	4.2	3.6
<i>S.D. Index (%)</i>	<i>4.6</i>	<i>4.0</i>	<i>3.5</i>	<i>4.6</i>	<i>4.0</i>	<i>3.5</i>	<i>4.6</i>	<i>4.0</i>	<i>3.5</i>	<i>4.6</i>	<i>4.0</i>	<i>3.5</i>
Beta	1.07	1.05	1.05	1.10	1.06	1.04	1.03	1.01	1.00	1.05	1.04	1.03
Correlation Coefficient	0.97	0.98	0.98	0.98	0.98	0.98	0.99	0.99	0.99	0.99	0.99	0.99
Upside Market Capture (%)	119	112	116	116	109	111	115	108	110	113	108	106
Downside Market Capture (%)	107	103	99	108	104	98	98	96	93	103	102	101

Appendices: Historical Performance, Portfolio Characteristics, and Management Fees

Peer Rankings (gross of fees)^{1, 2}
as of June 30, 2022

	Baird			Wellington			IR&M			Barrow Hanley		
	3 Yr.	5 Yr.	10 Yr.	3 Yr.	5 Yr.	10 Yr.	3 Yr.	5 Yr.	10 Yr.	3 Yr.	5 Yr.	10 Yr.
Excess Return	54	44	18	74	70	35	22	27	25	58	70	79
Standard Deviation	61	65	70	70	69	70	40	39	39	47	51	51
Sharpe Ratio	53	45	19	69	72	36	25	26	19	59	70	81
Tracking Error	43	40	35	40	40	44	26	25	24	13	9	6
Information Ratio	50	35	6	70	67	28	10	8	3	27	31	40

→ IR&M's information ratio ranking and consistent top quartile performance stand out among peers.

→ Barrow Hanley's excess returns rank among the 3rd and 4th quartile among peers. The strategy closely tracks the benchmark with a tracking error that is one of the lowest among peers/ranks in the top decile.

¹ All characteristics are ranked high to low. A 1st percentile ranking corresponds to the highest absolute number in the peer group with the exception of tracking error that ranks values from low to high.

² Based on gross of fees returns. Excess Return rankings are based on excess returns of each manager compared to the Bloomberg Barclays US Aggregate.

Core Performance and Positioning Commentary**Baird**

→ Baird's Core strategy has a strategic underweight to treasuries and overweight to corporate credit. The strategy also maintains a duration neutral stance to control for interest rate risk. The strategy has done well in outperforming the benchmark while managing risk where they have captured 116% of the upside and protected on the downside with 99% capture. Their risk adjusted returns as measured by information ratio ranks in the top decile among peers over the long term.

Wellington

→ The strategy has the largest overweight to structured credit relative to the benchmark and utilizes treasury futures to remain relatively duration neutral to the benchmark. Wellington's Core strategy has performed well against the benchmark on an absolute and risk adjusted basis. The strategy has historically captured 111% of the upside and protected on the downside with 98% capture. The strategy has been challenged in recent periods but long term performance is still very competitive among peers.

IR&M

→ The strategy has an overweight to structured credit through CMBS and ABS relative to the benchmark and maintains a duration neutral position. IR&M's Core strategy has done the best at protecting on the downside among this group with a downside capture of 93% over the 10-year trailing period. Their risk adjusted returns as measured by information ratio ranks in the top decile among peers.

Barrow Hanley

→ Barrow Hanley's High Quality Core strategy has an underweight to treasuries and overweight to corporate and structured credit. The strategy's historical returns closely resemble the benchmark with a correlation in the top decile of the peer universe and a tracking error in the lowest decile. Given the high correlation to the benchmark, their returns rank in the bottom quartile over the 10-year trailing period.

Appendices: Historical Performance, Portfolio Characteristics, and Management Fees

Fees and Terms

	Fee Schedule	Vehicle Type	Effective Fee on \$80M	Minimum Account Size	Liquidity
Baird	0.30% on all assets	Mutual Fund	0.30%	\$10,000	Daily
Wellington	0.134% on all assets	Commingled Fund	0.134%	\$1M	Daily
IR&M	SMA: 0.25% on first \$100M 0.22% on next \$100M 0.20% on next \$100M	Separate Account	0.25%	\$50M ¹	Daily
	0.15% thereafter Private Fund: 0.22% on all assets	Private Fund	0.25%	\$5M	Daily
Barrow Hanley	0.30% on first \$50M 0.20% on next \$100M 0.15% thereafter	Separate Account	0.26%	N/A	Daily

- The median fee for a \$80 million commingled fund mandate is 26.1 basis points and the median fee for a \$80 million separate account mandate is 26.3 basis points. The median fee for an \$80 million Core mutual fund mandate in the eVestment Core Fixed Income universe is 43 basis points.
- Meketa's discounted fees on Wellington's commingled fund ranks in the top 4% of the universe. Meketa was able to negotiate a 52% discounted fee in Wellington's commingled vehicles (CIF II and CTF) at 12 basis points plus operating expenses which run around 1.4 basis points currently (capped at 3 basis points).
- Baird's Core Mutual fund fees rank in the top decile. IR&M's SMA fee ranks in the second quartile.
 - Barrow Hanley's SMA fees ranks in the 50th percentile.

¹ Minimum investment for IR&M SMAs have been waived for this mandate assuming both mandates are allocated to the manager.

Appendix

Information Ratio: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

Standard Deviation: A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

Tracking Error: This statistic measures the standard deviation of excess returns relative to a benchmark. Tracking error is calculated by multiplying the standard deviation of the monthly excess returns of a portfolio relative to a benchmark by the square root of twelve in order to annualize. The higher the tracking error, the greater the volatility of excess returns relative to a benchmark.

Upside/Downside Market Capture: A measure of the manager's performance in up(down) markets relative to the market itself. For UMC, a value of 110 suggests the manager performs ten percent better than the market when the market is up during the selected time period. For DMC, A value of 90 suggests the manager's loss is only nine tenths of the market's loss during the selected time period. The Upside/Downside Capture Ratio is calculated by dividing the return of the manager during the up market periods by the return of the market for the same period. Generally, the higher the UMC Ratio and lower the DMC, the better (If the manager's UMC Ratio is negative, it means that during that specific time period, the manager's return for that period was actually negative and if the DMC is negative, the manager's return for that period was actually positive)

Up/Down Period Percent: Measures the number of periods that a fund outperformed the benchmark when the benchmark return was greater(less) or equal to than 0%, divided by the number of periods that the benchmark return was greater(less) than or equal to 0%. The larger the ratio, the better, indicating the percentage of periods that the product outperformed the benchmark in an up(down) market.

Sources:

www.evestment.com

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Sep 22,
2022

Alternative Investment Performance

Merced County Employees' Retirement Association



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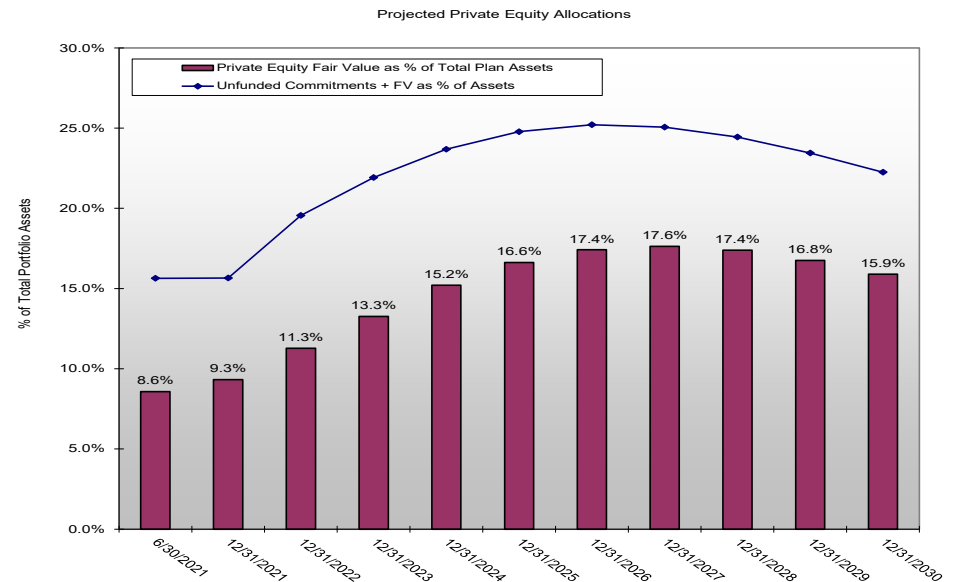
MercedCERA Private Equity Capital Budget & Implementation Plan

15% fund level target; an increase from 9% in 2018

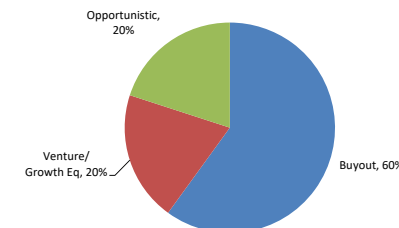
- Increase annual capital budget target to \$55 mm from \$40 mm
 - Range of \$40-\$70 million
- Target 5-10 investments, range of \$5-\$15 million per inv; average size of \$8 million per
- Forecasted to reach the targeted level in 3 years
- Targets for strategy exposures remain the same
- Update capital budgets on an annual basis

Performance comparisons:

- Long term investment objective: Earn a return premium over public equity (Russell 3000 + 3%)
- Recommended primary asset class benchmark: Cambridge Associates Global Private Equity & VC Index
- Recommended fund benchmarks: Each fund will be compared to the Cambridge Associates strategy universe for the respective vintage years and each vintage year will be compared to Cambridge Associates Global Private Equity & VC Index



Target Strategy Diversification



	Target	Ranges
Buyout	60%	40-80%
Venture/Growth Eq	20%	10-30%
Opportunistic	20%	10-30%
	100%	

Note: MCERA's existing private equity portfolio was modeled using vintage year drawdown/return of capital assumptions patterned after historical category averages. Total fund growth of 5.5%.

MercedCERA Private Equity Investment Structure & Portfolio Assessment

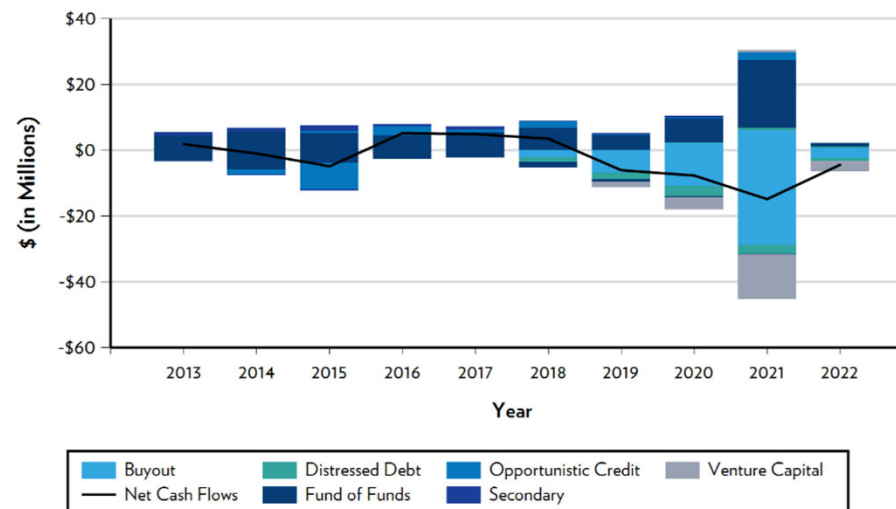
Investment structure (15% fund target; 12% invested as of May 2022):

- Current portfolio is barbelled with half of commitments in 2007 & earlier FoFs and half in 2011 & later FoFs
 - Overall portfolio has not met performance expectations; VY 2014 & earlier funds are mature with the funds in VY 2017-2022 in their investment period
 - There were annual gains of \$30 million, including \$1 million in 1Q; contributions exceed distributions by \$18 million as the newer portfolios are being built
 - Portfolio is diversified by strategy but overall it is in a negative cash flow situation

Annual Summary

(in thousands)	Total Partnerships	Total Commitment	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain Loss	Net IRR	Benchmark
March 31, 2021	40	\$200,291	\$99,760	\$76,543	\$82,823	\$159,366	\$59,606	10.88%	13.14%
March 31, 2022	50	\$264,697	\$145,743	\$104,580	\$131,006	\$235,585	\$89,843	12.41%	13.19%
Annual Change	10	\$64,406	\$45,983	\$28,037	\$48,183	\$76,219	\$30,237		

Annual Cash Flow



Note: Net cash flow is the for the respective calendar year.

MercedCERA Private Equity Performance – as of Mar 31, 2022



Partnership Name	Strategy	(A)		(B)		(C)		(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	IRR Net IRR	IRR Bench.	TVPI
		Commit. Amount	Unfund. Amount	Cumulat. Cont.	% Drawn	Cumulat. Dist.							
Vintage Year 2004													
Invesco Partnership Fund IV, L.P.	Fund of Funds	10,000	2,417	7,898	76%	16,233	0	16,233	8,336	11.75%	7.97%	2.06x	
Vintage Year 2004 Total		10,000	2,417	7,898	76%	16,233	0	16,233	8,336	11.75%	8.20%	2.06x	
Vintage Year 2005													
ASP 2005 Non-US Fund	Fund of Funds	1,500	74	1,426	95%	1,873	59	1,931	505	4.55%	0.50%	1.35x	
ASP 2005 US Fund	Fund of Funds	3,500	177	3,323	95%	5,203	167	5,370	2,047	7.16%	7.56%	1.62x	
Pantheon Ventures Euro Fund IV	Fund of Funds	1,112	47	1,284	96%	1,625	47	1,671	388	4.59%	0.50%	1.30x	
Pantheon Ventures USA Fund VI	Fund of Funds	3,750	206	3,544	95%	5,302	65	5,367	1,824	6.45%	7.56%	1.51x	
Vintage Year 2005 Total		9,862	505	9,576	95%	14,003	337	14,340	4,764	6.23%	7.49%	1.50x	
Vintage Year 2006													
Pantheon Global Secondary Fund III "B"	Secondary	10,000	540	9,460	95%	10,300	213	10,513	1,053	1.89%	8.60%	1.11x	
Vintage Year 2006 Total		10,000	540	9,460	95%	10,300	213	10,513	1,053	1.89%	7.20%	1.11x	
Vintage Year 2007													
ASP 2007 Direct Fund	Fund of Funds	450	12	438	97%	915	199	1,114	676	12.20%	11.23%	2.54x	
ASP 2007 Non-US Fund	Fund of Funds	1,575	78	1,497	95%	2,135	388	2,524	1,027	8.22%	-0.31%	1.69x	
ASP 2007 US Fund	Fund of Funds	2,475	115	2,360	95%	4,377	653	5,030	2,670	12.76%	11.23%	2.13x	
Vintage Year 2007 Total		4,500	205	4,295	95%	7,428	1,240	8,668	4,372	11.25%	8.93%	2.02x	
Vintage Year 2011													
ASP 2011 Direct Fund	Fund of Funds	500	37	463	93%	614	388	1,003	540	15.20%	20.09%	2.17x	
ASP 2011 Emerging Markets Fund	Fund of Funds	500	64	436	87%	439	590	1,029	593	14.24%	5.08%	2.36x	
ASP 2011 Non-US Developed Fund	Fund of Funds	1,500	239	1,261	84%	1,499	1,228	2,726	1,466	15.72%	5.08%	2.16x	
ASP 2011 US Fund	Fund of Funds	2,500	326	2,175	87%	3,362	2,313	5,675	3,501	18.57%	20.09%	2.61x	
Pantheon Asia Fund VI	Fund of Funds	1,000	76	925	92%	823	828	1,651	726	10.61%	5.08%	1.78x	
Pantheon Euro Fund VII	Fund of Funds	1,551	194	1,505	88%	1,888	1,157	3,046	1,540	13.14%	5.08%	2.02x	
Pantheon Ventures USA Fund IX	Fund of Funds	2,000	192	1,808	90%	2,750	1,907	4,657	2,849	17.65%	20.09%	2.58x	
Vintage Year 2011 Total		9,551	1,129	8,573	88%	11,376	8,412	19,787	11,215	15.84%	13.23%	2.31x	
Vintage Year 2013													
Invesco Partnership Fund VI, L.P.	Fund of Funds	5,000	1,548	3,958	69%	13,137	1,662	14,799	10,840	24.36%	22.58%	3.74x	
Vintage Year 2013 Total		5,000	1,548	3,958	69%	13,137	1,662	14,799	10,840	24.36%	14.19%	3.74x	
Vintage Year 2014													
Ocean Avenue Fund II	Fund of Funds	10,000	1,000	9,000	90%	12,684	10,391	23,074	14,074	21.34%	24.19%	2.56x	
Raven Asset-Based Opportunity Fund II	Opportunistic Credit	10,000	474	9,526	95%	8,530	1,229	9,758	232	0.63%	8.16%	1.02x	
Vintage Year 2014 Total		20,000	1,474	18,526	93%	21,213	11,619	32,833	14,307	13.28%	18.73%	1.77x	

Note: The benchmark represents the Cambridge Associates LLC median for the respective strategy and vintage year. At the vintage year level, the Cambridge Associates LLC Global Private Equity & VC[®] median is used for the respective vintage year.

MercedCERA Private Equity Performance – as of Mar 31, 2022



Partnership Name	Strategy	(A)		(B)		(C)		(D)	(C+D)	(C+D-B)	IRR	TVPI
		Commit. Amount	Unfund. Amount	Cumulat. Cont.	% Drawn	Cumulat. Dist.	Fair Value					
Vintage Year 2018												
Carrick Capital Partners III, L.P.	Buyout	5,000	1,112	3,888	78%	581	5,572	6,153	2,266	25.50%	24.40%	1.58x
Cressey & Company Fund VI LP	Buyout	5,000	1,575	3,676	69%	1,289	5,049	6,338	2,661	39.04%	24.40%	1.72x
Davidson Kempner Long-Term Distressed Opportunities Fund IV LP	Distressed Debt	5,000	343	4,743	93%	973	6,279	7,251	2,509	16.06%	20.01%	1.53x
Vintage Year 2018 Total		15,000	3,030	12,306	80%	2,843	16,899	19,742	7,436	23.44%	21.15%	1.60x
Vintage Year 2019												
Accel-KKR Growth Capital Partners III	Buyout	5,000	829	4,171	83%	306	4,826	5,132	961	18.99%	29.69%	1.23x
Cortec Group Fund VII, L.P.	Buyout	10,000	3,537	8,621	65%	2,159	9,146	11,305	2,685	30.68%	29.69%	1.31x
Genstar Capital Partners IX, L.P.	Buyout	7,000	871	6,510	88%	881	9,197	10,079	3,568	39.63%	29.69%	1.55x
Summit Growth Equity Fund X-A, L.P.	Buyout	8,000	2,918	6,262	64%	1,180	6,773	7,952	1,691	30.15%	29.69%	1.27x
TCV X, L.P.	Venture Capital	5,000	1,247	3,753	75%	0	9,623	9,623	5,870	57.51%	36.57%	2.56x
Vintage Year 2019 Total		35,000	9,402	29,316	73%	4,526	39,565	44,090	14,775	38.54%	23.13%	1.50x
Vintage Year 2020												
Accel-KKR Capital Partners VI, LP	Buyout	5,000	3,754	1,246	25%	0	1,246	1,246	0	N/M	N/M	1.00x
GTCR Fund XIII/A & B LP	Buyout	8,000	6,531	1,469	18%	289	1,999	2,288	819	N/M	N/M	1.56x
Marlin Heritage Europe II, L.P.	Buyout	7,784	4,238	2,846	46%	0	4,242	4,242	1,396	N/M	N/M	1.49x
Thoma Bravo Discover Fund III, L.P.	Buyout	8,000	1,453	6,547	82%	0	7,245	7,245	698	N/M	N/M	1.11x
Taconic Market Dislocation Fund III L.P.	Distressed Debt	8,000	2,750	5,460	66%	237	6,705	6,942	1,481	N/M	N/M	1.27x
Spark Capital Growth Fund III, L.P.	Venture Capital	6,000	120	5,880	98%	791	9,134	9,925	4,045	71.75%	31.92%	1.69x
Spark Capital VI, L.P.	Venture Capital	3,000	885	2,115	71%	0	2,184	2,184	69	3.49%	31.92%	1.03x
Summit Venture Capital Fund V- A, L.P.	Venture Capital	6,000	3,997	2,003	33%	0	2,065	2,065	62	N/M	N/M	1.03x
Vintage Year 2020 Total		51,784	23,730	27,566	54%	1,317	34,820	36,137	8,572	41.59%	12.84%	1.31x

Note: The benchmark represents the Cambridge Associates LLC median for the respective strategy and vintage year. At the vintage year level, the Cambridge Associates LLC Global Private Equity & VC[®] median is used for the respective vintage year.

MercedCERA Private Equity Performance – as of Mar 31, 2022



Partnership Name	Strategy	(A)		(B)		(C)		(D)	(C+D)	(C+D-B)	IRR	TVPI
		Commit. Amount	Unfund. Amount	Cumulat. Cont.	% Drawn	Cumulat. Dist.	Fair Value					
Vintage Year 2021												
Genstar Capital Partners X, L.P.	Buyout	8,000	7,016	984	12%	0	1,087	1,087	103	N/M	N/M	1.10x
Nautic Partners X, L.P.	Buyout	8,000	7,147	853	11%	0	738	738	-116	N/M	N/M	0.86x
Summit Growth Equity Fund XI-A, L.P.	Buyout	8,000	8,000	0	0%	0	-24	-24	-24	N/M	N/M	N/A
Khosla Ventures Seed E, L.P.	Venture Capital	2,000	1,446	554	28%	0	798	798	244	N/M	N/M	1.44x
Khosla Ventures VII, L.P.	Venture Capital	6,000	3,432	2,568	43%	0	2,816	2,816	248	N/M	N/M	1.10x
TCV Velocity Fund I, L.P.	Venture Capital	8,000	7,435	565	7%	0	477	477	-87	N/M	N/M	0.85x
TCV XI, L.P.	Venture Capital	8,000	4,607	3,393	42%	0	3,694	3,694	301	N/M	N/M	1.09x
Vintage Year 2021 Total		48,000	39,082	8,918	19%	0	9,587	9,587	669	N/M	N/M	1.08x
Vintage Year 2022												
Accel-KKR Growth Capital Partners IV	Buyout	5,000	5,000	0	0%	0	-45	-45	-45	N/M	N/M	N/A
Marlin Heritage III, L.P.	Buyout	8,000	8,000	0	0%	0	0	0	0	N/M	N/M	N/A
Thoma Bravo Discover Fund IV, L.P.	Buyout	8,000	8,000	0	0%	0	0	0	0	N/M	N/M	N/A
GTCR Strategic Growth Fund I/A&B LP	Growth Equity	6,000	6,000	0	0%	0	-35	-35	-35	N/M	N/M	N/A
Spark Capital Growth Fund IV, L.P.	Venture Capital	6,000	5,220	780	13%	0	749	749	-31	N/M	N/M	0.96x
Spark Capital VII, L.P.	Venture Capital	3,000	2,580	420	14%	0	409	409	-11	N/M	N/M	0.97x
Threshold Ventures IV, L.P.	Venture Capital	5,000	5,000	0	0%	0	0	0	0	N/M	N/M	N/A
Vintage Year 2022 Total		41,000	39,800	1,200	3%	0	1,078	1,078	-122	N/M	N/M	0.90x
Portfolio Total :		264,697	123,774	145,743	53%	104,580	131,006	235,585	89,843	12.41%	13.19%	1.62x
Portfolio Strategy Totals												
Buyout		118,784	70,893	51,224	40%	8,889	62,625	71,514	20,291	32.65%		1.40x
Distressed Debt		13,000	3,093	10,203	76%	1,210	12,984	14,193	3,990	19.28%		1.39x
Fund of Funds		48,913	6,804	43,300	86%	74,860	22,041	96,902	53,601	12.68%		2.24x
Growth Equity		6,000	6,000	0	0%	0	-35	-35	-35	N/M		N/A
Opportunistic Credit		10,000	474	9,526	95%	8,530	1,229	9,758	232	0.63%		1.02x
Secondary		10,000	540	9,460	95%	10,300	213	10,513	1,053	1.89%		1.11x
Venture Capital		58,000	35,970	22,030	38%	791	31,949	32,740	10,710	48.19%		1.49x
Portfolio Total :		264,697	123,774	145,743	53%	104,580	131,006	235,585	89,843	12.41%	13.19%	1.62x

Note: The benchmark represents the Cambridge Associates LLC median for the respective strategy and vintage year. At the vintage year level, the Cambridge Associates LLC Global Private Equity & VC[®] median is used for the respective vintage year.

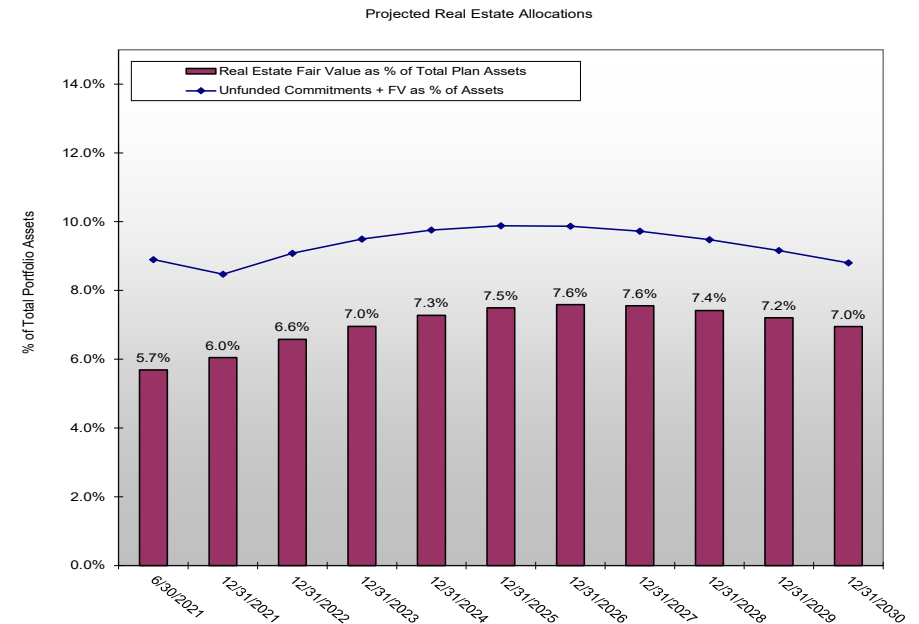
MercedCERA Real Estate Capital Budget & Implementation Plan

8% fund level target; same as prior target

- Increase annual capital budget to \$20 mm from \$15 mm
 - Range of \$10-\$30 million
- Target 2-4 investments, range of \$5-\$10 million per inv
 - Average investment size of \$8 million
 - If an average of 2-4 GP partnership commitments per year, expect a total of 8-16 GP relationships over a 4 year fund raising cycle
- Continue using REITS as a substitute until funding private real estate investments is needed; core RE target is 25% of RE portfolio

Performance comparisons:

- Long term investment objective: Earn a return premium over inflation (CPI-U + 5%)
- Recommended primary asset class benchmark: NCREIF NFI-ODCE; revisit over time as the structure of the portfolio changes
- Recommended fund benchmarks: Cambridge Associates strategy universe for the respective vintage years and each vintage year will be compared to Cambridge Associates Global Real Estate Index



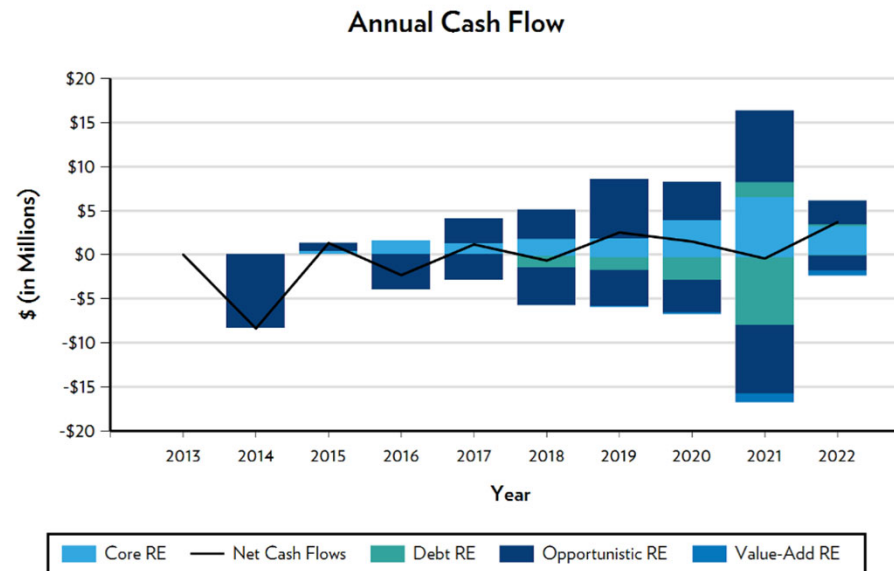
Note: MCERA's existing real estate portfolio was modeled using vintage year drawdown/return of capital assumptions patterned after historical averages. Total fund growth rate of 5.5%.

MercedCERA Real Estate Investment Structure & Portfolio Assessment

Real estate investment structure (8% target, 8.1% actual as of May 2022)

- MCERA invested in 1999 in a private core real estate fund; direct program began in 2014
- Distributions exceed contributions by \$4 million over the past year; RE activity has increased and the valuation improved by \$14 million over the past year, including \$4 million in the past quarter

Annual Summary									
(in thousands)	Total Partnerships	Total Commitment	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain Loss	Net IRR	Benchmark
March 31, 2021	10	\$83,985	\$52,240	\$46,068	\$61,087	\$107,154	\$54,914	8.55%	8.49%
March 31, 2022	13	\$107,232	\$69,159	\$67,014	\$71,640	\$138,655	\$69,496	9.09%	9.04%
Annual Change	3	\$23,247	\$16,919	\$20,946	\$10,553	\$31,501	\$14,582		



Note: Net cash flow is the for the respective calendar year.

MercedCERA Real Estate Performance – as of Mar 31, 2022



Real Estate Portfolio

- MCERA began investing in the UBS Trumbull core real estate fund in 1999 and this represents the bulk of the real estate portfolio
 - Opportunistic funds began being added in 2014 and they are in the being developed
- Overall performance has met objectives, driven by the core RE fund; opportunistic fund performance is not meaningful

Partnership Name	Strategy	(A)		(B)		(C)		(D)	(C+D)	(C+D-B)	IRR	
		Commit. Amount	Unfund. Amount	Cumulat. Cont.	% Drawn	Cumulat. Dist.	Fair Value				Total Value	Gain/Loss
Vintage Year 1999												
UBS Trumbull Property Fund	Core RE	17,000	0	18,238	100%	36,822	32,918	69,739	51,502	8.63%	10.20%	3.82x
Vintage Year 1999 Total		17,000	0	18,238	100%	36,822	32,918	69,739	51,502	8.63%	12.95%	3.82x
Vintage Year 2014												
Greenfield Acquisition Partners VII, L.P.	Opportunistic RE	13,000	1,876	12,662	86%	18,044	3,687	21,731	9,069	13.40%	11.54%	1.72x
Vintage Year 2014 Total		13,000	1,876	12,662	86%	18,044	3,687	21,731	9,069	13.40%	10.36%	1.72x
Vintage Year 2016												
Patron Capital Fund V	Opportunistic RE	13,232	2,033	11,545	85%	6,994	7,663	14,657	3,112	10.36%	13.76%	1.27x
Vintage Year 2016 Total		13,232	2,033	11,545	85%	6,994	7,663	14,657	3,112	10.36%	12.52%	1.27x
Vintage Year 2017												
Carlyle Realty Partners VIII, L.P.	Opportunistic RE	5,000	3,605	3,283	28%	2,389	2,801	5,190	1,907	33.83%	15.60%	1.58x
Vintage Year 2017 Total		5,000	3,605	3,283	28%	2,389	2,801	5,190	1,907	33.83%	12.59%	1.58x
Vintage Year 2018												
Taconic CRE Dislocation Fund II	Debt RE	5,000	550	4,634	89%	1,930	3,874	5,804	1,169	11.43%	20.13%	1.25x
AG Realty Value Fund X, L.P.	Opportunistic RE	5,000	1,461	3,875	71%	835	4,254	5,089	1,214	22.94%	23.85%	1.31x
Vintage Year 2018 Total		10,000	2,011	8,509	80%	2,765	8,127	10,893	2,384	15.20%	17.75%	1.28x
Vintage Year 2019												
Rockpoint Real Estate Fund VI, L.P.	Opportunistic RE	5,000	1,871	3,147	63%	0	4,048	4,048	901	N/M	N/M	1.29x
Carmel Partners Investment Fund VII, L.P.	Value-Add RE	5,000	3,087	1,913	38%	0	1,774	1,774	-139	-8.98%	14.16%	0.93x
Vintage Year 2019 Total		10,000	4,958	5,060	50%	0	5,822	5,822	762	17.97%	14.00%	1.15x
Vintage Year 2020												
Cerberus Real Estate Debt Fund, L.P.	Debt RE	7,000	2,690	4,305	62%	0	4,734	4,734	429	N/M	N/M	1.10x
Starwood Distr Opp Fund XII Global, L.P.	Opportunistic RE	8,000	7,040	960	12%	0	1,151	1,151	191	N/M	N/M	1.20x
Vintage Year 2020 Total		15,000	9,730	5,265	35%	0	5,886	5,886	621	N/M	N/M	1.12x
Vintage Year 2021												
Taconic CRE Dislocation Fund III L.P.	Debt RE	8,000	4,000	4,000	50%	0	4,227	4,227	227	N/M	N/M	1.06x
Carlyle Realty Partners IX, L.P.	Opportunistic RE	8,000	8,000	0	0%	0	-33	-33	-33	N/M	N/M	N/A
Carmel Partners Investment Fund VIII, L.P.	Opportunistic RE	8,000	7,406	597	7%	0	543	543	-55	N/M	N/M	0.91x
Vintage Year 2021 Total		24,000	19,406	4,597	19%	0	4,737	4,737	139	N/M	N/M	1.03x
Portfolio Total :		107,232	43,619	69,159	59%	67,014	71,640	138,655	69,496	9.09%	9.04%	2.00x

Note: The benchmark at the total portfolio level is NCREIF NFI-ODCE . Private real estate benchmark at the fund level is the Cambridge Value Add or Opportunistic RE Indices while the Cambridge Global Real Estate Index at the vintage year level.

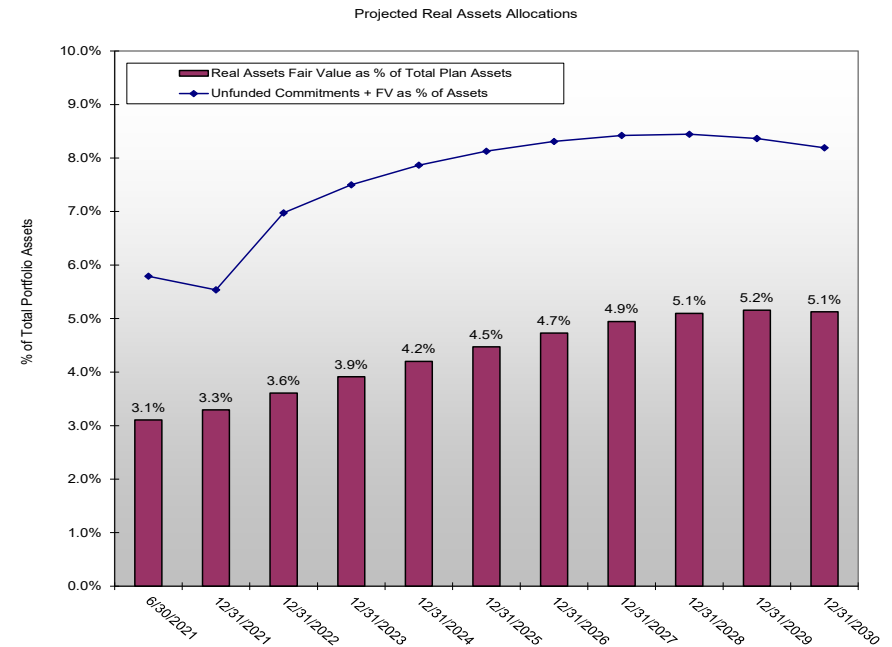
MercedCERA Real Asset Capital Budget & Implementation Plan

5% fund level target; a decrease from the prior 6% target in 2018

- Increase annual capital budget target from \$15 to \$18 million
 - Range of \$10-\$25 million
- Target 2-4 investments, range of \$5-\$10 million per inv
 - Average investment size of \$8 million
 - If an average of 2-4 GP partnership commitments per year, expect a total of 8-16 GP relationships over a 4 year fund raising cycle
- Portfolio targeted to be equally split between infrastructure and energy/natural resource funds

Performance comparisons:

- Long term investment objective: Earn a return premium over inflation (CPI-U + 5%)
- Recommended primary asset class benchmark: 50/50 Cambridge Global Infrastructure/Cambridge Energy Upstream & Royalties and Private Energy Index
- Recommended fund benchmarks: Each fund will be compared to the Cambridge Associates strategy universe for the respective vintage years and each vintage year will be compared to the 50/50 index



Note: MCERA's existing real asset portfolio was modeled using vintage year drawdown/return of capital assumptions patterned after historical category averages. Total fund growth rate of 5.5%.

MercedCERA Real Assets Investment Structure & Portfolio Assessment

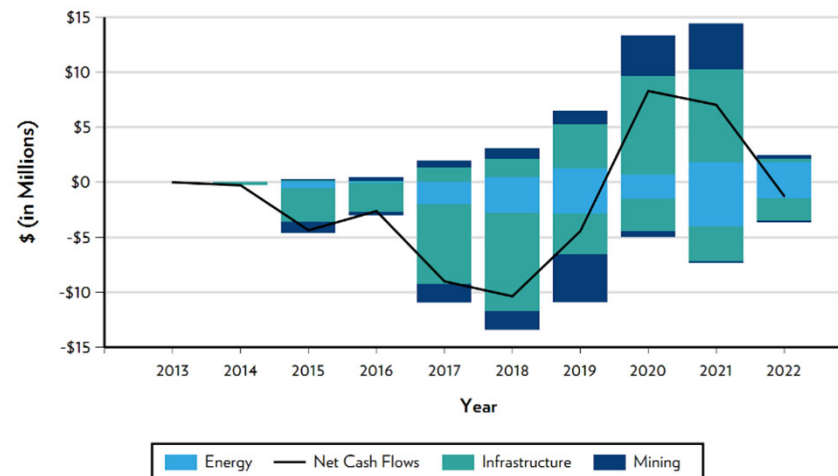
Real assets investment structure (5% target, 5.3% actual as of May 2022)

- Program is designed to be equally divided between private infrastructure and natural resource funds along with a public real asset component
- Private fund commitments began in 2014 to infrastructure and 2015 to natural resources
- The majority of the portfolio is in development
 - Distributions exceed contributions by \$6 mm as the older infrastructure funds continue to return capital

Annual Summary

(in thousands)	Total Partnerships	Total Commitment	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain Loss	Net IRR	Benchmark
March 31, 2021	13	\$75,659	\$50,701	\$27,393	\$36,588	\$63,981	\$13,280	11.33%	1.05%
March 31, 2022	14	\$83,381	\$59,354	\$42,392	\$36,738	\$79,130	\$19,776	12.80%	4.97%
Annual Change	0	\$7,722	\$8,653	\$14,999	\$150	\$15,149	\$6,496		

Annual Cash Flow



Note: Net cash flow is the for the respective calendar year.

MercedCERA Real Assets Performance – as of Mar 31, 2022

Real Asset Portfolio

- MCERA began allocating to real assets in 2014 via direct fund commitments
- Portfolio is in its development stage; the energy funds have improved in value as energy prices have risen; the VY 2017-22 funds are being built out

Partnership Name	Strategy	(A)		(B)		(C)		(D) Fair Value	(C+D) Total Value	(C+D-B)		IRR Bench.	TVPI
		Commit. Amount	Unfund. Amount	Cumulat. Cont.	% Drawn	Cumulat. Dist.	Gain/Loss			Net IRR			
Vintage Year 2014													
KKR Global Infrastructure II	Infrastructure	10,000	405	11,084	96%	13,465	5,821	19,286	8,202	17.35%	10.47%	1.74x	
Vintage Year 2014 Total		10,000	405	11,084	96%	13,465	5,821	19,286	8,202	17.35%		1.74x	
Vintage Year 2015													
GSO Energy Select Opportunities Fund	Energy	7,500	3,454	4,501	54%	4,524	1,460	5,984	1,483	8.53%	9.20%	1.33x	
North Haven Infrastructure Partners II LP	Infrastructure	10,000	1,206	11,499	88%	9,449	5,400	14,849	3,350	9.40%	9.42%	1.29x	
Taurus Mining Finance Fund	Mining	5,000	522	5,355	90%	5,707	428	6,135	780	7.43%	N/A	1.15x	
Vintage Year 2015 Total		22,500	5,181	21,356	77%	19,680	7,288	26,968	5,612	8.83%		1.26x	
Vintage Year 2016													
Taurus Mining Finance Annex Fund	Mining	5,000	948	4,658	81%	5,835	285	6,120	1,462	20.11%	N/A	1.31x	
Vintage Year 2016 Total		5,000	948	4,658	81%	5,835	285	6,120	1,462	20.11%		1.31x	
Vintage Year 2017													
EnCap Energy Capital Fund XI, L.P.	Energy	5,000	1,522	3,576	70%	257	4,135	4,392	816	12.73%	12.36%	1.23x	
ISQ Global Infrastructure Fund II	Infrastructure	5,000	1,301	4,658	74%	1,010	5,140	6,150	1,492	15.37%	8.59%	1.32x	
Vintage Year 2017 Total		10,000	2,823	8,234	72%	1,266	9,275	10,541	2,308	14.31%		1.28x	
Vintage Year 2018													
EnCap Flatrock Midstream IV, L.P.	Energy	3,000	1,494	1,584	50%	732	1,153	1,885	301	7.89%	8.01%	1.19x	
Ardian Infrastructure Fund V	Infrastructure	4,881	2,738	2,221	44%	82	2,261	2,343	122	6.33%	11.98%	1.05x	
KKR Global Infrastructure Investors III	Infrastructure	5,000	1,276	4,065	74%	839	3,779	4,618	552	9.06%	11.98%	1.14x	
Vintage Year 2018 Total		12,881	5,509	7,870	57%	1,653	7,193	8,846	975	8.24%		1.12x	
Vintage Year 2019													
Global Energy & Power Infr III F, L.P.	Energy	5,000	2,470	2,785	51%	493	2,659	3,152	366	9.87%	13.12%	1.13x	
Tailwater Energy Fund IV, LP	Energy	5,000	2,025	2,973	59%	0	3,892	3,892	918	20.43%	27.54%	1.31x	
Vintage Year 2019 Total		10,000	4,495	5,759	55%	493	6,551	7,043	1,285	15.60%		1.22x	
Vintage Year 2021													
ISQ Global Infrastructure Fund III, L.P.	Infrastructure	5,000	4,607	393	8%	0	323	323	-70	N/M	N/M	0.82x	
KKR Global Infrastructure Investors IV	Infrastructure	8,000	8,000	0	0%	0	3	3	3	N/M	N/M	N/A	
Vintage Year 2021 Total		13,000	12,607	393	3%	0	325	326	-67	N/M		0.83x	
Portfolio Total :		83,381	31,968	59,354	62%	42,392	36,738	79,130	19,776	12.80%	4.97%	1.33x	

Note: Benchmark is 50% S&P Natural Resources and 50% S&P Infrastructure. Benchmarks for individual funds are the respective Cambridge strategy benchmark.

MercedCERA Direct Lending Capital Budget & Implementation Plan

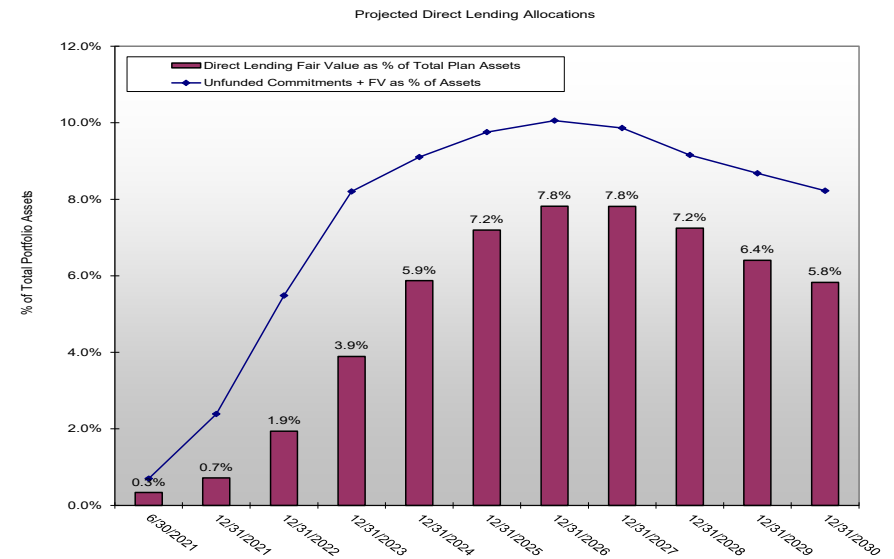
5% fund level target approved in Oct 2021

- Target a \$40 million capital budget for 2022
 - Range of \$30-\$50 million
- Target 2-4 investments, range of \$10-\$25 million per inv
 - Average investment size of \$20 million

Moved Silver Point Specialty Credit II (VY 2019) from PE to DL

Performance comparisons:

- Recommended primary asset class benchmark: S&P LSTA + 2%



Note: MCERA's existing portfolio was modeled using vintage year drawdown/return of capital assumptions patterned after historical category averages. Total fund growth rate of 5.5%.

MercedCERA Direct Lending Investment Structure & Portfolio Assessment

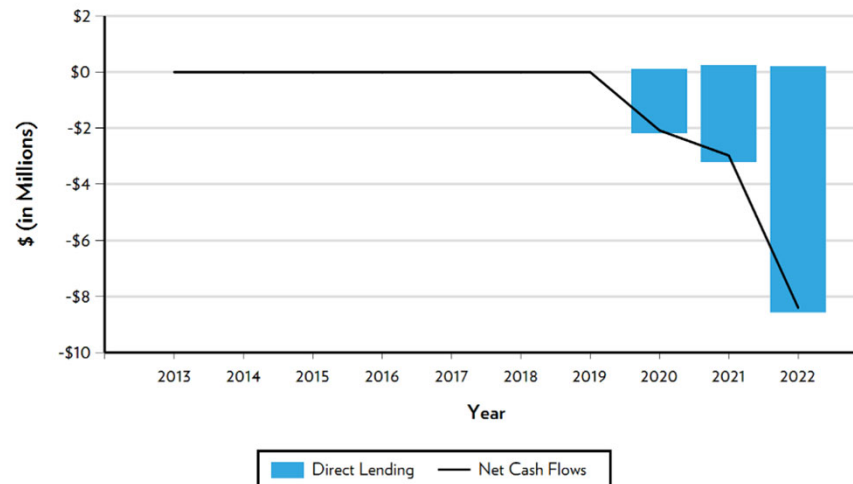
Direct Lending investment structure (5% target, 1.9% actual as of May 2022)

- Program was approved with the asset allocation in Oct 2021
- Silver Point was moved over from the PE portfolio and new commitments began at year end 2021
- The overall portfolio is immature with the funds in the early stage of development
 - Contributions exceed distributions by \$8.4 mm as the program is being built out

Quarterly Summary

(in thousands)	Total Partnerships	Total Commitment	(A) Contributions	(B) Distributions	(C) Fair Value	(B+C) Total Value	(B+C-A) Gain Loss	Net IRR	Benchmark
December 31, 2021	2	\$28,000	\$5,395	\$344	\$5,775	\$6,119	\$724	N/M	N/M
March 31, 2022	3	\$48,000	\$13,986	\$537	\$14,321	\$14,858	\$873	N/M	N/M
Quarterly Change	1	\$20,000	\$8,591	\$193	\$8,546	\$8,739	\$148	N/M	N/M

Annual Cash Flow



MercedCERA Direct Lending Performance – as of Mar 31, 2022

Direct Lending Portfolio

- Silver Point was moved over from PE to DL
- Portfolio is in its early stages of development so performance is not meaningful

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI
Vintage Year 2019 Silver Point Specialty Credit Fund II, L.P.	Direct Lending	8,000	1,984	5,820	75%	537	5,929	6,465	645	N/M	N/M	1.11x
Vintage Year 2019 Total		8,000	1,984	5,820	75%	537	5,929	6,465	645	N/M		1.11x
Vintage Year 2021 Ares Senior Direct Lending Fund II L.P.	Direct Lending	20,000	15,835	4,165	21%	0	4,412	4,412	247	N/M	N/M	1.06x
Varagon Capital Direct Lending Fund	Direct Lending	20,000	16,000	4,000	20%	0	3,981	3,981	-19	N/M	N/M	1.00x
Vintage Year 2021 Total		40,000	31,835	8,165	20%	0	8,393	8,393	227	N/M		1.03x
Portfolio Total :		48,000	33,819	13,986	30%	537	14,321	14,858	873	N/M	N/M	1.06x

Note: Benchmark is S&P LSTA.

MercedCERA Hedge Fund Performance – as of Aug 31, 2022



Fund	Market Value	Actual %	Aug	QTD	YTD	Returns				Std Dev	Sharpe Ratio	Incep Date
						1 Year	3 Year	5 Year	Incep			
Market Neutral												
Laurion Capital, Ltd.	12,966,398	12.1%	0.67%	-0.36%	-7.07%	-6.64%	13.95%	-	11.51%	13.38%	0.78	Jul-18
Market Neutral - HF Total	12,966,398	12.1%	0.67%	-0.36%	-7.06%	-6.83%	3.24%	-	3.34%	9.49%	0.25	Oct-17
HFRI Relative Value (Total) Index			0.77%	1.63%	-0.53%	0.16%	4.21%	-	3.71%	5.67%	0.42	Oct-17
Credit/Distressed												
Silver Point Capital Fund, L.P.	18,039,960	16.9%	3.75%	3.75%	3.98%	6.95%	14.61%	-	9.06%	7.86%	0.96	Dec-17
Credit/Distressed - HF Total	18,039,960	16.9%	3.75%	3.75%	3.98%	6.95%	14.61%	-	9.06%	7.86%	0.96	Dec-17
HFRI EDDistressed/Restructuring Index			0.41%	1.13%	-2.57%	-1.20%	7.96%	-	5.54%	8.10%	0.53	Dec-17
Event Driven												
Taconic Opportunity Fund L.P.	13,641,207	12.8%	-1.26%	-0.05%	-2.82%	-0.58%	3.02%	-	3.30%	6.31%	0.36	Dec-18
Event Driven - HF Total	13,641,207	12.8%	-1.26%	-0.05%	-2.82%	-0.58%	3.02%	-	3.30%	6.31%	0.36	Dec-18
HFRI Event-Driven (Total) Index			0.79%	2.80%	-4.77%	-3.68%	6.42%	-	5.63%	9.71%	0.49	Dec-18
Equity Long/Short												
Archipelago Partners, L.P.	14,223,265	13.3%	0.34%	0.22%	-2.06%	0.84%	5.98%	5.55%	5.55%	7.83%	0.55	Sep-17
Marshall Wace Funds LP - MW Eureka (US) Fund	4,368,788	4.1%	1.51%	1.13%	2.66%	5.11%	9.75%	-	8.23%	6.12%	1.09	Dec-17
Marshall Wace Funds LP - MW Global Opportunities (US) Fund	10,139,270	9.5%	3.69%	3.29%	4.47%	2.98%	-	-	5.06%	9.55%	0.50	Apr-20
Equity Long/Short - HF Total	28,731,323	26.9%	1.68%	1.42%	0.87%	2.22%	5.48%	5.42%	5.42%	7.37%	0.56	Sep-17
HFRI Equity Hedge (Total) Index			-0.23%	1.97%	-10.01%	-10.15%	7.80%	5.57%	5.57%	10.40%	0.44	Sep-17
Global Macro-Discretionary												
Caxton Global Investments (USA) LLC	11,377,857	10.6%	1.40%	0.92%	13.32%	18.78%	-	-	10.17%	6.24%	1.45	May-21
Graham Absolute Return Trading Ltd.	9,582,993	9.0%	3.45%	3.44%	19.82%	23.06%	8.35%	6.52%	6.52%	9.31%	0.58	Sep-17
Global Macro-Discretionary - HF Total	20,960,850	19.6%	2.33%	2.06%	16.20%	20.70%	7.94%	6.28%	6.28%	8.94%	0.57	Sep-17
HFRI Macro (Total) Index			1.57%	0.75%	9.34%	9.27%	6.73%	5.18%	5.18%	5.28%	0.71	Sep-17
Multi-Strategy												
Sculptor Domestic Partners II, L.P.	12,498,270	11.7%	0.79%	2.99%	-9.00%	-10.09%	6.48%	5.97%	6.02%	7.39%	0.68	Jul-14
Multi-Strategy - HF Total	12,498,270	11.7%	0.79%	2.99%	-9.00%	-10.09%	6.48%	5.97%	6.02%	7.39%	0.68	Jul-14
HFRI Relative Value (Total) Index			0.77%	1.63%	-0.53%	0.16%	4.21%	3.73%	3.51%	4.72%	0.52	Jul-14
MCERA Hedge Fund Portfolio	106,838,007	100.0%	1.53%	1.70%	1.18%	2.83%	6.34%	5.29%	4.72%	5.45%	0.67	Jul-14
Benchmarks												
HFRI Fund of Funds Composite Index			0.88%	1.66%	-5.03%	-4.50%	4.69%	3.58%	2.99%	5.24%	0.38	Jul-14
Market Indices												
Libor3Month			0.26%	0.49%	1.07%	1.12%	0.83%	1.39%	1.10%	0.26%	-	Jul-14
Bloomberg US Aggregate Bond Index			-2.83%	-0.45%	-10.75%	-11.52%	-1.99%	0.52%	1.39%	3.84%	0.10	Jul-14
Bloomberg US High Yield Bond Index			-2.30%	3.46%	-11.22%	-10.60%	1.02%	2.58%	3.36%	7.79%	0.32	Jul-14
S&P 500 TR			-4.08%	4.77%	-16.14%	-11.23%	12.39%	11.83%	11.07%	15.00%	0.70	Jul-14
MSCI AC World Index Free - Net			-3.68%	3.04%	-17.75%	-15.88%	8.03%	6.97%	6.44%	14.46%	0.43	Jul-14
MSCI EAFE - Net			-4.75%	0.00%	-19.57%	-19.80%	2.39%	1.63%	1.77%	14.65%	0.12	Jul-14
MSCI EMF (Emerging Markets Free) - Net			0.42%	0.17%	-17.49%	-21.80%	2.74%	0.59%	1.75%	16.45%	0.12	Jul-14

Important Notice

This presentation was prepared exclusively for information and discussion purposes, and is not meant to be, nor shall it be construed as, an attempt to define all information that may be material to you. All information including opinions or facts expressed herein are current as of the date appearing in this presentation and is subject to change without notice. All information has been obtained from sources believed to be reliable. No representation, warranty, or undertaking, express or implied, is given as to the accuracy or completeness of the information or opinions contained in this presentation. Past performance does not guarantee future performance.

This presentation may include sample or pro forma performance. Such information is presented for illustrative purposes only and is based on various assumptions, not all of which are described herein. Such assumptions, data, or projections may have a material impact on the returns shown.

References to market or composite indices (such as the S&P 500), benchmarks or other measures of relative market performance over a specified period of time (each, an “index”) are provided for information only. Reference to an index does not imply that a portfolio will achieve returns, volatility or other results similar to the index. The composition of an index may not reflect the manner in which a portfolio is constructed in relation to expected or achieved returns, portfolio guidelines, restrictions, sectors, correlations, concentrations, volatility or tracking error targets, all of which are subject to change over time.

The S&P/LSTA U.S. Leveraged Loan Index is a market value weighted index tracking institutional leveraged loans in the United States based upon market weightings, spreads and interest payment, including Term Loan A, Term Loan B and Second Lien tranches.

The Bloomberg Barclays U.S. Corporate High Yield Index (Bloomberg Barclays High Yield) measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody’s, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on the indices’ EM country definition are excluded.

The Bloomberg Barclays U.S. Aggregate Index represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.

The NCREIF Property Index is a quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only. All properties in the index have been acquired, at least in part, on behalf of tax-exempt institutional investors.

The Cambridge Private Equity Index is based on data compiled from global institutional-quality buyout, growth equity, private equity energy, venture capital and mezzanine funds, including fully liquidated partnerships, formed between 1986 and 2016.

The Russell 3000 Index is a capitalization-weighted stock market index that seeks to track the entire U.S stock market. It measures the performance of the 3,000 largest publicly held companies incorporated in the United States based on market capitalization.

Sep 22,
2022

Alternative Investment Performance

Merced County Employees' Retirement Association



Strictly Confidential. Not for Distribution.

California Assembly Bill 2833 was enacted in 2016 and became effective January 1, 2017 as California Government Code Section 7514.7 (the “Code”)

- The Code requires California public pension plans (“California Plans”) to obtain and publicly disclose certain fee and expense data and information on an annual basis in a public meeting

The law applies to any private fund that is an alternative investment vehicle whose contract with a California Plan was entered into on or after January 1, 2017, or for any existing contract as of December 31, 2016 for which an additional capital commitment is made on or after January 1, 2017

- California Plans are required to use “reasonable efforts” to obtain the required information for contracts entered into prior to January 1, 2017

The intent of the legislation is to increase transparency of the fees public investors are paying

-
1. The fees and expenses that the California Plan pays directly to the alternative investment vehicle, the fund manager, or related parties.
 2. The California Plan's pro rata share of fees and expenses not included in paragraph (1) that are paid from the alternative investment vehicle to the fund manager or related parties.
 3. The California Plan's pro rata share of carried interest distributed to the fund manager or related parties.
 4. The California Plan's pro rata share of aggregate fees and expenses paid by all of the portfolio companies held within the alternative investment vehicle to the fund manager or related parties.
 5. Any additional information described in subdivision (b) of Section 6254.26 of the Code.

The Code also requires that the California Plan's disclosure report include the since inception gross and net rate of return of each alternative investment vehicle.

-
1. The name, address, and vintage year of each alternative investment vehicle.
 2. The dollar amount of the commitment made to each alternative investment vehicle by the California Plan since inception.
 3. The dollar amount of cash contributions made by the California Plan to each alternative investment vehicle since inception.
 4. The dollar amount, on a fiscal year end basis, of cash distributions received by the California Plan from each alternative investment vehicle.
 5. The dollar amount, on a fiscal year end basis, of cash distributions received by the California Plan plus remaining value of partnership assets attributable to the California Plan's investment in each alternative investment vehicle.
 6. The net internal rate of return of each alternative investment vehicle since inception.
 7. The investment multiple of each alternative investment vehicle since inception
 8. The dollar amount of the total management fees and costs paid on an annual fiscal year-end basis, by the California Plan to each alternative investment vehicle.
 9. The dollar amount of cash profit received by the California Plan from each alternative investment vehicle on a fiscal year-end basis.

Presentation of results broken out by asset class, shown separately for the Code (7514.7) and Section 6254.26

- Data provided for the Code shown for calendar year 2020
- Data provided for 6254.26 shown since inception

The reporting was provided to MCERA and Cliffwater from each fund manager

- Neither MCERA nor Cliffwater have conducted an independent verification or audit of the information

Reporting the data as of December 31, 2021, to meet the reporting requirements

- This follows the prior annual disclosure reporting as of December 31, 2020
- May consider converting the reporting period from calendar year end to fiscal year end

APPENDIX – FEE & EXPENSE DATA

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Private Equity Calendar Year 2021 (7514.7)



Merced County Employees' Retirement Association - Calendar Year 2021 Data (7514.7) - Private Equity

Investment	Commitment	Ending Valuation	Realized Gain/Loss	Mgmt. Fee	Partnership Expenses	Offsets	Other Fees & Expenses Paid to GP ¹	Carried Interest Paid	Fees & Expenses Paid by Port. Companies
Accel-KKR Capital Partners VI, LP	5,000,000	1,212,860	914	93,335	20,152	N/A	0	N/A	N/A
Accel-KKR Growth Capital Partners III	5,000,000	4,784,776	250,947	47,928	30,986	N/A	0	280,405	N/A
ASP 2005 Non-US Fund	1,500,000	99,977	(293,467)	0	216	N/A	0	411	0
ASP 2005 US Fund	3,500,000	176,596	(179,774)	0	824	N/A	0	1,018	0
ASP 2007 Direct Fund	450,000	222,768	38,361	890	124	105	0	7,788	105
ASP 2007 Non-US Fund	1,575,000	475,395	28,418	3,150	281	N/A	0	304	0
ASP 2007 US Fund	2,475,000	750,679	271,838	4,950	924	N/A	0	3,832	0
ASP 2011 Direct Fund	500,000	436,024	77,421	4,961	391	100	(75)	11,422	100
ASP 2011 Emerging Markets Fund	500,000	706,296	118,161	3,000	245	N/A	0	455	0
ASP 2011 Non-US Developed Fund	1,500,000	1,323,338	216,892	9,000	477	N/A	0	2,627	0
ASP 2011 US Fund	2,500,000	2,629,423	961,665	15,000	1,776	N/A	0	2,441	0
Carrick Capital Partners III, L.P.	5,000,000	5,495,432	398,138	112,500	21,342	N/A	(122,840)	0	0
Cortec Group Fund VII, L.P.	10,000,000	9,224,698	0	200,000	10,160	36,051	0	0	0
Cressey & Company Fund VI LP	5,000,000	5,068,057	915,727	100,000	23,810	15,041	7,202	223,204	0
Davidson Kempner Long-Term Distressed Opportunites F	5,000,000	6,074,636	0	67,190	N/A	N/A	0	0	3,064
Genstar Capital Partners IX, L.P.	7,000,000	9,022,731	485,317	71,866	6,128	N/A	16,490	93,901	0
Genstar Capital Partners X, L.P.	8,000,000	949,791	0	1,524	22,103	N/A	19,074	0	0
GTCR Fund XIII/A & B LP	8,000,000	1,161,996	0	128,762	61,610	8,762	(3,370)	0	0
GTCR XII	5,000,000	5,607,320	594,130	77,796	19,637	18,578	(8,724)	226,678	0
Invesco Partnership Fund IV, L.P.	10,000,000	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Invesco Partnership Fund VI, L.P.	5,000,000	1,769,282	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Khosla Ventures Seed E, L.P.	2,000,000	718,034	0	45,267	0	0	7,539	0	0
Khosla Ventures VII, L.P.	6,000,000	2,380,933	0	115,333	0	0	12,498	0	0
Marlin Heritage Europe II, L.P.	7,940,802	4,121,840	0	109,309	(2,973)	18,230	16,660	0	0
Nautic Partners X, L.P.	8,000,000	(21,377)	(201)	67,084	7,120	4,615	1,305	0	0
Ocean Avenue Fund II	10,000,000	10,452,448	2,429,552	70,736	13,470	0	404	0	0
Pantheon Asia Fund VI	1,000,000	898,444	147,447	6,075	440	0	(3,993)	0	0
Pantheon Euro Fund VII	1,582,488	1,473,574	285,217	8,498	1,122	0	(7,926)	0	0
Pantheon Global Secondary Fund III "B"	10,000,000	216,078	(904,642)	0	2,893	0	0	0	0
Pantheon Ventures Euro Fund IV	1,134,400	76,413	24,237	307	1,375	0	(514)	0	0
Pantheon Ventures USA Fund IX	2,000,000	2,004,367	207,924	12,149	1,824	0	(689)	0	0
Pantheon Ventures USA Fund VI	3,750,000	87,821	(728,301)	0	(1,284)	0	130	0	0
Raven Asset-Based Opportunity Fund II	10,000,000	1,228,711	(1,572,929)	0	23,432	0	0	0	0
Silver Point Specialty Credit Fund II, L.P.	8,000,000	5,651,668	104,559	28,277	N/A	N/A	0	0	10,400
Spark Capital Growth Fund III, L.P.	6,000,000	8,251,646	0	150,000	N/A	N/A	0	N/A	N/A
Spark Capital VI, L.P.	3,000,000	2,128,960	0	75,000	N/A	N/A	0	N/A	N/A
Summit Partners Growth Equity Fund X-A, L.P.	8,000,000	6,580,256	817,143	36	31,178	36	38,989	0	7
Summit Partners Venture Capital Fund V-A, L.P.	6,000,000	1,557,452	0	150	16,878	150	27,520	0	150
Taconic Market Dislocation Fund III L.P.	8,000,000	5,703,352	573,349	32,911	19,659	N/A	21,893	0	0
TCV X, L.P.	5,000,000	10,667,362	59,873	96,875	4,424	0	17,082	0	0
TCV XI, L.P.	8,000,000	3,723,087	0	80,422	29,972	12,934	66,080	0	0
Thoma Bravo Discover Fund III, L.P.	8,000,000	6,278,602	0	80,107	17,498	1,325	17,511	0	39,998

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¹ Other fees and expenses paid to the GP are reported gross of income wherever possible.

* N/A = not available or not applicable

Private Equity Since Inception (6254.26)



Merced County Employees' Retirement Association - Since Inception Data (6254.26) - Private Equity

Investment	Address	Vintage/ Inception	Commitment	Contributions	Distributions	Remaining Value	Total Value	S.I. Net IRR	S.I. Gross IRR	Net Inv. Multiple
Accel-KKR Capital Partners VI, LP	Menlo Park, CA	2020	5,000,000	1,246,033	0	1,212,860	1,212,860	-6.6%	40.0%	0.97
Accel-KKR Growth Capital Partners III	Menlo Park, CA	2019	5,000,000	3,968,671	305,517	4,784,776	5,090,293	27.3%	50.0%	1.28
ASP 2005 Non-US Fund	Chicago, IL	2005	1,500,000	1,425,750	1,833,014	99,977	1,932,991	4.6%	6.4%	1.36
ASP 2005 US Fund	Chicago, IL	2005	3,500,000	3,323,250	5,203,472	176,596	5,380,068	7.2%	8.9%	1.62
ASP 2007 Direct Fund	Chicago, IL	2007	450,000	438,300	915,337	222,768	1,138,105	12.4%	16.4%	2.60
ASP 2007 Non-US Fund	Chicago, IL	2007	1,575,000	1,497,040	2,080,162	475,395	2,555,557	8.4%	10.3%	1.71
ASP 2007 US Fund	Chicago, IL	2007	2,475,000	2,359,917	4,308,751	750,679	5,059,430	12.9%	15.0%	2.14
ASP 2011 Direct Fund	Chicago, IL	2011	500,000	462,789	614,277	436,024	1,050,301	16.1%	22.4%	2.27
ASP 2011 Emerging Markets Fund	Chicago, IL	2011	500,000	435,750	421,809	706,296	1,128,105	16.0%	17.8%	2.59
ASP 2011 Non-US Developed Fund	Chicago, IL	2011	1,500,000	1,260,750	1,498,574	1,323,338	2,821,912	16.6%	19.2%	2.24
ASP 2011 US Fund	Chicago, IL	2011	2,500,000	2,174,502	3,218,622	2,629,423	5,848,045	19.3%	21.0%	2.69
Carrick Capital Partners III, L.P.	San Francisco, CA	2018	5,000,000	3,887,531	581,283	5,495,432	6,076,715	27.9%	36.9%	1.56
Cortec Group Fund VII, L.P.	New York, NY	2019	10,000,000	8,563,227	2,068,449	9,224,698	11,293,147	38.7%	47.8%	1.32
Cressey & Company Fund VI LP	Chicago, IL	2018	5,000,000	3,676,256	1,289,069	5,068,057	6,357,126	44.7%	45.6%	1.73
Davidson Kempner Long-Term Distressed Opportunities F	New York, NY	2018	5,000,000	4,742,501	513,783	6,074,636	6,588,419	13.4%	17.8%	1.39
Genstar Capital Partners IX, L.P.	San Francisco, CA	2019	7,000,000	6,745,725	876,138	9,022,731	9,898,869	43.5%	66.1%	1.47
Genstar Capital Partners X, L.P.	San Francisco, CA	2021	8,000,000	890,892	0	949,791	949,791	36.7%	32.5%	1.07
GTCR Fund XIII/A & B LP	Chicago, IL	2021	8,000,000	860,000	289,465	1,161,996	1,451,461	81.4%	N/A	1.69
GTCR XII	Chicago, IL	2017	5,000,000	4,151,346	1,886,591	5,607,320	7,493,911	37.6%	39.6%	1.81
Invesco Partnership Fund IV, L.P.	New York, NY	2004	10,000,000	7,897,828	16,233,463	0	16,233,463	N/A	N/A	2.06
Invesco Partnership Fund VI, L.P.	New York, NY	2011	5,000,000	3,958,355	13,136,587	1,769,282	14,905,869	24.6%	N/A	3.77
Khosla Ventures Seed E, L.P.	Menlo Park, CA	2021	2,000,000	464,000	0	718,034	718,034	121.2%	318.6%	1.55
Khosla Ventures VII, L.P.	Menlo Park, CA	2021	6,000,000	2,028,000	0	2,380,933	2,380,933	36.5%	83.6%	1.17
Marlin Heritage Europe II, L.P.	Hermosa Beach, CA	2020	7,940,802	2,846,380	0	4,121,840	4,121,840	63.0%	39.4%	1.45
Ocean Avenue Fund II	Santa Monica, CA	2014	10,000,000	9,000,000	12,244,421	10,452,448	22,696,869	21.4%	22.4%	2.52
Pantheon Asia Fund VI	London, United Kingdom	2011	1,000,000	918,318	766,802	898,444	1,665,246	11.0%	14.0%	1.81
Pantheon Euro Fund VII	London, United Kingdom	2011	1,582,488	1,505,561	1,736,128	1,473,574	3,209,701	14.2%	19.5%	2.13
Pantheon Global Secondary Fund III "B"	London, United Kingdom	2006	10,000,000	9,460,000	10,300,000	216,078	10,516,078	1.9%	4.3%	1.11
Pantheon Ventures Euro Fund IV	London, United Kingdom	2005	1,134,400	1,283,343	1,596,151	76,413	1,672,564	4.6%	N/A	1.30
Pantheon Ventures USA Fund IX	London, United Kingdom	2011	2,000,000	1,808,000	2,649,821	2,004,367	4,654,188	17.9%	21.3%	2.57
Pantheon Ventures USA Fund VI	London, United Kingdom	2005	3,750,000	3,543,750	5,283,576	87,821	5,371,397	6.5%	8.5%	1.52
Raven Asset-Based Opportunity Fund II	New York, NY	2014	10,000,000	9,525,926	8,529,607	1,228,711	9,758,318	0.6%	3.9%	1.02
Silver Point Specialty Credit Fund II, L.P.	Greenwich, CT	2020	8,000,000	5,395,010	344,109	5,651,668	5,995,777	16.6%	23.4%	1.11
Spark Capital Growth Fund III, L.P.	Boston, MA	2020	6,000,000	5,820,000	790,938	8,251,646	9,042,584	79.3%	N/A	1.55
Spark Capital VI, L.P.	Boston, MA	2020	3,000,000	2,115,000	0	2,128,960	2,128,960	1.0%	N/A	1.01
Summit Partners Growth Equity Fund X-A, L.P.	Boston, MA	2019	8,000,000	5,812,003	1,061,554	6,580,256	7,641,810	42.6%	53.0%	1.31
Summit Partners Venture Capital Fund V-A, L.P.	Boston, MA	2020	6,000,000	1,546,675	0	1,557,452	1,557,452	1.2%	15.0%	1.01
Taconic Market Dislocation Fund III L.P.	New York, NY	2020	8,000,000	4,639,430	236,724	5,703,352	5,940,076	38.7%	47.6%	1.28
TCV X, L.P.	Menlo Park, CA	2019	5,000,000	3,752,665	0	10,667,362	10,667,362	75.7%	71.6%	2.84
TCV XI, L.P.	Menlo Park, CA	2021	8,000,000	3,139,309	0	3,723,087	3,723,087	40.7%	27.5%	1.19
Thoma Bravo Discover Fund III, L.P.	Chicago, IL	2020	8,000,000	5,959,405	0	6,278,602	6,278,602	8.1%	50.5%	1.05

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* N/A = not available or not applicable

Real Assets and Real Estate Calendar Year 2021 (7514.7)



Merced County Employees' Retirement Association - Calendar Year 2021 Data (7514.7) - Real Assets

Investment	Commitment	Ending Valuation	Realized Gain/Loss	Mgmt. Fee	Partnership Expenses	Offsets	Other Fees & Expenses Paid to GP ¹	Carried Interest Paid	Fees & Expenses Paid by Port. Companies
Ardian Infrastructure Fund V	4,980,018	1,363,151	(5)	43,900	8,656	1,211	(12,900)	0	0
EnCap Energy Capital Fund XI, L.P.	5,000,000	3,074,024	21,033	75,000	1,281	N/A	(31,469)	0	0
EnCap Flatrock Midstream IV, L.P.	3,000,000	790,661	194,303	45,000	386	N/A	0	0	0
Global Energy & Power Infrastructure Fund III F, L.P.	5,000,000	2,454,414	21,104	60,832	18,402	41	8,014	0	0
GSO Energy Select Opportunities Fund	7,500,000	2,947,129	804,508	40,569	7,848	0	17,523	0	0
ISQ Global Infrastructure Fund II	5,000,000	4,728,427	15,951	64,337	8,960	7,077	17,574	0	0
ISQ Global Infrastructure Fund III (UST), L.P.	5,000,000	309,212	0	72,000	8,854	0	3,360	0	0
KKR Global Infrastructure II	10,000,000	5,654,771	N/A	N/A	N/A	N/A	N/A	N/A	N/A
KKR Global Infrastructure Investors III	5,000,000	2,937,320	115,048	52,842	6,080	14,726	9,943	0	62,449
North Haven Infrastructure Partners II LP	10,000,000	5,348,074	1,142,688	80,384	10,211	379	3,395	0	16,217
Tailwater Energy Fund IV, LP	5,000,000	3,525,464	(15,326)	100,000	11,182	0	6,248	0	0
Taurus Mining Finance Annex Fund	5,000,000	364,252	38,965	15,394	3,191	0	(84,756)	177,050	0
Taurus Mining Finance Fund	5,000,000	493,129	28,295	11,929	1,924	0	208,577	0	0

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Merced County Employees' Retirement Association - Calendar Year 2021 Data (7514.7) - Real Estate

Investment	Commitment	Ending Valuation	Realized Gain/Loss	Mgmt. Fee	Partnership Expenses	Offsets	Other Fees & Expenses Paid to GP ¹	Carried Interest Paid	Fees & Expenses Paid by Port. Companies
AG Realty Value Fund X, L.P.	5,000,000	4,007,716	471,594	87,500	19,971	1,102	(92,555)	0	0
Carlyle Realty Partners VIII, L.P.	5,000,000	2,189,223	750,584	75,000	8,118	0	43,998	201,268	0
Carmel Partners Investment Fund VII, L.P.	5,000,000	1,150,809	0	75,000	0	0	0	0	15,262
Cerberus Real Estate Debt Fund, L.P.	7,000,000	4,742,134	228,558	18,204	0	0	21,035	0	0
Greenfield Acquisition Partners VII, L.P.	13,000,000	6,334,415	619,863	163,005	35,514	0	(16,617)	0	0
Patron Capital Fund V	13,499,364	6,664,507	1,674,748	129,751	108,404	0	0	0	0
Rockpoint Real Estate Fund VI, L.P.	5,000,000	3,449,260	0	74,994	780	0	33,496	0	5,689
Starwood Distressed Opportunity Fund XII Global, L.P.	8,000,000	1,041,276	4,062	61,369	780	0	(2,856)	0	0
Taconic CRE Dislocation Fund II	5,000,000	3,988,479	255,150	75,000	10,459	0	(303,098)	0	0
Taconic CRE Dislocation Onshore Fund III L.P.	8,000,000	4,147,209	(108)	27,896	22,583	0	9,551	0	0
UBS Trumbull Property Fund	17,000,000	33,858,114	(3,816)	289,072	15,713	0	(1,343,030)	0	0

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Real Assets and Real Estate Since Inception (6254.26)



Merced County Employees' Retirement Association - Since Inception Data (6254.26) - Real Assets

Investment	Address	Vintage/ Inception	Commitment	Contributions	Distributions	Remaining Value	Total Value	S.I. Net IRR	S.I. Gross IRR	Net Inv. Multiple
Ardian Infrastructure Fund V	Paris, France	2019	4,980,018	1,285,125	52,418	1,363,151	1,415,569	8.5%	18.0%	1.10
EnCap Energy Capital Fund XI, L.P.	Houston, TX	2017	5,000,000	2,804,070	64,902	3,074,024	3,138,926	6.3%	14.5%	1.12
EnCap Flatrock Midstream IV, L.P.	Houston, TX	2018	3,000,000	1,288,172	722,132	790,661	1,512,793	6.4%	12.2%	1.17
Global Energy & Power Infrastructure Fund III F, L.P.	New York, NY	2019	5,000,000	2,599,337	452,915	2,454,414	2,907,329	9.9%	16.1%	1.12
GSO Energy Select Opportunities Fund	New York, NY	2015	7,500,000	4,501,377	2,951,136	2,947,129	5,898,265	8.3%	11.5%	1.31
ISQ Global Infrastructure Fund II	New York, NY	2017	5,000,000	4,326,602	1,009,555	4,728,427	5,737,982	16.3%	20.1%	1.33
ISQ Global Infrastructure Fund III (UST), L.P.	New York, NY	2020	5,000,000	392,748	7	309,212	309,219	-21.3%	15.9%	0.79
KKR Global Infrastructure II	New York, NY	2014	10,000,000	11,070,776	13,523,116	5,654,771	19,177,887	17.4%	20.2%	1.72
KKR Global Infrastructure Investors III	New York, NY	2018	5,000,000	3,297,695	696,029	2,937,320	3,633,349	6.5%	9.3%	1.10
North Haven Infrastructure Partners II LP	New York, NY	2014	10,000,000	11,486,514	9,329,722	5,348,074	14,677,796	9.3%	15.4%	1.28
Tailwater Energy Fund IV, LP	Dallas, TX	2019	5,000,000	2,768,176	0	3,525,464	3,525,464	20.7%	29.4%	1.27
Taurus Mining Finance Annex Fund	Sydney, Australia	2016	5,000,000	4,571,850	5,698,802	364,252	6,063,054	20.6%	26.2%	1.33
Taurus Mining Finance Fund	Sydney, Australia	2015	5,000,000	5,293,786	5,554,942	493,129	6,048,071	7.3%	10.9%	1.14

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Merced County Employees' Retirement Association - Since Inception Data (6254.26) - Real Estate

Investment	Address	Vintage/ Inception	Commitment	Contributions	Distributions	Remaining Value	Total Value	S.I. Net IRR	S.I. Gross IRR	Net Inv. Multiple
AG Realty Value Fund X, L.P.	New York, NY	2018	5,000,000	3,874,692	834,952	4,007,716	4,842,668	22.2%	33.0%	1.25
Carlyle Realty Partners VIII, L.P.	Washington, DC	2017	5,000,000	3,282,689	2,559,647	2,189,223	4,748,870	27.0%	50.5%	1.39
Carmel Partners Investment Fund VII, L.P.	San Francisco, CA	2019	5,000,000	1,367,599	0	1,150,809	1,150,809	-19.1%	N/A	0.84
Cerberus Real Estate Debt Fund, L.P.	New York, NY	2018	7,000,000	4,304,992	0	4,742,134	4,742,134	17.7%	N/A	1.10
Greenfield Acquisition Partners VII, L.P.	Westport, CT	2014	13,000,000	12,661,667	15,350,122	6,334,415	21,684,537	13.5%	18.0%	1.71
Patron Capital Fund V	London, United Kingdom	2016	13,499,364	10,658,791	3,424,049	6,664,507	10,088,556	-2.5%	20.0%	0.95
Rockpoint Real Estate Fund VI, L.P.	Boston, MA	2019	5,000,000	2,883,965	0	3,449,260	3,449,260	31.3%	54.4%	1.20
Starwood Distressed Opportunity Fund XII Global, L.P.	Greenwich, CT	2020	8,000,000	960,000	0	1,041,276	1,041,276	0.0%	N/A	1.08
Taconic CRE Dislocation Fund II	New York, NY	2018	5,000,000	4,596,678	1,738,127	3,988,479	5,726,606	12.1%	16.8%	1.25
Taconic CRE Dislocation Onshore Fund III L.P.	New York, NY	2021	8,000,000	4,000,000	0	4,147,209	4,147,209	4.1%	16.8%	1.04
UBS Trumbull Property Fund	New York, NY	1999	17,000,000	18,165,995	33,614,764	33,858,114	67,472,877	8.5%	8.7%	3.71

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Hedge Funds Calendar Year 2021 (7514.7)



Merced County Employees' Retirement Association - Calendar Year 2021 Data (7514.7) - Hedge Funds

Investment	Commitment	Ending Valuation	Realized Gain/Loss	Mgmt. Fee	Partnership Expenses	Offsets	Other Fees & Expenses Paid to GP ¹	Carried Interest Paid	Fees & Expenses Paid by Port. Companies
Archipelago Partners, L.P.	N/A	14,522,014	1,577,693	120,059	N/A	N/A	5,054	301,405	N/A
Caxton Global Investments (USA) LLC - Class T Unrestricted	N/A	10,040,407	N/A	103,029	N/A	N/A	0	11,731	N/A
Graham Absolute Return Trading Ltd. - Class A	N/A	7,997,695	997,695	160,607	N/A	N/A	14,012	169,621	N/A
KLS Diversified Fund LP	N/A	35,952	0	0	0	0	0	0	0
Laurion Capital, Ltd. Class A 18-07	N/A	13,953,407	2,259,054	276,233	N/A	N/A	0	564,725	N/A
Marshall Wace Global Opportunities Fund Class B	N/A	9,705,482	9,481	197,292	N/A	N/A	0	120,234	N/A
MW Eureka Fund Class B2	N/A	4,255,712	17,786	83,483	N/A	N/A	0	156,367	N/A
Sculptor Domestic Partners II, LP	N/A	13,733,813	N/A	171,250	N/A	N/A	0	202,849	N/A
Silver Point Capital Fund, L.P.	N/A	17,349,269	N/A	242,755	57,732	884	0	818,837	N/A
Taconic Opportunity Fund L.P.	N/A	14,036,437	1,048,499	194,992	48,798	N/A	79,867	276,972	N/A
Winton Futures Fund Limited - Class B	N/A	0	0	0	0	0	0	0	0

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¹ Other fees and expenses paid to the GP are reported gross of income wherever possible.

* N/A = not available or not applicable

Hedge Funds Since Inception (6254.26)



Merced County Employees' Retirement Association - Since Inception Data (6254.26) - Hedge Funds

Investment	Address	Vintage/ Inception	Commitment	Contributions	Distributions	Remaining Value	Total Value	S.I. Net IRR	S.I. Gross IRR	Net Inv. Multiple
Archipelago Partners, L.P.	Boston, MA	2017	N/A	11,000,000	0	14,522,014	14,522,014	6.9%	10.4%	1.32
Caxton Global Investments (USA) LLC - Class T Unrestricted	New York, NY	2021	N/A	10,000,000	0	10,040,407	10,040,407	0.6%	N/A	1.00
Graham Absolute Return Trading Ltd. - Class A	Rowayton, CT	2017	N/A	7,000,000	2,517	7,997,695	8,000,212	3.2%	28.7%	1.14
KLS Diversified Fund LP	New York, NY	2017	N/A	9,000,000	8,582,335	35,952	8,618,287	-2.6%	N/A	0.96
Laurion Capital, Ltd. Class A 18-07	New York, NY	2018	N/A	9,000,007	0	13,953,407	13,953,407	16.3%	N/A	1.55
Marshall Wace Global Opportunities Fund Class B	Dublin, Ireland	2020	N/A	9,000,000	0	9,705,482	9,705,482	4.4%	13.4%	1.08
MW Eureka Fund Class B2	London, United Kingdom	2017	N/A	3,000,000	0	4,255,712	4,255,712	8.9%	12.2%	1.42
Sculptor Domestic Partners II, LP	New York, NY	2014	N/A	14,000,000	8,000,000	13,733,813	21,733,813	7.9%	11.4%	1.55
Silver Point Capital Fund, L.P.	Greenwich, CT	2017	N/A	12,000,000	0	17,349,269	17,349,269	9.6%	31.0%	1.45
Taconic Opportunity Fund L.P.	New York, NY	2018	N/A	12,000,000	0	14,036,437	14,036,437	5.0%	12.3%	1.17
Winton Futures Fund Limited - Class B	London, United Kingdom	2017	N/A	6,000,000	4,949,870	0	4,949,870	-5.5%	N/A	0.82

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The S&P/LSTA U.S. Leveraged Loan Index is a market value weighted index tracking institutional leveraged loans in the United States based upon market weightings, spreads and interest payment, including Term Loan A, Term Loan B and Second Lien tranches.

The Bloomberg Barclays U.S. Corporate High Yield Index (Bloomberg Barclays High Yield) measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody’s, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on the indices’ EM country definition are excluded.

The Bloomberg Barclays U.S. Aggregate Index represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.

The NCREIF Property Index is a quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only. All properties in the index have been acquired, at least in part, on behalf of tax-exempt institutional investors.

The Cambridge Private Equity Index is based on data compiled from global institutional-quality buyout, growth equity, private equity energy, venture capital and mezzanine funds, including fully liquidated partnerships, formed between 1986 and 2016.

The Russell 3000 Index is a capitalization-weighted stock market index that seeks to track the entire U.S. stock market. It measures the performance of the 3,000 largest publicly held companies incorporated in the United States based on market capitalization.